Warrender Primary School, Ruislip

Bat Building and Tree Inspection

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Warrender Primary School, Northwood

Bat Building and Tree Inspection

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1. INTRODUCTION

Background

1.1 Ecological Planning & Research Ltd (EPR) was commissioned by the London Borough of Hillingdon in May 2015 to undertake building and tree inspections for evidence of bats at Warrender Primary School, Ruislip. The ecological surveys are required to supply information for the preliminary stages of a feasibility study to aid in establishing design parameters for proposed works to the school.

1.2 This report contains the results of bat building and tree inspections which comprised of both internal and external inspections of accessible features for their potential to support roosting bats. The surveys were undertaken following recommendations outlined in an Ecological Appraisal report issued on the 2nd July 2015. The information gathered from the bat building and tree inspections, in addition to the results from the desk study, conducted as part of the initial Ecological Appraisal, were used to assess the potential value of the bats supported by the site.

Site Location and Description

1.3 Warrender Primary School is located north of Old Hatch Manor in Ruislip, Greater London at Ordnance Survey grid reference TQ 09966 87711 (see **Map 1**). The area assessed for bat potential encompassed the entirety of Warrender Primary School and is hereafter referred to as the 'Site'.

1.4 The Site measures approximately 1.18ha and contains a mixture of buildings, hardstanding, tall ruderal vegetation, ornamental planting and a sports field. A number of small trees are present. The Site is surrounded by a residential landscape within the suburban setting of Greater London.

Outline of the Scheme

1.5 Warrender Primary School is in the preliminary stages of a feasibility study to assess if additional classroom spaces or related facilities can be accommodated within the existing curtilage. The ecological surveys are required to help the design team establish design parameters and formulate planning proposals for the school. It is understood that, at present, there are no detailed redevelopment plans available for the school.

Applicable Nature Conservation Related Legislation and Planning Policy

1.6 The key legislative provisions and policies of relevance to this report, with respect to the redevelopment proposals and their potential effects on ecological features of value, are set out in **Appendix 1**.

2. METHODOLOGY

Introduction

2.1 An assessment has been made of the Site's potential to support roosting bats, based on information gathered during a desk study, and fieldwork undertaken to inspect potential roost features of onsite buildings and trees. Where necessary, recommendations are made for further ecological survey work required to fully assess the potential onsite bat assemblage.

Assessment Methodology

2.2 The assessment methodology adopted in this report is in line with best practice guidance, including that detailed within the Bat Conservation Trust's Bat Surveys Good Practice Guidelines 2nd Ed. (2012).

2.3 These guidelines are endorsed by the main stakeholders in the UK planning system that have a specific responsibility for wildlife and nature conservation, including Natural England, the Environment Agency and the Wildlife Trusts.

Defining the Zone of Influence

2.4 In order to define the spatial scope of the bat building and tree inspections it was necessary to predict the likely Zone of Influence (ZoI) of any development of the Site. The ZoI of a proposed development is defined in CIEEM's ecological impact assessment (EcIA) guidelines as *'…the areas/(ecological) resources that may be affected by the biophysical changes caused by activities associated with a project'*.

2.5 The ZoI will be further refined as the project progresses, but initially has been based on the Ecological Appraisal survey, which identified the areas and ecological resources that are likely to be affected by any scheme, and consideration of the type of activities that may occur.

2.6 It is considered that, in most cases, the ZOI of the redevelopment proposals for bats is unlikely to extend beyond the Site boundary and immediately adjacent habitats, except for where changes to habitats and environmental conditions on Site may impact upon bat roosts within the local area, due to increased lighting or loss of commuting/foraging habitat upon which local roost(s) may be dependant.

Desk Study

2.7 A desk study was carried out in order to gather and refer to existing species records both within the Site and in the surrounding area. Information concerning the location of sites in the locality designated for their nature conservation value was also gathered (**Map 1**). This involved interrogation of internet resources, including the National Biodiversity Network (NBN) website and Multi-Agency Geographic Information for the Countryside (MAGIC).

2.8 In addition to the above, Greenspace Information for Greater London (GiGL) was commissioned to provide records of European Protected Species within a 5km radius and UK protected and other notable species within a 2km radius of the Site. Information on non-

statutory nature conservation designations within a 2km radius was also requested. These records are discussed, where relevant, within the below text.

