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Preliminary Ecological Appraisal

Site Name

45 Upper Redlands Road, Reading

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Client

Mr Mohammad Saood

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Project No: P6162

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About the Author

This report has been prepared by Rebecca Carter-Whitehead, a Consultant Ecologist at The Ecology Co-op, with 7 years' industry experience. She holds dormouse and great crested newt Level 1 survey licenses, and is working as an accredited agent Level 1 bat surveyor. Rebecca has experience in a range of projects that require ecological input at various stages, from individual residential dwelling extensions to large-scale infrastructure projects with overriding public interest.

About the Reviewer

This report has been reviewed by Emma Baker, who is a Senior ecologist with six years experience. She holds Level 1 great crested newt and hazel dormouse survey licenses. As a Full member of the Chartered Institute for Ecology and Environmental Management (CIEEM), she is bound by their code of professional conduct.



Report Summary

Purpose	The Ecology Co-op was commissioned by Mr Mohammad Saood to undertake a Preliminary Ecological Appraisal of Upper Redlands Road, Reading, further to a proposal to construct a two-storey L-shaped hipped-roof dwelling.
Context	45 Upper Redlands Road is situated within the town centre of Reading. There are no statutory designated sites within 2km of the site, however there are two non-statutory designated sites within 1km of the site boundary.
Key findings	The habitats present on site consist entirely of amenity grassland, with an underground air raid bunker and several small and medium trees. The bunker and the trees do not present any potential roosting features for bats. the main habitat of garden grassland is suitable for hedgehog, with the data search by Thames Valley Environmental Record Centre returning a record for hedgehog approximately 270m west of the site boundary.
Recommendations	The development must provide 10% biodiversity net gain. This is in accordance with paragraph 174b of the NPPF and Reading's Local Plan (Policy EN12).
Are further surveys required?	No



CONTENTS PAGE

1	INTRODUCTION	1
1.1	Purpose of the Report	1
1.2	Background	1
1.3	Policy and Legislation	3
2	METHODOLOGY	3
2.1	Desk Study	4
2.2	Field Survey	4
2.3	Badgers	4
2.4	Bats	5
2.5	Breeding Birds	5
2.6	Dormice	5
2.7	Great Crested Newt	6
2.8	Reptiles	6
2.9	Other Notable Species	6
3	BASELINE CONDITIONS	7
3.1	Designated Sites and Granted EPS Licences	7
3.2	Habitats	9
3.3	Badgers	11
3.4	Bats	11
3.5	Breeding Birds	12
3.6	Dormice	12
3.7	Great Crested Newts and Other Amphibians	12
3.8	Reptiles	13
3.9	Invasive Non-native Species	13
3.10	Other Notable Species	13
3.11	Survey Limitations	14
4	IMPACT APPRAISAL	14
4.1	Designated Sites	14
4.2	Habitats	14
4.3	Badgers	14
4.4	Bats	15
4.5	Breeding and Wintering Birds	15
4.6	Other Notable Species	15
5	OPPORTUNITIES FOR ENHANCEMENT	15
6	CONCLUSIONS	16
	APPENDIX 1 – Wildlife Legislation and National Planning Policy	17
	APPENDIX 2 – Reading Borough Council Planning Information	22
	APPENDIX 3 – Bird records returned from TVERC within 1km of the site	24
	APPENDIX 4 – Reducing Impacts of Artificial Light	26



1 INTRODUCTION

1.1 Purpose of the Report

The Ecology Co-op has been commissioned to undertake a Preliminary Ecological Appraisal (PEA) of 45 Upper Redlands by Mr Mohammad Saood. This report presents the findings of a walkover survey undertaken by Rebecca Carter-Whitehead, a Natural England Level 1 Bat Survey Class Licence accredited agent, and Owen Crawshaw, a Natural England Level 2 Bat Survey Class Licence holder on 10th January 2024. It provides details on the potential for any protected/notable species and/or habitats to be present at the site and a simple assessment of the potential ecological constraints and opportunities in relation to the construct a two-storey L-shaped hipped-roof dwelling. Recommendations for further surveys that are likely to be required to inform a planning application and Ecological Impact Assessment (EcIA) of the proposal are provided where necessary, and possible measures to avoid, mitigate and/or compensate for significant adverse effects are summarised. The potential to incorporate ecological enhancement measures as part of the scheme is discussed, in addition to any requirement to achieve biodiversity net gain.

This PEA report is designed to inform the client and their team (as appropriate) about the initial findings of the site walkover and desk study research in relation to the site proposals, highlighting the key ecological constraints and opportunities, and any further survey requirements. It is not intended for submission in support of a planning application but can be used to inform a future Ecological Impact Assessment (EcIA).

1.2 Background

45 Upper Redlands Road, referred to as 'the site' hereafter, is located within the suburbs of Reading, Berkshire. The approximate Ordinance Survey grid reference for the site is SU 7272 7224. Figure 1 shows the boundary of the site.

The proposed development includes construction of a two-storey L-shaped hipped-roof dwelling. Several of the trees on site will be removed. Figure 2 shows the proposed layout for the development.



Figure 1. An aerial image showing the location of the site. The approximate site boundary is outlined in red. Image produced courtesy of Google maps (map data ©2024 Google).



Figure 2. Proposed layout plan. Courtesy of The Keen Partnership, drawing no. 9242-102, 22/11/2023.

