



# Preliminary Ecological Appraisal

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<b>Report</b>	Preliminary Ecological Appraisal
<b>Site Name</b>	Land to the South of Wandleys Lane, Eastergate
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## Executive Summary

Ecosupport Ltd was instructed by LandQuest UK (Southern) Ltd to undertake a Preliminary Ecological Assessment for a parcel of land located at Land to the South of Wandleys Lane, Eastergate (hereafter referred to as 'the site'). This was required in order to identify any potentially important ecological features that may be affected by the proposed development. As part of this assessment, the following surveys were undertaken:

- Walkover survey with UK Habs habitat assessment (August 2024)
- Preliminary Roost Assessment (August 2024)
- Ground Level Tree Assessment (August 2024)

The following important ecological features were identified on site following the conclusion of the above survey work and may be subject to adverse impacts in the absence of suitable mitigation / compensation:

- Low potential for commuting and foraging Badgers
- Low potential for breeding and nesting birds
- Low potential for Hazel Dormouse

In the absence of any mitigation measures, the proposed development is anticipated to result in **adverse impacts**. Measures are outlined within **Section 6.0** of this document to mitigate where impacts have been identified as well as provide targeted ecological enhancements.

## 1.0 INTRODUCTION

### 1.1 Brief

Ecosupport Ltd was commissioned by LandQuest UK (Southern) UK to conduct a Preliminary Ecological Appraisal (PEA) on a parcel of land known as 'Land to the South of Wandleys Lane', in Eastergate. The purpose of this survey was to assess any ecological impacts that may arise as a result of the proposed development. The objectives of the survey were as follows:

- Identify and classify any priority habitats;
- Assess the ecological value of the site;
- Identify any signs of protected species and potential features that may support them;
- Make recommendations for further survey work as necessary;
- Make recommendations for any necessary ecological avoidance and mitigation where possible.

***NB: If the works do not take place within 18 months of this report<sup>1</sup> then the findings of this survey will no longer be considered valid and certain aspects may require updating.***

### 1.2 Site Description & Location

The site comprises of a field used for grazing and associated barn at Land to the South of Wandleys Lane, Eastergate, Chichester, PO20 3SE (centred on OS grid reference SU 94839 06236). The site is bound by Wandleys Lane to the north-west, with a caravan park to the east and fields and residential houses to the south. In the wider environment, the site is situated within a semi-rural environment, to the east of Chichester.