Field Survey Methodology

2.9 A daytime inspection of the accessible internal and external features of all buildings and selected trees at the Site, with respect to their potential to support roosting bats, was undertaken on the 29th June 2015 by John Atkinson (a licensed bat ecologist: Class Licence: CLS01806) and Josh Sowden of EPR. The inspections followed methods set out under **Appendix 2.**

2.10 In summary, the buildings and trees at the school were inspected for any evidence of, or potential to support, roosting bats. Additionally the Site itself and the immediate surrounds were assessed for their potential value to foraging and commuting bats.

2.11 **Survey Limitations and Constraints**

External bat building and tree inspections were undertaken without any significant limitations or constraints. All internal roof spaces were accessed where required, with the only constraint to the external inspections being where sections of the roof was not visible from the ground. However it is very unlikely that any significant features which would impact upon the results and conclusions of the inspection were overlooked. It is thought that the school's bat roosting potential can be appropriately assessed through the internal/external inspections combined with emergence/re-entry survey from the ground if necessary.

3. RESULTS AND RECOMMENDATIONS

Desktop Study

3.1 The data request from GiGL returned records for a number of bat species within a 5km radius of Warrender Primary School, with seven species of bat Common Pipistrelle *Pipistrellus pipistrellus* (1.8km north-west in 2007), Soprano Pipistrelle *Pipistrellus pygmaeus* (1.6km north-west in 2009), Noctule *Nyctalus noctula* (1.8km north-west in 2006), Daubenton's *Myotis daubentonii* (1.8km north-west in 2006), Natterer's *Myotis nattereri* (1.7km north west in 2001), Brown Long Eared *Plecotus auritus* (985m north in 2005) and Leisler's *Nyctalus leisleri* (1.8km north-west in 2006) recorded within 2km of the site. The closest and most recent record is of an unidentified bat species, 601m to the west of the site, from 2001. The presence of these nearby bat records likely to increase the likelihood that bats are using the site.

External Bat Building Inspections

3.2 The results of the daytime External and Internal Bat Building Inspections are summarised on **Map 2**. Photographs are provided in **Appendix 3.** Descriptions of the buildings inspected on site can be found in **Table 3.1.** A detailed summary of the External Bat Building Inspection results, including Target Notes and further details on each building's potential to support roosting bats, is provided in **Table 3.2**.

Table 3.1: *Description of Buildings Inspected On Site (See **Map 2** for Building References).*

Building Reference	Number of Storeys	Roof Type	Construction Material	Windows	Other
B1	1	Pitched, concrete slate tiles.	Brick cavity wall.	Modern, glazed, PVC with some metal flashing.	Internal roof void. Tight, well-maintained plastic soffits.
B2	1	Pitched, corrugated metal.	Concrete block.	None.	Garage building, well maintained.
B3	1	Pitched, corrugated metal.	Single skin corrugated metal.	None.	Garden shed building.
B4	1	Multi-levelled, flat roof with metal sheeting or bitumen felt at lower levels.	Concrete block with wooden panelling on exterior. Sheet metal in places.	Modern, glazed, PVC.	Internal roof void present.
B5	1	Flat, metal sheeting.	Single-skinned brick wall.	None.	Gas store cupboard,
B6	1	Flat, metal sheeting and	Brick cavity wall and metal cladding.	Modern, glazed, PVC.	Partial metal, part plastic

		bitumen felt.			soffits in good condition.
B7	1	Pitched, bitumen felt.	Concrete block with cement finish on exterior.	Modern, glazed, PVC.	Plastic soffits in good condition.
B8	1	Pitched, bitumen felt.	Single skin wooden panelling.	None.	Garden shed.
B9	1	Pitched, bitumen felt.	Single skin wooden panelling.	None.	Garden shed.
B10	1	Pitched, bitumen felt.	Single skin wooden panelling.	None.	Garden shed.

3.3 No evidence of roosting bats was recorded during the External Inspection survey however, a number of the buildings on Site have features with the potential to support roosting bats (See **Table 3.2**).

