

**GREAT OAKS, SHEEPWASH LANE, NEWTOWN  
COMMON, NEWBURY, HAMPSHIRE**

**ECOLOGICAL IMPACT ASSESSMENT**

**Final Document**

November 2022

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Preliminary Ecological Appraisals Protected Species Surveys and Licensing NVC EclA HRA Management Plans  
Habitats Badger Bats Hazel Dormouse Birds Reptiles Amphibians Invertebrates Riparian and Aquatic Species




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## ECOSA Quality Assurance Record

This report has been produced in accordance with the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The Ecological Impact Assessment and report has been prepared in line with the CIEEM Guidelines for Ecological Impact Assessment in the UK and Ireland (CIEEM, 2018) and survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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**GREAT OAKS, SHEEPWASH LANE, NEWTOWN  
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**ECOLOGICAL IMPACT ASSESSMENT**

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## **EXECUTIVE SUMMARY**

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Mr and Mrs Douty to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Great Oaks, Newbury, Hampshire. The site is located south of the village of Newtown Common, Hampshire and comprises a residential property with associated garden and driveway. The property was recently destroyed by fire and therefore the proposals are for a replacement dwelling and new car port.

The main findings of the Ecological Impact Assessment are:

The habitats of greatest ecological importance are the large mature oak trees, the native hedgerows and watercourse.

Habitats on site have been assessed as being of local value to foraging and commuting bats, as well as being suitable for supporting otter, badger, hazel dormouse, water vole, breeding birds, reptiles, stag beetle, European hedgehog and common toad.

Mitigation measures include the use of tree protection fencing to shield the boundary hedgerows and mature trees from construction related activities, the implementation of a CEMP to ensure the watercourse does not become degraded, sensitive timings of work in relation to bats and ensuring excavations are covered over at night or ramps installed.

Post-development, no residual or cumulative impacts are anticipated.

The site will be enhanced for bats through the installation of an additional bat roosting features in the newly built property and for birds via the provision of artificial nest boxes.

Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy.

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

## **1.0 INTRODUCTION**

### **1.1 Background**

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Mr and Mrs Douty to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Great Oaks, Sheepwash Lane, Newtown Common, Newbury, Hampshire RG20 9DB (hereafter referred to as the site).

### **1.2 The Site**

The site is located south of the village of Newtown Common in Hampshire, centred on National Grid Reference (NGR) SU 4716 6265 (**Map 1**).

The Great Oaks ownership boundary covers approximately 0.2 hectares and comprises a residential property, garden and driveway. The property has recently been destroyed by fire and is in a state of disrepair. The site is accessed from Sheepwash Lane off the B4640.

The site is located within a wooded landscape between Newtown Common and Burghclere, with agricultural fields bound by hedgerows to the south and west, woodland blocks to the north and east and scattered residential properties. The closest town is Newbury, located some four kilometres north of the site. The A34 lies approximately 1.5 kilometres west.

### **1.3 Aims and Scope of Report**

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between June and August 2022. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects<sup>1</sup> ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;

To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;

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<sup>1</sup> For the purposes of this assessment a 'significant' adverse effect is one which will have an adverse effect on the ecological feature at the site level or higher.



To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'<sup>2</sup>;

To provide an assessment of the significance of any residual effects;

To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and

To set out the requirements for any post-construction monitoring.

#### **1.4 Site Proposals**

The property has recently been destroyed by fire and therefore the proposals are for a replacement dwelling. The property will largely be replaced on the existing footprint with a few design enhancements including a larger loft level and a ground floor side extension. A new car port is also proposed.

The Ecological Impact Assessment is based on the Proposed Site Plan and Location Plan produced by 3S Architects (Drawing no. 2203\_PL00 Rev. A) dated November 2022 (**Appendix 1**).

Planning permission is being sought during 2022 with construction proposed to commence soon after permission has been granted.

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<sup>2</sup> In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

## 2.0 PLANNING POLICY CONTEXT

### 2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Basingstoke and Deane Borough Council administrative area. This information is then used to assess the compliance of the scheme in relation to relevant planning policy and where necessary make recommendations for mitigation, compensation and enhancements (see Section 5.0).

### 2.2 National Policy

The National Planning Policy Framework (NPPF) sets out the government's requirements for the planning system in England. The original document was published in 2012 with the most recent revised NPPF published in July 2021. A number of sections of the NPPF are relevant when taking into account development proposals and the environment. As set out within Paragraph 11 of the NPPF "*Plans and decisions should apply a presumption in favour of sustainable development*". However, Paragraph 182 goes on to state that "*The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.*".

The NPPF sets out that development proposals should not only minimise the impacts on biodiversity but also to provide enhancement. Paragraph 174 states that the planning system should contribute to and enhance the natural environment by "*...minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures...*".

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats<sup>3</sup>, including ancient woodland<sup>4</sup>. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

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<sup>3</sup> The NPPF defines irreplaceable habitats as "Habitats which would be technically very difficult (or take a very significant time) to restore, recreate or replace once destroyed, taking into account their age, uniqueness, species diversity or rarity. They include ancient woodland, ancient and veteran trees, blanket bog, limestone pavement, sand dunes, salt marsh and lowland fen."

<sup>4</sup> Natural England defines ancient woodland as "An area that has been wooded continuously since at least 1600 AD. It includes ancient semi-natural woodland and plantations on ancient woodland sites (PAWS)."

180 also states “*development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.*”. Paragraph 181 also sets out that potential SPAs, SACs and listed or proposed Ramsar sites or sites acting as compensation for SPAs, SACs and Ramsar sites, should receive the same protection as habitat sites.

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states “*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*”. Paragraph 99 states “*it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted*”.

### **2.3 Local Policy**

Local planning policy within the Basingstoke and Deane Borough is provided by the Basingstoke and Deane Local Plan (2011 to 2029), adopted May 2016. Four policies refer specifically to ecology and biodiversity:

#### **Policy EM1: Landscape**

This policy refers to the landscape character of the area, paying particular regard to trees, ancient woodland, rivers, and these features’ functions as ecological networks. Development proposals will have to demonstrate consideration of these features;

#### **Policy EM3: Thames Basin Heaths SPA**

This policy refers to the requirement of suitable measures to mitigate for impacts on the Thames Basin Heaths SPA, such as provisioning of Suitable Alternative Natural Green Space (SANGS);

#### **Policy EM4: Biodiversity, Geodiversity and Nature Conservation**

This policy refers to the protection and enhancement of biodiversity, designated sites, protected species, key habitats and habitat linkages, with a requirement for achieving biodiversity net gain; and

#### **Policy EM5: Green Infrastructure**

Development proposals will only be permitted where they do not result in the fragmentation of the green infrastructure network.

## **3.0 METHODS**

### **3.1 Introduction**

This section details the methods employed during the Ecological Impact Assessment. Any significant limitations to the assessment are also considered.

### **3.2 Zone of Influence**

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected<sup>5</sup>. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

### **3.3 Scoping**

Protected species considered within the Ecological Impact Assessment are those species/species groups considered likely to be encountered given the geographical location and context of the site. Where the site was found to be suitable to support these species/species groups, and adverse effects cannot be avoided from the outset, further species-specific surveys are undertaken. These are discussed within the results section (Section 4.0) of the current report. Where such a species is unlikely to be present on site a justification for likely absence is provided. Species considered likely absent from the site are not then considered in the assessment of ecological effects and mitigation/compensation measures section (Section 5.0) of this report.

### **3.4 Desk Study**

A full biological record centre desktop study was not undertaken as part of this assessment. This was not considered necessary given the limited scale of the site and the nature of the proposals.

#### **3.4.1 Multi-Agency Geographic Information for the Countryside**

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2022) was reviewed on 17<sup>th</sup> August 2022 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. See

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<sup>5</sup> The Zone of Influence (Zoi), as defined by CIEEM, is the area over which ecological features may be subject to significant effects as a result of the proposed project and associated activities (CIEEM, 2018).

**Appendix 2** for details. Where appropriate, the desk study search area has been extended to take account of any appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species, particularly those specifically mentioned in local planning policy. The Impact Risk Zones (IRZ) were also obtained from MAGIC, which are used to help guide and assess planning applications for likely effects on SSSIs.

Sites within two kilometres of the site boundary where European Protected Species Mitigation (EPSM) licences have been granted were reviewed. This information allows a greater understanding of the potential for European protected species to be present in the local area.

### **3.4.2 Other Sources of Information**

Online mapping resources, at an appropriate scale, were used to identify the presence of habitats such as woodland blocks, ponds, watercourses and hedgerows, in the vicinity of the site. These habitats may offer resources and connectivity between the site and suitable habitat in the local area, which may be exploited by local species populations.

The presence of ponds or other waterbodies within a 500 metre radius of the site in particular are noted in relation to great crested newt. The 500 metre radius is a standardised search radius to assist in the assessment of the suitability of a site and its surrounding habitat to support this species, based on current Natural England guidance (English Nature, 2001).

## **3.5 Field Survey**

### **3.5.1 Survey Methods**

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017). The field survey covered all accessible areas of the site, including boundary features. Photographs are provided, where relevant.

#### Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010)<sup>6</sup>. This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each

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<sup>6</sup> The standard JNCC Phase 1 habitat survey methodology involves the production of a Phase 1 map showing the location and extent of habitat types, however, given the limited size and complexity of the site surveyed a Phase 1 habitat map has not been produced in this instance.

vegetation type was compiled and any invasive species<sup>7</sup> encountered as an incidental result of the survey recorded.

