Proposed Land Development Code Changes – Sec. 30-6.12

Note – Proposed text deletions are shown in red text with strike through, additions are shown in <u>blue text with underline</u>. All other text is proposed to remain unchanged.

Sec. 30-6.12. Outdoor lighting.

- A. *Purpose.* To provide regulations for outdoor lighting that will:
 - 1. Protect and promote the public health, safety, and welfare;
 - 2. Promote safety and security in vehicular use and pedestrian use areas;
 - 3. Protect adjacent properties, the environment and wildlife and the night sky from adverse lighting impacts such as light pollution, light trespass, glare, excessive lighting, and offensive light sources;
 - 4. Promote energy and resource efficient lighting;
 - 5. Encourage the use of crime prevention through environmental design (CPTED) fundamentals in the design of lighting installations; and
 - 6. Promote the safety and security of pedestrians and motorists, especially at intersections, street crossings, and mid-block crossings.
- B. *Applicability*. All outdoor lighting uses within the city, including but not limited to multifamily residential, nonresidential, public and private recreational and institutional uses, architectural, and landscape lighting.
- C. Exemptions.
 - 1. Properties with a single-family or two-family dwelling.
 - 2. Lighting for public rights-of-way, public streets, and approved private streets that are specifically regulated by separate ordinances or other state or federal regulations.
 - 3. Lighting necessary for emergency equipment and work conducted in the interests of law enforcement, fire rescue, storm debris clean-up or other similar public safety efforts.
 - 4. Lighting for construction, renovation, or repair of roads and utilities.
 - 5. Temporary general construction lighting, which shall be regulated in accordance with building construction standards and shall be valid during the active period of a building permit.
 - 6. Sign lighting as regulated in this Land Development Code.
 - 7. Lighting required by federal or state laws or regulations.
 - 8. Luminaires with fully shielded light sources, provided the total output of the fixture does not exceed 1,800 lumens.
 - 9. Luminaires with diffuse lensing, provided the total output of the fixture does not exceed 900 lumens.
 - 10. Point source, or other types of unshielded fixtures, provided the total output of the fixture does not exceed 600 lumens.
 - 11. Low-voltage landscape lighting, provided the lighting is shielded in such a way as to eliminate glare and light trespass.
- D. General requirements.
 - 1. Luminaire design and operation.
 - a. Fixture placement, distribution, wattage, orientation, and mounting height shall maximize the efficient and effective use of light output, and minimize light trespass, light pollution and glare, including the projection of light skyward or beyond the primary object being illuminated. Fixtures

using directional optics and located adjacent to property boundaries shall be oriented in such a way as to minimize glare onto adjacent properties.

- b. Lighting of horizontal surfaces shall be fully shielded full-cutoff fixtures and shall be aimed downwards.
- c. Lighting of non-horizontal surfaces shall be designed, installed and aimed so as not to project light output beyond the object being illuminated, skyward, onto a public roadway, or onto adjacent uses.
- d. Luminaires shall consist of the most energy efficient light sources.
- e. The maximum mounting height of area lighting shall not exceed 30 feet when located within 75 feet of a single-family use or single-family zoning district.
- f. Sites shall not exceed an average vertical illuminance of 0.5 footcandles at a height of five feet above the mounting height of the highest luminaire. This requirement shall be provided at a parallel horizontal over the area where surface level data are provided.
- g. Controls shall be provided that automatically extinguish all outdoor lighting when sufficient daylight is available. Automatic lighting controls are not required for the interior of parking structures.
- h. A property owner/representative may and is encouraged to reduce any required level of lighting output by up to 50 percent of the otherwise required value after the site closes or is no longer in use for the night. Uniformity ratios shall meet the otherwise required values.
- The placement of light poles in landscape islands is discouraged. Separate islands should be created for the placement of light poles. Poles may be placed within the perimeter and interior landscape strips in locations that avoid conflicts with existing and required trees. Notwithstanding the above, where special designs, tree separation, pole arm extensions and reduced pole heights are feasible, a pole may be placed within a landscape island after review and approval by the appropriate reviewing body.
- j. Except in emergencies by police, fire, utilities, medical personnel, aircraft warning lights or for meteorological data gathering purposes, the use of exposed light sources, search lights, flood lights, lasers, lighting or lights that pulse, flash, rotate or simulate motion is prohibited. No exceptions or variances shall be permitted.
- 2. Light trespass standards.
 - a. Unless otherwise provided in this section, lighting shall have illuminances, uniformities and glare control in accordance with the published standards of the Illuminating Engineering Society of North America (IESNA).
 - b. Light trespass measured line-of-site at the property line of the receiving property shall not exceed the following levels:
 - i. 1.0 footcandles for non-residential and multi-family sites.
 - ii. 0.5 footcandles for residential sites.
 - iii. 0.4 footcandles for nature parks.
 - iv. 5.0 footcandles for public and private streets.
 - Alleys. This standard shall be decreased to 2.0 footcandles where an alley of 20 feet or less separates a receiving property that has a single-family use or zoning.
 - Automobile dealers. This standard shall be increased to 10 footcandles for public streets abutting automobile dealers along Main Street north of NW 16th

