

8 Riley Road, Tilehurst, Reading

Preliminary Ecological Appraisal & Bat Roost Inspection Final

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Client: Mr Dan Stannard

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NON-TECHNICAL SUMMARY

Scope	Description
Purpose of the Report	To provide an ecological overview of the proposed residential development site at 8 Riley Road, Tilehurst in support of a planning application for the site. Ecological features are described and mapped, further surveys outlined and likely/required compensation, mitigation and enhancement measures are provided.
Surveys Undertaken	A preliminary Ecological Appraisal was undertaken which comprised an extended Phase 1 habitat survey and a bat roost inspection.
Summary of Results	The site comprised one residential property and amenity grassland most of which was bounded by a wooden panel fence. One bat roost was identified within the roof void of 8 Riley Road; approximately 50 bat droppings were recorded and samples were taken. No evidence to indicate that the site is inhabited by further protected species was found during the survey.
Conclusions	The habitats within the site were of site ecological value (low). One brown long-eared <i>Plecotus auritus</i> bat roost (DNA analysis confirmed) was identified within the roof void of 8 Riley Road.
Further Surveys Required	Three bat roost determination surveys will be conducted on the property by two appropriately experienced surveyors. The results of the bat surveys will be required to inform the planning application for the site. It is hoped that a planning determination will be made with the information from two surveys and consultation is underway with the Local Planning Authority Ecologist to agree this approach. An application for a mitigation licence to Natural England will be made once planning permission has been granted to enable the works that would otherwise cause an offence.
Mitigation	The works may be timed to minimise impacts upon bats depending upon any additional bat species that may be identified and the type of roosts present. Gaps will be created in the fencing around the proposed properties to allow hedgehogs to traverse through the gardens.
Compensation	A compensation bat roost will be integrated into the roof void of one of the proposed residential buildings at the site. The bat roost will be of the same dimensions of the current roof void at 8 Riley Road; 2.1 m in height.
Enhancements	Native vegetation including night scented species will be included within the landscaping plans and will be planted to allow screening/flight routes to the compensation roost. Three Schwegler 1 FR bat tubes will be included within the proposed residential properties to enhance the site for bat species.
Data Valid Until	12 February 2021

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1 INTRODUCTION

1.1 BACKGROUND

Johns Associates Ltd was commissioned by Mr Dan Stannard to undertake a Preliminary Ecological Appraisal (PEA) to include an Extended Phase 1 Habitat survey and Bat Roost Inspection (BRI) survey at 8 Riley Road, Tilehurst, Reading, RG30 4UZ (central Ordnance Survey grid reference SU 6781 7364) and to produce a Preliminary Ecological Appraisal and Bat Roost Inspection Report to inform a planning application for the site.

1.2 SUMMARY OF PROPOSALS

The proposed development comprises the demolition of the existing residential property at 8 Riley Road and the construction of 6no. residential properties within the footprint of the existing property, garden and an area of amenity grassland to the north of the property which is currently being purchased.

1.3 PURPOSE OF THIS REPORT

This Preliminary Ecological Appraisal (PEA) report provides an assessment of the potential effects of the development on ecological receptors (including legally protected species) associated with the proposed site, as defined by the information set out in this report.

It provides a description of the ecological baseline, considers the potential impacts of the development and makes recommendations for appropriate compensation, mitigation and enhancement measures that would be implemented, should permission be granted.

1.4 PERSONNEL

This assessment and the baseline surveys were conducted by Tessa Pepler BSc (Hons), MSc, MCIEEM, who has worked as an ecological consultant since 2005 and has a BSc (Hons) in Environmental Studies and an MSc in Ecology and Management of the Natural Environment. Tessa is a full member of the Chartered Institute of Ecological Management (MCIEEM) and holds a Natural England Class 1 survey licence for great crested newts (2015-18828-CLS-CLS), dormice (2015-11191-CLS-CLS) and bats (2016-25380-CLS).

1.5 LEGISLATION AND PLANNING POLICY

The assessment has referred to various laws and policies in assisting with the evaluation of the ecological receptors and resources of the assessment area. A summary of the key legislation is set out below.

The two principal European Union (EU) Directives relating to nature conservation are the EU Habitats Directive 1992 and the EU Birds Directive 1967 which ensure the conservation of a wide range of rare, threatened or endemic animal and plant species. Both of these Directives are transposed into national legislation through the Conservation (Natural Habitats c.&) Regulations 2017. This legislation will remain in force without any of the amendments relating to Brexit made until Implementation Period Completion day on 31 December 2020.

