

Silver Birches, Richmond

Bat Presence/Likely Absence Surveys

Report for London Borough of Richmond upon Thames

Author	James Guilder BSc (Hons), MSc / Huw Bramhall BSc (Hons), MSc		
Job No	130774		
	Date	Checked by	Approved by
Initial	25/06/2014	Daniel Simmons BSc, MCIEEM	Dr Sarah Yarwood-Lovett CEnv, MCIEEM
Revision			
Revision			

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Executive Summary

The Ecology Consultancy carried out a Preliminary Bat Roost Assessment of buildings at Silver Birches, 2-6 Marchmont Road, London Borough of Richmond upon Thames in 2013. The purpose of the survey was to assess the potential of the buildings to support legally protected roosting bats. Building 1 was assessed as having **moderate** potential to support roosting bats and a Bat Presence / Likely Absence Survey, comprising two dusk emergence surveys, was recommended. Two outbuildings (2 and 3) were assessed as having negligible potential. The Ecology Consultancy was subsequently commissioned by the London Borough of Richmond to undertake two dusk emergence surveys of Building 1, in 2014. The findings of these surveys and appropriate recommendations are presented in this report, the main findings of which are:

- Bat Presence / Likely Absence Surveys, comprising two dusk emergence surveys, were carried out on Building 1 on 8th May and 12th June, 2014.
- No bats were recorded emerging from the building during either survey.
- Two species of bat, common and soprano pipistrelle were recorded to be using the site. Common pipistrelle foraging and commuting activity and soprano pipistrelle commuting activity was recorded throughout the site.
- On the basis of these findings bat roosts are assessed as likely to be absent from the site, therefore, no further surveys are required.
- Recommended mitigation, comprising precautionary working approach and protection of existing trees, are provided in Section 4.
- Recommendations regarding site enhancements, including a lighting strategy, artificial roosting opportunities and planting to be incorporated within the proposed development, are also provided.

1 Introduction

BACKGROUND

- 1.1 The Ecology Consultancy was commissioned in June 2014 to carry out a Preliminary Bat Roost Assessment of three buildings on the Silver Birches site. The findings of this survey identified that one of the buildings (Building 1) on site had moderate potential to support roosting bats and recommended that a presence or likely absence survey comprising two dusk emergence and/or pre-dawn re-entry surveys, be carried out at the site. The Ecology Consultancy was subsequently commissioned in June 2014 to carry out two dusk emergence surveys to determine the presence or likely absence of bats from within this building prior to its proposed demolition.
- 1.2 The surveys and subsequent reporting were undertaken to support and inform a planning application for the demolition of the existing buildings, and the development of nine residential units.

SCOPE OF THE REPORT

- 1.3 This report details the methodology, results and conclusions of the Bat Presence/Likely Absence Surveys, carried out by The Ecology Consultancy on 8th May and 12th June, 2014. The Bat Presence/Likely Absence Survey comprised two Dusk Emergence Surveys of the main building on site to be affected by the proposed development.
- 1.4 The bat activity recorded during the surveys is shown on the plans provided in Appendix 1 and survey data are provided in Appendix 2.
- 1.5 The legal protection and planning policy afforded to bats is outlined in Appendix 3. Any potentially significant ecological constraints that may affect the proposals are discussed. Recommended precautionary measures that should be followed prior to, and during, construction works are described.

SITE CONTEXT AND STATUS

- 1.6 The site comprises one large building, in use as a care home at the time of survey, two small outbuildings and private gardens. It is approximately 0.29 hectares (ha) in size, and is centred on National Grid Reference TQ 185 746.

- 1.7 The site is located at the western end of Marchmont Road, London Borough of Richmond upon Thames. The A305 is situated approximately 580 metres (m) to the west, and the A316 approximately 820m to the north of the proposed development site. A public footpath is situated immediately adjacent to the western site border. The site is bounded on all sides by residential properties and associated private gardens. Richmond Park is located approximately 500m to the east, and the River Thames is located 730m to the south west of the development site.