#### *Protected and Notable Species Appraisal*

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. Specific methods for species/species groups considered during the appraisal are provided in **Appendix 4**.

### **3.5.2 Survey Details**

The field survey was carried out by Helen Butt, Senior of ECOSA on 24<sup>th</sup> June 2022. The weather conditions were dry with 100% cloud cover, an ambient temperature of 19°C and moderate breeze.

During the survey, the surveyor was equipped with a ladder, 10x40 binoculars, a high powered torch and a digital camera.

### **3.5.3 Field Survey Limitations**

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. The field survey has therefore not produced a complete list of plants and animals and in the absence of evidence of any particular species should not be taken as conclusive proof that the species is absent or that it will not occur in the future.

Online mapping resources provide an indication of habitat features present in the wider area, but do not provide a detailed assessment of habitat types.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities. During the survey no internal access was possible to the building due to the fire damage, which has made the internal areas unsafe.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

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<sup>7</sup> Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

### 3.6 Bat Survey

#### 3.6.1 Survey Methods

##### Bat Emergence/Re-entry Survey

The bat emergence/re-entry survey was undertaken in line with current best practice guidelines (Collins, 2016). In accordance with the guidelines for a building assessed as having high suitability to support roosting bats two dusk emergence surveys and a single dawn re-entry survey were undertaken in order to ascertain the presence/likely absence of roosting bats from within the building. Where the presence of roosting bats is confirmed the data also allows for an assessment of the status of the roost present.

The dusk emergence surveys commenced approximately 15 minutes before sunset until approximately two hours after sunset. The dawn re-entry survey commenced approximately two hours before sunrise until just after sunrise.

The surveys were carried out by three experienced ECOSA surveyors, positioned at previously identified vantage points around the building (two surveyors covering the front of the property and one to the rear). These vantage point locations allowed a sufficient coverage of the Potential Roosting Features identified on the building impacted by the proposals.

During the surveys surveyors recorded the time, species, location and direction of flight for each bat encountered, with particular attention paid to establishing bat access/egress locations to any roosts within the building.

#### 3.6.2 Survey Details

##### Bat Emergence/Re-entry Survey

The bat emergence/re-entry surveys were undertaken between July and October 2022.

**Table 1** provides details of each emergence/re-entry survey.

**Table 1:** Bat emergence/re-entry survey details

| Survey Date                | Survey Type | Survey Timings             | Weather Conditions   | Sunset/<br>Sunrise Time |
|----------------------------|-------------|----------------------------|--|-------------------------|
| 5 <sup>th</sup> July 2022  | Emergence   | Start: 21:10<br>End: 23:24 | General conditions: Dry<br>Start temp: 21°C<br>End temp: 19°C<br>Cloud Cover: 50%<br>Wind Speed: WF1             | 21:24                   |
| 19 <sup>th</sup> July 2022 | Re-entry    | Start: 03:11<br>End: 05:26 | General conditions: Warm and dry<br>Start temp: 19°C<br>End temp: 18°C<br>Cloud Cover: 10-20%<br>Wind Speed: WF1 | 05:11                   |

| Survey Date                 | Survey Type | Survey Timings             | Weather Conditions  | Sunset/<br>Sunrise Time |
|-----------------------------|-------------|----------------------------|---|-------------------------|
| 2 <sup>nd</sup> August 2022 | Emergence   | Start: 20:37<br>End: 22:22 | General conditions: Dry<br>Start temp: 24°C<br>End temp: 22°C<br>Cloud Cover: No cloud<br>Wind Speed: WF1-2 | 20:52                   |

During the bat emergence/re-entry surveys the surveyors were equipped with Elekon Batlogger M bat detectors. Recordings made with the detectors were later analysed using Bat Explorer (Version 2.1.10.1) to confirm the identity of any species encountered.

The bat emergence/re-entry surveys were coordinated by Helen Butt, Senior Ecologist of ECOSA (Natural England Bat Licence 2020-50848-CLS-CLS) assisted by suitably qualified and experienced ECOSA surveyors Hugh Tuner (Natural England Bat Licence 2020-50816-CLS-CLS), Alessandro Ravi Antonielli, Jennifer Simpson-Watts, Nicola Pyle, James Wylor-Owen, Amiker Best, Norman Binstead and Mathew Norris-Hill.

### 3.6.3 Survey Limitations

Some bat species, e.g. long-eared bats *Plecotus* species<sup>8</sup>, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during bat surveys, leading to under-recording.

The quality of hand-held bat detector recordings is based, to a large extent, on the proximity of a bat to the detector's microphone. Obstructions such as vegetation or environmental variables such as wind noise from vegetation will all influence the quality of sound reaching the microphone and thus some bat echolocation recordings are of insufficient quality for specific identification. Bats routinely alter their echolocations in relation to behaviour and their environment. It is not always possible to make a robust identification of every bat recording.

The use of bat detectors is likely to result in the under-recording of a percentage of bats present, such as those flying at height (Collins & Jones, 2009), which would be out of the recording range for the detectors.

<sup>8</sup> There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.



### **3.7 Criteria used to Assess Ecological Value**

The evaluation criteria used in this report are based on ECOSA's professional judgement and publicly available publications, survey data and other sources as referenced in the main text. The evaluation is based on a sliding scale of importance as follows; international and European, national, regional, county, local and site. There are a wide range of characteristics which contribute to the importance of ecological features, and these may justify an increase or reduction in the value of an ecological feature. Where deviations occur, these will be explained in the evaluation section of this report (Section 4.0). Current published relevant guidance, including information sources such as A Nature Conservation Review (Ratcliffe, 1977) and Guidelines for Ecological Impact Assessment in the United Kingdom (CIEEM, 2018) have also been used to inform the assessment.

## **4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION**

### **4.1 Introduction**

This section details the results of the Ecological Impact Assessment undertaken for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the findings of the field survey and subsequent protected species surveys. This section also provides an assessment of the ecological value of ecological features present at the site.

### **4.2 Statutory Designated Sites**

#### **4.2.1 *Baseline Ecological Conditions***

There is one statutory designated site of nature conservation interest situated within one kilometre of the site boundary. This is Herbert Plantation LNR. The LNR is located approximately 330 metres south-east of the site and is designated for supporting mixed woodland of oak *Quercus* species, birch *Betula* species and pine *Pinus* species.

Further information on sites designated for nature conservation are provided in **Appendix 2** and further information about the statutory designated site identified above is provided in **Appendix 6**.

#### **4.2.2 *Evaluation***

The Herbert Plantation LNR is a statutory designated site of local level importance.

### **4.3 Habitats**

#### **4.3.1 *Baseline Ecological Conditions***

##### *Desktop Study Results*

A review of the MAGIC database identifies the presence of the Habitat of Principal Importance lowland mixed deciduous woodland within one kilometre of the site boundary. The closest of these woodland blocks is immediately south of the site, and north of Sheepwash Lane. One of the woodland blocks located some 280 metres north-east of the site is also classified as ancient semi-natural woodland.

##### *Field Survey Results*

Habitats are described in general terms using standard Phase 1 habitat survey terminology, with reference to dominant, characteristic and notable species in each vegetation type. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

### Scattered Trees

There are a number of scattered trees present across the site, within the rear garden (**Figure 1**) and at the driveway entrance (**Figure 2**). These include a number of large mature pedunculate oaks *Quercus robur*. Other species recorded include cherry *Prunus avium*, beech *Fagus sylvatica*, willow *Salix* species and Norway maple *Acer platanoides*.



**Figure 1:** Mature oak trees within the rear garden



**Figure 2:** Large oak at driveway entrance

### Running Water

The eastern site boundary is formed by a narrow, shallow stream (**Figure 3** and **Figure 4**). The channel measures approximately one metre in width and has a stoney substrate bed. The banks support a number of grassland species and aquatic emergents including marsh marigold *Caltha palustris*, flag iris *Iris pseudacorus*, ragged robin *Silene flos-cuculi*, broad leaved dock *Rumex obtusifolius*, the invasive species American skunk cabbage *Lysichiton americanus* and pendulous sedge *Carex pendula*.



**Figure 3:** Narrow stream at eastern boundary



**Figure 4:** Aquatic vegetation within stream

### Amenity Grassland

The majority of the rear garden comprises mown grassland with a short sward, typical of a well-managed residential lawn (**Figure 5**). Areas of amenity grassland are also present to west of the property, along the driveway (**Figure 6**). The sward is dominated

by a small number of grasses including perennial rye grass *Lolium perene*, annual meadow grass *Poa annua* and crested dog's tail *Cynosurus cristatus*. A number of herbaceous species typical of a managed lawn were also recorded including dandelion *Taraxacum officinale*, daisy *Bellis perennis*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens* and creeping thistle *Cirsium arvense*.



