

**NUNTON COTTAGE, BEACON ROAD, WEST END,
SOUTHAMPTON**

ECOLOGICAL IMPACT ASSESSMENT

Final Document (Revision 1)

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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SOUTHAMPTON**

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Map 1 Site Location Plan

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EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Mark Beavis to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Nunton Cottage, West End. The site is located in the West End suburb of Southampton, Hampshire and comprises the garden of an existing residential dwelling. The proposals entail the construction of a new residential dwelling.

The main findings of the Ecological Impact Assessment are:

- The site lies within 5.6 kilometres of the Southampton and Solent Water Ramsar site and SPA and lies within the catchment of the River Itchen that feeds into the Solent Maritime SAC;
- The site is dominated by amenity grassland with scattered trees and ornamental shrubs;
- The site is assessed as having suitability for foraging and commuting bats, foraging badger, breeding birds and European hedgehog;
- The proposals will result in the loss of nesting bird habitat, harm/disturbance to nesting birds and commuting bats. An increase in residents in the local area (due to the addition of a new dwelling) could result in additional recreational pressure and nitrogen discharge, potentially impacting on Solent designated sites;
- Proposed mitigation measures include financial contributions towards the Bird Aware Solent Partnership for the management of designated sites, producing a Nitrogen Budget report, a sensitive lighting scheme for bats, sensitive timing of works for birds and provision of nest boxes for birds;
- Proposed enhancement measures include installation of additional bat roosting and bird nesting features;
- 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; and
- 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 Mark Beavis to undertake an Ecological Impact Assessment to support a planning application for the redevelopment of Nunton Cottage, Beacon Road, West End, Southampton, Hampshire SO30 3BR (hereafter referred to as the site).

ECOSA were previously contracted to support a similar planning application in 2020 (Planning Reference: F/20/87242). Following the rejection of the original scheme, this updated report has been produced to support an altered scheme. AS the condition of the site has not changed significantly since the previous survey works, this report has been based on the previous survey works and an updating desktop study.

1.2 The Site

The site is located in Southampton, Hampshire, centred on National Grid Reference (NGR) SU 4695 1382 (**Map 1**).

The site comprises part of the garden within the residential property Nunton Cottage. The site is bounded by Beacon Road to the north-east and by residential development on all other sides.

In the wider area, the landscape is characterised by residential development associated with West End surrounding the site and woodland blocks located to the east and west, interspersed with recreational grassland fields.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study carried out during May and June 2020 and August 2022. The report describes the habitats and species (hereafter referred to as ecological features) within the site's Zone of Influence (Paragraph 3.2), and provides a detailed assessment of potential ecological effects of the proposed development of the site. It identifies the need for any measures to avoid, mitigate or compensate for significant adverse effects¹ on 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;

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 assess, characterise and quantify the effects on ecological features, including cumulative effects, and identify effects in the absence of any mitigation;
- To set out measures to avoid, mitigate and compensate for significant ecological effects in accordance with the 'mitigation hierarchy'²; and
- To outline opportunities for enhancement in order to achieve a net gain for biodiversity.

1.4 Site Proposals

The proposals entail the construction of a new two-storey residential dwelling using Streif modular construction materials and techniques including a 'zero gas' system using an air source heat pump for heating and hot water, augmented by solar panels for direct water heating. An in-ground rainwater and roof drainage soak-away tank will also be used to reduce the hydraulic load on the municipal drainage system.

The report is based on a site proposals plan dated 16th November 2021, produced by GB Designs (Drawing no. KANDOLHU 04) (**Appendix 1**).

It is anticipated that planning permission will be sought during September 2022 with construction commencing 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 used to inform the necessary mitigation, compensation and enhancement measures (see Section 5.0).

2.2 Planning Policy

2.2.1 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 a revised NPPF published in February 2019. 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 177 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 170 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 175, 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

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)."*

habitats occurs planning permission would normally be refused unless there are wholly exceptional reasons and an adequate compensation strategy is in place. Paragraph 175 also states *“development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity”*. Protection of sites proposed as SPAs, SACs and Ramsar sites or 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”*.

2.2.2 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.

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- **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).

3.0 METHODS

3.1 Introduction

This section details the methods used during the field survey and desktop study carried out as part of 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 (Zone of Influence⁵), the proposed scheme was reviewed to establish the spatial scale at which ecological features could be affected. The appropriate survey radii for the various elements of the assessment (i.e. desktop study and field survey) 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 appraisal, its surroundings and the nature and scope of the proposals.