1.3 Policy and Legislation

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

Where possible, this report provides guidance on how the proposal can be designed to meet the requirements of both local planning policy and the National Planning Policy Framework (NPPF). Details of the NPPF can be found in Appendix 1 and relevant local planning policy by Reading Borough Council is provided in Appendix 2.

2 METHODOLOGY

The methodologies used for this survey are in accordance with the Guidelines for Preliminary Ecological Appraisal¹, but also consider the Guidelines for Ecological Report Writing, Second Edition².

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

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



2.1 Desk Study

A search for existing records of protected species, species of conservation concern and invasive non-native species was requested from the Thames Valley Environmental Record Centre (TVERC) within a radius of 1km of the site.

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

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

2.2 Field Survey

A site walkover survey was undertaken on 10th January 2024, during which the habitats contained within the site were described and evaluated. Since this site is relatively small in scale and contains limited semi-natural habitat diversity, it was not considered necessary to undertake comprehensive UKHab mapping of the site. All habitat types contained within the site, together with the dominant botanical species and indicators of important habitat types, such as ancient woodland or unimproved grassland, have simply been listed and described where identified.

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

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

2.3 Badgers

Badgers *Meles meles* exploit a range of habitats, including gardens, coniferous woodland, deciduous woodland, mixed woodland and arable land. They live in an underground system of tunnels and nesting chambers, known as a sett, with territories ranging from 30ha to 150ha or more.

Habitats within the site and surrounding area were broadly assessed for their potential to support badgers. Any signs of badger activity, for example setts, footprints, latrines, well-worn paths and foraging marks, were recorded. Further surveys were recommended as appropriate.



2.4 Bats

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

A detailed building inspection was carried out in accordance with best practice guidance as set out by the Bat Conservation Trust³; the inspection comprised identification of potential access points and 'Potential Roost Features' (PRFs) that bats could use and any evidence indicating the presence of bats using the building, such as rub marks, feeding remains, staining or droppings. The survey included a ground-based external inspection around the building and internal inspection of any enclosed loft spaces or roof voids, where safe access was possible.

The potential for roosting bats for each feature, or group of features was assessed as negligible, low, moderate, or high, in accordance with best practice. Any evidence confirming the presence of bats was clearly recorded including photos and samples taken (e.g. droppings), where appropriate. Further surveys are recommended as appropriate.

The habitats surrounding the site and wider landscape were broadly assessed for their potential to support foraging and commuting bats. Further surveys are recommended as appropriate.

2.5 Breeding Birds

Birds can use a wide range of natural and artificial habitats when breeding, including trees, hedgerows, fields, houses and garden sheds. The habitats contained within the site and adjacent areas were broadly assessed for their potential to support important bird species/assemblages, and breeding birds. Any birds identified during the site visit were recorded. Special attention was paid to notable species such as red-listed Birds of Conservation Concern⁴ and those species afforded special protection on Schedule 1 of the Wildlife and Countryside Act (1981). Further surveys are recommended as appropriate.

2.6 Dormice

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

³ Collins, J.(ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). The Bat Conservation Trust, London.

⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, N., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. (2021). Birds of Conservation Concern 5: the status of bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man. *British Birds* 114, pp 723-747.



Further surveys are recommended as appropriate in accordance with best practice guidance⁵.

2.7 Great Crested Newt

Great crested newts breed in ponds during the spring and spend the rest of the year feeding on invertebrates primarily in semi-natural habitats including woodland, hedgerows, marshes and tussocky grassland. A desk study was undertaken to identify ponds and wet ditches within 500m of the site that might support breeding great crested newts. Where access permission was granted, or ponds could be viewed from public roads or footpaths, the ponds were assessed for their potential to support great crested newts using the Habitat Suitability Index (HSI) (Oldham et al 2000)⁶. The value of the site for terrestrially foraging great crested newts and any features that might be used by hibernating newts has also been assessed.

Further surveys are recommended as appropriate, in accordance with best practice guidance (English Nature 2001)⁷.

2.8 Reptiles

The common lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, grass snake *Natrix helvetica* and adder *Vipera berus* are widespread species that can be found in any of these habitats, whereas smooth snake *Coronella austriaca* and sand lizard *Lacerta agilis* have much more restricted and isolated populations on lowland heathland and sand dunes.

Habitats on the site were broadly assessed for their potential to support reptiles. Particular attention was paid to those features that provide suitable basking areas (e.g. south-facing slopes), hibernation sites (e.g. banks, walls, piles of rotting vegetation) and opportunities for foraging (rough grassland and scrub). Further surveys are recommended as appropriate.

2.9 Other Notable Species

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

⁵ Bright, P., Morris, P. and Mitchell-Jones, T. (2006). *The dormouse conservation handbook 2nd Ed.* English Nature, Peterborough.

⁶ Oldham, R.S., Keeble, J., Swan, M.J.S. and Jeffcote, M. (2000). Evaluating the suitability of habitat for the great crested newt (*Triturus cristatus*). *Herpetological Journal* 10, 143-155.

⁷ English Nature (2001). *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.



3 BASELINE CONDITIONS

3.1 Designated Sites and Granted EPS Licences

There are no statutory designated sites within the zone of influence of the site, but there are two non-statutory designated sites. These have been summarised in Table 1.

There are multiple habitats of importance within 2km of the site. These have been summarised in Table 2 and Figure 5.

There are four granted EPS licences for mitigation projects within 1km of the site boundary. The closest EPS licence to the site concerns common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* which was active between 2014 to 2019.

