Englishcombe Lane

Lighting Strategy

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Prepared By:

Arcadis

80 Fenchurch Street
London EC3M 4BY
United Kingdom

Prepared For:

Bath and North East Somerset Council (B&NES)

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Charles Chambers
Principal Lighting Engineer

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1.1 Mandatory Parameters

General

The Proposed Development at the Site here referred to as "Land to the rear Of 89 to 123 Englishcombe Lane, Southdown, Bath, Bath And North East Somerset" (the "Site") is for "The erection of 16 no. supported living units (Use Class C3(b)) with associated communal hub (to include ancillary carers' accommodation), access, landscaping and ancillary works" (the "Proposed Development").

The proposed development requires external lighting for the safe movement of pedestrians on footways and vehicles in the access and parking area, for security and promotion of use during the hours of darkness. Landscaped areas are not provided with lighting to reduce the impact of lighting pollution on wildlife and surrounding properties.

The developer of the proposed development will be responsible for developing the lighting design in accordance with industry best practice detailed in the following British Standards for lighting, and ILP and CIBSE SLL lighting guides:

- BS 5489-1 (2020): Design of Road Lighting: Part 1 Lighting of Roads and Public Amenity Areas
- CIBSE SLL LG6: The Exterior Environment (2016)
- ILP GN08/23 (2023): Bats and Artificial Lighting in the UK
- ILP GN01/21 (2021): The Reduction of Obtrusive Light

To mitigate the effects of potential obtrusive lighting effects, the lighting will be in accordance with best industry practice as detailed in ILP GN01/21. All lighting will be designed to comply with the photometric limits and design guidance defined in ILP GN01/21 and BS5489-1 for Environmental Zone E2 (rural and relatively dark suburban areas).

Dark corridors for bats are to be provided comprising buffer zones 5m width located around key bat habitats, as shown on Figure 1-4 below. Strict limits on the horizontal and vertical illuminance of 0.5lux maximum are imposed in the buffer zones and no lighting equipment will be located within these zones.

The entrance road from Englishcombe Lane to the first parking area shall be lit to provide way finding for pedestrians by bollards which are no taller than 1.25m and shall be heavily shielded to prevent rearward light spill, there shall be between 4 to 6no illuminated bollards. This is to strike a balance between the ecological impact of the lighting, the needs of the sites residents and to reduce the impact on existing adjacent properties either side of the access road.

All luminaires will have an LED light source and mounted on lighting columns at 0° inclination. Luminaires will have the ability to have a glare shield or baffles retro fitted. The luminaire photometry will be optimized for the task area to be lit and provide focused lighting to minimize stray light falling on the neighboring areas or within the buffer zones.

LED luminaires will have a maximum colour temperature of 3000K, the exception being where they are located adjacent to the buffer zones, where their colour temperature will be 2700K maximum.

Luminaire mounting heights will be appropriate to the specific area they are to illuminate and with the maximum height of 4m. Lighting column shall be located to facilitate luminaires being mounted directed away from adjacent house to ensure back spill guards restrict direct spill lighting from the luminaires on to adjacent properties.

1.2 Design Principles

Lighting Equipment and Standards

The development is expected to include one or more of the following elements that will need to be lit to the appropriate performance criteria detailed in the British Standards for lighting and ILP Lighting Guides appropriate for Environmental Zone E2 and their usage:

- Motorised vehicle routes – levels to BS EN 12464-2 Table 3, lighting Class P5
- Pedestrian routes – levels to BS EN 12464-2 Table 3, lighting Class P6
- Security lighting – Levels to be minimum for CCTV operation (consider using IR sensitive CCTV)
- Emergency lighting – BS5266-1
- The entrance road from Englishcombe Lane to the first parking area shall be lit to provide way finding and does not need to comply with any lighting class.

