

**Towsbourne  
Winkfield Street  
Winkfield  
Berkshire  
SL4 4QU**

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# **Updated Preliminary Ecological Appraisal**

Ref: R2674/a

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## **1 SUMMARY**

- 1.1.1** John Wenman Ecological Consultancy LLP was commissioned by Mr and Mrs Bussey to undertake an updated Preliminary Ecological Appraisal of the garden at Towsbourne in Winkfield, Berkshire. The survey was commissioned in connection with the proposed construction of a detached house and garage and associated drainage works. This report is an update to a survey undertaken in 2019 as part of an amended planning application to be submitted to Bracknell Forest Council that includes an amendment to the new dwelling.
- 1.1.2** The walkover survey completed on the 4th December 2020 showed the site to comprise predominantly of amenity grassland bordered by a strip of mixed broad-leaved and coniferous trees along the south western side of the site and a strip of broad-leaved trees along the north western and north eastern boundary of the site. A patch of bare ground with some small patches of tall ruderal vegetation was growing beneath the trees to the south west of the site. A managed species poor hedge was present on the south eastern boundary. A patch of dense scrub was present towards the north eastern side of the site. A ditch and pond were present beyond the scattered trees and metal and timber fence on the south western side of the site and the ditch also flowed along the south eastern boundary of the site. A small timber garden shed was present in the north eastern corner of the site.
- 1.1.3** A search of data held by the Thames Valley Environmental Records Centre shows the survey site does not fall within a designated wildlife site. The Records Centre's database includes no records of protected or notable species specifically for the site. Surveys undertaken by John Wenman Ecological Consultancy in 2018 of the neighboring property confirmed the presence of a low great crested newt population in the pond, a common pipistrelle day roost in the house and a dead badger was recorded along the roadside.
- 1.1.4** The habitat on site that would be affected by the proposals comprised of amenity grassland – a habitat of negligible ecological value and unlikely to be used by protected or notable fauna such as reptiles, great crested newts and mammals. The dense scrub was more structurally diverse and offered habitats of value to notable and protected species, including the badger. Evidence of a badger sett entrance was present amongst the dense scrub, which will be cleared as it is

situated on the boundary separating the site from the neighbouring property.

- 1.1.5** The intact hedgerow, scattered trees, ditch, pond, and most of the amenity grassland onsite will be retained in the long-term and will be unaffected by the works.
- 1.1.6** The scattered trees and overgrown hedges along the boundaries were structurally diverse and offered habitats of value to notable and protected species, including birds, great crested newts, reptiles, amphibians and mammals. These sections of the site are all to be retained and undisturbed during the works. There was some signs of rabbits and mammal foraging to the north along the overgrown hedge and beneath the trees along the western boundary.
- 1.1.7** The pond and ditch confirmed to be used by breeding great crested newts will not be affected by the development proposals; new drainage on site will comprise a pond and underground attenuation crate. The amenity grassland on site is poor terrestrial habitat and if non-licensed avoidance measures are adopted during development, it is considered that the work can proceed lawfully with no requirement for a Natural England great crested newt mitigation licence.
- 1.1.8** The scattered trees and managed intact species poor hedgerows on site lacked features for roosting bats but they had features with potential for use by foraging bats and nesting birds. However, the scattered trees and hedgerows will be retained, and as such it is considered that the development proposals would not lead to a loss of trees and shrubs.
- 1.1.9** Precautions to avoid construction posing any risk to reptiles, amphibians and badgers must be adopted before and during the works.
- 1.1.10** Further surveys to confirm the status of badger activity on site will need to be undertaken prior to the removal of the dense scrub to determine if they will be affected during construction or in the longer term and if there will be a requirement for a Natural England badger mitigation licence.
- 1.1.11** The proposals present opportunities to enhance the site's ecological value by measures such as bolstering the existing tree line/taller vegetation on the western margin, new native hedge planting and adding features to the garden such as log piles that are of value to a range of species. A new pond and underground

attenuation crate will be constructed as part of the site's drainage creating new standing water available to great crested newts.

## **2 INTRODUCTION**

### **2.1 Background**

**2.1.1** John Wenman Ecological Consultancy LLP was commissioned by Mr Bussey to undertake an updated Preliminary Ecological Appraisal of the land at Towsbourne in Winkfield, Berkshire.

**2.1.2** The survey was commissioned in connection with plans to be submitted to Bracknell Forest Council seeking consent for the construction of a detached house with a garage and associated drainage works comprising the construction of a pond and underground attenuation crate. Access will be via the existing driveway off Winkfield Lane (Outline Planning application reference: 19/00140/OUT).

### **2.2 Site Location and Context**

**2.2.1** The site comprises the garden of Towsbourne along the northern side of Winkfield Lane, Berkshire (OS grid reference: SU 90400 73229).

**2.2.2** The site is situated in a semi-rural area with the main house of Towsbourne to the south east and further properties to the east, west and south. Open countryside, comprising of a mixture of grazed grassland and arable fields, is situated to the north, and beyond the pond to the south. In the wider area there are a number of ponds nearby including, 15 metres to the south across the road, 15 metres to the north and 120 metres to the west. A patch of woodland is approximately 190 metres to the northwest and a traditional orchard is situated approximately 70 metres to the east.

**2.2.3** The extensive areas of open countryside and patches of woodland are likely to be of ecological value to a diversity of birds, mammals, reptiles, amphibians and invertebrates.

### **2.3 Report Format**

**2.3.1** There follows: an overview of the protected species legislation in **Section 3** and of the national and local wildlife policy background in **Section 4**; details of the survey methods in **Section 5**; Preliminary Ecological Appraisal findings in **Section 6**; a discussion of the survey findings in **Section 7**; with recommendations being presented in **Section 8**.

**2.3.2** The appendices present: the site photographs (**Appendix 1**); a Phase 1 habitat plan with associated target notes (**Appendix 2**); a plant species list recorded during the survey (**Appendix 3**); and proposed site layout plan (**Appendix 4**).

### **3 LEGISLATIVE BACKGROUND – PROTECTED SPECIES**

#### **3.1 Amphibians**

**3.1.1** The seven native species of amphibian receive protection under the Wildlife & Countryside Act 1981 (as amended). The four widespread and common amphibians (common frog, toad, smooth and palmate newts) receive limited protection – making their sale illegal.

**3.1.2** Great crested newts – a relatively widespread species - receives full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). These make 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;
- 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.

