AWC

Andrews Wildlife Consultants

Proposed Swimming Pool at 22 Rosecroft Avenue, Hampstead

PRELIMINARY ECOLOGICAL APPRAISAL

For: Eagle Eye Environmental Solutions Ltd
October 2020

Contents

1 Introduction

1.1 BACKGROUND

Andrews Wildlife Consultants Ltd (AWC) was commissioned by Eagle Eye Environmental Solutions Ltd to undertake a Preliminary Ecological Appraisal (PEA) in support of a planning application to build a swimming pool with adjoining reception, toilet, sauna/steam and spa rooms within an area of landscaped residential garden at Phyllis Court, 22 Rosecroft Avenue, Hampstead, London.

This report has been prepared by Richard Andrews who is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM): registration number 1332. He is also a Chartered Environmentalist through the Society for the Environment (reg. 2261).

1.2 STUDY AREA & LOCATION

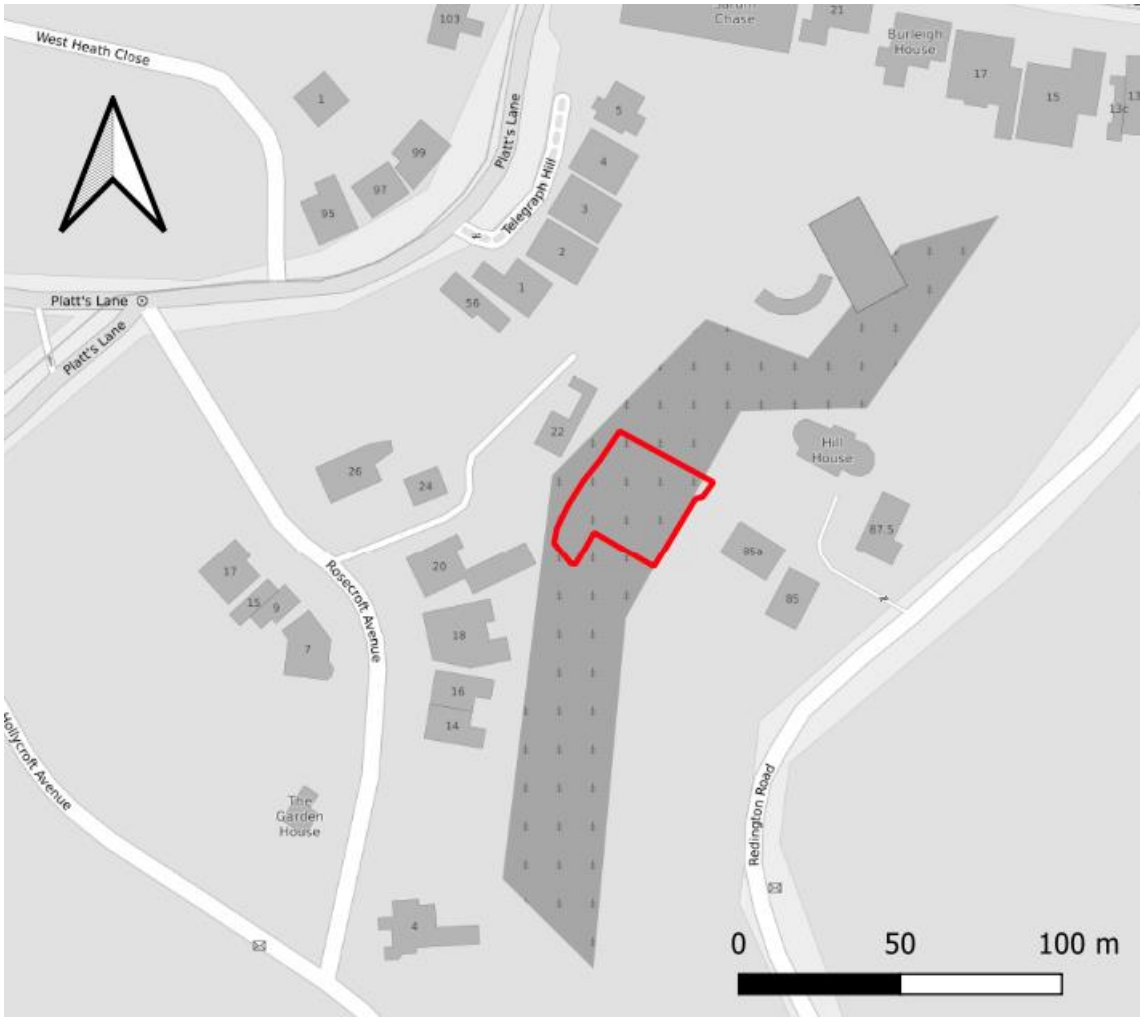
The location of the study site is shown in Figure 1 (Grid reference: TQ 255 862). The site is a residential property within a suburban residential area of Greater London (Hampstead). It is surrounded by other residential houses and gardens in all directions. Hampstead Heath is located a short distance away to the north and east, providing a significant area of semi-natural greenspace nearby.