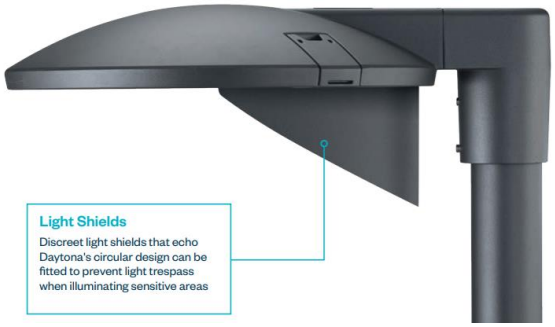
The lighting will use high quality LED Luminaires rated IP66 with a range of photometry options and the facility to supply the luminaires with glare shields and back-spill guards.

Figure 1-1 below shows the DW Windsor Daytona column mounted luminaire on 4m columns for vehicle access areas and TRT Lighting VIA bollards with 240° light shielded beam for pedestrian area have been used in lighting calculations to illustrate light spill.

Luminaires shall be mounted at zero tilt on lighting columns of 4m height. Figure 1-4 page 6 illustrates an indicative lighting layout including illuminance contours down to 0.2lux (black line) measured at ground level which is equivalent to moon lit night with a clear sky.

Lighting columns will be of a fold down tubular design of constant diameter above the base section and manufactured in galvanized steel with a G2a root protection system.

Figure 1-1 Indicative LED luminaire products.

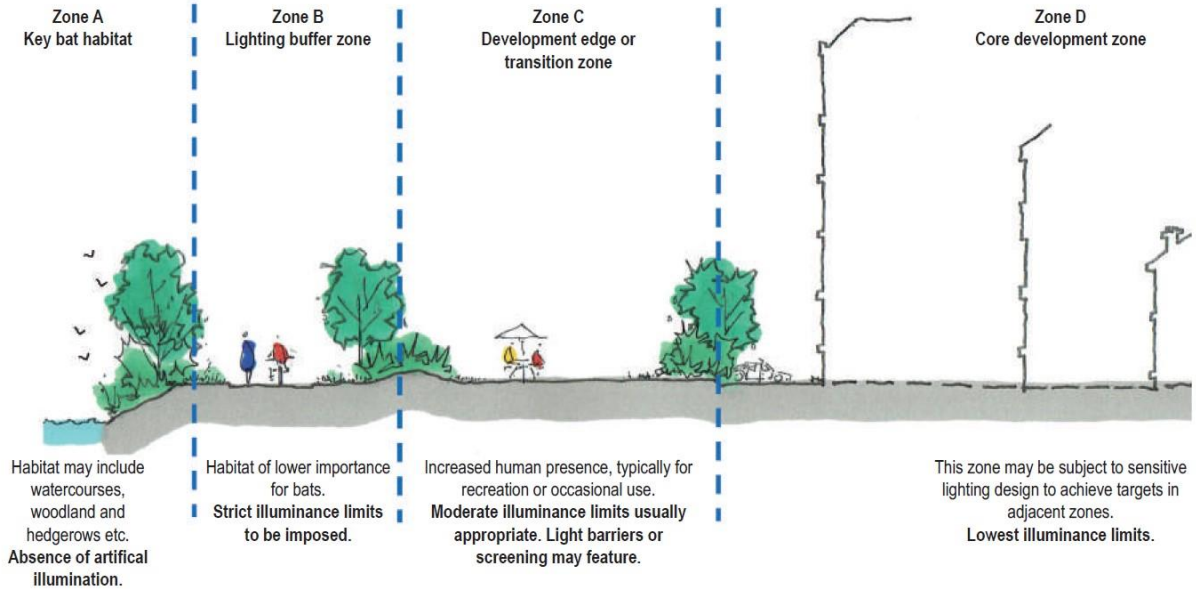
 	 
DW Windsor Daytona	Urbis Lighting Pharos bollard

1.3 Particular Requirements for Bats

Within the development where bat habitats are identified dark corridors shall be provided to enable the movement of bats. The dark corridors comprise buffer zones of 5m minimum width, as detailed in Figure 1-2 below.

