



# Biodiversity Enhancement Strategy (BES)

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|----------------------|--------------------------------------------|
| <b>Report</b>        | Biodiversity Enhancement Strategy (BES)    |
| <b>Site Name</b>     | Land at Campsfield, Southwater             |
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| <b>Client</b>        | Miller Homes                               |
| <b>Date of Issue</b> | 22/07/26                                   |
| <b>Status</b>        | <b><i>FINAL – Ready for submission</i></b> |

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## 1.0 INTRODUCTION

### 1.1 Brief

Ecosupport Ltd were commissioned by Miller Homes to produce a Biodiversity Enhancement Strategy (BES) for the site known as Land at Campsfield, Southwater in order to support a reserved matters application and to satisfy condition 16 of outline planning application (DC/25/0102). The wording of the condition is as follows:

Pre-Commencement (Slab Level) Condition: Prior to any works above slab level, a Biodiversity Enhancement Strategy for protected, Priority and threatened species, prepared by a suitably qualified ecologist in line with the recommendations of the Ecological Impact Assessment (Ecosupport Ltd., April 2025), shall be submitted to and approved in writing by the local planning authority. The content of the Biodiversity Enhancement Strategy shall include the following:

- a) Purpose and conservation objectives for the proposed enhancement measures;
- b) Detailed designs or product descriptions to achieve stated objectives;
- c) Locations of proposed enhancement measures by appropriate maps and plans (where relevant);
- d) Persons responsible for implementing the enhancement measures; and
- e) Details of initial aftercare and long-term maintenance (where relevant).

The works shall be implemented in accordance with the approved details shall be retained in that manner thereafter.

Reason: To conserve protected and Priority species in accordance with Policy 31 of the Horsham District Planning Framework (2015), and allow the LPA to discharge its duties under the Conservation of Habitats and Species Regulations 2017 (as amended), the Wildlife & Countryside Act 1981 (as amended) and s40 of the NERC Act 2006 (as amended).

### 1.2 Aim

The aim of this report is to devise a site-wide Biodiversity Enhancement Strategy (BES) to contribute towards a net gain for biodiversity post-development. This will ensure all features of ecological value and all legally protected species are protected, that their presence on site is retained in perpetuity, and to address the comments received from the council.

### 1.3 Site Description

The site comprises of an area of plantation woodland located to the south of Centenary Road, Southwater, Horsham, RH13 9FR (**Fig 1**) (central Grid Reference: TQ 16043 24858). The site is bound by a residential development to the north, the A24 to the east, an area of agricultural grassland to the south and an area of woodland to the west. The wider environ is largely rural situated on the outskirts of Southwater, a village to the south of Horsham.

**Figure 1.** Redline boundary of the site (Google satellite 2025).



#### 1.4 Proposed Plans

All outstanding Reserved Matters for the erection of 82 dwellings with associated parking, landscaping, surface and foul water drainage, open space, and associated works and infrastructure pursuant to permission reference DC/25/0102 on Land at Campsfield, Linfield Close, Southwater.

## 2.0 ECOLOGICAL BASELINE SUMMARY

Full details and results of the survey work can be found within the ECIA (Ecosupport 2026).

The initial field survey work which forms the basis of the findings of this report was carried out by Lyndsey Barratt BSc (Hons) PGCert ACIEEM and Lewis Lakudzala BSc (Hons) MSci on the 28<sup>th</sup> March 2023. An updated walkover was carried out on the 13<sup>th</sup> March 2024 by Lyndsey Barratt BSc (Hons) PGCert ACIEEM and Amy Johnston BSc (Hons). A further updated walkover was completed on the 18<sup>th</sup> December 2025 by Amy Johnston BSc ACIEEM and Catey Arthars. A third walkover was completed by Lyndsey Baratt BSc (Hons) PGCert MCIEEM on the 3<sup>rd</sup> July 2026.

