

reside.

Land south of Funtley Road, Funtley

Ecological Assessment

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## **PLANS**

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## 1. INTRODUCTION

### 1.1. Background & Proposals

- 1.1.1. Ecology Solutions was originally instructed by Reside Developments Ltd. to undertake a Phase 1 walkover survey of Land South of Funtley Road, Funtley (the “application site”) in May 2016 in order to determine potential ecological constraints associated with the site. Subsequent to this, a series of detailed surveys were undertaken in order to inform a planning application. Planning permission was subsequently granted for that scheme by Fareham Borough Council. Ecology Solutions was then commissioned to undertake additional survey and assessment work in 2020 pursuant to a new planning application.
- 1.1.2. Outline permission is sought to provide up to 125 one, two, three and four-bedroom dwellings including 6 Self/Custom build plots, Community Building or Local Shop (Use Class E & F.2) with associated infrastructure, new community park, landscaping and access.

### 1.2. Application Site Characteristics

- 1.2.1. The application site broadly comprises semi-improved grassland, woodland and hardstanding / made ground, with hedgerows and tree lines located predominantly on the borders and small parcels of ruderal vegetation and scrub present. The majority of the grassland is short grazed, forming a number of paddocks used by horses.
- 1.2.2. Funtley Road borders the application site to the north. Woodland habitat borders the application site to the east (with the Eastleigh to Fareham railway line beyond) and the south (with the M27 beyond). Woodland and open fields are located beyond the western boundary.

### 1.3. Ecological Assessment

- 1.3.1. This document assesses the ecological interest of the application site as a whole. The importance of the habitats present is evaluated with regard to current guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)<sup>1</sup>.
- 1.3.2. The report also sets out the existing baseline conditions for the application site, setting these in the correct planning policy and legal framework and assessing any potential impacts which may occur from the proposed development. Appropriate and proportionate mitigation is identified where necessary and those ecological enhancements to be delivered, in accordance with relevant planning policy, are described.

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<sup>1</sup> CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine*. Chartered Institute of Ecology and Environmental Management, Winchester.

## 2. SURVEY METHODOLOGY

2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

### 2.2. Desk Study

2.2.1. In order to compile background information on the application site and its immediate surroundings, Ecology Solutions contacted the Hampshire Biodiversity Information Centre (HBIC).

2.2.2. Information has been provided by HBIC and is included at Appendix 1 and referenced within this report where necessary. Information regarding designated sites is also shown where appropriate on Plan ECO1. The area shown on the plan is the subject of an outline application and change of use application. These areas are referred to collectively throughout this report as the 'application site'.

2.2.3. Further information on designated sites from a wider search area was also obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)<sup>2</sup> database. This information is reproduced at Appendix 2 and where appropriate on Plan ECO1.

### 2.3. Habitat Survey Methodology

2.3.1. Habitat surveys were initially carried out in May 2016 and the period between September 2017 to October 2017 with further update surveys undertaken between July and September 2020. The aim of the surveys was to ascertain the general ecological value of the land contained within the boundaries of the application site and to identify the main habitats and associated plant species, with notes on fauna utilising the application site.

2.3.2. The application site was surveyed based around extended Phase 1 survey methodology<sup>3</sup>, as recommended by Natural England, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.

2.3.3. Using the above method, the application site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.

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<sup>2</sup> <http://magic.defra.gov.uk>

<sup>3</sup> Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

- 2.3.4. All of the species that occur in each habitat would not necessarily be detected during survey work carried out at any given time of the year, since different species are apparent at different seasons. However, given the habitats present, it is considered that an accurate and robust assessment has been made.

## 2.4. Faunal Survey

- 2.4.1. General faunal activity observed during the course of the survey was recorded, whether visually or by call. Specific attention was paid to the potential presence of any protected, rare, notable or Priority Species. In addition, specific surveys were undertaken for Bats, Badgers *Meles meles*, Dormice and Reptiles.
- 2.4.2. **Bats.** All buildings within the application site and any trees which could be impacted by the development proposals were subject to inspection to assess their potential to support roosting bats. To update the survey data obtained in 2017, bat activity (transect and automated) surveys were undertaken in August and September 2020 to identify the species utilising the application site and assess the significance of the site for bats.
- 2.4.3. Field surveys were undertaken with regard to best practice guidelines issued by Natural England (2004<sup>4</sup>), the Joint Nature Conservation Committee (2004<sup>5</sup>) and the Bat Conservation Trust (2016<sup>6</sup>).
- 2.4.4. Existing buildings present within the application site were subject to an internal and external survey. All accessible parts of the buildings were subject to an internal bat survey, whereby surveyors with high-powered torches searched for evidence of current or past use by bats.
- 2.4.5. Exterior checks of the buildings were also undertaken to search for signs of any use by bats and to identify any potential access points. These were surveyed with a high-powered torch and ladder where required.
- 2.4.6. The probability of a building being used by bats as a summer roost site increases if it:
- is largely undisturbed;
  - dates from pre 20th Century;
  - has a large roof void with unobstructed flying spaces;
  - has access points for bats (though not too draughty);
  - has wooden cladding or hanging tiles; and
  - is in a rural setting and close to woodland or water.

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<sup>4</sup> Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

<sup>5</sup> Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3<sup>rd</sup> edition. Joint Nature Conservation Committee, Peterborough.

<sup>6</sup> Collins, J. (Eds.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3<sup>rd</sup> edition)*. Bat Conservation Trust, London.

- 2.4.7. Conversely, the probability decreases if a building is of a modern or pre-fabricated design / construction, is in an urban setting, has small or cluttered roof voids, has few gaps at the eaves or is a heavily disturbed premises.
- 2.4.8. Trees at the application site were assessed for their potential to support roosting bats. The focus was on trees within or adjacent to the development footprint, where direct impacts (e.g. losses) or indirect impacts (e.g. illumination) could occur. For a tree to be classed as having potential for roosting bats it must usually have one or more of the following characteristics:
- obvious holes, e.g. rot holes and old woodpecker holes;
  - dark staining on the tree below a hole;
  - tiny scratch marks around a hole from bats' claws;
  - cavities, splits and/or loose bark from broken or fallen branches, lightning strikes etc.;
  - very dense covering of mature Ivy *Hedera helix* over trunk.
- 2.4.9. Update evening activity surveys were undertaken to ascertain whether the application site supports features of potential importance for foraging and commuting bats. Two activity surveys were undertaken during August and September 2020. A further three surveys were previously undertaken, during August, September and October 2017 at the application site.
- 2.4.10. The evening activity bat surveys were conducted from sunset to approximately 2 hours after sunset. Surveyors utilised EchoMeter Touch 2 Pro bat detectors to aid identification of bats and record data. Surveyors walked transects encompassing all features of potential value to foraging and commuting bats, including hedgerows, treelines and scrub. All bat data recorded was subsequently analysed using Kaleidoscope Pro analysis software.
- 2.4.11. SongMeter4-FS static detectors were also deployed for several consecutive nights following each activity survey in strategic locations to ascertain longer-term data regarding the use of the site by foraging and commuting bats.
- 2.4.12. **Badgers.** Detailed surveys were undertaken to search for evidence of Badgers in October 2017 with further update surveys undertaken in July and September 2020. Each survey comprised two main elements. The first of these was a thorough search for evidence of Badger setts. For any setts encountered each sett entrance would be recorded and plotted, even if the entrance appeared disused. The following information was recorded if appropriate:
- i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.
  - ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in

the entrance or have plants growing in or around the edge of the entrance.

- iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.

- 2.4.13. Secondly, evidence of Badger activity, such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs, was also searched for in order to build up a picture of the use of the application site by Badgers.
- 2.4.14. **Hazel Dormice.** Specific surveys to ascertain the presence or absence of Hazel Dormice were undertaken in the period September to November 2017.
- 2.4.15. The survey technique involves the erection of nest tubes within all hedgerows considered to be species-rich or of potential value to Dormice. A total of 120 nest tubes were installed in the hedgerows around the boundaries of the application site.
- 2.4.16. Nest tubes were placed in accordance with the guidance provided by the Mammal Society and Natural England<sup>7</sup> and as recommended in the Dormouse Conservation Handbook<sup>8</sup>. Tubes were placed within hedgerows at approximately 10 metre intervals where suitable locations were identified. The nest tubes were attached with wire ties underneath suitably sturdy horizontal branches and positioned on average at approximately 1.5 metres above ground level.
- 2.4.17. Following deployment in August 2017, monitoring surveys were undertaken between September and November 2017, with one survey check undertaken each month.
- 2.4.18. The survey has been scored for effort according to the method developed from the South West Dormouse Project (Chanin and Woods 2003). The system used provides an overall score that reflects the chances of Dormice being discovered if present, and thus provides an indicator of 'thoroughness' of a survey. This score is calculated based on the number of tubes used and the number of months the tubes were in place.
- 2.4.19. The months of the year are weighted according to the likelihood of recording dormice as set out below.

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<sup>7</sup> Chanin P. & Woods M. (2003). Research Report 524, 'Surveying Dormice Using Nest Tubes – Results & Experiences from the South West Dormouse Project'. English Nature, Peterborough.

<sup>8</sup> Bright, P, Morris, P. & Mitchell-Jones, T. (2006). *The Dormouse Conservation Handbook*. Second Edition. English Nature, Peterborough.



Month	Weighting
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

**Table 1:** Monthly Score Weighting (Chanin & Woods 2003)

- 2.4.20. A score of 20 (or above) is deemed a thorough survey, and a score of 15 to 19 may be regarded as adequate where circumstances do not permit more time or more tubes (particularly if other survey methods have also proved negative).
- 2.4.21. A survey with 50 nest tubes checked between September and November provides a score of 11, however the survey effort employed significantly exceeded the minimum (standard). A total of 120 tubes were checked over this period, returning a score of 26.4. On this basis it can be considered that a thorough survey has been undertaken for Dormouse. Notwithstanding this, it should be noted that Dormouse nest tube surveys are based around 'presence / absence'. They are not viewed by Natural England as demonstrating distribution. Thus, once presence is detected (as in this case) additional survey work adds comparatively little to the evaluation.
- 2.4.22. In light of the above, the effort employed is considered robust in terms of informing an impact assessment on this species. Dormouse surveys were not repeated in 2020 on the basis that presence had previously been determined and the habitat conditions remained broadly similar to those previously identified (i.e. the scale or nature of any impact remained comparable).
- 2.4.23. **Amphibians.** Two waterbodies considered to offer potential opportunities for breeding amphibian species (including Great Crested Newts *Triturus cristatus*) were recorded within the application site boundary in 2016. One is situated within an area of woodland along the northern boundary of the application site (**P1**) and the second is a small pond located with a larger block of woodland in the east of the application site (**P2**). Both fall within parcels of the Great Beamond Coppice Site of Interest for Nature Conservation (SINC).
- 2.4.24. Further descriptions of each of these ponds are provided at section 3 of this report. It should be noted that during survey work undertaken in 2020, these ponds were dry and so no specific Great Crested Newt surveys were possible, or necessary.
- 2.4.25. A further two waterbodies offering potential opportunities are located north of the application site, including a recently constructed pond (**P3**) approximately 160m north of the application site and a wet ditch (**P4**) located approximately 110m north of the application site.

