Greengage

81 Avenue Road, Wolff Architects
Bat Emergence Survey, September 2016

QA

81 Avenue Road – Bat Emergence Survey

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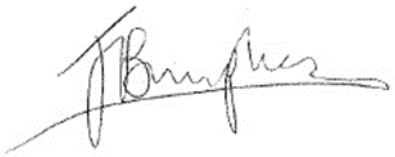
Signature:		
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CONTENTS

1.0 EXECUTIVE SUMMARY

1.1 Greengage Environmental Ltd were commissioned by Wolff Architects to undertake a Bat Survey at 81 Avenue Road in St John's Wood, London Borough of Camden in order to determine the presence or likely absence of roosting bats and to observe any bat foraging or commuting activity across the wider site.

1.2 The survey was undertaken in support of a planning application which seeks for the demolition of the existing building and construction of a new dwelling with basement and associated soft and hard landscaping.

1.3 An initial scoping survey comprising a detailed systematic daytime external and internal inspection observed no evidence of use by bats. However, several features present within the building were noted as providing low potential for roosting bats. These features include one small gap in soffit, loose lead flashing around windows (rear aspect), a potential access point into the roof void, and gaps under the clay tiles.

1.4 In accordance with the low potential for roosting at the site, an Emergence Survey consisting of one survey visit was undertaken, with the aim of confirming the presence or likely-absence of roosting bats within the structure, concentrating on features of potential value identified during the scoping assessment.

1.5 Moderate levels of commuting and foraging behaviour by common bat species were recorded at the site during the survey. The observed activity was by common pipistrelle (*Pipistrellus pipistrellus*) and soprano pipistrelle (*P. Pygmaeus*).

1.6 Observations made during the survey suggest the mature trees onsite and in adjacent gardens are an important foraging resource and green link for local bat populations. In addition, the bright security lights on the building that face the rear garden attract foraging common and soprano pipistrelles late after sunset.

1.7 No bat roosting activity was observed. As such, no formal mitigation measures are recommended.

1.8 However, in accordance with planning policy and best practice guidance, a number of recommendations are made including:

- Bat-sensitive lighting incorporated into the scheme to reinstate the dark/green corridor at the site, and to minimise any potential impacts of increased lighting levels on foraging and commuting bats observed as present;
- Retention of trees, vegetation and habitats of value to local bat populations, where possible, or compensatory planting;
- Wildlife-friendly landscaping to enhance the site as a foraging and commuting resource; and
- Inclusion of bat boxes, bricks or 'habibats' within the newly constructed building to provide bat roosting opportunities at the site.

1.9 With roosting bats confirmed as likely absent, the development is predicted to have a negligible impact upon roosting bats. Any potential impacts upon foraging and commuting bats can be fully mitigated through implementation of the above recommendations.

1.10 Enhancement measures for bats have been recommended to increase the value of the site for this species. Should these enhancement recommendations be followed, the development stands to result in net gains for biodiversity.

2.0 INTRODUCTION

2.1 Greengage were commissioned to undertake a bat emergence survey by Wolff Architects at 81 Avenue Road, St John's Wood, in the London Borough of Camden, in order to determine the presence or likely absence of roosting bats and to observe any bat foraging or commuting activity across the wider site.

AIMS OF SURVEY

Bat Emergence/Re-entry and Activity Survey

2.2 The purpose of the survey was to further determine if there are any features or habitats on site that could potentially support bats, and to determine whether any bats are roosting in the buildings and trees at the site. The surveys therefore aimed to:

- Determine the presence/absence of bat species;
- Determine the intensity of bat activity both spatially and temporally to help estimate bat populations;
- Find roosts by tracking back bat flight paths or observing dawn flight activity at roosts.
- Determine the type of activity, most usually
    - Roosting;
    - Socialising;
    - foraging (by feeding buzzes); or
    - commuting (by high directional pass rates); and

2.3 By using a collation of existing data for the area to support the survey, it is possible to determine the presence/likely-absence of bats across the site and in the wider area. This information can then be used to determine the form and extent of any mitigation, compensation or enhancement that may be appropriate.

