Bat Emergence and Re-entry Surveys

5 Dagmar Road, London, SE25 6HZ

Inicio Homes Limited

Status	Issue	Name	Date
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Executive summary

Arbtech was commissioned by Inicio Homes Limited to undertake Bat Emergence and Re-entry Surveys at 5 Dagmar Road, London, SE25 6HZ. The surveys were completed on 2nd, 16th and 30th July 2021. The aim of the assessment was to confirm the presence/likely absence of a bat roost in the building, and to provide an assessment of the current status of all the survey features. This includes providing evidence for species, numbers and levels of activity, to identify any entrance and egress points, and to gain an understanding of the activity of bats using the site in the local landscape.

Project description

The development proposals are for the demolition of the existing building to enable the construction the construction of eight apartments with private amenity space, as well as a large communal space with play area. A planning application is being prepared for the submission to The London Borough of Croydon.

Recommendations

Ref	Recommendations / Mitigation
B1	A likely absence of bat roosts within B1 has been concluded. No bats were seen emerging from/re-entering the building during the surveys. A European Protected Species Mitigation Licence (EPSML) **will not be required** to enable the proposed words to be lawfully undertaken. In the unlikely event that bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted for further advice. The developed site can be enhanced for the bat species that appeared to be foraging in proximity to the site during the survey by installing a minimum of one woodcrete bat box on either northern elevation of B1 or on mature trees in the rear garden e.g., Beaumaris Bat Box. Bat boxes should be positioned 3-5m above ground level facing south or south-westerly with a clear flight path to and from the entrance. Bat boxes should also be positioned away from any artificial light sources.

Contents

1.0 Introduction and Context

1.1 Background

Arbtech was commissioned by Inicio Homes Limited to undertake Bat Emergence and Re-entry Surveys at 5 Dagmar Road, London, SE25 6HZ. The surveys were completed on 2nd, 16th and 30th July 2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016). These surveys were completed following recommendations made in the Preliminary Ecological Appraisal and Preliminary Roost Assessment Survey report (Arbtech Consulting Ltd. July 2021).

1.2 Site Context

The site is located at National Grid Reference TQ 33119 67994 and has an area of approximately 0.1ha. The site consists of a residential property (B1) and garden.

1.3 Scope of the report

This report provides a description of the bat activity observed and recorded during each survey. The aim of the assessment was 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.

Robust data has been collected, following good practice guidelines, to inform an assessment of the potential impacts of the proposed development on bats, and inform mitigation and enhancements. This report provides information on constraints to the proposals as a result of roosting bats, and summarises any mitigation required to achieve planning permission, and statutory consent to comply with wildlife legislation.

To achieve the aims of the assessment, the following steps have been taken:

- A desk study has been carried out, including a request for information from the local bat group or records centre - please refer to the Preliminary Ecological Appraisal and Preliminary Roost Assessment report (Arbtech, July 2021).
- Field survey(s) has been undertaken, including an external survey and internal inspection.
- An outline of likely impacts on any known roosts has been provided, based on current development proposals.
- Recommendations for further survey and assessment have been made, along with advice on the requirements of a European protected species mitigation licence (EPSML) application if appropriate.

A survey plan is presented in Appendix 1 showing the location of each surveyor and the bat activity observed and recorded during each survey, proposed plans in Appendix 2 and a summary of relevant legislation is presented in Appendix 3.

1.4 Project Description

The development proposals are for the demolition of the existing building to enable the construction the construction of eight apartments with private amenity space, as well as a large communal space with play area. A planning application is being prepared for the submission to The London Borough of Croydon.

2.0 Methodology

2.1 Desk Study methodology

The desk study included a 2km radius review of statutory and non-statutory designated sites, Biodiversity Action Plan (BAP) Priority Habitats and granted EPSML records for bats held on Magic database. An assessment of the surrounding landscape structure was also completed using aerial images from Google Earth and OS maps.

Existing bat records relating to the site and a surrounding 2km radius are required to conform to national guidelines. The data search is confidential information that is not suitable for public release and was analysed and summarised in the Preliminary Ecological Appraisal and Preliminary Roost Assessment (Arbtech, July 2021).

