

Land to the rear of 354 Barkham Road
Barkham
Wokingham
RG41 4DE

Preliminary Ecological Appraisal & Biodiversity Net Gain Assessment

Report ref.: R2890_PEA_a

Report Quality Control Information	
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CONTENTS PAGE

1 EXECUTIVE SUMMARY	3
2 INTRODUCTION.....	4
2.1 Project Background	4
2.2 Site Location and Context.....	4
2.3 Report Objectives	4
3 LEGISLATIVE BACKGROUND	6
3.1 Relevant Legislation	6
3.2 European Protected Species Mitigation Licensing	6
4 PLANNING POLICY	8
4.1 National Planning Policy	8
4.2 Local Planning Policy	9
5 SURVEY METHODOLOGY	12
5.1 Desk Study	12
5.2 Field Survey	12
5.3 Biodiversity Net Gain Assessment	13
5.4 Report Validity	14
6 DESK STUDY FINDINGS	15
6.1 Designated Sites	15
6.2 Important Habitats	15
6.3 Protected and/or Notable Species	16
6.4 Historic and Current Land Use.....	17
6.5 Geology, Soils and Topography.....	17
7 FIELD SURVEY	19
7.1 Overview	19
7.2 w1~206 Felled.....	19
7.3 u1c Artificial unvegetated – unsealed surface	20
7.4 Individual trees	20
8 BIODIVERSITY NET GAIN ASSESSMENT	22
8.1 Baseline Habitats.....	22
8.2 Proposed Habitats	22
8.3 Biodiversity Metric Result	25
9 DISCUSSION	26
9.1 Designated Sites	26
9.2 Habitats	26
9.3 Amphibians (Great Crested Newt)	27
9.4 Bats	28
9.5 Other Mammals	28
9.6 Birds	29
9.7 Reptiles	29
10 RECOMMENDATIONS.....	30
10.1 Overview.....	30
10.2 Habitats	30
10.3 Amphibians, Reptiles and Mammals (Reasonable Avoidance Measures)	30
10.4 Bats (Sensitive Lighting)	31
10.5 Nesting Birds (Precautionary Measures)	31
10.6 Biodiversity Enhancement Measures	31
11 REFERENCES AND BIBLIOGRAPHY	33
APPENDIX 1 – LEGISLATIVE BACKGROUND	34
APPENDIX 2 – PROPOSED SITE PLAN.....	37

1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was instructed by Matt Claughton to undertake a Preliminary Ecological Appraisal (PEA) – including Biodiversity Net Gain (BNG) Assessment – at land to the rear of 354 Barkham Road, Barkham. The PEA (incl. BNG Assessment) was commissioned to accompany a full planning application to be submitted to Wokingham Borough Council seeking consent for a minor residential development comprising two proposed dwellings with associated landscaping and parking.
- 1.1.2** A desktop study conducted by Conor Watson ACIEEM utilised data from a Thames Valley Environmental Records Centre (TVERC) 1km data search, and a site walkover was undertaken on the 25th March 2025 by Conor Watson ACIEEM and Jake Morgan. This BNG assessment uses the Statutory Biodiversity Metric to assess the feasibility of the proposed site layout in delivering a minimum 10% net gain for biodiversity.
- 1.1.3** The application site is 0.16ha of a residential plot located along a lane on the southern side of Barkham Road. The application site had been cleared in 2022-23 and satellite imagery shows that the previous habitat was woodland. The woodland had been continuous with the remaining area of off-site deciduous woodland priority habitat to the south. The habitat present during the site walkover was a varied assemblage of herbs associated with damp grassland, shaded woodland and waste ground.
- 1.1.4** The Metric calculation tool (enclosed separately) demonstrates that the scheme does not deliver the minimum 10% net gain for biodiversity onsite. The biodiversity metric tool shows that the development proposals will result in a total net change of -76.2% in habitat units and 3 unit deficit for achieving 10% net gain.
- 1.1.5** The following recommendations have been made:
- Acquiring offsite units to meet mandatory BNG obligations;
 - Habitat protection measures for mature trees (T9-T10) and offsite woodland;
 - Reasonable avoidance measures for amphibians, reptiles and mammals;
 - Sensitive lighting for bats;
 - Precautions for nesting birds; and
 - Biodiversity enhancement measures
- 1.1.6** This report will likely be valid for up to 18 months; after which point a professional ecologist may need to review the report's validity (CIEEM 2019b).

2 INTRODUCTION

2.1 Project Background

- 2.1.1** John Wenman Ecological Consultancy LLP was instructed by Matt Claughton to undertake a Preliminary Ecological Appraisal (PEA) – including Biodiversity Net Gain (BNG) Assessment – at land to the rear of 354 Barkham Road, Barkham.
- 2.1.2** The PEA (incl. BNG Assessment) was commissioned to accompany a full planning application to be submitted to Wokingham Borough Council seeking consent for a minor residential development comprising two proposed dwellings with associated landscaping and parking (see indicative proposed site plan in **Appendix 2**).
- 2.1.3** A Preliminary Roost Assessment (Report ref.: R2890_PRA_a) and Bat Emergence Survey (Report ref.: R2890_BES_a) have been prepared by John Wenman Ecological Consultancy for a separate householder application seeking consent for extensions and alterations to the existing bungalow at 354 Barkham Road (adjacent to this application site).

2.2 Site Location and Context

- 2.2.1** The application site is 0.16ha of a residential plot located along a lane on the southern side of Barkham Road in Barkham, Wokingham (OS grid ref.: SU 7883 6730).
- 2.2.2** The site is in a suburban setting amongst surrounding residential properties with deciduous woodland adjacent to the south. Countryside extends to the south of the site and is characterised by agricultural fields and pasture with hedgerows/treelines, occasional woodland parcels and the Barkham Brook (approx. 700m southwest)..

2.3 Report Objectives

- 2.3.1** The aim of this PEA is to understand the nature of the site and assess its ecological value. The key objectives are to:
- identify any likely ecological constraints associated with the planning proposals;
 - establish appropriate mitigation measures in accordance with the mitigation hierarchy (i.e. avoid > mitigate > compensate);
 - determine any additional surveys that may be required following on from this preliminary stage;
 - assess the feasibility of achieving a minimum 10% net gain in biodiversity using the Statutory Biodiversity Metric (enclosed separately); and
 - recognise opportunities to deliver ecological enhancements in line with national

and local planning policy.