DEVELOPMENT PROPOSALS

- 1.8 The proposals for this site involve the demolition of the existing building, the shed, and the summerhouse and the construction of nine two- and three-storey residential units. It is understood that two birch trees situated in the existing front garden would be felled and vegetation on-site will be cleared. The zone of influence that surrounds the building as detailed in the proposals is presented in Appendix 1, Figure 1.

2 Methodology

BAT DUSK EMERGENCE SURVEY

- 2.1 Building 1 was identified as having features with **moderate** potential to support roosting bats, and was subjected to two dusk emergence Surveys on 8th May and 12th June, 2014.
- 2.2 The objectives of the surveys were to:
 - Determine if any bats are roosting in the buildings;
 - Identify the bat species using the site; and,
 - Ascertain the nature of activity for different species, for example foraging, commuting and roosting.
- 2.3 A total of five surveyors were required to cover all potential bat access/egress points and features with potential to support roosting bats identified during the Preliminary Bat Roost Assessment. Five surveyors were present during the first dusk emergence survey. It was realised that four surveyors were sufficient to cover those features with moderate potential to support roosting bats, and four surveyors were present for the second dusk emergence survey.
- 2.4 The surveys were carried out by one licensed bat ecologist (Bat Survey Class Licence CL18 - Registration number CLS02362) supported by a team of experienced bat ecologists.
- 2.5 Each surveyor used a BatBox Duet bat detector to pick up any echolocation calls. All bat activity was recorded using Roland Edirol 24bit 96KHz Wave/MP3 recorders attached to each bat detector. Recordings were later analysed using BatSound to aid the identification of species according to Russ (2012).
- 2.6 The survey methodology followed the Bat Conservation Trust *Bat Survey - Good Practice Guidelines 2nd Edition* (Hundt, 2012).

CONSTRAINTS

- 2.7 It should be noted that, whilst every effort has been made to provide a comprehensive description of the buildings, no investigation can ensure the complete characterisation and prediction of the natural environment.

3 Survey results

DUSK EMERGENCE SURVEY 8TH MAY 2014

- 3.1 A dusk emergence survey, carried out on 8th May 2014, was conducted in suitable temperature and weather conditions over an appropriate survey duration (see Appendix 2, Table 1), in accordance with survey guidance (Hundt, 2012). The survey findings are mapped in Appendix 1, recorded in detail in Appendix 2 and summarised below.
- 3.2 No bats were recorded emerging from the building during the survey.
- 3.3 Two bat species, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *P. pygmaeus*, were recorded to be using the site during the survey. The first bat on site was a common pipistrelle, recorded near the northern boundary of the site at 21:00, 25 minutes after sunset. This falls within the anticipated emergence time for this species (Russ, 2012). These early records suggest that these bat species are roosting near to, but not within, Building 1.
- 3.4 A further six common pipistrelle passes were recorded in this area of the site during the survey period. Five common pipistrelle passes, and one pipistrelle species pass, were recorded along the southern and western site boundaries during the survey.
- 3.5 Security lighting of different strengths was present on the exterior of Building 1 after dark. This created high light levels to the east of the building and moderate light levels to the North and east. Street lighting also illuminated areas in the north and east of the site. Trees, lawns and sections of building 1 were partially illuminated. Owing to reduced artificial lighting in the south, this area of the site remained darker throughout the surveys.

DUSK EMERGENCE SURVEY 12TH JUNE 2014

- 3.6 A second dusk emergence survey, carried out on 12th June 2014, was conducted in suitable temperature and weather conditions over an appropriate survey duration (see Appendix 2, Table 2), in accordance with survey guidance (Hundt, 2012). The survey findings are mapped in Appendix 1, recorded in detail in Appendix 2, and described below.
- 3.7 No bats were recorded emerging from the building during the survey.

