



Brighter strategies
for greener projects



Client: Red Engineering Design Ltd
Project: Wood Green Court
Report: Ecology Report

QUALITY ASSURANCE

Issue/Revision:	Draft	Final
Date:	January 2024	February 2024
Comments:		
Prepared by:	Chloe Peace	Chloe Peace
Authorised by:	Paul White	Paul White
File Reference:	552545cpJan24_DV01	552545cpFeb24_FV01

CONTENTS

1.0	EXECUTIVE SUMMARY	1
2.0	INTRODUCTION	2
2.1	SITE DESCRIPTION	2
2.2	PROPOSALS	3
3.0	METHODOLOGY	4
3.1	COMPETENCIES	4
4.0	REVIEW	6
4.1	DESK TOP REVIEW	6
5.0	CONCLUSION	8
APPENDIX A LIGHTING PLAN		
REFERENCES		

1.0 EXECUTIVE SUMMARY

Greengage Environmental Ltd (Greengage) was commissioned to provide an ecological review for an exterior lighting upgrade design plan for a site known as Wood Green Court in London.

This document is a report of this advice and has been produced to inform of any potential ecological or biodiversity impacts that could occur as a result of the produced exterior lighting plan.

The Site comprises predominantly of urban land including buildings, hardstanding for car parking, with a small garden area comprising lawn, shrubs and occasional trees. The site is bound on all sides by residential and commercial buildings and roads.

Proposed works are to upgrade the external lighting system at the Site, to replace old lighting with those detailed in the provided drawings and plans (Appendix A). All lighting is a replacement of existing external lighting fixtures through the external areas of the Site, including the removal of those that are no longer in use, with the exception of the existing façade-mounted entrance lighting which is to be retained.

A desk study, including review of local biological records, shows limited records of bats in the local area. Due to the lack of records, combined with the highly urbanised setting, already subject to light disturbance, and limited green space, it is considered that the site is of very low value to bats and other nocturnal fauna.

Despite this, the scheme has been designed to minimise light spill on the green space, and use warm white luminaries, in accordance with latest guidance, which has resulted in low lux levels within the green space.

The proposals are therefore considered to have a negligible impact on local bat populations and other nocturnal fauna.

2.0 INTRODUCTION

Greengage was commissioned to undertake a review of a proposed exterior lighting upgrade design plan for a site known as Wood Green Court in London (hereafter referred to as 'the Site').

This document is a report of this review and has been produced to inform of any potential ecological or biodiversity impacts as a result of the produced exterior lighting plan.

2.1 SITE DESCRIPTION

The Site is centred on Ordnance Survey National Grid Reference (OS NGR): TQ 31336 90589, located on Lordship Lane in London, N22 5LF.

The Site is approximately 0.8 hectares in size and comprises predominantly urban land including buildings, hardstanding for car parking, and a small garden area, comprising lawns, ornamental shrubs and trees (approximately 0.15ha in size) in the south of the Site.

In the immediate surroundings, the Site is bounded by Lordship Lane to the south, and residential and commercial office buildings to the east, west and north of the Site. As such, the site is completely surrounded by residential and commercial buildings, and roads. Green space in the immediate environment is limited to small gardens associated with the neighbouring buildings, with the closest larger green spaces being school playing fields approximately 300m north, buffered from the Site by buildings and roads.

The location of the Site is shown in Figure 2.1 below.

Figure 2.1 Site Location



2.2 PROPOSALS

Proposed works are to upgrade the external lighting system at the Site to replace old lighting with those listed in the provided drawings and plans (detailed below). Seven different types of lighting are to be implemented across the Site. All lighting is a replacement of existing external lighting fixtures through the external areas of the Site, including the removal of those that are no longer in use, with the exception of the existing façade-mounted entrance lighting which is to be retained.

The design has been finalised following a workshop with Greengage ecologists, and review of latest guidance from The Bat Conservation Trust and Institute of Lighting Professionals¹.

