MIDDLEMARCH

Preliminary Bat Roost Assessment

Northwood Hills Library, Potter Street, Northwood, London Borough of Hillingdon

A Report To: Philip Pank Partnership LLP
Report Number: RT-MME-161305-02
Date: September 2023

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Quality Assurance

Date	Version	Author	Checked by	Approved by
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Declaration of Compliance

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of Practice for Planning and Development". The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

Disclaimer

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment. Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

Validity of Data

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

Non-Technical Summary

Project Background

In August 2023, Philip Pank Partnership LLP commissioned Middlemarch to undertake a Preliminary Bat Roost Assessment at the site of a proposed development at Northwood Hills Library in the London Borough of Hillingdon. This assessment is required to inform a planning application associated with a residential development atop a new library.

Scope of Survey

A Preliminary Bat Roost Assessment of the building on site was carried out in line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016). The assessment was conducted on 16th August 2023 by Richard Sainsbury (Senior Ecological Consultant) and James Sharma (Ecological Consultant).

Summary of Key Bat Features

Overall, the building (B1) has high potential to support roosting bats due to the presence of several potential roosting features, including gaps between the external walls and weatherboarding, warped weatherboarding, gaps under roof tiles, and lifted lead flashing.

The site itself provides some limited foraging habitats for bats in the form of scattered trees, hedgerow, introduced shrub, and amenity grassland. However, the dominant landcovers, the building and areas of hardstanding, offer little value for foraging bats.

Connectivity to the wider area is limited, although scattered trees and boundary hedgerows on site offer some commuting habitat. The site is located in an urban area, however suitable bat roosting, foraging, and commuting habitat is present in the form of habitats such as pockets of woodland, parks, and residential houses and gardens.

Potential Impacts on Bats

The building on site is proposed to be demolished to permit the construction of a new library and residential development above. Should bats be found to be utilising the building on site, there is the potential for bats to experience direct harm or injury as a consequence of the works, constituting a breach of legislation. Therefore, further survey work has been recommended.

Recommendations

R1 **Building B1:** Building B1 has been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016)[2] recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure. The bat emergence/re-entry survey season extends from May to September. At least two of the surveys should be undertaken during the peak season for emergence/re-entry surveys between May and August and one of the three surveys should be a dawn re-entry survey. If a roost is discovered during these surveys, a Natural England licence application may be required.

R2 **Scheme Design:** The proposed development should be designed to minimise effects on bats in accordance with the ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG).

Contents

1. Introduction

1.1 Project Background

In August 2023, Philip Pank Partnership LLP commissioned Middlemarch to undertake a Preliminary Bat Roost Assessment at Northwood Hills Library in the London Borough of Hillingdon. This assessment is required to inform a planning application associated with the construction of a residential development atop a new library.

In addition, Middlemarch has been commissioned to undertake a Preliminary Ecological Appraisal of the site (RT-MME-161305-01).

To fulfil the above brief to assess the potential for the existing buildings/structures on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 16th August 2023.

All UK bat species are legally protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1.

1.2 Site Description and Context

Table 1.1 provides a brief summary of the site and its surroundings.

Attribute	Description
Site Location	Northwood Hills, Potter Street, Northwood, London Borough of Hillingdon
National Grid Reference	TQ 10332 90528
Site Area (ha)	0.12
Topography	Flat
Land Cover (on site)	The site consists of the existing library building, with areas of hardstanding and parcels of amenity grassland. Introduced shrub and scattered trees are present across the site, while hedges are present along the northwestern and southeastern boundaries.
Land Cover (site surrounds)	The wider landscape is dominated by urban development, largely consisting of residential houses with gardens. A school borders the site to the east, and areas of greenspace are present in the wider landscape, including parks, playing fields, and cemeteries.

Table 1.1: Summary of Site and Surroundings

1.3 Documentation Provided

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.2.

