



STAFF REPORT

DATE: 3/6/18

REGULAR

ITEM #: 6

MOTION

TO: City Council
FROM: Emily Becker, Planning Director
AGENDA ITEM: Outdoor Lighting Ordinance
REVIEWED BY: Ben Prchal, City Planner

BACKGROUND:

The creation of an outdoor lighting ordinance is an item on the 2018 Planning Commission Work Plan. The Council has expressed concern that the current lighting ordinance is too strict and that there are a number of non-compliant properties.

ISSUE BEFORE COUNCIL:

The Council is being asked to review other cities' outdoor lighting ordinance and a proposed draft ordinance and provide feedback.

PROPOSAL DETAILS/ANALYSIS:

What's currently in the City Code regarding outdoor lighting?

Definitions. Section 11.01: Definitions of the City Code, defines the following:

- ***DIRECT LIGHT.*** Light emitted directly from a lamp, off a reflector, or through a refractor of a luminaire.
- ***FULL CUTOFF LUMINAIRE.*** Luminaire that allows no direct light emissions higher than 15 degrees below a horizontal plane through the luminaire's lowest light-emitting part.
- ***GLARE.*** Direct light emitted from a luminaire that causes reduced vision or momentary blindness.
- ***ILLUMINANCE.*** The level of light measured at a surface.
- ***LAMP.*** The component of a luminaire that produces the light.
- ***LIGHT TRESPASS.*** Light emitted by a luminaire that shines beyond the boundaries of the property on which the luminaire is located.
- ***LUMEN.*** A unit of measurement of the light emitted from a source.
- ***LUMINAIRE.*** The complete lighting system, including the lamp and the fixture.

- **PERMANENT OUTDOOR LUMINAIRE.** Any luminaire or system of luminaries that is outdoors and that is intended to be used for 7 days or longer.

Sections 150.035-150.038 of Chapter 150: General Provisions of Title XV: Land Usage of the Lake Elmo City Code of Ordinances, attached, is analyzed below:

- **Exterior Lighting Plan.** An exterior lighting plan, prepared by a certified architect, landscape architect, or lighting designer, is required at the time any exterior light is installed or modified for projects, an exterior lighting plan shall be submitted to the city. The plan must include:
 - Where the light is located
 - Photometric plan for non-residential development
 - Fixture data sheet for residential lighting

Staff Comment: It is common for cities to require a lighting plan for non-residential (including multi-family dwelling) development. It is not common to require this for single and two-family dwellings.

- **Prohibited Lighting.**
 - Only full cut-off luminaires allowed
 - No direct or sky-reflected glare (from floodlights or high temperature processes) directed towards other properties
 - No bare light bulbs.
 - Light cast cannot exceed one foot candle on to a public street or 4/10 foot candles on to residential properties.

Staff Comment: This is generally consistent with surrounding cities except for the provision that bare light bulbs are prohibited. Staff has proposed striking the requirement that bare light bulbs are prohibited and rather that they should not be visible from a public right-of-way

- **Different Minimum Standards for Lights with Cutoff Angle Greater than and Less Than 90 Degrees.** There are different standards for lighting with lighting with two different cutoff angles. Restrictions are greater for lights with cutoff angles greater than 90 degrees, and this is to ensure that no light is emitted above a horizontal plane parallel to the ground. Lights with cutoff angles less than 90 degrees are less strict because the design ensures that its light source will not be directly visible off-site. There are two maximum standards for both types of lights.
 - **Cutoff Angle Greater than 90 Degrees** – can be exceeded for radius of 20 feet measured from the center point of a light fixture.

<i>Use and District</i>	<i>Maximum Permitted Illumination at a Point 6 Feet Above the Ground (In Foot Candles)</i>	<i>Maximum Permitted Height</i>
All Residential Districts	0.30	15 feet

All Non-Residential Districts	1.50	20 feet
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- **Cutoff Angle Less Than 90 Degrees** - can be exceeded for radius of 20 feet measured from the center point of a light fixture.

<i>Use and District</i>	<i>Maximum Permitted Illumination at a Point 6 Feet Above the Ground (In Foot Candles)</i>	<i>Maximum Permitted Height</i>
All Residential Districts	1.00	15 feet
All Non-Residential Districts	3.00	30 feet

Staff Comment: While it is reasonable to require a different height for light poles, it is confusing and cumbersome to require different standards for two different types of lights. Additionally, the focus should be on light pollution caused to adjacent properties, not concern about maximum illumination on a specific property. Staff has proposed striking this from the Code.