3.0 METHODOLOGY

The review consisted of:

- A desk-study review of aerial imagery and Defra's Multi-Agency Geographic Information for the Countryside (MAGIC) website²), to provide ecological context, including the location of the closest European Protected Species Mitigation Licences (EPSML) for bats. In addition, data on bat records from within 1km was obtained from Greenspace Information for Greater London (GiGL).
- A review of the lighting plans in terms of ecological considerations, against the BCT / ILP good practice guidelines.
- A high-level geospatial assessment of the Site and the wider zone of influence, alongside the received lighting upgrade drawings and plans.

The following drawings / plans were reviewed:

- Maltby Surveys Ltd, 'Topographic Survey', dated November 2023 (drawing ref: 23/288/100-4, Rev: -);
- Red, 'Wood Green Crown Court - Lighting Upgrade Design: Pre-Construction Information Plan', dated January 2024, Rev: 01;
- Red, 'Standard Specification for the Electrical Engineering Services', dated April 2022 (file ref: P.100000-RED-XX-XX-SP-E-8000, Rev: 13);
- Red, 'Wood Green Crown Court External Lighting Replacement: General Technical Preliminaries for the Engineering Services', dated January 2024 (file ref: P.100000-RED-XX-XX-SP-Z-8000, Rev: R001);
- Red, 'Electrical Services Designer Risk Assessment Layout', dated January 2024 (drawing ref: W.001422-RED-XX-XX-DR-DRA-5200, Rev: T1);
- Red, 'Electrical Services External Lighting Layout', dated January 2023 (drawing ref: W.001422-RED-XX-XX-DR-E-2300, Rev: T1);
- Red, 'Issue Sheet' (document ref: 1.001422-RED-XX-XX-IE-Z-8000);
- Red, 'Wood Green Crown Court External Lighting Replacement: MEP Performance Specification', dated January 2023 (file ref: W.001422-RED-XX-XX-SP-Z-8000, Rev: T1); and
- 'Wood Green MC - Survey mark-up'.

3.1 COMPETENCIES

Chloe Peace, who prepared this report, has a BSc (Hons) in Zoology and is a Qualifying member of CIEEM. Chloe has two seasons of experience in ecological survey and assessment in consultancy. Her experience spans the aquatic and terrestrial environments, with particular interest in Biodiversity Net Gain (BNG), natural capital, habitat management and conservation, and ornithology.

Paul White, who reviewed and verified this report, has a Bachelor's degree in Marine Biology (BSc Hons), a Natural England Great Crested Newt Licence and Dormouse Licence, and is an Associate member of CIEEM. Paul has over 16 years' experience in ecological surveying and has undertaken and managed numerous ecological surveys and assessments.

This report was written by Chloe Peace and reviewed and verified by Paul White who confirms in writing (see the QA sheet at the front of this report) that the report is in line with the following:

- Represents sound industry practice;
- Reports and recommends correctly, truthfully and objectively;
- Is appropriate given the local site conditions and scope of works proposed; and
- Avoids invalid, biased and exaggerated statements.

4.0 REVIEW

4.1 DESK TOP REVIEW

Data Search Results

The information provided in the biological data search from GiGL identified only seven records of bats from within 1km, and none within 500m of the site, with species recorded comprising common pipistrelle (*Pipistrellus pipistrellus*) and Daubenton's bat (*Myotis daubentonii*) and brown long-eared bat (*Plecotus auritus*). These are all old, historical records. The most recent record is of common pipistrelle, from 2018, with all other records dating back over 10 years.

In addition, the MAGIC search showed no granted European Protected Species Mitigation Licences (EPSML) from within 1km, with the closest being 1.2km north-east.

Site Analysis and Potential Ecological Receptors

The Site is in a heavily urbanised area, with limited green space and limited connectivity to other areas of larger green space in the wider environment. The Site is subject to existing light disturbance, through the existing exterior lighting, and street lighting on Lordship Lane.

Fauna that can be negatively impacted by excess lighting includes bats and nocturnal invertebrates.

The Site is in an urban setting, and green space within the site is limited to a small area of mown amenity lawn, with occasional trees and ornamental shrubs, which are of limited ecological value, in particular to bats or any other nocturnal fauna such as noteworthy invertebrates. Therefore, under existing conditions, the Site is considered to be of very low value to nocturnal fauna.

The Site's surroundings are almost entirely buildings and roads, again of very low value to nocturnal fauna.

