Ecological Impact Assessment

Land to the south of Smugglers Lane, Barns Green

The Ecology Partnership, Thorncroft Manor, Thorncroft Drive, Leatherhead, Surrey KT22 8JB

T +44 (0) 1372 364133 E info@ecologypartnership.com W ecologypartnership.com

Contents

LIABILITIES:

Whilst every effort has been made to guarantee the accuracy of this report, it should be noted that living creatures are capable of migration and whilst protected species may not have been located during the survey duration, their presence may be found on a site at a later date.

The views and opinions contained within this document are based on a reasonable timeframe between the completion of the survey and the commencement of any works. If there is any delay between the commencement of works that may conflict with timeframes laid out within this document, or have the potential to allow the ingress of protected species, a suitably qualified ecologist should be consulted.

It is the duty of care of the landowner/developer to act responsibly and comply with current environmental legislation if protected species are suspected or found prior to or during works.

1.0 Introduction

Purpose of the Report

1.1 This Ecological Impact Assessment (EcIA) evaluates the effects of the development of land to the south of Smuggler's Lane, Barns Green, Horsham, West Sussex, RH13 0PS, hereafter referred to as the 'site'.

1.2 The results of The Ecology Partnership's surveys and desk study of the site and surrounding land are presented. These findings are assessed against the proposals for a housing development on the site to: identify and rank significant impacts, set out mitigation and compensation measures and the means to secure these, in essence the EcIA;

- Evaluates the baseline interest;
- Identifies and rank significant impacts;
- Sets out mitigation and compensation measures and the means to secure these;
- Assess the significance of residual impacts;
- Identifies enhancement measures; and
- Sets out requirements for post-construction monitoring.

Description of the Project

1.3 The proposals are for a residential development, comprising 68 units with associated access road and garden space. Amenity areas include a play area and open space supporting a SuDS basin. Additional tree planting will be present across the site. A 15m vegetated buffer is to be maintained along the boundary of the adjacent ancient woodland to the west of the site..

1.4 Supporting ecology documents submitted for the application are a Preliminary Ecological Appraisal (PEA: The Ecology Partnership 2025a), from the findings of which survey reports were produced for dormice (The Ecology Partnership 2025b); bats (The Ecology Partnership 2025c), and great crested newts (The Ecology Partnership 2025d).

Site Description

1.5 The site comprises one field of modified grassland bordered by hedgerows on each aspect. Ancient and deciduous woodlands are adjacent to the south western boundary, with a large fishing pond to the west. The site is approximately 3.2ha and located southwest of the town of Barns Green in Horsham, at a central grid reference TQ1246727020. In the wider area supports a fishery and campsite to the south and west, residential development to the east and blocks of woodland connected by arable land and hedgerows.

1.6 The aerial photograph (Figure 1) shows the site and its immediate surroundings. The red-line depicts the approximate site boundary and survey area.

Figure 1: Approximate location of the red line boundary

Planning policy and legislation

1.7 The site was surveyed to assess its ecological value and to ensure the proposals were compliant with relevant planning policy and legislation. Policy guidance is provided by the National Planning Policy Framework (NPPF 2024) as well as relevant planning policies from the Horsham District Planning Framework (2015). The Horsham District Planning Framework (2015) provides a framework for planning decisions in the borough. Policies relevant to biodiversity and environmental protection have been included below:

Horsham District Planning Framework:

- Policy 31 - Green Infrastructure and Biodiversity

1.8 It is also noted that a new Horsham District Local Plan 2023-2040 is currently under Regulation 19 review, prior to submission to the Secretary of State. This plan could come into effect this year and has separate policies which could provide a framework for planning decisions in the district:

Horsham District Local Plan 2023 – 40

- Strategic Policy 13 – The Natural Environment and Landscape Character
- Strategic Policy 14 – Countryside Protection
- Strategic Policy 17 – Green Infrastructure and Biodiversity

2.0 Methodology

Scope of the Assessment

2.1 The zone of influence of the development is defined as:

- The project red line, for effects on designations, habitats and species;
- Adjacent habitat, considered by species, for mobile species with territories or foraging ranges that may overlap the site;
- Designated sites which can be impacted through development activities; and
- Undesignated priority (Section 41) habitats that may be sensitive receptors to increased recreational pressure or other impacts such as surface water pollution

2.2 The types of features considered in the assessment of effects, to meet legislative and policy requirements, are:

- Designated sites (European, national and local);
- Protected species;
- Habitats and species of principal importance (Section 41 list);
- Hedgerows and woodland, where not of principal importance;
- Invasive species (Schedule 9 of Wildlife and Countryside Act); and,
- Habitats, where not of principal importance, that may function as wildlife corridors or stepping stones.

Desk Study

2.3 A desktop study search was completed using an internet-based mapping service (www.magic.gov.uk) for statutory designated sites and an internet-based aerial mapping service (maps.google.co.uk) was used to understand the habitats present in and around the survey area and habitat linkages and features (ponds, woodlands etc.) within the wider landscape. Records for the site and local area (up to 2km) were purchased from the Sussex Biodiversity Records Centre (SxBRC).

2.4 Prior ecology reports consulted were those produced as in support of this outline planning application:

- Preliminary Ecological Appraisal (The Ecology Partnership 2025a);
- Dormouse surveys (The Ecology Partnership 2025b);
- Bat Surveys (The Ecology Partnership 2025c);
- Reptile surveys (The Ecology Partnership 2025d).

Field Surveys

UK Hab survey

2.5 An extended UK Hab survey was conducted on site by The Ecology Partnership on 16th April 2025, in order to inform a Preliminary Ecological Appraisal (PEA) for the site (The Ecology Partnership 2025a). The surveyors identified the habitats present, following the standard 'UK Hab' auditing method. The Ecology Partnership surveyed the site on foot and the existing habitats and land uses were recorded on an appropriately scaled map. In addition, the dominant plant species in each habitat were recorded. In addition, a search for evidence of protected species, assessment of the potential for the site to support protected species, and identification of Section 41 habitats, was also undertaken on site during the survey.

Protected Species Surveys

2.6 As part of the PEA, a desk study and protected species assessment was conducted of the site, to identify the need for any further protected species surveys to ascertain the use of the site by these species, and recommend appropriate mitigation.