- 2.4.26. The location of these waterbodies is shown on Plan ECO4.
- 2.4.27. All four of these ponds have been subject to specific surveys for Great Crested Newt in the recent past and the methodologies employed are detailed further below.
- 2.4.28. Detailed aquatic surveys of ponds 1 and 2 were undertaken by Ecology Solutions between May and June 2016, to ascertain the presence or absence of Great Crested Newts in the application site.
- 2.4.29. All of the surveys were undertaken in suitable weather conditions in accordance with the Natural England guidelines<sup>9</sup> to determine the presence or absence of Great Crested Newts. Surveys undertaken by Ecology Solutions utilised four methods per visit (torch survey, bottle-trapping, egg and terrestrial searches), where possible.
- 2.4.30. Suitable survey weather conditions are deemed to be those nights when the night-time air temperature is more than 5°C, with little or no wind, and no rain, and surveys were conducted during such conditions.
- 2.4.31. Torch counting involved the use of high-powered torches to find and, if possible, count the number of adults of each amphibian species. As recommended by Natural England the entire margin of each waterbody was walked once, slowly checking for Great Crested Newts.
- 2.4.32. Bottle-trapping involved setting traps made from two litre plastic bottles around the margin of each waterbody, and leaving the traps set overnight before checking them the following morning. A density of at least one trap per two metres of shoreline was utilised, where possible, as recommended by Natural England.
- 2.4.33. In addition egg and terrestrial search was undertaken. Where present, aquatic vegetation was searched for the presence of any Great Crested Newts eggs and debris around the margins of each pond was searched for the presence of Great Crested Newts.
- 2.4.34. It should also be noted that a significant density of reptile tins were deployed in suitable habitats around the application site, which represents an additional form of survey work for amphibian species.
- 2.4.35. In the case of ponds **P3** and **P4**, which were not surveyed using methods outlined above, eDNA testing was employed. The use of eDNA testing for detecting presence / absence of Great Crested Newts is supported by Natural England.
- 2.4.36. Sampling of ponds surveyed for Great Crested Newts using eDNA testing was carried out according to the methodology outlined in the Analytical and methodological development for the improved

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<sup>9</sup> English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough.

surveillance of Great Crested Newt<sup>10</sup>, published by Defra. This involves taking ten water samples from various points around the waterbody. These are then combined and mixed with eight small samples of the mixture taken and added to ethanol. Testing is then performed under laboratory conditions (by SureScreen Scientifics) in order to determine if Great Crested Newt DNA is present.

- 2.4.37. Other waterbodies were identified in the wider area that were assessed for potential Great Crested Newt presence. However, these were all considered unsuitable for the species and/or separated from the application site by significant barriers to dispersal.
- 2.4.38. **Reptiles.** Specific surveys to identify the presence or absence of reptiles within the application site were undertaken in September and October 2017.
- 2.4.39. Following an initial assessment to identify areas of suitable reptile habitat within the application site, refugia surveys were undertaken. A total of 70 'tins' (0.5 x 0.5 metre squares of heavy roofing felt which are often used as refuges by reptiles) were distributed throughout all suitable reptile habitat within the application site. This included field margins throughout the application site.
- 2.4.40. These tins were left in place for two weeks to 'bed in' and subsequently surveyed for reptiles beneath or upon the tins during suitable weather conditions.
- 2.4.41. Suitable weather conditions to carry out surveys are when the air temperature is between 9 and 18°C. Heavy rain and windy conditions should be avoided.
- 2.4.42. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask and raise their body temperature which allows them to forage earlier and later in the day.
- 2.4.43. Reptile surveys were not repeated in 2020 on the basis that presence had previously been determined and the habitat conditions remained broadly similar to those previously identified (i.e. the scale or nature of any impact remained comparable).

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<sup>10</sup> Biggs J, Ewald N, Valentini A, Gaboriaud C, Griffiths RA, Foster J, Wilkinson J, Arnett A, Williams P and Dunn F 2014. Analytical and methodological development for improved surveillance of the Great Crested Newt. Defra Project WC1067. Freshwater Habitats Trust: Oxford.

### 3. ECOLOGICAL FEATURES

3.1. The application site was subject to Phase 1 habitat survey work in May 2016, between September 2017 and October 2017 and in July and September 2020. The vegetation present enabled the habitat types to be satisfactorily identified and an accurate assessment of the ecological interest of the habitats to be undertaken.

3.2. The following main habitat / vegetation types were identified:

- Semi-Improved Grassland;
- Woodland;
- Scrub;
- Ruderal Vegetation;
- Hedgerows/treelines;
- Buildings;
- Ponds; and
- Hardstanding / made ground.

3.3. The location of these habitats is shown on Plan ECO2.

3.4. Each habitat present is described below with an account of their representative plant species.

#### 3.5. Semi-Improved Grassland

3.5.1. The application site primarily comprises grassland pastures, grazed by horses, divided into a series of paddocks divided by fences.

3.5.2. Present in the grass sward are: False-oat Grass *Arrhenatherum elatius*, Yorkshire Fog *Holcus lanatus*, Perennial Rye Grass *Lolium perenne*, Red Fescue *Festuca rubra*, Soft Brome *Bromus hordeaceus*, Cock's-foot *Dactylis glomerata*, Common Bent *Agrostis capillaris*, Annual Meadow Grass *Poa annua* and Timothy *Phleum pratense*.

3.5.3. Herbaceous species present include: Common Vetch *Vicia sativa*, Creeping Cinquefoil *Potentilla reptans*, Creeping Thistle *Cirsium arvense*, Broad-leaved Dock *Rumex obtusifolius*, Bristly Ox-tongue *Helminthotheca echioides*, Dandelion *Taraxacum officinale* agg., Creeping Buttercup *Ranunculus repens*, Black Medick *Medicago lupulina*, White Clover *Trifolium repens*, Red Clover *Trifolium pratense*, Scentless Mayweed *Tripleurospermum inodorum*, Yarrow *Achillea millefolium*, Common Knapweed *Centaurea nigra*, Common Fleabane *Pulicaria dysenterica*, Common Ragwort *Senecio jacobaea*, Meadow Buttercup *Ranunculus acris*, Hedge Bedstraw *Galium mollugo*, Daisy *Bellis perennis*, Agrimony *Agrimonia eupatoria*, Common Centaury *Centaureum erythraea*, Greater Plantain *Plantago major*, Ribwort Plantain *Plantago lanceolata*, Self-heal *Prunella vulgaris*, Silverweed *Potentilla anserina*, Pineappleweed *Matricaria discoidea*, Wild Carrot *Daucus carota* subsp. *carota*, Common Melilot *Melilotus officinalis* and Spear

Thistle *Cirsium vulgare*, Red Bartsia *Odontites vernus*, Autumnal Hawkbit *Scorzoneroides autumnalis*.

- 3.5.4. A number of stands of Japanese Knotweed *Fallopia japonica* were recorded in grassland habitat in the south of the application site (exact locations are indicated on Plan ECO2). Where deemed necessary, noting that the species has only been recorded outside the development footprint the containment or removal of this species could be the subject of a suitably worded planning condition.

### 3.6. Woodland

- 3.6.1. The application site contains the majority of the Great Beamond Coppice SINC, including the area of ancient woodland. Three additional tree blocks are also located within the application site.
- 3.6.2. **W1** is classified as ancient woodland. Species present include Common Sallow *Salix cinerea*, Hazel *Corylus avellana*, Blackthorn *Prunus spinosa*, Field Maple *Acer campestre*, Hawthorn *Crataegus monogyna*, English Oak *Quercus robur*, Holly *Ilex aquifolium*, Ash *Fraxinus excelsior*, Silver Birch *Betula pendula*, Alder *Alnus glutinosa*, Butcher's Broom *Ruscus aculeatus*, Bramble *Rubus fruticosus* and Ivy *Hedera helix*. Species present in the ground flora include Bracken *Pteridium aquilinum*, Nipplewort *Lapsana communis*, Dove's-foot Crane's-bill *Geranium molle*, Common Figwort *Scrophularia nodosa*, Wood Sorrel *Oxalis acetosella*, Bluebell *Hyacinthoides non-scripta*, Herb Robert *Geranium robertianum*, Sedge *Carex* sp., Petty Spurge *Euphorbia peplus*, Wood Sage *Salvia x sylvestris*, Lords-and-ladies *Arum maculatum*, False Brome *Brachypodium sylvaticum*, Wood Melick *Melica uniflora*, Wood-sedge *Carex sylvatica* and Wavy Hair-grass *Deschampsia flexuosa*.
- 3.6.3. **W2** is a tree block located in the north of the application site, while **W3** and **W4** are tree blocks located in the south.
- 3.6.4. A similar species composition is found across **W2** and **W4** as in **W1**. The canopy of **W3** however consists solely of English Oak that are well spaced and positioned in a uniform manner. The understorey of **W3** comprises semi-improved grassland dominated by perennial ryegrass.
- 3.6.5. For further detail, refer to the Arboricultural Implications report produced by Simon Jones Associates.

### 3.7. Scrub

- 3.7.1. The application site supports a patch of Bramble scrub, located immediately north of **W3**. Multiple standard Oak trees are present in the scrub, some of which are dead.

### 3.8. Ruderal Vegetation

- 3.8.1. A patch of ruderal vegetation is located south of **W2**. Species present include Teasel *Dipsacus fullonum*, Common Field Speedwell *Veronica persica*, Ground Ivy *Glechoma hederacea*, Round-leaved Crane's-bill *Geranium rotundifolium* and Butterbur *Petasites hybridus*.

### 3.9. Hedgerows/Treelines

- 3.9.1. The application site supports multiple hedgerows, most of which constitute its boundaries. These are labelled on Plan ECO2 and described below.
- 3.9.2. **H1** is a Cypress *Cupressus* sp. hedge beginning at Funtley Road and running perpendicular to the Northern boundary of the application site. It is approximately 20m tall. Traveller's Joy *Clematis vitalba* trails through. Common Nettle *Urtica dioica* and Smooth Sow-thistle *Sonchus oleraceus* are present in the ground flora.
- 3.9.3. **H2** ranges between 2m and 3m in height and spreads from the southern boundary of the application site to the M27. Species present include Hawthorn, Dog Rose *Rosa canina* and Gorse *Ulex* sp., with Bramble and Traveller's Joy trailing through.
- 3.9.4. **H3** ranges between 4m and 5m in height and runs along the eastern boundary of the application site. Species present include Hawthorn, Dog Rose and Gorse, with Bramble and Traveller's Joy trailing through.
- 3.9.5. **H4** runs along the south-western boundary of the application site, bending into the site. It ranges between 4m and 5m in height. Species present include Cherry *Prunus* sp., Hawthorn, Oak, Hazel, Ash and Beech *Fagus sylvatica* with Bramble trailing through. Bracken is present in the ground flora.
- 3.9.6. **H5** runs along the north-western boundary and is 5m tall in the north becoming taller with the addition of mature trees towards its southern extent. Species present include Field Maple, Hazel, Holly, Blackthorn, Ivy, Dog Rose, Ash, Rhododendron *Rhododendron ponticum*, Goat Willow *Salix caprea* and Turkey Oak *Quercus cerris*. Great Horsetail *Equisetum telmateia* is present in the ground flora.
- 3.9.7. **H6** is a managed hedgerow (often box cut), with occasional standard trees, which runs along the northern boundary of the application site. It is defunct in places, giving way to stands of ruderal vegetation and is thus varied in height. Species present include English Oak, Field Maple, Hybrid Oak, Turkey Oak, Hawthorn, Holly, Blackthorn, Dogwood *Cornus sanguinea*, Spindle *Euonymus europaea* and Hazel, with Bramble, Hedge Bindweed *Calystegia sepium*, Bittersweet *Solanum dulcamara*, Black Bryony *Dioscorea communis* and Honeysuckle *Lonicera periclymenum* trailing through.

- 3.9.8. Great Horsetail, Spear Thistle, Wood Dock *Rumex sanguineus*, Yorkshire Fog, Timothy, Cock's Foot, Black Nightshade *Solium nigrum*, Black Knapweed, Ribwort Plantain, Shepherd's purse *Capsella bursa-pastoris*, Broad-leaved Dock, Bristly Oxtongue *Helminthotheca echoides*, Scentless Mayweed *Tripleurospermum inodurum*, Tall Fescue *Festuca arundinacea*, Common Speedwell *Veronica persica* and Yarrow are present in the ground flora.
- 3.9.9. **H7** is a tall hedge / tree line running along the northern boundary in the east of the application site that connects to the northern corner of woodland **W1**. Species present include; Ash, Oak, Field Maple, Gorse, Hazel, Aspen *Populus tremula* and Dogwood with Dog Rose, Bramble, Honeysuckle, and Black Bryony trailing through.
- 3.9.10. A small area of Japanese Knotweed was recorded at the western extent of **H7**.
- 3.9.11. **TL1** is located in the south-eastern corner of the application site. It comprises a line of mature Oaks with an understorey of Bramble, Elder *Sambucus nigra* and Hawthorn.
- 3.9.12. **TL2** runs between **W3** and **W4** in the south of the application site. Species present include Ash, Oak, Holly, Hawthorn, Field Maple, Dog Rose and Hazel.
- 3.9.13. **TL3** runs perpendicular to the northern boundary of the application site and parallel to **H1**. Species present include Oak, Common Sallow, Ash and Field Maple.