**3.1.3** The great crested newt is listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UK Priority Species).

#### **3.2 Reptiles**

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

**3.2.2** The four reptile species are listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UK



Priority Species).

### **3.3 Birds**

- 3.3.1** All wild birds are protected under the Wildlife & Countryside Act 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.
- 3.3.2** Less common bird species of conservation concern, such as the barn owl and kingfisher, are listed on Schedule 1 of the Act, which makes it an offence to disturb the birds whilst nesting also.

### **3.4 Bats**

- 3.4.1** All British bat species are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'). In summary, the legislation combined 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 affect significantly the local distribution or abundance of the species;
  - Deliberately kill, injure or take any bat.

### **3.5 Badgers**

- 3.5.1** 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.

### **3.6 Otters**

**3.6.1** Otters are fully protected by the Wildlife & Countryside Act 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2017 ('Habitat Regulations'). In summary, the legislation combined 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 affect significantly the local distribution or abundance of the species;
- Deliberately kill, injure or take any otter.

### **3.7 Dormice**

**3.7.1** Dormice receive full protection under the Wildlife & Countryside Act 1981 (as amended) and under the Conservation (Natural Habitats &c.) Regulations 2017 ('Habitat Regulations') (as amended). 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;
- 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.

**3.7.2** The government's statutory conservation advisory organisation, Natural England, is responsible for issuing European Protected Species licences that would permit activities that would otherwise lead to an infringement of the Habitat Regulations. A licence can be issued if the following three tests have been met:

- **Regulation 53(9)(a)** - there is “no satisfactory alternative” to the derogation, and;
- **Regulation 53(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 53(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”.

**3.7.3** Local authorities have a statutory duty under Regulation 7(3) of the Habitat Regulations to have regard to requirements of the Habitats Directive in the exercise of their functions. The Council must therefore consider and determine whether these three tests are likely to be satisfied by an application affecting European protected species before granting planning permission. **N.B. the requirements set out in 3.7.2 and 3.7.3 apply to development that would affect bats, great crested newts and otters, which are European Protected Species also.**

### **3.8 Water Voles**

**3.8.1** Since April 2008, water voles have received full protection under Section 9 of the Wildlife & Countryside Act 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.

**3.8.2** The water vole is listed as being of principal importance for the conservation of biodiversity in England, under Section 41 of the Natural Environment and Rural Communities Act 2006, (commonly referred to as a UK Priority Species).

### **3.9 Invasive Non-Native Plants**

**3.9.1** The Wildlife and Countryside Act 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 includes Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*) and himalayan balsam (*Impatiens glandulifera*).

### **3.10 Injurious Weeds**

- 3.10.1** Five native plants are listed as injurious weeds under the Weeds Act 1959: common ragwort (*Senecio jacobaea*), spear thistle (*Cirsium vulgare*), creeping or field thistle (*Cirsium arvense*), broad-leaved dock (*Rumex obtusifolius*) and curled dock (*Rumex Crispus*). The Act means it is not an offence to have these weeds growing on your land and species such as ragwort have significant conservation benefits. However they must not be allowed to spread to agricultural land, particularly grazing areas or land which is used to produce conserved forage. Enforcement notices can be issued following complaints requiring landowners to take action to prevent the spread of these weeds.

### **3.11 Wild Mammals**

- 3.11.1** 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.

## **4 POLICY BACKGROUND**

### **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 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 revised National Planning Policy Framework (NPPF), published in July 2018, 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 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 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*

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*where this can secure measurable net gains for biodiversity.*

## **4.2 Local Planning Policy**

**4.2.1** Bracknell Forest Council currently has in place an adopted Core Strategy Development Plan document (DPD) (February 2008) and saved policies from the Bracknell Forest Borough Local Plan (2002). Although some of these policies have been dropped, many were 'saved' by the Secretary of State beyond 27th September 2007 and remain in effect. The emerging Bracknell Forest Local Plan document (BFLP) will replace the Core Strategy and saved policies, and will set out the long term spatial vision and development strategy for the borough up to 2034.

**4.2.2** The Environment Chapter of the Core Strategy DPD recognises there are areas of the Borough that should be protected from development, including land covered by national policy designations (e.g. the Green Belt) and land important for its nature conservation value (e.g. the Thames Basin Heaths Special Protection Area). Several saved policies in the Local Plan (2002) aim to encourage the conservation and enhancement of those areas and features contributing to the quality of the built heritage and the natural environment.

**4.2.3** Sites of local importance for wildlife in Berkshire are referred to as Local Wildlife Sites (LWS) (formerly Wildlife Heritage Sites). Designated LWS are assessed against set criteria agreed by the Berkshire Nature Conservation Forum.

**4.2.4** Policies EN3 (Nature Conservation) and EN4 (Local Nature Reserves, Wildlife Heritage Sites and Regionally Important Geological Sites) of the Bracknell Forest Local Plan (2002) have been saved and are as follows:

*Policy EN3 (Nature Conservation)*

*Planning permission will not be granted for development likely to have a significant effect on the following areas unless their special value and character can be protected or there are imperative reasons of overriding public interest: (i) existing and potential special protection areas (SPAa); (ii) existing and candidate special areas of conservation (SACs); (iii) sites of special scientific interest (SSSIs). the Borough council will seek to enter into agreements concerning enhancement schemes as part of development proposals; these will incorporate, where appropriate, the management of public access into the site.*

*Policy EN4 (Local Nature Reserves, Wildlife Heritage Sites and Regionally Important Geological Sites)*

*Planning permission will not be granted on or near Local Nature Reserves, Wildlife Heritage Sites or regionally important geological/geomorphological sites unless the*

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*proposed development will not affect the wildlife and habitats for which the site was designated or the special character of the site. Development proposals on these sites must include conservation or enhancement schemes which, where appropriate, will set out the provision for, and management of, public access to and within them.*

- 4.2.5** The Bracknell Forest Biodiversity Action Plan (2018-2023) aims to conserve and enhance biodiversity within the borough in line with the BFLP (in draft) and sets out objectives for general themes and six key habitats. Key species have been identified to represent each habitat and will be used to promote the maintenance, enhancement and expansion of the habitats in the borough.
- 4.2.6** Much development within Bracknell Forest falls within the 5km zone of influence for the nationally designated Thames Basin Heath Special Protection Area (SPA). The Thames Basin Heath SPA Supplementary Planning Document (SPD) (adopted on 18th April 2018) provides guidance to ensure that new development does not have adverse effects on the SPA. The SPD provides an avoidance mitigation strategy to show how the negative impacts of new (principally) residential developments on a SPA designated for rare birds should be avoided and mitigated.

