



Project

3 Oakfields, Eastleigh,
Hampshire SO50 4RP

Preliminary Ecological Appraisal and
Preliminary Roost Assessment Report

Project No

EC1088-01

Client:

Nikki Taylor

Date

June 2021

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The advice which we have prepared and provided is true to the best of our knowledge and with the information made available at the time and has been prepared and provided in accordance with the CIEEM's Code of Professional Conduct.

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June 2021

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Executive Summary

enims Ltd were commissioned in May 2021 to carry out a Preliminary Ecological Appraisal (PEA) and a Preliminary Roost Assessment (PRA) visit of 3 Oakfields, (Grid Reference SU 45158 21273) situated within Eastleigh, Hampshire SO50 4RP in order to support a planning application for the site.

The site survey was carried out on the 1st June 2021 by a Level 2 Licensed bat ecologist. One building was present on the site; an unoccupied residential house, which was investigated for direct evidence of bat activity and potential access points were also recorded, irrespective of whether there was direct evidence of bat use in the vicinity. The vegetation and habitats within the site were noted and the potential for additional protected species recorded.

The property was in good condition, with potential bat access features located at lifted tiles where flue pipes exited the roof, gaps in flashing gaps in soffits, one of which had only been present for a few weeks. Internally, evidence of roosting bats was present in the loft void at the south-west end gable wall where a low number of old and a few fresh bat droppings were found. The building was considered to have a **confirmed bat roost**.

Examination of building plans shows the proposed works will impact the loft void and therefore bat roost surveys are required to support a planning application as elements of the proposed work has potential to destroy, disturb or obstruct bat roosts and kill or injure roosting bats. The survey should comprise three dusk emergence / dawn re-entry survey visits for the building, between May and September.

The trees within the application site, boundary woodland vegetation and associated debris piles also have potential for nesting birds, hibernating hedgehog and low potential for reptiles. A Precautionary Approach should be taken to any works to the garden areas to ensure any reptiles, hedgehog or other mammals in the area are not harmed during works or trapped in open excavations. Care should be taken when removing wood/leaf piles. Lighting should be considered during and after construction to avoid disruption to commuting and foraging bats.

Broom Hill Farmland and Woodland SINC is located directly north of the application site and the woodland vegetation extending into the application site can be considered priority habitat lowland deciduous woodland. This should be protected during works and the RPA of trees should be safeguarded in proposed designs. Due to the small scale of the proposed works, it is not considered there will be an impact to the woodland due to pollution, although any chemicals should be secured during works.

The National Planning Policy Framework (NPPF) encourages implementation of ecological enhancements to achieve net gains for biodiversity into projects. Enhancement measures to increase biodiversity post development have been suggested in this report and include the provision of nest boxes for birds, creation of a wildlife pond and native species infill planting to gaps in boundaries.

Further Survey Effort/Ecology Requirements

As the building has a confirmed roost and high roost potential, three roost survey visits are required to be completed during May–September (inclusive). Following the findings of the surveys required mitigation for the proposed works will be discussed and the legal obligation for an EPSM License at this site.

These surveys are scheduled to be undertaken during June and July 2021.

1 Introduction

1.1 Background to Commission

enims Ltd was commissioned by Austin Design Partnership in May 2021 to undertake a Preliminary Ecological Appraisal (PEA) and Preliminary Roost Assessment (PRA) of 3 Oakfields, Eastleigh, Hampshire SO50 4RP. The appraisal was carried out in order to provide baseline ecological information about the site and to identify any potential ecological constraints associated with the proposed development of the application site to support planning permission for development of the building.

1.2 Scope of Report

The purpose of this PEA/PRA is to establish the current biodiversity value of the site, to identify and assess any potential ecological constraints or ecological impacts associated with the proposed development and to provide recommendations for additional survey work if required. Avoidance, mitigation/compensation and/or enhancement measures are recommended where necessary to ensure compliance. The assessment is based on the following information sources:

- A desk study of the site and a 2km surrounding radius;
- An extended Phase 1 Habitat Survey (JNCC, 2010) of the site boundary and immediate surrounds to map habitats and identify features with potential to support protected or otherwise notable species; and
- Hampshire Bat Group records for 2km surrounding radius
- Plans provided by Austin Design Partnership

1.3 Site Description and Context

3 Oakfields is a small site of approximately 0.24Ha, located on the residential area of Eastleigh, Hampshire at central grid reference SU 45158 21273. It lies within the administrative authority of Eastleigh Borough Council. The site comprises an unoccupied residential dwelling with attached garage and a well-maintained woodland garden. Residential areas are located immediately to the north, east and south. Broom Hill Farmland and Woodland, a SINC woodland is located directly west and the garden backs onto this area.

Plans showing the location of the site and surrounding landscape are included in Figures 1 and 2 in Appendix A.

1.4 Project Overview

Single or double height extensions are planned on all elevations which will significantly increase the living space of the property.

1.5 Relevant Legislation and Planning Policy

The following key pieces of nature conservation legislation are relevant to this appraisal. A more detailed description of relevant legislation is provided in Appendix D.

- The Conservation of Habitats and Species Regulations, 2017 (as amended) (commonly referred to as the Habitats Regulations);
- Wildlife and Countryside Act 1981 (as amended); and
- Natural Environment and Rural Communities Act 2006.

All native bat species are fully protected under nature conservation legislation. Protection is afforded under Section 9 of the Wildlife and Countryside Act 1981 (as amended) through the species' inclusion under Schedule 5. All native bat species are also defined as European Protected Species (EPS) through inclusion in Schedule 2 of the Conservation of Habitats and Species Regulations 2017 (as amended); the UK implementation of the EU Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora.

