

**56 NICHOL ROAD, CHANDLER'S FORD,
HAMPSHIRE**

ECOLOGICAL IMPACT ASSESSMENT

Final Document

August 2022

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

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ECOSA Quality Assurance Record

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

Description:	Ecological Impact Assessment
Produced For:	Benjamin Chiuiri
Issue:	Draft
Report Reference:	22.0033.0002.F0
Date of Issue:	8 th August 2022
Date of Survey Works:	Various dates between March and June 2022
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ECOLOGICAL IMPACT ASSESSMENT

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Benjamin Chiuriri to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of 56 Nichol Road, Chandler's Ford. The site is located in the Hiltingbury area to the north of Chandler's Ford, Hampshire and comprises a single storey residential property with front and rear gardens. Proposals for the site include the demolition of the existing bungalow and construction of a replacement residential dwelling.

The main findings of the Ecological Impact Assessment are:

- There is a single designated site, Hocombe Mead LNR present, 410 metres west of the site. No impacts are anticipated to designated sites.
- During the Preliminary Ecological Appraisal, 56 Nichol Road was recorded as having moderate suitability to support roosting bats. Subsequent bat surveys recorded no bats emerging from or re-entering the property, therefore roosting bats are considered likely absent from the building.
- The site has moderate suitability for foraging and commuting bats and suitability for hazel dormouse, breeding birds and European hedgehog.
- No impacts to hazel dormouse, breeding birds and European hedgehog are anticipated.
- A sensitive lighting scheme will be required to mitigate for any impacts on foraging and commuting bats and Heras fencing will be installed to protect the boundary hedgerows and trees during the construction phase.
- The installation of a single bat tube/box on the new property will compensate for the loss of potential roosting features.
- Enhancement measures include the planting of native species to enhance the existing hedgerows.
- The site will be enhanced for bats and birds through the provision of nesting boxes installed on the new dwelling and/or retained trees after the works have been completed;
- Given the impacts identified, and the mitigation, compensation and enhancement measures proposed it is considered that the proposals accord with all relevant local and national planning policy.

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

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been appointed by Benjamin Chiuriri to undertake an Ecological Impact Assessment to identify the ecological impacts associated with the redevelopment of 56 Nichol Road, Chandler's Ford, Hampshire, SO53 5AW (hereafter referred to as the site).

1.2 The Site

The site is located in Chandler's Ford, Hampshire centred on National Grid Reference (NGR) SU 4369 2272 (**Map 1**).

The site measures approximately 1,000 square metres and comprises a single storey residential property with front and rear gardens. The site is surrounded by further residential development to the south, west and east and small woodland parcels and open spaces to the north.

The wider landscape comprises extensive residential development to the south and a mosaic of woodland and open grassland parcels to the north, with farmland beyond this. The M3 motorway is approximately 1.5 kilometres and the River Itchen is three kilometres east of the site.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study and relevant species-specific surveys carried out between March 2022 and June 2022. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ ecological features and outlines enhancements to the site's ecology to be implemented as part of the development. The objectives of the assessment are:

- To provide baseline information on ecological features within the site's Zone of Influence and determine the importance of these features;
- To assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify significant effects in the absence of any mitigation;

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

- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²;
- To provide an assessment of the significance of any residual effects;
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity; and
- To set out the requirements for any post-construction monitoring.

1.4 Site Proposals

Proposals for the site include the construction of a detached four bedroom, two-storey dwelling following the demolition of the existing bungalow.

The appraisal made reference to an initial proposals plan produced by A & B Design, dated 6th December 2021 (Drawing No. 21-NCH-02) (**Appendix 1**).

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

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

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

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

2.2 National Policy

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

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

A number of principles are set out in Paragraph 180, including that where harm cannot be adequately avoided then it should be mitigated for, or as a last resort, compensated for. Where impacts occur on nationally designated sites, the benefits must clearly outweigh any adverse impact and incorporating biodiversity in and around developments should be encouraged. Specific reference is also made to the protection of irreplaceable habitats³, including ancient woodland⁴. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph

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

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

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

In addition to the NPPF, Circular 06/05 provides guidance on the application of the law relating to planning and nature conservation as it applies in England. Paragraph 98 states *“the presence of a protected species is a material consideration when a planning authority is considering a development proposal that, if carried out, would be likely to result in harm to the species or its habitat”*. Paragraph 99 states *“it is essential that the presence or otherwise of a protected species, and the extent that they may be affected by the Proposed Project Development, is established before planning permission is granted”*.

2.3 Local Policy

Local planning policy within Eastleigh Borough is provided by the saved policies within the Adopted Local Plan Review 2001 – 2011 with seven policies referring specifically to ecology and biodiversity:

- **Policy 21.NC: European Nature Conservation Designations.** *“Development which is likely to adversely affect the integrity of a European nature conservation site will not be permitted”*
- **Policy 22.NC: Sites of Special Scientific Interest.** This policy prevents development which will have a direct or indirect adverse impact on SSSIs unless the reasons for development clearly outweigh the harm to the nature conservation value of the site.
- **Policy 23.NC: Sites of Importance for Nature Conservation.** This policy prevents development likely to have a direct or indirect adverse impact on a SINCS unless it can be demonstrated that the benefits of the development clearly outweigh the need to safeguard the site and that appropriate mitigation measures can be taken to mitigate for the adverse effects.
- **Policy 24.NC: Protected Species.** Development will not be permitted where it would adversely affect species or habitat protected by legislation unless suitable mitigation can be demonstrated.
- **Policy 25.NC: Biodiversity.** Refers to the protection of habitats or features of importance for wild flora and fauna unless benefit outweighs impacts, impacts are unavoidable and mitigation is incorporated.
- **Policy 26.NC: Biodiversity.** Seeks to enhance features and habitats of nature conservation importance through development proposals.

