The Royal Parks

Roehampton Gate Cafe
Preliminary Ecological Appraisal

Final report
Prepared by LUC
July 2024

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Preliminary Ecological Appraisal

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Chapter 1
Introduction

1.1 In July 2023, LUC was appointed by The Royal Parks (TRP) to undertake an updated Preliminary Ecological Appraisal (PEA) for the proposed upgrade of Roehampton Gate Café, Richmond Park, hereafter referred to as 'the Site'. Specifically, this was to inform a planning application for the construction of a new café, cycle hire facility, public toilets and associated landscaping and car parking to replace the existing poor-quality facilities. The project proposes the demolition of existing buildings and revisions to Site entrances in order to construct the new development. LUC previously prepared a PEA and undertook bat surveys at the Site in 2022, but due to the amount of time elapsed since these works, an updated survey was required to identify any changes in baseline conditions.

1.2 The PEA presents the findings of a desk study, an Extended Phase 1 Habitat survey, Preliminary Bat Roost Assessment (PRA) and bat emergence/re-entry surveys. It subsequently includes recommendations for avoidance and mitigation of ecological impacts, including the requirement for any further protected species surveys.

1.3 This report has been prepared for the exclusive use of TRP. No part of this report should be considered legal advice.

Site Description

1.4 The Site lies within the Northeast corner of Richmond Park, to the East of Priory Lane (OS grid reference: TQ 21328 74061). The Site was occupied by a café with decked seating area, temporary public toilets, a cycle hire building, cycle shed, cycle infrastructure and car parking. The habitats that were recorded on the Site were predominantly hardstanding, building and amenity grassland, with areas of poor semi-improved grassland and broadleaved scattered trees. Details regarding these habitats can be found in **Appendix B, Figure 1**.

Surrounding Habitat

1.5 To the East and Southeast of the Site lie urban areas, including Alton Estate and Alton Primary School. To the South lies the parks golf course and to the North and West lies Richmond Park. The Site is surrounded by green space and designated areas (Chapter 3, Table 3.1) which support

habitats of greater ecological value, such as acid grassland and wet heathland and species of value including the stag beetle *Lucanus cervus*.

Policy and Legal Considerations

1.6 This report has been prepared in accordance with relevant legislation and policy. Further detail is provided in **Appendix A**. The primary documents of relevance are outlined below:

- The Wildlife and Countryside Act of 1981 (as amended).
- The Countryside and Rights of Way Act (CRoW Act), 2000 (as amended).
- The Natural Environment and Rural Communities Act 2006 (NERC Act).
- The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (Eu Exit) Regulations 2019 (SI 2019/579).
- The National Planning Policy Framework (July 2021).
- Adopted Local Plan – Richmond Upon Thames (July 2018)[1].
- Environment Act 2021.

[1] London Borough of Richmond Upon Thames, Local Plan (July 2018) https://www.richmond.gov.uk/media/15935/adopted_local_plan_interim.pdf

Chapter 2
Methods

2.1 The methods adopted in the survey and appraisal are outlined below. They are in accordance with best practice guidance documents produced by the Chartered Institute of Ecological and Environmental Management[2] and the British Standards Institute[3].

Desk Study

2.2 To provide additional background to the report and to highlight likely features or species of interest, a study of available biological records was undertaken to identify sites designated for their nature conservation value, and existing records of protected or notable species of relevance to the Site. A search of the following resources was undertaken, within a 2km radius from the Site:

- Greenspace Information for Greater London CIC (GiGL) – records of protected and notable species and statutory and non-statutory designated sites.
- Multi-Agency Geographical Information for the Countryside (MAGIC) – records of statutory designated sites.
- Ordnance Survey (OS) mapping.
- Aerial photography.

Extended Phase 1 Habitat Survey

2.3 An Extended Phase 1 Habitat Survey was undertaken within the Site boundary in line with standard methods set out by the Joint Nature Conservation Committee Handbook for Phase 1 Habitat Survey (1990)[4]. Phase 1 Habitat Survey provides a rapid means of classifying broad habitat types in any given terrestrial site.

2.4 The survey was 'extended' to consider the suitability of the Site to support notable or protected flora or fauna. Species considered included those identified during the desk study, and those considered appropriate by the surveyor during the

[2] CIEEM (2017). Guidelines for Preliminary Ecological Appraisal. 2nd Edition. Chartered Institute for Ecology and Environmental Management, Winchester.
[3] BSI (2021). BS 8683:2021: *Process for designing and implementing Biodiversity Net Gain*. British Standards Institution, Bristol.
[4] Joint Nature Conservation Committee (2010). Handbook for Phase 1 habitat survey - a technique for environmental audit. JNCC, Peterborough.

survey. This included consideration of the following species: badger, bats, birds, great crested newt (GCN), reptiles and invertebrates. In particular, an assessment was made for the potential for trees and buildings to support bat roosts (see below), as well as the potential for nesting birds. Based on an understanding of species ecology, consideration was given to the Site's potential to provide sheltering or foraging habitat and/or connectivity to allow dispersal between populations.

2.5 The Extended Phase 1 Habitat Survey and Preliminary Bat Roost Assessment (see below) was carried out on the 25th of July 2023 by Jasmine Bernard BSc, a Qualifying member of CIEEM and Pedro Freitas, a Qualifying member of CIEEM, with due consideration for best practice guidelines as outlined by the Bat Conservation Trust[5],[6],[7]. Weather conditions during the survey were mild, dry, and sunny.

Preliminary Bat Roost Assessment

2.6 In addition to the Extended Phase 1 Habitat Survey, a preliminary bat roost assessment (PRA) of the buildings, including café building, cycle hire, cycle shed and toilet block, and trees within and immediately adjacent to the Site, which have potential to be affected by proposals, was undertaken. The Preliminary Roost Assessment comprised of a detailed search from ground level of any external features on the trees and buildings with potential to support access points and roosting places suitable for bats. Evidence of bat activity was noted where present, such as droppings, staining, feeding remains and presence of bats (live/dead specimens). Where appropriate, an endoscope was used to support investigations of crevices for bat activity.

2.7 The café building loft space was subject to an internal inspection. The survey sought to examine all accessible internal cavities with potential to support bats. The aim of the internal inspection was to provide an increased level of accuracy in terms of the categorisation of Bat Roost Suitability (BRS), whilst also searching for evidence of bat presence including droppings, feeding remains, staining, and the presence of bats (both live and/or dead). The internal inspection was carried out in line with good practice guidance[2.3].

2.8 Additionally, the habitats within and surrounding the Site were assessed for their suitability to support foraging and commuting bats, and to identify potential commuting links to habitats of value to bats in the wider area.

2.9 When potential roosting features (PRFs) were recorded, they were classified in accordance with the categories described in **Table 2.1** below.

Table 2.1: Bat Roost Suitability Criteria

Bat Roost Suitability Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Survey Requirements
Negligible	Negligible habitat features likely to support roosting, commuting or foraging bats.		No further surveys required
Low	Structures in this category offer one or more potential roost sites for individual, opportunistically roosting bats. These sites do not offer the space, shelter, or appropriate conditions to support large numbers of bats or maternity roosts. Trees in this category include those of sufficient size and age to support suitable roosting features but none are visible from the ground.	Habitat on and around the site could be used by a small number of commuting bats. This category includes densely urbanised landscapes or linear vegetation features poorly connected to the wider landscape (e.g., gaps in hedges in an agricultural context).	One dusk or dawn survey required for structures. No surveys required for trees.
Moderate	Structures and trees in this category offer one or more roost site that, due to their space, shelter, or conditions, offer roosting potential for a range of species. Roosts	Habitat on and around the site is well-connected to wider continuous habitat and offers commuting and foraging habitat to a larger number of bats across	One dusk and one dawn survey required for both

[5] Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London.
[6] BCT (2022). Interim Guidance Note: Use of night vision aids for bat emergence surveys and further comment on dawn surveys. The Bat Conservation Trust, London.
[7] ILP and BCT (2023). Guidance Note GN08/23: Bats and Artificial Lighting At Night. Institution of Lighting Professionals, Rugby.

Bat Roost Suitability Category	Roosting Habitat Features	Commuting and Foraging Habitat Features	Survey Requirements
	may be more permanent, rather than opportunistic. Small maternity roosts of common species may form in one of these roost sites.	several species (e.g., tree lines or linked gardens in the urban context, or continuous hedge/tree lines and watercourses in an agricultural setting).	structures and trees. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.
High	Structures and trees in this category have one or more potential roost sites that are suitable for large number of bats. Roosts are likely to be permanent and include maternity roosts. Potential roost sites exist for a wide range of species or species of particularly conservation interest.	Habitat on and around the site is diverse, continuous, and linked to extensive suitable habitat. This category includes well-vegetated rivers, streams, hedgerows, and woodland edge. Habitat is sufficiently diverse to offer opportunities to a wide range of species or those of particular conservation interest.	Three surveys, including both dusk and dawn surveys. Tree-climbing may be an appropriate alternative to dusk and dawn surveys.

Further Bat Surveys

2.10 Emergence/re-entry surveys of structures and trees identified as having BRS, and which were likely to be affected by the proposed development, were undertaken to determine the presence or likely absence of bat roosts. This included:

- Café building;
- The cycle hire;
- The cycle shed; and
- T41.

2.11 All surveys were undertaken between July and September 2023, to coincide with the optimal season for bat roost surveys. Surveys were completed during suitable weather conditions and in line with good practice guidance[2.5]. Emergence surveys commenced at least 15 minutes prior to sunset and continued until at least 1.5 hours after sunset.

2.12 Surveyors carried Bat Box Duet heterodyne detectors, Batloggers M or EM2 detectors and Anabat Express frequency division detectors. Bat sonograms were logged for subsequent analyses and species identification using Analook software (if required).

2.13 Infra-red (IR) cameras were used on buildings and the tree during each survey to aid confirmation of presence or likely absence of roosts.

2.14 Survey dates, timings and environmental conditions during the emergence/re-entry surveys are provided in **Table D.1 and D.2, Appendix D**.

Limitations and Constraints

2.15 During the internal bat inspection of the café building, surveyors were unable to stand in the loft space due to health and safety issues, therefore, were not able to undertake a full inspection of the space. However, the full loft space could be seen from the loft entrance point and assessed from a distance for its suitability to support roosting bats. Additionally, a full external inspection of the whole building was undertaken with the use of torches which allowed surveyors to be confident regarding the potential for the building to support roosting bats. Two emergence surveys were undertaken on the whole building, including the area not fully surveyed internally to be able to confirm probable absence of roosting bats in the building. Therefore, this was not considered a major limitation to the robustness of the overall survey.

2.16 The analysis of bat detector calls can be prone to subjectivity, but has been undertaken by experienced surveyors, following appropriate guidance and training in bat call analysis. Bat species identification was interpreted using known call parameters and existing literature[8] on the ecology of UK bat species, including distribution, range, habitat associations and behavioural characteristics, in addition to professional judgement. Every attempt was made to identify bats to species level. However, it is not always possible to

[8] Russ J. (2012). *British Bat Calls: A Guide to Species Identification*. Pelagic Publishing, Exeter.

identify some *Myotis, Pipistrellus and Nyctalus* bats to species level. For example, differentiating between the echolocation calls of the common pipistrelle (which echolocate at a peak frequency of approximately 45kHz) and the soprano pipistrelle (which peaks at approximately 55kHz) is not always possible where recordings peak at the intermediate frequency of 50kHz. This is a widely accepted limitation and in such cases these passes are therefore classified at the Genus level only (i.e., *Pipistrellus* sp., *Myotis* sp., or *Nyctalus* sp.).

2.17 Particular care was taken when identifying members of the *Myotis* genus due to significant overlaps in their call parameters. These identifications should be considered as *Myotis* calls with the characteristics of the named species, based on comparison with a known call sequence from a bat flying in a similar situation, and should therefore be treated as likely, rather than definitive identifications.

2.18 The third emergence survey, which was undertaken in September and covered T41 and Cycle Shed, had unseasonably warm weather and as a result bats previously found roosting in the Cycle Shed may have moved to a cooler location given the high level of exposure to weather conditions.

2.19 During the Site visit there was no access to the woodland area adjacent to the redline boundary to Southeast, therefore, species identification was only possible from a distance. However, this small part of the Site away from the main area, only includes a gap in a line of trees connected to adjacent woodland, a fence line and woodland ground flora, which was visible whilst on Site. Therefore, it is not considered a major limitation to the robustness of the overall survey.

2.20 It is important to note that ecological surveys provide a ‘snapshot’ of the ecological baseline at the time of the survey. Therefore, if significant time lapses between the surveys and the further development or implementation of proposals, updated ecological surveys may be required to identify any change in the baseline, such as natural succession of habitats, or local extinction or colonisation of species. Ecological surveys can generally be considered as up to date for 1 to 3 years dependent on the nature of the site, ecological baseline, development proposals and likely impact. Therefore, if a year lapses between the progression of development proposals, it is recommended that ecological advice is sought regarding the applicability of the survey findings.