The proposed swimming pool location itself (see Figures 2 and 3) consists of regularly-mown lawn (amenity grassland) and shrubs closely bounded by a variety of mature and younger trees and shrubs, both native and introduced/ornamental, which form the margins of a narrow area of urban woodland.

This part of the garden (and the wider property) is bounded by wooden fence on its south-west side and by a wall on its south-east side. To the north-west and north-east the large garden continues away from the proposed development site.

Overall, the garden appeared to be well maintained and the site manager commented (on the day of survey) that the area around the proposed swimming pool had been re-landscaped relatively recently.

Figure 1 – Site Location: *Approximate survey boundary shown by red outline. Proposed swimming pool is in south-east corner of this survey area (see Figure 3 below).*



1.3 OBJECTIVES

This PEA has the following objectives:

i. To identify and report the potential that the site holds for legally protected or otherwise notable species and habitats that are a material consideration for the consenting process and which may be affected by the proposed scheme.
ii. To make recommendations for any further surveys that may be required to confirm the actual presence of protected or otherwise notable species using habitat in or adjacent to the site.
iii. To make outline recommendations for any ecological impact mitigation and biodiversity enhancements that can be identified at this scoping stage, noting that these and their details may need to be confirmed by the further recommended surveys (see objective ii above).

1.4 LIMITATIONS

This report highlights the habitats and the potential for notable species evident on the day of the survey visit, combined with recent (unconfirmed) records obtained from third parties such as biological records centres. It does not record any ecological features that may only appear at other times of the year and, therefore, were not evident at the time of the visit.

Ecological surveys are limited by factors which affect the presence of plants and animals, such as the time of year, migration patterns and behaviour. In particular, habitat surveys during the winter significantly limit plant species identification. Therefore, the survey of this site has not produced a detailed list of plant species, and the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

The absence of desk study records cannot be relied upon to infer absence of a species or habitat. Often, the absence of records is a result of under-recording within the given data-search area.

Where this preliminary survey indicates that there may be impacts to ecologically sensitive features, a brief outline of the requirement for further survey/assessment is also provided, where appropriate. However, detailed mitigation can only be confirmed once the recommended further surveys are completed.

The list of invasive plant species listed under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) is extensive, and these plants are found in a range of different habitats. There may be invasive plant species present that were not recorded due to seasonality or dense vegetation for example, but it is considered that this survey is sufficient to identify any significant constraints posed by invasive plants.

The above limitations are not considered likely to significantly affect the conclusions drawn within this PEA report.

This report deals with matters of legal significance but does not constitute professional legal advice. The Client may wish to seek professional legal interpretation of the relevant wildlife legislation cited in this document, which is summarised in **Section 2.**

2 Legislative and Policy Context

2.1 THE WILDLIFE & COUNTRYSIDE ACT 1981 (AS AMENDED)

This legislation provides for **designation** and protection of Sites of Special Scientific Interest (SSSI), which are areas that represent the most valuable habitats in the UK for nature conservation. The Act also creates the following **offences** relevant to this study:

- To intentionally kill, injure, or take any wild bird or their eggs or nests (with exception to species listed in Schedule 2). Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young.
- To intentionally or recklessly kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5, and intentionally or recklessly interfere with places used for shelter or protection, or disturb animals occupying such places.
- Certain methods of killing, injuring, or taking wild animals listed in Schedule 6.
- The release of certain non-native animals and planting of plants listed in Schedule 9.

It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

2.2 CONSERVATION OF HABITATS AND SPECIES REGULATIONS 2017

This is the principal means by which the European Habitats Directive is transposed in England and Wales. The regulations provide for the **designation** and protection of a network of 'European Sites' (also termed Natura 2000), including Special Areas of Conservation (SAC) and Special Protection Areas (SPA).

Regulation 43 of the regulations creates the following **offences** relating to European Protected Species (EPS) such as bats, great crested newts (*Triturus cristatus*), dormice (*Muscardinus avellanarius*) and otters (*Lutra lutra*):

- deliberately capture, injure or kill any wild animal of a European Protected Species;
- deliberately disturb animals of any such species in such a way as to be likely to:
    - impair their ability to survive, breed, rear or nurture their young, hibernate or migrate, or
    - significantly affect the local distribution or abundance of the species to which they belong;
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

The Regulations also make it an offence (subject to exceptions) to deliberately pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5.