**Figure 5:** Rear garden of Great Oaks



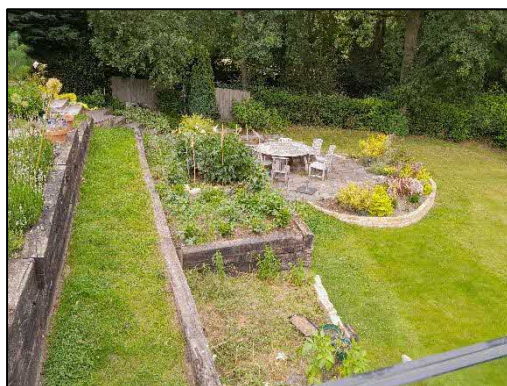
**Figure 6:** Amenity grassland along driveway

#### *Introduced Shrub*

Ornamental terraced flower beds containing a mixture of native and non-native shrubs and flowering plants (**Figure 7** and **Figure 8**) are present to the east of the property, leading down to the main lawn. Recorded species include lavender *Lavandula* species, ornamental rose *Rosa* species, *Alium* species and a range of ornamental grasses. Japanese maple *Acer palmatum* and *Rhododendron* are also present.



**Figure 7:** Terraced flower beds



**Figure 8:** Ornamental planting in rear garden

#### *Native Species-Rich Hedgerow*

Native species-rich hedgerows bound the site to the north and south (**Figure 9** and **Figure 10**). Hedgerows are intact and well connected to the wider landscape via blocks and woodland and treelines. Hedgerows measure approximately 1.5-2 metres high, 1.5 metres wide and approximately 100 metres long along both the southern and northern boundaries. Species recorded include hawthorn *Crataegus monogyna*, field maple *Acer campestre*, dog rose *Rosa canina*, hazel *Corylus avellana*, oak and holly *Ilex*

*aquifolium* with climbers ivy *Hedera helix* and honeysuckle *Lonicera* species. Ground flora comprises ivy, nettle *Urtica dioica*, ground elder *Aegopodium podagraria* and herb Robert *Geranium robertianum*.



**Figure 9:** Native hedgerow along northern boundary



**Figure 10:** Hedgerow along southern boundary

### *Buildings*

Buildings on site comprise the main Great Oaks property which has been destroyed by fire damage (**Figure 11** and **Figure 12**), a wooden garden shed (**Figure 13**) and a greenhouse (**Figure 14**). A full description of the on-site buildings is provided in **Table 2**.



**Figure 11:** Great Oaks property



**Figure 12:** Eastern elevation of Great Oaks



**Figure 13:** Garden shed



**Figure 14:** Greenhouse

### *Other Habitats*

Other habitats include the hardstanding patio area that surrounds the property and extends eastwards over the garden (**Figure 15**) and the tarmac hardstanding of the entrance driveway (**Figure 16**).



**Figure 15:** Patio area



**Figure 16:** Entrance driveway

### **4.3.2 Evaluation**

The habitats recorded on site comprise scattered trees, running water, amenity grassland, introduced shrub, hedgerows, buildings and hardstanding. These habitats are common and widespread within the local area. The habitats of greatest ecological importance are the large mature oak trees due to their intrinsic ecological value as well as the native hedgerows and watercourse due to their connectivity with the wider landscape.

## **4.4 Bats**

### **4.4.1 Baseline Ecological Conditions**

#### Desktop Study Results

A review of the MAGIC database reveals the presence of four granted EPSM licences in respect of bats within two kilometres of the site boundary. Three of these are for the destruction of a resting place of common species including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and brown long-eared bat *Plecotus auritus*. These are located some 900 metres and 1.2 kilometres south-east and 1.5 kilometres south of the site, granted in 2013, 2018 and 2016 respectively. Of particular note is the fourth licence granted in 2016 for the destruction of a resting place and breeding site of brown long-eared bat, common pipistrelle, soprano pipistrelle, Daubenton's bat *Myotis daubentonii* and Natterer's bat *Myotis nattereri*, located 1.6 kilometres to the east.

### Field Survey Results

#### *Building Assessment*

The Great Oaks property is assessed as having high suitability for roosting bats due to the presence of cracked, missing or slipped hanging tiles in places allowing potential bat access to exposed felt and battens behind. The garden shed and greenhouse have negligible suitability for roosting bats due to the absence of Potential Roosting Features. The results of the building assessment are provided in **Table 2**.


#### *Tree Assessment*

A number of the large mature oak trees on site contain features that are suitable for supporting roosting bats including callous rolls and splits in limbs. There may also be further suitable features higher up within the canopy of these trees that are not visible from the ground. Overall, the site is assessed as being suitable for supporting tree-roosting bats.




#### *Foraging and Commuting Habitat*


The boundary hedgerows and stream provide commuting routes for bats accessing foraging areas in the wider landscape, while mature trees, hedgerows, the stream and ornamental planting are all likely to support suitable insect prey. The surrounding blocks of woodland are considered likely to support tree roosts and provides a foraging resource for bats in the local area. While the site forms a small part of this habitat network, it is not an important foraging resource in isolation. Overall, the site is assessed as having moderate suitability for foraging and commuting bats.

**Table 2: Building Assessment – Summary of Features with Bat Roost Potential and Evidence of Bat Roost Activity**

| Surveyed Feature    | Figure   | Building Description   | Description of Potential Bat Roost Features   | Evidence of Bat Roost Activity and Location                         | Assessment of Suitability for Roosting Bats |
|---------------------|--|--|---|---|---|
| Great Oaks Property |  <p><b>Figure 17:</b> Western elevation of Great Oaks property</p>  <p><b>Figure 18:</b> Eastern elevation of Great Oaks property</p> | <p>The Great Oaks property is a two-storey house with previously converted loft space, uPVC soffit boxes, hanging tiles on all elevations at first floor level and rendered at ground floor level (<b>Figure 17</b>).</p> <p>A lean-to porch is present on the western elevation, an external chimney breast on the southern elevation (<b>Figure 18</b>) and a second internal chimney at the northern end.</p> <p>The property is currently vacant and has suffered significant fire damage, with the entire roof burnt through and now open to the elements. Windows are either smashed or boarded up.</p> <p>No internal access to the property was possible due to the health and safety risk from fire damage (Paragraph 3.5.3).</p> | <p>There are cracked, missing or slipped hanging tiles in places allowing potential bat access to exposed felt and battens behind (<b>Figure 19</b>).</p> <p>These features have formed as a result of the fire damage, while other areas have remained well sealed. It is possible that these features may support a roost of a higher status such as maternity or hibernation. However, it should be noted that the fire happened in April 2022 and therefore these features would only have been available to bats for one summer/maternity season only.</p> <p>There are also cracked and missing tiles on the lean-to porch. These gaps may be suitable for crevice dwelling species.</p> <p>There are no suitable gaps within soffit boxes. These are either well sealed or melted down due to the fire damage.</p> | <p>No evidence of roosting bats was recorded during the survey.</p> | <p>High suitability</p>                     |



| Surveyed Feature | Figure  | Building Description  | Description of Potential Bat Roost Features  | Evidence of Bat Roost Activity and Location                         | Assessment of Suitability for Roosting Bats |
|------------------|---|---|--|---|---|
| Garden Shed      |  <p><b>Figure 19:</b> Example area of missing hanging tiles</p>   | <p>This is a single storey wooden shed with a pitched bitumen roof, located within the rear garden (<b>Figure 20</b> and <b>Figure 21</b>). The shed is single skin with no insulation, roof lining or internal void.</p> | <p>There are no suitable gaps for roosting bats between or beneath wooden panelling or materials. Internally, the shed does not support the stable thermal conditions suitable for roosting bats; it is likely that temperatures would fluctuate regularly due to the lack of insulation or roof lining.</p> | <p>No evidence of roosting bats was recorded during the survey.</p> | <p>Negligible suitability</p>               |
| Garden Shed      |  <p><b>Figure 20:</b> Garden store</p>  <p><b>Figure 21:</b> Garden store</p> | <p>This is a single storey wooden shed with a pitched bitumen roof, located within the rear garden (<b>Figure 20</b> and <b>Figure 21</b>). The shed is single skin with no insulation, roof lining or internal void.</p> | <p>There are no suitable gaps for roosting bats between or beneath wooden panelling or materials. Internally, the shed does not support the stable thermal conditions suitable for roosting bats; it is likely that temperatures would fluctuate regularly due to the lack of insulation or roof lining.</p> | <p>No evidence of roosting bats was recorded during the survey.</p> | <p>Negligible suitability</p>               |

| Surveyed Feature | Figure   | Building Description  | Description of Potential Bat Roost Features  | Evidence of Bat Roost Activity and Location                         | Assessment of Suitability for Roosting Bats |
|------------------|--|---|--|---|---|
| Greenhouse       |  <p><b>Figure 22:</b> Greenhouse</p> | <p>This is a small structure with a brick foundation layer, wooden frame and glass panes (<b>Figure 22</b>). The building is located to the south of the Great Oaks property and is currently used for storage and garden supplies.</p> | <p>The brickwork is relatively new and in very good condition with no gaps in the mortar that would allow access for crevice dwelling bats. There are no suitable roosting locations externally or internally and the building is not of a suitable material to provide optimal thermal conditions for bats.</p> | <p>No evidence of roosting bats was recorded during the survey.</p> | <p>Negligible suitability</p>               |

### Bat Emergence/Re-entry Survey Results

The surveys recorded a total of six species of bat: common pipistrelle, soprano pipistrelle, barbastelle *Barbastella barbastellus* serotine *Eptesicus serotinus*, long-eared bat *Plecotus* species and *Myotis* bat species<sup>9</sup>.

Moderate levels of bat foraging activity was recorded during each of the surveys with the vast majority of registrations of common pipistrelle. Soprano pipistrelle was also recorded frequently, with much a much lower number of long-eared bat and *Myotis* bat species registrations. Just two registrations of barbastelle across two surveys were recorded. No bats were recorded roosting within the property during the surveys.