## **5 SURVEY METHOD**

### **5.1 Walkover Survey**

**5.1.1** A walkover survey was undertaken on the 4<sup>th</sup> December 2020 (updating a survey completed on the 7<sup>th</sup> May 2019) by a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM). During the survey the habitats present were noted and plotted on a site plan (**Appendix 2**) using definitions based on the standard phase 1 ecological survey definitions (JNCC 2010). Key features of the site were photographed (**Appendix 1**) and plotted on the site plan using target notes (**Appendix 2**).

**5.1.2** Any features of ecological importance were recorded, and plant species observed during the survey noted (**Appendix 3**). Particular attention was given to any evidence of the presence of protected species and the site's potential to support such species and those of principal importance for conservation (UK Priority Species) (as defined under Section 41 of the NERC Act 2006).

### **5.2 Background Data Search**

**5.2.1** The Thames Valley Environmental Records Centre (TVERC) was commissioned to undertake a search of pre-existing biological records (notable or protected species and statutorily or non-statutorily designated sites) held by the Centre for the survey site and land within a one kilometre radius.

**5.2.2** The Multi-Agency Geographic Information for the Countryside (MAGIC) website was referred to for pre-existing data on habitats of principal importance (UK Priority Habitats) (as defined under Section 41 of the NERC Act 2006) and to understand the nature of surrounding habitats.

### **5.3 Survey Constraints**

**5.3.1** The ecological survey had no significant access constraints with full access being available to the site during the survey; however, ecological surveys are 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 presented should not be considered a comprehensive list of species present.



## 6 PHASE 1 HABITAT SURVEY FINDINGS

### 6.1 Site Overview

**6.1.1** The survey site comprised primarily of amenity grassland bordered by a strip of mixed broad-leaved and coniferous trees along the western side of the site and a strip of broad-leaved trees along the northern and north eastern boundary of the site. A patch bare ground with some tall ruderal vegetation was growing beneath the trees to the south west of the site. A managed species poor hedge was present on the southern boundary. A small patch of dense scrub was present to the north west of the site. A ditch and pond were situated beyond the scattered trees and metal and timber fence on the western side of the site, and the ditch also flowed along the southern boundary of the site. A small timber garden shed was present in the north eastern corner of the site.

**6.1.2** The following Phase 1 habitat types were observed within the survey site boundary during the survey: amenity grassland, species poor hedgerow, scattered mixed broad-leaved and coniferous trees, scattered broad-leaved trees, dense scrub, other habitat, standing water, and fence.

**6.1.3** The habitat types are described below in detail; their distribution is shown on the site plan in **Appendix 2**, photographs of the site are shown in **Appendix 1**.

### 6.2 Amenity Grassland (A1, TN1 & TN2)

**6.2.1** Most of the site comprised amenity grassland, which was closely cut. The grassland sward supported a few grass species including Yorkshire fog (*Holcus lanatus*), common bent (*Agrostis tenuis*), and creeping bent (*Agrostis tenuis*) which were abundant, with perennial rye grass (*Lolium perenne*) present occasionally. Herbaceous species were a component of the sward and included: common daisy (*Bellis perennis*), dandelion (*Taraxacum officinale* agg.), cinquefoil (*Potentilla reptans*), red deadnettle (*Lamium purpureum*), sorrel (*Rumex acetosa*), common mouse-ear (*Cerastium fontanum*), self-heal (*Prunella vulgaris*), buttercup (*Ranunculus* sp.) and clover (*Trifolium* sp.) (**Photograph 1; A1**). A pile of brash was present towards the southern end of the site (**Photograph 2; TN1**). Signs of mammal foraging were present on the grassland towards the northern end of the site, deer and rabbit droppings were visible nearby (**Photograph 3; TN2**).

### **6.3 Intact Species Poor Hedgerow (PH1)**

- 6.3.1** The south eastern boundary of the garden was bordered by an intact species poor hedgerow, which ran between the garden and a driveway with a gated entrance into the garden. The hedge was managed and comprised of yew (*Taxus baccata*) (**Photographs 4 & 5; PH1**).

### **6.4 Scattered Mixed Coniferous and Broadleaved Trees (SMW1)**

- 6.4.1** A strip of trees was present on the southern boundary along the road and on the western side of the site alongside a ditch and pond. The trees were primarily willow (*Salix* sp.) along the ditches but also included: ash (*Fraxinus excelsior*), elm (*Ulmus* sp.), yew (*Taxus baccata*), elder (*Sambucus nigra*), silver birch (*Betula pendula*), hawthorn (*Crataegus monogyna*), oak (*Quercus robur*) and cypress (**Photograph 6; SMW1**)
- 6.4.2** Species present beneath the trees included ivy (*Hedera helix*), nettle (*Urtica dioica*), garlic mustard (*Alliaria petiolata*), cleavers (*Galium aparine*), lords and ladies (*Arum maculatum*), dock (*Rumex* sp.), bristly ox-tongue (*Picris echioides*), ground ivy (*Glechoma hederacea*), and hemlock water dropwort (*Oenanthe crocata*) (**Photograph 7**). A ditch was present along the trees on the roadside to the southeast (**SW1**).

### **6.5 Scattered Broadleaved Trees (SBW1)**

- 6.5.1** An overgrown hedge of broad-leaved trees grew on the northern and north eastern boundary of the site. Species present included blackthorn (*Prunus spinosa*), hawthorn (*Crataegus monogyna*), dog rose (*Rosa canina*), bramble (*Rubus fruticosus* agg.), oak (*Quercus robur*) and elm (*Ulmus* sp.) (**Photograph 8; SBW1**). Species present on the ground below included: bristly ox-tongue (*Picris echioides*), lords and ladies (*Arum maculatum*), ivy (*Hedera helix*), sorrel (*Rumex acetosa*), garlic mustard (*Alliaria petiolata*), burdock (*Arctium* sp.), ground ivy (*Glechoma hederacea*) and lesser celandine (*Ranunculus ficaria*). A dry ditch was visible beyond the trees to the north.