### 3.10. Buildings

- 3.10.1. There are six buildings within the application site. **B1** is a corrugated metal storage shed in the north-east of the application site, surrounded by Butterfly Bush *Buddleja davidii* shrubs as well as Bramble and Willow. **B2** and **B3** are large corrugated metal sheds in the south of the application site with a breeze block base that are used to stable horses.
- 3.10.2. **B4**, **B5** and **B6** are all wooden stable blocks with either felt, corrugated sheet or corrugated metal sheet roofs attached directly to wooden beams, one of which (**B4**) is located in the south of the application site with **B5** and **B6** in the north.

### 3.11. Ponds

- 3.11.1. Two ponds were located in areas of woodland within the application site during surveys undertaken in 2016 and 2017.
- 3.11.2. Pond **P1** was described as a small pond located in the north of the application site. This pond was noted to be subject to periods of drying during much of the year, although was recorded to hold water over the winter months. No aquatic species were recorded within the pond.

3.11.3. Pond **P2** was located near the centre of the application site in 2017 and similarly to pond P1 was subject to drying. Common Reed *Phragmites australis* was recorded in this pond.

3.11.4. Both P1 and P2 were found to be completely dry during surveys undertaken in 2020.

### 3.12. Hardstanding and made ground

3.12.1. A hardstanding track is used to access the site from Funtley Road giving vehicular access to the existing buildings B1 – B4 and B6. This runs through woodland W1.

3.12.2. More recently created access tracks are present in the west of the application site giving access to **B5** and a series of paddocks.

3.12.3. In addition, a menage is present to the west of B6.

### 3.13. Background Information

3.13.1. The desk study undertaken with HBIC returned many local plant records. Two protected plant species have been recorded on-site, including Wood-sorrel *Oxalis acetosella* and Butcher's-broom *Ruscus aculeatus* in 2002. Both were recorded in the Great Beamond Coppice during surveys in 2017.

3.13.2. Common Valerian *Valeriana officinalis* was recorded in a 100m grid square containing part of the application in 2002. Violet Helleborine *Epipactis purpurata* and Field Scabious *Knautia arvensis* were recorded in 1km grid areas containing part of the application site in 2013 and 1997 respectively. None of these species were recorded during the Phase 1 survey.

3.13.3. Multiple invasive species records were returned in the desk study undertaken with HBIC and as noted above Japanese Knotweed and Rhododendron have been recorded within the application site. In the wider area the closest records, located 0.3km south-west of the application site, relate to Cherry Laurel *Prunus laurocerasus* and Turkey Oak *Quercus cerris* and date from 2008.



#### 4. WILDLIFE USE OF THE APPLICATION SITE

4.1. During the surveys that have been undertaken within the application site, general observations have been made of any faunal use, with specific attention paid to the potential presence of protected or notable species.

#### 4.2. Bats

##### Bat Activity Surveys

4.2.1. Two update bat activity surveys were undertaken at the application site during 2020, in line with the methodology outlined in Section 2 above. Table 2 below outlines the weather conditions during each survey visit.

Date	Weather Conditions
31.08.2020	15°C, 60% cloud cover, dry, light breeze
16.09.2020	15°C, 100% cloud cover, light rain, light breeze

**Table 2:** Weather conditions during bat activity surveys

##### Activity Survey 31/08/2020

4.2.2. The activity survey on 31<sup>st</sup> August recorded low numbers of bat registrations, the majority of which were either Common Pipistrelle *Pipistrellus pipistrellus* or Soprano Pipistrelle *Pipistrellus pygmaeus*.

4.2.3. In total 248 registrations were recorded, of which 137 were Common Pipistrelle, with the first recorded at 19:43, the last at 20:53, and activity mostly located in the south of the application site. Soprano Pipistrelle *Pipistrellus pygmaeus*, was recorded 96 times between 20:16 and 21:28, Unidentified *Myotis* species was recorded seven times between 20:24 and 21:47. Brown Long-eared Bat *Plecotus auritus*, was recorded six times, between 20:24 and 21:47. Nathusius' Pipistrelle *Pipistrellus nathusii*, was recorded once at 20:26.

4.2.4. During the August survey, activity was concentrated mainly on the eastern and south-eastern areas of the application site. With the northern boundary having the least amount of activity.

4.2.5. No groups of bats were noted during the surveys. All direct observations of bats were of individuals, either commuting or foraging along hedgerows.

##### Automated Surveys 24/08/2020 – 30/08/2020

4.2.6. Automated detectors were deployed at the northern (**D1**), central (**D2**) and southern (**D3**) locations (see Plan ECO3) and set to record for seven consecutive nights from 24<sup>th</sup> August to 30<sup>th</sup> August. The results from each night are detailed below for all three detector locations.

24/08/2020

#### **D1 – Northern location**

- 4.2.7. In total 50 registrations were recorded over the active period. Common Pipistrelle was recorded 34 times from 20:24 to 21:33. Soprano Pipistrelle was recorded 4 times from 20:21 to 20:47. Unidentified *Myotis* species was recorded 10 times between 20:39 and 23:35. Serotine *Eptesicus serotinus* was recorded twice at 20:33 and 21:20.

#### **D2 – Central location**

- 4.2.8. The static detector placed at this location failed to record any registrations across the seven night period, this is likely due to a technical fault which was only noticed after the detector had been recovered.

#### **D3 – Southern location**

- 4.2.9. In total 10 registrations were recorded over the active period. Soprano Pipistrelle was recorded 5 times from 21:20 to 22:04. Common Pipistrelle was recorded 4 times from 20:44 to 21:52. A single unidentified *Myotis* Bat was recorded at 22:56.

25/08/2020

#### **D1 – Northern location**

In total 288 registrations were recorded over the active period. Common Pipistrelle was recorded 194 times from 20:31 to 05:21. Soprano Pipistrelle was recorded 93 times from 20:33 to 05:40. An unidentified *Myotis* Bat was recorded a single time at 20:51.

#### **D3 – Southern location**

- 4.2.10. In total 101 registrations were recorded over the active period. Soprano Pipistrelle was recorded 40 times from 20:24 to 05:47. Common Pipistrelle was recorded 16 times from 20:35 to 05:48. An unidentified *Myotis* species was recorded 36 times from 20:36 to 01:10. Brown Long-eared Bat was recorded 8 times from 20:50 to 05:23. Serotine was recorded a single time at 20:53.

26/08/2020

#### **D1 – Northern location**

- 4.2.11. In total 233 registrations were recorded over the active period. Common Pipistrelle was recorded 170 times from 20:12 to 01:55. Soprano Pipistrelle was recorded 49 times from 20:26 to 05:01. Unidentified *Myotis* species was recorded 11 times from 21:03 to 02:39. Serotine was recorded 3 times from to 20:46 to 21:16

### **D3 – Southern location**

- 4.2.12. In total 338 registrations were recorded over the active period. Common Pipistrelle was recorded 206 times from 20:26 to 05:29. Soprano Pipistrelle was recorded 82 times from 20:15 to 05:59. Unidentified *Myotis* Bat was recorded 34 times from 20:43 to 04:19. Brown Long-eared Bat was recorded 15 times from 21:01 to 05:59. A single Nathusius' Pipistrelle was recorded at 20:41.

27/08/2020

### **D1 – Northern location**

- 4.2.13. In total 190 registrations were recorded over the active period. Common Pipistrelle was recorded 103 times from 20:20 to 05:40. Unidentified *Myotis* Bat was recorded 51 times from 20:52 to 21:37. Soprano Pipistrelle was recorded 34 times from 20:22 to 05:40. A single Brown Long-eared Bat was recorded at 21:21. A single Serotine was recorded at 20:43.

### **D3 – Southern location**

- 4.2.14. In total 88 registrations were recorded over the active period. Common Pipistrelle was recorded 65 times from 20:20 to 00:41. Soprano Pipistrelle was recorded 20 times from 20:17 to 22:44. Unidentified *Myotis* Bat was recorded 3 times from 20:39 to 21:07.

28/08/2020

### **D1 – Northern location**

- 4.2.15. In total 226 registrations were recorded over the active period. Unidentified *Myotis* Bat was recorded 98 times from 20:29 to 21:27. Common Pipistrelle was recorded 90 times from 20:19 to 21:15. Soprano Pipistrelle was recorded 24 times from 20:06 to 23:40. Serotine was recorded 13 times from 20:37 to 20:44. A single Brown Long-eared Bat was recorded at 21:42.

### **D3 – Southern location**

- 4.2.16. In total 65 registrations were recorded over the active period. Common Pipistrelle was recorded 42 times from 20:20 to 21:41. Soprano Pipistrelle was recorded 19 times from 20:32 to 22:59. Unidentified *Myotis* Bat was recorded 3 times from 20:24 to 21:52. A single recording of Nathusius' Pipistrelle was recorded at 20:22.

29/08/2020

### **D1 – Northern location**

- 4.2.17. In total 88 registrations were recorded over the active period. Common Pipistrelle was recorded 63 times from 20:18 to 05:29. Soprano Pipistrelle was recorded 14 times from 20:42 to 05:33. Unidentified *Myotis* Bat was recorded 9 times from 20:48 to 21:06.

Single Serotine and Brown Long-eared Bat were recorded at 20:55 and 20:56 respectively.

### **D3 – Southern location**

- 4.2.18. In total 10 registrations were recorded over the active period. Soprano Pipistrelle was recorded 8 times from 20:16 to 05:50. Common Pipistrelle was recorded twice at 20:50 and 21:01.

*30/08/2020*

### **D1 – Northern location**

- 4.2.19. In total 265 registrations were recorded over the active period. Common Pipistrelle was recorded 194 times from 20:13 to 05:20. Unidentified *Myotis* Bat was recorded 40 times from 20:35 to 00:53. Soprano Pipistrelle was recorded 28 times from 20:05 to 21:42. Single Barbastelle, Brown Long-eared Bat and Serotine were recorded at 22:06, 20:31 and 20:31 respectively.

### **D3 – Southern location**

- 4.2.20. In total 232 registrations were recorded over the active period. Soprano Pipistrelle was recorded 116 times from 20:01 to 05:24. Common Pipistrelle was recorded 102 times from 20:13 to 02:52. Brown Long-eared Bat was recorded 8 times from 20:26 to 05:06. Unidentified *Myotis* Bat was recorded 3 times from 21:25 to 00:44. Nathusius' Pipistrelle was recorded twice at 20:59 and 21:32. A single Serotine was recorded at 02:01.

### Activity Survey 16/09/2020

- 4.2.21. The activity survey on September 16<sup>th</sup> recorded low numbers of bat registrations, the majority of which were Common Pipistrelle and Soprano Pipistrelle.
- 4.2.22. In total 290 registrations were recorded, of which 139 were Common Pipistrelle, with the first recorded at 19:42 and the last at 21:17. Soprano Pipistrelle was recorded 124 times from 19:28 to 20:58. Noctule *Nyctalus noctula* was recorded 8 times from 19:18 to 19:24. Brown Long-eared Bat was recorded 7 times from 19:45 to 21:07. An unidentified *Myotis* species was recorded 6 times from 20:02 to 20:47. Serotine was recorded 5 times from 19:42 to 21:09. A single Nathusius' Pipistrelle was recorded at 20:41.
- 4.2.23. During the September survey, activity was distributed evenly across the application site with no areas standing out as having a particularly high concentration of activity.
- 4.2.24. No groups of bats were noted during the transects. The only direct observation of a bat was of an individual commuting along a hedgerow.