Table 3.2: *External Bat Building Inspection Results Summary (See **Map 2** for Building References and Target Notes).*

Building Reference	External Features with Bat Roosting Potential	Assessment of Bat Roosting Potential	Notes
B1	Hole in cement underneath tile next to drain pipe (**TN1**).	Low	Residential bungalow, generally in good state of repair.
B2	None	Negligible	Garage building.
B3	None	Negligible	Small garden shed.
B4	Gaps underneath soffits (**TN2**). Gaps beneath bitumen felt on roof (**TN3**).	Low	Main school building complex, possible roosting features not visible from ground.
B5	Slight gapping between soffit box and wall (**TN4**).	Low	Classroom building, generally good state of repair.
B6	Gap providing access to metal soffits (**TN5**).	Low	Classroom building, good state of repair.
B7	None	Negligible	Classroom building in very good state of repair.
B8	None	Negligible	Garden shed building.
B9	None	Negligible	Garden shed building.
B10	None	Negligible	Garden shed building.

Internal Bat Building Inspections

3.4 All accessible roof voids on site were inspected to determine their potential to support roosting bats. A summary of the Internal Building Inspections, including a detailed description of each void, is provided in **Table 3.3** below.

Table 3.3: *Internal Bat Building Inspection Results Summary (See **Map 2** for building references).*

Building Reference	Bat Evidence Recorded during Survey	Void Dimensions (m)			Internal Features with Bat Roosting Potential	Notes
		H	W	L		
B1	None	1.25	9	15	None	Bitumen lining with overlying insulation board. Ridge beam and trussed. Fibreglass insulation on floor. Used for storage which limited access.
B4	None	1.75	12	25	Some access through windows and air vents.	Flat metal sheet roof. Some trussing and wooden boards on flooring with fibreglass insulation. Well lit.

Bat Tree Inspections

3.5 Any trees in proximity to the existing onsite buildings which could potentially be affected by future redevelopment plans were inspected for their potential support roosting bats. **Table 3.4** below shows details of a single tree with suitable bat roosting features.

Table 3.4: *Bat Tree Inspection Results Summary (See **Map 2** for Tree References)*

Tree Reference	Bat Evidence Recorded during Survey	Features with Bat Potential	Assessment of Bat Potential
T1 (Just outside site boundary)	None	Several split limbs and cavities on main trunk.	Moderate

Foraging and Commuting Habitat Assessment

3.6 The Site itself and its immediate surrounds were assessed for their potential value to foraging and commuting bats.

3.7 The majority of the Site comprises hard standing and amenity grassland which is maintained regularly, and is therefore of limited value to bats. Boundary treelines and associated scrub are likely to provide some insect resources and cover for foraging and commuting bats. However, connectivity from these features to open grassland and woodland copses in the surrounding area is limited. Overall it is thought that onsite habitats are only likely to support a small, localised assemblage of foraging and commuting bats.

Recommendations

3.8 Considering the above results and using evaluation methods set out under the BCT Bat Survey guidelines buildings 1, 4, 5 and 6 have been assessed as providing '**Low**' potential to support roosting bats. T1 outside of the Site boundary is assessed as having '**Moderate'** potential. B2,3 and 7-10 are considered to have '**Negligible**' potential to support roosting bats as they do not contain suitable roost features and are therefore unlikely to require further survey effort.

3.9 All bat species are protected from killing/injury and their roosts from disturbance/damage (whether occupied or not) under the provisions of nature conservation legislation and policy including the Wildlife and Countryside Act, 1981 (as amended) and the Habitats Regulations, 2010 (as amended) (see **Appendix 2**).

3.10 Where they are to affect potential roosting features, current, and any future amended, redevelopment plans for the school may entail works which would be considered an offence under the above legislation, should bats be present.

3.11 For this reason it is recommended that further bat surveys are carried out, prior to determination of any planning application, to assess presence/likely absence of bat roosts in affected areas. Survey works should cover all buildings subject to demolition or significant modifications which have been assessed as having "Low" roosting potential or above. If the development plans are likely to produce disturbance, such as through lighting, to any potential roost in T1 then this should be subject to further survey. Surveys will enable adequate mitigation to be prescribed, where bats are found to be present, such that redevelopment works may proceed in accordance with applicable legislation and policy.