**Figure 1.** Plan showing approximate redline boundary of the site (Google Satellite, 2024).

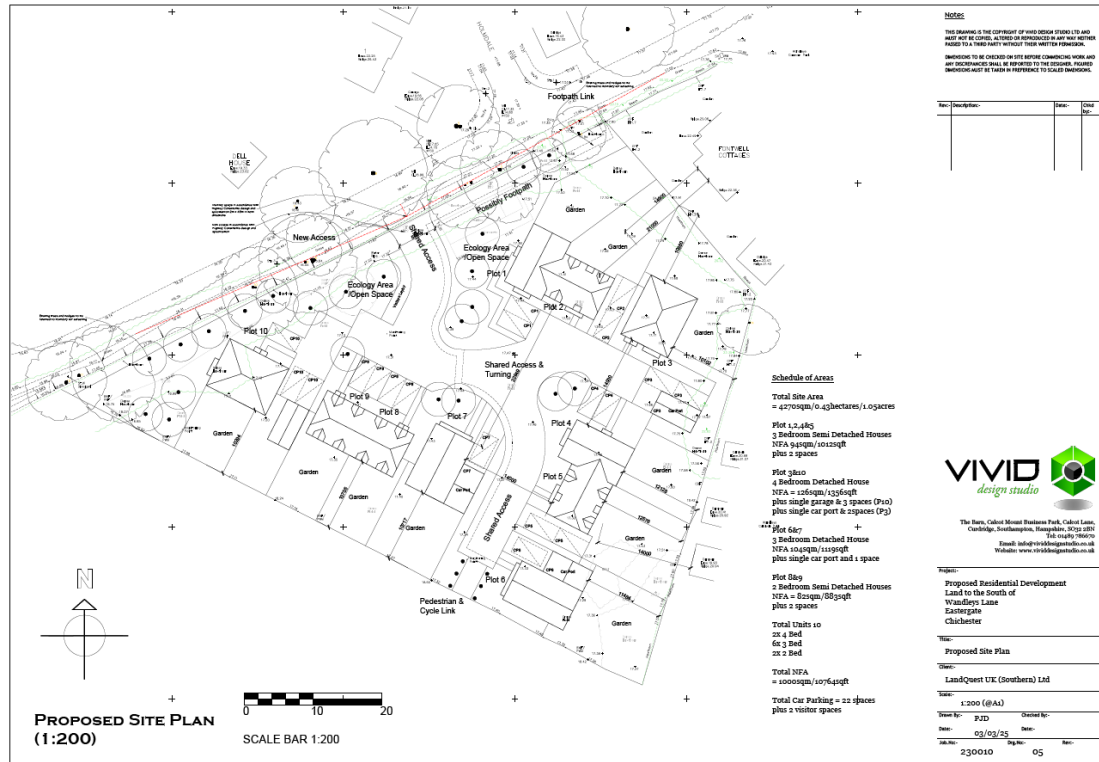


<sup>1</sup> <https://cieem.net/wp-content/uploads/2019/04/Advice-Note.pdf>

### 1.3 Proposed Development

The proposals entail the development of 10 dwellings, with associated gardens, landscaping, and access (Fig 2).

Figure 2. Proposed site plan (VIVID Design Studio, Drawing No: 230010\_05).



## 2.0 RELEVANT LEGISLATION AND POLICY

### 2.1 Legislation

#### 2.1.1 *The Environment Act (2021)*

The Environment Act 2021 is the UK's new legislation for environmental protection in the UK, which includes protection of water quality, clean air, and biodiversity among other key protections. This Act provides the government power to set targets to reach long-term aims relating to the environment, which will be periodically reviewed and updated. This legislation also establishes a new environmental watchdog organisation, the Office for Environmental Protection (OEP), which will hold the government accountable on environmental issues. Part 6 of The Environment Act relates to nature and biodiversity. This section makes provision for biodiversity net gain to be a condition of planning permission in England and a requirement for nationally significant infrastructure projects. Biodiversity net gain will require maintenance for a period of at least 30 years after the completion of enhancement works to be achieved.

The legislation also includes updates to existing environmental legislation, such as the NERC Act 2006, to strengthen biodiversity enhancement rather than just conservation and includes a requirement for local, or relevant, authorities to publish biodiversity reports. Further, The Environment Act places a requirement on responsible authorities to prepare local nature recovery strategies, which will outline nature conservation sites and priorities and opportunities for recovering or enhancing biodiversity within the local area. Within England, the legislation also provides Natural England with the power to publish 'species conservation strategies' and 'protected site strategies' to identify activities that may affect a species or site's status and outline their opinions on measures that would be appropriate to avoid, mitigate or compensate any adverse impacts.

#### 2.1.2 *The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations (2019)*

The Conservation of Habitats and Species Regulations 2017 transposes the EU Habitats Directive (Council Directive 92/43/EEC) into UK domestic law. It provides protection for sites and species deemed to be of conservation importance across Europe. It is an offence to deliberately capture, kill or injure species listed in Schedule 2 or to damage or destroy their breeding sites or shelter. It is also illegal to deliberately disturb these species in such a way that is likely to significantly impact on the local distribution or abundance or affect their ability to survive, breed and rear or nurture their young.

The Conservation of Habitats and Species Regulations 2019 (EU Exit) makes changes to the three existing instruments which transpose the Habitats and Wild Birds Directives so that they continue to work (are operable) upon the UK's exit from the European Union (EU). These include The Conservation of Habitats and Species Regulations 2017 and The Conservation of Offshore Marine Habitats and Species Regulations 2017. This instrument also amends section 27 of the Wildlife and Countryside Act 1981 to ensure existing protections continue. The intention is to ensure habitat and species protection and standards as set out under the Nature Directives are implemented in the same way or an equivalent way when the UK exits the EU.

In order for activities that would be likely to result in a breach of species protection under the regulations to legally take place, a European Protected Species (EPS) licence must first be obtained from Natural England.

### *2.1.3 The Wildlife and Countryside Act (1981) (as amended)*

This is the primary piece of legislation by which biodiversity is protected within the UK. Protected fauna and flora are listed under Schedules 1, 5 and 8 of the Act. They include all species of bats, making it an offence to intentionally or recklessly disturb any bat whilst it is occupying a roost or to intentionally or recklessly obstruct access to a bat roost. Similarly, this Act makes it an offence to kill or injure any species of British reptiles and also makes it an offence to intentionally kill, injure or take any wild bird or to take, damage or destroy their eggs and nests (whilst in use or being built).

The Wildlife & Countryside Act (1981) states that it is an offence to 'plant or otherwise cause to grow in the wild' any plant listed in Schedule 9 part II of the Act. This list over 30 plants including Japanese Knotweed (*Fallopia japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and Parrot's Feather (*Myriophyllum aquaticum*).