### 2.1 Habitats

The vegetation within the site has been described below using the UK Habs Habitat Definitions Version 2.0 (UKHab Ltd., 2023). The species noted for each habitat can be found within the ECIA (Ecosupport 2026). The habitat types on site comprise:

- w1g – Other woodland; broadleaved with scattered scrub (10) and plantation (36)
- g4 – Modified grassland
- w1g6 – Line of trees (33) with scattered scrub (10)
- r1 - Standing open water and canals with ponds (19)

### 2.2 Bats

#### 2.2.1 Trees

During the walkovers completed in 2023, 2025 & 2026, 3 trees were assessed as having **Moderate Potential (updated to PRF-I in 2025)** for roosting bats due to the presence of PRFs. It is understood that these are being retained during the development.

#### 2.2.2 Activity Surveys

Based on the suitability of the habitat for foraging and commuting walked transects were carried out on-site between April – September in 2023. Approximately 13 minutes was spent at each listening point during which passes of species were noted. Any passes recorded whilst walking between points were also noted. Both a Bat Box duet / Elekon Batscanner heterodyne and Elekon Batlogger (for analysis of calls via sonogram) detector was employed during all surveys. The surveys were carried out by Katalin Annett-Balazs, Zoltan Annett-Balazs, Lewis Lakudzala, Maddie Errington, Amy Johnston, George Phillips, Ollie Silvester and Ellie Hartfield. (2 staff used per transect and all experienced bat surveyors with Ecosupport Ltd).

In addition to the walked transects, as per the requirements outlined in the BCT guidelines (Colins ed.), 2016), static detectors were placed at different locations along the transect routes for 5 consecutive nights each month during the survey periods (April – October in 2023). Analysis of sonograms was completed using either Analook or Kaleidoscope.

In general, the site can be considered relatively important locally for foraging and commuting bats with a reasonable number of calls recorded throughout the survey period and 8 different species noted. Across the 2023 surveys, high numbers of Common and Soprano Pipistrelles were recorded along all boundaries of the site (considered a common bat species in England (Wray *et al.*, 2010)). Moderate numbers of *Myotis* spp.

and Noctules were recorded across the site. In addition, low numbers of Serotine, *Plecotus* spp. and Leisler's were also recorded across the site. Of particular note was the occasional usage of the site by Barbastelle during September and October 2023 (with Barbastelle considered a rarest species in the UK (Wray *et al*, 2010)). Detailed analysis in order to identify the separate *myotis* spp. was not undertaken and therefore, the species present was presumed based on the local records received from SXBRC.

The Bat Mitigation Guidelines (2023) provides a standard method for assessing importance of bat assemblage. This approach has been developed to reflect geographic variations in species distributions. To determine the maximum possible score any site could achieve, a score is assigned to each species that could be present where:

- widespread in (almost) all geographies [score 1]
- widespread in many geographies, but not as abundant in all [score 2]
- rarer or restricted distribution [score 3]
- rarest Annex II species and very rare [score 4]

**Table 1.** Rarity category and associated score for calculating importance score (for 'Southern England') (Bat Mitigation Guidelines, 2023).

| Rarity Category                                           | Species                          | Score     |
|-----------------------------------------------------------|----------------------------------|-----------|
| Widespread                                                | Common Pipistrelle               | 1         |
|                                                           | Soprano Pipistrelle              | 1         |
|                                                           | Brown Long-eared                 | 1         |
| Widespread in many geographies but not as abundant in all | Whiskered*                       | 2         |
|                                                           | Brandts*                         | 2         |
|                                                           | Daubentons*                      | 2         |
|                                                           | Natterers*                       | 2         |
|                                                           | Noctule                          | 2         |
| Rarer or restricted in distribution                       | Alcathoe                         | 3         |
|                                                           | Serotine                         | 3         |
|                                                           | Leisler's                        | 3         |
|                                                           | Nathusius Pipistrelle            | 3         |
| Rarest Annex II Species and very rare                     | Greater Horseshoe                | 4         |
|                                                           | Lesser Horseshoe                 | 4         |
|                                                           | Bechstein                        | 4         |
|                                                           | Barbastelle                      | 4         |
|                                                           | Grey Long-eared                  | 4         |
|                                                           | <b>Maximum Score (out of 45)</b> | <b>23</b> |

Once the score for each category has been calculated (Table 1 above) and summed to determine the maximum theoretical score, the threshold score needed for any assemblage to meet each geographic level of importance, can be calculated:

- Assemblage score meets or exceeds 45% of the maximum score: County importance
- Assemblage score meets or exceeds 55% of the maximum score: Regional importance
- Assemblage score meets or exceeds 70% of the maximum score: National importance

The threshold for any site in the Southern England achieving a score of –

- 20 would be classed as of at least 'County' importance,
- 25 would be classed as of 'Regional' importance,
- 32 classed as of 'National' importance.

