

# AN ORDINANCE TO IMPROVE OUTDOOR LIGHTING IN THE CITY OF ALPINE, TEXAS

(ADOPTED BY THE CITY OF ALPINE ON MAY 23, 2000, BY JAMES T.  
WALKER)

FINAL REVISION MAY 08, 2000

## SECTION 1. Title, Purpose, and Scope.

- A. This ordinance shall be known and cited as the Alpine Outdoor Lighting Ordinance.
- B. The purpose of this ordinance is
- (1) to provide safer, more efficient and attractive outdoor lighting;
  - (2) to conserve energy;
  - (3) to make our community a better place to live and work and a more inviting place to visit; and
  - (4) to preserve the darkness and clarity of the night sky, mindful of the needs of McDonald Observatory.
- C. This ordinance shall apply within the City of Alpine, hereinafter referred to as City, and within the surrounding areas where the City asserts powers of extraterritoriality.

## SECTION 2. Definitions:

- A. The following definitions are hereby adopted for the purposes of this ordinance:
- (1) *lamp* or *bulb* -- a source of light;
  - (2) *light fixture* -- the assembly that holds or contains a lamp or bulb;
  - (3) *full cutoff* -- a shielded light fixture that emits no light above a horizontal plane touching the lowest part of the fixture;
  - (4) *sag-lens* or *drop-lens* -- a clear or prismatic refracting lens that extends below the lowest opaque portion of a light fixture;
  - (5) the *beam* of a light fixture -- the spatial distribution of the emitted light;
  - (6) *spotlight* -- a light fixture having a narrow beam;
  - (7) *floodlight* -- a light fixture having a wide beam;
  - (8) *wallpack* - a floodlight mounted on the wall of a building or other structure;
  - (9) *searchlight* -- a light fixture having a narrow beam intended to be seen in the sky;
  - (10) *axis of illumination* -- the midline of the beam emitted by a light fixture;
  - (11) *candela (cd)* -- the unit of measurement of the intensity of a point source of light (approximately equal to 1 candlepower);
  - (12) *illuminance* -- the intensity of light in a specified direction measured at a specified point;
  - (13) *foot candle (fc)* -- the illuminance measured 1 foot from a 1 candela source;
  - (14) *horizontal* and *vertical foot candles* -- the illuminance measured by a light meter in those positions (illuminance may also be measured in other specified positions or directions);
  - (15) *lumen* -- the unit of *luminous flux*, the total amount of light falling uniformly on or passing through an area of 1 square foot, each point of which is 1 foot from a 1-candela

source, yielding an illuminance of 1 foot candle at that distance (the output of lamps and bulbs is customarily measured in lumens, a common 100 watt incandescent light bulb, for example, having an output less than 1,800 lumens);

(16) *glare* -- visual discomfort or impairment caused by a bright source of light in a direction near one's line of sight;

(17) *light trespass* -- unwanted light falling on public or private property from an external location;

(18) *light pollution* -- the sky glow caused by scattered light emitted upward from unshielded or poorly aimed light fixtures.

(19) *public lighting* -- outdoor light fixtures located on property owned, leased, or controlled by the City or other governmental entity or entities, including but not limited to streets, highways, alleys, easements, parking lots, parks, playing fields, schools, institutions, meeting places, and all entities completely or partly funded by grants obtained by the City or its agents from Federal, State or private sources;

(20) *private lighting* -- outdoor light fixtures located on property owned or controlled by individual persons, including but not limited to families, partnerships, corporations, and other entities engaged in the conduct of business or other non-governmental activities;

(21) *area lighting* -- light fixtures such as guard lights located on public or private property that are designed to light spaces including but not limited to parks, parking lots, and sales lots; and

(22) *existing light fixtures* -- those outdoor light fixtures already installed at the time this ordinance is adopted.

### SECTION 3. Existing Outdoor Light Fixtures.

A. To reduce glare, safety hazards for drivers and pedestrians, light trespass, and light pollution, all existing spotlights, floodlights, and wallpacks shall be adjusted in accordance with the following provisions, excepting the lights at existing sports facilities used temporarily during a scheduled sporting or related events:

(1) For spotlights and floodlights mounted overhead on poles and used for area lighting, the axis of illumination shall be adjusted to an angle not more than 20 degrees from the vertical line between the fixture and the ground (see Exhibits 1 and 2).

(2) For spotlights and floodlights mounted at or near ground level and used to light a building, billboard, or other structure, the axis of illumination shall be adjusted to minimize the amount of light escaping above, below, and to the sides of the illuminated object.

(3) Wallpacks shall be adjusted where possible to minimize the amount of light emitted above the horizontal.

B. It shall be the responsibility of the City to publish this ordinance in the newspaper of record and to disseminate the ordinance by other appropriate means; to identify those spotlights, floodlights, and wallpacks requiring adjustment; and to inform their owners of these provisions.