- 3.8 Two bat species, common pipistrelle and soprano pipistrelle, were recorded on the site during the survey. The first bat activity of the survey was an unseen common pipistrelle pass recorded by surveyors in the east, south and west of the site at 21:51, 33 minutes after sunset. This pass was unseen and it is assumed that the bat flew along the tree line on the southern boundary of the site. This falls within the anticipated emergence time for this species (Russ, 2012), suggesting that these bat species are roosting near to, but not within, Building 1.
- 3.9 High levels of common pipistrelle foraging activity were recorded to the east of Building 1 with occasional passes along the southern boundary of the site. In the north of the site, a pipistrelle species bat was observed flying north east from the direction of Building 1 at 22:03, 45 minutes after sunset. This bat is believed to have flown over the building. One pass by an unseen pipistrelle species bat and six passes by common pipistrelle were also recorded near the northern site boundary.
- 3.10 A soprano pipistrelle was observed flying from west to east over the southern sections of Building 1 and exited the site to the east at 22:13, 55 minutes after sunset. Unseen soprano pipistrelle passes were also recorded in the north, east and south of the site.
- 3.11 Levels of security lighting remained consistent with those recorded during the initial dusk survey.

4 Conclusions and Recommendations

CONCLUSIONS

Bat Presence / Likely Absence Surveys

- 4.1 No bats were recorded emerging from Building 1 during either of the surveys. It is therefore assessed that roosting bats are likely absent from Building 1, within the site.
- 4.2 Both common and soprano pipistrelle bats were recorded on site. The first recordings of common pipistrelle in each survey was towards the end of the anticipated emergence period for that species (Russ, 2012), indicating that these bats are roosting close to, but not within, the site. Soprano pipistrelle bats were only recorded outside the anticipated emergence time for this species.
- 4.3 A moderate level of common pipistrelle foraging activity was recorded on, and in the vicinity of, the site during the survey on 8th May 2014. High levels of common pipistrelle foraging activity was recorded on and in the vicinity of the site during the survey on 12th June 2014. Low levels of soprano pipistrelle commuting activity was recorded during the survey on 12th June 2014.
- 4.4 Areas of building 1 and the garden, including lawn and tress, were well-lit at night. This did not appear to deter the pipistrelle species of bats from using the site. However, some bat species can be deterred by bright lights. In order to enhance the value of the site to bats, it is recommended that the lighting strategies for the site are carefully considered and reduced so that bats are not deterred from using these habitats (see Recommendations, below).
- 4.5 While no constraints regarding roosting bats apply to the proposed demolition works, a precautionary approach, which must be adhered to, is detailed below.

RECOMMENDATIONS

- 4.6 No further surveys are recommended regarding bats on the Silver Birches site.

Mitigation

Precautionary Approach

- 4.7 No roosting bats were confirmed at the site, therefore, the works may proceed with no further constraint with regard to roosting bats. However, in the unlikely event that a bat, or

evidence of bats, is discovered during the demolition process then all works must cease immediately, and advice must be sought from an ecologist immediately, to ensure that works progress lawfully.

- 4.8 In the event that works are delayed beyond 24 months after the second survey (12th June 2014), it is necessary that an update survey be carried out to ensure that the conditions on site remain consistent with the findings of this report.

Protection of Vegetation

- 4.9 Foraging and commuting behaviour was recorded along the tree lines on the northern and southern site boundaries. The majority of trees on the site are not scheduled for removal as part of the proposed development. However, steps, such as the establishment of root protection zones, should be taken to ensure the protection of the trees on the northern and southern boundary in order to maintain the value of the site for bats, in line with the National Planning Policy Framework's commitment to sustainable development (Department for Communities and Local Government, 2012).

Enhancements

Lighting

- 4.10 Areas of the site were well-lit at night but the site also included some dark areas, including along the southern site boundary. Any proposed artificial lighting strategy for the new development has the potential to deter bats from commuting and foraging in the vicinity of the site. If there is scope to adopt a lighting strategy for the site, this may encourage increased foraging and commuting by bats in this area, and should be accommodated. Recommended measures to mitigate lighting impact are provided below.
- 4.11 The following mitigation strategies have been taken from Bat Conservation Trust Landscape and Urban Design for Bats and Biodiversity (Gunnell *et al.*, 2012) and other referenced sources:
- Minimise light spill by eliminating any bare bulbs and upward pointing light fixtures. The spread of light should be kept near to or below the horizontal plane, by using as steep a downward angle as possible and/or shield hood. Flat, cut-off lanterns are best;
 - Use light sources that emit minimal ultra-violet light (Langevelde *et al.*, 2001) and avoid the white and blue wavelengths of the light spectrum, so as to avoid attracting insects

and thus potentially reducing numbers in adjacent areas, which bats may use for foraging;

