

1.0 PREFACE

1.1 Authority

On behalf of Alpine Planning & Zoning, this outdoor lighting ordinance is enacted on [date] pursuant to, and in accordance with, the authority of the Alpine Town Council.

1.2 Purpose

A. This outdoor lighting ordinance is intended to protect the health and welfare of all residents within the Town of Alpine, enhance its character and quality of life, prevent inappropriate and poorly installed outdoor lighting, reduce lighting conflicts between property owners, prevent the increase of potentially harmful sky glow, and preserve the naturally dark sky for the benefit of residents, visitors, wildlife, and the environment. The Alpine Town Council desires to pursue certification through the International Dark-Sky Association to become an International Dark Sky Community. The Five Principles for Responsible Outdoor Lighting will guide The Town of Alpine's outdoor lighting decisions because:

- 1) Whereas, outdoor uses of Artificial Light at Night (ALAN) often include inappropriate and bright sources of light that cause an unsafe reduction in human visual performance; and
- 2) Whereas, excessive, unnecessary, and misdirected ALAN contributes to Light Pollution and wastes energy resources that would, if corrected, generate tangible cost savings; and
- 3) Whereas, increased use of ALAN has contributed to an escalation of Light Pollution, thus increasing the brightness of the night sky by 10% annually and rendering the current night sky orders of magnitude (often hundreds of times) brighter than the natural and original sky background; and
- 4) Whereas, Light Pollution from ALAN is known to cause adverse effects on the health and well-being of birds, wildlife, nocturnal ecosystems, vegetation, and under certain circumstances, human health;
- 5) Now, therefore, let it be resolved that the Town of Alpine, which has the authority to protect natural resources and maintain a healthy environment for present and future generations, chooses to enact this outdoor lighting ordinance [the next part is optional, but highly encouraged because assignment of Lighting Zones by the municipality will establish appropriate and coordinated light levels based on land uses (not property values), avoid subjectivity, and establish a thoughtful hierarchy of lighting conditions across the municipality.] and hereby assign the following Lighting Zones to all property within the Town of Alpine boundaries: [Insert table or map].

2.0 Outdoor lighting – Definitions.

A. For the purpose of Sections (*insert Alpine Code references*), the following definitions apply:

“Accent or architectural lighting” means lighting of building surfaces, landscape features, statues, and similar items for the purpose of decoration, ornamentation, creation of visual hierarchy, sense of liveliness, or other purpose unrelated to safety, business operation, or essential lighting function.

“Backlight” means all the light emanating behind a luminaire.

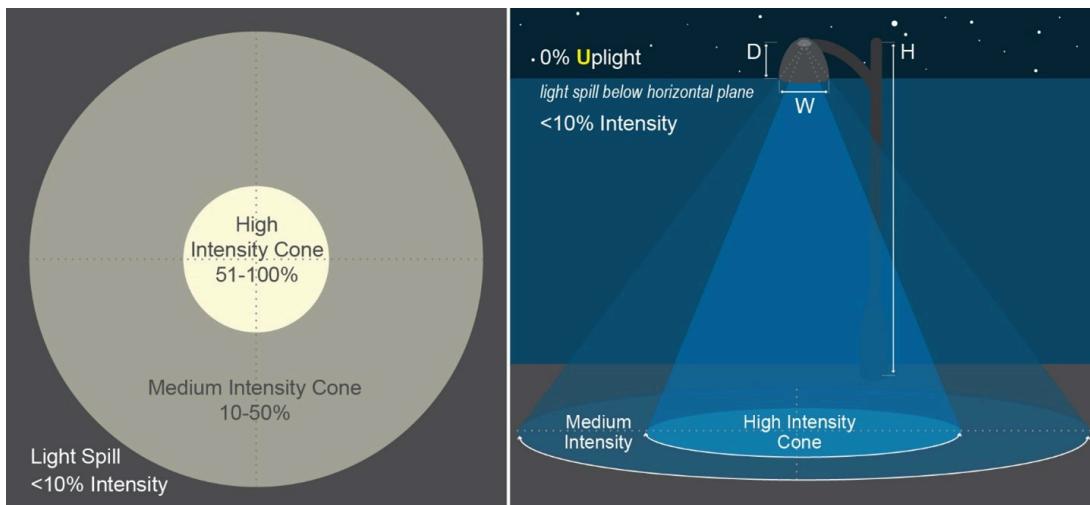
“BUG rating” means backlight, up-light, and glare rating, which exists on a scale of zero to five and may be used to describe luminaire optical performance in regards to light trespass, sky glow, and high angle brightness control.