In brief, these legislative instruments make it an offence to deliberately or recklessly kill, injure or capture any bat. Roosts are protected from damage or destruction, furthermore it is illegal to deliberately disturb a bat whether roosting or otherwise.

In addition, the following native bats are identified as Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities Act 2006:

- Barbastelle bat - *Barbastella barbastellus*
- Bechstein's bat - *Myotis bechsteinii*
- Noctule - *Nyctalus noctula*
- Soprano pipistrelle - *Pipistrellus pygmaeus*
- Brown long-eared bat - *Plecotus auritus*
- Greater horseshoe bat - *Rhinolophus ferrumequinum*
- Lesser horseshoe bat - *Rhinolophus hipposideros*

The National Planning Policy Framework (Department of Communities and Local Government, 2012) requires local authorities to avoid and minimise impacts on biodiversity and, where possible, to provide net gains in biodiversity when taking planning decisions: “*The planning system should contribute to and enhance the natural and local environment protecting and enhancing valued landscapes and minimising impacts on biodiversity and providing net gains in biodiversity*”.

Other planning policies at the local level which are of relevance to this development include the Eastleigh Borough Biodiversity Action Plan

Aims

1. To establish coherent and resilient ecological networks that safeguard ecosystem services for the benefit of wildlife and people against the challenges of climate change and other pressures.
2. To identify, protect, maintain, restore, create and enhance priority habitats.
3. To identify, protect, maintain, restore and enhance viable populations of priority species.
4. To focus conservation action in Priority Biodiversity Areas and Links to achieve maximum biodiversity benefit.

Biodiversity Action Plan for Eastleigh Borough 2012-2022

2 Methodology

2.1 Overview

This PEA/PRA has been prepared with reference to best practice as published by the Chartered Institute for Ecology and Environmental Management (CIEEM, 2017) and to British Standard 42020:2013 (BSI, 2013).

2.2 Desk Study

A desk study was carried out to determine if any statutory land designations occur within 2km of the site; these were identified using the Multi-Agency Geographic Information for the Countryside (MAGIC) website (www.magic.gov.uk).

Aerial photographs were reviewed to identify any habitats surrounding the site or wildlife corridors connecting the site to other habitats. Ordnance Survey maps, aerial photographs and the MAGIC website were used to identify the presence of water bodies within 250m of the site, in order to establish if the land within the site could be used as terrestrial habitat for great crested newts. Although this species can use suitable terrestrial habitat up to 500m from a breeding pond, research suggests that newts are likely to travel no more than 250m from ponds where suitable habitats for foraging and hibernation exist in proximity to breeding ponds. The 250m radius was considered an appropriate distance for this assessment based on the sub-optimal terrestrial habitat within the site and the small area of 'natural' habitat likely to be affected by the proposed works.

Information relating to records of local bat species were obtained from Hampshire Bat Group within the site and up to 2km from the site boundary.

The status of species is taken directly from the relevant legislation, the 'UK Post-2010 Biodiversity Framework, local Biodiversity Action Plans (BAP) and the list of Birds of Conservation Concern (Eaton et al., 2015)¹.

Scientific names are given following the species first mention, thereafter, common names only are used.

2.3 Site Survey

The PEA and PRA were conducted on 1st June 2021. The surveys were undertaken in optimum conditions and during the recommended optimum period for habitat surveys of April to October (JNCC, 2010).

The site surveys were undertaken by Natalie Boote ACIEEM, consultant ecologist at enims Ltd. Natalie holds a level 2 survey license for bats and is experienced in bat ecology and protected species surveys.

¹ The Red and Amber lists of Birds of Conservation Concern refer to bird species of particular conservation concern for a number of reasons. In general terms, Red list species are globally threatened showing severe recent declines in population. Amber list species are species either with unfavourable conservation status or those species showing moderate recent declines in population; they may also include particularly localised species.

2.3.1 Habitats

A habitat survey of the site was carried out, covering the entire redline boundary including any boundary features of interest. Habitats were described and mapped broadly in accordance with standard Phase 1 Habitat survey methodology (JNCC, 2010). Habitats were also assessed against Habitat of Principal Importance (HPI) criteria as set out by the JNCC (<http://jncc.defra.gov.uk/page-5706>). HPI are listed under Section 41 of the NERC Act, 2006.

The aim of the building inspections was to gather evidence to determine whether the buildings either had the *potential* to support bat roosts or showed direct indications of current/previous use by roosting bats. All surveys were carried out in strict accordance with Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016).

During the survey, a search was made for direct evidence of bat activity, such as corpses, droppings, urine stains and scratch marks. Potential access points, particularly those free of cobwebs and other obstructions, were also recorded, irrespective of whether there was direct evidence of use in the vicinity. Equipment used included high-powered torches, endoscope and binoculars.

Incidental records of birds and other fauna noted during the course of the habitat survey were also compiled. The presence of invasive or injurious plant species as defined by Schedule 9 of the Wildlife and Countryside Act, 1981 (as amended) were also recorded.

