

RASCALS FARM, SOUTHWATER

BIODIVERSITY LIGHTING SCHEME – 15TH APRIL 2026

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1.0 INTRODUCTION

- 1.1 July 2025, ACD Environmental Ltd were instructed by Barratt Redrow Southern Counties to consider bats and biodiversity in relation to the approved lighting scheme at the land known as Rascals Farm, Southwater, hereafter referred to as ‘the Approved Development Site’. The Ordnance Survey Grid Reference for the approximate centre of the Approved Development Site is TQ 15479 25267.
- 1.2 A non material amendment relating to outline planning permission **DC/20/0695** for a residential development comprising the erection of up to 100 new dwellings was granted by Horsham District Council on 12th October 2021 (ref: **DC/21/2126**).
- 1.3 Reserved matters for a residential development comprising the erection of 96 new dwellings was granted by Horsham District Council on 5th June 2025 (ref: **DC/24/0249**).
- 1.4 This report has been produced to address **Condition 14** of the planning appeal for outline planning permission (ref: **APP/Z3825/W/20/3257700**). **Condition 14** states the following:

“No development above ground floor slab level of any part of the development hereby permitted shall take place until a lighting design scheme for biodiversity has been submitted to and approved in writing by the local planning authority.

The scheme shall identify those features on site that are particularly sensitive for bats and that are likely to cause disturbance along important routes used for foraging; and show how and where external lighting will be installed (through the provision of appropriate lighting contour plans, Isolux drawings and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent bats using their territory.

All external lighting shall be installed in accordance with the specifications and locations set out in the scheme and maintained thereafter in accordance with the scheme.

No other external lighting or floodlighting shall be installed without prior consent from the local planning authority.”

- 1.5 Relevant ecology reports for the Approved Development Site that should be read in conjunction with this report include the following:
- Landscape and Ecological Management Plan (LEMP) by ACD Environmental Ltd¹.
 - Construction Biodiversity Environmental Management Plan (CBEMP) by ACD Environmental Ltd².
- 1.6 A sensitive lighting scheme is required in order to protect opportunities for nocturnal animals within and surrounding the Approved Development Site, namely [REDACTED] *Meles meles*, hazel dormouse *Muscardinus avellanarius*, and [REDACTED].
- 1.7 This report has been written by Benjamin Prego, Senior Ecologist at ACD Environmental Ltd. Benjamin has several years' experience in the ecology sector carrying out a wide range of surveys, including UK Habitat Classification Surveys and Phase 2 Surveys for protected surveys, and producing high-level reports and mitigation strategies. Benjamin is a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and holds a Natural England Class Licence for great crested newts *Triturus cristatus*.
- 1.8 A Technical Review of this report has been undertaken in line with ACD Environmental Ltd's Quality Assurance procedures. The review was carried out by John Constable CMLI and Managing Director of ACD Environmental. John has over 28 years of experience within the industry, overseeing more than 10,000 projects.

¹ ACD Environmental Ltd, 2026. Landscape and Ecological Management Plan (LEMP). January 2026.

² ACD Environmental Ltd, 2025. Construction Biodiversity Environmental Management Plan (CBEMP). November 2025.

2.0 BACKGROUND

- 2.1 The Approved Development Site comprises approximately 6ha of land consisting of buildings, grassland, woodland, and scrub. The Approved Development Site is located to the south-west of the town of Southwater, West Sussex, and is surrounded by woodland to the north and west, and is bounded by lines of trees to the south and south-east. The approximate location of the Approved Development Site is shown within **Image 1**.



Image 1: Approximate boundary of the Approved Development Site (red line).

- 2.2 A brief description of the relevant habitats on-site has been provided below for reference.

