Bat Emergence Survey

Sheen Lawn Tennis and Squash Club, 1 Parklands Close, Sheen, London, SW14 7EH

Mandip Sahota

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Executive summary

Arbtech were commissioned by Mandip Sahota to undertake Bat Emergence Survey at Sheen Lawn Tennis and Squash Club, 1 Parklands Close, Sheen, London, SW14 7EH. The survey was completed on 07/09/2021. The aim of the assessment was to confirm the presence or likely-absence of a bat roost and to provide a current status on all 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.

No bats were seen emerging from the tree (T1) during the survey meaning that there is a likely-absence of roosting bats within tree T1 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 unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.

Recommendations:

The installation of a minimum of one bat box on mature trees around the site boundaries will provide additional roosting habitat for bats. 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.

For any external lighting - Low impact lighting strategies will be adopted from the guidance outlined in the new Bats and Lighting Publication produced by the Institution of Lighting Professionals and the Bat Conservation Trust “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.

The lighting on the site will:

• 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

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1.0 Introduction and Context

1.1 Background

Arbtech were commissioned by Mandip Sahota to undertake Bat Emergence Survey at Sheen Lawn Tennis and Squash Club, 1 Parklands Close, Sheen, London, SW14 7EH. The survey was completed on 07/09/2021. The assessment is informed by the Bat Conservation Trust publication, *Bat Surveys for Professional Ecologists – Good Practice Guidelines* (Collins, J. (Ed) 2016). This survey was completed following recommendations made in the Preliminary Roost Assessment Survey report (Arbtech Consulting Ltd. August 2021).

1.2 Site Context

The site is located at National Grid Reference TQ 2018 7465 and comprises an area of approximately 0.1ha. The site is dominated by five hardstanding tennis courts. As a result, there are no buildings or trees within the site boundary. However, the site is located directly adjacent to buildings associated with the tennis and squash club in addition to peripheral vegetation associated with adjacent residential properties. A tree with bat roost features in adjacent to the property and is the subject of this survey

1.3 Scope of the report

This report provides a description of the bat activity observed and recorded during the survey. The aim of the assessment was to determine the presence or likely-absence of bats 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 Roost Assessment Survey report (Arbtech, August 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, desk study results are provided in Appendix 3, and a summary of relevant legislation is presented in Appendix 4.

1.4 Project Description

Proposals for the site comprise the installation of 10No. flood lights. All flood lights will be column mounted at a height of 6m and be of LED box type. The locations of the proposed new flood lights are shown in Appendix 2.

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 Roost Assessment Survey report. Please refer to the Preliminary Roost Assessment Survey report (Arbtech, August 2021).

2.2 Site Survey methodology

The survey methods were informed by the recommendations presented in the Preliminary Roost Assessment Survey report (Arbtech Consulting Ltd August 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
Trees T1 Bats	T1, located directly adjacent to the north-west of the site, is assessed to provide low potential to support roosting bats. Furthermore, peripheral vegetated habitats are assessed to provide some potential to support foraging and commuting bats, albeit limited. Given the small extent of this vegetation located adjacent to the site, they are not considered to provide a significant resource to foraging or commuting bats	Indirect impacts as a result of additional lighting at the site may occur, but these are considered insignificant given the low value of habitats on-site to bats. Furthermore, an emergence survey of T1 and bat activity survey of the entire site in May 2017 did not record any significant bat activity.	Given that this Preliminary Roost Assessment confirms that the baseline ecological conditions with regards to the site's value to bats has not significantly changed since 2016, it is recommended that an update emergence survey of T1 and combined bat activity survey is undertaken to inform the new planning application as to update the survey information requested and collated in 2016. The survey should be undertaken during the active bat season between May and September inclusive. Two surveyors are required to provide full coverage of the site.

The surveys involved surveyors positioned around the tree ensuring that all sides of the tree with suitable roosting features could be clearly observed. Particular attention was paid to the areas of the tree 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 tree 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 is Beth Ellison-Perrett BSc (Hons) MSc, Consultant (Accredited Agent to Natural England Bat Licence Number: 2018-33540-CLS-CLS) and was assisted by experienced surveyors with several years of bat survey experience. Two surveyors were used to provide sufficient cover of the tree during the 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

This survey follows 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 tree, 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 survey.