SITE DESCRIPTION

2.4 The site is approximately 0.17 hectares (ha) and is centred on National Grid Reference TQ268838.

2.5 The site is currently occupied by a large residential building over three levels; ground floor, first floor and second floor converted attic with surrounding roof voids. 81 Avenue Road features a paved drive with planted beds and a large garden area to the rear of the property with mature trees, shrub planting, a paved area and a swimming pool. The garden is predominantly low-cut amenity grassland.

2.6 The site is located on a tree-lined avenue within a relatively green area of northwest London where mature gardens are prevalent, approximately 300m west of Primrose Hill and 750m northwest of Regent's Park.

DEVELOPMENT PROPOSALS

2.7 Proposals include demolition of the existing dwelling and construction of a new building with a subterranean basement element and new soft and hard landscaping to the front and rear garden space. Landscape proposals are shown at Figure 2.

3.0 METHODOLOGY

PRELIMINARY ASSESSMENT & BAT SCOPING SURVEY

Desk Based Assessment

3.1 Biological records were analysed to determine the records of bat species in the local area. Records were obtained from the London Bat Group on 7th September 2016.

3.2 An assessment of the local area using aerial photography and available maps and biological data was also undertaken.

Site Assessment

3.3 Full access to the internal and external areas of the site was granted to Naomi Foot who completed the scoping survey on 31st August 2016. The weather was sunny, dry and warm.

3.4 Information recorded followed recommended survey methodologies from the *Bat Conservation Trust (2015) Bat Surveys for Professional Ecologists: Good Practice Guidelines*[1] and the *Bat Workers Manual (2004)*[2].

Buildings

3.5 There is a single building at the site assessed during the scoping survey.

3.6 Field signs reviewed for were as follows:

- Droppings;
- Feeding remains (such as moth and butterfly wings);
- Clean cobweb-free timbers, crevices and holes;
- Staining from urine and grease marks;
- Bats seen roosting or observed flying from the roost or within the habitat;
- Bats heard chattering; and
- Smell of bats.

3.7 Features of the built structure were also noted for the buildings inspected. The below information was noted:

- Type of building;
- Age of building;
- Aspect of building;
- Wall construction (in particular the type of brick or stone used to build the wall);

- Form of the roof;
- Presence of hanging tiles, weatherboarding or other types of cladding;
- Nature of the eaves;
- Presence and condition of lead flashing;
- Gaps under eaves, around windows etc.;
- Structure of roof, including truss type, age and nature of timber work; and
- Information or evidence of work having been undertaken that could affect use of the structure by bats.

Trees

3.8 Any tree on-site or immediately adjacent to the site that has potential to be impacted by the proposals was inspected for bat potential with reference to the BCT guidelines and Natural England's '*Bat habitat assessment prior to arboricultural operations'*. The following features were considered indicative of trees commonly used by bats for roosting and shelter:

- Natural holes;
- Woodpecker holes;
- Cracks/splits in major limbs;
- Loose bark;
- Hollows/cavities;
- Dense epicormic growth; and
- Bird and bat boxes.

3.9 During the Bat Scoping Survey, a number of features of potential value for bats were noted. These included the following;

- Low potential for bat roosting in a small number of gaps and crevices in the building;
- Potential bat foraging and commuting habitat associated with the vegetation on site and across the surrounding landscape;
- Potential commuting corridors from several areas known to support bat populations; and
- Several bat records within a 2km search area of the application site from London Bat Group.

3.10 In accordance with the '*Bat Conservation Trust: Bat Surveys Good Practice Guidelines 3rd Edition*', for the reasons listed above, and given the legal protection afforded to

bats, the requirement for one emergence survey was confirmed, in order to establish the relative levels and type of bat activity at the site.

EMERGENCE SURVEY

3.11 The scoping survey identified two locations across the site that would enable all aspects of the building to be surveyed. This included a location in the front driveway on the Avenue Road frontage and a location in the rear garden. Two surveyors located in these locations over one survey allowed for all features of low value to be assessed.

