

## **Section 502.1 General Provisions – Exterior Lighting**

### **A. Incorporation by Reference**

1. A.R.S. Title 49, Chapter 7, Light Pollution is hereby incorporated by reference

### **B. Purpose**

1. This section is intended to establish procedures and standards that ensure minimal light pollution, reduce glare, increase energy conservation, and afford every citizen and business of Jerome the flexibility to engage in the pursuit of safe, inexpensive lighting for the purpose of commerce and private use without detrimentally impacting the pristine nighttime environment free from light pollution, waste, trespass, or clutter.

### **C. Applicability**

1. This chapter shall apply to all outdoor lighting including, but not limited to, search, spot, or floodlights for:
  - a. Buildings and Structures;
  - b. Recreational areas;
  - c. Parking lot lighting;
  - d. Landscape lighting
  - e. Other outdoor lighting
2. New lighting shall meet the requirements of this Code with regard to shielding and lamp type. The total outdoor light output after the new lighting is installed shall not exceed that on the site before the new lighting was installed, or that is permitted by this Code, whichever is less.
3. If the total cumulative increase in floor area is greater than 50 percent for single family residential or greater than 25 percent for all other uses, or if the total cumulative cost of any exterior modification, alteration or repair is greater than 25 percent of the valuation of the building as determined by the Planning and Zoning Director, then all exterior lighting fixtures shall comply with this Code. Cumulative modification, replacement, or repair of outdoor lighting constituting 25 percent or more of the permitted lighting output level for the parcel, no matter the actual amount of lighting already on the site, shall require all exterior lighting to comply with this Code.
4. Exemptions
  - a. **Emergency Lighting**  
Lighting used only under emergency conditions shall not be subject to this Section 502.1
  - b. **Seasonal Lighting**  
Temporary seasonal lighting between the months of October and January 15 shall not be subject to this Section 502.1, provided such lighting does not create glare to motorists or result in light trespass onto adjacent properties.

c. **Lighting Required by FAA or FCC**

Lighting required by the Federal Aviation Administration, or the Federal Communications Commission shall not be subject to this Section.

d. **Special Events**

Special events that have been issued a special even permit shall be allowed temporary lighting for the duration of the event, provided such lighting does not create glare to motorists or result in light trespass onto adjacent properties.

e. **Street Lighting**

With the exception of shielding requirements, this Code does not apply to street lighting within Town and state rights-of-way.

5. **Nonconforming Lighting**

- a. Existing historic nonconforming lighting in use prior to the adoption of this ordinance may continue to be used; if historic fixtures are damaged, they may be restored or repaired in efforts to preserve their historic nature.
- b. Lighting that does not conform to all provisions of this Code shall be brought into compliance, in accordance with Section 502.1(C)(3). Until this time, no modification or replacement shall be made to a nonconforming fixture unless the fixture thereafter conforms to the provisions of this Code, except that identical lamp replacement is allowed.
- c. In the event that an outdoor lighting fixture is abandoned or damaged to the point of requiring repairs for safe operation, the repaired or replacement fixture shall comply with the provisions of this Code.

**D. Definitions**

As used in this Code, unless the context clearly indicates otherwise, certain words and phrases shall mean the following:

1. *Abandonment* means the discontinuation of use for a period of six months.
2. *Adaptive Controls* means hardware and/or electronics, used in conjunction with outdoor light fixtures, intended to dynamically alter or adjust the operation of those fixtures. Examples of adaptive controls include, but are not limited to, motion/occupancy sensors, dusk-to-dawn ('astronomical') timers and photocells.
3. *Class 1 Lighting* means all outdoor lighting used for but not limited to outdoor sales or eating areas, assembly or repair areas, advertising and other signs, recreational facilities, and other similar applications where color rendition is important.
4. *Class 2 Lighting* means all outdoor lighting used for but not limited to illumination for walkways, roadways, equipment yards, and parking lots where general illumination of the grounds is the primary concern.
5. *Class 3 Lighting* means any outdoor lighting used for decorative effects, including but limited to architectural illumination, flag monument lighting, and illumination of trees, bushes, etc.
6. *Correlated Color Temperature (CCT)* means the temperature of a source of blackbody radiation whose spectrum best approximates the spectrum of a particular light source, expressed in units of Kelvins. Lamps with a CCT greater than 4000K are considered "cool" sources.
7. *Direct Illumination* means illumination resulting from light emitted directly from a lamp, luminaire, or reflector, not light diffused through translucent signs, or reflected from other surfaces such as the ground, building faces or luminaire optics.