3.0 Results and Evaluation

3.1 Survey Results

The results of the survey are provided in the table below. *Table 2: Survey results*

Date		07/09/2021	
Start and End Times		19:20 – 21:05 Sunset: 19:35	
Weather Conditions		**Start:** Temp: 24°C Relative Humidity: 49% Cloud Cover: 0% Wind: None Rain: None	**End**: Temp: 21°C Relative Humidity: 51% Cloud Cover: 20% Wind: None Rain: None
Surveyor (position) **As shown in Appendix 1**		Beth Ellison-Perrett (Accredited Agent to Natural England Bat Licence Number: 2018-33540-CLS-CLS): Position 1- observing the southern and eastern elevations of T1. Jennifer Stevens: Position 2- observing the western and northern elevations of T1.	
Tree Reference	**Surveyor Position**	**Notes/observations:**	
T1	1	The first bat activity recorded was pass by a common pipistrelle at 19:54 going west to east along tree line. A soprano pipistrelle was observed foraging along the tree line at 19:56 and 19:59. Two common pipistrelles were observed social calling between 20:01 and 20:07, flying south to east and circling along tree line. At 20:07 a soprano pipistrelle was observed flying north-west to south. At 20:09 a soprano pipistrelle was observed foraging, flying west to east and circling over the courts. At 20:11 a common pipistrelle was observed flying along the tree line from east to west. At 20:12 a soprano pipistrelle was observed flying along the tree line from west to east. At 20:19 a soprano pipistrelle was observed foraging along the tree line and circling the courts, flying east to west. A common pipistrelle was heard but not seen at 20:31; 20:38 and 20:49.	
T1	2	Two common pipistrelles were observed flying north to south at 19:55. A soprano pipistrelle was observed flying west to east. At 19:57 a common pipistrelle was observed flying north to east. At 20:00 a soprano pipistrelle was observed foraging along the treeline flying west to east. Two common pipistrelles were observed flying east from the west at 20:01. At 20:02 a soprano pipistrelle was observed flying west along tree line. At 20:07 a common pipistrelle was observed circling the tree line flying back and forth. At 20:09 a soprano pipistrelle was observed flying east to west. At 20:11 a common pipistrelle was observed foraging along tree line. Constant activity from a soprano pipistrelle between 20:10 and 20:19 was observed. A common pipistrelle was heard but not seen at 20:20; 20:31, 20:36; 20:41 and 20:51.	

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.