Avenue and along NW 39th Avenue between NE 2nd Street and NE 10th Street, provided that portion of the receiving public street is at least 500 feet from any property with single-family use or zoning. Light trespass at private streets shall meet the above requirements.

- E. *Specific illumination requirements.* In addition to the general requirements applicable to all outdoor lighting uses, the following requirements for specific outdoor lighting uses or areas shall apply. If provisions in this subsection conflict with any of the general requirements, the provisions in this subsection shall prevail.
 - 1. *Recreational lighting.* Lighting for outdoor recreational uses (including mounting heights above 30 feet, where appropriate) may be designed in accordance with the published standards of the Illuminating Engineering Society of North America (IESNA).
 - 2. *Nature parks.* Buildings shall not be externally illuminated on any vertical faces fronting a nature park.
 - 3. *Building entrances, exteriors and site security.* Lighting shall be provided for the general security of areas, including building entrances, stairways, ramps, main walkways, dumpsters, other site accessory structures, pedestrian entrance/exit points, and vehicular use areas.
 - a. Lighting levels at building entrances/exits and around buildings shall not exceed an average horizontal illuminance of 5.0 footcandles at ground level, a uniformity ratio of 6:1 and a maximum uniformity ratio of 10:1.
 - b. Lighting levels on pedestrian walkways and at pedestrian entrances/exits of vehicular use areas of multi-family developments shall maintain a minimum horizontal illuminance of 1.0 footcandles at ground level.
 - c. Pedestrian walkways greater than 30 feet from the edge of a building or vehicular use area shall maintain a minimum horizontal illuminance of 0.2 footcandles at ground level.
 - d. There shall be a minimum horizontal illuminance of 1.0 footcandles at ground level within five feet of dumpsters, site accessory structures and areas that are of the type known to be prone to illicit behavior or victimization.
 - e. Unimproved areas of a site may be so defined and excluded from the lighting plan.
 - 4. Pedestrian areas.
 - a. Lighting levels in transect zones U1 to U3 and any residential development must maintain an average horizontal illuminance of 1.8 footcandles at ground level, a uniformity ratio of 6:1, and a maximum uniformity ratio of 10:1.
 - b. Lighting levels in transect zones U4 to U7 and any mixed-use development must maintain an average horizontal illuminance of 2.4 footcandles at ground level, a uniformity ratio of 4:1, and a maximum uniformity ratio of 10:1.
 - c. Lighting levels in transect zones U8 to DT and any commercial development must maintain an average horizontal illuminance of 2.5 footcandles at ground level, a uniformity ratio of 4:1, and a maximum uniformity ratio of 10:1.
 - a. Lighting levels for pedestrian areas in transect zones U1 to U3 and any residential development must maintain an average horizontal illuminance of 1.0 footcandles at ground level, and an average uniformity ratio of 6:1 or less.
 - b. Lighting levels for pedestrian areas in transect zones U4 to DT, and any mixed-use or commercial development must maintain an average horizontal illuminance of 2.0 footcandles at ground level, an average uniformity ratio of 4:1 or less, and a maximum uniformity ratio of 10:1 or less.
 - 5. Alley lighting.