Using this system, the site scores **23 points** for commuting and foraging bats (see **Table 6**) and is correspondingly considered to be of at least '**County**' importance.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## 2.4 Reptiles

Habitats on site were considered suitable for reptiles in the form of longer sward grassland and scrub present across the site. As such, a suite of presence/likely absence surveys was undertaken in May 2023.

Given the size of the suitable areas of habitat, the number of refugia deployed and the maximum count of adults (which was 7), a '**Low**' population of Slow Worm is present on-site. Considering the max count of Common Lizards (which was 1), a '**Low**' population of Common Lizards is present on site. Slow Worms and Common Lizards are however relatively widespread within the UK and West Sussex and as such the site it is considered to be **Local Value** for reptiles.

## 2.5 GCN

A HSI assessment was carried out on the two ponds present within the site itself. Pond 3 was not assessed as it is isolated from the site by the A24 which is considered to be a significant barrier of dispersal by GCN. Pond 4 was not assessed as it was not accessible. Pond 1 was found to have low levels of water during the walkover and to be completely dry throughout the survey season. It scored a HSI of 0.40563 and therefore was considered to be of **‘Poor’** Suitability. Pond 2 scored a HSI of 0.60558 and therefore was considered to be of **‘Average’** suitability for GCN. Both ponds were subject to a updated HSI in June 2026, but were both found to be fully dry.

Pond 2 returned an 'Average' HSI result and as such was subject to an environmental DNA (eDNA) sampling survey in April 2023. The results of the eDNA sampling returned a negative result for the presence of GCN (SureScreen Scientifics, 2023). It is considered **unlikely** that GCN are present within the offsite ponds. Therefore, **highly unlikely** GCN would be negatively impacted by proposed development.

## 2.6 Hazel Dormice

The walkover identified suitable habitat for Dormouse (*Muscardinus avellanarius*) on the site and consequently recommended a survey should be undertaken to determine their presence or likely absence. Methodological guidance for Dormouse surveys is provided in the *Dormouse Conservation Handbook* (Bright *et al* 2006) whereby a minimum of 50 tubes is recommended to be used per site, at a spacing of 20m. A total of 50 tubes were deployed on site in April 2023.

The *Dormouse Conservation Handbook* uses an “index of probability” to assess the likelihood of a survey detecting Dormice. This assigns a score for each month which nest tubes are on a site and recommends that a total of 20 points is necessary. The surveys were carried out between May and October 2023 to ensure that all key parts of the season were covered and sufficient survey effort was achieved.

A Dormouse nest was recorded within a nest tube along the eastern boundary which indicates there is population in the local area that are using the site. No confirmed evidence of Dormice utilising the site for breeding purposes was recorded, although, breeding will be assumed due to the suitability of the habitat. Dormice are relatively common and widespread within West Sussex and have been recorded in suitable habitat across the county. Therefore, the site is considered to be of **county value** for this species (CIEEM, 2018).

## 2.7 Notable and Birds of Conservation Concern (BoCC)

The survey methodology was broadly based upon the British Trust of Ornithology (BTO) Breeding Bird Survey (BBS) and Common Bird Census methods, including the BTO Standard Recording Codes (BTO, 2004). Four surveys were undertaken covering April-June during favourable weather conditions (with little or no rain, little to no wind and good visibility). The survey visits were carried out at dawn, taking approximately 140 minutes each. The surveys followed the same pre-defined linear transect route as per the walked bat transects (**Fig 3**) and comprised 15 No. 10-minute observational points from where the surveyor could observe bird activity and listen for birdcalls to establish territories and presence of breeding/nesting birds. Behaviour such as singing male birds, young, nests, feeding behaviour, territorial disputes and defensive behaviour around possible active nests were noted. Observations were marked on a site plan.