A typical arrangement of the buffer zone and adjacent transition zone is shown in the following figure taken from ILP GN08/23.

Figure 1-2 Buffer Zone Standards Guidance



Source: ILP GN08/23

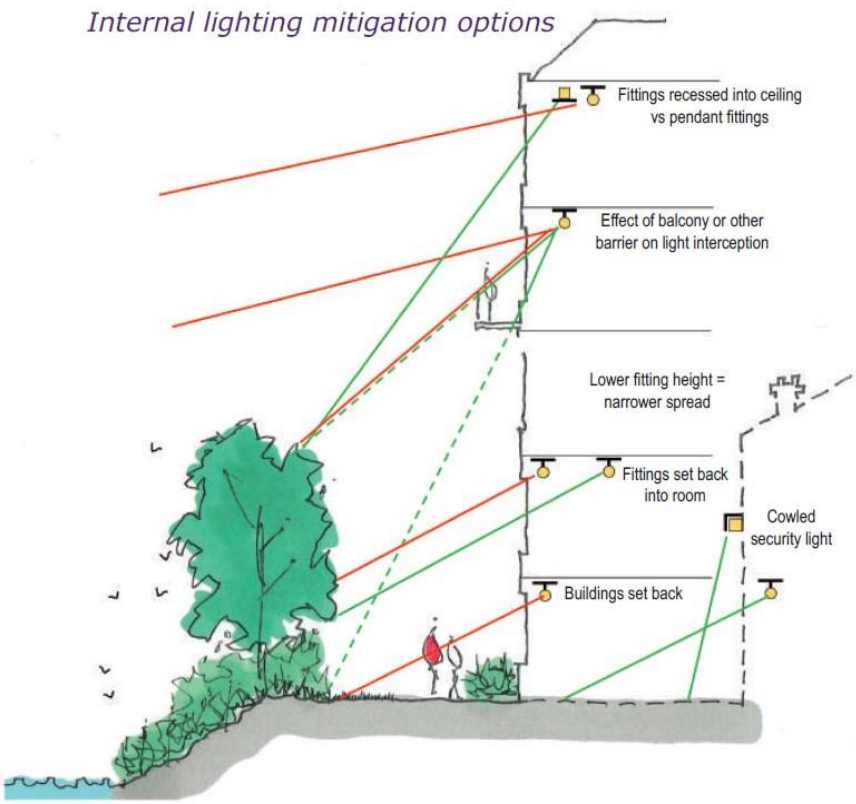
Zone A represents the key bat habitat, which in this case corresponds to the new hedgerow along the western boundary, the planted woodland along the southern boundary and the Ash tree in the north-eastern corner.

Within the lighting buffer zone (Zone B), the maximum permitted illuminance is 0.5 lux horizontal at ground level and 0.1 lux vertical at 2m height. No lighting units are to be located within the lighting buffer zone.

In the transition zone (Zone C) running alongside the lighting buffer zone the illuminance is restricted to a maximum of 3 lux. Lighting units may be positioned within the transition zone but will be distanced from the buffer zone and mounted on shorter columns of 4m – 5m height. Screening by landscaping or fencing may be necessary prevent light spill into the buffer zone in addition to glare shields on the luminaires. Lighting will be designed in accordance with the best practice detailed in ILP PLG08/23. Luminaires closest to the dark corridor will have a maximum colour temperature of 2700K.

There will be buildings that have windows facing towards the buffer zones which could potentially be a source of spill light from the lit building interiors through windows. Mitigation measures are shown on the following figure taken from ILP GN08/23.

Figure 1-3 Internal Lighting Mitgation Options



Source: ILP GN08/2

Figure 1-4 indicative lighting layout including illuminance contours values in Lux.

Arcadis LLP

80 Fenchurch Street
London EC3M 4BY
United Kingdom

T: +44 (0)121 503 2700

arcadis.com