Chapter 3
Results

Desk Study

3.1 The findings of the desk study are presented in **Tables 3.1** and **3.2** below. These tables list designated sites, relevant protected areas, and notable species of relevance to the Site which have been recorded within a 2km search radius from the centre of the Site.

Table 3.1: Designated Sites

Site Name	Designation	Qualifying Features	Distance / Orientation
Statutory Sites			
Richmond Park	Special Area of Conservation (SAC) National Nature Reserve (NNR) Site of Special Scientific Interest (SSSI)	The site is 846.68ha and is managed as a royal deer park providing a range of habitats of value to wildlife. Richmond Park is recognised for its diverse deadwood beetle fauna associated with the ancient trees. The site is at the heart of the South London centre of distribution for stag beetle. Habitats include dry acid and neutral grassland, species-poor wet grassland, mire, plantation woodlands, steams, ponds, veteran trees, scrub, and bracken. The Royal Parks Agency have been given approved body status to manage the park as a NNR. Richmond Park has been designated by Natural England as a SSSI as the area supports the most important area of lowland acid grassland in the Greater London region, which along with the ancient trees of the park supports a wide range of invertebrates.	On Site
Wimbledon Common	SAC SSSI	Wimbledon Common is 346.5ha and supports habitats and species that are rare or threatened within a European context, including Northern Atlantic wet heaths with cross-leaved heath *Erica tetralix* and European dry heaths. The site also supports scarce invertebrate species associated with decaying timber, including stag beetle. The site is recognised as a SSSI due to its important grassland and heathland habitats.	1.5km Southeast
Barnes Common	Local Nature Reserve (LNR)	Barnes common is 41.7ha and makes up several habitats including, acid grassland, acid scrub, woodland, and neutral grassland. Declaration is given to enable byelaws to be passed to facilitate adequate control of activities on the site and secure its long-term future as a protected wildlife site.	1.8km Northeast

Site Name	Designation	Qualifying Features	Distance / Orientation
Non-Statutory Sites			
Richmond Park and Associated Areas	Sites of Importance for Nature Conservation (SINCs) - Site of Metropolitan Importance	In addition to Richmond Park, this site includes Richmond Park and Sudbrook Park Golf Courses as well as Ham, Petersham, East Sheen and Palewell Commons, covering 1063.55ha. Together they form an extensive area of high-quality wildlife habitats. The habitats on these sites support numerous regionally uncommon plants and fauna.	On Site
Roehampton Club Golf Course	SINC – Sites of Borough Importance (B2)	Roehampton Club Golf Course is 34.16ha and provides good wildlife habitats in the form of acid grassland, scattered trees, secondary woodland, semi-improved neutral grassland. Acid grassland flowers that can be found here include sheep's sorrel *Rumex acetosella* and cats-ear *Hypochaeris radicata*.	0.3km Northeast
Beverley Brook	SINC – Sites of Borough Importance (B1)	A brook running adjacent to the Roehampton Gate Café which is wildlife-rich forming a valuable green corridor. Important habitats include wooded banks, aquatic vegetation, running water and scrub.	0.3km West
Bank of England Sports Club Grounds	SINC – Sites of Borough Importance (B2)	The Bank of England Sports Club Grounds cover 15.6ha of land. The sports pitches are surrounded by woodland and scattered trees. The woodland on its eastern edge is the most important part of the site in regard to nature conservation. The woodland has a mix of sycamore *Acer pseudoplatanus*, oak *Quercus sp.*, beech *Fagus sylvatica* and various exotics including conifers.	0.8km North
Roehampton University	SINC – Sites of Borough Importance (B1)	Roehampton University is 20.16ha and the grounds support grassland, ponds, and woodland habitats. The main features of conservation interest are the two ponds which have natural banks and lush diverse marginal vegetation including locally uncommon club-rush and nodding bur-marigold *Bidens cernua*.	1.0km Northeast
East Sheen and Richmond Cemeteries and Pesthouse Common	SINC – Sites of Local Importance	Two cemeteries and a common with a good range of grassland habitats, scattered trees, secondary woodland, and scrub. These areas compliment the higher quality habitats in the adjacent Richmond Park NNR.	1.3km Northwest
Wimbledon Common and Putney Heath	SINC – Site of Metropolitan Importance	The common is 448.2ha and includes the largest area of wet heath in London and one of the capitals few bogs, providing a home for rare plants and insects. It also includes Fishpond Wood and Beverly Meads. The heathland and bog support locally scarce cross-leaved heath *Erica tatralix*, bog-mosses, floating club-rush *Eleogiton fluitans*, lemon-scented fern *Oereopteris limbosperma*, star sedge *Carex echinate* and liverwort *Pallavicinia lyellii*. As well as supporting beetle assemblages, the site has one of the most diverse assemblages of dragon/damselflies in London.	1.5km Southeast

Site Name	Designation	Qualifying Features	Distance / Orientation
Old Mortlake Burial Ground	SINC – Sites of Local Importance	A small cemetery of 1.47ha with mature trees and a reasonably diverse selection of wildflowers.	1.5km North
Putney Vale Cemetery	SINC – Sites of Borough Importance (B2)	The cemetery covers 18.15ha and has extensive wildlife habitats in amenity grassland, scattered trees, semi-improved neutral grassland, and vegetated walls/tombstones. The sites ornamental areas are also important habitats for wildlife, providing excellent nectar resources and structural diversity.	1.6km South
Putney Park Lane and The Pleasance	SINC – Sites of Local Importance	Historic green plane leading from Upper Richmond Road to Putney Heath, together with a small park covering 3.02ha. There are a good range of mature trees, and the site provides a valuable wildlife corridor. The rare white-letter hairstreak butterfly makes use of the Southern end.	1.6km Northeast
Barnes Common	SINC – Site of Metropolitan Importance	Barnes common SINC is a large common with fine grassland and several rare plants in the clearings in the woodland and scrub habitats. Species present include the nationally scarce white-letter hairstreak *Satyrium w-album* and London rarities creeping willow *Salix repens*, mat-grass *Nardus strictus* and slender St Johns-wort *Hypericum pulchrum*.	1.8km Northeast
Richard Evans Memorial Playing Fields and Stag Lane	SINC – Sites of Borough Importance (B2)	A large recreation area covering 15.78ha with some damp grassland and a green lane. There are two features of particular nature conservation value. The first is a war memorial with a circular area of damp grassland, an uncommon habitat in the Borough. The second is Stag Lane, a green lane leading from the playing fields to Wimbledon Common, lined with a fine old hedge of hawthorn, elder *Sambucus nigra*, holly *Ilex aquilifolium* and elm *Ulmus* sp. Old hedges such as this are rare in the Borough of Wandsworth.	1.8km South

Table 3.2: Relevant Protected and Notable Species Records

Species Name	Status	Distance/Orientation (m)
Amphibians		
Common frog *Rana temporaria*	HSD[9] LPS[10]	0.5km East
Great crested newt *Triturus cristatus*	HSD Cons Regs 2010 Sch2[11]	0.7km Southeast

[9] Habitat and Species Directive
[10] London BAP Priority Species
[11] The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)

Species Name	Status	Distance/Orientation (m)
	W&CA Sch5 Sec 9.4b & 9.4c[12] NERC Act Section 41[13] LPS Local Spp of Cons Conc	
Common toad *Bufo bufo*	NERC Act Section 41[14] Local Spp of Cons Conc[15]	0.7km Southeast
Reptiles		
Common lizard *Zootoca vivipara*	W&CA Sch5 Sec 9.1 NERC Act Section 41 LPS Local Spp of Cons Conc	0.6km Northwest
Grass snake *Natrix Helvetica*	W&CA Sch5 Sec 9.1[16] NERC Act Section 41 [17] LPS[18] Local Spp of Cons Conc	0.8km Northwest
Slow-worm *Anguis fragilis*	W&CA Sch5 Sec 9.1 NERC Act Section 41 LPS Local Spp of Cons Conc	1.5km North
Birds		
Tawny owl *Strix aluco*	LPS	0.05km Northeast
Starling *Sturnus vulgaris*	LPS Local Spp of Cons Conc Bird-Red	0.2km West
Lesser spotted woodpecker *Dryobates minor*	LPS Local Spp of Cons Conc Bird-Red[19]	0.3km North

[12] Wildlife and Countryside Act 1981 (as amended) Schedule 5 section 9.4b and 9.4c
[13] Natural Environment and Rural Communities Act 2006 – Species of Principal Importance in England
[14] Natural Environment and Rural Communities Act 2006 – Species of Principal Importance in England
[15] Local Species of Conservation Concern
[16] Wildlife and Countryside Act 1981 (as amended) Schedule 5 section 9.1.
[17] Natural Environment and Rural Communities Act 2006 – Species of Principal Importance in England
[18] London BAP Priority Species
[19] Birds Population Status -Red

Species Name	Status	Distance/Orientation (m)
Swift *Apus apus*	LPS	1.6km Southwest
Merlin *Falco columbarius*	W&CA Sch1 Part 1 Bird-Dir Anx 1 Bird-Red	1.6km Southwest
Wryneck *Jynx torquilla*	W&CA Sch1 Part 1	1.6km Southwest
Spotted flycatcher *Muscicapa striata*	LPS[20] NERC Act Section 41[21] Local Spp of Cons Conc[22] Bird-Red	1.6km Southwest
Firecrest *Regulus ignicapilla*	W&CA Sch1 Part 1	1.6km Southwest
Mistle thrush *Turdus viscivorus*	LPS Local Spp of Cons Conc Bird-Red	1.6km Southwest
Mammals		
European Hedgehog *Erinaceus europaeus*	NERC Act Section 41 LPS Local Spp of Cons Conc RedList_GB-VU[23]	0.8km East
Badger *Meles meles*	Protection of Badgers Act 1992	Confidential
Bats		
Nathusius pipistrelle *Pipistrellus nathusii*	Hab&Spp Dir Anx 4[24] Cons Regs 2010 Sch2[25] W&CA Sch5 Sec 9.4b and 9.4c[26] LPS Local Spp of Cons Conc RL_LowerRisk[27]	0.6km Southwest

[20] London BAP Priority Species
[21] Natural Environment and Rural Communities Act 2006 – Section 41
[22] Local Species of Conservation Concern
[23] IUCN (2001) Red List - Vulnerable
[24] Habitat and Species Directive: Annex 4
[25] The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)
[26] Wildlife and Countryside Act (as amended) 1981 Schedule 5 Section 9.4b and 9.4c
[27] Red List Species Lower Risk

Species Name	Status	Distance/Orientation (m)
	LPS	
Common pipistrelle *Pipistrellus pipistrellus*	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c Local Spp of Cons Conc LPS	0.7km South
Daubentons Bat *Myotis daubentonii*	Hab&Spp Dir Anx 4[28] Cons Regs 2010 Sch 2[29] W&CA Sch5 Sec 9.4b and 9.4c[30] LPS[31] Local Spp of Cons Conc[32]	0.8km North
Leislers Bat *Nyctalus leisleri*	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c NERC Act Section 41[33] Local Spp of Cons Conc RL_LowerRisk[34]	0.8km Southwest
Brown Long-eared Bat *Plecotus auritus*	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c NERC Act Section 41 LPS Local Spp of Cons Conc	1.2km East
Natterers Bat *Myotis nattereri*	Hab&Spp Dir Anx 41 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c LPS Local Spp of Cons Conc	1.3km Southwest
Whiskered Bat *Myotis mystacinus*	Hab&Spp Dir Anx 4	1.6km West

[28] Habitats and Species Directive Annex 4
[29] The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)
[30] Wildlife and Countryside Act 1981 (as amended) Schedule 5 section 9.4b and 9.4c
[31] London BAP Priority Species
[32] Local Species of Conservation Concern
[33] Natural Environment and Rural Communities Act 2006 – Section 41
[34] Red List Species Lower Risk

Species Name	Status	Distance/Orientation (m)
	Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c Local Spp of Cons Conc	
Myotis *Myotis* Sp.	Habs&Spp Dir Anx 2[35] Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c NERC Act Section 41[36] Local Spp of Cons Conc[37] RL_CriticalEndangered[38]	1.6km South
Serotine *Eptesicus serotinus*	Hab&Spp Dir Anx 4[39] Cons Regs 2010 Sch2[40] W&CA Sch5 Sec 9.4b and 9.4c[41] Local Spp of Cons Conc LPS RedList_GB_VU[42]	1.7km Northwest
Soprano pipistrelle *Pipistrellus pygmaeus*	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c NERC Act Section 41 LPS Local Spp of Cons Conc	1.9km North
Noctule *Nyctalus noctula*	Hab&Spp Dir Anx 4 Cons Regs 2010 Sch2 W&CA Sch5 Sec 9.4b and 9.4c NERC Act Section 41 LPS[43] Local Spp of Cons Conc	1.9km North

[35] Habitats and Species Directive Annex 2
[36] Natural Environment and Rural Communities Act 2006 – Section 41
[37] Local Species of Conservation Concern
[38] IUCN (2001) Red List – Critically Endangered
[39] Habitats and Species Directive Annex 4
[40] The Conservation (Natural Habitats, &c.) Regulations 2010 (Schedule 2)
[41] Wildlife and Countryside Act 1981 (as amended) Schedule 5 section 9.4b and 9.4c
[42] IUCN (2001) Red List - Vulnerable
[43] London BAP Priority Species

Species Name	Status	Distance/Orientation (m)
Invertebrates		
Stag beetle	Hab&Spp Dir Anx 2 NERC Act Section 41 LPS Nationally Notable B	0.2km West
Small copper *Lycaena phlaeas*	LPS	0.2km Northwest
White admiral *Limenitis camilla*	NERC Act Section 41[44] LPS Local Spp of Cons Conc RL_LowerRisk	1.4km South
Purple emperor *Apatura iris*	LPS[45] Local Spp of Cons Conc[46] RL_Lower Risk[47]	2.0km Southwest
Invasive Species (within 1km accuracy)		
Ring-necked parakeet *Psittacula krameri*	LISI Category 4[48]	0.9km East

Extended Phase 1 Habitat Survey

3.2 Habitat descriptions are set out below. While considering this information, reference should be made to the Phase 1 Habitat Survey Map presented in **Appendix B.** Target notes are presented in **Appendix C.**

Hardstanding and Building (J3.6)

3.3 Hardstanding was recorded in the form of a large car park and public footpaths. This habitat dominated the Site, compartmentalising the amenity grassland and buildings within.

