



# **PUBLIC LIGHTING GUIDELINES.**

**MARCH 2024**

# **CONTENTS.**

## **AIMS AND OBJECTIVES.**

## **DESIGN REQUIREMENTS**

- **AUSTRALIAN STANDARDS AND GUIDELINES.**
- **DOCUMENTATION.**
- **ILLUMINATION LEVELS.**
- **GLARE AND UPWARD WASTE LIGHT.**
- **LUMINAIRES AND ENERGY TARIFFS.**
- **SMART TECHNOLOGY**
- **WARRANTIES**
- **WILDLIFE.**
- **INSTALLATION AND VERMIN PROOFING**
- **LIMITATIONS**

## **MAINTENANCE**

## **AIMS AND OBJECTIVES.**

This lighting design brief is to be used during early planning, costing and design stages by all project developers, landscape Architects, certified electrical and lighting designers for all projects within the City of Playford public realm.

The aims and objectives of the guidelines are to improve the quality and maintain consistency and efficiency of the lighting in the public spaces of the City of Playford.

The performance criteria for public space lighting includes 4 basic aims:

- a) Facilitate Movement - facilitation for safe movement of vehicles, cyclists and pedestrians;
- b) Reduce Fear - reduction of the fear of crime at night by increasing security lighting,
- c) Improve Amenity - improving the amenity of an area through increased aesthetic appeal and,
- d) Sustainability and Efficiency - design for sustainability and application of energy efficiency.

All lighting proposals will be reviewed to ensure the objectives of the City of Playford are fulfilled.

## **DESIGN REQUIREMENTS.**

### **AUSTRALIAN STANDARDS AND GUIDELINES.**

The following Australian Standards and guidelines shall be adhered to when designing and implementing lighting for the public spaces of the City of Playford.

AS/NZS 1158 Lighting for roads and public spaces.

AS/NZS 4282 Control of the obtrusive effects of outdoor lighting.

SAPN Technical Standard TS101: Public Lighting - Design & Installation.

National Light Pollution Guidelines for Wildlife.

AGRD06A: Aust Roads Guide to Road Design Part 6A: Paths for walking and cycling.

AGRD06B: Aust Roads Guide to Road Design Part 6B : Roadside environment.

AP-G88-17: Cycling Aspects of Austroads Guides (2017 Edition.)

### **DOCUMENTATION.**

The designs shall include all relevant data and documentation; this includes:

1. Technical data sheets for proposed light fittings including IES and/or CIE files, NATA certificates, IP and IK ratings and Australian approval numbers.
2. Detailed lighting design utilizing AGI software or approved equivalent detailing compliance and non-compliance (average illumination, maximum and minimum illumination, uniformity, obtrusive light and glare etc.) with the applicable standards and isolux curves as a visual representation of the design.
3. Switchboard design, fault levels, maximum demand, cable sizing.
4. Pole sizes, circuit breaker for each pole, light fitting mounting detail, soil reports, footing design.
5. Methods of installation for poles, inground luminaires and weatherproofing.
6. Where CCTV is incorporated the technical lighting parameters of the cameras must be met and demonstrated in the documentation.
7. As constructed drawings for the EO tariff, and a sheet with the asset material and construction cost information.

### **ILLUMINATION LEVELS.**

Ensure all exterior illumination levels comply with recommended Australian standards and include the relevant AS/NZS 1158 sub-category in the design.

All shared paths within road reserves shall have a minimum PP3 category or higher depending on road hierarchy. For other open spaces (excluding road reserves) the final lighting category shall be negotiated with Council but shall include a minimum level of PP5 in the proposal.

All the street lighting shall be located on the footpath side of the road and on the shared use path side for roads and paths. Poles shall be located within the verge area and positioned so as not impede path users and cause conflict with surrounding assets in accordance with relevant standards and guidelines.

Choose efficient light sources with a minimum wattage of 24 watts, a colour temperature of 3000K to 4500K and a Colour Rendering Index (CRI) of at least 70.

Where illumination is required to minimize the adverse effects on wildlife specific parameters (lamp wattage, illumination levels, CT and CRI) will be nominated for the specific area.

### **GLARE AND UPWARD WASTE LIGHT.**

Minimise glare to reduce night adaptation of the eye and improve visibility for the public.

Control the installation glare and upward waste light in accordance with AS1158 Tables 3.8 – Limitation of Luminaire Intensity, Table 3.9 - Limitation of Discomfort Glare and Table 3.10 – Limitation of Upward Waste Light.

### **LUMINAIRES AND ENERGY TARIFFS.**

Types and manufacturer's preference of light fittings as shown below.

Note: Alternatives can be submitted for the typical light fittings and equipment but the technical parameters and physical detail must be equal or better than the equipment nominated. The technical parameters must be supported by the supply of the relevant data sheets and designs at the time of submission.

Include following items as key requirements:

Flat lens.

Outreach style luminaire.

Self cleaning.

Matte black pole.

LED make

IP rating to suit application.

Direct lighting and LED tuning

Council requires all public realm lighting to be under SAPN TFI tariff. However, Council is flexible with other tariff options, such as: shared path lighting and reserve lighting can be under SAPN EO tariff, where SAPN has provided agreement in writing.

### **Light fittings.**

Pole mounted:

We-eF

Sylvania.



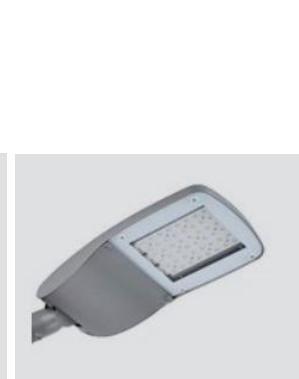
AFL 100 series.



