



Bat Mitigation Plan

Glen Lea, Church Hill Southampton, Hampshire, SO30 3AT

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Guidelines

This assessment has been designed to meet:

- British Standard 42020 (2013) 'Biodiversity – Code of Practice for Planning and Development'.

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.

This approach is enshrined in Government planning guidance, for example, paragraph 193 of the National Planning Policy Framework for England.

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)

In consequence of the scale and intensity of the proposed development, this plan-led report is considered adequate and proportionate. It communicates all relevant information necessary to determine a planning application, or support the recommendations for further surveys.

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1.0 Introduction and Context

1.1 Background

- Arbtech Consulting Ltd was commissioned by Samantha Green to produce a Bat Mitigation Plan (BMP) for the site of Glen Lea, Church Hill Southampton, Hampshire, SO30 3AT.
- A Preliminary Bat Roost Assessment (PRA) bat survey was undertaken on site by Enims in November 2022.
- Before, further works are undertaken, an outline mitigation strategy will be written so the Local Planning Authority (LPA) is able to fully consider the impact of the proposals on bats. The outline mitigation strategy should be submitted to the LPA for approval prior to determination, in order to enable the LPA to satisfy and discharge its obligations under the Habitats Regulations.

1.2 Site Location

- The site is located at National Grid Reference SU 46409 14304 and has an area of approximately 0.08ha.
- The site consists of one building. According to the previous surveys undertaken on site (Enims, November 2022): The site consisted mainly of bare ground and hardstanding. There was a concrete driveway which led down the east of the building to a garden comprising bare ground and rubble from construction works. The garden was bordered by laurel hedges to the east with holly, hazel and laurel in the north. Bamboo was found in the easternmost corner and two mature trees within the centre of the garden. The south of the site comprised the main dwelling and a small shed, located adjacent to the driveway. A small, ornamental pond was located next to the shed, surrounded by bare ground and concrete driveway.

1.3 Project Description

- This bat mitigation plan is prepared to support a future planning application with Eastleigh Borough Council. The proposal is described from this below:
- No development shall start until a bat roost mitigation and enhancement plan designed by a bat-licensed ecologist detailing 4no. compensatory bat roosts must be added to the new extension. These bat roosts should be located as close as possible to the location and design of the original bat roosting features identified in the Enims – Preliminary Bat Roost Assessment – Appendix B, pages 16 and 17 – November 2022.

1.4 Previous Ecological Survey Results

The site's bat habitat features, and conclusions are included below from Enims' Preliminary Roost Assessment Survey (November 2022) report:

There was no direct evidence of bats but numerous access points in the main building were found. Roosting opportunities were found in between brick work, around the wooden soffit box, and gaps in the wooden porch. It is concluded that the main building has moderate potential to support an active bat roost due to the presence of a loft space and numerous access points into the cavity wall and soffit box. There is a risk of adverse impacts to roosting bats in the absence of appropriate mitigation for the current proposals. Further surveys are recommended in order to confirm the presence or likely absence of bats on site. However, the site was re-visited on 20th February 2023, at the request of the client. This was due to the client having completed works on the external area of the building, which the client has informed Enims took place the day after the site visit in November 2022. The client has informed us that the reason for the works taking place was to make the building watertight, where the garage had previously been removed before our site attendance in November 2022. The client, informed Enims during this second site visit on 20th February 2023 that the client had gained access at height to the soffit area to the north-west of the house. This could not be accessed by Enims in November due to the height and location of the feature, however the client has stated that they inspected the area of the soffit on this elevation of the building and that there was no access into the soffit box. Following the second site visit in February 2023, at the client's request, the site visit update indicates that there are now no potential features for roosting bats to gain access to as of the date of this second site attendance.