3.12 Table 3.1 provides detail on locations for each surveyor and conditions for each survey.

Table 3.1 Surveyor locations and conditions for each survey (initials indicate surveyors as described in section below)

Survey type	Date	Surveyor 1	Surveyor 2	Sunset/ Sunrise	Conditions
Bat Scoping	31/08/16	NF	N/A	N/A	Sunny, dry and warm
Emergence	07/09/16	81 Avenue Road frontage (NF)	Rear garden (JB)	20:16	Start 26°C End 23°C Warm/muggy, clear sky, light breeze

3.13 The emergence survey was undertaken during clear and warm conditions, with temperatures ranging from 23°C - 26°C.

3.14 The emergence survey commenced 15 minutes before sunset and continued for up to 2 hours after sunset.

3.15 Each surveyor was equipped with BatBox Duet Heterodyne detectors and an Echo Meter Touch bat detector to detect, visualise and record the calls of any bats present in the area.

SURVEYORS

3.16 James Bumphrey, who reviewed this report and surveyed the site has a bachelor's degree in Environmental Sciences (BSc Hons) and a Master's degree in Environmental Consultancy, and is a Graduate member of CIEEM. James has 4 years' experience surveying bats on sites like this.

3.17 Naomi Foot, who surveyed the site and prepared this report, has an undergraduate degree in Ecology and Conservation (BSc Hons), a Master's degree in Applied Ecology and is a Graduate member of CIEEM. Naomi has extensive experience in surveying bats throughout her degree and her experience in the commercial sector.

3.18 This report was reviewed and verified by James Bumphrey who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

LIMITATIONS

3.19 Best practice guidance advises that one survey visit is required to assess 'low' value structures and the optimal timing for this is May to August (inclusive). The emergence survey was undertaken just outside of this optimal survey period (7th September 2016), following an initial site assessment on 31st August 2016. This deviation from best practice guidance is justified by the warm weather conditions which have continued into September, with bat activity levels considered unlikely to have declined in the first week following August.

3.20 Given the height of the building and close proximity of neighbouring properties it was not possible to directly observe all elevations. Close attention was therefore paid to potentially suspicious bat activity around these sections of roof that may have indicated emergence behaviour.

3.21 As discussed in chapter 4 of this report no bat activity was observed near these sections of roof and this limitation is not considered to form a major constraint over the assessment or conclusions made within this report.

4.0 RESULTS

BAT SURVEY

Assessment of the Site

4.1 A number of records for bats were identified within the 2km search area around the assessment site including known roosts and field records for live bats and casualties.

Bat Roosts

- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- Pipistrelle sp. (*Pipistrellus sp*.); and
- Noctule (*Nyctalus noctula*).

Bat Field Records

- Nathusius's pipistrelle (*Pipistrellus nathusii*);
- Common pipistrelle (*Pipistrellus pipistrellus*);
- Soprano pipistrelle (*Pipistrellus pygmaeus*);
- *Myotis* sp.;
- Daubenton's (*Myotis daubentonii*);
- Natterer's (*Myotis nattereri*);
- Noctule (*Nyctalus noctula)*;
- Leisler's (*Nyctalus leisleri*); and
- Serotine (*Eptesicus serotinus*).

4.2 There is a single statutory designation within 1km, St. John's Wood Church Grounds Local Nature Reserve (LNR) and SINC Borough Grade I.

4.3 The habitats directly present on site provide low bat foraging potential, with the garden predominantly amenity grassland and paving, with scattered mature trees adding the most value.

4.4 The surrounding area supports an abundance of green linkages, including direct links to the nearby Primrose Hill and Regent's Park along the tree-lined Avenue Road.

4.5 No direct field signs were observed externally or internally during the inspection, with no droppings, stains, scratch marks or other evidence that may suggest presence of roosting bats. Internal roof spaces were in a good condition with just one noticeable access point.

4.6 Features that may provide roosting opportunities for bats were however observed including gaps into the internal roof voids, gaps beneath hanging roof tiles, loose lead flashing and a hole in the soffit.

Figure 4.1 typical attic space/roof void with wooden boards

Figure 4.2 Evidence of external access into the roof void with light entering

Figure 4.3 View from ground of one of the pitched sections of roof showing small number of gaps under lead flashing and hanging clay tiles.