Image by City of Ft. Collins, Colorado, and used here with permission.

“Correlated color temperature” (CCT) is a specification of the color appearance of the light emitted by a lamp, relating its color to the color of light from a reference source when heated to a particular temperature, measured in degrees Kelvin (K). The CCT rating for a lamp is a general “warmth” or “coolness” measure of its appearance. Lamps with a CCT rating below three thousand K are usually considered “warm” sources, while those with a CCT above three thousand K are usually considered “cool” in appearance.

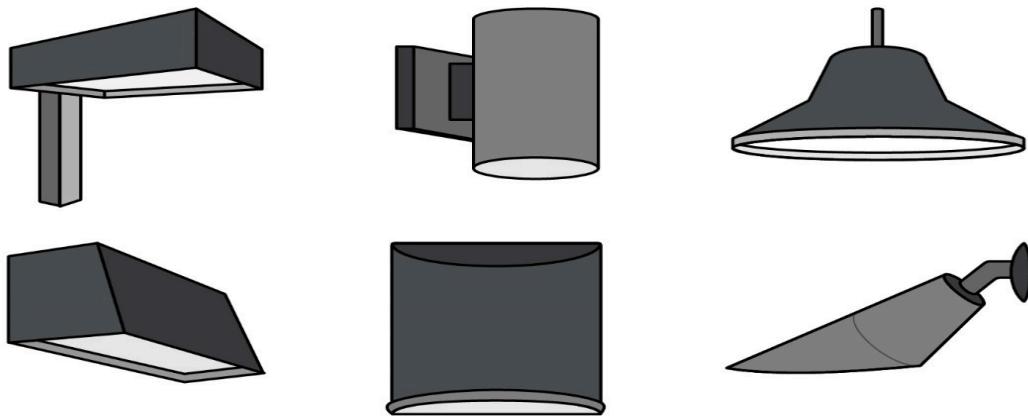
“Direct illumination” means the area of intentional illumination emanating from a fixture generally formulated by shielding depth, illumination width, distance, and angle of illumination field, respective to the height and location of the illumination source, in context of property location and grade. This illumination pattern is typically represented by the high intensity cone of light ten percent or greater, emanating and expanding outward from the illumination source. This area is in contrast to the area outside of this high intensity cone, separately defined as light spill. Direct illumination shall be generally interpreted utilizing this formulation by the Zoning Administrator.



Direction Illumination Formulation

“Floodlight” means a fixture or bulb designed to “flood” an area with light. A specific form of bulb or fixture designed to direct its output in a specific direction. Such bulbs are often designated by the manufacturer and are commonly used in residential outdoor lighting.

“Fully shielded fixture” means an outdoor light fixture constructed and mounted so that the installed fixture emits no light above the horizontal plane. Where a light manufacturer provides a BUG rating, the up-light rating (U) must equal zero. Fully shielded light fixtures must be shielded in and of themselves; a light fixture must have the top and sides made of opaque material such that light only escapes through the bottom of the fixture. Fixtures with translucent or transparent sides, or sides with perforations or slits, do not qualify as fully shielded. Any glass or diffuser on the bottom of the fixture must be flush with the fixture (no drop lenses). Surrounding structures, like canopies, eaves, and patio covers, are not to be considered when determining if the fixture is fully shielded, unless specifically allowed. Fully shielded fixtures must be appropriately mounted so that the shielding prevents light from escaping above the horizontal plane and all light is directed downward.



