

# Edwina Mountbatten House

784 -B043706

## Bat Survey Report

Planning Issues Limited


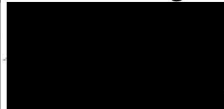

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## ACRONYMS/ABBREVIATIONS

Acronyms/Abbreviations	Definition
BCT	Bat Conservation Trust
BER	Bat Earned Recognition
BMCL	Bat Mitigation Class Licence
BRMs	Breathable Roofing Membranes
CIEEM	Chartered Institute of Ecology & Environmental Management
CRoW Act	Countryside and Rights of Way Act 2000
CSZ	Core Sustenance Zone
DEFRA	Department for the Environment, Food and Rural Affairs
EA	Ecological Appraisal
EPS	European Protected Species
EPSL	European Protect Species Licence
Habitats Regulations	Conservation of Habitats and Species Regulations 2017 (as amended)
HBIC	Hampshire Biodiversity Information Centre
JNCC	Joint Nature Conservation Committee
LERC	Local Ecological Record Centre
LPA	Local Planning Authority
MAGIC	Multi Agency Geographic Information for the Countryside
M <del>R</del> M <del>s</del>	Modern Roofing Membranes
NBCRMs	Non-Bitumen Coated Roofing Membranes
NE	Natural England
NERC Act	Natural Environment and Rural Communities Act 2006
NPPF	National Planning Policy Framework
OS	Ordnance Survey
PRFs	Potential Roosting Features
SAC	Special Area of Conservation
SSSI	Site(s) of Special Scientific Interest
W&CA	Wildlife & Countryside Act 1981 (as amended)

## EXECUTIVE SUMMARY

Contents	Summary
<b>Site Location</b>	The site is located on Broadwater Road, Romsey, Hampshire and is centred at Ordnance Survey National Grid Reference SU 35482 21007. It comprises a residential care home, associated hard standing and small areas of grassland, ornamental planting and two mature whitebeam trees. A hedgerow runs along the eastern site boundary and a small stream lies within woodland just beyond the southern boundary.
<b>Proposals</b>	The development proposals include the construction of a residential care home with associated car parking and landscaping. The redevelopment will include the demolition of the existing residential care home.
<b>Scope of this Survey(s)</b>	An Ecological Appraisal completed by Tetra Tech in April 2023 identified the building on site as being of high suitability to support roosting bats. In line with industry standard best practice, two dusk emergence and one dawn return survey were completed on the building to determine if it supported a bat roost. This report outlines the findings of these surveys, along with any recommendations for mitigation, compensation or enhancement that may be required. The results have been interpreted with regard to policy and legislation, and actions required to comply with these measures have been suggested.
<b>Results and Evaluation</b>	The surveys confirmed the presence of roosting bats (one day roost for common pipistrelle) within the building. Mitigation is therefore recommended for potential adverse impacts to bats during the construction and operational phases of the development through loss of roosts, additional lighting and noise, loss of habitat and connectivity, and the use of modern roofing membranes in new buildings.
<b>Recommendations</b>	<p>Either a traditional EPSL or registration under the Bat Earned Recognition licensing scheme from Natural England is required for works to proceed;</p> <p>A replacement roost (bat box) must be installed prior to the works to mitigate against the temporary and / or permanent loss of a bat roost and to house any individuals that may need to be translocated during the works;</p> <p>Temporary lighting and additional noise must be controlled during the construction phase and activities limited to daylight hours only during the active bat season of April to October inclusive;</p> <p>Permanent lighting within the landscape design of the new development must follow the recommendations within the Institute of Lighting Professionals (ILP) Guidance Note 08/18 Bats and artificial lighting in the UK (ILP, 2018);</p>

	<p>Non-bitumen Coated Roofing Membranes are to be avoided and instead Type 1F bitumen and hessian under-felt is to be used in new buildings;</p> <p>Additional permanent enhancements are to be provided for bats within the site, including integration of bat bricks into the new building and native species planting within the landscape design.</p>
<b>Conclusions</b>	<p>The mitigation measures suggested within this report are considered adequate to ensure that the proposals will not result in adverse impacts upon bats nor compromise the integrity of any nearby SAC designated for bats. Upon completion of all the actions within the below report, the proposed development is believed to meet the legal requirements set out under ecological legislation and national and local planning policy.</p>

## 1.0 INTRODUCTION

### 1.1 BACKGROUND

Tetra Tech was commissioned by Planning Issues Ltd in April 2023 to undertake bat emergence / re-entry surveys of Edwina Mountbatten House, hereafter referred to as “the site”. This survey was requested in order to support a planning application for redevelopment of the existing care home building.

This report has been prepared by Assistant Ecologist Izzy Frey and the conditions pertinent to it are provided in Appendix A.

Bats are legally protected species, full details of that protection, including types of offences and policy position are provided in Appendix B.

### 1.2 SITE LOCATION

The site is located on Broadwater Road, Romsey, Hampshire and is centred at Ordnance Survey National Grid Reference SU 35482 21007 (Figure 1). It comprises a derelict residential care home with associated outbuildings, car park and gardens with ornamental planting and water fountain.

The site is situated just north of the A27 and is within a well-lit urban area. Habitats within 5km of the site (which encompasses the core sustenance zones of the majority of UK bat species) consist predominantly of the town of Romsey to the north and east, and arable fields with small parcels of woodland to the south and west.

### 1.3 DEVELOPMENT PROPOSALS

The development proposals include the construction of a residential care home with associated car parking and landscaping. The redevelopment will include the demolition of the existing residential care home (See Drawing Reference 10123RS - RF01).

### 1.4 PURPOSE OF THE REPORT

The purpose of this report is to:

- Determine if roosting bats are present on site.
- Identify if any additional surveys are required to inform this assessment.
- Determine if any potential impacts on bats are likely to arise from the development.
- Outline strategies to avoid/mitigate/compensate for any likely impacts on bats.
- Support a European Protected Species License (EPSL) or Bat Earned Recognition (BER) site registration application, where required.

The details of this report will remain valid until June 2024 after which the validity of this assessment should be reviewed to determine whether further updates are necessary.

The recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals upon which this report is based.



Note that scientific names are provided at the first mention of each species and common names (where appropriate) are then used throughout the rest of the report for ease of reading.

## 2.0 METHODOLOGY

### 2.1 HISTORIC SURVEYS

Tetra Tech carried out an Ecological Appraisal (EA) of the site in April 2023 (Tetra Tech, 2023) which identified the building on site as being of high suitability to support roosting bats. In line with industry standard best practice, two dusk emergence surveys and one dawn return survey were recommended to determine presence or likely absence of roosting bats.

### 2.2 DESK STUDY

The desktop study comprised two elements:

A data search obtained from the Hampshire Biodiversity Information Centre (HBIC) on 27<sup>th</sup> April 2023 of records of bats within 2km of the site boundary.

Online element including a search using Multi Agency Geographic Information for the Countryside (MAGIC) (<https://magic.defra.gov.uk>) website and Ordnance Survey (OS) and Aerial Imagery (<https://www.bing.com/maps>). This included a search for any designated sites within 10km supporting bats, and 2km for records of bat roosts or EPSL licenses. The search was conducted on 21<sup>st</sup> June 2023.