Emergence and Activity Survey

4.7 There was no evidence of roosting observed during the emergence survey. Roosting bats can therefore be confirmed as likely absent from the building.

4.8 Whilst only low potential for foraging was identified during the scoping survey, moderate levels were recorded during the emergence survey. This was predominantly associated with the mature scattered trees and the artificial lighting. Two species were recorded; common pipistrelle (*Pipistrellus pipistrellus)* and soprano pipistrelle (*P. pygmaeus*).

4.9 Following sunset, pipistrelles were recorded foraging around the mature trees at the back of the rear garden and in adjacent gardens, and were observed travelling through the gap between 81 Avenue Road and the adjacent 79 Avenue Road to forage over the front and back gardens. This activity stopped at around 20:35 (1 hour after sunset).

4.10 However, from around 21:00 (1 hr 30 minutes after sunset), several pipistrelle bats were observed foraging across the entire rear garden, presumably foraging on insects attracted to the bright security lights. See Figure 4.4 below.

Figure 4.4 Security lights viewed from the back garden of 81 Avenue Road

4.11 Pipistrelle species are referred to as 'light-tolerant' as they emerge early after sunset and are often observed in urban, artificially lit habitats. Artificial lighting attracts flying invertebrates from natural habitats, which in turn, attracts some bat species which take advantage of this foraging resource. However, artificial lighting can fully exclude 'light-intolerant' species such as *Myotis* spp., which would otherwise commute over or forage in these areas. For these reasons, lighting is considered to disrupt natural distributions of both invertebrate and bat populations. It is recommended that the lighting at the site is reduced to reinstate the dark commuting and foraging resource provided within the mature garden.

4.12 Locations of passes and foraging activity, in addition to the surveyor locations, are shown in the bat activity plan at Figure 1.

5.0 RECOMMENDATIONS & MITIGATION

5.1 The survey results confirmed the likely-absence of roosting bats within the building at the site. There is therefore no requirement for mitigation with regards to roosting bats.

5.2 Moderate levels of bat foraging and commuting activity were observed during the emergence. Two species were recorded; common pipistrelle and soprano pipistrelle.

5.3 The survey results suggest a number of bats forage around the mature trees and vegetation onsite and adjacent. In addition, the existing bright security lighting is encouraging foraging by common and soprano pipistrelle, whilst likely excluding locally recorded 'light-intolerant' species such as *Myotis*.

5.4 Whilst foraging and commuting resources for bats are not formally protected by law, their protection is a material consideration within the planning process. Suitable best practice and mitigation recommendations are therefore outlined below:

- Any lighting associated with the proposed development should, where possible, be designed following appropriate guidance[3]. This will include directional lighting, appropriate luminescence and protection from light spill. No uncontrolled lighting will occur and light spill will be minimised; this will restore the functionality of the site as a commuting corridor and foraging resource. An overall reduction in lighting levels as a result of development will favour local bat populations.
- Any loss of vegetation will be mitigated by new wildlife-friendly planting incorporating native species or those of known wildlife value. This will compensate for the loss of existing habitats and enhance the site for local bat populations.

5.5 Further to the above recommendations it is considered unlikely that there will be a significant adverse impact on bats in the local surrounding area, and the overall impact from the proposed development is predicted to be negligible.

5.6 In addition to the above best practice mitigation, the following enhancement measures are also recommended due to the potential value for bats at the site:

- Most species of bats will use bat boxes at various times of year but in particular they are favoured by pipistrelles, Leisler's, noctule and *Myotis* species. Pipistrelles were identified during the survey and are known to be in the wider area, therefore, we would propose that bat boxes, bricks or 'habibats' should be incorporated, where appropriate, into the buildings or trees onsite; the use of these bat boxes will increase roosting opportunities for bats in the area. Bat boxes or bricks should be positioned in sunny locations mainly to the south or west façade of the building or trees. However, a variety of different locations would provide a range of climatic conditions and attract several different species. The optimal height for a bat box is 3 to 6 metres with an entrance free from obstruction and obstacles. The behaviour of bats varies from species to species

but generally they will use a number of different roosts so it is best to erect several boxes in different locations across the site and include a range of aspects;

- Areas of wildlife-friendly landscaping to include fruit and berry producing shrubs, wildflower meadow, and native trees to encourage a richer invertebrate community and provide foraging resources for bats.