New Lighting Plans

The lighting plans involve the replacement of the existing lights (with the exception of the existing façade-mounted entrance lighting which is to be retained). Further detail on the illuminance (lux) levels are provided in Red, 'Electrical Services External Lighting Layout', dated January 2024 (drawing ref: W.001422-RED-XX-XX-DR-E-2300, Rev: T1). This includes a contour map which shows that light levels have been minimised on the green space, with levels predominantly below 0.75lux at the edge of the green space.

This has been achieved through the following measures:

- Provision of rear shield accessories to minimise light spill.
- Luminaries with zero % upward light ratio.

In addition, warm white (2700K) luminaries have been specified, which is in accordance with the BCT / ILP guidelines, and all existing photocells and time switches are to be replaced with new photocells and

digital devices. External lighting will be controlled by a combination of manual switch, timeclock and photocell.

5.0 CONCLUSION

Due to the minimal biological records returned from the desk study, and the urban context of the site, it is considered highly unlikely that bats or other nocturnal fauna are dependent on the Site for roosting, foraging and commuting.

The proposals are for replacement of existing, rather than new lighting, (with the exception of the existing façade-mounted entrance lighting which is to be retained), which has been specified in accordance with BCT / ILP guidance, using warm white luminaries, and designed to minimise light spill on the only area of green space within the site, as demonstrated within the light contour plans (Appendix A).

Considering the limited ecological value of the site and immediate surroundings, and the sensitive design to be implemented, the impacts on local bat populations and other nocturnal fauna are therefore considered to be negligible.

