

Our Ref: EVO331011-SL-001-A

Your Ref: HFM-433/0070

Jane Carrington
Technical Planner
Foreman Homes
Unit 1 Station Industrial Park
Duncan Road
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Hampshire
SO31 1BX

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Dear Jane Carrington,

Land Off Providence Hill, Bursledon – Non Adoptable Lighting

Thank you for your scheme enquiry for the section 38 at the Land Off Providence Hill, Bursledon. The lighting is not to be adoptable.

We have undertaken a lighting design for the area using Urbis Axia 3.1 lanterns on 6 metre post top columns. Lighting has been designed in accordance with BS5489-01:2020, and a lighting class of P6 was applied.

Following the completed design work if there are changes to the road layouts which require design revisions these may incur further charges.

Yours sincerely,



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Design Commentary

Land Off Providence Hill, Bursledon

1. Introduction

- 1.1. Enerveo has been commissioned by Foreman Homes to develop a detailed lighting design for a Section 38 residential development at Land Off Providence Hill, Bursledon, which is a continuation of the Oakeley Vale development, that we designed the lighting for in 2016 (SSE129859).
- 1.2. The purpose of this document is to provide commentary on the lighting design methodology adopted for the proposed works including decisions for design constraints and deviations from design standards.

2. Drawings

- 2.1. Drawing at 1:500 scale.

3. Standards

- 3.1. The proposed lighting design has been carried out using the following non-exhaustive list of standards and documents:
 - BS 5489-1:2020, *Code of practice for the design of road lighting - Part 1: Lighting of roads and public amenity areas*.
 - BS EN 13201-2:2015, *Road lighting — Part 2: Performance requirements*
 - ILP Professional Lighting Guide 02, PLG02, *The Application of Conflict Areas on the Highway*.
 - ILP Guidance Note, GN01:2021, *Guidance Notes for the Reduction of Obtrusive Light*.

4. General Layout

- 4.1. The location of the proposed works is between Providence Hill and the M27 at Bursledon.
- 4.2. The works consist of a new section 38 residential housing development of 92 dwellings.

5. Street Lighting Class

- 5.1. The lighting class has been selected as P6, to match the earlier adjacent phase of development (Oakeley Vale). The earlier phase was designed in 2016 when designs were undertaken to the PFI levels for residential roads (as per Table 6.3).
- 5.2. As this is a continuation of the existing housing development it has been designed with lighting levels to match the existing. This is to avoid the least busy section at the back of the site (this phase) being brighter than spine road into the site.
- 5.3. Additionally, the site is on the edge of the urban area on the E.2 / E.3 boundary for which you are likely to select a lower lighting level for.
- 5.4. The lighting design has been carried out in accordance with the requirements of BS5489-01:2020, Table A.5.

	Spine Road
Reference Table	A.5
Environmental Zone	E.2 low ambient brightness / E3, moderate ambient brightness
Traffic flow	Normal
Traffic composition	Mixed
Road Speed	30 mph
Other Considerations	Unrestricted parking road geometry dictates slow speeds
Lighting Class	P6 as per adjacent development (P5/P4 would be as per current standards)

Lighting Class	Average Illuminance, Eave (Lux)	Average Illuminance Maximum, Eave (Lux)	Average Illuminance, Eave (Lux)
P6	2.00	3.00	0.4

6. General Design Notes

- 6.1. The footpath along the eastern boundary (adjacent to the acoustic fence) has been excluded from the lit area, as it has no properties directly adjacent and is setback behind parking bays it is unlikely to attract significant levels of footfall. Lighting it is undesirable because it is close to the site boundary which has mature trees, and these may have light sensitive ecology. Also due to limitations within the Axia 3 photometry there isn't an optic that can light the entire road and footpath width at 0 degrees. Tilt would solve this at the expense of upward light which is undesirable. The other solution would be dedicated footpath lighting which would increase spill lighting into the trees which is undesirable. Columns could also be move to the opposite side of the road from the proposed locations however that would level the footways outside the houses the darkest area which is undesirable due to them having the highest footfall.
- 6.2. Proposed column 48 is on a section of road with no footway. The verge opposite is not suitable for placing a standard column due to a water course close to the carriageway. The proposed location outside plots 39 and 40 are in front gardens and requires an easement. Light spill onto properties has been calculated to below the 2 lux that HCC prefer. Using this metric will reduce the likelihood of complaints from residents about light intrusion.
- 6.3. The site includes extensive proposed tree planting. Whilst efforts have been made to avoid proposed trees, it has not been possible in all locations. The lighting drawing highlights the 5-metre tree clearance that HCC recommends thus illustrating where proposed tree planting requires amending. Moving trees to give 5 metres clearance will reduce ongoing maintenance requirements and reduce the risk of foliage interfering with lighting levels.
- 6.4. Vertical grids are included in the area calculation to illustrate that light intrusion remains.
- 6.5. Black columns and lanterns have been proposed to differentiate them from HCC owned assets which are typically green.

7. Maintenance factor

- 7.1. Environmental maintenance factor assuming a 48-month clean is 0.94.

7.2. Luminaire maintenance is 0.9 (this considers lumen depreciation and LED failures, L90B10).

7.3. Giving overall maintenance factors of 0.85 (as per HCC TG13).

8. Column Locations

8.1. Columns are to be installed either rear of footway.

8.2. Any deviation from rear of footway is noted on the drawing. Typically, 3 metre setback in verge.

9. Column Type

9.1. Columns to be 6 metre galvanized tubular steel straight shaft (no outreach bracket), painted (factory finished), colour 00E53, black.

10. Lantern Type

10.1. Urbis Axia 3 with DALI dimming ballast fitted with 5 pin NEMA socket, post-top mounted, tilt 0 degree.

10.2. Lanterns to be finished in 00E53, black.

10.3. Lanterns to be fitted with Zodion SS6 20/20 NEMA photocell.