(1) Any required adjustments shall be completed within six (6) months from the date of this ordinance. Any owner who fails to comply with these provisions shall be issued a warning notice. Any owner who further fails to comply after thirty days from the issuance of such warning shall be subject to a fine of twenty-five dollars (\$25.00) for each day of noncompliance. It is not the intent of this ordinance to require an additional investment in order to comply with these provisions.

C. Existing light fixtures, other than spotlights, floodlights, and wallpacks, already installed at the time this ordinance is enacted may continue in service without adjustment or modification through the remainder of their useful lives.

#### SECTION 4. New Light Fixtures Installed After the Effective Date of this Ordinance, Including Replacements for Existing Fixtures.

A. Lighting at public and private outdoor sports facilities, including but not limited to playing fields, arenas, tracks, and swimming pools, shall be shielded as well as is practicable to reduce glare, safety hazards, light trespass, and light pollution; and shall provide levels of illuminance consistent with nationally recognized standards; and shall be operated on a schedule that coincides with scheduled events.

B. Strobe lights on communication towers and other hazards to aerial navigation, required by the Federal Aviation Administration during the daytime and permitted but not required at night, may not be used at night. Other lights used at night on such structures shall not be brighter than the minimum required by the FAA.

C. All other outdoor lighting fixtures using lamps or bulbs having outputs greater than 1,800 lumens must be full cutoff fixtures.

(1) New streetlights shall be full cutoff fixtures using high-pressure sodium lamps, or of approved historical design utilizing a minimum output consistent with the safety of drivers and pedestrians.

(2) Sag-lens or drop lens fixtures are prohibited.

(3) Streetlights and private lighting shall be allowed to shine on adjacent property in the absence of a complaint of light trespass from an owner or occupant.

(4) Upon receiving a complaint of light trespass from an owner or occupant, the City shall evaluate the complaint. Where light trespass is found to occur, the City shall take appropriate steps to eliminate or minimize the unwanted light emanating from a light on City property, or from private lighting.

D. In the interest of conserving energy, mercury vapor fixtures are prohibited.

E. Each flag shall be lighted by one (1) spotlight emitting no more than 1,800 lumens.

#### SECTION 5. Levels of Illuminance Required or Permitted at Specific Facilities.

A. Maximum, average, and minimum levels of illuminance for different facilities are listed below in horizontal foot candles. Unless otherwise specified, minimum levels shall be the lowest consistent with safety and security.

(1) Parking lots and parking areas: average 2.0 fc; minimum 0.5.

(2) Entry areas near buildings: maximum 5.0 fc.

(3) Service stations and other fueling facilities: maximum 10 fc in the area surrounding pump islands; parking areas and entry areas shall be lighted as required in Sections 5 A (1) and 5 A (2), above; drop-lens fixtures are prohibited, whether mounted under canopies or on poles.

(4) Sales lots where merchandise, including automobiles, is displayed at night: maximum 20 fc.

B. For locations and facilities not specified herein, the Board shall set acceptable levels of illuminance upon request based on guidelines established by the Illuminating Engineering Society of North America.

C. The use of searchlights is prohibited for advertising, attracting attention to any event, and for any other use except for emergency purposes.

SECTION 6. Large Outdoor Lighting Projects.

A. An outdoor lighting project reasonably expected to utilize 100,000 lumens or more in the aggregate shall file a Lighting Plan with the Planning and Zoning Board, hereinafter called the Board. A Lighting Plan shall be filed at the same time as any other plans required by the City and shall specify the following:

- (1) number and type of light fixtures to be used;
- (2) their output in lumens; and
- (3) photometric data from the manufacturer(s) showing the spatial distribution of the output of the proposed fixtures.

B. The Board shall review the Lighting Plan, taking into account factors including but not limited to levels of illuminance, glare, safety hazards, light trespass, and light pollution. The Board shall approve or reject the Plan within thirty (30) days of submission, returning it to the applicant with an explanation. The applicant shall not move forward with the outdoor lighting project until the Lighting Plan is approved.

SECTION 7. Exemptions, Amendments, and Variances.

A. This ordinance shall not apply to the following:

- (1) decorative holiday lighting from November 15 through the next January 15;
- (2) lighting required by law to be installed on surface vehicles and aircraft;
- (3) airport lighting required by law;
- (4) temporary emergency lighting;
- (5) temporary lighting other than security lighting at construction projects; and
- (6) governmental facilities where compelling needs for safety and security are demonstrated.

B. This ordinance may be amended from time to time as local conditions change, and as changes occur in the recommendations of nationally recognized organizations such as the Illuminating Engineering Society of North America and the International Dark-Sky Association.

