

BAT SURVEY AND ASSESSMENT

90 Church Green, Shoreham-By-Sea, BN43 6JU

A REPORT FOR PMR ARCHITECTURE

This report provides an independent assessment of the status of bats within the site alongside a determination of likely constraints and opportunities for enhancement

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Surveys and Assessment completed August and September 2023.

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Copyright and guidance

This report has been written to provide an objective assessment of the ecological constraints and opportunities that were considered to be present at the site at the time the survey/s were conducted and, should be used solely for the purpose for which it was designed. The copyright must be considered to rest with Co-ecology Ltd whilst use of the report is for the commissioning party and their client only, unless with the express and written consent of Co-ecology Ltd.

The surveys and assessment have been drafted to be in accordance with; Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition), British Standard for Biodiversity BS42020:2013, Biodiversity - Code for planning and development and; the Code of Professional Conduct published by the Chartered Institute of Ecology and Environmental management.

N.B. It must be noted that investigations of this sort provide only a snapshot in time of the ecological conditions of a site, are limited in extent and cannot capture the full picture of the biodiversity interests at the given location.

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1 Summary of Assessment

Co-ecology Ltd were commissioned by PMR Architecture to provide advice and support relating to the proposed development works at 90 Church Green, Shoreham-by-Sea. The following points summarise the main results of the bat surveys and assessment.

1.1. The client's proposals for the 90 Church Green comprise a two-storey side extension (approx. 3m wide) to accommodate a larger entrance hall, larger kitchen with utility and an additional bedroom. The proposed materials of the external walls and roof will match the existing (brick and clay tiles).

1.2. There are no protected sites that are cited for their bat interest within 10km of the development site. A search of Natural England's accessible data for bat mitigation licenses within a 2km radius of the site located one EPSM licence granted for serotine *Eptesicus serotinus* and brown long-eared bats *Plecotus auritus* 0.95km to the northwest.

1.3. A data search for bats within a 2km radius of the site with the Sussex Biodiversity Records Centre returned five records for common pipistrelle *Pipistrellus pipistrellus* and Nathusius pipistrelle *Pipistrellus nathusii*. One record was for a roost site 1.35km north.

1.4. The site is immediately surrounded by other residential properties and is located within the dense urban area of Southwick/Shoreham.

1.5. A Preliminary Roost Assessment was undertaken by Co-ecology Ltd in August 2023. The internal space of the roof void was of low suitability to support bats due to the lack of access points. Externally there were several access points under a small area of hanging tiles and a large access point into timber soffits where evidence of nesting birds was apparent.

1.6. No bats were recorded within the building during the appraisal, and no evidence of bats in the form of bat droppings or urine splashes were recorded within the roof void or any external architectural features.

1.7. Taking into account the absence of evidence during the initial assessment, the presence only a few features suitable to support roosting bats and the general poor quality of foraging habitats in the local area, the property was given **Low** overall suitability.

1.8. To complete the assessment, one bat emergence surveys was recommended and was completed in August 2023 by Co-ecology licensed bat surveyors. No bats were recorded emerging from the property during the survey undertaken on the 10th August 2023.

1.9. Although no bats were recorded using the property during the initial assessment or emergence survey, bats are highly mobile and may start roosting on site in the future. If bats were found to be present during construction activities, all works will be halted and advise from a suitable qualified ecologists should be sought.

1.10. Efforts to improve the overall biodiversity on site and the local landscape re recommended and could include planting of native flowering plants within the landscape plan as well as the installation of integrated Bee Bricks on the building to provide suitable alternative shelter for invertebrates.

1.11. In addition, on completion of the proposed extension bird boxes to favour sparrows and starlings could be installed high up on north and east facing elevations.

2 Background

Overview of the commission and the proposals

2.1. Co-ecology Ltd were commissioned by PMR Architecture on behalf of their client to provide advice and support relating to bats for the proposed development works at 90 Church Green, Shoreham-by Sea. The client's proposals for the main house comprises two-storey side extension to accommodate a larger entrance hall, larger kitchen with utility and an additional bedroom. The proposed materials of the external walls and roof will match the existing (brick and clay tiles).