### Automated Surveys 16/09/2020 – 21/09/2020

- 4.2.25. Automated detectors were deployed at locations **D1**, **D2** and **D3** and set to record for five consecutive nights from 16<sup>th</sup> September to 21<sup>st</sup> September. The results from each night are detailed below for both detector locations.

16/09/2020

#### **D1 – Northern location**

- 4.2.26. The static detector placed at this location failed to record any registrations during the five nights, due to a technical fault. Redeployment was not undertaken. It was considered that an appropriate level of information was available for assessment purposes, noting the previous survey work of 2017.

#### **D2 – Central location**

- 4.2.27. In total 18 registrations were recorded over the active period. Common Pipistrelle was recorded 6 times from 19:58 to 22:56. Soprano Pipistrelle was recorded 5 times from 19:32 to 06:04. Unidentified *Myotis* Bat was recorded 3 times from 21:16 to 01:04. Unidentified *Nyctalus* Bat was recorded twice at 19:22 and 19:23. Barbastelle and Brown Long-eared Bat were recorded once each at 20:25 and 23:06 respectively.

#### **D3 – Southern location**

- 4.2.28. In total 480 registrations were recorded over the active period. Common Pipistrelle was recorded 326 times from 19:41 to 06:16. Soprano Pipistrelle was recorded 128 times from 19:30 to 06:21. Unidentified *Myotis* Bat was recorded 18 times from 19:35 to 06:05. Nathusius' Pipistrelle was recorded 3 times from 20:06 to 23:38. Unidentified *Nyctalus* Bat was recorded twice at 19:16 and 20:57. Brown Long-eared Bat was recorded twice at 20:33 and 05:41. Barbastelle was recorded a single time at 04:11.

17/09/2020

#### **D2 – Central location**

- 4.2.29. In total 32 registrations were recorded over the active period. Common Pipistrelle was recorded 12 times from 19:40 to 20:37. Soprano Pipistrelle was recorded 9 times from 20:02 to 06:12. Unidentified *Myotis* Bat was recorded 3 times from 21:34 to 22:31. Serotine was recorded twice at 20:24 and 04:54. Brown Long-eared Bat was recorded twice at 23:18 and 02:15. Nathusius' Pipistrelle was recorded twice at 21:16 and 04:05. Unidentified *Nyctalus* Bat was recorded twice at 19:30.

### **D3 – Southern location**

- 4.2.30. In total 287 registrations were recorded over the active period. Common Pipistrelle was recorded 192 times from 19:37 to 06:16. Soprano Pipistrelle was recorded 69 times from 19:30 to 06:18. An unidentified *Myotis* species was recorded 18 times from 19:45 to 05:58. Brown Long-eared Bat was recorded 6 times from 21:35 to 06:13. Unidentified *Nyctalus* bat and Nathusius' Pipistrelle were recorded once each at 19:28 and 22:13 respectively.

18/09/2020

### **D2 – Central location**

- 4.2.31. In total 20 registrations were recorded over the active period. Common Pipistrelle was recorded 13 times from 19:54 to 23:57. An unidentified *Myotis* species was recorded 3 times from 21:47 to 22:17. Serotine was recorded 3 times from 19:41 to 02:41. A single Soprano Pipistrelle was recorded at 06:00.

### **D3 – Southern location**

- 4.2.32. In total 215 registrations were recorded over the active period. Common Pipistrelle was recorded 150 times from 19:35 to 05:55. Soprano Pipistrelle was recorded 36 times from 19:26 to 06:18. An unidentified *Myotis* species was recorded 20 times from 19:32 to 05:45. Brown Long-eared Bat was recorded 5 times from 22:04 to 02:31. Nathusius' Pipistrelle was recorded 3 times from 21:44 to 23:33. Unidentified *Nyctalus* species was recorded once at 05:47.

19/09/2020

### **D2 – Central location**

- 4.2.33. In total 36 registrations were recorded over the active period. Common Pipistrelle was recorded 14 times from 19:36 to 05:53. Soprano Pipistrelle was recorded 11 times from 19:31 to 06:07. Nathusius' Pipistrelle was recorded 5 times from 21:34 to 01:34. An unidentified *Myotis* species was recorded 3 times from 23:54 to 01:36. Serotine, Brown Long-eared Bat and Noctule were all recorded once at 19:46, 20:37 and 21:28 respectively.

### **D3 – Southern location**

- 4.2.34. In total 1693 registrations were recorded over the active period. Common Pipistrelle was recorded 1642 times from 19:24 to 06:29. Soprano Pipistrelle was recorded 40 times from 19:28 to 06:29. An unidentified *Myotis* species was recorded 7 times from 20:24 to 03:38. Nathusius' Pipistrelle was recorded 3 times from 22:15 to 02:43. Serotine was recorded a single time at 21:04.

20/09/2020

## D2 – Central location

- 4.2.35. In total 52 registrations were recorded over the active period. Common Pipistrelle was recorded 20 times from 19:47 to 04:20. Soprano Pipistrelle was recorded 8 times from 20:13 to 06:23. Serotine was recorded 6 times from 19:57 to 05:20. An unidentified *Myotis* species was recorded 5 times from 20:27 to 01:39. Brown Long-eared Bat was recorded 5 times from 20:06 to 23:20. Noctule was recorded 5 times from 19:17 to 22:16. Barbastelle was recorded twice at 22:12 and 02:12. Nathusius' Pipistrelle was recorded a single time at 22:21.

## D3 – Southern location

- 4.2.36. In total 568 registrations were recorded over the active period. Common Pipistrelle was recorded 449 times from 19:26 to 06:13. Soprano Pipistrelle was recorded 93 times from 19:29 to 06:12. An unidentified *Myotis* species was recorded 16 times from 21:16 to 06:00. Brown Long-eared Bat was recorded 5 times from 21:43 to 05:42. Noctule was recorded twice at 19:17 and 20:11. Barbastelle, Nathusius' Pipistrelle and Serotine were each recorded once at 02:12, 21:10 and 05:39 respectively.

### Previous Surveys

- 4.2.37. Previous surveys were undertaken at the application site between August and October 2017. Similar numbers of registrations were recorded in both 2017 and 2020 and the areas in which they were concentrated were also similar. The only additional species recorded in 2020 is Barbastelle (low number of registrations), a matter discussed further in Section 5 of this report.
- 4.2.38. For completeness, the results of the 2017 surveys are presented at Appendix 3.
- 4.2.39. **Background information.** The desk study undertaken with HBIC returned multiple bat records. The records do not indicate whether they relate to individuals in flight or roosts. The closest record is of Brown Long-eared Bat, with a single individual recorded in 2019 from a 100m grid square that is partially within the application site. Other species recorded in the search area include Daubenton's Bat *Myotis daubentonii*, Soprano Pipistrelle, Noctule, Natterer's Bat *Myotis nattereri* and Whiskered Bat *Myotis mystacinus*.

## 4.3. Badgers

- 4.3.1. During the survey work undertaken in 2020, five badger setts were recorded within the application site.
- 4.3.2. Badger Sett 1 (**BS1**) is located in hedgerow **H4** and consists of 2 entrances dug into the hedge bank, both entrances are deemed to be active but not in regular use.

- 4.3.3. Badger Sett 2 (**BS2**) is located on the northern edge of woodland W3. The sett consists of three entrances, of which, a single entrance is considered potentially active (but rarely used) whilst the others are unused / collapsed.
- 4.3.4. Badger Sett 3 (**BS3**) is located within the area of ancient woodland in the centre of the application site. The sett consists of eight entrances, of which none showed signs of any recent activity.
- 4.3.5. Badger Sett 4 (**BS4**) is located on the southern edge of woodland W3. The sett consists of a single entrance which is deemed to be active. A single latrine was found just north of this sett.
- 4.3.6. Badger Sett 5 (**BS5**) is located in the north-east of woodland W1 and consists of six entrances. Two of which are deemed to be newly dug and active, whilst three are less active and one deemed disused. Fox *Vulpes vulpes* prints were found outside one of the active entrances.
- 4.3.7. It is considered most likely that sett **BS3** was a main sett for the local social group. However, currently levels of activity would suggest that this is now located elsewhere, possible at sett **BS5** or it may be located off site. The sandy substrate associated with sett **BS3** may give rise to regular tunnel collapse which has deterred its use. Sett **BS2** and **BS4** are considered to be a subsidiary or outlier sett.
- 4.3.8. **Background Information.** Information received from HBIC included two high-resolution records of Badgers in the search area. One, from 2013, relates to a 1km grid square containing part of the application site. The other, from 2014, relates to a 1km grid reference located 0.9km north of the application site.

#### 4.4. Dormice

- 4.4.1. Woodland on the application site, including the Great Beamond Coppice, has the potential to support Dormice, while the hedgerows are linked to both onsite and offsite woodland habitat.
- 4.4.2. Nest tube surveys were undertaken along the hedgerows and in the woodland present on the application site, in line with the methodology outlined in Section 2 above. Checks were undertaken in September, October and November 2017.
- 4.4.3. Three nests considered attributable to Hazel Dormouse were recorded within the application site. Two were located in the south-west corner of the application site, where **H4** meets **TL2**. An additional nest was recorded in **H6**. It is therefore considered Dormice are present within suitable habitat within the application site.
- 4.4.4. **Background Information.** The desk study undertaken with HBIC returned several high-resolution Hazel Dormouse records. The closest, from 2010, relates to a 1km grid square containing part of



the application site. It is concluded that Dormouse are present within the local area.

- 4.4.5. **Background Information.** The desk study undertaken with HBIC returned a small number of high-resolution records for Otter *Lutra lutra*, one of which relates to a 1km grid square containing part of the application site, as well as a record for Hedgehog *Erinaceus europaeus* from a location approximately 0.1km North of the application site.

#### 4.5. Amphibians

- 4.5.1. The application site supports two ephemeral waterbodies that may provide potential breeding opportunities for Great Crested Newts from time to time (**P1** and **P2**) Additional waterbodies with potential to support amphibian species were noted within 500m of the site boundary. **P1** and **P2** were subject to a full range of Great Crested Newt surveys in 2016. **P3** and **P4** were subject to an eDNA survey. Locations for these ponds are shown on Plan ECO4.
- 4.5.2. No Great Crested Newts were recorded in **P1** or **P2** during the full range of surveys, however low numbers of Smooth Newts *Lissotriton vulgaris* were recorded in **P1**. Results for **P3** and **P4** (eDNA analysis provided by SureScreen Scientifics) revealed a negative result for Great Crested Newt DNA (see Appendix 4). The on-site ponds were dry during the 2020 breeding season and no additional survey work was possible or necessary. It is considered that the application site does not support Great Crested Newts and no further consideration is given to this species within this Ecological Assessment.
- 4.5.3. **Background Information.** The desk study undertaken with HBIC returned several records of Great Crested Newts, with the closest from 2013 and located approximately 0.2km north of the application site. The others are at least 750m from the application site. Other amphibian species recorded in the search area, but outside of the application site, include Common Frog *Rana temporaria* and Common Toad *Bufo bufo*.

#### 4.6. Reptiles

- 4.6.1. The semi-improved grassland within the application site provides potential opportunities for reptile species. Refugia surveys were undertaken in 2017 to ascertain whether the application site supports this group, in line with the methodology outlined in Section 2 above.

4.6.2. The results of the survey are summarised in Table 3 below.

Date	Survey Number	Weather Conditions	Reptiles Recorded
19.09.2017	1	50% cloud cover, 16°C	1 G. Snake (juv), 1 Slow-worm ♂, 4 Slow-worm ♀
27.09.2017	2	70% cloud cover, 17°C	1 G. Snake (unknown sex) 6 Slow-worm ♀, 1 Slow-worm (juv)
29.09.2017	3	100% cloud cover, 15°C	3 Slow-worm ♀, 1 Slow-worm (juv)
03.10.2017	4	50% cloud cover, 17°C	1 Slow-worm ♂, 1 Slow-worm ♀
05.10.2017	5	30% cloud cover, 16°C	2 Slow-worm ♀
12.10.2017	6	40% cloud cover, 17°C	None
19.10.2017	7	100% cloud cover, 14°C	None

**Table 3:** 2017 Reptile Survey Results (Summary)

4.6.3. Low numbers of Slow-worm *Anguis fragilis* were recorded during 2017 refugia surveys, with a peak adult count of six individuals recorded. The only other species recorded was Grass Snake *Natrix natrix*.