Table 1. Designated sites within 1km of the site.

Site name	Designation	Features listed on citation	Proximity
Non-statutory designated sites			
Whitley Park Farm/St Patrick's Hall Pond	Berkshire Local Wildlife Site (LWS)	This site contains lowland mixed deciduous woodland and two ponds, one of which is enclosed and the other open, scrub, and semi-improved grassland that has been highlighted as a conservation area. The woodland contains mature ash <i>Fraxinus excelsior</i> and oak <i>Quercus robur</i> , sycamore <i>Acer pseudoplatanus</i> and suckering elm <i>Ulmus procera</i> , with willow <i>Salix spp.</i> present around the pond outflow. Notable species recorded here include bluebell <i>Hyacinthoides nonscripta</i> , stag beetle <i>Lucanus cervus</i> , smooth newt <i>Lissotriton vulgaris</i> , common frog <i>Rana temporaria</i> , and stock dove <i>Columba oenas</i> .	0.4km south-west
Whiteknights Park	Berkshire LWS	A big shaded eutrophic lake, mixed secondary woods, stands of imported plants and trees, mown grassland, and a few managed meadows make up Whiteknights Park. Section 41 Habitats of Principal Importance found here encompass the eutrophic lake and parkland and woodpasture.	0.8km east

Table 2. Habitats of importance within 2km of the site.

Habitat	Proximity
Deciduous woodland	0.2km north
Woodpasture and parkland	0.5km east
Costal and floodplain grazing marsh	1.4km west
Traditional orchards	1.4km south-east
Ancient and semi-natural woodland	1.9km south-east



Figure 3. Non-statutory designated sites within a radius of 2km of the application site. Image produced courtesy of Thames Valley Environmental Records Centre.

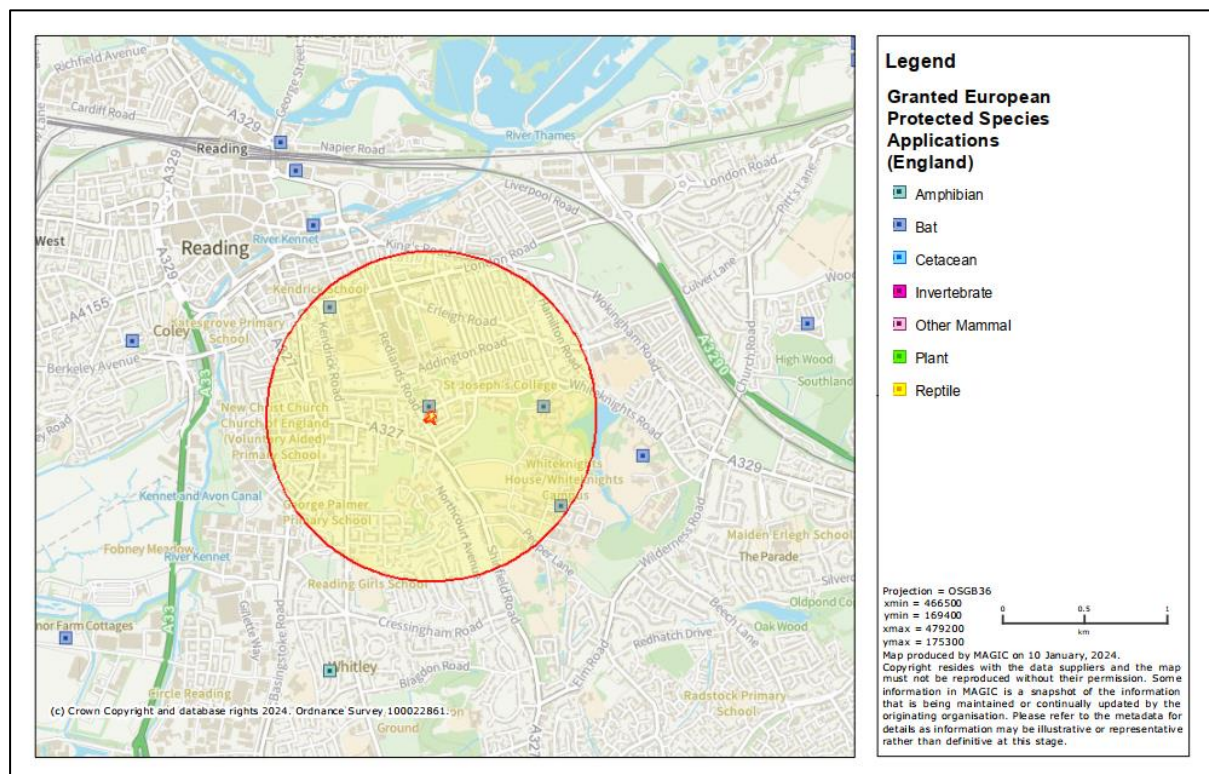


Figure 4. Granted EPS licences within 1km of the application site. Image produced courtesy of Magic maps