3.4 There were four buildings / structures recorded on Site. These comprised the following:

- Prefabricated public toilets, situated in an additional area of the red line boundary to the southeast of the main Site.
- Café building, situated in the centre of the Site.
- Cycle hire, north adjacent to the café.
- Cycle shed, north adjacent to the café.

Bare Ground (J4)

3.5 Bare ground was recorded on Site in the form of small, localised areas within the grassland habitat, resulting from heavy recreational use. Along the western boundary of the Site, there was a bare ground public footpath extending across the entire length of the Site (north to south).

Amenity Grassland (J1.2)

3.6 Areas of amenity grassland were recorded predominantly along the western border of the Site boundary. There were smaller areas of amenity grassland by the café and behind the cycle shed. Grasslands were species-poor, regularly managed for amenity use, and were comprised of

[44] Natural Environment and Rural Communities Act 2006 – Section 41
[45] London BAP Priority Species
[46] Local Species of Conservation Concern
[47] IUCN Red List Species – Lower Risk
[48] London Invasive Species Initiative Category 4

common species, including dominant perennial rye grass *Lolium perenne* and cock's-foot *Dactylis glomerata*, abundant false oat-grass *Arrhenatherum elatius* and smaller cat's-tail *Phleum bertolonii*, and locally abundant wall barley *Hordeum murinum*, frequent annual meadow grass *Poa annua*, creeping bent *Agrostis stolonifera*, and hedge mustard *Sisymbrium officinale*, and locally frequent white clover *Trifolium repens*, occasional dandelion *Taraxacum* agg., cleavers *Galium aparine*, cat's ear *Hypochaeris radicata*, and common ragwort *Jacobaea vulgaris*, locally occasional ribwort plantain *Plantago lanceolata*, rare crested dog's-tail *Cynosurus* cristatus, and locally rare dove's-foot crane's-bill *Geranium mole*.. The Western areas of grassland had bare patches due to erosion from recreational use.

3.7 The amenity grassland across the Site also supported numerous scattered trees (see below).

Poor Semi-Improved Grassland (B6)

3.8 Two areas of less intensively managed poor semi-improved grassland were recorded in the northwest and south of the Site. These areas had a longer sward, were more tussocky and supported common species. To the Northeast, this was dominated by false oat-grass and local dominant common nettle *Urtica dioica*, with abundant creeping bent and annual meadow grass, frequent barren brome *Anisantha sterilis*, perennial rye grass, timothy *Phleum pratense* and cat's ear, and occasional wall barley. The South of the Site was dominated by wall barley, with abundant perennial rye grass, frequent hedge mustard, occasional white clover and dove's-foot crane's-bill, and rare shepherd's purse *Capsella bursa-pastoris* and cock's-foot.

Broadleaved Scattered Trees (A3.1)

3.9 Scattered trees were recorded across the Site, predominantly within the grassland habitats but also within hardstanding. Tree species that were dominant included English oak *Quercus robur*, with abundant hawthorn *Crataegus monogyna* and cockspur hawthorn *Crataegus crus-galli*, occasional sweet chestnut *Castanea sativa*, hornbeam *Carpinus betulus* and English elm *Ulmus procera*, and rare Norway maple *Acer platanoides* and elder *Sambucus nigra*.

3.10 There was a mixture of both young and mature tree species across the site, including one veteran sweet chestnut tree and a dying mature elm tree.

3.11 The Site presents suitable deadwood habitat especially in the form of veteran trees, which have a higher ecological value due to its importance for stag beetle.

Line of Trees (J5)

3.12 The Site presents a line of trees to the south of the Site with dominant hawthorn and cockspur hawthorn, which has potential to be used by foraging and commuting bats, although is limited by the young age of the trees.

3.13 Another line of trees is located by an area of woodland and adjacent to Southeast of Site where a new gate is proposed to be located.

Semi-Natural Broadleaved Woodland (A1.1.1)

3.14 A single area of woodland was present adjacent to the redline boundary to the southeast of the Site. This habitat includes dominant English elm, abundant ash *Fraxinus excelsior*, and rare holm oak *Quercus ilex* and sycamore *Acer pseudoplatanus*. Ground flora was species-poor and dominated by ivy *Hedera* sp. with occasional bryony *Bryonia* sp.

Protected and Notable Species

Bats

3.15 The following bat records were provided by GiGL within 2km of the Site:

- Common pipistrelle.
- Soprano pipistrelle.
- Nathusius pipistrelle.
- Noctule.
- Leisler's bat.
- Serotine.
- *Myotis* Sp.
- Daubentons bat.
- Whiskered bat.
- Natterers bat.
- Brown long-eared bat.

Habitat Appraisal

3.16 The Site supported areas of suitable foraging habitat, including mature and veteran scattered trees, tree lines, poor semi-improved grassland, and amenity grassland with a high sward, which was connected to high suitability habitat in the wider environment, which included acid grassland, wet heathland, and mature woodland habitat. In comparison to the surrounding habitat, the Site had limited opportunities for notable species.

Preliminary Roost Assessment

3.17 A number of trees and buildings were noted as having BRS, given the presence of features such as gaps in buildings, woodpecker holes and open cavities. Pipistrelle bats could utilise both the trees and buildings for roosting sites, whilst noctules would be expected to only utilise the tree habitat.

3.18 The findings of the preliminary bat roost assessment of the trees and buildings within the Site are provided below. While considering this information, reference should be made to the Phase 1 Habitat Survey Map and Bat Roost Suitability Map presented in **Appendix B, Figure 1**.

Internal Inspection

3.19 The loft void of the café building was searched for signs of bats including droppings, staining and live or dead bats. No evidence of bats was found within the building. The loft void itself was 1.5m to apex and external light could be seen through the gaps in the roof.

Buildings

3.20 The cycle hire was assessed as having **low BRS**, the café building was determined to have a **moderate BRS**, and the cycle shed was **confirmed** to support a **bat roost.**

3.21 The cycle hire building to the west was wood panelled with a pitched bitumen roof in good condition. On the northern aspect, a 1cm wide gap was noted under the soffit box by the netting, extending the full length of the shed. On the eastern and southern aspect, a long thin gap was found under the soffit.

3.22 The cycle shed to the east, was also wood panelled with a pitched bitumen roof in good condition. A 1cm wide gap was noted along the length of the soffit running east to west on the northern and southern aspects. The southern gap was wider and led to a light filled cavity space. No loft space was present. During the Site visit this building was **confirmed to support a bat roost**. A bat was recorded dwelling in the gap in the soffit on the Southern aspect of the building. During the emergence surveys, a maximum of three soprano pipistrelle bats were found roosting in this feature (see below 'Emergence Surveys').

3.23 The café building was comprised of timber cladding and a pitched slate roof in good condition with no gaps. There was a flat roof extension on the Southern aspect with a bitumen roof. The fascia was coming away leaving a gap at the front, as well as holes underneath the soffit box (South aspect). On the Eastern aspect of the café there was a hole leading to an internal roof void, and on the Northeast aspect there was a hole in the soffit also leading to an internal roof void. The internal roof void comprised plyboard flooring and wooden beam supports. Internal inspections found no evidence of bats or their roosts.

3.24 The toilet building in the south of the Site was a flat roofed, prefabricated structure and offered no opportunities for roosting bats as there were no crevices on the building for crevice dwelling bats. Therefore, the toilet building was assessed as having **negligible BRS**.

Trees

3.25 In total, 6 trees were recorded to have BRS. A summary of trees with low, moderate, or high BRS is provided in **Table 3.3**.

3.26 Full details of the trees and the features that were deemed suitable for roosting bats can be found in **Table C.2**, **Appendix C**.

Table 3.3: Summary of Preliminary Roost Assessment of Trees

Tree ID	Species	Bat Roost Suitability (BRS)
T47	Sweet chestnut	**Moderate BRS**
T46	Sweet chestnut	**Moderate BRS**
T42	English Oak	**Moderate BRS**
T41	Common Hornbeam	**Moderate BRS**
T34	English Oak	**High BRS**
T30	Sweet chestnut	**Moderate BRS**
T3	English Oak	**Low BRS**

Emergence Surveys

3.27 During emergence surveys, the Cycle Shed was found to have a low status soprano pipistrelle day roost, which was found in the gap in the soffit on the Southern aspect of the building. A maximum of three soprano pipistrelle bats were found roosting in this feature during the second emergence survey undertaken on Site.

3.28 T41, the Cycle Hire and Café had no confirmed roosts.

3.29 The Site was subject to moderate levels of bat activity with foraging and commuting bat species including common pipistrelle, Soprano pipistrelle, Noctule, Leisler's bat, Nathusius pipistrelle, and Serotine.

3.30 Full survey data is provided within **Tables D.1 and D.2, Appendix D.**

Badgers

3.31 A badger record was provided by GiGL, although the location in relation to the Site was confidential due to risk of persecution to this species.

Habitat Appraisal

3.32 The Site provided limited suitable habitat, primarily amenity grassland and poor semi-improved grassland for badger to forage. Given its known presence in the local area, it is likely that this species will disperse through the Site and into the wider area, which supports large areas of suitable habitat, including parkland habitat in Richmond Park to the west and gardens associated with residential housing in the east, for badger to forage, disperse and build setts. There was no suitable habitat within the Site for badger to excavate setts.

3.33 There was no evidence of badger identified during the Extended Phase 1 Habitat survey, however it is considered likely that badgers will occasionally visit the Site for foraging and dispersal.

Birds

3.34 The following relevant bird records were provided by GiGL within 2km of the Site:

- Swift.
- Lesser spotted woodpecker.
- Merlin.
- Wryneck.
- Spotted flycatcher.
- Firecrest.
- Tawny owl.
- Starling.
- Mistle thrush.

Habitat Appraisal

3.35 The Site provided suitable nesting habitat for common and widespread bird species, including a number of mature and veteran scattered trees.

Great Crested Newt (GCN)

3.36 Records of GCN were provided by GiGL 0.7km Southeast of the Site.

Habitat Appraisal

3.37 The Site itself did not support suitable breeding or terrestrial habitat for GCN, given it was predominately comprised of buildings, hardstanding and amenity grassland with scattered trees and small areas of poor semi-improved grassland.

3.38 The wider area supported suitable breeding and terrestrial habitat for GCN, including two ponds within 0.5km of the Site. This included one pond 0.1km to the west and one pond 0.2km to the south in the golf course. Previous records by Surrey Wildlife Trust from presence/likely absence surveys of the ponds in 2015[49] indicated likely absence from both ponds. Therefore, these ponds were not considered suitable to support a breeding GCN population.

Reptiles

3.39 The desk study recorded grass snake *Natrix Helvetica* 0.8km from the Site, slow-worm *Anguis fragilis* 1.5km from the Site and common lizard *Zootoca vivipara* 0.6km from the Site.

Habitat Appraisal

3.40 The Site supported some suitable habitat for reptiles in the form of two poor semi-improved grassland areas with long sward hight, however these areas were located close to intensely managed amenity grassland areas and there was constant presence of people, dogs, and cars with consequent high levels of disturbance. There was also lack of sheltering opportunities present. Due to a lack of suitable habitat within the Site, these species are not considered to be present onsite and will therefore not be considered further in this report.

Hedgehog

3.41 Hedgehogs were recorded within 2km of the Site, with the nearest record being 0.8km East.

Habitat Appraisal

3.42 The Site supported limited opportunities for this species with suitable habitat restricted to gaps underneath buildings and decking area, which provide opportunities for shelter and poor semi-improved grassland, which provide opportunities for foraging. Due to the presence of these habitats and its proximity to suitable habitat in the wider area, there is potential

[49] Surrey Wildlife Trust (2015). Great Crested Newt Survey Report: Richmond Park and Bushy Park. August 2015

for this species to shelter, forage and disperse through the Site.

Invertebrates

3.43 The following relevant invertebrate records were provided by GiGL within 2km of the Site:

- Stag beetle.
- White admiral.
- Small copper.

