

**THE STEDDLES, NORTH END ROAD, YAPTON,
WEST SUSSEX**

PRELIMINARY ECOLOGICAL APPRAISAL

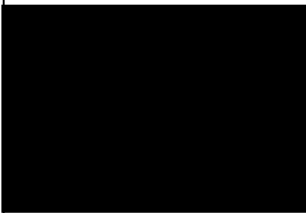
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ECOSA Quality Assurance Record

The Preliminary Ecological Appraisal has been undertaken with reference to the Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Preliminary Ecological Appraisal (CIEEM, 2017). This report has been produced in accordance with the CIEEM Guidelines for Ecological Report Writing 2017 (CIEEM, 2017). The survey work has been undertaken in line with references within CIEEM's Source of Survey Guidance (CIEEM, 2017).

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Table of Contents

EXECUTIVE SUMMARY.....	1
1.0 INTRODUCTION	2
1.1 Background.....	2
1.2 The Site	2
1.3 Aims and Scope of Report.....	2
1.4 Site Proposals.....	3
2.0 PLANNING POLICY CONTEXT	4
2.1 Introduction	4
2.2 Planning Policy	4
2.2.1 <i>National Policy</i>	4
2.2.2 <i>Local Policy</i>	5
3.0 METHODS.....	7
3.1 Introduction	7
3.2 Zone of Influence	7
3.3 Scoping	7
3.4 Desk Study	7
3.4.1 <i>Multi-Agency Geographic Information for the Countryside</i>	7
3.4.2 <i>Other Sources of Information</i>	8
3.5 Field Survey.....	8
3.5.1 <i>Phase 1 Habitat Survey</i>	8
3.5.2 <i>Protected and Notable Species Appraisal</i>	9
3.6 Field Survey Details.....	11
3.7 Limitations.....	11
4.0 BASELINE ECOLOGICAL CONDITIONS.....	13
4.1 Introduction	13
4.2 Statutory Designated Sites	13
4.3 Habitats.....	13
4.3.1 <i>Desktop Study Results</i>	13
4.3.2 <i>Field Survey Results</i>	13
4.3.3 <i>Summary</i>	16
4.4 Notable and Legally Protected Species	16
4.4.1 <i>Bats</i>	16
4.4.2 <i>Otter</i>	18
4.4.3 <i>Badger</i>	18
4.4.4 <i>Hazel Dormouse</i>	18
4.4.5 <i>Water Vole</i>	18
4.4.6 <i>Birds</i>	19
4.4.7 <i>Reptiles</i>	19
4.4.8 <i>Great Crested Newt</i>	19
4.4.9 <i>Invertebrates</i>	20
4.4.10 <i>Other Relevant Species</i>	20
4.5 Summary of Key Ecological Features	20
5.0 POTENTIAL ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS	21
5.1 Introduction	21
5.2 Further Survey	21

5.3	Habitats.....	21
5.3.1	<i>Potential Constraints</i>	21
5.3.2	<i>Further Survey</i>	21
5.3.3	<i>Potential Mitigation and Compensation Measures</i>	21
5.3.4	<i>Enhancement Opportunities</i>	21
5.4	Bats.....	22
5.4.1	<i>Potential Constraints</i>	22
5.4.2	<i>Further Survey</i>	22
5.4.3	<i>Potential Mitigation and Compensation Measures</i>	22
5.4.4	<i>Enhancement Opportunities</i>	23
5.5	Badger	23
5.5.1	<i>Potential Constraints</i>	23
5.5.2	<i>Further Survey</i>	23
5.5.3	<i>Potential Mitigation and Compensation Measures</i>	23
5.5.4	<i>Enhancement Opportunities</i>	23
5.6	Birds.....	24
5.6.1	<i>Potential Constraints</i>	24
5.6.2	<i>Further Survey</i>	24
5.6.3	<i>Potential Mitigation and Compensation Measures</i>	24
5.6.4	<i>Enhancement Opportunities</i>	24
5.7	Other Relevant Species.....	24
5.7.1	<i>Potential Constraints</i>	24
5.7.2	<i>Further Survey</i>	24
5.7.3	<i>Potential Mitigation and Compensation Measures</i>	24
5.7.4	<i>Enhancement Opportunities</i>	25
6.0	CONCLUSION	26
6.1	Conclusion	26
6.2	Updating Site Survey	26
7.0	REFERENCES	27