### 2.3 FIELD SURVEYS

#### 2.3.1 Bat Emergence / Re-entry Surveys

Surveys were conducted in accordance with industry standard best practice guidance as outlined in the Bat Conservation Trust's (BCT) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition.) (Collins, 2016).

As per the BCT guidance for a building of high suitability for roosting bats, two dusk emergence surveys and one dawn re-entry survey were undertaken. Surveyors were all experienced at conducting bat surveys; details of the Tetra Tech personnel for each visit are provided in Table 1. The dusk surveys began 30 minutes prior to sunset and continued for 1.5 hours after sunset. The dawn survey commenced 1.5 hours prior to sunrise and continued until at least 15 minutes after sunrise or until no more bats were recorded in flight. Surveyors were positioned around the building as shown in Figure 2, so that all potential bat access points or roosting features could be clearly observed. The vantage positions around the buildings were the same for each of the surveys, and surveyor locations were covered either by individual Tetra Tech personnel or an infrared night vision camera. Where cameras were used in the place of a surveyor, regular checks were conducted throughout the survey period to ensure full coverage and proper visibility of potential roosting features, to account for the changing light levels during the survey.

Surveyors used Elekon Batlogger M detectors which use a broad-spectrum microphone and a heterodyne mode to make bat calls audible to the human ear, while recording and storing full spectrum data within an SD card for subsequent analysis. All bat activity heard and / or seen was also recorded onto a hard-copy survey sheet by surveyors, including flight paths, species and the time of observation.

In addition to standard surveyor positions, night-vision cameras were also used. Canon XA11 cameras mounted on tripods were used in combination with infrared torches. The cameras were set up ahead of the survey start time and directed at the previously identified potential roosting features (PRFs) identified on the buildings. The cameras and lighting were switched on and set to record at the start of the survey and switched off at the end. A member of Tetra Tech staff was assigned to monitor the position, battery life and field of view of the cameras as the survey progressed to ensure the equipment worked consistently throughout the recording period. Where cameras were used, after the survey, the recorded files were processed using MotionMeerkat (Weinstein, B. G., 2015) software to detect any movement in the footage, and any registered motion events were then reviewed to check for emerging bats. The corresponding recording device was then analysed using Bat Explorer software (Version 2.1.11.2) to establish the species of any bats recorded emerging from or returning to roosts, where necessary.

Temperature readings, cloud cover and wind condition assessments were also taken during each survey. Weather metadata along with surveyor information, dates and survey timings for each of the visits carried out are provided in Table 1 below. The results of the dusk emergence and dawn return bat surveys are provided in Section 3.0.

Table 1. Surveyors, date and weather conditions for bat emergence/re-entry surveys. Wind speed uses Beaufort scale. Cloud cover uses Oktas Scale.

Date of survey	Sunrise / sunset	Start (S)	Finish (F)	Temperature (in °C) S/F	Rain S/F	Wind speed S/F	Cloud cover S/F
10 <sup>th</sup> May 2023 (Dusk)	20:41	20:11	22:11	12/10	nil	1/1	0/0
<b>Surveyor names and survey licence number where applicable</b>	Associate Ecologist Kevin Wood (Natural England Class 3 2023-11112-CL19-BAT, Class 4 2022-10472-CL20-BAT) Principal Ecologist Trish Holden (NE Class 1 2016-20365-CLS CLS), Principal Ecologist Danny de la Hey Seasonal Surveyor Ryan Pearson Seasonal Surveyor Rosie Nicoll 3 infrared cameras						
25 <sup>th</sup> May 2023 (Dusk)	21:02	20:32	22:32	18/15	nil	1/1	0/0
<b>Surveyor names and survey licence number where applicable</b>	Principal Ecologist Trish Holden (NE Class 1 2016-20365-CLS CLS), Consultant Ecologist Harriet Kimber Seasonal Surveyor Emma Taylor Seasonal Surveyor Tilly Hewitt Seasonal Surveyor Beth Croucher 4 infrared cameras						

9 <sup>th</sup> June 2023 (Dawn)	04:53	03:23	05:08	13/13	nil	1/2	3/3
<b>Surveyor names and survey licence number where applicable</b>	Associate Ecologist Kevin Wood (Class 3 2023-11112-CL19-BAT, Class 4 2022-10472-CL20-BAT) Principal Ecologist Trish Holden (NE Class 1 2016-20365-CLS CLS) Senior Ecologist Alex Coggins (NE Class 1 2019-39837-CLS-CLS) Seasonal Field Ecologist Lydon Trowbridge Seasonal Surveyor Christina Accad Seasonal Surveyor James Tann 3 Infrared Cameras						

## 2.4 LIMITATIONS

The optimal period to undertake bat presence / likely absence surveys is between May and August, although surveys in April and September may aid in identifying pre-maternity gathering roosts or transitional roosts. All surveys were all completed in May and June which is within the optimal survey window and are therefore compliant with the levels of survey effort required for the suitability assigned to these buildings. Each survey was separated by a period of at least two weeks and weather conditions were suitable for the entirety of each survey. Therefore, there were not any constraints associated with survey timing or weather conditions.

The surveys were completed with the assistance of bat detectors. All survey techniques are subject to bias, and bat detector surveys may under-record species with weak echolocation calls, such as brown long-eared bats. However, these biases were considered when interpreting the results. (It is also of note that Batloggers are very effective at picking up quiet calls from brown long-eared bats). Some bat calls are variable dependent on the habitats they fly in and on their activity (commuting, foraging, social interaction, etc) and extremely similar between species. In these cases, it is accepted that species are identified to genus level or group level (e.g. *Myotis*, *Myotis* / *Plecotus* and *Nyctalus* / *Eptesicus*) (Collins, 2016). Where call parameters are inconclusive the species has been labelled as 'unknown'. This allows the dataset to be interpreted accurately and transparently.

For the first survey on the building eight surveyor positions were used, however this was increased to nine surveyor positions for the subsequent surveys. The number of surveyor positions needed to appropriately cover all aspects of the building was re-evaluated after the first survey and changed to reflect this. This is not thought to pose any significant limitation to the surveys as during the first visit all identified potential roosting features were covered, and the second and third surveys provided full coverage of the building to ensure all aspects were visible.

Notwithstanding the limitations highlighted above, the survey effort applied is considered sufficient to meet the aims of the survey and this report, in accordance with the aforementioned guidelines.

Note that the recommendations within this report should be reviewed (and reassessed if necessary) should there be any changes to the red line boundary or development proposals which this report was based on.



## 3.0 BASELINE CONDITIONS

### 3.1 HISTORIC SURVEYS

The building on site was previously identified during the EA (Tetra Tech, 2023) as having high suitability for roosting bats.

### 3.2 DESK STUDY

HBIC returned 515 recent bat records of at least 16 species within a 2km radius of the site boundary, as shown in Table 2. Specification of the type of record is not provided by HBIC, therefore it is unknown whether these records pertain to field observations or roosts.