2.2. The ecology investigations required to inform the proposals are to determine the status of bats within the building to be demolished, this process comprises the following elements –

- A desk study and a 2km data search with the local environmental records centre;
- A 10km search for contextual information for statutory designated sites for bats;
- A 2km search for contextual information regarding surrounding habitats and extant Natural England Mitigation Licences for bats;
- a Preliminary Roost Assessment[1];
- evening emergence surveys[2]
- an evaluation of the status and relative conservation value of any roosts, if present;
- an initial assessment of likely impacts and opportunities; and
- recommendations for further surveys or assessments that may be necessary.

Objectives

2.3. To use the process outlined above to assess the status and value of any roosts on site and the likely constraints to the proposed works. To determine an initial assessment of impact to those roosts and to devise measures to off-set impacts and provide enhancements in line with National and local planning policies.

2.4. The primary aim is to ensure that all impacts are correctly identified, and to provide in outline of appropriate measures for mitigation, compensation and enhancement. The results of the emergence surveys will ascertain bat roost specification and inform appropriate mitigation and the Natural England bat licence application which will be required for construction works to commence on site.

Site description

2.5. 90 Church Green is a semi-detached, two storey residential property situated within the urban centre of Shoreham-by- Sea in West Sussex. The site is centred on national grid reference TQ 23392 05188 located approximately 805m north of the southern coastline with detached residential properties of a similar size and age surrounding the site. The River Adur is located 325m south of the site.

2.6. Beyond the residential properties immediately surrounding the site is dense urban sprawl with gardens and pockets of amenity grassland associated with schools, allotments, and urban parks. The main Brighton to Southampton railway line in located 154m south of the proposed development site.

[1] Essentially a detailed inspection of the building

[2] These surveys can be used as Roost Characterisation Surveys should bats be found to be present

Legislative and policy context

2.7. The following pieces of legislation and National policy are relevant to this appraisal and have been used to inform this appraisal;

- The Environment Act (2001)
- Conservation of Habitats and Species Regulations 2017(as amended)
- Wildlife and Countryside Act 1981 (as amended)
- The National Planning Policy Framework 2019
- Biodiversity and geological conservation: circular from the ODPM 06/2005

2.8. The following local policies are extracted from the Adur Local Plan (2017)[3].

- Policy 30 Green Infrastructure
- Policy 31 Biodiversity

2.9. An extract of the key relevant section of these policies are provided below whilst the full policy is available on the links provided in the footnotes.

- Policy 30: "*Developments will be required to incorporate elements of green infrastructure into their overall design, and/or enhance the quality of existing Green Infrastructure as appropriate."*
- Policy 31: *"Biodiversity All development should ensure the protection, conservation, and where possible, enhancement of biodiversity, including nationally and locally designated sites, Biodiversity Opportunity Areas (BOAs), marine habitats and other Biodiversity Action Plan (BAP) habitat areas, wildlife corridors, and protected and priority species. If significant harm cannot be avoided (by locating development on an alternative site with less harmful impacts), then such harm should be adequately mitigated. Where it cannot be adequately mitigated then such harm must be compensated for."*
- *"Conserving biodiversity is not just about protecting rare species and designated nature conservation sites. It also encompasses the more common and widespread species and habitats, all of which make an important contribution to quality of life. The Council will work with partners to conserve and enhance the biodiversity and geological diversity of Adur."*

[3] Adur Local Plan 2017 (adopted) - Complete document (adur-worthing.gov.uk)

3 Methodology

Personnel

3.1. The surveys, appraisal and reporting were carried out by Linda Kerrison MSc ACIEEM (level 2 class licence for bats). Linda is an ecologist with ten years commercial experience in quantitative field surveys and assessments and holds class licences for the survey of bats Georgie Baulcomb MSc MCIEEM (level 2 class licence for bats) and Rob Wallace BA (Hons) MA assisted with the emergence surveys.

Contextual information and data records

3.2. Contextual information on the site was gathered from freely available on-line resources including a 10km search for European protected sites for bats and 2km records for any European Protected Species Mitigation licences for bats. This was carried out using Magic Map hosted by Defra. On-line aerial imagery was used to make an assessment of the sites position within the wider landscape including connectivity and potential corridors for movement. A 2km standard data search for bats was commissioned from the Sussex Biodiversity Records Centre, the most pertinent results are summarised in this report.