(<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

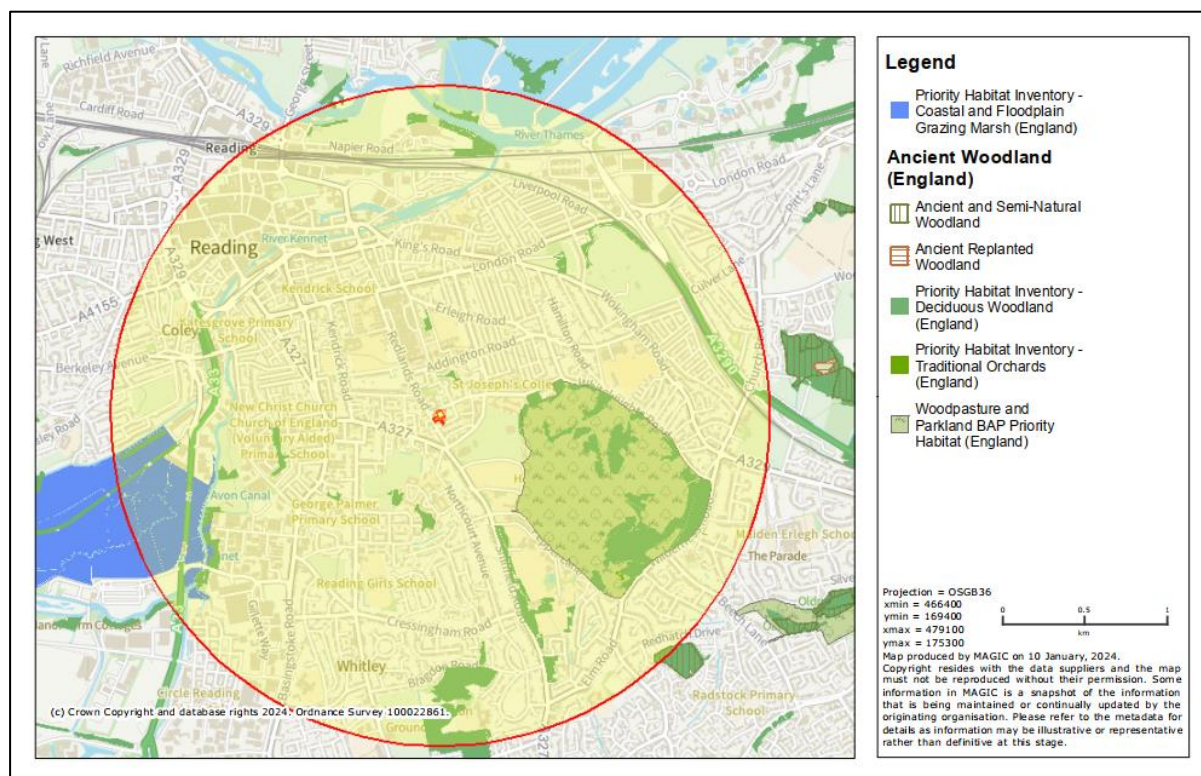


Figure 5. Habitats of importance for nature conservation. Image produced courtesy of Magic maps (<http://www.magic.gov.uk/>, contains public sector information licensed under the Open Government Licence v3.0).

3.2 Habitats

The habitats present on site consist of amenity grassland, with 35 small trees and five medium trees. An underground air raid bunker is present on site. Much of the area has been covered with weed suppressing matting. The habitats present are shown in Figure 6 below, with a plant assemblage as follows:

- Cow parsley *Anthriscus sylvestris*;
- Ribwort plantain *Plantago lanceolata*;
- Common ivy *Hedera helix*;
- Bramble *Rubus fruticosus*;
- Dandelion species *Taraxacum* sp.;
- Creeping buttercup *Ranunculus repens*;
- Ragwort *Senecio jacobaea*;
- Common comfrey *Symphytum officinale*;
- Hogweed *Heracleum sphondylium*;
- Wild carrot *Daucus carota*;
- Common nettle *Urtica dioica*;
- Yarrow *Achillea millefolium*; and
- Ivy-leaved cyclamen *Cyclamen hederifolium*.

The trees within the site consist of immature and semi-mature:



- Ash *Fraxinus excelsior*;
- Sycamore *Acer pseudoplatanus*;
- Holly *Ilex aquifolium*;
- Apple *Malus domestica*;
- Small-leaved lime *Tilia cordata*;
- Horse chestnut *Aeculus hippocastanum*; and
- Douglas fir *Pseudotsuga menziesii*.



Photograph 1. View of the site looking north, showing the amenity garden grassland and weed suppression matting.



Photograph 2. Entrance to the air raid shelter built into the earth bank, surrounded the trees.



Photograph 3. A sample of the small-sized trees present on site.



Photograph 4. View of the site, looking north, taken from the easternmost boundary.

