

ORDINANCE NO. 2015-1194

**AN ORDINANCE OF THE CITY OF FULSHEAR, TEXAS, REPEALING AND REPLACING ORDINANCE NO. 2007-952, REGULATING OUTDOOR LIGHTING; DEFINING AND DECLARING LIGHT POLLUTION AS A NUISANCE; PROVIDING FOR A PENALTY; PROVIDING FOR SEVERABILITY; PROVIDING FOR REPEAL AND PROVIDING FOR AN EFFECTIVE DATE.**

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**WHEREAS**, the City Council of the City of Fulshear, Texas (the "City"), has heretofore adopted Ordinance No. 2007-952, regulating outdoor lighting; and

**WHEREAS**, the City desires to repeal Ordinance No. 2007-952 and to replace the regulations for outdoor lighting set forth therein with the regulations set forth herein; and

**WHEREAS**, the City has determined that this ordinance is authorized by the Constitution and laws of the State of Texas, including but not limited to Chapters 51 and 211 of the Texas Local Government Code, and that the regulations set forth herein promote the public health, safety, morals, or general welfare; and

**WHEREAS**, the City desires to define and declare light pollution as a nuisance;

**NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF FULSHEAR, TEXAS:**

**Section 1.** All of the facts recited in the preamble to this Ordinance are hereby found by the City Council to be true and correct and are incorporated by reference herein and expressly made a part hereof, as if copied herein verbatim.

**Section 2.** Ordinance No. 2007-952 is hereby repealed.

**Section 3. Purpose.** The purpose of this Ordinance is to provide regulations for outdoor lighting that will:

- (a) Permit the use of outdoor lighting that does not exceed the minimum levels specified for night-time safety, utility, security, productivity, enjoyment, and commerce.
- (b) Minimize adverse offsite impacts of lighting such as light trespass, and obtrusive light.
- (c) Curtail light pollution, reduce skyglow and improve the nighttime environment for astronomy.

- (d) Help protect the natural environment from the adverse effects of night lighting from gas or electric sources.
- (e) Conserve energy and resources to the greatest extent possible.

#### **Section 4. Definitions.**

*Adjusted Lamp Lumens* means the lamp lumens of a lamp multiplied by the lamp efficiency. Lamp efficiency is 100% for all solid state lighting lamps and 80% for all other lamps.

*Astronomic Time Switch* means an automatic lighting control device that switches outdoor lighting relative to time of solar day with time of year correction.

*Backlight* means lumens emitted in the quarter sphere below horizontal and in the opposite direction of the intended orientation of the luminaire.

*Canopy* means a covered, unconditioned structure with at least one side open for pedestrian access, vehicular access, or both. An unconditioned structure is one that may be open to the elements and has no heat or air conditioning.

*City* means the City of Fulshear, Texas.

*Diffuser* means a device used to diffuse, scatter, or distribute light from a source.

*Curfew* means a time period set by an ordinance or resolution of the City Council of the City during which outdoor lighting is to be reduced as provided by this Ordinance.

*Emergency Conditions* means lighting that is only energized during an emergency, including but not limited to lighting fed from a backup power source during a power failure, lighting for illuminating the path of egress solely during a fire or other emergency situation, and lighting for security purposes used solely during an alarm.

*Existing Lighting* means any lighting existing and installed on or before the effective date of this Ordinance.

*Fully Shielded Luminaire* means a luminaire constructed and installed in such a manner that all light emitted by the luminaire, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the lowest light emitting part of the luminaire.

*Glare* means lighting entering the eye directly from a luminaire or indirectly from reflective surfaces and that causes visual discomfort or reduced visibility.

*Hardscape* means permanent improvements upon the ground which are constructed of concrete, asphalt, stone, gravel, or other similar material. The term

includes but is not limited to parking lots, drives, entrances, curbs, ramps, stairs, steps, medians, walkways and non-vegetated landscaping that is ten feet (10') or less in width.

*Hardscape Area* means the area measured in square feet of all hardscape within a particular site.

*Lamp* means an individual source of light other than a celestial object or fire. The term includes but is not limited to bulbs, tubes, and modules. For purposes of this ordinance, multiple light-emitting diodes (LEDs) or organic LEDs (OLEDs) within a self-contained bulb, tube, or module are considered a single lamp.

*Lamp Lumens* means all lumens emitted from a lamp. Lamp lumens may be determined by documentation provided by the manufacturer of the lamp, by measurement taken by the building official using a photometric device designed and calibrated to measure lumens, or by the greater of the documentation provided by the manufacturer and the measurement taken by the building official.