3.3 Scoping

Protected species considered within this appraisal are those species/species groups considered likely to be encountered given the geographical location and context of the site. 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 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) (DEFRA, 2020) database was reviewed on 11th June 2020 to establish the location of statutory designated sites located within the vicinity of the site. This included a search for all internationally and nationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs), Wetlands of International Importance (Ramsar sites), Sites of Special Scientific Interest (SSSIs), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs) within one kilometre of the site. Where appropriate, the desk study search area has been extended to take account of any

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.

appropriate statutory designated sites which need consideration in terms of potential in-direct effects and which support particularly mobile species⁶. 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

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

3.5.1 Phase 1 Habitat Survey

An assessment was made of all areas of vegetation within the site based on the standardised Phase 1 habitat survey methodology (JNCC, 2010)⁷. This involved identification of broad vegetation types, which were then classified against Phase 1 habitat types, where appropriate. A list of characteristic plant species for each

⁶ Search areas for bat records are based upon information contained within Collins, J. (Ed.) (2016) *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (Third Edition). The Bat Conservation Trust, London. Relevant distances for consideration of impacts on SPAs, SACs, Ramsar sites have been based on current published guidance available through web-based sources.

⁷ The standard JNCC Phase 1 habitat survey methodology involves the production of a Phase 1 map showing the location and extent of habitat types, however, given the limited size and complexity of the site surveyed a Phase 1 habitat map has not been produced in this instance.

vegetation type was compiled and any invasive species⁸ encountered as an incidental result of the survey recorded.

3.5.2 Protected and Notable Species Appraisal

A preliminary appraisal of the site's suitability to support legally protected and notable species was carried out. The following species/species groups were considered during the appraisal.

Bats

The survey conformed to current Bat Conservation Trust guidelines (Collins, 2016). An assessment was made of the suitability of buildings and trees on the site and immediately on the site boundary to support roosting bats based on the presence of Potential Roosting Features such as loose or missing roof tiles or lifted lead flashing for buildings and holes, cracks, splits, loose bark and ivy cladding for trees. A detailed external 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 suitability of the site to support roosting, foraging and commuting bats is based on a four-point scale as detailed in **Appendix 4**.

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 an assessment of the suitability of the site to support badger. Evidence of the species was recorded as an incidental result of the Phase 1 habitat survey and included locating badger setts, paths, and signs of territorial activity such as latrine sites.

⁸ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

Hazel Dormouse

The appraisal for the suitability of the site to support hazel 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 suitability of the site for 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 suitability 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 suitability of the site 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) species⁹, 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.

3.6 Field Survey Details

The field survey was carried out by Hugh Turner, Ecologist of ECOSA on 27th May 2020. The weather conditions were dry with approximately 95-100% cloud cover, an ambient temperature of 17°C and a moderate breeze.

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

3.7 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

⁹ 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.

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.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Introduction

This section details the results of the field survey and desktop study undertaken as part of the Ecological Impact Assessment for the site. It assesses the baseline ecological conditions of the site at the time the desktop study was completed and based on the ecological features recorded during the field survey carried out in May and June 2020.

4.2 Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary. The site also lies within 5.6 kilometres of the Solent and Southampton Water Ramsar site and SPA. The site also lies within the catchment of the River Itchen that feeds into the Solent Maritime SAC. These sites are designated for supporting notable wetland habitats and wintering bird assemblages. The Zone of Influence has been increased to include these sites due to the Solent Recreational Mitigation Strategy that affects development within the 5.6 kilometres buffer and the possible increase in nitrogen discharge, as a result of wastewater, into these designated sites.

4.3 Habitats

4.3.1 Desktop Study Results

Consultation with the MAGIC database produced no records of notable habitats on or adjacent to the site.

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

A small number of immature and semi-mature trees are located along the boundary of the site (**Figure 1**). Tree species recorded include apple *Malus* species, Norway maple *Acer platanoides*, holly *Ilex aquifolium*, hazel *Corylus avellana* and yew *Taxus baccata*.