Preliminary Roost Assessment

3.3. The surveyor carried out a detailed inspection of the building on the site to locate any roosting bats and/or any secondary evidence of bats such as droppings and feeding remains. The inspection sought to identify any actual or potential roosting locations and assign an overall classification of likely presence based on number and type of any potential roost features that were located. The survey consisted of a close inspection of all exterior features using close focussing binoculars where necessary to inspect the structure at height. An internal inspection was carried out with the surveyor conducting a methodical search of the roof voids with emphasis on rafters and supporting timbers and any other suitable features.

Emergence Surveys

3.4. Following established methodology, surveyors were situated so as to have a good view of all elevations of the target building and were equipped with heterodyne detectors to identify bats in the field and record bat calls for later evaluation. The surveys started 15 minutes prior to sunset and continued until 90 minutes past sunset with the surveyors making a note of weather conditions and the time, activity and species of any bats that were heard and/or observed. Two evening surveys were carried out. To augment the survey effort a Helion 2 XP 50 and a Guide IR Track Pro Thermal Imaging cameras and Canon XA10 Infrared camera were used to aid the surveyors view of the building after nightfall.

Evaluation & Impact Assessment

3.5. If any roosts were identified during the surveys their relative value was assessed against published criteria for conservation significance as set out in Figure 4 of the Bat Mitigation Guidelines (English Nature, 2004), and a simple assessment compiled to determine any likely impacts that could arise from the proposals. The impact assessment is based on the relevant chapter (6) of the Bat Mitigation Guidelines.

Constraints

3.6. There were no constraints to the surveys.

4 Results

Contextual information and biological records

4.1. The South Downs National Park is located 1.5km north of the site and the site lies within the Brighton and Lewes Downs Biosphere Reserve.

4.2. There are no protected sites that are cited for their bat interest within 10km of the development site.

4.3. There are no areas of ancient and Semi-natural woodlands within 2km of the site, there are some small parcels (0.1ha) of Priority habitat deciduous woodland with the closest being 488m northeast.

4.4. The results of the 2km data search from the SxBRC include records for Nathusius' pipistrelle *Pipistrellus nathusii* and common pipistrelle *Pipistrellus pipistrellus*. The closest record to the site boundary corresponds with a common pipistrelle and was located 333m to the north. One of these bat records was for a roost site, 1.35km north of the site for a Nathusius pipistrelle and one granted mitigation licences for protected species was recorded within 2km of the site. Table 4.3 below summarises the findings of the search for EPSM licences from the MAGIC web service.

Table 4.3 Granted European Protected Species Mitigation Licences for Bats within a 5km radius

Registration number	Species	Type of impact	Distance and orientation
EPSM2010-1928	Brown Long eared Serotine	Destruction of a resting place	0.95km Northwest

Building Assessment

4.5. The property at 90 Church Green, Shoreham-by-Sea was a semi-detached, two storey residential property with a gable end roof cladded in tight fitting concrete roof tiles. An oriel window jutted out over the front door, on the side of the house from the first floor and was clad in hanging concrete tiles. A second oriel window was present on the ground floor. All the eaves were sealed with timber boxed soffits. The windows and doors were uPVC double glazed and well fitting.

4.6. The internal roof space was constructed with plain sawn timber rafters lined with bitumen roofing felt, well insulated and partially boarded. At the time of the survey, it was used for storage.

Results

4.7. The concrete machine made roof tiles were thoroughly inspected using close focusing binoculars and no suitable gaps or access points were recorded on any aspects of the roof.

4.8. Suitable roosting features were recorded under the hanging tiles cladding the oriel window over the front door where tiles were either missing or broken. These gaps gave access into sheltered crevices behind the tiles which are suitable for a variety of bat species and could potentially support a low number of individuals.

4.9. Within the roof void, the insulation and boards covering the rafters were thoroughly searched for evidence of bat habitation, but none was recorded. Due to the closed eaves, lack of light ingress and absence of access points via the roof tiles, it is considered unlikely that bats could gain access to the roof void for roosting purposes.

4.10. Mouse *Mus musculus* droppings were found in the roof void in small numbers.

Bat Emergence surveys - results

Survey 1

4.11. Carried out on 10th August 2023, survey start was at 20:17 and continued until 22:02, 90 minutes past sunset which was at 20:32. The temperature at start was 18°C falling to 17 °C when the survey ended. The cloud cover was 1/8 Oktares, there was a light wind or rain. Two surveyors with Thermal Imaging cameras were stationed to the west of the building with a clear view of all potential access features.