2.3.2 Protected Species

The habitats were assessed for their potential to support protected species using a combination of the desk study information and field observations carried out during the habitat survey. The assessment was based on professional judgement and best practice survey guidance methodology for identifying field signs of protected species. The potential for protected species presence was based on the following criteria:

- **Present** – Confirmed presence through first-hand survey evidence or recent verified records;
- **High Potential** – Local records highlight presence in the local vicinity. The site and immediate surrounds support good quality habitat or good connectivity to such habitat;
- **Moderate Potential** – Habitat within the site provides key elements for any species or species group although may be limited by factors including habitat area, isolation or disturbance. Desk study records highlight presence in proximity to site.
- **Low Potential** – On-site habitat is of low or moderate quality for any species or species group, lacking key elements and limited by factors including habitat fragmentation and habitat area. Few or absence of local records but within national distribution and thus cannot be completely discounted.
- **Negligible Potential** – Habitats within the site are very poor quality or completely absent for any species or species group. Desk study records are absent, the site is outside of the normal range of the species or species group and the surrounding habitat is unlikely to support wider populations. Presence cannot be completely ruled out but it is considered 'reasonably unlikely' to support any species or species group.

2.4 Site Evaluation

An evaluation of the site was carried out in general accordance with guidance issued by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016) which ranks the nature conservation value of a site according to a geographic scale of reference: international, national, regional, county/metropolitan, district/borough, local/parish or of value at the site scale. In evaluating the nature conservation value of the site, the following factors were considered: nature conservation designations, rarity, naturalness, fragility, connectivity and relevant nature conservation aims and objectives for a given area as contained in national and local biodiversity action plans and planning policies.

2.5 Survey and Assessment Limitations

The data and conclusions presented here are an evidence-based assessment of the current status of the application site. It should not be taken as providing a full and definitive survey of any protected species group. The results of this ecological assessment have allowed an evaluation of the likely ecological constraints to the proposed development and is considered sufficient to inform the need for further ecological survey and mitigation measures.

Ecological surveys are limited by factors which affect the presence of plants and animals such as the time of year, migration patterns and behaviour. Therefore, the absence of evidence of any particular species should not be taken as conclusive proof that the species is not present or that it will not be present in the future.

The data and conclusions present here are an evidence-based assessment of the current status of the application site. Should the scheme be delayed beyond 18 months of the date of this report it is recommended that repeat assessment be undertaken in order to ensure the continued validity of these conclusions.

There are no factors such as weather or access which detract from the reliability of the data presented here.

3 Results

3.1 Desk Study

3.1.1 Statutory Sites of Nature Conservation

There is one Site of Special Scientific Interest (SSSI) within the 2km search area

Site Name	Distance from site and orientation	Reason for designation
River Itchen SSSI & SAC	680m east	Chalk stream and river, fen meadow, flood pasture and swamp habitats, particularly formations of in-channel vegetation dominated by water crowfoot <i>Ranunculus</i> spp, riparian vegetation communities (including wet woodlands) and side channels, runnels and ditches associated with the main river and former water meadows. The site is also notified for significant populations of the nationally-rare southern damselfly <i>Coenagrion mercuriale</i> and assemblages of nationally-rare and scarce freshwater and riparian invertebrates, including the white-clawed crayfish <i>Austropotamobius pallipes</i> . This site is notified for otter <i>Lutra lutra</i> , water vole <i>Arvicola terrestris</i> , freshwater fishes including bullhead <i>Cottius gobbo</i> , brook lamprey <i>Lampetra planeri</i> and Atlantic salmon <i>Salmo salar</i> , and the assemblage of breeding birds including tufted duck <i>Aythya fuligula</i> , pochard <i>A. ferina</i> and shoveler <i>Anas clypeata</i> , the waders lapwing <i>Vanellus vanellus</i> , redshank <i>Tringa totanus</i> and snipe <i>Gallinago gallinago</i> , and wetland passerines including sedge warbler <i>Acrocephalus schoenobaenus</i> , reed warbler <i>A. scirpaceus</i> and Cetti's warbler <i>Cettia cettia</i> .

3.1.2 Non-statutory Sites of Nature Conservation

One non-statutory site; a Site of Important Nature Conservation (SINC) was present directly north of the site.

Site Name	Distance from site and orientation	Reason for designation
Broom Hill Farmland and Woodland SINC	Adjacent, north	This area has a ridgetop character. Open farmland in pasture use is divided up by dense hedges; woodland lies mainly towards the edge of the area. The original rural character is substantially affected by the motorway and Allbrook Way that cut through it. On the western edge the land is used principally for school and hospital grounds. In a depression at the highest point of the area, a disused flooded claypit has been colonised with poplars, birch, alder and pine trees. This wooded feature creates a distinct

Site Name	Distance from site and orientation	Reason for designation
		landmark in the area. The elevated ground to the east of the brickworks offers significant views to the east, across the Itchen valley. Over a period of time the disused claypits have been colonised by poplars, birch, alder and pine trees, increasing the biodiversity value of the site. The woodlands similarly contribute to the biodiversity of the area and are designated SINC. Character Assessment 2011 for this area are: • Lowland Mosaic Medium Scale

3.1.3 NERC Act HPI / Local BAP Priority Habitats

The site itself contains the priority habitat lowland deciduous woodland along boundaries where it meets the offsite woodland, although this comprises of a mix of garden plantings in addition to native species and is therefore considered a poor example of this type. NERC/Local BAP habitat within 2km of the site includes 22 parcels of Priority Habitat lowland deciduous woodland, the closest known as Broomhill Farmland & Woodland SINC, lying directly adjacent to the north of the site, and three large parcels of wood pasture with the nearest 1km north of the site. Priority habitat grasslands include three lowland meadow parcels 1.3km east, four parcels of good quality semi-improved grassland, the closest 690m east, and five parcels of coastal and floodplain grazing marsh 940m east. Four small wetland habitats lowland fens are located within 2km of the site, the closest is 750m south-east and a reedbed lies 1.6km east, both associated with the River Itchen.