*Landscape Lighting* means lighting of trees, shrubs, or other plant material as well as ponds and other landscape features.

*Lighting* means any electric, man-made, or artificial lighting equipment.

*Lighting Equipment* means equipment specifically intended to provide gas or electric illumination, including but not limited to lamps, luminaires, ballasts, poles, posts, lenses, and related structures, electrical wiring, and other necessary or auxiliary components.

*Light Pollution* means any adverse effect of artificial light, including but not limited to glare, light trespass, skyglow, energy waste, compromised safety and security, and impacts on the nocturnal environment.

*Light Trespass* means light that falls beyond the property it is intended to illuminate. For purposes of this Ordinance, it is presumed that lighting is not intended to illuminate beyond the property line of the property on which the lighting is located, and that light emitted from a luminaire is presumed to fall beyond the property line if the lamp is visible, either directly or indirectly by reflection or otherwise, from beyond the property line.

*Low Voltage Landscape Lighting* means landscape lighting powered at less than 15 volts and limited to luminaires having less than or equal to 525 luminaire lumens.

*Lumen* means the unit of measure used to quantify the amount of light produced by a lamp or emitted from a luminaire. The term is not synonymous with the term "watt," which is a measure of power consumption.

*Luminaire* means the complete lighting unit or fixture, consisting of one or more lamps.

*Luminaire Lumens* means the sum of all adjusted lamp lumens for all lamps within the luminaire.

*Luminous elements (of a light fixture)* means the lamp, any diffusing elements, and surfaces intended to reflect or refract light emitted from the lamp, individually or collectively.

*Mounting Height* means the height of lowest light emitting point of the lowest lamp of a luminaire above ground level.

*Nadir* means a vertical line extending from the lowest light emitting point of the lowest lamp of a luminaire to a point on the ground directly beneath the lowest light emitting point of the lowest lamp of the luminaire.

*New Construction* means the construction of entirely new buildings, structures, or hardscape, the construction of an addition to an existing building, structure, or hardscape greater than or equal to 25% of the existing building, structure, or hardscape, or the reconstruction or renewal of greater than or equal to 50% of an existing building, structure, or hardscape.

*New Lighting* means any lighting not existing and installed on the effective date of this Ordinance.

*Nonresidential* means any use other than single-family detached, single-family attached, duplex, or Multi-Family dwelling.

*Outdoor Lighting* means lighting installed within the property line and outside of the building envelopes, whether attached to poles, building structures, the earth, or any other location.

*Person* means an individual, partnership, corporation, or any other legal entity.

*Property Line* means the edges of the legally-defined extent of privately owned property.

*Residential* means use for single-family detached, single-family attached, duplex, or Multi-Family dwelling

*Seasonal Lighting* means temporary lighting installed and operated in connection with holidays or traditions.

*Site* means the area within the property line of a property.

*Skyglow* means the brightening of the nighttime sky that results from scattering and reflection of artificial light by moisture and particulates in the atmosphere.

*Solid State Lighting* means lighting based on light-emitting diodes (LEDs) or organic LEDs (OLEDs). The term does not include lighting based on filaments, plasma, or gases.

*Temporary Lighting* means lighting installed and operated for periods not to exceed 60 days, completely removed and not operated again for at least 30 days.

*Time Switch* means an automatic lighting control device that switches lights according to time of day.

**Section 5. Applicability.**

(a) Except as provided by subsection (b), all outdoor lighting within the City limits must comply with the requirements of this Ordinance; however, any special requirements of the following take precedence to the extent of any direct conflict with this Ordinance:

- (1) Lighting specifically provided for within a specific use permit;
- (2) Lighting specifically provided for within a planned unit development site plan; and
- (3) Lighting specifically required by a state, federal, or local law.

(b) The following are not regulated by this Ordinance:

- (1) Lighting within the public right-of-way for the principal purpose of illuminating streets or roads;
- (2) Temporary lighting used by law enforcement, fire, and other emergency services;
- (3) Lighting required by law to be installed on motor vehicles;
- (4) Lighting for public monuments and public statuary, provided the lighting does not constitute a hazard to the operation of motor vehicles upon a public street;
- (5) Lighting solely for signs;
- (6) Temporary lighting for theatrical, television, performance areas and construction sites, provided the lighting does not constitute a hazard to the operation of motor vehicles upon a public street and is fully shielded after 10:00 PM;