Map 1 Site Location Plan

Appendix 1 Appraisal Criteria for Bats

Appendix 2 Relevant Legislation

EXECUTIVE SUMMARY

Ecological Survey and Assessment Ltd (ECOSA) have been appointed by Elberry Properties Ltd to undertake a Preliminary Ecological Appraisal of The Steddles, Yapton. The purpose of the appraisal is to assess the site's ecological baseline and identify constraints and opportunities associated with development at the site, in order to inform a future planning application. The site is located on the outskirts of Yapton, West Sussex and comprises a residential dwelling and garden landscaping. Detailed proposals are not currently known but the development will entail the demolition of the existing building and construction of ten new residential dwellings.

The main findings of the Preliminary Ecological Appraisal are:

- The site supports roosting bats within The Steddles main house. Further surveys will be required for roosting bats in order to characterise the roosts prior to the application of a protected species licence from Natural England.
- The site has moderate suitability for foraging and commuting bats and suitability for badger, breeding birds, and European hedgehog.
- Mitigation and compensation recommendations have been given for foraging and commuting bats, badger, breeding birds and European hedgehog through timing of works and the provision of ramps in excavations to prevent mammals becoming trapped during construction. Following the bat surveys a mitigation strategy will be developed and submitted for approval by the local planning authority prior to works commencing
- Enhancement recommendations have been given in relation to the provision of native planting, bird nest boxes and European hedgehog domes. Further enhancement for bats will be incorporated into the mitigation strategy, following the completion of the further survey works, as needed.
- 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 Elberry Properties Ltd. to undertake a Preliminary Ecological Appraisal to identify the ecological constraints and opportunities associated with the redevelopment of The Steddles, North End Road, Yapton, West Sussex BN18 0DT (hereafter referred to as the site).

1.2 The Site

The site is located in Yapton approximately 4.2 kilometres west of Littlehampton, West Sussex, centred on National Grid Reference (NGR) SU 9782 0384 (**Map 1**).

The site comprises a converted barn for residential use with associated garden landscaping and outbuildings. The site is bounded by North End Road to the south-east, residential development to the north-east and grassland fields to the north-west and south-west.

In the wider area, the landscape is dominated by arable fields interspersed with residential developments associated with nearby towns and villages.

1.3 Aims and Scope of Report

The information within this report is based on a field survey and desktop study carried out during October 2019. The objectives of the appraisal are:

- To provide preliminary baseline information on the current habitats, the suitability of the site to support notable and protected species, and evidence of notable and protected species both on site and in the immediate vicinity of the site, where relevant;
- To identify the proximity of any statutory sites designated for nature conservation importance;
- To identify the likely ecological constraints associated with the proposals;
- To identify any mitigation measures likely to be required, following the 'Mitigation Hierarchy'¹;
- To identify any additional surveys that may be required to inform an Ecological Impact Assessment (EclA); and

¹ 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'.

- To identify the opportunities offered by the proposals to deliver ecological enhancement

1.4 Site Proposals

Full details of the site proposal plans were not available at time of preparing this report, however it is understood that the proposals will entail the demolition of the existing building and subsequent construction of ten new residential dwellings.

It is anticipated that planning permission will be sought during 2020 with construction commencing soon after permission has been granted.

2.0 PLANNING POLICY CONTEXT

2.1 Introduction

This section summarises the planning policy in relation to ecology and biodiversity within the Arun District Council administrative area. This information is then used to make necessary make recommendations for mitigation and enhancements in order to ensure any future planning application accords with relevant planning policy.

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 habitats², including ancient woodland³. Where loss to irreplaceable habitats occurs planning permission would normally be refused unless there are wholly

² 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."*

³ 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)."*

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 Arun District is provided by the saved policies within the Arun District Local Plan 2011-2031. These are summarised below:

- **Policy ENV DM1: Designated Sites of Biodiversity or Geological Importance**

Proposed development likely to have adverse effects on the designated sites mentioned above, will not normally be permitted, unless:

- There is no alternative solution;
- There are reasons of public health or public safety;
- There are benefits of primary importance to the environment; or
- There are imperative reasons of overriding public interest.