### **6.6 Dense Scrub (DS1)**

- 6.6.1** A small patch of scrub was growing out from the hedge towards the north eastern side of the site. Species present included blackthorn, dog rose (*Rosa canina*), and

bramble (*Rubus fruticosus* agg.) (**Photograph 9; DS1**). An active sett entrance likely to be used by badger (*Meles meles*) was present amongst the scrub. The entrance faced towards the east and had direct links into the tree line, which went around the northern and north eastern side of the site (**Photograph 10**).

## **6.7 Other Habitat (OH1)**

**6.7.1** A patch of tall ruderal vegetation had been cleared from along the edges of the trees around the southern corner of the site. A few small patches were growing occasionally, which included dock (*Rumex* sp.), sorrel (*Rumex acetosa*), nettle (*Urtica dioica*), ground ivy (*Glechoma hederacea*), cleavers (*Galium aparine*), bristly ox-tongue (*Picris echinoides*), thistle (*Cirsium* sp.), forget me not (*Myosotis* sp.), lesser celandine (*Ranunculus ficaria*) and buttercup (*Ranunculus* sp.) (**Photograph 11; OH1**). A number of rabbit burrows and droppings were present under the trees (**Photograph 12**)

## **6.8 Standing Water (SW1)**

**6.8.1** A pond and expanded ditch were situated on the western boundary of the site beyond a fence and tree line (**Photograph 13; SW1**). The ditch also flowed along the south eastern side of the site along the roadside (**Photograph 14**). Growing around the margins of the pond was flag iris (*Iris pseudacorus*), a rush species (*Juncus* sp.) and hemlock water dropwort (*Oenanthe crocata*), and pendulous sedge (*Carex pendula*).

## **6.9 Fence (F1)**

**6.9.1** A metal wire mesh and timber post fence was present around the northern and parts of the western sides of the garden (**Photograph 15; F1**).

## **6.10 Building 1 – Timber Shed (B1)**

**6.10.1** A timber shed of simple construction with a pitched roof was present to the north east of the site (**Photograph 16; B1**).

## **6.11 Background Data Search Findings**

**6.11.1** The search of existing data carried out by the Thames Valley Environmental Records Centre showed the site is not statutorily designated for its wildlife value.

- 6.11.2** There is one statutorily designated site of national wildlife importance situated within one kilometre of the survey site: Chawridge Bourne Site of Special Scientific Interest (SSSI) is situated just under 250 metres to the northwest. The Site covers an area of 9.3 hectares comprising unimproved grassland, scrub and broadleaved woodland situated on London Clay soils and along the banks of a small stream.
- 6.11.3** One non- statutorily designated site of importance for wildlife within Berkshire is situated within the search area: Maidens Green Local Wildlife Site (LWS) - is situated 800 metres to the southwest. The site covers an area of 4.4 hectares – comprising a group of fields with lowland meadow habitat with a wooded moat in one of them. Chawridge Valley - a Conservation Target Area/Biodiversity Opportunity Area - is situated 15 metres to the northwest of the site and includes lowland meadow, lowland mixed deciduous woodland and scrub habitats.
- 6.11.4** The Records Centre's database includes no records of protected or notable species specifically for the site. The search of data held by TVERC revealed several protected and notable species within the one kilometre grid square that the site is situated within.
- 6.11.5** There are records of one species of reptile species within the search radius: grass snake (*Natrix natrix*), which has been recorded in 2015 along Winkfield Lane approximately 360 metres to the south west and at Chawridge Bank in 1998 situated just within the 1 kilometre radius boundary.
- 6.11.6** Three species of amphibians have been recorded within the search area: common toad (*Bufo bufo*), smooth newt (*Lissotriton vulgaris*) and the great crested newt (*Triturus cristatus*) have been found previously within a one kilometre radius of the site. The great crested newt has been recorded at three ponds, including at a pond 15 metres to south just across the road from the site, with records of an individual male in 2003. Three individuals have been recorded at a pond along Winkfield Lane situated approximately 700 metres to the south west in 1993 and 2005 respectively, and they have also been recorded at a pond situated within approximately 250 metres to the west in 1997.
- 6.11.7** Mammal records (excluding bats) include Eurasian badger (*Meles meles*) recorded at one site within the search radius. The European water vole (*Arvicola amphibius*), harvest mouse (*Micromys minutus*), and brown hare (*Lepus europaeus*) have been

recorded at a site just under 990 metres to the northwest, with records all dating from 1994 or earlier. Harvest mouse (*Micromys minutus*) has also been recorded at a site 675 metres to the south west of the site.

- 6.11.8** A number of notable bird species have been recorded within the search radius. Species recorded include the turtle dove (*Streptopelia turtur*), grey partridge (*Perdix perdix*), cuckoo (*Cuculus canorus*), skylark (*Alauda arvensis*), dunnoek (*Prunella modularis*), song thrush (*Turdus philomelos*), starling (*Sturnus vulgaris*), linnet (*Linaria cannabina*), bullfinch (*Pyrrhula pyrrhula*), yellow hammer (*Emberiza citrinella*), reed bunting (*Emberiza schoeniclus*) and barn owl (*Tyto alba*).
- 6.11.9** At least six bat species: common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), Leisler's bat (*Nyctalus leisleri*), a *Myotis* sp. and brown long eared bat (*Plecotus auritus*) have been recorded within the search area with records all dating from 2015.

## **6.12 Background Survey Findings**

- 6.12.1** Surveys completed by John Wenman Ecological Consultancy LLP at the neighbouring property in 2018 recorded a common pipistrelle day roost within the house and a low great crested newt breeding population in the pond on the western edge of Towsbourne. During the surveys, common pipistrelle, soprano pipistrelle and noctule bats were active in the garden.

## 7 DISCUSSION

### 7.1 Assessment of Ecological Value

#### *Habitats*

- 7.1.1** The plot is not within a site designated locally, nationally or internationally for its wildlife interest and does not support UK Priority Habitats. The property's garden – including the area to be affected by the proposed development - comprised well-maintained garden habitats, predominantly closely mown amenity grassland that supported commonly occurring native species typical of regularly maintained habitats throughout lowland England of limited ecological value at the scale of the site only.
- 7.1.2** The closely cut amenity grassland in the development footprint and covering most of the garden lacked the structural and species diversity necessary to support a rich assemblage of notable or protected fauna that may be associated with gardens e.g., reptiles, great crested newts and mammals, and thus is considered to be of negligible ecological value.
- 7.1.3** The garden had some less formal areas such as the scattered trees on the south western, south eastern and north eastern margins, a patch of dense scrub towards the north eastern side of the site and with the nearby pond. These less formal habitats were of ecological value at the site level as a resource for a range of species such as amphibians, reptiles, birds, mammals (including bats) and invertebrates.