However, the actions listed above can be made lawful through the granting of licences (EPS Licence) by the appropriate authorities (e.g. Natural England in England). Licences may be granted for several purposes, but only after the appropriate authority has determined that the following regulations are satisfied:

- the works under the licence are being carried out for the purposes of 'preserving public health and public 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'.
- there is 'no satisfactory alternative'
- the action 'will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range'.

2.3 NATURAL ENVIRONMENT & RURAL COMMUNITIES (NERC) ACT 2006

Section 40 of NERC imposes a duty on public bodies and statutory undertakers to ensure due regard to the conservation of biodiversity. Section 41 requires the Secretary of State, as respects England, to publish a list of species and habitats which are of 'principal importance for the purpose of conserving biodiversity'. These lists generally reflect the species and habitats previously listed as priorities under the UK Biodiversity Action Plan, known as 'priority' species or habitats.

2.4 THE PROTECTION OF BADGERS ACT 1992

This makes it an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so and to intentionally or recklessly interfere with a sett (den). Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

Under Section 10 (1)(d) of the Protection of Badgers Act 1992, a licence may be granted by Natural England to interfere with a badger sett for the purpose of development, as defined by Section 55(1) of the Town & Country Planning Act 1990.

2.5 THE ANIMAL WELFARE ACT 2006

This imposes a duty of care on anyone responsible for an animal to take reasonable steps to ensure that the animal's needs are met. With regards to development, this may have implications when capture and translocations of animals are proposed.

2.6 NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

In addition to primary legislation, the government published the National Planning Policy Framework (NPPF) on 19th February 2019. Within the NPPF, Chapter 15 is headed *Conserving and enhancing the natural environment* (Paragraphs 170 to 183).

Of relevance are the following statements: -

> *'Planning policies and decisions should contribute to and enhance the natural and local environment by… minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures* (Paragraph 170d); and

Paragraph 171 states that:

> *'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'*

To protect and enhance biodiversity and geodiversity, plans should:

> *'a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including: the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation* (Paragraph 174a)*; and*
>
> *b) 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.'* (Paragraph 174b).

When determining planning applications, local planning authorities should apply the following principles (Paragraph 175):

> *'a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;*
>
> *b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both*

its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

d) development whose primary objective is to conserve or enhance biodiversity should be supported, while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.'

In addition to the above, Paragraph 176 confirms that the following should be afforded the same protection as sites that are included within the definition at Regulation 8 of the Conservation of Habitats and Species Regulations 2017 (Special Areas of Conservation, Sites of Community Importance, Special Protection Areas and any relevant Marine Sites):

a) potential Special Protection Areas and possible Special Areas of Conservation;

b) listed or proposed Ramsar sites; and

c) sites identified, or required, as compensatory measures for adverse effects on Special Areas of Conservation, Special Protection Areas, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.

Paragraph 177 states that: -

'The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.'

This statement applies to the assessment of effects in relation to all confirmed, possible, potential and/or proposed designated sites of international importance, as identified above.

2.7 BIODIVERSITY 2020: A STRATEGY FOR ENGLAND'S WILDLIFE AND ECOSYSTEM SERVICES

This biodiversity strategy for England builds on the Natural Environment White Paper and the earlier UK Biodiversity Action Plan. It provides a comprehensive picture of how Government is implementing our international and EU commitments and sets out the strategic direction for biodiversity policy up to 2020. In relation to planning and development, its priority is to:

"*take a strategic approach to planning for nature within and across local areas. This approach will guide development to the best locations, encourage greener design and enable development to enhance natural networks. We will retain the protection and improvement of the natural environment as core objectives of the planning system"*

2.8 RELEVANT LOCAL PLANNING POLICY

Gardens are considered to be a local priority habitat in the London Biodiversity Action plan.

Guideline RF1 of the Redington Frognal Conservation Area Statement and Guidelines states that "*rear gardens provide a significant amenity to residents and a habitat for wildlife*".

Policy BGI1 of the Redington Frognal Neighbourhood Development Plan states that the Plan supports development in gardens which is planned to minimise tree, hedge and biodiverse habitat loss. It goes on to say that all applications for new building in gardens, including swimming pools, must incorporate provision for tree and hedge planting unless it can be demonstrated that this is not feasible or appropriate. Tree and hedge planting on site or in the vicinity is required to offset the loss of soft surface. There is a particular focus on maintaining wildlife foraging and commuting habitat as part of a garden habitat network, which is especially applicable to bats and birds.