2.7 The site was thought to have potential to support the following protected species groups/species: bats, dormouse, GCN, breeding birds, and reptiles. Further survey work

was considered unnecessary for breeding birds, and reptiles, due to the low-impact nature of the proposals to habitats likely to support them, meaning a suitable mitigation strategy would ensure their protection during works, and appropriate habitat creation post-develop would enable them to persist on site. A summary of the survey work completed is set out in the table below. Detailed survey methodologies are provided in the appended, referenced reports:

Table 1 Species surveys

Faunal Group	Survey Methodology	Date of Surveys	Guidance
Bats – tree inspection	As part of the Preliminary Roost Assessment, any trees likely to be removed by the scheme and supporting particular features likely to be of value to bats, such as splits, cracks, rot holes, coverings of ivy, peeling bark or similar, were recorded. The potential for the trees to support roosting bats has been assessed in accordance with the criteria set out in the Bat Conservation Trust guidelines (Collins, 2023)	4th August 2025	Bat Surveys – Good Practice Guidelines 4th edition (Collins, 2023).
Bat – activity surveys	NBW surveys were carried out once per season. At the start of the survey, the surveyors were stationed on potential flight lines close to potential roost sources for 30 minutes before walking the predetermined transect route, during which bat flyovers and activity were recorded.	22nd May 2025 23rd July 2025 18th September 2025	Bat Surveys – Good Practice Guidelines 4th edition (Collins, 2023)
	Static Anabat detectors were placed out at two different points along the transect route and left to record for at least five nights each month.	16th - 22nd April 2025 22nd – 27th May 2025 19th -24th June 2025 23rd - 29th July 2025 20th – 27th August 2025 *18th – 24th September 2025* *10th – 15th October 2025*	
[redacted]			
Dormice	A total of 50 dormouse tubes were deployed along all hedgerows on site. Dormice checks were undertaken once a month from May to October 2025	Setup – 22nd April 2025 27th May 2025 24th June 2025 29th July 2025 27th August 2025	Wells *et al.* 2025

		24th September 2025	
GCN	A single waterbody within 250m of the site was subject to an eDNA survey to determine the presence or absence of great crested newts in each pond.	27th May 2025	Biggs et al. 2014

Ecological Assessment Methodology

2.8 This assessment has been carried out with reference to the CIEEM *Guidelines for Ecological Impact Assessment* (EcIA) (CIEEM, 2018). The guidelines help in the determination of the baseline conditions, what features are important, what impacts significant and how to apply the mitigation hierarchy. The sequential application of the guidelines to this assessment are outlined in the following paragraphs.

Baseline condition

2.9 The baseline condition of the site is the situation documented in this report (section 3) from data (field surveys and desk study) gathered between April 2025 and September 2025.

Important ecological features

2.10 Important ecological features are those for which the decision maker (LPA or other regulator) needs the EcIA to help to assess the effects (negative, neutral or positive) and to guide the determination of the planning application. Important features are therefore generally defined by whether legislation or policy requires their consideration. For example, a European site within the zone of influence of the development is important and needs an assessment of effects. Similarly, at different levels, any legally protected species and any features such as wildlife corridors and section 41 species, with national or local policy support, are important features. Features that cannot be referenced to legislation and policy are generally not important and the next step of the EcIA (impact assessment) is not necessary. There may occasionally be situations where professional judgement and local expertise is relevant in defining local rarity as important, regardless of a lack of current legislative and planning support.

2.11 The CIEEM guidelines (2018) avoid rigid guidance on the levels of importance, which is often required within EIA, along with the level of magnitude of an effect, as one axis of an impact matrix. Sometimes a label of European, national or local importance may be

obvious, for European sites, SSSIs and Local Wildlife Sites respectively. It is often less clear whether a small population of a Section 41 priority species or small extent of a Section 41 habitat should be of local or greater or less importance, as this may depend on data that does not exist on the distribution and abundance of the feature. Legally protected species can be important solely because of the need to meet legislation, or because they are also a feature of a County Wildlife Site or target of a local Biodiversity Action Plan. In these cases, the same species could warrant different levels of importance, possibly with different implications for what is reasonable mitigation or compensation, beyond legislative compliance.

2.12 This report follows CIEEM guidelines (2018) in not forcing features into a level of importance but using ranked importance where possible. Sites are given three levels, corresponding to their legislative and planning support: European, National and Local. Habitats and species, where not a qualifying feature of the hierarchy of sites, are simply referenced to the planning policy or legislation that supports their importance and where possible assessed from the extent, range or population size within zone of influence in relation to the extent, range or population size in the relevant administrative unit, for example LPA boundary or BAP boundary.

Impact assessment

2.13 According to CIEEM guidelines (2018), the only essential purpose of impact assessment in EcIA is: "*to assess and report significant residual effects that remain after mitigation measures have been taken into account. However, it is good practice for the EcIA to make clear both the potential significant effects without mitigation and the residual significant effects following mitigation*".

2.14 Impact assessment is required for each feature determined as important and not for other features. CIEEM guidelines (2018) advise that each impact assessment should consider, if possible, the different stages of a development (construction, operation and decommissioning) and that it should be characterised by the following:

- Positive or negative - whether the impact leads to an adverse, beneficial or neutral effect;
- Extent – the spatial area over which the impact occurs;

- Magnitude – change in, for example, the amount of habitat or the size of population;
- Duration – both in relation to the life cycle of the ecological feature and of the life of the project;
- Frequency and timing – for example, the number of disturbance incidents to birds and their timing in relation to the breeding cycle; and
- Reversibility – if and at what timescale recovery is possible.

2.15 As with the assessment of importance, CIEEM 2018 does not encourage a classification of the magnitude of impacts on a scale of severity. Rather, the significance of each impact should be assessed as the quantity of a feature of importance impacted; for example, residual loss of 5% of the extent of woodland within a Local Wildlife Site or gain of 10% in the extent of a section 41 habitat (hedgerows) on the site.

Avoidance, mitigation, compensation and enhancement

2.16 CIEEM guidance (2018) recommends a mitigation hierarchy (Figure 2). Once important features and significant impacts are identified, the project design should be modified where possible to avoid significant impacts. If avoidance is not possible, mitigation then compensation should be sequentially considered. A residual impact is an impact that remains after mitigation but is documented here both before and after compensation, as mitigation, particularly if embedded in the design, is assumed to be delivered without input from the LPA or other regulator, whilst compensation may require planning conditions and have some uncertainty on which the regulator should deliberate. Enhancement is an activity that results in a net gain in biodiversity, generally for an important feature, "over and above" anything required for mitigation or compensation. The terms mitigation and compensation are not always clearly defined and there is difference of opinion on their definitions. This report follows the Information Paper on the subject developed in consultation with Natural England for HS2 (2017), from which this quote and illustration are taken:

"*A clear distinction is made between the use of the terms 'mitigation' and 'compensation' reflecting the habitual use in ecological impact assessment of 'mitigation' to mean 'measures taken to avoid or reduce negative impacts', as separate from 'compensation' meaning 'measures taken to make up*

for the loss of, or permanent damage to, biological resources through the provision of replacement areas'"