4.12. No bats were seen or suspected to have emerged from the building.

4.13. Very low numbers of common pipistrelle bats were recorded by both surveyors during the survey. The first pass was recorded by the surveyors at 21:11.

Roost Characterisation

4.14. The table below provides a simple assessment of the status of any bat roosts located within the site boundary and their classification following accepted guidance and terminology[4].

Table 4.3. The status and type of any bats roosts confirmed or likely to be present at the site

Building	Species	Likelihood	Status	Location	Conservation significance
90 Church Green	N/A	Low	N/A	Hanging tiles	N/A

Evaluation

4.15. Following the results of the Preliminary Roost Assessment (PRA), and by considering all evidence including the presence of suitable roosting features underneath hanging tiles, the lack of access into the roof void space and the poor-quality foraging habitats in the local landscape, the overall suitability of the site is considered to be **Low** and of site value only.

[4] The classification of roost type follows that set-out by Natural England in their method statement for a bat Mitigation Licence: Day, Night, Feeding Perch, Transitional, Satellite, Maternity, Hibernation.

Survey Map



90 Church Green
Figure 1 - Survey results

Legend

Building subject to survey

PRA results:

Hole in soffit box

Missing hanging tile

Hanging tiles

Emergence survey results:

Commuting Common pipistrelle

IR camera location and orientation

Client Name: PMR Architechture
Survey Date: 10/08/2023
Surveyor: LK/GB/RW
Scale: 1 : 150
Drawn by: CG
Drawing date: 07/09/2023
Drawing Number: CE23123.1

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5 Impacts and Opportunities

Impacts

5.1. Protected sites – There are no protected sites that are cited for their bat interest within 10km of the development site.

5.2. Habitats – The proposals will not result in the loss or disturbance of any suitable foraging habitats.

5.3. Bat Roosts – No roosts have been identified to date. However, due to bats being highly mobile species, there is a residual risk of bats being present within the building at any point in the future. If bats were to be present during works on site, all works should be halted and advise from a suitably qualified ecologist or Natural England should be sought.

5.4. The development works have potential to result, in the long-term, in the loss of the suitable roosting features recorded during the building inspection.

Opportunities

5.5. There are limited opportunities to ensure no net loss for bats on this site, however there are opportunities to improve the overall biodiversity of the site through the provision of bird nesting boxes, integrated bee bricks and improved planting schemes.

6 Recommendations

Recommendations for surveys to inform the proposals

6.1. No further surveys beyond the emergence survey are considered necessary for the purposes of this current planning application.

6.2. If the project is delayed 12 months or more past the date of the survey, then the site would require a repeat building inspection and emergence surveys due to the high mobility of bat species.

Recommendations for surveys prior to construction

6.3. No further bat surveys are considered necessary if the building works are carried out before the next bat active season (Spring 2024).

6.4. A pre-works check for nesting birds must be carried out if works occur between March and August (inclusive).

Mitigation

6.5. Although no bats have been recorded using the site during the Preliminary Roost Assessment or subsequent emergence survey, it is recommended that a precautionary but proportionate approach to works is followed.

6.6. *Timing*: There are no timing restrictions.

6.7. *Compensation*: The proposed designs for the extensions are not expected to include replacement of any hanging tiles. As such there will be a small reduction in possible roosting opportunities for bats. However due to the lack of suitable foraging opportunities in the surrounding landscape it is unlike bats will be present and providing roosting opportunities is not recommended.

6.8. Efforts to improve the overall biodiversity on site and the local landscape should be considered and could include planting of native flowering plants within the landscape plan as well as the installation of integrated Bee Bricks and bird boxes on the building to provide suitable alternative shelter for invertebrates and nesting birds.

References

British Standards Institution (2013) Biodiversity. Code of practice for planning and development: 42020. BSI, London.

Biodiversity Reporting and Information Group (2008) *UK Biodiversity Action Plan Priority Habitat Descriptions*. JNCC. Peterborough.

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Photographs

Picture 1
90 Church Green. Hanging tiles provide suitable roosting sites.



Picture 2
Internal structure of roof with timber struts.



Picture 3
Missing hanging tiles providing suitable roosting places for crevice dwelling bats.



Picture 4
Timber soffit boxes on oriel window over front door showing large holes with evidence of nesting birds within.





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