2.2 Site Survey methodology

The survey methods were informed by the recommendations presented in the Preliminary Ecological Appraisal and Preliminary Roost Assessment (Arbtech, July 2021). This survey identified the following survey requirements in line with best practice:

Table 1: Recommended surveys

Ref	Survey assessment conclusions (with justification)	Foreseen impacts	Recommendations
Building (B1)	The building has high habitat value for roosting bats. Many external crevices are present which will offer roosting value for crevice dwellers; it is also possible for bats to access the loft space through gaps in the soffit. It was not possible to inspect the loft for bat evidence due to safety concerns. The immediate landscape is dominated by residential development, though small amenity areas may provide some foraging value, while the deciduous woodland around the railway line ~650m south of the site could be valuable for commuting. The area is well-illuminated by streetlights, which may deter particulary light-sensitive species such as brown long-eared bats *(Plecotus Auritus).* An EPSL was granted in 2013 to destroy a common pipistrelle *(Pipistrellus pipistrellus)* bat roost ~1.3km north-west of the site. Displaced bats from this roost may find replacement roosting habitat on site.	As the proposals include the demolition of this building, any bat roosts present would be destroyed. This could result in death, injury or disturbance of bats.	Three bat emergence/re-entry survey is required during the active bat season (May – September) to confirm presence/likely-absence of a bat roost in the building. At least two surveys should be completed during the optimal survey period mid-May to August inclusive. Sub-optimal: early May and September. One of these surveys must be a dawn re-entry survey. Four surveyors are required to provide full coverage of the building.

The surveys involved surveyors positioned around the building (B1) ensuring that all elevations and roof sections with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the building identified as providing suitable access points to bat roosts. The location of each surveyor during each survey is shown in Appendix 1. 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 Wildlife Acoustics EM3+ and Echo Meter Touch detectors connected to iPads. 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 handheld radio for communication between surveyors to assist with confirming ambiguous bat activity e.g. a bat emergence or a bat passing over the building.

In accordance with the latest bat survey guidelines (Collins, J. 2016) dusk emergence surveys commenced 15 minutes before sunset and continued for 1½ - 2 hours after sunset – depending upon bat activity and surveyor visibility. Dawn re-entry surveys commenced 2 hours before sunrise and continued until 15 minutes after sunrise.

Surveys were completed during optimal weather conditions i.e. when temperatures were above 10^{o}C, with no rain or strong winds, as these adverse weather conditions can impact upon bat emergence and foraging behaviour.

2.3 Surveyors

The lead surveyor Deqa Mohamed BSc (Hons) was assisted by experienced surveyors with several years' experience in conducting bat surveys. Four surveyors were used to provide sufficient cover of the building during each survey. 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 1.

2.4 Limitations

These surveys follow best practice guidance to confirm presence/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. There were no specific limitations to the surveys.

3.0 Results and Evaluation

3.1 Survey Results

The results of each survey are provided in the tables below.