-
- **Policy 27.NC: Local Nature Reserves.** Specifically lists a number of Local Nature Reserves where development preventing their designation would be refused.

Further guidance on planning policy in relation to development within Eastleigh Borough is provided by the adopted the Biodiversity SPD December 2009. The forthcoming Eastleigh Borough Local Plan 2016-2036 revised pre-submission draft contains a single overarching policy referring to ecology and biodiversity Policy DM9 which largely reflects the existing adopted policy framework with specific reference also made in relation to the Solent Disturbance and Mitigation Project (SDMP).

The Draft Local Plan 2011-2029 was submitted and subsequently rejected in 2014, so a new local plan is yet to be released as of 27th January 2022.

3.0 METHODS

3.1 Introduction

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

3.2 Zone of Influence

To define the total extent of the study area for this assessment, the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected⁵. The appropriate survey radii for the various elements of the assessment (i.e. desktop study, field survey and species-specific surveys) have been defined in the relevant sections below. These distances are determined based on the professional judgement of the ecologist leading the appraisal, taking into account the characteristics of the site subject to assessment, its surroundings and the nature of the proposals.

3.3 Scoping

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

3.4 Desk Study

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

3.4.1 Multi-Agency Geographic Information for the Countryside

The Multi-Agency Geographic Information for the Countryside (MAGIC) database (DEFRA, 2022) was reviewed on 27th July 2022 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance

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

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

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

3.4.2 Other Sources of Information

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

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

3.5 Field Survey

3.5.1 Survey Methods

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and included a search for evidence of, and an assessment of the site's suitability to support, protected and notable species as recommended by CIEEM (CIEEM, 2017).

Protected and Notable Species Appraisal

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

3.5.2 Survey Details

The field survey was carried out by Joanne Richmond, Senior Ecologist and Olivia Walton, Ecologist of ECOSA on 16th March 2022. The weather conditions were rainy with 100% cloud cover, an ambient temperature of 10°C and a gentle breeze.

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

3.5.3 Field Survey Limitations

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

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

Full access to all areas of the roof void was not possible due to some areas of the loft which were not boarded.

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

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

3.6 Bat Survey

3.6.1 Survey Methods

Bat Emergence/Re-entry Survey

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

The survey was carried out by three experienced ECOSA surveyors, positioned at previously identified vantage points around the building. These vantage point locations allowed a sufficient coverage of the Potential Roosting Features identified on the building impacted by the proposals.

During the survey, surveyors recorded the time, species, location and direction of flight for each bat encountered, with particular attention paid to establishing bat access/egress locations to any roosts within the building. In accordance with best practice guidelines, a dusk survey starts 15 minutes before sunset and continues for 1.5 to two hours after sunset. A dawn survey starts 1.5 to two hours before sunrise and continues for 15 minutes after sunrise.

3.6.2 Survey Details

Bat Emergence/Re-entry Survey

The bat emergence/re-entry surveys were undertaken in May and June 2022, respectively. **Table 1** provides details of each emergence survey.

Table 1: Bat emergence survey details

Survey Date	Survey Type	Survey Timings	Weather Conditions	Sunset/ Sunrise Time
30 th May 2022	Emergence	Start: 20:53 End: 22:38	General conditions: Drizzle, turning to heavy rain after 1.5 hours Start temp: 15°C End temp: 14°C Cloud Cover: 100% Wind Speed: Gentle breeze	21:08
23 rd June 2022	Re-entry	Start: 02:51 End: 05:06	General conditions: Dry Start temp: 16°C End temp: 15°C Cloud Cover: 40% Wind Speed: No breeze	04:51

During the bat emergence survey the surveyors were equipped with Batlogger M bat detectors. Recordings made with the detectors were later analysed using Sonobat® (v2.9.7) to confirm the identity of any species encountered.

The bat emergence survey was coordinated by Jennifer Simpson-Watts, Ecologist of ECOSA, assisted by suitably qualified and experienced ECOSA surveyors Emily Millis, Hugh Turner (Natural England Licence Reference: 2020-50816-CLS-CLS), Ryan McCormick, Kate Carroll, Samantha Faggetter and Norman Binstead.

3.6.3 Survey Limitations

Some bat species, e.g. long-eared bats *Plecotus* species⁶, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during bat surveys, leading to under-recording.