- Limiting the height of lighting columns to eight metres and increase the spacing of lighting columns (Fure, 2006) can reduce the spill of light into unwanted areas such as the aforementioned habitats;
- For pedestrian lighting, low level lighting that is directional and below three lux at ground level, but preferably below one lux should be used;
- Use embedded road lights to illuminate the roadway and light only high-risk stretches of roads (crossings and junctions);
- Avoid using reflective surfaces under lights or light reflecting off windows (e.g. onto bat flight lines);
- Only the minimum amount of light needed for safety and access should be used and or turned off when the site is not in use;
- Artificial lighting proposals should not directly illuminate tree lines, which may be of value to foraging or commuting bats and birds (e.g. the trees along the northern and southern boundaries of the site);
- Artificial lighting should not directly illuminate any bat roosting features that are installed within the proposed development;
- Lux levels should be below five lux and the lights should be controlled via a passive infrared (PIR) sensor, only operating when activated by motion within proximity of the light;
- Lighting that is required for security reasons should use a lamp of no greater than 2000 lumens (150 Watts) and be PIR sensor activated, to ensure that the lights are not on only when required (Jones, 2000; BCT, 2009);
- Uplighters should be avoided, particularly at the base of trees and within the aforementioned habitats; and
- If possible 'dark zones' could be created by limiting or removing lighting within a 5 - 10m buffer between lit areas and the dark, vegetated areas of habitat to the west of the site boundary.

Provision of artificial roosting opportunities

4.12 As bats are known to be active on the site, the provision of artificial bat roosting opportunities will be a valuable and effective enhancement of the site. These roosting opportunities may include bat boxes located on trees and buildings within the site, and artificial features included within the construction of the new buildings. The addition of roosting features can provide a cost effective biodiversity enhancement and can contribute to ecology credits earned under the 'Code for Sustainable Homes' accreditation scheme (Communities and Local Government, 2006). Input should be sought from a suitably qualified ecologist when designing any ecological enhancement scheme.

Planting and Landscaping

4.13 The following mitigation strategies have been adapted from Bat Conservation Trust Landscape and Urban Design for Bats and Biodiversity (Gunnell *et al.*, 2012) and other referenced sources.

4.14 It is recommended that the site boundary trees be retained. Any new landscaping and tree planting as part of the proposed development should seek to enhance the commuting and foraging value of the site for bats. This may include the strengthening of existing commuting routes, especially around the boundaries of the site, by planting native trees and shrubs or planting additional hedges through the site.

4.15 It is acknowledged that using native species and species of value to biodiversity in planting schemes attract insects and provide a potential food source for bats (BCT, Undated). The landscaping proposals should seek to enhance the value of the site for foraging and commuting bats by including such species.

