HOARE LEA

Lindenwood.
Chineham.
Frasers Property.

ENVIRONMENTAL LIGHTING

LIGHTING IMPACT ASSESSMENT (LIA) SCOPING DOCUMENT

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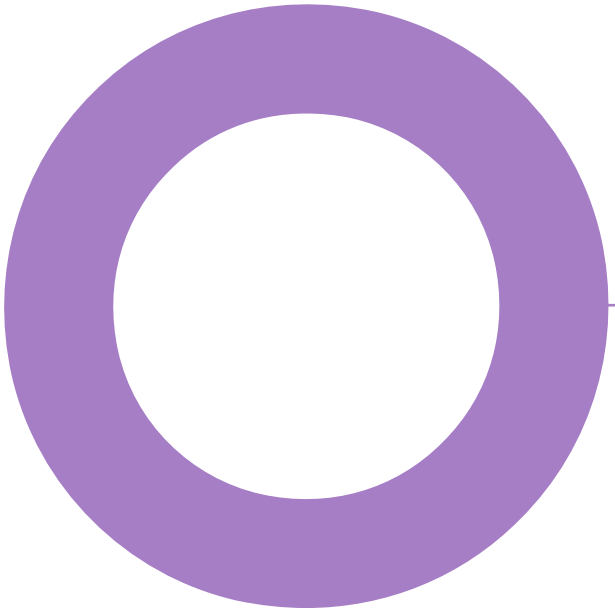

Audit sheet.

Rev.	Date	Description of change / purpose of issue	Prepared	Reviewed	Authorised
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LIGHT IMPACT ASSESSMENT (LIA)

The LIA would clarify all the known light pollution issues as identified by the following technical guidance and standards, and clarify their current best practise principles for tackling these issues:

- ILP Guidance on Undertaking Environmental Lighting Impact Assessments. (PLG 04)
- ILP Guidance Notes for the Reduction of Obtrusive Light 2021
- CIE 150: 2017 – Guide on the Limitation of the Effects of Obtrusive Light from Outdoor Lighting Installations, 2nd Edition
- SLL Guide to Limiting Obtrusive Light 2020
- SLL Lighting Handbook 2018
- SLL LG 6 – The Exterior Environment 2016
- SLL LG 9 – Lighting for Commercial Residential Building 2013
- SLL LG 21 - Protecting the night-time environment
- BS EN 12464 – 2 2014 – Lighting of Outdoor Work Spaces.
- Bat Conservation Trust/ILP –Bats and Artificial Lighting in the UK. Guidance Note: 08/23

National and Local Policy

- National Planning Policy Framework 2021
- Current Local Policy and Strategy

The lighting assessment itself is proposed to be made up of three parts contained within one report consisting of a desktop baseline study, an external lighting parameter plan and an Illumination Impact Profile (IIP). These three elements then make up the Lighting Impact Assessment (LIA) with each part informing the assessment which, collectively, gives a pre and post quantitative assessment of the artificial lighting to the Proposed Development. The exact activities for each part are set out below –

Part 1 – Desktop Baseline Study of existing baseline lighting scenario to site and adjacent areas.

A desktop study of the area, using professional judgement to identify and commenting on the existing lighting profile across the entire site and immediately adjacent areas. Including:

— Assessment of the Site, and adjacent areas;

— Establish the site and surrounding area Environmental Zone rating as per ILP and CIE guidance;

— Clarification all the known light pollution issues and the Site relevant criteria identified by the various lighting /environmental bodies.

Part 2: External Lighting Parameters Plan.

Where a light impact assessment is required, and the planning application requires a Light Impact Assessment, Hoare Lea will provide an Exterior Lighting Design to the applicable site and buildings to meet current design guidance for the assessment of the expected obtrusive light impact which will allow an Illumination Impact Profile (IIP) to be carried out.

The final lighting specification(s) and design(s) for the proposed development of the Site will be prepared by a specialist lighting designer, following area identification input from the architects, with due regard to outlined mitigation measures, obtrusive light guidance and the sensitivities of surrounding receptors.

The Lighting design is specifically based on operational uses and any external lighting associated with building feature but excludes signage illumination.

In accordance with outlined guidance, embedded obtrusive light control measures are employed to provide a considered and realistic assessment scenario.

Exterior Lighting Design:
- Wherever possible, ensuring the use of controlled light distribution, optimised optics (flat glass - controlled light distribution below the horizontal) and considered luminaire positioning / minimal heights are employed.
- Where suitable modern, LED luminaires employed throughout the site to minimise the obtrusive light spill footprint and be as energy efficient as possible.
- Wherever possible, adopting a light quality that minimises disruption to existing ecological systems in the form of 'LED' light sources (<3000K) which emit minimal UV and blue light.

The deliverable for this element will be in the form of a CAD (2D) plan with generic luminaire types.

Part 3: Illumination Impact Profile (IIP) Illumination Impact Profile for the Lighting Design to Identified Sensitive Receptors

The intention of the IIP is to convey how the Proposed Developments will affect the illumination profile of the area and how that will comply with relevant policy, legislation requirements and best practise Design Guidance.

In accordance with CIE150 guidance 2003 &2017 and ILP Guidance Notes for the Reduction of Obtrusive Light GN01/21 (2021) and in relation to the assessment, the following definitions are used in describing obtrusive lighting effects:

- Light spill: the spilling of light beyond the boundary of the area being lit.
- Light intrusion: nuisance light, levels of light above defined vales into residential properties.
- Glare: (viewed source intensity) the uncomfortable brightness of the light source against a dark background which results in dazzling the observer, which may cause nuisance to residents and a hazard to road users.
- Direct sky glow: the direct upward spill of light into the sky, which can cause a glowing effect and is often seen above cities when viewed from a dark.
- Upward reflected light: the reflected upward spill of light into the sky, from surfaces below the light source. A contributor to sky glow.

The Site, sensitive receptors and external lighting proposals (including embedded obtrusive light control mitigation measures) are modelled through industry recognised lighting software and the resultant calculated values are assessed against the baseline scenario and current guidance, for the Environmental Zone, to provide the Illumination Impact Profile of the Proposed Development.

If applicable and should impact exceed environmental light thresholds further secondary obtrusive light control mitigation measures are identified to advise the future Masterplan Development and Lighting Design deliverables.

Competent Person.

This scoping document has been produced by Sean Kielthy MSLL, Principal Lighting Designer who is a member of the Society of Light & Lighting with 28 years' experience as a lighting designer.

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