Table 2. Bat records within 2km radius of the site boundary

Species	Number of records	Latest recorded year	Closest Record
Barbastelle <i>Barbastella barbastellus</i>	1	2022	0.7km
Bechstein's bat <i>Myotis bechsteinii</i>	1	2017	1.5km
Brown long-eared bat <i>Plecotus auritus</i>	8	2022	0.2km
Common pipistrelle <i>Pipistrellus pipistrellus</i>	200	2022	<0.1km
Daubenton's bat <i>Myotis daubentonii</i>	16	2021	<0.1km
Leisler's bat <i>Nyctalus leisleri</i>	3	2017	1.9km
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	4	2022	0.6km
Natterer's bat <i>Myotis nattereri</i>	4	2018	1.4km
Noctule <i>Nyctalus noctula</i>	35	2022	0.4km
Serotine <i>Eptesicus serotinus</i>	24	2022	0.3km
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	174	2022	<0.1km
Whiskered bat <i>Myotis mystacinus</i>	2	2018	1.4km
Bat species <i>Chiroptera</i> sp.	3	2021	0.5km
Long-eared bat species <i>Plecotus</i> sp.	14	2022	<0.1km
Myotis species <i>Myotis</i> sp.	14	2022	0.6km
Pipistrelle species <i>Pipistrellus</i> sp.	13	2021	0.3km

Use of DEFRA's MAGIC found one site designated for bats within 10km. The Mottisfont Bats Special Area of Conservation (SAC) lies 8.1km north of the site and is a complex of woodlands designated for its important maternity roost of rare barbastelle *Barbastella barbastellus*. It is one of only six known maternity roosts in the UK and the only one in Hampshire (JNCC, 2022). A further eight species of bats have also been

recorded within the woodlands. The significance of the site's proximity to this SAC is discussed further in section 4.0.

A search of MAGIC returned 14 EPSLs granted for bats within a 2km radius of the site boundary as shown in Table 3, ordered by their proximity to the site.

Table 3. Bat EPSLs within 2km radius of the site boundary

Reference	Distance and Direction	Species*	Licensable Actions
2019-43881-EPS-MIT	232m NE	Soprano pipistrelle	Damage of a resting place
EPSM2011-3577	423m NW	Common pipistrelle, brown long-eared, serotine	Destruction of a resting place and breeding site
EPSM2011-2917	483m N	Common pipistrelle	Destruction of a resting place
EPSM2010-2198	588m W	Soprano pipistrelle	Destruction of a resting place
EPSM2010-2081	675m SW	Soprano pipistrelle, serotine	Destruction of a resting place
2020-45338-EPS-MIT	701m W	Common pipistrelle	Destruction of a resting place
2015-10638-EPS-MIT	715m SW	Soprano pipistrelle	Destruction of a resting place
2020-48459-EPS-MIT	820m NW	Common pipistrelle, soprano pipistrelle	Damage of a resting place
EPSM2010-2121	1.13km NE	Common pipistrelle, soprano pipistrelle, brown long-eared	Destruction of a resting place
EPSM2011-3208	1.2km NE	Common pipistrelle, soprano pipistrelle, serotine, brown long-eared	Destruction of a resting place
EPSM2012-4669	1.43km NE	Common pipistrelle	Destruction of a resting place
2016-21676-EPS-MIT	1.49km NE	Common pipistrelle, soprano pipistrelle, serotine	Damage of a resting place
2015-7292-EPS-MIT	1.52km NE	Common pipistrelle, brown long-eared, serotine	Destruction of a resting place
EPSM2009-1148	1.8km NW	Brown long-eared	Destruction of a resting place


### 3.3 FIELD SURVEYS

#### 3.3.1 Bat Emergence / Re-entry Surveys

The infrared camera data was analysed using motion detection software and the output was then checked for emerging / re-entering bats by Consultant Ecologist Harriet Kimber BSc and Assistant Ecologist Izzy Frey BSc.

Table 4. Bat Survey Results

Survey	Location and Surveyor	Results
1 of 3 (Dusk)	North-west outer side of building – Trish Holden	

	West outer side of building – Rosie Nicoll	No emergences or re-entries recorded
	South-west outer corner of building – Danny de la Hey	
	North-east outer corner of building – Ryan Pearson	
	North side of building – Kevin Wood	
	North-west inner corner - IR Camera	
	North-east inner corner - IR Camera	
	Centre of inner courtyard, facing western elevation of roof – IR camera	
<b>2 of 3 (Dusk)</b>	North-east outer corner of building – Harriet Kimber	No emergences or re-entries recorded
	West outer side of building – Tilly Hewitt	
	South-west outer corner of building – Beth Croucher	
	South-east outer corner of building – Trish Holden	
	Centre of inner courtyard – Emma Taylor	1 common pipistrelle emerged from hanging tiles near window above the entrance tunnel at 21:32pm.
		
	South-west outer corner of building – IR camera	No emergences or re-entries recorded
	North-west inner corner - IR Camera	
	North-east inner corner - IR Camera	
	North side of building – IR Camera	
<b>3 of 3 (Dawn)</b>	North-east outer corner of building – Alex Coggins	No emergences or re-entries recorded
	North side of building – Trish Holden	
	Centre of inner courtyard – Kevin Wood	
	North-west outer side of building – Lydon Trowbridge	



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South-east outer corner of building – Christina Accad	
South-west outer corner of building – James Tann	
West outer side of building – IR Camera	
North-west inner corner - IR Camera	
North-east inner corner - IR Camera	

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### 3.3.1 Results Summary

During the second dusk survey, one common pipistrelle *Pipistrellus pipistrellus* was recorded emerging from a gap behind hanging tiles above the entrance to the central courtyard. No other emergences or re-entries were recorded across the other surveys, therefore the building at the site is considered to support at least one day roost for common pipistrelle.

Low numbers of common pipistrelle and soprano pipistrelle *Pipistrellus pygmaeus* were also recorded foraging and commuting in proximity to the building and in the open space across the site. Surveyors positioned in the south of the site also recorded unidentified *Myotis* species foraging above the stream which lies adjacent to the southern boundary.

The potential impacts of the development on roosting bats and other local populations of foraging and commuting bats using the site is discussed in the following section.

## 4.0 DISCUSSION

### 4.1 IMPACTS

Roosting bats have been confirmed as being present at Edwina Mountbatten House and the development will therefore require an EPSL or site registration under the BER scheme from Natural England (NE) in order for works to proceed lawfully.

If works do not begin by **June 2024** an update bat building inspection and / or nocturnal surveys will be required to provide an update to the site conditions, under the guidance of a licensed bat ecologist.

As roosting, foraging and commuting bats have been identified using the site, potential impacts on these species associated with the construction and operational phases of the development are considered below.

#### 4.1.1 Loss of Roosts

One day roost for common pipistrelle was identified within the building, under a gap in hanging tiles above the tunnel entrance to the inner courtyard. There is a risk of bats being disturbed, displaced from their roost and / or killed and injured as a result of the demolition and other construction activities. The existing bat roost will be destroyed to facilitate the proposals and specific mitigation for this, in the form of a replacement roost, will therefore be required as part of an EPSL application.

#### 4.1.2 Loss of Habitats

Much of the site comprises hardstanding with limited vegetation and a lack of distinctive linear features, aside from a low-growing hedgerow adjacent to the eastern site boundary which is due to be retained (See Drawing Reference 10123RS - RF01). The site itself was appraised during the EA as being of negligible suitability for foraging and commuting bats and the re-development of the land to create a new building of similar size and function to that which currently exists is thus unlikely to result in any considerable loss of habitat. Small areas of existing greenspace will inevitably be lost during construction but are due to be re-created to a similar extent, if not more so in the new development plan, including a larger area of amenity grassland in the south of the site. The wooded area immediately to the south of the site boundary provides far more suitable habitat for foraging and commuting bats, and it is therefore important that light levels in this area are controlled to prevent light spill southward from the site which could result in this habitat becoming unsuitable.