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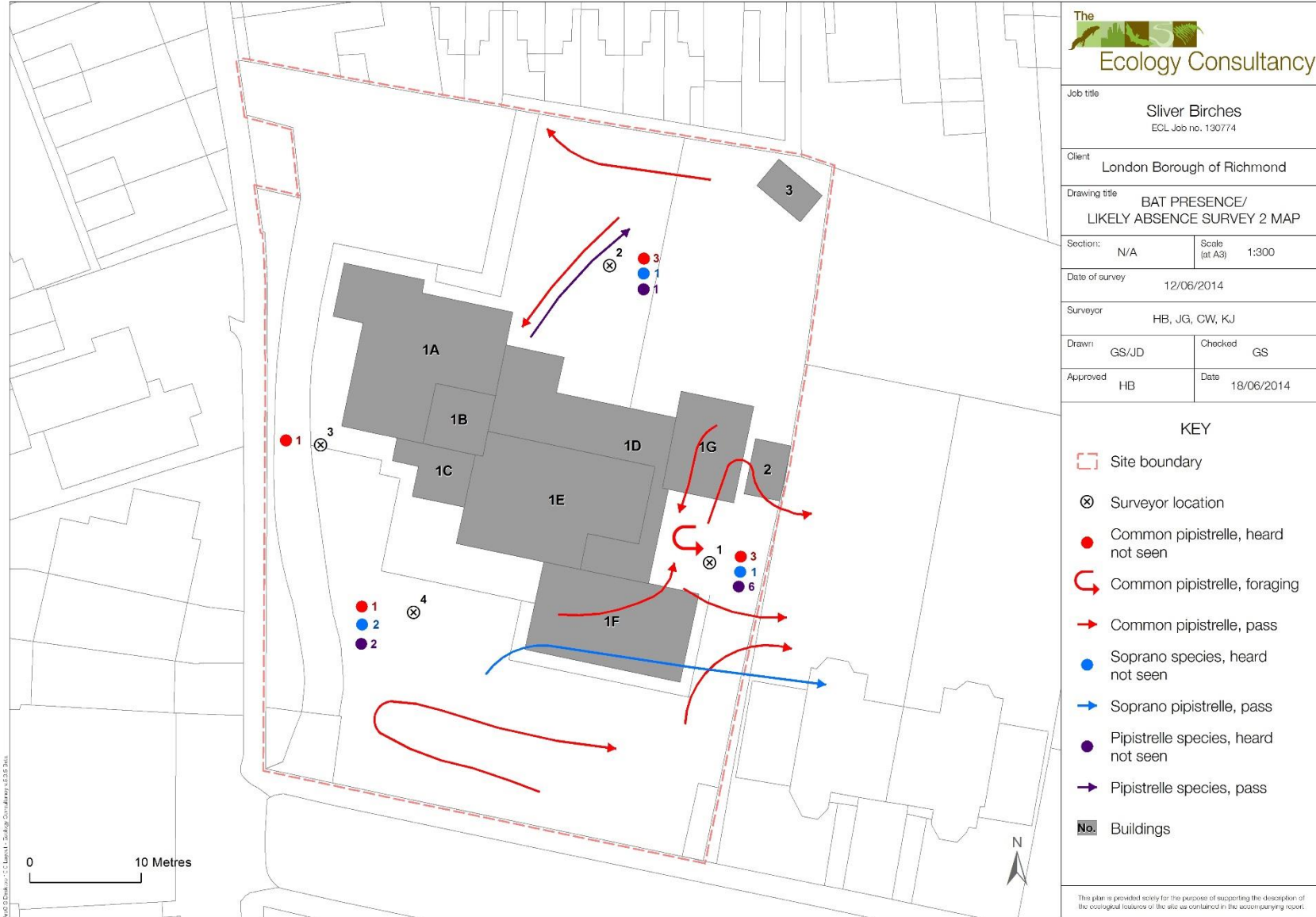
Appendix 1: Bat Dusk Emergence Survey Plan

Plan 1: Dusk Emergence Survey 8th May 2014



Job title Sliver Birches ECL Job no. 130774	
Client London Borough of Richmond	
Drawing title BAT PRESENCE/ LIKELY ABSENCE SURVEY MAP	
Section: N/A	Scale (at A3) 1:300
Date of survey 08/05/2014	
Surveyor HB, JG, CW, KJ, DS	
Drawn GS/JD	Checked GS
Approved HB	Date 18/06/2014
KEY	
Site boundary	
Surveyor location	
Common pipistrelle, heard not seen	
Common pipistrelle, circling	
Common pipistrelle, pass	
Pipistrelle species, heard not seen	
Buildings	
<small>This plan is provided solely for the purpose of supporting the description of the ecological resource of the site as contained in the accompanying report.</small>	

Plan 2: Dusk Emergence Survey 12th June 2014



Appendix 2: Bat Survey Data

Table 1: Silver Birches, Dusk Bat Emergence Survey – 08/05/2014

Sunset: 20:35

Start time: 20:20

End: 22:05

Weather conditions: 14°C, cloud cover 45%, moderate breeze.

