



**Cochise County**  
**Community Development**  
**Planning, Zoning and Building Safety Division**

*Public Programs...Personal Service*  
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MEMORANDUM

**TO:** Cochise County Board of Supervisors  
**FROM:** Christine McLachlan, AICP, Planner II  
**FOR:** Daniel Coxworth, AICP, Development Services Director  
**SUBJECT:** Docket R-20-02 (Zoning Amendment, Light Pollution)  
**DATE:** April 23, 2020 for the May 5, 2020 meeting

**I. BACKGROUND AND PROPOSED CHANGES**

Docket R-20-02 is a proposed amendment to the Cochise County Zoning Regulations Article 16, Light Pollution and Article 23 Enforcement. As stated in Section 1601, the purpose of the Light Pollution Regulations is:

- To achieve effective and efficient lighting, while preserving the safety, security, and well-being of County residents and visitors.
- To protect and enhance the lawful nighttime use and enjoyment of all property through protection of and access to the dark night skies, and to encourage the conservation of energy and other resources.
- To specify and encourage lighting practices and systems that will minimize the adverse man-made light pollution effects of sky-glow, glare and light trespass.
- To ensure that all signs installed in the County are compatible with the County's largely rural character, are in compliance with the Comprehensive Plan, and to ensure that no sign shall be brighter than is necessary for clear and adequate visibility.

All outdoor electrical illuminating devices must be installed in conformance with these requirements. Overall, the modifications included within this docket are intended to simplify the light pollution regulations, which benefits residents, homebuilders as well as Cochise County Code Enforcement. The modifications are also intended to better support the purpose of this Article, specifically as it related to promoting efficient lighting that minimizes man-made light pollution.

On April 8, 2020, Staff presented draft regulations to the Planning and Zoning Commission during a public hearing. At that public hearing, the Planning and Zoning Commission voted unanimously (7-0) to forward Docket R-20-02, Zoning Amendment, Light Pollution, with a recommendation of approval to the Board of

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Supervisors. Staff now proposes amending Articles 16 and 23, as indicated by Exhibit A, to the Cochise County Zoning Regulations.

More specifically, the proposed changes are as follows:

### **1603 Definitions**

**Section 1603 Definition.** A definition is provided for the term “Light meter” and an amended definition is provided for “Foot-candle, average,” as follows:

**Foot-candle, average** - A unit of illumination produced on a surface, measured by a light meter at an average point of illumination between the brightest and darkest areas. The measurement can be made at the ground surface or at four to five feet above the ground. For the purpose of this Article, one foot-candle is equivalent to one lumen per square foot.

**Light meter** - a device used to measure the amount of light on a surface.

**Lumen** - A unit used to measure the total amount of light that is produced by a lamp. For the purpose of this code, one lumen is equivalent to one foot-candle per square foot.

#### *Rationale of Change:*

1. *The equivalency of lumens to foot-candles is dependent on the distance from light source to surface; consequently, the distance of one square foot has been added to the definitions of lumens and foot-candles.*
2. *Currently, the manner for measuring illumination is included in section 1605.01. By including the way light should be measured in the definition, it will apply equally to this entire Article of the Regulations.*

### **Section 1605.01 Light Trespass and Glare**

- A. All fixtures and lamps shall be located, installed, directed, shielded, and maintained to avoid light trespass and to minimize direct light and/or glare on neighboring properties and roadways. Accent lighting shall be directed onto the building or object and not toward the sky or onto adjacent properties.
- B. ~~For a receiving residential site, the~~ The level of light trespass shall not exceed ~~0.2-foot-candles~~ 0.2 lumens as measured with a lumen meter’s sensor perpendicular to the light source at a height of five feet above the ground and at the property line of a residential property. For a ~~receiving non-residential site~~ property, the level of light trespass shall not exceed 0.5-footcandles under the same parameters.