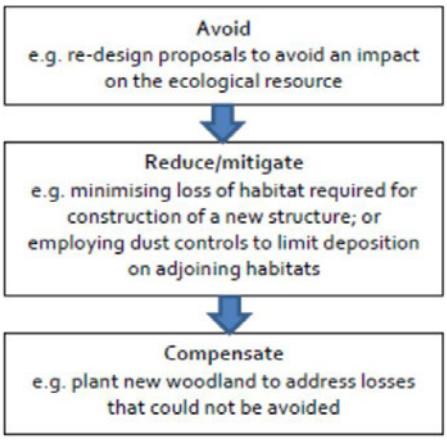

Figure 2: The mitigation hierarchy (from HS2 2017)

Limitations of the Assessment

2.17 It should be noted that whilst every effort has been made to provide a comprehensive description of the site, no single investigation could ensure the complete characterisation and prediction of the natural environment. The site was visited over the period of several site visits, as such seasonal variations cannot be fully observed and potentially only a selection of all species that potentially occur within the site have been recorded. Therefore, the survey provides a general assessment of potential nature conservation value of the site and does not include a definitive plant species list. However, the survey area was visited on a number of occasions over the optimal period, ensuring that detailed habitat information could be gathered. It is therefore considered that the survey work has allowed a robust assessment of habitats and botanical interest across the site.

2.18 The specific protected species surveys were undertaken at the appropriate time of year and during suitable weather conditions to an appropriate level of survey effort. Any specific limitations are noted in the associated reports or discussed in the results section.

3.0 Baseline Ecological Conditions

Desktop Study

Notable species

3.1. As part of the PEA a 2km data search was requested from the Sussex Biodiversity Records Centre (SxBRC). The records included a number of priority species relevant to the site, more details on each of these species can be found within the PEA, however a summarised version is included in Table 2 below:

Table 2: Notable species records within 2km of the site in the last 10 years[1]

Species group	Notable species	Distance of closest record
Reptiles and amphibians	Great Crested Newt (*Triturus cristatus*)	700m (2006)
	Grass snake (*Natrix natrix*)	315m
Bats	Common pipistrelle (*Pipistrellus pipistrellus*)	95m
	Soprano pipistrelle (*Pipistrellus pygmaeus*)	420m
	Brown long-eared (*Plecotus auritus*)	95m
	Noctule (*Nyctalus noctua*)	1.2km
	Serotine (*Eptesicus serotinus*)	410m
	Whiskered/Brandt's (*Myotis mystacinus/brandtii*)	1.2km
Other mammals	Western European hedgehog (*Erinaceus europaeus*)	1km
	Hazel dormouse (*Muscardinus avellanarius*)	460m (2007)
	Polecat (*Mustela putorius*)	1.75km
Birds	Skylark (*Alauda arvensis*)	Within 1km grid square
	Red kite (*Milvus milvus*)	Within 1km grid square
	Kestrel (*Falco tinnunculus*)	Within 1km grid square
	Hawfinch (*Coccothraustes coccothraustes*)	Within 1km grid square
	Cuckoo (*Cuculus canorus*)	400m
	Hobby (*Falco Subbuteo*)	Within 1km grid square
	Linnet (*Linaria cannabina*)	Within 1km grid square
	Dunnock (*Prunella modularis*)	Within 1km grid square
	Starling (*Sturnus vulgaris*)	Within 1km grid square
	Song thrush (*Turdus philomelos*)	Within 1km grid square
	Barn owl (*Tyto alba*)	790m

[1] No dormouse and GCN records within 10 years, but closest record a still displayed alongside the record date.

Statutory Sites

3.2. The site itself is not designated for its ecological importance or for its nature conservation value There are five internationally statutory designations within 15km:

- **The Mens** Special Area of Conservation (SAC) located approximately 8.4km west. The Mens SAC supports deciduous woodland and is designated for Annex I Atlantic acidophilous beech forest and Annex II species Barbastelle *Barbastella barbastellus.*
- **Arun Valley** SAC, Ramsar and Special Protection Area (SPA) located approximately 10.9km south west. This is designated for supporting a nationally significant population of Berwick's sawn Cygnus *columbianus bewickii*, as well as being used regularly by over 20,000 waterfowl, supporting Annex II species: Ramshorn snail *Anisus vorticulus* (primary reason), and internationally important populations of gadwall *Anas strepera*, and shoveler *Anas clypeata.*
- **Ebernoe Common** SAC located approximately 13.5km west, designated for Annex I habitat, Atlantic acidophilous beech forest and Annex II species such as Barbastelle *Barbastella barbastellus* and Bechstein's Bat *Myotis bechsteinii.*

3.3. There are national statutory designations within 2km of the site boundary.

3.4. There is a single non-statutory designation within 2km of the site boundary:

- **Bishop's Wood** LWS located approximately 1km northwest of the site, designated for its extensive, and largely ancient woodland.

Notable offsite habitats

3.5. There were three notable or priority habitats identified within 1km of site (Figure 3), including:

- Deciduous woodland, the nearest of which was located along western site boundary.
- Ancient and semi-natural woodland, the nearest of which was located along western site boundary;
- Traditional orchard, the nearest of which was located approximately 330m north-east;

Baseline habitats on the site

3.6. The site was subjected to a UK Hab survey as part of a preliminary ecological appraisal undertaken on the 16th April 2025. The findings are summarised below and are described in full detail in the accompanying PEA (The Ecology Partnership 2025a).

3.7. The site is dominated by cattle-grazed modified grassland, surrounded by species-rich native hedgerows with trees to the north and south, ancient woodland to the west and a species-poor native hedgerow to the east, separating it from Chapel Road.

3.8. All hedgerows and woodland bordering the site were considered to meet the criteria for priority habitat. The modified grassland lacked sufficient inherent ecological value, and as such is not required to be assessed at EcIA level.