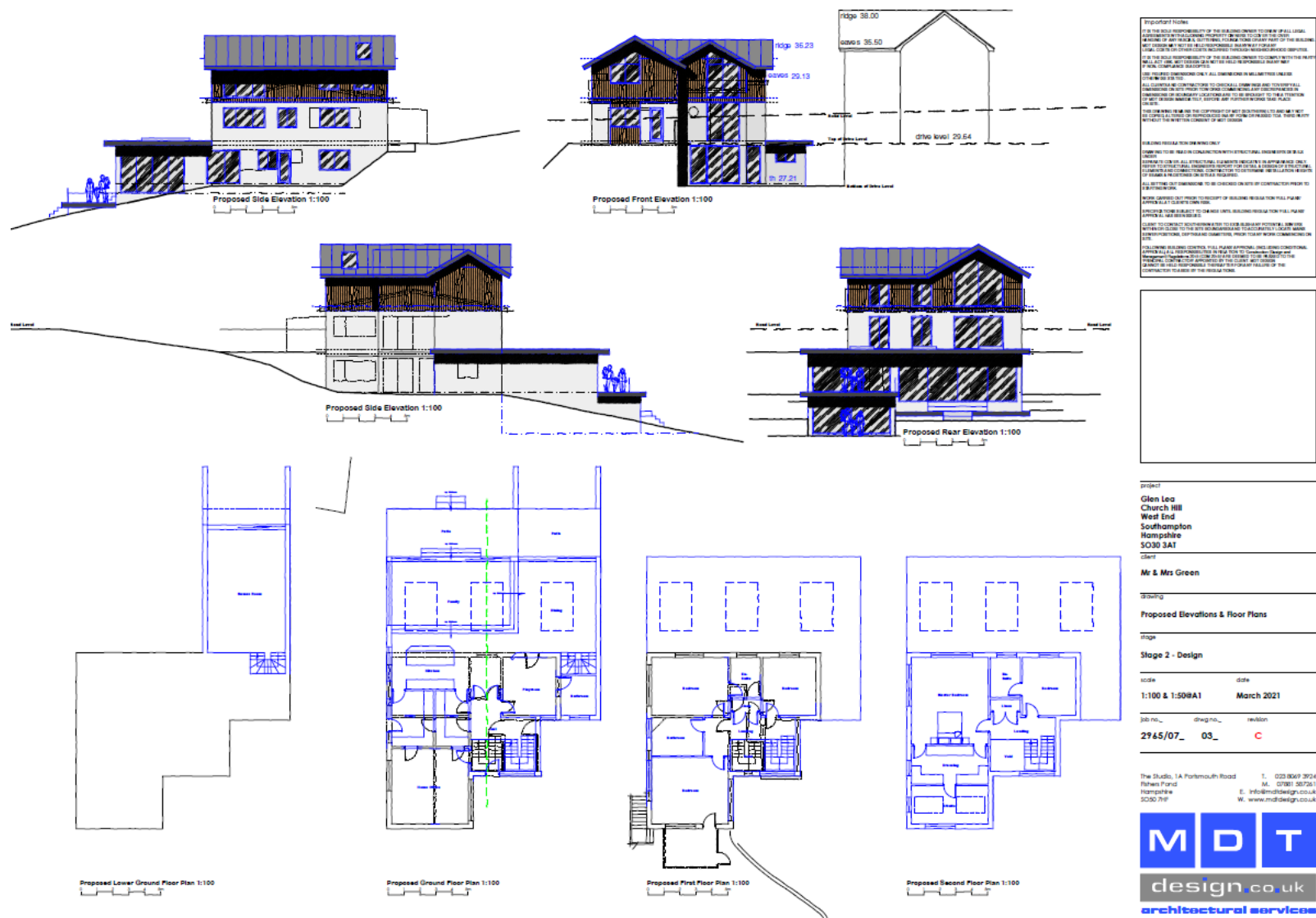


Figure 1: The proposed development plan



Figure 2: Landscape plan

1.5 Scope of the Report

Bats

- The scope of this report is to provide an outline bat mitigation plan for site and to outline the measures that would be used to comply with bat legislation to the LPA and other parties.

1.6 Satisfying the ‘Three Tests’

- To support the planning application, prior to the roost characterisation, an endoscope search is to be completed before works commence, this document will also cover the ‘three tests’ that are applied by Natural England when assessing Licence applications.
- In determining whether to grant a licence Natural England must apply the requirements of Regulation 53 of the Regulations and, in particular, the three tests set out in sub-paragraphs (2)(e), (9)(a) and (9)(b)6 of the Conservation of Habitats and Species Regulations 2017:
 - (1) Regulation 53(2)(e) states: a licence can be granted for the purposes of “preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment”.
 - (2) Regulation 53(9)(a) states: the appropriate authority shall not grant a licence unless they are satisfied “that there is no satisfactory alternative”.
 - (3) Regulation 53(9)(b) states: the appropriate authority shall not grant a licence unless they are satisfied “that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.”
- The need for the proposed development satisfies the first two tests as it is categorised as “an imperative reason of overriding public interest with no satisfactory alternative”.

2.0 Ecological Mitigation and Enhancement Details

2.1 Informative and EPSL statement

The following Tables 1 and 2 detail the mitigation and enhancements of the site for bat biodiversity and ecology interests.

The enhancements will include a range of site-specific, suitable and achievable gains. Best practice management regimes will be implemented to further increase the ecological interest of the site. These are detailed below and should be undertaken in year 1 of the ecology enhancement plan.

