

# Site Lighting Report - Planning Stage

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On behalf of  
**Curve Devco Limited**  
for  
**Proposed Apartment Development**  
at  
**Castle Park, Dalkey, Co. Dublin**  
(Dun Laoghaire - Rathdown County Council)

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## Index

1.	Introduction.....	3
2.	Site Lighting.....	4
2.1	Proposed light fitting.....	4
2.2	Lighting Control.....	4
3.	Lighting Calculations.....	5
3.1	Lighting Design.....	5
3.2	Lux Level Results.....	6
3.3	Pre-Curfew Results.....	6
3.4	Lux Level Results.....	7
4.	Conclusion.....	8
5.	Reference.....	8

# 1. Introduction

The proposed apartment development at Castle Park Dalkey, comprises 101 studio, 1 and 2 bed Apartments. The development ranges from 2 - 4 storey buildings, over basement car park with site clearance (including tree removal) and ground works to facilitate the redevelopment of the site. The site of 1.27 hectare (3.14 acre/12,700 sq.m.) is situated within the Castle Park School grounds, with pedestrian and vehicle access from Castle Park Rd. The 2 storey element is located in the north-western portion of the site, adjacent to Castle Close. Additional pedestrian access is provided from Castle Close and Castlelands and emergency vehicle access provided from Castlelands to the South.

A new vehicular access road is proposed from east to west with basement entrance ramp to the west end of the development. mechanical plantrooms, electrical switchrooms, car parking spaces and bin stores shall be located in the basement area. Bicycle storage areas and bicycle parking spaces shall be located in the basement and at ground level. Other works include the provision of a single storey, detached sub-station together with associated site and landscaping works.



## 2. Site Lighting

Site lighting has been designed to provide adequate lighting at site entrances and within the development. The lighting has been designed to provide safe movement for the following road users:

- Vehicular
- Pedestrian
- Cyclist

The lighting design has taken the following into consideration:

- Use of low energy LED lighting
- Ensure no light spill on adjacent properties
- Review of existing lighting to ensure new lighting
- Use of simulation tools to ensure lighting class is achieved
- Achieving the recommended lighting class
- Achieving recommended lighting zone

### 2.1 Proposed light fitting

The proposed light fitting selected is the Civi TEQ:

- Cost-effective LED road lighting solution.
- Fitted with R-PEC optic to bring safe and efficient light to residential streets and high traffic roads
- Comprehensive range of controls incorporating the Bi-Power Switch to activate or deactivate dimming onsite
- Visually similar to existing lighting along Parkside Boulevard



### 2.2 Lighting Control

All light fittings will be installed with a photo electric cell unit (PECU). The switching levels for each photocell shall be 35lux ON and 18lux OFF.

All lighting shall be equipped with interoperable open source components in each instance which will allow for communication with a central monitor system.

### 3. Lighting Calculations

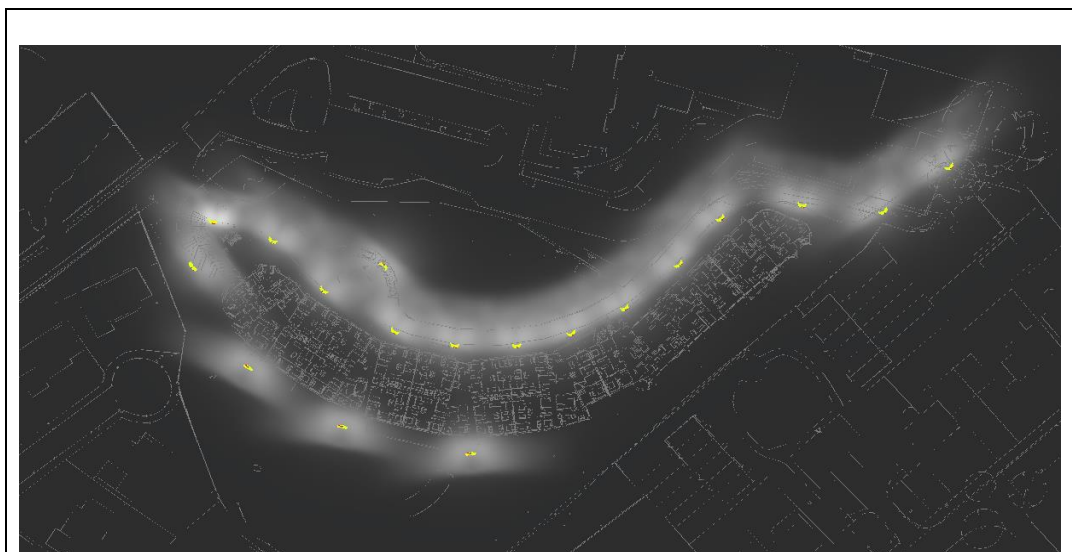
Prior to lighting calculations being performed the lighting classification and environmental zone must be determined.