Ancient Semi-natural Woodland

- 2.3 The site is bounded to the north and west by broadleaved woodland, with Rascals Wood to the north and Blinks Wood to the north-west classed as an ancient woodland site replanted with broadleaved species.
- 2.4 The woodland comprises a mix of species, including oak *Quercus robur*, ash *Fraxinus excelsior*, cherry *Prunus avium* and field maple *Acer campestre*. The relatively dense

understory, which has been coppiced in the past, supports hazel *Corylus avellana*, blackthorn *Prunus spinosa*, hawthorn *Crataegus monogyna*, rose *Rosa sp.*, spindle *Euonymus europaeus*, wild service tree *Sorbus torminalis* and privet *Ligustrum vulgare*.

Broadleaved Semi-natural Woodland

- 2.5 A small area of woodland is present in the centre of the site, dominated by oak and ash; with field maple, cherry, hawthorn, blackthorn, apple *Malus sp.* and the occasional wild-service tree also present. Ground flora is generally dominated by ivy *Hedera helix*.

Species Rich Mesotrophic Grassland

- 2.6 The fields in the north of the site were assessed as being species rich and as such were surveyed using National Vegetation Survey (NVC) methodology.

Semi-improved neutral grassland

- 2.7 Species-poor grassland is the dominant habitat in the southern part of the site, this is in current use as a horse paddock, heavily grazed and very short. This area is dominated by grasses, with cock's-foot *Dactylis glomerata*, meadow foxtail *Alopecurus pratensis*, false oat grass, Timothy *Phleum pratense*, couch *Elymus repens*, meadow barley, creeping bent *Agrostis stolonifera* and sweet vernal grass *Anthoxanthum odoratum*.

Dense Scrub

- 2.8 Dense scrub is located in several areas throughout the Approved Development Site. Patches of scrub are located along the northern field boundaries dominated by common tall ruderal species including thistles, dock, willowherb *Epilobium sp.* and hogweed *Heracleum sphondylium*, and in the centre of the field including dense and scattered scrub (mostly bramble, *Rubus fruticosus L. agg.*) parcels and many young and sapling self-seeded trees (mainly ash).
- 2.9 For ease of reference, descriptions of relevant fauna have been provided alphabetically, below.

██████████

- 2.10 Evidence of ██████r activity was confirmed in 2020 comprising a latrine within the northernmost field. No ██████ setts have been found within the Approved Development Site to date.

██████████

- 2.11 Several emergence surveys have been carried out on the residential farmhouse building within the Approved Development Site. These surveys identified numerous ██████ emergences from the building including several from the chimney. As such, the building was identified as a confirmed ██████.

██████████ activity transects and static recording surveys have been carried out at the Approved Development Site with species including common pipistrelle *Pipistrellus pipistrellus*, Myotis sp., serotine *Cnephaeus serotinus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula*, Brandt's/whiskered and Natterer's *Myotis nattereri*, all recorded using the site.

Dormice

- 2.13 The scrub, woodland and tree line habitats within the Approved Development Site are suitable for foraging, commuting and nesting hazel dormice. These habitats are also connected to optimal habitat within the wider landscape in the form of woodland.
- 2.14 Dormouse presence/absence surveys carried out in 2019 identified active nests on the western boundary of the northern field within the scrub adjacent to the off-site woodland.

Other mammals

- 2.15 The horse grazed paddocks, tree lines and scrub are all suitable to support sheltering and foraging hedgehog.
- 2.16 The CBEMP includes the following measures regarding lighting:

“The following measures should be implemented with regards to construction site lighting to minimise light spill onto the surrounding habitats and protect commuting/foraging habitat for bats:

- *Temporary lighting during the construction phase will be minimised to task related lighting only must only be used if absolutely required.*
- *There are limits on working hours where construction activities are permitted to daylight hours, which will inherently minimise the requirement for lighting.*
- *Any lighting must not be left on permanently outside of normal working hours.*
- *Any lighting must be directed within the construction site to minimise light spill on adjacent habitats.*
- *If security lighting is required, it is recommended that it is motion sensitive with hooded luminaires.*
- *No lighting will be directed towards or in the vicinity of any mitigation/enhancements for fauna e.g. [REDACTED] and hazel dormouse boxes.”*