3.7 Criteria used to Assess Ecological Value

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

⁶ There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

4.0 BASELINE ECOLOGICAL CONDITIONS AND EVALUATION

4.1 Introduction

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

4.2 Statutory Designated Sites

4.2.1 Baseline Ecological Conditions

There is a single statutory designated site of nature conservation interest situated within one kilometre of the site boundary. This is Hocombe Mead LNR which is located approximately 410 metres west of the site and designated for the presence of ancient woodland and wet meadows.

Further details of the statutory designations listed above are provided in **Appendix 6**.

4.2.2 Evaluation

Hocombe Mead LNR is of value at a local level.

4.3 Habitats

4.3.1 Desktop Study Results

A review of MAGIC revealed the presence of a number of Habitats of Principal Importance within the desktop study area. These include deciduous woodland and extensive woodland pasture approximately 80 metres north of the site. Purple moor grass and rush pasture, associated with Hocombe Mead LNR is present approximately 500 metres west of the site and good quality semi-improved grassland is located 530 metres to the north-west.

4.3.2 Field Survey Results

Habitats are described in general terms using standard Phase 1 habitat survey terminology. The main habitats recorded on site during the Phase 1 habitat survey were as follows:

Scattered Trees

Three scattered trees are present to the east of the site (**Figure 1**). Two of these are oak *Quercus robur* and the other is a camelia bush *Camellia japonica*.



Figure 1: Scattered trees

Improved Grassland

Improved grassland is present to both the rear (**Figure 2**) and front of the property (**Figure 3**). In both areas, this habitat is well managed and regularly mown. Species present include perennial ryegrass *Lolium perenne*, red fescue *Festuca rubra*, annual meadow grass *Poa annua*, yarrow *Achillea millefolium*, daisy *Bellis perennis*, grape hyacinth *Muscari armeniacum*, lesser trefoil *Trifolium dubium*, common mouse ear *Cerastium fontanum* and dandelion *Taraxacum officinale*.

Part of the grassland to the north is sparser and supports plant species that are characteristic of shade as the area is shaded by the boundary fence and mature oak trees beyond the site boundary (**Figure 4**). Species present include grape hyacinth, common mouse-ear, bluebells *Hyacinthoides non-scripta*, herb Robert *Geranium robertianum*, common lungwort *Pulmonaria officinalis*, primrose *Primula vulgaris* and wood avens *Geum urbanum*.



Figure 2: Improved grassland to the rear of the property



Figure 3: Improved grassland to the front of the property



Figure 4: Grassland characteristic of shade

Introduced Shrub

The southern boundary of the site comprises introduced shrub which is a mix of native and non-native species (**Figure 5**). Species present include bluebells, bay laurel *Laurus nobilis*, viburnum *Viburnum* species, non-native spindle *Euonymus* species, ivy *Helix hedera*, bramble *Rubus fruticosus* aggregate, honeysuckle *Lonicera* species, yew *Taxus baccata*, Japanese persimmon *Diospyros kaki*, grape hyacinth, common mouse ear, herb Robert, common lungwort, primrose and wood avens.



Figure 5: Introduced shrub along southern boundary

The western boundary and area to the front of the property also supports native and non-native introduced shrub (**Figure 6**). Species present include greenstem forsythia *Forsythia viridissima*, rose *Rosa* species, common broom *Cytisus scoparius*, cotoneaster *Cotoneaster* species, lavender *Lavandula* species, Japanese maple *Acer palmatum* and rhododendron *Rhododendron* species.



Figure 6: Introduced shrub along southern boundary

Defunct Species-Poor Hedgerow

A defunct species-poor hedgerow is present along the eastern boundary of the site and comprises solely of cherry laurel *Prunus laurocerasus* (**Figure 7**). The hedgerow is approximately 20 metres long and two to three metres wide with a height of approximately five metres. The hedgerow is subject to some management and is well-connected to other wooded habitats beyond the boundary of the site, to the east.

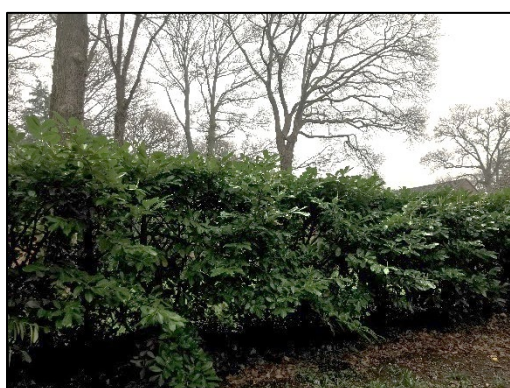


Figure 7: Defunct species-poor hedgerow

Other Habitats

A closed board fence is present along the northern boundary of the site and a small section of fence along the south-eastern site boundary. Hardstanding is present along the north-western site boundary forming a tarmac drive and footpath which leads to the front entrance of the property. A small area of concrete is present to the rear of the property.

4.3.3 Evaluation

The species composition within the site is common and widespread within the local area and supports a low diversity of plant species. The habitats are typical of residential houses and gardens. Therefore, the habitats on site are assessed as having value at the site level.

4.4 Bats

4.4.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with MAGIC produced seven records of granted bat EPSM licences associated with sites within the desktop study area.

The closest licence is 2020-49783-EPS-MIT and was granted in relation to a site located 870 metres south. The licence was granted for the destruction of the resting place of soprano pipistrelle *Pipistrellus pygmaeus* between 2021 and 2026.

