

LIGHTING DESIGN PLAN: PROTECTION OF BATS

Planning reference: Eastleigh BC F/24/97314 condition number 11

Project: Proposed bungalow, land rear of 82 St Johns Road, Hedge End, Southampton SO30 4DF

Revision A (10.01.25)

1 INTRODUCTION

Planning permission (application reference: F/24/97314) was granted by Eastleigh Borough Council on 1st August 2024. Condition 11 states:

Prior to first occupation of the dwelling hereby approved, a detailed lighting plan shall be submitted to and approved in writing by the Local Planning Authority, in line with the guidance note Bats and Artificial Lighting at Night (GN08/23) <https://www.bats.org.uk/news/2023/08/bats-and-artificial-lighting-at-night-ilp-guidance-note-update-released>. The approved plan shall not be altered without the prior written consent from the Local Planning Authority.

Reason: To ensure the protection of bats.

2 SCOPE

This document outlines the features or habitats on or adjacent to the site used by foraging and commuting bats, and identifies lighting specifications required to avoid or reduce potential impacts upon those features and species. It is based on the baseline ecological assessment for the scheme as well as current guidance, specifically:

- Bats and artificial lighting guidance note 08/23 produced by the Bat Conservation Trust (BCT) and the Institute of Lighting Professionals (ILP)

The specifications aim to balance the important safety and amenity needs of future residents of the site, with the requirement to minimise impacts upon biodiversity features on and adjacent to the site (and to comply with the relevant wildlife legislation).

3 SENSITIVE HABITAT FEATURES

Habitats which support commuting or foraging bats include retained, and once established, future boundary hedgerows, gardens and shrubs. Gardens and planting may provide foraging habitat, whilst it is likely that the rear and front boundary edge habitats provide movement corridors at a local scale.

Even low-level light pollution upon these features has the potential to impact animals using these and adjacent habitats. Therefore, the lux and duration of light reaching the features should be minimised where possible.

4 PROPOSED LIGHTING LAYOUT

External lighting proposed for the site will comprise:

- Exterior lighting for the property including within porches and on the external walls of the dwelling for paths, patios etc.; and
- Low level bollard lighting adjacent to car parking bays.

The location of lighting proposed within the porch and by the parking bays is shown in **Appendix 1**, with areas where PIR units must be used if installed along the sides or to the rear of the properties

also indicated. The technical specifications of the lighting to be installed are outlined in Appendix 2 below.

5 LIGHTING DESIGN

Guidance recommends the following mitigation measures be used to minimise lighting impacts:

- Light levels should be as low as possible, and the number of fixtures kept to the minimum required, to fulfil the lighting need;
- Lamps should have a maximum of 7.5 to 10 lux;
- LED lights should be installed, using the warm white (or amber) spectrum, with peak wavelengths >550nm (2700 or 3000°K) and no UV component;
- Lighting should be directed to where it is needed, with horizontal spillage towards retained or establishing habitats minimised. This can be achieved by restricting the height of the lighting installation and the design of the luminaire;
- Light fixtures should be erected at the lowest reasonable height;
- Luminaires must have an upward light ratio of 0%, mounted on the horizontal (or overhead in porches);
- Lighting mounted on the dwellings should incorporate Passive Infra-Red (PIR) motion sensors and timers to minimise the lit time, set to the minimum to minimise the duration of disturbance;
- As a matter of last resort, accessories such as baffles, hoods or louvres can be used to reduce light spill; and
- Low level bollard lighting design should reduce spillage to the rear and above the unit

Typical suppliers include (but not limited to):

- DW Windsor
- BEGA
- Ligman

Because bats may use boundary lines to both front and back of the properties as commuting routes (as well as side boundaries), PIR sensor switches should be installed as standard on the dwellings, with override facility for resident's for occasional use as necessary. Additional time-controlled switches could be added to porch lighting if required. Porch lighting should be mounted at a height to ensure the porch reduces light spillage (i.e. acts as a cowl).

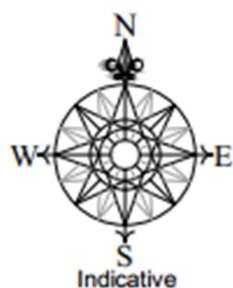
Bollards must be directional to the car parking bays and avoid upwards, sideways and backwards light pollution. Operation will be via a dusk to dawn switch, though PIR sensors can be used also as required.

6 CONCLUSION

The proposed lighting design aims to minimise impacts from artificial lighting upon wildlife (notably bat commuting and foraging habitat), whilst still providing a safe and practical solution for householders and enhancing the properties within the development.

