Section 4.199  OUTDOOR LIGHTING

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Section 4.199.10. Outdoor Lighting In General.

(.01) Purpose: The purpose of this Code is to provide regulations for outdoor lighting that will:

A. Permit reasonable uses of outdoor lighting for nighttime safety, utility, security, productivity, enjoyment and commerce.

B. Conserve energy and resources to the greatest extent possible.

C. Minimize glare, particularly in and around public rights-of-way; and reduce visual discomfort and improve visual acuity over large areas by avoiding “light islands” and “spotlighting” that result in reduced visual perception in areas adjacent to either the source of the glare or the area illuminated by the glare.

D. Minimize light trespass, so that each owner of property does not cause unreasonable light spillover to other property.

E. Curtail the degradation of the nighttime environment and the night sky.

F. Preserve the dark night sky for astronomy and enjoyment.

G. Protect the natural environment, including wildlife, from the damaging effects of night lighting from human sources.

(.02) Purpose Statement as Guidelines: Declaration of purpose statements are guidelines and not approval criteria in the application of WC Section 4.199.

Section 4.199.20. Applicability.

(.01) This Ordinance is applicable to:

A. Installation of new exterior lighting systems in public facility, commercial, industrial and multi-family housing projects with common areas.

B. Major additions or modifications (as defined in this Section) to existing exterior lighting systems in public facility, commercial, industrial and multi-family housing projects with common areas.
Exemption. The following luminaires and lighting systems are EXEMPT from these requirements:

A. Interior lighting.
B. Internally illuminated signs.
C. Externally illuminated signs.
D. Temporary lighting for theatrical, television, and performance areas.
E. Lighting in swimming pools and other water features governed by Article 680 of the National Electrical Code.
F. Building Code required exit path lighting.
G. Lighting specifically for stairs and ramps.
H. Temporary and seasonal lighting provided that individual lamps are 10 watts or less.
I. Lighting required and/or regulated by the City (i.e. construction related activities), Federal Aviation Administration, U.S. Coast Guard or other Federal or State agency.
J. Single-family residential lighting.
K. Code Required Signs.
L. American flag.
M. Landscape lighting.
N. Lights approved by the City through an Administrative Review Temporary Use Permit process.
O. Public street lights.
P. ATM security lighting.

Section 4.199.30. Lighting Overlay Zones.

(.01) The designated Lighting Zone as indicated on the Lighting Overlay Zone Map for a commercial, industrial, multi-family or public facility parcel or project shall determine the limitations for lighting systems and fixtures as specified in this Ordinance.

A. Property may contain more than one lighting zone depending on site conditions and natural resource characteristics.

(.02) The Lighting Zones shall be:
A. **LZ 1.** Developed areas in City and State parks, recreation areas, SROZ wetland and wildlife habitat areas; developed areas in natural settings; sensitive night environments; and rural areas. This zone is intended to be the default condition for rural areas within the City.

B. **LZ 2.** Low-density suburban neighborhoods and suburban commercial districts, industrial parks and districts. This zone is intended to be the default condition for the majority of the City.

C. **LZ 3.** Medium to high-density suburban neighborhoods and districts, major shopping and commercial districts as depicted on the Lighting Overlay Zone Map.

D. **LZ 4.** Reserved for limited applications with special lighting requirements. This zone is appropriate for users who have unique site or operating circumstances that warrant additional light. This zone shall not be applied to residential or agricultural areas.

[Section 4.199.30(.02) amended by Ord. 688, 11/15/10]

**(.03) Modification of Lighting Zones.**

A. The City Council may modify the designated Lighting Zones of one or more parcels if the City Council finds that the original Lighting Zone was in error, a change in circumstances has occurred warranting the change since the designation was established or the purposes of this section are better served.

B. The Development Review Board (DRB) may modify the designated Lighting Zones as part of the Stage II, Site Design Review Process if the DRB finds that the original Lighting Zone was in error, or a change in circumstances has occurred warranting the change since the designation was established or the purposes of this section are better served.

C. This ordinance establishes a Lighting Overlay Zone Map. The Planning Division shall maintain the current Lighting Overlay Zone Map.