- Alley lighting in residential developments must maintain an average horizontal illuminance of 1.2
 <u>1.0</u> footcandles at ground level, and a <u>an average</u> uniformity ratio of 6:1- <u>or less</u>.
- b. Alley lighting in mixed-use <u>and commercial</u> developments must maintain an average horizontal illuminance of <u>1.8</u> <u>2.0</u> footcandles at ground level and <u>a an average</u> uniformity ratio of 6:1 <u>or less</u>, <u>and a maximum uniformity ratio of 10:1 or less</u>.
- c. Alley lighting in commercial developments must maintain an average horizontal illuminance of 2.4 footcandles at ground level, and a uniformity ratio of 6:1.
- 6. Roadways.
 - a. Lighting levels for roadways in transect zones U1 to U3 and any residential development must maintain an average horizontal illuminance of 0.4 footcandles at ground level, and an average uniformity ratio of 6:1 or less.
 - b. Lighting levels for roadways in transect zones U4 to DT, and any mixed-use or commercial development must maintain an average horizontal illuminance of 1.2 footcandles at ground level, and an average uniformity ratio of 3:1 or less.
- **67**. Vehicular use areas.
 - a. Lighting shall be uniform throughout the parking lot, with no dark patches or pockets, for safety and identification of features.
 - b. Lighting shall maintain a minimum horizontal illuminance of 0.5 footcandles at ground level and shall not exceed an average horizontal illuminance of 2.5 footcandles, a uniformity ratio of 5:1, and a maximum uniformity ratio of 15:1. An applicant may elect to use the building entrance and outdoor lighting standards on portions of vehicular use areas within 30 feet of a building.
- **78**. Parking structures.
 - a. Applicability. These standards for parking structures shall apply to any multilevel parking structure and any floor of a building, including but not limited to the first floor and/or basement level, used for parking or storage of vehicles. However, when either the top floor of a building used for parking or storage of vehicles or the top floor of a multilevel parking structure is uncovered and open to the sky, said floor shall be regulated in accordance with the standards for parking areas are restricted in depth to one vehicle length, lighting shall be provided in accordance with the building entrances, exteriors and site security provisions above.
 - b. Luminaires shall be full-cutoff, semi-cutoff and/or refractor high intensity discharge (HID) or LED fixtures. The exact type, configuration and placement of luminaires shall be designed to prevent glare, cavern effect and to facilitate vertical illumination of the floor so that drivers are able to discern objects within the facility. Luminaires used in driving lanes shall not emit greater than 50 percent of the light output above an angle of 38 degrees on driver approach and 75 degrees on driver retreat.
 - c. Lighting intensities for all floors, ramps, entrance/exit areas, and stairways shall be as listed in Table 1.

Figure 1—Transverse Lighting Coverage.

Transverse Coverage and Cutoff based on 8-foot Mounting Height



Table 1:

	Min. Horizontal Illuminance (footcandles)	Max. Uniformity Ratio	Min. Vertical Illuminance [*] (footcandles)
Basic per floor	1	10:1	0.5
Ramps Day	2	10:1	1
Ramps Night	1	10:1	0.5
Entrance Areas Day	50	-	25
Entrance Areas Night	1	10:1	0.5
Stairways	10	-	1
* Measured facing the drive aisle at five feet above the parking surface at the point of the lowest horizontal illuminance.			

8<u>9</u>. Vehicular use areas canopy lighting.

- Luminaires mounted on or under canopies shall be full-cutoff fixtures or recessed so that the lens cover is flush with the bottom surface (ceiling) of the canopy, as demonstrated in Figure 2. Lighting may also be shielded by fixtures or the edge of the canopy so that light is restrained to 85° or less from vertical as shown in Figure 2. Luminaires shall not result in glare and shall meet light trespass standards applicable to adjacent properties.
- b. Lighting within six feet of the canopy shall maintain a minimum horizontal illuminance of 2.0 footcandles at ground level and shall not exceed an average horizontal illuminance of 10 footcandles, a uniformity ratio of 5:1, and a maximum uniformity ratio of 10:1.
- c. Indirect lighting where light is aimed upward at the underside of the canopy and reflected back down from the underside of the canopy may be used when luminaires are shielded so that all direct illumination is focused exclusively on the underside of the canopy and when the average vertical illuminance does not exceed 0.5 footcandles at five feet above the canopy level.
- d. Luminaires shall not be mounted on the top or sides (fascias) of the canopy when not part of a permitted sign. The sides (fascias) of the canopy shall not be illuminated in a manner other than that prescribed under the sign code.

Figure 2—Canopy Lighting







- <u>910</u>. Gasoline and other fuel dispensing uses.
 - a. In addition to the requirements listed above for vehicular use area canopy lighting, lighting shall not exceed an average horizontal illuminance of 20 footcandles at ground level under the canopy and within an area of six feet from the edge of the canopy. Lighting shall not exceed a uniformity ratio of 5:1 and a maximum uniformity ratio of 10:1.
- 1011. Vehicle and automobile dealerships along Main Street north of NW 16thAvenue and along NW 39thAvenue between NE 2ndStreet and NE 10thStreet; when more than 500 feet from residential.
 - a. Lighting shall not exceed an average horizontal illuminance of 50 footcandles at ground level.
- F. Lighting plan submission and review. Lighting plans demonstrating compliance with the requirements of this section must be submitted to the applicable reviewing authority for review and approval for development plan review, a building permit, or special use permit applications. Lighting plans must be certified by signature and seal of a registered architect, engineer, or lighting professional holding a current lighting

certification (LC) from the National Council on Qualifications for the Lighting Profession (NCQLP) as providing illumination in accordance with the applicable standards of this section and must include the following information:

- 1. A layout of all existing and proposed luminaires with location, designation, mounting height and orientation.
- 2. A schedule of all fixtures that includes the following information:
 - a. Fixture designation.
 - b. Fixture distribution information for area lighting fixtures, such as IESNA Type III, Type IV, or Type V.
 - c. Mounting height.
 - d. Light source type and wattage.
- 3. An illustration showing lighting levels (illuminance in footcandles) for each source of light. Separate calculations shall be performed for each area of the site, such as parking lots, building entry areas, and light trespass on receiving property boundaries. The boundary of each area shall be clearly indicated and the area shall be labeled. The calculations shall be performed on a grid at a maximum of every ten feet.
- 4. A table of photometric calculations indicating, at a minimum, the following values for each area:
 - a. Average, maximum and minimum illuminance.
 - b. Average and maximum uniformity ratios.
 - c. The ordinance section applicable to the area.
- 5. Landscaping information demonstrating that the site lighting and existing and proposed landscaping have been coordinated to minimize conflict between vegetation and intended light distribution, both initially and at vegetation maturity.
- 6. Topographic variations on site and any significant change in grade or elevation of the surrounding sites.
- 7. A brief written narrative describing the proposed luminaires, mounting heights, control devices and schemes, applicable calculation zones, and a summary of the adjacent properties. This may be provided as notations on the lighting plan or in a separate attachment on the preparer's letterhead.
- 8. Manufacturer specification sheets, cut-sheets or other manufacturer-provided information for all existing and proposed luminaires. Photometric reports generated from manufacturer-provided IES data, where available. <u>All components of lighting systems (including fixtures, brackets, poles, conduits, wiring and connectors) installed within public rights-of-way shall conform to the materials and installation standards of the City's utilities department (Gainesville Regional Utilities).</u>
- 9. For parking structures, the lighting plan shall include the following additional information:
 - a. Minimum horizontal and vertical lighting intensities for each floor, floor ramps, entrance areas and stairways. Data may be requested for certain daylight periods.
 - b. Uniformity ratios and maximum uniformity ratios for each floor, floor ramps, entrance areas and stairways. Data may be requested for certain daylight periods.
 - c. The cutoff angles on driver approach and retreat.
- G. *Variances.* During approval of a development plan or building permit, the appropriate reviewing authority may approve a variance for one or more of the requirements of this section. The appropriate reviewing authority may approve a variance only when the applicant demonstrates, in addition to meeting all of the review criteria for a variance in article III, that the applicant is using an alternate methodology, technique, or approach that is consistent with IESNA standards and that meets the intent and purpose of the lighting

ordinance. At the expense of the applicant, the appropriate reviewing authority may request an independent review by a registered architect, engineer, or lighting professional holding a current lighting certification (LC) from the National Council on Qualifications for the Lighting Profession (NCQLP).

- H. Nonconforming luminaires and lighting.
 - 1. A legally nonconforming luminaire or lighting installation shall be made to conform with the requirements of this section when any of the following situations applies:
 - a. Minor corrective action, such as re-aiming or shielding, can achieve conformity with the applicable requirements of this section;
 - b. Fifty percent or more of the existing luminaires on a property are replaced;
 - c. The number of existing luminaires on a property is increased by 50 percent or more;
 - d. The city manager or designee deems the nonconforming luminaire or lighting installation a safety hazard; or
 - e. A development is expanded or remodeled at a cost that exceeds 50 percent of the assessed value of the site or structures as determined by the Alachua County Property Appraiser. Assessed valuation shall be determined by reference to the official property tax assessment rolls of the year of the expansion and/or remodel.
 - 2. A development that becomes nonconforming with this section due to a change in operational hours from daytime only to include nighttime operation shall be required to comply with these regulations within 90 calendar days of the effective date of the change.
 - 3. To prevent safety hazards, nonconforming luminaires and temporary luminaires that direct light towards streets or parking lots and that cause disability glare shall be either shielded or re-directed within 90 calendar days of notification by the city.

(Ord. No. 200722, § 12, 4-21-22; Ord. No. 2022-566, § 2, 1-5-23)