- (7) Underwater lighting in swimming pools and other water features; and
- (8) Temporary lighting and seasonal lighting, provided that individual lamps are less than 7 watts and 45 lumens;

**Section 6. Permit Required.** A person must apply for and obtain a permit from the City, and pay any applicable fee therefor as may be set by the City Council of the City in a schedule of fees, prior to the installation of any nonresidential new lighting or new lighting associated with residential new construction. The permit application must include a layout of the property which indicates:

- (a) the location and square footage of any nonresidential hardscape area;
- (b) the location and mounting height of each proposed new lighting luminaire and of each existing lighting luminaire;
- (c) the number of lamps within each proposed new lighting luminaire and each existing lighting luminaire;
- (d) the make, model, and lumen output stated by the manufacturer for each lamp within each proposed new lighting luminaire and each existing luminaire; and
- (e) the total luminaire lumens for each proposed new lighting luminaire and each existing lighting luminaire.

**Section 7. Lighting Zones.** Where indicated, the limitations for lighting specified by this Ordinance will be determined according to the Lighting Zones set forth in Table 1.

**Table 1 – Lighting Zones**

Lighting Zone	Zoning District(s)
LZ0	Unzoned & R1
LZ1	R2, DD & PUD
LZ2	MH, CF, MF, C & I

**Section 8. New Lighting.** All new lighting must comply with the requirements of this section:

- (a) **Nonresidential Site Lumen Limit.** The total luminaire lumens of all outdoor lighting within a nonresidential site may not exceed the total site lumen limit set forth for the applicable lighting zone in Table 2. The total luminaire lumens is calculated as the sum of all luminaire lumens for all outdoor lighting installed on the site.

**Table 2 – Maximum Total Luminaire Lumens per Square Foot of Hardscape Area**

	LZ0	LZ1	LZ2
<b>Maximum Total Luminaire Lumens per Square Foot of Hardscape Area</b>	0.5	1.25	2.3

(b) Residential Site Lumen Limits. No individual outdoor lighting luminaire on a residential site may exceed the luminaire lumen limit set forth for the applicable lighting zone in Table 3, as measured by the building official using a photometric device designed and calibrated to measure lumens.

**Table 3 – Maximum Allowed Luminaire Lumens**

	LZ0	LZ1	LZ2
<b>Fully Shielded Luminaire</b>	630	1260	1260
<b>All Other Luminaires</b>	125	125	125

(c) Automatic Switching Requirements. All outdoor lighting other than lighting under a canopy, tunnel or parking garage, or over a garage or building entrance must include controls that automatically extinguish the lighting when sufficient daylight is available using a control device or system such as a photoelectric switch, astronomic time switch or equivalent functions from a programmable light controller, building automation system, or lighting energy management system, all with battery or similar backup power or device.

(d) Lighting Reduction Requirements. The total luminaire lumens of all outdoor lighting intended to be left on more than 30 minutes after closing, or the completion of activities, within a nonresidential site is required to be reduced to 25% or less of the total site lumen limit as set forth in Section 8(a). Motion sensor activation may be allowed to cause the light to resume normal lumen output only when activated and to be reduced back to 25% or less of normal lumen output within 5 minutes after activation has ceased, and the light shall not be triggered by activity off the property.

The following are exempt from the application of this subsection:

- (1) Residential lighting other than landscape lighting;
- (2) Code required lighting for steps, stairs, walkways, and building entrances;
- (3) Lighting required by an order, resolution, or ordinance of the City to be maintained at a particular level; and
- (4) Lighting for businesses that operate on a 24 hour basis.

(e) Light Shielding Required. All outdoor lighting must consist of fully shielded luminaires. Low voltage landscape lighting, when within the maximum allowed luminaire lumens prescribed in Table 3 for All Other Luminaires, may be left unshielded provided a diffuser is utilized and the source of the light is not visible from any other property.

(f) **Backlight.** The backlight rating of a luminaire may not exceed the limit set forth for the applicable lighting zone in Table 4. The backlight rating of a luminaire is determined by the building official by measuring the lumens emitted by the luminaire at one mounting height of the luminaire in the direction of the nearest property line at one or more angles indicated in Table 5, as measured from the nadir at the lowest light emitting point on the lowest lamp of the luminaire, using a photometric device designed and calibrated to measure lumens. If measurement is taken at more than one angle, then the backlight rating of the luminaire is the highest rating of the measurements taken. If documentation provided by the manufacturer states a backlight rating for a luminaire, then, at the discretion of the building official, such stated backlight rating may be used in lieu of a measurement taken by the building official.