#### 4.1.3 Loss of Connectivity

There is potential for the loss of nearby commuting habitat and connectivity to the wider landscape during the construction and operational phase. As mentioned above, a sensitive lighting scheme will be needed within the southern extent of the site in particular, to protect the existing off-site woodland parcel and hedgerow habitat from additional light pollution during each phase of the development. This area currently provides intrinsically dark connective habitat to the wider landscape, shelter, and foraging opportunities within the tree canopy for bats.

The site lies approximately 8 km south of the Mottisfont Bats SAC which is designated for barbastelle bats. The woodland here is known to support foraging and commuting barbastelle and this SAC is one of only

six known maternity roosts in the UK and the only one present in Hampshire (JNCC, 2022). Barbastelle are an Annex II species in the UK and are classed by the IUCN Red List of Threatened Species as 'Near Threatened' on a global scale (IUCN, 2017a) and 'Vulnerable' within Europe (IUCN, 2017b). Because of their rarity in the UK, it has been recommended that conservation efforts are focused on hedgerows and other linear habitat features with the aim of improving connectivity between roosts and foraging sites, and the species may travel up to 20km to reach their foraging grounds (Zeale et al., 2012) therefore it is possible that individuals belonging to the SAC feature population could be passing over, or in proximity to, the site as part of a commuting route to and from the rural landscape to the south.

Barbastelle were not recorded at the site during any of the bat surveys, however the local environmental records which were obtained as part of the EA desk study (Tetra Tech, 2023), featured one record for barbastelle within 0.7 km of the site. In addition to there being local records for the species within 2km, within 5km of the site there are large expanses of woodland to the north-east, southeast and southwest. The species is known to roost in woodland habitats, and to preferentially forage within mixed habitats of woodland and along arable margins, including riparian areas which is of note as the southern site boundary is adjacent to a small stream and the site itself lies less than 1 km east of the River Test SSSI. Collectively, the mosaic of habitats which surround the site in the wider landscape are highly suitable for supporting populations of this species. The Core Sustainance Zone (CSZ) for barbastelle roosts is 6km (BCT, 2016) therefore although the site lies just outside of this range, it remains possible that bats in the area may be using the stretch of woodland adjacent to the southern site boundary to commute to foraging grounds further afield.

Surveyors positioned in the south of the site also recorded unidentified *Myotis* species which, due to the presence of riparian habitat adjacent to the southern site boundary and within the local area, are most likely to be rarer Daubenton's or Natterer's bats. This assumption is made on the basis of the presence of only a few records for the other rarest *Myotis* species (Bechstein's and Whiskered) – the most recent in 2018 - alongside far more numerous and more recent records for Daubenton's and unidentified *Myotis* species with 2km of the site – see Table 2 in Section 3.2 above, for reference.

Additional artificial lighting will be installed as part of the development and as barbastelle (and *Myotis* species) are known to be particularly light-sensitive bat species, a sensitive lighting scheme must be employed to ensure dark habitat within and around the site is retained. This is of particular importance along the southern boundary, to maintain the important flight paths of these species. Despite the site being outside of the CSZ for barbastelle, mitigation measures are discussed below (including the control of lighting) to prevent any impact on the integrity of the Mottisfont Bats SAC from potentially arising from the development.

#### 4.1.4 Killing & Injury

As mentioned previously, there is a risk of bats being killed and injured during the demolition of the current building on site. Recommendations to prevent this are provided within section 4.2.

#### 4.1.5 Construction-phase Disturbance

In addition to the destruction of an active bat roost, disturbance is anticipated during the construction phase due to the addition of temporary artificial lighting, along with construction traffic and machinery and resulting increased noise levels.

The Institution of Lighting Professionals (ILP) states that the impacts from artificial lighting on bats are likely to have significant impacts on some species, potentially affecting reproductive, foraging and roosting opportunities (ILP, 2018). A light management strategy in the form of a sensitive lighting scheme is therefore required to mitigate against any potential impacts to bats using the site.

Noise disturbance may cause displacement of bats from roosts and important foraging areas, which can potentially result in reduced survivability of individuals due to an increased susceptibility to predation, reduced quality and availability of habitats and reduced foraging opportunities (California Department of Transportation, 2016). Bats are also susceptible to acute acoustic trauma and hearing damage which impairs their ability to passively listen (i.e., for other bats and predators) and echolocate to navigate within their environment and find prey. This therefore has implications for both their immediate and long-term survival (California Department of Transportation, 2016). Bats may also be caused to allocate more time to vigilance behaviour due to loud or sudden noise disturbance, resulting in less time spent on other vital behaviours such as breeding and foraging which is ultimately detrimental to their physical condition and reproductive capabilities.

Recommendations to reduce these impacts are suggested in Section 4.2 below.

#### 4.1.6 Operational-phase Disturbance

There are several potential pathways for disturbance and resulting impacts to bats in the operational phase of the development. The proposed developed area will be very close to the site boundaries, therefore the lighting scheme must be designed to reduce light spill onto these boundaries and protect potential existing flight paths, as bats were identified foraging and commuting around the site during the emergence surveys. This is particularly important along the southern boundary of the site which lies adjacent to the off-site stream and woodland, as bats are highly likely to be using this as a commuting corridor to and from the local area and these habitats provide both shelter and foraging opportunities. This will ensure that the development is designed in accordance with paragraph 180 of the National Planning Policy Framework (NPPF) regarding limiting the impact of light pollution on intrinsically dark landscapes to promote nature conservation.

The installation of permanent lighting in the form of streetlights and external fixtures on buildings pose a risk of illuminating bats in flight and thus making them more vulnerable to predation. The same is true for additional light spill which occurs from the headlights of moving vehicles and parking areas around developments. In addition, increased lighting also affects prey distribution, which influences the relative distribution of bats in the area. Lighting a commuting or foraging route can potentially have an impact upon the integrity of a nearby bat roost, even if the roost itself is not directly affected. Roosting bats have been identified as being present in the building on site, and although it is not known whether there are any other active bat roosts in proximity to the site, the desk study also identified 14 EPSLs which have previously been granted within 2km; the closest of which lies 232m northeast of the site.

Species where roosts were previously damaged or destroyed under license included common pipistrelle, soprano pipistrelle, brown long-eared and serotine, as well as one breeding site for common pipistrelle, brown long-eared and serotine 423m northwest of the site. Replacement roosts form one of the mitigation requirements for EPSLs, therefore a large number of artificial roosts for these species are likely to exist locally – although their usage status is unknown. The lighting across the development blueprint therefore must be sensitively designed so that light spill onto retained habitat is reduced, to protect foraging and

commuting habitat, and to ensure all potential impacts on bats (locally and on site) are reduced or otherwise appropriately mitigated for. Suggestions for limiting the impact of artificial light are discussed further in Section 4.2 below.

### 4.1.7 Breathable Roofing Membranes

There is a potential risk of killing and injury to bats during the operational phase of the development which would contravene the legislation which protects all bat species in the UK.