It is the responsibility of the developer and their contractor(s) to ensure lighting installation is as per the specifications proposed. If any significant deviations or amendments are subsequently required, the prior consent of the LPA must be sought by the proposer prior to installation.

APPENDIX 1

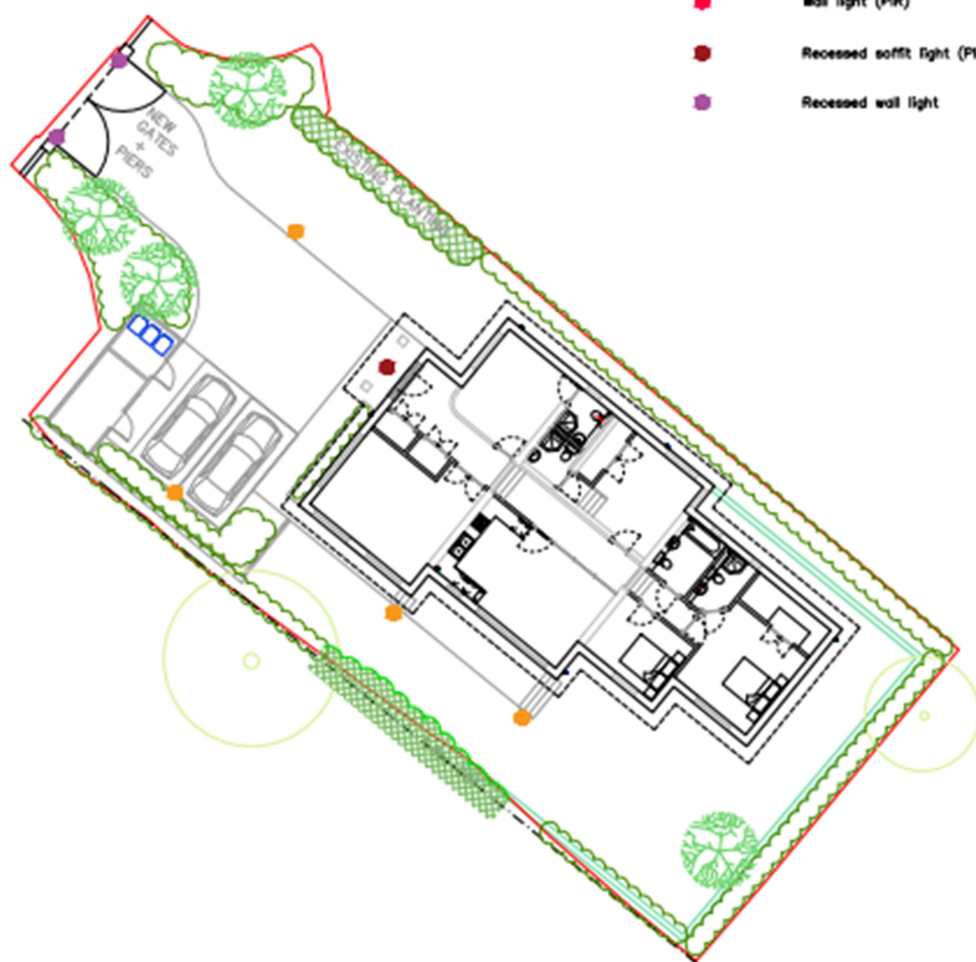


A | 15.05.25 | Wall lights omitted
not shown

LEGEND

To be read in conjunction with the Lighting Plan specification (separate document) & in accordance with the Bats & Artificial Lighting at Night guidance note GN08/23.

-  Bollard low level lighting
-  Wall light (PIR)
-  Recessed soffit light (PIR)
-  Recessed wall light



LIGHTING PLAN

Proposed Bungalow • Land R/O 82 St Johns Road • Hedge End • Mr & Mrs Newman • 2077-LP01a

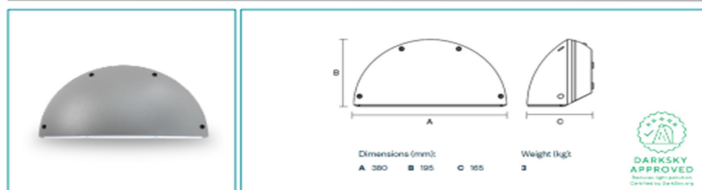
APPENDIX 2

DW Windsor (typical examples)

<https://www.dwwindsor.com/dark-sky-lighting/>



Sephora Wall



Sample Specification Text

Sephora Wall surface luminaire with 16 LED light engine. Constant light output enabled fully programmable DALI driver operating up to 700mA, 3,000K colour temperature using Diamond+ AI optic technology. International Dark-Sky Association approved. LM6 high pressure die-cast aluminium body in RAL 7046 mid grey with a polyester powder coat finish and polycarbonate glazing. IP66 and IK10 protection. 100,000 hour (L90 B10) lifetime. For -40°C to +40°C ambient operating temperatures. Class I.

