

THE DISTRICT OF HOPE

**SUBDIVISION AND DEVELOPMENT SERVICING
DESIGN CRITERIA MANUAL**

SECTION L – STREET LIGHTING

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SECTION L – STREET LIGHTING

L1 GENERAL

Street lighting systems shall be designed by a Professional *Engineer* with street lighting design experience. A copy of the lighting calculations shall be submitted to the *Municipality*. The drawing is to note the types of refractors to be used.

Street lighting design shall comply with ANSI/IES RP-8, 1983 ROADWAY LIGHTING, and these standards.

L2 ILLUMINANCE AND CONFIGURATION

Street lighting shall be designed as per Table L-2-1

**STREET LIGHTING DESIGN CRITERIA
TABLE L-2-1**

Road Class	Land Use	Average Horiz Illumce lux	Uniformity		Average Veiling Illumce cd/m2	Configuration	
			Max Av:Min Ratio	Max Max:Min Ratio		Mounting Height m	Location
Arterial	Commercial	22	3 : 1	6 : 1	0.28	9	Staggered
	Residential	10	3 : 1	6 : 1	0.24	6	Staggered
	Industrial	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Rural [1]	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Institutional[2]	20	3 : 1	6 : 1	0.24	9	Staggered
Collector	Commercial	13	3 : 1	6 : 1	0.20	6	Staggered
	Residential	6.5	3 : 1	6 : 1	0.18	6	One Side
	Industrial	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Rural [1]	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Institutional[2]	13	3 : 1	6 : 1	0.18	6	Staggered
Local	Residential	4	6 : 1	12 : 1	0.16	6	One Side
	Industrial	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Rural [1]	n/a	n/a	n/a	n/a	n/a	Hydro Pole
	Institutional[2]	10	3 : 1	6 : 1	0.18	6	One Side

[1] At intersections, bus stops, cross walks or other public facilities lighting shall be as directed by the *Approving Officer*. Should a *Developer* wish to install street lighting in rural *developments*, luminaries and poles shall meet *Municipal* standards.

[2] Public facilities (e.g. schools, recreational facilities, libraries, etc.)

SECTION L – STREET LIGHTING

L3 STREET LIGHT POLE LOCATIONS

Street lights shall be provided for *walkways* and *lanes* as and when directed by the *Approving Officer*. Poles shall be located within 1.0 m of property corners, and shall not conflict with proposed driveway and/or underground services. Refer to Standard Drawings for the appropriate cross-section.

L4 UNDERGROUND DUCTS

Underground wiring for street lighting shall be designed in accordance with BC Hydro Specifications and shall conform to the rules and regulations of the Canadian Electrical Code (Part 1) and all bulletins as issued by the BC Electrical Branch, the Provincial Electrical Inspection amendments and any municipal codes or bylaws and other authorities having jurisdiction.

The standard off-set for the location of the underground street lighting ducts in road rights-of-way shall conform to the applicable Standard Drawing for the road.

The minimum depth for the underground ducts shall be 0.6 m in boulevards and 0.9 m below the finished grade of the *roadway*.

It is the electrical *engineer's* responsibility to ensure that the supply service to the street lighting system receives approval from BC Hydro.

L5 CLEARANCES TO HYDRO LINES

The requirements of BC Hydro, Canadian Electrical Code, BC Electrical Inspectors Branch, and the Worker's Compensation Board shall be followed with respect to clearances between street light poles, luminaries, high voltage and other conductors.

L6 CIRCUIT DESIGN

Lighting design shall follow recommended practices provided in "Guide for the Design of Roadway Lighting" published by the Transport Association of Canada. The maximum number of luminaries on any circuit shall be 25. Where a new system can be expanded in the future, the design shall account for this in sizing wire and circuit accordingly.

Where an existing system is to be extended, the electrical *engineer* shall ensure that existing service entrance, circuits and power draw on the existing system meets minimum standards and regulations of the Canadian Electrical Code.

Each circuit to be controlled by a single photo cell. A manual switch to override the photo cell is to be provided in each circuit for the purpose of daytime maintenance checks.

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L7 TRANSITION LIGHTING

Lighting level at all major intersections shall be increased by 25% over that of the higher of the approach *roads*. On *roadways* connecting residential areas to commercial areas, the spacing of luminaries shall change gradually to suit the change in levels of illumination. In the case where luminary output or type changes, the spacing in the transition zone may not have to change significantly. In any case, the spacing changes in the transition area shall not be abrupt or irregular.

L8 LUMINARY SPACING

The design drawings shall show:

- (1) distribution type;
- (2) maximum spacing of luminaries;
- (3) minimum average lux achieved for the luminary selected;
- (4) luminary manufacturer, type and model number; and
- (5) the uniformity ratio.

L9 LUMINARES AND POLES

Luminary type shall be metal halide or high pressure sodium. Type of luminary is to be confirmed with *Approving Officer* prior to start of design.

All street lights shall have Cobra type luminaires mounted on davit poles.

Post top luminaires may be permitted in *lanes* or *walkways*.

Luminaires and poles for special development areas or streetscape themes shall conform to the type and style approved by the *Approving Officer*.

Where special street lights are permitted by the *Approving Officer*, the *Developer* shall supply to the *Municipality* one additional spare luminaire and pole for every ten such units installed.

Street lights shall have polycarbonate lenses.

The make and model of the luminaire upon which the illumination levels were calculated shall be specified on the drawings.