The lighting classification is determined by the local council however where this is not available lighting class can be determined using the parameters outlined within the EN13201-2:2003 & BS 5498-2:2013 Code of Practice for the Design of Road Lighting. Lighting class for calculation purposes are outlined below.

The environmental zone is determined by the local council however, where this is not available lighting class can be determined using the parameters outlined within the TII (Transport Infrastructure Ireland) DN-LHT – 03038 Design of road lighting for national road network and ILP – (Institution of lighting professionals) – Guidance notes for the reduction of obtrusive light. The environmental zone is considered to be E2/E3 medium to low brightness district.

#### 3.1 Lighting Design

The proposed site lighting layout is as indicated in the figure 3 below:



**Fig 3. Site Lighting Layout**

### 3.2 Lux Level Results

The lighting classification for the proposed development is as outlined in the table below. Two separate calculations were performed to determine pre and post curfew lux levels.

(\*curfew - the time after which stricter requirements (for the control of obtrusive light) will apply; often a condition of use of lighting applied by the local planning authority. If not otherwise stated - 23.00hrs is suggested.)

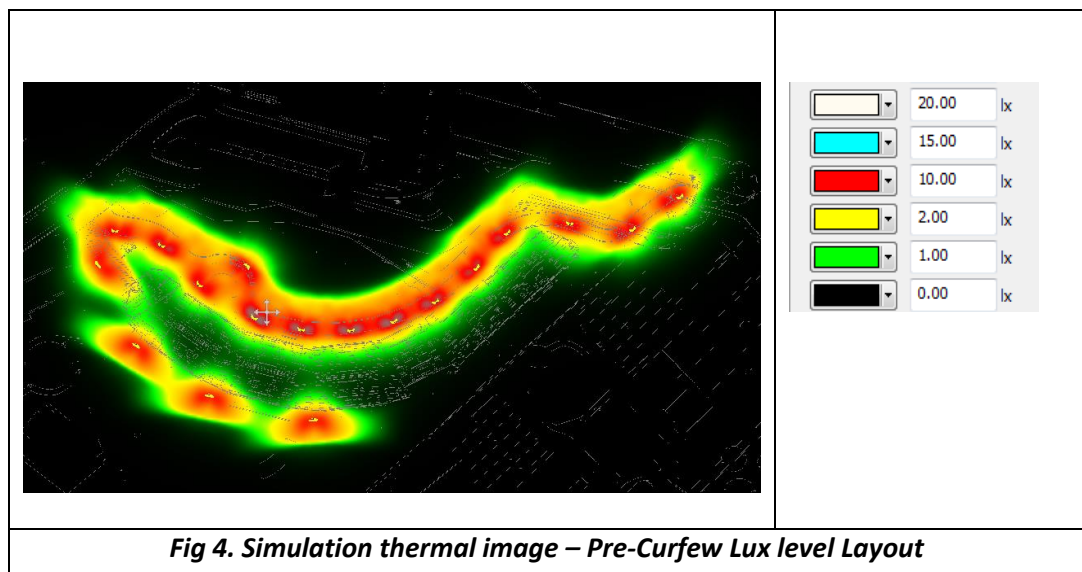
Location	Class	Lux
Along main Road within development	P3	7.5lux