3.44 The Site supported suitable habitat for saproxylic species, given the presence of veteran trees with standing deadwood. This is discussed further in the 'Discussion' section below.

Chapter 4
Discussion

Designated Sites

4.1 There are 12 non-statutory sites identified within 2km of the Site. Richmond Park NNR, SINC, SSSI and SAC falls within the Site and covers a large area of 1063.55ha. Richmond Park has an extensive area of high-quality wildlife habitat which support numerous regionally uncommon plants and fauna.

4.2 Richmond Park, Wimbledon Common SAC and Wimbledon Common and Putney Heath SINC are recognised for their diverse beetle assemblages that are associated with ancient and decaying trees and deadwood. Important species recorded within these sites include the stag beetle.

4.3 The Site is functionally connected to the surrounding designations including Richmond Park SAC, NNR, SSSI and Barnes Common LNR through its scattered tree habitats which create a green corridor for wildlife. The scattered trees connect to the designated sites woodland habitat which provides additional foraging and commuting opportunities for various species. The Site was highly disturbed and fragmented by hardstanding so was unlikely to support the same species of flora and fauna as Richmond Park NNR, SINC, SSSI and SAC. However, there were deadwood features recorded on Site, suitable for saproxylic beetle assemblages, including the stag beetle.

4.4 Through a sensitive scheme design, the proposals have avoided the removal of any deadwood features within the Site. Therefore the proposals will ensure the retention of deadwood features within the Site, that may be utilised by species for which Richmond Park is designated for.

4.5 Where there is any excavation works in close proximity to existing deadwood, proposed works should be undertaken in line with a precautionary approach as detailed below in **paragraph 4.31** under **'Invertebrates'**.

4.6 Additionally, the scheme will be avoiding all designated habitats, such as the acidic grassland, veteran trees, woodland and wet heathlands. However, to ensure retained, adjacent designated habitats are not impacted through the scheme, further mitigation measures will need to be implemented during the proposed works to avoid impacting designated features of the SSSI/SAC. Further measures in regard to habitats are provided below under the **Mitigation** heading.

Habitats

4.7 The majority of the Site was comprised of low to negligible value habitats including building, hardstanding, amenity grassland and poor semi-improved grassland. In addition to this, the Site also supported a number of mature and veteran trees and tree lines, which are of higher ecological value. Specifically, in relation to veteran trees as per Natural England's Standing Advice Note[50], this habitat is considered to be irreplaceable and as such should be retained as part of any proposed scheme.

4.8 Proposed development will be focussed in areas of low to negligible ecological value and will avoid the significant loss of trees of high ecological value, including mature and veteran trees. To ensure no impacts arise from proposed development on adjacent, retained habitats, the following mitigation measures will be required.

Mitigation

Habitats

4.9 Best practice construction measures should be followed throughout the project, including secure storage and safe disposal of any materials and substances, and dust prevention measures, to prevent accidental contamination to the adjacent habitats.

Watercourses protection

4.10 There is potential for pollution and/or wastewater to be discharged into the adjacent Beverley Brook that then may leach to the wider area, impacting the quality of the connected watercourses and SSSI habitats.

4.11 Suitable mitigation measures to prevent these risks are as follows:

- Secure storage and safe disposal of any materials and substances to prevent accidental contamination;
- Any Site run-off will be captured in perimeter cut off ditches, settlement lagoons and/or settlement tanks that will provide a surface water management system to mitigate any adverse impact on the Site and the surrounding environments;
- Surface water management systems will remain isolated from the central ditch, with drainage infrastructure situated more than 10m away from the water environment;
- Stockpiles of construction materials and temporary toilets will be located at least 10m away from any waterbodies or drainage lines and perimeter fencing will be erected;
- Designated refuelling areas will be installed and double bunded to reduce the risk of spill escapes;
- Drip trays will be used under all stationary plant and machinery;
- Outlined suitable mitigation and remedial measures to all staff, to reduce the risk of leaks and spills from hazardous materials (including fuel and cement-based products as well as chemical substances which fall under the Control of Substances Hazardous to Health (COSHH) Regulations;
- Emergency mitigation materials (such as large capacity spill kits) are to be available at all times and easily accessible in the case of an environmental incident;
- Large capacity spill kits will be located in high-risk areas such as next to generators or refuelling areas; and,
- All vehicles and plant will have a Daily Check Sheet to ensure that vehicles are in a good state of repair and any damage or leaks are able to be identified and fixed.

Dust Control

4.12 Dust contamination can be generated through the proposed works, particularly if any concrete is to be cut which can create high amounts of dust. Dust particles can travel in the air and smother adjacent habitats, reducing their condition and opportunities provided to local wildlife communities when not suitably mitigated for.

4.13 The following measures should be adhered to where deemed appropriate, during the construction phase, when there is a risk of dust being generated from construction-related activities:

- Prevention or reduction of dust through timing of works (avoiding hot and dry weather where feasible);
- Provision of wheel washing facilities for vehicles leaving the Site
- Stockpiles, including sand and aggregates, will be bunded and prevented from drying out;
- Use of cutting, grinding or sawing equipment in conjunction with dust suppression measures; including, water sprays or local extraction;
- Removal or dampening of biological debris prior to removal;

[50] Natural England (2022), Ancient woodland, ancient trees and veteran trees: advice for making planning decisions.

- Use of enclosed chutes or covered skips; and,
- Proactive monitoring and deployment of suppression mitigation for dust.

Habitat Fragmentation through Lighting

4.14 These following measures are required so as to avoid impacting commuting or foraging bats, that may travel through the Site and connecting to the SSSI and other habitats within the wider area. Excess lighting on these habitats, particularly along the southwestern areas, could reduce the suitability of these habitats, and impact commuting/foraging routes used by bats roosting within the SSSI.

4.15 Lighting within the development will be kept to minimum safety and security requirements and will be sensitively designed to avoid any notable encroachment on retained areas.

4.16 The Bat Conservation Trust has provided interim guidance[51] on the use of wildlife-friendly lighting within development. These measures should be adhered to wherever possible and it is suggested that a sensitive lighting strategy is incorporated into the scheme.

4.17 Suitable measures to control the emission of artificial light throughout the construction phase are as follows, and should be implemented where feasible or appropriate:

- Minimise light spill onto the surrounding environment utilising directional lighting, such as specialist bollards or hoods, to create low-level downward direction lighting or column lighting to minimise light spill;
- Reduce sky glow from construction lighting during the construction phase;
- Working within daylight hours in work areas that have the potential to disrupt crepuscular or night active species;
- Minimising construction activities at night, and where required, dimming or part-night lighting to reduce light levels when bats are most active;
- Construction lighting re-assessment and monitoring where necessary;
- Use of seasonal screening methods when trees and hedges do not provide sufficient coverage during the winter months. This can also be achieved through installation of walls and fences;
- Utilisation of borrowed lighting from adjacent existing street lighting;
- Implementation of dark buffer zones, illumination limits and zonation to separate habitats or features of importance for bats from proposed lighting;
- Use of LED lighting, which does not emit UV, and which has a warm white light spectrum (ideally <2700Kelvin) and uses wavelengths higher than 550nm;
- Internal lighting adjacent to windows being recessed to reduce glare and light spill;
- Use of motion sensor lighting or timers to restrict lighting to required periods; and,
- Use of the lowest lux possible.

Trees

4.18 No mature or veteran trees will be lost as part of the proposed scheme.

4.19 The proposed works could result in impacts on trees, through unanticipated impacts on tree roots as a result of compactions (which could impact on the life span of individual trees). Therefore, the following mitigation measures in accordance with BS5837: 2012. Trees in Relation to Construction will be required:

- Provision of protective fencing for retained habitats with ecological importance, such as retained trees where these may otherwise be affected by works through root compaction and encroachment.
- Best practice measures to minimise dust and other contamination impacts, including as a result of surface runoff.
- Implementation of a buffer zone of at least 15 times larger than the diameter of any veteran trees or 5m from the edge of its canopy from proposed development.

4.20 Full consideration will be given to the protection of trees in accordance with British Standard recommendations[52].

4.21 Trees that will be removed as part of future proposals of the Site are to be replaced on a like-for-like basis.

Bats

4.22 Legal protection afforded to bats and their roosts is summarised in **Appendix A**. In summary all bats and their roosts are subject to the highest level of protection afforded to species in the UK as **European Protected Species (EPS)**.

[51] Bat Conservation Trust (2018) Bats and Artificial Lighting in the UK: Bats and the Built Environment Series (2018).

[52] British Standard (2012) BS 5837:2012 Trees in relation to design, demolition, and construction - Recommendations

Habitat

4.23 The Site provided foraging and commuting habitat for the local bat population, particularly given the presence of scattered trees.

4.24 During the 2023 emergence/re-entry surveys, a maximum of **three Soprano pipistrelle bats were identified roosting** in a crevice in the soffit on the southeastern aspect of the Cycle Shed building. As a result of the presence of this day roost, a **NE Low Impact Class Licence (LICL)** will be required to allow its demolition.

4.25 Due to the presence of day roosts in the Cycle Shed, it is recommended that works that are carried out on the other two buildings, namely, Cycle Hire and Café, are done so under **a precautionary working method statement (PWMS)**, which can be prepared by LUC.

4.26 Foraging and commuting Common pipistrelle, Soprano pipistrelle, Noctule, Leisler's bat, Nathusius pipistrelle and Serotine were recorded on Site.

4.27 Given the high level of protection afforded to all bats species, it is recommended that proposals seek to retain habitat features of value for foraging and commuting bats and ensure that any additional lighting proposed as part of the scheme avoids the direct lighting of habitat features potentially used by bats for foraging and commuting. It should be noted that certain locations were already subject to artificial lighting as a result of streetlights and lighting of pedestrian routes.

Trees

4.28 A number of mature trees were identified as having BRS, as identified in **Appendix B, Figure 1**. The proposals avoid the loss of any trees identified with BRS. Should any trees be lost as part of future proposals for the Site, then further surveys may be required to determine the presence/absence of roosts and status of any roosts present.

4.29 **No bats** were found roosting in **T41** and no further surveys are required for trees identified to have low BRS, however, mitigation measures would be required as detailed below.

4.30 Should any trees identified as having high or moderate BRS be lost as part of future proposals, then further emergence/re-entry surveys will be required. This would comprise of two dusk surveys for moderate BRS or three dusk surveys for high BRS, with the aid of night vision equipment. Tree-climbing may be an appropriate alternative to dusk surveys.

4.31 As **T41** had no confirmed roosts, no further surveys are required in relation to trees identified as having low BRS.

Buildings

4.32 The bat inspection identified three buildings, including the Café, the Cycle Hire and the Cycle Shed, as having some level of BRS. The Cycle Shed had a **confirmed Soprano pipistrelle bat roosting** in a crevice in the soffit on the Southeastern aspect of the building, the Café was assessed as having **moderate BRS**, and the Cycle Hire was assessed as having **low BRS**.

4.33 As previously mentioned, during the emergence/re-entry surveys, **a low status Soprano pipistrelle day roost with a maximum of three individuals** was detected in the Cycle Shed building, which will require a **NE Low Impact Class Licence (LICL)** in order to demolish and redevelop the existing building, and it is recommended that a **precautionary working method statement (PWMS)** is in place when carrying out works on the other nearby buildings within the Site (Café and Cycle Hire). These measures will allow works to proceed, however, if further roosts are found during works, further surveys, licencing, or mitigation measures, may be necessary.

Mitigation

4.34 Should proposals result in the loss of any trees identified as having low BRS then they will need to be removed using soft felling measures. This involves sensitively lowering the sections with BRS features to the ground. Once on the ground, the features will be left upright at an angle of 90 degrees to the ground, for 48 hours, to enable bats to exit if present at the time of felling. If bats are discovered at any stage of the arboricultural work, then works must stop and the advice of an ecologist sought.

4.35 Any lighting schemes within the proposals should align with BCT guidance in regard to artificial lighting and bats, as mentioned under the **Mitigation** header within the **Habitats** section.

Badger

4.36 The Site supported limited opportunities for badger to forage. However, given the Site connectivity to suitable habitat in the wider area, there is potential for badger to occasionally disperse through the Site to reach more suitable habitat in the wider landscape. There was no suitable habitat in the Site for sett creation by badgers.

4.37 Therefore, impacts from proposals have the potential to disturb badgers during construction only when these are dispersing through the Site. This may include entrapment in excavations created during construction to creation of badger setts in newly created spoil piles. Mitigation measures will therefore be required.

Mitigation

4.38 Proposals have potential to result in impacts to badger during the construction phase and as such the following measures are required:

- Badgers will be deterred from entering the construction site by using suitable fencing during the construction phase. Suitable fencing includes interlocking weld-mesh panels (e.g., Heras), well braced to resist impacts by attachment to a scaffold framework that is set firmly into the ground but could also include close board solid fencing.
- Excavations will be covered at the end of each working day and any temporary exposed pipes will be capped to prevent badgers gaining access during the night. Any excavations or deep pits within the construction site that have to be left open overnight will be provided with a means of escape should a badger enter. This could simply be in the form of a roughened plank of wood placed in the excavation as a ramp to the surface.
- The storage of topsoil or other 'soft' building materials on site will be given careful consideration. Badgers will readily adopt such mounds as setts. To avoid the adoption of any mounds by badgers, mounds will be kept to a minimum and any essential mounds subject to daily inspections. It is recommended that topsoil and 'soft' building materials are not stored within the south-eastern area of the construction site.
- The storage of any chemicals within the Site will be contained in such a way that they cannot be accessed or knocked over by any roaming badgers.