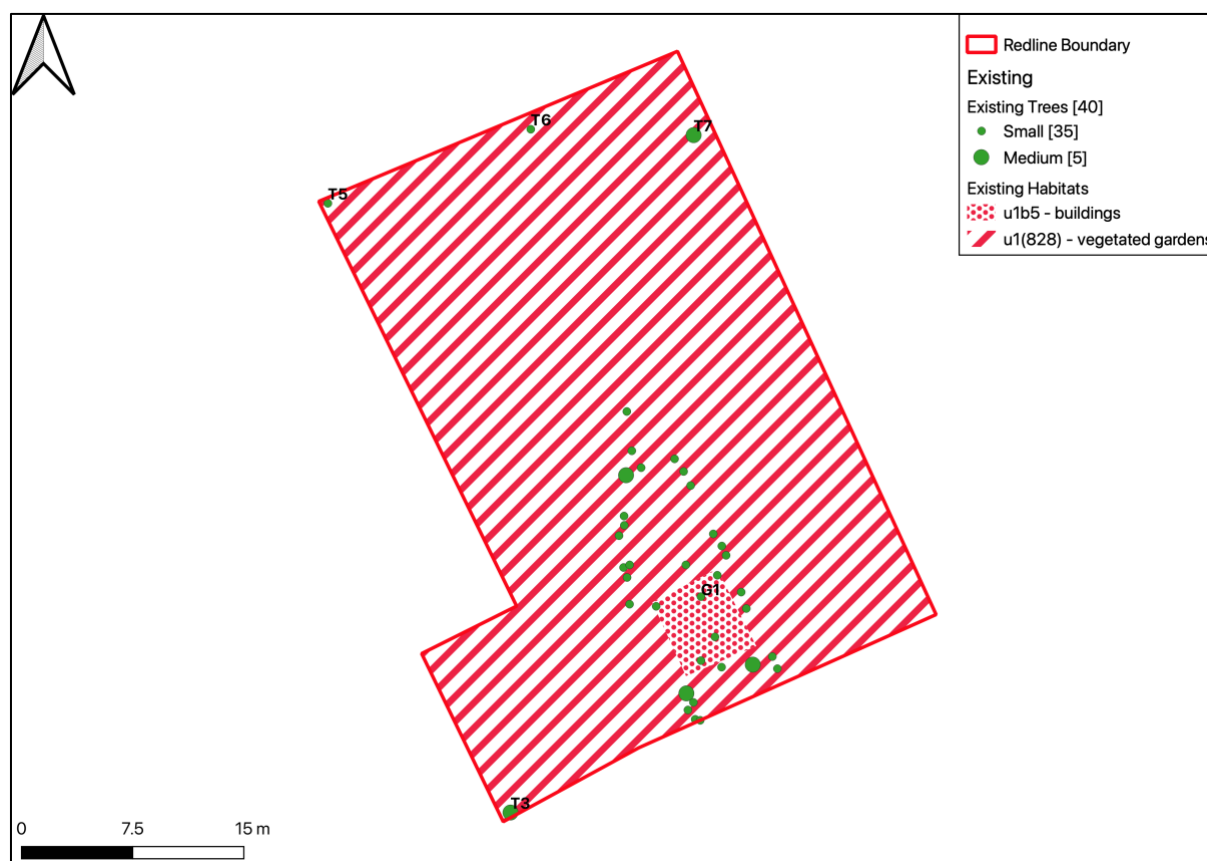


Figure 6. Habitats present on site, mapped in UKHab.

3.3 Badgers

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

TVERC provided 17 records of badger in the search area. The closest of these was at approximately 370m south from the boundary of the site.

3.4 Bats

The site contains a single built structure and a total of 31 trees, all of which were assessed for their potential for use by roosting bats. No trees were found to contain any potential roosting features. The built structure has been described in Table 3 below.

Table 3. Potential roost features for bats.

Building	Description of features	Assessment of suitability
Air raid bunker	The air raid bunker is built into the ground, consisting of solid concrete walls and ceiling. The only access is via a door, the walls are not exposed as it has been dug into the ground. This underground structure is typical of some classic bat hibernation sites. However, as the door fits flush and	No bat roost suitability



	the drain has a grate, there is no access for bats and it therefore cannot be used as any type of roost.	
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The TVERC biodiversity records search returned 275 records of bats within 1km of the site. These have been summarised in Table 4.

Table 4. Bat records within 1km of the site.

Species Common name/Scientific name	Number of records
Common pipistrelle	97
Soprano pipistrelle	65
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	6
<i>Pipistrellus</i> species	9
Brown long-eared <i>Plecotus auritus</i>	11
Serotine <i>Eptesicus serotinus</i>	7
Noctule <i>Nyctalus noctule</i>	42
<i>Nyctalus</i> species	1
Daubenton's Myotis <i>Myotis daubentonii</i>	17
<i>Myotis</i> species	10
Unidentified bat species	10

3.5 Breeding Birds

All of the amenity grassland, immature and semi-mature trees have the potential to support a variety of common birds for nesting and foraging.

The TVERC records search indicates the presence of many bird species within 1km of the site. These have been summarised in Appendix 3.

3.6 Dormice

The site contains no woodland, scrub or hedgerows suitable for dormice and the species is highly unlikely to be present.

No records of this species were provided by TVERC.

3.7 Great Crested Newts and Other Amphibians

There are no ponds contained by the site or within 500m of the site. Great crested newts and other amphibians are therefore highly unlikely to be present at the site.

The TVERC search did not return records for great crested newts within 1km of the site. There are five records for smooth newt *Lissotriton vulgaris*, seven records for common toad *Bufo Bufo*, and four records for common



frog *Rana temporaria*.

3.8 Reptiles

The site does not contain any suitable habitat for reptiles and comprises almost exclusively hard standing and close-mown amenity grassland.

The TVERC search did not return any records for reptiles within 1km of the site.

3.9 Invasive Non-native Species

No evidence of invasive non-native species was found during the walkover survey.

The TVERC search returned several records of invasive non-native species within 1km of the site. These have been summarised in Table 5 below.

Table 5. Invasive non-native species records within 1km of the site.

