



Bat Emergence and Re-entry Surveys

11-15 South Street, Havant, Hants, PO9 1BU

Jonathan Heather

Status	Issue	Name	Date
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Industry Guidelines and Standards

This report has been written with due consideration to:

- Chartered Institute of Ecology and Environmental Management (2017). Guidelines for Preliminary Ecological Appraisal. 2nd edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2018). Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine. Version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2017). Guidelines on Ecological Report Writing. Chartered Institute of Ecology and Environmental Management, Winchester.
- Chartered Institute of Ecology and Environmental Management (2020). Guidelines for Accessing, Using and Sharing Biodiversity Data in the UK. 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- British Standard 42020 (2013). Biodiversity – Code of Practice for Planning and Development.
- British Standard 8683:2021 (2021). Process for Designing and Implementing Biodiversity Net Gain.

Proportionality

The work involved in preparing and implementing all ecological surveys, impact assessments and measures for avoidance, mitigation, compensation and enhancement should be proportionate to the predicted degree of risk to biodiversity and to the nature and scale of the proposed development. Consequently, the decision-maker should only request supporting information and conservation measures that are relevant, necessary and material to the application in question. Similarly, the decision-maker and their consultees should ensure that any comments and advice made over an application are also proportionate.

The desk studies and field surveys undertaken to provide a Preliminary Ecological Appraisal (PEA) might in some cases be all that is necessary.

(BS 42020, 2013)

Executive Summary

Arbtech Consulting Limited was instructed by Jonathan Heather to undertake a BERS emergence survey at 11-15 South Street, Havant, Hants, PO9 1BU (hereafter referred to as “the site”). The survey was required to inform a planning application for 17 no. residential unit scheme (11 no. new build mix of townhouses and flats and 6 no. conversion of existing commercial premises to flats) (hereafter referred to as “the proposed development”) The works will include the conversion of B1, B2 and B4, and the demolition of B3.

The following bat roosts were identified at the site:

- Day roost of one common pipistrelle in B5
- Day roost of one common pipistrelle in B6

B5 and B6 will not be directly affected by the works. No bat roosts were identified within the affected buildings at the site. However, bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time. Any bats that begin using the buildings during the intervening period between the surveys being undertaken and works commencing could be injured or killed and their roosts destroyed.

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1.0 Introduction and Context

1.1 Background

Arbtech Consulting Limited was instructed by Jonathan Heather to undertake BERS emergence surveys at 11-15 South Street, Havant, Hants, PO9 1BU (hereafter referred to as “the site”). The surveys were required to inform a planning application for 17 no. residential unit scheme (11 no. new build mix of townhouses and flats and 6 no. conversion of existing commercial premises to flats) (hereafter referred to as “the proposed development”). The works will include the conversion of B1, B2 and B4, and the demolition of B3. A plan showing the proposed development is provided in Appendix 1.

The aim of the BERS were to determine the presence or likely absence of roosting bats and to characterise any roosts present. This has been undertaken with due consideration to the “Bat Surveys for Professional Ecologists —Good Practice Guidelines” publication (Collins, 2016).

The BERS have been informed by a Preliminary Roost Assessment (PRA) which was completed by Arbtech on 09/05/2023.

Feature	Survey Results Summary	Impact Assessment	Recommendations
Roosting bats B1 and B2	Building B1 and B2 has negligible value for roosting bats due to a lack of potential roost features.	Bats are very unlikely to be roosting within this building and as such, there are not anticipated to be any impacts on roosting bats as a result of the conversion and upper extension of this building.	In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and a bat licensed ecologist contacted for further advice.
Roosting bats B3	Building B3 has low value for roosting bats.	The proposed development will result in the demolition of this building. This would result in the destruction of any bat roosts present and could cause disturbance, death or injury to bats.	One bat emergence or re-entry survey is required during the active bat season (optimal May to August, suboptimal September) to confirm presence or likely-absence of a bat roost in the building. Infra-red cameras should be used as an aid. Three surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building two additional surveys may be required to characterise the roost and to inform an EPSL application to Natural England. Surveys should be a minimum of two weeks apart. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission

			must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.
Roosting bats B4	Building B4 has low value for roosting bats.	The proposed development will result in the renovation and conversion of this building. This could result in damage to any bat roosts present as this will involve some roof repairs and alterations to the structure and could cause a disturbance, death or injury to bats.	One bat emergence and re-entry surveys are required during the active bat season (optimal May to August, suboptimal September) to confirm presence or likely absence of a bat roost in the building. Both of the surveys should be completed during the optimal survey period mid-May to August inclusive. Infra-red cameras should be used as an aid. Surveys should be a minimum of two weeks apart. Two surveyors are required to provide full coverage of the building. If bat roosts are confirmed in the building two additional survey may be required to characterise the roost and to inform an EPSL application to Natural England. The EPSL application requires that surveys have been undertaken within the most recent active bat season and planning permission must have been granted and all relevant wildlife-related conditions have been discharged prior to submission.
Roosting bats B5 and B6	B5 and B6 contains roost features that could support roosting bats. A full PRA was not done on this building as they wont be directly impacted by the proposed works.	B5 and B6 will not be altered or modified as part of the proposal but may experience some light and noise disturbance from nearby works, due to the proximity to B1.	Owing to the nature of the proposed development and the low potential for impacts to bat roosts, further bat surveys are considered to be disproportionate. It is anticipated that any risk to bats can be reduced to an acceptably low level through the implementation of a precautionary working method during and post-development. This will include the following measures: • Works should avoid altering the roof space of B5. If this cannot be avoided then a bat emergence or re-entry survey is required during the active bat season (optimal May to August, suboptimal September) to confirm the presence or likely absence of a bat roost in the building.