Research by Waring et al. (2013) found that many Modern Roofing Membranes (MRMs) incorporated into new buildings pose a risk to bats whereby they become trapped by loose fibres as the material ages. Trapped bats are then unable to escape and will dehydrate and starve to death. Use of these membranes, also referred to as Breathable Roofing Membranes (BRMs) and non-bitumen coated roofing membranes (NBCRMs), should be avoided where possible in new developments and alternatives to these are suggested in Section 4.2 (Bat Conservation Trust, 2022).

## 4.2 MITIGATION

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A bat roost has been identified within the building on site, as well as the presence of foraging and commuting bats using the site during the surveys. As adverse effects on bats are anticipated, mitigation will be required to avoid an offence under the Wildlife and Countryside Act 1981 (as amended) and Conservation of Habitats and Species Regulations 2017 (as amended).

Consideration must equally be given to sections 174, 179 and 180 of the NPPF and Policy E5 of the Test Valley Borough Council Adopted Local Plan 2011-2029 (Test Valley Borough Council, 2016), which require new developments to conserve and enhance biodiversity, by ensuring that all potential impacts to bats are avoided as far as possible and are otherwise appropriately mitigated against and compensated for.

The mitigation hierarchy principles are:

- Avoidance – to avoid adverse effects as far as possible by designing out or using preventative measures during the construction process thus resulting in an environmental effect of neutral significance;
- Reduction – to minimise adverse effects as far as possible; and
- Compensation – involves measures of the same value to off-set the impact.

### 4.2.1 Loss of Habitat and Connectivity

A day roost for single common pipistrelle will need to be disturbed and removed from the building prior to the demolition works to facilitate the proposals. This requires an application to be made to NE for either a traditional EPSL or registration under the Bat Earned Recognition (BER) licensing scheme, so that the works may proceed lawfully. Details of the available licensing routes are provided below, and typically involve the provision of replacement roost (s) of comparable size and scale to that which is due to be lost.

The proposals are expected to result in only a minor loss of habitat, as the new development will be of similar size and function to the existing care home and the site currently only supports small areas of greenspace and otherwise largely comprises hardstanding and buildings. Specific mitigation in terms of habitat replacement is not required, however the woodland and stream which lie off-site, adjacent to the southern boundary must be protected from any additional light pollution or other disturbance arising

from the development. The woodland strip represents suitable foraging habitat for bats and provides connectivity to a large expanse of rural habitat to the south which is highly suitable for bat populations.

The implementation of a sensitive lighting scheme (discussed further below) is therefore vital for ensuring that this existing commuting habitat remains accessible for local bat populations, and that the site remains connected to this. The proposed landscape design (see drawing reference 10123RS - RF01) includes an area of amenity greenspace along the southern boundary which will help to provide a buffer between the development and this habitat, however additional tree and hedgerow planting of native species is also encouraged in this area to provide enhanced habitat on site and a natural screening effect which will, in turn, reduce light spill from the building and car parking areas.

The sowing of wildflower mixes within the greenspace is recommended to enhance floristic diversity, and future management of these areas should adopt a relaxed mowing scheme to encourage wildlife and attract invertebrates thus creating further foraging opportunities for bats. The landscaping across the site should be designed with bat-friendly planting in mind; a list of species suitable for a variety of purposes is provided in Appendix D. These measures will encourage an increase in overall biodiversity at the site, in accordance with the objectives of the NPPF and Local Plan.

#### 4.2.2 Killing & Injury

In order to prevent killing and or injury of roosting bats the following measures are recommended.

Prior to the commencement of works, an alternative temporary roost in the form of a bat box must be installed to provide a safe place to transport bats to if they are found during the works. The bat box must be installed at a height of 4-6 meters, remain unobstructed by vegetation or other structures, and will ideally be placed away from roads, footpaths and fences to remove accessibility to cats / other predators and minimise potential disturbance from human activity. Examples of suitable models for this purpose are provided in Appendix C. The exact location of the replacement roost is to be determined by the bat licensed ecologist after careful consideration of the finalised site plans, prior to the construction of the new building. The replacement roost will be incorporated and of similar height and orientation to the existing roost. It is recommended that third-party / landowner permission is sought to install the mitigation bat box on a suitable mature tree within the woodland to the south of the site, as the site itself does not support any suitable trees upon which this could be placed.

Prior to any works starting, all contractors will be made aware (by means of a toolbox talk) of the risk of bats being present within working areas (including known roost locations), of their legally protected status, of the working methods to be adhered to, and the appropriate course of action to be taken if bats are found in an unexpected location. A pre-works inspection of all identified Potential Roosting Features (PRFs) on the building is to be carried out by the bat-licensed ecologist to ensure no additional roosts are present. The use of one-way exclusion devices - to allow bats to exit roosting features but not re-enter - may be considered where features cannot be seen fully or cannot be removed using soft-strip techniques.

The demolition works (including soft-stripping) and / or permanent exclusion or blocking of potential roosting features may only be carried out under the supervision of a suitably licensed bat ecologist. This includes any features with bat roost potential as identified within the Ecological Appraisal of the site, or any new features discovered internally. Any bats found will be captured and translocated to the alternative roosting provision, and any injured bats will be transported to the nearest available bat care centre or veterinary practice where required.

### 4.2.3 Construction-phase disturbance

Construction activities will create increased levels of ambient noise within the site and adjacent area, which, as demonstrated in Section 4.1 above, can have detrimental effects on bats. It is strongly advised that no night-time working (specifically extending beyond sunset or commencing before sunrise) is undertaken between the months of April to October inclusive (during the bat active season). Where temporary security lighting is necessary during construction, lights triggered by motion sensors must be used and their coverage must be kept to a minimum i.e., through the use of lighting cowls.

### 4.2.4 Operational-phase disturbance

Permanent lighting within the new development must be minimized in proximity to any areas of existing habitat to be retained and not directed at boundary habitats, to protect pre-existing bat flight paths. The lighting design must result in zero upward light spill and light spill of less than 1 lux onto retained and created boundary habitats and linear features. A consideration of the available lighting technology should be made, for example through the use of LED lighting which emits less UV light and can typically be programmed to switch off or dim at certain times.

Any exterior lights installed on new buildings are to be directed downward. No lighting will be directed at the bat boxes or replacement bat roost. If walkways around the site are to be lit, these must use LEDs lamps with a low colour correlated temperature –preferably below 3500K; and fitted with motion sensors to reduce unnecessary light pollution during periods of inactivity around the development. Hoods and cowls on lamps also ensure light can be directed below the horizontal plane. A ground-level bollard style of light may be more appropriate than traditional streetlights as this removes the majority of upward light spill, and should be considered especially in the south-western corner of the site where the area of car parking is proposed to be built in proximity to the woodland area and amenity greenspace. When designing a bat-friendly lighting strategy, reference must be made by developers to the Institute of Lighting Professionals (ILP) Guidance Note 08/18 Bats and artificial lighting in the UK (ILP, 2018). This will ensure that the development blueprint is designed in accordance with the objectives of the NPPF and Local Plan to conserve and protect biodiversity and protect intrinsically dark habitats for the benefit of wildlife.

### 4.2.5 Breathable Roof Membranes

In new buildings, best practice should be considered and the use of BRMs avoided. Instead, the use of Type 1F bitumen and hessian under-felt is recommended as an alternative. Ongoing research has confirmed that none of the BRMs currently available on the market are bat-friendly and all pose a potential risk to bats. As the membranes wear over time, the fibres in the membrane become loose. Bats can become entangled in the fibres and, unable to escape, dehydrate, and starve to death - the use of BRMs within man-made / artificial bat roosts is therefore not permitted.