A total of 14 bird species were recorded during the Breeding Bird Surveys within or just beyond the site boundaries.

Of the species observed, 6 appear on the Birds of Conservation Concern (BoCC) as declining (red or amber lists) (Eaton *et al.*, 2015) and / or are listed as Species of Principle Importance (SoPI) under the NERC Act (2006).

A total of 3 Red-listed and 3 Amber-listed Birds of Conservation Concern were recorded as using the site as a resource, or likely using the site. Of these, 5 species were found to be nesting/breeding or likely to be nesting/breeding within the entire site. Red and Amber-listed species recorded on site with their SOS status description and approximate numerical range in Sussex (SOS, 2014) is as follows:

Species SOS Status Description Approximate Numerical Range (Breeding Pairs)  
Lesser Spotted Woodpecker – Scarce, 11 - 100

House Sparrow – Very Common, 5001 – 30,000

Starling – Common, 1001 - 5000

Wren – Abundant, 30,000+

Song Thrush – Very Common, 5001 – 30,000

Wood Pidgeon – Abundant, 30,000+

The status of these Red-listed and Amber-listed species known to be actually nesting/breeding, attempting to nest on site or indeed suspected as likely nesting are still regarded as either 'Abundant', 'Very Common', 'Common' or 'Scarce' within the County of Sussex. This status classification is based on the species having an average number of breeding pairs of 30,000+ for abundant, 5001-30,000 for Very Common, 1001-5000 for Common species, and 11 – 100 for Scarce species annually within the County. Given the relatively small, single figure numbers of breeding or suspected breeding pairs within the site, it is not considered that the displacement of these numbers of 'abundant, very common or common' Red and Amber listed bird species would be significantly detrimental to the overall County populations. However, the Lesser Spotted Woodpecker is Scarce within the county and therefore, the displacement of this species would have an adverse impact on the county level for breeding birds. The proposals for the site do include the retention of areas of woodland and woodland creation and enhancement which will provide suitable environments for the species to re-establish in the area. On a more local level there will be a reduction in nesting and foraging resources within the site however, due to the considered low number of BoCC Red & Amber listed nesting pairs/territories present on site and the categorisation of the species using the site as a nesting and foraging resource during the nesting season, the site is considered to be of Low ecological value to breeding and nesting birds and it is not considered that the loss of bird populations and the communities present would be significantly detrimental on a County level.

A number of the Red & Amber listed species recorded on site are likely to be adaptive to the proposed housing scheme and associated landscaping and open space creation, these include, House Sparrows and Wrens. These species will adapt fairly readily to semi urban landscapes. With appropriate retention of habitats, linear features and the inclusion of suitable nesting features it would be considered reasonable that the housing proposal can provide suitable environments for these species to re-establish territories in the future.

### 3.0 MITIGATION, COMPENSATION AND ENHANCEMENTS

This chapter deals with mitigation, compensation and enhancement. Mitigation refers to measures that can be undertaken to avoid or reduce ecological impacts. Compensation refers to measures taken in order to offset potential significant impacts and finally enhancements contribute towards a net gain for ecology.

Full details on the proposed habitat creation and management post development can be found with the BNG Assessment and HMMP report (Ecosupport 2026).

#### 3.1 Bats

##### 3.1.1 Site Design

The layout has retained the areas of most importance for the commuting bats along the site boundaries (particularly along the south and west where the recordings of Barbastelle were made), with new planting used to enhance existing boundaries and to create buffers between the development and the retained boundaries. Lighting will be kept to a level below 0.4 Lux along the buffers provided along the site boundaries, thus limiting the disturbance to foraging and commuting bats (particularly Barbastelles) and maintaining connectivity across the site. A number of areas will also be enhanced through planting of a number of new shrubs, trees and shade tolerant herbaceous species to generate an understorey. **Fig 2** below provides an overview of the proposed site design.

**Figure 2.** Features to enhance / mitigate for impacts to bats designed into the scheme.

Planting of native species and appropriate management to enhance buffer planting in woodland and tree line areas. This will provide improved foraging resources and an ecological buffer between the development and retained boundaries.

Dark 'hop over' areas will be provided to maintain connectivity. These areas will use monochromatic red lighting with part night time switch off.