			• Avoid any light spilling onto the roof space of B5 during works and after works are complete. • Ensure any scaffold used around B1 does not obstruct B5.
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1.2 Site Location and Landscape Context

The site is located at National Grid Reference SU71068218 and has an area of approximately 0.2ha comprising existing commercial and residential buildings. It is surrounded by residential and commercial buildings in all directions. St Faith's Church and graveyard is adjacent to the north-west. Residential houses and gardens are situated to the south-east. The wider landscape comprises of park areas 230m north-west and 166m south-west, each adorned with trees. The A27 is 320m south and the rail line lays 380m north. A site location plan is provided in Appendix 2.

1.3 Scope of the Report

This report provides a description of the bat activity observed and recorded during BERS. The aim of the surveys was to determine the presence or likely absence of bats and to characterise any roosts present including species, number of individuals, number and location of roost access points, and to gain an understanding of how bats use the site. The report provides information on possible constraints to the proposed development as a result of bats and summarises the requirements for any mitigation proposals, including a European Protected Species Licence (EPSL), where appropriate, to achieve planning or other statutory consent and to comply with wildlife legislation.

To achieve this, the following steps have been taken:

- BERS of built structures has been undertaken to determine the presence or likely absence of bat roosts.
- An outline of potential impacts on any confirmed or unidentified roosts has been provided, based on the proposed development.
- Recommendations for mitigation have been made, along with advice on the requirements for a European Protected Species Licence (EPSL) application if appropriate.
- Opportunities for the enhancement of the site for roosting, foraging and commuting bats have been set out.

2.0 Methodology

2.1 BERS

Three BERS, comprising dusk emergence surveys were undertaken of building B1-B6, as per the recommendations from the Preliminary Roost Assessment and subsequent visits. The survey involved surveyors positioned around the buildings ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the buildings identified as providing suitable access points to bat roosts. Each surveyor was assigned an area of the building to observe for the duration of the survey.

Surveyors used heterodyne and frequency division bat detectors, and Echo Meter Touch detectors connected to iPads or Android tablets. Bat echolocation calls recorded during the surveys were analysed using Wildlife Acoustics sound analysis software Kaleidoscope V3.1.7 when required. The Echo Meter Touch includes an auto ID function for bat species, however this is not 100% accurate and further post-survey sound analysis is often required to confirm species that could not be identified by the auto ID software during the survey. Surveyors also used head torches, survey record sheets and pens/pencils for recording all activity observed during the surveys. Each surveyor was also provided with a hand-held radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

Six infra-red recordings kits were set up to monitor the building during the BERS; Three Nightfox Red Goggles, one Nightfox Whisker Goggles and a Canon XA15, each with an infra-red lamp alongside to provide additional illumination. Analysis of the footage was subsequently undertaken to detect roosting activity.

Dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Surveys were a minimum of two weeks apart.

Surveys were completed during optimal weather conditions i.e., when temperatures were above 10°C, with no rain or strong winds (greater than 5m/s), as these adverse weather conditions can impact upon bat emergence and foraging behaviour. Periods of high moon illuminance (>80%) were also avoided insofar as possible as this can reduce bat activity.

2.2 Surveyors

A total of five surveyors were used to cover the buildings. The name, bat licence details or level of bat survey experience and the designated position of each surveyor during each survey is detailed in the tables in Section 3.1 below and shown on the plan in Appendix 3.

2.3 Bat Roost Characterisation

When bat roosts are present, the bat surveys undertaken at a site facilitate the characterisation of the roost type. This allows for appropriate mitigation and compensation to be designed to inform a European Protected Species Licence (EPSL) application to Natural England.

The definitions of bat roost types are provided below, taken from the *Bat Mitigation Guidelines* (English Nature, 2004) and the Bat Conservation Trust (BCT) publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, 2016).

Day roost: a place where individual bats, or small groups of males, rest or shelter in the day but are rarely found by night in the summer.

Night roost: a place where bats rest or shelter in the night but are rarely found in the day. May be used by a single individual on occasion or it could be used regularly by the whole colony.

Feeding roost: a place where individual bats or a few individuals rest or feed during the night but are rarely present by day.

Transitional / occasional roost: used by a few individuals or occasionally small groups for generally short periods of time on waking from hibernation or in the period prior to hibernation.

Swarming site: where large numbers of males and females gather during late summer to autumn. Appear to be important mating sites

Mating sites: sites where mating takes place from later summer and can continue through winter.

Maternity roost: where female bats give birth and raise their young to independence.

Hibernation roost: where bats may be found individually or together during winter. They have a constant cool temperature and high humidity. Sites where hibernating bats have been confirmed by appropriate survey effort should be classed as 'hibernation confirmed'.

Satellite roost: an alternative roost found in close proximity to the main nursery colony used by a few individual breeding females to small groups of breeding females throughout the breeding season.

Other: roost types are interchangeable and not always easy to classify according to the nuances of certain species.

2.4 Limitations

These surveys follow best practice guidance to confirm presence or likely absence of roosting bats and where present, characterise the roost. However, this information is collected at finite dates and times, and provides an indication of the conditions on site only. The use of the building, and the site as a whole by bats, at all times cannot be established based on this information. Bats are highly mobile creatures that switch roosts regularly and therefore the usage of a site by bats can change over a short period of time.