Species Common name/Scientific name	Number of records
Butterfly bush <i>Buddleja davidii</i>	1
Canadian Waterweed <i>Elodea canadensis</i>	2
Japanese Knotweed <i>Fallopia japonica</i>	4
Rhododendron <i>Rhododendron ponticum</i>	4

3.10 Other Notable Species

The habitat on site consisting of amenity garden grassland with some trees is suitable for Western European Hedgehog *Erinaceus europaeus*, which are listed under Section 41 of the Natural Environment and Rural Communities Act (NERC, 2006).

The TVERC search returned 21 records for hedgehog within 1km of the site, the closest of which was approximately 270m west of the site boundary.

The general habitats across Reading are also suitable for stag beetle *Lucanus cervus*. The habitats on site includes trees which will naturally result in rotting wood from dropped branches, which stag beetles use for breeding. Stag beetles are protected in the UK under the Wildlife and Countryside Act (1981), and are a Priority Species under the UK Post-2010 Biodiversity Framework, as well as being listed under Section 40 and 41 of the NERC Act (2006).

The TVERC search returned 251 records for stag beetle within 1km of the site, the closest of which was approximately 50m north of the site boundary.



3.11 Survey Limitations

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

The presence of the fence in the middle of the site (as seen in Photograph 1) restricted the access to the most southern and western parts of the site. It is not considered a major limitation to the survey on this occasion, as a visual inspection was possible over the fence.

4 IMPACT APPRAISAL

4.1 Designated Sites

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

Therefore, in relation to designated sites, the proposed development is considered to pose a 'negligible' impact risk.

4.2 Habitats

The land present at the site does not include any semi-natural habitats and is dominated by the presence of mown lawn. All plant species present are common and widespread, and the habitat types are of low conservation importance. Any removal of the habitats present will only have a low and site level impact.

Due to this and the distance between the planned development and the proximity to non-statutory designated sites, the construction phase impacts such as dust, lighting, physical damage, vibration and noise are considered unlikely to negatively impact these sites. Best working practices relating to dust suppression through damping and surface water management will help to minimise this risk. All precautions must be taken during construction to avoid discharges and spills to the ground and potential pollution.

4.3 Badgers

No signs of badger activity were identified during the assessment and no badger setts are situated on or near to the proposed construction zone. No further surveys or mitigation for badgers is advised, however, if any signs of digging by large animals is identified on or near to the site in the future, prior to development or the submission of a planning application, further surveys would likely be required.



4.4 Bats

In accordance with the Bat Conservation Trust guidelines, the overall potential for the site to support bats is rated as 'low', with no further survey requirement at this time.

The trees within the site are likely to be used by foraging and commuting bats as part of a wider resource across the landscape. As the site may be used by foraging and commuting bats, it is important that the potential for disturbance from artificial lights is considered. The proposed development is likely to require an 'ecologically sensitive lighting scheme' in accordance with guidance produced by the Bat Conservation Trust (summarised in Appendix 4).

4.5 Breeding and Wintering Birds

Due to the trees present on site, there is potential for nesting birds during the breeding bird period. As such, should any works to the trees be required this should be timed outside of the nesting bird period (avoiding 1st of March – 31st August) or should be subject to a check by a suitably qualified ecologist.

4.6 Other Notable Species

The habitats on site are suitable for hedgehog and stag beetle, with records from TVERC for both species within very close proximity to the site. No further surveys are recommended; however the provision of a hedgehog nesting box and a log pile is encouraged to better the site for these species.

5 OPPORTUNITIES FOR ENHANCEMENT

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

The developer is also encouraged to consider including integral bat roosting opportunities into the building fabric such as bat tiles and internal voids/access points for bats. For example, three Schwegler 1FF boxes could be placed on the south, west and east facing elevations and three purpose designed bat tiles onto the south-facing pitched roof. Alternatively, 2FE Schwegler Wall-Mounted bat shelters could be installed upon the external faces of the building close to the eaves of the building on the south or eastern face. As best practice, the lighting scheme should be designed to minimize light spill (see Bat Conservation Trust website), around these roosting features and potential commuting routes.

The development must provide 10% biodiversity net gain. This is in accordance with paragraph 174b of the NPPF and Reading's Local Plan (Policy EN12). Please refer to the Biodiversity Impact Calculation⁸ report for further details on this.

⁸ The Ecology Co-Op (2024) P6162 45 Upper Redlands Road Biodiversity Impact Calculation.



6 CONCLUSIONS

The land at 45 Upper Redlands Road does not include any semi-natural habitats and is dominated by the presence of tightly mown lawns, herbaceous borders and hard standing. The construction of a new dwelling, as set out in Figure 2 of this report, represents an impact that is likely to result in effects that are significant at a site level only, given the absence of any habitats of value. The precautionary mitigation set out in section 4.5, to avoid the removal of vegetation during the nesting bird season, must be followed to ensure that there is not a breach of the Wildlife and Countryside Act.

The enhancement opportunities identified in section 5 of this document, as well as the Biodiversity Impact Calculation⁹ will result in new opportunities for nesting birds and roosting bats, and likely beneficial effects for biodiversity at the site should they all be implemented in full.

It is important that no habitat clearance or other site preparation work should be undertaken until planning permission has been granted and all relevant protections for habitats of importance and protected species have been detailed and implemented. Please be advised that any work to remove or modify habitats outside of typical management may undermine a future planning application.

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

⁹ The Ecology Co-Op (2024) *Biodiversity Impact Calculation: 45 Upper Redlands Road, Reading*.