### Section 4.199.40. Lighting Systems Standards for Approval.

**(.01) Non-Residential Uses and Common Residential Areas.**

A. All outdoor lighting shall comply with either the Prescriptive Option or the Performance Option below.

B. **Prescriptive Option.** If the lighting is to comply with this Prescriptive Option, the installed lighting shall meet all of the following requirements according to the designated Lighting Zone.

1. The maximum luminaire lamp wattage and shielding shall comply with Table 7.

2. Except for those exemptions listed in Section 4.199.20(.02), the exterior lighting for the site shall comply with the *Oregon Energy Efficiency Specialty Code, Exterior Lighting.*
3. The maximum pole or mounting height shall be consistent with Table 8.
4. Each luminaire shall be set back from all property lines at least 3 times the mounting height of the luminaire:
   a. Exception 1: If the subject property abuts a property with the same base and lighting zone, no setback from the common lot lines is required.
   b. Exception 2: If the subject property abuts a property which is zoned (base and lighting) other than the subject parcel, the luminaire shall be setback three times the mounting height of the luminaire, measured from the abutting parcel’s setback line. (Any variance or waiver to the abutting property’s setback shall not be considered in the distance calculation).
   c. Exception 3: If the luminaire is used for the purpose of street, parking lot or public utility easement illumination and is located less than 3 mounting heights from the property line, the luminaire shall include a house side shield to protect adjoining property.
   d. Exception 4: If the subject property includes an exterior column, wall or abutment within 25 feet of the property line, a luminaire partly shielded or better and not exceeding 60 lamp watts may be mounted onto the exterior column, wall or abutment or under or within an overhang or canopy attached thereto.
   e. Exception 5: Lighting adjacent to SROZ areas shall be set back 3 times the mounting height of the luminaire, or shall employ a house side shield to protect the natural resource area.

C. Performance Option. If the lighting is to comply with the Performance Option, the proposed lighting design shall be submitted by the applicant for approval by the City meeting all of the following:
   1. The weighted average percentage of direct uplight lumens shall be less than the allowed amount per Table 9.
   2. The maximum light level at any property line shall be less than the values in Table 9, as evidenced by a complete photometric analysis including horizontal illuminance of the site and vertical illuminance on the plane facing the site up to the mounting height of the luminaire mounted highest above grade. The Building Official or designee may accept a photometric test report, demonstration or sample, or other satisfactory confirmation that the luminaire meets the shielding requirements of Table 7. Luminaires shall not be mounted so as to permit aiming or use in any way other than the manner maintaining the shielding classification required herein:
      a. Exception 1. If the property line abuts a public right-of-way, including a sidewalk or street, the analysis may be performed across the street at the adjacent property line to the right-of-way.
      b. Exception 2. If, in the opinion of the Building Official or designee, compliance is impractical due to unique site circumstances such as lot
size or shape, topography, or size or shape of building, which are circumstances not typical of the general conditions of the surrounding area. The Building Official may impose conditions of approval to avoid light trespass to the maximum extent possible and minimize any additional negative impacts resulting to abutting and adjacent parcels, as well as public rights-of-way, based on best lighting practices and available lighting technology.

3. The maximum pole or mounting height shall comply with Table 8.

D. Curfew. All prescriptive or performance based exterior lighting systems shall be controlled by automatic device(s) or system(s) that:

1. Initiate operation at dusk and either extinguish lighting one hour after close or at the curfew times according to Table 10; or

2. Reduce lighting intensity one hour after close or at the curfew time to not more than 50% of the requirements set forth in the Oregon Energy Efficiency Specialty Code unless waived by the DRB due to special circumstances; and

3. Extinguish or reduce lighting consistent with 1. and 2. above on Holidays.

The following are exceptions to curfew:


b. Exception 2: Lighting for pedestrian ramps, steps and stairs.

c. Exception 3: Businesses that operate continuously or periodically after curfew.

[Section 4.199.40 amended by Ord. 688, 11/15/10]

(.02) Special Permit for Specific Lighting Fixtures and Systems and When Exceeding Lighting Requirements.

A. This section is intended to apply to situations where more than normal foot candles are required due to a unique circumstance or use or where it is absolutely essential to perform the proposed activities after dark. All special permits shall be reviewed by the DRB.