The outer perimeter elevations of B1 and B5 were not observed on the first survey. These elevations were on a busy street and outside of a noisy pub whilst a football match was playing and it was deemed that in the interest of safety for surveyors and equipment, that they be placed elsewhere on the site. Surveyors were able to see the elevations on the second and third surveys.

The site itself is very large, spreading the five surveyors thinly to observe six buildings. Six infra-red recording kits were used on the second and third surveys in order to better observe all buildings.

3.0 Results and Evaluation

3.1 Survey Results

The results of the survey are provided in the tables below and shown on the plan in Appendix 3. The surveys were managed by Natalie Evans, Principal Consultant and Bat Licence Lead, Natural England Bat licence number 2018-37888-CLS-CLS

Table 1: Survey results (first visit)

Date	04/06/23
Building inspection prior to survey	No external evidence of bats was found prior to the survey. No internal inspection was conducted. Additional suitable roosting habitat was identified that was not initially picked up in the PRA. This included gaps in the lintels above the first floor windows of B1, and gaps under fascia boards also on B1. 

Start and end times		20:20 – 22:35 Sunset: 21:11
Weather conditions		Start: Temp: 18.2°C Relative Humidity: 39% Cloud Cover: 0% Wind: 3mph Rain: None Moon illuminance: 10% End: Temp: 15°C Relative Humidity: 48% Cloud Cover: 0% Wind: 1mph Rain: None Moon illuminance: 10%
Surveyor (position) As shown in Appendix 3		Jonathan Kewell (10 years' bat survey experience) – leading for Natalie Evans, (Natural England Bat Licence Number: 2018-37888-CLS-CLS). Position 1 – observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Toby Bowman (11 years' bat survey experience) - Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Joanna Andrews (11 years' bat survey experience) - Position 3 – observing the northern, southern and western elevations and roof structures of B2, B3, and B4. Matthew Surry (2 years' bat survey experience) - Position 4 – observing the northern and eastern elevations and roof structures of B1, and the northern, southern and eastern elevations and roof structures of B5 Ryan Tessier (6 years' bat survey experience) - Position 5 – observing the northern elevations and roof structures of B2, and the western elevations and roof structures of B6.
IR position As shown in Appendix 3		Position 1 - observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Position 3 – observing the northern, southern and western elevations and roof structures of B2, B3, and B4. Position 4 – observing the northern and eastern elevations and roof structures of B1, and the northern, southern and eastern elevations and roof structures of B5. Position 5 – observing the northern elevations and roof structures of B2, and the western elevations and roof structures of B6.
Building reference	Surveyor position	Notes/observations:
B2, B3, B4, B6	1	Two common pipistrelles arrived from the west and began feeding over surveyor 1 in the car park from 21:51. At 21:57 a further two common pipistrelles arrived and the four bats fed over the car park and the low roof of B2 until the end of the survey.
B1, B3, B4	2	Common pipistrelle passes were seen every five minutes between 21:51 and 22:30. The passes came either clockwise from the direction of surveyor 1 around the building, flying towards South Street, or due south over the centre of the site.
B2, B3, B4	3	At 21:37 three common pipistrelles flew into the central courtyard from the north and began feeding over the courtyard and the flat roof of B2. The three bats left the courtyard at 22:03 and began to feed over surveyor 1 to the east of the site where they could be seen feeding until the end of the survey.
B1, B5	4	At 21:37 three common pipistrelles flew into the central courtyard from the north and began feeding over the courtyard and the flat roof of B2. The three bats left the courtyard at 22:03 and began to feed over surveyor 1 to the east of the site.

B2, B6	5	Common pipistrelle passes were observed approximately every three minutes between 21:38 and 22:03 flying from the north into the central yard over surveyor position 5. After 22:03 the feeding and passes became constant, with four bats circling the central yard, B2 and B3. At 22:17 the activity ceased and only three more unseen passes were detected afterwards.	
Building reference	IR position	Notes/observations: One common pipistrelle emerged from building B5 One common pipistrelle emerged from building B6	
B2, B3, B4, B6	1		
		Passes and feeding behaviour seen frequently from 21:51 onwards over the car park.	
B1, B3, B4	2		
		Numerous common pipistrelle passes were seen heading west along Twittens Way or south over the site.	

B2, B3, B4	3		
Numerous common pipistrelle passes were recorded between 21:45 and 22:03 and episodes of feeding within the central courtyard.			
B1, B5	4		
A common pipistrelle emergence from the southern side of the north-eastern gable of B5 was recorded at 21:37 (shown below), the bat flying south over B1.			



Common pipistrelle feeding was observed constantly from 21:37 until 22:03, with only occasional passes after that.

B2, B6

5



At 21:46 a common pipistrelle emergence was recorded by IR from the hip of the roof of B6 (shown below). The bat then began circling the car park to the east of the site.

			
Other observations	Numerous passes were recorded headed south into the site's central yard. Two stag beetles flew east over the site and continued over surveyor 1 at 21:44.		

