
Philpots Manor School, West Hoathly, East Grinstead RH19 4PR.



Lighting design strategy for biodiversity

JW Biodiversity Management
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1. Introduction

JW Biodiversity Management has been commissioned to compile a lighting design strategy for biodiversity for a proposed car park development on the grounds of Philpots Manor School in West Hoathly, East Sussex. This report follows on from a Preliminary Ecological Assessment (PEA) and Biodiversity Net Gain Assessment (BNG) conducted by JW Biodiversity in 2026.

This report has been compiled to satisfy the following planning condition:

Prior to the installation of any external lighting associated with this development, a "lighting design strategy for biodiversity" in accordance with Guidance Note 08/23 (Institute of Lighting Professionals) shall be submitted to and approved in writing by the local planning authority. The strategy shall:

a) identify those areas/features on site that are particularly sensitive for bats and that are likely to cause disturbance in or around their breeding sites and resting places or along important routes used to access key areas of their territory, for example, for foraging; and

b) show how and where external lighting will be installed (through provision of appropriate lighting contour plans and technical specifications) so that it can be clearly demonstrated that areas to be lit will not disturb or prevent the above species using their territory or having access to their breeding sites and resting places.

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. Under no circumstances should any other external lighting be installed without prior consent from the Local Planning Authority.

1.1 Development outline

The approved development (planning reference DM/25/2994) will involve the extension of the existing school car park to improve highway safety, together with associated landscape and biodiversity improvements. The proposed layout is shown in Figure 1.

1.2 Site Description

The site is located within the grounds of Philpots Manor School to the east of the main school buildings and adjacent to an existing car park. The site is located in a rural area. The local landscape is dominated by woodland and agricultural land. The proposed site layout will include an area of existing car parking and retained hedgerows. A new section of car park will be added to the east with new native hedgerows.

The site is within the High Weald National Character Area (NCA) and the Mid Sussex District Council Local Planning Authority (LPA).

The site (as shown on figure 1) is located in West Hoathly: TQ 3532 3610

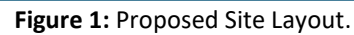
1.3 Relevant Legislation and Planning Policies

Relevant legislative implications for this site include:

- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way Act 2000;
- The Natural Environment and Rural Communities Act (NERC Act) 2006;
- The Environment Act 2021.

Planning policies, both local and national, may affect any proposed development. Relevant planning policies for this development include:

- Policy DP38 Mid Sussex District Plan 2014 - 2031



2. Lighting Strategy for Biodiversity

The information set out in the Guidance Note 08/23 (Institute of Lighting Professionals)¹ was followed in preparing this strategy. The guidance note recommends the following mitigation hierarchy steps.

1. Could bats be present on site?
2. Determine the presence of/potential for bat roosts or habitat and evaluate their importance
3. Avoid lighting on any Key Habitats
4. On Supporting Habitat, apply mitigation methods and sensitive design to reduce lighting to a minimum.

The strategy will follow these steps which will satisfy the requirements of the condition.

2.1 Could bats be present on site?

The PEA report concluded that the site contains limited suitable foraging habitat. The hedgerow provides suitable bat habitat and there is connectivity across the local landscape. Therefore, bats could be present on site. Records of bats were noted in the local area.

The site was not considered likely to support any bat roost.

1.2 Determine the presence of/potential for bat roosts or habitat and evaluate their importance

The proposed habitat layout (Figure 2) will include areas of retained hedgerows and new native hedgerows. These habitats will provide potential foraging and commuting habitat for bats.

¹ Guidance Note 08/23. Bats and Artificial lighting at Night. Institute of Lighting Professionals. Bat Conservation trust. 2023.

1.3 Avoid lighting on any Key Habitats

The retained and planted hedgerows are the only on-site habitats with potential to provide habitat for bats. The grassland areas, though likely to provide some ecological benefits, are unlikely to provide key habitat for bats.

1.3.1 Level of proposed lighting

As shown in the proposed layout, no additional lighting will be added to the site. The car park will predominantly be used during daylight hours; therefore, additional lighting is not required. It is therefore considered unlikely that any of the potential bat habitats on site will be illuminated.

The condition requires: *b) show how and where external lighting will be installed (through provision of appropriate lighting contour plans and technical specifications)*. As no additional lighting will be installed, contour plans will not be required.

1.4 Mitigation methods and sensitive design

This section sets out recommended mitigation methods for any lighting that may be installed on site in the future. These recommendations are taken from the ILP guidance and are considered relevant to the site.

2.4.1 Appropriate luminaire specifications

The following should be considered if lighting is installed on site.

- All 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 (2700 Kelvin or lower) should be adopted to reduce the blue light component.
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.
- 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 as with bollards.
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered. Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt.
 - Where appropriate, external security lighting should be set on motion sensors and set to as short a timer as possible, as the risk assessment will allow.

2.4.2 Sensitive site configuration

Column-mounted luminaires can be located so that the rear shields are adjacent to habitats, or narrow optics can be selected to direct light into the task area where needed. Therefore, if any column-mounted lighting is required, the rear shields should face the hedgerows.

2.4.3 Physical screening

This may not be practical due to the size of the site. However, if lighting is required and cannot be mitigated in other ways, creating a physical screen adjacent to hedgerows may help to protect them from light spill. Fencing should only be used on one side of the hedgerow.