Figure 1: Immature apple tree

Amenity Grassland

The site is dominated by well mown lawns (**Figure 2**). Grass species recorded in this area include perennial rye-grass *Lolium perenne* and red fescue *Festuca rubra*. Herbaceous species recorded include daisy *Bellis perennis*, common cat's-ear *Hypochaeris radicata*, scarlet pimpernel *Anagallis arvensis*, common mouse-ear *Cerastium fontanum*, dandelion *Taraxacum officinale* aggregate, white clover *Trifolium repens*, great mullein *Verbascum thapsus*, green alkanet *Pentaglottis sempervirens*, creeping buttercup *Ranunculus repens*, lesser celandine *Ranunculus ficaria*, herb Robert *Geranium robertianum*, ribwort plantain *Plantago lanceolata*, barren strawberry *Potentilla sterilis* and black medic *Medicago lupulina*.



Figure 2: Well mown lawn

Ornamental Shrubs

Ornamental shrub planting is located along the boundaries of the site (**Figure 3**). Species recorded in these areas include cotoneaster *Cotoneaster* species, cherry laurel *Prunus laurocerasus*, Oregon grape *Mahonia aquifolium*, lavender *Lavandula* species, rhododendron *Rhododendron* species, bramble *Rubus fruticosus* aggregate, fig *Ficus carica*, foxglove *Digitalis purpurea* and wood avens *Geum urbanum*.



Figure 3: Ornamental planting

Other Habitats

Other habitats on site include gravel and paved tile hardstanding and brick walls along the boundary.

Summary

The habitats on site are typical of garden landscaping and support common and widespread plant species and are assessed as being of low value.

4.4 Notable and Legally Protected Species

4.4.1 Bats

Desktop Study Results

Consultation with the MAGIC database produced two records of granted EPSM licences with regards to bats within the desktop study area. The licences allow the destruction of resting places for common pipistrelle and brown long-eared bat. The most recent licence was granted in 2016 and the nearest record to the site is located approximately 0.9 kilometres to the north of the site.

Building Assessment

There is a single building on site, a wood store. The wood store is of timber construction with a pitch timber roof and is open on all sides. Internally the building is open to the roof and lined with bitumen roofing felt.



Figure 4: Wood store within garden

The wood store does not support any potential bat roosting features and is considered to be unsuitable to support roosting bats as the open sides would not protect roosting bats from high winds or low temperatures. Therefore, the wood store is assessed as having negligible suitability to support roosting bats.

Tree Assessment

The trees on site are in good condition and do not support any potential bat roosting features and are assessed as having negligible suitability to support roosting bats.

Foraging and Commuting Habitat

The ornamental shrubs and scattered trees provide some foraging and commuting opportunities for bats. The site has some connectivity to off-site garden habitats, however, there is limited connectivity to nearby woodland habitats due to surrounding street lighting associated with residential development. Overall, the site is assessed as having low suitability to support foraging and commuting bats.

4.4.2 Otter

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards 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 riparian habitats on site and there are no waterbodies in the nearby area therefore the species is not considered further in this report.

4.4.3 Badger

Field Survey Results

No evidence of badger *Meles meles* was recorded on site during the survey. The grassland habitats on site are limited in extent and subject to regular disturbance and are therefore unsuitable for sett construction, however, the site may be used by foraging badger or badger passing through the site. Therefore, the site is assessed as having suitability for foraging badger.

4.4.4 Hazel Dormouse

Desktop Study Results

Consultation with the MAGIC database produced records of three granted EPSM licences with regards to hazel dormouse *Muscardinus avellanarius* within the desktop study area. The most recent licence was granted in 2014 and the records are located approximately one kilometre to the west of the site.

Field Survey Results

The habitat on site comprises a well managed garden, lacking habitat required for hazel dormouse, therefore the species is not considered further in this report.

4.4.5 Water Vole

Field Survey Results

There are no riparian habitats on site and there are no waterbodies in the nearby area. The habitat on site is unsuitable for water vole *Arvicola amphibius* and therefore the species is not considered further in this report.

4.4.6 Birds

Field Survey Results

During the survey a number of bird species were recorded on site or passing over including house sparrow *Erithacus rubecula* and wood pigeon *Columba palumbus*. No evidence of nesting birds was recorded within the wood store during the survey. The scattered trees and shrub habitats provide nesting opportunities for breeding birds. The grassland habitats on site are limited in extent and are unlikely to support significant assemblages of wintering birds.

4.4.7 Reptiles

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards to smooth snakes *Coronella austriaca* or sand lizard *Lacerta agilis* within

the desktop study area, however, this does not confirm the absence of these species in the local area.