Additional licences were granted for damage/destruction of resting places and breeding sites for various species including common pipistrelle *Pipistrellus pipistrellus*, serotine *Eptesicus serotinus*, brown long-eared bat *Plecotus auritus* and Natterer's bat *Myotis nattereri*.

Field Survey Results

Building Assessment

A single building is present on site. The property is a brick-built single storey bungalow with a pitched gable roof and a flat roof extension towards the eastern elevation (**Figure 8**). The roof tiles are concrete and are in good condition. The flat roof sections of the building have plastic fascias which are also in good condition. A brick-built chimney and a plastic flue are present on the northern elevation of the building (**Figure 9**).



Figure 8: Exterior of the property (western elevation)



Figure 9: Brick chimney and plastic flue on northern elevation

The internal void comprises a timber frame with bitumen felt lining, which is missing or damaged in several places (**Figure 10**). There is a very small amount of light spill from the ridge on the northern elevation from around the plastic flue, though no gaps suitable for bats to enter the void from the outside (**Figure 11**). There were no bat droppings recorded although insect wings were recorded which may indicate bat feeding activity, though these are not sufficient alone to confirm the presence of bats within the void.

Overall, the building is considered to have moderate potential to support roosting bats as it has the possibility to support one or more potential roosting sites. The site is unlikely to support a roost of high conservation status due to the lack of entry/exit points and the lighting conditions within the void.



Figure 10: Internal void with damaged/missing bitumen felt lining



Figure 11: Light spill on the northern elevation

Tree Assessment

The scattered trees present on site do not contain any features which are suitable for supporting roosting bats and are therefore assessed to be of negligible suitability for roosting bats.

Foraging and Commuting Habitat

The site itself has limited suitability for foraging and commuting bats, however, the site is connected to suitable habitats in the wider landscape via linear wooded features which are present to the north and east of the site. The wider landscape supports a network of woodland blocks which connect to the wooded corridor of the River Itchen providing suitable foraging habitat. Due to the limited size of the site, the habitats on site are considered support a small number of foraging and commuting bats and therefore considered to be of low suitability.

Bat Emergence/Re-entry Survey Results

The surveys recorded at least six species of foraging and commuting bat: common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctule*, serotine *Eptesicus serotinus*, *Myotis* bat species⁷ and possible Leisler's bat *Nyctalus leisleri*. It was noted that the majority of bats were commuting and foraging along the boundary vegetation which surrounds the site.

⁷ There are seven species of *Myotis* bats in Britain. *Myotis* bats are very difficult to identify specifically, this can generally only be done by examination of physical features and Phylogenetic Analysis Identification of bat droppings. Many of these bats are common and will utilise buildings for roosting often occupying small and inaccessible voids. For the purpose of this report all species shall be referred to as *Myotis* bats unless a specific identification has been possible.

No bats were observed emerging from or re-entering the building on either survey, therefore it is concluded roosting bats are likely absent from the site.

Table 2 provides details of the species and numbers of bats recorded foraging/commuting during the emergence survey.

Table 2: Bat Emergence/Re-entry Survey Results

Visit 1 - Survey Details	
Survey Date:	30 th May 2022
Structures Surveyed:	56 Nichol Road
Survey Type:	Dusk Emergence Survey
Time of Sunset:	21:08
General Bat Activity	
Moderate levels of bat activity throughout. No emergences were recorded during the survey. Foraging and commuting was recorded throughout the survey around the boundary vegetation which surrounds the house. The most commonly recorded foraging species were common pipistrelle and soprano pipistrelle.	

Visit 2 - Survey Details	
Survey Date:	23 rd June 2022
Structures Surveyed:	56 Nichol Road
Survey Type:	Dawn Re-Entry Survey
Time of Sunrise:	04:51
General Bat Activity	
Low levels of bat activity throughout. No re-entries were recorded during the survey. Foraging and commuting was recorded throughout the survey around the boundary vegetation which surrounds the house. The most commonly recorded foraging species were common pipistrelle and soprano pipistrelle.	

4.4.2 Evaluation

Foraging and Commuting Bats

Common pipistrelle and soprano pipistrelle are common in Hampshire whilst noctule is less common but widespread (Mammal Society, 2015). Serotine and *Myotis* bat species is uncommon but widespread across the south east of England and in Hampshire (Mammal Society, 2015). Due to the location of the site and the habitats present, it is not anticipated that the recordings of *Myotis* species represent one of the rarer species within this group. Leisler's bat is rare but present across the south-east of England and in Hampshire (Mammal Society, 2015).

Given the limited size of the site and proximity of highly suitable habitat within the surrounds for foraging and commuting individuals. It is considered that the site is of value for each of these species at the site level.

4.5 Otter

4.5.1 Baseline Ecological Conditions

Desktop Study Results

Consultation of the MAGIC database produced no records of EPSM licences granted in relation to otter *Lutra lutra* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

There are no suitable habitats such as rivers or streams located on the site. Suitable habitats for otter are located approximately three kilometres east of the site along the corridor of the River Itchen but are separated from the site by extensive residential development and the M3 motorway.