As well as posing a risk to bats, BRMs are also degraded by bats and the efficiency of the membrane is impaired (i.e. the use of BRMs in situations where bats are present is detrimental to the efficient functioning of the BRM as well as to bats). Further detail is provided in Waring *et al.* (2013).

## 4.3 LICENSING

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A day roost for single common pipistrelle was identified and therefore no works can take place which may result in a breach in the legislation until a derogation licence has been obtained from NE. Day roosts can be used by individuals throughout the bat active season (generally between April – September, inclusive) as traditional resting sites during the day. Males and non-breeding females will roost alone or in small groups. Bats may use a selection of day roosts on a regular basis switching between them daily or conversely occupying the same one for weeks at a time. The roost is not considered to be a maternity roost due to only a single bat being observed utilising the feature, and a lack of social calls or indicative maternity behaviours witnessed over the three surveys.

Works which cannot take place include, but are not limited to:

- Any roof works;
- Any access to internal loft spaces (without checking with the bat licensed ecologist);
- Any re-pointing work;
- Any internal alterations; and
- Installation of scaffold.

The species protection provisions of the Habitats Directive, as implemented by the Conservation of Habitats and Species Regulations 2017 (as amended) contain three “derogation tests” which should be applied by the Local Planning Authority (LPA) prior to granting planning permission and by NE when deciding whether to grant a licence to a person carrying out an activity that would harm a European Protected Species (EPS), such as bats. For development activities this licence is normally obtained after planning permission has been obtained. The three tests which must be passed in order to permit derogation are that:

- The activity to be licensed must be for imperative reasons of overriding public interest (or for public health and safety);
- There must be no satisfactory alternative; and
- The favourable conservation status of the species must be maintained.

**Imperative reasons of overriding public interest:**

The building on site is not in use and is therefore not currently providing any housing for the local community, and due to its condition, is likely to pose an additional health and safety risk to the public. The new building featured in the proposals will provide a much-needed residential care facility and will be more environmentally friendly due to improved insulation and otherwise modern design than the previous building.

**No satisfactory alternative:**

It is not possible to retain the building and therefore the existing bat roost within the footprint of the new development, as this must be demolished in order to facilitate the proposals. The original roost will therefore be lost.

**Favourable conservation status:**

It must be shown under a development licence that a derogation (i.e. action permitted under an EPSL that would otherwise be unlawful) of the Conservation of Habitats and Species Regulations 2017 (as amended) must not be “detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range” and details given of processes and procedures to be

undertaken to ensure no bats are harmed during the works and suitable mitigation/compensation is provided.

The loss of a common pipistrelle day roost is likely to be considered of low significance to the conservation status of the species; as a single or small number of individuals will be affected. Alternative roosting provision (i.e. bat boxes) will be provided to provide a safe place to transport bats to and contribute to maintaining favourable conservation status.

Two licensing routes are available, a standard EPSL or site registration under a Bat Mitigation Class License (BMCL) or Bat Earned Recognition License (BER). A standard EPSL from NE is solely at the discretion of NE if a licence can be granted for a site. Once an application for a licence has been submitted it can take a minimum of 30 working days for NE to provide a decision. Please note that NE are also entitled to request additional information in support of an application, which can then alter the decision deadline.

Common pipistrelle are considered to be a common or widespread species, whilst day roosts are considered 'low conservation status roosts'. Therefore, if the proposed licensed works will take less than 6 months it is possible for the works to take place under the BMCL, observed by a registered consultant or their accredited agent. This license would follow the principles of the derogation tests of an EPSL but has a simpler and faster application process. An EPSL can be applied for once planning permission has been granted, 3 to 12 weeks before the demolition works are due to commence.

## 4.4 ENHANCEMENT

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It is a requirement of sections 174, 179 and 180 of the NPPF and Policy E5 of the Test Valley Borough Council Adopted Local Plan 2011-2029 to provide enhancements for biodiversity as part of new developments. The following measures are proposed in order to enhance the site for bats.

### 4.4.1 Integrated Bat Bricks

Built-in bat bricks are to be incorporated into the south-facing walls of the new care home building on site to provide additional roosting opportunities for the local bat population. These must be installed at a height of 4-6 meters and remain unobstructed by vegetation or other structures once installed, and ideally placed away from roads, footpaths and fences to remove accessibility to cats and minimise potential disturbance from human activity. These bat features may be best incorporated into walls closest to the southern site boundaries within darker areas where noise and light disturbance is likely to be lower. This area is also closest to suitable foraging and commuting habitat. The exact quantity and locations of these are to be determined by a bat licensed ecologist after careful consideration of the finalised site plans, prior to the construction of the new building. Examples of suitable models for this purpose are provided in Appendix C.

### 4.4.2 Landscaping

Areas of landscaping within the new development such as amenity greenspace and borders around roads and parking areas in the proposed design are recommended to be planted and sowed with a variety of native plants to attract different types of insects. These may include evening-flowering species such as honeysuckle *Lonicera sp.* and evening primrose *Oenothera biennis* and pale coloured, open flowered species which can be identified by night flying insects. Non-native species such as butterfly-bush *Buddleja*

*dauidii* may also be included in the planting scheme to enhance and extend the flowering season for insect prey species. Additional infill planting around the site boundaries with woody species such as dog rose *Rosa canina*, hazel *Corylus avellana*, field maple *Acer campestre*, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna* and dogwood *Cornus sanguinea* may be considered, to benefit bats and to provide a natural screen between the new development and adjacent residential areas. This will also help to protect foraging and commuting habitat directly south of the site from light spill, as well as helping the development to meet the requirements of the NPPF and the Local Plan to conserve and enhance biodiversity.

## 5.0 SUMMARY

As a result of the findings of the bat emergence and re-entry surveys it is recommended that:

An EPSL from NE or site registration under the BCML or BER scheme is required for works to proceed;

Temporary lighting and additional noise must be controlled during the construction phase and activities limited to daylight hours only during the active bat season of April to October inclusive;

Permanent lighting associated with the new development must be designed sensitively in accordance with the ILPs Guidance Note 08/18 Bats and artificial lighting in the UK (ILP, 2018);

Non-bitumen Coated Roofing Membranes are to be avoided and instead Type 1F bitumen and hessian under-felt is to be used in new buildings; and

Permanent enhancements are to be provided for bats within the site, including the integration of bat bricks into new buildings and native species planting within the landscape design, in accordance with the conservation objectives of the NPPF and Local Plan.

## 6.0 CONCLUSION

This report details the findings of the bat emergence and re-entry surveys carried out at the site and identifies the potential impacts of the proposed development on the local bat population present. Recommendations are therefore given regarding measures which will mitigate against such impacts and enhance the site with regard to conserving and enhancing biodiversity in line with the NPFF and Policy E5 of the Test Valley Borough Council Adopted Local Plan 2011-2029. No limitations to the survey effort were identified and therefore the information gathered, and the mitigation measures suggested within this report are considered adequate to ensure that the proposals will not result in adverse impacts upon protected species nor the integrity of any nearby SAC. Upon completion of all the actions within the above report, the proposed development is believed to meet the legal requirements set out under ecological legislation and national and local planning policy.