Field Survey Results

The grassland habitats on site are limited in extent and well managed and therefore do not provide sheltering or foraging opportunities for reptiles. The site has some connectivity to off-site grassland habitats via adjacent gardens, however, the habitat on site is unsuitable for reptiles and therefore this species group is not considered further in this report.

4.4.8 Great Crested Newt

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards to great crested newt *Triturus cristatus* within the desktop study area, however, this does not confirm the absence of the species in the local 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. The grassland habitats on site are well managed and limited in extent and do not provide any sheltering or foraging opportunities for great crested newt in their terrestrial phase. Therefore, the habitat on site is unsuitable for great crested newt and therefore the species is not considered further in this report.

4.4.9 Invertebrates

Field Survey Results

The habitats on site may support common and widespread invertebrate species however they are unsuitable to support notable species or assemblages. The habitat on site is unsuitable for invertebrates and therefore this species group is not considered further in this report.

4.4.10 Other Relevant Species

Field Survey Results

The grassland habitats are limited in extent however they provide some foraging opportunities for European hedgehog *Erinaceus europaeus* and the site is well connected to off-site woodland and grassland habitats via adjacent woodland and garden habitats. Therefore, the site is assessed as having suitability for foraging European hedgehog.

4.5 Summary of Key Ecological Features

The following features are those with greatest ecological value that lie within the site's Zone of Influence:

- The site is assessed as having low suitability for foraging and commuting bats;
- The site has suitability for foraging badger;
- The site has suitability for breeding birds; and
- The site has suitability for foraging 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 and effects on ecological features have been approached in accordance with the mitigation hierarchy¹⁰ with avoidance of impacts prioritised where possible. Where significant adverse effects cannot be avoided other forms of mitigation are prioritised over compensation. Enhancement measures have been detailed, where relevant, in order to not only minimise the impacts on biodiversity but also to provide enhancement in accordance with Paragraph 170 of the NPPF (Paragraph 2.2.1). It is anticipated that mitigation, compensation and enhancement measures will be secured through the planning process.

5.2 Scheme Design

The proposed development entails entail the construction of a new two-storey residential dwelling using Streif modular construction materials and techniques. New external lighting will be introduced as part of the proposals. New site access will enter from Beacon Road to the north of the site

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

5.3 Designated Sites

5.3.1 Potential Impacts and Effects

Given the distance of the site from the nearest designated site, there are no direct impacts anticipated as a result of the proposals. As the proposals will result in a net increase of residents in the local area, there could be an increase in recreational pressure in combination with other plans and projects and an increase in nitrogen discharge from wastewater output into the Southampton and Solent Water Ramsar site and SPA the Solent Maritime SAC.

5.3.2 Mitigation and Compensation Measures

Where a net gain in dwellings is proposed within proximity to the Southampton and Solent Water Ramsar site and SPA (a 5.6 kilometre buffer), in accordance with the Solent Recreation Mitigation Strategy, a contribution should be made towards off-site

¹⁰ 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'.

mitigation measures. The contribution required will be determined based on the number of bedrooms within the new residential development (Bird Aware Solent, 2017). If this financial contribution is secured, the local authority will conclude that there will be no adverse impact on the integrity of the Southampton and Solent Water Ramsar site and SPA.

While solutions to ensure there is not a net increase in nitrogen discharge into the Solent are currently limited, proposed solutions from Natural England include the removal of agricultural land from production to offset the increase in nitrogen. A Nitrogen Budget technical note (ECOSA, 2022) has been produced to accompany this report produced to determine the amount of land required to offset the increase in nitrogen discharge. A nitrate credit should be purchased from Eastleigh Borough Council, at a cost of £4,500, to offset the increase in nitrogen discharge.

5.3.3 Enhancement

No enhancement measures are proposed with regards to designated sites.

5.4 Habitats

5.4.1 Potential Impacts and Effects

The proposals will result in the loss of approximately 875 square metres of amenity grassland, scattered trees and shrub habitats.

5.4.2 Mitigation and Compensation Measures

Scattered trees should be retained where possible. Retained trees should be left with a suitable buffer enforced by Heras-type fencing to prevent accidental damage to retained habitats during construction works in line with BS42020. Root protection zones will be established to prevent root compaction.

New areas of lawn will comprise a locally appropriate native mix. Whilst the management of garden landscaping cannot be secured in the long-term, it will still likely result in a net increase in green landscaping.

5.4.3 Enhancement

No enhancement measures are proposed with regards to habitats.

