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## Ecological Assessment Report

**Friars Garth, The Parade  
Epsom, Surrey KT18 5DH**

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## ***Report Summary***

1. The Ecology Co-op has been commissioned by Nye Saunders Architects to undertake a Preliminary Ecological Appraisal and bat scoping survey as well as three subsequent emergence surveys at Friars Garth, following the discovery of bat roosts during the second emergence survey. A site walkover was carried out on the 9<sup>th</sup> October 2019 to evaluate the site for notable habitats and their potential to support EU and UK protected and notable species. The purpose of this report is to record the findings of the survey and identify potential ecological constraints to a proposed redevelopment of the entire site, involving the demolition of the current residential dwelling and a wooden shed, prior to the construction of a mixed usage development, plans for which have not been provided.
2. This survey was undertaken by Natural England Class 2 bat licence holder and Senior Ecologist Xenia Snowman BSc (Hons).
3. The site comprises a single residential dwelling situated within an urban context. The garden is of moderate size, with the majority comprising of amenity grassland, introduced shrubs and immature trees at the boundary. One pond exists approximately 250m south of the site which may be of interest to foraging bats.
4. The building was assessed to have ‘moderate’ potential to support bat roosts due to the presence of a number of suitable potential bat access and roosting features within the building, and as such, two bat emergence/re-entry surveys were undertaken on the 14<sup>th</sup> May and the 11<sup>th</sup> June 2020 to determine whether bat roosts are present which will be impacted by the proposals. During the two emergence surveys, two bats emerged from the property, confirming presence of a solitary common pipistrelle *Pipistrellus pipistrellus* roost and a solitary soprano pipistrelle *Pipistrellus pygmaeus* roost. In accordance with the bat survey good practice guidelines, a third survey was required based on the confirmation of the bat roosts, during which, the common pipistrelle bat roost was re-confirmed at the rear of the property. During the surveys, common pipistrelles were also recorded foraging at the site, as well as a noctule *Nyctalus noctula*, but overall bat activity levels were low during all three surveys.
5. As the proposed development involves the complete demolition of the existing residential building, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. Therefore, a European Protected Species (EPS) licence will be required for the development to legally proceed. Based on the results of the survey, this development will be eligible for adding to the ‘low impact class licence’ issued by Natural England and held by certain qualified bat ecologists.



**6. In addition, there is potential for foraging and commuting bats, breeding birds, and hedgehogs to be impacted by the development.**

**7. Although it is considered unlikely that reptiles will be present within the site due to the low potential habitat and presence of roads surrounding the property, as a precautionary measure, all areas of stone/rubble, wood piles and tree stumps should be removed during the summer months, following a hand search and under the supervision of a suitably qualified ecologist to ensure no reptiles, amphibians or hedgehogs are killed or injured by these works. In order to prevent the grass from developing a thatched sward and becoming suitable for reptiles, these areas should be managed regularly to maintain a short grass sward prior to and during any development works.**

**8. Any vegetation removal and/or building demolition should be timed outside of the nesting bird season (typically 1<sup>st</sup> March to 31<sup>st</sup> August), unless features are first searched by a suitably qualified ecologist and any nests are protected until they have fledged. Any fencing installed should include gaps to allow hedgehogs to travel across the site to the neighbouring properties on all aspects. Compensatory bird boxes and wall climbing plants should be incorporated into the development plans to replace lost nesting opportunities for birds.**

**9. Enhancements including green roofs, living walls and invertebrate boxes are recommended to increase the biodiversity at the site, to provide benefits to invertebrates and foraging bats and birds.**

This report has been prepared by The Ecology Co-operation Ltd, with all reasonable skill, care and diligence within the terms of the Contract with the client. This report only becomes the property of the client once payment for it has been received in full.

We disclaim responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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# 1 INTRODUCTION

## 1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake an Ecological Appraisal and Bat Scoping Assessment of Friars Garth, as well as two emergence surveys at The Parade, Epsom Surrey by Nye Saunders Architects. This report presents the findings of a walkover survey undertaken by Natural England Class 2 bat licence holder and Senior Ecologist Xenia Snowman BSc (Hons.) on the 9<sup>th</sup> October 2019. It provides details on the potential for any protected species and habitats to be present at the site and an assessment of the potential ecological constraints and opportunities. The proposals include the demolition of the existing dwelling, shed and habitats on site and replacement with a mixed usage development, plans for which have not been provided. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment (EclA) of the proposal are provided where necessary, and measures to avoid, mitigate and/or compensate for adverse impacts and effects are outlined.

## 1.2 Background

The site is located at Friars Garth, The Parade, Epsom, Surrey KT18 5DH. The central grid reference for the site is TQ 20964 60686. The site is small, comprising a single residential building surrounded by a garden, measuring approximately 0.01 Hectares in area. It includes shrubs and trees, tree stumps, and a shed. Figure 1 shows the boundary of the site, Figure 2 highlights the buildings elevations.

The proposed development includes the demolition of the existing building and shed and removal of the existing habitat, to facilitate for the construction of a mixed usage development, plans for which have not been provided.



**Figure 1.** An aerial image showing the location of the site. The approximate site boundary is outlined in red. Produced courtesy of Google maps (map data ©2019 Google)



Figure 2. Elevation plans of the existing building. Image courtesy of enka surveys



### 1.3 Policy and Legislation

Legal protection applying to relevant bird, mammal, herpetofauna and invertebrate species and current nature conservation planning policy is outlined in Appendix 1.

Where possible, this report has provided guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (NPPF). Details of the NPPF can be found in Appendix 1 and relevant local planning policy by Epsom and Ewell Borough Council is provided in Appendix 3.

## 2 METHODOLOGY

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal (CIEEM 2017)<sup>1</sup>, but also considers the Guidelines for Ecological Report Writing, Second Edition (CIEEM 2017)<sup>2</sup> and the Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM 2018)<sup>3</sup>. In addition, the methodology used for this survey are in accordance with the bat survey guidelines produced by the Bat Conservation Trust<sup>4</sup>.

### 2.1 Desk Study

Considering the urban context of this development, the small-scale nature of the development proposal and the absence of any notable habitats or potential to support protected or notable species, biodiversity records were not considered a necessary consideration in this instance.

A search of on-line mapping resources was undertaken to identify the location of any features of potential ecological interest, including ponds within 500m (relevant to great crested newts *Tritus cristatus*), watercourses (relevant to riparian mammals and crayfish) and connectivity to woodland, scrub and hedgerow networks (relevant to bats, dormice *Muscardinus avellanarius*) in the wider landscape around the site. The connectivity of the site to these features, buildings, and other semi-natural habitats, such as grassland and heathland are also relevant to bats, great crested newts and reptiles.

<sup>1</sup> CIEEM (2017) *Guidelines for Preliminary Ecological Appraisal, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>2</sup> CIEEM (2017) *Guidelines for Ecological Report Writing, 2nd edition*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>3</sup> CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

<sup>4</sup> Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3rd edn). The Bat Conservation Trust, London.





The MAGIC website resource ([www.magic.gov.uk](http://www.magic.gov.uk)) was used to identify the location of designated sites for nature conservation and European Protected Species EPS licences granted in relation to the survey site.

## 2.2 Field Survey

A site walkover survey was undertaken on 9<sup>th</sup> October 2019, during which the habitats contained within the site were described and evaluated. Since this site is small in scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive Phase 1 Habitat Mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types, such as ancient woodland or unimproved grasslands, have simply been listed and described, where identified.

Habitats and features at the site were evaluated for their potential to support legally protected species and/or species of conservation interest. In addition, observations of any important plant communities, bird assemblages or other potentially valuable ecological features were recorded.

Details of the preliminary survey methods for each legally protected species are given below. Any site-specific limitations to the survey, e.g. access constraints or seasonal constraints are set out in Section 3.11.

## 2.3 Badgers

Badgers *Meles meles* exploit a range of habitats, including gardens, coniferous woodland, deciduous woodland, mixed woodland and arable land. They live in an underground system of tunnels and nesting chambers, known as a sett, with territories ranging from 30ha to 150ha or more. Habitats within the site and surrounding areas were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths, foraging marks, were recorded.