The Birds Directive is also implemented through the Wildlife and Countryside Act 1981 (as amended) and all species of wild bird are protected from killing or injury. In addition, it is an offence to take or damage/destroy their eggs and to damage or destroy a nest whilst it is in use. Species listed on Schedule 1 (such as barn owl) receive additional protection in that it is illegal to disturb birds or their young whilst occupying, or near to, an active nest. The Wildlife and Countryside

Act 1981 (as amended) additionally provides protection to other habitats and species at a national level. The Act also controls the release of non-native species.

The EU Habitats Directive makes provision for the designation of wildlife conservation areas as Special Areas of Conservation (SAC). The EC Birds Directive makes provision for the designation of conservation areas for rare and vulnerable birds as Special Protection Areas (SPAs).

The Wildlife and Countryside Act 1981 (as amended), with further protection from the Countryside and Rights of Way (CRoW) Act 2000, makes provision for the designation of Areas of Outstanding Beauty (AONB) and Sites of Special Scientific Interest (SSSI). SSSIs also underpin the designation of Ramsar sites, which are designated wetlands of international importance under the Ramsar Convention 1971.

The Natural Environment and Rural Communities Act (NERC) 2006 extends the biodiversity duty set out in the CRoW Act 2000 to public bodies and statutory undertakers to take due regard to the conservation of biodiversity on site, no net loss in habitat connectivity and should also aim to enhance biodiversity. A number of wild plants, habitats and animals (including reptiles, hedgehog *Erinaceus europaeus*, otter *Lutra lutra* and most species of bat) are included within Section 41 of the (NERC Act 2006 (UK Government, 2006) which lists flora, fauna and habitats considered by the Secretary of State to be of principal importance for conserving biodiversity.

1.6 PLANNING POLICY AND GUIDANCE

1.6.1 National Planning Policy

There are numerous national and local planning policies associated with flora and fauna (also referred to as biodiversity) that need to be addressed as part of the planning process. The Government has issued its National Planning Policy Framework (NPPF) (UK Government, 2019), which sets out planning policies for the protection of the natural environment through the planning system. Section 15 of the NPPF applies to 'Conserving and enhancing the natural environment' and states that planning policies and decisions should contribute to and enhance the natural local environment, distinguishing between the hierarchy of international, national and locally designated sites. Plans should promote the conservation, restoration and enhancement of priority habitats and when determining planning applications, LPAs should follow ecological principles listed in Paragraph 175.

1.6.2 Reading Borough Local Plan

The Reading Borough Local Plan Adopted November 2019 contains several policies which are relevant to ecology and the proposed development of the site.

EN12: Biodiversity and the Green Network – The Green Network 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. New development shall demonstrate how the location and type of greenspace, 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. A new development should maximise opportunities to create new assets and links to areas where opportunities are as yet unidentified on the Proposals Map. On all sites, development should not result in a net loss of biodiversity and should provide a net gain for biodiversity wherever possible.

EN14: Trees, Hedges and Woodland – 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. New development shall make provision for tree retention and planting within an application site, particularly on street frontage, or off-site in appropriate situations, to improve the level of tree coverage within the Borough, to maintain and enhance the