### *2.1.4 The Countryside and Rights of Way Act (2000)*

This Act strengthens the Wildlife & Countryside Act by the addition of "reckless" offences in certain circumstances, such as where there is the likelihood of protected species being present. The Act places a duty on Government Ministers and Departments to conserve biological diversity and provides police with stronger powers relating to wildlife crimes.

### *2.1.5 Natural Environment and Rural Communities Act (2006)*

The Natural Environment and Rural Communities (NERC) Act 2006 requires that public bodies have due regard to the conservation of biodiversity. This means that Planning authorities must consider biodiversity when planning or undertaking activities. Section 41 of the Act lists species found in England which were identified as requiring action under the UK Biodiversity Action Plan and which continue to be regarded as conservation priorities under the *UK Post – 2010 Biodiversity Framework*.

### *2.1.6 Protection of Badgers Act*

The Protection of Badgers Act (1992) relates to the welfare of Badgers (*Meles meles*) as opposed to nature conservation considerations. The Act prevents:

- The wilful killing, injury, ill treatment or taking of Badgers and / or
- Interference with a Badger sett
- Damaging or destroying all or part of a sett
- Causing a dog to enter a set and
- Disturbing a Badger while it is occupying a sett

Provisions are included within the Act to allow for the lawful licensing of certain activities that would otherwise constitute an offence under the Act.

## 2.2 Policy

### 2.2.1 National

The National Planning Policy Framework (NPPF) (2023) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced.

Chapter 15 'Conserving and enhancing the natural environment' states that planning policies and decisions should contribute to and enhance the natural and local environment by protecting and enhancing sites of biodiversity, the wider benefits from natural capital and ecosystem services, minimising impacts on and providing net gains for biodiversity.

The NPPF states that plans should distinguish between the hierarchy of international, national and locally designated sites and that the scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.

To protect and enhance biodiversity plans should:

identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation;

and promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species and identify and pursue opportunities for securing measurable net gains for biodiversity.

The NPPF states determining planning applications, local planning authorities should apply the following principles:

- a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- b) development on land within or outside a SSSI, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of SSSI;

- c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists;
- d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

### *2.2.2 Local – Arun Local Plan 2011-2031 Adopted July 2018*

Arun District Council will encourage and promote the preservation, restoration and enhancement of biodiversity and the natural environment through the development process and particularly through policies for the protection of both designated and non-designated sites. Where possible it shall also promote the creation of new areas for habitats and species. In relation to designated sites, development will be permitted where it protects these sites and the species and habitats contained within them.

Proposed development likely to have an adverse effect on land with the designated features of any Site of Biodiversity or Geological Importance as designated in the Arun Local Plan or any subsequently designated sites (either individually or in combination with other developments), will not normally be permitted. Development on wildlife sites with the highest value will only be permitted exceptionally where the following can be demonstrated:

- There is no alternative solution (which shall be adequately demonstrated by the developer).
- There are reasons of public health or public safety or
- There are benefits of primary importance to the environment or iv. There are imperative reasons of overriding public interest.

Aside from the above however, the presumption in favour of sustainable development does not apply where development requiring appropriate assessment under the Birds or Habitats Directives is being considered, planned or determined. In determining any planning application affecting Sites of Biodiversity or Geological Importance the Council will ensure that the intrinsic natural features of particular interest are safeguarded or enhanced having regard to;

- The European, National or Local status and designation of the site;
- The nature and quality of the site's features, including its rarity value;
- The extent of any adverse impacts on the notified features of interest;
- The need for compensatory measures in order to re-create remaining features of habitats on or off the site.

Where appropriate the Council will ensure the effective management of designated sites through the imposition of planning conditions or Section 106 agreements as appropriate.

Policy ENV DM2 states the varying level of protection afforded to Pagham Harbour when considering development;

- Within Zone A (0-400m from the boundary) as identified on the Policies Maps, development will only be permitted in exceptional circumstances where the developer is able to demonstrate there will be no detrimental effects on Pagham Harbour, including non-native species and the water environment. Regard shall also be had to tests 1-4 as set out in Policy DM1 (Designated Sites of Biodiversity or Geological Importance).
- Within Zone B (0-5km) for all new residential development and development which is likely to have an impact on Pagham Harbour will be required to:
  - Make developer contributions towards the agreed strategic approach to access management at Pagham Harbour.
  - create easily accessible new green spaces for recreation within or adjacent to the development site. These shall be capable of accommodating the predicted increases in demand for local walking, including dog walking. Good pedestrian links shall be provided between housing areas and new and existing green space in order to discourage car use.
- Major developments (as defined in the GDPO 1995 as amended) taking place outside Zone B and close to its boundary will be considered on a case by case basis to determine any potential effects on Pagham Harbour, and the need for any avoidance or mitigation measures.