## 2.4 Bats

### 2.4.1 Bat Scoping

Bats can use a wide range of features for roosting purposes including loft spaces, cavity walls, loose tiles, mortice joints and cracks/gaps in a variety of built structures. They can also be found in trees with holes, splits, cracks, cavities, ivy, and loose bark.

A detailed building inspection was carried out, looking for any evidence indicating the presence of bats using buildings or trees, such as rub marks, staining or droppings inside or outside any potential roost sites. A high-powered torch was used to inspect the interior of the building.

A garage building, located in the south-western corner of the site is under separate ownership, lies outside of the survey boundary and will not be impacted directly by proposals. Therefore, this building was not inspected for its potential to support bats.



The potential for roosting bats for each feature, or group of features was assessed as either negligible, low, moderate, or high, in accordance with the Bat Conservation Trust Survey Guidelines (Collins, J.(ed.) (2016)<sup>5</sup>. Any evidence confirming the presence of bats that was found was clearly recorded including taking photos and samples (e.g. droppings), where appropriate. Further surveys are recommended where necessary.

The site was also assessed for its potential to support foraging and/or commuting bats and further surveys recommended where necessary.

#### 2.4.2 Bat Emergence Surveys

In accordance with survey findings and best practice guidance, three emergence surveys were undertaken at Friar's Garth, Epsom on the 14<sup>th</sup> May, 11<sup>th</sup> of June and 2<sup>nd</sup> July 2020. The surveys were carried out using methodology provided by the Bat Conservation Trust.

The surveys focused on all features identified during the initial assessment as potential roosting sites or access points for bats, with surveyors positioned according to Figure 3. From these locations, surveyors could see all features potentially suitable for roosting bats that were identified during the initial bat scoping survey. Surveyors were positioned to start surveillance at approximately thirty minutes before sunset and continued until at least one and a half hours after sunset and up to two hours depending on the level of activity.

The surveyors recorded any bat activity on or around the potential roosting entry/exit feature(s). All surveys were undertaken during weather conditions suitable for bat activity and at ambient temperatures above 10°C at sunset. The surveyors recorded bat activity using 'Echo Meter Touch' bat detectors, featuring auto-identification of bat species and automatically triggered recording for later review. Recordings were identified during the fieldwork where possible and, since all echolocations were recorded automatically, confirmed later where necessary using call frequency identification software.

<sup>5</sup> Collins, J.(ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (3<sup>rd</sup> edn). The Bat Conservation Trust, London.



**Figure 3.** Map showing locations of the two surveyors (red dots) during the three emergence surveys at Friar's Garth, Epsom and the emergence locations of a single soprano pipistrelle (red arrow) on the 11<sup>th</sup> June 2020 and a single common pipistrelle bat (green arrow) on the 11<sup>th</sup> June and 2<sup>nd</sup> July 2020.

## 2.5 Breeding Birds

Birds can use a wide range of natural and artificial habitats when breeding, including trees, hedgerows, fields, houses and garden sheds. The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern (Eaton *et al.* 2015)<sup>6</sup> and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981). Further surveys are recommended, as appropriate.

<sup>6</sup> Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, Leigh., Musgrove, A., Noble, D., Stroud, D., Gregory, R. (2015) *Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man*. British Birds 108, pp 708-746.



## 2.6 Dormice

Dormice are found in deciduous woodland and hedgerows, feeding on flowers, pollen, fruits, insects and nuts, favouring hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum* for food and bedding material. The site was broadly assessed for its potential to support dormouse. This included use of on-line mapping resources to assess the surrounding area for connectivity to large blocks of woodland, scrub and extensive hedgerow networks.

A nut search was conducted to look for evidence of dormouse presence within the site during the initial survey visit in accordance with best practice guidance<sup>7</sup>. This involved a systematic search around all hazel present within the site to look for nuts that were characteristically chewed by dormice.

Further surveys are recommended, as appropriate, in accordance with best practice guidance (Bright et al 2006)<sup>7</sup>.

## 2.7 Great Crested Newt

Great crested newts breed in ponds during the spring and spend the rest of the year feeding on invertebrates in woodland, hedgerows, marshes and tussocky grassland. A desk study was undertaken to identify ponds and wet ditches within 500m of the site which might support breeding great crested newts. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) (Oldham et al 2000)<sup>8</sup>. The value of the site for terrestrially foraging great crested newts and any features that might be used by hibernating newts has also been assessed.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)<sup>9</sup>.

## 2.8 Reptiles

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis* grass snake *Natrix helvetica* and adder *Vipera berus* are widespread species which can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* have much more restricted and isolated populations on lowland heathland and sand dunes.

<sup>7</sup> Bright, P., Morris, P. and Mitchell-Jones, T. (2006). *The dormouse conservation handbook 2nd Ed.* English Nature, Peterborough.

<sup>8</sup> Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetological Journal* 10, 143-155.

<sup>9</sup> English Nature (2001). *Great Crested Newt Mitigation Guidelines.* English Nature, Peterborough.



## 2.9 Other Notable Species

The site habitats were broadly assessed for their potential to support species of principle importance for nature conservation (Section 41 NERC Act 2006) and other notable species. This includes mammals such as harvest mouse *Micromys minutus*, hedgehog *Erinaceus europaeus*, brown hare *Lepus europaeus*, and many bird species. The site was broadly assessed for its potential to support important invertebrate assemblages, with particular attention paid to features such as standing dead-wood, wet flushes, bare earth banks and botanically rich areas.

## 2.10 Impact Appraisal

In accordance with current CIEEM guidance<sup>3</sup>, the importance of an ecological feature must be considered within a defined geographical context. The following geographical frame of reference is generally accepted:

- International and European
- National
- Regional
- Metropolitan, County, vice-county or other local authority-wide area
- Local
- Site.

Various approaches can be adopted for determining local importance, including assessment within a district, borough or parish context or within other locally defined areas.

# 3 BASELINE CONDITIONS

## 3.1 Designated Sites and Granted EPS Licences

There are two designated sites within 2km of the site boundaries. These are for Stones Road Pond Site of Special Scientific Interest (SSSI) and Epsom and Ashted Commons SSSI and National and Local Nature Reserve (NNR and LNR) described in Table 1 and mapped in Figure 4.

There are four granted EPS licenses for mitigation projects within 1km of the site boundaries, see Figure 5. These all lie approximately 0.7km north of the site boundary. Three were concerning the damage or destruction of a resting place for great crested newts, the other was concerning the destruction of a resting place for common pipistrelle bats. The licenses for the great crested newts ran between 2010 and 2016, the license for common pipistrelles was applied to the active season of 2014.