Surveyor: JG – East of Building 1 (Position 1)			
Time (hrs)	Minutes after sunset	Species	Comments
21:54	79	Common pipistrelle	Two unseen passes
21:58	83	Common pipistrelle	Unseen pass

Surveyor: DS – North of Building 1 (Position 2)			
Time (hrs)	Minutes after sunset	Species	Comments
21:00	25	Common pipistrelle	Unseen pass
21:09	34	Pipistrelle species	Unseen pass
21:13	38	Common pipistrelle	Enters site, travelling from north to south, forages briefly before exiting the site to the north.
21:16	41	Common pipistrelle	Unseen pass
21:28	53	Common pipistrelle	Unseen pass
21:54	79	Common pipistrelle	Unseen pass
21:58	83	Common pipistrelle	Unseen pass

Surveyor: CW – West of Building 1 (Position 3)			
Time (hrs)	Minutes after sunset	Species	Comments
21:45	70	Common pipistrelle	Traveling from north to south along west edge of site
21:54	79	Common pipistrelle	Unseen pass

Surveyor: KJ – South West of Building (Position 4)			
Time (hrs)	Minutes after sunset	Species	Comments
21:41	66	Common pipistrelle	Unseen pass
21:54	79	Common pipistrelle	Two unseen pass
21:56	81	Common pipistrelle	Unseen pass
21:58	83	Common pipistrelle	Unseen pass

Surveyor: HB – South of Building 1 (Position 5)			
Time (hrs)	Minutes after sunset	Species	Comments
21:37	62	Pipistrelle species	Unseen pass
21:41	66	Common pipistrelle	Unseen pass
21:54	79	Common pipistrelle	Travelling from east to west, south of Building 1
21:56	81	Common pipistrelle	Unseen pass
21:58	83	Common pipistrelle	Unseen pass

Table 2: Silver Birches, Dusk Bat Emergence Survey – 12/06/2014

Sunset: 21:18

Start time: 21:03

End: 22:48

Weather conditions: 22-19°C, cloud cover 5-40%, Light air.

Surveyor: JG – East of Building 1 (Position 1)			
Time (hrs)	Minutes after sunset	Species	Comments
21:51	33	Common pipistrelle	Unseen pass
21:53	35	Common pipistrelle	Unseen pass
21:54	36	Common pipistrelle	Unseen pass
21:55	37	Common pipistrelle	Unseen pass
21:56	38	Common pipistrelle	Unseen pass
21:57	39	Common pipistrelle	Unseen pass
21:58	40	Common pipistrelle	Unseen pass
21:58	40	Common pipistrelle	Arcing from south to east in the south eastern corner of the site
22:04	46	Common pipistrelle	Unseen circling
22:06	48	Common pipistrelle	Circled on east side of building before travelling east
22:10	52	Soprano pipistrelle	Unseen pass
22:13	55	Soprano pipistrelle	Flew east over south side of building
22:16	58	Common pipistrelle	Circling on east side of building
22:20	64	Common pipistrelle	Circled on east side of building before travelling east
22:21	65	Common pipistrelle	Circled over the east side of the building, travelling from west to east
22:22	66	Common pipistrelle	Travelled from north to south, circled on the east side of the building, travelled from west to east

Surveyor: HB – North of Building 1 (Position 2)			
Time (hrs)	Minutes after sunset	Species	Comments
22:03	45	Pipistrelle species	Travelling north east from building over surveyor position
22:06	48	Pipistrelle species	Unseen pass
22:19	61	Common pipistrelle	Unseen pass
22:20	62	Common pipistrelle	Travelling from east to west along north site border
22:21-23	63-65	Common pipistrelle	Continuous unseen activity
22:27	69	Common pipistrelle	Unseen pass
22:30	72	Soprano pipistrelle	Unseen pass
22:35	77	Common pipistrelle	Travelling from north east to south west

Surveyor: CW – West of Building 1 (Position 3)			
Time (hrs)	Minutes after sunset	Species	Comments
21:51	33	Common pipistrelle	Unseen pass