5.5 Bats

5.5.1 Potential Impacts and Effects

New external lighting will be introduced as part of the proposals, it may disturb foraging and commuting bats.

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

New external lighting will comprise hooded luminaires directed away from vegetation, particularly the boundary habitats and the off-site woodland to the north-west. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife. The new lighting will be task related, associated with specific entrance/exit points of the development. 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 Enhancement

As a measure of enhancement, two Build-in WoodStone Bat Boxes (or bat boxes of a similar design) will be incorporated into the new building.

5.6 Badger

5.6.1 Potential Impacts and Effects

The proposals will result in the loss badger foraging habitats. Given the small amount of habitat lost and the availability of suitable habitats in the surrounding area, the loss is considered to be insignificant.

Badger are protected from killing and injury, and their setts protected from damage and interference, under the Protection of Badgers Act 1992. Refer to **Appendix 3** for details.

5.6.2 Mitigation and Compensation Measures

No mitigation or compensation measures are proposed with regards to badger.

5.6.3 Enhancement Opportunities

No enhancement measures are proposed with regards to badger.

5.7 Birds

5.7.1 Potential Impacts and Effects

Removal of shrub and tree habitats will result in the loss of suitable nesting habitats. Nesting birds may be harmed during vegetation clearance if undertaken during the breeding bird season.

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

Vegetation clearance works should be undertaken outside the main breeding bird season of March to August, inclusive, or if not possible, an ecologist should be present immediately prior to clearance to check vegetation. Active nests should be left with a suitable buffer until nesting ends.

To mitigate for the loss of suitable nesting habitats, two WoodStone Build-in Open Nest Box (or nest boxes of a similar design) should be incorporated into the wall of the new building.

5.7.3 Enhancement Opportunities

As a measure of enhancement, four WoodStone Build-in Swift Nest Box B (or swift boxes of a similar design) should be incorporated into the new extension to provide additional nesting opportunities for swifts *Apus apus* post development.

5.8 Other Relevant Species

The proposals will result in the loss of approximately 15 square metres of European hedgehog foraging habitat. Given the small amount of habitat lost and the availability of suitable habitats in the surrounding area, the loss is considered to be insignificant.

5.8.1 Potential Mitigation and Compensation Measures

As the loss of habitats is considered to be insignificant, no mitigation or compensation measures are proposed with regards to European hedgehog.

5.8.2 Enhancement Opportunities

One hedgehog dome will be installed at the base of the adjacent treeline within the wider site ownership to provide additional nesting opportunities for European Hedgehog post-development.

5.9 Residual and Cumulative Effects

Given the mitigation and compensation measures outlined above, no significant residual effects are anticipated on any of the species considered. Therefore, there will be no cumulative effects on local populations as a result of the development.