Examples of fully shielded light fixtures.

“Glare” means the visual sensation caused by excessive brightness and which causes annoyance, discomfort, or a disability loss in visual performance or visibility.

“Internally illuminated,” as it relates to signs, means any sign which has a light source entirely enclosed within the sign and not directly visible to the eye.

“Light pollution” means any adverse effect of manmade light. Often used to denote “skyglow” from developed areas, but also includes glare, light trespass, visual clutter and other adverse effects of lighting.

“Light source” means the part of a lighting fixture that produces light, e.g., the bulb, lamp, or chips on board.

“Light trespass” means direct illumination that falls beyond the boundaries of the property where it originates.

“Lumen” means a unit of luminous flux equal to the light emitted by a uniform point source of one candle intensity. Lumens refers to the amount of light emitted by a bulb (more lumens equates to brighter light).

“Manufacturer’s catalog cuts” means a publication or other printed material of a bulb or lighting manufacturer offering visual and technical information about a lighting fixture or bulb.

“Net acre” means a gross acre excluding: public rights-of-way, lands with natural slopes greater than thirty percent, jurisdictional wetlands, lands in the one-hundred-year floodplain, public drinking water supply water sources, lands affected by immitigable geohazards, riparian habitats, archeological sites, and required open space.

“Outdoor light fixture” means a complete lighting unit consisting of a lamp(s) and ballast(s) (when applicable), together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply. Also known as a luminaire, or simply as a fixture.

“Recreational lighting” means lighting used to illuminate sports fields, ball courts, playgrounds, or similar outdoor recreational facilities.

“Safety lighting” means the minimum amount of lighting required by the Building Official or Zoning Administrator for the purpose of safety, as required or prescribed by standards and regulations specific to the application review. Examples include lighting for ingress/egress, doorways, pathways, and driveways.

“Skyglow” means the brightening of the nighttime sky resulting from the scattering and reflection of artificial light by moisture and dust particles in the atmosphere. Skyglow is caused by light directed or reflected upwards or sideways and reduces one’s ability to view the nighttime sky.

“Spill, light” means illumination that reaches beyond the outside of the direct illumination area.

“Spotlight” means a fixture or bulb designed to light a small area very brightly. See definition of “Floodlight.”

“Temporary lighting” means lighting of a nonpermanent nature, not required for or qualifying as safety lighting, that plugs into an outlet and is not hard-wired.

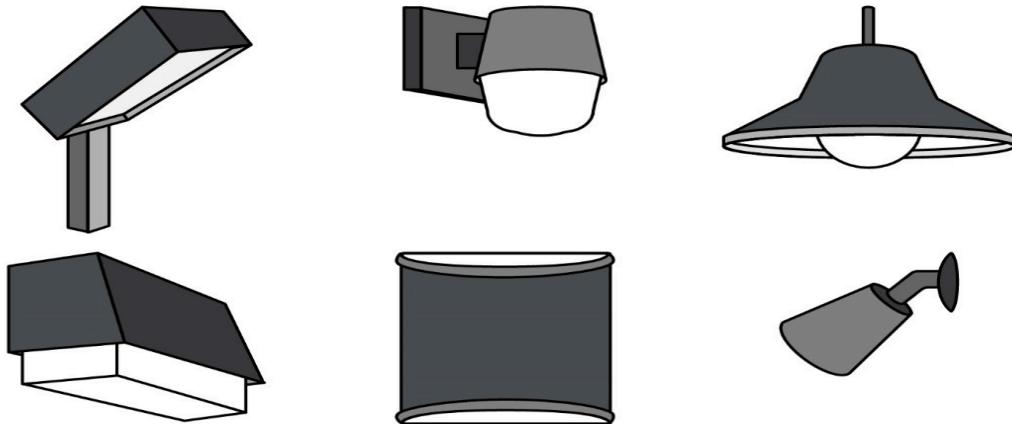
“Temporary string lighting” means lighting of a nonpermanent nature, not required for or qualifying as safety lighting, that plugs into an outlet and is not hard-wired. Description and qualification of temporary string lighting includes, but is not limited to, ambient, string, café, or bistro lighting; determined by the Zoning Administrator.