3.1.4 Other Notable Designations

Sixteen parcels of ancient woodland lie within 2km of the site, with the closest 275m south-west of the site.

3.2 Habitat and Preliminary Roost Assessment (PRA) Results Survey

3.2.1 Summary

The Phase 1 habitat map of the application site is given in Figure 3, Appendix A. The site was predominantly a single residential building, hardstanding driveway and patio areas and a large woodland garden laid to lawn with mature trees.

3.2.2 Broadleaved Woodland

Mature and immature trees were present within the site and along the boundary to the offsite woodland. Species were predominantly oak *Quercus pedunculata*, silver birch *Betula pendula* common and copper beech *Fagus sylvatica* and *Fagus sylvatica f. purpurea*, (Photograph 1, Appendix B) with some planted non-native species such as *Acer* sp. The ground layer was predominantly bare earth with amenity grassland in the more open areas.

3.2.3 Amenity Grassland

A low sward amenity grassland was present over much of the garden, with some longer areas present around the boundaries.

3.2.4 Hardstanding

A tarmac driveway was present to the front, conservatory foundations and gravel areas remained to the rear of the house where decking had previously been laid (Photograph 2, Appendix B).

3.2.5 Buildings

The house and attached garage present on-site were in a good state of repair. The UPVC windowss were tightly fitting with no gaps around the sills (Photograph 3, Appendix B). Double skin brick with wall cavity and generally tightly tiled roof. Gaps were present between tiles around flue pipes exiting the front south-west roof (Photograph 4, Appendix B) and north-east section of roof (Photograph 5, Appendix B). The flue located to the south--west had been relocated within the past three weeks to this position and a gap remained in the soffit at the previous location which was due to be repaired by builders in the following week to prevent the ingress of water, by infilling with plywood, with a full repair to be undertaken during the main works. Gaps were visible along the flashing on the south-west elevation (Photograph 6, Appendix B).

The loft void (Photograph 7, Appendix B) was lined by bitumen felt in a good state of repair with no holes or tears visible. Where the void extended down to narrow eaves access was limited. Approximately 10 bat droppings were present at the south-west end with the majority being old and caught in cobwebs, however around three fresh droppings were present (Photograph 8, Appendix B). Above the bat droppings a crevice was present, no bats were observed within the gap.

3.3 Protected Species

3.3.1 Bats

Records of at least eleven bat species within 2km of the site were returned by Hampshire Bat Group (HBG). These included western barbastelle, brown long-eared, soprano pipistrelle, common pipistrelle *Pipistrellus pipistrellus*, Leisler's *Nyctalus leisleri*, Daubenton's bat *Myotis daubentonii*, Natterer's bat *Myotis nattereri*, Brandt's *Myotis brandtii*, whiskered bat *Myotis mystacinus*, noctule and serotine *Eptesicus serotinus*. There are additional, undefined records of *Myotis*, *Plecotus* and *Pipistrellus* genus bats for which there is no certainty at the species level.

In addition, the HBG data has records of confirmed roosts within the 2km search area within the last ten years. These included long-eared species, brown long-eared, *Myotis* species, whiskered, common pipistrelle, soprano pipistrelle, pipistrelle species, noctule and serotine roosts.

A search of MAGIC revealed seven Natural England mitigation licences for bats within 2km:

- EPSM2012-4192 for the destruction of a resting place and breeding site for common and soprano pipistrelle bats, brown long-eared bats and Natterer's bats 690m north
- 2017-28716-EPS-MIT for the destruction of a resting place for common pipistrelle, soprano pipistrelle and brown long-eared bats 875m north
- 2016-21370-EPS-MIT for the destruction of a resting place for common pipistrelle and soprano pipistrelle bats 985m north-west
- 2017-27981-EPS-MIT-1 for the destruction of a resting site for common pipistrelle, soprano pipistrelle, brown long-eared and serotine bats 1.6km north-west
- 2015-13185-EPS-MIT for the destruction of a resting site for common pipistrelle, soprano pipistrelle and brown long-eared 1.7km east
- EPSM2012-4025 for the destruction of a resting site for common pipistrelle, soprano pipistrelle and brown long-eared 1.8km east
- 2015-16388-EPS-MIT for the destruction of a resting site for soprano pipistrelle bats, 1.8km east

Building

The house was considered to have evidence confirming a bat roost due to the presence of droppings in the loft void.

High potential for roosting bats, confirmed roost

3.3.2 Great Crested Newts

There were no records of great crested newts *Triturus cristatus*, returned for the site from NBN Atlas and no record of European Protected Species Licences within 2km of the site for this species (MAGIC, 2021). No License returns or Natural England eDNA testing had been undertaken within 2km of the site. Allbrook Clay Pit (Photograph 9, Appendix B) was located approximately 100m north-east, an HSI assessment was undertaken which found the waterbody to be 'Average' with an HSI score of 0.67, for great crested newts (Appendix C). The property itself was sited within unsuitable short sward amenity grassland and away from the woodland, in addition, the proposed works footprint had large areas of hardstanding or gravel which were unsuitable for amphibians.

Great crested newt are therefore not considered further in this report.