Document / Drawing Number	Author
M10047_APL007_PROPOSED GROUND FLOOR PLAN	Hunters
M10047_APL008_PROPOSED FIRST FLOOR PLAN	Hunters
M10047_APL009_PROPOSED SECOND FLOOR PLAN	Hunters
M10047_APL010_PROPOSED THIRD FLOOR PLAN	Hunters
M10047_APL011_PROPOSED ROOF PLAN	Hunters
M10047_APL012_PROPOSED PINNER ROAD ELEVATION	Hunters
M10047_APL013_POTTER STREET ELEVATION	Hunters
M10047_APL014_PROPOSED NORTHEAST ELEVATION	Hunters
M10047_APL015_PROPOSED ELEVATION SOUTHEAST	Hunters

Table 1.2: Documentation Provided by Client

2. Methods

2.1 Desk study

As part of the Preliminary Ecological Appraisal (Report RT-MME-161305-01) an ecological desk study was undertaken. The consultees for the desk study were:

- Natural England – MAGIC website for statutory conservation sites; and,
- Greenspace Information for Greater London (GiGL) CIC.

Middlemarch then assimilated and reviewed the desk study data provided by these organisations. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

2.2 Field Survey

A Preliminary Bat Roost Assessment of the building (B1) was carried out on site in line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004)[1] and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)[2]. The assessment was conducted on 16th August 2023 by Richard Sainsbury (Senior Ecological Consultant) and James Sharma (Ecological Consultant). Weather conditions were recorded and are presented in Table 2.1.

Parameter	Condition
Temperature (ºC)	22
Cloud (%)	0
Wind (Beaufort)	F1
Precipitation	Nil

Table 2.1: Weather Conditions During Field Survey

A visual assessment was conducted during daylight hours of the building to determine the presence of any Potential Roost Features (PRFs), together with a general appraisal of the suitability of the site for foraging and commuting bats. Please refer to Appendix 2 for a list of example PRFs. Any accessible PRFs were inspected using binoculars, a torch, and endoscope for evidence of possible bat presence. The building was surveyed externally and internally where possible, with access constraints detailed in Section 2.3.

For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders.

[1] English Nature (2004). *Bat Mitigation Guidelines.* English Nature, Peterborough.

[2] Collins, J. (ed). (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Ed.).* The Bat Conservation Trust, London.

Based on the PRFs present, the survey area was assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016)[2], as detailed in Table 2.2.

Suitability	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Negligible	Negligible habitat features on site likely to be used by roosting bats.

Table 2.2: Classification of Structures with Bat Potential (Adapted from Collins, 2016)2

2.3 Constraints

Due to the height of the loft space access, it was not possible to inspect this space during the survey. This is not considered a significant constraint as the bat roosting potential of the building was achieved due to numerous PRFs being recorded across the building exterior.

Additionally, the library was bordered by a school to the east and could not be accessed, therefore the eastern elevation of the building could not be fully inspected for the presence of potential bat roosting features.

3. Desk Study

3.1 Statutory Nature Conservation Sites

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 Species Records

The data search was carried out in August 2023 by Greenspace Information for Greater London CIC (GiGL). Records of bat species within a 1 km radius of the survey area provided by the consultee are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Survey Area	Species of Principal Importance?	Legislation / Conservation Status
Common pipistrelle *Pipistrellus pipistrellus*	2	2014	230 m east	-	ECH 4, WCA 5, WCA 6
Unidentified bat *Chiroptera* sp.	1	2021	315 m northeast	#	ECH 2 #, ECH 4, WCA 5, WCA 6
Unidentified bat *Vespertilionidae* sp.	1	2002	426 m southeast	#	ECH 2 #, ECH 4, WCA 5, WCA 6

Key:

#: Dependent on species.

ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation.

ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection.

WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds).

WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods.

Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.

Table 3.1: Bat Species Records Within 1 km of Survey Area

4. Survey Results

4.1 Building/Structures

Building B1

External Assessment

A single brick building (B1) was present on site with a complex roof structure comprising flat bitumen roof and pitched clay tiles (Plates 4.1 and 4.2). The building was irregular shaped and included single-storey and two-storey sections. The brickwork was largely in good condition, and any cracks were generally superficial and created no suitable gaps for bats. Double glazed uPVC windows were present across the building, all of which were tightly sealed with no ingress points recorded. Wooden weatherboarding was present across the building and the pitched roofs possessed wooden fascia boards. Exterior lighting was present across the building, and it is possible that its presence may deter bats from using certain aspects of the building, however it should be noted that the lighting was generally located away from the recorded PRFs.