“Total, light” means the sum of shielded and unshielded light.

“Total outdoor light output” means the total amount of light, measured in lumens, from all installed outdoor light fixtures on a property, using each manufacturer’s initial rated lumen output.

“Tower” means any monopole, antenna, or the like that exceeds eighteen feet in height.

“Unshielded fixture” means a fixture that has insufficient shielding to prevent light emission above the horizontal.

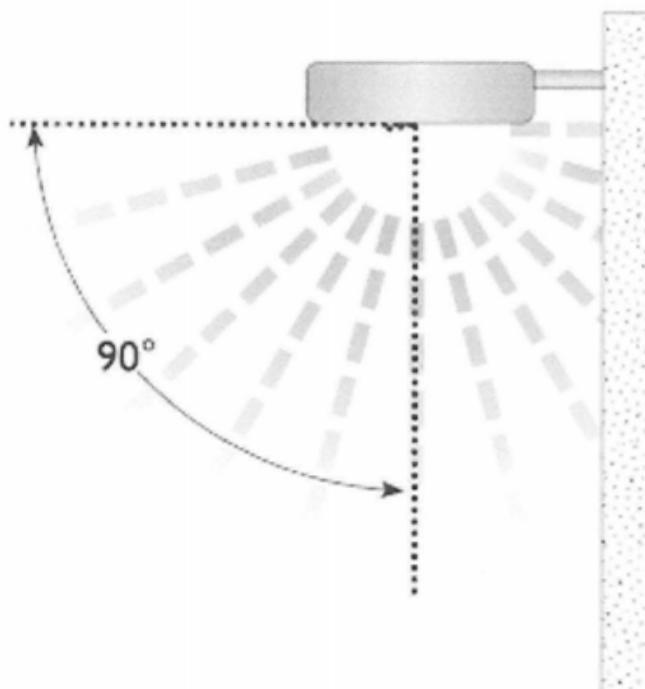


Examples of unshielded light fixtures.

“Up-light” means all the light emanating above the horizontal plane of a luminaire.

3.0 Outdoor lighting – Shielding and trespass requirements.

A. Unless specifically exempted by Section 8.0 D, all permanent and temporary outdoor lighting shall use fully shielded fixtures and shall be installed so light is directed downward with no light emitted above the horizontal plane of the fixture. Where a light manufacturer provides a BUG rating, the up-light rating (U) must equal zero.



B. All light fixtures shall be aimed and shielded so that the direct illumination shall be confined within the boundaries of the property from which it originates. Lighting shall not be aimed onto adjacent properties, except in cases of shared parking, shared pedestrian pathways, or for coordinated development sites spanning multiple parcels. Light source must be completely shielded from direct view from the perimeter of the property. No roofline or under canopy lighting is allowed without shielding all horizontal light. Flickering or flashing lights, searchlights, and laser lights are not permitted.

C. Seasonal Use: Decorative and holiday string lighting is only allowed on buildings, signs, trees, and other vegetation between November 15 and January 10.

D. Light trespass onto adjacent public rights-of-way may be allowed subject to approval of the Zoning Administrator.

E. Lights controlled by motion sensors shall not be triggered by movement or activity located off the property on which the light is located.

4.0 Outdoor lighting – Total light output.

- A. For commercial developments in the C and L1 Zones, the total outdoor light output shall not exceed fifty thousand lumens per developed acre. Such developments shall be permitted a minimum of five thousand lumens regardless of parcel size.
- B. For commercial developments in the MRC Zone, for mixed-use commercial and residential developments, and residential multihousehold developments in all zones, the total outdoor light output of any such development shall not exceed twenty thousand lumens per net acre. Such developments shall be permitted a minimum of five thousand lumens regardless of parcel size.
- C. For residential development of single-household, two-household, and ADUs in all zones, the total outdoor light output shall not exceed ten thousand lumens for parcels one-half acre or larger in size. Parcels smaller than one-half acre shall be permitted five thousand lumens.
 - 1. Residential units used for overnight accommodations or other commercial uses shall comply with the residential standards for total light output.
- D. Unshielded lighting shall not be permitted unless exempt, which unless expressly exempt, shall be incorporated into the total outdoor light output calculation.
 - 1. Total outdoor light output exceptions:
 - a. Street lights used for the express purpose of illumination of public rights-of-way are excluded from total outdoor light output calculations.