Table 2: Survey results (second visit)

Date		21/06/23
Building inspection prior to survey		No external evidence of bats was found prior to the survey. No internal inspection was conducted.
Start and end times		20:50 – 22:50 Sunset: 21:21
Weather conditions		Start: Temp: 22.1°C Relative Humidity: 53% Cloud Cover: 0% Wind: 1mph Rain: None Moon illuminance: 10% End: Temp: 20.3°C Relative Humidity: 61% Cloud Cover: 10% Wind: 3mph Rain: None Moon illuminance: 10%
Surveyor (position) As shown in Appendix 3		Ryan Tessier (6 years' bat survey experience) - Position 1 – observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Matthew Surry (2 years' bat survey experience) - Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Joanna Andrews (11 years' bat survey experience) - Position 3 – observing the southern and western elevations and roof structures of B1 and B5. Jonathan Kewell (10 years' bat survey experience) – leading for Natalie Evans, (Natural England Bat Licence Number: 2018-37888-CLS-CLS). Position 4 – observing the south and eastern elevations and roof structures of B2, and the northern and western elevations and roof structures of B3 Michelle Barnes (6 years' bat survey experience) - Position 5 – observing the northern and eastern elevations and roof structures of B1, and the southern and eastern elevations and roof structures of B5.
IR position As shown in Appendix 3		Position 1 - observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Position 3 – observing the southern and western elevations and roof structures of B2, B3, and B4. Position 4 – observing the south and eastern elevations and roof structures of B2, and the northern and western elevations and roof structures of B3. Position 5 – observing the northern and eastern elevations and roof structures of B1, and the southern and eastern elevations and roof structures of B5. Position 6 - observing the northern elevations and roof structures of B2, and the western elevations and roof structures of B6.
Building reference	Surveyor position	Notes/observations: A common pipistrelle emerged from the roof tiles of B5
B2, B3, B4, B6	1	Frequent passes and episodes of feeding by common pipistrelles were recorded between 21:50 and 22:10, passing east to west and back again over the low roof of B2. Occasional passes circling B3/B4 in a clockwise direction were observed. Only two further unheard common pipistrelle passes were recorded between 22:10 and the end of the survey.

B1, B3, B4	2	Soprano pipistrelles were observed flying back and forth along Twittens Way along the southern elevations of B1 and B4 . Bats occasionally diverted down the narrow footpath heading south from Twittens Way. Common pipistrelle passes and feeding could be seen over surveyor 1 throughout the survey.
B1, B5	3	A soprano pipistrelle flew north up South Street and turned east along Twittens Way towards surveyor 2 at 21:57. A common pipistrelle flew the same path towards surveyor 2 at 22:02.
B2, B3	4	At 21:48 a common pipistrelle emerged from the roof tiles of B5 (shown below) and began feeding in the central courtyard.  Two further common pipistrelles arrived shortly afterwards from the north and all three bats fed constantly over the central yard, occasionally looping around B3 and B4 and passing surveyors 1 and 2. All activity ceased at 22:10.
B1, B5	5	Three common pipistrelles fed constantly over the central yard between 21:49 and 22:08, occasionally looping around B3 and passing surveyors 1 and 2. A common pipistrelle passed underneath the arch of B1 and back again at 22:10.
Building reference	IR position	Notes/observations:

B2, B3, B4, B6	1		
B1, B3, B4	2		Common pipistrelles can be seen throughout feeding around surveyor 1 in the car park and passing over B2 to the central yard. Common pipistrelles can be seen throughout feeding around surveyor 1 in the car park and passing over B2 to the central yard.

B1, B5

3



A single common pipistrelle pass heading east up Twittens Way was recorded at 21:43.

B2, B3

4



Common pipistrelles can be seen throughout feeding around the central courtyard.

B1, B5	5	 Common pipistrelles can be seen throughout feeding around the central courtyard and passing over B2 in the direction of surveyor 1.
B2, B6	6	 Common pipistrelles can be seen throughout feeding high over the central courtyard.
Other observations		

Table 3: Survey results (third visit)

Date		05/07/23
Building inspection prior to survey		No external evidence of bats was found prior to the survey. An external inspection of the building perimeters was conducted however no evidence of bats was discovered.
Start and end times		20:50 – 22:50 Sunset: 21:20
Weather conditions		Start: Temp: 20.5°C Relative Humidity: 72% Cloud Cover: 50% Wind: 3mph Rain: None Moon illuminance: 10% End: Temp: 15.1°C Relative Humidity: 99% Cloud Cover: 0% Wind: 1mph Rain: None Moon illuminance: 10%
Surveyor (position) As shown in Appendix 3		Ryan Tessier (6 years' bat survey experience) - Position 1 – observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Matthew Surry (2 years' bat survey experience) - Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Joanna Andrews (11 years' bat survey experience) - Position 3 – observing the southern and western elevations and roof structures of B1 and B5. Jonathan Kewell (10 years' bat survey experience) – leading for Natalie Evans, (Natural England Bat Licence Number: 2018-37888-CLS-CLS). Position 4 – observing the south and eastern elevations and roof structures of B2, and the northern and western elevations and roof structures of B3 Michelle Barnes (6 years' bat survey experience) - Position 5 – observing the northern and eastern elevations and roof structures of B1, and the southern and eastern elevations and roof structures of B5.
IR position As shown in Appendix 3		Position 1 - observing the northern and eastern elevations and roof structures of B2, B3, B4 and B6. Position 2 – observing the southern and eastern elevations and roof structures of B1, B3, and B4. Position 3 – observing the southern and western elevations and roof structures of B2, B3, and B4. Position 4 – observing the south and eastern elevations and roof structures of B2, and the northern and western elevations and roof structures of B3. Position 5 – observing the northern and eastern elevations and roof structures of B1, and the southern and eastern elevations and roof structures of B5. Position 6 - observing the northern elevations and roof structures of B2, and the western elevations and roof structures of B6.
Building reference	Surveyor position	Notes/observations: One common pipistrelle emerged from building B5
B2, B3, B4, B6	1	Frequent common pipistrelle passes from and to the central courtyard were observed from 21:44 onwards. Brief episodes of feeding were observed around surveyor position at 21:54 and 22:07.

