

**Land rear of 5 Woods Road
Caversham
Reading
Berkshire
RG4 6NA**

Updated Preliminary Ecological Appraisal

Ref: R3036/a

February 2022



1 Diesel House, Honey Hill, Wokingham, Berkshire RG40 3BL
Telephone: 0118 327 1810 Mobile: 07979 403099 E-mail: info@wenman-ecology.co.uk
www.wenman-ecology.co.uk

John Wenman Ecological Consultancy LLP is a limited liability partnership registered in England and Wales with registered number OC339057.
Registered office: 100 New Wokingham Road, Crowthorne, Berkshire RG45 6JP where you may look at a list of members' names.

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1 EXECUTIVE SUMMARY

- 1.1.1** John Wenman Ecological Consultancy LLP was commissioned by Mr Sam Walker to undertake an updated Preliminary Ecological Appraisal at land rear of 5 Woods Road in Caversham, Berkshire (OS grid reference: SU 729 757). The updated survey was commissioned to accompany a planning application to be submitted to Reading Borough Council seeking consent for the construction of two semi-detached residential dwellings with associated landscaping and new site access (refer to '*Proposed Site Plan*' in **Appendix 5**).
- 1.1.2** This report updates an original Preliminary Ecological Appraisal completed by John Wenman Ecological Consultancy LLP in April 2021 (ref: R2754/a). The site covers an approximate area of 0.05 hectares forming part of the rear garden at 5 Woods Road. It is situated in a suburban area between neighbouring residential plots and backs onto the Henley Road Cemetery.
- 1.1.3** The following UK Habitat Classification (UKHab) habitats were observed during the site walkover: u1d Suburban/ mosaic of developed/ natural surface and h2b Other hedgerows.
- 1.1.4** The desk study revealed that the survey site is not statutorily or non-statutorily designated for its wildlife interest. Furthermore, the proposed residential development will not adversely impact any nearby designated sites (i.e., proposed LWSs) or any priority habitats (NERC Act 2006 Section 41 habitats of principal importance).
- 1.1.5** Recommendations for habitats and protected species:
- Protection measures for garden hedge (**Ref No. 2**) and trees (**T1-4**)
 - Sensitive lighting scheme for bats;
 - Precautionary measures for amphibians, reptiles and small mammals;
 - Timing tree felling outside bird nesting season (or after inspection by ecologist); and
 - Biodiversity enhancements such as stag beetle loggery and hedgehog gaps in fencing to maintain ecological permeability across the site.

2 INTRODUCTION

2.1 Background

2.1.1 John Wenman Ecological Consultancy LLP was commissioned by Mr Sam Walker to undertake an updated Preliminary Ecological Appraisal at land rear of 5 Woods Road in Caversham, Berkshire.

2.1.2 The updated survey was commissioned to accompany a planning application to be submitted to Reading Borough Council seeking consent for the construction of two semi-detached residential dwellings with associated landscaping and new site access (refer to '*Proposed Site Plan*' in **Appendix 5**).

2.1.3 This report updates an original Preliminary Ecological Appraisal completed by John Wenman Ecological Consultancy LLP in April 2021 (Ref: R2754/a).

2.2 Site Location and Context

2.2.1 The site covers an approximate area of 0.05 hectares of land located to the rear of 5 Woods Road in Caversham, Berkshire (OS grid reference: SU 729 757).

2.2.2 The site forms part of the rear garden at 5 Woods Road. It is situated in a suburban area between neighbouring residential plots and backs onto the Henley Road Cemetery.

2.3 Objectives

2.3.1 The aim of this updated Preliminary Ecological Appraisal 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 > minimise > remediate > compensate);
- determine any additional surveys following on from this preliminary stage; and
- recognise opportunities for biodiversity enhancement in line with

national and local planning policy (i.e., Biodiversity Net Gain).

3 LEGISLATION

3.1 Overview

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

- Wildlife and Countryside Act (W&CA) 1981 (as amended)
- Conservation of Habitats and Species (Amendment) (EU Exit) ('Habitat') Regulations 2019
- 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 within the UK under the Habitat Regulations (e.g., bats), whereas others, may only be afforded protection through national legislation such as the Wildlife and Countryside Act 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 conservation advisory organisation, Natural England, is responsible for issuing European Protected Species Mitigation Licences (EPSML), which permit activities that would otherwise lead to an infringement of the Habitat Regulations 2019. An EPSML can be issued if the following three tests have been met:

- **Regulation 55(9)(a)** - there is "*no satisfactory alternative*" to the derogation;
- **Regulation 55(9)(b)** - the derogation "*will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range*"; and
- **Regulation 55(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*".