Birds

4.39 Legislation afforded to birds and their nests is detailed in **Appendix A**.

4.40 Trees within the Site provided suitable habitat for nesting birds. As the proposals result in the removal of trees, then the mitigation measures detailed below will be required.

Mitigation

4.41 Any works should be undertaken outside of the bird nesting season between September-February inclusive. If this is not achievable, inspections for the presence of bird nests should be undertaken by a suitably qualified and experienced ecologist prior to works commencing. If bird nests are present and likely to be affected by works, a suitable protection zone will be required until such time that the young have fledged, and the nest is no longer active. This would likely result in delays to the programme and would need to be informed by an ecologist.

Hedgehog

4.42 The Site provided limited opportunities for hedgehog, including two small areas of poor semi-improved grassland to the south and northwest to forage and gaps under buildings and decking for shelter. Due to the presence of suitable habitat in the Site (albeit limited) and suitable high-quality habitat in the wider area, there is potential for this species to disperse through the Site.

4.43 Proposals have the potential to result in impacts to this species through habitat loss and killing and injury of individuals dispersing through the Site. The following mitigation measures will therefore be required.

Mitigation

4.44 If the proposals result in the loss of any suitable sheltering features for hedgehogs, such as building and decking, the following mitigation would be required:

- Destructive search of features – a search of habitat features suitable for hedgehogs under ecological supervision. Any hedgehogs located during this process would be relocated to areas of suitable habitat in the vicinity.
- Like-for-like replacement of ground features such as log piles.

Invertebrates

4.45 The Site supports deadwood features mainly in the form of veteran trees but also with presence of a few log piles, which provide suitable habitats for saproxylic species, such as stag beetle, which are known to be in the wider area. The stag beetle is considered globally threatened (Annex II species) and is a protected species through its listing in the Wildlife and Countryside Act 1981 (as amended)[53].

4.46 The proposals seek to retain these features. However, there is potential for the proposals to result in impacts to these features from damage and destruction of habitat during construction of the proposed development. As such mitigation measures will be required as detailed below.

Mitigation

4.47 The proposals seek to avoid the loss of any deadwood features. Should a situation arise where this is no longer possible then the following mitigation would be required:

[53] Wildlife and Countryside Act (as amended) 1981 Schedule 5.

- Destructive search of features – a search of habitat features suitable for invertebrates under ecological supervision. Any stag beetle located during this process would be relocated to areas of suitable habitat in the vicinity.
- Digging by hand near deadwood to avoid disturbance of soil and ground features which may affect invertebrate larvae nearby during the work excavation.
- Like-for-like replacement of ground features such as log piles.

Enhancements

4.48 The scheme is currently targeting a 10.85% increase in biodiversity net gain. This is being achieved as outlined below.

Retained Habitats

4.49 Habitat retention within the scheme comprises 3 large good condition trees, 6 medium moderate condition trees, and 14 small moderate condition trees.

Enhanced Habitats

4.50 0.20ha of the 0.337ha of existing modified grassland within the Site will be enhanced to good condition, very high distinctiveness lowland dry acid grassland within the scheme.

4.51 This has a targeted condition of good within 30 years minimum of establishment. The proposed management is to be in line with that within the wider park which is a designated SSSI (partially for lowland dry acidic grassland) and therefore this created habitat will be accounted for within the on-going management of the Site (for which lowland dry acidic grasslands are currently in a favourable condition). Therefore, it is expected that given the on-going management strategy within the wider park, that this Site and habitat will be included within, the favourable condition of lowland dry acid grassland within the wider Site, and that the existing seedbank with the wider area will be utilised, that this habitat will be able to achieve a good condition within the desired timeframe.

Created on Site Habitats

4.52 Lowland acid dry grassland is proposed predominantly within the northwest and eastern segments of the Site. This grassland is to be seeded utilising the local seedbank from neighbouring grassland habitats within the wider park. It will be managed in line with the wider park, and therefore, as above, will be considered to achieve a good condition within a 30 year timeframe minimum.

4.53 Developed land; sealed surfaces will comprise the new café, with associated hardstanding facilitating new footpaths/walkways and car parking units.

4.54 An acid grassland green roof is to be proposed on top of the new café building. The green roof will be substrate-based, with a seedmix taken from the adjacent lowland acidic grassland which will comprise approximately 18 grasses and wildflower species. The roof will also include the provision of deadwood piles and stone/rubble piles to provide a varied habitat for a range of species including invertebrates, birds and bats.

4.55 The scheme proposes a bioswale along the western edge of the Site. This will comprise a mixture of grassland species and shrubby/wildflower species that can thrive within both dry and wet spells of weather. This habitat is targeted to achieve a good condition within 3 years of establishment.

4.56 The scheme also proposes the provision of 13 small trees to compensate for those being lost within the scheme. These are targeted a moderate condition within 27 years of establishment.

Chapter 5
Conclusion

5.1 The Site supported a series of relatively low value habitats, with greatest ecological value presented by the mature trees which provide ecological connectivity, including potential bat commuting or foraging habitat, as well as bat roosting and bird nesting opportunities, and veteran trees, which present deadwood features valuable for stag beetle.

5.2 The Cycle Shed had a **confirmed day roost of three Soprano pipistrelle bats**. The Café, the Cycle Hire, and T41 had no confirmed roosts. The three buildings are scheduled to be demolished and the tree removed as part of the development proposals for the Site. The Cycle Shed will require a **NE Low Impact Class Licence (LICL)** and it is recommended works carried out on the other two buildings are under a **precautionary working method statement (PWMS)**, which can be prepared by LUC if necessary. The Site had a moderate level of activity with foraging and commuting Common pipistrelle, Soprano pipistrelle, Noctule, Leisler's bat, Nathusius pipistrelle and Serotine recorded on Site during emergence/re-entry surveys.

5.3 To minimise ecological impacts, it is recommended that any proposals:

- Ensure the retention and protection of all mature and veteran trees.
- Avoid additional lighting of tree canopies and any potential roosting features through avoidance or sensitive lighting schemes.
- Consider requirements for further bat surveys and precautionary approaches with regards to nesting birds on the trees scheduled to be removed.
- Retain any deadwood on site for uncommon invertebrate assemblages found in the area.
- Employ a precautionary method of working for birds.
- Follow best practice construction measures throughout the project, with consideration given to secure storage and safe disposal of any materials and substances, and dust prevention measures, to prevent accidental contamination to the adjacent habitats.

5.4 The current proposals will achieve a 10.85% uplift in baseline biodiversity units.

Appendix A

Policy and Legal Considerations

A.1 The Conservation of Habitats and Species Regulations 2017 transpose the requirements of the European Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (Council Directive 2009/147/EC on the conservation of wild birds, replacing Directive 79/409/EEC) into UK law, enabling the designation of protected sites and species at a European level.

A.2 The Wildlife and Countryside Act 1981 (as amended) forms the key piece of UK legislation relating to the protection of habitats and species.

A.3 The Countryside Rights of Way Act 2000 provides additional support to the Wildlife and Countryside Act 1981; for example, increasing the level of protection for certain species of reptiles.

A.4 The Wild Mammals (Protection) Act 1996 sets out the welfare framework in respect to wild mammals, prohibiting a range of activities that may cause unnecessary suffering.

A.5 Species and Habitats of Principal Importance for Conservation in England and Wales and priority habitats and species listed in the Waltham Forest Biodiversity Action Plan (see below) are species which are targeted for conservation. The government has a duty to ensure that involved parties take reasonable practice steps to further the conservation of such species under Section 41 of the Natural Environment and Rural Communities Act 2006. In addition, the Act places a biodiversity duty on public authorities who 'must, in exercising their functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity' (Section 40 [1]). Criteria for selection of national priority habitats and species in the UK include international threat and marked national decline.

A.6 The National Planning Policy Framework (MHCLG June 2019) states (Section 15) that the planning system should identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks; promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of UK Priority Species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

A.7 It also states that local planning authorities should refuse planning on the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for.
- If development is on land within or outside a Site of Special Scientific Interest (SSSI) and is likely to have an adverse effect on it (the exception being where the benefits of the development in the location proposed clearly outweigh its likely impact).
- If development results in the loss or deterioration of irreplaceable habitats, such as ancient woodland and ancient or veteran trees (unless there are wholly exceptional reasons, and a suitable compensation strategy exists).

A.8 Additionally, the NPPF states that 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.

Adopted Local Plan – London Borough of Richmond Upon Thames (July 2018)

A.9 The Local Plan is used to help decide the outcome of planning applications for land development (changes of use and new buildings) in Richmond. It will ensure that plans for growth and development benefit local people and provide the services that people need, whilst preserving our unique and diverse heritage. Relevant policies are outlined below:

Policy LP 9 – Floodlighting

A.10 Floodlighting including alterations and extensions, of sports pitches, courts and other architectural features will be permitted unless there is demonstrable harm to, character, biodiversity or amenity and living conditions. The following relevant criteria will be taken into account when assessing floodlighting:

- The impacts on biodiversity and wildlife

Policy LP 10 – Local Environmental Impacts, Pollution and Land Contamination

A.11 The Council will seek to ensure that local environmental impacts of all development proposals do not lead to detrimental effects on the health, safety and the amenity of existing and new users or occupiers of the development site, or the surrounding land. These potential impacts can include, but are not limited to, air pollution, noise and vibration, light pollution, odours and fumes, solar glare, and solar dazzle as well as land contamination. Developers should follow any guidance provided by the Council on local environmental impacts and pollution as well as on noise generating and noise sensitive development. Where necessary, the Council will set planning conditions to reduce local environmental impacts on adjacent land uses to acceptable levels.

Policy LP 12 – Green Infrastructure

A.12 Green infrastructure is a network of multi-functional green spaces and green features, which provides multiple benefits for people, nature, and the economy.

A.13 A. To ensure all development proposals protect, and where opportunities arise enhance, green infrastructure, the following will be taken into account when assessing development proposals:

- the need to protect the integrity of the green spaces and features that are part of the wider green infrastructure network; improvements and enhancements to the green infrastructure network are supported.
- its contribution to the wider green infrastructure network by delivering landscape enhancement, restoration or re-creation.
- incorporating green infrastructure features, which make a positive contribution to the wider green infrastructure network.

Policy LP 15 – Biodiversity

A.14 The Council will protect and enhance the borough's biodiversity, in particular, but not exclusively, the sites designated for their biodiversity and nature conservation value, including the connectivity between habitats. Weighted priority in terms of their importance will be afforded to protected species and priority species and habitats including National Nature Reserves, Sites of Special Scientific Interest (SSSI) and Other Sites of Nature Importance as set out in the Biodiversity Strategy for England, and the London and Richmond upon Thames Biodiversity Action Plans. This will be achieved by:

- Protecting biodiversity in, and adjacent to, the borough's designated sites for biodiversity and nature conservation importance (including buffer zones), as well as other existing habitats and features of biodiversity value.
- supporting enhancements to biodiversity.
- incorporating and creating new habitats or biodiversity features, including trees, into development sites and into the design of buildings themselves where appropriate; major developments are required to deliver net gain for biodiversity, through incorporation of ecological enhancements, wherever possible.

- ensuring new biodiversity features or habitats connect to the wider ecological and green infrastructure networks and complement surrounding habitats.
- enhancing wildlife corridors for the movement of species, including river corridors, where opportunities arise.
- and maximising the provision of soft landscaping, including trees, shrubs and other vegetation that support the borough-wide Biodiversity Action Plan.

A.15 Where development would impact on species or a habitat, especially where identified in the relevant Biodiversity Action Plan at London or local level, or the Biodiversity Strategy for England, the potential harm should:

- Firstly, be avoided (the applicant has to demonstrate that there is no alternative site with less harmful impacts).
- Secondly be adequately mitigated. or
- As a last resort, appropriately compensated for.

Policy LP 16 – Trees Woodlands and Landscape

A.16 The Council will require the protection of existing trees and the provision of new trees, shrubs and other vegetation of landscape significance that complement existing, or create new, high quality green areas, which deliver amenity and biodiversity benefits.