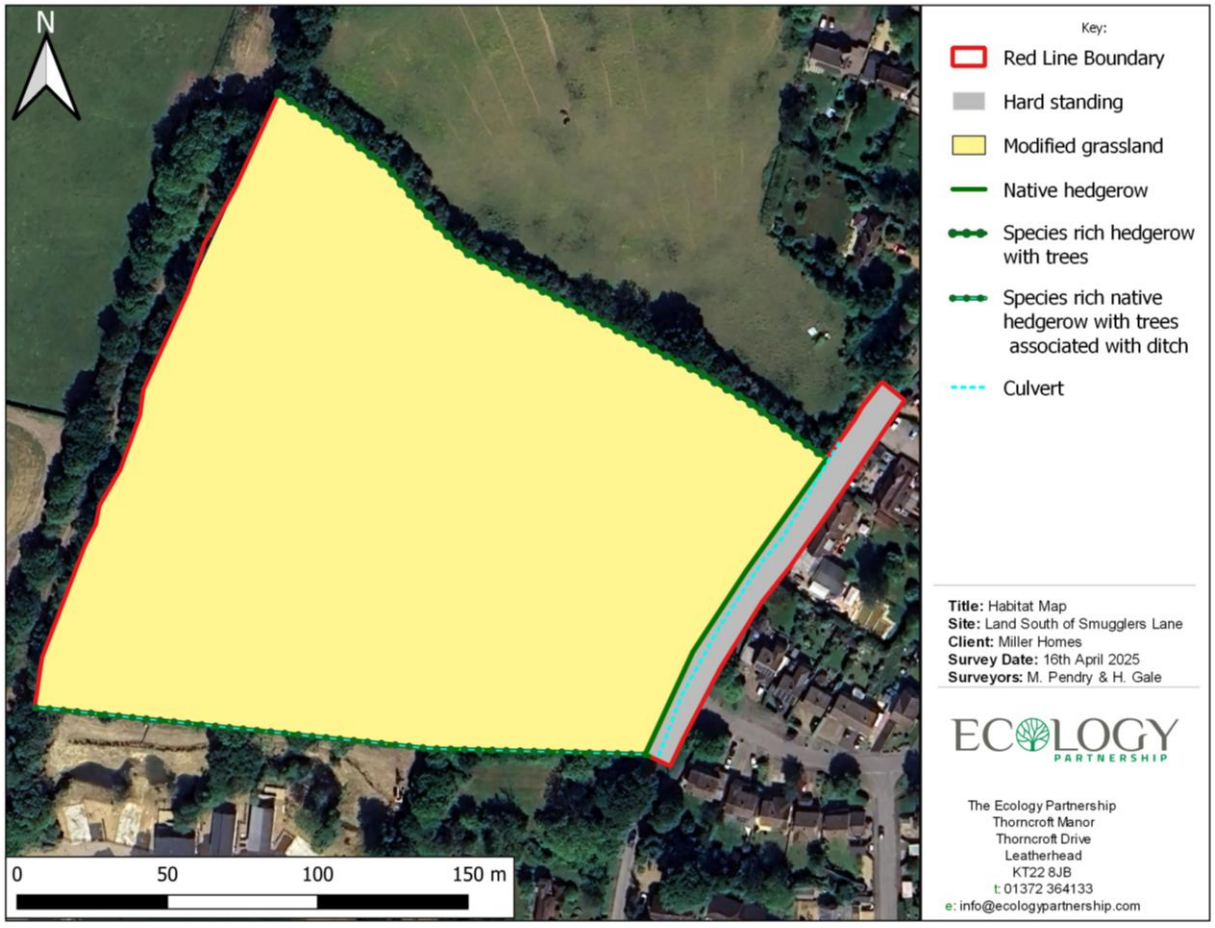

Figure 3. Habitat map for the site.

Table 4: Habitats and Level of Importance

Habitat type	Description	Level of importance
Modified grassland	At the time of the survey that cattle had not yet been put in the field. As such, sward height was longer (.c150mm) than observed once grazing started. The characteristic species here were dominated by perennial rye-grass *Lolium perenne* and meadow foxtail *Alopecurus pratensis*, with frequent creeping buttercup *Ranunculus repens* and dandelion *Taraxacum officinalis* and occasional daisy *Bellis perennis*, white clover *Trifolium repens*, meadow buttercup *Ranunculus acris*, and cock's foot *Dactylis glomerata*. The species richness was poor at only 3-5 species/m2, based on five quadrats.	Site
Species-rich native hedgerows	The hedgerows along the north and south of the site were species rich supporting multiple woody species and trees including oak *Quercus robur*, elder *Sambucus nigra*, ash *Fraxinus excelsior*, hazel *Corylus avellana*, holly *Ilex aquifolium*, hornbeam *Carpinus betulus*, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, honeysuckle *Lonicera periclymenum*, field maple *Acer campestre* and dog-rose *Rosa canina*.	Site
Native hedgerow	The eastern boundary of the site supported a managed native hedgerow which was dominated by hawthorn *Crataegus monogyna*, with occasional to rare occurrences of blackthorn *Prunus spinosa*, honeysuckle *Lonicera periclymenum*, field maple *Acer campestre* and dog-rose *Rosa canina*.	Site
Ancient woodland (edge)	The edge of the ancient woodland on the west of the site was of a similar composition to the species-rich hedgerows, however mature oaks dominated its length. The ancient woodland itself comprised an avenue of mature oaks with underlying native shrubs, either side of a wide bridleway. The woodland extends to the south and follows a small stream to the west.	Local

Species and species groups on site

Bats

3.9. Following the tree inspections, it was confirmed that trees to be impacted by the development had negligible potential to support roosting bats (The Ecology Partnership, 2025c).

3.10. The tree lines and scrub around the perimeter of the site provided suitable foraging opportunities and commuting links to the surrounding landscape for bats. The grassland on site, whilst species-poor, still offers some minor value for foraging. The site was generally considered to be of 'moderate' habitat suitability of foraging and commuting bats.

3.11. Seasonal activity surveys found common (*Pipistrellus pippistrellus*) and soprano pipistrelle (*P.pygmaeus*) to be the most frequently recorded species on site, and utilised all boundary habitats on site. Noctules (*Nyctalus noctula)* were also seen in low numbers during each

survey, and, there were occurrences of brown long-eared bats *Plecotus auritus* and myotis species during the September survey (The Ecology Partnership, 2024c).

3.12. Two Songmeter static recording devices were deployed across the site in April, May, June, July, August, September, and October, for five consecutive days each. In total 31,168 bat passes were recorded during the automated surveys over this period, comprising 14,424 from the northern detector (SM1) and 16,795 from the eastern detector (SM2). However, it should be noted that September alone accounted for approximately two thirds of all calls, with other months ranging from 850 in May to 3,923 in June.

3.13. A total of at least nine species were recorded. Together, common and soprano pipistrelle, made up the majority of the calls (88.02%), with a peak average passes per night of 241 (SM1) and 229.6 (SM2) respectively. Myotis species accounted for 11% of the calls, with a peak average passes per night of 87.6 passes per night (SM1). The majority of these calls were indicative of Daubenton's (*Myotis daubentonii)*. Noctules, Leisler's (*Nyctalus leisleri)*, brown-long eared bats, serotines (*Eptesicus serotinus)*, Nathusius's pipistrelle (*Pipistrellus nathusii*), and barbastelle (*Barbastella barbastellus)* were occasionally recorded with average passes per night of between 0.4 and 2.7. Two calls recorded by SN2 in July were indicative of Bechstein's bats (*Myotis bechsteinii*), however, due to the overlap with other myotis species these cannot be definitively assigned to this species, and due to the location of the site on the edge of a settlement area with street lighting it is more likely these calls are attributed to other myotis species.