4.6.4. It is therefore considered that the application site is utilised in low numbers by both species.

4.6.5. **Background Information.** The desk study undertaken with HBIC returned multiple reptile records from the local area. The closest records relate to Adder *Vipera berus* approximately 0.2km north of the application site, dating from 2004 and 2005 respectively. The next closest record relates to Grass Snake *Natrix natrix* approximately 0.3km south-west of the application site, dating from 2008. Records were also returned of Slow-worm *Anguis fragilis*, with the closest from 2009 and located approximately 0.5km south-west of the application site, and Common Lizard *Zootoca vivipara*, with the closest from 2009 and located in a 1km grid area 0.9km north of the application site.

#### 4.7. Birds

4.7.1. The application site offers opportunities for nesting birds in terms of the woodlands, hedgerows, tree lines and scrub, although similar opportunities are available within the wider area. There is nothing to indicate that the application site is likely to be particularly important for nesting or foraging birds.

4.7.2. **Background Information.** The desk study returned several records for notable bird species relevant to the search area. Records exist for the following Schedule 1 species: Goshawk *Accipiter gentilis*, Kingfisher *Alcedo atthis*, Cetti's Warbler *Cettia cetti*, Hen Harrier

*Circus cyaneus*, Marsh Harrier *Circus aeruginosus*, Merlin *Falco columbarius*, Peregrine *Falco peregrinus*, Hobby *Falco Subbuteo*, Brambling *Fringilla montifringilla*, Mediterranean Gull *Larus melanocephalus*, Black-tailed Godwit *Limosa limosa*, Common Crossbill *Loxia curvirostra*, Woodlark *Lullula arborea*, Red Kite *Milvus milvus*, Whimbrel *Numenius phaeopus*, Osprey *Pandion haliaetus*, Honey-buzzard *Pernis apivorus*, Black Redstart *Phoenicurus ochruros*, Firecrest *Regulus ignicapilla*, Siskin *carduelis spinus*, Green Sandpiper *Tringa ochropus*, Redwing *Turdus iliacus*, Fieldfare *Turdus pilaris*, Barn Owl *Tyto alba*.

- 4.7.3. The records provided by HBIC included the following species listed on Annex 1 of the Birds Directive: Kingfisher, Short-eared Owl *Asio flammeus*, Nightjar *Caprimulgus europaeus*, Hen Harrier, Marsh Harrier, Little Egret *Egretta garzetta*, Merlin, Peregrine, Mediterranean Gull, Bar-tailed Godwit *Limosa lapponica*, Woodlark, Red Kite, Osprey, Honey-buzzard, Golden Plover *Pluvialis apricaria* and Sandwich Tern *Sterna sandvicensis*.
- 4.7.4. Several species returned in the desk study are cited on the Red List for birds of conservation concern, namely: Lesser Redpoll *Acanthis cabaret*, Skylark *Alauda arvensis*, Tree Pipit *Anthus trivialis*, Hen Harrier, Cuckoo *Cuculus canorus*, Lesser Spotted Woodpecker *Dendrocopos minor*, Corn Bunting *Emberiza calandra*, Yellowhammer *Emberiza citronella*, Merlin, Pied Flycatcher *Ficedula hypoleuca*, Lesser Black-backed Gull *Larus fuscus*, Black-tailed Godwit, Linnet *Linaria cannabina*, Nightingale *Luscinia megarhynchos*, Grey Wagtail *Motacilla cinerea*, Yellow Wagtail *Motacilla flava*, Spotted Flycatcher *Muscicapa striata*, Whimbrel, House Sparrow *Passer domesticus*, Grey Partridge *Perdix perdix*, Black Redstart, Wood Warbler *Phoenicurus ochruros*, Willow Tit *Poecile montana*, Marsh Tit *Poecile palustris*, Whinchat *Saxicola rubetra*, Woodcock *Scolopax rusticola*, Turtle Dove *Streptopelia turtur*, Starling *Sturnus vulgaris*, Redwing, Song Thrush *Turdus philomelos*, Fieldfare *Turdus pilaris* Ring Ouzel *Turdus torquatus*, Mistle Thrush *Turdus viscivorus* and Lapwing *Vanellus vanellus*.
- 4.7.5. The following records relate to UK Priority (BAP) species: Black-tailed Godwit, Bullfinch *Pyrrhula pyrrhula*, Cuckoo, Linnet, Starling, Nightjar, Turtle Dove, Grey Partridge, Lesser Redpoll, Lesser Spotted Woodpecker, Herring Gull *Larus argentatus*, Marsh Tit, Reed Bunting *Emberiza schoeniclus*, Skylark, Song Thrush, Ring Ouzel, Spotted Flycatcher, Tree Pipit, Willow Tit, Woodlark, Wood Warbler, Yellow Wagtail, Yellowhammer.

#### 4.8. Invertebrates

- 4.8.1. The application site is expected to support a range of common invertebrate species, but there is no evidence to suggest that any protected or notable species are likely due to the habitats present.
- 4.8.2. **Background Information.** The desk study undertaken with HBIC returned a large number of invertebrate records from the local area. Several of these records relate to 1km grid areas containing part of

the application site. This includes *Liparus coronatus*, *Melandrya caraboides*, Ear Moth *Amphipoea oculatea*, Dusky Thorn *Ennomos fuscantaria*, Ghost Moth *Hepialus humuli*, Shaded Broad-bar *Scotopteryx chenopodiata* and Buff Ermine *Spilosoma lutea* from 2006, Long-legged China-mark *Dolicharthria punctalis* from 2009 and Silver-washed Fritillary *Argynnis paphia* from 2015.

- 4.8.3. The next closest record was from a location approximately 0.1km to the north of the application site. Records from this location are from 2008 and include Pretty Chalk Carpet *Melanthia procellata*, Cinnabar *Tyria jacobaeae* and Oak Hook-tip *Watsonalla binaria*.
- 4.8.4. No invasive invertebrate species have been recorded on the application site, though multiple records were returned for the local area. This includes 3,071 records of Light Brown Apple Moth *Epiphyas postvittana*, 288 of which were recorded at locations approximately 100m and 150m from the application site.

## 5. ECOLOGICAL EVALUATION

### 5.1. The Principles of Site Evaluation

- 5.1.1. The latest guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.
- 5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe<sup>11</sup>. These are broadly used across the United Kingdom to rank sites, so priorities for nature conservation can be attained. For example, current Site of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.
- 5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g. a woodland type with comparatively poor species diversity, common in the south of England may be of importance at its northern limits, say in the border country.
- 5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP).
- 5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the International level.
- 5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

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<sup>11</sup> Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of sites of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

## 5.2. Habitat Evaluation

### Designated sites

- 5.2.1. **Statutory sites.** There are no statutory designated sites of nature conservation interest located within or immediately adjacent to the application site.
- 5.2.2. The closest statutory designated site is Botley Wood and Everett's and Mushes Copses Site of Special Scientific Interest (SSSI), located approximately 1km north-west of the application site (see Plan ECO1). It is designated on account of its invertebrate populations associated with the semi-natural woodland present. It is separated from the application site by a large expanse of open countryside.
- 5.2.3. Berry Coppice Local Nature Reserve (LNR) is located approximately 1.3km west of the application site and is designated on account of its old, species-rich coppice. Species present include Holly, Cherry and Alder. It is separated from the application site by a large expanse of open countryside.
- 5.2.4. Relevant European protected sites include, Portsmouth Harbour Special Protection Area (SPA) and Ramsar site and Solent and Southampton Water SPA and Ramsar site, which are located approximately 2.8km and 3.6km south of the application site respectively. Both of these sites are designated on account of their wintering bird populations, with Solent and Southampton SPA also designated for its breeding Tern populations. Additionally, the relevant part of the Solent & Southampton Water SPA is further designated as part of the Solent Maritime Special Area of Conservation (SAC).
- 5.2.5. Consideration has been given to potential pathways for adverse effects to arise on the integrity of these designated sites, with due regard had to relevant legislation, case law and guidance (including that issued by Natural England).
- 5.2.6. Specific consideration has been given to the following pathways:
- Impacts from traffic related air quality;
  - Impacts relating to nutrient nitrogen; and
  - Impacts from increased recreational pressure.

### *Air quality*

- 5.2.7. Regarding air quality issues, regard has been had to the recently published "*Air Quality Habitat Regulations Assessment for the Fareham Borough Local Plan 2021 – 2037*", produced by Ricardo Energy and Environment. For all designated sites assessed, in relation to Nitrogen and acid deposition, airborne NO<sub>x</sub> and NH<sub>3</sub>, the assessment report for the Local Plan (2021 – 2037) concludes that adverse effects (on site integrity) can be discounted, with no

mitigation required. The conclusions are reached, having had due regard to potential in combination effects.

- 5.2.8. In the light of those conclusions, it is considered that it can safely be concluded that the development proposals would not given rise to an adverse effect on any European designated site by way of traffic related air quality. The uplift in dwelling numbers being considered as part of this planning application, over and above the allocation figure, is small in context and it is considered that the increase would not alter the conclusions reached in the Air Quality Habitat Regulations Assessment, given it's findings.

#### *Nutrient Nitrogen*

- 5.2.9. An Integrated Water Management Study (IWMS) for South Hampshire was commissioned, in 2016, by the Partnership for Urban South Hampshire (PUSH) Authorities, alongside the Environment Agency and Natural England. This study examined the projected delivery of development growth with regard to legislative and government policy requirements for designated sites and wider biodiversity issues. This updated an earlier study undertaken in 2008.
- 5.2.10. The IWMS for South Hampshire, which was completed in March 2018, identified currently uncertainty as to whether new housing growth can be accommodated without having a detrimental effect upon the water environment. It identified uncertainty as to the efficacy of catchment measures to deliver the required reductions in nitrogen levels, and uncertainty as to whether upgrades to wastewater treatment works will be sufficient to accommodate the quantity of new housing proposed.
- 5.2.11. In order to examine the issue further, relevant local planning authorities, together with the Environment Agency, Natural England and water companies, set up a Water Quality Working Group in South Hampshire to compliment that already in existence for Chichester. The objectives of these groups include identifying and analysing any existing gaps in evidence and evaluating the need for strategic level mitigation measures. The primary focus of the work is to address the aforementioned uncertainty associated with strategic local plan growth.
- 5.2.12. Following from the above, in 2018, Natural England specifically assessed the condition of relevant 'Solent harbours' designated sites. The aim was to evaluate the levels of nitrogen within the water environment and the associated impact on the designated sites.
- 5.2.13. This assessment revised and updated the condition assessment information for water quality pursuant to the qualifying interest features of the designated sites. Recorded levels of nitrogen in the harbours were analysed and then compared with evidence of phytoplankton and macroalgae (percentage cover of dense opportunistic green macroalgae).