Table 2: Survey results

Date		02/07/2021	
Start and End Times		21:05 – 22:50 Sunset: 21:20	
Weather Conditions		**Start:** Temp: 21°C Relative Humidity: 70% Cloud Cover: 70% Wind: 5.5mph Rain: None	**End**: Temp: 19°C Relative Humidity: 88% Cloud Cover: 80% Wind: 4.3mph Rain: None
Surveyor (position) **As shown in Appendix 1**		**Eryka Padda** – One year's experience of conducting bat surveys (Position 1 – observing the northern and western elevations and roof structures of B1). **Deqa Mohamed** – Three years' experience of conducting bat surveys (Position 2– observing the northern and eastern elevations and roof structures of B1). **Toby Bowman** – Six years' experience of conducting bat surveys (Position 3 – observing the southern and eastern elevations and roof structures of B1). **Ken Coyne** – Five years' experience of conducting bat surveys (Position 4 – observing the southern and western elevations and roof structures of B1).	
Building Reference	**Surveyor Position**	**Notes/observations:**	
B1	1	At 21:49, a soprano pipistrelle *Pipistrellus pygmaeus* was heard passing by but was not seen. At 21:56, a common pipistrelle *Pipistrellus pipistrellus* was seen feeding around the rear garden before heading north-east. At 21:57, a common pipistrelle was observed to be circling and foraging around B1 for one minute. Common pipistrelles were heard passing by at 22:02 and 22:04. These bats were not seen. At 22:08, a common pipistrelle was seen travelling south-west to north-east, commuting along the western elevation of B1. At 22:09, a common pipistrelle was seen foraging around a tree in the rear garden, north of B1. A common pipistrelle was seen travelling along the western elevation of B1, heading north, at 22:14 and 22:17. At 22:18, a common pipistrelle was seen using the tree-line along the north-western boundary. Constant foraging activity from a common pipistrelle bat was heard for 12 minutes. This bat was not seen.	
B1	2	A soprano pipistrelle was seen arriving from the north and heading south-west, travelling along the eastern elevation of B1, at 21:49. A distant call from a soprano pipistrelle was recorded at 22:11. This bat was not seen. A noctule *(Nyctalus noctula)* was heard passing by at 21:54 but was not seen. A common pipistrelle was seen arriving from the neighbouring property to the north-west and circled the small tree-line along the boundary before heading west off-site again at 21:55. Between 21:57 and 22:00, a common pipistrelle was seen circling and foraging around B1. At 22:02, a common pipistrelle arrived from the north and travelled south-west along the eastern elevation of B1. A common pipistrelle was heard foraging nearby at 22:08 for one minute. A common pipistrelle was seen commuting from west to east over the site at both 22:09 and 22:14. Feeding activity from a common pipistrelle was recorded between 22:17 and 22:31. This bat was not seen.	
B1	3	A soprano pipistrelle was seen travelling north to south along the eastern elevation of B1 at 21:49.	

		A common pipistrelle was seen arriving from the north-west, travelling over B1, before heading north off-site at 21:58. At 21:59, a common pipistrelle arrived from the north and travelled south and then west around B1. At 22:03, a common pipistrelle arrived from the north and headed in the north-western direction, over B1. A common pipistrelle was seen arriving from the north and headed south along the eastern elevation of B1 at 22:14. At 22:19, a common pipistrelle travelled over the building before heading north off-site.
B1	4	A faint call from a noctule bat was recorded at both 21:18 and 22:09. These bats were not seen. A soprano pipistrelle was heard passing nearby at 21:49 but was not seen. A common pipistrelle was heard passing nearby at 21:59 but was not seen. At 21:59, a common pipistrelle arrived from the east and travelled north along the western elevation of B1. Foraging activity from a common pipistrelle was recorded between 22:02 and 22:06. This bat was not seen. At 22:14, a common pipistrelle was seen heading north along the western elevation of B1.

Table 3: Survey results

Date		16/07/2021	
Start and End Times		03:32 – 05:17 Sunrise: 05:02	
Weather Conditions		**Start:** Temp: 13°C Relative Humidity: 82% Cloud Cover: 5% Wind: 3mph Rain: None	**End**: Temp: 10°C Relative Humidity: 68% Cloud Cover: 20% Wind: 8.7mph Rain: None
Surveyor (position) **As shown in Appendix 1**		**Eryka Padda** – One years' experience of conducting bat surveys (Position 1 – observing the northern and western elevations and roof structures of B1). **Deqa Mohamed** – Three years' experience of conducting bat surveys (Position 2– observing the northern and eastern elevations and roof structures of B1). **Toby Bowman** – Six years' experience of conducting bat surveys (Position 3 – observing the southern and eastern elevations and roof structures of B1). **Jake Peacock** – One years' experience of conducting bat surveys (Position 4 – observing the southern and western elevations and roof structures of B1).	
Building Reference	**Surveyor Position**	**Notes/observations:**	
B1	1	No bats were seen or heard for the duration of the survey.	
B1	2	A faint call from a noctule was heard at 04:31. This bat was not seen. There was no further activity recorded.	
B1	3	No bats were seen or heard for the duration of the survey.	
B1	4	No bats were seen or heard for the duration of the survey.	