Policy ENV DM3 states that any development will retain and incorporate important ecological habitats, wildlife corridors and stepping stones as well as be designed to minimise any disturbance to these habitats. Developments that fail to do so will have their proposal rejected. Where a development scheme would result in a habitat loss, mitigation measures will be proposed as part of the proposed scheme and such measures agreed with the Local Planning Authority prior to the determination of any planning application. Within Biodiversity Opportunity Areas (BOAs) identified within the local plan or where likely to have an impact on species or habitats within the BOAs, any application for planning permission shall include a properly conducted survey of the presence of that species and habitat and impact(s) that development may have on the BOA.

Development and biodiversity Development schemes shall, in the first instance, seek to achieve a net gain in biodiversity and protect existing habitats on site. They shall also however incorporate elements of biodiversity including green walls, roofs, bat and bird boxes as well as landscape features minimising adverse impacts on existing habitats (whether designated or not). Development schemes shall also be appropriately designed to facilitate the emergence of new habitats through the creation of links between habitat areas and open spaces. Together, these provide a network of green spaces which serve to reconnect isolated sites and facilitate species movement. Where there is evidence of a protected species on a proposed development site, planning applications shall include a detailed survey of the subject species, with details of measures to be incorporated into the development scheme to avoid loss of the species. This involves consideration of any impacts that will affect the species directly or indirectly, whether within the application site or in an area outside of the site, which may be indirectly affected by the proposals. All surveys shall be carried out at an

appropriate time of year and shall be undertaken by a qualified and, where appropriate, suitably licensed person. All developments shall have regard to Natural England's standing advice for protected species.

### 3.0 METHODOLOGY

#### 3.1 Desk Study

##### 3.1.1 Waterbodies

Any ponds located within 250m of the proposed development were searched for using Ordnance Survey maps and available aerial images.

##### 3.1.2 Designated Sites

A search for designated sites within 2km of the site was undertaken using freely available online resources.

#### 3.2 Field Survey

##### 3.2.1 Habitats

The field survey work which forms the basis of the findings of this report was carried out by Darla Brown BSc (Hons) on 12<sup>th</sup> August 2024.

Habitats on site pre-development were identified in accordance with the categories specified for a UK Habitats survey, using Habitat Definitions Version 2.0 (UKHab Ltd., 2023). Where appropriate primary habitat codes were used although for some habitat types, the use of secondary habitat codes was necessary as well.

##### 3.2.2 Badger

##### 3.2.3 Bats

###### 3.2.3.1 Preliminary Roost Assessment

An external preliminary roost assessment of the building on site was undertaken by Darla Brown of Ecosupport in August 2024 (working under Dean Swensson NE class level 2 bat licence number 2015-13211-CLS-CLS). This followed BCT (Collins (ed) 2023) best practice survey guidelines searching for any PRFs / evidence of bat occupation and assigning a roost potential assessment as outlined in **Table 1** below.

**Table 1.** Guidelines for assessing the potential suitability of a built structure for roosting bats (reproduced from BCT (Collins (ed) 2023).

Suitability	Description of Roosting Habitats
<b>Negligible</b>	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
<b>Low</b>	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of the year. However, these

	potential roost sites do not provide enough space, shelter, protection, appropriate conditions <sup>2</sup> 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 and not a classic cool/stable hibernation site, but could be used by individual hibernating bats <sup>3</sup> ).
<b>Moderate</b>	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions <sup>2</sup> and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only, such as maternity and hibernation – the categorisation described in this table is made irrespective of species conservation status, which is established after presence is confirmed).
<b>High</b>	A structure 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 <sup>2</sup> and surrounding habitat. These structures have the potential to support high conservation status roosts, e.g., maternity or classic cool/stable hibernation site.
<p>2 For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.</p> <p>3 Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al., 2016 and Jansen et al., 2022). Common pipistrelle swarming has been observed in the UK (Bell, 2022 and Tomlinson, 2020) and winter hibernation of numbers of this species has been detected at Seaton Delaval Hall in Northumberland (National Trust, 2018). This phenomenon requires some research in the UK, but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in prominent buildings in the landscape, urban or otherwise.</p>	

### 3.3 Assessment Methodology

#### 3.3.1 Introduction

The methodology for the assessment of the likely ecological effects of the proposed development is based on CIEEM's *Guidelines for Ecological Assessment in the UK* (CIEEM 2018). This includes establishing the likely Zone of Influence (Zoi) for the project.

#### 3.3.2 Valuation

Features of ecological interest are valued on a geographic scale. Value is assigned on the basis of legal protection, national and local biodiversity policy and cultural and/or social significance.