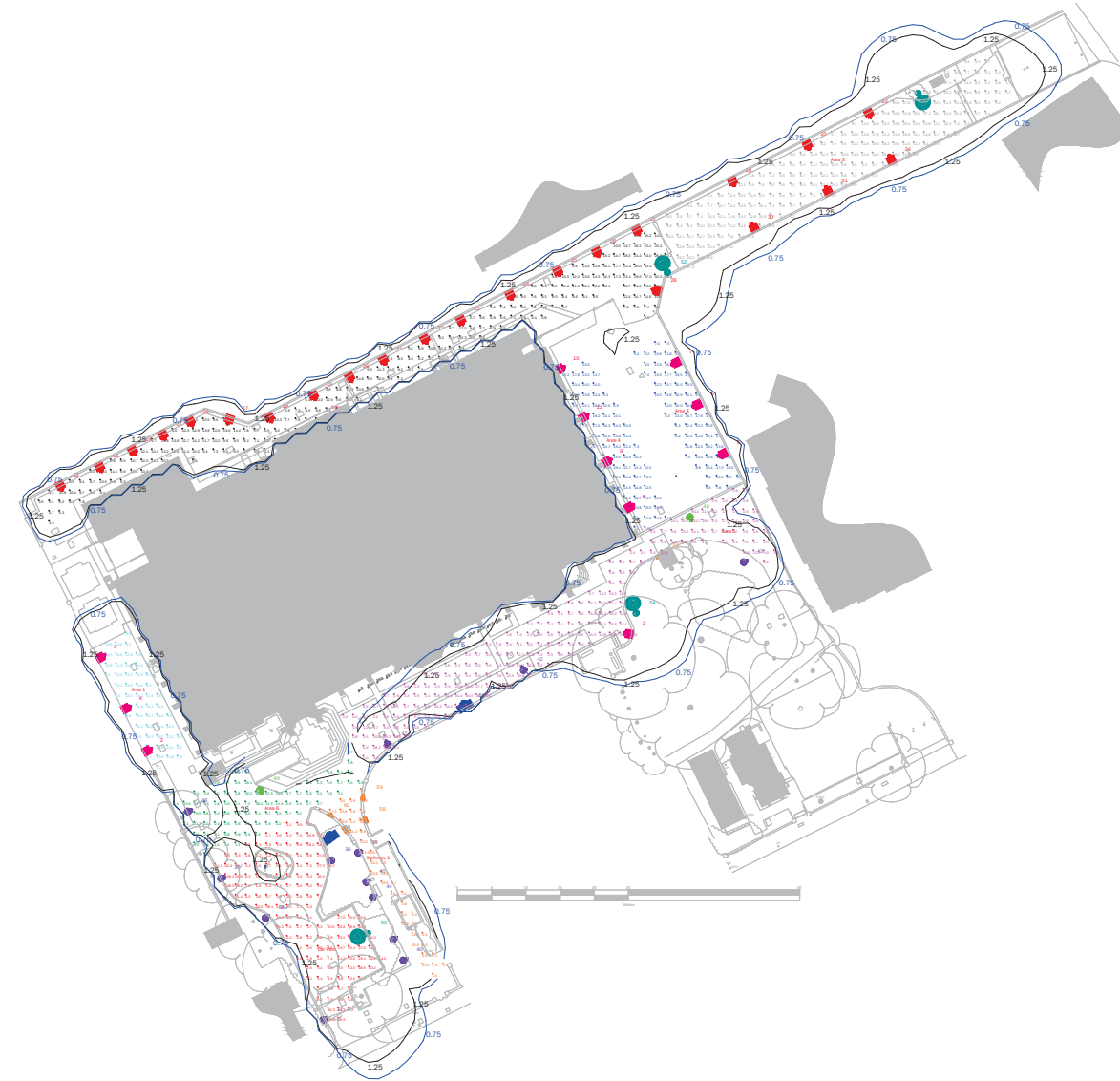
APPENDIX A LIGHTING PLAN

W:\03024\RED-XX-XX-DR-E-2300.DWG
21/01/2024 11:02:14 1:500
W:\03024\RED-XX-XX-DR-E-2300.DWG

A PLAN

SITE PLAN

1:500

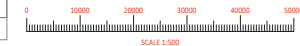


Luminaire Schedule					
Symbol	Label	Mounting	Luminaire Details	Lumens	Wattage
	A	Wall Mounted @ 2.5m	DW Windsor Kirium Wall	821	6
	A1	Wall Mounted @ 2.5m	DW Windsor Kirium Wall (50% Dim)	411	6
	B	Bollard @ 1m	DW Windsor Pharola DS Shielded	696	20
	B1	Bollard @ 1m	DW Windsor Pharola DS	1294	20
	C	Ground Mounted @ 0.5m	DW Windsor Sabre 42 0054 0000 100	6176	54
	D	Column Mounted @ 5m	DW Windsor Kirium Pro S1	4190	28
	E	Recess Mounted @ 0.5m	DW Windsor RA-40531-W30	124	4.5

Calculation Summary					
Description	Symbol	Avg	Max	Min	Min/Avg
Area 1	+	12.26 lux	20.2 lux	5.2 lux	0.42
Area 2	+	11.24 lux	52.7 lux	3.4 lux	0.30
Area 3	+	11.55 lux	47 lux	2.2 lux	0.19
Area 4	+	12.37 lux	21.4 lux	2.5 lux	0.20
Area 5	+	16.38 lux	1237 lux	0.1 lux	0.01
Area 6	+	8.06 lux	97 lux	0.1 lux	0.01
Car Park	+	12.06 lux	94.8 lux	0.6 lux	0.05
Entrance 1	+	13.08 lux	18.4 lux	3.2 lux	0.24
Walkway 1	+	15.49 lux	0.7 lux	0.7 lux	0.05

UNIFORMITY LEVELS DO NOT COMPLY WITH BRITISH STANDARD DUE TO RESTRICTIONS WITH LUMINAIRE LOCATIONS.

CLIENT TO ACCEPT RISK.



REF A:
Kirium Wall, SLED, 2.7K, 300mA, Clear Glass, Wide Optic.
Complete with 35 Lux Photocell.
Painted in Grey Ral 7046.
RDT A1:
Kirium Wall, SLED, 2.7K, 300mA, Clear Glass, Wide Optic.
Complete with 35 Lux Photocell. Dimmed to 50%
Painted in Grey Ral 7046.



REF B:
Pharola DS 1M Bollard 2.7K 700mA. Complete with Backshield.
Painted in Grey Ral 7046.
REF B1:
Pharola DS 1M Bollard 2.7K 700mA.
Painted in Grey Ral 7046.



REF C:
Sabre 24 LED, 3000K, C2 Optic, 700mA. Complete with 35 Lux Photocell.
Painted in Grey Ral 7046.
Ground mounted.