- 5.2.14. Natural England has since published guidance relating to achieving nutrient neutrality, for use by Local Planning Authorities and developers. It describes how a nitrogen budget should be calculated such that a quantified mitigation package can be brought forward to ameliorate the increases in nutrient nitrogen arising from a project. One way of achieving this is through the reversion of land in a relevant surface water catchment, from management practices requiring (e.g. high) Nitrogen input to those of low input, or none.
- 5.2.15. The latest guidance issued by Natural England was published in June 2020. This guidance introduced an additional step in the calculation which reflects an amount of discharged nitrogen (2mg per litre) deemed acceptable on the basis of naturally occurring levels in rivers and groundwater.
- 5.2.16. The full Nitrogen budget calculation is shown at Appendix 5.
- 5.2.17. The development proposals (125 units) gives rise to a nitrogen budget **67.3 kg/N** which needs to be mitigated. The open space (community park) associated with the development proposals forms a key part of the required mitigation and this is discussed below.
- 5.2.18. The community park is **7.43ha** of which 3.06ha has been 'allocated' for use within the (nutrient nitrogen) mitigation package for development associated with planning application P/17/1135/OA. However, that requirement was based on the old guidance which did not reflect naturally occurring levels in rivers and groundwater. Since it is the net position which is important, it is considered appropriate to reflect the current advice of Natural England when calculating the remaining balance of the community park available to the development proposals. Under the current guidance, development associated with planning application P/17/1135/OA would in fact require 2.29ha of the community park. This leaves **5.14ha** of the community park available, which equates to a credit of **41.12 kg/N** based on the nitrogen load cited for lowland grazing (current use) and the proposed use as open space.
- 5.2.19. This therefore leaves **26.2 kg/N** to be mitigated.
- 5.2.20. The applicant has an agreement with the Warnford Estate and its proposal for reducing nitrogen across the estate. This program of work will create 'nitrogen credits', which can be used to offset the impact of nitrogen on a development site, to ensure nitrogen neutrality. The Warnford Estate is transforming current agricultural uses to new uses where nitrogen is no longer used, including tree planting and other habitat creation.
- 5.2.21. This scheme has been designed in close consultation with, and has the full support of, Natural England, The South Downs National Park Authority and The Forestry Commission.
- 5.2.22. It is proposed that the measures required to mitigate the Nitrogen budget associated with the development proposals will be delivered at the Warnford Estate. The precise location of the parcel of land



that will be allocated to this scheme (at Warnford Estate) will be detailed within the s106.

#### *Recreational pressure*

- 5.2.23. The application site falls within the zone of influence relevant to the Solent Recreation Mitigation Strategy (SRMS). This is a strategic approach to mitigation for three SPAs, namely the Chichester & Langstone Harbours SPA, Portsmouth Harbour SPA and the Solent & Southampton Water SPA. Mitigation is based on a tariff system, with funding securing visitor management initiatives at the relevant designated sites.
- 5.2.24. The applicant will pay the relevant financial contribution, which will be secured through the undertaking of a legal obligation, such as through the s106.
- 5.2.25. **Non-statutory sites.** A single non-statutory designated site, Great Beamond Coppice SINC, that is formed of three distinct parcels, is located within the application site. The largest parcel forms part of the eastern boundary and extends into the centre of the application site (see W1 on ECO2). A smaller component lies in the centre of the application site (see W3 on ECO2) and a further component lies adjacent to Funtley Road, in the north of the application site (see W2 on ECO2). This SINC is designated on account of its woodland and notable species Wood Sorrel and Butcher's Broom. However, it should be noted that although the boundary of the SINC includes the area of ancient woodland existing onsite, it does not match the underpinning boundary of the ancient woodland (that also includes additional areas of no tree cover).
- 5.2.26. All component parts of the SINC will be retained under the proposed development.
- 5.2.27. As a protective measure for ancient woodland elements, landscape buffers will be planted between the development and the boundary of the woodland. Human access through the woodland will be deterred through the use of dense planting in the buffer, including thorny species such as Blackthorn, Hawthorn and Holly (all present with the ancient woodland itself) to deter permissive access. Fencing could be erected at the SINC / ancient woodland boundaries to further deter public access.
- 5.2.28. The small parcel of Great Beamond Coppice SINC located adjacent to Funtley Road (see W2 on ECO2) will be impacted through the development proposals, although these proposals are considered an enhancement over the current situation. It is proposed that dense tree cover be thinned considerably, with the addition of new shrubs / trees of value to Dormice (and other faunal species), new meadow grassland and wetland habitats. This will form part of a wider green corridor comprising a matrix of shrub / tree, wetland and grassland habitat along Funtley Road, linking with other habitats in the east and west, and through the centre of the application site, all of which

would be the subject of appropriate long term management to increase ecological value.

- 5.2.29. The next closest non-statutory designated sites are Funtley Triangle SINC and Hookhouse Coppice SINC, located approximately 100m north and 125m west of the application site respectively. Funtley Triangle is designated on account of its grassland, which is considered to be impoverished but to retain sufficient elements of relic unimproved grassland to enable recovery. Hookhouse Coppice is designated on account of its ancient semi-natural woodland and the presence of Violet Helleborine *Epipactis purpurata*.
- 5.2.30. Given the nature of the development proposals and the habitats present within the SINC, it is considered impacts on these non-statutory designated sites, prior to mitigation, are likely to be very limited and certainly not significant in ecological terms. The provision of large public open spaces within the development proposals will absorb additional recreational pressure that might otherwise have been relevant to the SINC.
- 5.2.31. Subject to the implementation of standard engineering protocols and best practice during construction (E.G. in relation to run-off and dust suppression), it is considered that any potential direct adverse effects on non-statutory designated sites in the local area will be fully mitigated.
- 5.2.32. **Ancient Woodland.** An area of ancient woodland is present within the east of the application site. The parcel of ancient woodland, as shown on the Ancient Woodland Inventory (AWI), includes part of Great Beamond Coppice SINC as well as an area that has no tree cover at the north western corner of the mapped ancient woodland boundary. With regard to the area with no tree cover it is clear that the AWI boundary is either inaccurate or out of date, and it is noted that the boundary includes land which forms part of Funtley Road which would indicate a mapping error. In considering both instances, neither accurately represent the extent of ancient woodland (at least along its northern and western boundary) and on this basis, Ecology Solutions considers that the true boundary of the ancient woodland is formed by the existing perimeter tree line. This existing perimeter tree line is shown as the boundary of the mapped priority habitat (deciduous woodland), the National Forest Inventory and the boundary of Great Beamond Coppice SINC. The boundaries of the Ancient Woodland Inventory, priority habitat and National Forest Inventory as shown at Appendix 6 and the SINC boundary is shown at Appendix 7.
- 5.2.33. A protective buffer area of at least 15m will be delivered in respect of the ancient woodland (further designated as part of the SINC) between the northern and western edges of the ancient woodland boundary and the development footprint. Notwithstanding the discrepancies between mapped woodland habitat, as referenced above, the 15m buffer has been applied to ancient woodland boundary as shown on the Inventory. This buffer area will be subject to native tree and shrub planting that will provide new and enhanced

links to the wider landscape including woodland. It should also be noted that an area of existing hardstanding will be removed from within the 15m buffer. This will represent an enhancement for the ancient woodland through reversion to semi natural habitat, contiguous with the ancient woodland itself.

5.2.34. As noted above, with regard to Great Beamond Coppice SINC mitigation is aimed at deterring public access and preventing direct impacts during construction. Not only will these measures safeguard the existing ancient woodland, but by creating and enhancing connectivity across the wider area long term biodiversity benefits will be realised.

5.2.35. The next nearest area of ancient woodland lies approximately 160m west of the application site and is referred to as Hookhouse Coppice and forms part of the SINC of the same name. As described above, no adverse ecological impacts to this habitat have been identified.

### 5.3. Habitats within the application site

5.3.1. The application site mainly comprises semi-improved grassland and woodland. Other habitats present include ruderal vegetation, scrub, hardstanding, hedgerows and tree lines. Several agricultural buildings are located on the application site.

5.3.2. The development footprint is largely focussed upon the grazed semi-improved grassland in the north of the application site, which is comprised of a limited range of common and widespread species. It is considered losses to this habitat would be of very limited ecological significance.

5.3.3. A significant amount of grassland is to be retained and there is scope to significantly enhance the retained grassland within the application site, which will be utilised, in part, as village greens and community parks. By sowing these areas with a native wildflower seed mixture and adopting an appropriate management regime, it is considered that the biodiversity value can be significantly increased relative to the existing situation.

5.3.4. The small parcel of species-poor ruderal habitat will be lost under the development proposals, along with areas of hardstanding and buildings. Losses to these habitats are considered to be of negligible ecological significance and do not require specific mitigation.

5.3.5. The development proposals also involve the removal of some hedgerow sections and trees, though the vast majority of both will be retained and can be enhanced. Losses include the Cypress hedgerow **H1** adjacent to the existing site access and losses to sections of **H6**. Trees and scrub within **TL3** will also be lost in order to deliver a more open habitat matrix comprising grassland and shrubs / trees. However, the applicant is committed to keeping tree / shrub losses to a minimum, focussing these to where ecological and other gains can be realised, and ensuring that overall there is a

net gain in suitable Dormouse habitat. This will be a key consideration at the detailed design stage.

- 5.3.6. It is proposed that retained hedgerows are enhanced and supplemented through the planting of a range of native species where necessary to bolster the structure and diversity of these features. As confirmed within the Arboricultural Implication Report appropriate mitigation is proposed in relation to preventing impact on retained hedgerows and trees, with reference to root protection areas.
- 5.3.7. All areas of woodland will be retained in full. In particular, the block of ancient replanted woodland within the Great Beamond Coppice will be retained and protected with a minimum 15m buffer, as outlined above. The provision of species-rich habitats within this zone, such as new native tree and scrub planting, will complement the existing woodland edge habitats and represent enhancements over the existing situation.
- 5.3.8. Moreover, a landscape buffer will be planted around the entire development footprint, comprising a range of native species. Of note, the tree-lined western boundary is to be further strengthened through bolster planting. This new planning provision will also include an area running from the Great Beamond Coppice to the western boundary of the application site, which will form part of a landscape buffer between the community park and development. As such, under the development proposals significantly more trees will be planted than are lost in the application site. The improvement to habitat connectivity through the site are considered a major benefit of the development proposals.
- 5.3.9. New wetland features will also be incorporated into the scheme, and designed to create additional habitats that will deliver significant benefits to biodiversity over the current situation within the application site.

#### 5.4. Faunal Evaluation

##### Bats

- 5.4.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (“the Habitats Regulations”), as amended. These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) bats;
  - Deliberately to disturb bats in such a way as to:-
    - (i) be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or

- (ii) affect significantly the local distribution or abundance of the species to which they belong;

- To damage or destroy any breeding or resting place used by bats;
  - Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection.
- 5.4.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 5.4.3. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.4.4. The offence of damaging or destroying a breeding site or resting place (which can be interpreted as making it worse for the bat) is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 5.4.5. European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.
- 5.4.6. Licences can usually only be granted if the development is in receipt of full planning permission and it is considered that:
- (i) The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
  - (ii) There is no satisfactory alternative; and
  - (ii) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 5.4.7. **Application Site Evaluation.** Detailed surveys to assess the site for features with bat roosting potential were undertaken at the application site in 2017 or 2020. No trees or buildings that are to be impacted by the development proposals were identified to have potential to support roosting bats and no evidence of roosting bats was recorded. However, a number of trees were identified to have potential roost features outside the development footprint. These trees are shown on Plan ECO3.
- 5.4.8. Activity surveys undertaken at the application site between August and October 2017 identified that a small range of bat species utilise the application site for foraging and commuting. Surveys identified the woodland, treelines and hedgerows throughout the site to be of some value for foraging and commuting bats, the vast majority of bat

registrations were of common and widespread species (Pipistrelles), with far fewer registrations of other species recorded. Whilst, in some instances, relatively high number of calls were recorded this is considered indicative of the suitability of foraging habitats for bats as opposed to use by significant number of bats themselves.