2.17 The LEMP includes the following measures regarding lighting:

“Artificial lighting will be minimised within the proposed scheme and new lighting will have hoods and cowls to minimise light spill into the sky or onto trees. Consideration will be given to:

- *Lighting will only be installed where there is significant need, a minimal amount of light will be used and lighting will be dimmed during periods of low public use.*
- *Avoid the use of high pressure sodium lights, white LED broad spectrum lights and short wavelength ‘blue’ white sources throughout the Approved Development Site.*
- *Use low spectrum lights with no UV content such as warm white LED.*
- *Use lights that have a focused luminance on their target area preventing light pollution into other areas, for example using directional downlights, illuminating below the horizontal plane; using the lowest necessary lighting column and ideally achieve beneath 1 lux at 2m above ground level.”*

3.0 LIGHTING STRATEGY

3.1 The Institution of Lighting Professionals and the [REDACTED] Trust have produced a guidance note that provides advice on reducing artificial impacts on bats³. The following general measures are recommended regarding artificial lighting:

- Installing external lighting only where there is a significant need; allowing some unit areas, dimming and part-night lighting where lighting intensity is reduced during the darkest time of the night;
- Motion-sensors coupled to one-minute timers on external lighting such as in private driveways;
- Using luminaires with warm white, narrow spectrum lights with no UV content and peak wavelength over 550nm, recessed where possible and mounted horizontally with no upward tilt;
- Luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used;
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability;
- A warm white light source (2700K or lower) should be adopted to reduce blue light component;
- Column heights should 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;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;

³ BCT & ILP, 2023. Guidance Note GN08/23 Bats and Artificial Lighting At Night.

- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt; and
- Where appropriate, external security lighting should 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.

3.2 The proposed external lighting at the site is considered to be acceptable in ecological terms for the following reasons:

- The lighting has been designed with reference to the guidance note prepared by the  Conservation Trust and Institution of Lighting Professionals (2023).
- The lighting is directional and focussed on the new access roads and associated built environment.
- The boundary vegetation (hedgerows/tree lines/woodland edges) are of the highest value for navigating and foraging bats. These areas will be retained as dark corridors where there are no impacts from lighting.
- The lighting has an Upward Light Ratio (ULR) of 0%, which means that there is no light spill above the horizontal plane, and the luminaires are DarkSky Approved.
- The lighting is LED.
- The lanterns have control equipment that dims the lumen output by 50% after 8.00pm and part-night photo electric cells will be installed, whereby the lighting will switch off between 12:00am and 5:00am.
- The lighting is a warmer colour with a reduced blue light component at 2700K.
- A total of 24  boxes will be installed within the Approved Development Site, integrated into the walls of new properties, and erected onto retained trees within the site and on existing trees within the woodland to the north of the site. Given the number of boxes, there are some locations where there will be indirect impacts from internal

lighting (once the properties are occupied) and external lighting; however, there will be flight lines on and offsite will be maintained, especially with the inclusion of the above measures.

- 3.3 Lighting is to be directed away from the retained boundary features, the retained woodland area on-site, and integrated [REDACTED] bird boxes. **Figure 1** below indicates dark corridors that will have little to no lighting to reduce impacts on wildlife within the Approved Development Site.



Figure 1: Dark corridors for lighting scheme

4.0 ECOLOGICAL ENHANCEMENTS

4.1 **Figure 2** shows the Ecological Enhancement Plan which indicates location  boxes, bird boxes, , and dormouse nest tubes and nest boxes.