APPENDIX 1 – Wildlife Legislation and National Planning Policy

Introduction

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

The ‘Birds Directive’, ‘Habitats Directive’ and ‘Natura 2000 Sites’

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

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

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

The ‘Habitats Regulations’

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

‘Natura 2000’ sites, now known as National Site Network sites under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, receive the highest level of protection under the Regulations which requires that any activity within the zone of influence of these sites would be subject to a Habitats Regulations Assessment (HRA) by the competent authority (e.g. planning authority), leading to an Appropriate Assessment (AA) in cases where ‘likely significant effects’ to the conservation objectives are identified.

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

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

The Habitats Directive and Habitats Regulations provide for the derogation from these prohibitions for specific



reasons provided certain conditions are met. An EPS licensing regime allows operations that would otherwise be unlawful acts to be carried out lawfully. Natural England is the licensing Authority and, in order to grant a license, ensures that three statutory conditions (sometimes referred to as the 'three derogation tests') are met:

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

Wildlife and Countryside Act (1981) as amended.

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

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

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

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

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

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

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

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

The NERC Act (2006) created the statutory nature conservation body Natural England, and places a statutory



duty on all public bodies, including planning authorities, under Section 40, to take, or promote the taking by others, steps to further the conservation of *habitats and species of principal importance for the conservation of biodiversity* in England (commonly referred to as the 'Biodiversity Duty'). This duty extends to all public bodies the biodiversity duty of Section 74 of the Countryside and Rights of Way (CROW) Act 2000, which placed a duty only on Government and Ministers. Section 41 of the NERC Act lists the habitats and species of principle importance. This includes a wide range of species from mosses, vascular plants, invertebrates through to mammals and birds. It originates from the priority species listed under the UK Biodiversity Action Plan (UK BAP) with some omissions and additions.

Environment Act (2021)

The Environment Act sets a target of halting the decline in species through the inclusion of a legally binding 2030 species abundance target. Aiming to restore natural habitats and enhance biodiversity, the Act requires new developments to improve or create habitats for nature (through mechanisms such as mandatory Biodiversity Net Gain), and tackle deforestation. Going forwards, UK businesses will need to look closely at their supply chains as amongst other measures they will be prohibited from using commodities associated with wide-scale deforestation. Woodland protection measures are also strengthened through the Act.

The Act enables the reform of the Habitats Regulations and further improves protection for nature through the establishment of Local Nature Recovery Strategies that support national Nature Recovery Networks. In addition, the Act provides for the production of Protected Site Strategies and Species Conservation Strategies, aimed at supporting the design and delivery of strategic approaches to deliver better outcomes for nature.

Protection of Badgers Act (1992)

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

Under this legislation, it is a criminal offence to:

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

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

National Planning Policy Framework

The National Planning Policy Framework (NPPF 2021)¹⁰ sets out the Government's view on how planners should balance nature conservation with development and helps ensure that Government meets its biodiversity commitments with regard to the operation of the planning system.

Paragraph 179b, which states that council policies should “*promote the conservation, restoration and*

¹⁰ HM Government (2021). National Planning Policy Framework. Department for Communities and Local Government. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1005759/NPPF_July_2021.pdf



enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.” The Office of the Deputy Prime Minister (ODPM) Circular 06/2005, 2005)¹¹. In accordance with the NPPF, it is important that developments should contribute to and enhance the natural and local environment by:

- minimising impacts on existing biodiversity and habitats;
- providing net gains in biodiversity and habitats, wherever possible;
- establishing coherent ecological networks that are more resilient to current and future pressures.

UK Post-2010 Biodiversity Framework

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

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

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

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

Birds of Conservation Concern (BoCC)

In 1996, the UK’s leading non-governmental bird conservation organisations listed the conservation status of all bird species in the UK against a series of criteria relating to their population size, trends and relative importance to global conservation. The lists, known as the 'Red', 'Amber' and 'Green' lists (in order of decreasing concern) are used to inform key conservation policy and decisions. The lists are reviewed every five years and are a useful reference for determining the current importance of a particular site for birds. The most recent review was undertaken in 2021 (Stanbury et al, 2021), which provides an up to date assessment of the conservation status of birds in the UK.

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¹¹ HM Government (2005) ODPM Circular 06/05 Government Circular: *Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System*. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7692/147570.pdf.



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APPENDIX 2 – Reading Borough Council Planning Information

Policy number/title	Policy summary
EN12: Biodiversity And The Green Network	a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network. The Green Network comprises: • Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and • Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links. New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map. b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever possible. Development should: • Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and • Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable. In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity. Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.



EN13: Major Landscape Features And Areas Of Outstanding Natural Beauty	Planning permission will not be granted for any development that would detract from the character or appearance of a Major Landscape Feature. The following areas, as shown on the Proposals Map, are defined as Major Landscape Features: • The Thames Valley; • The Kennet and Holy Brook Meadows; • The West Reading wooded ridgeline; • The East Reading wooded ridgeline; and • The North Reading dry valleys and Chilterns Escarpment. Development which affects the setting of an Area of Outstanding Natural Beauty (AONB) will be accompanied by a Landscape and Visual Impact Assessment that demonstrates that there is no detrimental impact on the North Wessex Downs or Chilterns AONBs in terms of scale, design, layout or location. None of Reading Borough falls within an AONB, but where the urban area meets the Chilterns AONB is shown on the Proposals Map.
EN14: Trees, Hedges And Woodlands	Individual trees, groups of trees, hedges and woodlands will be protected from damage or removal where they are of importance, and Reading's vegetation cover will be extended. The quality of waterside vegetation will be maintained or enhanced. New development shall make provision for tree retention and planting within the application site, particularly on the street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.