- 5.4.9. Static bat surveys recorded generally similar levels of bat activity during survey periods, with relatively higher levels in September, and revealed further limited use of the site by foraging and commuting bats.
- 5.4.10. The update survey results of 2020 were broadly similar to those from 2017, which is not surprising given the lack of significant changes to habitat structure and quality. It is noted however that a small number of registrations for Barbastelle bat were recorded during the 2020 surveys. This species is primarily associated with woodland habitats, favouring woodland edge habitat and woodland rides. They do however utilise hedgerows for navigating and foraging and will cross open land.
- 5.4.11. The level of use of the application site by Barbastelle, recorded during the surveys, is low (total of six registrations across all survey nights) and the species was not consistently recorded. The application site is not considered an important site for this species, in a nature conservation context, however it is a more notable species and one which is particularly light sensitive. Measures are proposed which will mitigate any perceived impacts and deliver enhancements for the species.
- 5.4.12. **Mitigation and Enhancements.** Habitats such as the grazed fields within that make up the majority of the application site are considered of limited value for the bat species recorded. However, the woodland edge, treelines and hedgerows offer higher quality habitats, within the context of the application site and wider area. The provision of new species-rich grassland and significant new tree / shrub planting (e.g. hedgerow and tree line bolstering) will increase the value of foraging resources and create enhanced commuting routes for bats that utilise the application site. New wetland features will also be of value, particularly where direct illumination can be avoided. Additional, large areas of new woodland planting could come forward within the community park, providing further habitat linkages, in addition to new meadow creation and provision of ponds. This will ensure opportunities for bat species are safeguarded post-development. All trees with potential roost features are to be retained as part of the development proposals.
- 5.4.13. To provide new roosting opportunities for bats it is recommended that multiple bat boxes are installed on suitable retained trees within the application site. These will be located within the woodlands and tree lines present across the application site. A variety of box types are recommended (based on species recorded at the site during the specific survey work and including hibernation boxes), and boxes erected in areas that will not be subject to artificial lighting.

- 5.4.14. Furthermore, it will be necessary for the lighting scheme associated with the development to be designed to minimise adverse impacts from artificial lighting on retained and newly provided habitats. Of particular importance is the need to avoid significant impacts on woodland edge habitat and the maintenance of dark commuting and foraging corridors through the site.
- 5.4.15. The use of hoods and cowls to reduce light spill and to direct lighting away from these features is recommended and wherever appropriate the lighting strategy will aim to minimise artificial light levels. Low-level bollard-style, timed or motion sensitive lighting along footpaths (for example) may be appropriate in some areas. In addition, appropriate shrub / tree planting within woodland buffer areas, for example, can be used to screen existing woodland edge habitat, providing a dark and sheltered microclimate suitable for foraging bats.

#### Badgers

- 5.4.16. **Legislation & Licensing.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status.
- 5.4.17. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage or obstruction of a Badger sett an offence. A sett is defined as “any structure or place, which displays signs indicating current use, by a Badger”. ‘Current use’ is defined by Natural England as any use within the preceding 12 months.
- 5.4.18. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting ‘cruel ill treatment’ of a Badger.
- 5.4.19. Local Authorities are therefore obliged to consult Natural England over any application that is likely to adversely affect Badgers.
- 5.4.20. Any work that disturbs Badgers is illegal without a licence granted by Natural England. Unlike the general conservation legislation, the Badgers Act 1992 makes specific provision for the granting of licences for development purposes, including for the destruction of setts.
- 5.4.21. Previous guidance issued by Natural England in 2002 outlines the types of activity that it considers should be licensed within certain distances of sett entrances. For example using heavy machinery within 30 metres of any entrance to an active sett, and lighter machinery within 20 metres, or light work such as hand digging within 10 metres, all may require a license.
- 5.4.22. More recent guidance specifically states “it is not illegal, and therefore a licence is not required, to carry out disturbing activities

in the vicinity of a sett if no badger is disturbed and the sett is not damaged or obstructed.”

- 5.4.23. The guidance goes on to state, “Where interference with a sett showing signs of use cannot be avoided during the development, a licence should be sought from Natural England.”
- 5.4.24. This guidance no longer makes reference to any 30m/20m/10m radius as a threshold for whether a licence would be required. Nonetheless, it is stated that tunnels may extend for 20m so care needs to be taken when implementing excavating operations within the vicinity of a sett and to take appropriate precautions with vibrations and noise, etc. Fires / chemicals within 20m of a sett should specifically be avoided.
- 5.4.25. The guidance allows greater professional judgement as to whether an offence is likely to be committed by a particular development activity and therefore whether a licence is required or not. For example, if a sett clearly orientates southwards into an embankment it may be somewhat redundant to have a 30m-exclusion zone to the north.
- 5.4.26. It should be noted that a licence could not be issued until the site is in receipt of a full and valid planning permission and that generally licences are not granted between December and June inclusive to avoid disruption to the Badger breeding cycle.
- 5.4.27. **Application Site Usage.** Active and currently inactive Badger setts have been identified within the application site, although all fall well outside the development footprint and no direct impacts have been identified. However, as Badgers are a highly mobile species a precautionary approach to mitigation is proposed.
- 5.4.28. **Mitigation / Enhancements.** Given the dynamic nature of badgers it is recommended that ahead of the commencement of development, dense vegetation (e.g. Bramble scrub) in areas to be lost to the proposals is subject to a further check survey with clearance undertaken by hand where applicable. In the event that a Badger sett is identified, care should be taken not to block any entrance with debris and some cover should be retained around the entrance. For any setts identified, assessments will need to be made in terms of their level of use by Badgers and any necessary Badger mitigation put forward.
- 5.4.29. A Natural England licence may be required for works which impact a sett. The development proposals provide a significant area of land which is to be managed to deliver ecological enhancements. This area will provide optimal foraging resources for Badgers and numerous sett building opportunities (e.g. within the woodland buffer).
- 5.4.30. During the construction phase mitigation is still recommended due to the fact that Badgers have been observed on site. It is recommended that vigilance is maintained for any fresh digging and



appropriate advice sought from an ecologist where necessary. It is also recommended that a means of escape, such as a roughened wooden plank, be provided for Badgers in any trenches or other deep excavations.

### Dormouse

- 5.4.31. **Legislation.** The Hazel or Common Dormouse has the same protection and licensing requirements as for bats, with a significant group being a mother and dependent young. The Common Dormouse is a scarce UK species that is protected under European and UK law by virtue of its inclusion on:
- Appendix 3 of the Bonn Convention;
  - Annex IVa of the EC Habitats Directive;
  - Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); and
  - Schedule 5 of the Wildlife and Countryside Act 1981 (as amended).
- 5.4.32. The legislation prohibits the intentional killing, injuring, taking, the possession of, and the trade in Dormice. In addition, places used for shelter and protection are safeguarded against intentional damage, destruction and obstruction and must not be intentionally disturbed whilst Dormice are in occupation, unless by a Natural England Licence holder for the species.
- 5.4.33. Hedgerows can be defined as important under the Hedgerow Regulations 1997 if the presence of a Schedule 5 species of the Wildlife and Countryside Act (such as Dormouse) are recorded.
- 5.4.34. **Site Evaluation.** The woodland, hedgerows and small parcel of scrub within the application site provide potential habitat for Dormouse. Dormouse tube surveys revealed the presence of three nests considered attributable to Dormouse. Existing records indicate the species is present in the local area.
- 5.4.35. **Mitigation and Enhancements.** Given the presence of Dormouse within the site, it will be a legal requirement to implement a suitable mitigation strategy. Whilst the recorded nest locations fell within habitat which is to be retained and losses are to habitat which is less optimal, it is not possible to conclude that Dormice do not use habitat which will be impacted by the proposals. In this light it is considered that losses to H6, TL3 and W2 will be the subject of a Natural England mitigation licence. It is considered that losses to H1 would not require a licence given the paucity of the habitat, but this would be discussed with Natural England.
- 5.4.36. With reference to the proposals, it is clear that should the development be granted, there will be a significant enhancement across the application site and wider landscape for this species. This is due to the protection and enhancement of the vast majority of known and potential Dormouse habitat as well as the creation of substantial green links across the site, providing connectivity to

suitable habitats in the local area. To this end, when considering the proposed losses against the proposed enhancements it is evident that, significant benefits will arise from the development proposals.

- 5.4.37. No habitat severance would occur, and losses would be more than compensated for through the landscape proposals, which would enhance existing boundary features and buffer the development footprint.
- 5.4.38. The proposed mitigation strategy is based around the following principles:
1. Avoid losses to active nests and minimise disturbance to Dormice, preferably by felling the trees / shrubs to ground level during the hibernation period. No disturbance to root balls or hedge base habitat until outside of the hibernation period;
  2. Avoid any potential construction impacts (i.e. incursion of plant) on retained hedgerow habitat through appropriate protective fencing;
  3. All hedgerow removal to be overseen by a suitably experienced ecologist acting under the licence;
  4. Replacement/compensatory planting to be delivered as soon as possible. Areas of hedgerow habitat outside the construction area to be enhanced as part of the access creation works, with additional landscape planting delivered towards the end of the development;
  5. Provision of 20 Dormouse nesting boxes within retained and enhanced hedgerow habitat.

### Reptiles

- 5.4.39. **Legislation.** Rare, endangered or declining species receive 'full protection' under the Wildlife and Countryside Act 1981 as well as protection under The Conservation of Habitats and Species Regulations 2010, which transposed into UK law the European Community Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora, more commonly known as the Habitats Directive. Species that are fully protected include Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*. These receive the following protection from:
- killing, injuring, taking;
  - possession or control (of live or dead animals, their parts or derivatives);
  - damage to, destruction of, obstruction of access to any structure or place used for shelter or protection;
  - disturbance of any animal occupying such a structure or place; and
  - selling, offering for sale, possession or transport for purposes of sale (live or dead animal, part or derivative).
- 5.4.40. These species are not relevant to the application site given their specific habitat requirements.

- 5.4.41. Due to their abundance in Britain, Common Lizard *Zootoca vivipara*, Slow-worm, Grass Snake and Adder *Vipera berus* are only 'partially protected' under the Wildlife and Countryside Act 1981 (as amended) and as such only receive protection from:
- deliberate killing and injuring;
  - being sold or other forms of trading.
- 5.4.42. **Application Site Evaluation.** Small populations of Slow-worm and Grass Snake were identified to be utilising the application site during specific survey visits during September and October 2017. A maximum count of eight individuals was recorded on any one survey visit. The peak adult count of Slow-worm was six individuals. The peak count of Grass Snake was a single individual. Due to the grazed nature of the semi-improved grassland, this habitat was not considered to be optimal for reptiles, although more suitable habitat was recorded as present within areas of longer grassland are present within field margins and hedgerows. No other reptile species were recorded within the application site.
- 5.4.43. Habitat conditions were observed to be comparable in 2020 and it is considered that small populations of Slow-worm and Grass Snake remain present within the application site.
- 5.4.1. **Mitigation / Enhancements.** The proposals would have the potential to directly impact upon reptiles during site clearance and construction operations although suitable habitat is limited in extent within the application site itself. A translocation / exclusion exercise prior to the commencement of development would be required to safeguard against any reptiles being killed or injured during development work at the site.
- 5.4.2. Under the development proposals the majority of suitable habitat on the application site will be retained. Significant areas of retained and enhanced grassland in the south of the application site are proposed and can function as a suitable receptor site. Reptiles would be trapped and relocated to suitable habitat in line with current guidance. The species rich meadow areas and enhanced woodland edge habitat will represent a significant enhancement for this group.
- 5.4.3. It is considered the precise details of the methodology, including the fine detail of the receptor site could be the subject of a suitably worded planning condition, a process widely adopted by planning authorities in England.

#### Birds

- 5.4.4. **Legislation.** Section 1 of the Wildlife and Countryside Act is concerned with the protection of wild birds, whilst Schedule 1 lists species which are protected by special penalties
- 5.4.5. **Application Site Evaluation.** There are opportunities for nesting birds in the woodland, hedgerows, tree lines and scrub within the

application site, although the site is not considered to be of any particular significance for bird species.

- 5.4.6. **Mitigation and Enhancements.** As all species of birds receive general protection whilst nesting, to avoid a possible offence it is recommended that any minor clearance of hedgerows or scrub is undertaken outside the main breeding season (between March and the end of July), or alternatively that checks be made for nesting birds by an ecologist immediately prior to any vegetation removal.
- 5.4.7. The development proposals for the site will provide an increase in nesting opportunities for birds, in the form of extensive tree and shrub planting.
- 5.4.8. In addition, nest boxes will be erected as part of the development proposals to increase nesting opportunities for birds within the application site. All nest boxes are to be situated out of direct sunlight and out of the reach of predators, in particular cats.