3.14. The site falls within the wider conservation zone The Mens SAC for which it is designated for barbastelle roosts. It is however not considered that the level of usage on site by barbastelle would make the site functionally linked to the SAC. Barbastelle can fly up to 20km a night and are regularly recorded in low numbers on sites in the region and it is not considered that the sites usage by these species in such low numbers is significant.

3.15. Overall, the bat assemblage utilising the site for commuting/foraging was considered likely to be of '**Local'** value.

[redacted]

Reptiles

3.17. The hedgerows and edges of the field provide some suitable habitat to support common reptile species such as slow worm and common lizard. However, as the field is used for sheep and cattle grazing the sward length will maintain at a short sward and distubance to this grassland will make this habitat less suitable for reptiles beyond the edges. Due to the lack of any significant areas for reptiles no surveys were completed, however, sensitive measures for site clearance were made. Any population present on site is unlikely to exceed '**Site'** value.

Dormouse

3.18. Dormouse surveys carried out between May and September 2025 did not record presence of any dormouse (The Ecology Partnership 2025c). As such, it is considered that dormice are likely to be absent from the site, and therefore they are scoped out of this assessment.

Great crested newts

3.19. No ponds were identified on the site however there was a fishing lake, and associated fry ponds, and two other ponds, within 250m of the red-line boundary. The main fishing lake and fry ponds were considered unsuitable to support GCN due to the presence of large fish and fry respectively. The remaining two ponds were located 215m (P1) and 205m (P2) from the site on private land. Permission was granted to access P1, and as such, it was subject to a Habitat Suitability Index (HSI) and eDNA survey (The Ecology Partnership 2025d). The HSI found the pond to have excellent suitability for great crested newts and indeed smooth newts were observed; however, the eDNA survey found no traces of GCN

eDNA. As such, GCN were considered likely absent from this pond and therefore likely absent from the terrestrial habitat on site, and have been scoped out of this assessment.

Breeding birds

3.20. The grassland onsite is actively grazed, which will deter ground nesting birds such as skylark. However, the hedgerows on site provides suitable nesting habitat for breeding birds. However, due to the size of the site and limited extent of suitable nesting habitat, it is considered that the breeding bird assemblage on site is likely to be of importance at **'Site'** level only.

Hedgehog

3.21. The scrub edge along the boundaries of the site was suitable to support hedgehog. This species are likely to be utilising the edge habitat on site for foraging. Due to the size of the site, any population of hedgehog on site is likely to be of importance up to **'Site'** level.

Invertebrates

3.22. Due to the relatively small extent of the site and low botanical diversity of the grassland, it is considered likely that the invertebrate assemblage on site is unlikely to exceed **'Site'** value. As such, it is considered that invertebrates are not required to be assessed at EcIA level.

Future baseline

3.23. Future baseline conditions are conditions which would be likely to arise if present conditions continue and a change of land use through the planning system does not occur. The habitats on site are unlikely to change in the future, if current grazing regimes are continued.

3.24. Table 5 summarises the findings of these surveys and assesses the level of importance for each notable species/species group:

Table 5: Summary table of faunal groups surveyed & present on the site & levels of importance

Faunal Group/Species	Description	Level of importance
Bats – roosting	Following the tree inspections and subsequent endoscopic and emergence/re-entry surveys it was confirmed that roosting bats were likely absent from all	Site

	trees on site to be affected by the works. However, they may utilise trees outside the works area that were not surveyed.	
Bats – foraging and commuting	The activity surveys found the site to support up to 9 species with good numbers of common and soprano pipistrelles as well as myotis in September. The remaining six species were only recorded in low numbers. Rarer bat species such as barbastelle were only recorded in low numbers (43 passes total for SM1 and 5 for SM2, across 30 nights). The edge habitats on site may form part of a network of foraging and commuting habitat for bats across the landscape. However, high value foraging habitat is greater in the surrounding local area, and, as such, the site itself is considered of local value for commuting/foraging bats.	**Local**
Reptiles	Due to grazing suitable reptile habitat is confined to the field edges and hedgerow, limiting the size of any populations which may be present on stie.	**Site** (legislative implications)
Breeding Birds	Breeding birds are likely to be using the trees and hedgerow on site for nesting purposes.	**Site** (legislative implications)
Hedgehog	Grass margins and boundary scrub on site was considered suitable to support hedgehog.	**Site**
Invertebrates	Poor botanical diversity likely limits the overall value of this assemblage.	**Site**

4.0 Description of the Proposed Development

4.1 The proposals for site are for housing development comprising 68 units and associated roads and parking and will retain the majority of features of greatest ecological value on the site in the form of the northern, southern and western hedgerows and trees. New habitats of ecological value will be created including extensive wildflower grassland and flowering lawns, and native tree and shrub planting. A 15m buffer from the ancient woodland will be fenced off and planted with a new species-rich native hedgerow, as well as native shrubs and grassland. The species-poor native hedge near the road will be replaced with a species rich hedgerow further back fringing the new housing development and the watercourse beneath the road, will be de-culverted and redirected to flow as a small stream in the east of the site.

4.2 Embedded **Avoidance/Mitigation** measures incorporated into the submitted site layout include:

- The retention and protection of the northern, and southern hedgerows, to avoid impacts on birds, bats, reptiles, and hedgehog in these areas;

- Locating all development outside of the 15m ancient woodland buffer, protecting both the ancient woodland and associated wildlife.
- Ensuring a wide frontage of open space, free of housing.
- De-culverting the existing watercourse and redirecting through a new naturalised channel on site.
- Use of sensitive lighting strategy for bats

5.0 Assessment of Effects as well as Avoidance and Mitigation Measures

5.1 The impact assessment is for the development as described above, including the proposed site layout plan (See Appendix 1). The assessment does not separate construction and operation impacts, solely assessing effects on important features that would result from the final layout. Residual impacts are those after mitigation and before compensation, which is considered in this section.

5.2 Features within the red line that require an impact assessment are those determined as important in section 3, namely;

- Ancient woodland
- Native hedgerows
- Bats (foraging and commuting habitat)
- Reptiles
- Breeding birds, and,
- Hedgehog.

5.3 Important features outside the redline boundary, but within the zone of influence are:

- The Mens SAC
- Ebernoe Common SAC
- Arun Valley SAC, SPA; & Ramsar
- Bishops Wood LWS.