B1, B3, B4	2	Frequent common pipistrelle passes were picked up flying between surveyor 1 and the central courtyard after 21:44. A single common pipistrelle flew east along Twittens Way and then back again at 21:54.
B2, B3, B4	3	A common pipistrelle flew north along South Street and then east along Twittens Way towards surveyor 2 at 21:54. Two distant unseen common pipistrelle passes were heard at 22:03 and 22:05. A noctule was seen but not heard at 21:51.
B1, B5	4	At 21:43 a common pipistrelle emerged from the roof tiles of B5 (shown below) and flew immediately north into and beyond the car park there.  A common pipistrelle arrived into the central courtyard at 21:41 and began feeding within the L-shape of building B1. At 21:47, two more common pipistrelles flew in from the north and the three bats fed in the central courtyard until 22:01 when all activity ceased. A noctule was seen but not heard at 21:51.
B2, B6	5	A common pipistrelle arrived into the central courtyard at 21:41 and began feeding within the L-shape of building B1. At 21:47, two more common pipistrelles flew in from the north and the three bats fed in the central courtyard until 22:01 when all activity ceased.
Building reference	IR position	Notes/observations:

B2, B3, B4, B6	1		Frequent passes by common pipistrelles over the lower roof on the northern elevation of B3.
B1, B3, B4	2		No activity was recorded.

B2, B3, B4	3		
A common pipistrelle flew north along east along Twittens Way at 21:54.			
B1, B5	4		
Frequent passes and feeding by common pipistrelles were recorded.			

B2, B6	5	 Frequent passes and feeding by common pipistrelles were recorded.
B2, B6	6	
Other observations		A hedgehog was seen feeding on the ground in the central courtyard. It disappeared into a hole behind a stack of tires into the low-roofed western part of B2.

4.0 Conclusions, Impacts and Recommendations

Taking the field survey results into account, Table 2 presents an evaluation of the value of the buildings for roosting bats in relation to the proposed development which will comprise of 17 no. residential unit scheme (11 no. new build mix of town-houses and flats and 6 no. conversion of existing commercial premises to flats).

Table 2: Evaluation of buildings on site for roosting bats

Building	Survey Results Summary	Impact Assessment	Recommendations	Biodiversity Enhancement Opportunities ¹
B1 B2 & B4	B1, B2 and B4 contain suitable bat roosting features. B1 faces directly onto the central yard which is a common pipistrelle feeding ground. B2 is situated between the two feeding grounds (the central yard and car park to the east), and had common pipistrelles flying above and around it at length.	Proposed works: The conversion of B1, B2 & B4 B1 B2, and B4 have roosting features for crevice-dwelling bats. Whilst no roosts were identified within these buildings, significant bat activity in the area has been observed. Bats are highly mobile creatures that switch roosts regularly, and therefore any bats that begin using the affected areas of the roof will be injured or killed.	A precautionary working method will be implemented during and post-development. This will include the following measures: • Works will be scheduled during the winter months (November to March) when bats are least likely to be present, insofar as is possible. • Any removal/repair of roof tiles, fascia boards, soffit boxes, repointing of mortar etc will be supervised by a bat licenced ecologist following a pre works inspection. • The potential roost features will be removed by hand (where a risk still remains following the pre-commencement inspection) prior to any mechanical demolition. • In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and the bat licensed ecologist will provide further advice. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Light spill on to the central car park, as well as the car parks to the north and east, should be avoided as much as possible. • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also	The installation of wall-mounted bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be installed on inward-facing walls of the converted B1 and B4, as well as the newly built dwellings replacing B3. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for crevice-dwelling species.

¹ The Local Planning Authority has a duty to ask for enhancements under the NPPF (2021).

			be directional to ensure that light is directed to the intended areas only. • External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. • Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
B3	B3 is set between the common pipistrelle feeding grounds of the central yard and the eastern car park.	Proposed works: The demolition of B3 B3 has roosting features for crevice-dwelling bats, particularly the corrugated northern elevation. Whilst no roosts were identified within this building, significant bat activity in the area has been observed. Bats are highly mobile creatures that switch roosts regularly, and therefore any bats that begin using the affected areas of the roof will be injured or killed.	A precautionary working method will be implemented during and post-development. This will include the following measures: • Works will be scheduled during the winter months (November to March) when bats are least likely to be present, insofar as is possible. • The removal of the roof will be supervised by a bat licenced ecologist following a pre works inspection. • The potential roost features will be removed by hand (where a risk still remains following the pre-commencement inspection) prior to any mechanical demolition. • In the unlikely event that a bat or evidence of bats is discovered during the development all work must stop and the bat licensed ecologist will provide further advice. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: • Light spill on to the central car park, as well as the car parks to the north and east, should be avoided as much as possible. • Use narrow spectrum light sources to lower the range of species affected by lighting. • Use light sources that emit minimal ultra-violet light. • Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. • Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. • Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also	The installation of wall-mounted bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be installed on inward-facing walls of the converted B1 and B4, as well as the newly built dwellings replacing B3. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for crevice-dwelling species.