3. Methodology

3.1 DESK STUDY

Information on internationally, nationally and locally designated sites of nature conservation importance within 1km of the survey area was requested from Greenspace Information for Greater London (GIGL) via eCountability in September 2020. Records of notable species within 1km of the site were also requested. These records were supplemented with internet-based resources such as Multi-Agency Geographic Information for the Countryside (MAGIC) and Google Earth.

These combined records were analysed to determine their relevance to the site and the proposed works, taking into consideration the proposed development's ecological zone of influence, the conservation objectives of designated nature conservation sites, the dates and locations of each record and the sensitivity of the recorded feature to likely impacts.

3.2 FIELD SURVEY

The site was surveyed by qualified and experienced ecologist Richard Andrews (CEnv, MCIEEM) on 2nd September 2020. Weather conditions were typical for this time of year, being warm and dry. Broad habitats within the site were recorded and mapped (see Figure 2) following the standard UK Habitat Classification methodology[1]. The potential for protected or otherwise notable species was also assessed and target-noted on the habitat map (Figure 2) where appropriate. Any incidental sightings or indirect evidence of species presence seen was recorded, but no detailed survey for any species was undertaken.

3.3 PRELIMINARY APPRAISAL

The results of the desk study and field survey are used to identify potential risks posed to important ecological features by the proposed development, in order to ascertain whether further, more detailed survey and assessment work is required. It is important to note that a PEA is essentially an ecological scoping study and not a full ecological impact assessment (EcIA) that often relies on further surveys.

The preliminary appraisal of risks in this PEA is based on the habitat suitability for important species, which is professionally judged from the nature and quality of habitats on site, and the apparent ecological connectivity to and from other suitable habitats in the vicinity.

[1] UK Habitat Classification Working Group (2018). UK Habitat Classification User Manual at http://ecountability.co.uk/ukhabworkinggroup-ukhab/.

4. Results

The results of this PEA are provided in Table 1 below, which should be read alongside the Habitat Survey map and accompanying target notes in Figure 2. Photographs are provided in Appendix A.

Figure 2 –Habitat map showing part of the garden of 22 Rosecroft Avenue *(illustrative only - not for scaling/measurement)*

Figure 2 Target Notes (TN) - (see above map, and photographs in Appendix A):

1. Hill-top with play equipment among mature broadleaved trees (oak (*Quercus robur*), sycamore (*Acer pseudoplatanus*) and beech (*Fagus sylvatica*). The oak in particular has significant bat roost potential but will not be directly impacted by the proposals.
2. A very large, mature beech tree (labelled as T4 in Arboricultural Survey - Landmark Trees, 2020) with some bat roost potential. Its root protection area is likely to fall within the footprint of the proposed development, so there is potential for some damage to its roots. Arboricultural assessment is advised. If the tree's survival and stability is threatened, bat survey will be required.
3. The approximate location of the proposed development. Mostly situated on lawn but also within area of adjacent young trees (field maple (*Acer campestre*), hazel (*Corylus avellana*) and holly (*Ilex aquifolium*)), and a row of Leyland cypress (*Cupressus* × *leylandii*) along the boundaries, all with negligible bat roost potential but some bird nesting potential.
4. Mammal burrows (3 entrances), not currently active. These are just large enough to accommodate badgers (*Meles meles*) but there is no evidence of current use and no other confirmed evidence of badger in the immediate vicinity, although faint mammal paths can be seen through the ground vegetation.
5. Large, active mammal burrow. Evidence of fresh digging and strong smell of fox (*Vulpes vulpes*). Likely to be a fox's earth, but badger use cannot be completely ruled-out.
6. Mown lawn area with planted borders containing young shrubs. The lawn area has a couple of tree stumps (e.g. sycamore) indicating previous trees; the remains of one of these currently supports a grape vine.
7. Two mature beech trees with ivy cover on trunks have some bat roost potential. Arboricultural Survey (Landmark Trees 2020) appears to indicate the development is outside of the root protection area, but indirect damage (including roots) and disturbance should also be avoided.