- E. A property may exceed the total light output limits if one hundred percent of the proposed lighting is comprised of the minimum, qualifying, and required safety lighting, given the fixture lumens are the minimum required to meet safety illumination standards. No additional lighting, or nonqualifying safety lighting, may be proposed beyond the required safety lighting if that required safety lighting meets or exceeds one hundred percent of the total light output calculation.

5.0 Outdoor lighting – Lighting hours.

- A. Commercial establishments shall turn off all outdoor lighting one hour after the close of business, and remain off until business open, except for the following:
 - 1. Commercial establishments located in C, L1, and MRC zones may leave all compliant outdoor lighting on until ten p.m. or until one hour after the close of business.
 - 2. Compliant lighting to illuminate the entrance to the commercial establishment.
 - 3. Compliant parking lot and pathway lighting required for the safety of guests or customers.
- B. Recreational lighting (residential and commercial) shall be turned off by ten p.m. except to conclude a specific sporting event that is underway.
- C. All legal, nonconforming lighting on residential properties shall be turned off by ten p.m. unless included in the exemptions listed in Section 8.0 D.
- D. Commercial establishments located in C, L1, and MRC zones shall turn off all illuminated signage by ten p.m., or one hour after close of business, and remain off until business open. All other commercial establishments shall turn off all illuminated signage one hour after business close and shall remain off until business open.

6.0 Outdoor lighting – Lighting color.

All outdoor lighting shall utilize light sources with correlated color temperature not to exceed three thousand Kelvin.

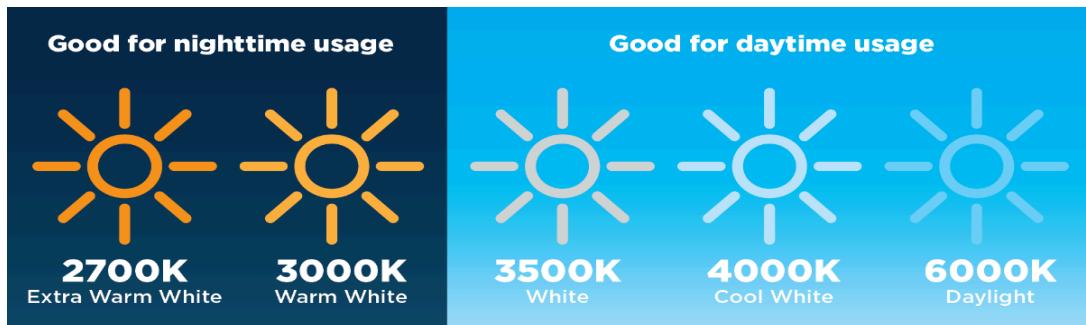


Image by City of Ft. Collins, Colorado, and used here with permission.