A.17 To ensure development protects, respects, contributes to and enhances trees and landscapes, the Council, when assessing development proposals, will:

- resist the loss of trees, including aged or veteran trees, unless the tree is dead, dying, or dangerous; or
- the tree is causing significant damage to adjacent structures; or the tree has little or no amenity value.
- or felling is for reasons of good arboricultural practice; resist development that would result in the loss or deterioration of irreplaceable habitat such as ancient woodland.
- resist development which results in the damage or loss of trees that are considered to be of townscape or amenity value; the Council will require that site design or layout ensures a harmonious relationship between trees and their surroundings and will resist development which will be likely to result in pressure to significantly prune or remove trees.
- require, where practicable, an appropriate replacement for any tree that is felled; a financial contribution to the provision for an off-site tree in line with the monetary value of the existing tree to be felled will be required in line with the 'Capital Asset Value for Amenity Trees' (CAVAT).
- require new trees to be of a suitable species for the location in terms of height and root spread, taking account of space required for trees to mature; the use of native species is encouraged where appropriate.
- require that trees are adequately protected throughout the course of development, in accordance with British Standard 5837 (Trees in relation to design, demolition and construction – Recommendations).
- The Council may serve Tree Preservation Orders or attach planning conditions to protect trees considered to be of value to the townscape and amenity and which are threatened by development.
- require the retention of important existing landscape features where practicable.
- require landscape design and materials to be of high quality and compatible with the surrounding landscape and character; and
- encourage planting, including new trees, shrubs, and other significant vegetation where appropriate.

Bats

A.18 All British species of bat are listed on the **Wildlife and Countryside Act 1981** (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) a bat; to intentionally or recklessly disturb a bat whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a bat roost (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

A.19 All British bats are listed on the **Conservation of Habitats and Species Regulations 2017**, Schedule 2. Regulation 43 strengthens the protection of bats under the 1981 Act against deliberate capture, injuring or killing (Regulation 43(1) (a)), deliberate disturbance (Regulation 43 (1) (b)) and damage or destruction of a resting place (Regulation 43(1) (d)).

A.20 A bat roost is defined as any structure or place which is used for shelter or protection, irrespective of whether bats are resident. Buildings and trees may be used by bats for a number of different purposes throughout the year including resting, sleeping, breeding, raising young and hibernating. Use depends on bat age, sex, condition, and species as well as the external factors of season and weather conditions. A roost used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to bats, and loss, obstruction of or damage to a roost are licensable.

Application for a Natural England EPS Licence

Development works that may cause killing or injury of bats or that would result in the damage, loss or disturbance of a bat roost would require a Natural England (NE) Bat Mitigation Licence. For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests:

- Whether there is a need for the development which justifies the impact on the European Protected Species (EPS);
- Whether there is an alternative which would avoid the impact and need for an EPS licence; and
- Whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

A.21 A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

Licensing Routes

A.22 There are two licensing routes now available for bats, outlined below:

Full NE England EPS Mitigation Licence

A.23 The application comprises three components including:

- An application form (broad details of the applicant, site and proposals).
- A detailed Method Statement providing the survey methods and findings, impact assessment and mitigation measures (including detailed maps and schedule of works); and
- A Reasoned Statement outlining the “need" for the development and consideration of alternatives.

A.24 NE aim to determine the application within six weeks (although this can take longer).

NE Low Impact Class Licence (LICL)

A.25 This new route provides an alternative, quicker route (with a much-reduced application form, and a target of 10 days to determine an application). LICL is only available to Registered Consultants identified by NE if the following condition is met:

- Sites which support up to three low status roosts (day roosts, night roosts, feeding roosts and transitional roosts) of a maximum of three common species. The common species which can be covered by this licence include Common pipistrelle, Soprano pipistrelle, Brown long eared, Whiskered, Brandt’s, Daubenton’s and Natterer’s bat.
- This licence cannot be used in relation to trees.

A.26 All licensed works require evidence that there is a need for the development and that appropriate mitigation, including seasonal constraints and provision of alternative habitat and/or roosting structures is considered.

A.27 Before Natural England can confirm The Site is registered and licensable works can commence, an assessment of the three tests must be undertaken by the Registered Consultant.

A.28 Although this does not need to be submitted to NE, NE may subsequently undertake a review of the project and request to see all evidence as collected by the Consultant. This can only be undertaken following a survey and impact assessment which must be carried out in accordance with licence conditions and BCT survey guidelines.

Great Crested Newt (GCN)

A.29 All great crested newts (GCN) are listed on the Wildlife and Countryside Act 1981 (as amended) Schedule 5. It is an offence to deliberately kill, damage, take (Section 9(1)) a GCN; to intentionally or recklessly disturb a GCN whilst it occupies a place of shelter or protection (Section 9(4)(b)); or to deliberately or recklessly damage, destroy or obstruct access to a GCN place of shelter (Section 9(4)(c)). Given the strict nature of these offences, there is an obligation on the developer and owner of a site to consider the presence of bats.

A.30 All great crested newts are listed on the Conservation of Habitats and Species Regulations 2017, Schedule 2. Regulation 41 strengthens the protection of bats under the 1981 Act against deliberate capture or killing (Regulation 41(1)(a)), deliberate disturbance (Regulation 41(1) (b))[1] and damage or destruction of a resting place (Regulation 41(1)(d)).

A.31 Great crested newt resting place is defined as any structure or place which is used for resting, shelter or protection by GCN at any life stage, irrespective of whether or not GCNs are resident. A variety of aquatic, marginal and terrestrial habitats can be used by GCNs for a number of different purposes throughout the year including resting, sleeping, foraging, breeding, migrating and hibernating. Use depends on GCN age, sex, and condition as well as the

[1] Relates specifically to deliberate disturbance in such a way as to be likely to significantly affect i) the ability of any significant group of animals of that species to survive, breed or rear or nurture their young or ii) the local distribution of that species.

external factors of season and weather conditions. A resting place used during one season is therefore protected throughout the year and any proposed works that may result in disturbance to GCN, and loss, obstruction of or damage to a resting or sheltering place are licensable.

Application for a Natural England EPS Licence

A.32 Development works that may cause killing or injury of GCNs or that would result in the damage, loss, or disturbance of a GCN resting or sheltering place would require a Natural England (NE) GCN Mitigation Licence.

A.33 For a Mitigation licence to be granted three tests must be met. Evidence is needed to determine these three tests: whether there is a need for the development which justifies the impact on the European Protected Species (EPS); whether there is an alternative which would avoid the impact and need for an EPS licence; and whether mitigation proposed is sufficient to maintain the conservation status of the EPS in question.

A.34 A Mitigation Licence application will generally only be considered by NE on receipt of planning consent, and once any pre-commencement conditions of relevance to ecology have been discharged.

A.35 There are two licensing routes now available for GCNs, which comprise:

Full NE England EPS Mitigation Licence:

- NE aim to determine the application within six weeks (although this can take longer).
- The application comprises three components including an application form (broad details of the applicant, site, and proposals); a detailed Method Statement providing the survey methods and findings, impact assessment and mitigation measures (including detailed maps and schedule of works); and a Reasoned Statement outlining the 'need' for the development and consideration of alternatives.

NE Low Impact Class Licence

- This new route provides an alternative, quicker route (with a much-reduced application form, and a target of 10 days to determine an application).
- This Low Impact Class Licence is only available to Registered Consultants identified by NE.
- This licence might apply if the following criteria are met:
  - The footprint of the activity must not extend beyond a certain threshold size, in terms of area of impact affecting habitat used and relied upon by great crested newt (for resting). This size is determined in part by the distance from a waterbody used by GCN, with larger areas of land-take being acceptable at greater distance from waterbodies.
  - Typically, the activity would be of a relatively short duration, i.e., up to six months and no longer than 12 months; and
  - Waterbodies used by great crested newts must not be affected; although ditches along linear schemes that are used by great crested newts may be temporarily impacted across a part of their length.
- All licensed works require evidence that there is a need for the development and that appropriate mitigation, including seasonal constraints and provision of alternative habitat is considered.
- Before Natural England can confirm the site is registered and licensable works can commence, an assessment of the three tests must be undertaken by the Registered Consultant. Although this does not need to be submitted to NE, NE may subsequently undertake a review of the project and request to see all evidence as collected by the Consultant. This can only be undertaken following a survey and impact assessment which must be carried out in accordance with licence conditions and GCN best practice guidelines.

A.36 Great crested newts are listed as species of principal importance under the NERC Act (2006). Section 41 of the Act is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

Hedgehog

A.37 Hedgehog are protected by British law under Schedule 6 of the Wildlife and Countryside Act 1981, making it illegal to kill or capture them using certain methods. Hedgehogs are also protected in Britain under the Wild Mammals Protection Act (1996), prohibiting cruelty and mistreatment. Hedgehogs are also listed as a Species of Principle Importance in England under the Natural Environment and Rural Communities (NERC) Act 2006 Section 41. Therefore, hedgehogs are considered a material consideration with the planning system and are of particular relevance to The Site, as it comprises an open green space bound by urban development.

Birds

A.38 Birds and their nests are protected by the Wildlife and Countryside Act 1981 (as amended). This Act gives protection to all species of bird with regard to killing and injury, and to their nests and eggs with regard to taking, damaging and

destruction. Certain species listed on Schedule 1 of the Act, are afforded additional protection against protection.

Plants

A.39 Certain plants are protected against uprooting and sale by the **Wildlife and Countryside Act 1981** (as amended). In addition, it is illegal to cause certain plants listed on schedule 9 of the Wildlife and Countryside Act to grow in the wild, or to plant them in the wild (this includes cotoneaster).