Table 4: Survey results

Date	30/07/2021	
Start and End Times	20:35 – 22:20 Sunset: 20:50	
Weather Conditions	**Start:** Temp: 17°C	**End**: Temp: 14°C

		Relative Humidity: 73% Cloud Cover: 40% Wind: 12mph Rain: None	Relative Humidity: 82% Cloud Cover: 50% Wind: 8.07mph Rain: None
Surveyor (position) **As shown in Appendix 1**		**Deqa Mohamed** – Three years' experience of conducting bat surveys (Position 1 – observing the northern and western elevations and roof structures of B1). **Eryka Padda** – One years' experience of conducting bat surveys (Position 2– observing the northern and eastern elevations and roof structures of B1). **Toby Bowman** – Six years' experience of conducting bat surveys (Position 3 – observing the southern and eastern elevations and roof structures of B1). **Carla de Sousa** – Six years' experience of conducting bat surveys (Position 4 – observing the southern and western elevations and roof structures of B1).	
Building Reference	**Surveyor Position**	**Notes/observations:**	
B1	1	A faint call from a common pipistrelle was heard at 20:50. This bat was not seen. Between 21:26 and 21:48, constant foraging activity from a common pipistrelle was seen along the north-western site boundary where there is a section of tree-line. At 21:42, a common pipistrelle arrived from the south-east and travelled north towards the back of the rear garden. A common pipistrelle was heard foraging nearby between 21:59 and 22:14 intermittently. This bat was not seen.	
B1	2	A common pipistrelle was seen foraging along the tree-line on the north-western site boundary between 21:27 and 21:48. At 21:41, a common pipistrelle arrived from the neighbouring property to the south-east and headed in the northern direction, towards the rear end of the garden. A common pipistrelle was occasionally heard foraging nearby at 22:02. This feeding activity was heard for nine minutes.	
B1	3	No bats were seen or heard for the duration of the survey.	
B1	4	No bats were seen or heard for the duration of the survey.	

4.0 Conclusions, Impacts and Recommendations

4.1 Informative guidelines

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 Mitigation Licence (EPSML) 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 publication *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 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.

The surveys undertaken to date, in and around B1, provide sufficient information to inform a planning application. A European protected species mitigation licence (EPSML) **will not be required** to enable the proposed works to be lawfully undertaken. Appropriate justification for this assessment is provided in Section 3 of this report.

4.2 Evaluation

The following recommendations are provided taking the desk-based assessment and site survey results into account.

