

8.9. LIGHTING

- A. **Purpose and Intent.** The purpose of this Section is to regulate the intensity of exterior lighting and establish standards to minimize the adverse impacts of excessive light intensity. The intent of these standards is to:
1. Prevent light from non-residential and multifamily developments from excessively illuminating other properties and street rights-of-way;
 2. Permit exterior lighting at the minimum levels necessary for public safety;
 3. Provide for safety of motor vehicles and pedestrians; and
 4. Prevent light pollution into the night sky.
- B. **Applicability.** The standards of this Section shall apply for non-residential, multifamily and industrial buildings/developments, including off-street parking facilities and loading/unloading areas.
- C. **Exemptions.** The following are exempted from the standards of this Section:
1. Lighting exempt under state or federal law;
 2. FAA required lighting for telecommunication devices or buildings;
 3. Temporary lighting used by emergency services;
 4. Security lighting, which is controlled by activity centers, so long the duration is fifteen (15) minutes or less;
 5. Lighting used underwater for swimming pools, fountains or spas; and
 6. Temporary residential lighting used in decoration.
- D. **Height.**
1. Light fixtures shall be a maximum thirty (30) feet for the lighting of vehicle use areas (such as parking lots and streets).
 2. Light fixtures shall be twelve (12) to fifteen (15) feet in height for pedestrian oriented areas such as sidewalks, pathways, plazas, and public gathering places. Figure 8.9.1: Light Fixture Height, below, illustrates the maximum allowed height of lighting within a vehicle use area as compared to the maximum allowed height of lighting in pedestrian-oriented areas.

Figure 8.9.1. Light Fixture Height



- E. **Lighting Location.** Lighting fixtures shall be located within landscaped areas when practical, may not impede pedestrian flows, and be placed to ensure a consistent patterns of light.
1. **Parking Area Lighting Location.** The height of light fixtures within a parking area shall be arranged so that the tallest fixtures are in the center of the parking area, and the lowest heights are at the perimeter of the parking area.
 2. Light fixtures height shall not exceed thirty (30) feet within the center of a parking area and shall decrease height to twelve (12) to fifteen (15) feet at the boundary of the parking area.
 3. To avoid conflict in layout, parking lot lighting must be coordinated with the parking lot's landscaping. Lighting design shall be coordinated with the landscape plan to ensure that vegetation growth will not substantially impair the intended illumination. Figure 8.9.2: Parking Area Lighting, illustrates a typical arrangement of parking area lighting with the tallest light fixtures decreasing toward the edge of property.

Figure 8.9.2. Parking Area Lighting



F. **Lighting Intensity Standards.** Figure 8.9.3: Specific Lighting Standards, defines specific standards for lighting intensity based upon the land use involved. Values are presented in allowable foot-candles (fc) maintained (measured horizontally) at grade and are to be averaged throughout the site to avoid hot spots and ensure minimum values at the edge of the development area.

Figure 8.9.3. Specific Lighting Standards

Use	Minimum	Maximum
Pedestrian Areas/Sidewalks	0.2 fc	1.0 fc
Building Entries	1.0 fc	10.0 fc
Street Lighting	0.2 fc	1.0 fc
Open Parking Areas	0.2 to 0.9 fc	3.6 fc
Playgrounds	NA	5.0 fc
Site Perimeter	NA	0.5 fc

G. Lighting Standards for Unique Uses.

1. **Sports Fields.** Lighting for sports fields and outdoor courts is generally in excess of general outdoor lighting levels. Recreation lighting levels established by Illuminating Engineering Society of North America (IESNA) are to be used as the standard. Higher lighting levels for tournament or high league play are sometimes required and must be approved by the Planning and Development Director or designee. All sports fields or tennis/basketball courts must meet the following minimum standards:
 - a. Fixtures must be fitted with manufacturer's glare control package.
 - b. Lighting shall be extinguished no later than one hour after the event ends.
 - c. Fixtures must be designed with a sharp cutoff and aimed so that their beams fall within the primary playing area and the immediate surroundings, so that off-site direct illumination is significantly restricted.
 - d. Sports fields may have lighting fixtures a maximum eighty (80) feet in height.
2. **Convenience Store with Fuel Pumps.** For convenience stores with fuel pumps (i.e. gas station), all light fixtures mounted on the lower surface of canopies must be fully shielded in and of themselves (canopy edges do not qualify as shielding). Light fixtures mounted on canopies may be recessed so that lens cover is recessed or flush with the bottom surface (ceiling) of the canopy or shielded by the fixture or the edge of the canopy so that light is restrained to seventy degrees (70°) or less from vertical.
 - a. The light source shall be metal halide, low pressure sodium or high-pressure sodium (maximum of 150 watts).
 - b. Lighting levels shall be no greater than twenty lumens (20.0 fc) under the canopy.
 - c. Areas outside service station pump island canopy shall be illuminated so that the maximum horizontal luminance at grade level is no more than ten lumens (10.0 fc).