Figure 3 – Revised Scheme Plan (also showing part of the tree survey and impacts plan (Landmark Trees, September 2020))

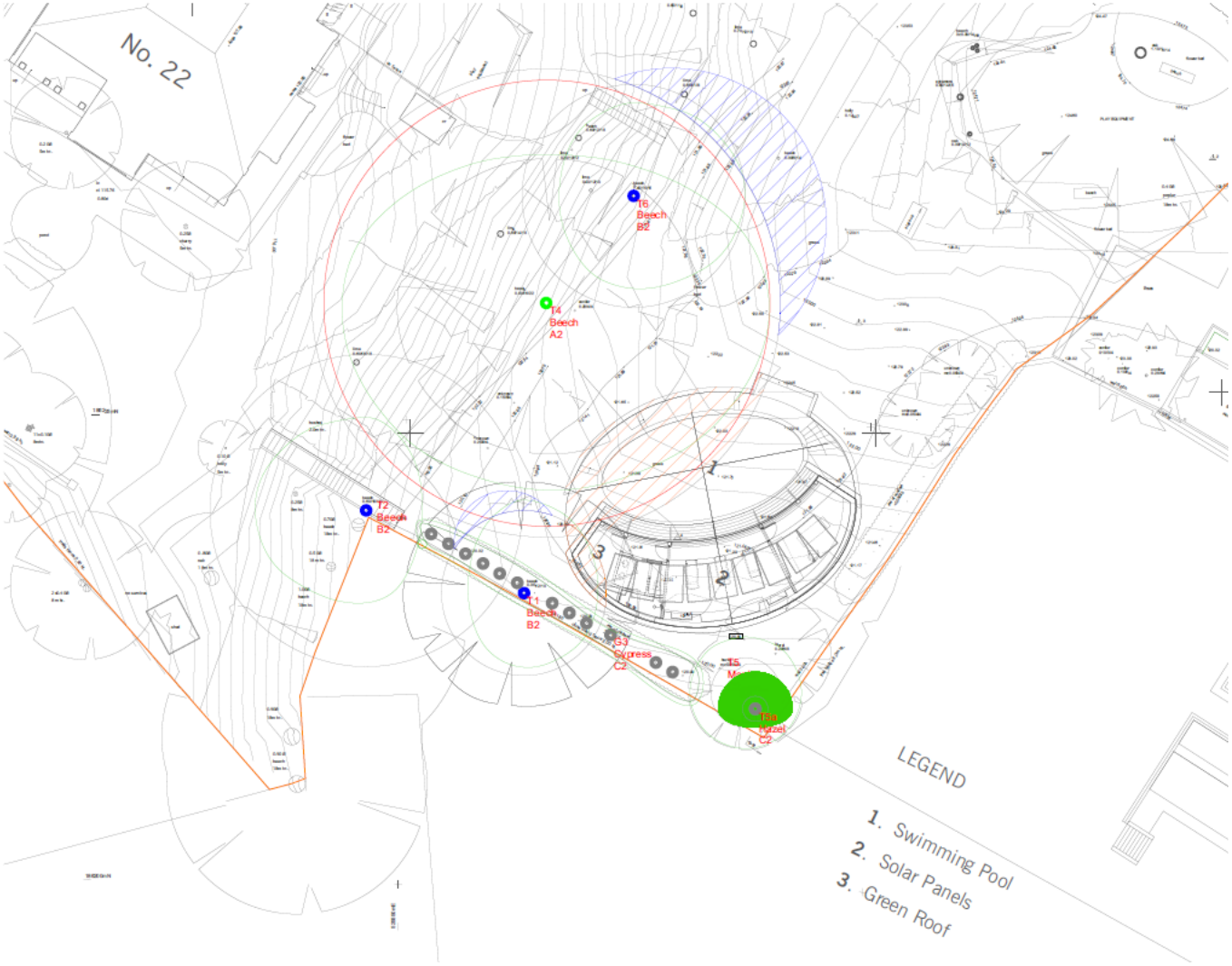


Table 1 – Preliminary Ecological Appraisal Findings (also refer to Figure 2 and Appendix A)

Ecological feature and status	Potential for presence and likely impact	Recommendations
Internationally Designated Sites (e.g. Special Protection Areas (SPA) / Special Areas of Conservation (SAC) / Ramsar sites) Internationally important and protected by law: • The Conservation of Habitats and Species Regulations 2017 (as amended)	There are no internationally designated sites within the proposed development's ecological zone of influence	N/A

Ecological feature and status	Potential for presence and likely impact	Recommendations
Nationally Designated Sites (e.g. Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR)) Nationally important and protected by law: • Wildlife & Countryside Act 1981 (as amended)	The nearest nationally designated site, is Hampstead Heath Woods SSSI, located 1.4km away to the north-east of the site at its nearest point, which is beyond the ecological zone of influence of the proposed development. The proposed development does not fall within a relevant SSSI impact zone for this SSSI. There are no impact pathways to other, more distant nationally designated sites.	N/A
Local Nature Reserve (LNR) within 2 km Locally important and protected by law: • Wildlife & Countryside Act 1981 (as amended)	None present within 1km.	N/A