It is unlikely that otter would commute across the site as there is no further suitable habitat for otter beyond the site and all suitable habitats are to the east, along the corridor of River Itchen.

As the habitat on site is unsuitable for otter, this species is not considered further in this report.

4.6 Badger

4.6.1 Baseline Ecological Conditions

Field Survey Results

No field signs of badger *Meles meles* were identified during the survey and the habitats on site are not suitable for commuting and foraging badger or for sett construction.

Although this species is likely to be present in the wider landscape due to the presence of suitable habitat, it is unlikely that badger would commute through the site itself, due to the closed board fencing with no gaps into the mature gardens of the site itself and the neighbouring residential developments.

As the habitat on site is unsuitable for badger, this species is not considered further in this report.

4.7 Hazel Dormouse

4.7.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with MAGIC produced no records of hazel dormouse *Muscardinus avellanarius* within the desktop study area, however, the closest granted EPSM licence was returned 2.1 kilometres south-east of the site. The licence was granted for damage and destruction of a resting place and breeding site for hazel dormouse between 2014 and 2018.

Field Survey Results

The site supports a species-poor defunct hedgerow and additional introduced shrub which forms the boundary vegetation which has some connectivity to other wooded features within the wider landscape. Hazel dormouse may be present within the off-site woodland and therefore may also be present on site.

Therefore, the habitats on site are assessed as having suitability for supporting hazel dormouse.

4.8 Water Vole

4.8.1 Baseline Ecological Conditions

Field Survey Results

There are no suitable habitats such as rivers or streams located on the site. The River Itchen is located three kilometres east of the site and comprises habitats suitable for supporting water vole *Arvicola amphibius*. However, these habitats are separated from the site itself by extensive residential development and the M3 motorway.

As the site does not contain any habitats suitable for supporting water vole, this species is considered absent from the site and is not considered further in this report.

4.9 Birds

4.9.1 Baseline Ecological Conditions

Field Survey Results

Species recorded on site during the survey included jackdaw *Corvus monedula*, blue tit *Cyanistes caeruleus* and the amber listed wood pigeon *Columba plumbeus*⁸. No

⁸ The UK's birds are split in to three categories of conservation importance - red, amber and green. Red is the highest conservation priority, with species needing urgent action. Amber is the next most critical group, followed by green. Amber list criteria include species which are: in unfavourable conservation status in Europe; subject to historical population decline during 1800–1995, but recovering; subject to moderate (25-49%) decline in UK breeding population or contraction of UK breeding range over last 25 years, or the longer-term period; subject to moderate (25-49%) decline in UK non-breeding population over last 25 years, or the longer-term period; rare breeders (1–300 breeding pairs in

active nests were recorded within the boundary vegetation, however, some old nests were recorded within the oak trees. Therefore, the scattered trees and boundary vegetation are suitable for supporting common and widespread nesting bird species.

There are no features on the property suitable for nesting birds, such as under the missing tile or under the ridge tiles. Therefore breeding birds cannot access the roof void to nest within the loft space.

The grassland is well managed, therefore unsuitable for supporting ground nesting birds, which are unlikely to occur in a garden.

The habitats on site are not suitable for supporting wintering bird species such as wintering waterfowl, waders and gulls, though these species may be present within the wider landscape where suitable wetland habitats are present e.g. River Itchen. Due to the lack of suitable habitats, these species are considered absent from the site. Wintering birds are therefore not considered further in this report.

4.10 Reptiles

4.10.1 Baseline Ecological Conditions

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards to smooth snake *Coronella austriaca* or sand lizard *Lacerta agilis* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

The habitats on the site comprise improved grassland, scattered trees, introduced shrubs and a defunct species-poor hedgerow. The improved grassland is well managed and mown to a short sward up to the base of the boundary vegetation and is therefore unlikely to support reptiles.

As the habitats on site are unsuitable for reptiles, this species group is not considered further in this report.

UK); rare non-breeders (less than 900 individuals), or; internationally important species with at least 20% of European breeding or non-breeding population in UK.

4.11 Great Crested Newt

4.11.1 Baseline Ecological Conditions

Desktop Study Results

Consultation of the MAGIC database produced no records of EPSM licences granted in relation to great crested newt *Triturus cristatus* within the desktop study area.

A review of aerial photography and OS mapping revealed no waterbodies within 500 metres of the site.

Field Survey Results

There are no waterbodies present on site, therefore breeding great crested newt are absent from the site. The nearest waterbody is approximately 640 metres to the north-east. Though there is good terrestrial habitat around the pond, residential development separates the pond from the site itself and the close board fencing of residential gardens provides a physical barrier to the movement of great crested newt. As such, this species is not discussed further in this report.

4.12 Invertebrates

4.12.1 Baseline Ecological Conditions

Field Survey Results

The grassland habitats are likely to support a range of common and widespread invertebrate species and assemblages but are limited in their extent and lack any features that would support protected or notable invertebrate species.

The habitat on site is unsuitable for scarce or notable invertebrates and therefore the species group is not considered further in this report.