Performance

Output (luminaire flux)	3,989lm (max)
Power	37W (max)
Efficacy	172lm/W (max)
Number of LEDs	8 / 16
Colour Temperatures	2,700K / 3,000K / 4,000K 3,000K (SunLike) 4,000K (SunLike)
Colour Rendering Index (CRI)	70 / 80 95 (SunLike)
Distributions	Narrow (Diamond+A1) Medium (Diamond+A5) Wide (Diamond+C2)
Upward Light Output Ratio	0% ULOR
BUG Rating	B1 - U0 - G1
International Dark-Sky Association Approved	Yes (2,700K / 3,000K CCTs only)
Certifications	UKCA, CE

Mechanical

Mounting Options	Wall mount
Glazing	Clear / frosted polycarbonate
Housing	Die-cast aluminium
Colours	Mid Grey RAL 7046 Light Grey RAL 7035 Black RAL 9005 White RAL 9016 Aluminium 9006 Metallic Grey 9007 Metallic Dark Grey DB703 Corten Brown (Other RAL colours on request)
Finish	Polyester powder coat
IP Rating	IP66
IK Rating	IK10
Weight	3kg

Electrical

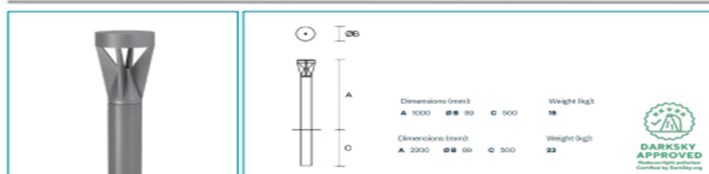
Driver Options	DALI / 1-10V (fully programmable with Constant Light Output Enabled)
Drive Current Range	300mA to 700mA
Operating Voltage	220-240V
Electrical Class	Class I / Class II
Operating Temperature Limit	-40°C to +40°C
Rated Lifetime	100,000 hours (L90 B10)

Controls

Control Options	Photo cell Part night switching Pre-programmed dimming Integral CDS Integral 3-hour emergency
-----------------	---



Pharola DS



Sample Specification Text

Pharola DS 1000mm bollard, 9 LED light engine with outputs up to 1,523lm with a 3,000K colour temperature and symmetric or asymmetric light distribution. International Dark-Sky Association approved with 0% ULOR. Die-cast aluminium head with polycarbonate glazing and galvanised steel body. IP66 and IK10 protection. 100,000 hour (L70) lifetime. For -20°C to +40°C ambient operating temperatures. Class I.

Performance

Output (luminaire flux)	1,523lm (max)
Power	20W (max)
Efficacy	76lm/W (max)
Number of LEDs	9
Colour Temperatures	2,700K 3,000K 4,000K
Colour Rendering Index (CRI)	70 / 80
Distributions	Symmetric (180° backshield on request)
International Dark-Sky Association Approved	Yes (2,700K and 3,000K CCTs only)
Certifications	UKCA, CE

Mechanical

Mounting Options	Root mounted / Flange plate / 1"
Glazing	Polycarbonate
Housing	Galvanised steel (body) Die-cast aluminium (head)
Colours	White RAL 9016 Black RAL 9005 Aluminium RAL 9006 Metallic Grey 9007 Metallic Dark Grey DB703 (other RAL colours on request)
Finish	Polyester powder coat
IP Rating	IP66
IK Rating	IK10
Weight	15kg (Pharola DS 1000) 23kg (Pharola DS 2200)

Electrical

Driver Options	DALI
Drive Current	700mA
Operating Voltage	220-240V
Electrical Class	Class I / Class II
Operating Temperature Limit	-20°C to +40°C
Rated Lifetime	100,000 hours (L70)

