

Public Lighting Guidelines in Greenfield Subdivision – Road Reserve



Table of Contents

Introduction.....	2
Objective	2
1. Public Lighting Components	3
2. Road Reserve Lighting Level Specifications	4
3. Placement of Streetlight Poles in Typical Urban Road Reserve Settings	5
4. Public Lighting on Paper Road.....	6
5. Public Lighting on Laneway.....	7
6. Typical Cross Section Under the Pavements	8
7. Council Requirements for Public Lighting Plan Submission	9
8. Reference	10



Introduction

The Wyndham City Council Public Lighting Guidelines serve as a comprehensive resource for designers, consultants, and stakeholders involved in land development, particularly in greenfield area. This document provides a detailed outline of the necessary requirements for the design, planning, and installation of public lighting systems within road reserves that are vested to Wyndham City Council. It also clarifies the submission processes that must be followed to ensure compliance with the council's standards.

Public lighting plays a critical role in ensuring safety and accessibility in public spaces. In the context of urban and greenfield developments, effective and well-planned public lighting is essential for improving visibility, enhancing the overall quality of the environment, and supporting community safety. Due to the complexity of urban planning and infrastructure, lighting systems must meet safety standards, sustainability practices, and environmental guidelines.

Objective

The objective of this guideline is to provide clear and comprehensive instructions for the planning, design, and implementation of public lighting systems within Greenfield Subdivision Road reserves in Wyndham City Council. This document aims to ensure that all public lighting installations meet the required safety, environmental, and aesthetic standards set by Council. It seeks to:

- **Ensure Compliance:** Ensure that all public lighting systems meet the minimum lighting requirements as defined by the Council and relevant Australian Standards (AS1158).
- **Promote Safety:** Enhance safety for road users, pedestrians, and cyclists by providing sufficient illumination for roads and pathways.
- **Maintain Consistency:** Establish uniformity in the design and placement of streetlight poles and fixtures across various road types and urban settings.
- **Facilitate Efficient Submissions:** Streamline the submission and approval process for public lighting plans, ensuring that designers submit comprehensive and standardized plans.
- **Protect the Environment:** Minimise spill light in environmentally sensitive areas and promote sustainability in the planning and implementation of lighting systems.

1. Public Lighting Components

Public lighting systems in road reserves are crucial for ensuring proper visibility and safety for road users and pedestrians. To achieve consistent illumination across urban roads, several key components are essential. The following basic components form the core of public lighting installations in Wyndham City Council:

- **Light Poles:** Structural elements that support the lanterns and other components of the lighting system.
- **Lanterns:** The lighting fixtures that house the light sources, ensuring even distribution of light.
- **Brackets:** Support arms that attach the lanterns to the light poles.
- **Electrical Infrastructure:** The necessary wiring, circuits, and control systems that power the lighting fixtures.

Designers must use **Powercor's standard components** for poles, lanterns, and brackets, as non-standard components are strictly prohibited. These components ensure uniformity and efficiency in the lighting infrastructure across Wyndham City. Detailed component specifications are provided in Figures 1 and 2 for reference.



Figure 1 Example of Public Lighting Pole in Residential Area

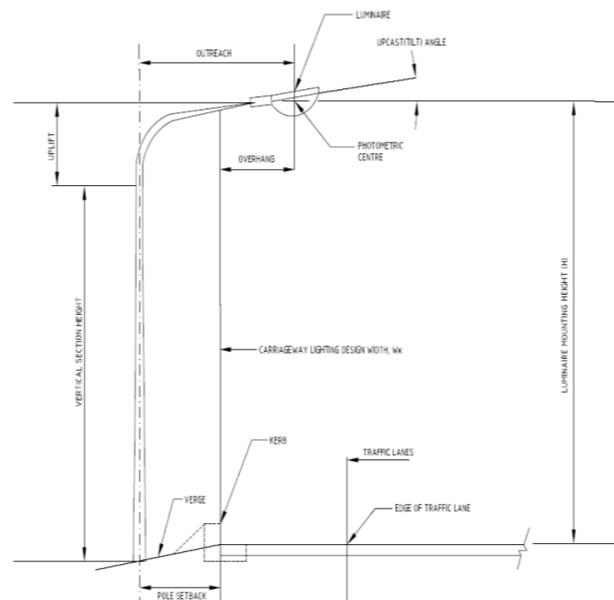


Figure 2 Typical Public Lighting Components

2. Road Reserve Lighting Level Specifications

Wyndham City Council has specific lighting requirements for various road types. The table below outlines the minimum Lux requirements for different road reserves:

Table 1 – Minimum Lux Requirements

Road Reserve Types	Lighting Category	Minimum Lux Requirements
Laneway	PR5	0.14 Lux
Local Access level 1	PR4	0.22 Lux
Paper Road	PR4	0.22 Lux
Local Access level 2	PR3	0.3 Lux
Local Town Centre	V5	3.5 Lux
Connector	V5	3.5 Lux
Signalised Intersection & Arterial Roads	V3	7.5 Lux
Industrial	V5	3.5 Lux

Note: - Wyndham City Council requires Powercor standard poles, lanterns, and brackets be used for public lighting installations. The use of non-standard components will not be accepted to ensure uniformity and compliance with council specifications.

Design Notes

Below design notes provide essential guidance for the planning and implementation of public lighting systems within road reserves for Greenfield Subdivision:

2.1 Provide Lux Diagram for Road Reserve Types:

Lux diagrams that correspond to various road reserve types must be included in the public lighting plan submission, as outlined in Table 1. These diagrams display the distribution of illuminance levels across the road reserve to ensure compliance with the specified lighting requirements.

2.2 Ensure Road Reserve Meets Appropriate Lighting Category:

Lighting installations should cover the entire road reserve, including extended crossovers, in order to meet the required lighting category for the area. This ensures uniform illumination and visibility for both road users and pedestrians.

2.3 Tree Placement Consistency with Functional Layout Plan:

Trees within the road reserve must be accurately shown on the Public lighting plan, in accordance with the approved Functional Layout Plans (FLP) and Detailed Engineering Drawings (SDW). Proper tree placement is essential to optimise lighting effectiveness and minimise potential obstructions. Tree placement should be consistent as per Landscape Plans.

2.4 Minimise Spill Light in Environmentally Sensitive Areas (Habitat):

When public lighting is situated near environmentally sensitive areas, steps should be taken to minimise spill light into these areas while still maintaining the required lighting levels within the road reserve. This reduces potential negative impacts on wildlife and ecosystems.

3. Placement of Streetlight Poles in Typical Urban Road Reserve Settings

This section outlines the recommended guidelines for the placement of public lighting poles within urban road reserves. It takes into account factors such as clearance from kerbs, pram crossings, lot frontages, and shared paths. By following these guidelines, designers can ensure that lighting infrastructure is positioned for maximum visibility and safety for all road users.

Table 2: Minimum Clearance Requirements

Location	Minimum Clearance
Back of Kerb to Face of the Pole	0.8m
Vehicle Crossover	1m
Pram Crossing/Footpath	0.5m
Shared path and Bicycle Path	0.5m (Longitudinal Direction)

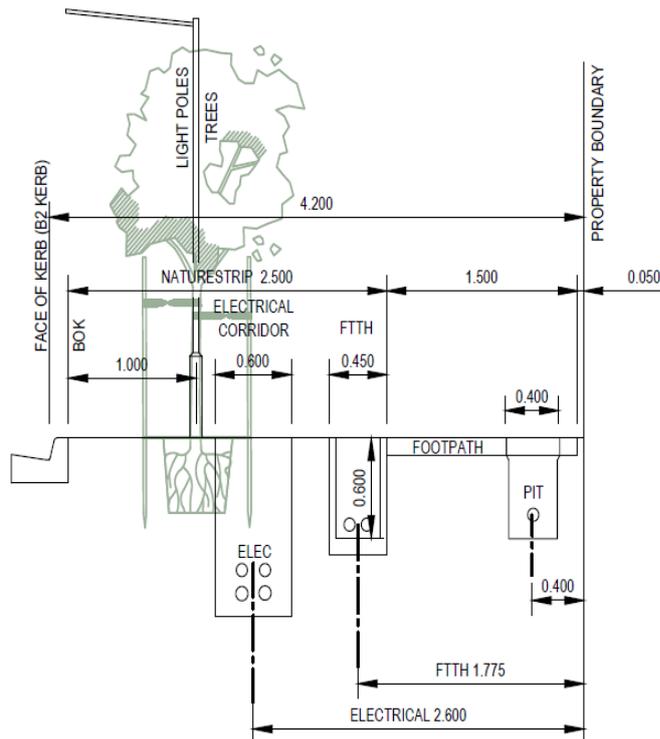


Figure 3 Typical Minimum Clearance

4. Public Lighting on Paper Road

This section outlines the considerations for public lighting installations on paper roads, highlighting the importance of accommodating other services and utilities when determining the final location of lighting poles. The guidelines present detailed recommendations to support the planning and installation of lighting solutions in these unique road reserve types. The following considerations and requirements should be followed when providing public lighting on paper roads, where conventional pole placement may be challenging due to existing services or other constraints:

4.1 Public Lighting should be provided in all Paper Road (R1):

- Public lighting poles shall be installed on all Paper Roads, identify the location of the poles and their offsets from existing services within the road reserve, as outlined in **Figure 4**.