Table 1: Bat mitigation, Capital Works and Enhancements in Year 1

Work	Specification
Bat Mitigation and Compensation	<i>Timing of works</i> Due to the assumed presence of a common pipistrelle (<i>Pipistrellus pipistrellus</i>) day roost (worst case scenario) there is no timing restrictions on the works (in accordance with the Bat Mitigation Guidelines (2004). Although, it would be preferable if carried out over winter to further reduce the likelihood of presence of bats due to the building being unlikely to support hibernating bats. Sensitive removal of the roof structures containing bat roosts will be undertaken and include: • The removal of each roof tile carefully by hand; • The close inspection of each roof tile and the space beneath it for signs of bat presence; and • If evidence indicating the presence of roosting bats is recorded such as bat droppings or roosting bats, work will stop and an ecologist will advise on how to proceed. Safe access will need to be provided for the sensitive destruction of bat roosts, such as the use of a Mobile Elevated Work Platform (MEWP). <i>Provision of alternative roosting sites</i> • 1x woodcrete bat box suitable for common pipistrelles box will be erected on a retained tree on site prior to the commencement of works as shown in Figure 3. This bat box provides both summer roosts and individuals. The bat box is located 15m north-east of the extension. • 3x PRO UK Build-in WoodStone Bat Box will be incorporated into the north-west and south-eastern elevations of the building (to be warmed by sunlight) as shown in Figure 4. • 1x Beaumaris Bat Box (or similar alternative brand) is recommended on the building, on the southern elevation, as shown in Figure 5.

- These bat boxes provide summer roosts and are known to be used by several species of bats. They will all be erected 4-5m above ground level in a shady location, facing south/south-westerly, with a clear flight path to and from the entrance.



Figure 3: An Improved crevice bat Box (Image credit www.nhbs.com)



Figure 4: PRO UK Build-in WoodStone Bat Box (image credit www.nhbs.com)



Figure 5: Beaumaris Bat Box (image credit <https://www.nhbs.com/beaumaris-woodstone-bat-box>)

See the map in appendix 3 below for suggested locations.

Management:

The proposed bat box is designed to require no management or maintenance. Furthermore, preventing physical disturbance of the bat box will increase the chances of occupation by roosting bats. However, it is recommended that the bat box is inspected annually for the first five years outside of the typical active season for bats (May to September inclusive) following installation. The bat box must be replaced if damaged, removed, or have fallen from their recommended location.

There will be no impact upon the connectivity of the site to the surrounding key foraging areas as the existing tree lined boundaries are nor within the development site and will therefore be retained.

Toolbox Talk	A suitably qualified ecologist will provide toolbox talk prior to the works within the development footprint commencing for operatives involved in the sensitive removal of roof structures. This talk will indicate an appropriate procedure for working within this area to minimise disturbance on site and the risk of inadvertently harming retained habitats or wildlife. The toolbox talk can be found in Appendix 1.
Bats – Lighting Strategy	Lighting will be controlled across the developed site. Research into the effects of artificial lighting on bats has shown that it can impact upon bat emergence times and lead to a reduced foraging time. As bats are faithful to their roost sites, often returning to the same site for many years, the impact of lighting on emergence times and in turn reduced foraging times can ultimately result in the roosts being abandoned.

Key areas of the site which are sensitive to artificial lighting are the site boundaries which consist of tree lines which will provide foraging and commuting routes for bats. No lighting will be installed within the wider site, thereby maintaining the existing dark areas within the developed site for bats. No up-lighting will be used on trees where the entrances to the bat boxes will be located.

Low impact lighting strategies will be adopted from the guidance outlined in the Bat Conservation Trust's 'Bats and Lighting' publications:

http://www.bats.org.uk/pages/bats_and_lighting.html

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 short wavelength 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. **The proposed lighting will only be downlights, lighting the ground externally. No upwards lighting is proposed.**

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 'dimable' 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.

The lighting proposed externally is: Half-round cone shaped IP65 downlight (shown in figure 6). The lighting will be erected externally, 2.4m from the ground and will only illuminate downwards. Whereas the bat boxes will be erected between 4 and 5m towards the roof of the building. Additionally, the location of the external lights has been updated to increase the distance and darkness around the bat boxes.



Figure 6: Half-round cone shaped IP65 downlight

With these lights and the distance from any bat boxes (the bat boxes will be 2.5m higher vertically than the lights and over 4m horizontally), the replacement roosting areas will not be affected by any external lighting ensuring the long-term use of the replacement roosts.