3.2.2 Local Planning Authorities (LPAs) have a statutory duty under Regulation 7(3e) of the Habitat Regulations 2019 to regard requirements of the Habitats Directive in the exercise of their functions. Consequently, the LPA must consider and determine whether these three tests are likely to be satisfied by an application affecting European protected species before granting planning permission.

4 PLANNING POLICY

4.1 National Planning Policy

4.1.1 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.'*

4.1.2 The National Planning Policy Framework (NPPF), updated in February 2019, 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 enhance the natural environment when preparing planning policy and also considering planning applications. Paragraph 175 sets out the principles local authorities should apply when determining planning applications as follows:

175. 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 58 and a suitable compensation strategy exists; and*
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be*

encouraged, especially where this can secure measurable net gains for biodiversity.

4.2 Local Planning Policy

4.2.1 Reading Borough Council's Local Plan (adopted November 2019) contains planning policies to manage development up to 2036 and is the main document used to decide planning applications in the Borough.

4.2.2 Policy EN12 from the Local Plan sets out the Council's approach to biodiversity and the green network when considering planning applications, as follows:

EN12: Biodiversity and the Green Network

a) The identified Green Network, the key elements of which are shown on the Proposals Map, shall be maintained, protected, consolidated, extended and enhanced. Permission will not be granted for development that negatively affects the sites with identified interest or fragments the overall network. The Green Network comprises:

- Sites with identified biodiversity interest - Local Wildlife Sites, Local Nature Reserves, Biodiversity Opportunity Areas, protected and priority species and their habitats, Priority and Biodiversity Action Plan habitats, and the River Thames and all its tributaries (including the River Kennet and the Kennet & Avon Canal); and*
- Areas with potential for biodiversity value and which stitch the Green Network together – designated Local Green Space and open green spaces, and existing and potential Green Links.*

New development shall demonstrate how the location and type of green space, landscaping and water features provided within a scheme have been arranged such that they maintain or link into the existing Green Network and contribute to its consolidation. Such features should be designed to maximise the opportunities for enhancing this network. All new development should maximise opportunities to create new assets and links into areas where opportunities are as yet unidentified on the Proposals Map.

b) On all sites, development should not result in a net loss of biodiversity and geodiversity, and should provide a net gain for biodiversity wherever

possible. Development should:

- *Protect and wherever possible enhance features of biodiversity interest on and adjacent to the application site, incorporating and integrating them into development proposals wherever practicable; and*
- *Provide new tree planting, wildlife friendly landscaping and ecological enhancements (such as wildlife ponds, bird and bat boxes) wherever practicable.*

In exceptional circumstances where the need for development clearly outweighs the need to protect the value of the site, and it is demonstrated that the impacts cannot be: 1) avoided; 2) mitigated or; 3) compensated for on-site; then new development will provide off-site compensation to ensure that there is “no net loss” of biodiversity.

Provision of off-site compensation shall be calculated in accordance with nationally or locally recognised guidance and metrics. It should not replace existing alternative habitats, and should be provided prior to development.

5 SURVEY METHODOLOGY

5.1 Desk Study

- 5.1.1** A desktop study was conducted by a graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM) before and after visiting the site. The study utilised data from the local environmental record centre and 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 1 km radius around a central point inside the site.
- 5.1.3** The DEFRA Data Services Platform was used to obtain geospatial datasets of designated sites (i.e., RAMSAR, SPA, SAC, SSSI) and habitat inventories (i.e., Priority Habitat Inventory, Ancient Woodland Inventory) for analysis in QGIS. The Multi-Agency Geographical Information Centre (MAGIC) website was examined for European Protected Species Mitigation Licenses (EPSMLs). Furthermore, 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 and Google Earth satellite imagery 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.
- 5.1.6** The Reading Biodiversity Action Plan (March 2021) was referred to for aims and targets regarding wildlife in the Borough.

5.2 Field Survey

- 5.2.1** A site walkover was undertaken on the 14th February 2022 by a graduate member of the Chartered Institute of Ecology and Environmental

Management (CIEEM). The site was surveyed using the UK Habitat Classification (UKHab) system (Butcher et al. 2020) in accordance with the CIEEM Guidelines for Preliminary Ecological Appraisal 2nd Edition (CIEEM 2017).

5.2.2 A comparison was made with the findings of the existing Preliminary Ecological Appraisal (ref: R2754/a) and the habitat classifications were subsequently updated and translated into the UK Habitat classification system. 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.