			be directional to ensure that light is directed to the intended areas only. External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights are on. All lighting on the developed site will make use of the most up to date technology available.	
B5 & B6	B5 and B6 each contain a common pipistrelle day roost and significant bat roosting features. These roosts are considered to have low conservation value, in line with the Bat Mitigation Guidelines (English Nature, 2004). The central yard and the car park to the north and the east of the site are feeding grounds for common pipistrelles. During the final survey, a neighbour spoke to the lead surveyor, stating that they often see as many as a hundred bats from their window a hundred metres to the south of	B5 and B6 are not a part of the works, and therefore the roost of one common pipistrelle within each building will not be directly affected, outside of the noise disturbance of the works being carried out. However bats are highly mobile creatures that switch roosts regularly, and therefore any bats using these roost could switch to using affected areas at any time and will be injured or killed. The proposed developments will include the use of lighting which could spill on to bat roosting, foraging or commuting habitat and deter bats from using these areas, particularly car park to the east and the new central car park.	There must be no use of artificial lighting that illuminates the bat roosts in B5 and B6 during or post development. There must be no construction of the roost access through machinery, built structures or scaffolding. A low impact lighting strategy will be adopted for the site during and post-development, which will include the following measures: - Light spill on to the central car park, as well as the car parks to the north and east, should be avoided as much as possible. - Use narrow spectrum light sources to lower the range of species affected by lighting. - Use light sources that emit minimal ultra-violet light. - Avoid white and blue wavelengths of the light spectrum to reduce insect attraction and where white light sources are required in order to manage the blue shortwave length content they should be of a warm / neutral colour temperature <4,200 kelvin. - Not use bare bulbs and any light pointing upwards. The spread of light will be kept in line with or below the horizontal. - Light spill will be reduced via the use of low-level lighting used in conjunction with hoods, cowls, louvers and shields. Lights will also be directional to ensure that light is directed to the intended areas only. - External lighting will be on PIR sensors that are sensitive to large objects only (so that they are not triggered by passing bats) and will be set to the shortest time duration to reduce the amount of time the lights are on. Wall lights and security lights will be 'dimmable' and set to the lowest light intensity settings. There are several products on the market that allow the control of the light intensity and the duration that the lights	The installation of wall-mounted bat boxes at the site will provide additional roosting habitat for bats. The bat boxes will be installed on inward-facing walls of the converted B1 and B4, as well as the newly built dwellings replacing B3. Bat boxes should be positioned 3-5m above ground level facing in a south or south-westerly direction with a clear flight path to and from the entrance, away from artificial light. The bat boxes will be a specification suitable for crevice-dwelling species.

	the site, suggesting the possible presence of a nearby maternity roost.		are on. All lighting on the developed site will make use of the most up to date technology available.	
Nesting birds	Two bird's nests were observed in B1 underneath the entrance to the central yard.	These nests would be destroyed during the works. All six buildings provide suitable nesting sites within the interior or exterior of the building.	If the demolition works are to be undertaken between March and August, a nesting bird check will need to be carried out by a suitably qualified ecologist within 48 hours of the start of work. If any nests are identified then these must be left in situ until the young have fledged.	A group of house sparrow boxes and swift boxes should be placed under the eaves of the new-builds or on existing structures. The boxes should be grouped for at least 3 nesting pairs and should be away from direct sunlight.
Hedgehogs	A hedgehog was observed foraging within the inner courtyard and living within the western part of B2.	Hedgehogs could be injured or killed during the conversion of B2 and general site demolition and construction works.	A precautionary working method will be implemented during construction, including the following measures: • Site clearance will be undertaken outside of the hedgehog hibernation season (November to March) insofar as is possible. • A pre commencement check of the buildings to be demolished and surrounding areas will be undertaken by a suitably qualified ecologist. this can be combined with the above detailed bat supervisions. • Any hedgehogs found should be moved to a safe area. • Any excavations will be covered overnight, or a ramp will be installed to enable any trapped animals to escape. • The use of night-time lighting will be avoided, or sensitive lighting design will be implemented to avoid light spill on to retained habitats which hedgehogs could use. • Any chemicals or pollutants used or created by the development should be stored and disposed of correctly according to COSHH regulations. If any hedgehogs are found in the working area these should be allowed to disperse of their own accord or, if at immediate risk, should be moved by hand to a sheltered, vegetated area away from disturbance.	Connectivity to and from the site must be retained by leaving gaps in fencing. A hedgehog house should be added close to the former location of B2.

5.0 Bibliography

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- Institution of Lighting Professionals (2018). Guidance Note 08/18 Bats and Artificial Lighting in the UK. Bats and the Built Environment Series Publication: http://www.bats.org.uk/news.php/406/new_guidance_on_bats_and_lighting.
- Preliminary roost assessment (09/05/2023), Arbtech Consulting Ltd
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- Wray, S., Wells, D., Long, E., Mitchell-Jones, T (2010) Valuing Bats in Ecological Impact Assessment. IEEM In-Practice. Number 70 (December 2010). Pp. 23-25.