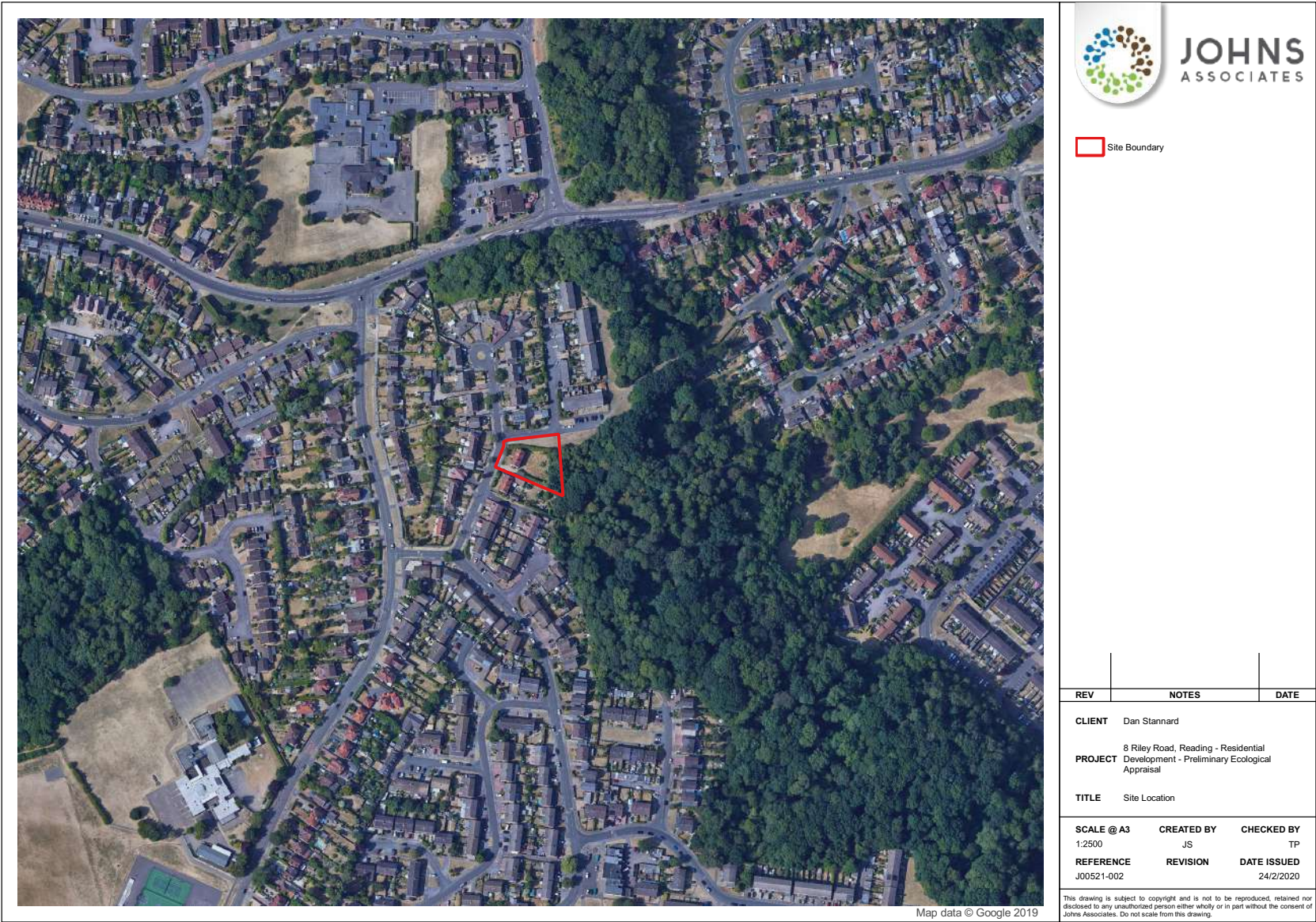
character and appearance of the area in which a site is located, to provide for biodiversity and to contribute to measures to reduce carbon and adapt to climate change. Measures must be in place to ensure that these trees are adequately maintained.

1.7 SITE DESCRIPTION AND LOCATION

The planning application area, which hereafter is referred to as the 'Site', comprised one residential property and associated garden, located at 8 Riley Road, Tilehurst, Reading. The Site is surrounded to the north, west and south by residential properties and gardens. Lousehill Copse Local Wildlife Site (LWS) which is part of West Reading Woodlands Local Nature Reserve (LNR) is located adjacent to the eastern boundary.

Within the wider landscape Calcot Park Golf Course is located to the south of the site, the town of Reading is located to the east of the site. The centre of the suburb of Tilehurst is located to the west of the site.

Figure 1: Site Location within the Wider Landscape



2 METHODOLOGY

2.1 DESK STUDY

The desk study collates all relevant existing information relating to the Site and its surrounding area. The data is used to assist with developing the scope and design of any further surveys (if required) and to enable a full assessment of the likely impacts of the proposed activities on species of conservation interest. The following sources have been used as appropriate:

- Multi Agency Geographic Information for the Countryside (MAGIC);
- Records and citations for designated sites (www.gov.uk, www.designatedsites.naturalengland.org.uk);
- Google Maps (www.maps.google.com); and
- Ordnance Survey maps (www.ordnancesurvey.co.uk) to identify any ponds within 500 m of the Site, along with the presence of any significant barriers to the migration of great crested newt from these ponds to the Site itself.

A search for International and European statutory designated sites was conducted to a 5 km radius from the Site and to an 8 km radius for sites designated for supporting bats. A search for national statutory designated sites and granted Natural England European Protected Species licences was conducted to 2 km radius of the Site.

2.2 DATA SEARCH

Thames Valley Environmental Records Centre (TVERC) provided details of protected and notable species records and non-statutory designated sites recorded within a 2 km radius of the site.

2.3 EXTENDED PHASE 1 HABITAT SURVEY

A PEA Survey of the Site was undertaken on the 12 February 2020 by Tessa Pepler BSc (Hons), MSc, MCIEEM from Johns Associates. The weather was dry and sunny with good visibility. This survey was completed in accordance with Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017) and BS 42020:2013 Biodiversity - Code of practice for planning and development (British Standards Institute, 2013).