- **Policy ENV DM2: Pagham Harbour**

Development within 0-400 metres of the site will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour. New residential development within 0-5 kilometres of the site will be required to make developer contributions towards the agreed strategic approach, and/or create easily accessible new green spaces for recreation.

- **Policy ENV DM3: Biodiversity Opportunity Areas**

Development shall retain and sympathetically incorporate locally valued and important habitats, including wildlife corridors and stepping stones, and be designed in order to minimise disturbance to habitats. Where a development scheme would result in habitat loss, mitigation measures will be proposed and agreed with the LPA prior to determination of any planning application.

- **Policy ENV DM5: Development and Biodiversity**

Development schemes shall, in the first instance, seek to achieve a net gain in diversity and protect existing habitats on site. They shall also incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species and consideration of potential impacts.

3.0 METHODS

3.1 Introduction

This section details the methods employed during the Preliminary Ecological Appraisal. Any significant limitations to the survey methods are also considered.

3.2 Zone of Influence

To define the total extent of the study area for this appraisal (Zone of Influence⁴), 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 appraisal (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 (if known when the appraisal was undertaken). Determination of the Zone of Influence is an iterative process and will be regularly reviewed and amended as the project evolves.

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 potential ecological constraints 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 appraisal. This was not considered necessary given the limited scale of the proposals 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, 2019) was reviewed on 31st October 2019 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

⁴ The Zone of Influence, 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, 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

The field survey broadly followed standard Phase 1 habitat survey methodology (JNCC, 2010) and comprised/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). 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 vegetation type was compiled and any invasive species⁵ encountered as an incidental result of the survey recorded.

⁵ Plant species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended). The survey was not specifically aimed at assessing the presence of these species and further specialist advice may need to be sought.

3.5.2 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 1**.

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.

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) species⁶, 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 11th October. The weather conditions were rain with 100% cloud cover, an ambient temperature of 13°C and a moderate wind.

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

3.7 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.

⁶ 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.

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

Due to the size of the hatches, full access to the roof void was not possible during the survey, however the majority of the roof void could be viewed from the multiple access points, therefore, this is not considered a significant limitation to the survey.

4.0 BASELINE ECOLOGICAL CONDITIONS

4.1 Introduction

This section details the results of the Preliminary Ecological Appraisal 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 ecological features recorded during the field survey.

4.2 Statutory Designated Sites

There are no statutory designated sites of nature conservation interest situated within one kilometre of the site boundary.

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 scattered trees are located across the site (**Figure 1** and **Figure 2**). Tree species recorded on site include willow *Salix* species, apple *Malus* species, flowering cherry *Prunus* species and rowan *Sorbus aucuparia*.



Figure 1: Willow tree in front garden of the property

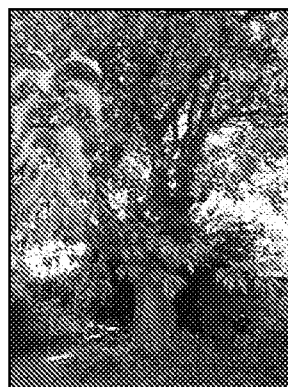


Figure 2: Mature cherry located in rear garden

Treelines

Treelines are present along the western, northern and southern boundaries of the sites (**Figure 3**). Species recorded in these areas include Leyland cypress *Cupressocyparis x leylandii*, bramble *Rubus fruticosus* aggregate, holly *Ilex aquifolium*, blackthorn *Prunus spinosa*, fig *Ficus carica*, hawthorn *Crataegus monogyna*, cherry, cherry laurel *Prunus laurocerasus*, box *Buxus* species, *Escallonia* species, buddleia and hazel *Corylus avellana*.



Figure 3: Treeline with recent planting

Ephemeral/Short perennial

A small area of colonising ephemeral vegetation is present within an area of previously cleared bare earth (**Figure 4**). Species recorded in this area include bristly ox-tongue *Picris echinoides*, Yorkshire fog *Holcus lanatus*, daisy *Bellis perennis*, spear thistle *Cirsium vulgare* and creeping thistle *Cirsium arvense*.