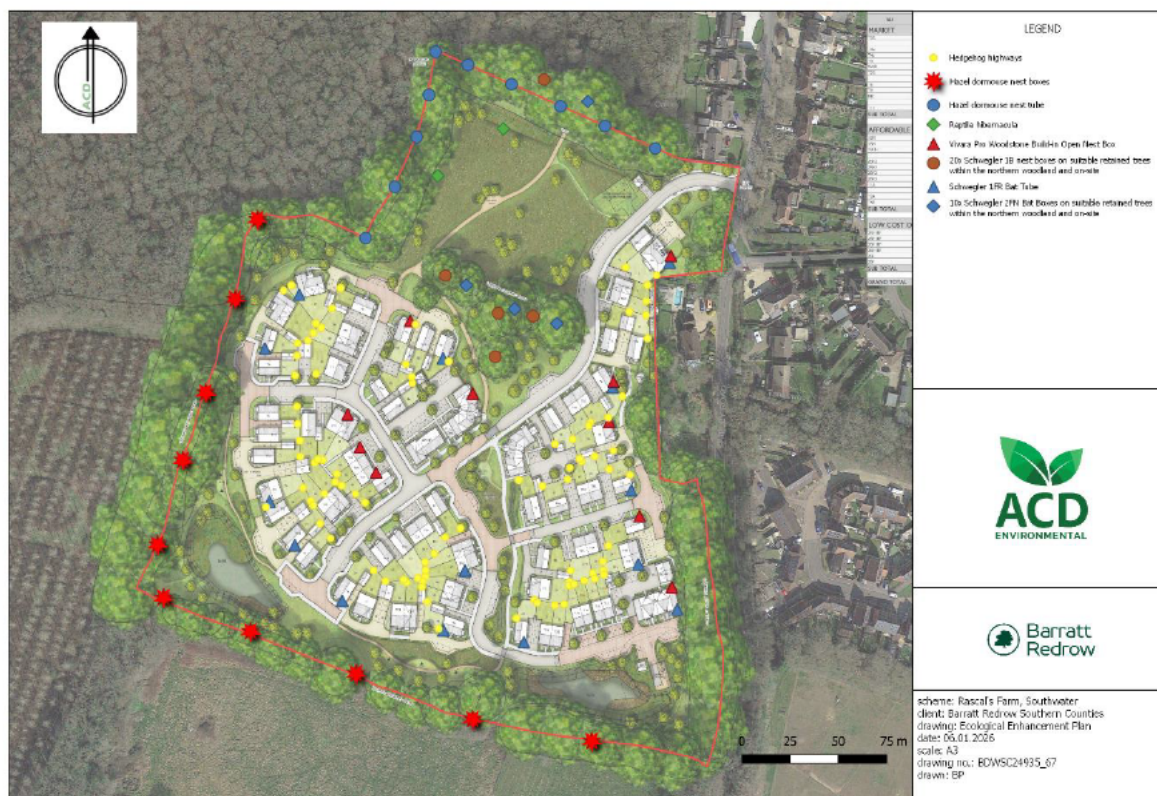


Figure 2: Ecological enhancement plan

- 4.2 A total of 10  boxes will be installed on trees within the woodland in the northern section of the Approved Development Site. 14 integrated  boxes are to be installed within the walls of the proposed houses to provide a net increase in  opportunities.
- 4.3 A total of 20 bird boxes will be installed on trees within the woodland in the northern section of the Approved Development Site. 10 integrated bird boxes are to be installed within the walls of the proposed houses to provide a net increase in bird nesting opportunities.
- 4.4 For further information regarding details and management prescriptions for these enhancements refer to the LEMP report produced by ACD Environmental Ltd.

5.0 CONCLUSIONS

- 5.1 The proposed lighting scheme will adhere to the specifications within this Biodiversity Lighting Scheme report. Measures to be incorporated will include using warmer LED lighting and creating areas of dark corridors around the boundaries of the site to reduce impacts on wildlife.
- 5.2 Provided the measures within the ecology reports for the site are followed, there are no significant negative effects on ecology anticipated.