Ecological feature and status	Potential for presence and likely impact	Recommendations
Local Wildlife Sites Non-statutory designation – material planning consideration	Data returned by GIGL identifies six non-statutory Sites of Importance for Nature Conservation (SINC) within 1km of the proposed development site; • Hampstead Heath (Metropolitan importance) • Hampstead Cemetary (Borough importance) • Branch Hill (Borough importance) • Hampstead Parish Churchyard (Borough importance) • King's College Hampstead Campus (Borough importance) • Frognal Lane Gardens (Local importance) The nearest of these sites (180m) is Hampstead Heath and there are no significant impact pathways from the proposed development so no impact is predicted. Equally, there are no significant impact pathways to any of the other five SINCs.	N/A
Other notable habitats e.g. those listed under: • NERC Act 2006	The on-site woodland habitat (see Figure 2) and its abundance of mature native trees are a locally valuable feature within this urban/suburban setting, particularly for nesting birds and potentially bats (see below). The woodland and narrower lines of tree cover within the site are part of a connected woodland habitat extending beyond the site's boundary, which provides a valuable ecological network within this urban setting. As stated in Section 2.8, gardens are considered to be a local priority habitat in the London Biodiversity Action Plan. Policy BGI1 of the Redington Frognal Neighbourhood Development Plan states that the Plan supports development in gardens which is planned to minimise losses of tree, hedge and biodiverse habitat.	Retain and protect all mature trees during construction and retain and protect as much younger tree and shrub cover as is possible. This includes protecting their roots, as advised by a professional arboriculturalist. The scheme should incorporate provision for tree and hedge planting on site or within the vicinity to offset the loss of soft surface (Policy BGI1). Additional protection measures may be necessary for protected species, as outlined below.

Ecological feature and status	Potential for presence and likely impact	Recommendations
Notable plants Some may be protected under: • Wildlife & Countryside Act 1981 (as amended) • The Conservation of Habitats and Species Regulations 2017 (as amended) or listed under: • NERC Act 2006 • UK Red Data Book	No records of protected plant species or plants of conservation concern within the site or within 200m were returned by the GIGL data-search. No notable plant species were recorded on site during the survey, but no detailed botanical survey was undertaken. The land within the footprint of the proposed development, being largely mown lawn and planted borders, is highly unlikely to contain such flora.	N/A
Invasive, non-native flora and fauna Controlled by: • Schedule 9 Wildlife and Countryside Act (as amended) • Environmental Protection Act 1990	No non-native invasive species were recorded on site during the survey.	N/A.

Ecological feature and status	Potential for presence and likely impact	Recommendations
Notable invertebrates / assemblages Some may be protected or listed under: • The Conservation of Habitats and Species Regulations 2017 (as amended) • Wildlife & Countryside Act 1981 (as amended) • NERC Act 2006 • UK Red Data Book	The nearest notable invertebrate returned by the GIGL data-search was for stag beetle (*Lucanus cervus*) at 164m away to the east. No records were returned for the site itself. The on-site woodland habitat is likely to be of local value for invertebrates, especially where any dead/decaying wood is retained.	To achieve biodiversity net gain, the proposed development could enhance the site for insects such as bees, beetles, butterflies and moths. This can be achieved by encouraging a variety of native flowering plants within the site and by incorporating features for invertebrates to shelter and breed in, such as log-piles, 'bee and bug houses', etc. (See: https://www.rspb.org.uk/birds-and-wildlife/advice/gardening-for-wildlife/insects-and-minibeasts/). Retaining large sections of dead wood and decaying tree stumps on site provides a valuable resource for stag beetle larva and other dead-wood invertebrates.
Nesting birds Protected by law: • Wildlife & Countryside Act 1981 (as amended) Some may also be listed under: • NERC Act 2006 • RSPB Birds of Conservation Concern	The GIGL records returned a variety of bird records within the 1km search area. Of note, a tawny owl (*Strix aluco*) was heard from within the site during the survey. The trees and shrubs on site offer suitable nesting sites for common wild birds a small number of which could be damaged during site-clearance and construction operations.	Any necessary felling or significant pruning of trees and shrubs should be undertaken outside of the main bird nesting season (i.e. during September to February inclusive). Where this is not possible, an ecologist should inspect these features for the presence of active bird nests within 24 hours prior to such work. If active nests are found, then they will need to be left undamaged until the chicks have fledged and the nest is no longer in use. Biodiversity net gain can be achieved through the provision of bird nesting boxes on trees adjacent to the site. (See: https://www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-small-birds/). Only trees which will not be disturbed in the foreseeable future should be used to mount such boxes.