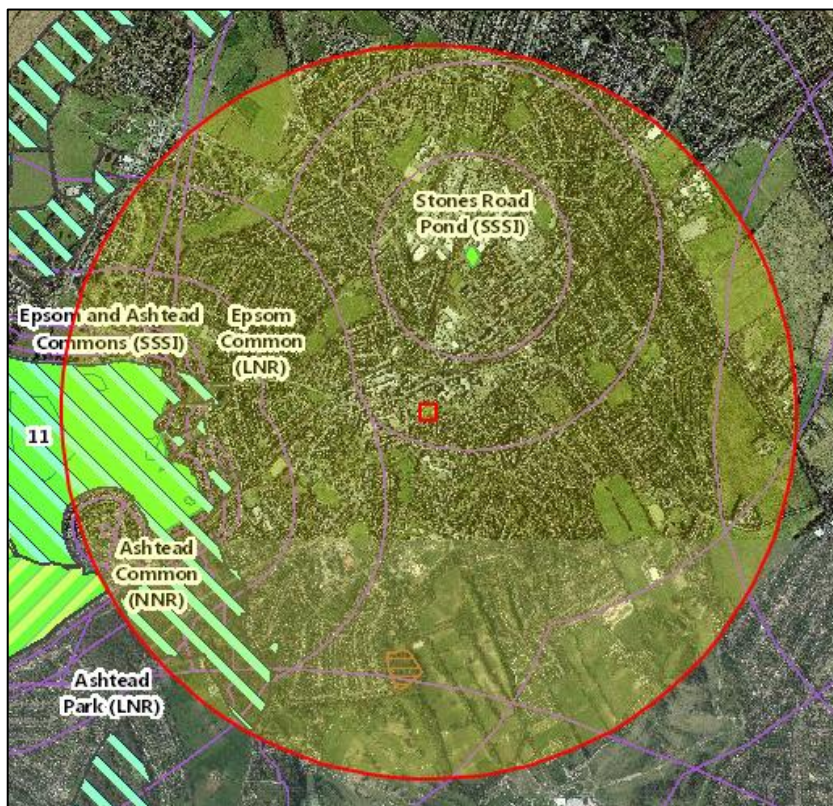




**Table 1.** Designated sites

Site name	Designation	Features listed on citation	Proximity
Stones Road Pond	SSSI	A large deep pond which is an important breeding site for great crested newt <i>Triturus cristatus</i> with one of the largest known colonies in south-east England.	Approx. 0.8km north.
Epsom and Ashtead Commons	SSSI NNR LNR	The commons support a wide variety of habitats, including multiple waterbodies, woodland, scrub and rough grassland. The site supports four nationally rare invertebrates and several others uncommon in Surrey, as well as a rich assemblage of breeding birds.	1km Southwest

Although these sites don't include bats as a main feature of the designation, it is likely that they play an important role for foraging and commuting bats and may also contain bat roosts.



**Figure 4.** Designated sites within a radius of 2km of the application site. Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).



**Figure 5.** The approximate location of two granted EPS licences within 1km of the application site (blue and green squares). Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

### 3.2 Habitats

Photographs 1- 5 show the habitats described within the site.

The northern portion of the site is comprised of paved hard-standing, forming a driveway and patio area to the front of the property. Bordering the northern portion is a row of introduced shrubs and an area of amenity grassland, contained by a wall/fence combination. To the rear (south) of the property, the paved area continues, leading around both the eastern and western sides of the dwelling into a large patio at the rear and running along the eastern boundary to a wooden shed located in the south-eastern corner of the site. The residential property and wooden shed are described in detail in section 3.4. The eastern boundary is marked by a combination of walls and fencing.

The southern portion of the site in the rear garden is mainly comprised of tightly-mown amenity grassland with two main areas consisting of an eastern and western portion, separated by a row of introduced shrubs and trees, including holly *Ilex aquifolium*, common ivy *hedera helix*, common privet *Ligustrum ovalifolium*, buddleia *Buddleja davidii* and cherry laurel *Prunus laurocerasus* among other introduced shrubs. A full species list could not be determined for the amenity grassland areas due to the short sward height, however, the following species were recorded: dandelion *Taraxacum officinale*, perennial ryegrass *Lolium perenne*, clover *Trifolium sp.* Thistle *Cirsium sp.* ribwort plantain *Plantago lanceolata* and ground ivy *Glechoma hederacea*. Areas of tall ruderal vegetation were identified under



the shrubs in areas, species recorded included: nettle *Urtica dioica*, herb Robert *Geranium robertianum*, Wood avens *Geum urbanum*, Canadian fleabane *Erigeron canadensis*, Comfrey *Symphytum officinal* and Ragwort *Jacobaea vulgaris*. Immature scattered trees are present within the area of lawn, species include yew *Taxus baccata*, cypress *Cupressus sp*, ash *Fraxinus excelsior*, maidenhair tree *Ginkgo biloba*, elder *Sambucus nigra*, Monkey puzzle *Araucaria Araucana* and silver birch *Betula pendula*. The western and southern boundaries were marked by a fence to the south and a combination of fencing and walled areas along the western boundary.

Within the south-western and south-eastern corners of the site, piles of wood, plant pots and tree stumps were identified which could potentially be utilised as a resting place or hibernacula by reptiles or amphibians. This is discussed further within sections 3.7 and 3.8.





**Photograph 1.** Showing the front (northern) aspect of the main residential dwelling, including the area of amenity grassland and introduced shrubs, paved driveway and patio areas.



**Photograph 2.** Showing the area of amenity grassland, paving and introduced shrubs within the front (northern) area of the garden.





**Photograph 3.** Showing the rear (southern) aspect of the main residential dwelling, with associated paved area.



**Photograph 4.** Showing the habitats present within the main rear garden within the eastern portion.





**Photograph 5.** Showing the habitats present within the main rear garden within the western portion.

### 3.3 *Badgers*

No signs of any badger activity were seen during the survey assessment. Although there are habitats of low value for this species within the site and surrounding landscape, it is likely that if any setts were situated within 30m of the site boundary, then some evidence of badger activity would have been observed.

Records of badgers are not provided by the records centre, due to the sensitive nature of this information.

### 3.4 *Bats*

#### 3.4.1 Bat Scoping

Photographs 6 - 14 show the relevant features described in relation to bats within the site.

Friar's Garth is situated in a heavily urbanised location within an enclosed garden with a shed, a garage, and a moderate-sized garden space at the front and rear of the property, including areas of improved grassland, shrubs, and immature trees.



The property is a two-storey residential dwelling constructed of brickwork on the lower level, with render at the upper levels and areas of hanging tiles. The roof and hung tiled areas are covered with factory-formed tiles where large numbers of gaps suitable for use by roosting bats were identified on the northern (front) and southern (rear) aspects. The wooden soffits are in a moderate condition, although three gaps were evident allowing potential by bats into the loft void. Small gaps were also noted under lifted lead flashing around the chimneys and hung tiled areas.

Internally, one large loft void is present utilised as a storage area and which measures approximately 9m x 5m at ground-level, by 3m to the apex. The void is open and uncluttered, timber-framed and lined with wooden sarking, with rockwool insulation beneath floorboards covering the majority of the loft void at floor-level. Heavy cob-webbing was noted in the majority of the void, indicating that bats are not likely to be utilising the void on a regular basis, if present. However, three gaps were present at eaves level allowing potential access by bats into the void. No evidence of roosting bats was identified within the loft void. However, the property was assessed as having moderate potential to support roosting bats, particularly within inaccessible crevice features under roof and hanging tiles.

Located in the south-eastern corner of the plot is a small wooden shed with a chrysotile roof. The shed is constructed of wood with a corrugated chrysotile roof and lacks features suitable for roosting bats both externally and internally. The shed was assessed as having negligible bat roosting potential.

A garage building, located in the south-western corner of the site is under separate ownership, lies outside of the survey boundary and will not be impacted directly by proposals. Therefore, this building was not inspected for its potential to support bats. However, it was noted that this is of recent construction with tightly-fitting roof tiles and no visible bat roosting features were identified from the areas where access had been granted.

No trees were identified within the site boundary with potential to support bat roosts. Therefore, tree roosting bats are not considered to be a constraint to development.

The shrubs and trees present provide low to moderate habitat suitability for use by foraging bats, although these are likely to be utilised by the more light-tolerant bat species.





**Photograph 6.** Showing the small wooden shed with negligible bat potential located in the south-eastern corner of the site.



**Photograph 7.** Showing the internal areas of the small wooden shed.





**Photograph 8.** Showing the garage building, located in the south-western corner of the site under separate ownership, lying outside of the survey boundary and not due to be impacted directly by proposals.