5.2.3 Photographs of habitats and other ecological features were taken during the site walkover and mapped using QGIS software subsequent to the survey visit (**Appendices 2 & 3**). Botanical species were listed to aid habitat classification (**Appendix 4**).

5.3 Survey Constraints

5.3.1 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. The plant species list (**Appendix 4**) should not be considered a comprehensive list of species present.

6 DESK STUDY FINDINGS

6.1 Designated Sites and Habitats

- 6.1.1** The desktop study revealed that the survey site is not statutorily or non-statutorily designated for its wildlife interest.
- 6.1.2** There are two proposed local wildlife sites (PLWS) within 1 kilometre of the survey site to the southeast: Dingley Dell PLWS and Henley Road Gravel Pit PLWS. These PLWSs overlap and consist of lowland mixed deciduous woodland priority habitat (NERC Act 2006 Section 41 habitats of principal importance), ancient semi-natural woodland, a gravel pit and grassland; but the A4155 and suburbia form a considerable barrier for the movement of wildlife between the survey site and the PLWSs.
- 6.1.3** The only statutorily designated wildlife site within a 2 kilometre distance of the survey site's boundary is Clayfield Copse Local Nature Reserve (LNR), approximately 1.2 kilometres north. The LNR includes Blackhouse Wood ancient semi-natural woodland, which lacks any habitat connectivity with the survey site.

6.2 Protected and Notable Species

- 6.2.1** The search of the TVERC database within a 1 km radius of the survey site revealed a range of protected and notable species records starting from the late-1980s. In this report, recent records are defined as fewer than ten years old.
- 6.2.2** The amphibian data held by TVERC was historic and comprised common frog (*Rana temporaria*), common toad (*Bufo bufo*) and smooth newt (*Lissotriton vulgaris*). A pond approximately 930 metres north of the survey site was surveyed for District Level Licensing in 2018 and found that great crested newts (*Triturus cristatus*) were absent.
- 6.2.3** TVERC holds recent reptile records within the 1-kilometre search radius around the survey site: grass snake (*Natrix helvetica*) and slow worm (*Anguis fragilis*). These species were recorded at 199-207 Henley Road, approximately 485 metres, to the south in 2016 by an ecological consultant. There is a historic adder (*Vipera berus*) record at 6 All Hallows Road, approximately 410 metres to the southwest, from 2008.

- 6.2.4** The recent data maintained by TVERC includes three bird species listed on Schedule 1 of the Wildlife & Countryside Act 1981 (as amended): fieldfare (*Turdus pilaris*), red kite (*Milvus milvus*) and redwing (*Turdus iliacus*). Other species recorded that are on the Birds of Conservation Concern (BOCC) Red list include: house sparrow (*Passer domesticus*), mistle thrush (*Turdus viscivorus*), starling (*Sturnus vulgaris*) and yellowhammer (*Emberiza citrinella*).
- 6.2.5** TVERC's recent bat records in the 1 kilometre search radius include: brown long-eared (*Plecotus auritus*), common pipistrelle (*Pipistrellus pipistrellus*), Daubenton's (*Myotis daubentonii*), Leisler's (*Nyctalus leisleri*), Nathusius's pipistrelle (*Pipistrellus nathusii*), noctule (*Nyctalus noctula*) and soprano pipistrelle (*Pipistrellus pipistrellus*). There are no European Protected Species Mitigation Licences listed on MAGIC within 1 kilometre of the site boundary.
- 6.2.6** The only recent mammal records (excluding bats) held by TVERC database inside the 1 kilometre search radius are badger (*Meles meles*) and hedgehog (*Erinaceus europaeus*).
- 6.2.7** Recent invertebrate records held by TVERC for the search area include stag beetle (*Lucanus cervus*) and several moth species.

6.3 Historic and Current Land Use

- 6.3.1** Google Satellite imagery dating back to 2003 shows the site changing little during that period. Historic OS maps from 1888 depict the site changing from part of Caversham Park estate to residential housing by the middle of the 20th Century.
- 6.3.2** The site is currently the rear garden of a residential property.

6.4 Geology, Soils and Topography

- 6.4.1** The geology of the site is Seaford Chalk Formation and Newhaven Chalk Formation (undifferentiated) – Chalk – which gives rise to freely draining, lime-rich, loamy soil.