4.13 Other Relevant Species

4.13.1 Baseline Ecological Conditions

Field Survey Results

The habitat on site provides foraging opportunities for European hedgehog *Erinaceus europaeus* and provides some connectivity to off-site habitats via adjacent mature gardens. However, as the rear garden is bounded by closed board fencing which is in good condition and does not contain holes or gaps, the movement of European hedgehog is restricted. No close-board fencing is present at the front of the property, so the movement of European hedgehog is unrestricted here. Overall, the site is considered to have some suitability for European hedgehog.

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

5.1 Introduction

This section assesses the ecological effects of the proposed development scheme on the identified ecological features as identified in Section 4.0. Methods for addressing potential impacts on ecological features have been approached in accordance with the mitigation hierarchy⁹ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 174 of the NPPF (Paragraph 2.2). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

Proposals for the site include the construction of a detached four bedroom, two-storey dwelling following the demolition of the existing bungalow.

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

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

Hocombe Mead LNR is located 410 metres west of the site. Given the small scale, nature and extent of the redevelopment proposals, the distance between the redevelopment's footprint and the designated site and the reason for the site's designation, no adverse impacts are anticipated.

5.3.2 Mitigation and Compensation Measures

Given that no potential constraints in relation to designated sites have been identified, no mitigation or compensation measures will be required.

5.3.3 Significance of Residual Effects

No significant residual effects in relation to designated sites are anticipated as a result from the proposals.

⁹ In accordance with CIEEM Ecological Impact Assessment guidance (CIEEM, 2018) a sequential process is adopted to address impacts on features of ecological interest, with 'Avoidance' prioritised at the top of the hierarchy and Compensation/Enhancement' at the bottom. This is often referred to as the 'mitigation hierarchy'.

5.3.4 Enhancement

No enhancement measures in relation to designated sites are proposed.

5.3.5 Monitoring

No future monitoring is required.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The footprint of the new build will largely sit on the footprint of the existing property, therefore a very minimal amount of improved grassland will be lost as part of the proposals. Due to the size and limited ecological value of this habitat, this loss is not considered to represent a significant constraint to the proposed works. No removal of trees, hedgerows or shrubs is required as part of the proposals.

5.4.2 Mitigation and Compensation Measures

No mitigation or compensation measures are proposed.

5.4.3 Significance of Residual Effects

No significant residual effects in relation to habitats are anticipated as a result from the proposals.

5.4.4 Enhancement

Additional planting within the hedgerow will be incorporated into the site to increase the diversity of species. Suitable species include cherry *Prunus avium*, hazel *Corylus avellana*, spindle *Euonymus europaeus* and dogwood *Cornus sanguinea*.

5.4.5 Monitoring

No future monitoring is required.

5.5 Bats

5.5.1 Potential Impacts and Effects

As 56 Nichol Road does not support any roosts, roosting bats are considered absent from the site. Therefore, there will be no direct impacts to these species. The proposals will however result in the loss of potential roosting features for bats.

A security light will be installed to the rear of the new property post development. Any additional lighting on the site may cause disturbance to foraging and commuting bat species.

In England, bats and their habitat are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, all bat species are protected

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

5.5.2 Mitigation and Compensation Measures

Due to the loss of the potential roosting features on the existing building, as a form of compensation, a single bat box/tube will be installed on the site. Suitable boxes/tube include a Beaumaris bat box or a Vivara Pro WoodStone Build-in Bat Tube.

All works associated with the construction phase will be carried out within daylight hours to avoid disturbance to foraging and commuting bats.

New lighting will be task related, associated with specific entrance/exit points of the building. In addition, the lighting will be directed away from important foraging and commuting habitat such as hedgerows and woodland. The lux level will be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels and mitigation options as described within the Bats and Artificial Lighting in the UK report will be followed (Institution of Lighting Professionals, Bat Conservation Trust, 2018).

5.5.3 Significance of Residual Effects

No significant residual effects in relation to bats are anticipated as a result of the proposals.

5.5.4 Enhancement

Enhancement measures for bats will include the installation of a bat box such as a Beaumaris Bat Box on the new dwelling, orientated to the east. Alternatively an integrated bat tube such as a Vivara Pro WoodStone Build-in Bat Tube could be installed during the construction of the new building.

5.5.5 Monitoring

No future monitoring is required.

5.6 Hazel Dormouse

5.6.1 Potential Impacts and Effects

No removal of trees, hedgerows or shrubs is required as part of the proposals. Therefore, no direct harm to hazel dormouse during the construction phase and long-term loss and fragmentation of hazel dormouse habitats anticipated.

5.6.2 Mitigation and Compensation Measures

During construction, habitats which are suitable for supporting hazel dormouse, such as the boundary hedgerows and trees should be protected by Heras fencing (or similar) for the duration of the construction.

5.6.3 Significance of Residual Effects

No significant residual effects in relation to hazel dormouse are anticipated as a result of the proposals.

5.6.4 Enhancement

No enhancement measures are considered necessary with regards to hazel dormouse.

5.6.5 Monitoring

No future monitoring is required.

5.7 Birds

5.7.1 Potential Impacts and Effects

The property is not suitable for supporting breeding birds, though they are likely to be supported in the boundary vegetation. No direct impacts to the boundary vegetation are proposed.