Figure 4: Colonised area of bare earth

Species-poor Intact Hedgerows

A yew *Taxus baccata* hedgerow is located within the centre of the garden. The hedgerow is approximately one metre high and one metre wide. The hedgerow is subject to occasional management.



Figure 5: Managed yew hedgerow in garden

Amenity Grassland

The garden is dominated by well managed amenity grassland supporting a short sward of grass (**Figure 6**). Grass species recorded in this area include Yorkshire fog and perennial rye grass *Lolium perenne*. Herbaceous species recorded in this area include daisy, ragwort *Senecio jacobaea*, herb Robert *Geranium robertianum*, yarrow *Achillea millefolium* and creeping thistle.



Figure 6: Well managed grassland

Standing Water

A man-made pond is located within the garden (**Figure 7**). At the time of the survey, it supports a low water level. The pond supports ornamental aquatic species including lily pads *Nymphaeaceae* species.



Figure 7: Man-made pond on site

Other Habitats

Other habitats on site include the building, gravel hardstanding and bare earth.

4.3.3 Summary

The habitats on site support a low diversity of common and widespread plant species and are considered to be of low ecological value.

4.4 Notable and Legally Protected Species

4.4.1 Bats

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards to bats within the desktop study area, however, this does not confirm the absence of the species group in the local area.

Building Assessment

There are three buildings on site, the main house, an open sided car port (**Figure 8**) and a tool shed (**Figure 9**). The car port and tool shed are of timber clad construction and do not support any potential bat roosting features. Therefore, the car port and shed are assessed as being of negligible suitability for roosting bats.

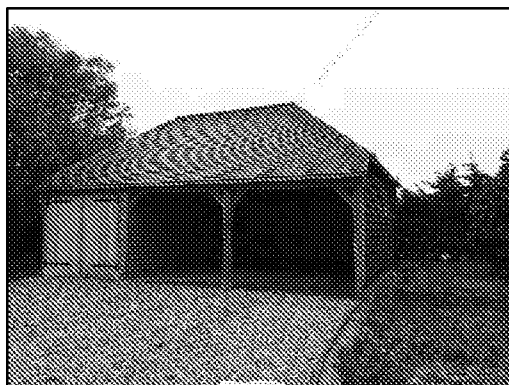


Figure 8: Newly built car port

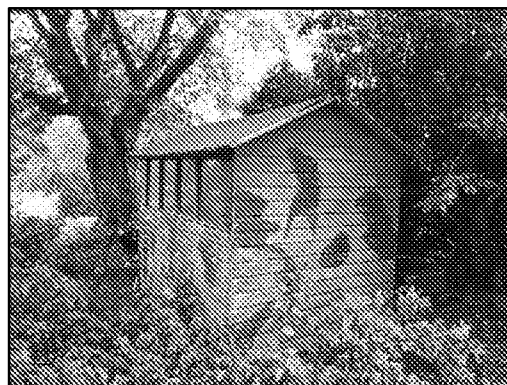


Figure 9: Tool shed located in garden

The main house is of brick construction with a complex clay pan tile roof and wooden soffits (**Figure 10**). Internally, the roof void is of timber frame construction with a bitumen felt roof lining (**Figure 11**). During the survey, a single pipistrelle *Pipistrellus* species type bat dropping was recorded within the roof void.

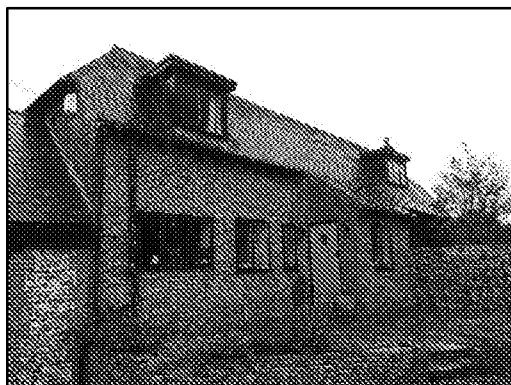


Figure 10: Eastern elevation of the main house

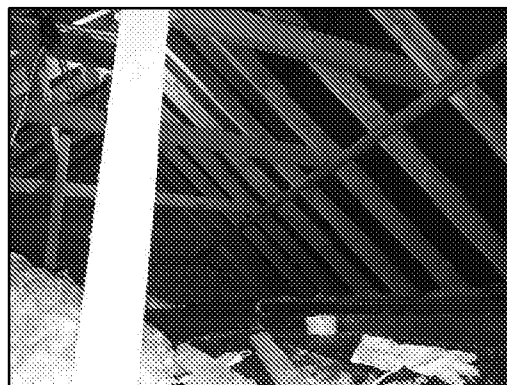


Figure 11: Roof void present within the house

The main house supports a number of potential bat roosting features including raised tiles and gaps between the walls and soffits (**Figure 12**). As evidence of roosting bats was recorded within the roof void, the main house is assessed as supporting a confirmed roost.



