PRELIMINARY EXTERNAL LIGHTING PROPOSALS (ILLUMINANCE VAULES RELATE TO THE PROPOSED HIGHWAY LIGHTING ONLY)



XX ECOLOGY ASSESSMENT LOCATION

Rx RESIDENTIAL ASSESSMENT LOCATION

RENDER AND DESIGN ILLUMINANCE OVERVIEW (ALL LUMINAIRES - HIGHWAY AND PRIVATE)

Bat Commuting and Foraging Locations
(Limiting threshold subject to specialist ecology confirmation. For this assessment 0.5 Lux is applied).

	Illuminance (Lux) – ALL EXTERNAL LIGHTING OPERATIONAL						
	Horizontal (ground)	Peak Vertical					
		0m	2m	4m	6m	8m	10m
T1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
t2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN2a	0.1	0.3	0.2	0.1	0.0	0.0	0.0
TN2b	0.1	0.5	0.2	0.1	0.0	0.0	0.0
TN2c	0.2	0.48	0.3	0.1	0.0	0.0	0.0
TN2d	0.0	0.2	0.1	0.0	0.0	0.0	0.0
TN2e	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TN2f	0.0	0.1	0.1	0.0	0.0	0.0	0.0
TN2g	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TN2h	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TN2i	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN4a	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN4b	0.0	0.1	0.0	0.0	0.0	0.0	0.0
TN5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TN6	6.5	4.4	8.7	18.5	0.1	0.0	0.0
H1a	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H1b	0.0	0.4	0.1	0.0	0.0	0.0	0.0
H1c	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H1d	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H1e	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H1f	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H1g	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H2a	0.1	0.2	0.1	0.0	0.0	0.0	0.0
H2b	0.1	0.2	0.0	0.0	0.0	0.0	0.0
H2c	0.1	0.1	0.0	0.0	0.0	0.0	0.0
H3a	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H3b	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H5a	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H5b	0.0	0.1	0.1	0.0	0.0	0.0	0.0
H5c	0.0	0.1	0.1	0.0	0.0	0.0	0.0
H5d	0.0	0.1	0.1	0.0	0.0	0.0	0.0

Residential	Vertical Limit for E3 Environmental Zone (Lux)	Luminous Intensity for Limit E3 Environmental Zone (cd) (distance and Ap)	Peak Vertical (Lux)	Luminous Intensity (cd)
R1	10 PRE CURFEW 2 POST CURFEW	84 PRE CURFEW 27 POST CURFEW	0.05	50 PRE CURFEW 50 POST CURFEW
R2	10 PRE CURFEW 2 POST CURFEW	76 PRE CURFEW 25 POST CURFEW	0.03	20 PRE CURFEW 20 POST CURFEW
R3	10 PRE CURFEW 2 POST CURFEW	74 PRE CURFEW 24 POST CURFEW	0.06	40 PRE CURFEW 40 POST CURFEW
R4	10 PRE CURFEW 2 POST CURFEW	57 PRE CURFEW 20 POST CURFEW	0.36	140 PRE CURFEW 140 POST CURFEW
R5	10 PRE CURFEW 2 POST CURFEW	106 PRE CURFEW 35 POST CURFEW	0.04	40 PRE CURFEW 40 POST CURFEW
R6	10 PRE CURFEW 2 POST CURFEW	332 PRE CURFEW 110 POST CURFEW	0.0	10 PRE CURFEW 10 POST CURFEW

Skyglow	Vertical Limit for E3 - UFR/%	UFR/%
SITE	8	7.35

Notes: Illuminance levels exceed 0.5 Lux; Intensity exceeds Limiting Threshold

CALCULATED ASSESSMENT (LIGHTSPILL, GLARE AND SKYGLOW) - ALL LUMINAIRES OPERATING (HIGHWAY AND PRIVATE)

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NOTES

DESIGN INTENT SUMMARY AND ASSESSMENT SUMMARY

THE EXTERNAL LIGHTING INTENT IS PRINCIPALLY BASED ON ACHIEVING A MAINTAINED ILLUMINANCE FOR A P4 SUBSIDIARY ROAD IN ACCORDANCE WITH BS5489-1:2020 TABLE A.5 FOR A SPEED LIMIT < 30mph ROAD IN AN E3/E4 ZONE.