2.4.4 Dimming and part-night lighting

If lighting is required, then this should have a system in place that ensures it is not on all night or at sensitive times for bats. This can be implemented through a Central Management System (CMS) or using sensors and timers.

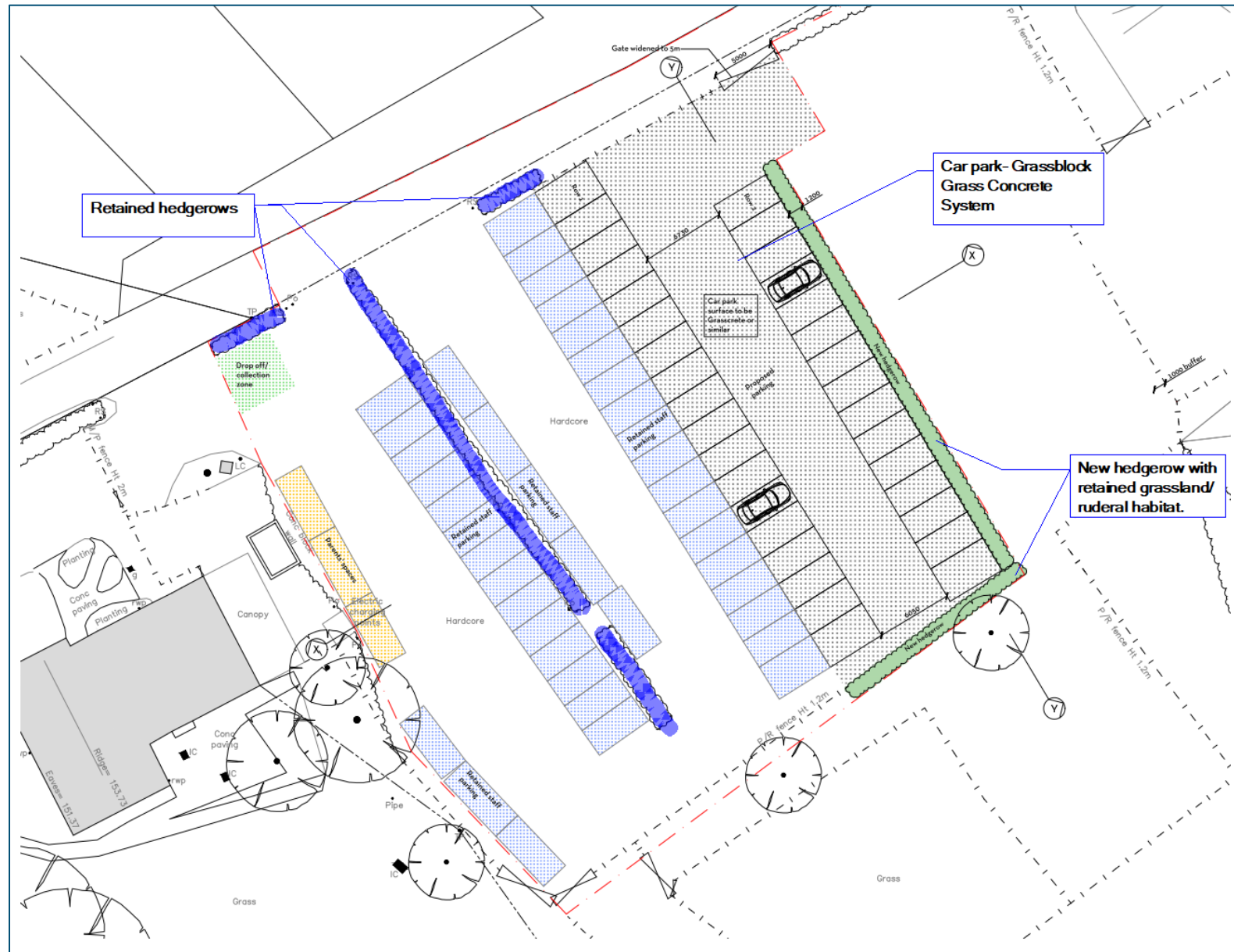


Figure 2: Location of proposed enhancements.

3. Conclusion

This lighting design strategy has been prepared to address the planning condition relating to external lighting and biodiversity for the proposed car park extension at Philpots Manor School, West Hoathly. The assessment has considered the requirements of ILP Guidance Note 08/23 and the findings of the preceding ecological assessments.

The site is located within a rural landscape where retained and newly planted hedgerows provide habitat of potential value for commuting and foraging bats. The site is not considered likely to support bat roosts; however, the hedgerow network and surrounding habitat connectivity mean that sensitive lighting design remains important to avoid disturbance and maintain ecological function.

No additional external lighting is proposed as part of the approved car park development. As such, lighting contour plans and luminaire technical specifications are not required at this stage, and the proposed development is not anticipated to illuminate retained or newly created bat habitat. This approach accords with the mitigation hierarchy by avoiding lighting of key and supporting ecological features wherever practicable.

If external lighting is proposed in the future, it should be agreed in advance with the Local Planning Authority and should use warm, low-intensity, well-shielded luminaires with no upward light spill, be directed away from hedgerows and other sensitive habitat features, and incorporate controls such as dimming, motion sensors or part-night operation where appropriate.

Provided that no additional lighting is installed, or that any future lighting is designed and implemented in accordance with the measures set out above, the development is considered unlikely to result in adverse lighting impacts on bats or other biodiversity interests. The strategy therefore provides an appropriate basis for satisfying the lighting design condition for biodiversity.