Surveyor: KJ – South West of Building 1 (Position 4)			
Time (hrs)	Minutes after sunset	Species	Comments
21:51	33	Common pipistrelle	Unseen pass
22:06	48	Common pipistrelle	Travels from east to west, arcs in a northerly direction, and then travels from west to east. Along southerly site border.
22:10	52	Soprano pipistrelle	Unseen pass
22:12	54	Soprano pipistrelle	Unseen pass
22:13	55	Soprano pipistrelle	Travels from west to east over the south of the building.
22:19	61	Common pipistrelle	Unseen pass
22:22	64	Common pipistrelle	Unseen pass

Appendix 3: Legislation and Planning Policy

BATS

All species of bat are fully protected under The Conservation of Habitats and Species Regulations 2010 (as amended) through their inclusion on Schedule 2. Regulation 41 prohibits:

- Deliberate killing, injuring or taking (capture) of Schedule 2 species (e.g. bats);
- Deliberate disturbance of bat species as:
 - a) to impair their ability:
 - (i) to survive, breed, or reproduce, or to rear or nurture young;
 - (ii) to hibernate or migrate;
 - b) to affect significantly the local distribution or abundance of the species;
- Damage or destruction of a breeding site or resting place; and
- Keeping, transporting, selling, exchanging or offering for sale whether live or dead or of any part thereof.

Bats are also currently protected under the Wildlife and Countryside Act 1981 (as amended) through their inclusion on Schedule 5. Under this Act, they are additionally protected from:

- Intentional or reckless disturbance whilst occupying a place of shelter or protection;
- Intentional or reckless obstruction of access to any place of shelter or protection; and
- Selling, offering or exposing for sale, possession or transporting for purpose of sale.

A European Protected Species Mitigation (EPSM) licence issued by the relevant countryside agency (e.g. Natural England) will be required for works liable to affect a bat roost or for operations likely to result in a level of disturbance, which might impair their ability to undertake those activities mentioned above (e.g. survive, breed, rear young and hibernate). The licence is to allow derogation from the relevant legislation, but also to enable appropriate mitigation measures to be put in place and their efficacy to be monitored.

For development activities, a Natural England EPSM Licence application can only be drawn up after planning permission has been granted. However, the granting of planning permission does not guarantee that a licence will be issued by Natural England.

Though there is no case law to date, the legislation may also be interpreted such that, in certain circumstances, important foraging areas and/or commuting routes can be regarded as being afforded *de facto* protection, for example, where it can be proven that the continued usage of such areas is crucial to maintaining the integrity and long-term viability of a bat roost.

PLANNING POLICY

In addition, bats are protected and their conservation promoted through the National Planning Policy Framework (NPPF), The London Plan, Spatial Development Strategy for Greater London, London Borough of Barnet Core Strategy (2012) for example; Policy CS 7 states '*We will create a greener Barnet by: ensuring that development protects existing site ecology and makes the fullest contributions to enhancing biodiversity, both through on-site measures and by contribution to local biodiversity improvements.*'

SPECIES OF PRINCIPAL IMPORTANCE FOR THE PURPOSE OF CONSERVING BIODIVERSITY AND BIODIVERSITY ACTION PLANS

The NERC Act 2006 states that 'every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity', otherwise known as the Biodiversity Duty. Under Section 41 of the Act, the Secretary of State must publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are 'Species of Principal Importance for the Purpose of Conserving Biodiversity'. This list is based on priority species recognised by the UK Biodiversity Framework, and in addition to Annex II species listed under The Conservation of Habitats and Species Regulations 2010, as amended. The Section 41 Species of Principal Importance for the Purpose of Conserving Biodiversity list replaces the list published under Section 74 of the Countryside and Rights of Way (CROW) Act 2000 as those species of material consideration to the planning process. With regard to bats, these are barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule bat *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus* and greater and lesser horseshoe bats *Rhinolophus ferrumequinum* and *R. hipposideros*.

All bat species are identified as a key species group within the Greater London Biodiversity Action Plan (BAP).



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London - Beckett House, 72 Borough High Street, London SE1 1XF T. 020 7378 1914 W. www.ecologyconsultancy.co.uk

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■ **Norfolk** - Thorpe House, 79 Thorpe Road, Norwich, NR1 1UA T. 01603 628408

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