Ancient woodland

5.4 The edge of an area designated as ancient woodland is located along the western site boundary Impacts of the development on this ancient woodland parcel were assessed

against the National Planning Policy Framework (NPPF) (2024) in the PEA. The proposed development does not include any major works within 15m of the ancient woodland and therefore there is no direct loss of ancient woodland habitats.

5.5 The ancient woodland is located on either side of a PROW, which is in active use. The small sections of woodland in this area are limited to singular rows of trees on either side of the PROW. The proposals aim to link footfall from the site to the existing PROW through the existing field gate directly north of the ancient woodland boundary, and therefore cross into the ancient woodland buffer. This ground in this area is currently heavily poached by livestock and largely devoid of vegetation. It is proposed in the Arb report (Canopy Consultancy, 2025) that this area will be de-compacted using compressed air injected to a depth of 300mm and backfilled with a biochar/seaweed mix to promote mycorrhizal activity. Where the proposed path passes through the ancient woodland buffer zone, it will utilise a cellular confinement system laid on the existing level (no dig) and any hollows will be filled with sand. This will protect the soil from compaction and in time will revegetate.

5.6 The proposed development does not result in the loss of habitat linkages of the ancient woodland to the south and west of the site and the development will not fragment or isolate the ancient woodland. Impacts resulting from the loss semi natural habitats is not considered significant as the site is dominate by modified grassland utilised for grazing (and therefore not considered to be a naturalised edge) and the area where the access will be created is currently compacted bare ground. The loss or alteration of this habitat is not ecologically significant in terms of ancient woodland edge.

5.7 The implementation of fencing and construction safeguards would ensure the proposed development does not have any direct or indirect impacts on the ancient woodland or any other priority habitats. The planting of a throny species-rich hedgerow along the fenceline would further secure the buffer zone.

5.8 Whilst there will be no loss of ancient woodland habitat, there will be an increase in footfall along the PROW. The PROW appears to already be managed for pedestrians, with wood chippings present. It is recommended that management of the PROW is adapted to support the additional footfall. This may include a decompaction, potentially applying

woodchip at a more regular rate and dog waste bins and other bins are provided to reduce the impacts. A review with the PROW team is recommended with financial contributions subject to a S106 agreement.

5.9 On the basis that the above mitigation is secured it is considered that there will be a **neutral** effect on the ancient woodland as a result of the development.

Native hedgerows

5.10 The eastern hedgerow, which measures 115m will be lost to facilitate access to the site and provide sufficient sightlines. However, all remaining hedgerows are being retained. As such, it is considered that the proposals will result in **a minor adverse effect** on priority native hedgerow habitat without compensation**.**

Bats (roosts)

5.11 No bat roosts will be lost as a result of the development. As such, it is considered that there will be a **neutral effect** for roosting bats.

Bats (foraging and commuting)

5.12 The majority of the linear features favoured by bats as flight lines on site, including, species-rich hedgerows with trees, and woodland edge are to be retained and buffered as part of the proposal. This will maintain connectivity of flightlines and foraging habitat across site and the local landscape. The development would result in the permanent loss of a single species-poor native hedgerow, 115m in length, in the east of the site. In the absence of compensatory commuting habitat this would result in a partial severance of the commuting features on site primarily used by common bat species, and low numbers of rarer bat species such as barbastelle. The 45-70m wide open greenspace in the east of the site will ensure impacts are reduced.

5.13 A sensitive lighting strategy has been prepared (SLR, 2025) to reduce the impact of any artificial lighting on bat commuting and foraging habitat, as recommended within the Bat Activity report (The Ecology Partnership 2025c). The SLR Lighting Impact Assessment confirms that lux levels on boundary habitats pre-curfew will all be below a maximum of 0.55lux at a height of 4m and 0.5lux at 1.5m, with an average of 0.28lux and 0.18lux at 4m

and 0.5m respectively. Post curfew lighting is even lower with a max of 0.05lux at 4m and 0.01lux at 1.5m, all below natural moonlight levels (0.05-0.1lux).

5.14 If a sensitive lighting strategy is enacted, this will reduce the impacts on foraging/commuting bats, however, there will still be a residual **minor adverse effect** on foraging and commuting bats, owing to loss of commuting habitat. As such, further compensatory measures are required.

Reptiles

5.15 The grassland within the construction area is largely short sward and heavily grazed offering habitat of little value to reptiles, and no further surveys were recommended due to the lack of suitable habitats and the presence of cattle.

5.16 However, as there are records for reptiles in the local area and the eastern hedgerow to be removed, a precautionary approach to this removal should be made. To avoid harm to individual reptiles and mitigate for the loss of habitat within the site, sensitive clearance methods will be undertaken as detailed in the PEA (The Ecology Partnership, 2025a).

5.17 This will mitigate any short-term physical impacts to individuals that would otherwise occur during habitat clearance works on site, and the site layout ensures that sufficient habitat for reptiles will be present on site post development, as such there will still be a **neutral effect** on the reptile population in the long-term.

Breeding birds

5.18 The legislative protection afforded active nests, birds and their eggs and young will be met through the clearance of vegetation outside of the breeding season or after a nesting bird check by a suitably qualified ecologist. The development will result in a temporary loss of suitable nesting habitat provided by the eastern hedgerow. It is not considered that these habitats are likely to support significant numbers of breeding birds or species of significance

5.19 It is considered that the temporary loss of nesting bird habitat will result in a **minor negative effect of site importance,** and further compensation is required.

Hedgehog

5.20 Due to the removal of the eastern hedgerow, there will be a temporary loss of some hedgehog habitat, and without mitigation, potential for harm to come to hedgehogs on site. As such, sensitive clearance and Reasonable Avoidance Measures (RAMs) are considered the most appropriate and proportionate approach to avoid any immediate harm to hedgehog. The hedgerow should be cut in two stages: first to 150mm, followed by a check by an ecologist, and then a second cut down to ground level. Any log and brash piles should be removed carefully by hand in order to prevent harm to any hedgehog which could be found here. These would be placed in the retained areas of edge scrub, away from the works area. This would be undertaken under ecological supervision in two stage cuts during the active season for hedgehog (April - October weather dependent).

5.21 If this method is adhered to, direct harm to hedgehog will be avoided, however loss of a small area of suitable habitat will still take place, therefore a **minor negative effect of site importance** would be anticipated in the absence of compensation.