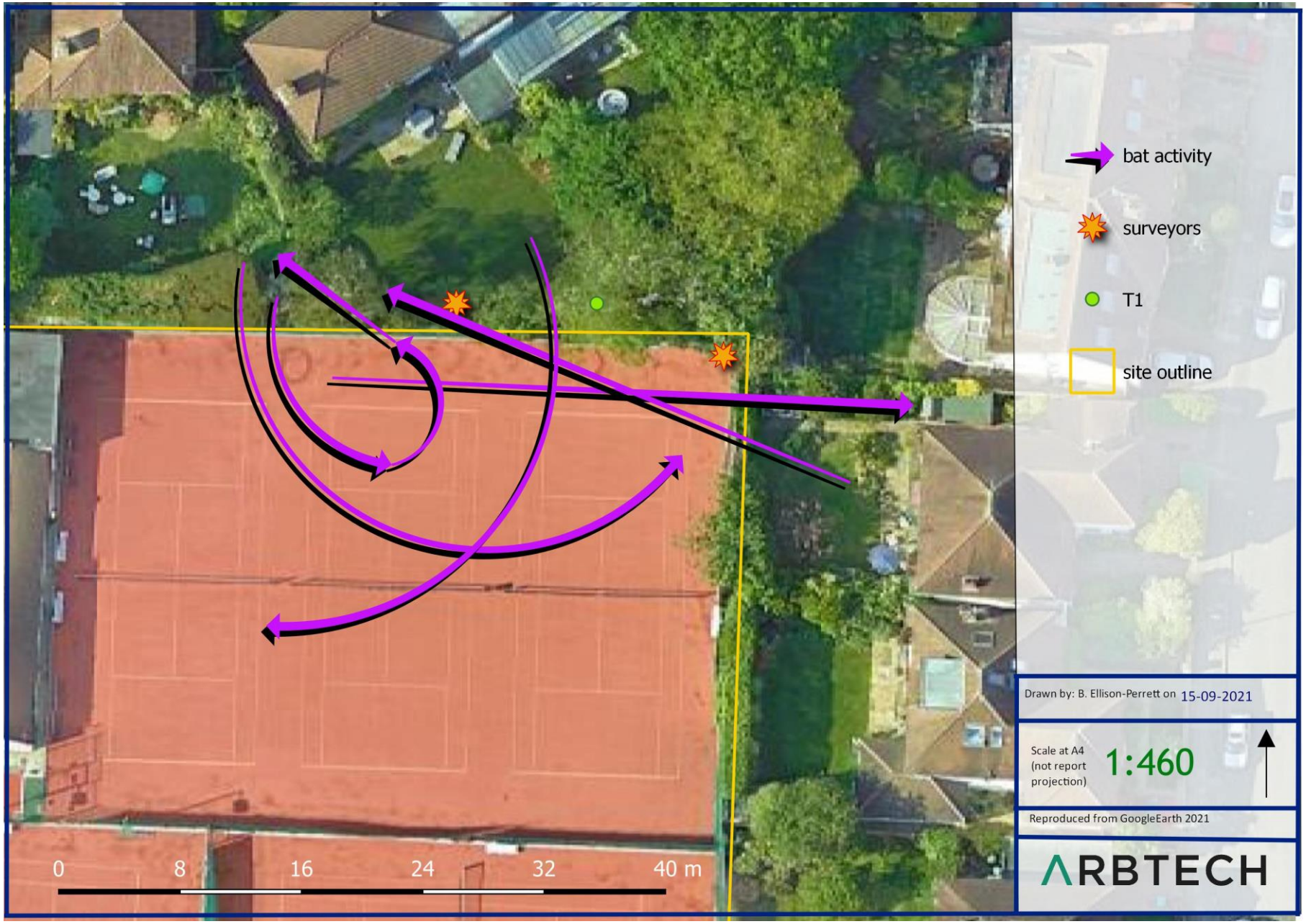
Table 5: Evaluation of tree on site

Ref	Survey conclusions	Foreseen impacts	Recommendations / Mitigation	Enhancements The Local Planning Authority has a duty to ask for enhancements under the NPPF (July 2021)
T1	No bats were seen emerging from T1. A likely-absence of roosting bats is confirmed	A likely-absence of roosting bats is confirmed in T1. Bats are very unlikely to be roosting within T1 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 unexpectedly found during any stage of the development, work should stop immediately, and a suitably qualified ecologist should be contacted to seek further advice.	The developed site can be enhanced for the bat species observed to be foraging and commuting across the site during the surveys by installing of a minimum of one bat box on mature trees around the site boundaries/retained buildings Bat boxes should be positioned 3-5m above ground level facing in a south/south-westerly direction 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

- 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 on 14/09/2021.
- MAGIC database (2021) http://www.magic.gov.uk/MagicMap.aspx accessed on 14/09/2021.
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Appendix 1: Survey Plan



Appendix 2: Proposed Site Plan

Appendix 3: Desk Study Information

Full historical records can be provided on request.

Figure 1: Aerial photo of site, showing landscape structure

Appendix 4: Legislation and Planning Policy related to bats

LEGAL PROTECTION

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)

All species of bat are fully protected under ***The Conservation of Habitats and Species Regulations 2017*** (amended by the ***Conservation of Habitats and Species Regulations (amendment) (EU Exit) Regulations 2019*** which continue the same provision for European protected species, licensing requirements and protected sites after the UK leaves the EU) 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 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 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.