3.3.3 Otter and Water Vole

One record of otter *Lutra lutra* and 21 records of water vole *Arvicola amphibius* were returned for the site from NBN Atlas with no record of European Protected Species Licences within 2km of the site for these species. These records are all based at the River Itchen, 970m east. A railway line, 'A' road and residential housing lie between the site and the river serving as intuitive barriers to the species. Although otter can travel through such barriers they are likely to remain close to watercourses and suitable terrestrial habitats offsite, the works footprint is considered to have negligible potential for otter.

Otter and water vole are therefore not considered further in this report.

3.3.4 Reptile

NBN Atlas revealed records of two species of reptiles within the 2km radius of the site; Slow-worm *Anguis fragilis* and Common Lizard *Zootoca vivipara*. The woodland setting is not considered optimal habitats for these species and the short sward grassland and hardstanding areas do not provide suitable foraging or refuge areas. Some suitable habitat for common and widespread reptiles was located along the boundary with the woodland, including debris piles and damp areas.

Negligible potential for common reptiles within works footprint

Low potential for common reptiles along site boundary

3.3.5 Schedule 1 Listed Birds

The barn owl *Tyto alba* is listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). The data search from NBN Atlas showed two records of barn owls within the 2km search area. No evidence of barn owl was observed during the site survey, no habitat suitable for foraging barn owl was present within the site.

The data search showed records of Schedule 1 birds including, common crossbill *Loxia curvirostra*, kingfisher *Alcedo atthis*, brambling *Fringilla montifringilla*, woodlark *Lullula arborea* and firecrest *Regulus ignicapilla*. No suitable habitat was or had been present for these species within the site.

Negligible potential for Schedule 1 Birds

3.3.6 Breeding Birds

Habitat suitable for nesting birds was present within the garden although no active nests were observed. The house and works footprint had no suitable gaps or structures for nesting birds.

Negligible potential for nesting birds within works footprint

High potential for nesting birds within boundary vegetation

3.3.7 Badgers

There one record of badger from NBN Atlas over 1km from the site and no evidence of badgers was found during the site survey. Therefore, badger is considered currently absent from the site.

3.3.8 Dormice

Two records of dormice were present within 2km of the site, however these were located over 1km to the north and north-east, with the River Itchen, railway line and 'A' road in between. Potentially suitable scrub was present along the site boundary although this was species-poor and would have offered limited foraging or connectivity for dormouse. Dormice are therefore not considered further in this report.

3.3.9 Invertebrates

The limited habitats on-site and small size of the site mean it is unlikely to be of significance to invertebrate species. Invertebrates are therefore not considered further in this report.

3.3.10 NERC Act Species of Principal Importance / Local BAP Species

Hedgehog *Erinaceus europaeus* is listed as species of principal importance under the NERC Act. In the last ten years, numbers have fallen by 33% and there are now estimated to be less than one million remaining in the UK. The main threats to the species are development and habitat loss caused by the reduction in hedgerows and intensification of agriculture. The site had good foraging habitat and refuge for hedgehog along the boundary area. During the survey hedgehog droppings were present in the garden and the homeowner confirmed hedgehog had been seen in the area. The works footprint itself offered negligible suitable habitat.

Low potential for hedgehog within works footprint

High potential for hedgehog within wider areas

3.3.11 Invasive Species

No invasive species were observed during the survey.

4 Evaluation

4.1 Evaluation of Ecological Features

The proposed development site is not subject to any statutory or non-statutory nature conservation designation. A SINC woodland is located directly north of the site which provides suitable habitats for protected species and protection of this, and trees present within the garden should be considered during developments. The woodland garden comprised BAP broadleaved woodland extending into the garden from the off site woodland, although the addition of introduced shrubs meant this was a poor example of type. The on-site habitats are common and widespread and of value at the site level only, however the presence of a building with a confirmed bat roost increases the ecological value of the site.

The wider site also has potential for common reptiles, nesting birds and hibernating hedgehog to be present within the vegetation and woodland debris.

4.2 Discussion of Potential Ecological Impacts

4.2.1 Habitats

The offsite woodland known as Broom Hill Farmland and Woodland SINC contains priority habitat broadleaved woodland which extends into the application site. No works are proposed to the woodland and the proposed works to the house should maintain the protection of the RPA of trees. The small size of the proposed works means impacts from increased pollution are considered unlikely.

4.2.2 Bats

The property was assessed as having a high potential to support roosting bats as there were features present that could support roosting bats and droppings found inside the main loft space confirmed a roost to be present. There is potential for negative impacts upon roosting bats and bat roosts through work within loft spaces, demolition work, construction of building extensions and exterior works such as weatherboard cladding.

Given the small size of the application site and its positioning, it is unlikely that any development would lead to physical fragmentation of commuting routes. However, there is some potential that commuting and foraging bats could be disturbed by increased lighting during and after construction

4.2.3 Reptiles

The removal of vegetation debris piles along woodland boundary areas could injure or kill any reptiles present at the time of works.

4.2.4 Nesting Birds

The removal of vegetation from the application site could injure or kill any nesting birds present at the time of site clearance works or destroy active nests.

4.2.5 NERC Act SPI / Local BAP Species

The removal of vegetation debris piles along woodland boundary areas could injure or kill any hedgehog present at the time of works.

4.3 Summary

The following key ecological issues and constraints have been identified:

- potential for disturbance, injury or death of roosting bats and loss of roost spaces within buildings;
- potential for disruption of bat behaviour through increased lighting;
- potential for injury or disturbance to hedgehog within the site

5 Recommendations for Further Surveys and Mitigation

5.1 Overview

The assessment of the ecological constraints and subsequent recommendations are based on the likely development proposals. If the development proposals change then this may alter the recommendations in this report.