6.0 CONCLUSIONS

6.1 Conclusion

The site has suitability for foraging and commuting bats, foraging badger, breeding birds and European hedgehog and is located within the 5.6 kilometre buffer of Solent and Southampton Water Ramsar site and SPA and the Solent Maritime SAC. Adverse impacts on these ecological features have been identified and appropriate mitigation measures proposed. Post-development, no residual or cumulative impacts are anticipated. The site will be enhanced for bats through the installation of an additional bat roosting feature and for birds through the installation of additional nesting features, resulting in an overall net gain for biodiversity. 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 -27 N.C 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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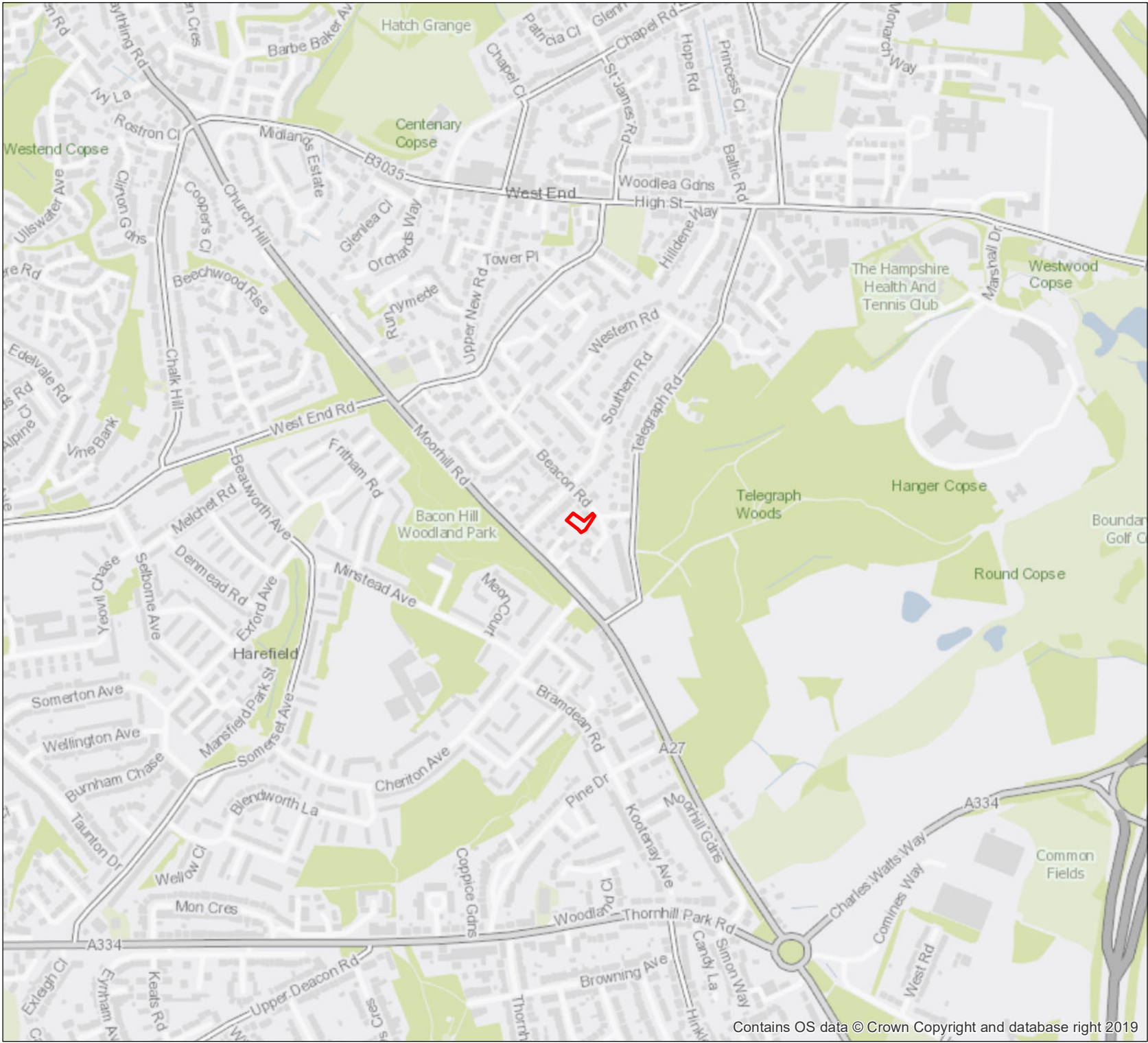
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Map 1 Site Location Plan



