



**LAND DEVELOPMENT CODE AMENDMENT**

**PETITION**

PL20180002632

**ORIGIN**

Growth Management Department (GMD)

**HEARING DATES**

BCC           TBD  
 CCPC         03/07/2019  
                   02/07/2019  
 DSAC         02/06/2019  
 DSAC-LDR   12/18/2018  
                   10/16/2018

**SUMMARY OF AMENDMENT**

This amendment establishes standards for new outdoor lighting associated with single-family dwelling units, two-family dwelling units, and duplexes. These standards are intended to prevent high-intensity outdoor lighting from negatively impacting neighboring residential properties.

**LDC SECTION TO BE AMENDED**

4.02.08   Outside Lighting Requirements

**ADVISORY BOARD RECOMMENDATIONS**

**DSAC-LDR**  
Approval

**DSAC**  
Denial

**CCPC**  
TBD

**BACKGROUND**

Currently, there are no limitations with respect to outdoor lighting on residential properties with single-family dwellings, two-family dwellings, or duplexes. However, the variety and intensity of lighting fixtures available to homeowners at retail outlets presents an opportunity for outdoor lighting to negatively impact surrounding residential properties. As a result, the GMD has been unable to resolve complaints received by the Code Enforcement Division regarding residential outdoor lighting shining toward neighboring homes, which are typically received up to several times a year.

At the March 13, 2018, Board of County Commissioners (Board) meeting, a member of the public requested an ordinance to address significant nuisance lighting on single-family properties (See Item 7). At the June 21, 2018, Budget Workshop, one Commissioner noted an awareness of lighting problems on residential properties, suggesting a need for County Staff to address the issue. As a remedy, this amendment **creates a performance standard for illumination at the property line**. The amendment does not apply to lighting on multi-family residential development (three or more units).

The brightness and energy usage measurements correspond with the types of floodlights or other outdoor lights which have the potential to impact neighbors (See Figures 1 and 2) and can be applied to both traditional incandescent lights and LEDs. Outdoor lighting standards for single-family residences vary throughout the state (See Exhibit A), and various foot candle standards exist throughout Collier County's LDC (See Exhibit B). Additionally, other lighting requirements for single-family and multi-family development is provided for informational purposes in Exhibit C.

A building permit is not required to install most lighting fixtures. Therefore, this standard will primarily be implemented through the code enforcement process when a complaint is issued. If a code violation is

reported, homeowners could remedy a potential violation by repositioning the lights, using shielding, or installing new lighting fixtures that comply with the proposed standard.

**Figure 1. Lumen levels for typical outdoor lights**

LED Outdoor Light	Recommended LED Lumens
Security Floodlights	700-1300
Shed Lights	150-300
Lamp Posts	120-180
Landscape Spotlights	120
Outdoor Path Lighting	100

Source: <https://gamasonic.com/how-many-lumens-do-you-need-for-outdoor-lighting/>

**Figure 2. Department of Energy comparison of lumens and traditional incandescent watts.**



Source: [https://www.energy.gov/sites/prod/files/lumens\\_placard-black.pdf](https://www.energy.gov/sites/prod/files/lumens_placard-black.pdf)

**FISCAL & OPERATIONAL IMPACTS**

This amendment could result in additional unexpected costs for homeowners to replace light bulbs with lower lumens or to replace fixtures. There are no anticipated fiscal impacts to the County associated with this amendment. The amendment will allow code enforcement to resolve some complaints regarding outdoor lighting.

**GMP CONSISTENCY**

In the limited areas where the Growth Management Plan (GMP) does address outdoor lighting, there is no specificity provided. Only the Conservation and Coastal Management Element (CCME) policies pertaining to wildlife protection, e.g. Policies 7.3.1 and 7.3.2 regarding sea turtles, may have applicability to the dwelling unit types addressed in this LDC amendment but, again, there is no specificity provided. Further, such lighting would have to comply with both this new LDC provision and the CCME policies.

**EXHIBITS:** A) Lighting Standards in Other Communities B) Foot Candle Limitations in Collier County C) Lighting Standards for Residential Development D) Advisory Board Recommendations

# DRAFT

Text underlined is new text to be added

~~Text strikethrough is current text to be deleted~~

## Amend the LDC as follows:

### 4.02.08 - Outside Lighting Requirements

A. Lights on golf courses shall be located and designed so that no light is aimed directly toward property designated residential, which is located within 200 feet of the source of the light.

B. Specific height requirements in zoning districts.

1. GC—Twenty-five (25) feet

2. C-1—Twenty-five (25) feet

3. CF—Twenty-five (25) feet

C. Lights on lots with single-family dwellings, two-family dwellings, or duplexes. Illumination shall not exceed 0.5 foot candles above ambient light levels at abutting residential property lines.