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## FIGURES

FIGURE 1: SITE LOCATION PLAN

FIGURE 2: SURVEYOR LOCATIONS AND BAT SURVEY RESULTS





# Site Location Plan

## Edwina Mountbatten House

F

### Planning Issues

#### Legend

Site boundary

#### Notes:

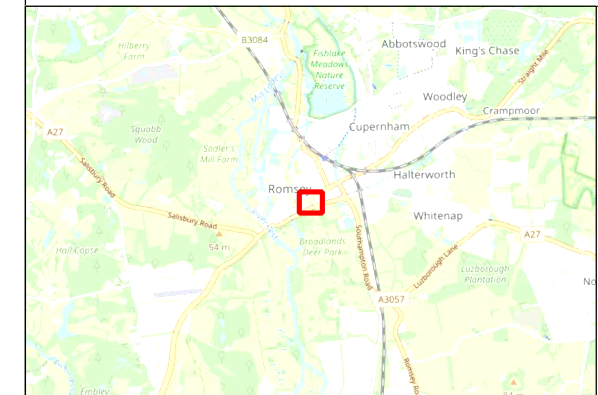
Drawn by: ELLA.CHRISTIE  
 Checked by:  
 Office: Southampton

Figure No. 1  
 Revision No. A  
 25 April 2023

0 10 20 30 40 Meters  
 Scale 1:1,000 @A3

British National Grid  
 NGR: 435485E 121013N

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# Surveyor Locations and Bat Survey Results

Edwina Mountbatten House

F

## Planning Issues

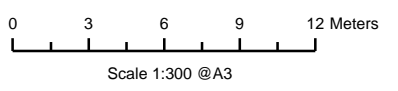
### Legend

- Site Boundary
- Bat Emergence
- Surveyor Locations

### Notes:

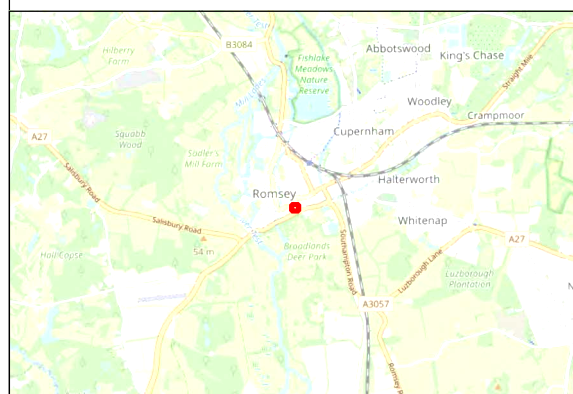
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 Checked by: IF  
 Office: Southampton

Figure No. 2  
 Revision No. A  
 03 July 2023



British National Grid  
 NGR: 435479E 121009N

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## APPENDICES

- APPENDIX A: REPORT CONDITIONS
- APPENDIX B: PLANNING POLICY & LEGISLATION
- APPENDIX C: BAT BOXES
- APPENDIX D: BAT FRIENDLY PLANTING

## APPENDIX A: REPORT CONDITIONS

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The report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections'. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times. No investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather-related conditions. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions. The “shelf life” of the Report will be determined by a number of factors including; its original purpose, the Client’s instructions, passage of time, advances in technology and techniques, changes in legislation etc. and therefore may require future re-assessment.

The whole of the report must be read as other sections of the report may contain information which puts into context the findings in any executive summary.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Tetra Tech accept no liability for issues with performance arising from such factors.

## APPENDIX B: PLANNING POLICY AND LEGISLATION

### Conservation of Habitats and Species Regulations 2017 (as amended)

The 2018 amendments mainly related to the impact of the *People Over Wind* decision and some implications arising for neighbourhood plan development and a range of other planning tools including Local Development Orders and Permission in Principle – see here for full details: <https://www.legislation.gov.uk/uksi/2018/1307/note/made>

The 2019 amendments related to the EU exit. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant. The obligations of a competent authority in the 2017 Regulations for the protection of sites or species do not change.– see here for full details:

<https://www.legislation.gov.uk/ukdsi/2019/9780111176573>

The Regulations make it an offence to deliberately capture, kill, disturb or trade bats (including dead animals).

### Wildlife & Countryside Act 1981 (as amended)

This is the principal mechanism for the legislative protection of wildlife in the UK. Since it was first introduced, the Act has been amended several times. All bats are protected through inclusion under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and benefit from various levels of protection. This legislation makes it an offence to:

Intentionally or recklessly kill or injure these animals; and

Sell, offer for sale, possess or transport for the purpose of sale of publish advertisement to buy or sell individual reptiles.

All are also listed under Schedule 5 Section 9.4b and 9.4c which makes it an offence to:

Intentionally disturb while occupying a structure or place used for shelter or protection; and

Obstruct access to such a site.

### Natural Environment and Rural Communities Act 2006

Section 41 (S41) of this Act requires the Secretary of State to publish a list (in consultation with Natural England) of Habitats and Species which are of Principal Importance for the conservation of biodiversity in England. The S41 list is used to guide decision-makers such as public bodies including local and regional authorities, in implementing their duty under Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal (e.g. planning) functions. The S41 list includes 65 Habitats of Principal Importance and 1,150 Species of Principal Importance.

Seven species of bat are listed under Section 41 of the NERC Act 2006; soprano pipistrelle, brown long-eared bat, greater horseshoe bat, lesser horseshoe bat, barbastelle, Bechstein's bat and noctule.

### National Planning Policy Framework

National Planning Policy Framework (NPPF) is the top tier of planning policy. The Framework provides guidance to local authorities and other agencies on planning policy and the operation of the planning system. Section 15 relates to 'Conserving and enhancing the natural environment'.

Relevant policies in relation to planning application include Paragraphs:

"174. Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

179. To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue

opportunities for securing measurable net gains for biodiversity.

180. When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impact s), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.”

The Test Valley Borough Council Adopted Local Plan 2011-2029

Policy E5: Biodiversity through which the Council will seek to avoid any net loss of biodiversity as a result of new development

Policy E5 states that:  
 “Development in the Borough that will conserve, and where possible restore and/or enhance, biodiversity will be permitted.  
 Development that is likely to result in a significant effect, either alone or in combination, on an international or European nature conservation designation, or a site proposed for such designation, will need to satisfy the requirements of the Habitat Regulations.  
 Development likely to result in the loss, deterioration, or harm to habitats or species of importance to biodiversity or geological conservation interests, either directly or indirectly, will not be permitted unless:  
 a) the need for, and benefits of, the development in the proposed location outweighs the adverse effect on the relevant biodiversity interest;  
 b) it can be demonstrated that it could not reasonably be located on an alternative site that would result in less or no harm to the biodiversity interests; and  
 c) measures can be provided (and secured through planning conditions or legal agreements), that would avoid, mitigate against, or, as a last resort, compensate for the adverse effects likely to result from development.  
 The habitats and species of importance to biodiversity and sites of geological interest considered in relation to points a) to c) comprise:  
     Sites of Special Scientific Interest (SSSIs);  
     legally protected species;  
     Sites of Importance for Nature Conservation (SINCs) and Local Nature Reserves (LNRs);  
     priority habitats and species listed in the national and local Biodiversity Action Plans;  
     habitats and species of principal importance for the conservation of biodiversity in England<sup>100</sup>;  
     trees, woodlands, ancient woodland (including semi-natural and replanted woodland), aged and veteran trees, and hedgerows; and  
     features of the landscape that function as ‘stepping stones’ or form part of a wider network of sites by virtue of their coherent ecological structure or function or are of importance for the migration, dispersal and genetic exchange of wild species.  
 The level of protection and mitigation should be proportionate to the status of the habitat or species and its importance individually and as part of a wider network.”  
 Related to Policy E5 is Policy E6 on Green Infrastructure which states that development will be permitted provided that:  
 “a) it protects, conserves and where possible, enhances the Borough’s Green Infrastructure network.  
 b) it avoids the loss, fragmentation, severance, or a negative impact on the function of the Green Infrastructure network.  
 c) mitigation is provided where there would be an adverse impact on the Green Infrastructure network; and  
 d) where it is necessary for development to take place on identified areas of Green Infrastructure an appropriate replacement is provided.”