### 3.4 Limitations

#### 3.4.1 Habitats

It is not considered there were any limitations at the time of any of the survey. The PEA walkover was undertaken at a suitable time of year for identifying botanical species and all surveys followed the relevant best practice guidelines, with all areas of the site accessible. This survey does not constitute a full site assessment for invasive species, such as Japanese Knotweed (*Fallopia japonica*).

## 4.0 ECOLOGICAL BASELINE

### 4.1 Designated Sites

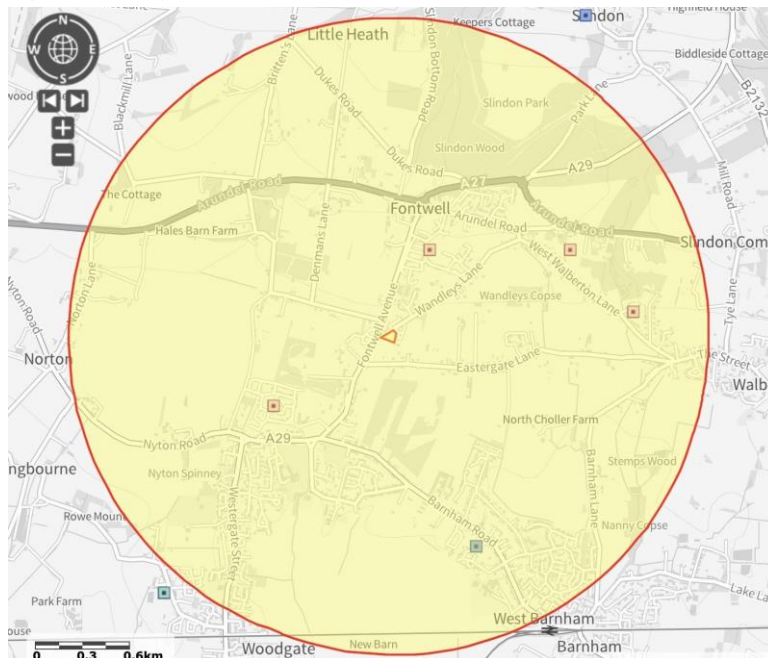
#### 4.1.1 Designated Sites

Using freely available online resources, no designated sites were identified within 2km of the site.

#### 4.1.2 Protected Species

Five European Protected Species Licences (EPSL) were identified within 2km of the site (**Fig 3**). One bat ESPL covers the destruction of Common Pipistrelle (*Pipistrellus pipistrellus*) resting places, approximately 1.4km south-east of the site. The four other mammal ESPLs identified were for Hazel Dormice (*Muscardinus avellanarius*), with the closest approximately away 0.5km north-east of the site.

**Figure 3.** European Protected Species Licences (ESPLs) within 2km of the site.



#### 4.1.3. Priority Habitat

No Priority habitats were identified on or immediately adjacent to the site.

### 4.2 Vegetation Survey Results

The vegetation within the site has been described below using classification terminology as described within Habitat Definitions Version 2.0 (UKHab Ltd., 2023). The below species should not be considered an exhaustive list and instead refer to dominant, characteristic and other noteworthy species associated with each community within the survey area. The habitat types on site comprise of:

- g4 - Modified Grassland with secondary habitat code 100 for grazed
- w1f – Lowland Mixed Deciduous Woodland with secondary habitat code 33 for line of trees
- h2a – Native Hedgerow

- u1b5 - Buildings

#### 4.2.1 g4 – Modified Grassland (secondary habitat code 100 for grazed)

The dominant habitat on site consists of g4 - Modified Grassland which has been heavily grazed (**Fig 4**). At the time of the walkover survey, species noted comprised of Hoary Willowherb (*Epilobium parviflorum*), Oxeye Daisy (*Leucanthemum vulgare*), Ragwort (*Senecio jacobaea*), Yarrow (*Achillea millefolium*), Ground ivy (*Glechoma hederacea*), Ribwort Plantain (*Plantago lanceolata*), White Dead Nettle (*Lamium album*), Nettle (*Urtica dioica*), Creeping Thistle (*Cirsium arvense*), and Scarlet Pimpernel (*Anagallis arvensis*).

**Figure 4.** View of the g4 Modified Grassland forming the majority of the site (taken August, 2024).



#### 4.2.2 w1f – Lowland Mixed Deciduous Woodland (secondary habitat code 33 line of trees)

The next habitat is a line of trees (secondary habitat code 33, under primary code w1f for lowland mixed deciduous woodland) along the north-western site boundary (**Fig 5**). At the time of the walkover survey, species noted comprised of Hawthorn (*Crataegus monogyna*), Pedunculate Oak (*Quercus robur*), and Sycamore (*Acer pseudoplatanus*).