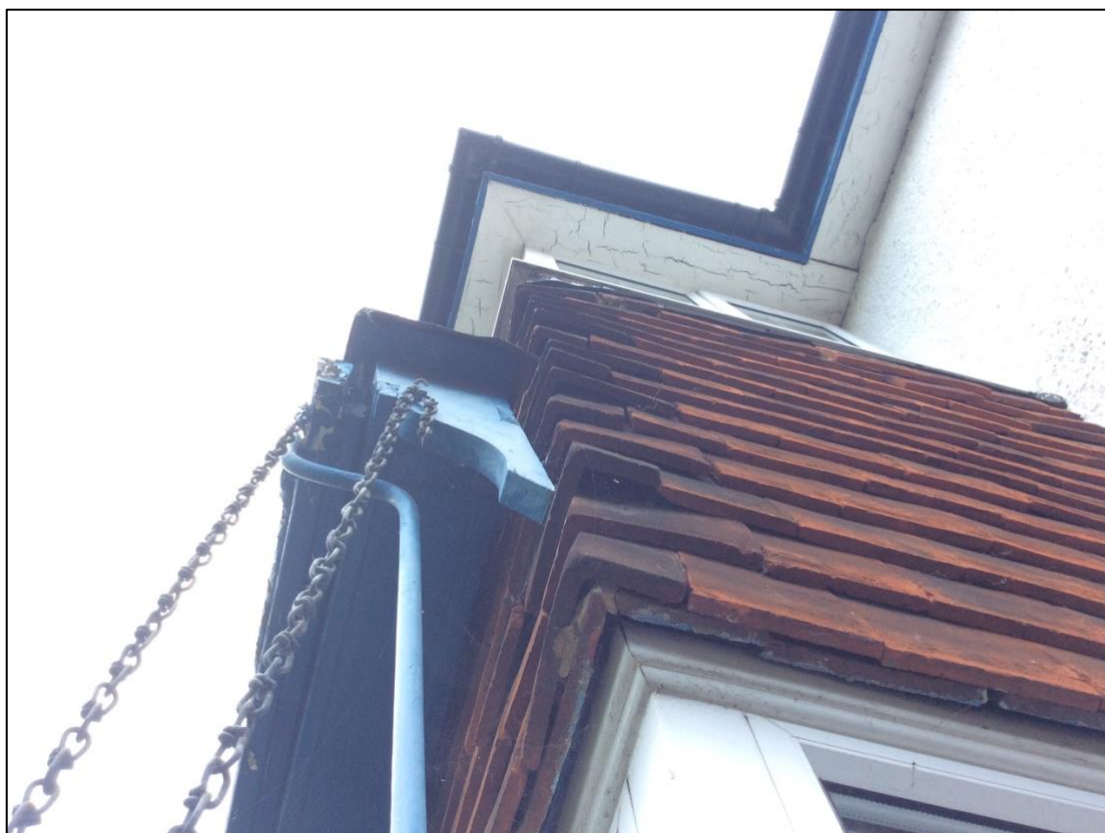


**Photograph 9.** Showing an example of gaps between slipped and raised roof tiles.





**Photograph 10.** Showing an example of gaps between slipped and raised roof tiles.



**Photograph 11.** Showing an example of gaps between hanging tiles.





**Photograph 12.** Showing an example of gaps between hanging tiles.



**Photograph 13.** Showing the uncluttered internal loft void, lined with wooden sarking with rockwool and wooden boarding at ground-level.





**Photograph 14.** An example of the gaps identified at eaves level allowing potential access by bats into the internal roof void.



### 3.4.2 Bat Emergence Surveys

Three emergence surveys were undertaken on the 14<sup>th</sup> May, 11<sup>th</sup> June and 2<sup>nd</sup> July 2020 following best practice techniques as outlined by the Bat Conservation Trust (BCT) (Collins, J 2016)<sup>10</sup>.

Corresponding weather conditions and details of each of the surveyors for each survey are detailed in Table 2 below.

**Table 2.** Emergence surveys metadata: dates, times, temperature, weather conditions.

Date	Survey start time/end time	Temp. degrees centigrade, weather conditions throughout survey	Surveyors
14 <sup>th</sup> May 2020	20:15 - 22:15 Sunset – 20:45	Max/Min temp: 10/10°C 0% cloud cover, hazy, BF0, dry.	Xenia Snowman, BSc (Hons.), Senior Ecologist holding a Natural England Class 2 Licence  Charlie Gardiner
11 <sup>th</sup> June 2020	20:47 - 22:47 Sunset – 21:17	Max/Min temp: 15/14°C 100% cloud cover, BF0, dry.	Xenia Snowman, BSc (Hons.), Senior Ecologist holding a Natural England Class 2 Licence  Federico Ghittoni
2 <sup>nd</sup> July 2020	20:50 - 22:50 Sunset – 21:20	Max/Min temp: 17/15°C 40 - 100% cloud cover, BF1, dry.	Jess Burkitt  Federico Ghittoni

#### 14<sup>th</sup> May 2020

Very low activity was recorded at the site and no emergences. At 21:41 a common pipistrelle was seen foraging within the back garden of the property and along the western side aspect of the property.

#### 11<sup>th</sup> June 2020

Overall very low activity was recorded during the survey, but there were two confirmed emergences, one from a common pipistrelle and one from a soprano pipistrelle.

At 21:25 a common pipistrelle emerged from the edge of the hanging tiles below a window on the southern face of the property (see Photograph 15), and flew eastwards.

<sup>10</sup> Collins, J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edn).



At 21:42, a soprano pipistrelle emerged from a roof tile on a bay window extension on the northern roof face and flew east (see Photograph 16).

A non-echolocating pipistrelle-sized bat was seen at 21:24 and 21:26 foraging along the northern face of the property. This species was also recorded but not seen at 22:17. At 21:15 a noctule was recorded commuting and foraging, flying west to east over the property. This species was also recorded two minutes later.



**Photograph 15.** Photo indicating the emergence location of a common pipistrelle from the rear (southern) face of the property on the 11<sup>th</sup> June and 2<sup>nd</sup> July 2020.



**Photograph 16.** Photo indicating the approximate emergence location of a soprano pipistrelle from the front (northern) roof face of the property on the 11<sup>th</sup> June 2020.



2<sup>nd</sup> July 2020

Overall, low bat activity was recorded during the survey with only common pipistrelles recorded throughout the survey in low numbers. The common pipistrelle bat roost under hanging tiles at the rear of the property was re-confirmed, by a single individual of this species being recorded and seen emerging from this location at 21:40 (see Photograph 15), and flying eastwards.

Intermittently throughout the survey, common pipistrelle bats were recorded foraging around the front and rear gardens.

### **3.5 *Breeding Birds***

All of the shrubs and semi-mature trees have the potential to support a variety of common nesting birds. The shed also had a broken window, which may allow birds to enter and nest within these areas.

### **3.6 *Dormice***

The site contains no woodland, scrub or hedgerows suitable for dormice and is isolated by busy roads and hard-standing areas, therefore this species is highly unlikely to be present.

### **3.7 *Great Crested Newts and other Amphibians***

No ponds exist within the site or immediately adjacent to the site boundary. A single moderate-sized pond was identified within Rosebery Park, approximately 260m south-east of the site, see Figure 5.

This pond appears to be surrounded by trees and shrubs, offering suitable terrestrial habitat adjacent to the pond.

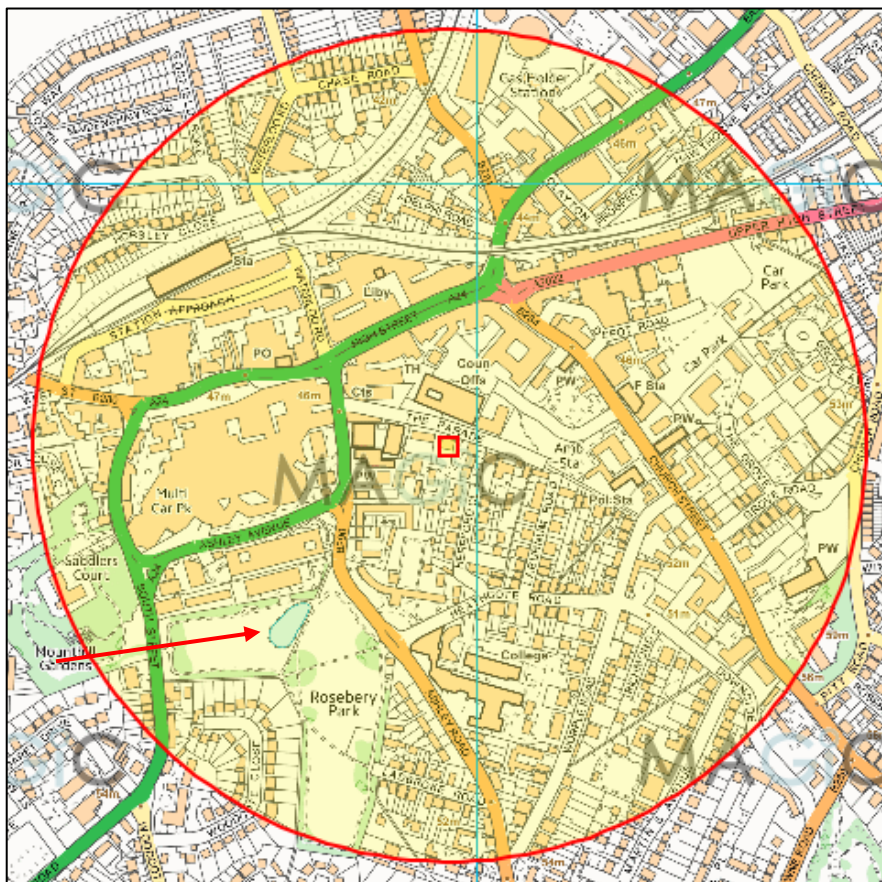
The single pond identified lies outside of the 250m range in which great crested newts usually commute from their ponds and is fragmented from the site by several main roads. Therefore, any great crested newts which may utilise this pond are unlikely to pass through the application site.