8. *Footcandle* (abbreviated 'fc') means a unit of illuminance or illumination, equivalent to the illumination produced by a source with luminous intensity of one candela at a distance of one foot and equal to one lumen incident per square foot (approximately 10.764 lux).
9. *Fully Shielded Fixture* means that fixtures are shielded in such a manner that light rays emitted by the fixture, either directly from the lamp or indirectly from the fixture, are projected below a horizontal plane running through the lowest point on the fixture where light is emitted.
10. *Initial Lumens* means the lumens rating of a lamp at the time of manufacture, not accounting for losses due to normal lamp aging, or the lumens rating for a brand new light bulb. Initial lumens are measured by manufacturers specifications and usually provided along with product packaging.
11. *Installed* means attached, or fixed in place, whether or not connected to a power source.
12. *Lighting Zone* means an overlay zoning system, establishing legal limits for lighting for particular parcels, areas, or districts in a community.
13. *Light Trespass* is spill light falling over property lines that illuminates adjacent grounds or buildings in an objectionable manner.
14. *Lumen* is the unit used to measure the actual amount of visible light, which is produced by a lamp as defined by the manufacturer.
15. *Luminaire* means the complete lighting assembly, less the support assembly.
16. *Lux* (abbreviated 'lx') means a unit of illuminance or illumination equal to one lumen per incident square meter (approximately 0.093 fc).
17. *Multi-class Lighting* means any outdoor lighting used for more than one purpose, when the purpose fall under the definitions for two or more lighting classes as defined for Class 1, 2 and 3 Lighting above.
18. *Motion Sensing Lighting* means a fixture designed, and properly adjusted, to illuminate an area around a residence or other building by means of switching on a lamp when motion is detected inside an area or perimeter, and switching the lamp off when the detected motion ceases.
19. *Neon Lighting* means lighting using luminous gas filled tubes often formed into text, symbols, or decorative elements. Neon lighting includes tubes with typical diameters of 10 to 20 millimeters filled with neon, argon, xenon, or other gasses and producing various colors of light. Not included are replaceable T-8 (1-inch diameter) and T-12 (1.5-inch diameter) or PL ("compact") fluorescent tubes.
20. *Net Acreage* means the remaining ground area of a parcel after deleting all portions for proposed and existing public right-of-way and undeveloped area.
21. *Opaque* means only that the material must not transmit light from the internal illuminating source: the color of such opaque backgrounds is not restricted.
22. *Outdoor Light Fixtures* means all outdoor illuminating devices, reflective surfaces, lamps, and other devices, either permanently installed or portable, which are used for illumination or advertisement. Such devices shall include, but are not limited to, search, spot, and floodlights for:
  - a. Buildings and structures
  - b. Recreational areas
  - c. Parking lot lighting
  - d. Landscape and architectural lighting
  - e. Billboards and other signs (advertising or other)
  - f. Street lighting
  - g. Product display area lighting

h. Building overhangs and open canopies

23. *Person* includes a corporation, company, partnership, firm association, or society as well as a natural person.
24. *Planning and Zoning Director* means the Director of Planning and Zoning for the Town of Jerome or his or her designated representative.
25. *Temporary Lighting* means lighting which does not conform to the provisions of this Code and which will not be used for more than one thirty (30) day period within a calendar year. Temporary lighting is intended for uses which by their nature are of limited duration; e.g. holiday decorations, civic events, or construction projects.
26. *Total Outdoor Light Output* means the maximum total amount of light measured in lumens, from all outdoor light fixtures on a property. For lamp types that vary their output as they age (such as high pressure sodium and metal halide), the initial output, as defined by the manufacturer, is the value to be considered.
27. *Translucent* means light is transmitted from the internal illumination source.
28. *Unshielded* means a fixture that allows light to be emitted above the horizontal directly from the lamp or indirectly from the fixture or a reflector.
29. *Watt* is the unit used to measure the electrical power consumption (not the light output) of a lamp.

## E. General Requirements

All light fixtures and streetlamps where able, shall be aimed or shielded so that the direct illumination shall be confined to the property boundaries of the source. Particular care is to be taken to assure that the direct illumination does not fall onto or across any public or private street or road. Motion sensing lighting fixtures shall be properly adjusted, according to the manufacturer's instructions, to turn off when detected motion ceases. All new development, qualified enhancements, and requirements as outlined in 502.1 must follow the Total Light Output requirements indicated in Appendix A.

### 1. Class 1 Lighting (High Activity Areas)

Lighting used for outdoor sales or eating areas, assembly or repair areas, signage, recreational facilities, and other similar applications where accurate color rendition is important to preserve the effectiveness of the activity. Commonly used in Lighting Zones 2 - 4. (See Appendix A)

### 2. Class 2 Lighting (Security and Public Safety)

Lighting used for illumination of walkways, roadways, equipment yards, parking lots, and outdoor security where general illumination for safety or security of the grounds is the primary purpose. Commonly used in Lighting Zones 1-3. (See Appendix A)

### 3. Class 3 Lighting (Decorative and Accent)

Lighting used for decorative effects such as architectural illumination, flag and monument lighting and illumination of landscaping elements. All Class 3 lighting shall be selected, designed, installed, and aimed so that there is a minimum amount of spill beyond the area(s) to be lighted. Commonly used in Lighting Zones 0-2. (See Appendix A)

### 4. Multi-Class Lighting

Lighting used for more than one purpose such that the use falls within more than one class as

defined for Class 1, 2 or 3 lighting. Multi-class lighting must conform to the standards that apply to the most restrictive included class.