REF D:
Kirium Pro S1, SLED, A1 Optic, 2.7K, 800mA. Complete with 35 Lux Photocell.
Painted in Grey Ral 7046.
6M Tubular steel column. Galvanneal finish.

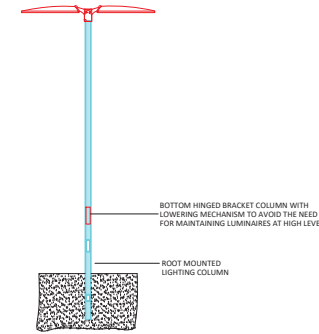


REF E:
Lutron RA, RA-40531-W30. Painted in Grey Ral 7046.

1 DETAIL

PROPOSED LUMINAIRES

NTS



2 DETAIL

COLUMN INSTALLATION

NTS

REPRODUCED OR TRANSMITTED IN ANY FORMS AND BY ANY MEANS WITHOUT WRITTEN PERMISSION OF THE COPYRIGHT HOLDER. CONTRACTORS AND CONSULTANTS ARE NOT TO SCALE DIMENSIONS FROM THIS DRAWING. ONCE PRINTED AND DISTRIBUTED THIS DOCUMENT IS ASSUMED UNCONTROLLED.

Notes:

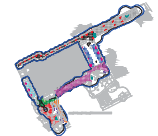
- The installation and design shall comply with the Occupational Health and Safety Act and all Regulations.
- All dimensions shown in millimeters.
- This drawing shall be read in conjunction with all associated equipment schedules and mechanical, electrical, structural and architectural drawings.
- All service routes, equipment locations & service/maintenance space shall be checked against fully detailed architectural, structural & specialist service drawings.
- All dimensions shall be checked on site.
- The contractor shall fully comply with all relevant standards, regulations, standard codes of practice, methods of working, and good practice.
- Coordination working drawings, installation drawings and submittal drawings shall be prepared by the contractor.
- Dimensions shall not be scaled from the drawing. The contractor shall be responsible for obtaining all dimensions and levels on site for actual setting out of works.

Specific Notes:

- All existing photocells and time switches are to be replaced with new photocells and digital devices.
- Consideration is to be given to minimise the light pollution when selecting luminaires and method of installation.
- Lighting installation to comply with ILP Guidance Note GN01 'The Reduction of Obtrusive Light', BS EN 12464-2 and other relevant regulations.
- Luminaires shall have 2700K light colour to minimise impact on nocturnal wildlife.
- Rear shield accessories shall be provided to luminaires as necessary to limit light spill to minimum.
- Glare rating (GR max) limits on nearby roads to be as per CIE 112:1994, i.e. 45 (Normal Traffic)
- Luminous intensity limits for maintained views of occupants of the neighboring properties to be as per Table 3 of CIE 150:2017.
- The scheme shall generally consist of luminaires with 0% Upward Light Ratio.
- Lighting installation to comply with BS EN 12464-2 and other relevant regulations with regards to obtrusive light requirements.

REV	DATE	CHNG	DESCRIPTION
-----	------	------	-------------

KEY PLAN



TENDER

RED

Oxford | t: +44 (0)1869 355800 | www.red-eng.com | oxford@red-eng.com

Drawn: [checked] Internal: [checked] Rechecked: [checked] Confirmed: [checked]

Client: H.M.C.T.S.

Project: WOOD GREEN CROWN COURT
EXTERNAL LIGHTING REPLACEMENT

The ELECTRICAL SERVICES
EXTERNAL LIGHTING LAYOUT

Designed: RW
Scale: 1:500@A1
Checked: AO
Drawn: RW
Date Created: JAN 2023
Rev: T1

W.001422-RED-XX-XX-DR-E-2300

REFERENCES

¹ Bat Conservation Trust and Institute of Lighting Professionals (2023) *Guidance Note 8: Bats and Artificial Lighting at Night*.

² MAGIC (2019); *Interactive Map*. (Partnership project involving six government organisations: Defra (Department for Environment, Food and Rural Affairs); English Heritage; Natural England; Environment Agency; Forestry Commission; Department for Communities and Local Government). Available at: www.magic.gov.uk.