The survey identified the habitat types currently present across the Site and in immediately adjacent areas. The survey followed the standardised system for classifying and mapping British Habitats Handbook for Phase 1 Habitat survey – a technique for environmental audit (Joint Nature Conservancy Council, 2010). The main output of this survey was an annotated habitat map and target notes together with descriptions of the recorded habitat types. All flora follows the nomenclature detailed in New Flora of the British Isles (3rd Edition) (Stace, 2010). Flora, where appropriate, are given a descriptive score of abundance using the DAFOR scale, for which:

- D – Dominant
- A – Abundant
- F – Frequent
- O – Occasional
- R – Rare
- L – Locally (to be used as a prefix for any of the above)
- V – Very (to be used as a prefix for any of the above)

2.4 BAT ROOST INSPECTION (BRI) SURVEY

A detailed external and internal survey of the buildings was also carried out on the 12 February 2020 by Tessa Pepler (class licence registration number: 2019-40584-CLS-CLS-1 replacing 2016-25380-CLS-CLS). The inspection followed the professional survey guidance as detailed in Bat Survey Guidelines for Professional Ecologists: Good Practice Guidelines (Bat Conservation Trust, 2016).

The survey entailed a direct search for evidence of bats on both internal and external features of the buildings. The building inspections were carried out from the ground. Other supporting equipment included close focusing binoculars and a high-powered torch, as required. The buildings were examined externally for features that could support roosting bats and features that could lead to internal potential roost features (PRFs). The buildings were also subject to detailed internal examinations, including the roof void.

The presence of roosting bats can be spotted through signs such as accumulations of moth or butterfly wings or bat droppings and staining and/or scratch marks around potential entrance and exit points. However, the absence of droppings/evidence cannot be treated as conclusive evidence that bats are not present, and therefore an assessment was also made of the potential of the building to support bats based on the criteria detailed by the Bat Conservation Trust (2016) and provided in Table 1 below.

Table 1: Bat Conservation Trust Guidelines

Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions (a) and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential (b).	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions (a) and surrounding habitat but unlikely to support a roost of high importance/ value for the local bat population (c).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions (a) and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

- a. For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
b. This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI,2015).
c. Assessment is made with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed

2.5 HABITAT SUITABILITY INDEX (HSI) ASSESSMENT

The Habitat Suitability Index (HSI) is a pond assessment developed by Olham *et al* (2000) to establish a means of evaluating habitat quality and quantity for great crested newts. An HSI is a numerical index between 0 and 1; 0 indicates unsuitable habitat and 1 represents optimal habitat. The HSI score is calculated using ten suitability indices (scores) which are given to factors that affect great crested newts eg geographic location, water quality, shade and terrestrial habitat. The categorisation of the HSI scores is provided in Table 2.

Table 2 Categorisation of HSI Scores

HSI	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

One pond within Lousehill Copse was identified within a 500 m radius of the Site. An HSI assessment was conducted on the pond on 12 February 2020 following a system for using HSI scores to define pond suitability on a categorical scale developed by Lee Brady (Amphibian and Reptile Group UK, Advice Note 5).

2.6 LIMITATIONS, CONSTRAINTS AND ASSUMPTIONS

The findings of this report are valid at the time of survey (February 2020). Should there be delays to the project timetable and/or implementation of the proposed development, updated desk study and/or survey work may be required. In this instance, advice should be sought to ensure the data, recommendations and conclusions set out in this report remain valid.

It has been assumed that the development proposals are as described in this document and that all proposed compensation, mitigation, enhancement and management measures will be implemented in full.

The PEA Survey was undertaken in February, which is considered to be within a sub-optimal time of year for identification of botanical species, however the habitats present comprised amenity grassland with very limited botanical diversity and as a result the survey timing does not present a constraint to the survey results.

3 SURVEY FINDINGS

3.1 DESK STUDY

3.1.1 Statutory Designated Sites

There were no European statutory designed sites within 5 km of the proposed site and no European statutory sites designated for supporting bats within 8 km within the proposed site.

There were four national statutory designated Local Nature Reserve (LNR) sites located within 2 km of the proposed site which are outlined within Table 3 below.