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**NUNTON COTTAGE, BEACON ROAD,
WEST END, SOUTHAMPTON**

ECOLOGICAL IMPACT ASSESSMENT

Map 1 - Site Location Plan

Client:	Mark Beavis
Date:	June 2020
Status:	Final

KEY

 Site Boundary



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

Scale at A4: 1:10,000

0 100 200 400 Metres

N

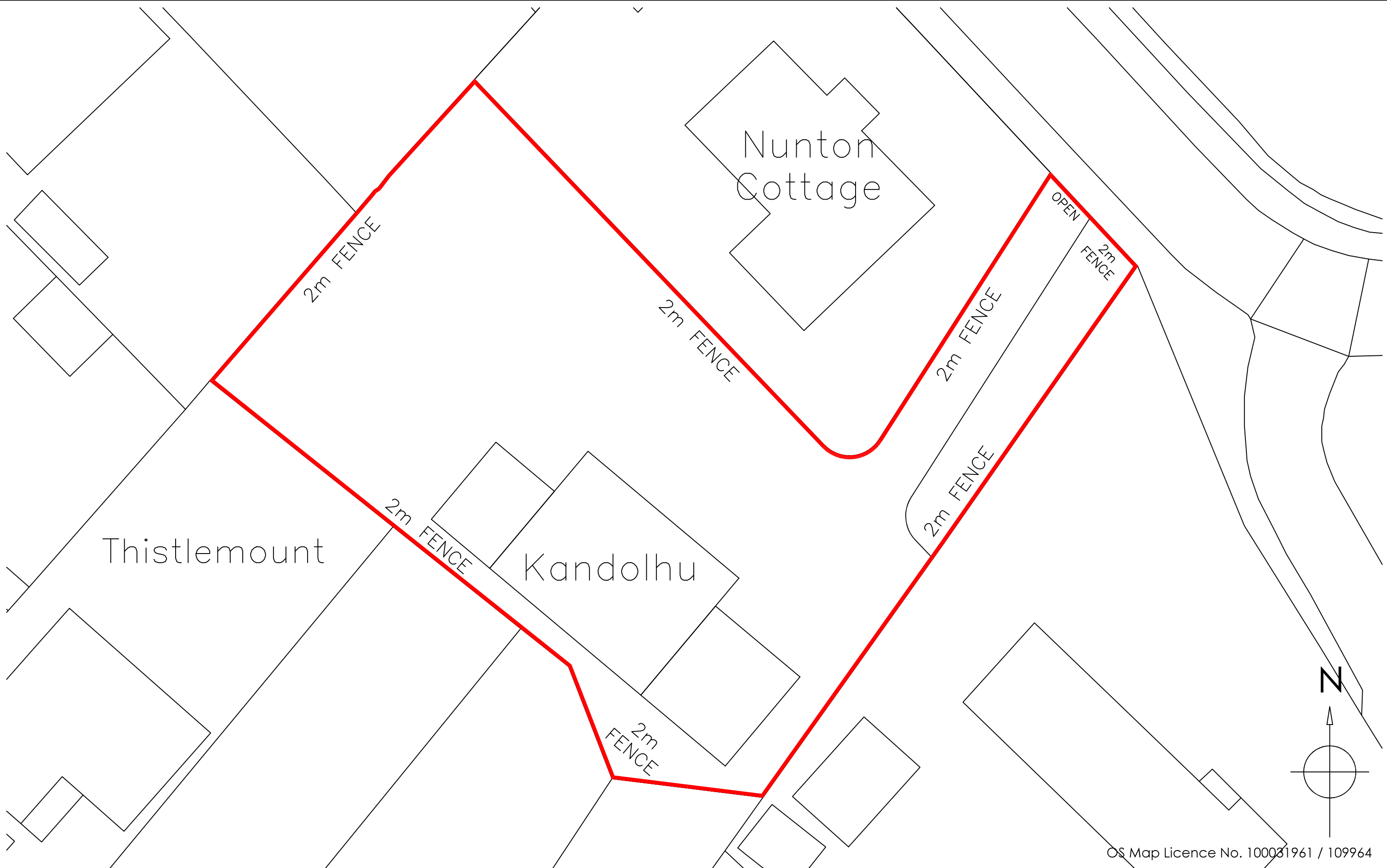


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Appendix 1 Site Proposals Plan



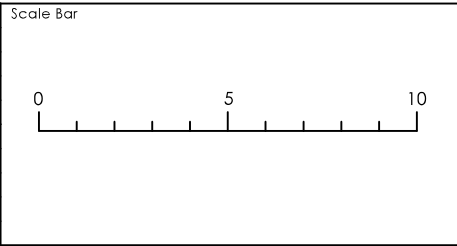
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All dimensions to be checked on site

All structural elements to be specified by a suitably qualified structural engineer.

REV	DESCRIPTION	DRAWN	DATE
	Initial design	GBS	11.05.22
A	Revisions following feedback from client	GBS	20.06.22
B	Changes to roof, sky lights, garage doors and rear window	GBS	15.07.22



Drawing Ref KANDOLHU 04		Drawing Title 'Kandolhu', Nunton Cottage, Beacon Road, West End, Southampton, Hampshire, SO30 3BR.	
Scale at A1 N/A	Scale at A3 1:200	Date 16 NOV 2021	Drawn by GBS



CAD - ARCHITECTURE - DESIGN

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Appendix 2 Sites Designated for Nature Conservation

Statutory Sites

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

Special Protection Areas (SPA) and Special Areas of Conservation (SAC) form a network of protected sites across the European Union called Natura 2000 sites. 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 Natura 2000 sites.

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 listed in the annexes of the Birds Directive. 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 Natura 2000 sites 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 Natura 2000 site 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.

Badger

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

- Kill, injure or take a badger;
- Attempt to kill, injure or take a badger; or
- To damage or interfere with a sett.

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

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 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 1**¹¹.

Table 1: 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 or 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 of 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)