#### *Reptiles*

- 7.1.4** There is a pre-existing record of grass snake within 400m of the site. The tree lines provide some potential sheltering opportunities for reptiles such as the grass snake, and other reptiles often associated with gardens, such as slow worm - which are UK Priority Species and legally protected. The closely mown amenity grassland covering most of the site and adjacent to the tree lines, and all the proposed development footprint, currently provides very poor habitat for reptiles and is highly unlikely to be used by them. If the amenity grassland is left uncut for an extended period, there is potential for reptiles to colonise the site in the future (**refer to recommendations in Section 8**). The pile of brash (**TN1**) was recently deposited and located away from the tree line and in the amenity grassland, and is therefore

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considered to be of limited potential to be used by reptiles.

#### *Amphibians*

- 7.1.5** Pre-existing survey data dating from 2018 has shown that the pond/ditch on the site's south western boundary supports a small great crested newt breeding population. Data from 2016 has shown also that the Tows Bourne Pond nearby but on the southern side of Winkfield Lane, also supports a small great crested newt breeding population.
- 7.1.6** The narrow strips of scattered trees on the site's south western edge are likely to provide habitats for great crested newts to forage and shelter; however, the closely mown amenity grassland covering most of the plot and the entirety of the proposed development footprint provides very poor habitat great crested newts and is unlikely to be used by them or other amphibian species.

#### *Breeding Birds*

- 7.1.7** The site is considered unlikely to support bird communities of conservation importance. The scattered trees and scrub on the margins of the garden are considered to be of ecological value at the site level with potential to provide nesting and foraging opportunities for commonly occurring bird species, which may include notable species of conservation importance.

#### *Bats*

- 7.1.8** There are pre-existing records of a common pipistrelle day roost from the neighbouring property and records of common and soprano pipistrelle, and noctule bats foraging in the site's margins, and species including in addition, brown long eared bat, *Myotis* species and Leisler's bat. The tree lines on the site's boundaries lacked any visible features suitable for roosting bats but provide suitable for foraging bats and likely to be of value at the local level. The closely cut amenity grassland within the development footprint and covering most of the garden, is insect poor habitat and therefore likely to be of negligible value to bats.

#### *Hazel Dormice*

- 7.1.9** There are no pre-existing records of dormice in the surrounding area and largely formal habitats on site are unsuitable for dormice, and as such, they are highly unlikely to be found on site.

### *Invertebrates*

- 7.1.10** The closely cut amenity grassland is unlikely to provide the structural and botanical diversity required to support a diverse invertebrate fauna. The scattered trees provide habitats of greater value to invertebrates but are unlikely to support communities of high conservation importance.

### *Badgers*

- 7.1.11** A single mammal burrow and likely badger sett entrance – a likely outlier - is present amongst a small patch of scrub on the north eastern side of the site. There was some evidence of mammal foraging within the garden indicating the garden is of some value as a feeding area for mammals including badgers.

### *Other Mammals*

- 7.1.12** The tree lines and dense scrub vegetation are habitats suitable for a range of small mammal species - including UK Priority Species such as hedgehog (*Erinaceus europaeus*) - to commute, forage and take refuge; this species and other mammals may cross the areas of closely mown grassland but these habitats are unlikely to be of high importance with limited cover and foraging habitat.

## **7.2 Impact of Proposals**

- 7.2.1** The planning proposals are to construct a single detached residential dwelling in the garden to the west of the existing house (refer to plans in **Appendix 4**).

### *Statutorily Designated Sites*

- 7.2.2** The site is not designated for its wildlife interest and therefore the proposals will have no direct impact on designated wildlife sites. The site falls within the SSSI Impact Zone for the Chawridge Bourne SSSI situated about 250m to the northwest; however, the proposals do not fall into the categories of development that could affect the SSSI.

### *Habitats*

- 7.2.3** The proposals to construct a new house will lead to loss primarily of a small area of closely cut amenity grassland of negligible ecological value; no UK Priority Habitats will be affected. The proposals include retaining the pond, and scattered trees – habitats of higher conservation importance in the context of the site. A small patch

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of scrub where a potential badger sett entrance was present will be affected by the planned proposals as it falls on the edge of the site's boundary with the existing house at Towsbourne.

#### *Hazel Dormice*

- 7.2.4** The site lacks habitats suitable for hazel dormice and as such they are considered highly unlikely to be found on site and affected by the proposals.

#### *Amphibians*

- 7.2.5** No waterbodies are to be affected by the proposals and therefore there will be no loss of breeding opportunities for amphibians, including great crested newt. The great crested newt breeding pond immediately off site to the west is part of a ditch that extends to the north west and to the south east. The route of the ditch is wooded largely along its length and provides a sheltered commuting route for newts to move through the landscape to likely breeding ponds to the north and south. The site of the proposed development and associated drainage works is closely mown amenity grassland – habitat of low value to great crested newts and unlikely to be used by great crested newts for shelter or foraging. The tree line on the site's south western margin provides some taller vegetation that may allow for newts to forage and has some features suitable for newts to shelter during dry periods or hibernate during the winter; these areas will be retained and can be extended and enhanced as part of the development proposals (**refer to Section 8**). Therefore, it is considered highly unlikely that the development proposals will lead to the fragmentation of great crested newt habitat or the disturbance of great crested newts.

- 7.2.6** Natural England's Licence Risk Assessment Tool shows that the loss of more than 0.01 hectares of terrestrial habitat within 100m of a breeding pond (the amount of vegetated land to be affected by the development is estimated to be less than 0.1ha) indicates that an offence may be likely (amber); however, considering the survey findings from 2018 i.e. presence of a low population of great crested newts in the pond on the site's western edge, and site specific factors as outlined above, it is considered that if non-licensed avoidance measures are adopted during development (**refer to Section 8**), the proposals will not lead to the loss or fragmentation of great crested newt habitat, affect their dispersal or lead to individuals being harmed, and furthermore, will increase the standing water

available by creating a pond on site. Therefore, it is considered that a European Protected Species licence would not be required for development to proceed lawfully

#### *Reptiles*

- 7.2.7** Due to the lack of sheltering, foraging and basking habitats vital for reptiles in the formal amenity grassland within the construction footprint, the proposed work is considered highly unlikely to have an adverse impact on reptiles. However, they may be using the more informal parts of the garden i.e. the tree line on the south western site boundary, and therefore precautions should be adopted to ensure that reptiles do not colonise the area of the development in the future as detailed in **Section 8.1**.