Figure 12: Raised tiles on main house

Tree Assessment

The trees on site range in age from immature to mature. No potential bat roosting features were recorded on trees on site during the survey. Therefore, the site is assessed as having negligible suitability for tree roosting bats.

Foraging and Commuting Habitat

The treeline and hedgerow habitats on site provide good foraging and commuting opportunities for bats and the site has some connectivity to off-site habitats via adjacent treelines. Overall the site is assessed as having moderate suitability for 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

The site does not support any waterbodies and there are no waterbodies adjacent to the site. The habitat on site is unsuitable for otter and therefore the species is not considered further in this report.

4.4.3 Badger

Field Survey Results

No evidence of badger was recorded on site during the survey. The grassland habitats on site provide good foraging opportunities for foraging badger *Meles meles* and the site is well connected to off-site habitats via adjacent grassland habitats. The habitat on site is suitable for badger.

4.4.4 Hazel Dormouse

Desktop Study Results

Consultation with the MAGIC database produced no records of granted EPSM licences with regards to hazel dormouse *Muscardinus avellanarius* within the desktop study area, however, this does not confirm the absence of the species in the local area.

Field Survey Results

The treelines and hedgerows on site are subject to management and lack the diversity of plant species required by this species. More suitable habitats are present off-site in the form of treelines and hedgerows. The habitat on site is unsuitable for hazel dormouse and therefore the species is not considered further in this report.

4.4.5 Water Vole

Field Survey Results

The site does not support suitable waterbodies required by this species. 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 carrion crow *Corvus corone* and blackbird *Turdus merula*. The scattered trees, treeline and hedgerow habitats on site provide good opportunities for nesting birds. The habitats are limited in extent and may support individual wintering birds but are unlikely to support significant assemblages.

4.4.7 Reptiles

Field Survey Results

The site has some connectivity to off-site habitat suitable for reptiles in the form of adjacent grassland fields. However, grassland on site is well managed and does not provide any foraging, sheltering and basking opportunities for reptiles. Therefore, the habitat on site is unsuitable for reptiles and this species group is not considered further in this appraisal.

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 two ponds within 500 metres of the site. The ponds are located approximately 425 metres to the north and 445 metres to the north. Based on the approximate size and surrounding habitats, the ponds are considered to have potential to support for great crested newt.

Field Survey Results

The pond on site supports a low level of water and the artificial lining, steep sides and lack of marginal vegetation make it unsuitable breeding habitats for great crested newt. The grassland habitats on site are well managed and do not provide sheltering or foraging opportunities for great crested newt in their terrestrial phase. The site has some connectivity to off-site ponds via adjacent grassland fields however, 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 are likely to support a range of common and widespread invertebrate species but are limited in extent and lack any features that would support protected or notable invertebrate species. Therefore, the species group is not considered further in this report.

4.4.10 Other Relevant Species

Field Survey Results

The habitat on site provides foraging opportunities for European hedgehog *Erinaceus europaeus* and is well connected to off-site habitats via adjacent grassland. Overall the site is considered to have suitability for 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 house supports a confirmed bat roost of pipistrelle species bat;
- The site has moderate 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 European hedgehog.

5.0 POTENTIAL ECOLOGICAL CONSTRAINTS AND RECOMMENDATIONS

5.1 Introduction

This section identifies potential constraints to the proposed development scheme based on the key ecological features as identified in Section 4.0 and summarised in Paragraph 4.5. Recommendations are included for mitigation and compensation based on the identified ecological constraints, and opportunities for enhancement are discussed.