B. Upon issuance of a special permit by the Development Review Board (DRB), lighting systems not complying with the technical requirements of this Ordinance may be installed, maintained, and replaced for lighting that exceeds the maximums permitted by this Ordinance. This section is intended to be applied to uses such as sports lighting systems including but not limited to, sport fields and stadiums, such as baseball and football field lighting, tennis court lighting, swimming pool area lighting and prisons; other very intense lighting defined as having a light source exceeding 200,000 lumens or an intensity in any direction of more than 2,000,000 candelas; building façade lighting of portions of buildings over two stories high; and public monuments.

C. To obtain such a permit, applicants shall demonstrate that the proposed lighting installation:
1. Is within Lighting Zone 3 or above.
2. Has been designed to minimize obtrusive light and artificial sky glow, supported by a signed statement from a registered civil or electrical engineer describing the mitigation measures. Such statement shall be accompanied by calculations indicating the light trespass levels (horizontal and vertical at ground level) at the property line.
3. Will not create excessive glare, sky glow, or light trespass beyond that which can be reasonably expected by application of best lighting practices, and available technology.
4. Provides appropriate lighting curfew hours based on the use and the surrounding areas.
D. The DRB may impose conditions of approval to mitigate any negative impacts resulting to the abutting parcel, based on best lighting practices and available lighting technology.
E. The City may charge a review fee and may, at the Building Official’s option, employ the services of a qualified professional civil or electrical engineer to review such submittals and the cost thereof shall be an additional fee charged to the applicant.

Section 4.199.50. Submittal Requirements.

(.01) Applicants shall submit the following information as part of DRB review or administrative review of new commercial, industrial, multi-family or public facility projects:
A. A statement regarding which of the lighting methods will be utilized, prescriptive or performance, and a map depicting the lighting zone(s) for the property.
B. A site lighting plan that clearly indicates intended lighting by type and location. For adjustable luminaires, the aiming angles or coordinates shall be shown.
C. For each luminaire type, drawings, cut sheets or other documents containing specifications for the intended lighting including but not limited to, luminaire description, mounting, mounting height, lamp type and manufacturer, lamp watts, ballast, optical system/distribution, and accessories such as shields.
D. Calculations demonstrating compliance with Oregon Energy Efficiency Specialty Code, Exterior Lighting, as modified by Section 4.199.40(.01)(B.)(2.) [Amended by Ord. 688, 11/15/10]
E. Lighting plans shall be coordinated with landscaping plans so that pole lights and trees are not placed in conflict with one another. The location of lights shall be shown on the landscape plan. Generally, pole lights should not be placed within one pole length of landscape and parking lot trees.
F. Applicants shall identify the hours of lighting curfew.
(.02) In addition to the above submittal requirements, Applicants using the Prescriptive Method shall submit the following information as part of the permit set plan review:

A. A site lighting plan (items 1 A - F, above) which indicates for each luminaire the 3 mounting height line to demonstrate compliance with the setback requirements. For luminaires mounted within 3 mounting heights of the property line the compliance exception or special shielding requirements shall be clearly indicated.

(.03) In addition to the above submittal requirements, Applicants using the Performance Method shall submit the following information as part of the permit set plan review:

A. Site plan showing horizontal isocandale lines, or the output of a point-by-point computer calculation of the horizontal illumination of the site, showing property lines and light levels immediately off of the subject property.

B. For each side of the property, the output of a point-by-point vertical footcandle calculation showing illumination in the vertical plane at the property line from grade to at least 10 feet higher than the height of the tallest pole.

C. Lighting plans shall be prepared by a qualified licensed engineer.

(.04) In addition to the above applicable submittal requirements, Applicants for Special Permits shall submit the following to the DRB for review:

A. Tabulation of International Engineering Society of North America (IESNA) lighting recommendations for each task including area illuminated, recommended illumination level, actual maintained illumination level, and luminaires used specifically to achieve the indicated criteria.

B. Lighting plans shall be prepared by a qualified licensed engineer.

(.05) For all calculations, the following light loss factors shall be used unless an alternative is specifically approved by the City:

- Metal halide: 0.6
- High pressure sodium: 0.8
- Compact fluorescent: 0.7
- Full size fluorescent: 0.75
- Incandescent: 0.9
- Halogen: 0.95
- Other: As approved

Section 4.199.60. Major Additions or Modifications to Pre-Existing Sites.