Table 3 Details of Statutory Designated Sites within 2 km of the Site (TVERC)

LNR Site Name	Approximate Distance/ Direction from Site	Size (Ha)	Description
Lousehill Copse	1 m to the East	13.03	Part of West Reading Woodlands LNR; Semi-ancient woodland surrounded by housing, Mature oak <i>Quercus robur</i> and hazel <i>Corylus avellana</i> woodland with some coppice. Bluebells <i>Hyacinthoides non-scripta</i> and spring flowers, relics of old ponds and boggy area. Open meadow with gorse <i>Ulex</i> sp. and broom <i>Cytisus</i> sp. in the northern section.
Round Copse	214 m to the North	1.66	Dense woodland with a variety of birdlife including all three species of woodpecker as well as nuthatch <i>Sitta europaea</i> , treecreeper <i>Certhia familiaris</i> , thrushes <i>Turdus</i> sp. and blackbirds <i>Turdus merula</i> .
Blundells Copse	254 m to the South West	5.55	Part of West Reading Woodlands LNR; an ancient woodland with a stream. Large alder <i>Alnus glutinosa</i> trees, cherry <i>Prunus</i> sp., willow <i>Salix</i> sp. with coppiced willow, alder and hazel with oak and ash <i>Fraxinus excelsior</i> standards. Animals include bats, hedgehogs, muntjac deer <i>Muntiacus reevesi</i> , field mice <i>Mus musculus</i> and frogs <i>Rana temporaria</i> .
Mcilroy Park	385 m to the North West	11.98	Part of West Reading Woodlands LNR; Extensive natural park, mostly grassland with heather <i>Calluna</i> sp. and broom. Semi-ancient woodland mostly around the edges of the site has bluebells, wood anemones <i>Anemone nemorosa</i> and butchers broom <i>Ruscus aculeatus</i> . Sunken ancient track 'Gypsy Lane' lined with beech <i>Fagus sylvatica</i> trees. Chalk pits in the west area.

3.1.2 Non-Statutory Designated Sites

There are five non-statutory designated Local Wildlife Sites (LWS) within 2 km of the proposed site and the details are provided in Table 4.

Table 4 Details of Non-Statutory Designated Local Wildlife Sites (LWS) within 2 km of the Site (TVERC)

LWS Site Name	Approximate Distance/ Direction from Site	Size (Ha)	Description
Prospect Park (includes the Rookery)	1.08 to the South East	24.1	The Rookery is a small area of lowland mixed deciduous woodland and Prospect Park a historic parkland site to the south. There is an area of lowland meadow habitat present. There are several legally protected species, NERC Act species and habitats and birds of conservation concern.
Lousehill Copse	1 m to the East	13.16	Semi-ancient woodland surrounded by housing, Mature oak and hazel woodland with some coppice. Bluebells and spring flowers, relics of old ponds and boggy area. Open meadow with gorse and broom in the northern section.
Meadway Fringe	790 m to the South East	2.13	Strip of broadleaved woodland interspersed with some Scot's pine <i>Pinus sylvestris</i> and larch <i>Larix decidua</i> . Heavy use and mis-use, retained good vertical structure and range of woodland plants. Unimproved grassland section, species-rich neutral grassland located between gardens and a car park.
McIlroy Park (including Round Copse)	385 m to the North West	11.75	This site is an LNR and the north end (Kentwood Grove) is ancient woodland. Hilltop park with areas of grassland, with areas of scrub, woodland and an old gravel pit. Woodland has mixed coppice including hazel and hornbeam <i>Carpinus betulus</i> with oak, ash and birch <i>Betula</i> sp. standards as well as some beech. Rich ground flora.
West Reading Woodlands	1 m to the East		An urban fringe and urban site, in the west it encompasses the escarpments at the edge of the pang Valley. The rest of the area includes the Reading Woodlands LNR a group of mainly wooded sites within Tilehurst as well as a number of other woodlands in this area. Parkland at Purley Hall.

3.1.3 European Protected Species (EPS) Licences

There are four EPS licences for bats within 2 km of the proposed site. The first starts on 21-01-2016 ending on 31-01-2021 for brown long-eared *Plecotus auritus*, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* bats. The licence allows destruction of a resting place. The second starts on 04-10-2010 ending on 31-08-2012 for common pipistrelle and brown long-eared bats. The licence allows destruction of a breeding sites and a resting place. The third starts on 07-09-2011 and ends on 01-09-2013 for common pipistrelle and allows the destruction of a resting place. The forth licence starts on 14-10-2011 and ends on 01-09-2013 for common pipistrelle, soprano pipistrelle and brown long-eared bats. The licence allows destruction of a resting place.

The locations of the bat licences are located approximately 1.5 km to the north west; one located approximately 55 m to the west and one located approximately 810 m to the south west of the proposed site.

3.1.4 NERC Section 41 Habitats

The following NERC Section 41 Habitats are located within 1 km of the proposed site: Lowland dry acid grassland; ancient & semi-natural woodland; deciduous woodland; and broadleaved woodland.