6.0 CONCLUSIONS

6.1 Greengage were commissioned to undertake a Bat Emergence Survey by Wolff Architects of a site at 81 Avenue Road, St John's Wood, in order to determine the presence or likely absence of roosting bats and to observe any bat foraging or commuting activity across the site.

6.2 An internal and external inspection identified low value for roosting bats at the site. A detailed systematic inspection found no evidence of use by bats.

6.3 No roosting activity was observed and formal mitigation is therefore not required to for impacts upon bat roosts.

6.4 Moderate levels of bat foraging and commuting activity were observed during the emergence survey. Two species were recorded; common and soprano pipistrelle.

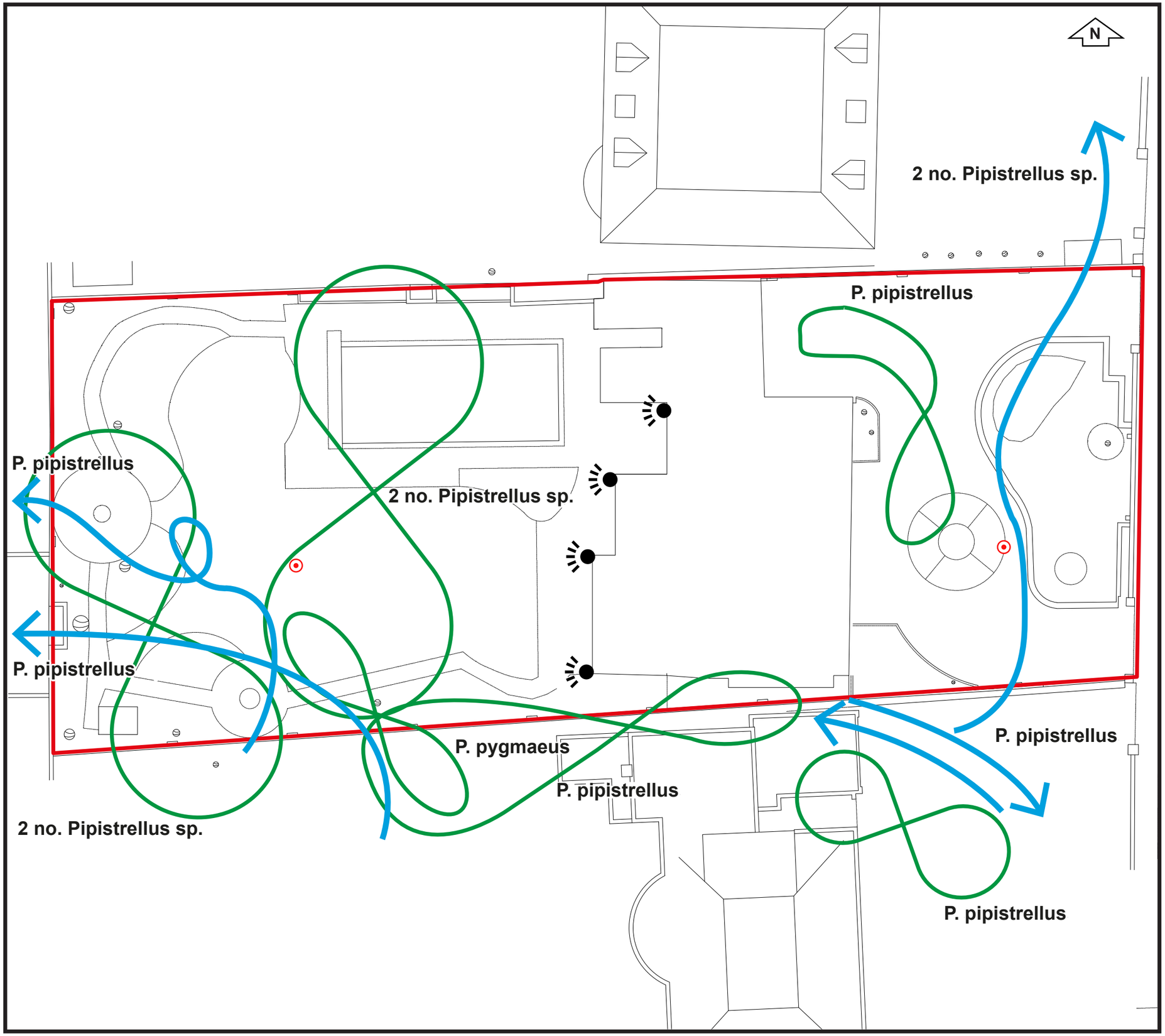
6.5 Any lighting associated with the proposed development is recommended to be sensitively designed in accordance with best practice. This will replace the existing bright security lighting which is assumed to be disrupting the foraging and commuting resources provided at the site. It is also recommended that existing habitats and vegetation are retained, where possible, or compensated for through wildlife-friendly planting.