7.0 Outdoor lighting – Specialized outdoor lighting conditions and standards.

- A. Roadway and street lights are prohibited unless recommended by the City Engineer or required by WYDOT to provide for the safety of the public. All street lights shall utilize the lowest illuminance levels acceptable to the City Engineer and/or WYDOT.
- B. The overall height of any light post or tower used to illuminate parking lots shall not exceed twenty-five feet.
- C. Outdoor recreation areas or athletic fields at publicly owned facilities may use illumination to light the surface of play, viewing stands, and pathways for the safety of the public that is not in strict conformance with the shielding and lighting color provisions of the Alpine Outdoor Lighting Ordinance (AOLO). The following standards shall apply to outdoor recreation area or athletic field lighting:
 1. The recreational lighting shall not exceed illuminance levels for Class IV sports lighting and shall follow the Illuminating Engineering Society lighting guidelines (RP-6).
 2. The recreational lighting provides illuminance for the surface of play and viewing stands and not for any other areas or applications.
 3. Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance) and the lowest appropriate illuminance level shall be utilized based on the task.
 4. Off-site and skyglow impacts of the lighting will be limited to the greatest practical extent possible.
 5. The lighting for areas or applications outside the surface of play and viewing stands shall conform to all provisions in this chapter.
 6. The recreational or athletic facility shall extinguish lighting exempted by this chapter no later than ten p.m. or one-half hour after the end of play.
 7. The recreational lighting shall have timers that automatically extinguish lighting to ensure lights are not left on when the facilities are not in use.
- D. Outdoor event venues may use illumination to light the performance area that is not in strict conformance with the shielding and lighting color provisions of the AOLO. The following standards apply to all event lighting:

1. Lighting used to illuminate the performance area must be either directed spotlighting or fully shielded lighting. If directed spotlighting, the light source shall be located and designed to minimize its visibility beyond the property boundaries.
2. Lighting used to illuminate the performance area shall only be turned on during events.
3. Lighting used to illuminate the seating areas, pathways, and other areas of the venue shall meet all standards of this chapter.

E. All illuminated signs shall comply with the standards of Section (**** Alpine Sign Code).

8.0 Outdoor lighting – Application and review procedures.

A. *Lighting Plan.* All sign permit applications, subdivision applications, site plan applications, building permit applications, and other development review applications within any zoning district shall include a lighting plan that shows evidence that the proposed lighting fixtures and light sources comply with this chapter. Lighting plans shall include the following:

1. Plans or drawings indicating the proposed location of lighting fixtures, height of lighting fixtures on the premises, and type of illumination devices. Plans shall also include information for lamps, supports, shielding and reflectors used, as well as installation and electrical details.
2. Illustrations, such as contained in a manufacturer's catalog cuts, of all proposed lighting fixtures.
3. For commercial uses, photometric diagrams of proposed lighting fixtures are also required. In the event photometric diagrams are not available, the applicant must provide sufficient information regarding the light fixture, bulb wattage, and shielding mechanisms for the Planning Commission to be able to determine compliance with the provisions of this chapter.
4. A table showing the total amount of proposed exterior lights, by fixture type, wattage, lumens, and lamp type, for the purpose of calculating total outdoor lighting output.

B. *Approval Procedure.*

1. The lighting plan for all new development shall be submitted for approval concurrent with the associated application process.

C. *Exemptions.*

1. The following are exemptions from shielding and trespass requirements only, Section 3.0.
 - a. The lighting of federal or state flags; provided, that the light is a top-down and narrow beam aimed and shielded to illuminate only the flag.
 - b. Temporary string lighting:
 - i. Temporary string lighting, unless fully shielded, shall adhere to the lighting hours stated in Section 5.0.
 - ii. Temporary string lighting shall not flash, blink, fade, or strobe.
 - c. All lights exempted by this section shall be included in the calculation of total light output, Section 4.0, and shall comply with lighting color standards, Section 6.0.
2. The following are exemptions from general AOLO requirements,

- a. Traffic control signals and traffic safety devices.
- b. Emergency and safety lighting by emergency services. Searchlights, floodlights, laser source lights, strobe or flashing lights, or any similar high intensity lights are permitted when used in emergencies by police, fire, medical, and/or utility personnel or at their direction.
- c. Temporary outdoor lighting intended as holiday or seasonal decorations displayed between October 15th and the following January 15th may remain on until ten p.m.
 - i. Temporary outdoor lighting intended as holiday or seasonal decorations may remain on all night; provided, that they do not create nuisance glare.
- d. Lighting required by the Federal Aviation Administration or the Federal Communications Commission.
- e. Special events that have been issued a permit pursuant to *(insert Alpine code)*, Special Event and Street Performer Permits, shall be allowed temporary lighting for the duration of the event, provided such lighting does not create glare to motorists and complies with lighting hours, unless specifically outlined and approved within the event permitting.
- f. Pathway lights less than eighteen inches in height are exempted from the fully shielded fixture requirement if the total light output from each pathway light is less than three hundred lumens. The fixture shall have a top that is opaque such that no light is directed upwards.