#### *Rationale of Change:*

1. *Currently, the term “lumens” is mistakenly used in place of “foot-candles.” Light trespass is measured by illumination on a surface, not by the lighting source. This should be corrected.*
2. *The light measurement method is proposed to be moved to the definition section.*
3. *The term “receiving property” is proposed to be eliminated in favor of a more simplified measurement at the property line.*

**1605.03 Lighting Types, Shielding and Curfew Requirements**

C. Shielding Requirements for Residential Uses

1. For residential uses, ~~any all permanently used lamp types with output of 1,000 lumens or more shall be fully shielded. If multiple lamps of less than 1,000 lumens are used, and the total lumens are greater than 1,000 lumens in total then shielding is required.~~
2. Lighting for multiple household dwellings is not considered Residential, and must comply with all requirements for non-residential lighting, including, but not limited to lumen caps and curfews for decorative lighting.
3. Unshielded lighting for residential uses under roof or porch overhangs shall be considered compliant provided such lighting meets the light and trespass glare requirements of 1605.01.
4. Seasonal decorations using typical unshielded low-lumen incandescent lamps shall be permitted from Thanksgiving to January 15.
5. ~~All light fixtures located within 25 feet of the property line adjacent to residential use shall use fully shielded luminaries.~~

*Rationale of Change:*

1. *Currently, on residential uses, shielding is only required if the total amount of lumens meets or exceeds 1,000 lumens. This amendment instead proposes that all lights on residential uses should be shielded.*
2. *Provision 3 has been added to apply in cases where there are roof overhangs. Provided that the light trespass level does not exceed does not exceed 0.2 fc (at the property line of residential uses or 0.5 fc at non-residential uses, unshielded lights shall be considered compliant.*
3. *Provision 4 has been added to exempt seasonal decorations, within the specified period, from compliance with this article. This is identical to the exemption provided to non-residential uses.*

**Table 16.1  
MAXIMUM TOTAL OUTDOOR LIGHT OUTPUT STANDARDS LUMEN CAPS**

<b>All Uses in Commercial and Industrial Zoning Districts (NB, GB, LI, HI)<sup>5</sup></b>	
Total shielded	150,000-lumens per acre of developed site <sup>1, 4, 5</sup>
Total Unshielded	3,000-lumens per acre of developed site <sup>2,3,5</sup>
<b>Non-Residential Uses in Residential and Rural Zoning Districts<sup>6</sup></b>	
Total shielded	75,000-lumens per acre of developed site <sup>1,4,5</sup>
Unshielded	3,000-lumens per acre of developed site <sup>2,3,5</sup>
<b>Residential Uses in Residential and Rural Zoning Districts Lots one acre or larger</b>	
Shielded	20,000-lumens per acre of developed site <sup>3, 5</sup>
Unshielded	2,000 lumens per acre of developed site <sup>2,3</sup>
<b>Residential Uses in Residential and Rural Zoning Districts Lots less than one acre</b>	
Shielded	10,000-lumens per residence <sup>3</sup>
Unshielded	2,000 lumens per acre of developed site <sup>2,3</sup>

<b>Digital Signs</b>
Limited to one sign per developed site with a maximum of 200-nits per site
<b>Correlated Color Temperature (CCT)</b>
Maximum CCT of 3,000K permitted for non-residential lamps

<sup>1</sup> Lumens for all signs are to be included in these caps except as provided in Section 1607.02.

<sup>2</sup> Any lamp with output of 1,000-lumens or more shall be fully shielded.

<sup>3</sup> Does not include the 2,000 lumen lighting exception for flagpoles (Section 1605.03) and floodlights on a motion sensor (1605.04).

<sup>4</sup> All lighting except for safety lighting (Class 2) shall be extinguished between 11 p.m. (or close of business, whichever is later) and sunrise.

<sup>5</sup> Acreage refers to the developed area of the site, including, but not limited to area used for buildings, structures, storage and service areas, parking, loading, driveway areas, required setback areas and required landscaping related to the use, but not areas that are only cleared.