3.1.5 NERC Section 41 Species

Recent NERC Section 41 species records provided by TVERC which could be supported by habitats within the proposed site include house sparrow *Passer domesticus*, Myotid bats, noctule bat *Nyctalus noctula*, pipistrelle species bat *Pipistrellus* sp., soprano pipistrelle, long-eared bat species *Plecotus* sp., brown long-eared bat and hedgehog.

3.2 EXTENDED PHASE 1 HABITAT SURVEY

The results of the extended Phase 1 habitats survey are described in the following section. The location of the key ecological features referred to in this chapter are provided in Appendix 1 with Target Notes (TN) referred to throughout the following section.

3.2.6 Habitats and Flora

Amenity Grassland

The majority of the proposed site comprises amenity grassland habitat of site (low) ecological value (Plates 1 & 2). Species were common and were dominated by perennial rye grass *Lolium perenne*, with frequent daisy *Bellis perennis*, occasional dandelion *Taraxacum officinale* agg., and yarrow *Achillea millefolium*, doves-foot cranes-bill *Geranium molle*, ribwort plantain *Plantago lanceolata*, chive *Allium schoenoprasum*, lesser celandine *Ficaria verna*, cleavers *Galium aparine* and common nettle *Urtica dioica* all rare in abundance.



Plate 1: Amenity Grassland Garden facing East



Plate 2: Amenity Grassland facing East

Buildings and Hard-Standing

There was one residential property (Plate 3) within the site and one garage building. The driveway, a patio and a pathway into the garden area comprised hardstanding of negligible ecological value.



Plate 3: Western Face of 8 Riley Road

Woodland Edge

The woodland habitat adjacent to the proposed site (Plate 4) included the following species along the site boundary: oak, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, elder *Sambucus nigra*, elm *Ulmus* sp., ivy *Hedera helix* and bramble *Rubus fruticosus*.



Plate 4: Woodland within Lousehill Copse

3.2.7 Fauna

There were no watercourses within or adjacent to the proposed site and as a result there is no potential for species such as white clawed crayfish *Austropotamobius pallipes*, otter and water voles *Arvicola amphibius* to be affected by the proposed development.

Great Crested Newt

There was one pond located 470 m to the south east of the proposed site within Lousehill Copse LWS and LNR. A Habitat Suitability Index assessment conducted on the pond calculated an HSI score of 0.69 which indicates an 'Average' pond suitability for great crested newts. There was one record of great crested newt from 1984 within 2 km of the proposed site. There was negligible habitat within the site to support great crested newts.

Reptiles

The habitats on site were assessed as presenting negligible suitability for reptiles.

Nesting Birds

There was no habitat within the site to support nesting bird species. The woodland habitat adjacent to the eastern boundary of the proposed site provided suitable habitat to be used by nesting birds.

Badgers

There was evidence of a potential badger run exiting the woodland to the east of the proposed site (Plate 5). There was no evidence of badgers using the site. There were numerous records of badgers provided by TVERC, the most recent recorded in 2018. Local residents provided information that badgers are frequently seen foraging in gardens.



Plate 5: Potential Badger Run to East of Site

Small Mammals

There was negligible habitat within the Site to support small mammal species.

Invertebrates

There was limited habitat within the Site to support significant numbers or diversity of invertebrate species.

3.3 BAT ROOST INSPECTION (BRI) SURVEY

3.3.8 External Inspection

The building was constructed from bricks with a pitched roof covered in clay Roman tiles with clay ridge tiles, all in good condition with no cracks or crevices visible. The windows and doors were also in good condition with no gaps or cracks present. The roof had two brick chimneys with lead flashing all in good condition. There was a gap between the wooden fascia board and wooden soffit boards on the northern gable of the building which provided potential access for bats. There was a gap between the wooden soffit boards and the wall of the house on the eastern side on the south facing gable wall and a gap between the fascia board and roof tiles on the western side of the south gable face. No other gaps or cracks were observed on the main building.



Plate 6: Gap Between Soffit and Wall South Face



Plate 7: Gap in Soffit Board North Face

A small porch (Plate 8) on the southern face of the building was constructed with brick walls and a mono-pitched roof constructed from a corrugated asbestos-like material. The external structure had a negligible potential to be used by roosting bats.

The garage (Plate 9) was constructed with brick walls and a mono-pitched roof constructed from a corrugated asbestos-like material. There was a gap above the garage door. The external structure had a negligible potential to be used by roosting bats.



Plate 8: East Face of Porch



Plate 9: North Face of Garage

3.3.9 Internal Inspection

The internal north and south facing gable walls were constructed from breeze blocks with one brick layer on the top. The roof was constructed with six wooden king posts with the central structure of a wooden fink truss (Plate 10). The roof was constructed with wooden roof rafters and a wooden ridge beam with one wooden purlin at 1 m in height from the roof void floor. The roof was lined with Bitumen Type 1 roofing felt in good condition. Gaps were present along the tops of the gable walls. The floor was lined with fiber glass insulation with wooden boards on top to the south of the roof void.