3 LEGISLATIVE BACKGROUND

3.1 Relevant Legislation

3.1.1 The following legislation is considered relevant for the purpose of this Preliminary Ecological Appraisal (PEA):

- Wildlife and Countryside Act (W&CA) 1981 (as amended)
- Conservation of Habitats and Species Regulations ('Habitat') Regulations 2017
- Countryside and Rights of Way (CRoW) Act 2000
- Natural Environment and Rural Communities (NERC) Act 2006
- Protection of Badgers Act 1992
- Wild Mammals (Protection) Act 1996

3.1.2 These acts hold relevance to both protected and invasive species and the degree of protection varies depending on faunal/floral group or species. For example, some species of European importance receive full protection in England and Wales under the Habitat Regulations (e.g. bats), whereas others may only be afforded protection through national legislation such as the W&CA 1981 (as amended) (e.g. common lizard). For a detailed overview of species-specific legislation, please refer to **Appendix 1**.

3.2 European Protected Species Mitigation Licensing

3.2.1 The Government's statutory nature conservation advisory organisation, Natural England, is responsible for issuing European Protected Species (EPS) mitigation licences that permit activities that would otherwise lead to an infringement of the Habitat Regulations. An EPS mitigation licence can be issued if the following three tests derived from Regulation 55 have been satisfied:

- (2)(e) – the derogation is for the purposes of '*preserving public health or public safety or other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment.*'
- (9)(a) – there is '*no satisfactory alternative*' to the derogation; and
- (9)(b) – '*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.*'

3.2.2 Local Planning Authorities (LPAs) have a statutory duty under Regulation 7(3)(e) of the

Habitat Regulations consider and determine whether these three tests are likely to be satisfied by planning proposals affected EPS before granted planning permission. If an EPS mitigation licence is necessary, a licence can be sought once all the necessary planning consents have been granted. Natural England aims to issue a decision on licence applications within 30 working days of submission.

4 PLANNING POLICY

4.1 National Planning Policy

- 4.1.1** The biodiversity duty imposed through the Environment Act 2021 states that Local Planning Authorities (LPAs) must consider what action they can take to conserve and enhance biodiversity in England.
- 4.1.2** The ODPM Circular 06/2005 provides guidance on the application of the law relating to planning and nature conservation in England, stating that *'the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat.'*
- 4.1.3** The revised National Planning Policy Framework (NPPF), published in December 2024, sets out the Government's planning policies for England and how they should be applied. Section 15 of the NPPF sets out the approach local authorities should adopt to conserve and enhancing the natural environment when preparing planning policy and when considering planning applications. Paragraph 193 sets out the principles LPAs should apply when determining planning applications, as follows:

'When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

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

d) development whose primary objective is to conserve or enhance biodiversity should

be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.'

- 4.1.4** The selection of excerpts taken from Section 15 refer to Biodiversity Net Gain (BNG) as follows:

'Paragraph 187. Planning policies and decisions should contribute to and enhance the natural and local environment by: [...] d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures and incorporating features which support priority or threatened species such as swifts, bats and hedgehogs [...]

Paragraph 192. To protect and enhance biodiversity and geodiversity, plans should: [...] b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity [...]

- 4.1.5** In England, BNG became mandatory for major development from the 12th February 2024 and for minor development (small sites) from the 2nd April 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). In practice, planning permission in England is now subject to a condition to secure a minimum 10% net gain for biodiversity, unless the development is a type that is exempt from mandatory BNG requirements.

4.2 Local Planning Policy

- 4.2.1** Wokingham Borough Council's development plans are formed of a number of documents including the Core Strategy Development Plan Document (DPD) (January 2010), Managing Development Delivery (MDD) Local Plan (February 2014), and supplementary planning documents (SPDs), which set out planning criteria used to determine applications for planning permission in the Borough. The Local Plan Update aims to refine the current Core Strategy and provide a strategy for the Borough up to March 2036. The following policies relate to biodiversity:

'Core Strategy DPD: 'Policy CP7 – Biodiversity

Sites designated as of importance for nature conservation at an international or national level will be conserved and enhanced and inappropriate development will be resisted.

The degree of protection given will be appropriate to the status of the site in terms of its international or national importance. Development:

- A) Which may harm county designated sites (Local Wildlife Sites in Berkshire), whether directly or indirectly, or*
- B) Which may harm habitats or, species of principle importance in England for nature conservation, veteran trees or features of the landscape that are of major importance for wild flora and fauna (including wildlife and river corridors), whether directly or indirectly, or*
- C) That compromises the implementation of the national, regional, county and local biodiversity action plans will be only permitted if it has been clearly demonstrated that the need for the proposal outweighs the need to safeguard the nature conservation importance, that no alternative site that would result in less or no harm is available which will meet the need, and:*
 - i) Mitigation measures can be put in place to prevent damaging impacts; or*
 - ii) Appropriate compensation measures to offset the scale and kind of losses are provided.*

Core Strategy DPD: 'Policy CP8 – Thames Basin Heaths

Development which alone or in combination is likely to have a significant effect on the Thames Basin Heaths Special Protection Area will be required to demonstrate that adequate measures to avoid and mitigate any potential adverse effects are delivered.

MDD Local Plan: 'Policy TB23: Biodiversity and Development

- 1. Sites of national or international importance are shown and sites of local importance are defined on the Policies Map.*
- 2. Planning permission for development proposals will only be granted where they comply with policy CP7 – Biodiversity of the Core Strategy and also demonstrate how they:*
 - a) Provide opportunities, including through design, layout and landscaping to incorporate new biodiversity features or enhance existing;*
 - b) Provide appropriate buffer zones between development proposals and*

designated sites as well as habitats and species of principle importance for nature conservation; and

- c) *Ensure that all existing and new developments are ecologically permeable through the protection of existing and the provision of new continuous wildlife corridors, which shall be integrated and linked to the wider green infrastructure network.'*

5 SURVEY METHODOLOGY

5.1 Desk Study

- 5.1.1** A desktop study was conducted by Conor Watson ACIEEM. The study utilised data from the local environmental records centre and open access online resources to acquire information on the nature of the site and its surroundings and highlight any potential ecological features.
- 5.1.2** Thames Valley Environmental Records Centre (TVERC) was commissioned to undertake a search of pre-existing records of protected and/or notable species and non-statutorily designated wildlife sites held by them within a 1km radius around a central point inside the site.
- 5.1.3** The DEFRA Data Services Platform was used to obtain geospatial datasets for designated sites (i.e. RAMSAR, SPA, SAC, SSSI) and important habitats (i.e. Priority Habitat Inventory, Ancient Woodland Inventory) to be analysed in QGIS. These geospatial datasets and Google Earth satellite imagery were used to determine the extent and connectivity of habitats, how the site is linked to the surrounding landscape and whether the development could have wider scale impacts on biodiversity.
- 5.1.4** Historical OS maps, Google Earth satellite imagery and planning history were consulted to provide insight into historic and current land use; such information helps contextualise the continuity of habitats and determine the importance of existing ecological features.
- 5.1.5** The type of soil on site was inferred using geological information taken from the British Geological Survey and on-site interpretation.

