

Case Study

An exterior lighting design for a commercial office building with external driveways and walkways (as shown in fig. 502.05(1)) is being proposed by the project team.

The layout also indicates the number of light fittings for each space and lighting legend. 12 nos. of street lights (80 W/Luminaire) are proposed for parking areas and 6 nos. of bollard lights (30 W/Luminaire) are proposed for walkway areas.

Area details for the project is as follow:

Area for exterior parking = 360 m²

Area for exterior walkaway = 100 m²

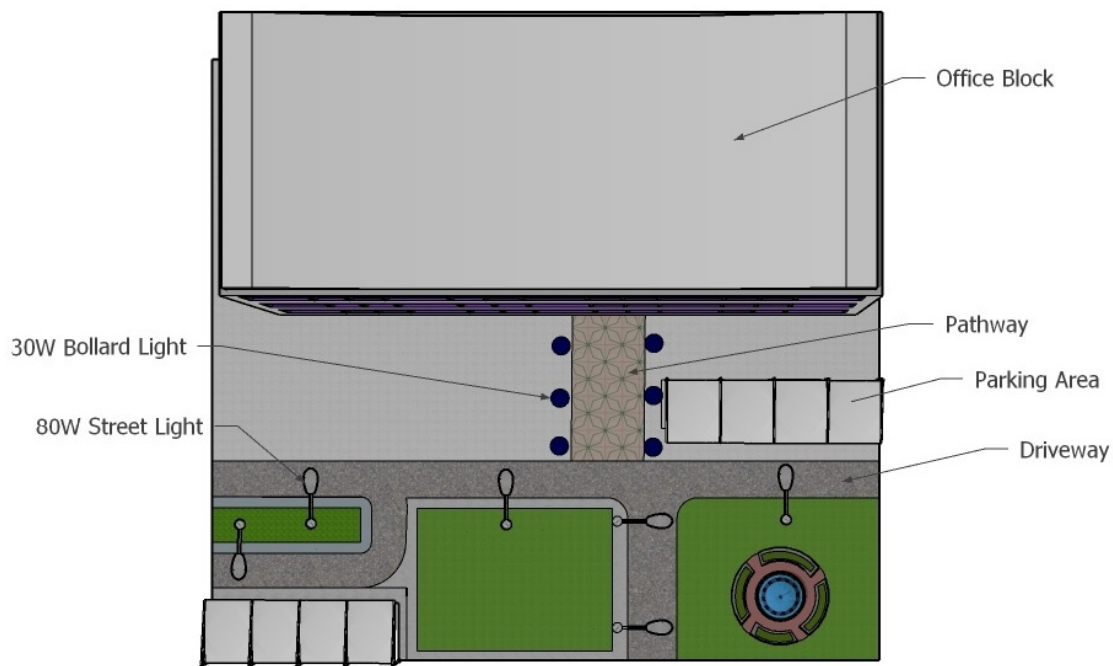


Fig. 502.05(1): Exterior Lighting Layout

Based on this information, design LPD values were calculated and shown in Table 502.05 (2).

The allowable LPD values for Driveways is 1.6 W/m² and Walkways (3m wide or greater) is 2.2 W/m². It can be observed that the exterior LPD values do not exceed the values required under this regulation. Hence, the proposed lighting design complies with this regulation.

Table 502.05(2): Exterior Lighting Power Density Calculation

Space Type	Light Fitting Type	No. of Light Fittings	Lighting Power / Luminaire (W)	Total Power (W)	Area (m ²)	Total Design LPD (W/ m ²)	Allowable LPD (W/ m ²)
Driveways areas	Street light	6	80	480	360	1.3	1.6
Walkways 3m wide or greater	Bollard light	6	30	180	100	1.8	2.2
Total				660	460		