6.6 Assuming recommendations are followed, the impact of the proposed development upon both local bat populations is expected to be negligible.

6.7 Enhancement measures for bats have been recommended to increase the biodiversity value of any proposed redevelopment. These enhancements include the provision of bat boxes and wildlife-friendly landscaping to provide roosting opportunities and further foraging resources. Assuming these enhancements are followed, the development will result in net gains for biodiversity.

FIGURE 1: BAT ACTIVITY PLAN

81 AVENUE ROAD, LONDON NW8 6JD



- Assessment Site
- Surveyor Location
- Security Lights
- Bat Pass
- Foraging

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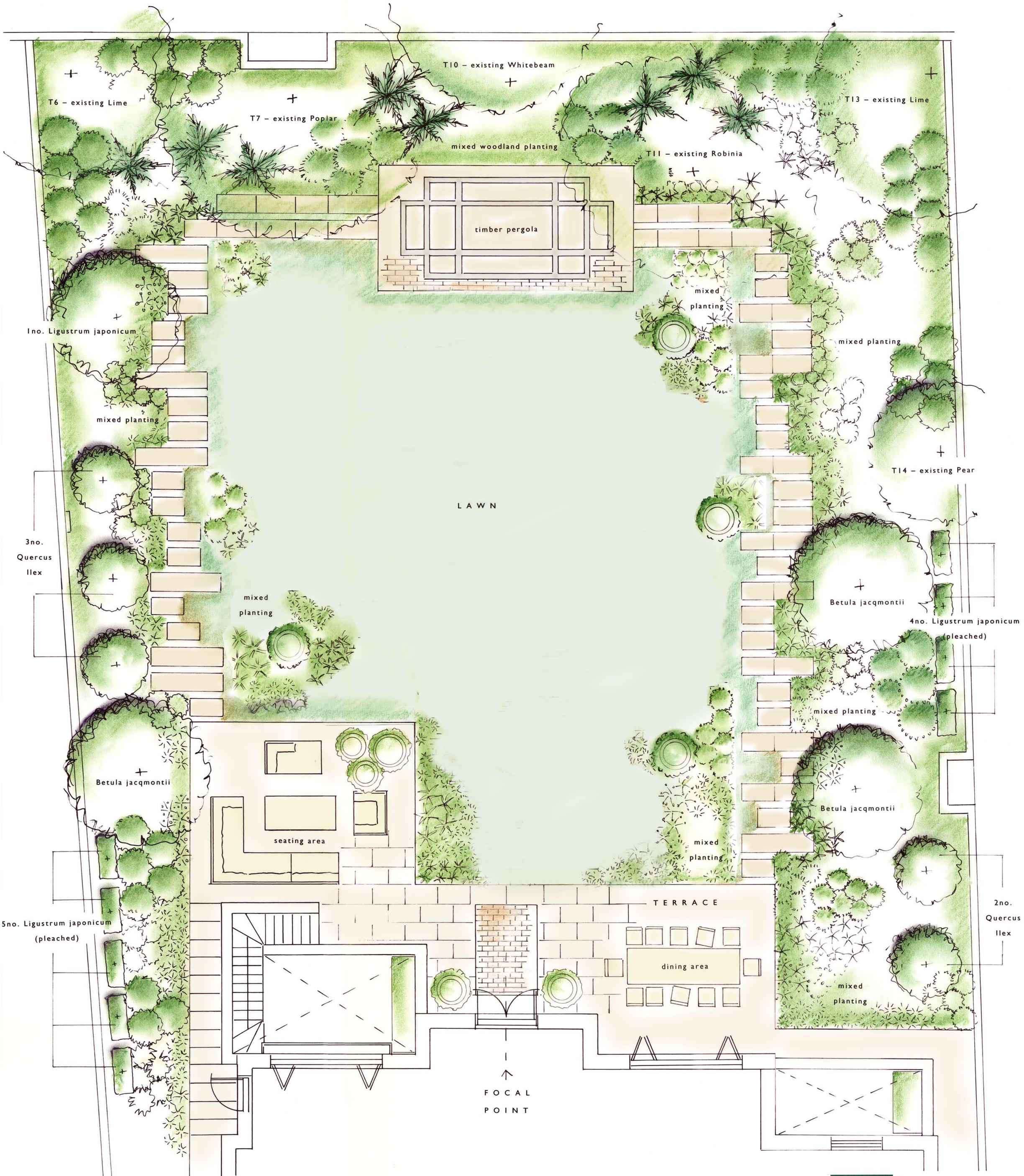
FIGURE 1.0