APPENDIX 3 – Bird records returned from TVERC within 1km of the site

Table 6. Bird records returned within 1km of the site.

Bird species	Number of records
Barn owl <i>Tyto alba</i>	1
Barnacle goose <i>Branta leucopsis</i>	1
Black-headed gull <i>Chroicocephalus ridibundus</i>	155
Bullfinch <i>Pyrrhula pyrrhula</i>	25
Cattle egret <i>Bubulcus ibis</i>	1
Cetti's warbler <i>Cettia cetti</i>	5
Common gull <i>Larus canus</i>	68
Common sandpiper <i>Actitis hypoleucos</i>	4
Common tern <i>Sterna hirundo</i>	21
Cuckoo <i>Cuculus canorus</i>	3
Dunnock <i>Prunella modularis</i>	34
Fieldfare <i>Turdus pilaris</i>	14
Firecrest <i>Regulus ignicapilla</i>	100
Gadwall <i>Mareca strepera</i>	7
Garganey <i>Spatula querquedula</i>	3
Golden plover <i>Pluvialis apricaria</i>	2
Great black-backed gull <i>Larus marinus</i>	2
Greenfinch <i>Chloris chloris</i>	24
Greenshank <i>Tringa nebularia</i>	2
Grey wagtail <i>Motacilla cinerea</i>	61
Greylag goose <i>Anser anser</i>	14
Herring gull <i>Larus argentatus</i>	37
House martin <i>Delichon urbicum</i>	5
House sparrow <i>Passer domesticus</i>	15
Kestrel <i>Falco tinnunculus</i>	44
Kingfisher <i>Alcedo atthis</i>	77
Lapwing <i>Vanellus vanellus</i>	3
Lesser black-backed gull <i>Larus fuscus</i>	60
Lesser redpoll <i>Acanthis cabaret</i>	6
Lesser spotted woodpecker <i>Dryobates minor</i>	1
Linnet <i>Linaria cannabina</i>	2
Little egret <i>Egretta garzetta</i>	9
Mallard <i>Anas platyrhynchos</i>	148
Marsh tit <i>Poecile palustris</i>	2
Meadow pipit <i>Anthus pratensis</i>	7
Mistle thrush <i>Turdus viscivorus</i>	59
Moorhen <i>Gallinula chloropus</i>	116
Nightingale <i>Luscinia megarhynchos</i>	3



Peregrine <i>Falco peregrinus</i>	14
Pintail <i>Anas acuta</i>	5
Pochard <i>Aythya ferina</i>	44
Red kite <i>Milvus milvus</i>	140
Redshank <i>Tringa totanus</i>	1
Redstart <i>Phoenicurus phoenicurus</i>	6
Redwing <i>Turdus iliacus</i>	88
Reed bunting <i>Emberiza schoeniclus</i>	5
Rook <i>Corvus frugilegus</i>	5
Sedge warbler <i>Acrocephalus schoenobaenus</i>	6
Shag <i>Gulosus aristotelis</i>	1
Shoveler <i>Spatula clypeata</i>	177
Skylark <i>Alauda arvensis</i>	4
Snipe <i>Gallinago gallinago</i>	2
Song thrush <i>Turdus philomelos</i>	85
Sparrowhawk <i>Accipiter nisus</i>	34
Spotted flycatcher <i>Muscicapa striata</i>	3
Starling <i>Sturnus vulgaris</i>	23
Stock dove <i>Columba oenas</i>	30
Swift <i>Apus apus</i>	55
Tawny Owl <i>Strix aluco</i>	32
Teal <i>anas crecca</i>	8
Whitethroat <i>Curruca communis</i>	24
Wigeon <i>Mareca penelope</i>	10
Willow warbler <i>Phylloscopus trochilus</i>	15
Wood pigeon <i>Columba palumbus</i>	152
Wren <i>Troglodytes troglodytes</i>	84
Yellow-browed warbler <i>Phylloscopus inornatus</i>	4



APPENDIX 4 – Reducing Impacts of Artificial Light

Bright external lighting can have a detrimental impact upon foraging and commuting bat flight paths, but more importantly can also cause bats to remain in their roosts for longer. Artificial lighting can also cause significant impacts to other nocturnal species, most notably moths and other nocturnal insects. It can also result in disruption of the circadian rhythms of birds, reducing their fitness.

Guidelines issued by the Bat Conservation Trust¹² should be referred to when designing the lighting scheme. Note that lighting designs in very sensitive areas should be created with consultation from an ecologist and using up-to-date bat activity data where possible. The guidance contains techniques that can be used on all sites, whether a small domestic project or larger mixed-use, commercial or infrastructure development. This includes the following measures:

Avoid lighting key habitats and features altogether

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

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

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

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

¹² Bat Conservation Trust and Institute for Lighting Professionals (2018) Guidance note 8. Bats and Artificial Lighting. <https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/>



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

Demonstrate compliance with illuminance limits and buffers

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

Lighting Fixture Specifications

The Bat Conservation Trust recommends the following specifications for lighting on developments to prevent disturbance:

- Lighting spectra: peak wavelength >550nm
- Colour temperature: <2700K (warm)
- Reduction in light intensity
- Minimal UV emitted
- Upward light ratio of 0% and good optical control

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End.