Plate 10: Internal Roof Void facing North

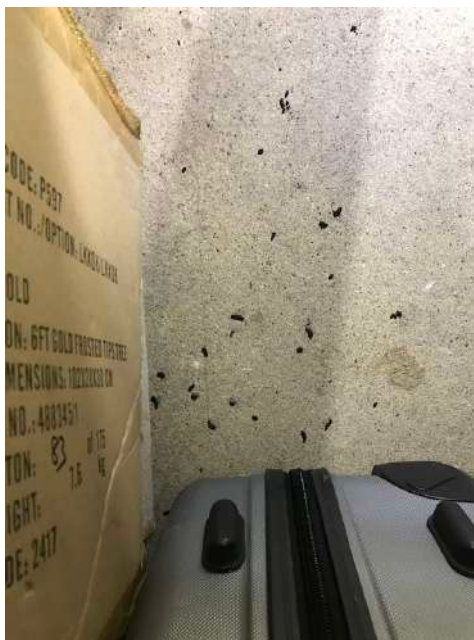


Plate 11: Area of Bat Droppings at South of Roof Void

One area of approximately 50 brown long-eared *Plecotus auritus* bat droppings (Sample 1) was located beneath the ridge beam approximately 0.5 m from the south facing gable wall (Plate 11). Two brown long-eared bat droppings (Sample 2) were recorded to the north of the roof void between the northern chimney and the north facing gable wall. The species identification has been confirmed through DNA analysis.

No evidence of bat droppings was recorded on the chimney breasts. A very high covering of cobwebs was present at the top of the chimney breasts around the roof area. No bats were observed within the roof void.

The garage (Plate 12) and porch structures were internally unlined with access points into the internal structures between the roof and the walls, which also provided draughty conditions. Internally the garage was fairly light due to the glass pane on the door on the north face. A small room within the porch was darker, however it is possible that it is fairly disturbed. There was a very low potential that the structures could be used by roosting bats. No evidence of bats was present within the structures.



Plate 12: Internal Garage facing East

3.3.10 Tree Inspection

Trees within the woodland adjacent to the site had a low potential to be used by roosting bats and one had a bat box installed on it.

4 ASSESSMENT, MITIGATION & ENHANCEMENT

An evaluation of the findings of the desk study, extended Phase 1 habitat survey, bat roost inspection and HSI assessment are presented within the following section. Where required, the details of further surveys, avoidance, mitigation, compensation and enhancement measures are outlined.

4.1 DESIGNATED SITES

Lousehill Copse LWS which is part of the West Reading Woodlands LNR is located adjacent to the eastern boundary of the proposed site. The deciduous woodland and wet woodland habitat within the site are NERC Section 41 Habitats of Principal importance. Song thrush *Turdus philomelos* a Section 41 Species of Principal Importance and a Red List bird of Conservation Concern has been recorded within the site in 1994. Song thrush, also a Red List species was also recorded in 1994 and stock dove *Columba oenas*, house martin *Delichon urbicum* and dunnoek *Prunella modularis* all Amber List species were recorded in 1994.

A Tree Survey was conducted which conforms to BS5837 2012 was conducted by Tree Solutions Arboriculture Ltd on 11 January 2020, which identified four oak trees within the woodland that are located adjacent to the eastern boundary of the proposed site. The Root Protection Area (RPA) radius' have been specified for each tree and the proposed development will not impact upon these areas. As a result, there will be no direct effect upon the LWS and LNR as a result of the proposed development.

Avoidance, mitigation, compensation and enhancement measures outlined in the following section addresses any other potential effects that the proposed development may have on bats, amphibians, badgers, nesting birds and small mammals which may inhabit the woodland.

The proposed development is located a sufficient distance from the other statutory and non-statutory designated sites within a 2 km radius and which are designated for habitats rather than mobile species. It is considered that the proposed development will not negatively affect the conservation status of the designated sites.

4.2 SITE HABITATS

The overall ecological value of the amenity grassland within the site boundary is of site (low) value. The proposed development has the potential for ecological enhancement which is outlined further below.

4.3 PROTECTED SPECIES

4.3.1 Bats

There is a confirmed brown long-eared bat roost within the roof void of the main building and there is a low potential for bats to roost within the soffits and the garage and porch building. The site is of negligible value for foraging and commuting bats, however the woodland edge habitat located adjacent to the eastern boundary of the site provides moderate value foraging and commuting habitat.