## 6. PLANNING POLICY CONTEXT

6.1. The planning policy framework that relates to nature conservation in Funtley, Fareham is issued at two main administrative levels: nationally through the National Planning Policy Framework (NPPF) and at the local level through policies in the Fareham Borough Local Plan. Any proposed development will be judged in relation to the policies contained within these documents.

### 6.2. National Policy

#### National Planning Policy Framework (February 2019)

6.2.1. Guidance on national policy for biodiversity and geological conservation is provided by the NPPF, published in March 2012, revised on 24 July 2018 and updated on 19 February 2019. It is noted that the NPPF continues to refer to further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system provided by Circular 06/05 (DEFRA / ODPM, 2005) accompanying the now-defunct Planning Policy Statement 9 (PPS9).

6.2.2. The key element of the NPPF is that there should be "a presumption in favour of sustainable development" (paragraphs 10 to 11). It is important to note this presumption "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" (paragraph 177). 'Habitats site' has the same meaning as the term 'European site' as used in the Habitats Regulations 2017.

6.2.3. Hence the direction of Government policy is clear; that is, the presumption in favour of sustainable development is to apply in circumstances where there is potential for an effect on a European site, if it has been shown that there will be no adverse effect on that designated site as a result of the development in prospect.

6.2.4. A number of policies in the NPPF are comparable to those in PPS9, including reference to minimisation of impacts to biodiversity and provision of net gains to biodiversity where possible (paragraph 170).

6.2.5. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of green infrastructure, priority habitats and ecological networks, and the recovery of priority species.

6.2.6. Paragraphs 174 to 176 of the NPPF comprise a number of principles that Local Authorities should apply, including encouraging opportunities to incorporate biodiversity in and around developments; provision for refusal of planning applications if significant harm cannot be avoided, mitigated or compensated for; applying the protection given to European sites to potential SPAs,

possible SACs, listed or proposed Ramsar sites and sites identified (or required) as compensatory measures for adverse effects on European sites; and the provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats - unless there are 'wholly exceptional reasons' (for instance, infrastructure projects where the public benefit would clearly outweigh the loss or deterioration of habitat) and a suitable compensation strategy exists.

- 6.2.7. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist, and benefits can, in certain circumstances, be obtained.

### 6.3. Local Policy

#### Fareham Borough Local Plan (adopted 2011)

- 6.3.1. The Fareham Borough Local Plan, consists of several parts, with relevant sections including Part 1: Core Strategy (adopted in 2011) and Part 2: Development Sites and Policies (adopted in 2015).
- 6.3.2. Sections of the Core Strategy of relevance to ecology and nature conservation include **Strategic Objective 11**, which relates to providing greater access to green spaces while also protecting vulnerable sites from increased recreational pressure, and **Policy CS4**, which relates to the protection of statutory and non-statutory designated sites including internationally designated sites such as SPAs and SACs and the provision of enhanced green infrastructure.
- 6.3.3. Sections of the Development Sites and Policies with relevance to ecology and nature conservation includes **Policy DSP13**, which relates to the protection of designated sites, protected and priority species, the biodiversity network and the provision of adequate mitigation of adverse impacts arising from a proposed development. Other relevant policies include **Policy DSP14**, which relates specifically to the protection of suitable habitats for Brent Goose *Branta bernicla* and wading birds, and **Policy DSP15**, which relates to the potential for increased recreational pressures the Solent Special Area of Protection through "in combination" effects.
- 6.3.4. Fareham Borough Council is in the process of producing a new local plan that will replace both Part 1 and Part 2 of the existing plan. Consultation on the Draft Local Plan 2036 is taking place from October 25<sup>th</sup> to December 8<sup>th</sup> 2017. It contains five policies directly relevant to ecology and nature conservation, include **NE1**, which relates to natural landscape features and their function as ecological networks, and **NE2**, which concerns the protection of designated sites and biodiversity. The remaining policies relate to the Solent SPA (**NE3**), Coastal management (**NE4**) and moorings (**NE5**).

#### 6.4. Discussion

- 6.4.1. Recommendations have been put forward in this report that would fully safeguard the existing ecological interest of the application site and, wherever possible, measures to enhance ecological and biodiversity value have been set out. Based on surveys undertaken and assessment, the presence and potential presence of protected species has been given due regard and measures to enhance the application site for such species have been put forward.
- 6.4.2. In conclusion, implementation of the measures set out in this report enable the proposals to fully accord with planning policy for ecology and nature conservation at all administrative levels. Moreover, the significant opportunities for ecological enhancement which arise as a result of the delivery of the community park and the corridors of enhanced habitat through and around the development itself, will deliver a net gain for biodiversity in line with national policy objectives.

## 7. SUMMARY AND CONCLUSIONS

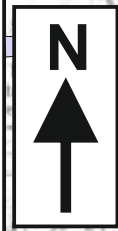
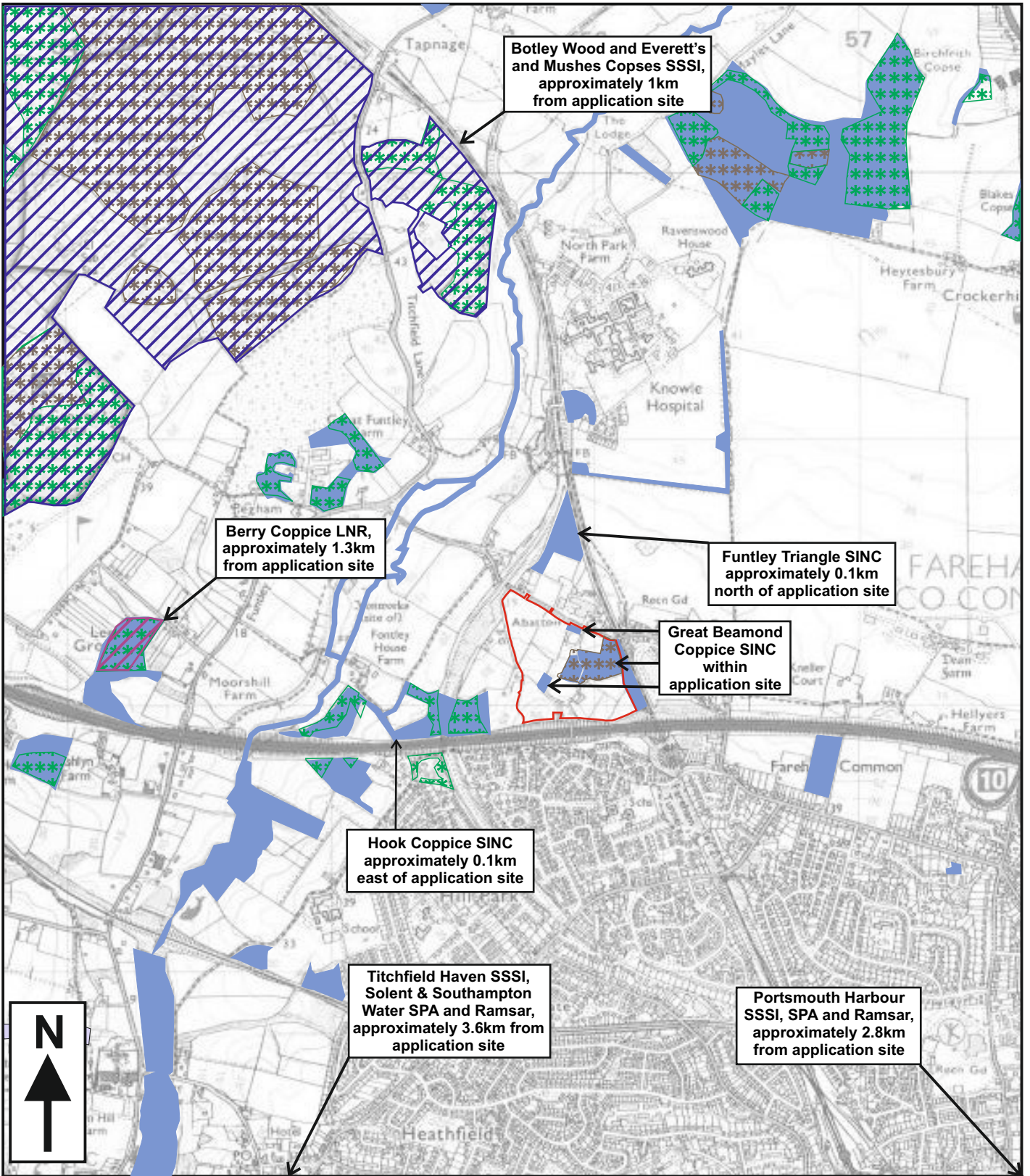
- 7.1. Ecology Solutions was originally instructed by Reside Developments Ltd to undertake a Phase 1 walkover survey of Land South of Funtley Road, Funtley (the “application site”) in May 2016 in order to determine potential ecological constraints associated with the site. Subsequent to this, a series of detailed surveys were undertaken in order to inform a planning application. Planning permission was subsequently granted for that scheme by Fareham Borough Council. Ecology Solutions was then commissioned to undertake additional survey and assessment work in 2020 pursuant to a new planning application.
- 7.2. No adverse impacts have been identified in relation to any designated sites of nature conservation importance. The application site contains a SINC and ancient woodland, both of which are to be appropriately protected, retained and enhanced as part of the development proposals.
- 7.3. The majority of the application site consists of grazed grassland of limited intrinsic ecological value. With the retention of habitats of relatively greater ecological value (woodland, hedgerows and treelines) where possible, and the provision of areas of species-rich habitats such as new woodland / tree, shrub and grassland planting, and new wetland features, it is considered that habitat losses to the development footprint will be more than mitigated. Further, it is considered that overall an enhancement in the quality of the habitats present within the application site will be delivered post-development.
- 7.4. A suite of protected species surveys and assessments have been undertaken. The site provides habitat for a low number of reptiles (Slow Worm, Grass Snake) and a translocation of these reptiles prior to any works clearance works is required. Dormouse surveys recorded three nests considered to be that of a Dormouse. Badger setts have also been recorded outside of the development footprint. The hedgerows and trees offer nesting and foraging opportunities for birds, and also offer suitable foraging and navigational resources for bats.
- 7.5. Appropriate mitigation and enhancement measures have been proposed and subject to the implementation of these measures, opportunities will be maintained and moreover enhanced post-development, in some instances significantly, through extensive meadow grassland and woodland / tree / shrub planting.
- 7.6. In conclusion, on the evidence of the ecological surveys undertaken, the majority application site is not considered to be of high intrinsic value from an ecology and nature conservation perspective. The design of the proposed development and the implementation of mitigation measures as recommended in this report will ensure there are no adverse effects on any designated sites or protected species as a result of development at the application site.
- 7.7. It is considered that the proposals offer enhancements for biodiversity over the existing situation. The proposals therefore fully accord with current legislation and policy pertinent to ecology and nature conservation.









## **PLANS**

## **PLAN ECO1**

Application Site Location and Ecological  
Designations



**KEY:**

-  APPLICATION SITE LOCATION
-  LOCAL NATURE RESERVE (LNR)
-  SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
-  SITE OF IMPORTANCE FOR NATURE CONSERVATION (SINC)
-  ANCIENT SEMI-NATURAL WOODLAND
-  ANCIENT REPLANTED WOODLAND



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7601: LAND SOUTH OF FUNTLEY ROAD, FUNTLEY

PLAN ECO1: SITE LOCATION AND ECOLOGICAL DESIGNATIONS















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 Sep 2020

## **PLAN ECO2**

Ecological Features





-  APPLICATION SITE BOUNDARY
-  SEMI-IMPROVED GRASSLAND
-  WOODLAND
-  RUDERAL VEGETATION
-  SCRUB
-  TRACK / MADE GROUND
-  HARDSTANDING
-  BUILDING
-  FENCING
-  HEDGEROW
-  TREE
-  TREE WITH BAT ROOST POTENTIAL
-  JAPANESE KNOTWEED
-  POND



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## **PLAN ECO3**

Species Survey Results within the Application Site