Bat Activity Plan

Job No. 2478 - Not to scale - September 2016

FIGURE 2: LANDSCAPING PROPOSALS



green square design

Designer	Green Square Design www.greensquaredesign.co.uk Natalie Davidson 07808 403 163 Janet Rapp 07866 370 037
Client's name	Wolff Architects 16 Lambton Place London W11 2SH
Job Title	81 Avenue Road London NW8 6JD
Drawing Title	Stage 1 - Layout plan rear garden
Scale	1:50 @ A1
Date	15th August 2016

APPENDIX 1: LEGISLATION AND POLICY

LEGISLATION RELATING TO BATS

All UK bats and their roosts are protected by law. Since the first legislation was introduced in 1981, which gave strong legal protection to all bat species and their roosts in England, Scotland and Wales, additional legislation and amendments have been implemented throughout the UK.

Six of the 18 British species of bat have Biodiversity Action Plans (BAPs) assigned to them, which highlights the importance of specific habitats to species, details of the threats they face and proposes measures to aid in the reduction of population declines.

The Wildlife & Countryside Act 1981 (WCA)[4] was the first legislation to provide protection for all bats and their roosts in England, Scotland and Wales (earlier legislation gave protection to horseshoe bats only.)

All eighteen British bat species are listed in Schedule 5 of the Wildlife and Countryside Act, 1981 and under Annexe IV of the Habitats Directive[5], 1992 as a European protected species. They are therefore fully protected under Section 9 of the 1981 Act and under Regulation 39 of the Conservation of Habitats and Species Regulations 2010[6], which transposes the Habitats Directive into UK law. Consequently, it is an offence to:

- Deliberately capture, injure or kill a bat;
- Intentionally or recklessly disturb a bat in its roost or deliberately disturb a group of bats;
- Damage or destroy a bat roosting place (even if bats are not occupying the roost at the time);
- Possess or advertise/sell/exchange a bat (dead or alive) or any part of a bat; and
- Intentionally or recklessly obstruct access to a bat roost.

This legislation applies to all bat life stages.

The implications of the above in relation to the proposals are that where it is necessary during construction to remove trees, buildings or structures in which bats roost, it must first be determined that work is compulsory and if so, appropriate licenses must be obtained from Natural England. Additionally, although habitats that are important for bats are not legally protected, care should be taken when dealing with the modification or development of an area if aspects of it are deemed important to bats such as flight corridors and foraging areas. Guidance on nature conservation within planning is issued by the Government within the National Planning Policy Framework. This Framework document acts as guidance for local planning authorities on the content of their Local Plans, but is also a material consideration in determining planning applications. As a result of the NPPF any species or habitats of principal

importance found on the application site, in addition to statutorily protected species, are of material consideration.

PLANNING POLICY

Regional Planning Policy: The London Plan Spatial Development Strategy for Greater London[7]

The London Plan is comprised of separate chapters relating to a number of areas, including London's Places, People, Economy and Transport. The following policies have been identified within the London Plan, which relate specifically to ecology and this development.