**Table 3** provides details of the species, numbers and locations of bats recorded foraging/commuting during the emergence/re-entry surveys.

**Table 3: Bat Emergence/Re-entry Survey Results**

| <b>Visit 1 - Survey Details</b>  |                           |
|--|---------------------------|
| <b>Survey Date:</b>  | 5 <sup>th</sup> July 2022 |
| <b>Structures Surveyed:</b>  | Great Oaks property       |
| <b>Survey Type:</b>  | Dusk Emergence Survey     |
| <b>Time of Sunset:</b>   | 21:24                     |
| <b>Recorded Bat Roosts</b>   |                           |
| No bats were recorded roosting within the building.  |                           |
| <b>General Bat Activity</b>  |                           |
| Moderate levels of bat activity were recorded during the survey. The vast majority of recordings were of common pipistrelle with soprano pipistrelle also recorded frequently. Lower numbers of long-eared bat, barbastelle, serotine and <i>Myotis</i> bat species were also recorded. Activity was mainly recorded along the site boundaries adjacent to hedgerows and woodland. |                           |

<sup>9</sup> There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

| Visit 2 - Survey Details  |                            |
|---|----------------------------|
| <b>Survey Date:</b>   | 19 <sup>th</sup> July 2022 |
| <b>Structures Surveyed:</b>   | Great Oaks property        |
| <b>Survey Type:</b>   | Dawn Re-entry Survey       |
| <b>Time of Sunrise:</b>   | 05:11                      |
| <b>Recorded Bat Roosts</b>  |                            |
| No bats were recorded roosting within the building.   |                            |
| <b>General Bat Activity</b>   |                            |
| Foraging activity was moderate during the survey. Constant foraging of a small numbers of common pipistrelle were recorded throughout, whilst soprano pipistrelle calls were also registered along with low numbers of long-eared bat and serotine. Activity was mainly recorded along the site boundaries adjacent to hedgerows and woodland |                            |

| Visit 3 - Survey Details  |                             |
|---|-----------------------------|
| <b>Survey Date:</b>   | 2 <sup>nd</sup> August 2022 |
| <b>Structures Surveyed:</b>   | Great Oaks property         |
| <b>Survey Type:</b>   | Dusk Emergence Survey       |
| <b>Time of Sunset:</b>  | 20:52                       |
| <b>Recorded Bat Roosts</b>  |                             |
| No bats were recorded roosting within the building.   |                             |
| <b>General Bat Activity</b>   |                             |
| Bat activity levels were low to moderate during the survey, with common pipistrelle dominating the registered calls. One registration of barbastelle and low numbers of serotine, long-eared bat and <i>Myotis</i> bat species were also recorded. Bats were recorded foraging over the lawn and along boundary vegetation. |                             |

#### 4.4.2 Evaluation

##### Foraging and Commuting Bats

Bat surveys recorded a total of six species of bat foraging and commuting at the site. Common pipistrelle, soprano pipistrelle and brown long-eared bat are relatively common within Hampshire and widely distributed throughout England. Serotine is frequently recorded locally, however there are gaps in the distribution records and little is known about the population fluctuations in the county.

There are seven species of *Myotis* bats in Britain. Many of these bats are common in Hampshire, while others are rarer including Bechstein's bat *Myotis bechsteinii*. Barbastelle is also relative rare and is found only in southern England and Wales. Very few breeding sites are known although it is a woodland species and is likely to roost within nearby woodland. While the site forms a small part of a suitable habitat network for bats, it is not an important foraging resource in isolation and is only likely to be of local foraging and commuting value for the species of bat recorded.

## **4.5 Otter**

### **4.5.1 Baseline Ecological Conditions**

#### Desktop Study Results

A review of online OS mapping and aerial imagery identifies the presence of a series of waterbodies to the north which are hydrologically linked to the on-site stream. These are approximately 170 and 550 metres away, while the River Enborne lies some 1.2 kilometres north. Otter *Lutra lutra* is likely to be present within the River Enborne and may frequent the waterbodies and stream further south, on occasion.

#### Field Survey Results

No field signs of otter were recorded within or adjacent to the stream during the field survey such as spraints, feeding remains, footprints holts or lay-up areas. The habitat on site is sub-optimal for otter and is located near to areas regularly disturbed by garden management. Otter may use this stream for commuting purposes, however the channel is not considered suitable for resident otter due to its size. Furthermore, the site is over one kilometre south from the nearest main watercourse of the River Enbourne where fish stocks and foraging opportunities are likely to be more suitable and otter is more likely to be present.

### **4.5.2 Evaluation**

The site is unsuitable for resident otter and is unlikely to represent an important foraging resource to the species. As such, ecological value is assessed as being of no more than 'site level' for otter.

## **4.6 Badger**

### **4.6.1 Baseline Ecological Conditions**

#### Field Survey Results

No evidence of badger *Meles meles* was recorded during the survey, such as setts, latrines, hairs or foraging holes. The site does provide some suitability for foraging badger in the form of well-connected hedgerow bases and the stream provides a source of water. Given the blocks of woodland in the surrounding area, it is considered likely that badger setts are present nearby.

### **4.6.2 Evaluation**

The site does not support resident badger as no setts are present. However, it is likely that badger would forage within or commute across the site on occasion. Given the extent of more suitable habitat in the wider area, ecological value is assessed as being of no more than 'site level' for badger.

## **4.7 Hazel Dormouse**

### **4.7.1 Baseline Ecological Conditions**

#### Desktop Study Results

A review of the MAGIC database did not reveal the presence of any granted EPSM licences in respect of hazel dormouse *Muscardinus avellanarius* within two kilometres of the site, however, this does not confirm the absence of the species in the local area.

#### Field Survey Results

The site provides suitable commuting habitat for hazel dormouse in the form of native species rich hedgerows that are well-connected to linear habitats and woodland in the wider area. Fruit bearing species such as hawthorn, hazel and holly which are present in boundary hedgerows would offer a continuum of food supply while honeysuckle may be used for nesting material.

### **4.7.2 Evaluation**

The hedgerows on site form a small part of a network of suitable hazel dormouse habitat in the local area, although in isolation does not represent an important, irreplaceable resource to the species. Given the extent of more suitable habitat in the wider area, ecological value is assessed as being of no more than 'site level' for hazel dormouse.

## **4.8 Water Vole**

### **4.8.1 Baseline Ecological Conditions**

#### Desktop Study Results

A review of online OS mapping and aerial imagery identifies the presence of a series of waterbodies 170 and 550 metres north which are hydrologically linked to the on-site stream. These aquatic habitats may be utilised by water vole *Arvicola amphibius*. The River Enborne lies some 1.2 kilometres north where the species is also likely to be present.

#### Field Survey Results

During the survey, no evidence of water vole was recorded such as burrows within stream banks, latrines, feeding remains, trails or footprints. The lack of burrows indicates that resident water vole is absent from this stretch of the watercourse. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. These features are not present on site. However, the possibility that water vole may occasionally be present within the on-site stream cannot be ruled out given the hydrological connectivity with other aquatic habitats in the wider area.

#### **4.8.2 Evaluation**

The site is unsuitable for resident water vole and is unlikely to represent an important resource to the species. As such, ecological value is assessed as being of no more than 'site level' for water vole.

#### **4.9 Birds**

##### **4.9.1 Baseline Ecological Conditions**

###### Field Survey Results

The following common species of bird were recorded on site during the survey: blue tit *Cyanistes caeruleus*, great tit *Parus major*, treecreeper *Certhia familiaris*, chiffchaff *Phylloscopus collybita* and red kite *Milvus milvus*. The amber listed<sup>10</sup> species wood pigeon *Columba palumbus* and the red listed<sup>11</sup> house sparrow *Passer domesticus* were also recorded.

The site provides suitable habitat for a range of bird species. Hedgerows and trees as well as the existing building are likely to support common species of breeding birds and foraging passerines. The site is unsuitable for ground nesting birds as the grassland is well-managed and regularly mown. Important populations of waders, waterfowl or overwintering gulls are likely absent due to the lack of suitable habitat.

##### **4.9.2 Evaluation**

###### Breeding Birds

The site is unlikely to represent an important resource to breeding bird species or assemblages given its size and nature of the habitats present. Given the extent of habitat in wider area suitable for nesting birds, including blocks of woodland and a network of fields bound by hedgerows, ecological value is assessed as being of no more than 'site level' for breeding birds.

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<sup>10</sup> The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

<sup>11</sup> The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Red List criteria include species which are: globally threatened; have been subject to historical population decline in UK during 1800–1995; are in severe (at least 50%) decline in UK breeding population over last 25 years, or longer-term period, or; subject to severe (at least 50%) contraction of UK breeding range over last 25 years, or longer-term period.

## **4.10 Reptiles**

### **4.10.1 Baseline Ecological Conditions**

#### Field Survey Results

The site supports some habitats that are suitable for common species of reptile including hedgerow bases which may be used for shelter and foraging and the stream which may be utilised as a feeding resource for grass snake. The majority of the garden, however, is unsuitable as the lawn is well-managed and regularly mown to a short sward.

### **4.10.2 Evaluation**

Given the habitats present, the site is unlikely to support important populations of reptiles and therefore, ecological value is assessed as being of no more than 'site value' for the species group.