7 FIELD SURVEY FINDINGS

7.1 Site Description

- 7.1.1** The land surveyed was the rear garden of the house at 5 Woods Road in Caversham. The garden was predominantly lawn with some ornamental shrubs and a hedge along its northwest boundary (**Photographs 1 & 2**).

7.2 Habitat Classifications

- 7.2.1** The following UK Habitat Classification (UKHab) habitats were observed during the site walkover: u1d Suburban/ mosaic of developed/ natural surface and h2b Other hedgerows.

- 7.2.2** The UKHab habitats are detailed below; associated photographs are displayed in **Appendix 2**, the on-site habitat distribution is mapped with labels (denoted as Reference Nos 1 & 2), target notes and floral assemblages in **Appendix 3**, and a full botanical list from the survey is presented in **Appendix 4**.

u1d Suburban/ mosaic of developed/ natural surface (Ref No.1; T1-3; TN1-3)

- 7.2.3** The lawn was frequently mown and had a plant assemblage typical of amenity grassland (**1; Photograph 3**). Perennial ryegrass (*Lolium perenne*), annual meadow grass (*Poa annua*) and creeping bent (*Agrostis stolonifera*) were abundant; mouse-ear hawkweed (*Pilosella officinarum*) and springy turf moss (*Rhytidiadelphus squarrosus*) were locally frequent.

- 7.2.4** Two introduced shrub beds formed the south-eastern boundary of the site (**1; Photograph 4**).

- 7.2.5** There was a stump in the lawn where an early mature apple tree (*Malus x domestica*) had previously stood next to another apple tree in the neighbouring garden (**T1; Photograph 5**). There were piled logs and brash on concrete foundations nearby (**TN1; Photograph 6**).

- 7.2.6** An early mature lime tree (*Tilia* sp.) stood in the neighbouring garden near the south-eastern boundary (**T2**). An ivy-clad lime tree (*Tilia* sp.) stood on the boundary at the south-eastern corner of the site (**T3; Photograph 7**).

- 7.2.7** A dilapidated small glass greenhouse contained overgrown vegetation and garden shrubs (**TN2; Photograph 8**).
- 7.2.8** A Leyland cypress (*Cupressus x leylandii*) had been removed along the south-western site boundary and replaced with a timber panel fence (**1; Photograph 9**).
- 7.2.9** The location of the proposed site access was asphalt behind a timber panel fence covered in ivy (*Hedera helix*) (**TN3**).
- h2b Other hedgerows (Ref No.2; T4; TN4)*
- 7.2.10** There was a garden hedge along the north-western site boundary composed of leyland cypress (*C. x leylandii*) and hawthorn (*Crataegus monogyna*) (**2; Photograph 10**).
- 7.2.11** A mature hawthorn tree (*C. monogyna*) and two cypress trees (*C. x leylandii*) had been felled in line with the top of the hedge (**2; Photograph 11**). The beech tree in the north-western corner of the site remained (**T4**).
- 7.2.12** Brash, logs and spoil had been piled along the base of the hedge (**TN4; Photograph 12**).

8 DISCUSSION

8.1 Assessment of Existing Ecological Value

Designated Sites and Habitats

- 8.1.1** The desk study revealed that the survey site is not statutorily or non-statutorily designated for its wildlife interest and therefore not currently recognised as being of international, national or county level conservation significance.
- 8.1.2** The site is a suburban mosaic of garden habitats and developed surfaces (**Ref No.1; Appendix 2**). The site is predominantly garden lawn and shrubs composed of commonly occurring plant species that are indicative of habitat improvement and regular maintenance. The lawn is frequently mown so lacks structure and diversity and the shrubs are non-native and small, therefore resembling a habitat of negligible ecological significance.
- 8.1.3** The garden hedge along the north-western site boundary (**Ref No. 2; Appendix 2**) does not resemble a priority habitat (NERC Act 2006 Section 41 habitats of principal importance) but, alongside the scattered trees (**T1-4**), is likely to have some site-level ecological value for urban wildlife. The brash and log piles from recent clearance (**TN1 & TN4**) and the dilapidated greenhouse (**TN2**) offer limited cover to small animals (amphibians, reptiles and mammals etc.).

Bats

- 8.1.4** The site currently offers some limited commuting and foraging habitat to bats roosting locally, which are adapted to the suburban environment. In particular, the garden hedge (**2**) borders the Henley Road Cemetery likely forming a dark corridor that could be used by commuting bats.
- 8.1.5** A mature hawthorn tree in the hedge (**2**) that was identified previously as having low bat roost potential has now been felled.