RMM300 series.



Zephyr



Zodiac

Inground Uplights.

We-eF



ETC100-GB

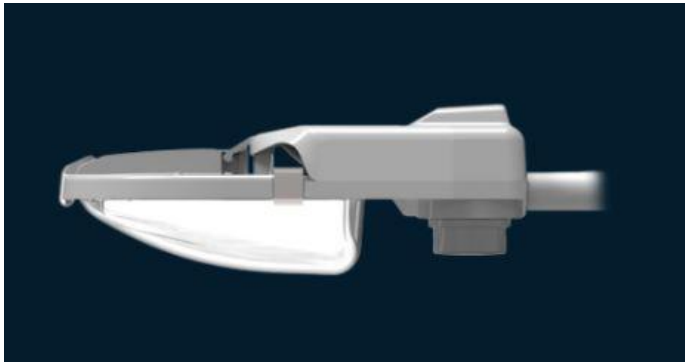
Sylvania.



Interrata.

Lights for Wildlife.

Sylvania.



StreetLED MK3 The Natuur Range

Sylvania.



Parkville Mk 2 The Natuur Range

## SMART TECHNOLOGY.

Control of light fittings will be ascertained for each individual project.

In general designers should allow for timeclock control utilizing a set (15% and 100%) dimming system and control of lighting for wildlife (where required) as an integral part of the light fitting and the ability to vary the settings on site prior to installation.

## WARRANTIES.

Typically 10 years for light fittings, paint finish and IP rating and 7 years for electronic driver.

Suppliers shall nominate the following parameters for light source life:

- L70 – the estimated time for the lamp to depreciate to 70% light output
- B50 - the estimated time to expect that 50% of the lamps to fail
- F10 - the estimated time to expect failure of other components e.g., electronic driver.
- Efficacy – the efficiency of the light source in lumens/watt of energy used.

Suppliers shall include production support for 10 years by nominating multiple suppliers and/or generic components for spare parts e.g. Electronic drivers, LED panels etc.

## WILDLIFE.

Control of light fittings will be ascertained for each individual project.

The City of Playford Project Manager shall nominate significant buildings and/or areas which shall require specific lighting parameters for the special illumination of any buildings or to comply with the National Light Pollution Guidelines for specific wildlife (illumination levels, colour temperature and CRI). Control of the light fittings shall be as nominated in Smart Technology section.



## INSTALLATION AND VERMIN PROOFING.

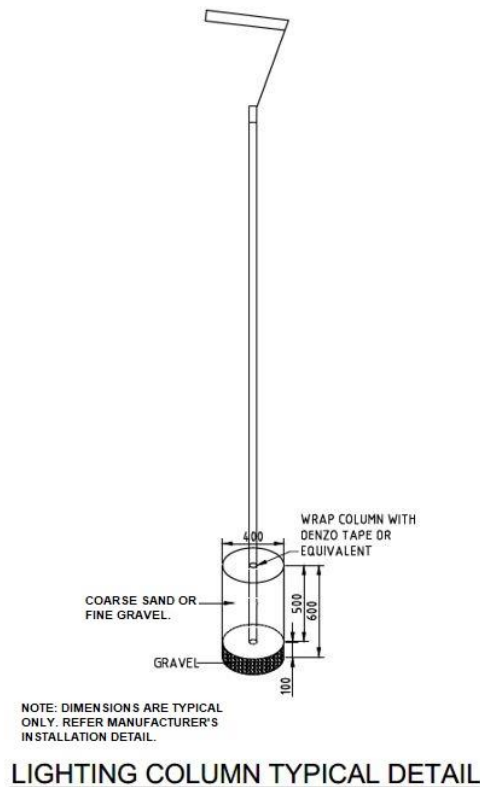
All equipment shall be designed and manufactured to prevent the ingress of vermin and moisture. All penetrations shall be sealed to achieve the same level of protection by utilizing purpose made seals and not silicone or similar products. The repair of penetrations shall maintain the manufacturer's IP rating of the product as a minimum.

All cables on the outside of the pole or light fitting shall be enclosed in an approved bird resistant conduit (Flexicon or equal) and be protected by 302 stainless steel bird spikes (Avipoint P20 spikes or equal) and shall be fixed with adhesive (Avisseal Bird Spike Adhesive or equal) and stainless steel cable ties after all surfaces have been cleaned with a commercial cleansing agent to remove all grease and dust.

Solar panels shall incorporate 302 stainless steel bird spikes to deter birds perching on any part of the panel and the spikes shall not cast shadows on the panel to reduce efficiency.

All poles and inground light fittings shall be installed as per the manufacturer's recommendations and in addition to this:

- The natural soil shall be excavated to a depth and diameter nominated by a Civil Engineer and removed from site.
- The base of the pole shall be wrapped in Denso tape to 100 mm above finished ground level.
- The excavation shall be back filled with concrete or clean coarse sand or fine gravel and the sand and gravel shall be compacted in 200 mm layers to equal the surrounding soil density.



## LIMITATIONS.

The following lighting systems should be limited due to high maintenance costs and negative environmental impact (skyglow). The systems will only be accepted on written approval by the City of Playford Project Manager:

1. Inground lighting.
2. Focus lighting in canopies or on the trunks of trees.
3. Solar powered lighting.

## MAINTENANCE.

A formal maintenance and review system proposal shall be included in the proposal to ensure the quality of light is maintained by including the above listed lighting technical data and identifying the availability of spare parts and qualified personnel.