Although it is considered unlikely that great crested newts will be present within the site due to the low potential habitat and presence of roads surrounding the property, it is possible that other amphibians may be present within the site boundary. Therefore, as a precautionary measure, all areas of stone/rubble, wood piles and tree stumps should be removed during the summer months, following a hand search and under the supervision of a suitably qualified ecologist to ensure no amphibians are killed or injured by these works.





**Photograph 15.** An example of one of the tree stumps on site which may be used as a resting or sheltering place by amphibians and reptiles, particularly over the winter period.



**Figure 5.** location of the single pond within 500m of the site boundary, indicated by a red arrow. Images produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).



### ***3.8 Reptiles***

The site has a low suitability for use by reptiles overall and comprises almost exclusively close-mown amenity grassland with hard standing. In addition, the site is isolated with no suitable features in the adjacent landscape.

Although it is considered unlikely that reptiles will be present within the site due to the low potential habitat and presence of roads surrounding the property, as a precautionary measure, all areas of stone/rubble, wood piles and tree stumps should be removed during the summer months, following a hand search and under the supervision of a suitably qualified ecologist to ensure no reptiles are killed or injured by these works. In order to prevent the grass from developing a thatched sward and becoming more suitable for reptiles, these areas should be managed regularly to maintain a short grass sward prior to, and during, any development works on site.

### ***3.9 Invasive Non-native Species***

Buddleia and cherry laurel are both non-native invasive plant species, and without their control have potential to out-compete native species-rich plants and lower the ecological diversity of the site.

### ***3.10 Other Notable Species***

Hedgehogs are likely to commute through, and forage within, shrub habitat which creates ideal cover for this species. The species may also utilise rubble, wood piles and slabs as cover and for hibernation.

### ***3.11 Survey Limitations***

An initial site assessment such as this is only able to act like a 'snapshot' to record any flora or fauna that is present at the time of the survey. It is therefore possible that some species may not have been present during the survey, but may be evident at other times of the year. For this reason, habitats are assessed for their potential to support some species, even where no direct evidence (such as droppings or bats themselves) has been found.



## **4 IMPACT APPRAISAL**

### **4.1 Designated Sites**

The site is outside the zone of influence from all designated sites and, based on this and the small scale of the development, there are no identified mechanisms of impact on designated sites as a result of the proposed development.

### **4.2 Habitats**

It is anticipated that there will be a total loss of the buildings and garden areas, including the improved grassland, tall ruderal and semi-mature and young trees.

Scattered trees have moderate ecological value, and in the absence of space for mitigation planting, there will be a negative impact at site level.

The improved grassland and tall ruderal habitats have low ecological value, with a high proportion of non-native species present. Therefore, loss of this habitat will not be significant at site level.

### **4.3 Badgers**

No signs of badger activity were identified during the assessment and no badger sets are situated on or near of the proposed construction zone. No further mitigation for badgers is advised, however if any signs of digging by large animals is identified on or near to the site prior to construction, then an ecologist should be contacted for further advice.

### **4.4 Bats**

The emergence surveys at Friar's Garth indicates that the property supports a solitary common pipistrelle roost and a solitary soprano pipistrelle roost. As the proposed development involves the complete demolition of the existing residential building, the destruction of the roost features used by bats cannot be avoided and, in the absence of mitigation, this could potentially result in harm to individual bats. A European Protected Species licence is required for any actions which would disturb bats or their roosts and modify or destroy bat roosts. Therefore, a European Protected Species (EPS) licence will be required for the development to legally proceed. Based on the results of the survey, this development will be eligible for adding to the 'low impact class licence' issued by Natural England and held by certain qualified bat ecologists.

The habitats surrounding the property are used by foraging and commuting bats as part of a wider resource across the landscape. It is important that the potential for disturbance from artificial lights is considered. If any lighting is proposed, this should include an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 2).





As part of the licence application, a mitigation method statement will need to be prepared to demonstrate that favourable conservation status of bats will be maintained through the life of and on completion of the project. Measures which will be required to safeguard bats under the license include:

- **Preparatory works - ‘Soft strip’**

A ‘tool-box’ talk will be provided to contractors who will be made aware that bats can regularly shift roost locations and can exploit gaps of only a few centimetres, to ensure no bats are harmed by works. All features with the potential to support roosting bats will be undertaken sensitively by hand, or using hand-tools under the direct supervision of an Ecologist holding a minimum of a Natural England Class 2 Bat Licence and a low impact licence or accredited agent, following an endoscope inspection of these areas and an internal inspection of the loft void. Any bats found would be gently captured and placed into bat boxes which have been secured to trees due to be retained and protected on site, in advance.

- **Timing**

As a maternity colony has not been confirmed at the property, the hand-stripping of potential roosting features would be timed in the period between mid-March and the end of October, to avoid disturbing bats which could be in hibernation.

- **Replacement roost sites**

Two Schwegler or similar woodcrete bat boxes will be installed on site prior to the commencement of any works, one suitable for use by common pipistrelle bats and one by soprano pipistrelle bats. Any bats which may be discovered will be gently placed by hand into these boxes by the licensed bat ecologist supervising the works.

Two bespoke access points suitable for use by pipistrelle bats will be created on the proposed buildings, one to be located on the northern and one on the southern aspects. These can be created to allow a gap into the ridge tunnel, under roof tiles within the first four rows down from the ridge tiles, or between hanging tiles. These will allow access into the gap between the tiles and the roof/wall lining.

- **Materials**

If roof lining is due to be installed, bitumen 1F roofing felt must be utilised, as non-bituminous roofing membranes have been found to fray over time, causing bats to become entangled and die within the fibres. Non-bituminous linings will not be permitted as part of bat licensed projects by Natural England or where bat roosts have been confirmed, for this reason.

The precautionary measures detailed above will ensure that additional bat roosting opportunities are provided both during the construction phase and following the completion of works. The risk of impacting roosts or killing or injuring bats through the construction phase will also be reduced to a negligible level. As such, the planning authority should be satisfied that the conditioning of these precautionary measures will ensure that its duty to comply with the Conservation of Habitats and Species Regulations 2017 have been fully met with regard to bats.