Hazel Dormice

- 8.1.6** There is a lack of suitable hazel dormouse (*Muscardinus avellanarius*) habitat on site and in the surrounding suburban area. The local record

centre holds no local records for this species and there are only very few isolated records within the wider county of Berkshire. Therefore, it is considered highly unlikely that this species is present on site and consequently it is not regarded further in this report.

Amphibians

8.1.7 No standing water is present on site and thus no suitable amphibian breeding habitat exists. There is limited terrestrial habitat on site except for the garden hedge (2) and recently created brash and log piles (TN1 & TN4) where amphibians could potentially take refuge.

8.1.8 TVERC hold no local great crested newt (*Triturus cristatus*) records and a surveys for District Level Licensing in 2018 confirmed the absence of great crested newts from a pond within 1 kilometre of the survey site. Therefore, it is considered highly unlikely that this species is present on site and consequently it is not regarded further in this report.

Reptiles

8.1.9 The suburban mosaic of garden habitats and developed surfaces (1) lack the structural diversity for reptiles to forage, take cover and bask on site. However, the garden hedge (2) and recently created brash and log piles (TN1 & TN3) offer common and widespread reptiles potential refuge.

8.1.10 It is worth noting that although slow worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*) were recorded locally at 199-207 Henley Road in 2016, the A4155 poses a significant barrier to the dispersal of individuals from these populations onto the site.

Nesting Birds

8.1.11 The garden hedge (2) and scattered trees (T1-4) provide suitable nesting and foraging opportunities to common and widespread garden bird species.

Badgers (And Other Mammals)

8.1.12 There were no badger (*Meles meles*) sett entrances or signs of badger activity identified during the site walkover. There is a known badger (*M. meles*) sett within 300 metres of the site boundary so it remains possible

that badgers (*M. meles*) could occasionally traverse the site.

- 8.1.13** Hedgehogs (*Erinaceus europaeus*) – a priority species (NERC Act 2006 Section 41 species of principal importance) – are locally recorded so could use the garden hedge (2) and recently created brash and log piles (TN1 & TN3) to forage and take shelter.

Invertebrates

- 8.1.14** The recently created log piles could be used to provide suitable egg-laying habitat stag beetle (*Lucanus cervus*) – a priority species (NERC Act 2006 Section 41 species of principal importance) (refer to recommendations in **Section 9.5**).

8.2 Impact of Proposals

Planning Proposals

- 8.2.1** The planning proposals are for the construction of two semi-detached residential dwellings with associated landscaping and new site access (refer to 'Proposed Site Plan' in **Appendix 5**).

Designated Sites and Habitats

- 8.2.2** The proposed residential development will not adversely impact any nearby designated sites (i.e., proposed LWSs) or any priority habitats (NERC Act 2006 Section 41 habitats of principal importance).
- 8.2.3** The garden hedge (2) and scattered trees (T1-4) have some site-level ecological value but will be retained and protected during construction (refer to recommendations in **Section 9.1**).

Bats

- 8.2.4** The proposals will lead to an increase in artificial lighting which could result in an adverse impact on bat activity. 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. Bats that emerge later in the evening, such as *Plecotus* and *Myotis* species, have a reduced tolerance to lighting. As the intensity of light increases, even species that are relatively light tolerant, such as *Pipistrellus* species, are

delayed in their emergence from their roosts. Pipistrelle bats can cope with light levels above 14 lux whilst light-sensitive species such as Daubenton's bat (*Myotis daubentonii*) struggle with light levels above 1 lux (Fure 2006). To avoid adverse impacts from lighting a sensitive lighting scheme should be developed (refer to recommendations in **Section 9.2**).

Amphibians

- 8.2.5** There is a low chance that common amphibians such as the common toad (*Bufo bufo*) – a priority species (NERC Act 2006 Section 41 species of principal importance) – could take refuge under brash and log piles (**TN1 & TN4**) on site, so precautionary avoidance measures should be adopted during the removal of these habitat features (refer to recommendations in **Section 9.3**)

Reptiles

- 8.2.6** There is a low chance that locally recorded reptile species, i.e., slow worm (*Anguis fragilis*) and grass snake (*Natrix helvetica*), could take refuge under brash and log piles (**TN1 & TN4**) on site. Furthermore, it is considered possible that if the garden lawn (**1**) was left uncut for any extended period then reptiles could colonise the site and be adversely affected by the work. Therefore, simple avoidance measures should be adopted to prevent potential injury or death of reptiles during construction (refer recommendations in **Section 9.3**).