**Table 4 – Allowed Backlight Rating**

	<b>LZ0</b>	<b>LZ1</b>	<b>LZ2</b>
<b>Luminaires greater than 2 mounting heights from the property line</b>	B1	B3	B4
<b>Luminaires 1 to less than 2 mounting heights from the property line</b>	B1	B2	B3
<b>Luminaires 0.5 to less than 1 mounting height from the property line</b>	B0	B1	B2
<b>Luminaires less than .05 mounting height from the property line</b>	B0	B0	B0

**Table 5 – Backlight Ratings**

	<b>B0</b>	<b>B1</b>	<b>B2</b>	<b>B3</b>	<b>B4</b>	<b>B5</b>
<b>Lumens at 30°</b>	0–110	111–500	501–1000	1001–2500	2501–5000	>5000
<b>Lumens at 60°</b>	0–220	221–1000	1001–2500	2501–5000	5001–8500	>8500
<b>Lumens at 80°</b>	0–110	111–500	501–1000	1001–2500	2501–5000	>5000

(g) **Glare.** All outdoor lighting must be shielded and installed so that the luminous elements of the fixture are not visible, either directly or indirectly by reflection or otherwise, from any other property.

(h) **Color Temperature.** Nonresidential luminaires shall utilize lamps with a color temperature rating of 3,000K or below.

**Section 9. Existing Lighting.**

(a) Existing lighting must comply with the requirements of this Ordinance after a reasonable amortization period, which is presumed to end ten (10) years after the effective date of this Ordinance.

(b) Any owner of existing lighting may appeal the presumption set forth by this section by filing a written notice of appeal with the building official no later than two (2) years after the effective date of this Ordinance. The notice of appeal must:

- (1) state the owner's mailing address;
- (2) include a layout of the property which indicates the location of each existing lighting luminaire for which the presumption is being appealed; and
- (3) state for each luminaire indicated the amortization period that the owner believes is reasonable.

(c) The City Council of the City must hold a public hearing to determine the appeal no later than ninety (90) days after the building official receives the complete written notice of appeal, and must give the owner at least ten (10) days' written notice of the hearing.

(d) At the hearing, the owner has the burden of proof to establish the reasonable amortization period for each existing lighting luminaire indicated on the notice of appeal.

(e) Within thirty (30) days after the hearing, the City must issue an order requiring each existing lighting luminaire to comply with the requirements of this Ordinance after either the reasonable amortization period determined for such luminaire at the hearing or the reasonable amortization period presumed by this section, whichever is later.

**Section 10. Nuisance Declared.** Light pollution is hereby declared to be a public nuisance, and is hereby prohibited.

**Section 11. Penalty.** Any person, corporation, or association violating any provision of this Ordinance shall be charged with a misdemeanor and if convicted shall be punished by a fine of not more than Five Hundred Dollars (\$500.00) or, in the case of a violation of a provision of this Ordinance that governs fire safety, zoning, or public health and sanitation, including dumping of refuse, a fine of not more than Two Thousand Dollars (\$2,000.00). Each occurrence of any such violation of this Ordinance shall constitute a separate offense. Each day on which any such violation of this Ordinance occurs shall constitute a separate offense.

**Section 12. Severability.** In the event any clause, phrase, provision, sentence or part of this Ordinance or the application of the same to any person or circumstances shall for any reason be adjudged invalid or held unconstitutional by a court of competent jurisdiction, it shall not affect, impair or invalidate this Ordinance as a whole or any part or provision hereof other than the part declared to be invalid or unconstitutional; and the City Council of the City of Fulshear, Texas declares that it would have passed each and every part of the same notwithstanding the omission of

any part thus declared to be invalid or unconstitutional, or whether there be one or more parts.

**Section 13. Ordinance Cumulative.** This Ordinance shall be cumulative of all provisions of ordinances and codes adopted by the City of Fulshear, Texas, except where the provisions of this Ordinance are in direct conflict with the provisions of such ordinances or codes, in which event the stricter provision shall take precedence.

**Section 14. Repeal.** All other ordinances or parts of ordinances irreconcilably inconsistent or in conflict herewith are, to the extent of such inconsistency or conflict, hereby repealed.

**Section 15. Effective date.** This Ordinance shall be effective and in full force when published as required by law.

**PASSED, APPROVED, and ADOPTED** this, the 22nd day of September, 2015.



Thomas C. Kuykendall, Jr., Mayor

**ATTEST:**

  
D. Gordon Offord, City Secretary