5.2 Further Survey

5.2.1 Bats

In order to determine the presence or likely absence of roosting bats from the property, bat dusk emergence / dawn re-entry surveys should be undertaken. Due to the High potential for roosting bats in this building requires three survey visits including one dusk, one dawn and a final dusk or dawn. The surveys should be carried out between May and September inclusive, with two of the visits by the end of August. These surveys are required to support a planning application. These surveys are scheduled for June and July 2021 with the first booked for 10th June 2021.

Following these surveys, a separate report would be produced to detail the findings and recommendations for specific bat mitigation and enhancement measures.

5.3 Ecological Implication Avoidance and Mitigation

The National Planning Policy Framework (NPPF) outlines the mitigation hierarchy and promotes its use throughout the planning process to minimise harm to, and maximise benefits for, biodiversity resulting from development. The NPPF highlights that avoiding adverse effects to biodiversity through good design should be the primary objective for any proposed development. Any unavoidable adverse effects on biodiversity should be adequately mitigated to minimise any negative impacts of the development. Compensation may be used after avoidance and mitigation measures have been fully considered in order to address any residual impacts of the proposals.

5.3.1 Bats

During construction all site security lighting should be motion sensitive and directed away from surrounding habitats to prevent disturbance to any bats emerging from nearby roosts or foraging and commuting in the surrounding area. A bat sensitive lighting scheme should also be implemented during the operation of the development. Measures should include low-intensity lighting with very little or no UV light, zero upward light spill, low level lighting and directional lighting angled away from trees with roosting potential.

5.3.2 Reptiles

Should works be required along boundary vegetation, contractors should follow a Precautionary Method of clearance; clearing slowly from the garden towards the woodland and should a reptile be observed this should be allowed to move away from the area.

5.3.3 NERC Act SPI / Local BAP Species

Site clearance works should be carried out in a manner sensitive to the potential presence of hedgehog. For example, vegetation piles should be dismantled with care and carefully pulled apart in case individuals are using such features. Any hedgehogs encountered should be moved, or allowed to move, to an area of safe suitable habitat away from construction activities.

5.4 Ecological Enhancement

The National Planning Policy Framework (NPPF) and local policy encourages developers to incorporate ecological enhancements into projects to achieve net gains for biodiversity. Generally, enhancements act to improve the quality of the habitat for the flora and fauna on and within the vicinity of the site, although these enhancements can also provide aesthetic appeal, thus adding to the value of the project. The National Planning Practice Guidance (NPPG) identifies how planning authorities should consider if individual development proposals may provide enhancements to biodiversity and contribute to wildlife and habitat connectivity in the wider area.

Possible opportunities to enhance the wildlife potential, appropriate to this site, are provided below. It is important that any measures adopted be clearly demonstrated to the Planning Authority through inclusion in design plans and accompanying documentation.

- The creation of a wildlife pond has been proposed in a damp area close to the woodland boundary (Photograph 10, Appendix B). The provision of a surrounding wildlife area with meadow grassland, standing deadwood and woodpiles to provide habitat for hedgehog, invertebrates, reptiles and amphibians.
- Many small bird species, such as blue tits *Cyanistes caeruleus* and great tits *Parus major* will preferentially nest in nest boxes, where available, and boxes to suit different species are offered. The installation of bird boxes can provide additional nesting space for birds, secure from introduced predatory animals such as domestic cats. As house sparrow *Passer domesticus* are known to be in the area, installation of boxes for this species on the building could also be of benefit.
- Planting of native species in gaps in hedgerows along the site boundaries.

6 Conclusion

The property was considered to have High suitability for roosting bats and evidence to support a confirmed roost being present was found during the site survey. Further survey to determine the characteristics of the bat roost is required to support a planning application. These surveys have been scheduled for June and July 2021.

The on-site habitat is suitable for reptiles, nesting birds and hedgehog, however there is negligible potential for these species within the works footprint itself.

Lighting should be carefully considered during and after construction so as to avoid disruption to bats.

Priority habitat broadleaved woodland extended into the application site from the offsite SINC woodland to the north. There are no plans to remove any trees and the RPA of these should be protected during works.

Enhancement measures to increase biodiversity post development have been suggested in this report and include the creation of a wildlife pond, hedge infill with native species and provision of nest boxes for birds and bat boxes.

A precautionary approach to vegetation removal and construction of a wildlife pond should be followed to avoid impacts to reptiles and hedgehog when clearing longer grass or debris piles.

The required mitigation measures for bats will be confirmed following completion of the bat roost surveys and will be recorded in the associated survey report.