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

5.7.2 Mitigation and Compensation Measures

No mitigation or compensation measures are proposed.

5.7.3 Significance of Residual Effects

No significant residual effects in relation to breeding birds are anticipated as a result of the proposals.

5.7.4 Enhancement

As a form of enhancement, a single Vivara Pro WoodStone house sparrow box will be installed on the new property after the completion of the development to provide further nesting opportunities for breeding birds. Alternatively, a Vivara Pro WoodStone Seville nest box could be installed on a retained tree on the site.

5.7.5 Monitoring

No future monitoring is required.

5.8 Other Relevant Species

5.8.1 Potential Impacts and Effects

As there is no proposed clearance of vegetation, there will be no impacts to European hedgehog.

5.8.2 Mitigation and Compensation Measures

No mitigation or compensation measures are proposed.

5.8.3 Significance of Residual Effects

No significant residual effects in relation to European hedgehog are anticipated as a result of the proposals.

5.8.4 Enhancement

No enhancement recommendations are considered necessary.

5.8.5 Monitoring

No future monitoring is required.

5.9 Cumulative Effects

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

6.0 CONCLUSIONS

6.1 Conclusion

The footprint of the new building will largely site on the existing footprint of the current property, therefore vegetation loss of very limited. As an enhancement measure, there will be planting of native species within the existing hedgerows.

Roosting bats are consider likely absent from 56 Nichol Road. The loss of the potential roosting features from the existing property will be compensated by the addition of a bat box/tube installed on the new property. During the survey, foraging and commuting behaviour by common and widespread bat species was observed. The addition of any lighting to the site will be mitigated by using task-related and low lux level lighting. To enhance the site for bats in the long-term, a single bat box will be installed on the new dwelling on the eastern aspect of the building post development.

The site also has suitability for hazel dormouse, breeding birds and European hedgehog. There will be no impacts to these species as part of the proposals. As an enhancement measure the new dwelling will include the addition of a house sparrow nest box or a bird nesting box on a retained tree on the site. During the construction phase, the boundary hedgerows and trees, which are suitable for hazel dormouse, will be protected using Heras fencing for the duration of the build.

As such it is considered that the proposals will accord with all relevant national and local planning policy in relation to ecology including Policies 21:NC to 27:NC of the Local Plan and the NPPF (see Section 2.0).