4.2 Easement Requirements or Road Reserve (R1):

- Where the paper road is less than 4 metres wide, Option 4.2 is preferred due to reduced available road reserve width and associated design limitations.

Lighting poles are to be positioned within park reserves, Powercor requires the establishment of an easement measuring 1m x 1m to provide access for maintenance and servicing of utility infrastructure. However, consultation with the Landscape Subdivision Team at Wyndham City Council must take place prior to the establishment of the easement.

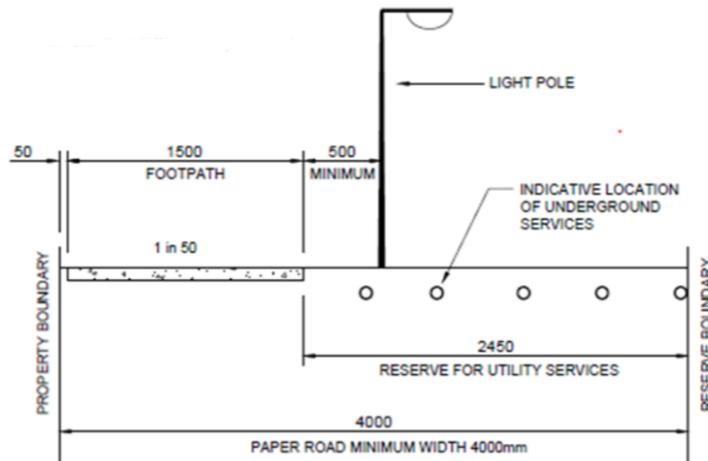


Figure 4 Typical Cross Section of Paper Road

5. Public Lighting on Laneway

A 0.14 Lux Diagram is required for all laneways to ensure proper lighting levels for safety and visibility. Lighting poles should be strategically placed to optimise illumination while minimizing obstructions.

The preferred location is within designated cut-out areas, particularly near garages, to enhance light distribution and reduce interference with driveways. Placing poles in nature strip cut-outs helps integrate with infrastructure, maintain a cohesive streetscape, and allow for easy maintenance while accommodating other utilities. These guidelines ensure effective public lighting that improves safety, accessibility, and urban aesthetics.

6. Typical Cross Section Under the Pavements

Provide a typical cross-section under the Pavement illustrating the placement of various services beneath pavements, with specific attention to the presence of high voltage cables. Designers are encouraged to adhere to these standards to ensure safe and efficient installation practices, particularly in areas with complex underground infrastructure.

Note: - The trench width must be less than 1.2m. The conduits can be stacked if needed.



Figure 5 Location of Marker Tape Under the Pavement

7. Council Requirements for Public Lighting Plan Submission

The Wyndham City Council has established specific requirements for the submission of public lighting plans to ensure the effective implementation of lighting infrastructure within subdivisions. These requirements are designed to uphold safety standards, ensure compliance with approved layout plans, and facilitate efficient communication between stakeholders.

Key Requirements for Public Lighting Plan Submission:

1. All Public lighting Plan submissions must be directed to subdiveng@wyndham.vic.gov.au. Submissions must be in PDF format.
2. Public lighting plans must align with the Approved Functional Layout (FLP) plans and provide adequate lighting coverage for the entire stage of subdivision.
3. The lighting plan must accurately depict all trees consistent with the Functional Layout Plan and Landscaping Plan, maintaining alignment with broader landscaping and environmental considerations.
4. The lighting plan submitted must include a layout plan detailing public lighting specifications, with a minimum lighting level of lux for the entire subdivision stage. Relevant isolux diagrams should also be provided to demonstrate lighting distribution.
5. Spacing tables relevant to the proposed lighting design must be included in the submission, providing essential information on the placement and spacing of lighting fixtures.
6. Prior to Detailed Engineering Plan approval, Public Lighting Plan must be accepted.



8. Reference

- Australian Standard AS1158: Lighting for Roads and Public Spaces (2020)
- Engineering Design and Construction Manual (EDCM) for Subdivision in Growth Areas (2019)
- Wyndham City Council – Engineering Subdivision Check Sheets & Process