Ecological feature and status	Potential for presence and likely impact	Recommendations
Reptiles All species protected by law: • Wildlife & Countryside Act 1981 (as amended) Listed under: • NERC Act 2006	There is only a single GIGL reptile record, for slow worm (*Anguis fragilis),* found ten years ago over 1km away. The site contains suitable habitat for reptile species within the woodland and on the woodland edge, as well as within small areas of longer grass (see Figure 2). However, the urban location and lack of records would suggest that reptile numbers are probably low, if present at all.	Given the very limited construction footprint and lower likelihood of encountering reptiles, further survey is not required. The risk can be managed through a reptile watching brief for contractors during site clearance and construction. A simple information sheet, ideally with photographic images of common reptiles, should be provided to contractors with advice not to harm these species and to report any sightings. All site personnel should sign to confirm they have received and understood this brief. In the unlikely event that a reptile (i.e. snake or lizard) is found within the works area during clearance or construction, it should be allowed/encouraged to escape unharmed to safe cover in retained, undisturbed habitat. If this doesn't happen, then a professional ecologist should be contacted for advice.
Great crested newt (GCN) (*Triturus cristatus*) Protected by law: • The Conservation of Habitats and Species Regulations 2017 (as amended) • Wildlife & Countryside Act 1981 (as amended) Listed under: • NERC Act 2006	There were no records of great crested newt returned by GIGL for the area within the 1km search radius of the site. The nearest notable amphibian record is for common toad (*Bufo bufo*) located 166m to the west in 2015. According to OS mapping, there are no ponds within 250m of the site. There are no ponds within the survey area and the site manager advised that there are no garden ponds within the client's landholding. Therefore, the risk of notable amphibian presence within the proposed works area is considered negligible for great crested newt and low for common toad.	N/A

Ecological feature and status	Potential for presence and likely impact	Recommendations
Badger *(Meles meles*) Protected by law: Protection of Badgers Act 1992	There are GIGL-held records of badger within 1km of the site as recently as 2018. The exact location has been kept confidential by GIGL. Several mammal burrows large enough to accommodate badger were found on site during the survey, but these appear to be currently disused (Target Note 4). One burrow entrance on the southern site boundary (Target Note 5) was active (fresh spoil) but smelled strongly of fox. There were also prey bird remains nearby suggestive of fox habitation. The burrows seen are likely to be either disused or used by fox, but given the recent record of badger within the wider area (1km radius) and the presence of suitable mammal burrows, the risk of badgers using these as occasional 'outlier' setts prior to and during construction cannot be confidently ruled-out without precautionary survey/monitoring.	As there could be construction within 10m of the nearest (currently disused) burrows (Target Note 4), these should be inspected by an ecologist prior to the commencement of site clearance and construction. Ideally, a period of remote camera ('camera-trap') monitoring, plus placement and monitoring of loosely arranged vertical sticks and sand at the burrow entrances, should be undertaken by an ecologist several months prior to starting works. In the event that badgers are found to be using these burrows (as an outlier sett), a license to disturb or even temporarily close the sett may be required. As such licenses can take up to six weeks to obtain, the recommended further survey/monitoring should ideally take place at least two months prior to the planned start-date. Sett closure can only take place in the period July to November.
Dormouse (*Muscardinus avellanarius*) Protected by law: • The Conservation of Habitats and Species Regulations 2017 (as amended) • Wildlife & Countryside Act 1981 (as amended) Listed under: • NERC Act 2006	No records of this species were returned by GIGL for the 1 km search area. Although woodland habitat on a site in south-east England is normally considered to be suitable for dormouse, the lack of records, the urban setting and the lack of arboreal connectivity to larger areas of woodland and scrub in the wider area suggests dormice are likely absent from the site. The site is separated from woodland and scrub habitat of Hampstead Heath by West Heath Road, and even if it were connected, there appear to be no records of the species from this nearest part of Hampstead Heath. In any case, the proposed development will not result in significant loss of tree and shrub cover.	N/A