Frontages will have minimal downward lighting with a maximum temperature of 2700 Kelvins.

41 No. of new dwellings to incorporate Ibstock bat bricks.



Light levels will be kept at below 0.4 Lux on the vertical plane and below 0.2 lux on the horizontal plane along the retained boundaries to maintain dark corridors for commuting bats.

Low light areas provided as a buffer between the core development and the dark corridors. No roadway lighting will be used on hammerheads or peripheral areas. Minimal amenity lighting will be used with presence detection.

### 3.1.2 Sensitive Lighting

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 3**) 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'*

### 3.1.3 Enhancements

Half of the newly built dwellings (41 No. in total) will also have Ibstock bat bricks (**Fig 3**) integrated within the external brick work. These features are entirely self-contained and available in a variety of different colours to match different construction materials. They should ideally be placed on an elevation which will benefit from some degree of sunlight exposure and be located away from windows.

**Figure 3.** Ibstock bat brick 'B' which will be integrated into the gable walls of half of the new dwellings on site.



## 3.2 Birds

### 3.2.1 Mitigation

To avoid disturbing nesting birds or damaging their nests, vegetation clearance will be undertaken outside of the bird nesting season (March – August, dependent on weather). If this is not possible, sections 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 vegetation (5m), until the nestlings have fledged.

### 3.2.2 Enhancement

To act as biodiversity enhancement, Swift bricks will be incorporated in a 1:1 ration of bricks to new units (82 bricks). The 'CJ Wildlife Swift maxi nesting box' (**Fig 4**) with entrance via a CJ Wildlife 'Cambridge Swift full-face brick' (The Cambridge System is a concept comprising an entrance piece and a nest box embedded in the cavity and inner leaf. It is particularly suited to gable ends at roof-space level). If this model is not suitable for the building specifications, an alternative swift box with internal floor space exceeding 400cm squared must be used. A list of swift boxes can be found on the RSPB website via the following link (<https://www.rspb.org.uk/globalassets/downloads/about-swifts/swift-bricks.pdf>) however it is worth noting that some of these do not have an internal floor space exceeding 400cm squared and are therefore not considered appropriate. The Swift bricks will ideally be placed on the south facing elevations.

**Figure 4.** A schematic of how the Cambridge full face Swift brick leads into a cavity created by the prior installation of the Swift maxi nesting box.



### 3.3 Reptiles

As a low number of reptiles were found all within the boundary habitats and central tree line (which are being retained during the development), a passive dispersal methodology is considered proportionate. Any potentially suitable habitat that needs to be cut will be done so using a 2-stage strim under supervision of a suitably qualified ecologist. Any reptiles found during the clearance will be relocated into the retained buffer vegetation by the ecologist. During the first stage, the vegetation will be cut down to a height no lower than 10cm. Cutting will occur directionally, starting from the outside of the suitable areas towards the boundaries (that are to be retained) to encourage reptiles into the most suitable area of habitat (**Fig 5**), with the purpose to minimise the area requiring fencing as per **Fig 6**. A second cut (the following day) will take it right down to ground level. These works will be done prior to the installation of reptile fencing which will be installed to prevent reptiles from dispersing towards the development area. This will be undertaken during the active reptile period (April – September) when temperatures are above 12°C with sunshine.

**Figure 5.** Proposed reptile habitat clearance with direction of passive dispersal (white arrows) clearance that will be undertaken. The approximate location of the 4 No hibernacula are shown by the green circles.