**5. Lighting Plan Submittal Required**

Whenever new exterior lighting is proposed, the applicant shall submit an application, and as part of the application, shall submit sufficient information to enable the Planning and Zoning Director to determine whether proposed lighting complies with this Code. All applications may be subject to review and action by the Planning and Zoning Commission at the discretion of the Planning and Zoning Director. The lighting plan shall include information as determined by the Planning and Zoning Director.

**6. Plan Approval**

If the Planning and Zoning Director determines that any proposed lighting does not comply with this Code, the associated permit shall not be issued, or the application approved unless an alternative is approved pursuant to Section 502.1(E)(7) below.

**7. Discretionary Approval of Lighting Alternatives**

The Planning and Zoning Director may approve alternative lighting designs, materials, or methods of installation or operation not specifically prescribed by this Code provided the proposed alternative:

- a. Results in approximate equivalence to the applicable specific requirement of this Code; and
- b. Complies with the purpose of this Code as stated in subsection 502.1(B).

**8. Warm Lighting Requirements and Alternatives**

- a. All Class 2 Lighting shall be either low-pressure sodium (LPS) lamps, narrow spectrum amber LEDs, or warm lighting alternatives not to exceed 2,700 Kelvin
- b. For Class 1 Lighting, a development may be eligible for an additional 10 percent increase in the total lighting output level allowed if 50 percent or more of the Class 1 lighting complies with subsection 502.1(E)(8)(a).

**9. Prohibited Lighting Types and Fixtures**

- a. Outdoor floodlighting by floodlight projection above the horizontal plane is prohibited.
- b. Mercury vapor light bulbs and fixtures.
- c. Lamps emitting a Correlated Color Temperature (CCT) in excess of 4,000 Kelvin
- d. Searchlights, laser source lights, strobe or flashing lights, illusion lights or any similar high intensity light shall not be permitted, except in emergencies by police and fire personnel.
- e. Unshielded lights.
- f. Permanent exposed string lighting for mixed-use and nonresidential uses is prohibited, except as allowed in subsection immediately below
- g. Ambience lighting for outdoor dining/bar areas, interior courtyards, and/or event venues, may be allowed subject to compliance with all other provisions of this Code and with approval by the Planning and Zoning Director on a case-by-case basis. In reviewing proposals for such lighting, the Planning and Zoning Director shall consider lighting types, locations, and time of use. Permanent outdoor string lighting shall not flash, blink, fade, or strobe and shall be included in the total partially shielded lumen

count for the property. Such lighting, if allowed by the Planning and Zoning Director, shall be extinguished immediately after outdoor hours of operation.

#### **10. Shielding and Light Trespass**

- a. All light fixtures are required to be fully shielded, unless approved by the Planning and Zoning Director pursuant to Section 502.1(E)(6-7).
- b. Partially shielded light fixtures approved by the Planning and Zoning Director as part of a lighting alternative pursuant to 502.1(E)(7) are limited to a maximum of 3,850 initial lumens per net acre and shall not exceed 1,400 initial lumens per lamp.
- c. All light fixtures shall be aimed and shielded so that the direct illumination shall be confined to the property boundaries of the source. Lighting shall not be aimed onto adjacent properties, except in cases of shared parking, pursuant to 502.1(E)(7), shared pedestrian pathways, or for coordinated development sites spanning multiple parcels.

#### **11. Lighting Controls**

- a. Motion Sensors
  1. May be used where the sensor is triggered by activity within the property lines and not triggered by activity outside the property lines.
  2. Motion sensing fixtures shall be fully shielded and properly adjusted, according to the manufacturer's instructions, to turn off in a reasonable timeframe after the detected motion ceases.
- b. Lighting Time Limitations
  1. Except for flagpole lighting and landscape lighting, Class 1, and Class 3 lighting shall be extinguished during nonbusiness hours. Lodging businesses are encouraged to reduce lighting during off-peak hours overnight.
  2. Landscape lighting shall be extinguished by close of business or 10:00p.m. whichever is later.
  3. Multi-class lighting shall conform to the time limitations of the strictest class.