Appendix 1: Proposed Development Plan

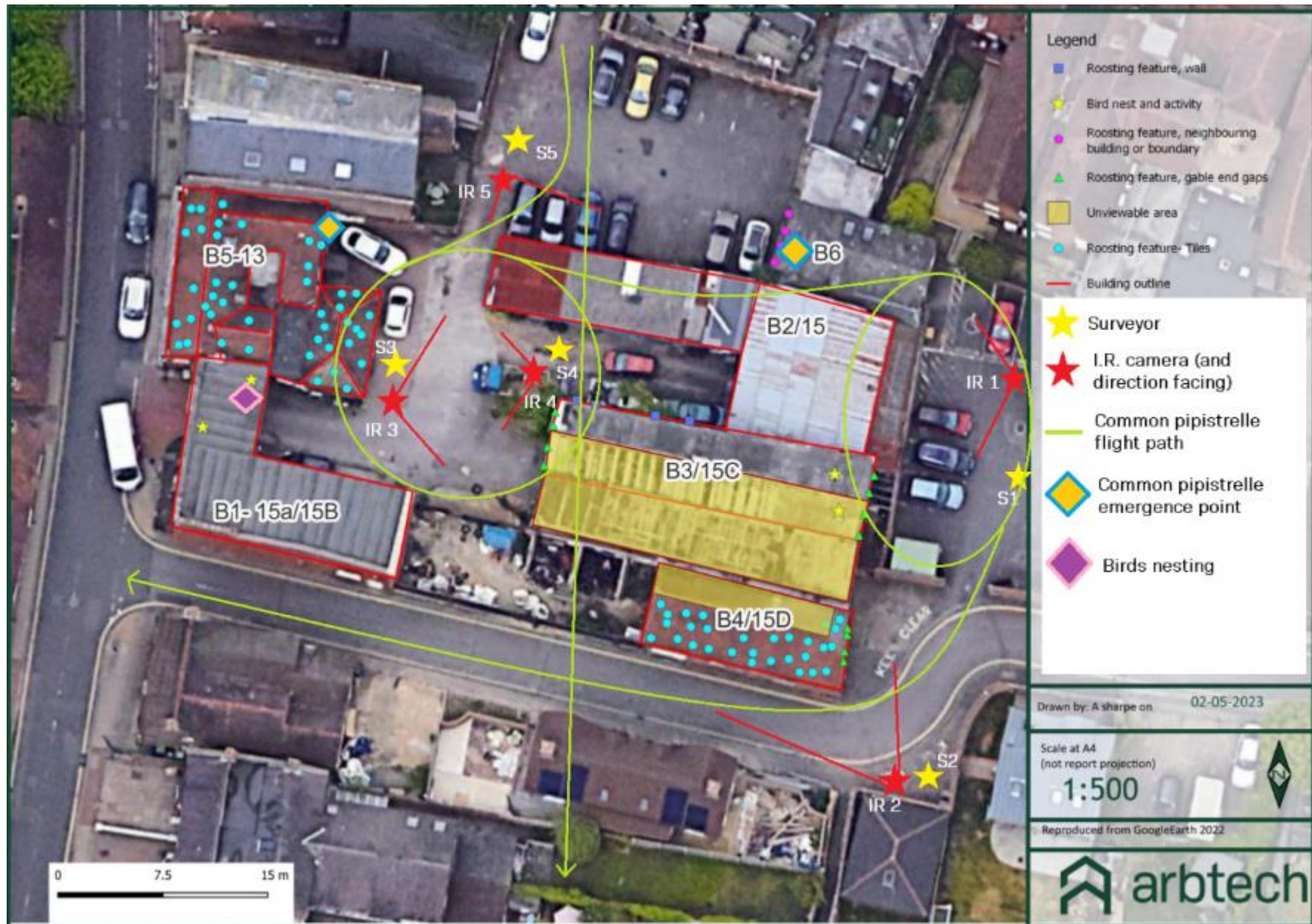


Appendix 2: Site Location Plan

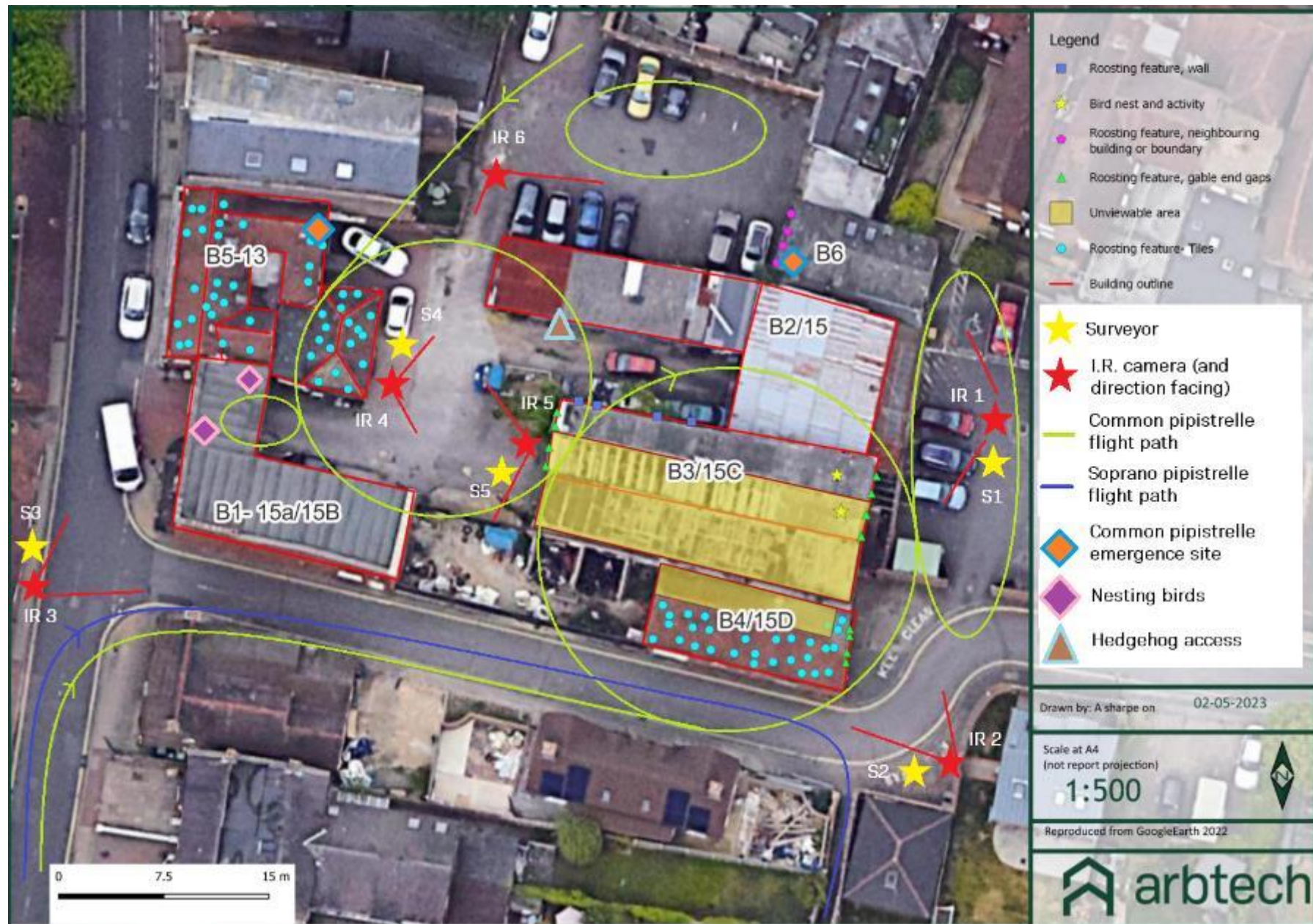


Appendix 3: BERS Plan

Appendix 3a (first survey)



Appendix 3b (second and third surveys)



Appendix 4: Legislation and Planning Policy Related to Bats

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** (as amended) through their inclusion on Schedule 2.

Regulation 43: Protection of certain wild animals - offences

(1) A person is guilty of an offence if they:

- (a) Deliberately captures, injures or kills any wild animal of a European protected species,
- (b) Deliberately disturbs wild animals of any such species,
- (c) Deliberately takes or destroys the eggs of such an animal, or
- (d) Damages or destroys a breeding site or resting place of such an animal,

(2) For the purposes of paragraph (1) (b), disturbance of animals includes in particular any disturbance which is likely—

- (a) To impair their ability:
 - (i) To survive, to breed or reproduce, or to rear or nurture their young; or
 - (ii) In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- (b) To affect significantly the local distribution or abundance of the species to which they belong.

Bats are also protected under the ***Wildlife and Countryside Act 1981*** (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance (at any level)
- Intentional or reckless obstruction of access to any place of shelter or protection
- Selling, offering or exposing for sale, possession or transporting for purpose of sale

NATIONAL PLANNING POLICY

National Planning Policy Framework 2021

The National Planning Policy Framework promotes sustainable development. The Framework specifies the need for protection of designated sites and priority habitats and species. An emphasis is also made on the need for ecological infrastructure through protection, restoration and re-creation. The protection and recovery of priority species (considered likely to be those listed as species of principal importance under Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006) is also listed as a requirement of planning policy.

In determining a planning application, planning authorities should aim to conserve and enhance biodiversity by ensuring that: designated sites are protected from harm; there is appropriate mitigation or compensation where significant harm cannot be avoided; measurable gains in biodiversity in and around developments are incorporated; and planning permission is refused for development resulting in the loss or deterioration of irreplaceable habitats including aged or veteran trees and also ancient woodland.

The Natural Environment and Rural Communities Act 2006 and the Biodiversity Duty

Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, requires all public bodies to have regard to biodiversity conservation when carrying out their functions. This is commonly referred to as the 'biodiversity duty'.