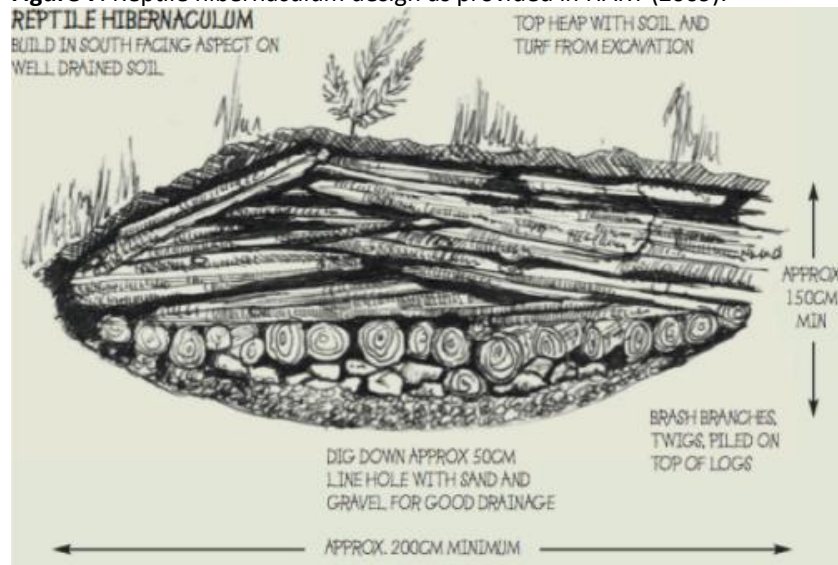


**Figure 6.** View of the location of the semi-permanent exclusion fencing to be installed on site (yellow dashed line).



### 3.3.1 Habitat Enhancement

Based on the nature of the existing habitats within the boundary habitats (i.e. areas of bordering scrub/hedgerows), the only potential enhancement anticipated would be the creation of 4 No wood-based hibernacula to provide reptiles with a suitable area to hibernate within (approximate locations shown in **Fig 6**). This will be created following the specification outlined within Reptile Habitat Management: Guidelines for Landowners (HART, 2009) (**Fig 7**).

**Figure 7.** Reptile hibernaculum design as provided in HART (2009).

It is not considered any other specific habitat enhancements measures will be necessary as the site already supports suitable habitat borders within which reptiles are present.

### 3.3.2 Protection of the Retained Habitat

Once the passive dispersal has been completed and the site is due to commence building works, the edge of the retained areas will have a line of Heras fence or similar placed in front of it. Signage will be placed on this fence with phrases such as:

## Protected Reptile Habitat, Do Not Disturb

This level of protection will remain in place for the duration of the construction works and the ecologist will make quarterly visits to the site to check on the integrity of the reptile fence and ensure any repairs are made as necessary.

## 3.4 Hazel Dormice

### 3.4.1 European Protected Species Licence

The proposed plans will require removal of sections of hedgerow / mature trees and bramble scrub on-site. This habitat may contain Dormice, as a Dormouse nest was found and all of this habitat is contiguous with the habitat to be directly impacted upon. Therefore, Dormice should be assumed to be present within all areas of the site. Therefore, a European Protected Species Licence (EPSL) will be required for any works impacting the hedgerows / mature trees and bramble scrub and such works must be carried out under the EPSL.

### 3.4.2 Vegetation Clearance

It is expected that a total of 0.285ha of suitable Dormouse habitat in the form of woodland and Bramble scrub will be cleared under a single stage / two stage methodology along with 0.021km of treeline (see **Fig 8** for location of sensitive vegetation removal). Approximately 3.2ha of plantation

woodland will be cleared also (which was considered unsuitable habitat for Dormice). Any Dormice discovered during the works will be either be left undisturbed in place (if deemed safe by the ecologist) or will be relocated to a similar location to where they were found in retained habitat (e.g. if the animal is found within leaf litter, then the animal will be placed in leaf litter). 9 No. Dormouse nest boxes will be placed into treelines along the eastern, southern and western boundaries as close to the works as possible to act as receptors in the unlikely event of any Dormice being found (**Fig 9**).

**Figure 8.** Proposed areas of suitable habitat to be cleared on site (orange = treeline, red = Bramble scrub) with white arrows indicating direction of single-stage/ two stage clearance.



**Figure 9.** Indicative locations of the 9 No. Dormouse boxes on site (white circles).



#### 3.4.2.1 Clearance Methodology

The following methodologies outline both a single stage option and two stage option for the clearance work to be carried out once a NE EPSL has been granted.