#### *Badgers (and Other Mammals)*

- 7.2.8** There was one potentially active badger sett entrance approximately 20 metres from the site of the proposed construction zone with a tunnel extending to the east away from the site. There was some evidence of mammal digging on the site's north western boundary also indicating badgers may forage in parts of the garden. Excavation and construction work that will be less than 30m from the sett may have an impact on the sett and could lead to the disturbance of badgers if they are occupying the sett. Further survey should be undertaken prior to construction works to confirm if badgers are using the site and confirm if there will be a requirement for a Natural England badger mitigation licence (**refer to recommendations in Section 8**).
- 7.2.9** Small mammals, including hedgehog - a notable species - may also be found on site, particularly using the tree line which is not to be impacted by the works. The small patch of dense scrub and relatively new compost heap will be affected and therefore precautions should be adopted during site clearance, and provisions made to allow small mammals to move freely across the site (**refer to recommendations in Section 8**).

#### *Nesting birds*

- 7.2.10** The scattered trees on the site boundaries provide nesting opportunities for common and widespread bird species. These will all be retained as part of the proposed works and therefore nesting birds will not be affected; however, the dense

scrub will be removed and therefore precautions to avoid nesting birds should be adopted.

#### *Invertebrates*

- 7.2.11** The development site – comprising closely mown amenity grassland - is highly unlikely to support important assemblages of invertebrates of conservation importance and therefore the proposals are not considered likely to significantly affect invertebrate populations.

## **8 RECOMMENDATIONS**

### **8.1 Non-Licensed Great Crested Newt/Reptile Avoidance Measures**

**8.1.1** The following precautionary measures will be adopted during the course of the development:

- The areas of short amenity grassland within the construction area will be kept short prior to the commencement of site work to minimise the likelihood of newts and reptiles being present during excavations.
- The areas of taller vegetation beneath the trees on the margins will be maintained, will not be used for storage of materials or machinery during construction and will be demarcated using temporary fencing e.g. Heras fencing. An ecologist will complete a site visit to confirm that temporary fencing is in place and the amenity grassland vegetation in the construction area has been kept short before excavation begins.
- During construction, any open excavations and trenches will be backfilled before nightfall, or alternatively, escape ramps will be installed to allow newts to escape if they become trapped;
- Any building materials or materials produced during demolition stored on site will be positioned on areas of hard standing or bare ground and raised off the ground on pallets or in skips to avoid them providing temporary resting places or hibernation sites for newts.
- If great crested newts or reptiles are encountered during the course of the work, work will stop immediately and a licensed ecologist will be called to site to provide further advice; work will continue only once further written advice has been received.

### **8.2 Badgers**

**8.2.1** The sett entrances should be monitored for a period of two – three weeks when badgers are expected to active above ground i.e. from March to November typically, using remote infra-red camera traps to establish if badgers are using the sett entrance amongst the dense scrub. If badgers are found to have an active sett

a detailed mitigation strategy should be prepared. The construction of the new dwelling will be approximately 20 metres from the sett and the patch of scrub falls on the boundary between the site and the neighbouring property already existing at Towsbourne. The works therefore may damage the sett and disturb badgers occupying the sett and therefore a Natural England licence may be required to allow it to proceed lawfully. Badger licences can be issued permitting actions affecting badgers between July and November only.

### **8.3 Nesting Birds**

- 8.3.1** The scrub removal should be completed outside of the peak bird nesting season (May to August) or 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 affecting the nesting sites should stop immediately and should continue only once bird nesting has finished i.e. young have fledged and left the nest.

### **8.4 Lighting**

- 8.4.1** To avoid impacts on nocturnal wildlife such as bats and badgers, external lighting on the new house should be avoided wherever possible, but if essential, the lighting scheme should be planned carefully to ensure that there is no illumination of the tree line/pond on the south western margin and tree line to the north west. Any lighting should make use of low intensity and low UV output lights such as warm white LED lights. The lighting should be directional and shielded above to avoid upward light spill.

### **8.5 Habitat Protection and Enhancement**

- 8.5.1** The development proposals would 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 Planning Policy Framework (NPPF):

- The landscaping plans should seek to enhance the ecological value of the site by bolstering the existing tree line with taller vegetation on the western boundary by creating an area of taller, less formal grassland and additional shrub planting planting making use of native plant species of local provenance sourced from suppliers able to supply UK stock of local provenance. The aim

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of the landscaping should be to increase the structural diversity and species diversity of the site as a whole, but particularly the western boundary bordering the pond to increase the habitat for great crested newts and other priority species such as reptiles, hedgehogs and badgers.

- The pond to be created should be planted with native marginal and submerged vegetation sourced from suppliers able to provide UK provenance stock.
- The landscaping of the garden should include features that provide foraging opportunities and cover for small mammals, amphibians and reptiles such as rockeries, partially buried log piles.
- Newly created garden boundaries should be formed by planting native hedging to increase habitats for a range of species such as nesting birds, and if fencing is necessary it should be open such as post or rail or have gaps beneath at least (13cm square) to allow the free movement of wildlife such as hedgehogs.
- The new house should include integral bat roosting boxes and bird nesting boxes.