## **4.11 Great Crested Newt**

### **4.11.1 Baseline Ecological Conditions**

#### Desktop Study Results

A review of the MAGIC database did not reveal the presence of any granted EPSM licences in respect of great crested newt *Triturus cristatus* within two kilometres of the site, however, this does not confirm the absence of the species in the local area.

Online OS mapping and aerial imagery identify the presence of a single standing waterbody within 500 metres of the site that may be suitable for breeding great crested newt. This is located approximately 170 metres north within an area of woodland.

#### Field Survey Results

There are no standing waterbodies on site therefore a breeding population of great crested newt is not present. The stream at the eastern boundary contains running water that would not be suitable for egg laying. The site supports some habitats that are of limited suitability for great crested newt in their terrestrial phase including hedgerow bases which may be used for shelter and foraging. However given the lack of a network of possible breeding ponds within 500 metres of the site, the species is unlikely to be present. As such, great crested newt is considered likely absent from the site and not discussed further in this report.



## **4.12 Invertebrates**

### **4.12.1 Baseline Ecological Conditions**

#### Field Survey Results

The habitats on site including the narrow stream, trees, hedgerows and ornamental planting are likely to support a range of common and widespread invertebrate species. The mature oaks may support the more notable stag beetle *Lucanus cervus* which is listed on Schedule 5 of the Wildlife and Countryside Act 1981. Stag beetle is a saprophytic species which relies on dead or decaying wood for part of its life cycle.

### **4.12.2 Evaluation**

While there is some suitable habitat for stag beetle, there is also extensive high-quality habitat for the species in the wider area including blocks of woodland. As such, the on-site habitat is a small proportion of what is available to stag beetle and is assessed as being of 'site level' importance only.

## **4.13 Other Relevant Species**

### **4.13.1 Baseline Ecological Conditions**

#### Field Survey Results

The site provides suitability for European hedgehog *Erinaceus europaeus* in the form of well-connected hedgerow bases which may be used for shelter and foraging. The stream also provides a source of water. The stream is also likely to provide suitable habitat for common toad *Bufo bufo*.

### **4.13.2 Evaluation**

It is likely that European hedgehog and common toad would utilise habitats on site on occasion. Given the extent of more suitable habitat in the wider area including blocks of woodland and fields bounded by hedgerows, ecological value is assessed as being of no more than 'site level' for both European hedgehog and common toad.

## **5.0 ASSESSMENT OF ECOLOGICAL EFFECTS AND MITIGATION/COMPENSATION/ ENHANCEMENT MEASURES**

### **5.1 Introduction**

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy<sup>12</sup> with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

### **5.2 Scheme Design**

The property has recently been destroyed by fire and therefore the proposals are for a replacement dwelling. The property will largely be replaced on the existing footprint, with a few design enhancements including a larger loft level and a ground floor side extension. The small greenhouse will be removed to facilitate this. There will also be a new car port constructed to the west of the property within the existing driveway.

The potential ecological impacts and effects of these proposals, in the absence of mitigation, are described for each ecological feature below. For each ecological feature, measures to mitigate and/or compensate for significant effects are described.

### **5.3 Designated Sites**

#### **5.3.1 Potential Impacts and Effects**

Given the distance between the site and the Herbert Plantation LNR 330 metres south, and given the limited scale and nature of the proposals, no construction related impacts are anticipated on this designated site.

#### **5.3.2 Mitigation Measures**

Given that no impacts on designated sites are anticipated, no mitigation measures are required.

#### **5.3.3 Significance of Residual Effects**

No residual effects on designated sites are anticipated as a result of the proposals.

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<sup>12</sup>In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

#### **5.3.4 Compensation**

No compensation measures in relation to designated sites are required.

#### **5.3.5 Enhancement**

No enhancement measures in relation to designated sites are proposed.

#### **5.3.6 Monitoring**

No future monitoring in relation to designated sites is required.

### **5.4 Habitats**

#### **5.4.1 Potential Impacts and Effects**

There will be no loss of any vegetated habitats on site as a result of the proposals. The replacement dwelling will site on the existing footprint and the side extension will lie within hardstanding patio only. There are no proposals for any significant changes to the existing garden landscaping including trees, hedgerows, stream, amenity grassland or ornamental planting.

In the absence of mitigation, it is possible that retained trees and hedgerows may be impacted during the construction phase through accidental damage by machinery or root compaction. As the site slopes downwards towards the stream to the east, the construction works have the potential to result in dust, debris or pollution entering the stream through surface runoff, causing habitat degradation.

#### **5.4.2 Mitigation Measures**

All works will follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* (BSI, 2012). This document outlines the use of tree protection barriers to be used for the duration of the construction phase. These barriers are proposed to shield the mature oak trees and boundary hedgerows from damage during construction.

A Construction Environmental Management Plan (CEMP) will be produced for the works and will be implemented for the duration of the construction phase. Measures within the CEMP will include use of spill kits, safe methods of refuelling and rigorous pollution reporting as well as dust control measures. This will ensure that the stream at the eastern end of the site does not become degraded.

#### **5.4.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on habitats as a result of the proposals.

#### **5.4.4 Compensation**

No compensation measures are required in relation to habitats on site.

#### **5.4.5 Enhancement**

The garden will continue to support a range of habitats on site post-development, and no additional habitats enhancement measures are proposed.

#### **5.4.6 Monitoring**

No future monitoring of habitats is required.

### **5.5 Bats**

#### **5.5.1 Potential Impacts and Effects**

No bats were recorded roosting within the Great Oaks property therefore there will be no impacts to roosting bats as a result of the building demolition and rebuild. In the absence of mitigation, tree-roosting bats (if present) may be disturbed during the construction phase via lighting or by accidental damage to trees by machinery.

In the absence of mitigation, it is possible that construction lighting may also disturb foraging and commuting bats through disruption to flight lines or illumination of foraging habitats.

There will be no additional external lighting as a result of the proposals and there will be no removal or fragmentation of suitable foraging habitats on site, therefore no long-term impacts to foraging and commuting bats are anticipated.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

#### **5.5.2 Mitigation Measures**

Construction activities will be undertaken during daylight hours only, to avoid disturbance to tree-roosting, foraging and commuting bats. Tree protection barriers are proposed to shield the mature oak trees from damage during construction (Paragraph 5.4.2).

#### **5.5.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on bats as a result of the proposals.

#### **5.5.4 Compensation**

No compensation measures in relation to bats are required.

### 5.5.5 *Enhancement*

The site will be enhanced for bats through the incorporation of two bat tubes within the fabric of the newly constructed building, such as Vivara Pro Build-In Woodstone Bat Tubes (**Figure 23**). These will provide additional roosting opportunities for bats at the site in the long-term.



**Figure 23:** Vivara Pro Build-In Woodstone Bat Tube

### 5.5.6 *Monitoring*

No future monitoring in relation to bats is required.

## 5.6 *Otter*

### 5.6.1 *Potential Impacts and Effects*

There will be no direct impacts on otter as a result of the proposals as no changes to the stream to the east are proposed. As the site slopes downwards towards the stream to the east, the construction works have the potential to result in dust, debris or pollution entering the stream through surface runoff, causing degradation to otter habitat.

Otter are fully protected under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

### 5.6.2 *Mitigation Measures*

As described in Paragraph 5.4.2, a CEMP will be produced for the works and will be implemented for the duration of the construction phase. Measures within the CEMP will include use of spill kits, safe methods of refuelling and rigorous pollution reporting as well as dust control measures. This will ensure that the stream at the eastern end of the site does not become degraded and otter habitat will be protected.

### 5.6.3 *Significance of Residual Effects*

Assuming that the above mitigation measures are implemented, there will be no residual effects on otter as a result of the proposals.

#### **5.6.4 Compensation**

No compensation measures are required.

#### **5.6.5 Enhancement**

No enhancement measures in relation to otter are proposed.

#### **5.6.6 Monitoring**

No future monitoring is required in relation otter.

### **5.7 Badger**

#### **5.7.1 Potential Impacts and Effects**

There will be no direct impacts on resident badger as a result of the proposals and no habitat suitable for foraging badger will be lost. In the absence of mitigation, it is possible that badger may become trapped in excavations during the construction phase, if left uncovered overnight.

#### **5.7.2 Mitigation Measures**

To avoid badger from becoming trapped, large excavations will be covered over at night or a ramp left in to allow badger to escape. No other mitigation measures are required.

#### **5.7.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on badger as a result of the proposals.

#### **5.7.4 Compensation**

No compensation measures are required.

#### **5.7.5 Enhancement**

No enhancement measures in relation to badger are proposed.

#### **5.7.6 Monitoring**

No future monitoring is required in relation badger.

### **5.8 Hazel Dormouse**

#### **5.8.1 Potential Impacts and Effects**

There will be no direct impacts to hazel dormouse as a result of the proposals as no habitat removal is proposed. In the absence of mitigation, it is possible that retained hedgerows suitable for supporting hazel dormouse may be impacted during the construction phase through accidental damage by machinery or root compaction

In England, hazel dormouse and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, this species is

protected under the Conservation of Habitats and Species Regulations 2017. Refer to **Appendix 3** for details.

#### **5.8.2 Mitigation Measures**

As described in Paragraph 5.4.2, all works will follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* (BSI, 2012). This document outlines the use of tree protection barriers to be used for the duration of the construction phase. These barriers are proposed to shield the boundary hedgerows that are suitable for hazel dormouse from damage during construction.