On the southern elevation, the wooden weatherboarding had one slipped panel, while there was a gap between the panelling and the left-hand external wall (Plate 4.3). Closer inspection revealed that this gap extended into the wall cavity and a bird nest was observed inside, therefore it is considered suitable for roosting bats. Furthermore, this weatherboard panelling was warped and had come away from the wall, creating an access point behind suitable for roosting bats (Plate 4.4). A gap in the brickwork where the right-hand external wall meets the panelling at approximately 3 metres from ground level, extended into the cavity wall and was considered to have high potential to support roosting bats (Plate 4.5). The wooden fascia board was in good condition; however, it was ill-fitted to the brick wall and this created a crevice. Due to the height of this feature a full inspection could not be carried out, however it is considered to have high potential to support roosting bats. Additionally, a lifted roof tile and missing mortar under several end tiles were identified (Plate 4.6). It is possible that these features could support day roosts, however they could not be fully inspected due to their height. In addition, a gap in the fascia board was present due to wood rot (Plate 4.7), however the extent of this could not be assessed due to its height and as such its bat roosting potential could not be determined. Ridge tiles on this elevation were generally found to be in good condition, although some tiles were missing mortar underneath. Much of this missing mortar was found to be superficial and did not extend further, therefore these features were not considered suitable to support a bat roost.

On the western elevation, several gaps were present under the ridge tiles (Plate 4.8), however these could not be fully inspected due to their height and their roosting potential could not be determined. End tiles generally had grates present underneath, and these prevent bats from entering and using these features for roosting. Nevertheless, there was a gap under an end tile on this elevation due to missing mortar, which appeared to extend up the roof and had the potential to support roosting bats (Plate 4.9).

On the northern elevation, there was a gap between the external brick wall and the wooden weatherboarding which appeared to extend behind the panelling (Plate 4.10). This feature could also not be fully inspected due to its height and its bat roosting potential could not be fully determined; however, it is possible that this feature could support roosting bats.

There was some lifted lead flashing around the central chimneys, and it is possible that this feature may be used by opportunistic roosting bats (Plate 4.11). However, this feature could not be fully inspected due to its height.

The eastern elevation could not the fully inspected due to a lack of access. However, the areas of the building visible from the site appeared to be largely in good condition with no PRFs observed.

No evidence of roosting bats, such as droppings, urine staining, feeding remains, or scratch marks, was recorded during the survey.

Plate 4.1: Building B1 southern and western elevations

Plate 4.2: Building B1 northern and western elevations

Plate 4.3: Gap between weatherboarding and external wall on southern elevation

Plate 4.4: Warped weatherboarding on southern elevation

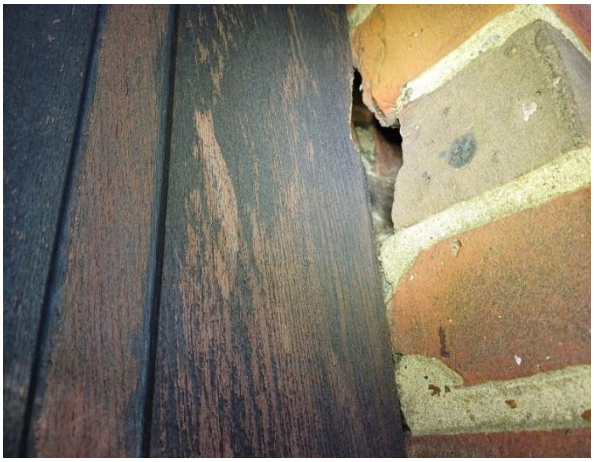

Plate 4.5: Gap between weatherboarding and external wall extending into cavity on southern elevation