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## APPENDIX 1 - SITE PHOTOGRAPHS



1. Amenity grassland covering most of the site (AM1)



2. A fresh pile of brash towards the south of the garden (TN2)



3. Mammal digging towards to the north of the garden (TN1)



4. Managed yew hedge along the garden and driveway to the south eastern end of the site (PH1)



5. Gated entrance by the hedge (PH1)



6. Strip of trees along the south eastern and south western side of the site (SMW1)





**7. Vegetation growing under the trees on the south eastern boundary (SBW1)**



**8. Overgrown hedge along the north eastern boundary of the site (SBW1)**



**9. Dense scrub on the north eastern side of the site (DS1)**



**10. Sett entrance towards the north eastern corner of the garden (DS1)**



**11. Bare ground and some tall ruderal vegetation starting to grow up along the south western boundary (OH1)**



**12. Rabbit burrows and droppings under the trees on the south western boundary (OH1)**





**13. Ditch present on the south eastern boundary along the road (SW1)**



**14. Pond present on the south western boundary of the site (SW1)**



**15. Metal wire fence present around the trees on the south western and north western boundaries of the site (F1)**



**16. Timber shed of simple construction to the north east of the site (B1)**

## APPENDIX 2 – PHASE 1 HABITAT SURVEY PLAN AND TARGET NOTES



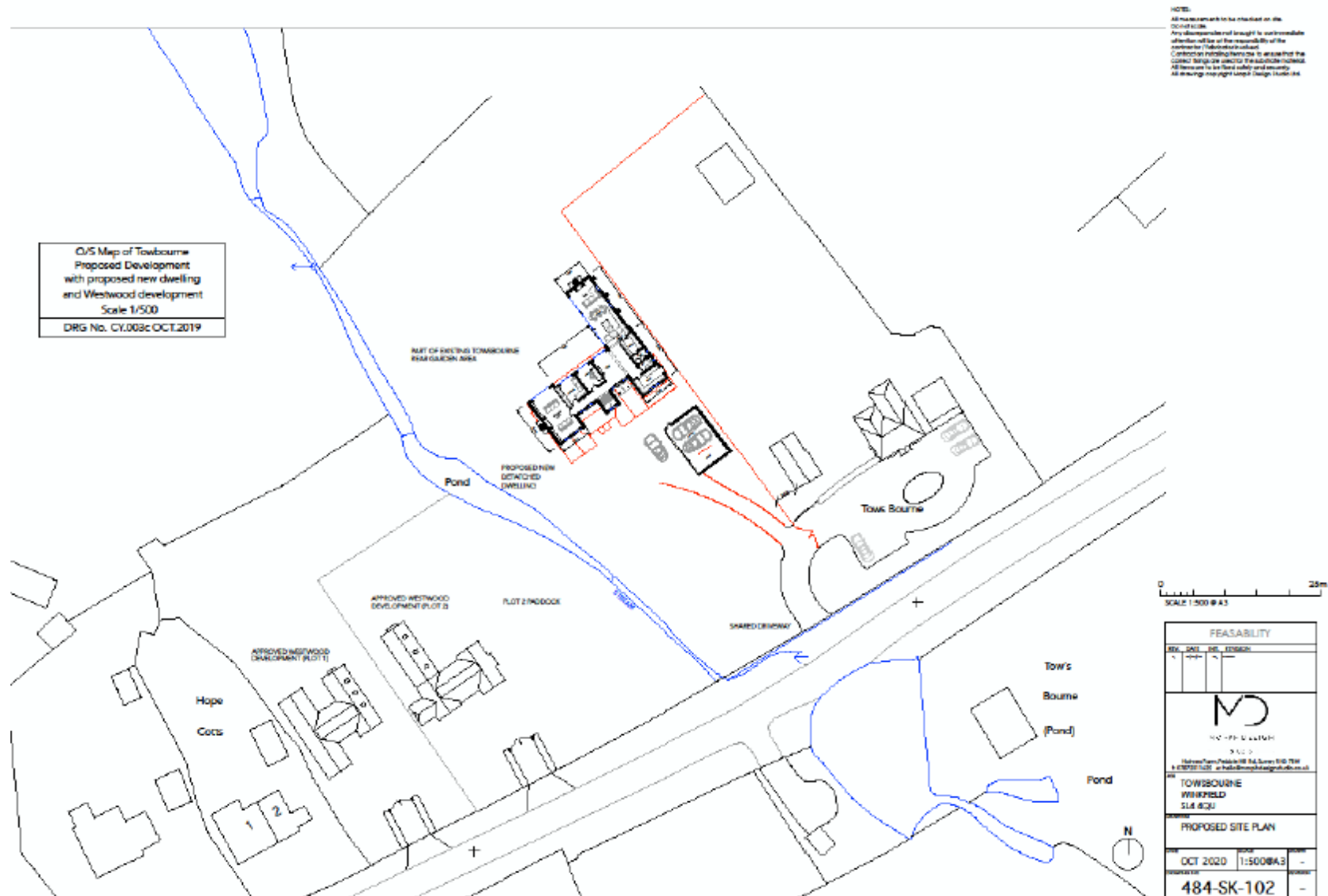
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Habitat code	Comments
A1	<b>Amenity grassland</b> – Most of the site comprised amenity grassland, which was closely cut. The grassland sward supported a few grass species including Yorkshire fog ( <i>Holcus lanatus</i> ), common bent ( <i>Agrostis tenuis</i> ), and creeping bent ( <i>Agrostis tenuis</i> ) which were abundant, with perennial rye grass ( <i>Lolium perenne</i> ) present occasionally. Herbaceous species were a component of the sward and included: common daisy ( <i>Bellis perennis</i> ), dandelion ( <i>Taraxacum officinale</i> agg.), cinquefoil ( <i>Potentilla reptans</i> ), red deadnettle ( <i>Lamium purpureum</i> ), sorrel ( <i>Rumex acetosa</i> ), common mouse-ear ( <i>Cerastium fontanum</i> ), self-heal ( <i>Prunella vulgaris</i> ), buttercup ( <i>Ranunculus</i> sp.) and clover ( <i>Trifolium</i> sp.) ( <b>Photograph 1</b> ).
PH1	<b>Intact Species Poor Hedgerow</b> - The south eastern boundary of the garden was bordered by an intact species poor hedgerow which ran between the garden and a driveway with a gated entrance into the garden. The hedge was managed and comprised of yew ( <i>Taxus baccata</i> ) ( <b>Photographs 4 &amp; 5</b> ).
SMW1	<b>Scattered mixed trees</b> - strip of trees was present on the southern boundary along the road and on the western side of the site alongside a ditch and pond. The trees were primarily willow ( <i>Salix</i> sp.) along the ditches but also included: ash ( <i>Fraxinus excelsior</i> ), elm ( <i>Ulmus</i> sp.), yew ( <i>Taxus baccata</i> ), elder ( <i>Sambucus nigra</i> ), silver birch ( <i>Betula pendula</i> ), hawthorn ( <i>Crataegus monogyna</i> ), oak ( <i>Quercus robur</i> ) and cypress ( <b>Photograph 6</b> ). Species present beneath the trees included ivy ( <i>Hedera helix</i> ), nettle ( <i>Urtica dioica</i> ), garlic mustard ( <i>Alliaria petiolata</i> ), cleavers ( <i>Galium aparine</i> ), lords and ladies ( <i>Arum maculatum</i> ), dock ( <i>Rumex</i> sp.), bristly ox-tongue ( <i>Picris echioides</i> ), ground ivy ( <i>Glechoma hederacea</i> ), and hemlock water dropwort ( <i>Oenanthe crocata</i> ) ( <b>Photograph 7</b> ). A ditch was present along the trees on the roadside to the southeast.
SBW1	<b>Scattered broadleaved trees</b> – overgrown hedge of broad-leaved trees grew on the northern and north eastern boundary of the site. Species present included blackthorn ( <i>Prunus spinosa</i> ), hawthorn ( <i>Crataegus monogyna</i> ), dog rose ( <i>Rosa canina</i> ), bramble ( <i>Rubus fruticosus</i> agg.), oak ( <i>Quercus robur</i> ) and elm ( <i>Ulmus</i> sp.) ( <b>Photograph 8</b> ). Species present on the ground below included: bristly ox-tongue ( <i>Picris echioides</i> ), lords and ladies ( <i>Arum maculatum</i> ), ivy ( <i>Hedera helix</i> ), sorrel ( <i>Rumex acetosa</i> ), garlic mustard ( <i>Alliaria petiolata</i> ), burdock ( <i>Arctium</i> sp.), ground ivy ( <i>Glechoma hederacea</i> ) and lesser celandine ( <i>Ranunculus ficaria</i> ). A dry ditch was visible beyond the trees to the north.
DS1	<b>Dense scrub</b> - small patch of scrub was growing out from the hedge towards the north eastern side of the site. Species present included blackthorn, dog rose ( <i>Rosa canina</i> ), and bramble ( <i>Rubus fruticosus</i> agg.) ( <b>Photograph 9</b> ). An active sett entrance likely to be used by badger ( <i>Meles meles</i> ) was present amongst the scrub. The entrance faced towards the east and had direct links into the tree line which went around the northern and north eastern side of the site ( <b>Photograph 10</b> ).
OH1	<b>Other habitat</b> - patch of tall ruderal vegetation had been cleared from along the edges of the trees around the southern corner of the site. A few small patches were growing occasionally which included dock ( <i>Rumex</i> sp), sorrel ( <i>Rumex</i> sp), nettle ( <i>Urtica dioica</i> ), ground ivy ( <i>Glechoma hederacea</i> ), cleavers ( <i>Galium aparine</i> ), bristly ox-tongue ( <i>Picris echioides</i> ), thistle ( <i>Cirsium</i> sp.), forget me not ( <i>Myosotis</i> sp.), lesser celandine ( <i>Ranunculus ficaria</i> ) and buttercup ( <i>Ranunculus</i> ) ( <b>Photograph 11</b> ). A number of rabbit burrows and droppings were present under the trees ( <b>Photograph 12</b> ).
SW1	<b>Standing water</b> - pond and expanded ditch was present on the western boundary of the site beyond a fence and tree line ( <b>Photograph 13</b> ). The ditch also flowed along the south eastern side of the site along the roadside ( <b>Photograph 14</b> ). Growing around the margins of the pond was flag iris ( <i>Iris pseudacorus</i> ), a rush species ( <i>Juncus</i> sp.) and hemlock water dropwort ( <i>Oenanthe crocata</i> ), and pendulous sedge ( <i>Carex pendula</i> ).
F1	<b>Fence</b> - metal wire mesh and timber post fence was present around the northern and parts of the western sides of the garden ( <b>Photograph 15</b> ).
TN1	<b>Target note</b> - pile of brash was present towards the southern end of the site ( <b>Photograph 2</b> ).
TN2	<b>Target note</b> – Signs of mammal foraging were present on the grassland towards the northern end of the site, deer and rabbit droppings were visible nearby ( <b>Photograph 3</b> ).
B1	<b>Building</b> - A timber shed of simple construction with a pitched roof was present to the north east of the site ( <b>Photograph 16</b> ).