#### **5.8.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on hazel dormouse as a result of the proposals.

#### **5.8.4 Compensation**

No compensation measures are required.

#### **5.8.5 Enhancement**

No enhancement measures in relation to hazel dormouse are proposed.

#### **5.8.6 Monitoring**

No future monitoring is required in relation badger.

### **5.9 Water Vole**

#### **5.9.1 Potential Impacts and Effects**

There will be no direct impacts on water vole as a result of the proposals as no changes to the stream to the east are proposed. As the site slopes downwards towards the stream to the east, the construction works have the potential to result in dust, debris or pollution entering the stream through surface runoff, causing degradation to habitat that may be used by water vole.

In England, water vole and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. Refer to **Appendix 3** for details.

#### **5.9.2 Mitigation Measures**

As described in Paragraph 5.4.2, a CEMP will be produced for the works and will be implemented for the duration of the construction phase. Measures within the CEMP will ensure that the stream at the eastern end of the site does not become degraded and potential water vole habitat will be protected.

### **5.9.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on badger as a result of the proposals.

### **5.9.4 Compensation**

No compensation measures are required.

### **5.9.5 Enhancement**

No enhancement measures in relation to hazel dormouse are proposed.

### **5.9.6 Monitoring**

No future monitoring is required in relation badger.

## **5.10 Birds**

### **5.10.1 Potential Impacts and Effects**

All woody vegetation on site will be retained as part of the proposals, no tree removal or hedgerow loss is anticipated. It is possible that nesting birds may be harmed during demolition works if they are present within the building and if demolition is undertaken during the breeding season of March to August inclusive.

In the absence of mitigation, it is possible that retained hedgerows and trees may be impacted during the construction phase through accidental damage by machinery and nesting birds may be disturbed.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981 (as amended). Refer to **Appendix 3** for details.

### **5.10.2 Mitigation Measures**

The building demolition will be undertaken outside the breeding season of March to August inclusive. If this is not possible, the building will be inspected for nesting birds by a suitably qualified ecologist prior to demolition. If any active nests are recorded, these will be left undisturbed until nesting ends naturally and chicks have fledged. As described in Paragraph 5.4.2, all works will follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* (BSI, 2012). This document outlines the use of tree protection barriers to be used for the duration of the construction phase. These barriers are proposed to shield the boundary hedgerows and retained trees, and therefore habitats suitable for breeding birds will be protected.

### **5.10.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on breeding birds as a result of the proposals.



#### 5.10.4 Compensation

No compensation measures are required.

#### 5.10.5 Enhancement

The site will be enhanced for breeding birds through the provision of two artificial nest boxes installed on retained trees within the garden (**Figure 24**). This will provide additional nesting opportunities for common species of bird at the site.



**Figure 24:** Example nest box – Vivara Pro  
Seville Woodstone Nest Box

#### 5.10.6 Monitoring

No future monitoring in relation to birds is required.

### 5.11 Reptiles

#### 5.11.1 Potential Impacts and Effects

In the absence of mitigation, it is possible that reptile habitat including hedgerow bases may become degraded during the construction phase. The stream, which is suitable for grass snake, may also be degraded due to dust, debris and/or pollution entering the watercourse.

Widespread reptile species (slow-worm *Anguis fragilis*, common lizard *Zootoca vivipara*, grass snake *Natrix helvetica* and adder *Vipera berus*) are protected under the Wildlife and Countryside Act 1981 against harm. Refer to **Appendix 3** for details.

#### 5.11.2 Mitigation Measures

As described in Paragraph 5.4.2, protecting fencing will be used for the duration of the construction phase to shield the boundary hedgerow. This will ensure that hedgerow bases are protected and the quality of reptile habitat maintained. A CEMP will also be produced and implemented for the duration of the construction phase. Measures within the CEMP will ensure that the stream the east of the site is protected from pollution, dust and debris and therefore ensure that habitat suitable for grass snake does not become degraded.

### **5.11.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on reptiles as a result of the proposals.

### **5.11.4 Compensation**

No compensation measures are required.

### **5.11.5 Enhancement**

No enhancement measures in relation to reptiles are proposed.

### **5.11.6 Monitoring**

No future monitoring in relation to reptiles is required.

## **5.12 Invertebrates**

### **5.12.1 Potential Impacts and Effects**

All mature trees that may support stag beetle on site will be retained as part of the proposals. As such, there will be no direct impacts on stag beetle or their habitat. In the absence of mitigation, it is possible that mature trees may be impacted during the construction phase through accidental damage by machinery and stag beetle may be impacted.

### **5.12.2 Mitigation Measures**

As described in Paragraph 5.4.2, all works will follow protective measures in line with BS 5837:2012 *Trees in Relation to Design, Demolition and Construction* (BSI, 2012) and tree protection barriers will be used to shield the mature trees that may support stag beetle.

### **5.12.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on reptiles as a result of the proposals.

### **5.12.4 Compensation**

No compensation measures are required.

### **5.12.5 Enhancement**

No enhancement measures in relation to reptiles are proposed.

### **5.12.6 Monitoring**

No future monitoring in relation to reptiles is required.

## **5.13 Other Relevant Species**

### **5.13.1 Potential Impacts and Effects**

There will be no direct impacts on European hedgehog as a result of the proposals and no habitat suitable for European hedgehog will be lost. In the absence of mitigation, it is possible that European hedgehog may become trapped in excavations during the construction phase, if left uncovered overnight. The construction works also have the potential to result in dust, debris or pollution entering the stream through surface runoff, causing degradation to habitat that may be used by common toad.

### **5.13.2 Mitigation Measures**

To avoid European hedgehog from becoming trapped, large excavations will be covered over at night or a ramp left in to allow individuals to escape. As described in Paragraph 5.4.2, a CEMP will be produced and implemented for the duration of the construction phase. Measures within the CEMP will ensure that the stream at the eastern end of the site does not become degraded and habitat suitable for common toad will be protected.

### **5.13.3 Significance of Residual Effects**

Assuming that the above mitigation measures are implemented, there will be no residual effects on reptiles as a result of the proposals.

### **5.13.4 Compensation**

No compensation measures are required.

### **5.13.5 Enhancement**

No enhancement measures in relation to European hedgehog or common toad are proposed.

### **5.13.6 Monitoring**

No future monitoring in relation to European hedgehog or common toad is required.

## **5.14 Cumulative Effects**

Assuming that the mitigation and compensation measures outlined in the paragraphs above are implemented, no significant residual effects are anticipated. As such it is considered unlikely that the proposals will contribute to cumulative adverse effects in association with other proposals in the local area.

## **6.0 CONCLUSIONS**

### **6.1 Conclusion**

The habitats of greatest ecological importance are the large mature oak trees, the native hedgerows and watercourse. Habitats on site have been assessed as being of local value to foraging and commuting bats, as well as being suitable for supporting otter, badger, hazel dormouse, water vole, breeding birds, reptiles, stag beetle, European hedgehog and common toad.

Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. These include the use of tree protection fencing to shield the boundary hedgerows and mature trees from construction related activities, the implementation of a CEMP to ensure the watercourse does not become degraded, sensitive timings of work in relation to bats and ensuring excavations are covered over at night or ramps installed. Post-development, no residual or cumulative impacts are anticipated.

The site will be enhanced for bats through the installation of an additional bat roosting features in the newly built property and for birds via the provision of artificial nest boxes. As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including those within the Basingstoke and Deane Local Plan and the NPPF (see Section 2.0).

### **6.2 Updating Site Survey**

If the planning application boundary changes or the proposals for the site alter, a re-assessment of the scheme in relation to ecology may be required. Given the mobility of animals and the potential for colonisation of the site over time, updating survey work may be required, particularly if development does not commence within 18 months of the date of the most recent relevant survey.