## APPENDIX C: BAT BOXES / BRICKS

### Introduction

The information in this appendix relates to bat boxes that can be easily incorporated into building and landscape plans. The information provided is not exhaustive and provides examples of some of the types of boxes available.

Including bat boxes throughout the development site has a number of benefits:

- Any roosting or resting places lost as a result of the work will be replaced;
- The ecological value of the site will be enhanced;
- Priority species within the UK and local Biodiversity Action Plans (BAPs) will be encouraged.

### Bats

#### For Buildings

The inclusion of a variety of bat bricks, tubes and boxes for buildings is recommended to encourage a diversity of bat species. Bat bricks and tubes require no maintenance.

Built-in bat box  
(can be faced to suit building design)



Bat tube  
(can be bricked in or rendered over into the façade)



Heated maternity box (operated on a conventional socket, 50watt heater near the base to provide a thermostatically controlled artificially warm roost)



### Hibernation box e.g. Schwegler 1WQ



### For Buildings and Trees

The following box types are recommended.

#### Bat Box

The Schwegler 1FF bat box is made of woodcrete and is expected to last approximately 25 years. It has a narrow crevice-like internal space to attract Pipistrelle and Noctule bats. Woodcrete (75% wood sawdust, concrete and clay mixture). It can be mounted on buildings or trees.

Width: 27cm; Height: 43cm; Weight: 8.3kg.



The Beaumaris woodstone bat box comes in small and large versions and is suitable for mounting on buildings or trees.

Small –29 x 40 x 7cm

Large 38 x 50 x 7cm

Weight: 8kg.



The Vincent Pro bat box is a tried and tested design by the Vincent Wildlife Trust.

Width: 23.5cm; Height: 72cm; Weight: 6.9kg.





## APPENDIX D: BAT-FRIENDLY PLANTING

Table F1: Trees, shrubs and climbers

Common name	Scientific name
Bramble	<i>Rubus fruticosus</i>
Buddleia	<i>Buddleja sp.</i>
Common alder	<i>Alnus glutinosa</i>
Dog rose	<i>Rosa canina</i>
Elder	<i>Sambucus sp.</i>
English oak	<i>Quercus robar</i>
Gorse	<i>Ulex sp.</i>
Guelder rose	<i>Viburnum opulus</i>
Hawthorn	<i>Crataegus sp.</i>
Hazel	<i>Corylus sp.</i>
Honeysuckle	<i>Lonicera periclymenum</i>
Hornbeam	<i>Carpinus sp.</i>
Ivy	<i>Hedera sp.</i>
Jasmine	<i>Jasminum sp.</i>
Rowan	<i>Sorbus sp.</i>
Silver birch	<i>Betula pendula</i>

Table F2: Flowers for borders

Common name	Scientific name
Aubretia*	<i>Aubrieta sp.</i>
Candytuft*	<i>Iberis sp.</i>
Cherry pie*	<i>Heliotropium arborescens</i>
Corncockle	<i>Agrostemma githago</i>
Cornflower	<i>Centaurea cyanus</i>
Corn marigold	<i>Glebionis segetum</i>
Corn poppy	<i>Papaver rhoeas</i>
Echinacea*	<i>Echinacea sp.</i>
English Bluebell	<i>Hyacinthoides non-scripta</i>
Evening primrose*	<i>Oenothera sp.</i>
Field poppies	<i>Papaver rhoeas</i>
Honesty*	<i>Lunaria annua</i>
Ice plant 'Pink lady'*	<i>sedum spectabile</i>
Knapweed	<i>Centaurea sp.</i>
Mallow	<i>Malva sp.</i>
Mexican aster*	<i>Cosmos bipinnatus</i>
Michaelmas daisy*	<i>Aster novi-belgii</i>

Night-scented stock*	<i>Matthiola longipetala</i>
Ox-eye daisy	<i>Leucanthemum vulgare</i>
Phacelia*	<i>Phacelia tanacetifolia</i>
Poached egg plant*	<i>Limnanthes douglasii</i>
Primrose	<i>Primula vulgaris</i>
Red campion	<i>Silene dioica</i>
Red valerian*	<i>Centranthus ruber</i>
Scabious	<i>Scabiosa sp.</i>
St John's wort	<i>Hypericum perforatum</i>
Sweet William*	<i>Dianthus barbatus</i>
Tobacco plant*	<i>Nicotiana</i>
Verbena*	<i>Verbena sp.</i>
Wallflowers*	<i>Erysimum sp.</i>
Wood forget-me-not	<i>Myosotis sylvatica</i>
Yarrow	<i>Achillea millefolium</i>

Plants marked \* are hybrids or exotics

**Table F3: Herbs**

Common name	Scientific name
Angelica	<i>Angelica sp.</i>
Bergamot	<i>Monarda sp.</i>
Borage	<i>Borago officinalis</i>
Coriander	<i>Caroiandrum sp.</i>
English marigolds	<i>Calendula officinalis</i>
Fennel	<i>Foenicululm sp.</i>
Feverfew	<i>Tanacetum parthenium</i>
Hyssop	<i>Hyssopus officinalis</i>
Lavenders	<i>Lavandula</i>
Lemon balm	<i>Melissa officinalis</i>
Marjoram	<i>Origanum majorana</i>
Rosemary	<i>Rosmarinus officinalis</i>
Sweet cicely	<i>Myrrhis odorata</i>
Thyme	<i>Thymus vulgaris</i>

**Table F4: Wildflowers for pond edges and marshy areas**

Common name	Scientific name
Bog bean	<i>Menyanthes sp.</i>
Bugle	<i>Ajuga sp.</i>
Creeping Jenny	<i>Lysimachia nummularia</i>
Flag iris	<i>Iris pseudacorus</i>
Hemp agrimony	<i>Eupatorium cannabinum</i>

Lady's smock	<i>Cardamine pratensis</i>
Marsh mallow	<i>Althaea officinalis</i>
Marsh marigold	<i>Caltha palustris</i>
Marsh woundwort	<i>Stachys palustris</i>
Meadowsweet	<i>Filipendula ulmaria</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Water avens	<i>Geum rivale</i>
Water forget-me-not	<i>Myosotis scorpioides</i>
Water mint	<i>Mentha citrata</i>

(Source: 'Encouraging bats– Gardening for bats', Bat Conservation Trust, 2015)