5.2 Further Survey

Further ecological survey work will need to be undertaken prior to works commencing on site. The more detailed survey work recommended for the site is bat emergence/re-entry surveys (Paragraph 5.4.2). The full detail of mitigation measures will be provided within a mitigation strategy to be approved by the Local Planning Authority prior to works commencing on site.

Details of the survey requirements including survey effort and timings are provided in the relevant sections below.

5.3 Habitats

5.3.1 *Potential Constraints*

Habitats of greatest ecological value on site are scattered trees and treelines. The proposed construction of 10 new residential units has potential to result in the loss of these habitats and therefore a net reduction in the extent and diversity of natural habitats at the site. There is also potential for retained habitats to be damaged during construction.

5.3.2 *Further Survey*

No further surveys are recommended with regards to habitats.

5.3.3 *Potential Mitigation and Compensation Measures*

Treeline and scattered tree habitats should be retained on site where possible. Retained habitats should be protected from accidental damage during construction works by leaving a buffer of 5 metres between construction works and retained habitats. The buffer should be enforced by Heras-type fencing.

5.3.4 *Enhancement Opportunities*

Whilst detailed landscaping proposals are not available at the time of preparing this report, there are opportunities to enhance the site for biodiversity, by using native tree and hedgerow planting to enhance the habitats on site.

5.4 Bats

5.4.1 Potential Constraints

Demolition of the main house will result in the loss of a confirmed bat roost. Roosting bats may be harmed and/or disturbed during demolition works. New external lighting 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 2** for details.

5.4.2 Further Survey

As evidence of roosting bats was recorded within the main house, further surveys are required to characterise the identified roosts on site.

For confirmed roosts, current guidance states that Roost Characterisation surveys are required. The level of survey effort for Roost Characterisation surveys is determined on a case by case basis, however, for the barn, a total of three surveys would be appropriate, consisting of two dusk emergence surveys and a dawn re-entry survey. The bat survey season extends from May to September inclusive, with May to August the peaks in the bat survey season. At least two surveys must be carried out during the peak of the season.

In order to cover all areas of the building adequately, the bat surveys would be conducted by five suitably experienced surveyors. The surveyors will be equipped with bat detectors and recording equipment to record data on the presence/absence of bat species and the status of bat species at the site.

During the bat surveys general bat activity on site will be recorded in order to identify areas favoured by foraging and commuting bats. The results of the additional surveys will allow an assessment of the impact of the proposed works on bats at the site.

5.4.3 Potential Mitigation and Compensation Measures

As bats will be impacted, based on the current proposals, a Protected Species Licence from Natural England is likely to be required. The bat emergence/re-entry survey data will be incorporated into the bat licence application to inform an appropriate mitigation strategy which may include sensitive timing of works, sensitive working methods and the provision of compensatory roosting features.

If external lighting cannot be avoided, new external lighting should comprise hooded luminaires directed away from vegetation, particularly the boundary habitats. 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).

Following the bat surveys recommended in Paragraph 5.4.2, a mitigation strategy will be developed and submitted to the local planning authority for approval prior to works commencing on site.

5.4.4 *Enhancement Opportunities*

There may be opportunities for enhancement for bats including the installation of bat boxes or integrated bat tubes within the new development. Enhancement measures will be considered in more detail once the surveys have been carried out and will be incorporated into the mitigation strategy.

5.5 *Badger*

5.5.1 *Potential Constraints*

Badger may become trapped in excavations during demolition and construction works if left open overnight.

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 2** for details.

5.5.2 *Further Survey*

No further surveys are necessary with regards to badger.

5.5.3 *Potential Mitigation and Compensation Measures*

To prevent badger from becoming trapped in excavations, timber ramps should be inserted into any excavations left open overnight to allow the animal to escape of its own accord.

5.5.4 *Enhancement Opportunities*

The planting recommendations in Paragraph 5.3.3 will provide new foraging resources for badger.

5.6 Birds

5.6.1 Potential Constraints

Demolition of the main house and vegetation clearance will result in the loss of suitable breeding bird habitats. Breeding birds may be harmed and/or disturbed during demolition and vegetation clearance works.

All birds, their nests, eggs and young are legally protected, with certain exceptions, under the Wildlife and Countryside Act 1981. Refer to **Appendix 2** for details.