### APPENDIX 3 - PLANT SPECIES RECORDED DURING THE SURVEY

Plant common name	Scientific name
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Bramble	<i>Rubus fruticosus</i> agg.
Bristly ox-tongue	<i>Picris echioides</i>
Buttercup	<i>Ranunculus</i> sp.
Burdock	<i>Arctium</i> sp.
Cinquefoil	<i>Potentilla reptans</i>
Cleavers	<i>Galium aparine</i>
Clover	<i>Trifolium</i> sp.
Common bent	<i>Agrostis tenuis</i>
Common daisy	<i>Bellis perennis</i>
Common mouse-ear	<i>Cerastium fontanum</i>
Creeping bent	<i>Agrostis tenuis</i>
Cypress	
Dandelion	<i>Taraxacum officinale</i> agg.
Dock	<i>Rumex</i> sp.
Dog rose	<i>Rosa canina</i>
Doves-foot cranesbill	<i>Geranium molle</i>
Elder	<i>Sambucus nigra</i>
Elm	<i>Ulmus</i> sp.
Flag iris	<i>Iris pseudacorus</i>
Forget me not	<i>Myosotis</i> sp.
Garlic mustard	<i>Alliaria petiolata</i>
Ground ivy	<i>Glechoma hederacea</i>
Hawthorn	<i>Crataegus monogyna</i>
Hemlock water dropwort	<i>Oenanthe crocata</i>
Ivy	<i>Hedera helix</i>
Lesser celandine	<i>Ranunculus ficaria</i> .
Lords and ladies	<i>Arum maculatum</i>
Nettle	<i>Urtica dioica</i>
Oak	<i>Quercus robur</i>
Pendulous sedge	<i>Carex pendula</i>
Perennial rye grass	<i>Lolium perenne</i>
Red deadnettle	<i>Lamium purpureum</i>
Rush species	<i>Juncus</i> sp.
Self-heal	<i>Prunella vulgaris</i>
Silver birch	<i>Betula pendula</i>
Sorrel	<i>Rumex acetosa</i>
Thistle	<i>Cirsium</i> sp.
Willow	<i>Salix</i> sp.
Yew	<i>Taxus baccata</i>
Yorkshire fog	<i>Holcus lanatus</i>

## APPENDIX 4 – PROPOSED SITE LAYOUT



John Wenman Ecological Consultancy