Plate 4.6: Missing mortar under roof tiles on southern elevation

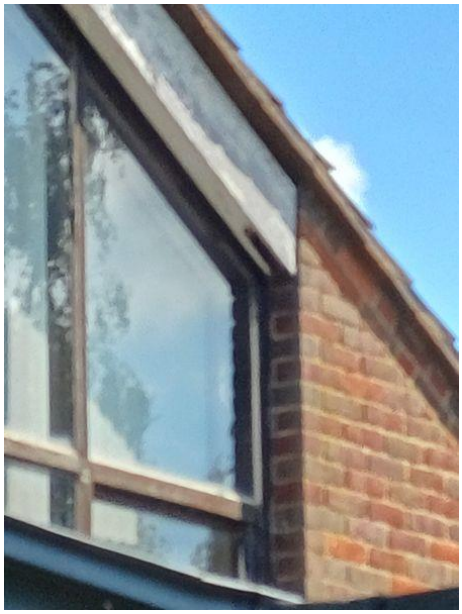

Plate 4.7: Gap caused in fascia board by wood rot on southern elevation

Plate 4.8: Gaps under ridge tiles on western elevation

Plate 4.9: Gap due to missing mortar under end tile on western elevation

Plate 4.10: Gap between weatherboarding and external wall on northern elevation

Plate 4.11: Lifted lead flashing around central chimneys

Internal Assessment

The interior of the building is currently used as a library and was found to be in good repair and active use (Plate 4.12). The open plan building was well-lit and all potential access points were well-sealed, and it was considered that there were no internal roosting features on the ground floor. There was a central loft space that measured approximately 6 m x 12 m, however this could not be accessed due to safety concerns (Plate 4.13). As this loft space could not be inspected, its potential to support roosting bats could not be determined.

No evidence of roosting bats, such as droppings, urine staining, feeding remains, or scratch marks, was recorded within the internal areas that could be fully inspected during the survey.

Plate 4.12: Internal area of the library

Plate 4.13: Internal loft access

Roosting Potential

In conclusion, building B1 has been assessed as having high bat roosting potential due to the presence of numerous PRFs, including gaps between the external walls and weatherboarding, warped weatherboarding, gaps under roof tiles, and lifted lead flashing. Many of these features were recorded at height; therefore, a detailed inspection could not be undertaken to confirm the presence/absence of roosting bats. No bats or evidence of bat usage was identified during the survey.

4.2 Site and Surrounding Habitats

The site consisted predominantly of the single building, hardstanding, and amenity grassland, offering limited value to bats. Small areas of introduced shrub, semi-mature to mature trees, and short lengths of hedgerow were also present on site, and these likely offer some higher quality foraging and commuting habitat for bat species, albeit in low quantity. External lighting was noted near the library entrances and car park, and it is possible that these may act as a deterrent to bats, however these were generally located away from PRFs.

Habitats within 1 km of the site suitable for roosting, commuting and foraging include:

- Residential houses and associated gardens;
- Pockets of woodland;
- Standing waterbodies;
- Churches, cemeteries, schools, hospitals, and associated grounds;
- Golf courses with associated open grassland habitats; and,
- Railway lines with vegetated banks.

The surrounding area is largely dominated by urban development in the form of residential and commercial buildings. The site has limited connectivity to habitats in the wider area, although the scattered trees and hedgerows on site provide some commuting habitat. Furthermore, trees, hedgerows, residential gardens, and vegetation-lined railway lines in the local area may act as commuting corridors to further areas of suitable roosting, foraging, and commuting habitats for bats in the wider area. Hog's Back Open Space Site of Importance for Nature Conservation (SINC) is located approximately 230 m northeast and provides high-quality bat habitat in the form of mature woodland, scrub, and diverse grassland.

5. Impact Assessment

5.1 Summary of Proposals

The proposed scheme comprises the demolition of the existing library building and its replacement with a new building containing a library on the ground floor and residential apartments on the upper floors. This development will include a car park and landscaping around the new building.

5.2 Summary of Key Bat Features

Roosting Bats

Building B1 has been classified as having high potential to support roosting bats due to the presence of several PRFs across the building exterior, including gaps between the external walls and weatherboarding, warped weatherboarding, gaps under roof tiles, and lifted lead flashing.

Commuting and Foraging Bats

The site provides some good foraging habitat in the form of scattered trees and boundary hedgerows, whilst providing further foraging opportunities in the form of introduced shrub and amenity grassland. The site is located in an urban environment and has limited connectivity to other habitats in the area. However, the scattered trees and hedgerows provide some commuting habitat on site, linking the site to other suitable habitats in the area, including parks, pockets of woodland, and residential gardens.

5.3 Potential Impacts on Bats

The proposed scheme includes the demolition of Building B1. Should roosting bats be present within the building, there is the potential for bats to be killed, injured, or disturbed as a result of the works. This would constitute a breach of the legislation detailed in Appendix 1, therefore further survey work has been recommended.

The site currently provides limited foraging and commuting habitat in the form of habitats including scattered trees and hedgerows. It is recommended that these features are retained, while also enhancing the value of the site for bats and other wildlife.