Arun Valley SAC, SPA, & Ramsar

5.22 This statutory designated site comprises a series of open wetland habitats, designated as an SPA for its nationally significant population of Berwick's Swan, as an SAC for supporting Annex II Species Ramshorn snail, and as a Ramsar site for its value to important wetland invertebrate, ditch flora, and waterfowl assemblages. The closest of these fragments is located 16km to the west. As such, no direct negative impacts would be anticipated from construction, and individually the site would not result in significant long-term impacts on this site. However, without mitigation, the operational phase could contribute to the recognised significant cumulative effects of water extraction on this site, as the site is located within Sussex North Water Supply Zone (SNWSZ).

5.23 The water neutrality assessment for the project (TS Wood Consulting, 2025) states that the proposals incorporate efficient fixtures and fittings and rainwater harvesting systems within all properties to reduce the potable water demand of the new development to 69.12 litres per day. However, without offsetting the development would not achieve net water neutrality and would result in a **minor negative effect of site importance** on this designation.

The Mens & Ebernoe Common SACs

5.24 Owing to the very low numbers of barbastelle (48 confirmed calls across 30 nights) and potential Bechstein's on site (two potential calls in July), it is determined that the site is unlikely to be functionally linked to The Mens & Ebernoe Commons SACs, that being the site is not in regular use by these species and the site does not form part of the core habitat for these species.

5.25 It is noted that site falls within the wider conservation zone 6.5km to 12km from the Mens SAC designation and as such mitigation in the form of sensitive site design has been considered. The retention of the majority of existing linear features that could be used as flight lines has been designed into the site along with a sensitive lighting strategy. Although any minor negative loss through the eastern hedgerow may have a minor negative effect on commuting and foraging bats on site as mentioned previously, the site is not considered likely to be functionally linked to the SACs. As such, **no residual effect** is predicted.

Bishops Wood LWS

5.26 Bishops Wood LWS is located *c.*1km west of the site and accessed at its eastern end through a *c.*1.5km walk along public footpaths and bridal ways, with its western extent a further 1km walk. Due to the relatively small-scale of the development and distance from this site, it is determined that the development would result in **no residual effect** on this non-statutory designated site.

6.0 Cumulative Impacts

6.1 No significant future developments have been identified in the surrounding area.

6.2 A new development is in the process of construction 50m south of the site (DC/21/2697). This will comprise 32 new residential dwellings and was approved in October 2023. An ecological Mitigation and Enhancement Plan was produced for the application and no residual negative impacts on ecology were identified.

6.3 The consented developments are all required, as a result of the planning process, to minimise effects on ecology through mitigation measures. The granting of planning permission for these sites have been a result of assessing potential impacts on the surrounding habitats, including designated sites, as required by law and policy. This

includes assessing the impacts alone and in combination with other projects and plans within the local landscape.

6.4 Other developments include smaller developments such as; extensions, building change of use plus demolition and replacement of single or low numbers of buildings. These types of developments are considered to have negligible impact upon surrounding habitats and protected sites as they do not result in a significant net increase of people living in the area.

6.5 Assuming that the nearby developments have mitigation in place to negate any potential negative effects such as increased visitor pressure on surrounding habitats and that protected species surveys have been conducted, a cumulative impact from the developments would be insignificant.

7.0 Compensation

7.1 It is recommended that the compensation methods, outlined below, are secured as part of conditions for the planning application if approved. In this development, compensation covers the loss of the eastern hedgerow and the reptiles, birds, bats, and hedgehogs which it may support.

Bats (Foraging and commuting)

7.2 As part of the landscaping strategy a planting scheme will be developed to ensure that there is connectivity maintained across the site, with new planting compensating for loss of the eastern hedgerow. In the east of the site this will include a new species-rich hedgerow set further back from Chapel Road and with a 15m gap for the main access road. Furthermore, the 45-70m wide area of open space in the east of the site will be planted up with native trees and wildflower grassland. Another species-rich native hedgerow will also be planted along the boundary of the ancient woodland buffer zone in the west of the site, and additional native shrub planting will be incorporated along the northern and southern boundaries, further strengthening these features. It is considered as long as recommended mitigation such as a sensitive lighting scheme and compensatory measures with the planting of additional trees, hedgerows and scrub, then there will be **no residual effect**.

Breeding birds

7.3 New tree/hedgerow planting and bird boxes included within the development will compensate for the loss of hedgerow habitat, and result in a net gain of suitable breeding and foraging habitat for bird species post development. As such, there will be **no residual effect**.

Hedgehog

7.4 Loss of any potentially suitable hedgehog habitat during the remediation process will be compensated for by new scrub and hedgerow planting, and use of hedgehog highways within new garden areas. As such, **no residual effect** to hedgehogs are anticipated.

8.0 Enhancement

8.1 The following enhancements are proposed to be incorporated into the site design, which go beyond compensation:

- Provision of additional bat boxes on trees and buildings;
- Creation of wildflower grassland and flowering lawns within the open space and ancient woodland buffer zone.
- Provision of log piles in suitable areas around the edge of the site
- Provision of hedgehog shelters in suitable areas on the edges of the site
- Long-term management of created communal habitats to benefit wildlife.

9.0 Monitoring

9.1 Ecological clerk of works tasks will be required during site clearance, to ensure that sensitive clearance measures for reptiles, birds, and hedgehog is adhered to, as well as implementation of the conditions, and to check that there is no change in the baseline that may alter the implementation of the development. All details of monitoring and mitigation measures during site preparation and construction would be detailed within a Construction Environmental Management Plan (CEMP).

9.2 All habitats and ecological features on site will be monitored, maintained, and managed for biodiversity in the long-term, including those within the receptor site. Full details of monitoring, maintenance, and management measures would be detailed within a Habitat Management and Monitoring Plan (HMMP).

10.0 Summary and conclusions

10.1 The residential development at land to the South of Smugglers Lane, barns Green results in a change of land use of c3.4ha of cattle-grazed pasture, creating 2.4ha of new residential housing and associated, gardens, verges, road access and parking and creation of *c.*1ha of new peripheral green infrastructure including open greenspace, wildflower grassland, SUDS, LAP, native shrubs, trees, and flowering lawns. Table 6 (below) summarises the effects on important features and how mitigation and compensation have been applied.

Baseline ecology and effects

10.2 The baseline features evaluated as important (through site designation, legislative protection or priority status on NERC Act 2006 Section 41 lists), so needing an assessment of effects, are as follows.

On site:

- Ancient woodland
- Native hedgerows
- Bats (foraging and commuting habitat);
- Reptiles;
- Breeding birds; and,
- Hedgehog

Off site:

- Arun Valley SAC/SPA/Ramsar
- The Mens SAC
- Ebernoe Common SAC
- Bishops Wood LWS

Mitigation, compensation and enhancement

10.3 Embedded mitigation includes the following:

- The retention and protection of the northern, and southern hedgerows, to avoid impacts on birds, bats, reptiles, and hedgehog in these areas;
- Locating all development outside of the 15m ancient woodland buffer, protecting both the ancient woodland and associated wildlife.
- Ensuring a wide frontage of open space, free of housing.
- Sensitive lighting scheme for bats

10.4 Non-embedded mitigation which should be secured as part of any planning permission and are as follows:

- Ancient woodland protective measures
- Recommended working practices and timings of works will also provide mitigation for potential protected species on site, to be detailed within a CEMP.
- Water neutrality measures such as rain/greywater recycling.