5.2 Field Survey

- 5.2.1** A site walkover was undertaken on the 25th March 2025 by Conor Watson ACIEEM and Jake Morgan – a qualifying member of CIEEM. The site was surveyed using the UK Habitat Classification (UKHab) system (UKHab Ltd 2023) in accordance with the Guidelines for Preliminary Ecological Appraisal (2nd Edition) (CIEEM 2017). Particular attention was given to evidence of protected and priority species (NERC Act 2006 Section 41 species of principal importance) and the site's potential to support such species.
- 5.2.2** There were no significant survey constraints because full access was available to the site. The survey was subject to seasonal constraints because not all plant and animal

species are visible throughout the year and therefore the report represents a snapshot of the site at the time of the survey only.

5.3 Biodiversity Net Gain Assessment

5.3.1 This Biodiversity Net Gain (BNG) assessment uses the Statutory Biodiversity Metric (February 2024) to calculate the losses and gains in biodiversity unit value resulting from the proposed development. The biodiversity metric tool has been used to assess the feasibility of the proposed site layout in delivering a minimum 10% net gain for biodiversity.

5.3.2 The biodiversity metric rules must be followed for a valid biodiversity net gain and are as follows:

***Rule 1:** The trading rules of this biodiversity metric must be followed.*

***Rule 2:** Biodiversity unit outputs, for each type of unit, must not be summed, traded, or converted between types. The requirement to deliver at least a 10% net gain applies to each type of unit.*

***Rule 3:** To accurately apply the biodiversity metric formula, you must use the statutory biodiversity metric calculation tool or small sites biodiversity metric tool (SSM) for small sites.*

The tools remove the need for a user to manually calculate the change in biodiversity value.

The tool will summarise the results of the calculation and inform a user whether the biodiversity net gain objective has been met.

***Rule 4:** In exceptional ecological circumstances, deviation from this biodiversity metric methodology may be permitted by the relevant planning authority.*

5.3.3 The biodiversity metric principles inform the use of the biodiversity metric tool and are as follows:

***Principle 1:** The metric assessment should be completed by a competent person.*

***Principle 2:** The use of this biodiversity metric does not override existing biodiversity protections, statutory obligations, policy requirements, ecological mitigation hierarchy or any other requirements. This includes consenting or licensing processes, for example woodlands.*

Principle 3: *This biodiversity metric should be used in accordance with established good practice guidance and professional codes.*

Principle 4: *This biodiversity metric is not a complex or comprehensive ecological model and is not a substitute for expert ecological advice.*

Principle 5: *Biodiversity units are a proxy for biodiversity and should be treated as relative values.*

Principle 6: *This biodiversity metric is designed to inform decisions in conjunction with locally relevant evidence, expert input, or guidance.*

Principle 7: *Habitat interventions need to be realistic and deliverable within a relevant project timeframe.*

Principle 8: *Created and enhanced habitats should be, where practical and reasonable, local to any impact and deliver strategically important outcomes for nature conservation.*

Principle 9: *This biodiversity metric does not enforce a minimum habitat size ratio for compensation of losses. Proposals should aim to:*

- *maintain habitat extent - supporting more, bigger, better and more joined up ecological networks*
- *ensure that proposed or retained habitat parcels are of sufficient size for ecological function'*

5.4 Report Validity

- 5.4.1** This report will likely be valid for up to 18 months; after which point a professional ecologist may need to review the report's validity (CIEEM 2019b).

6 DESK STUDY FINDINGS

6.1 Designated Sites

- 6.1.1** The desk study returned no internationally designated statutory sites within a 5km radius of the application site; one nationally designated statutory site within a 2km radius; and four locally designated, non-statutory sites within 1km radius (see **Tables 1a & 1b** below).

Table 1a. Statutorily designated sites within the vicinity of the site (Source: DEFRA).

Site name	Designation	Description	Distance from nearest site boundary (m)
Longmoor Bog	Site of Special Scientific Interest (SSSI) Local Nature Reserve (LNR)	14.4ha site that is one of a few examples in Berkshire of a base-poor valley mire, with carr woodland and wet heathland. 11.75ha site of lowland valley mire and wet (bog) woodland.	~1910SW

Table 1b. Non-statutorily designated sites within the vicinity of the site (Source: DEFRA).

Site name	Designation	Description	Distance from nearest site boundary (m)
Bottle Copse	Local Wildlife Site (LWS)	5.6ha ancient woodland with a rough grassland meadow.	610NE
Bearwood Estate – Woods and Lakes	Local Wildlife Site (LWS)	135.7ha area of woodland with a large lake.	690NW
Brook Farm Meadows	Local Wildlife Site (LWS)	4.8ha site comprising two wet grasslands split and surrounded by a thick scrubby hedgerow; there is a pond on site.	920S
The Coombes	Local Wildlife Site (LWS)	33.4ha site comprising ancient woodland and a stream.	942W

6.2 Important Habitats

- 6.2.1** There are no irreplaceable habitats (e.g. Ancient Semi-natural Woodland) on site or mapped within 50m of the site. However, deciduous woodland priority habitat (Section 41 NERC Act 2006 habitats of principle importance) is mapped on the southern edge of the site and along the lane to the west.

6.3 Protected and/or Notable Species

6.3.1 The search of the TVERC database revealed a range of protected and notable species records starting from the early 1900s. Only recent records defined as fewer than ten years old are included in this report (see **Tables 2a & 2b** below).

Table 2a. Recent protected and/or notable species records within the vicinity of the site (Source: TVERC).