(01.) Major Additions. If a major addition occurs on a property, all of the luminaires on the site shall comply with the requirements of this Section. For purposes of this subsection, the following are considered to be major additions:
A. Additions of 50 percent or more in terms of additional dwelling units, gross floor area, seating capacity, or parking spaces, either with a single addition or with cumulative additions after July 2, 2008.

B. Modification or replacement of 50 percent or more of the outdoor lighting luminaries within a 5-year timeframe existing as of July 2, 2008.

<table>
<thead>
<tr>
<th>Lighting Zone</th>
<th>Fully Shielded</th>
<th>Shielded</th>
<th>Partly Shielded</th>
<th>Unshielded</th>
</tr>
</thead>
<tbody>
<tr>
<td>LZ 1</td>
<td>70</td>
<td>20</td>
<td>13</td>
<td>Low voltage landscape lighting 50 watts or less</td>
</tr>
<tr>
<td>LZ 2</td>
<td>100</td>
<td>35</td>
<td>39</td>
<td>Low voltage landscape lighting 50 watts or less</td>
</tr>
<tr>
<td>LZ 3</td>
<td>250</td>
<td>100</td>
<td>70</td>
<td>Landscape and facade lighting 100 watts or less; ornamental lighting on private drives of 39 watts and less</td>
</tr>
<tr>
<td>LZ 4</td>
<td>450</td>
<td>150</td>
<td>150</td>
<td>Landscape and facade lighting 250 watts or less; ornamental lights on private drives and lanterns 70 watts or less; marquee lighting not employing medium based lamps</td>
</tr>
</tbody>
</table>

[Table 7 amended by Ord. 682, 9/9/10; Ord. 688, 11/15/10]

<table>
<thead>
<tr>
<th>Lighting Zone</th>
<th>Lighting for private drives, driveways, parking, bus stops and other transit facilities</th>
<th>Lighting for walkways, bikeways, plazas and other pedestrian areas</th>
<th>All other lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>LZ 0</td>
<td>20</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>LZ 1</td>
<td>25</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>LZ 2</td>
<td>40</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>LZ 3</td>
<td>40</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>LZ 4</td>
<td>Height limit to be determined by Special Use Permit Only</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Lighting mounted onto buildings or other structures shall not exceed a mounting height greater than 4 feet higher than the tallest part of the building or structure at the place where the lighting is installed, nor higher than 33.33 percent of the horizontal distance of the light from the nearest property line, whichever is less.

[Table amended by Ord. 682, 9/9/10]
### Table 9: Performance Method

<table>
<thead>
<tr>
<th>Lighting Zone</th>
<th>Maximum percentage of direct uplight lumens</th>
<th>Maximum Light Level at Property Line</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Horizontal plane at grade (foot candles - fc)</td>
</tr>
<tr>
<td>LZ 0</td>
<td>0</td>
<td>0.01 fc</td>
</tr>
<tr>
<td>LZ 1</td>
<td>1%</td>
<td>0.05 fc</td>
</tr>
<tr>
<td>LZ 2</td>
<td>5%</td>
<td>0.2 fc</td>
</tr>
<tr>
<td>LZ 3</td>
<td>10%</td>
<td>0.4 fc</td>
</tr>
<tr>
<td>LZ 4</td>
<td>20%</td>
<td>0.8 fc</td>
</tr>
</tbody>
</table>

### Table 10: Curfew

<table>
<thead>
<tr>
<th>Lighting Zone</th>
<th>Curfew Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>LZ 0</td>
<td>8:00 PM (2000 hours)</td>
</tr>
<tr>
<td>LZ 1</td>
<td></td>
</tr>
<tr>
<td>LZ 2</td>
<td>10:00 PM (2200 hours)</td>
</tr>
<tr>
<td>LZ 3</td>
<td>Midnight (2400 hours)</td>
</tr>
<tr>
<td>LZ 4</td>
<td></td>
</tr>
</tbody>
</table>

[Tables, above, renumbered by Ord. 688, 11/15/10]
Figure 30: Lighting Overlay Zone Map

[Section 4.199 – 4.199.60 added by Ord. No. 649, adopted 6/2/08]