Following standard guidance (Bat Conservation Trust, 2016) three bat roost determination surveys will be conducted on the buildings by two surveyors to assess how bat species are using and accessing the buildings.

The further bat survey results will inform the type of bat mitigation licence application required to be made to Natural England and will also inform the planning application for the proposed site. It is considered that the results of two bat surveys should be sufficient to characterise the roost type at the site and that the final third survey can be conditioned to be conducted and will be required by Natural England for the mitigation licence application. The LPA Ecologist has

been consulted regarding this and a response is pending at the time of writing. A compensation bat roost will be provided within the roof void of one of the proposed new residential buildings which will also be suitable to be used as a maternity roost should one be found to be present. As a result, there will be no detriment to the population status of brown long-eared bat; a European Protected Species as a result of the planning application.

External lighting on the proposed residential buildings and the garages on site will be avoided. No external lighting will be included within the development to avoid impacts from lighting upon foraging and commuting bats and bat roosts which may be present within the woodland adjacent to the site and within the enhancement bat tubes and bat compensation that will be provided.

Should bats be roosting within the woodland to the east of the proposed site or within the bat box installed on a tree within the woodland; the avoidance of lighting within the proposed residential development will avoid any negative effects from light disturbance upon potential roosting bats and therefore it is considered that the development will not significantly affect roosting bats.

4.3.2 Great Crested Newts

There is one pond located 470 m from the proposed site which had an 'Average' habitat suitability for great crested newts. The amenity grassland habitat and hardstanding within the site was of negligible value for great crested newts and as a result it is considered that there will be a negligible effect to great crested newts as a result of the proposed development.

4.3.3 Nesting Birds

Birds may nest in vegetation adjacent to the site within the woodland habitat. Nesting birds could be disturbed by the construction works should they be conducted during the breeding bird season (March to August inclusive). Should works be conducted at this time, potential bird nesting habitat will be inspected by a suitably qualified and experienced ecologist for nesting birds and disturbing works will cease until young have been confirmed to have fledged the nest.

4.3.4 Badgers

Badgers are known to inhabit the woodland adjacent to the eastern boundary of the site and potential badger runs were recorded under the fencing to the east of the proposed site.

To prevent badgers being harmed during the construction works; trenches and footings within the site should be covered overnight to prevent animals falling into them or a suitable ramp (such as a scaffold plank positioned at an angle) should be used to ensure that animals can escape, should they fall in. Trenches should be checked prior to infilling to ensure that no animals are present, with advice sought from an ecologist in the event of finding a trapped animal.

4.4 ECOLOGICAL ENHANCEMENT

It is current government policy and legislation and local policy to enhance areas ecologically. The following section therefore provides measures to achieve this at an appropriate scale for this development. The habitats within the site are of site (low) ecological value and the proposed development will include the following enhancement measures:

- Native hedgerow planted around the perimeter of the proposed site;
- Native shrubs and trees planted within each garden of the proposed development;
- Gaps provided under garden fencing panels to allow hedgehogs and small mammals to access the gardens and traverse between gardens;

- Include night scented plants in the landscape planting including cherry pie *Heliotropium arborescens*, evening primrose *Oenothera biennis*, honeysuckle *Lonicera periclymenum*, night-scented catchfly *Silene noctiflora*, night-scented stock *Matthiola bicornis*, Nottingham catchfly *Silene nutans*, soapwort *Sapnoria officinais*, sweet rocket *Hesperis matronalis*, tobacco plant *Nicotiana alata* and white jasmin *Jasminum officinale*;
- Installation of three Schwegler 1 FR bat tubes to be located on the south or south western faces of the new properties; and
- Should a maternity roost not be found to be present within the roof void the compensation bat roost will enhance the site significantly for roosting bats.

5 CONCLUSION

The proposed site is considered to be of site (low) ecological value. A brown long-eared bat roost was identified within the roof void of the property and two further bat activity surveys will be conducted to inform the planning application with a third survey conducted to inform an application for a bat mitigation licence to Natural England. Compensation for the loss of the bat roost will be implemented within the roof void of one of the proposed residential properties. The height will be 2.1 m which is equal to the height of the existing roost void present in 8 Riley Road.

External lighting will not be included to avoid light disturbance to foraging and commuting bats and this lighting specification should be included as a planning condition for the site.

Ecological enhancement measures are detailed for the site including native landscape planting, gaps in the fences for hedgehogs and bat tubes. The enhancement measures should be included as a planning condition for the site.

It is the responsibility of those involved with the development works to ensure that due diligence is demonstrated in complying with wildlife protection and nature conservation legislation at every stage of the project.

APPENDICES

APPENDIX 1: EXTENDED PHASE 1 HABITAT FIGURE