5.6.2 Further Survey

No further surveys are proposed with regards to birds.

5.6.3 Potential Mitigation and Compensation Measures

Demolition and vegetation clearance works should be undertaken outside the 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, which may impact project timescales.

New planting recommendations provided in Paragraph 5.3.3 will replace lost nesting habitats for breeding birds.

5.6.4 Enhancement Opportunities

One Build-in WoodStone Open nest box (or integrated bird box of a similar design) and one WoodStone Build-in Swift Nest Box Deep (or integrated swift box of a similar design) per unit should be incorporated into the design proposals to provide additional nesting opportunities post-development.

5.7 Other Relevant Species

5.7.1 Potential Constraints

European hedgehog may become trapped in excavations during construction works. The proposals have the potential to result in the loss of European hedgehog habitats.

5.7.2 Further Survey

No further surveys are proposed with regards to European hedgehog

5.7.3 Potential Mitigation and Compensation Measures

A timber ramp should be placed in excavations left open overnight to allow trapped animals of their own accord.

New planting recommended in Paragraph 5.3.3 could replace lost European hedgehog foraging habitats.

5.7.4 *Enhancement Opportunities*

As a measure of enhancement, European hedgehog domes should be installed into the gardens of the new residential dwellings.

6.0 CONCLUSION

6.1 Conclusion

The site is assessed as supporting a roost for pipistrelle species bat, having moderate suitability for foraging and commuting bats and suitability for badger, breeding birds and European hedgehog. Mitigation and enhancement recommendations for badger, breeding birds and European hedgehog have been provided. Further surveys have been recommended for roosting bats in order to characterise the identified roost. Once further surveys have been completed further mitigation and enhancement recommendations in relation to bats will be provided within the mitigation strategy. However, based on the information currently available, it is considered that there is scope for sufficient mitigation and enhancement measures to be provided as part of the proposals in order to accord with the relevant national and local planning policy, and legislation.

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

CIEEM, 2017. *Chartered Institute of Ecology and Environmental Management Website*.
[Online]

Available at: www.cieem.net

CIEEM, 2017. *Guidelines for Ecological Report Writing*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2017. *Guidelines for Preliminary Ecological Appraisal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

CIEEM, 2018. *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal*. 2nd ed. Winchester: Chartered Institute of Ecology and Environmental Management.

Collins, J., 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 3rd ed. London: Bat Conservation Trust.

DEFRA, 2019. *Multi-Agency Geographic Information for the Countryside (MAGIC) Map Application*. [Online]

Available at: www.defra.magic.gov.uk

English Nature, 2001. *Great Crested Newt Mitigation Guidelines*. Peterborough: English Nature.

Institution of Lighting Professionals, Bat Conservation Trust, 2018. *Bats and Artificial Lighting in the UK*, Rugby: Institution of Lighting Professionals.

JNCC, 2010. *Handbook for Phase 1 Habitat Survey: A Technique for Environmental Audit*. Peterborough: Joint Nature Conservation Committee.

Map 1 Site Location Plan

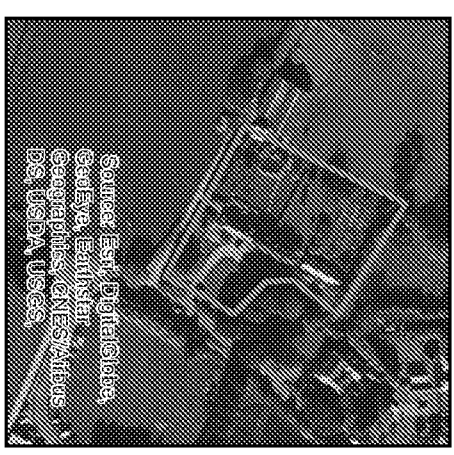
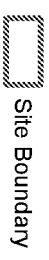
THE STEDDLES, NORTH END ROAD,
YAPTON, WEST SUSSEX

PRELIMINARY ECOLOGICAL APPRAISAL

Map 1 - Site Location Plan

Client:	Elberry Properties Ltd
Date:	October 2019
Status:	Final

KEY



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Appendix 1 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**⁷.

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.

⁷ Table adapted from (Collins, 2016)

Appendix 2 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.

Species and Habitats of Principal Importance in England

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