## 4.5 Breeding Birds

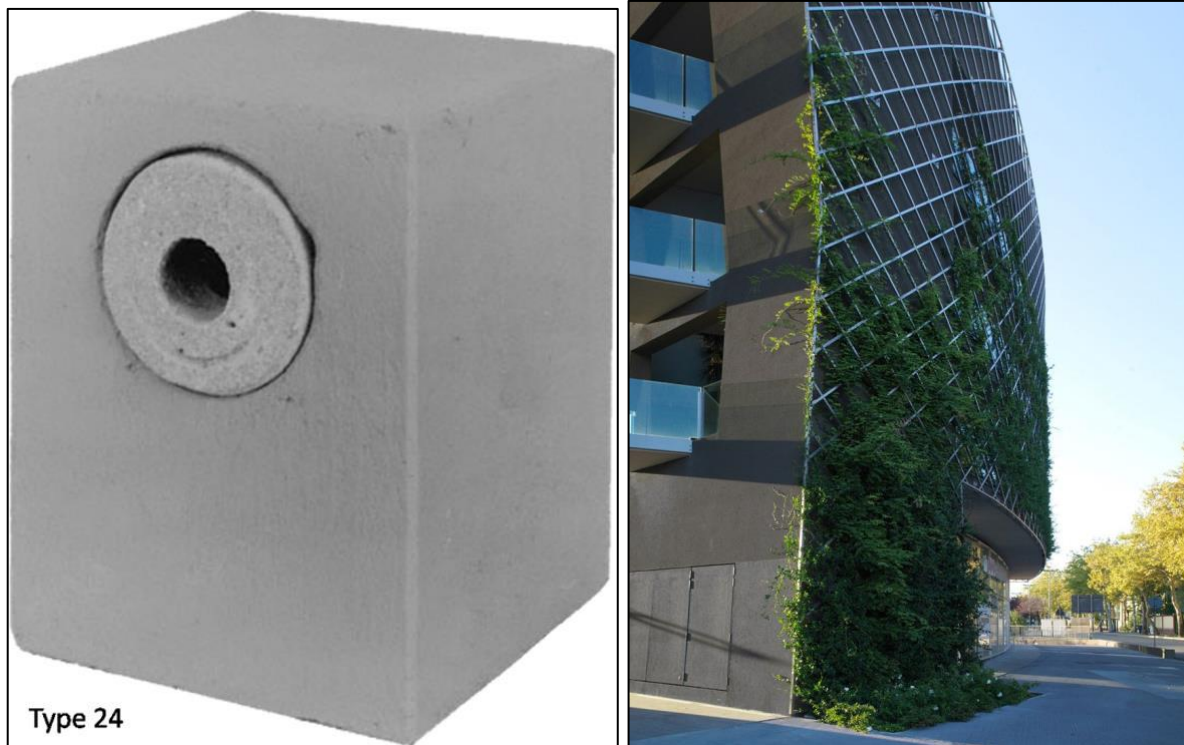
The shrubs and trees habitat contained within the site have high potential to support a variety of common nesting birds. It will be essential for any future development to consider the nesting bird season and any vegetation removal and/or building demolition should be timed outside of the nesting bird season (typically 1<sup>st</sup> March to 31<sup>st</sup> August), unless features are first searched by a suitably qualified ecologist and no active nests are found. If any are found, these will need to be retained and protected until the young have fledged.

The loss of suitable nesting bird habitat will cause a negative impact at site level. To compensate for losses, new tree planting must be implemented, and at least four bird boxes introduced onto the new buildings or trees. Bird boxes must be placed approximately 1.5 – 3m high and placed on northern and eastern elevations to avoid strong sunlight and the worst rain and windy conditions. Schwegler and Woodstone nest boxes are recommended as these are constructed from concrete and wood fibres which creates a more stable temperature and is more durable than wooden nest boxes. The ‘1B Schwegler Nest Box’ with the 32mm entrance hole will benefit a range of common nesting birds and will also house bats. The Vivara Pro 32mm Oval Nest Box will also benefit a range of common nesting birds, as will the Schwegler Brick Nest Box, which can be incorporated into the walls of buildings, shown in Figures 6 - 9.

Climbers must be planted to help disguise bird boxes from predators and make the bird box more appealing to nest in. The following plants are recommended, which will also provide some invertebrate interest: ivy, honeysuckle *Lonicera periclymenum*, clematis and firethorn *Pyracantha*.



**Figure 6 and 7.** Left: 1B Schwegler Nest Box. Right: Vivara Pro Woodstone 32mm Oval Nest Box



**Figure 8 and 9.** Left: Schwegler Brick Nest Box Right: Building with climbers providing opportunities for nesting birds in an urban setting.

#### 4.6 *Amphibians and Reptiles*

Although it is considered unlikely that great crested newts and reptiles will be present within the site due to the low potential habitat and presence of roads surrounding the property, it is possible that other amphibians and more common reptiles may be present within the site boundary, such as slow worms.

Given the low likelihood of presence of amphibians and reptiles, a precautionary approach is considered appropriate in this case. Therefore, all areas of stone/rubble, wood piles and tree stumps should be removed during the summer months, following a hand search and under the supervision of a suitably qualified ecologist to ensure no reptiles or amphibians are killed or injured by these works. In order to prevent the grass from developing a thatched sward and becoming more suitable for reptiles, these areas should be managed regularly to maintain a short grass sward prior to, and during, any development works on site.

In the unlikely event that reptiles are found, a mitigation statement may be required to legally proceed.

#### 4.7 *Invasive and Non-native Species*

In the absence of mitigation, cherry laurel and buddleia have the potential to spread and lower the ecological diversity of surrounding habitats. In the absence of mitigation, this would cause a negative impact at site level. These species should be removed and replaced by native species in order to improve the overall value of the site to biodiversity.



The most effective method of removal for buddleia and cherry laurel is to plug the plant with herbicide treatment before digging it out.

#### 4.8 Other Notable Species

Shrubs will be removed from the site, which potentially provide valuable commuting routes for hedgehogs. In the absence of mitigation, there will be a significant impact at site level to this species, if present. To mitigate for loss of habitat valued by this species, any proposed fencing or other boundary structures should incorporate gaps to allow for the movement of hedgehogs between the curtilage of the development and surrounding habitats (see Figure 10). In addition, rubble and wood piles must be hand-searched prior to their removal, as specified in Section 4.6. If individuals are found, they must be placed in a suitable semi-natural environment close by.



Figure 10. hedgehog-friendly fence

## 5 OPPORTUNITIES FOR ENHANCEMENT

The proposed development represents an opportunity for habitat enhancement to benefit insects, birds, and bats. Any planting scheme should include native shrub species and flowering species known to encourage insect diversity. Such enhancement measures are in line with the recommendations of The National Planning Policy Framework (NPPF) and as such would be considered favourably when determining the planning application.

Consideration should be given to the installation of bat boxes within the site to provide an enhancement for roosting bats. Bat boxes such as the Woodstone Bat Box are designed to be mounted on walls of buildings and provide a self-contained roost. Alternatively, bat boxes such as the 2F Schwegler Bat Box are designed for mounting on trees. Provision of four bat roost features within the site is considered a suitable level of compensation/enhancement for this site.

With the lack of space for ground-level planting, alternative enhancements could be incorporated into the project design. Green roofs, and living walls provide plants which can be incorporated into





available planting areas post-development and have potential to support invertebrates and provide foraging habitat for bats and birds. When heavily planted, these can also provide nesting bird habitat. A specialist should be contacted to detail the design and planting.

The incorporation of bee bricks in the new build may provide nesting habitat for solitary bees, such as red mason or leafcutter bees, and can be used in place of a standard brick. Solitary bees which would use this brick are non-aggressive. Herbaceous plants such as lavender and honeysuckle should be planted close to the bee bricks to provide a suitable food source for the bees. Bee Bricks should be placed in a warm sunny spot on a south-facing wall at a minimum height of 1m, with no vegetation obstructing the holes.



Figure 11 and 12. Left: living wall. Right: green roof planting



Figure 13. Bee brick for solitary bees and a Habitat wall built to encourage birds, bats and invertebrates (taken from Mellor Primary School, Stockport case study [https://www.swarch.co.uk/wp-content/uploads/2017/07/TRADA\\_Fullcasestudy-3.pdf](https://www.swarch.co.uk/wp-content/uploads/2017/07/TRADA_Fullcasestudy-3.pdf)).



**If any protected species are found during the proposals, work must cease immediately and an ecologist must be contacted for advice on how to proceed.**

Should you need any further advice on the information provided above, please do not hesitate to contact The Ecology Co-op, [info@ecologyco-op.co.uk](mailto:info@ecologyco-op.co.uk), [www.ecologyco-op.co.uk](http://www.ecologyco-op.co.uk), Office: 01798 861800.