**Figure 5.** View of the line of trees on the north-western boundary of the site (taken August, 2024).



#### 4.2.3 h2a – Native Hedgerow

A native hedgerow forms the eastern boundary of the site (**Fig 6**). At the time of the walkover survey, species noted comprised of Hawthorn (*Crataegus monogyna*), Bramble (*Rubus fruticosus*), Blackthorn (*Prunus spinosa*), Spindletree (*Euonymus europaeus*), and Beech (*Fagus sylvatica*).

**Figure 6.** The native hedgerow at the east of the site (taken August, 2024).



#### 4.2.4 u1b5 - Building

The final habitat type on site was the building with further information provided in **Section 4.3.1**.

#### 4.2.5 Baseline Biodiversity Units

Baseline Biodiversity Net Gain (BNG) units were calculated shown in **Table 2 & Table 3**. The total habitat units are 0.82, this is because the site is comprised of developed land sealed surface which has very low distinctiveness, does not require a condition assessment and has no strategic significance, therefore is 0.00 baseline units and modified grassland which is worth 0.82 baseline units because it has a low distinctiveness, poor condition required and is not within a local strategy.

**Table 2.** Baseline Biodiversity Net Gain habitat units.

Habitat Type	Area (ha)	Distinctiveness	Condition Assessment	Strategic Significance	Baseline units
Developed Land; Sealed Surface	0.004	V. Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	0.00
Modified Grassland	0.408	Low	Poor	Area/compensation not in local strategy/ no local strategy	0.82

The total hedgerow units are 0.48. There is one line of trees that has a low distinctiveness and is of moderate condition, the hedgerow is also not within a local strategy therefore is 0.34 baseline units, and one native hedgerow that also has a low distinctiveness and is of moderate condition, the hedgerow is also not within a local strategy therefore is 0.13 baseline units

**Table 3.** Baseline Biodiversity Net Gain hedgerow units.

Hedgerow Type	Length (km)	Distinctiveness	Condition Assessment	Strategic Significance	Baseline units
Line of Trees	0.086	Low	Moderate	Area/compensation not in local strategy/ no local strategy	0.34
Native Hedgerow	0.033	Low	Moderate	Area/compensation not in local strategy/ no local strategy	0.13

### 4.3 Bat Survey Results

#### 4.3.1 Preliminary Roost Assessment

An assessment of the building on site was undertaken with the results outlined below.

The building is a small single-storey building, built from single-skin wood, with a flat roof comprised of corrugated metal (**Fig 7 & 8**). Due to the single-skinned nature of the building, the structure is subject to fluctuating temperatures, and do not provide the stable conditions required for roosting bats. Similarly, no PRFs were identified. As such, the building was considered to be of *negligible potential* for roosting bats.

**Figure 7.** The southern elevation of the building (taken August, 2024).



**Figure 8.** The eastern elevation of the building (taken August, 2024).



**NB.** The low number of trees to be removed along the northern boundary to facilitate access did not contain any PRFs.

#### 4.4 Badgers



#### 4.5 Reptiles

The habitats on site were considered to be unsuitable for common reptiles, with the grassland consisting of a short-sward height and regularly heavily grazed. The scrub and taller forbs around the edge of the grassland could provide a more suitable habitat and refugia for reptiles, however, the boundary vegetation was sparse due to grazing and comprised mostly of Ragwort. Presuming the management (grazing) regime is continued on site, the area of impact is considered to be of **negligible potential** for common reptiles.

#### 4.6 Hazel Dormouse

The trees and hedgerows present on the site provide suitable commuting and foraging dormouse habitat; however, they have limited connectivity to the wider environment. Notwithstanding this, there are records of Hazel Dormice within 2km of the site. Given the small extent of the suitable habitat to be impacted upon to facilitate access, the site is considered to be of **low potential** for Dormouse.

#### 4.7 Great Crested Newt

##### 4.7.1 Waterbodies

One waterbody was identified 257m south-west of the site. It is separated by Fontwell Ave, which provides a major physical boundary for GCN.

##### 4.7.2 On-site assessment

Similarly to reptiles, the habitat on site is largely unsuitable for GCN and has a short sward height, and as such, the site is considered to be of **negligible potential** for GCN.

#### 4.8 Breeding and Nesting Birds

The line of trees, native hedgerow, and building on site provide suitable opportunities for nesting birds. However, given the small extent of the suitable habitat to be impacted upon (building) and the abundance of more suitable habitat within the wider area, it is considered that the site is of **low potential** for nesting birds.