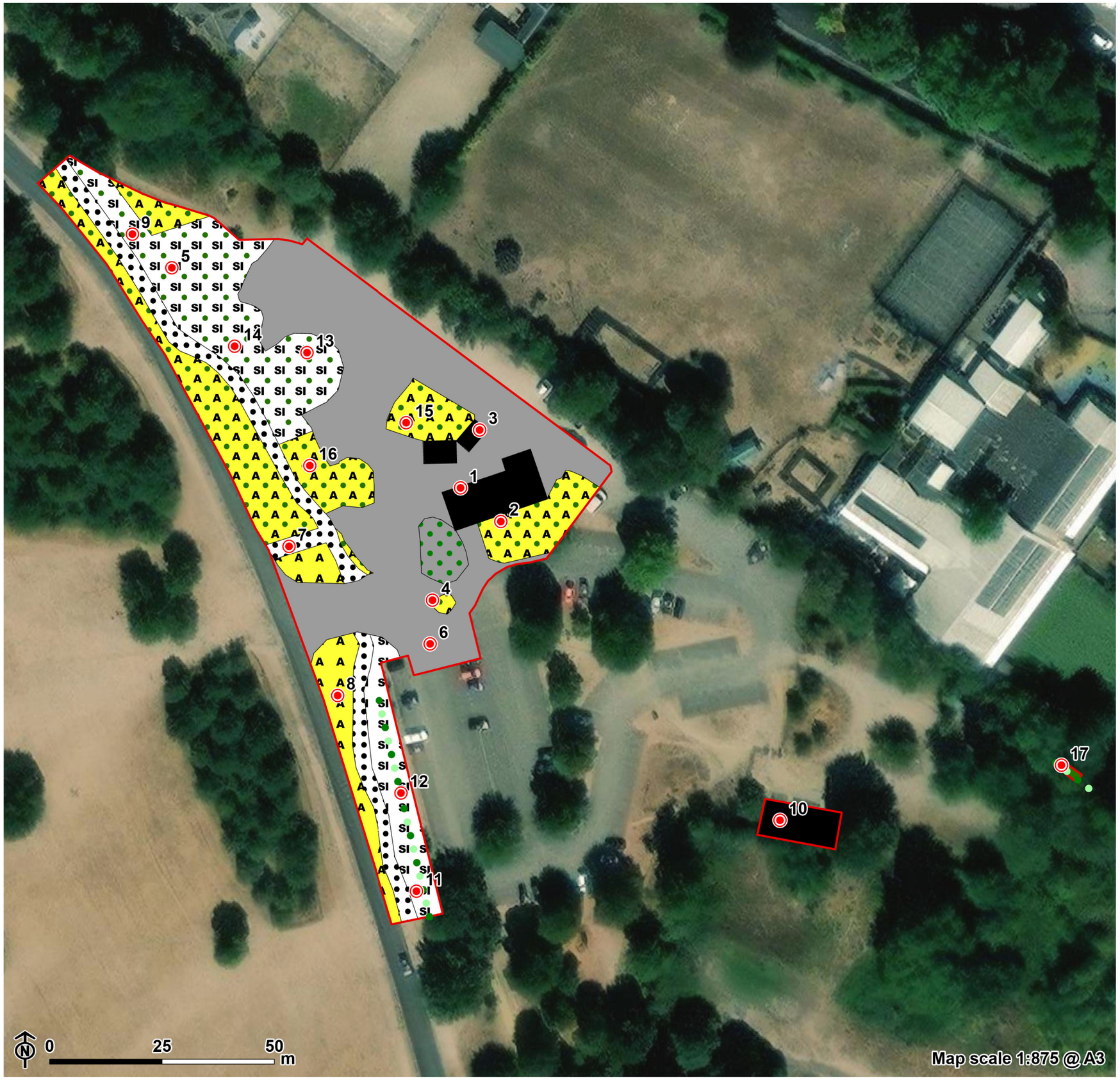
Appendix B

Figures

Roehampton Café Redevelopment
The Royal Parks

LUC

Figure 1: Phase 1 Habitat Survey



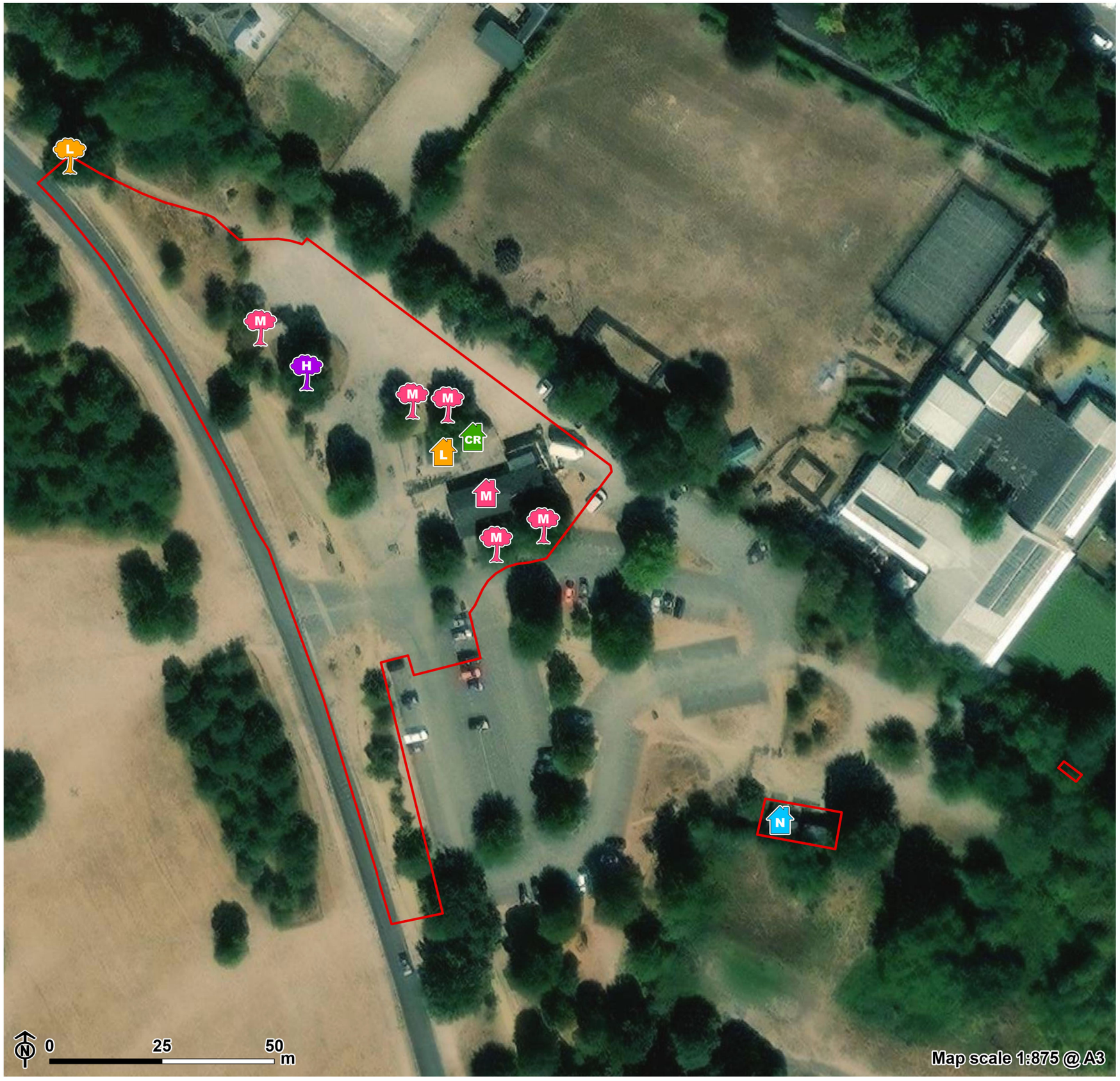
Maxar, Microsoft

12551_001_Ecology/12551_001_r0_Fig01_Baseline_Habitats_A3L 02/10/2023 EB:maslin_z

Roehampton Café Redevelopment
The Royal Parks

LUC

Figure 2: Bat Roost Suitability



Site boundary

Tree suitability

- High
- Moderate
- Low

Structure suitability

- Moderate
- Low
- Negligible
- Confirmed roost

Maxar, Microsoft

12551_001_Ecology/12551_001_r0_Fig02_Bat_Roost_Suitability_A3L 02/10/2023 EB:maslin_z

Appendix C

Target Notes

Table C.1: Extended Phase 1 Habitat Survey Target Notes and Site Photographs

Target Note ID	Description	Photograph
1	Café building, timber clad build with pitched roof slate tiles. Good condition roof with no gaps with flat roof extension on South aspect. Soffit box partially netted and fascia coming apart leaving a gap at the front, holes underneath soffit box on Southern aspect. See BRS notes below.	
2	Amenity grassland with perennial rye grass (d), wall barley (a), annual meadow grass (f), dandelion sp. (f), cleavers (o) and dove's-foot crane's-bill (r), with broadleaved scattered trees including sweet chestnut (d) and common hornbeam (r).	No photograph.

Target Note ID	Description	Photograph
3	Cycle shed. Wooden panelling and pitched roof slate tiles with bitumen underlayer. Long gap running East to West along Northern and Southern edges of soffit. Southern side gap was wider and lead to internal space. No internal loft spaces.	

Target Note ID	Description	Photograph
4	Amenity grassland with eroded areas comprised by perennial rye grass (d), smaller cat's-tail and white clover (f), cock's-foot (o) and crested dog's tail (r), with broadleaved scattered trees, including English oak (d).	
5	Amenity grassland with lower sward height comprised by cock's-foot (d), false oat-grass and smaller cat's tail (a), creeping bent and perennial rye grass (f), and wall barley (r), with broadleaved scattered trees, including English oak, sweet chestnut, common hornbeam, cockspur hawthorn, hawthorn, and English elm (f).	No photograph.

Target Note ID	Description	Photograph
6	Hardstanding car park area.	

Target Note ID	Description	Photograph
7	Footpath of bare ground within area of eroded amenity grassland with scattered broadleaved trees.	

Target Note ID	Description	Photograph
8	Amenity grassland with areas of longer and rougher sward height and areas with shorter sward height. Also present are scattered broadleaved trees and areas of bare ground.	
9	Amenity grassland area with longer and rougher sward height with perennial rye grass (d), Yorkshire's fog (o), and locally rare nettles, with broadleaved scattered trees, including English elm and English oak (f).	No photograph.

Target Note ID	Description	Photograph
10	Public toilet facilities. Prefabricated buildings in good condition.	

Target Note ID	Description	Photograph
11	Poor semi-improved grassland to South of Site with wall barley (d), perennial rye grass (a), hedge mustard (f), white clover and dove's-foot crane's-bill (o), and shepherd's purse and cock's foot (r).	

Target Note ID	Description	Photograph
12	Line of trees next to poor semi-improved grassland to South of Site with hawthorn and cockspur hawthorn (d).	
13	Poor semi-improved grassland to Northwest of Site with false oat-grass (d) and local dominant stinging deadnettle, creeping bent and annual meadow grass (a), barren brome, perennial rye grass, timothy, and cat's ear (f), and wall barley (o).	No photograph.
14	Presence of deadwood in the form of veteran sweet chestnut trees. This deadwood is optimal habitat for stag beetle.	No photograph.
15	Presence of deadwood in the form of veteran hornbeam tree. This deadwood is optimal habitat for stag beetle.	No photograph.

Target Note ID	Description	Photograph
16	Same as TN5 with lower grassland sward height around one hawthorn and two cockspur hawthorn trees.	No photograph.
17	A single area of Semi-Natural Broadleaved Woodland present adjacent to the redline boundary to the Southeast of the Site. This habitat includes dominant English elm, abundant ash, and rare holm oak and sycamore. Ground flora was species-poor and dominated by ivy with occasional bryony.	

Table C.2: Extended Phase 1 Habitat Survey - BRS Target Notes

Target Note ID	Description	Photograph
T47	Sweet chestnut - large crack at the top on Eastern aspect, and crack 7m high and hole and crack 2m high both on Western aspect – **Moderate BRS**.	
T46	Sweet chestnut - deadwood, decaying, lots of epicormic growth, hollow main stem, Western aspect crack may extend – **Moderate BRS**.	
T42	English oak - woodpecker hole, North aspect – **Moderate BRS**.	

Target Note ID	Description	Photograph
T41	Common hornbeam – cracks throughout trunk on all aspects – **Moderate BRS**. 2023 emergence/re-entry surveys revealed **no confirmed roosts**.	
T34	English oak – large decaying cavity, Southwest aspect – **High BRS**.	No photograph.
T30	Sweet chestnut – decay on Southern aspect – **Moderate BRS**.	

Target Note ID	Description	Photograph
T3	Mature English oak to North of Site with broken branch facing upwards but large enough to allow common and widespread bat species to roost. Otherwise, it was found in good condition – **Low BRS**.	
Café	The Café building was assessed as having moderate BRS as the fascia was coming away leaving a gap at the front, as well as holes underneath the soffit box (South aspect). On the Eastern aspect of the café there was a hole leading to an internal roof void. On the 2023 update Site visit a new hole in the soffit leading to an internal roof void was found on Northeast aspect. This building is also located near the cycle shed building that had a confirmed roost. – **Moderate BRS**. During 2023 emergence/re-entry surveys **no confirmed roosts** were found.	

Target Note ID	Description	Photograph
Cycle Hire	The Cycle Hire building to the West was wood panelled with a pitched bitumen roof in good condition. On the Northern aspect, a gap was noted under the soffit box by the netting. During the 2023 Site visit a long but thin gap was found under the sofit on Eastern and Southern aspects – **Low BRS**. During 2023 emergence/re-entry surveys **no confirmed roosts** were found.	
Cycle Shed	The Cycle Shed building to the east of Cycle Hire was also wood panelled with a pitched bitumen roof in good condition. A gap was noted along the length of the soffit running East to West on the Northern and Southern aspects. The Southern gap was wider and led to a light filled cavity space. There was no loft space. During the 2023 PRA a pipistrelle bat was confirmed to be roosting in a crevice in the soffit on Southeastern aspect – **Confirmed roost**. During the emergence/re-entry surveys a maximum of **three Soprano pipistrelle bats** were found roosting in this feature on a single night.	
Toilets	The building was a prefabricated building with no suitable features present – **Negligible BRS**	

Appendix D

Bat Emergence Survey Results

Table D.1: Environmental conditions during dusk survey

Survey Date	Sunrise / Sunset	Survey Timing		Temperature		Wind[54]		Cloud Cover[55]		Precipitation	Weather Conditions
		Start	End	Start	End	Start	End	Start	End		
31/07/2023	20:51	20:36	22:21	18	17	1	1	2	2	Dry	Good visibility and insects present.
14/08/2023	20:25	20:10	21:55	18	18	0	0	1	1	Dry	Good visibility and insects present.
22/08/2023	20:09	19:54	21:39	22	20	0	0	2	1	Dry	Good visibility and insects present.
05/09/2023	19:39	19:24	21:09	25	22	0	0	0	0	Dry	Good visibility and insects present.

Table D.2: Dusk emergence survey data

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:09	Soprano pipistrelle	2	S	E	Two individuals emerged from the building. One of them was seen flying low from bottom of cycle shed or other building but was then confirmed as an emergence after IR analysis.

[54] Beaufort scale where 0 = calm, 2 = light breeze, 4 = moderate breeze, 6 = strong breeze, 7 = high wind, 9 = strong gale, 12 = hurricane.
[55] Oktas scale where 0 = sky completely clear, 4 = sky half cloudy, 8 = sky completely cloudy.
[56] E= Emergence, R= Re-entry, C= Commuting, F= Foraging, P= Passing.