3.12 The requirements for further survey work will be dependent on the future plans for the buildings and features present on the site. If the plans are likely to affect buildings or trees identified as having 'Low' potential to support roosting bats then further survey work is necessary to inform the scheme design and any mitigation for bats as part of the development. Because the results from these surveys will be needed to inform future plans for the school, it is recommended that the further survey work is carried out prior to determination of any planning application. The number of surveyors required would depend on the proposed scope of works and thus the extent of the onsite buildings to be covered

3.13 Further survey work would likely entail dusk emergence bat activity surveys. During each survey, surveyors would be positioned at suitable vantage points to observe bats as they emerge from/enter roost sites within onsite buildings and record any bat activity in their vicinity. In accordance with standard Natural England requirements and best practice, surveys should occur during the peak bat activity season between mid-May and September of any given year. The number of bat surveyors required would depend on the proposed scope of works and thus the extent of the onsite buildings that need to be covered. .

3.14 **Table 3.5** below details a recommended number of surveys for all relevant onsite buildings and trees.

Table 3.5: *Recommendations for Further Survey (See **Map 2** for building references).*

Building Reference	Building/ Tree Potential	Further Survey Required
B1	Low	1
B4	Low	1
B5	Low	1
B6	Low	1
T1	Moderate	1

3.15 Should significant bat activity/roosting bats be recorded during any of the surveys, additional survey effort to that described above may be required to fully assess the onsite bat assemblage.

3.16 Following the completion of further surveys, if bats are found to be using buildings which will be impacted by proposals, it will be necessary to obtain a European Protected Species Licence (EPSL) from Natural England to cover the redevelopment (see **Appendix 1**).

3.17 Before an EPSL is issued, the proposals will be subject to three Tests of Derogation. Natural England, as the licencing body, must be satisfied that:

- The proposal is necessary to preserve public health or public safety, or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;
- There is no satisfactory alternative; and
- The proposals will have no detrimental effect to the maintenance of the population of, the species concerned, at a favourable conservation status in their natural range.

3.18 The first two tests are principally planning considerations. The third test requires an ecological judgement which will be informed by the further surveys. These surveys must be undertaken in line with the published guidance that is currently endorsed by Natural England (BCT, 2012).

3.19 Once further surveys have been completed, if bats are found to be using onsite buildings and/or habitats in any significant way, a site-specific mitigation strategy will need to be produced. The proposed mitigation measures would need to be sufficient to ensure the maintenance and enhancement of the conservation status of the onsite bat assemblage post-redevelopment, in accordance with government aspirations for “no net loss in biodiversity” (NPPF, 2012) and the above third test of derogation. The extent of mitigation required will be dependent upon the number of bats, the type(s) of roosts identified and the way in which the bats are utilising the habitats within the Site.

Enhancements

3.20 The NPPF, London Plan and Policy EM7 of the London Borough of Hillingdon's Local plan all call for the enhancement of biodiversity as part of development proposals in order to achieve a net gain in biodiversity where possible. Enhancements as part of the scheme for bats could include:

- Incorporation of bat boxes into the design of new buildings and/or to be placed upon trees.
- Planting of native species rich wildflower meadows and native trees to encourage insects as prey species.
- Retention of existing trees on site.
- Sensitive lighting strategy.

4. CONCLUSIONS

4.1 Following the internal/external inspections for bats, no evidence of roosting bats was observed, however a number of features which provide roosting potential were observed on buildings and trees within the school grounds.

4.2 As the current development proposals have not been finalised, the need for further survey work in order to fully establish if bats are likely to be affected by the scheme is dependent upon if the buildings/trees which possess potential roosting features are to be affected. Any building/tree assessed as having '**Low'** potential should be subject to further surveys if it is likely to be affected by the scheme.

4.3 Once further surveys have been completed, if bats are found to be using onsite buildings and/or habitats in any significant way, a Natural England bat licence and site-specific mitigation strategy will need to be produced. Mitigation measures would need to be sufficient to ensure the maintenance and enhancement of the conservation status of the onsite bat assemblage post-redevelopment. The extent of mitigation required will be dependent upon the number of bats, the type(s) of roosts identified and the way in which the bats are utilising the habitats within the Site.

4.4 As part of the development, there is potential to provide significant enhancements to the site in order to be of benefit of bats, both within the site boundary itself and in the wider area

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