## **APPENDIX 1 – Wildlife Legislation and National Planning Policy**

### **Introduction**

The following text is intended for general guidance only and does not constitute comprehensive professional legal advice. It provides a summary of the current legal protection afforded to wildlife in general and certain species. It includes current national planning policy relevant to nature conservation.

### **The ‘Birds Directive’, ‘Habitats Directive’ and ‘Natura 2000 Sites’.**

The Council Directive 79/409/EEC on the Conservation of Wild Birds (“the Birds Directive”) sets a framework for the protection of wild birds. Under the directive, several provisions are made including the designation and protection of ‘Special Protection Areas’ (SPAs) – areas which support important bird populations, and the legal protection of rare or vulnerable species.

The Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the “Habitats Directive”) directs member states of the EU to take measures to maintain favourable conservation status of important habitats and species. This requires the designation of a series of sites which contain important populations of species listed on Annex II of the directive (for example Bechstein’s bat *Myotis bechsteinii*, Barbastelle bat *Barbastella barbastellus* and white-clawed crayfish *Austropotamobius pallipes*. Together with ‘Special Areas of Conservation’ (SPAs), designated under the Birds Directive, SACs form a network across Europe of protected areas known as the ‘Natura 2000 sites’.

Annex IV lists species in need of more strict protection, these are known as “European Protected Species (EPS)”. All bat species, common dormice *Muscardinus avellana*, otter *Lutra lutra* and great crested newts *Triturus cristatus* are examples of EPS that are regularly encountered during development projects.

### **The ‘Habitats Regulations’**

The Conservation of Habitats and Species Regulations 2017 (the “Habitats Regulations”) is the principle means of transposing the Habitats Directive and the Birds Directive, and updates the Conservation (Natural Habitats, &c.) Regulations 1994 (“the 1994 regulations”) in England and Wales.

‘Natura 2000’ sites receive the highest level of protection under this regulation which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where ‘likely significant effects on the integrity of the site are identified.

For European Protected Species, Regulation 41 makes it a criminal offence to;

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb wild animals of such species;
- Deliberately take or destroy their eggs (where relevant);
- Damage or destroy a *breeding or resting place* of such an animal;
- Possess, control, sell or exchange any live or dead animal or plant, of such species;
- Deliberately pick, collect, cut, uproot or destroy a wild plant of such species.

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific reasons provided certain conditions are met. An EPS licensing regime allows operations that



would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the ‘three derogation tests’) are met:

- A licence can be granted for the purposes of “preserving public health or safety or for other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment” (Regulation 53 (2) (e).
- A licence can be granted if “there are no satisfactory alternatives” to the proposed action.
- A licence shall not be granted unless the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.

### **Wildlife and Countryside Act (1981) as amended.**

This remains one of the most important pieces of wildlife legislation in the UK. There are various schedules to the Act protecting birds (Schedule 1), other animals including insects (Schedule 5), plants (Schedule 8), and control of invasive non-native species (Schedule 9).

Under the Wildlife and Countryside Act (WCA) 1981, all wild birds (with the exception of those listed on Schedule 2), their eggs and nests are protected by law and it is an offence to:

- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Disturb any bird listed on Schedule 1, while it is nest building, or at a nest with eggs or young, or disturb the dependant young of any such bird.

Schedule 5 lists all non-avian animals receiving protection to a varied degree. At its strongest, the Act makes it an offence to intentionally kill, injure or take any wild animal listed on Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturb animals while occupying such places. Examples of species with *full protection* include all EPS, common reptile species, water vole *Arvicola amphibius*, white-clawed crayfish *Austropotamobius pallipes* and Roman snail *Helix pomatia*. Other species are protected from sale, barter or exchange only, such as white letter hairstreak *Satyrrium w-album*.

The Act makes it an offence to intentionally pick, uproot or destroy any plant or seed, and sell or possess any plant listed on Schedule 8. It is also an offence to intentionally uproot any wild plant not listed on Schedule 8 unless authorised [by the land owner]. Species on Schedules 5 and 8 are reviewed every 5 years when species can be added or removed.

Measures for the prevention of spreading non-native species which may be detrimental to native wildlife is included in the Act, which prohibits the release of animals or planting of plants into the wild of species listed on Schedule 9 (for example Japanese knotweed *Fallopia japonica*, Himalayan balsam *Impatiens glandifera*, New Zealand Pygmyweed *Crassula helmsii*).

The Wildlife and Countryside Act 1981 (as amended) also prohibits certain inhumane methods of traps and devices for the capture or killing of wild animals and certain additional methods such as fixed trap, poisoning with gas or smoke, or spot-lighting with vehicles for killing species listed on Schedule 6 of the Act (this includes all bat species, badger, otter, polecat, dormice, hedgehog and red squirrel).

### **Natural Environment and Rural Communities (NERC) Act (2006)**

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a statutory duty on all public bodies, including planning authorities, under Section 40, to take, or promote



the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

### **Protection of Badgers Act (1992)**

The Badger *Meles meles* is afforded specific legal protection in Britain under the Protection of Badgers Act (1992), and Schedule 6 of the Wildlife and Countryside Act 1981 (as amended) (see above).

Under this legislation, it is a criminal offence to:

- intentionally kill, injure, take, possess, or cruelly ill-treat, a Badger, or to attempt to do so;
- interfere with a sett, by damaging or destroying it;
- to obstruct access to, or any entrance of, a Badger sett; or
- to disturb a Badger when it is occupying a sett.

A licence may be obtained from Natural England to permit certain prohibited actions for a number of defined reasons including interference of a sett for the purpose of development, provided that a certain number of conditions are met. Note that licenses are not normally granted for works affecting badgers between the end of November and the start of July.

### **National Planning Policy Framework**

The National Planning Policy Framework (NPPF 2019)<sup>11</sup> sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

Paragraph 174b, which states that council policies should "*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.*" The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005)<sup>12</sup>. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- Minimising impacts on existing biodiversity and habitats,
- Providing net gains in biodiversity and habitats, wherever possible,

<sup>11</sup> HM Government (2019). National Planning Policy Framework. Department for Communities and Local Government. Available online at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/728643/Revised\\_NPPF\\_2018.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/728643/Revised_NPPF_2018.pdf).

<sup>12</sup> HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/7692/147570.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf).





- establishing coherent ecological networks that are more resilient to current and future pressures.

### **UK Post-2010 Biodiversity Framework**

The UK Biodiversity Action Plan (UK BAP), first published in 1994, was the UK's response to the commitments of the Rio Convention on Biological Diversity (1992) until 2010, when the UK BAP was replaced by the UK Post-2010 Biodiversity Framework. This framework covers the period 2011 to 2020 and forms the UK government's response to the new strategic plan of the United Nations Convention on Biodiversity (CBD) published in 2010. This promotes a focus on individual countries delivering target for protection for biodiversity through their own strategies.

The most recent biodiversity strategy for England, 'Biodiversity 2020: A strategy for England's wildlife and ecosystem services' was published by Defra (2011), and a progress update was provided in July 2013 (Defra 2013).

'Biodiversity 2020' builds on the Natural Environment White Paper for England – 'The Natural Choice', published on 7 June 2011, and sets out the strategic direction for biodiversity policy for the next decade.

Biodiversity 2020 deliberately avoids setting specific targets and actions for local areas and species because the Government believes that local people and organisations are best placed to decide how to implement the strategy in the most appropriate way for their local area or situation.

### **Birds of Conservation Concern (BoCC)**

In 1996, the UK's leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every 5 years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2015 (Eaton et al, 2015), which provides an up to date assessment of the conservation status of birds in the UK.

### **References**

Protection of Badgers Act (1992). HMSO London. Available at:  
<http://www.legislation.gov.uk/ukpga/1992/51/contents>

Circular 06/2005 (2005). Government Circular: Biodiversity and geological conservation – statutory obligations and their impact within the planning system. Office of the Deputy Prime Minister, London. Available at:  
[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/7692/147570.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf)

Council Directive 79/409/EEC on the Conservation of Wild Birds ("the Birds Directive"). Available at:  
<http://jncc.defra.gov.uk/page-1373>

Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (the "Habitats Directive"). Available at: <http://jncc.defra.gov.uk/page-1374>

The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations"). Available at:  
<http://jncc.defra.gov.uk/page-1379>

Countryside and Rights of Way (CRoW) Act (2000). HMSO London. Available at:  
<http://www.legislation.gov.uk/ukpga/2000/37/contents>



Defra (2011) Biodiversity 2020: A strategy for England's wildlife and ecosystem services. Available at: [www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services](http://www.gov.uk/government/publications/biodiversity-2020-a-strategy-for-england-s-wildlife-and-ecosystem-services).