WITH DESIGN ILLUMINANCE VALUES AS FOLLOWS:

- 5 LUX AVERAGE MAINTAINED, 1 LUX MINIMUM MAINTAINED

RELATIVE TO BCT GUIDANCE NOTE 08/18 THE LIGHT CCT IS LIMITED TO 2700/3000K LOW BLUE LIGHT SPECTRAL COMPOSITION

A - CU PHOSCO E950 28 P4A 727 C650 17W 2700K LED LANTERN ON 6m COLUMN LOCATION, P7A LENS 650mA OPERATED AS PER
ADOPTION REQUIREMENTS



B - GHIDINI LIGHTING MICROTORRE W GH1960.ETPT300EN DOWNLIGHT WALL LANTERN AT 1.8m HIGH - OCCUPANCY SENSED, PRIVATE USE, - DUSK TILL DAWN
SHOWN INDICATIVELY



NOTE:

DESIGN ILLUMINANCE BASED ON A 0.83 MAINTENANCE FACTOR.

ASSESSMENT ILLUMINANCE BASED ON A 1.0 MAINTENANCE FACTOR.

ASSESSMENT UNDERTAKEN BASED ON TERRAIN AND WITH THE EXCLUSION OF THE POTENTIAL LIGHT SCREENING BENEFITS OF TREES AND FLORA.

ASSESSMENT VALUES ILLUSTRATED ARE BASED ON SIMULATION. WHILST EVERY ATTEMPT HAS BEEN MADE WITH RESPECT TO THE ACCURACY OF THESE PREDICTED RESULTS, DUE TO POSSIBLE UNKNOWN VARIANCES IN CALCULATION PARAMETERS, THERE COULD BE NOMINAL DEVIATION BETWEEN CALCULATED AND ACTUAL POST MEASURED VALUES.

AS PER STANDARD PRACTICE AND UNLESS OTHERWISE INDICATED ALL CALCULATIONS ARE BASED ON THE DIRECT LIGHT COMPONENT.

WHEREVER POSSIBLE THIS LIGHTING STRATEGY FOLLOWS PUBLISHED GUIDANCE PROVIDED BY THE INSTITUTE OF LIGHTING PROFESSIONALS (ILP) AND BAT CONSERVATION TRUST (BCT).

- GUIDANCE NOTE 08 / 18 - BATS AND ARTIFICIAL LIGHTING IN THE UK

ASSESSMENT

THE IMAGES ADJACENT DEMONSTRATE ALL EXTERNAL LIGHTING IN OPERATION. AS CAN BE SEEN FROM THE ADJACENT ASSESSMENT TABLE:

ECOLOGY -

ASIDE FROM LOCATION TN6, ALL ILLUMINANCE LEVELS FALL BELOW 0.5 LUX ON THE HORIZONTAL AND VERTICAL PLANES. IT IS UNDERSTOOD THAT LOCATION TN6 IS SHOWN AS A PROPOSED DEVELOPMENT AREA, THEREFORE IS NOT CONSIDERED SENSITIVE.
SUBJECT TO SPECIALIST ECOLOGY REPORTING, FURTHER MITIGATION IS NOT CONSIDERED NECESSARY.

RESIDENTIAL AND SKYGLOW-

BEING BASED ON A E3 ZONE - SUBURBAN ENVIRONMENT, ILP GUIDANCE FOR OBTRUSIVE LIGHT 2021 PROVIDES LIMITING VALUES IN TERMS OF LIGHT SPILL TO RESIDENTIAL WINDOWS, LUMINOUS INTENSITY AND SKYGLOW.
ON ASSESSMENT, RESIDENTIAL LOCATIONS 'R1, R3, R4 AND R5' ARE CONSIDERED TO RECEIVE LUMINOUS INTENSITY VALUES THAT EXCEED LIMITING THRESHOLDS.
THIS IS INTENDED TO BE RECTIFIED WITH CONSIDERED POSITIONING AND GLARE CONTROL SHIELDING.

IN THIS RESPECT, NO FURTHER MITIGATION IS CONSIDERED NECESSARY.

Rev	Date	Description	Dwn	Chk
A	17/8/21	AMENDED AND FINAL MASTERPLAN	LG	LG

LIGHT PLANNING AND DESIGN LTD
ASSESSMENT / INTERIOR / EXTERIOR / DAYLIGHT / ECOLOGY

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PROJECT: LAND_OFF_WOOD_WALK_BARNSLEY

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LG	LG	JUNE_2021	1:500 @A1

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