

Hornsey Town Hall

External Lighting Report in Consideration Bat Ecology and Conservation Compliance Report

Prepared for Ardmore

10687-E-08-0001

Revision I1

10 June 2022



WHITECODE
CONSULTING

Contents

Contents.....	2
1.0 Introduction	3
2.0 Artificial light kept to a minimum and light spill.....	4
2.1 Lighting kept tp a minimum.....	4
2.2 Light Spill	4
3.0 Use of LED Lighting.....	7
4.0 Other Comments.....	7
5.0 Conclusion.....	7
6.0 Appendix A External Lighting Drawings and Legend	8

Revisions:

Rev No:	Date:	Status/Comments:	Prepared by:	Checked by:
I1	10.06.2022	Issue for Information	DP	JM

1.0 Introduction

This report has been prepared to provide commentary on the design philosophy behind the external lighting scheme and the proposals for mitigation on ecological issues at the Hornsey Town Hall site.

The report focusing on how we have applied the suggestions and advice for external lighting in the Phlorum Ecological appraisal. The relevant advice stated below:

- 1. The level of artificial lighting including flood lighting should be kept to a minimum, with light spill directed into the centre of the site, if required.*
- 2. Recent LED technology should be utilised where possible. LED lights do not emit UV radiation, towards which insects are attracted, drawing them away from bat foraging areas in the surrounding landscape. Alternatively, low pressure sodium lights could be used. These can be a more cost effective option compared to LED lights and are the preferred option to high pressure sodium or mercury lamps. All lights should be directed at a low angle with minimal light spillage wherever possible.*
- 3. Ideally boundary habitats of the proposed development site (e.g., adjacent tree lines) should be kept dark, preferably at bat emergence (0-1 hour after sunset) and during peak bat activity periods (e.g., 1.5 hours after sunset and 1.5 hours before sunrise). Therefore, where possible, if lighting is required this should be installed with the light directed into the development area wherever possible.*
- 4. Artificial lighting should not directly illuminate any potential bat commuting areas such as the boundary habitats. Similarly, any newly planted linear features or buffer areas around the site boundary should not be directly lit.*

2.0 1. Artificial light kept to a minimum and light spill.

2.1 Lighting kept to a minimum

The external lighting scheme has been designed to the standards set in the SLL lighting guide and secure by design. Both institutions specify lighting between 5-10Lux on paths, roads and walkways. The image below shows lighting calculations undertaken by Whitecode, as shown, most of these values have been met with the employers' requirements given.

Access Road From Weston Road	perpendicular	128 x 32	4.55	0.75	25	0.166	0.030
Play Area	perpendicular	128 x 128	8.18	2.17	14	0.266	0.152
Play Area Benches	perpendicular	128 x 32	7.35	0.35	24	0.048	0.015
Broadway Annexe and Mews Access Road	perpendicular	128 x 64	21	6.47	40	0.307	0.161
Broadway Annexe and Mews Main Path	perpendicular	128 x 128	7.80	3.58	11	0.460	0.313
Garden Path South	perpendicular	32 x 128	5.57	2.14	16	0.384	0.136
Garden Path West	perpendicular	128 x 64	15	2.08	102	0.135	0.020
Garden Path East	perpendicular	32 x 8	8.20	4.28	12	0.522	0.355
Garden / Town Hall Entrance	perpendicular	128 x 128	10	4.61	35	0.460	0.132
Garden Slope	perpendicular	128 x 32	9.92	4.90	153	0.494	0.032
Town Hall Communal Area 1	perpendicular	128 x 128	8.05	5.03	12	0.625	0.425
Town Hall Communal Area 2	perpendicular	128 x 128	7.61	5.22	9.59	0.686	0.544
Block A East Light Spill 1	perpendicular	64 x 8	5.45	3.22	13	0.591	0.239
Block A East Light Spill 2	perpendicular	8 x 64	5.86	2.96	9.35	0.506	0.317

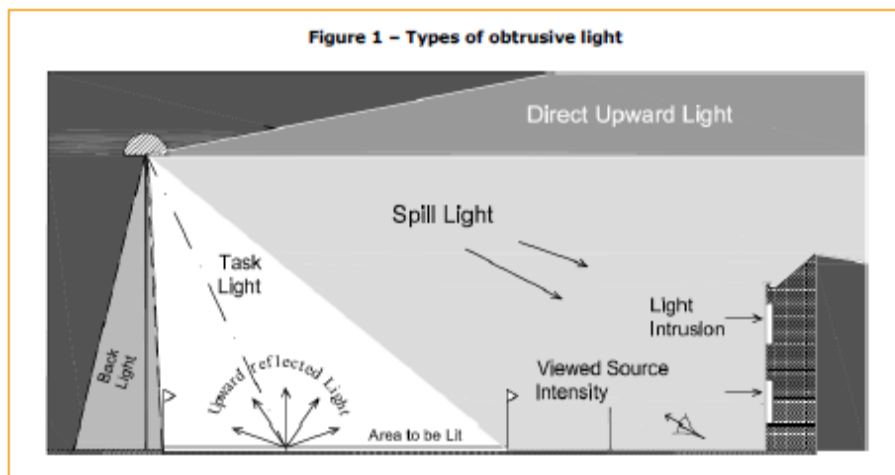
2.2 Light Spill

On Hornsey Town Hall, Light Spill has been considered in the lighting calculations. This is to make sure that there is as minimal intrusive light as possible in houses, the surrounding area, and the sky. To achieve this, luminaires have been chosen that achieve sufficient downward beam angles and have been placed in a way to only illuminate the areas that they are designed to and to wherever possible to the centre of the development. Please see below a column and a bollard used throughout the scheme.