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:10	Leisler's bat	-	NS	C, F	Leisler's bat detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:16	Noctule	-	NS	C, F	Noctule detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:17	Leisler's bat	-	NS	C, F	Leisler's bat detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:21	Noctule	-	NS	C, F	Noctule detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:23	Soprano pipistrelle	-	NS	F	Leisler's bat detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:33	Noctule	-	NS	C, F	Noctule detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:38	Noctule	-	NS	C, F	Noctule detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:47	Soprano pipistrelle	-	NS	F	
31/07/2023	JB	Cycle Shed - Eastern Aspect	21:49	Soprano pipistrelle	-	NS	F	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	JB	Cycle Shed - Eastern Aspect	22:00	Soprano pipistrelle	-	S	F	Around surveyor.
31/07/2023	JB	Cycle Shed - Eastern Aspect	22:17	Soprano pipistrelle	-	S	F	Around surveyor. Common pipistrelle detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	22:21	Serotine	-	NS	C, F	Serotine detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	22:22	Noctule	-	NS	C, F	Noctule detected after data analysis.
31/07/2023	JB	Cycle Shed - Eastern Aspect	22:26	Common pipistrelle	-	NS	C, F	Common pipistrelle detected after data analysis.
31/07/2023	DM	Cycle Hire - Southern Aspect	21:09	Soprano pipistrelle	-	NS	C	Very faint and quick call.
31/07/2023	DM	Cycle Hire - Southern Aspect	21:14	Soprano pipistrelle	-	NS	C	Very quick call.
31/07/2023	DM	Cycle Hire - Southern Aspect	21:28	Soprano pipistrelle	-	NS	C	
31/07/2023	DM	Cycle Hire - Southern Aspect	21:46	Soprano pipistrelle	-	NS	C	
31/07/2023	DM	Cycle Hire - Southern Aspect	22:00	Soprano pipistrelle	-	S	C, F	Circling around surveyor. To right.
31/07/2023	DM	Cycle Hire - Southern Aspect	22:03	Common pipistrelle	-	NS	C	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	DM	Cycle Hire - Southern Aspect	22:17	Common pipistrelle	-	NS	C, F	Very faint and quick call
31/07/2023	PF	Café - West South-Western Aspect	21:10	Soprano pipistrelle	1	S	C	Seen moving above building to West-southwest.
31/07/2023	PF	Café - West South-Western Aspect	21:10	Noctule	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:12 to 21:15	Leisler's bat	-	NS	F	Confirmed after data analysis.
31/07/2023	PF	Café - West South-Western Aspect	21:16	Noctule	-	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	21:18	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:18	Leisler's bat	-	NS	F	Confirmed after data analysis.
31/07/2023	PF	Café - West South-Western Aspect	21:19	Noctule	-	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	21:20	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:23	Soprano pipistrelle	-	S	F	Seen moving from Southeast to Northwest next to building.
31/07/2023	PF	Café - West South-	21:26	Soprano pipistrelle	-	NS	F	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
		Western Aspect						
31/07/2023	PF	Café - West South-Western Aspect	21:28	Common pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:32	Noctule	-	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	21:35	Soprano pipistrelle	-	S	C	Seen moving from Northwest to Southeast next to building.
31/07/2023	PF	Café - West South-Western Aspect	21:38	Noctule	-	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	21:44	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:45	Common pipistrelle	-	S	F	Seen moving from North-northwest to Southeast above Café building.
31/07/2023	PF	Café - West South-Western Aspect	21:48	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:52	Soprano pipistrelle	1	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	21:59	Soprano pipistrelle	-	NS	F	Brief.
31/07/2023	PF	Café - West South-Western Aspect	21:59	Common pipistrelle	-	S	C	Seen moving next to Café from East-northeast to West-northwest.

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	PF	Café - West South-Western Aspect	22:03	Common pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	22:09	Common pipistrelle	-	NS	F	Very brief.
31/07/2023	PF	Café - West South-Western Aspect	22:11	Noctule	-	NS	C	Very brief.
31/07/2023	PF	Café - West South-Western Aspect	22:13	Noctule	2	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	22:13	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	22:13	Common pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-Western Aspect	22:16	Noctule	-	NS	C	
31/07/2023	PF	Café - West South-Western Aspect	22:18	Common pipistrelle	-	S	F	Seen moving from Southeast behind surveyor to Northwest toward Cycle Hire building.
31/07/2023	PF	Café - West South-Western Aspect	22:18	Noctule	-	NS	C	Brief.
31/07/2023	PF	Café - West South-Western Aspect	22:20	Soprano pipistrelle	-	NS	F	
31/07/2023	PF	Café - West South-	22:21	Noctule	-	NS	C	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
		Western Aspect						
31/07/2023	PF	Café - West South-Western Aspect	22:21	Noctule/Serotine/Leisler's bat	-	NS	F	It was not possible to be 100% confident as to which species it is even after data analysis.
31/07/2023	KR	Café - Northwest Aspect	21:15	Pipistrelle sp.	-	NS	C	2 x passes in-between café. Noctule detected after data analysis.
31/07/2023	KR	Café - Northwest Aspect	21:20	Noctule	-	NS	C	Faint background noise heard.
31/07/2023	KR	Café - Northwest Aspect	21:27	Common pipistrelle	-	S	F	Foraging adjacent to the café.
31/07/2023	KR	Café - Northwest Aspect	22:17	Noctule	-	NS	C, F	2 x passes in-between café. Noctule detected after data analysis.
31/07/2023	KR	Café - Northwest Aspect	22:20	Serotine & Soprano pipistrelle	-	NS	C, F	Faint background noise heard. Serotine detected after data analysis.

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	AB	Café - Southern Aspect	21:10	Noctule	-	NS	C	
31/07/2023	AB	Café - Southern Aspect	21:14	Soprano pipistrelle	-	S	C	Moving from Northwest to Southeast above Café.
31/07/2023	AB	Café - Southern Aspect	21:16	Noctule	-	NS	C, F	
31/07/2023	AB	Café - Southern Aspect	21:21	Noctule	-	NS	C	
31/07/2023	AB	Café - Southern Aspect	21:32	Noctule	-	NS	C	
31/07/2023	AB	Café - Southern Aspect	21:37	Noctule	-	NS	C, F	
31/07/2023	AB	Café - Southern Aspect	21:42	Soprano pipistrelle	-	S	C, F	Seen moving from Southeast to West and back to Southeast. Also, from East to West above Café.
31/07/2023	AB	Café - Southern Aspect	21:45	Common pipistrelle	-	NS	F	
31/07/2023	AB	Café - Southern Aspect	21:46	Common pipistrelle	-	S	C, F	Moving Northwest to Southeast above Café.
31/07/2023	AB	Café - Southern Aspect	21:46	Noctule	-	NS	C	Short and distant.
31/07/2023	AB	Café - Southern Aspect	21:55	Soprano pipistrelle	-	NS	C, F	
31/07/2023	AB	Café - Southern Aspect	21:59	Soprano pipistrelle	-	NS	C	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
31/07/2023	AB	Café - Southern Aspect	22:05	Soprano pipistrelle	-	NS	F	
31/07/2023	AB	Café - Southern Aspect	22:09	Common pipistrelle	-	NS	F	
31/07/2023	AB	Café - Southern Aspect	22:10	Noctule	-	NS	F	
31/07/2023	AB	Café - Southern Aspect	22:13	Noctule	-	NS	F	
31/07/2023	AB	Café - Southern Aspect	22:13	Common pipistrelle	-	NS	C, F	Short.
31/07/2023	AB	Café - Southern Aspect	22:17	Common pipistrelle	-	NS	C	Short and distant.
31/07/2023	AB	Café - Southern Aspect	22:19	Noctule	-	NS	C	Short and distant.
31/07/2023	AB	Café - Southern Aspect	22:21	Noctule/Serotine/Leisler's bat	-	NS	C	It was not possible to be 100% confident as to which species it is even after data analysis.
14/08/2023	JB	Café - Southeast Aspect	21:06	Common pipistrelle	-	NS	C	
14/08/2023	JB	Café - Southeast Aspect	21:28	Soprano pipistrelle	-	NS	C	
14/08/2023	JB	Café - Southeast Aspect	21:47	Soprano pipistrelle	-	NS	C	
14/08/2023	JB	Café - Southeast Aspect	21:49	Common pipistrelle	-	NS	C, F	
14/08/2023	JB	Café - Southeast Aspect	21:50	Common pipistrelle	-	NS	C, F	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
f	JB	Café - Southeast Aspect	21:53	Common pipistrelle	-	NS	F	
14/08/2023	AB	Café - Southwest Aspect	20:30	Noctule	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	20:48	Noctule	-	NS	C	
14/08/2023	AB	Café - Southwest Aspect	21:09	Soprano pipistrelle	-	S	C	South to West above Café.
14/08/2023	AB	Café - Southwest Aspect	21:14	Soprano pipistrelle	-	S	C	West to East above Café.
14/08/2023	AB	Café - Southwest Aspect	21:16	Soprano pipistrelle	-	S	C, F	East to West above Café.
14/08/2023	AB	Café - Southwest Aspect	21:18 - 21:21	Soprano pipistrelle	-	NS	C, F	Intermittent foraging.
14/08/2023	AB	Café - Southwest Aspect	21:25	Nathusius Pipistrelle	-	S	C	South to West above Café.
14/08/2023	AB	Café - Southwest Aspect	21:28	Nathusius Pipistrelle	-	S	C	West to East above Café.
14/08/2023	AB	Café - Southwest Aspect	21:29	Common pipistrelle	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:35	Noctule	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:39	Common pipistrelle	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:43	Common pipistrelle	-	NS	C	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
14/08/2023	AB	Café - Southwest Aspect	21:44	Noctule	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:45	Noctule / Soprano pipistrelle	-	NS	C	
14/08/2023	AB	Café - Southwest Aspect	21:47	Common pipistrelle / Soprano pipistrelle	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:49	Noctule	-	NS	C, F	
14/08/2023	AB	Café - Southwest Aspect	21:54	Noctule	-	NS	C, F	
14/08/2023	KR	Café - Northwest Aspect	20:37	Common pipistrelle	-	NS	C	Passed behind surveyor.
14/08/2023	KR	Café - Northwest Aspect	21:03	Common pipistrelle	-	NS	C	
14/08/2023	KR	Café - Northwest Aspect	21:06	Common pipistrelle	-	NS	C	
14/08/2023	KR	Café - Northwest Aspect	21:08	Common pipistrelle	-	S	C	Flew over buildings.
14/08/2023	KR	Café - Northwest Aspect	21:20	Soprano pipistrelle	-	S	C	Seen flying North to South over building.
14/08/2023	KR	Café - Northwest Aspect	21:24	Common pipistrelle	-	NS	C	
14/08/2023	KR	Café - Northwest Aspect	21:28	Common pipistrelle	-	NS	C	
14/08/2023	KR	Café - Northwest Aspect	21:31	Soprano pipistrelle	-	S	F	Foraging above building.
14/08/2023	KR	Café - Northwest Aspect	21:35	Soprano pipistrelle	-	NS	F	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
14/08/2023	KR	Café - Northwest Aspect	21:40	Common pipistrelle	-	NS	C	Faint Passes.
14/08/2023	KR	Café - Northwest Aspect	21:48	Noctule	-	NS	C	Brief.
14/08/2023	KR	Café - Northwest Aspect	21:53	Noctule	-	S	C	Seen flying North to South over building.
22/08/2023	JB	Cycle Shed	20:51	Common pipistrelle	-	S	C	Flew Northeast-Southwest over Cycle Shed.
22/08/2023	RG	Cycle Shed – Eastern Aspect	20:22	Soprano pipistrelle	1	S	E	Emerged from the right-hand side of the door. From under the curve observed using torch pre-survey.
22/08/2023	RG	Cycle Shed – Eastern Aspect	20:23	Soprano pipistrelle	1	S	E	
22/08/2023	RG	Cycle Shed – Eastern Aspect	20:24	Soprano pipistrelle	1	S	E	
22/08/2023	RG	Cycle Shed – Eastern Aspect	20:51	Common pipistrelle	-	S	C, F	Flew over Café.
22/08/2023	RG	Cycle Shed – Eastern Aspect	20:28	Soprano pipistrelle	-	NS	C, F	
22/08/2023	RG	Cycle Shed – Eastern Aspect	21:05	Soprano pipistrelle	-	NS	C, F	
22/08/2023	RG	Cycle Shed – Eastern Aspect	21:17	Soprano pipistrelle	-	NS	C, F	

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
22/08/2023	RG	Cycle Shed – Eastern Aspect	21:19	Common pipistrelle	-	NS	C, F	
22/08/2023	RG	Cycle Shed – Eastern Aspect	21:23	Soprano pipistrelle	-	NS	C, F	
22/08/2023	KR	T41	20:39	Common pipistrelle	-	NS	C	
22/08/2023	KR	T41	20:58	Soprano pipistrelle	-	NS	C	
22/08/2023	KR	T41	21:06	Soprano pipistrelle	-	NS	C	
22/08/2023	KR	T41	21:08	Soprano pipistrelle	-	S	C	Flew East to West.
22/08/2023	KR	T41	21:32	Soprano pipistrelle	-	NS	C	Brief.
22/08/2023	KR	T41	21:34	Soprano pipistrelle	-	NS	C	
22/08/2023	KR	T41	21:36	Soprano pipistrelle	-	NS	C	
05/09/2023	JB	T41 – East-southeastern Aspect	20:04	Common pipistrelle	-	NS	C, F	
05/09/2023	JB	T41 – East-southeastern Aspect	20:10	Common pipistrelle	-	S	C, F	Flying Southeast to Northwest.
05/09/2023	JB	T41 – East-southeastern Aspect	20:36	Common pipistrelle	-	NS	C, F	
05/09/2023	JB	T41 – East-southeastern Aspect	20:40	Common pipistrelle	-	NS	F	
05/09/2023	JB	T41 – East-southeastern Aspect	21:00	Noctule	-	NS	F	Brief.
05/09/2023	RT	Cycle Shed	19:57	Silent bat	-	S	C	Flew North to South. No echolocation detected even after data analysis.

Survey Date	Surveyor	Position	Time	Species	No. bats	Seen/not seen (S/NS)	Activity Type (E/R/C/F/P)[56]	Comments
05/09/2023	RT	Cycle Shed	20:06	Silent bat	-	S	C	Flew South to North. No echolocation detected even after data analysis.
05/09/2023	RT	Cycle Shed	20:12	Silent bat	-	S	C	Flew South to North. No echolocation detected even after data analysis.