Common name	Scientific name	No. of records	Most recent record	Nearest record (m)	Precision (m)	Status
Amphibians & Reptiles						
Grass snake	<i>Natrix helvetica</i>	13	2022	~750	100	WCA_5s91k NERC_S41
Great crested newt	<i>Triturus cristatus</i>	1	2021	~975	100	HabReg_2 WCA_5s94b/c NERC_s41
Slow-worm	<i>Anguis fragilis</i>	11	2020	~735	100	WCA_5s91k NERC_S41
Birds						
Barn owl	<i>Tyto alba</i>	2	2020	~585	100	WCA_1p1
Black redstart	<i>Phoenicurus ochruros</i>	11	2020	~755	100	WCA_1p1
Brambling	<i>Fringilla montifringilla</i>	16	2022	~675	1000	WCA_1p1
Crossbill	<i>Loxia curvirostra</i>	3	2020	~675	1000	WCA_1p1
Fieldfare	<i>Turdus pilaris</i>	46	2023	~675	1000	WCA_1p1 BOCC_red
Green sandpiper	<i>Tringa ochropus</i>	2	2022	~675	1000	WCA_1p1
Greenshank	<i>Tring nebularia</i>	1	2021	~675	1000	WCA_1p1
Kingfisher	<i>Alcedo atthis</i>	16	2020	~675	1000	WCA_1p1
Mediterranean gull	<i>Ichthyaeetus melanocephalus</i>	2	2021	~675	1000	WCA_1p1
Peregrine	<i>Falco peregrinus</i>	2	2020	~775	100	WCA_1p1
Red kite	<i>Milvus milvus</i>	255	2023	~735	100	WCA_1p1
Redwing	<i>Turdus iliacus</i>	89	2023	~735	100	WCA_1p1
Whimbrel	<i>Numenius phaeopus</i>	11	2022	~675	1000	WCA_1p1 BOCC_red
Higher Plants						
Bluebell	<i>Hyacinthoides non-scripta</i>	3	2020	~675	10	WCA_8
Invertebrates						
Stag beetle	<i>Lucanus cervus</i>	26	2023	~30	1	NERC_S41
White admiral	<i>Limenitis camilla</i>	1	2018	~675	1000	NERC_S41
Terrestrial Mammals (bats)						
Barbastelle	<i>Barbastella barbastellus</i>	5	2020	~775	100	HabReg_2 WCA_5s94b/c NERC_s41
Brown long-eared bat	<i>Plecotus auritus</i>	38	2023	0	100	HabReg_2 WCA_5s94b/c NERC_s41
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	94	2023	~20	1	HabReg_2 WCA_5s94b/c
Leisler's bat	<i>Nyctalus leisleri</i>	4	2020	~765	100	HabReg_2 WCA_5s94b/c
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>	5	2020	~325	1	HabReg_2 WCA_5s94b/c
Noctule	<i>Nyctalus noctula</i>	43	2023	0	100	HabReg_2 WCA_5s94b/c NERC_s41
Serotine	<i>Eptesicus serotinus</i>	14	2023	~170	100	HabReg_2 WCA_5s94b/c
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	59	2023	0	100	HabReg_2 WCA_5s94b/c NERC_s41

Terrestrial Mammals (excl. bats)						
Badger	<i>Meles meles</i>	46	2025	~400	1	PBA
Hedgehog	<i>Erinaceus europaeus</i>	4	2023	~130	1	NERC_s41
Otter	<i>Lutra lutra</i>	1	2016	~960	10	HabReg_2 WCA_5s94b/c NERC_s41

Table 3b. Species status key.

Abbreviation	Legislation
BOCC_red	Birds of Conservation Concern Red list – Globally threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown substantial recovery.
HabReg_2	Schedule 2 of Conservation of Habitats and Species Regulations 2010 (European Protected Species animal) – It is an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2.
NERC_s41	Priority Species listed under Section 41 of the Natural Environment and Rural Communities Act 2006.
PBA	Protection of Badgers Act 1992.
WCA_1p1	Schedule 1 Part 1 of the Wildlife and Countryside Act 1981 (as amended) – birds protected from disturbance at their nests, or their dependent young.
WCA_5s91k	Schedule 5 Section 9 Part 1 (taking) of the Wildlife and Countryside Act 1981 (as amended) – Animals which are protected from being intentionally killed or injured.
WCA_5s94b/c	Schedule 5 Section 9 Parts 4b/c of the Wildlife and Countryside Act 1981 (as amended) – Animals which are protected from intentional disturbance while occupying a structure or place used for shelter or protection / Animals which are protected from their access to any structure or place which they use for shelter or protection being obstructed.
WCA_8	Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) – Plants and fungi that are protected from intentional picking, uprooting or destruction; selling, offering for sale, possessing or transporting for the purpose of sale; advertising for buying or selling.

6.3.2 The NatureSpace District Level Licensing impact risk map for shows the northern half of the application site falling within a green zone, i.e. moderate habitat suitability where GCN may be present, and the southern half falling within an amber zone, i.e. suitable habitat where GCN are likely to be present. No potential breeding ponds were shown on OS mapping within a 250m radius of the site, but one pond was shown in a copse approximately 300m to the southeast.

6.4 Historic and Current Land Use

6.4.1 Early 1900s OS mapping depicts the site as part of an open field, but Google Satellite imagery dating from back to 1999, shows the site as woodland, until clearance in 2023. A tree works application to fell an oak (T8 of TPO no.: 1169-2007) was granted consent in September 2023.

6.5 Geology, Soils and Topography

6.5.1 The geology of the site is Bagshot Formation (Sand) bedrock which gives rise to freely

draining, slightly acid loamy soils; the habitats associated with such soils include neutral and acid pastures and deciduous woodlands.

7 FIELD SURVEY

7.1 Overview

- 7.1.1** The application site is 0.16ha of a residential plot located along a lane on the southern side of Barkham Road in Barkham, near Wokingham, Berkshire. The site is in a suburban setting amongst surrounding residential properties with deciduous woodland adjacent to the south and countryside beyond.
- 7.1.2** The following UK Habitat Classification (UKHab) habitats were observed during the site walkover: w1~206 Felled; and u1c Artificial unvegetated, unsealed surface. The habitats are described alongside images (see **Images 1, 2 & 3**) and a survey plan (see **Figure 1**), as follows:

7.2 w1~206 Felled

- 7.2.1** The application site had been cleared in 2022-23 and satellite imagery shows that the previous habitat was woodland (**Image 1**). The woodland had been continuous with the remaining area of off-site deciduous woodland priority habitat to the south. The habitat present during the site walkover was a varied assemblage of herbs associated with damp grassland, shaded woodland and waste ground (**Image 2**).



Image 1. Google Earth satellite image dated 27/02/2022 (w1~206).



Image 2. Habitat post clearance (w1~206).

- 7.2.2** The species recorded included: herb Robert (*Geranium robertianum*), wood avens (*Geum urbanum*), creeping buttercup (*Ranunculus repens*), willowherb (*Epilobium* sp.), pendulous sedge (*Carex pendula*), compact rush (*Juncus conglomeratus*), common nettle (*Urtica dioica*), creeping jenny (*Lysimachia nummularia*), hedge mustard (*Sisymbrium officinale*), creeping bent (*Agrostis stolonifera*), cock's-foot (*Dactylis glomerata*), dandelion (*Taraxacum* agg.), spear thistle (*Cirsium vulgare*), Canadian fleabane (*Erigeron canadensis*), forget-me-not (*Myosotis* sp.), Yorkshire fog (*Holcus lanatus*), white clover (*Trifolium repens*), selfheal (*Prunella vulgaris*), cleavers (*Galium*

aparine), lords-and-ladies (*Arum maculatum*) and common daisy (*Bellis perennis*).