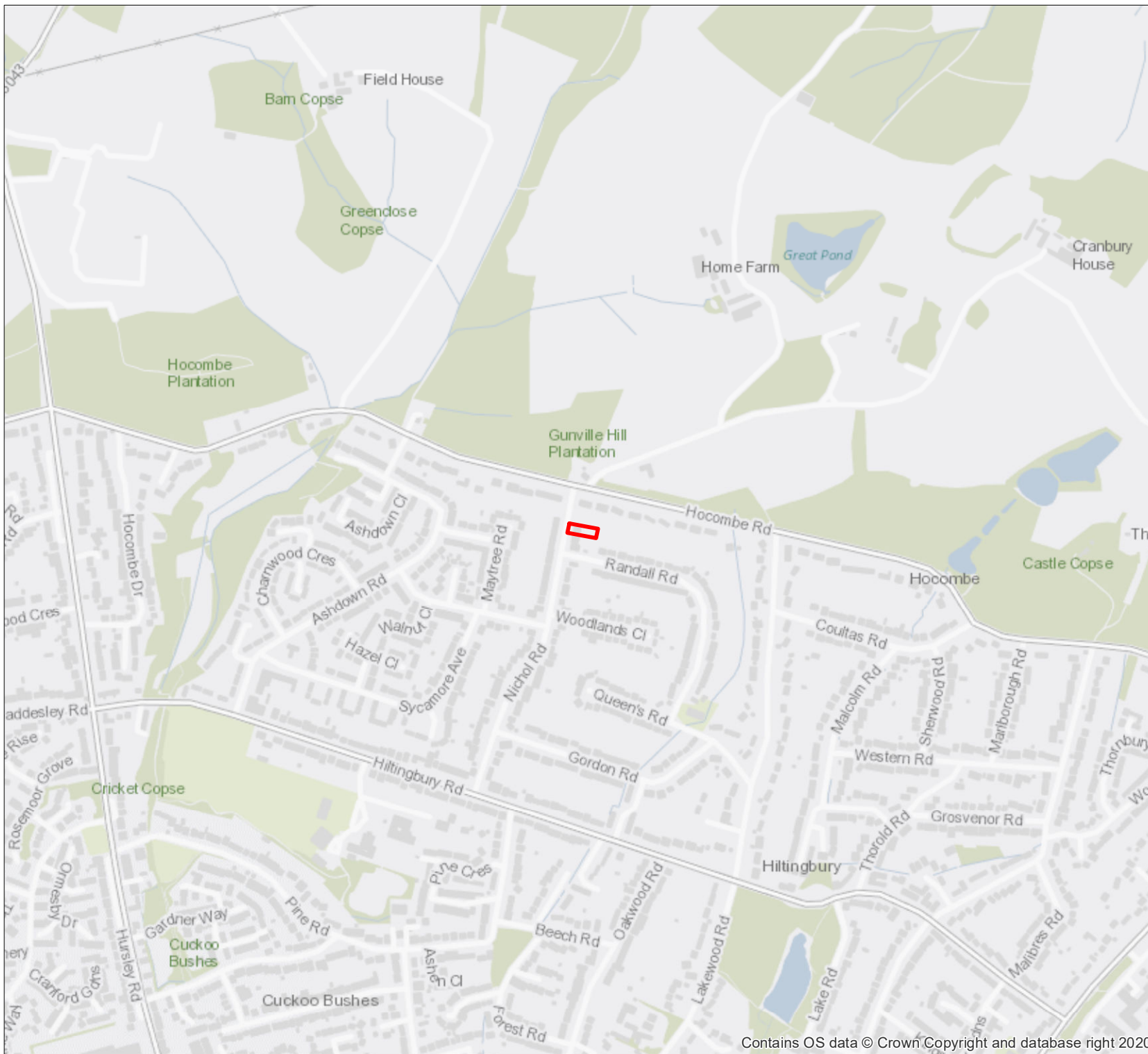
6.2 Updating Site Survey

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

7.0 REFERENCES

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Map 1 Site Location Plan



56 NICHOL ROAD, CHARDLER'S FORD, EASTLEIGH, HAMPSHIRE

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	Benjamin Chiuriri
Date:	March 2022
Status:	Final

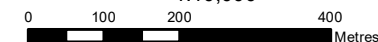
KEY

Site Boundary



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS,

Scale at A4: 1:10,000



Prepared by: EV	Date: 140322
Last amended by: JSW	Date: 280722

ECOSA

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Appendix 1 Proposed Site Layout



Drawing No.		Title	
21-NCH-02		SITE PLAN	
Scale	Date	Project	
1:200 A3 0m 1m 2m 3m 4m 5m	06-12-21		
Rev.	Drawn By	56 NICHOL ROAD CHANDLERS FORD EASTLEIGH	
	S Bernardez		

A&B Design 01794 368744
steve@aandbhomes.com

Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

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

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

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

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

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

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

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

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

Locally Designated Sites – Local Nature Reserves

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

Appendix 3 Relevant Legislation

Bats

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

- Deliberately capture, injure or kill any such animal;
- Deliberately disturb any such animal, including in particular any disturbance which is likely:
 - To impair its ability to survive, breed, or rear or nurture their young;
 - To impair its ability to hibernate or migrate;
 - To affect significantly the local distribution or abundance of that species;
- Damage or destroy a breeding site or resting place of any such animal;
- Intentionally or recklessly disturb any of these animals while it is occupying a structure or place that it uses for shelter or protection; or
- Intentionally or recklessly obstruct access to any place that any of these animals uses for shelter or protection.

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

- Greater horseshoe bat *Rhinolophus ferrumequinum*;
- Lesser horseshoe bat *Rhinolophus hipposideros*;
- Bechstein's bat *Myotis bechsteinii*;
- Barbastelle *Barbastella barbastellus*; and
- Greater mouse-eared bat *Myotis myotis*.

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

Breeding Birds

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

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

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

- Intentionally or recklessly disturb any bird while it is nest building, or is at a nest containing eggs or young; or
- Intentionally or recklessly disturb the dependent young of any such bird.

Appendix 4 Protected and Notable Species Appraisal Methods

Bats

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

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

Otter

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

Badger

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

Hazel Dormouse

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

Water Vole

The water vole appraisal was based on an assessment of the suitability of the habitat present within the site to support water vole by reference to habitat type (such as rivers, streams, ditches, wetlands, reed beds, lakes, ponds and reservoirs), bank structure and the bank side vegetation. Water voles generally require sloping banks in which to burrow and well-developed

bank side vegetation to provide shelter and food. During the survey attention was paid to the presence of burrows, latrines, feeding remains, trails and footprints.

Birds

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

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

Reptiles

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

Great Crested Newt

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

Invertebrates

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

Other Relevant Species

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

Biodiversity List, and Local Biodiversity Action Plan (LBAP) species¹⁰, specific to the study region.

Invasive Species

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

¹⁰ LBAPs identify local priorities for biodiversity conservation by translating national targets for species into effective action at the local level and identifying targets for species important to the local area.

Appendix 5 Appraisal Criteria for Bats

The criteria used to assess the suitability of roosting and foraging/commuting habitat for bats is based on industry guidelines and outlined in **Table 3**¹¹.

Table 3: Criteria used to Assess Suitability of Roosting and Foraging/Commuting Habitat for Bats

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

¹¹ Table adapted from (Collins, 2016)

Appendix 6 Statutory Designated Sites within the Desktop Study Area

Details of statutory designated sites within the desktop study area, as listed in Paragraph 4.2.1, are provided in **Table 4**.

Table 4: Statutory Designated Sites Located Within the Desktop Study Area

Site Name	Hocombe Mead
Site Designation	LNR
Approximate Relative Location	410 metres west
Reasons for Designation:	
The site is designated for the presence of ancient woodland and wet meadows and supports a variety of notable species and plants include purple loosestrife <i>Lythrum salicaria</i> and 29 species of butterfly including ringlet butterfly <i>Aphantopus hyperantus</i> .	