7 References

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Appendix A: Site Plans



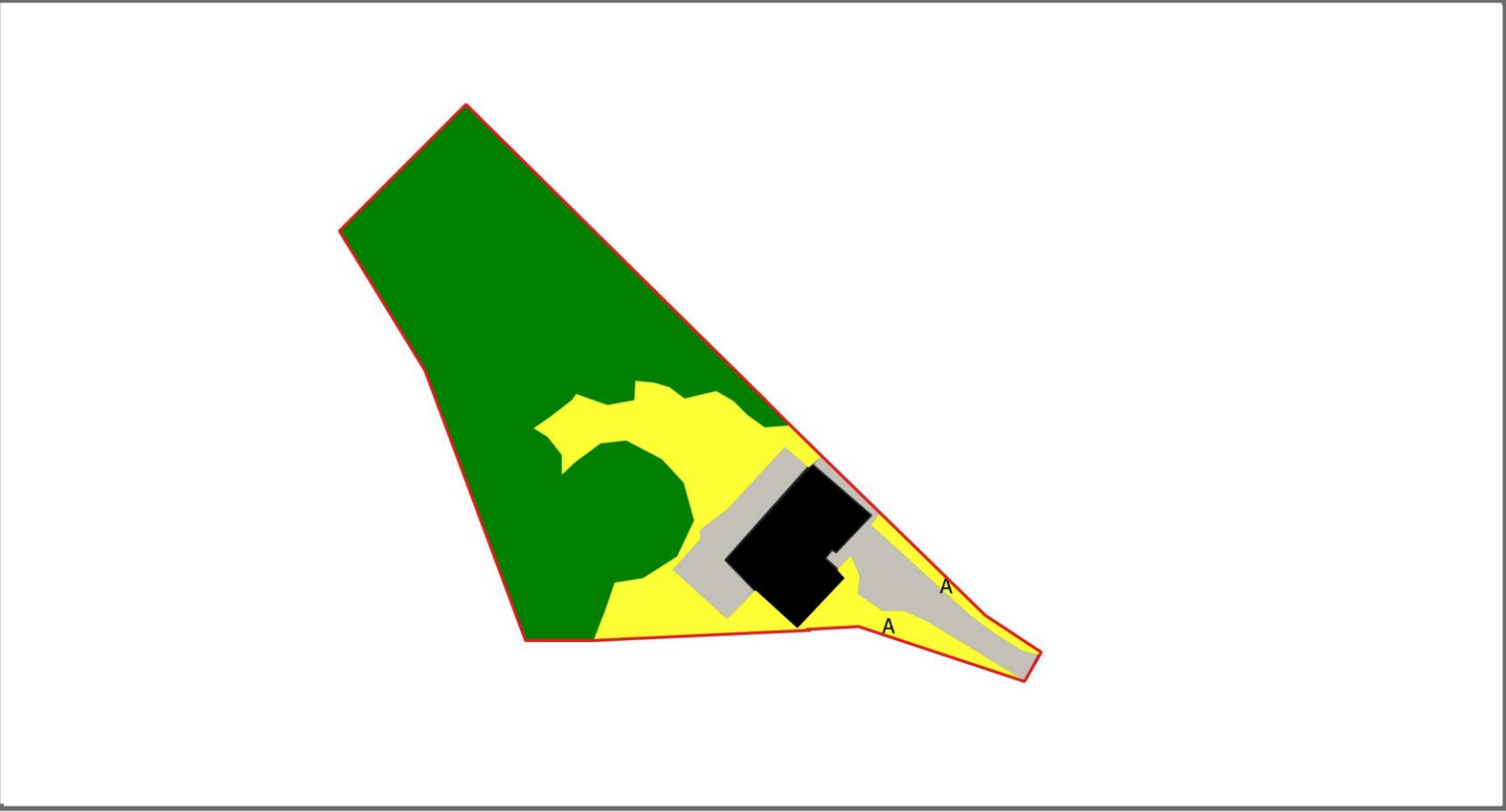
Figure 1. Location of application site (red line) and surrounding landscape

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Figure 2. Application site boundary (red line)

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Legend

- Broadleaved woodland
- A Amenity grassland
- Hardstanding
- Building
- Red line

0 10 20 m

Location: 3 Oakfields	Project Number: EC1088
Date: 3rd June 2021	Survey Ref: 1st June 2021
Surveyor: NB	Checked by: VR

Environmental Excellence

enims Ltd,
Unit 28,
2 Venture Road,
Southampton Science Park,
Chilworth,
Hampshire,
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Figure 3. Phase 1 Habitat Map

Appendix B: Photographs



Photograph 1.
Broadleaved woodland along site boundaries



Photograph 2.
Rear elevation hardstanding and amenity grassland



Photograph 3.
Front elevation in a good state of repair



Photograph 4.
South-west roof, flue with raised tiles surrounding



Photograph 5.
Flue at north-east with raised tiles surrounding



Photograph 6.
Gaps were present to the flashing on the south-west elevation



Photograph 7.
Loft void facing west towards the location of bat droppings on the far wall



Photograph 8.
Fresher dropping inside loft void



Photograph 9.
Allbrook Clay Pit



Photograph 10.
Proposed pond area

Appendix C: Habitat Suitability Index Survey Data

Table 1: The values assigned to each feature and the final score for each waterbody that the HSI assessment was carried out on.

	Allbrook Clay Pit
SI1 Location	
A (Optimal)	X
B (Marginal)	
C (Unsuitable)	
SI2 Pond Area	
Surface area m ²	omitted from calculation as >2000m ²
SI3 Pond Drying	
Never	X
Rarely	
Sometimes	
Annually	
SI4 Water Quality	
Good	
Moderate	
Poor	X
Bad	
SI5 Shade	
% perimeter to at least	5
SI6 Waterfowl	
Absent	
Minor	X
Major	
SI7 Fish	
Absent	
Possible	
Minor	X
Major	
SI8 Pond Count	
Within 1km with no	2
SI9 Terrestrial Habitat	
Good	X
Moderate	
Poor	
None/Isolated	
SI10 Macrophyte	
% of cover	5
HSI Score	0.67 AVERAGE

Appendix D: Legislation

Statutory Designated Sites

Particular national and international legislative instruments enable the designation of sites of conservation interest. These 'statutory designated sites' are then afforded varying degrees of protection under environmental legislation and government policy. The land designations considered by this study are set out in Table 1, with details of their associated legislation.