Nesting Birds

- 8.2.7** Any tree (**T1-4**) removal should be preceded by necessary precautions to ensure the work is undertaken lawfully (refer to recommendations in **Section 9.4**).

Badgers (And Other Mammals)

- 8.2.8** There are no confirmed active or inactive badger sett entrances on site, and as a consequence, adverse impacts on this species are highly unlikely.
- 8.2.9** Ecological permeability for hedgehogs (*Erinaceus europaeus*) should be maintained across the site (refer to recommendations in **Section 9.5**).

9 RECOMMENDATIONS

9.1 Habitat Protection

9.1.1 The garden hedge (2) and scattered trees (T1-4) should be protected during construction to provide continued nesting habitat for birds and commuting habitat for bats. The following protection measures are recommended:

- Erection of Hera fencing in advance of site clearance, enclosing tree Root Protection Areas;
- Prohibition of construction activities, material storage, use of vehicles, fires etc. within the fenced area to prevent damage to tree roots and soil compaction; and
- Maintenance of an adequate water supply to the hedge and trees during and after construction.

9.1.2 Best practice construction measures should be adopted to mitigate impacts on surrounding habitats through ground disturbance, surface water flow, dust and chemicals.

9.2 Bats

9.2.1 During construction, artificial lighting should be kept to a minimum and if security lighting is required, this should be controlled by passive infra-red motion sensors.

9.2.2 In the long-term, a dark corridor should be retained along the garden hedge (2) thereby maintaining a potential foraging and commuting corridor for bats across the site. Lighting should be avoided wherever possible but if essential, factors such as column height, light source, use of passive infra-red motion sensors and light spillage should be considered carefully when designing the lighting. If brighter lighting is required, lighting with low or no UV content e.g., low pressure sodium lights, or warm LED lamps should be used instead of mercury and metal halides, and luminaires or other directional light accessories should be used to ensure that light spillage onto the hedge is avoided (BCT and ILE, 2018). Turning off lighting at night will avoid extended periods of time when areas would be lit, and this can be tailored to suit human health and safety as well as wildlife needs.

9.3 Amphibians, Reptiles and Small Mammals

9.3.1 In order to avoid contravening legislation and harming individual animals during the works, the following precautionary avoidance measures should be adopted during the course of the construction:

- The garden lawn (**1**) within the construction area should be kept short prior to the commencement of construction to minimise the likelihood of amphibians and reptiles being present during excavations;
- Recently created log and brash piles (**TN1 & TN4**) should be removed by hand;
- During construction, any open excavations and trenches should be backfilled before nightfall, or alternatively, escape ramps be installed to allow amphibians, reptiles and small mammals to escape if they become trapped;
- Any building materials or materials excavated during the development that need to be stored on site prior to use/disposal should be raised off the ground on pallets or in skips to avoid them providing temporary resting places or hibernation sites for amphibians, reptiles and small mammals; and
- If great crested newts (*Triturus cristatus*) or reptiles are encountered during the course of the construction, work must stop immediately and a licensed ecologist should be called to site to provide further advice; work must continue only once further written advice has been received.

9.3.2 Adhering to the guidance outlined above will ensure that amphibians, reptiles and small mammals are protected from reckless killing and injury during any subsequent works.

9.4 Nesting Birds

9.4.1 Any tree (**T1-4**) 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. In the event that nesting birds are discovered prior to or during the course of any work, work should stop immediately and should only continue once bird nesting has finished i.e., young have fledged and left the nest.

9.5 Biodiversity Enhancements

9.5.1 The development proposals provide opportunities for the enhancement of the site's biodiversity value in order to achieve a net gain. The inclusion of the following recommendations would be of ecological benefit and be in line with the National Planning Policy Framework (NPPF), local planning policies and the Reading Borough Biodiversity Action Plan:

- Create a stag beetle (*Lucanus cervus*) loggery by partially burying (approx. 50cm) logs from native trees in the ground;
- Create 13cm x 13cm holes in timber panel fencing with '*hedgehog highway*' signs at each end of the hedge (2) to maintain ecological permeability across the site;
- Seek to enhance the ecological value of the site by removing introduced shrubs and replacing them with native plant species of local provenance;
- Install integral bat roost and bird nest boxes into the proposed residential dwellings;
- Plant a native species-rich hedge as a garden boundary between the proposed properties.

10 REFERENCES

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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.