Full recommendations based on the above are made in Chapter 6.

6. Recommendations

All recommendations provided in this section are based on Middlemarch's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 **Building B1:** Building B1 has been identified as having high potential to support roosting bats. Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016)[2] recommends that for structures with high bat roosting potential at least three dusk emergence and/or dawn re-entry surveys be undertaken during the bat emergence/re-entry survey season to determine the presence/absence of roosting bats within the structure. The bat emergence/re-entry survey season extends from May to September. At least two of the surveys should be undertaken during the peak season for emergence/re-entry surveys between May and August and one of the three surveys should be a dawn re-entry survey. If a roost is discovered during these surveys, a Natural England licence application may be required.

R2 **Scheme Design:** The proposed development should be designed to minimise effects on bats in accordance with the ecological mitigation hierarchy as set out in the National Planning Policy Framework (NPPF), and the National Planning Practice Guidance (NPPG). The ecological mitigation hierarchy requires all development schemes to apply the following principles:

- *Avoidance and Mitigation* – the proposed development should seek to avoid/minimise losses of features with bat potential, in the first instance and incorporate these features in the landscaping layout of the scheme accordingly. Similarly, protection measures for retained features and surrounding habitats should be considered to prevent incidental damage or disturbance during the construction phases. These measures will help to reduce the likelihood of impacting bats and minimise losses of suitable bat roosts and habitat. Where significant harm cannot be wholly or partially avoided, adverse impacts should be minimised by design or through the use of effective mitigation measures such as minimising light spill.
- *Compensation* – where unavoidable losses occur and mitigation cannot be provided, compensation for significant residual harm will be required as a last resort or planning permission could be refused. Where there is a significant effect on a bat roost, a compensation strategy sufficient to obtain a development licence from Natural England may also be required.

7. Drawings

Drawing C161305-02-01 – Preliminary Bat Roost Assessment

510300
510325
190550
190525
190500
0
5
10 m

Legend

- Site boundary
- Potential bat roosting feature
- Building with high bat roosting potential

N

Project	Northwood Hills Library, Potter Street, Northwood
Drawing	Preliminary Bat Roost Assessment
Client	Philip Pank Partnership LLP
Drawing Number	C161305-02-01
Revision	00
Scale @ A3	1:200
Date	August 2023
Approved By	JS
Drawn By	AW

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Appendix 1

Relevant Legislation

Bats and the places they use for shelter or protection (i.e. roosts) receive legal protection under the Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017) and the Conservation of Habitats and Species Regulations (Amendment) (EU Exit) Regulations 2019 (Habitats Regulations 2019). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Changes have been made to parts of the Habitats Regulations 2017 so that they operate effectively from 1st January 2021. The changes are made by the Habitats Regulations 2019, which transfer 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 species do not change. A competent authority is a public body, statutory undertaker, minister or department of government, or anyone holding public office.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, *or obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CRoW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The reader should refer to the original legislation for the definitive interpretation.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*. Species of Principal Importance for Nature Conservation in England are material considerations in the planning process. The list of species is derived from Section 41 list of the Natural Environmental and Rural Communities (NERC) Act 2006.

Appendix 2

Examples of Potential Roost Features

External Features
• access through window panes, doors and walls; • behind peeling paintwork or lifted rendering; • behind hanging tiles; • weatherboarding; • eaves; • soffit boxes; • fascias; • lead flashing; • gaps under felt (even including those of flat roofs); • under tiles/slates; • existing bat and bird boxes; and • any gaps in brickwork or stonework permitting access into access to cavity- or rubble-filled walls.
Internal Features
• behind wooden panelling; • in lintels above doors and windows; • behind window shutters and curtains; • behind pictures, posters, furniture, peeling paintwork; • peeling wallpaper, lifted plaster and boarded-up windows; • inside cupboards and in chimneys accessible from fireplaces. • within attic voids: • the top of gable end or dividing walls; • the top of chimney breasts; • ridge and hip beams and other roof beams; • mortise and tenon joints; • all beams (free-hanging bats); • the junction of roof timbers, especially where ridge and hip beams meet; • behind purlins; • between tiles and the roof lining; and • under flat felt roofs.

Potential Roost Features (Adapted from Collins, 2016[2])