Table 1 Statutory land designations considered here.

Designation	Protection
National Parks	National Parks and Access to the Countryside Act 1949.
Areas of Outstanding Natural Beauty	National Parks and Access to the Countryside Act 1949; Countryside and Rights of Way Act 2000; local planning policy.
Local Nature Reserves (LNRs)	National Parks and Access to the Countryside Act 1949; local planning policy.
National Nature Reserves (NNRs)	National Parks and Access to the Countryside Act 1949; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; local planning policy.
Ramsar sites	Ramsar Convention; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.
Sites of Special Scientific Interest (SSSIs)	Wildlife and Countryside Act 1981; Countryside and Rights of Way act 2000.
Special Areas of Conservation (SACs)	EU Habitats Directive; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.
Special Protection Areas (SPAs)	EU Birds Directive; Wildlife and Countryside Act 1981; Countryside and Rights of Way Act 2000; Conservation of Habitats and Species Regulations 2017.

Non-Statutory Designated Sites

Non-statutory designated sites, such as County Wildlife Sites (CWS), Sites of Nature Conservation Interest (SNCI) and Sites of Importance for Nature Conservation (SINC) are local sites designated by Local Planning Authorities that are considered to be of significant nature conservation value. They often have an important role in the wider landscape by connecting statutory designated sites and can support European protected species and species listed under the Habitats Directive.

Ancient Woodland is a non-statutory designation, which is generally applied to woodlands known to predate 1600. Before this time woodland was rarely artificially planted, hence these woodlands are likely to be naturally established. Subtypes include Ancient Semi Natural Woodlands and Ancient Replanted Woodlands. Although tree cover in the latter has predominately been replaced, original features such as characteristic wildlife are retained. Ancient woodlands are protected under national planning policy. Current planning policy guidance requires that developments must not result in the loss or deterioration of Ancient Woodlands, which are a valuable biodiversity resource.

European Protected Species (EPS)

European protected species are protected in the UK by Regulation 40 of the Conservation of Habitats and Species Regulations 2017 (as amended), with EPS listed under Schedule 2. This is the national implementation of the European Union's 'Habitats Directive' (Council Directive 92/43/EEC (a) on the Conservation of Natural Habitats and of Wild Flora and Fauna). Protection is also afforded to any EPS under Section 9 of the Wildlife and Countryside Act 1981 (as amended), owing to their inclusion in Schedule 5.

These legislative instruments make it unlawful to intentionally, deliberately or recklessly capture, kill, injure or disturb in a place of shelter, any EPS. The damage or destruction of a breeding or resting place, whether intentional or reckless, also constitutes an offence.

The following are examples of EPS which are native to and residing in the United Kingdom:

- Sand lizard (*Lacerta agilis*)
- Smooth snake (*Cornella austriaca*)
- Great crested newts (*Triturus cristatus*)
- Dormice (*Muscardinus avellanarius*)
- Otters (*Lutra lutra*)
- Bats (all native species)

Widespread Species

Widespread Reptiles

Through inclusion in Schedule 5 of The Wildlife and Countryside Act 1981, it is an offence under Section 9 to intentionally kill, injure or sell, offer for sale, possess or transport for the purpose of sale, any living or dead widespread species of UK reptile, or any product derived from one.

In addition, all native reptiles are adopted as Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities Act 2006.

Water Voles

The water vole *Arvicola amphibius* is fully protected under the Wildlife and Countryside Act 1981 (as amended). Protection is afforded against killing and injury of water voles, as well as the damage, destruction or obstruction of burrows, or disturbance of burrows while in use.

Nesting Birds

Under The Wildlife and Countryside Act 1981 it is an offence to kill, injure or take any wild bird; take, damage or destroy the nest of any wild bird while it is in use or being built; take or destroy the egg of any wild bird.

There are 49 bird species listed as Species of Principal Importance in England under Section 41 of the Natural Environment and Rural Communities Act 2006. These species are therefore material planning considerations.

Schedule 1 Listed Birds

Under the Wildlife and Countryside Act 1981 there are special penalties for offences regarding birds listed in this Schedule. Additionally, it is an offence to disturb Schedule 1 listed bird or dependent young at nest.

Badgers

Badgers are protected by the Protection of Badgers Act 1992. Under this legislation, badgers and their setts are protected against all deliberate damage, destruction and disturbance. Badgers are widespread and abundant; their legal protection is primarily aimed at preventing blood sports, however there are still implications for developers.

NERC Act Habitats and Species

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act required 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 S41 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 Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

There are 56 Habitats of Principle Importance (HPI) included on the S41 list. These are all the habitats in England that were identified as requiring action in the former UK Biodiversity Action Plan (UK BAP). These areas include terrestrial habitats such as upland hay meadows to lowland mixed deciduous woodland. Additionally, 943 Species of Principle Importance (SPI) were included in the S41 list. The species found in England were identified as requiring action under the former UK BAP, which has since been replaced by the Post-2010 Biodiversity Framework. The priority species and habitats designed under S41 of the NERC Act will be considered as part of the constraints and opportunities assessment, thus identifying if these habitats will be impacted and also where opportunities are present to enhance the area for local priority species.

Wild Mammals (Protection) Act 1996

All mammals receive some protection under the Wild Mammals (Protection) Act 1996, which makes it an offence to intentionally cause unnecessary suffering of any wild mammal. The Wild Mammals Act may apply during site clearance works, particularly where burrowing animals such as foxes and rabbits are present as they could be crushed or asphyxiated in their burrows by heavy machinery.