Policy 2.18 Green Infrastructure

'Policy 2.18 aims to protect, promote, expand and manage the extent and quality of, and access to, London's network of open and green spaces'.

Policy 5.10 Urban Greening

This policy encourages the 'greening of London's buildings and spaces and specifically those in central London by including a target for increasing the area of green space (including green roofs etc.) within the Central Activities Zone'.

Policy 5.11 Green Roofs and Development Site Environs

Policy 5.11 specifically supports the inclusion of planting within developments and encourages boroughs to support the inclusion of green roofs.

Policy 5.13 Sustainable Drainage

'Policy 5.13 promotes the inclusion of sustainable urban drainage systems in developments and sets out a drainage hierarchy that developers should follow when designing their schemes'.

Policy 7.19 Biodiversity and Access to Nature

'The Mayor will work with all the relevant partners to ensure a proactive approach to the protection, enhancement, creation, promotion and management of biodiversity in support of the Mayors Biodiversity Strategy.'

Supplementary Planning Guidance (SPG): Sustainable Design and Construction 2014[8]

As part of the London Plan 2011 implementation framework, the SPG, relating to sustainable design and construction, was released in April 2014 for consultation which

includes the following sections detailing Mayoral priorities in relation to biodiversity of relevance to this development.

Nature conservation and biodiversity

The Mayor's priorities include ensuring 'developers make a contribution to biodiversity on their development site'.

Overheating

Where priorities include the inclusions of 'measures, in the design of schemes, in line with the cooling hierarchy set out in London Plan policy 5.9 to prevent overheating over the scheme's lifetime'

Urban greening

A Priority is for developers to 'integrate green infrastructure into development schemes, including by creating links with wider green infrastructure network'.

Use less energy

'The design of developments should prioritise passive measures' which can include 'green roofs, green walls and other green infrastructure which can keep buildings warm or cool and improve biodiversity and contribute to sustainable urban drainage'.

Local Planning Policy: Camden Core Strategy

CS15 – Protecting and improving our parks and open spaces and encouraging biodiversity

Extracts from Core Policy provided below.

The Council will protect and improve Camden's parks and open spaces. We will:

a) Protect open spaces designated in the open space schedule as shown on the Proposals Map, including our Metropolitan Open Land, and other suitable land of 400sqm or more on large estates with the potential to be used as open space.

b) Tackle deficiencies and under-provision and meet increased demand for open space.

c) Secure from developments that create an additional demand for open space, where opportunities arise, improvements to open spaces.

The Council will protect and improve sites of nature conservation and biodiversity, in particular habitats and biodiversity identified in the Camden and London Biodiversity Plans in the borough by:

d) Designating existing nature conservation sites;

e) Protecting other green areas with nature conservation value, including gardens, where possible;

f) Seeking to improve opportunities to experience nature;

g) Expecting the provision or new or enhanced habitat, where possible, including through biodiverse green or brown roofs or green walls;

h) Identifying habitat corridors and securing biodiversity improvements along gaps;

i) Working with the Royal Parks, the London Wildlife Trust, friends of parks groups and local nature conservation groups;

j) Protecting trees and promoting the provision of new trees and vegetation, including additional street trees.

REFERENCES

1 Bat Conservation Trust, (2015); Bat Surveys – Good Practice Guidelines. Bat Conservation

2 Mitchell-Jones, A.J. & McLeish, A.P. (2004) Bat Works Manual, 3rd Edition

3 Bat Conservation Trust (BCT) & Institute of Lighting Engineers (ICL) (2009) BATS AND LIGHTING IN THE UK Bats and the Built Environment Series Version 3

4 HM Government, (1981); Part I and Part II of Wildlife and Countryside Act (as amended). HMSO

5 CEC (Council of the European Communities), (1992); Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora

6 HM Government, (2010); The Conservation of Habitats and Species Regulations 2010. Statutory Instrument 2010 no. 490 Wildlife Countryside. OPSI

7 Greater London Authority, (2011), The London Plan: Spatial Development Strategy for Greater London, GLA

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