7.3 u1c Artificial unvegetated – unsealed surface

7.3.1 A compacted gravel and dirt track was used to access the application site from Barkham Road to the north.

7.4 Individual trees

7.4.1 A large (84cm trunk diameter) oak (T9 of TPO no.: 1169-2007) and a medium (42cm trunk diameter) oak (T10) stood adjacent to the track to the west of the application site.

7.4.2 A very large oak (T8 of TPO no.: 1169-2007) had been felled (with permission) and been left in situ (**Image 3**).



Image 3. Remains of felled oak tree (T8 of TPO no.: 1169-2007).

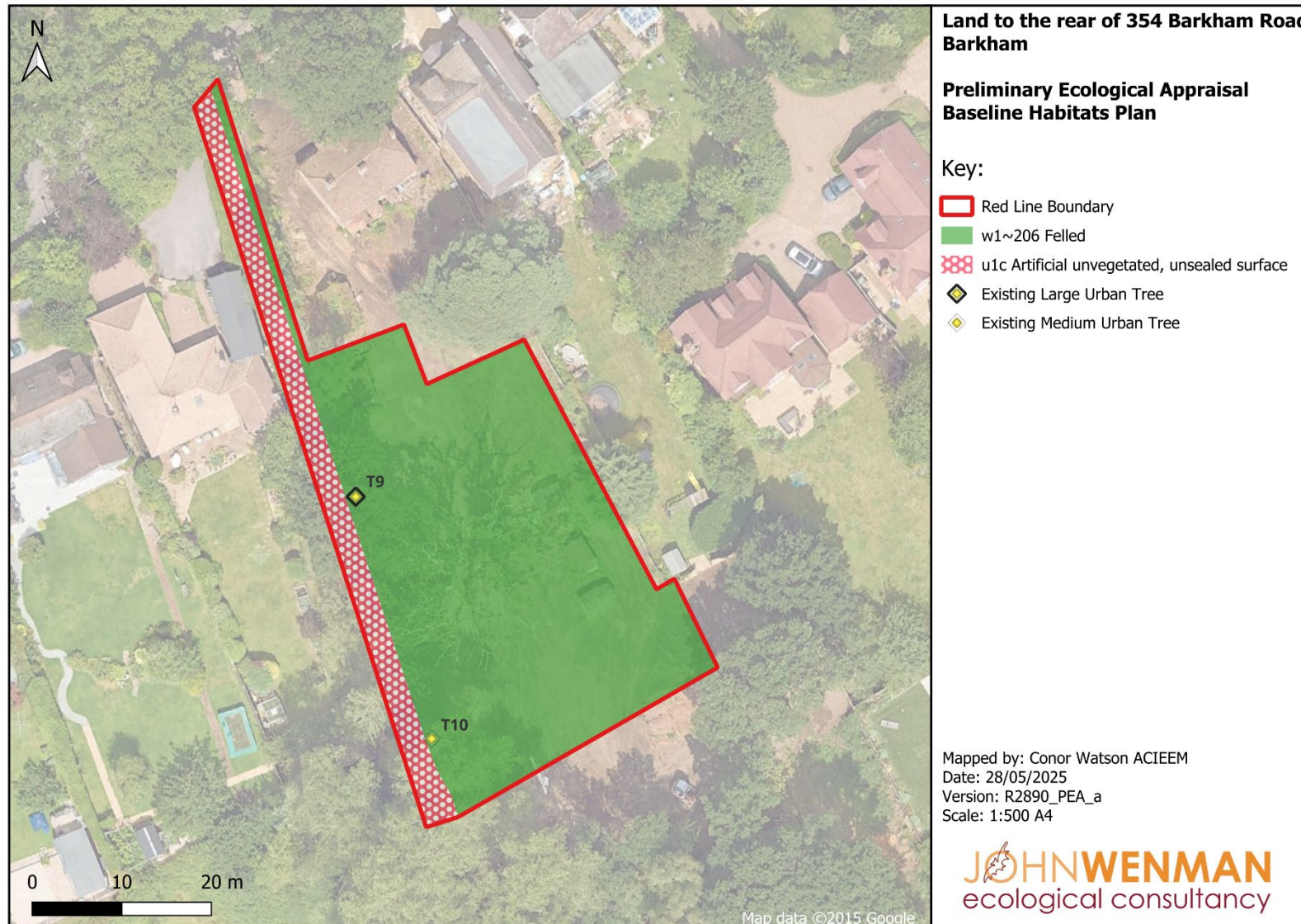


Figure 1. Baseline Habitats Plan.

8 BIODIVERSITY NET GAIN ASSESSMENT

8.1 Baseline Habitats

- 8.1.1** The UK Habitat Classification (UKHab) habitats identified during the field survey have been assigned condition and strategic significance as shown in **Table 1** below; a plan of these baseline habitats for the biodiversity metric tool is illustrated in **Figure 1** above.

Table 1. Baseline habitats for the biodiversity metric tool.

Habitat Type (UKHab code)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Area (ha)	Habitat Units
Felled (w1~206)	High	Good	Medium	0.1393	2.76
Artificial unvegetated, unsealed surface (u1c)	Very low	N/A	Low	0.0232	0.00
Large urban tree (T9)	Medium	Good	High	Large	0.51
Medium urban tree (T10)	Medium	Good	Medium	Medium	0.22
Total				0.1625	3.48

- 8.1.2** A Local Nature Recovery Strategy (LNRS) has not yet been published for Berkshire, so strategic significance has been assigned based on professional judgement. The woodland prior to clearance likely resembled a priority habitat and therefore has been assigned medium strategic significance; felled woodland is automatically assigned good condition (w1~206). Whereas the compacted gravel and dirt track is a very low distinctiveness habitat, so is of low strategic significance.
- 8.1.3** The large and medium native trees (T9 & T10) were assigned good habitat condition (see condition assessment sheet); T9 is part of a TPO so holds high strategic significance, but T10 is not covered by a TPO so holds medium strategic significance (as it was once part of the felled woodland).

8.2 Proposed Habitats

- 8.2.1** The proposed habitats derived from the proposed site plan (see **Appendix 2**) are listed in **Table 2** and described below; a plan of these proposed habitats for the biodiversity metric tool is illustrated in **Figure 2**.

Table 2. Proposed habitats for the biodiversity metric tool.