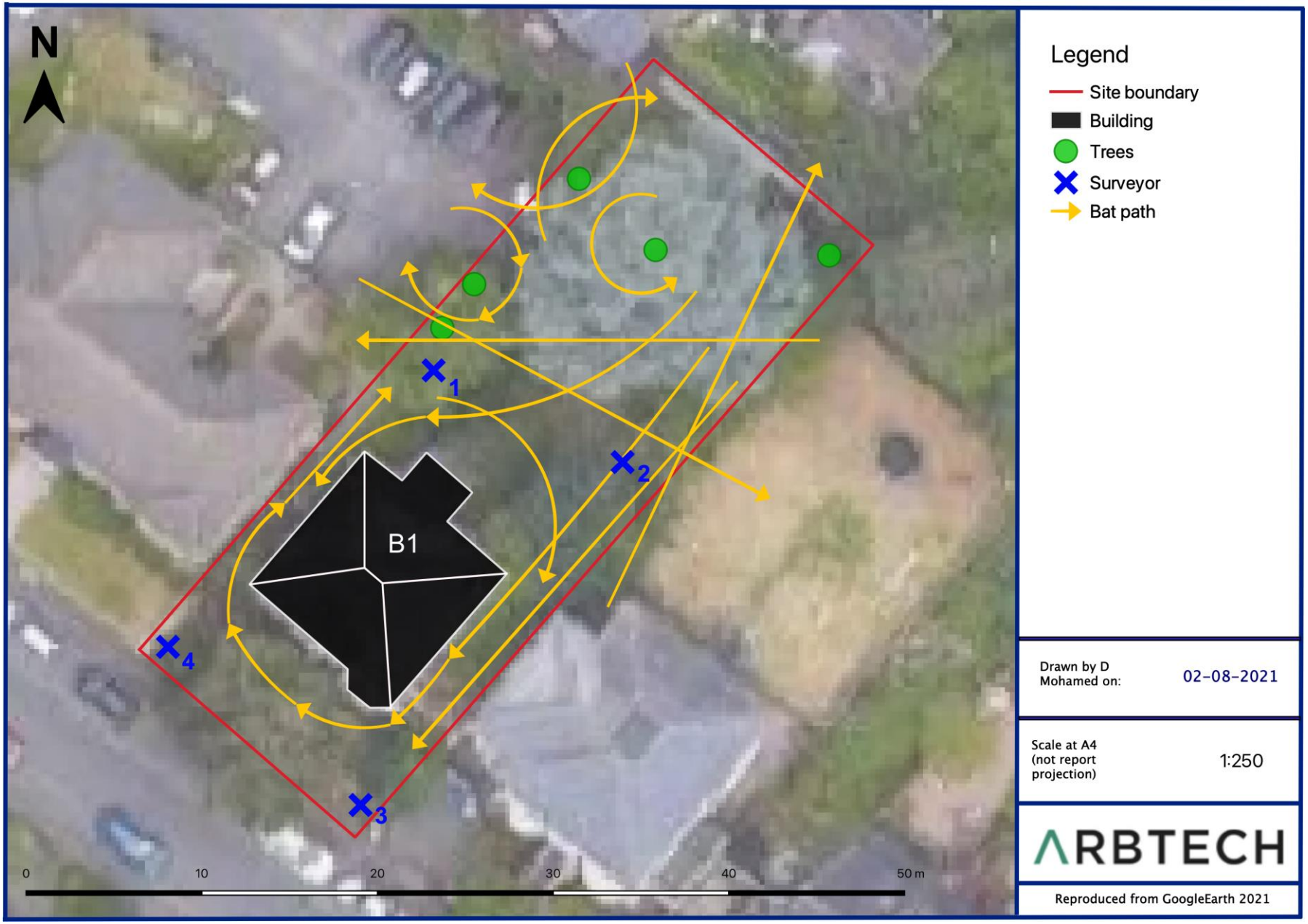
Table 4: Evaluation of building on site

Ref	Survey conclusions	Foreseen impacts	Recommendations / Mitigation	Enhancement
B1	A likely absence of bat roosts within B1 has been concluded. No bats were seen emerging from/re-entering the building during the surveys.	Bats are very unlikely to be roosting within B1 and as such, there are not anticipated to be any impacts on bats as a result of the proposed works.	In the unlikely event that bats are found during any stage of the development, work should stop immediately and a suitably qualified ecologist should be contacted for further advice.	The developed site can be enhanced for the bat species that appeared to be foraging in proximity to the site during the survey by installing a minimum of one woodcrete bat box on either northern elevation of B1 or on mature trees in the rear garden e.g., Beaumaris Bat Box. Bat boxes should be positioned 3-5m above ground level facing south or south-westerly with a clear flight path to and from the entrance. Bat boxes should also be positioned away from any artificial light sources.

5.0 Bibliography

- Arbtech Consulting Ltd (2021). Preliminary Ecological Appraisal and Preliminary Roost Assessment (PEA)(PRA).
- Collins, J. (ed.) (2016). Bat Surveys for Professional Ecologists —Good Practice Guidelines, 3rd edition, Bat Conservation Trust, London.
- Garland & Markham (2008) Is important bat foraging and commuting habitat legally protected?
- Google Earth (2021) accessed 02/08/2021.
- Magic database (2021) http://www.magic.gov.uk/MagicMap.aspx accessed 2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

None provided.

Appendix 3: Legislation and Planning Policy related to bats

LEGAL PROTECTION

National and European Legislation Afforded to Habitats

International Statutory Designations

New legislation (2020)

The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 came into force when Britain left the European Union on 31st January 2020. It covered amendments relevant to this survey to:

Wildlife and Countryside Act 1981: England and Wales (x1 amendment)

Conservation of Habitats and Species Regulations 2017 (x29 amendments)

LEGAL PROTECTION

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** 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 01.04.1996)*** 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 (ENGLAND)

National Planning Policy Framework 2017

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 UK Biodiversity Action Plan priority species) 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; opportunities to incorporate biodiversity in and around developments are encouraged; 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 on development works:

A European Protected Species Mitigation (EPSM) Licence 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
- conserving wild animals

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