##### Single stage:

- 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).
- Prior to works commencing, the named ecologist or accredited agent will provide all site operatives with a toolbox talk to inform them of the potential presence of dormice, their legal status, means of identification, habitat requirements, the methodologies required to avoid impacts on the species and what they should do if a dormouse is found. A written record that this has been undertaken, signed by attendees, will be kept and made available to Natural England should it be required.
- 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 hedgerow / treeline habitat. Where areas of scrub are being cut, this will be done directionally towards the retained habitats. All arisings will be chipped on site immediately.
- Cut material will be removed from the areas and chipped and removed from site or area of working operations.
- 9 Dormouse nest boxes will be placed into the areas of retained hedgerow / treeline around the site to act as receptors in the event of any Dormice being found (**Fig 9**).
- Works will take place outside of the core breeding periods (June - September inclusive) and avoid the hibernation period (late November – March) and as such, the most appropriate timings would be April - May and late September - October
- **No more than 150m<sup>2</sup> of habitat will be cleared in a single day**

### Two Stage methodology

Clearance of the vegetation within the site will be carried out sympathetically and under the supervision of a Licenced Ecologist (LE) who will search for nests by hand and capture Dormice (if necessary) before and during clearance works. If any active animals are discovered during the works then these animals will be captured and placed, with their original nest where present, within previously erected nest boxes (outlined above). If any hibernation nests/potential hibernation nests are identified during the first stage of the clearance over winter, these will be left undisturbed, with vegetation retained in a buffer around the nest, due to the vulnerable nature of hibernating or torpid Dormice. All arisings / cuttings will also be removed from site each day following a hand search by the licenced ecologist to prevent re-occupation.

- 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.
- To avoid any impacts to Dormice the removal of all vegetation will adopt a two staged approach with the upper sections removed over winter (when Dormice may be hibernating in the lower parts) and the trunk and roots removed during spring.

### Winter clearance

This should remove sufficient vegetation to persuade Dormice emerging from hibernation in April or May to move to more appropriate habitat nearby. Once emergence is complete, by the end of May, full clearance of the area can continue. Winter clearance should thus be planned as a two- stage process.

Trees and shrubs within the area in question should be cut down between November and March inclusive, to avoid both the bird nesting season and the majority of the period when Dormice might be found in nests above ground. Clearance should be done by hand and in a sensitive manner, to minimise the likelihood of disturbing or killing hibernating Dormice. Similarly, the process of removing the cut material should, as far as possible, be designed to protect Dormice hibernating on the ground. This can involve such techniques as:

- Sacrificing a single 'haul- route', which has first been cleared by hand if necessary;
- Using a long-reach mechanical grab and/or limiting the number of 'drag-lines' along which stems are removed; and/or
- Directional felling to minimise the ground impact.

In addition to the above, all vegetation being removed, and the ground beneath, will first be hand searched as far as possible to identify the presence of any hibernation nests. Similarly, any proposed drag/haul routes will first be searched by hand before such usage commences. If any hibernation nests are identified, these will be retained and protected and, if present within a haul/drag routes these will be re-routed to avoid the retained nest.

### Spring clearance

Once the above works have been completed, the roots will be removed using hand tools where possible or with a digger using a toothed bucket under the supervision of the licenced ecologist from

mid-April onwards (provided the temperatures have been warm enough for Dormice to emerge from hibernation at the discretion of the ecologist).

### *3.4.3 Minimising Disturbance*

Prior to construction works commencing the retained scrub / tree lines / hedgerow will be protected from damage during the works. They 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 prevention of root compaction. Access will not be permitted behind this fencing by construction personnel. This will protect Dormouse habitat from direct damage/disturbance and dust. Signage will also be added (on top of the usual warnings for tree protective fencing) stating things such as:

## **Protected Dormouse Habitat**

### **It is an Offence to Damage / Disturb this Habitat**

This will also provide protection for wildlife species, [REDACTED] that may be using the margins of the site as well as bats, invertebrates, reptiles and other mammals. No vehicles will enter the protective ring fencing and no materials will be stored within their circumference. All protective fencing must be in place prior to any construction machinery arriving on site, before any works on site get underway, and will remain in place until all work is completed. This will minimise the level of disturbance within the boundary habitat / buffer areas during the works and ensure the habitats and any wildlife species that may be using them are protected.