### 3.3 Pre-Curfew Results

Pre-Curfew lux level results outlined in the table below:

Location	Lux (Pre-Curfew)
Along main Road within development	8lux

Below fig 4 the simulation thermal image indicating lux levels achieved pre-curfew:

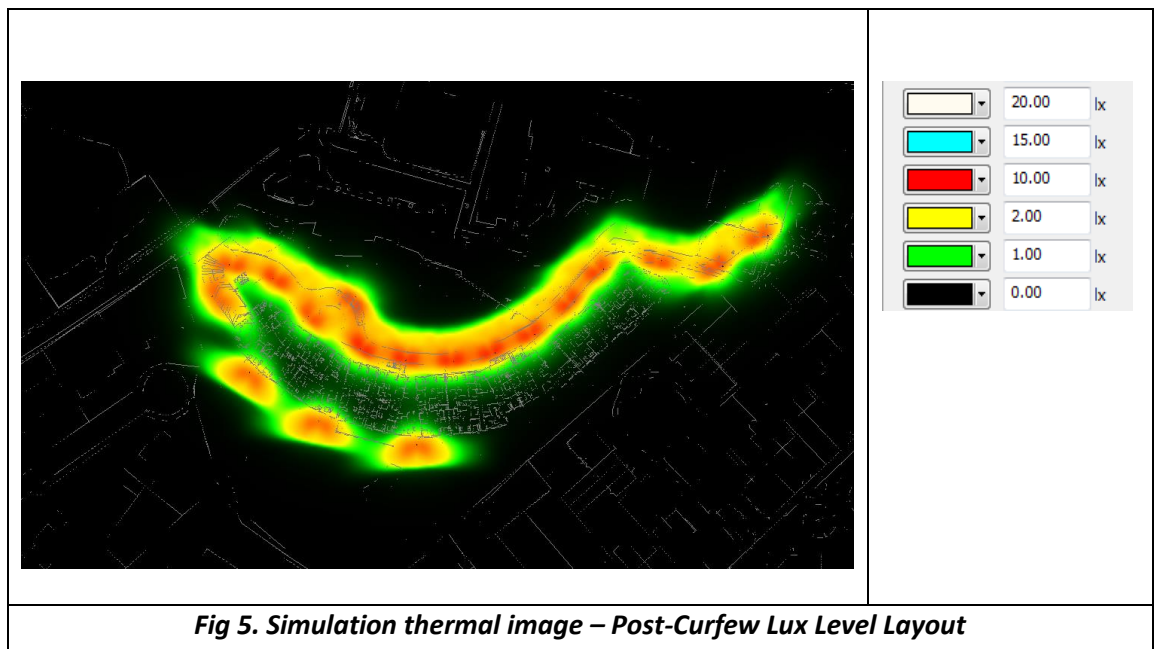


### 3.4 Lux Level Results

Post-Curfew lux level results outlined in the table below

Location	Lux (Post-Curfew)
Along main Road within development	5.6lux

Below in fig 5 the simulation thermal image indicating lux levels achieved pre-curfew:



## 4. Conclusion

The proposed lighting layout has been designed in accordance with current regulations and achieves:

- Lux levels as set out in B.S EN 12464-2:2007, BS EN 13201 -2 & CIBSE LG6
- Good uniformity as set out in B.S EN 12464-2:2007, BS EN 13201 -2 & CIBSE LG6
- Incorporates the use of low energy LED lighting
- Reduce light spill due to lantern selection
- The lighting layout is non-intrusive and ties in with the existing external lighting installation

## 5. Reference

The design of the lighting shall be in accordance with the following standards and guidelines:

- I.S. EN 13201-2:2015 Road Lighting – Part 2: Performance requirements
- BS 5489-1:2013 Code of Practice for the Design of Road Lighting
- S.I. No. 291 of 2013 Safety, Health and Welfare at Work (Construction) Regulations 2013
- Dun Laoghaire & Rathdown County Council guidelines for public lighting.
- ET: 101: 2008 Fourth Edition - National Rules for Electrical Installations