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## Exhibit A – Lighting Standards in Other Communities

Community	Standard	Citation
Lee County (Upper Captiva Planning Area)	“All outdoor lighting, including lighting on docks and bulkheads, must be designed, installed, located, and maintained to be hooded, shielded, and/or aimed downward.”	Art. XI Division 4 Sec. 33-1736
City of Sanibel	<p>“All exterior lighting shall be designed and installed to prevent glare and light trespass. Light shall not be allowed to cause glare affecting motorists, bicyclists, or other users of roads, driveways and bicycle paths. Light shall not trespass over property lines.”</p> <p><i>(More detailed standards follow this section)</i></p>	Art. XIV Div. 4 Sec. 12-997 (c)
City of Naples	<p>“(a) Permitted exterior lighting. Exterior lighting or light fixtures may be utilized at grade and at the 1st habitable floor of multifamily structures, provided that:</p> <p>(1) The lighting is confined to a front yard facing a public street, or to that portion of the facade facing a public street; and</p> <p>(2) The light source is directed only at the facade of the building.</p> <p>Lighting may also be utilized at grade to enhance landscape features. Exterior lighting shall be designed, arranged or shielded in such manner that all adjacent properties and the public roadways are protected from direct glare.</p> <p>(b) Prohibited lighting. The use of exterior lighting or light fixtures on any portion of the facade or roof of a multifamily structure above the 1st habitable floor shall not be permitted.</p> <p>(c) Exemptions. Warning lights, as required by state or federal agencies, and exterior lights used exclusively for and associated with outdoor walkways, stairs, hallways, pool areas, and living spaces such as balconies, terraces, screened porches, and similar spaces shall be exempt from the requirement as listed in subsection (b) of this section. Nonpermanent lighting, used exclusively during the holiday period from November 15 to January 15, is also excluded from this prohibition.</p> <p>(d) Nonconforming lighting. Nonconforming multifamily structures shall be brought into conformance with this section by April 30, 1998.”</p>	Chapter 56 Art. III Sec. 56-89
City of Bonita Springs	“All light fixtures shall have bulbs that are fully recessed within the fixture and may not emit light above horizontal plan (sic)”	Chapter 10 Art. III. Div. 3 Sec. 10-102 (d)(1)(a)

## Exhibit A – Lighting Standards in Other Communities

<p>Marco Island</p>	<p>“(a) Regulation of the intensity and glare of outdoor lighting shall be as follows:          (1) No lighting source shall cause more than 1.0 footcandle of illumination to fall on adjoining residential single-family (RSF) zoned property.”</p> <p><i>(Additional shielding standards follow this section)</i></p>	<p>Chapter 6          Art. V          Sec. 6-145</p>
<p>Volusia County</p>	<p>No person may install, construct, erect, maintain, or control any outdoor lighting or outdoor lighting fixture on a residential structure, or on its surrounding premises, which directly illuminates beyond the adjacent residential structure's property line, between sunset and sunrise. For the purposes of this section, adjacent property shall include all property within 360 degrees of the subject property, notwithstanding an intervening right-of-way. For the purposes of this section, property line shall be an invisible plane extending vertically at a 90-degree angle from ground level to a point above the height of the highest structure on either the subject property or the adjacent property.</p>	<p>Sec. 50-480</p>

## Exhibit B –Foot Candle Limitations in Collier County

Citation	Standard
LDC Section 6.06.03 B. – Streetlights	<p>“B. At the entry/exit of any residential or commercial development approved through a SDP, SDPA, or PPL located on a public collector or arterial street...</p> <p>“At the points where the edges of pavement of the entrance road meet the intersecting right-of-way line, the illumination level shall be at or between, a minimum of 2.0 foot candles and maximum of 5.0 foot candles...”</p>
LDC Section 5.05.05 D.4.a.v – Facilities with Fuel Pumps	“v. Illumination shall not exceed: a) 0.5 foot-candles at all residential property lines; and b) 0.2 foot-candles at ten (10) feet beyond all residential property lines”
Code of Laws Section 26-95 (2) – Security Requirements	“All convenience stores shall: ... (2) Maintain parking lots, illuminated at an intensity of two foot-candles per square foot...”
Top Hat Auto PUD (Ordinance 13-24)	“Illumination at all adjacent residential property lines shall not exceed .5 foot candles.”

# Exhibit C – Lighting Standards for Residential Development

## National Electrical Code- Article 210 Branch Circuits (Applicable to single- and multi-family development)

### 210.70 – Lighting Outlets Required

#### (A) Dwelling Units

(2) **Additional Locations.** Additional lighting outlets shall be installed in accordance with (A)(2)(a), (A)(2)(b) and (A)(2)(c).