APPENDIX 2 - SITE PHOTOGRAPHS



1. Site viewed from southeast.



2. Site viewed from northwest.



3. Frequently mown lawn (1).



4. Introduced shrub (1).



5. Apple tree stump (1).



6. Piled logs and brash on concrete foundations (TN1).



7. Ivy-clad lime tree (T3).



8. Dilapidated greenhouse (TN2).



9. Timber panel fence (1).



10. Garden hedge (2).

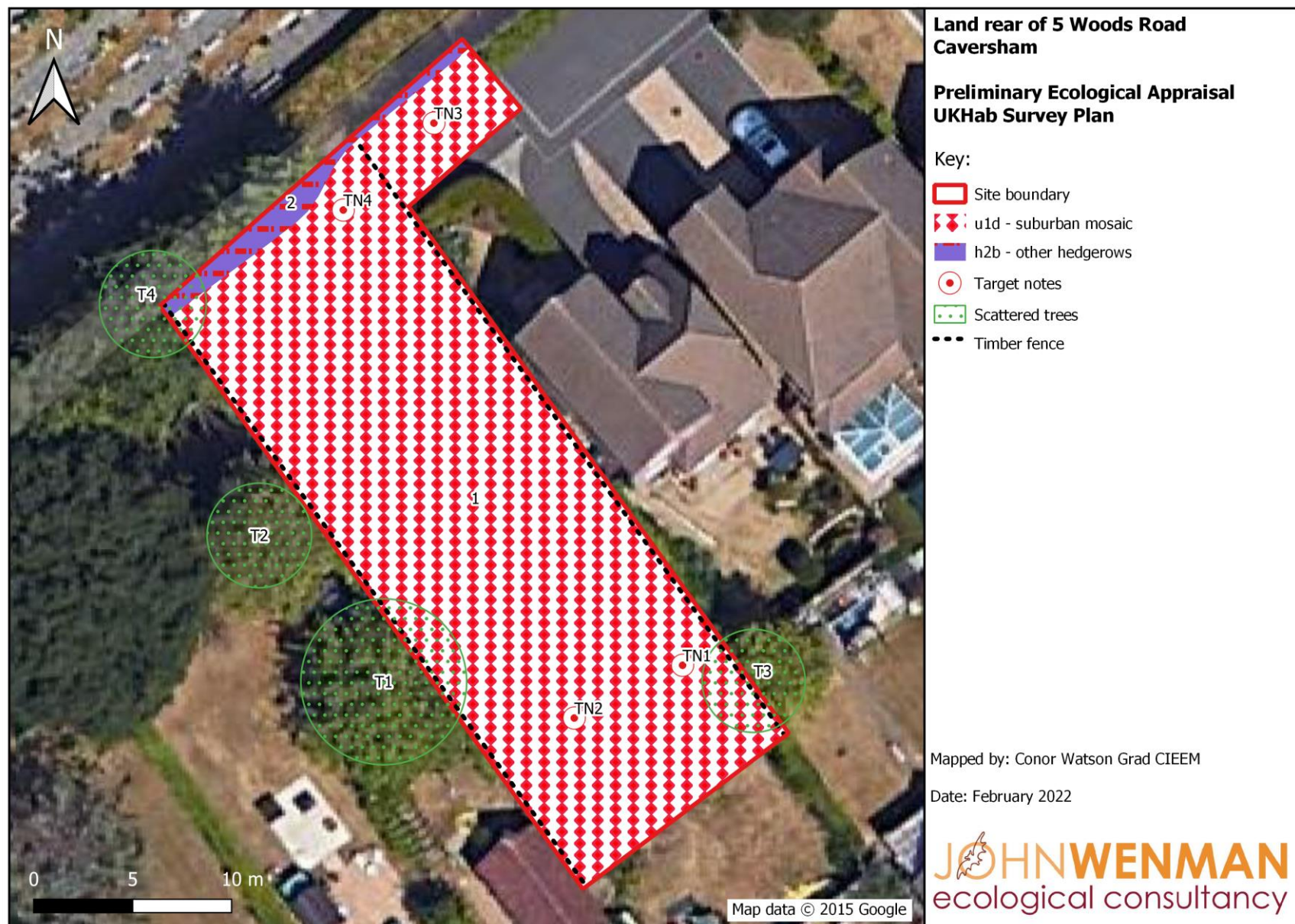


11. Mature hawthorn stump in hedge (2).



12. Brash and spoil (TN4).

APPENDIX 3 – UK HABITAT CLASSIFICATION SURVEY PLAN



UK HABITAT CLASSIFICATION SURVEY NOTES

Reference (area/length)	Habitat Description
1 (0.0517ha)	u1d Suburban/ mosaic of developed/ natural surface: (Photographs 3, 4 & 9). Species recorded: perennial ryegrass (<i>Lolium perenne</i>), annual meadow grass (<i>Poa annua</i>), creeping bent (<i>Agrostis stolonifera</i>), mouse-ear hawkweed (<i>Pilosella officinarum</i>), springy turf moss (<i>Rhytidiadelphus squarrosus</i>), white clover (<i>Trifolium repens</i>), dandelion (<i>Taraxacum</i> agg.), red dead-nettle (<i>Lamium purpureum</i>), field speedwell (<i>Veronica persica</i>), creeping cinquefoil (<i>Potentilla reptans</i>), selfheal (<i>Prunella vulgaris</i>), hairy bittercress (<i>Cardamine hirsuta</i>), ivy-leaved speedwell (<i>Veronica hederifolia</i>), wood avens (<i>Geum urbanum</i>), cock's-foot (<i>Dactylis glomerata</i>), cat's ear (<i>Hypochaeris radicata</i>), yarrow (<i>Achillea millefolium</i>), daisy (<i>Bellis perennis</i>), Yorkshire fog (<i>Holcus lanatus</i>), bugle (<i>Ajuga reptans</i>) and lords-and-ladies (<i>Arum maculatum</i>).
2 (0.02km)	h2b Other hedgerows: (Photographs 10 & 11). Species recorded: Leyland cypress (<i>Cupressus x leylandii</i>), hawthorn (<i>Crataegus monogyna</i>) and bramble (<i>Rubus fruticosus</i> agg.).
T1	Scattered trees: apple tree (<i>Malus x domestica</i>) (Photograph 5).
T2	Scattered trees: lime tree (<i>Tilia</i> sp.).