Figure 7: Bat Mitigation Plan

Table 2 - Post Development Monitoring, Management and Maintenance

Activity	Year 1	Years 2 to 5
Maintenance of bat roosting provision	The only maintenance required is to replace any tree bat boxes that are broken or fall down/out e.g., during storms. The habitat box is self-cleaning (a small number of bat droppings may fall onto ornamental areas and naturally decompose quickly).	Maintain the tree bat boxes indefinitely and ensure entrances do not become blocked or the boxes become damaged or fall down e.g., during storms. Replace any that become inviable or broken.
Lighting	The location and suitability of the external lighting will be checked by a bat licenced ecologist upon completion of the development. Recommendations for improvements will be made where applicable.	Maintain approved lighting levels across the developed site. No changes will be made until advice has been sought from a bat licenced ecologist.

3.0 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 (2023).
- Magic database (2023) <http://www.magic.gov.uk/MagicMap.aspx>
- Mitchell-Jones, A.J. (2004). Bat Mitigation Guidelines. English Nature, Peterborough.
- National Planning Policy Framework, 2021 <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Appendix 1: Toolbox Talk

TOOLBOX TALK FOR BATS



1

What is a Bat?

- There are 18 species of bat in the UK, all of which eat flying insects.
- Our smallest bats – the pipistrelles – are only as long and wide as a human thumb so can crawl into tiny cracks and crevices.
- They have a small body covered in brown or grey fur with comparatively large, leathery wings that are folded against the body when roosting.
- Flying bats appear much larger – their wingspan can be up to 400mm.
- Below roost entrances (holes, cracks etc), dark stains or bat droppings may be seen stuck to surfaces or on the ground. Bat droppings are dark brown or black and about 1cm long. They are similar to mouse droppings, but are softer and crumble when crushed.

2

Threats to Bats

- Many bat species are in decline in the UK. Bats are very sensitive to change and are under threat from building and development work that affects roosts, loss of habitat, the severing of commuting routes by roads and threats in the home including cat attacks, flypaper and some chemical treatments of building materials. Other potential threats can include wind turbines and lighting if they are sited on key bat habitat or near roosts.

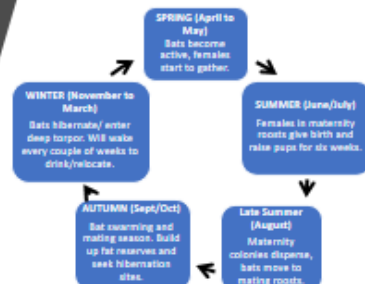
3

Legislation

- All bat species and their roosts are legally protected in the UK. All bats are listed as European Protected Species (EPS) in Conservation of Natural Habitats and of Wild Fauna and Flora, better known as the Habitats Directive. There is also protection for bats and roosts in England and Wales under the Wildlife & Countryside Act 1981 (as amended).
- It is a criminal offence if any persons:
 - Deliberately capture, injure or kill a bat;
 - Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
 - Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
 - Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; or
 - Intentionally or recklessly obstruct access to a bat roost.

4

Bat Life Cycle



3



Where are Bats Found?

- Bats occur in both rural and urban areas, including woodland, farmland, parks and gardens. They are often seen feeding over a variety of habitats including marshes, lakes, ponds, canals, rivers, hedgerows, woodland and grassland.
- Bats use many different roosting places for resting, breeding and hibernating, including holes and cracks in trees, roofs and walls of buildings, under bridges, underground in caves and old railway tunnels.
- Every building and mature tree is a potential bat roost.

4

Penalties

- Breaking the law can lead to fines of up to £5,000 per offence and, potentially, prison sentences of up to six months. Damaging or destroying a bat roost – even if not in use at the time – can lead to prosecution. Any vehicle or other items used to commit the offence may be forfeited. Both the company and/or individuals can be held liable.

7

What to do if a Bat is Found

- If a bat or bat roost is found stop works immediately and consult a licensed bat consultant.
- Only licensed bat workers are legally allowed to enter known bat roosts or to capture or disturb a bat, or to damage trees, buildings or other places used for roosting (even if bats are not currently present).

8

Appendix 2: Legislation and Planning Policy

LEGAL PROTECTION

Bats

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2.

Regulation 41 prohibits:

- Deliberate killing, injuring or capturing of Schedule 2 species (e.g., all bats)
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young
 - (ii) to hibernate or migrate
 - b) to affect significantly the local distribution or abundance of the species
- Damage or destruction of a breeding site or resting place

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

Effect on development works:

A European Protected Species Mitigation (EPSM) Licence issued by the relevant statutory authority (e.g. 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)

NATIONAL PLANNING POLICY (ENGLAND)

National Planning Policy Framework

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 (Section 42 in Wales) 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