Habitat Type (UKHab code)	Habitat Distinctiveness	Habitat Condition	Strategic Significance	Area (ha)	Habitat Units (net change)
Developed land – sealed surface (u1b)	Very low	N/A	Low	0.0681	0.00
Artificial unvegetated, unsealed surface (u1c)	Very low	N/A	Low	0.0232	0.00
Vegetated garden (u~828)	Low	N/A	Low	0.0557	0.11
Unvegetated garden (u~829)	Very low	N/A	Low	0.0155	0.00
Large urban tree (T9)	Medium	Good	High	Large	0.51
Medium urban tree (T10)	Medium	Good	Medium	Medium	0.22
Total				0.1625	0.83 (-2.65)

u1b Developed land – sealed surface

- 8.2.2** The proposed development comprises two new dwellings, a car port and paved driveway.

u1c Artificial unvegetated, unsealed surface

- 8.2.3** The proposed development makes use of the existing compacted gravel and dirt track.

u~828 Vegetated garden

- 8.2.4** The proposed development includes rear gardens and areas of soft landscaping.

u~829 Unvegetated garden

- 8.2.5** The proposed development includes garden patios to the rear of the dwellings.

Individual trees

- 8.2.6** The trees will be retained as part of the proposals.

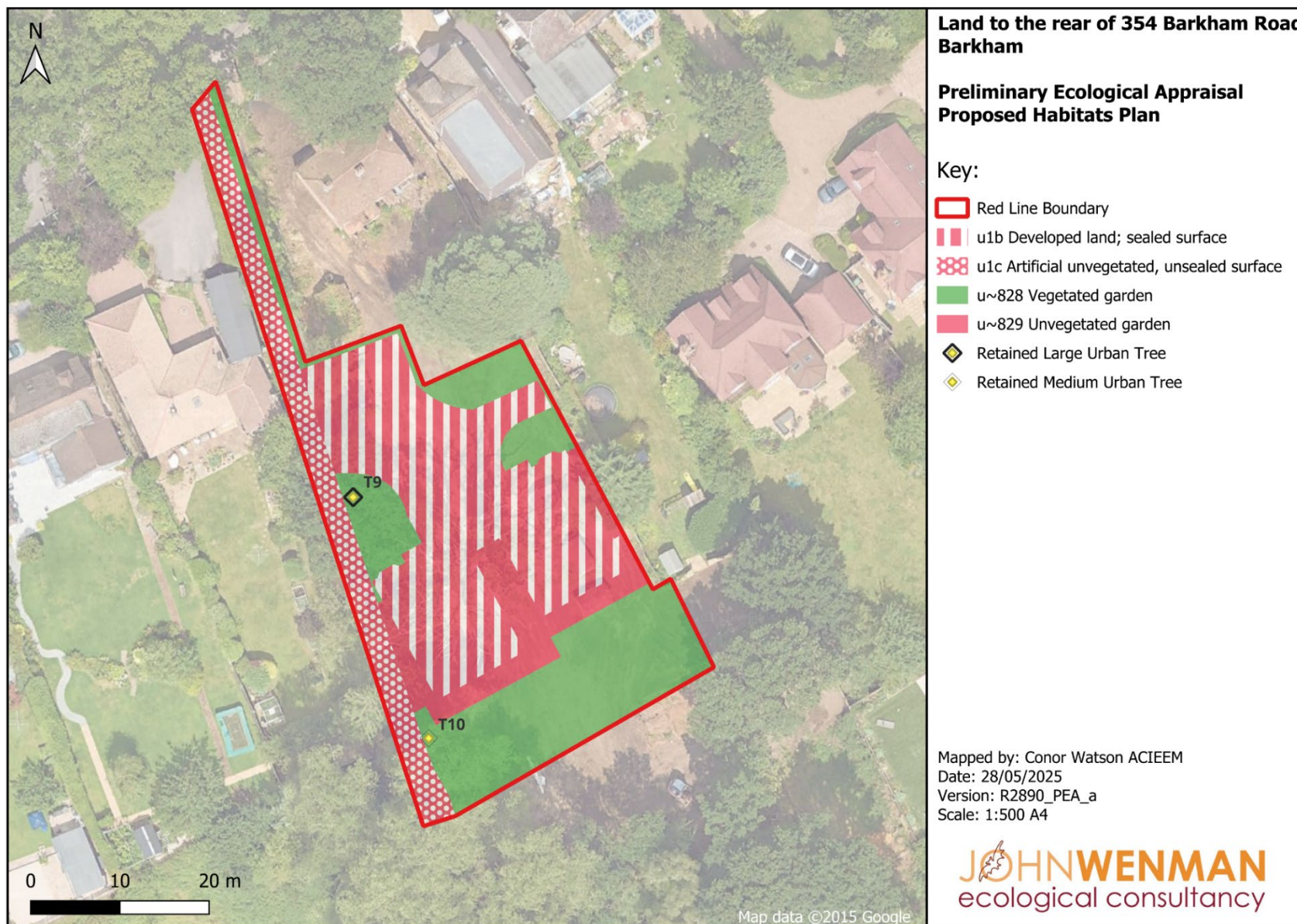


Figure 2. Proposed Habitats Plan.

8.3 Biodiversity Metric Result

8.3.1 The Statutory Biodiversity Metric calculation tool (enclosed separately) demonstrates that the scheme does not deliver the minimum 10% net gain for biodiversity onsite. The biodiversity metric tool shows that the development proposals will result in a total net change of -76.2% in habitat units and a 3 unit deficit for achieving 10% net gain – see the final results section in **Figure 3** below. Therefore, offsite biodiversity units, such as purchasing units from an offsite provider (e.g. habitat bank) will be required to achieve a 10% net gain as part of the proposed development.

FINAL RESULTS				
Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-2.65		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	-76.20%	Total net gain achieved is less than target set ▲	
	Hedgerow units	0.00%		
	Watercourse units	0.00%		
Trading rules satisfied?	No - Check Trading Summaries ▲			
Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	3.48	3.83	3.00
Hedgerow units	10.00%	0.00	0.00	0.00
Watercourse units	10.00%	0.00	0.00	0.00
				No additional hedgerow units required to meet target ✓
				No additional watercourse units required to meet target ✓

Figure 3. The Statutory Biodiversity Metric Final Results.

9 DISCUSSION

9.1 Designated Sites

Evaluation of Baseline

- 9.1.1** The desk study revealed that the application site is not designated for its wildlife interest and therefore is not currently recognised as being of international, national or county level conservation significance. However, the site does fall within the Impact Risk Zone (IRZ) for Longmoor Bog Site of Special Scientific Interest (SSSI).
- 9.1.2** The desk study data included four locally designated Local Wildlife Sites (LWSs) within a 1 kilometre radius of the application site; the closest is Bottle Copse LWS approximately 610m northeast.

Impact Assessment

- 9.1.3** The application site falls inside the Bottle Copse SSSI IRZ, but the proposals do not correspond with the categories of development that are likely to have a negative impact.
- 9.1.4** Considering the nature and scale of the development proposals, and the distance from locally designated sites, the proposals are considered highly unlikely to adversely affect the nearby locally designated sites.