T3	Scattered trees: lime tree (<i>Tilia</i> sp.) (Photograph 7).
T4	Scattered trees: beech tree (<i>Fagus sylvatica</i>).
TN1	Target notes: log pile on concrete foundations (Photograph 6).
TN2	Target notes: dilapidated greenhouse (Photograph 8).
TN3	Target notes: asphalt at proposed site access.
TN4	Target notes: brash and spoil pile (Photograph 12).

APPENDIX 4 - PLANT SPECIES RECORDED DURING THE SURVEY

Plant common name	Scientific name
Annual meadow grass	<i>Poa annua</i>
Apple	<i>Malus x domestica</i>
Beech	<i>Fagus sylvatica</i>
Bramble	<i>Rubus fruticosus</i> agg.
Buddleia	<i>Buddleia davidii</i>
Bugle	<i>Ajuga reptans</i>
Cat's ear	<i>Hypochaeris radicata</i>
Cock's-foot	<i>Dactylis glomerata</i>
Common lilac	<i>Syringa vulgaris</i>
Creeping bent	<i>Agrostis stolonifera</i>
Creeping cinquefoil	<i>Potentilla reptans</i>
Cypress	<i>Cupressaceae</i> sp.
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum</i> agg.
Field speedwell	<i>Veronica persica</i>
Forsythia	<i>Forsythia</i> sp.
Grape hyacinth	<i>Muscari</i> sp.
Hairy bittercress	<i>Cardamine hirsuta</i>
Hawthorn	<i>Crataegus monogyna</i>
Ivy-leaved speedwell	<i>Veronica hederifolia</i>
Lesser celandine	<i>Ficaria verna</i>
Leyland cypress	<i>Cupressus x leylandii</i>
Lime	<i>Tilia</i> sp.
Lords-and-ladies	<i>Arum maculatum</i>
Mouse-ear hawkweed	<i>Pilosella officinarum</i>
Pampas grass	<i>Cortaderia selloana</i>
Perennial ryegrass	<i>Lolium perenne</i>
Red deadnettle	<i>Lamium purpureum</i>
Selfheal	<i>Prunella vulgaris</i>
Spanish bluebell	<i>Hyacinthoides hispanica</i>
Spirea	<i>Spirea</i> sp.
Springy turf moss	<i>Rhytidiadelphus squarrosus</i>
White clover	<i>Trifolium repens</i>
Wood avens	<i>Geum urbanum</i>
Yarrow	<i>Achillea millefolium</i>
Yorkshire fog	<i>Holcus lanatus</i>
Annual meadow grass	<i>Poa annua</i>
Apple	<i>Malus x domestica</i>
Beech	<i>Fagus sylvatica</i>

APPENDIX 5 – PROPOSED SITE PLAN