## 5.0 LIKELY ECOLOGICAL IMPACTS IN ABSENCE OF MITIGATION

### 5.1 Introduction

The CIEEM guidelines (CIEEM 2018) require that the potential impacts of the proposals should be considered in absence of mitigation. In order for a significant adverse effect to occur, the feature being affected must be at least of local value. However, in some cases, features of less than local value may be protected by legislation and/or policy and these are also considered within the assessment. Although significant effects may be identified at this stage of the assessment, it is often possible to provide appropriate mitigation.

### 5.2 Site Preparation and Construction

#### 5.2.1 Impacts to Habitats

The proposals will predominantly involve the loss of the areas of buildings, modified grassland, and a small area of line of trees considered to be of the value at the **site - local level** of significance. Therefore, in the absence of mitigation, an **adverse impact** will occur to habitats of **site - local value**.

#### 5.2.2 Impacts to Wildlife

##### 5.2.2.1 Badgers & Other Terrestrial Mammals

##### 5.2.2.2 Hazel Dormouse

The proposed works will involve the removal of less than 20m of linear trees along the northern boundary to facilitate access. This has the potential to cause disturbance, injury, and even death to Hazel Dormouse, should they be present. Therefore, in the absence of mitigation **an adverse impact is possible** at the **local level**.

##### 5.2.2.3 Breeding and Nesting birds

Any works on the hedgerows on site could result in the disturbance of nesting birds and damage to their nests if conducted during the nesting season. As such, removal of suitable habitat without adequate mitigation could potentially constitute an offence under the W&CA, 1981 Therefore, in the absence of mitigation **an adverse impact is possible** at the **site level**.

### 5.3 Site Operation

#### 5.3.1 Impacts to Wildlife

The development may result in an increase in lighting within the general area from light spill from the internals of the new extension as well as any external lighting. This can affect the behaviour, particularly foraging, of nocturnal wildlife. Therefore, an **adverse impact is likely** at the **local** level on nocturnal species.

## 6.0 RECOMMENDED MITIGATION, COMPENSATION & ENHANCEMENTS

### 6.1 Introduction

The below sections outline the recommended measures to mitigate against any identified impact and where required provide proportionate compensation. In addition to this, measures to provide species specific ecological enhancements are provided with recommendations for habitat enhancement.

### 6.2 Protection of Retained Habitat

All existing trees and hedgerow that will be retained will be protected from damage during the works. All the site boundaries outside the area of impact will be fenced using Heras fencing or similar to prevent access by machinery. Where large mature trees are present, they will be protected using standard arboricultural tree protection measures which include protection of the canopy and prevents root compaction.

### 6.3 Bats

#### 6.3.1 Sensitive Lighting - During Construction

In order to avoid any disturbance to bats (and other potential nocturnal wildlife) construction works will be limited to daylight hours and will not be undertaken 30 minutes prior to dusk through to dawn. All lighting will be sensitive to the use of the site by nocturnal wildlife, for example by including low-level downward-facing / hooded lights that are sensor-operated where possible.

#### 6.3.2 Sensitive Lighting - During Operation

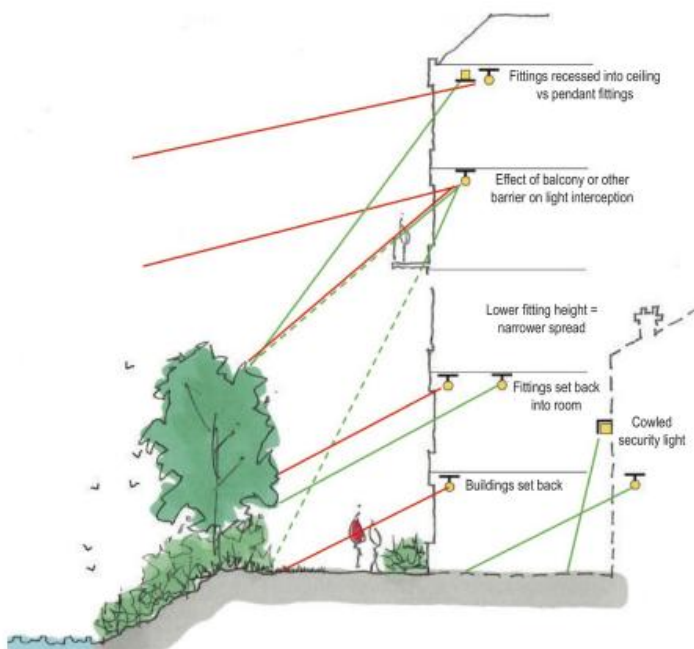
It is recommended that any lighting complies with the following the newly published *Guidance Note 08/23 Bats and Artificial Lighting at night* (ILP / BCT, 2023) produced via a collaboration between the Institute of Lighting Professionals (ILP) and the Bat Conservation Trust (BCT), which outlines the latest recommendations to minimise the impacts of increased artificial lighting on bats. The key recommendations within this document have been outlined below and will be implemented as far as is practicable:

*'Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on Key Habitats and features:*

- *All luminaires will lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used*
- *LED luminaires will be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability*
- *A warm white light source (2700Kelvin or lower) will be adopted to reduce blue light component*
- *Light sources will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)*
- *Internal luminaires can be recessed (as opposed to using a pendant fitting - See **Fig 9**) where installed in proximity to windows to reduce glare and light spill*
- *Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges (see Case Study 1)*

- Column heights will be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered - See ILP GN01
- Luminaires will always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting will be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand Use of motion sensors for local authority street lighting may not be feasible unless the authority has the potential for smart metering through a CMS
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should only be considered in specific cases where the lighting professional and project manager are able to resolve these issues. See Case Study 6
- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely'

Figure 9. Internal lighting mitigation options (ILP 2023).



## 6.4 Badgers & Other Terrestrial Mammals

### 6.5 Hazel Dormouse

Based on the current proposals, it is not anticipated there will be any significant areas of potentially suitable Dormouse vegetation that will require removal. Notwithstanding this, accounting for the suitability of the habitat on site and in the wider area, the following precautionary approach will be adopted:

Prior to clearance commencing, 3 Dormouse nest boxes will be installed through the retained hedgerow, to increase the carrying capacity of the retained habitats for Dormice. These will also act as receptors for any Dormice found during the sensitive clearance works (outlined below).

All habitat clearance will adopt the following methodology:

- Fingertip search of all vegetation to be cleared, by the licenced ecologist, immediately prior to clearance commencing (on the same day and every day clearance occurs). ***If any Dormice are found, works will cease and Natural England consulted.***
- The licenced ecologist will deliver a toolbox talk to the vegetation clearance contractors, detailing the sensitive measures required. The ecologist will then supervise all vegetation clearance. No clearance will be undertaken without the supervision of the ecologist.
- Hand tools will be utilised to sensitively cut vegetation down to ground level in a **single stage**. This will be undertaken in a directional fashion to passively encourage Dormice to move away from the works area towards retained, suitable habitats (i.e retained line of trees). All arisings will be moved away from the cleared areas immediately to an area of within the central part of the site, and will then be chipped and immediately removed from site.
- In the unlikely event of any Dormice being discovered (within areas where they cannot be let in situ), they will be moved (along with their nest) into one of the nest boxes.

No more than 50 m<sup>2</sup> of habitat will be cleared in a single day and works will take place during mid-April - mid-May or during October to avoid the breeding period (but ensure works are done during a time when Dormice are active).

### 6.6 Breeding & Nesting Birds

In order to avoid disturbance of breeding and nesting birds or damage to their nests, the clearance of any trees should take place prior to or after the bird-nesting season (March – August). If this is not possible, the area to be cleared should be thoroughly checked by an ecologist immediately prior to clearance. If any active nests are found, they should be left undisturbed with a suitable buffer of undisturbed vegetation (ca. 5m) until nestlings have fledged.

## 6.7 Enhancements

### 6.7.1 Bats

To act as biodiversity enhancement, each newly built dwelling will contain one Ibstock bat brick. The bat bricks used should be the Ibstock bat brick B as they are available in a variety of different brick colours and requires no maintenance (**Fig 10**). These should also be positioned as close to the eaves as possible, away from windows and in a position that will receive direct sunlight.

**Figure 10.** The Ibstock bat brick 'B' that will be incorporated into each newly built dwelling.



### 6.7.2 Birds

To act as biodiversity enhancement, each newly built dwelling will incorporate one Swift brick. The Ibstock 'Eco Home for Swifts' bricks will be installed (**Fig 11**) as they are a discreet and attractive box ideal for new dwellings. The boxes should be installed under the eaves or in high walls in shaded areas out of direct sunlight and away from windows. The installation of such boxes has also been shown to be beneficial for House Sparrows (*Passer domesticus*) which are a nationally declining species.

**Figure 11.** Ibstock eco home for swifts that will be incorporated into the newly built dwelling.



### 6.7.3 Native planting

As a general enhancement, any new landscape planting will aim for a minimum 70:30 ratio in favour of native species over non-natives and ornamentals (in line with the CIEEM guidance outlined within Smith & Day (2012)). Species that can be considered within any planting include Rowan (*Sorbus aucuparia*), Alder (*Alnus glutinosa*), Hazel (*Corylus avellana*), Holly (*Ilex aquifolium*), Silver Birch (*Betula pendula*), Small-leaved Lime (*Tilia cordata*) and Willow (*Salix* spp.). Non-natives and ornamentals should only be given a bias in formal locations where aesthetics is a priority.

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