*Rationale of Change: Currently, on residential uses, up to 2,000-lumens per acre of developed site can be unshielded. This table reinforces that this option is eliminated and instead only provides a cap for shielded light on residential lots.*

## **1611 Enforcement**

### **1611.01 Violations Deemed a Nuisance**

~~Any outdoor lighting established or maintained in violation of the Article is unlawful and constitutes a public nuisance. The Applicant will provide a means to safely inspect any digital sign over five feet tall from the ground.~~

### **1611.02 Action to Enforce Regulations**

~~For any violation of this Article, the County Attorney may, and upon order of the Board of Supervisors shall, commence all necessary actions or proceedings to enforce this Article including, but not limited to, actions to abate, enjoin, or remove the violating outdoor lighting fixture.~~

### **1611.03 Jurisdiction of Hearing Officer**

~~The Hearing Officer who has been designated to hear zoning violation proceedings under these Zoning Regulations shall also hear any violation proceedings under this Article.~~

### **1611.04 Rules of Procedure**

~~The rules of procedure for hearings on zoning violations before the County Hearing Officer shall apply to violation proceedings arising under this Article.~~

### **1611.05 Remedies**

~~All remedies concerning this Article shall be cumulative and not exclusive. Conviction and punishment of any person hereunder shall not relieve such persons from the responsibility of correcting prohibited conditions or removing prohibited outdoor lighting fixture, and shall not prevent the enforced correction or removal thereof. In addition to the other remedies provided herein, any adjacent or neighboring property owner specially damaged by the violation of any provision of this Article may institute, in addition to any other appropriate remedy or proceeding an~~

~~action for injunction, mandamus, or proceeding to prevent, abate, or remove such unlawful outdoor lighting fixture.~~

### **1611.06 Penalties**

~~A. Any person, firm or corporation whether as principal, owner, agent, tenant, employee or otherwise, who violates any provisions of this Article or who violates or fails to comply with any order or regulation made hereunder shall be guilty of a misdemeanor, and upon conviction thereof, shall be punishable as provided for Class 2 misdemeanors by Arizona Revised Statutes. Such person, firm, or corporation shall be deemed guilty of a separate offense for each and every day during which such violation or failure to comply with this Article is committed, continued, or permitted.~~

~~B. Paragraph A notwithstanding, each violation of this Article or failure to comply with any order or regulation hereunder may be processed by the County Zoning Inspector as a violation subject to a civil penalty as provided by Arizona Revised Statutes and heard by a duly appointed Hearing Officer, pursuant to the written rules of procedure for such hearings, as approved by the Board of Supervisors. Each day the violation continues, a separate violation will be incurred. Maximum fines are \$750.00 for individuals and \$10,000.00 for an enterprise, defined as a corporation, association, labor union, or legal entity.~~

## **ARTICLE 23**

### **ENFORCEMENT**

#### **2301 Violations Deemed a Nuisance**

Any building, structure, outdoor lighting, or use erected or maintained or any use of property contrary to the provisions of these Zoning Regulations is unlawful and constitutes a public nuisance.

#### **2302 Action to Enforce Regulations**

For any violation of these Zoning Regulations, the County Attorney may, and upon order of the Board of Supervisors, shall commence all necessary actions or proceedings to enforce these Zoning Regulations including, but not limited to, actions to abate, enjoin, or remove the violating building, structure, outdoor lighting fixture, or use.

*Rationale of Change: Currently, the enforcement of light pollution is included in Section 1611. This is unlike the rest of the Articles of the Zoning regulations, the enforcement of which fall under Article 23. By removing the enforcement provisions from Article 16 and adding the terms "outdoor lighting" and "outdoor lighting fixture" to Article 23, the regulations and their enforcement are simplified.*

## **II. SUMMARY AND RECOMMENDATION**

The light pollution regulations contained in the Zoning Regulations are intended to encourage the provision of outdoor lighting that balances the need of preserving the safety of residents with the need of protecting our dark skies. The proposed changes would amend Articles 16 and 23 of the Cochise County Zoning Regulations with changes or additions as shown in Exhibit A. Staff is requesting that the Board consider approving the changes as presented.

Sample Motion: *I move to approve Docket R-20-02, amending the Cochise County Zoning Regulations with text changes to Article 16 Light Pollution and Article 23 Enforcement.*

**III. ATTACHMENTS**

Ordinance Amending Articles 16 and 23 of the Cochise County Zoning Regulations with Exhibit "A," strike-through and underline of Articles 16 and 23 attached.