Defra (2013) Progress Update. Available at: [www.gov.uk/government/publications/biodiversity-2020-simple-guide-and-progress-update-july-2013](http://www.gov.uk/government/publications/biodiversity-2020-simple-guide-and-progress-update-july-2013).

Eaton, M., Aebischer, N., Brown, A., Hearn, R., Lock, L., Musgrove, A., Noble, D., Stroud, D. and Gregory, R. (2015) Birds of Conservation Concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. Available at: British Birds 108 • December 2015 • 708–746  
<https://britishbirds.co.uk/wp-content/uploads/2014/07/BoCC4.pdf>

Natural Environment and Rural Communities (NERC) Act (2006). HMSO London. Available at: [http://www.legislation.gov.uk/ukpga/2006/16/pdfs/ukpga\\_20060016\\_en.pdf](http://www.legislation.gov.uk/ukpga/2006/16/pdfs/ukpga_20060016_en.pdf)

National Planning Policy Framework (NPPF) (2018) Department for Communities and Local Government. Available at: [www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/6077/2116950.pdf](http://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf)

Wildlife and Countryside Act (WCA) (1981). HMSO London. Available at: <http://www.legislation.gov.uk/ukpga/1981/69/contents>



## **APPENDIX 2 - Reducing Impacts of Artificial Light**

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts on other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness. Guidelines issued by the Bat Conservation Trust<sup>13</sup> should be considered while designing the lighting scheme. A simple process which should be followed where the impact on bats is being considered as part of a proposed lighting scheme. It contains techniques which can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

### **Avoid lighting on key habitats and features altogether**

there is no legal duty requiring any place to be lit. British Standards and other policy documents allow for deviation from their own guidance where there are significant ecological/environmental reasons for doing so. It is acknowledged that in certain situations lighting is critical in maintaining safety, such as some industrial sites with 24-hour operation. However, in the public realm, while lighting can increase the perception of safety and security, measurable benefits can be subjective. Consequently, lighting design should be flexible and be able to fully consider the presence of protected species

### **Apply mitigation methods to reduce lighting to agreed limits in other sensitive locations – lighting design considerations**

Where bat habitats and features are considered to be of lower importance or sensitivity to illumination, the need to provide lighting may outweigh the needs of bats. Consequently, a balance between a reduced lighting level appropriate to the ecological importance of each feature and species, and the lighting objectives for that area will need to be achieved. The following are techniques which have been successfully used on projects and are often used in combination for best results;

- Dark buffers, illuminance limits and zonation
- Sensitive site configuration, whereby the location, orientation and height of newly built structures and hard standing can have a considerable impact on light spill
- Consider the design of the light and fittings, whereby the spread of light is minimised ensuring that only the task area is lit. Flat cut-off lanterns or accessories should be used to shield or direct light to where it is required. Consider the height of lighting columns. It should be noted that a lower mounting height is not always better. A lower mounting height can create more light-spill or require more columns. Column height should be carefully considered to balance task and mitigation measures. Consider no lighting solutions where possible such as white lining, good signage, and LED cats eyes. For example, light only high-risk stretches of roads, such as crossings and junctions, allowing headlights to provide any necessary illumination at other times.
- Screening, whereby light spill can be successfully screened through soft landscaping and the installation of walls, fences and bunding
- Glazing treatments, whereby glazing should be restricted or redesigned wherever the ecologist and lighting professional determine there is a likely significant effect upon key bat habitat and

<sup>13</sup> Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>





features.

- Creation of alternative valuable bat habitat on site, whereby additional or alternative bat flightpaths, commuting habitat or foraging habitat could result in appropriate compensation for any such habitat being lost to the development.
- Dimming and part-night lighting. Depending on the pattern of bat activity across the key features identified on site it may be appropriate for an element of on-site lighting to be controlled either diurnally, seasonally or according to human activity. A control management system can be used to dim (typically to 25% or less) or turn off groups of lights when not in use.

#### **Demonstrate compliance with illuminance limits and buffers**

- *Design and pre-planning phase*; It may be necessary to demonstrate that the proposed lighting will comply with any agreed light-limitation or screening measures set as a result of your ecologist's recommendations and evaluation. This is especially likely to be requested if planning permission is required.
- *Baseline and post-completion light monitoring surveys*; baseline, pre-development lighting surveys may be useful where existing on or off-site lighting is suspected to be acting on key habitats and features and so may prevent the agreed or modelled illuminance limits being achieved.
- *Post-construction/operational phase compliance-checking*; as a condition of planning, post-completion lighting surveys by a suitably qualified person should be undertaken and a report produced for the local planning authority to confirm compliance. Any form of non-compliance must be clearly reported, and remedial measures outlined. Ongoing monitoring may be necessary, especially for systems with automated lighting/dimming or physical screening solutions.

#### **Further reading:**

Buglife (2011) *A review of the impact of artificial light on invertebrates*.

Royal Commission on Environmental Pollution (2009) *Artificial light in the environment*. HMSO, London. Available at: <https://www.gov.uk/government/publications/artificial-light-in-the-environment>

Rich, C., Longcore, T., Eds. (2005) *Ecological Consequences of Artificial Night Lighting*. Island Press. ISBN 9781559631297.

CPRE (2014) *Shedding Light: A survey of local authority approaches to lighting in England*. Available at: <http://www.cpre.org.uk/resources/countryside/dark-skies/item/3608-shedding-light>

Planning Practice Guidance guidance (2014) *When is light pollution relevant to planning?* Available at: <https://www.gov.uk/guidance/light-pollution>

Institution of Lighting Professionals (2011) *Guidance Notes for the Reduction of Obtrusive Light GN01:2011*. Available at: <https://www.theilp.org.uk/resources/free-resources/>



### **APPENDIX 3 – Epsom and Ewell Borough Council – Local Development Framework Core Strategy 2007**

Policy Number/Title	Policy Summary
<p>CS 3 (Biodiversity and designated conservation areas)</p>	<p>SSSIs and ancient woodland are afforded the highest level of protection from the council.</p> <p>Development that would harm Grade 2, Grade 3 SNCIs or Local Nature Reserves will not be permitted unless: suitable mitigation measures are put in place, and it has been demonstrated that the benefits of a development would outweigh the harm caused.</p> <p>Elsewhere, development that is detrimental to the Borough’s biodiversity will be minimised, and where it does take place, adequate mitigating measures should be provided. Wherever possible, new development should contribute positively towards the Borough’s biodiversity.</p>

#### **Epsom and Ewell Borough Council - Development Management Policies Document (2015) – supplementary advice for Local Development Framework Core Strategy 2007**

Policy Number/Title	Policy Summary
<p>DM4: Biodiversity and new development</p>	<p>Development affecting existing or proposed nature conservation sites and habitats of international, national or local importance will only be permitted if:</p> <p>The development would enhance the nature conservation potential of the site or is proven to be necessary for the conservation management of the site, there is no alternative location for the development and there would be no harm to the nature conservation potential of the site, there are imperative reasons of overriding public interest for the development</p> <p>Development affecting any site or building that supports species protected by Law, including their habitats, will only be permitted if appropriate mitigation and compensatory measures are agreed to facilitate the survival of the identified species, keep disturbance to a minimum and provide adequate alternative habitats to ensure no net loss of biodiversity.</p> <p>Mitigation and compensatory measures will be secured through planning obligations or conditions, with priority for such measures to be provided within the development.</p> <p>Whether or not there are any species or habitats that enjoy statutory protection, every opportunity should be taken to secure net benefit to the Borough’s biodiversity. To this end, an assessment of the existing nature conservation assets on a development site should be undertaken at the application stage and suitable biodiversity enhancements proposed.</p>