(a) (not applicable)

(b) For dwelling units, attached garages, and detached garages with electrical power, at least one wall switch-controlled lighting outlet shall be installed to provide illumination on the exterior side of outdoor entrances or exits with grade level access. A vehicle door in a garage shall not be considered as an outdoor entrance or exit.

(c) Where one or more lighting outlet(s) are installed for interior stairways, there shall be a wall switch at each floor level, and landing level that includes an entryway, to control the lighting outlet(s) where the stairway between floor levels has six risers or more.

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## Collier County LDC

### 4.05.02 D. – Design Standards (Off-Street Parking and Loading) (Applicable to residential development with off-street parking)

Parking lots shall be so lighted, if lighted, as to shield **streets** and all **adjacent** properties from direct glare, excessive light, and hazardous interference with automotive and pedestrian traffic. For projects subject to architectural design standards, see LDC section 5.05.08 F. for related provisions.

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### 6.06.03 – Streetlights (Applicable to streetlights only)

- A. Streetlights shall be designed and installed utilizing the IES standards for each **street**, intersection at required intervals along each **street** and at the end of each **cul-de-sac**. The IES standards for this **street** lighting are per IESNA RP 8.00, except as below:
- B. At the entry/exit of any residential or commercial **development** approved through a SDP, SDPA, or PPL located on a public **collector** or **arterial street**, the following additional standards shall apply. For projects subject to architectural design standards, see LDC section 5.05.08 F. for related provisions.
  - 1. At the points where the edges of pavement of the entrance road meet the intersecting **right-of-way** line, the illumination level shall be at or between, a minimum of 2.0 foot candles and maximum of 5.0 foot candles. In cases when this Code may conflict with any other lighting codes, requirements, policies, or recommendations relating to the

## Exhibit C – Lighting Standards for Residential Development

spillover of light outside of project boundaries, public safety needs shall be evaluated by staff and shall take precedence in the required placement of fixtures.

1. A full cutoff fixture is required on both sides of each entry or exit outside of the intersecting public **right-of-way** except when located at a single-lane one-way driveway. In such case, one (1) fixture will be allowed but it shall meet minimum required foot-candle values. If the applicant can show the existing illumination levels from existing roadway lighting meet the required foot candles through a photometric lighting plan (calculated or by field measurement) certified by an engineer, licensed in the State of Florida, the county manager or designee may waive or modify the requirement for additional lighting at the point where the entry road intersects the public **right-of-way**.
- C. All sidewalks not directly lighted by street lighting that interconnect **developments** must be lighted to pedestrian level standards per IESNA RP-8-00.
- D. Wherever, in the opinion of the County Manager or designee, based on an engineer's determination, a dangerous condition is created by sharp curves, irregularities in **street** alignment, or other similar circumstances, additional lights may be required. Streetlights and mounting poles shall be wired for underground service. All conduits and casing to be placed under the roadway required for the lights must be installed during each construction phase prior to roadway subbase completion. Streetlights shall be designed and installed in either of 2 ways:
1. Where streetlights are to be installed on **private streets**, the developer, through an electrical engineer registered in the State of Florida, shall design and install the **street** lighting system subject to the approval of the County Manager or designee. Upon completion of the streetlights, they shall be owned, operated, and maintained by the property owners' association, a **condominium** association, cooperative association, or other similar entity, or the public utility furnishing the electric service.
  2. Where the streetlights are to be installed on **public streets**, the developer may elect to initiate a municipal services benefit or taxing unit in coordination with the County Manager or designee in order to provide **street** lighting. If the municipal services benefit or taxing unit is approved by the BCC, the County Manager or designee shall authorize the public utility to design, install, and maintain the **street** lighting system at no cost to the County's general fund. If no municipal services benefit or taxing unit is created for public **streets**, the provision of this section shall govern the design, construction, and maintenance of streetlights.



## Exhibit D – Advisory Board Recommendations

### DSAC-LDR Subcommittee Recommendation

The DSAC-LDR Subcommittee reviewed the amendment on October 16, and December 18, 2018, and recommended approval with no changes to the amendment.

### DSAC Recommendation

The DSAC reviewed the amendment on February 6, 2019, and recommended denial but indicated it was amenable to several changes to the amendment, including:

- Increasing the wattage of lighting to which the provision is applicable,
- Clarifying the ambiguity regarding the direction of lights, and
- Allowing timers and motion sensors to be used to comply with the new standards.

### CCPC Recommendation

The CCPC reviewed the amendment on February 7, 2019, and recommended modifying the standards to address higher lighting levels, provide foot-candle standards that will be easier to enforce. Additionally, the CCPC suggested requiring shielding and to consider the differences in ambient lighting in urban and rural settings when establishing maximum light levels.