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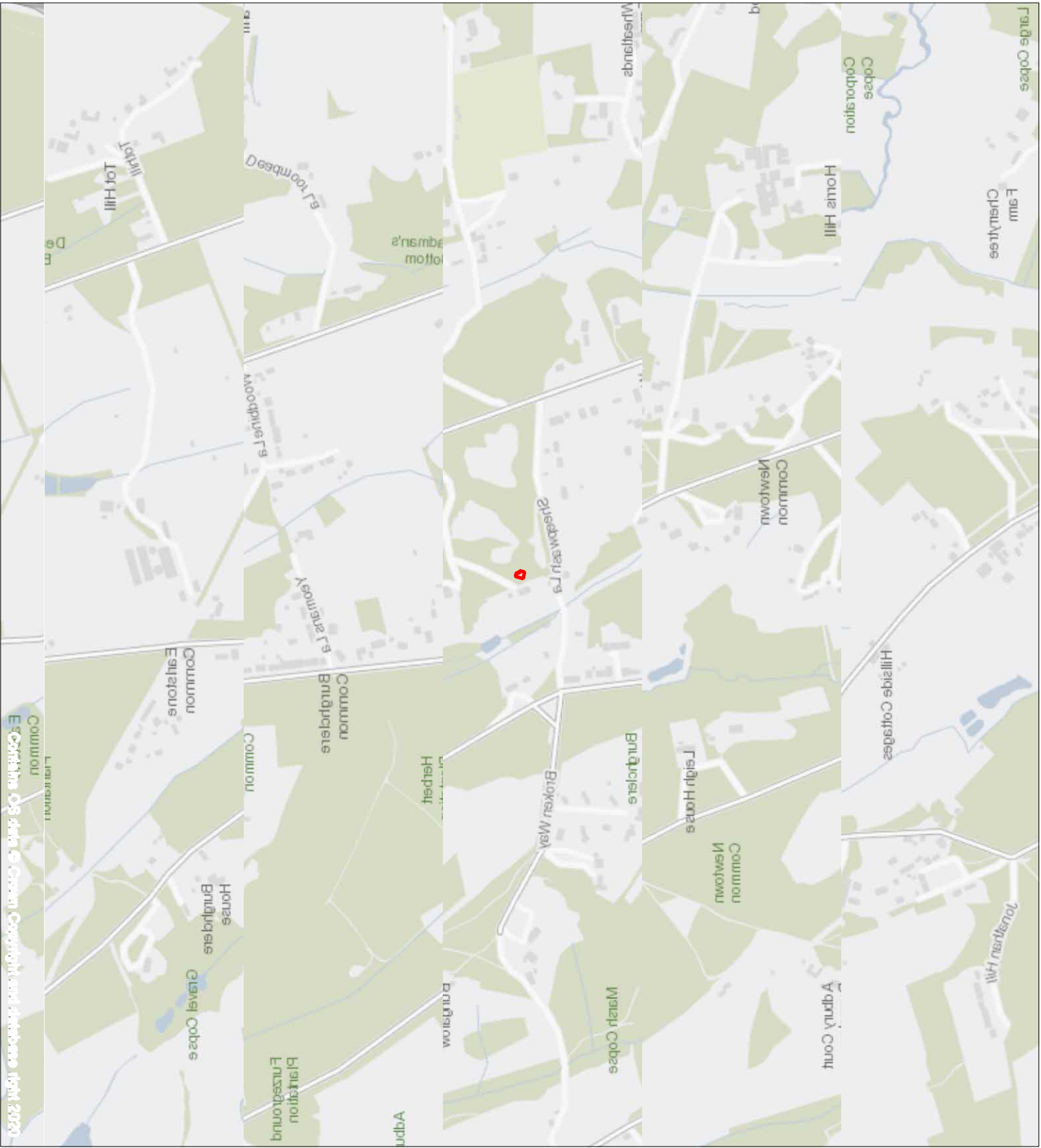
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**Map 1**      Site Location Plan



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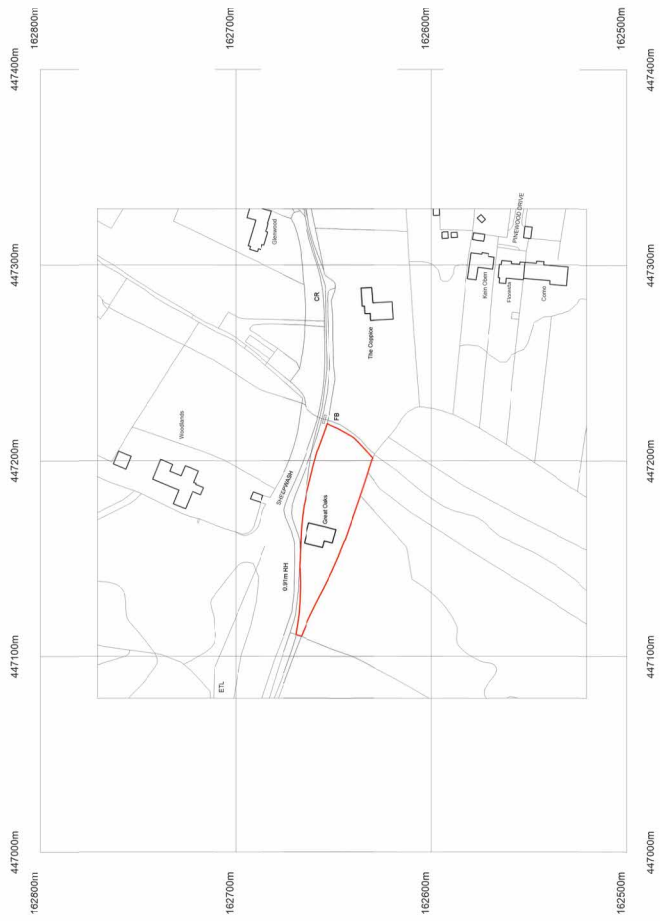
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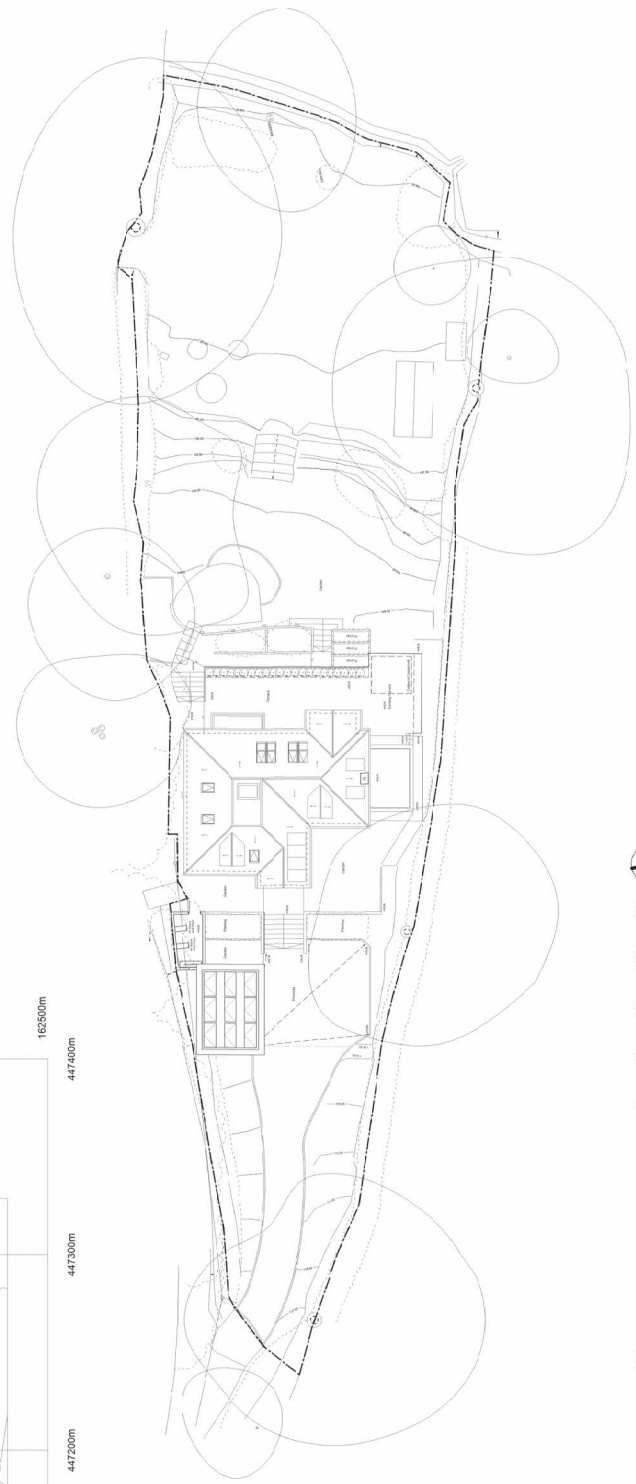
## **Appendix 1** Proposals Plan





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1 OS Location Plan  
Scale 1:1250



2 Proposed Site Plan  
Scale 1:200



|              |                                |          |                                      |
|--------------|--------------------------------|----------|--------------------------------------|
| Project Name | Development                    | Project  | Local Urban, New Town, Common        |
| A            | 2011/2022<br>Home for Planning | History  |                                      |
|              |                                | Design   | 2003 / PL00                          |
|              |                                | Planning | Proposed Site Plan and Location Plan |
|              |                                | Date     | November 2022                        |
|              |                                | Scale    | 1:200 (A1, L1250 @ A1)               |
|              |                                | Sheet    | 1 of 1                               |
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PLANNING

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## **Appendix 2** Sites Designated for Nature Conservation

### **Statutory Sites**

#### ***Internationally Designated Sites - Ramsar Sites, Special Areas of Conservation and Special Protection Areas***

Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) form a network of protected sites across the European Union and United Kingdom. In the United Kingdom the primary legislative protection is afforded to these sites under the Conservation of Habitats and Species Regulations 2017 (as amended).

Ramsar sites are designated as wetlands of international importance which are afforded similar legislative protection to SPAs and SACs.

SACs are sites which support internationally important habitats or internationally important assemblages or populations of species. SPAs are designated for supporting internationally important populations of birds. SACs, SPAs and Ramsar sites are generally also designated as Sites of Special Scientific Interest.

Under Regulation 63 of the Conservation of Habitats and Species Regulations 2017 (as amended) there is a legal requirement that competent authorities, such as local planning authorities, need to consider whether plans or projects are likely to have a significant adverse effect on SPAs, SACs or Ramsar sites, either alone, or in combination with other plans or projects. In the event that a likely significant effect cannot be ruled out, on the basis of objective information, then the competent authority must undertake an “Appropriate Assessment” to fully assess the plan or project against the site’s conservation objectives. Unless certain defined derogation tests can be met, the competent authority may not authorise nor undertake any plan or project which adversely affects the integrity of a SPA, SAC or Ramsar site.