Bats All species are protected by law: • The Conservation of Habitats and Species Regulations 2017 (as amended) • Wildlife & Countryside Act 1981 (as amended) Some are also listed under: • NERC Act 2006	Various species of bat have been recorded within 1km of the site, as evidenced in the records provided by GIGL, the nearest being 28m away to the south of the site in 2016. These records were for common pipistrelle (*Pipistrellus pipistrellus)*, soprano pipistrelle (*P. pygmaeus)* and noctule (*Nyctalus noctule)*. There are no records within the site itself. There are no features with significant bat roost potential within the actual footprint of the proposed development, but there are multiple trees within relatively close proximity that have some potential for roosts. The nearest of these are shown as Target Notes 2 and 7 on Figure 2. Although it is understood that all mature trees are being retained, these nearest mature trees may be subject to some indirect damage in the longer term through damage to their expansive roots. Recent arboricultural survey (Landmark trees 2020) indicates that a small part of the root protection area of beech tree T4 (Target Note 2 on Figure 2) will be directly impacted (see Figure 3). Once built, the development may also incorporate artificial lighting which could adversely impact any bat roost within the immediate vicinity by affecting the bats' behaviour and expose to predation. The site is likely to provide a valuable local commuting and foraging corridor for bats, given the habitats present and their landscape connectivity. This again could be affected in a minor way by new lighting in an otherwise dark area of the neighborhood.	An assessment of the nearby mature trees (e.g. T4 and T2) should be undertaken by a qualified arboriculturist to identify the potential for temporary disturbance (e.g. vibration) and/or long-term damage. Any mature trees that will be disturbed or damaged will require a further assessment by an ecologist to determine their potential or actual use as a bat roost. If further survey identifies a bat roost that will be impacted by the proposals, a European Protected Species license will be required in order to proceed. Any external lighting that is installed as part of the proposed development should avoid illuminating any nearby mature tress and woodland habitat. Such lighting should therefore be limited to the minimum necessary and should follow the design advice given in '*Bats and artificial lighting'* by the Bat Conservation Trust and the Institution of Lighting Professionals (2018): • All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used. • LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability. • A warm white spectrum (ideally (ideally <2700Kelvin) should be adopted to reduce blue light component. • Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012). • Internal luminaires can be recessed where installed in proximity to windows to reduce glare and light spill. • The use of specialist bollard or low-level downward directional luminaires to retain darkness above can be considered. However, this often comes at a cost of unacceptable glare, poor illumination efficiency, a high upward light component and poor facial

Ecological feature and status	Potential for presence and likely impact	Recommendations
		recognition, and their use should only be as directed by the lighting professional. • Column heights should be carefully considered to minimise light spill. • Only luminaires with an upward light ratio of 0% and with good optical control should be used – See ILP Guidance for the Reduction of Obtrusive Light. • Luminaires should always be mounted on the horizontal, i.e. no upward tilt. • Any external security lighting should be set on motion-sensors and short (1min) timers. • As a last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. Biodiversity net gain could be achieved by providing artificial bat roost boxes on retained mature trees and/or the new building within the site. Only trees which will not be disturbed in the foreseeable future should be used to mount such boxes. (See: https://www.bats.org.uk/our-work/buildings-planning-and-development/bat-boxes)
Water vole (*Arvicola amphibius*) Protected by law: • Wildlife & Countryside Act 1981 (as amended) listed under: NERC Act 2006.	There are no water bodies on site or adjacent, so no suitable habitat for this species.	N/A

Ecological feature and status	Potential for presence and likely impact	Recommendations
Otter (*Lutra lutra*) Protected by law: • The Conservation of Habitats and Species Regulations 2017 (as amended) • Wildlife & Countryside Act 1981 (as amended) Listed under: NERC Act 2006	There are no water bodies on site or adjacent, so no suitable habitat for this species.	N/A
Hedgehog (*Erinaceus europaeus*) Listed under: NERC Act 2006	There are GIGL records of hedgehog within the 1km search radius, with the nearest (multiple occurrences) being 285m to the north. The site provides very good habitat for hedgehogs, so the risk of encountering them is relatively high.	Maintain a precautionary contractor's watching brief for hedgehogs when clearing any patches of dense vegetation or piles of debris. Any hedgehogs found should be carefully moved out of harm's way (with thick gloves) into suitable vegetation cover away from roads and vehicle access. Any steep-sided excavations that are left exposed overnight should be fitted with a ramp, such as a scaffolding plank, or some form of steps (e.g. sandbags) that would allow a hedgehog to escape the trench, should it fall or climb in. For biodiversity net gain, the site can be improved for hedgehogs by installing piles of logs and/or dense brushwood for shelter and invertebrate prey. Also, boundary fencing could be designed to leave occasional small gaps at the base suitable for hedgehogs to pass through.

Appendix A – Photographs (2 September 2020)

1. The site of proposed development: mostly lawn, with adjacent young trees in background. See Figure 2.

2. View from east corner of site looking west. Lawn-covered proposed access route for construction machinery. In the background is the woodland habitat adjacent to proposed development site (out of sight). Narrow semi-natural neutral grassland bank on right (see Figure 2).

3. One of the three disused mammal burrows (Target Note 4 on Figure 2)

4. Active mammal burrow – likely to be currently used by fox (Target Note 7 on Figure 2).