C. Nothing in this ordinance shall be construed as limiting the right of any person or entity to pursue legal action against any other person or entity under any applicable law, including the doctrine of light trespass.

D. The Planning and Zoning Board of the City of Alpine shall have the power to grant variances in the application of the provisions of this ordinance.

E. This ordinance shall become effective thirty (30) days after the date of its adoption.

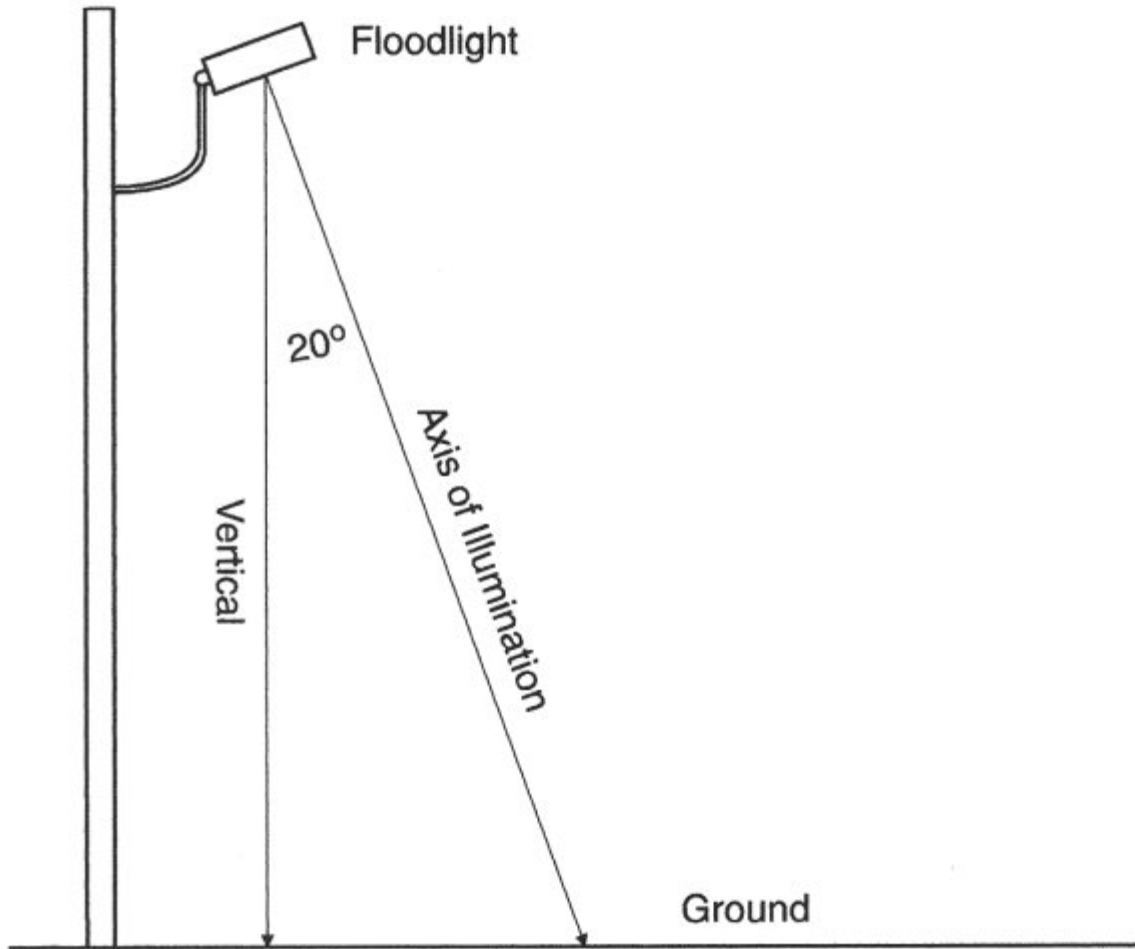


Exhibit 1. See *An Ordinance to Improve Outdoor Lighting in the City of Alpine, Texas, Section 3 (A) 1*: For spotlights and floodlights mounted overhead on poles and used for area lighting, the axis of illumination shall be adjusted to an angle not more than 20 degrees from the vertical line between the fixture and the ground.

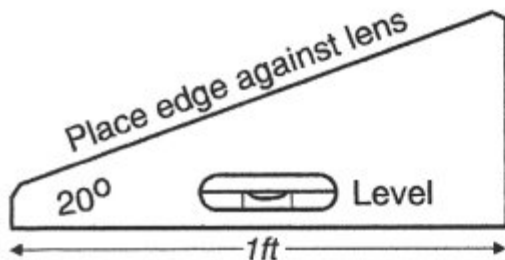


Exhibit 2. A tool for aiming lights as in Exhibit 1, above. Place the upper edge of the tool against the lens, and adjust the fixture so the bubble shows level.