9.2 Habitats

Evaluation of Baseline

- 9.2.1** The application site is characterised primarily by felled woodland (w1~206), i.e. high distinctiveness habitat that has lost a lot of its ecological value. The compacted gravel and dirt track (u1c) is a very low distinctiveness habitat with negligible ecological value. However, the trees: a large oak (T9) and (T10) are of medium distinctiveness with ecological value at the local level.
- 9.2.2** The adjacent (offsite) woodland to the south resembles priority habitat.

Impact Assessment

- 9.2.3** The proposed development will be subject to mandatory Biodiversity Net Gain (BNG). The biodiversity metric tool has been used to demonstrate the feasibility of achieving a 10% net gain for biodiversity (see **Section 10.2**).

- 9.2.4** The mature trees on site (T9-T10) and woodland offsite will be protected during construction (see **Section 10.2**).

9.3 Amphibians (Great Crested Newt)

Evaluation of Baseline

- 9.3.1** The desk study highlighted one great crested newt (GCN) record approximately 975m away from the application site. Furthermore, the NatureSpace District Level Licensing impact risk map for shows the southern half of the site falling within an amber zone, i.e. where GCN are likely to be present.
- 9.3.2** There is no suitable amphibian breeding habitat on site (i.e. standing water) and no potential breeding ponds were identified on OS mapping within a 250m radius of the site, but one pond was identified in a copse approximately 300m to the southeast. The felled woodland habitat on site resembles suitable terrestrial habitat for amphibians.

Impact Assessment

- 9.3.3** Based on the assumption that the nearby pond is used by breeding GCN, the Natural England GCN Risk Assessment Tool shows that the loss of the terrestrial habitat on site is highly unlikely to cause an offence – see **Figure 4** below.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
		Maximum:
		0.005
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

Guidance on risk assessment result categories

"**Green: offence highly unlikely**" indicates that the development activities are of such a type, scale and location that it is highly unlikely any offence would be committed should the development proceed. Therefore, no licence would be required. However, bearing in mind that this is a generic assessment, you should carefully examine your specific plans to ensure this is a sound conclusion, and take precautions (see **Non-licensed avoidance measures tool**) to avoid offences if appropriate. It is likely that any residual offences would have negligible impact on conservation status, and enforcement of such breaches is unlikely to be in the public interest.

Figure 4. Natural England GCN Risk Assessment Tool.

- 9.3.4** Although the proposed development is highly unlikely to cause an offence regarding GCN, precautionary non-licensed avoidance measures should be adopted to minimise the risk of any residual offences (see **Section 10.3**).

9.4 Bats

Evaluation of Baseline

- 9.4.1** The desk study highlighted records of at least eight bat species within a 1km radius of the application site.
- 9.4.2** The mature trees (T9 & T10) do not possess potential roost features, but the site does provide suitable foraging and commuting habitat for bats, incidentally confirmed by the Bat Emergence Survey report covering the separate householder application (Report ref.: R2890_BES_a).

Impact Assessment

- 9.4.3** The mature trees (T9 & T10) will not be impacted by the proposed development. The proposals will reduce the area of foraging habitat on site, but this can be offset through enhancements, such as including integral bat boxes in the new dwellings.
- 9.4.4** The proposed development should incorporate a sensitive lighting scheme to prevent the degradation of the mature trees (T9-T10) and adjacent woodland priority habitat to the south. Artificial lighting has been shown to alter the activity of nocturnal species and certain bat species have been found to be especially averse to lighting and actively avoid lit areas (ILP 2023). To prevent adverse impacts from lighting, any lighting should be designed with the aim of reducing light spillage onto the mature trees and woodland (see **Section 10.4**).

9.5 Other Mammals

Evaluation of Baseline

- 9.5.1** The desk study highlighted badger, hedgehog and otter records within a 1km radius of the application site.
- 9.5.2** The nearest badger record is approximately 400m away but there are no signs of badger presence on site (i.e. setts, trails, snuffle holes or mammal diggings). Hedgehog has been recorded approximately 130m away from the site and could forage and take cover on site.
- 9.5.3** There is no suitable riparian habitat for otter on site. Although the site comprises felled woodland, it was not an example of long-established woodland, so it is considered unlikely that dormouse (which is not locally recorded) is present on site.

Impact Assessment

- 9.5.4** The risk of protected mammal presence on site is negligible and as such, no adverse effects are foreseen. Precautionary measures should be adopted to prevent injury/death of sheltering hedgehogs (see **Section 10.3**) and ecological permeability across the site should be maintained (see **Section 10.6**)

9.6 Birds

Evaluation of Baseline

- 9.6.1** The mature trees (T9-T10) provide foraging and nesting opportunities to a range of garden and parkland birds and are part of a wider foraging and nesting resource in the local area, but the site is highly unlikely to support a bird assemblage of conservation importance.

Impact Assessment

- 9.6.2** The mature trees (T9-T10) are to be retained as part of the proposals and as such, no adverse effects on local bird populations are foreseen. A precautionary method of working during any shrub removal would enable compliance with legislation protecting nesting birds (see **Section 10.5**).

9.7 Reptiles

Evaluation of Baseline

- 9.7.1** The desk study highlighted records of slow-worm and grass snake over 700m away from the application site.
- 9.7.2** Due to the recent clearance, it is considered unlikely that reptiles are present on site.

Impact Assessment

- 9.7.3** The risk of reptile presence on site is low and therefore, precautionary avoidance measures should be adopted to minimise the risk of any residual offences (see **Section 10.3**).

10 RECOMMENDATIONS

10.1 Overview

- 10.1.1** This chapter provides the details regarding proposed avoidance, mitigation, compensation and enhancement measures, including measures to enable legislative compliance.

10.2 Habitats

Biodiversity Net Gain

- 10.2.1** To meet the mandatory requirement of a minimum 10% net gain for biodiversity, offsite gains will need to be made by either purchasing units from a habitat bank or utilising land outside of the application site but under the applicant's ownership.

Protection Measures

- 10.2.2** Protection measures should be adopted during construction to prevent damaging the mature trees on site (T9-T10) and the offsite woodland. The habitat protection measures during construction activities deemed appropriate and proportionate to the nature and scale of the proposed development are as follows:

- Erecting Heras fencing enclosing Root Protection Areas (RPAs);
- Directing security/construction lighting away from the mature trees (T9-T10) and woodland;
- Storing equipment that could cause pollution safely and securely on hard surfaces;
- Adopting procedures to avoid pollution incidents, e.g. fuel spills or surface runoff;
- Storing materials on existing hard surfaces to avoid compaction of; and
- Stopping and seeking advice from a suitably qualified ecologist if protected species are encountered during construction.