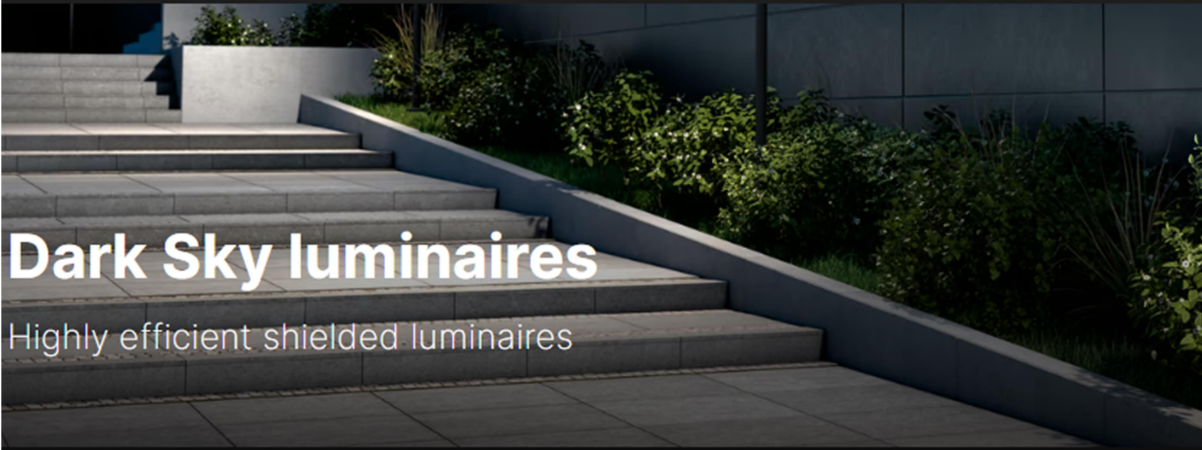
Controls

Control Options	Remote switch
-----------------	---------------

BEGA LIGHTING (typical examples)

<https://www.bega.com/en-gb/products/solutions/dark-sky-luminaires/>

BEGA PRODUCTS REFERENCES COMPANY KNOWLEDGE SERVICE + CONTACT



Dark Sky luminaires

Highly efficient shielded luminaires

The luminaires shown here are a selection of our complete product range. They all direct their light highly efficiently onto the surface to be illuminated and emit less than 1% of their luminaire luminous flux into the upper half-space of the luminaire. The exact data on the luminaire luminous flux in the upper half-space as well as statements on the BUG rating according to IES TM-15-07 and the CEN Flux Code according to EN 13032-2 can be found in the data sheets of the individual luminaires.

Please also note when planning your Dark Sky lighting: Additional regional and national regulations may apply in the project area, whose deviating or supplementary requirements must be taken into account.

Protection class IP 66

[BEGA Thermal Management®](#)

Cast aluminium, aluminium and stainless steel

[BEGA Unidure®](#) coating technology

Safety glass

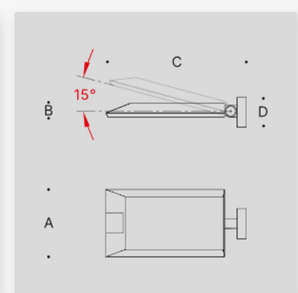
Reflector made of pure anodised aluminium

Attack angle adjustable to 0° or 15°

Can be opened without the use of tools

DALI-controllable power supply units

20-year availability guarantee for replacement parts and LED modules



Protection class IP 65

[BEGA Thermal Management®](#)

Cast aluminium, aluminium and stainless steel

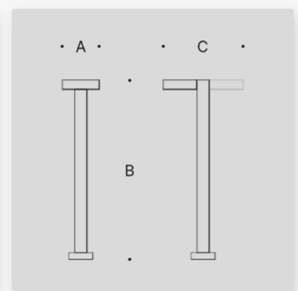
[BEGA Unidure®](#) coating technology

Light deflection through synthetic cover with optical texture

DALI-controllable power supply units

20-year availability guarantee for replacement parts and LED modules

These BEGA garden and pathway luminaires are equipped with an alignable mounting system. It can either be bolted onto a foundation provided by the customer, or onto a BEGA anchorage unit. Please order anchorage units as separate accessories.



LIGMAN (typical examples)

<https://www.ligman.com/darksky-approved-ranges/>



SOLAR lighting
LIGMAN

LED lighting
LIGMAN

Company ▾ Downloads ▾ Technology ▾ Control ▾ Quality ▾ News

PRODUCTS ▾ PROJECTS PRODUCT FINDER CONTACT ▾

EN -
Q Search

LIGMAN » Products » Outdoor » Dark Sky Approved luminaires

Dark Sky Approved luminaires

 NIKON	 VEKTER	 ODESSA	 ROBUST
 CINATI	 GANDALF	 GINO	 JET
 LADOR	 MARVIK	 MATRIX	 QUARTER
 STEAMER	 TANGO	 VEKTER	 BENTON
 BENTON	 JET	 LIGHT LINEAR PT	 LIGHTZONE