#### ***Nationally Designated Sites – Sites of Special Scientific Interest and National Nature Reserves***

Sites of Special Scientific Interest (SSSI) receive legal protection under the Wildlife and Countryside Act 1981 (as amended). Such sites are designated to protect specific areas of biological or geological interest of national importance. Such sites also generally receive strict protection through the planning system.

National Nature Reserves (NNR) are also usually designated as SSSIs and are specifically managed for their wildlife value. They receive legal protection through the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 (as amended). As with SSSIs, these sites generally receive strict protection through the planning system.

### ***Locally Designated Sites – Local Nature Reserves***

Local Nature Reserves (LNR) are designated by local authorities under the National Park and Access to the Countryside Act 1949. These are generally designated not only for their local wildlife value but also for education, scientific and recreational purposes. These sites generally receive protection from development through the planning system.

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### Appendix 3 Relevant Legislation

#### Bats

All UK bat species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

Deliberately capture, injure or kill any such animal;

Deliberately disturb any such animal, including in particular any disturbance which is likely:

To impair its ability to survive, breed, or rear or nurture their young;

To impair its ability to hibernate or migrate;

To affect significantly the local distribution or abundance of that species;

Damage or destroy a breeding site or resting place of any such animal;

Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or

Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

In addition, five British bat species are listed on Annex II of the Habitats Directive. These are:

Greater horseshoe bat *Rhinolophus ferrumequinum*;

Lesser horseshoe bat *Rhinolophus hipposideros*;

Bechstein's bat *Myotis bechsteinii*;

Barbastelle *Barbastella barbastellus*; and

Greater mouse-eared bat *Myotis myotis*.

In certain circumstances where these species are found the Directive requires the designation of Special Areas of Conservation (SACs) by EC member states to ensure that their populations are maintained at a favourable conservation status. Outside SACs, the level of legal protection that these species receive is the same as for other bat species.

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### **Hazel Dormouse and Otter**

These species are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations. These make it an offence to:

Deliberately capture, injure or kill any such animal;

Deliberately disturb any such animal, including in particular any disturbance which is likely, to impair its ability to survive, breed, or rear or nurture their young, to impair its ability to hibernate or migrate;

To affect significantly the local distribution or abundance of that species;

Damage or destroy a breeding site or resting place of any such animal;

Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or

Intentionally or recklessly obstruct access to any place that any one of these species uses for shelter or protection.

### **Badger**

The Protection of Badgers Act 1992 consolidates previous legislation (including the Badgers Acts 1973 and 1991 Badgers (Further Protection) Act 1991). It makes it an offence to:

Kill, injure or take a badger;

Attempt to kill, injure or take a badger; or

To damage or interfere with a sett.

The 1992 Act defines a badger sett as 'any structure or place which displays signs indicating current use by a badger'.

### **Water vole**

The water vole is listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and is afforded limited protection under Section 9 of this Act. This makes it an offence to:

Intentionally kill, injure, or take (handle) a water vole;

Intentionally or recklessly damage or destroy or obstruct access to any structure or place which water voles use for shelter or protection; or

Intentionally or recklessly disturb water voles while they are using such a place.

## Breeding Birds

With certain exceptions, all wild birds, their nests and eggs are protected by Section 1 of the Wildlife and Countryside Act 1981 (as amended). Therefore, it is an offence, to:

Intentionally kill, injure or take any wild bird;

Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built; or

Intentionally take or destroy the egg of any wild bird.

These offences do not apply to hunting of birds listed in Schedule 2 subject to various controls. Bird species listed on Schedule 1 of the Act receive further protection, thus for these species it is also an offence to:

Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or

Intentionally or recklessly disturb the dependent young of any such bird.

## Reptiles

The four widespread species of reptile that are native to Britain, namely common or viviparous lizard *Zootoca vivipara*, slow-worm *Anguis fragilis*, adder *Vipera berus* and grass snake *Natrix helvetica*, are listed in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and are afforded limited protection under Section 9 of this Act. This makes it an offence to:

Intentionally kill or injure any of these species.

The remaining native species of British reptile (sand lizard *Lacerta agilis* and smooth snake *Coronella austriaca*) receive a higher level of protection via inclusion under Schedule 2 of the Conservation of Habitats and Species Regulations 2017. They are afforded full protection under Section 9(4) of the Act and Regulation 43 of the Regulations (in England and Wales only) and the Wildlife and Countryside Act 1981 (as amended). The distribution of these species are restricted to only a few sites in England.

## Species and Habitats of Principal Importance in England

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The England Biodiversity List is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the NERC Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions. There are currently 943 species of principal importance and 41 habitats of principal importance included on the England Biodiversity List.

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## **Appendix 4** Protected and Notable Species Appraisal Methods

### **Bats**

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees. A detailed external inspection of accessible structures was undertaken to compile information on potential and actual bat entry/exit points; potential and actual bat roosting locations; any evidence of bats found.

An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The assessment of the potential for the site to support roosting, foraging and commuting bat is based on a four-point scale as detailed in **Appendix 5**.

### **Otter**

The otter appraisal was based on an assessment of the suitability of the habitat present within the site to support otter by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), proximity of the site to freshwater and potential important feeding resources (such as fisheries), presence of habitat features which could provide opportunities for resting places and/or holts (such as tunnels, hollows at the base of trees and presence of dense, undisturbed habitat). During the survey attention was paid to the presence of evidence such as spraints, feeding remains, footprints and slides.

### **Badger**

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on-site and within immediately adjacent areas where access was possible.

### **Hazel Dormouse**

The appraisal for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that the species is present. This includes the presence of key food sources such as hazel and bramble, or plants used as nesting material such as honeysuckle and clematis. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features in determining the potential presence of hazel dormouse.

### **Water Vole**

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side

vegetation. Water voles generally require sloping banks in which to burrow and well-developed bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

### **Birds**

The appraisal of breeding birds on the site was based on the suitability of habitat present to support nesting bird communities, the presence of bird species that may potentially nest within the available habitat and evidence of nesting such as old or currently active nests.

The assessment of wintering birds was based on an assessment of the suitability of the habitat on site to support important wintering bird species and populations. Particular attention was paid to the potential for the site to support wintering farmland bird species, waders and wildfowl.

### **Reptiles**

The reptile appraisal was based on an assessment of the suitability of the habitat present within the site to support a population of reptiles. Reptiles particularly favour scrub and rough grassland interfaces and the presence of these is a good indication that reptiles may be present on-site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

### **Great Crested Newt**

The appraisal of the site to support great crested newt included establishing the presence of suitable aquatic habitats such as ponds, lakes or other waterbodies within or adjacent to the site and the presence of suitable terrestrial habitat. Waterbodies that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species. The suitability of on-site ponds and terrestrial habitat is considered in relation to the presence of ponds within the wider area, as identified within the desktop study (Paragraph 3.4.2), and their suitability to be used as a network.

### **Invertebrates**

An assessment was made of the site for its potential value to support diverse communities of invertebrates. The assessment was based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, varied woodland structure, sunny woodland edges with a diverse flora, waterbodies and water courses and areas of free draining soil exposures. During the field survey there was no attempt made to identify species present as this is a more specialist area of ecological assessment reserved for targeted surveys.

### **Other Relevant Species**

An assessment was made of site suitability for other notable species such as more rarely encountered protected species, Species of Principal Importance for the Conservation of diversity in England notified under Section 41 of the NERC Act 2006 and as listed in the England



Biodiversity List, and Local Biodiversity Action Plan (LBAP) species<sup>13</sup>, specific to the study region.

### **Invasive Species**

During the field survey any incidental records of invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded. However, it should be considered that the survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

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<sup>13</sup> LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

## Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 4**<sup>14</sup>.

**Table 4:** Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

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

<sup>14</sup> Table adapted from (Collins, 2016)

## Appendix 6 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 5**.

**Table 5:** Statutory Designated Sites Located Within the Desktop Study Area

|   |                       |
|---|-----------------------|
| <b>Site Name</b>  | Herbert Plantation    |
| <b>Site Designation</b>   | LNR                   |
| <b>Approximate Relative Location</b>  | 330 metres south-east |
| <b>Reasons for Designation:</b>   |                       |
| <p>The site lies north of Burghclere village off Well Street, which is the main route running through the village.</p> <p>It is a mixed woodland of oak <i>Quercus robur</i>, silver birch <i>Betula pendula</i>, alder <i>Alnus glutinosa</i> and Scots pine <i>Pinus sylvestris</i>. It provides a public amenity for nature conservation, recreation and education. There are plants associated with ancient woodlands, amongst them common solomon's-seal <i>Polygonatum biflorum</i> and wood sorrel <i>Oxalis acetosella</i>.</p> <p>There are records of roe deer <i>Capreolus capreolus</i> and muntjac deer <i>Muntiacus reevesi</i>, fox <i>Vulpes vulpes</i>, rabbit <i>Oryctolagus cuniculus</i> and long-eared bat <i>Plecotus</i> species. Both adder <i>Vipera berus</i> and grass snake <i>Natrix natrix</i> are here too. Woodcock <i>Scolopax rusticola</i>, great spotted woodpecker <i>Dendrocopos major</i> and sparrowhawk <i>Accipiter nisus</i> are amongst the breeding birds.</p> <p>Studies of the butterfly population have found 22 species. These include purple emperor <i>Apatura iris</i>, silver washed fritillary <i>Argynnis paphia</i> and white admiral <i>Limenitis camilla</i>. There is also a large number of day and night-flying moths.</p> |                       |