

134783/134785: N2 & N13 Countesswells, Aberdeen

Road Lighting Design Classification Report

Rev - 28/03/21

Development Location

Development Location – Countesswells, Aberdeen
 Environmental Zone – E3 (Suburban – Medium District Brightness)

Selection of Lighting Classes (BS 5489-1:2020)

Development Roads – From *Table A.5: subsidiary roads ≤30mph, low speed, pedestrians and cyclists*, with a traffic flow of Quiet and an ambient luminance of Moderate (E3) this gives us lighting class P4.

- *Environmental zone, as given in ILP GN01.
- *Busy traffic flow refers to areas where the traffic usage is high and can be associated with local amenities such as clubs, shopping facilities, public houses, etc.
- *Normal traffic flow refers to areas where the traffic usage is of a level equivalent to a housing estate access road.
- *Quiet traffic flow refers to areas where the traffic usage is of a level equivalent to a residential road, and is mainly associated with the adjacent properties or properties on other equivalent roads accessed from this road.

Risk Assessment

The risk assessment deals with potential hazards to the general public. Particular attention will be given to hazards affecting younger children. It also considers special hazards which may arise during construction or subsequent maintenance of the attenuation/treatment facilities under the Construction (Design and Management) Regulations 2015.

In general, other than the items identified below, the road layout presents no unusual hazards under the CDM regulations that a competent designer could not reasonably foresee with a development of this type.

Development Roads

Parameter	Hazard	Likelihood	Severity
Traffic composition	Housing roads used by cars and cyclists, with adjacent footways for pedestrians. Shared surfaces areas with mixed usage for cars, pedestrians and cyclists.	Low	Medium
Complexity of task	There is on-street parking in this vicinity. Traffic will be travelling at 20mph and 10mph on shared surfaces.	Low	Medium
Risk of crime	Theft from properties and vehicles.	Low	Medium

No high severity therefore no amendment to the lighting class will be required.

Summary

Aberdeen City Council require a minimum lighting Class P4 for residential roads therefore, based on this and the risk assessment carried out above, the lighting class for the development roads will be Class P4.

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Maintenance Factor

From BS 5489-1:2020 Annex C Maintenance factors for LED Luminaires

Manufacturer information received from Philips Nov 2018

Mounting height - <6m

Cleaning frequency - 72 months Environmental zone – E3/E4: 0.84

Percentage of initial light output (Lx) for 100,000hours: 90%

LED rated life 100,000hours (Fy): no catastrophic failures

Mounting Height ≤6m = $(0.90/100) \times (100-0/100) \times 0.84 = 0.76$ Maintenance Factor

From this information we would specify a MF of 0.76

General

During the design of the street lighting, to allow for such items as CDM, risk assessments, light pollution/nuisance, we have so far as practically possible taken account and catered for the following.

- Overhead power lines and other obstructions.
- Trees and potential growth and accounting for summer foliage.
- Minimising obtrusive light.
- Locating street lighting on property boundaries and away from property windows.
- Avoiding locations where lighting columns could be struck by a vehicle.
- Existing street lighting.