### *3.4.4 Habitat Compensation / Connectivity*

The permanent loss of approximately 0.285ha of Bramble and the loss of 0.021km of treeline will be compensated for through enhancement of tree line and woodland planting on site enhancing 0.241ha/0.379km of treeline through woodland & scrub planting gapping up of areas to improve connectivity. As well as this, a large area of woodland (1.349ha) will be created directly adjacent to the southern boundary of the site, to provide further suitable habitat. Connectivity will be maintained over footpaths through the treeline by using trellis planted with climbers to create a continuous canopy.

The clearance of the vegetation won't result in any fragmentation of habitat, with connectivity maintained around the boundaries of the site.

### *3.4.5 Mitigating Operational Impacts*

#### *3.4.5.1 Lighting*

A sensitive lighting scheme for the site will be implemented as described in **Section 6.3.2** which includes specific recommendations for lighting types to mitigate against the impact of artificial lighting on nocturnal species. Where there is any light spill into the newly created and retained boundary habitats, this is also kept to a minimum level of no higher than 0.5 Lux. By extension, this strategy also ensures the boundary vegetation areas being used by Dormice (and the new planting) will also avoid any additional light spill.

### 3.4.5.2 Cat Predation

To minimise the risks of cat predation once the houses have been completed and the new occupants moved in, thorny species (such as *Crataegus monogyna*) will be planted up within the retained scrub / newly planted mixed scrub on site and along the boundaries of the treelines at a minimum density of 1 per linear metre. As these species mature, they will provide a natural deterrent to cats moving into wooded areas on site.

### 3.4.5.3 Dormouse Boxes

As iterated in the above sections, prior to the commencement of vegetation removal, at least 9 No Dormouse boxes will be installed by a suitably qualified ecologist in suitable habitat to be retained to enhance the site for Dormice (as per **Fig 10**). The boxes will be checked at years 1 – 10 post clearance works by a licenced ecologist and the data submitted to the National Dormouse Monitoring Programme (NDMP).

### 3.4.6 Newly Planted Areas

Scrub / tree planting will be carried out within the application site prior to the commencement of works that will compensate for the loss of vegetation suitable for Dormice. As well as this, a large area of woodland will be created directly south of the site. These areas will require appropriate management, detailed and secured by the eventual EPS licence, to ensure they remain suitable for use by Dormice.

**Figure 10.** Proposed areas of Dormouse compensation planting (green = woodland enhancement, triangles = planted trellises).



### 3.4.7 Responsibility

The plants will be managed for a minimum period of 12 months by the developer post completion of development, covering the first part of the establishment period. Ownership / management responsibilities for the POS will then be transferred to a management company which is as yet unappointed.

[REDACTED]

## 3.6 Hedgehogs

### 3.6.1 Enhancement

To ensure permeability for small mammals across the site, the garden fences of the properties will ensure at least 2 gaps are present within the gravel boards / bases of each fence line to allow for movement of Hedgehogs between gardens and into the wider area. The gaps should be at least 15 cm high by 15 cm wide with permeability for small mammals.

Small signage could be installed at these points to ensure they remain open upon completion of the development. The People's Trust for Endangered Species provide such signage, the purchase of which also supports conservation efforts (**Fig 11**).

**Figure 11.** Example of Hedgehog Highway signage to be placed above fence gaps provided to allow movements between gardens.



#### **4.0 CONCLUSION**

This document has been prepared to bring together all the existing ecological information for Land at Campsfield, Southwater with the aim of providing a Biodiversity enhancement and Mitigation Plan. This includes methods for carrying out the works without causing harm to protected species and providing opportunities for enhancement that are consistent with the aims of national and local planning policy.

Recommendations are also made within this document to provide compensation and enhancements for hazel dormouse, bats, birds, reptiles and hedgehogs.

It is considered that, should all aspects of this document be implemented, adequate mitigation can be achieved to minimise impacts on the existing population of protected and notable species on site and produce a net gain in the site's biodiversity value.

## 5.0 REFERENCES

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## **Appendix – Enhancement Plan**



## Legend

- Bat bricks (41)
- 2x Swift bricks (82)
- ✦ Hedgehog highways
- Dormouse boxes (9)
- Reptile hibernacula (4)



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**Map** Enhancements Plan

**Site** Campsfield, Southwater

**Client** Miller Homes

**Date** 22/07/2026

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