#### **F. Uplighting, Exterior Building Lighting and Sign Illumination**

1. Subject to the approval of the Planning and Zoning Director, uplighting or ground-mounted lighting may be allowed to accent unique features of a building and/or surrounding landscaping such as exceptional architectural features, specimen trees with dense year-round foliage, or large native shrub masses, and shall be designed and installed to minimize glare with special consideration to vehicular and pedestrian traffic.
2. All lighting shall be fully shielded to contain and direct the light onto the feature to be illuminated.
3. All uplighting shall be considered partially shielded for the purposes of calculating lighting output levels.
4. All Class 3 lighting shall be selected, designed, installed, and aimed so that there is a minimum amount of spill beyond the area intended to be lighted.

5. Exterior building lighting may be considered Class 1, 2 or 3 Lighting depending on the size, function, illumination, design, and lighting intent.
6. Soffit-mounted light fixtures should be recessed into the soffit or otherwise fully shielded.
7. Architectural lighting shall only be used to highlight special features. The lighting of expansive wall planes or lighting resulting in hot spots on wall or roof planes shall be prohibited.
8. Lighting above entryways or along building perimeters shall use fully shielded fixtures.
9. Lighting used for all externally illuminated signs shall conform to all restrictions of the Code, shall be fully shielded, and shall be turned off at 10:00p.m. or when the business closes, whichever is later.
10. Outdoor internally illuminated advertising signs shall either be constructed with an opaque background and translucent letters and symbols or with a colored (not white, cream, off-white, yellow or other light color) translucent background with either translucent or opaque letters and symbols. Opaque means only that the material must not transmit light from the internal illumination source: the color of such opaque backgrounds is not restricted by this section. Lamps used for internal illumination of such signs shall not be included in the lumens per net acre limit set forth. All internally illuminated signs shall be turned off at 10:00p.m. or when the business closes, whichever is later.

#### **G. Parking Area and Pedestrian Walkway Lighting**

Parking area and pedestrian walkway lighting is considered Class 2 lighting.

1. Parking lot lighting shall use fully shielded fixtures.
2. Parking lot poles shall not exceed 12 feet in height.
3. Low-level pedestrian walkway lighting;
  - a. Considered Class 2 lighting shall utilize fully shielded fixtures;
  - b. Shall use shatterproof lamp coverings;
  - c. Shall not cause the site to exceed the lighting output level established in this Code;
  - d. Shall not be located to present hazards for pedestrians or vehicles.
4. Post or bollard-type walkway lights shall be painted in darker colors such as black, dark brown, dark gray or other dark earth tones.

#### **H. Outdoor Display Lots**

Light for outdoor display lots shall be considered Class 1, and shall conform to the lumens per acre limits established except as follows:

1. All such lighting shall be fully shielded, partially shielded fixtures shall be prohibited.
2. If the proposed lumens exceed the per acre limits, the installation shall be designed to achieve no greater than the minimum illuminance levels for the activity as recommended by the Illuminating Engineering Society of North America and shall require approval by the Planning and Zoning Director pursuant to 502.1(E)(7).
3. Outdoor display lot illumination design shall be certified by an Arizona registered engineer as conforming to all applicable restrictions of this Code.

4. Outdoor display lot lighting shall conform to the hours of operation as established under Class 1 lighting standards pursuant to Section 502.1(E)(11)(b).

#### **I. Installation and Maintenance**

1. For all projects where the total initial output of the proposed lighting equals or exceeds 70,000 fixture lumens, or if the Planning and Zoning Director determines it is necessary, certification that the lighting, as installed, conforms to the approved plans shall be provided by a certified engineer before a Certificate of Occupancy is issued. Until this certification is submitted, approval for the use of a Certificate of Occupancy shall not be issued for the project.
2. Any proposed change to the type of light source after a permit has been issued shall require submitting a change request to the Planning and Zoning Director for approval prior to the substitution.

#### **J. Temporary Lighting Permits**

1. The Planning and Zoning Director may grant a permit for temporary lighting if he or she finds all of the following:
  - a. The purpose of which the lighting is proposed is not intended to extend beyond thirty (30) days;
  - b. The proposed lighting is designed in such a manner as to minimize light as much as feasible;
  - c. The proposed lighting will comply with the general intent of this Code; and
  - d. The permit will be in the public interest.
2. The Planning and Zoning Director shall rule on the application within five (5) business days from the date of submission of the request and notify the applicant in writing of his or her decision. The Planning and Zoning Director may grant one (1) renewal of the permit for an additional thirty (30) days if he or she finds that, because of an unanticipated change in circumstances, a renewal would be in the public interest. The Planning and Zoning Director is not authorized to grant more than one temporary permit and one renewal for the same property within one calendar year.

#### **K. Variances**

Any person desiring to install an outdoor lighting fixture in violation of this Code may apply to the Board of Adjustment for a variance from the regulation in question. Such variances shall be allowed only as provided by Section 105 of Jerome Zoning Ordinance.