10.5 Residual impacts are removed through compensation, which should be secured as part of any planning permission and are as follows.

- Planting of new native hedgerow, scrub, and trees, to ensure that replacement habitat is provided which in turn will provide habitat for reptiles, foraging and commuting bats, hedgehog, and breeding birds.
- Provision of bird, and hedgehog nesting opportunities.
- Financial contribution to offsite scheme to compensate for residual net-gains in water consumption

10.6 Enhancements should be secured by condition including:

- Provision of additional bat boxes on trees and buildings;
- Creation of wildflower grassland and flowering lawns within the open space and ancient woodland buffer zone.
- Provision of log piles in suitable areas around the edge of the site
- Provision of hedgehog shelters in suitable areas on the edges of the site
- Long-term management of created communal habitats to benefit wildlife.

10.7 Monitoring will include an ecological clerk of works at construction phase and monitoring to ensure implementation of the conditions and to check that there is no change in the baseline that may alter the implementation of the development. All newly created habitats will be monitored and maintained in the long-term to ensure their biodiversity value, to be detailed within a HMMP/LEMP document and secured through Section 106 agreement.

Table 6: Effects of the development

Feature	Effect type and magnitude	Mitigation and residual effect	Compensation	Residual effect	Enhancement/ biodiversity gain
Designated sites					
Arun Valley SAC/SPA/Ramsar	**Negative (minor),** Cumulative negatives effects from increased water extraction within the SNWSZ.	**Negative (minor)** Use of sufficient rainwater harvesting,	Offsetting any remaining deficit to ensure water neutrality.	**Neutral**	None
The Mens & Ebernoe Common SACs	**Negative (minor),** Loss of flight lines, & foraging habitat for species functionally linked to the SAC	**Neutral** Retention of majority of boundary hedgerow, tree lines, woodland and scrub. Sensitive lighting scheme employed	n/a	**Neutral**	None
Bishops Wood LWS	**Neutral**	None	None	**Neutral**	None
Priority/important habitats					
Ancient woodland	**Negative (minor) Site level** Increase in recreation pressure	**Negative (minor) Site level** Ensuring buffer zone is fenced off, and new cellular web footpath is constructed with a no dig approach and allowed to revegetate naturally..	Contribution to management of PROW with more frequent application of woodchip to avoid increased soil compaction.	**Neutral**	Planting up buffer zone with native scrub and grassland to achieve a more naturalised woodland edge ecotone.
Native hedgerows	**Negative (minor) Site level** Permanent loss of eastern hedgerow.	**Negative (minor) Site level** None	Creating new species-rich native hedgerows around the western and eastern edge of the development, and providing buffer planting to those along the northern and southern boundaries.	**Neutral**	None
Priority and protected species					
Bats (foraging)	**Negative (minor), Site level** Potential negatives effects from artificial light, and severance of commuting habitat	**Negative (minor), Site level** Sensitive lighting scheme, and retention of majority of boundary habitat	Creating new boundaries of linear scrub and species-rich hedgerows around the edge of the development.	**Neutral**	None

Reptiles	**Negative (minor) site level** Loss of individuals and permanent loss of largely sub-optimal habitat and small area of optimal habitat.	**Neutral** RAMs under supervision of an ecological clerk of works.		**Neutral**	Creating wildflower grassland, scrub and log piles
Breeding birds (active nests, all species)	**Negative (minor) site level** Damage to active nests and loss of habitat	**Negative (minor) site level** Site clearance works timing outside of breeding bird season or under ecological supervision.	Planting of replacement habitat Use of bird boxes throughout the site	**Neutral**	None
Hedgehog	**Negative (minor)** Loss of individuals and permanent loss of habitat	**Negative (minor)** Site clearance works timing outside of hibernation period and under a sensitive method of works.	New scrub and hedgerow planting and use of hedgehog highways within gardens	**Neutral**	Use of hedgehog shelters around site boundary.

11.0 References

Chapman, C., & Tyldesley, D. (2016). *Small-scale effects: How the scale of effects has been considered in respect of plans and projects affecting European sites-a review of authoritative decisions*. Natural England Commissioned Reports, (205).

CIEEM. 2018. *Guidelines for Ecological Impact Assessment in the UK 3rd Edition*, Institute of Ecology and Environmental Management, http://www.ieem.net/ecia

Collins, J. (ed.)., (2023)., *Bat Surveys for Professional Ecologists: Good Practice Guidelines* (4th edn). Bat Conservation Trust, London.

Cresswell, P, Harris, S & Jefferies, D. J. 1990. *The history, distribution, status and habitat requirements of the badger in Britain*. Nature Conservancy Council, Peterborough.

Froglife (1999) *Reptile survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation*. Froglife advice sheet 10, hwww.froglife.org/advice/sheets/

HGBI (1998) *Evaluating local mitigation/translocation programmes: Maintaining Best Practices and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs)*. Herpetofauna Groups of Britain and Ireland, c/o Froglife, Halesworth.

JNCC (2007) *Handbook for Phase 1 habitat survey - a technique for environmental audit*, Joint Nature Conservation Committee

SLR Consulting Ltd. (2025) *Lighting Design Report - Land South of Smugglers' Lane, Barns Green*

The Ecology Partnership (2025a) *Land to the south of Smugglers Lane, Barns Green - Preliminary Ecological Appraisal*

The Ecology Partnership (2025b) *Land to the south of Smugglers Lane, Barns Green - Dormouse Survey Report*

The Ecology Partnership (2025c) *Land to the south of Smugglers Lane, Barns Green - Bat Survey Report*

The Ecology Partnership (2025d) *Land to the south of Smugglers Lane, Barns Green - eDNA report*

TS Wood Consulting (2025) Water neutrality Statement

Wells, D., Chanin, P. & Gubert, L. (2025) *Hazel Dormouse Mitigation Handbook.* The Mammal Society. *t*

The Ecology Partnership Ltd

Thorncroft Manor

Thorncroft Lane

Leatherhead

KT22 8JB

Tel: 01372 364 133

www.ecologypartnership.com

Approved: Alexia Tamblyn MA (Oxon) MSc CEcol CEnv MCIEEM FRGS

Issued: 25/09/2025

Updated: 12/11/2025