Section 41 of the Act requires the Secretary of State to publish a list of habitats and species which are of 'principal importance for the conservation of biodiversity'. This list is intended to assist decision makers such as public bodies in implementing their duty under Section 40 of the Act. Under the Act these habitats and species are regarded as a material consideration in determining planning applications. A developer must show that their protection has been adequately addressed within a development proposal.

EFFECT OF LEGISLATION AND POLICY ON DEVELOPMENT WORKS

A European Protected Species Licence (EPSL) issued by Natural England will be required for works likely to affect a bat roost or for operations likely to result in a level of disturbance which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation but also to enable appropriate mitigation measures to be put in place and their efficiency/success to be monitored. The legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost (Garland & Markham, 2008).

There are 17 species of bat breeding in England and Natural England issues licences under Regulation 55 of the Habitats Regulations to allow you to work within the law.

Licences are issued for specific purposes stated in the Regulations, if the following three tests are met:

- The purpose of the work meets one of those listed in the Habitats Regulations (see below);
- That there is no satisfactory alternative;
- That the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status (FCS) in their natural range

The Habitats Regulations permits licences to be issued for a specific set of purposes including:

- include preserving public health or public safety or other imperative reasons of over-riding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- scientific and educational purposes;

- ringing or marking; and,
- conserving wild animals.

Development works fall under the first purpose and Natural England issues bat mitigation licences for developments.

EUROPEAN PROTECTED SPECIES POLICIES

In December 2016 Natural England officially introduced the four licensing policies throughout England. The four policies seek to achieve better outcomes for European Protected Species (EPS) and reduce unnecessary costs, delays and uncertainty that can be inherent in the current standard EPS licensing system. The policies are summarised as follows:

- Policy 1; provides greater flexibility in exclusion and relocation activities, where there is investment in habitat provision;
- Policy 2; provides greater flexibility in the location of compensatory habitat;
- Policy 3; provides greater flexibility on exclusion measures where this will allow EPS to use temporary habitat; and,
- Policy 4; provides a reduced survey effort in circumstances where the impacts of development can be confidently predicted.

The four policies have been designed to have a net benefit for EPS by improving populations overall and not just protecting individuals within development sites. Most notably Natural England now recognises that the Habitats Regulations legal framework now applies to ‘local populations’ of EPS and not individuals/site populations.