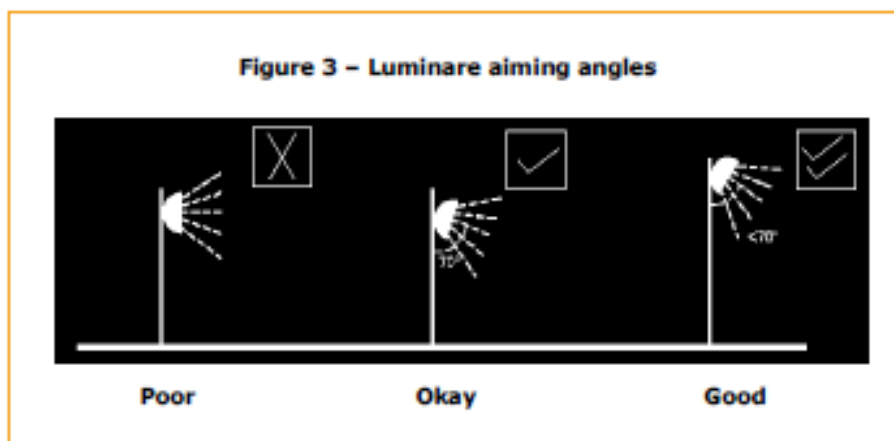


EWO FA770 A Series and EWO FA170, AS08 Beam Angle

Full details of the luminaires utilised are shown in the lighting calculation results.



(Figure 1 extracted from Guidance Notes for the reduction of Obtrusive Light GN01:2021)



(Figure 2 extracted from Guidance Notes for the reduction of Obtrusive Light GN01:2021)

According to the guidance notes for the reduction of obstructive light, Hornsey Town Hall is deemed an E3 area as indicted on the extract below.

ENVIRONMENTAL ZONES

It is recommended that Local Planning Authorities specify the following environmental zones for exterior lighting control within their Development Plans.

Table 1 – Environmental Zones			
Zone	Surrounding	Lighting Environment	Examples
E0	Protected	Dark	UNESCO Starlight Reserves, IDA Dark Sky Parks
E1	Natural	Intrinsically dark	National Parks, Areas of Outstanding Natural Beauty etc
E2	Rural	Low district brightness	Village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Small town centres or suburban locations
E4	Urban	High district brightness	Town/city centres with high levels of night-time activity

(Table 1 extracted from Guidance Notes for the reduction of Obtrusive Light GN01:2021)

Table 1 indicates the type of scheme ‘E3’ designation covers.

Table 2 – Obtrusive Light Limitations for Exterior Lighting Installations – General Observers						
Environmental Zone	Sky Glow ULR [Max %] ⁽¹⁾	Light Intrusion (into Windows) E _v [lux] ⁽²⁾		Luminaire Intensity I [candelas] ⁽³⁾		Building Luminance Pre-curfew ⁽⁴⁾
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average, L [cd/m ²]
E0	0	0	0	0	0	0
E1	0	2	0 (1*)	2,500	0	0
E2	2.5	5	1	7,500	500	5
E3	5.0	10	2	10,000	1,000	10
E4	15	25	5	25,000	2,500	25

(Table 2 extracted from Guidance Notes for the reduction of Obtrusive Light GN01:2021)

3.0 Use of LED Lighting

The ecology report states that “LED lights do not emit UV radiation, towards which insects are attracted, drawing them away from bat foraging areas in surrounding landscape.” All luminaires specified on the Hornsey Town Hall project are LED luminaires. Appendix A shows the external lighting Luminaire legend and drawing.

4.0 Other Comments

As per the report there are no known bat flight paths or roosts within the Hornsey Town Hall development and as such no specific measures are required to be taken in order to minimise illumination of certain areas, rather that the consistent approach across the scheme is to minimise light spill on the adjacent woodland.

5.0 Conclusion

The calculations undertaken indicate that if the lighting is installed as indicated on the drawings, light spill will be minimised, whilst still providing the minimum amount of illumination to provide a safe environment for compliance with Secured by Design. The scheme proposed therefore meets the planning constraints and the relevant planning conditions should be discharged.

6.0 Appendix A External Lighting Drawings and Legend



Contact details:

Whitecode Consulting Ltd
26-27 The Hill
Northfleet
Gravesend
Kent
DA11 9EU

t: 01322 289977
e: design@whitecode.co.uk



WHITECODE
CONSULTING