D. *Exceptions.*

1. The City may grant exceptions when practical difficulties or unnecessary hardships exist that cause inconsistencies with the purpose and intent of the standards.
2. Requests for exceptions from the standards, policies, or submittal requirements shall be submitted in writing with appropriate documentation and justification to the Zoning Administrator. Exception requests must, at minimum, contain the following:
 - a. Standards under which the applicant seeks an exception.
 - b. Justification for not complying with standards.
 - c. Proposed alternate criteria or standards to comply with the intent of the standards.
 - d. Supporting documentation, including necessary calculations.
 - e. The proposed exception's potential adverse impacts for adjacent landowners.
 - f. An analysis of the exception request, signed by a qualified lighting technician, lighting architect, lighting engineer, lighting specialist, or lighting professional, depending on the topic of the request.
3. Upon receipt of a complete application for an exception, the Zoning Administrator shall prepare a statement to recommend that the exception be approved or denied or to request a modification of the proposed exception.
4. Exceptions shall be reviewed and approved by the Planning Commission.

E. *Variance.*

1. An applicant requesting approval for lighting that does not conform to the standards and regulations, beyond qualifying exemptions or exceptions, shall follow the procedures and findings requirements set forth in Section (*Town Code? Administration and Enforcement?*)

9.0 Outdoor lighting – Amortization and enforcement of nonconforming outdoor lighting.

A. The City shall require the termination of use of all nonconforming outdoor lighting fixtures, structures, lamps, bulbs, or other devices that emit or generate light which are not otherwise exempted by this chapter, pursuant to the amortization schedule contained in this section.

B. All permitted outdoor lighting installed prior to (*adoption date*), in all zoning districts, shall be considered legal, nonconforming. Any existing approved outdoor lighting, which is being used in a manner or for a purpose which is otherwise lawful, not including direct illumination or glare as specified by the special provision sections for zoning districts, but does not comply with the AOLO provisions.

C. All outdoor lighting legally existing and installed prior to the effective date of this chapter and which is not exempted shall be considered legal, nonconforming and shall be brought into compliance by the property owner as follows:

1. Immediate compliance is required as a condition for approval when applying for a building permit, sign permit, new (nonrenewal) business license, site plan review, or similar City permit or approval if site improvements, construction, reconstruction, expansion, alteration, or modification of existing sites, structures, or uses individually or cumulatively equal or exceed one thousand five hundred square feet, or fifty percent of the existing site or structure, whichever is less. Projects of less than one thousand five hundred square feet in size, or fifty percent of an existing site or structure, will not be subject to immediate compliance. However, the square footage of the improved structure or site will count towards a cumulative total of projects on the same property. When the cumulative total equals or exceeds one thousand five hundred square feet, or fifty percent of the existing site or structure, compliance shall be required for approvals as cited above.

2. All damaged or inoperative nonconforming fixtures shall be replaced or repaired only with lighting equipment and fixtures compliant with this ordinance.

3. All outdoor lighting not previously scheduled for amortization or otherwise exempted shall be brought into conformance with the AOLO by January 1, 2029 (*revise?*).

4. Whenever a nonconforming use, structure, or lot is abandoned for a period greater than one year and then changed to a new use according to the requirements of (*Alpine change of use code?*), all existing outdoor lighting shall be reviewed and brought into compliance as necessary for the entire building, structure, or site.

5. The abatement of the nuisance shall be attempted first through non-costly means, such as redirection and re-lamping. New fixtures shall be required if the nuisance cannot be abated.

- D. Violation and enforcement shall be processed as outlined in (*Alpine Enforcement Code?*).



The Alpine Municipal Code is current through Ordinance *****, passed ****.