10.3 Amphibians, Reptiles and Mammals (Reasonable Avoidance Measures)

- 10.3.1** The following reasonable avoidance measures should be adopted to minimise the risk of harming amphibians, reptiles and hedgehogs:

Pre-commencement of construction activities

- Any removal of debris or leaf litter will be carefully searched by hand looking for common toads and hedgehogs; and
- Sensitive and phased vegetation clearance should take place: the first phase will cut the tall vegetation to a height of circa 250mm with all arisings piled on the edge

of the woodland (i.e. biodiversity enhancement); the second phase will cut the remaining vegetation to a height of circa 150mm. The second phase will be undertaken in a direction manner, moving towards the offsite woodland to the south of the site.

During construction activities

- Any stored building materials or waste, such as bricks or debris etc., that might offer shelter for common toads and hedgehogs will be kept raised off the ground on pallets or on existing hard standing, and efforts should be made to process and removed from site as soon as possible; and
- Excavation works will be avoided after dusk and any open excavations or trenches will be backfilled (after a check for amphibian/reptile presence) or left with escape ramps to prevent animals from becoming trapped.

10.4 Bats (Sensitive Lighting)

10.4.1 During construction, artificial lighting should be avoided, but if essential it should be kept to a minimum, and should use directed warm white LED (2700k) lights controlled by passive infrared motion sensors so that they operate only when necessary.

10.4.2 In the long term, the detailed design for the new dwelling should minimise light levels and spill. Specifically, external lighting should be avoided, but if essential, lighting with low or no UV content, i.e. warm white LED lamps (2700K), should be used in place of mercury and metal halides and luminaires or other directional light accessories should be used to ensure that light spillage onto the mature trees (T9-T10) and offsite woodland is avoided (BCT and ILP, 2023).

10.5 Nesting Birds (Precautionary Measures)

10.5.1 Any vegetation removal should be completed outside of the peak bird nesting season (March to August) or alternatively, following an inspection by an ecologist confirming that there is no current nesting activity. If nesting birds are discovered prior to or during any work, work should stop immediately and should only continue once bird nesting has finished, i.e. young have fledged and left the nest.

10.6 Biodiversity Enhancement Measures

10.6.1 The planning proposals provide opportunities for the enhancement of the site's biodiversity value. The inclusion of the following recommendations would be of ecological benefit and be in line with the national and local planning policy:

- Wildlife-friendly, native landscaping;

- Integrated woodcrete bat and bird boxes;
- Stag beetle loggery; and
- Hedgehog highway signs above 13x13cm gaps in new fencing to connect gardens and allow permeability for wildlife.

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APPENDIX 1 – LEGISLATIVE BACKGROUND

Amphibians

The seven native species of amphibian receive protection under the W&AC 1981 (as amended). The four widespread and common amphibians (common frog, toad, smooth newt and palmate newt) receive only limited protection – making their sale illegal.

The great crested newt (*Triturus cristatus*) receives full protection under the W&CA 1981 (as amended) and under the Habitat Regulations 2019. The combined legislation makes it illegal to:

- intentionally or recklessly kill, injure or take a great crested newt;
- possess or control any live or dead specimen or anything derived from a great crested newt;
- intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection by a great crested newt; and
- intentionally or recklessly disturb great crested newts; in particular, any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

Great crested newts (*T. cristatus*) and common toads (*Bufo bufo*) are species of principal importance for the conservation of biodiversity in England ('UKBAP Priority Species') under Section 41 of the NERC Act 2006.

Badgers

Badgers are protected by the Protection of Badgers Act 1992. The Act makes activities such as development that would harm or disturb badgers or damage, obstruct or destroy their setts illegal. If badgers are to be affected by the proposed development, activities can be undertaken only under a licence issued by Natural England.

Bats

All bat species in Britain are fully protected by the W&CA 1981 (as amended) and by the Habitat Regulations 2019. In summary, the combined legislation makes it an offence to:

- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a bat;

- deliberately, intentionally or recklessly disturb bats; in particular, any disturbance which is likely to impair the ability of bats to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating bats, to hibernate or migrate; or to significantly affect the local distribution or abundance of the species; and
- deliberately kill, injure or take any bat.

Birds

All wild birds are protected under the W&CA 1981 (as amended). The Act makes it an offence to kill, injure or take a wild bird or to damage or destroy the nest of a wild bird whilst in use or being built. Species listed on Schedule 1 of the Act, such as barn owls and kingfishers, are afforded additional protection against disturbance while nesting.

Hazel dormice

Hazel dormice receive full protection under the W&CA 1981 (as amended) and under the Habitat Regulations 2019. These make it illegal to:

- intentionally or recklessly kill, injure or take a dormouse;
- possess or control any live or dead specimen or anything derived from a dormouse;
- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by a dormouse; and
- intentionally or recklessly disturb dormice; in particular, any disturbance which is likely to impair their ability to survive, breed or reproduce or nurture their young; or in the case of hibernating or migrating animals, to hibernate or migrate.

Invasive non-native plants

The W&CA 1981 (as amended) provides the primary controls on the release of non-native species into the wild in Great Britain. It is an offence under Section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9, Part II. The species listed in the Act include Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*).

Otters

Otters are fully protected by the W&CA 1981 (as amended) and by the Habitat

Regulations 2019. In summary, the combined legislation makes it an offence to:

- damage or destroy a breeding site or resting place or intentionally or recklessly obstruct access to a structure or place used for shelter by an otter;
- deliberately, intentionally or recklessly disturb otters; in particular, any disturbance which is likely to impair the ability of otters to survive, breed or reproduce or nurture their young; or to significantly affect the local distribution or abundance of the species; and
- deliberately kill, injure or take any bat.

Reptiles

The four widespread reptiles most likely to be encountered (adder, grass snake, slow worm and common lizard) are protected under the W&CA 1981 (as amended). The Act makes it an offence to intentionally kill, injure, possess or sell any of the species.

The aforementioned species are all listed as being of principal importance for the conservation of biodiversity in England (*'UKBAP Priority Species'*) under Section 41 of the NERC Act 2006.

Water voles

Since April 2008, water voles have received full protection under Section 9 in Schedule 5 of the W&CA 1981 (as amended). This makes it an offence to intentionally kill, injure or take water voles or to possess or control live or dead water voles or derivatives. It is an offence to intentionally or recklessly damage, destroy or obstruct access to any structure or place used for shelter or protection or intentionally or recklessly disturb water voles whilst occupying a structure or place used for that purpose.

The water vole is listed as being of principal importance for the conservation of biodiversity in England (*'UKBAP Priority Species'*) under Section 41 of the NERC Act 2006.

Wild mammals

Under the Wild Mammals (Protection) Act 1996 it is an offence to intentionally inflict unnecessary suffering, as specified by the Act, on any wild mammal.