- **Minimum Standards for Lighting on Agricultural Land.** When a permanent outdoor luminaire is placed on agricultural land, only Mercury lamps are to be permitted.

Staff Comment: This is very limiting and should be stricken from the Code. Mercury lamps are declining in popularity. Staff has proposed striking this from the Code.

- **No Standards for Temporary Lighting.** The City's current Lighting, Glare Control, and Exterior Lighting Standards ordinance does not make exceptions for any kind of lighting. Some exceptions could include the following:
 - Ornamental lighting (low voltage light fixtures of 12 volts or less)
 - Right-of-way lighting
 - Required lighting (required by the Federal Aviation Administration or other State or Federal Agency)
 - Temporary lighting (public sporting events, theatrical or performance areas)
 - Public safety lighting
 - Holiday lights

Other Cities' Examples. Staff has provided examples and a comparison table to compare Lake Elmo's Lighting, Glare Control, and Exterior Lighting Standards. A number of cities do not have outdoor lighting standards within their City Code. Staff has presented these examples from cities that do have these standards.

Staff Recommendation, Generally. Staff would recommend that the City adopt a lighting ordinance similar to those of other cities. In general, the City's lighting ordinance is a bit too cumbersome. Staff would recommend that the City amend its lighting ordinance to be similar to those of comparable cities. The proposed ordinance makes the following amendments to the current ordinance:

- Removes requirement that single and two-family dwellings submit a fixture data sheet for residential lighting purposes.
- Requires that light cast on any adjacent property (not just residential) not exceed 4/10 foot candles as measured from said property line.
- Sets forth height requirements from current ordinance, removing different requirements for lights with a cutoff angle greater than or less 90 degrees (maximum 15 feet in height for light poles on residential properties and 30 feet for non-residential properties).
- Sets forth exceptions from requirements for ornamental, right-of-way, temporary, required, and public safety lighting.

Planning Commission Review. The Planning Commission reviewed proposed amendments to the City's Lighting, Glare Control, and Exterior Lighting Standards at its February 26, 2018 meeting. The Planning Commission had suggested one small changes in regards to temporary lighting to remove reference to wattage and volts, as with new technology, this may not affect lumens. The Planning Commission recommended approval of the proposed ordinance amendments 7-0 but expressed their desire that for new lighting to be reviewed with building permits for new construction.

FISCAL IMPACT:

None.

OPTIONS:

The Council may:

- Adopt Ord. 08-202 as presented.
- Specify amendments, deletions or additions to the City's Lighting, Glare Control, and Exterior Lighting Standards and adopt Ord. 08-202 as amended.
- Specify and direct Staff to prepare amendments, deletions or additions to the City's Lighting, Glare Control, and Exterior Lighting Standards and bring back to a future meeting.
- Do not adopt Ord. 08-202, making no amendments to the City's Lighting, Glare Control, and Exterior Lighting Standards.

RECOMMENDATION:

Staff and the Planning Commission recommend that Council approve the recommended amendments to the City's Lighting, Glare Control, and Exterior Lighting Standards.

“Move to adopt Ord. 08-202 approving amendments to the City's Lighting, Glare Control, and Exterior Lighting Standards.”

Additionally, Staff recommends that Council adopt Resolution 2018- authorizing summary publication of Ord. 08-202.

“Move to adopt Resolution 2018-022 authorizing summary publication of Ord. 08-202.”

ATTACHMENTS:

- Other cities' lighting ordinances comparison and summary table
- Draft Ord. 08-202
- Summary Publication Resolution 2018-022

<i>City</i>	<i>Requires Lighting Plan</i>	<i>Require Full Cutoff</i>	<i>Addresses Bare Light Bulbs</i>	<i>Lighting on Streets</i>	<i>Maximum Illumination on Residential Properties</i>	<i>Maximum Illumination on Non-Residential Properties</i>	<i>Maximum Light Pole Height</i>	<i>Misc</i>
Lake Elmo	For any project - including residential	Yes	No bare light bulbs are permitted	Not to exceed 1 footcandle	Not to exceed 4/10 foot candles at property line (0.3 footcandles for cutoff angles greater than 90 degrees and 1.00 for cutoff angles less than 90 degrees)	Not to exceed 1.5 footcandles for cutoff angles greater than 90 degrees and 3.00 footcandles for cutoff angles less than 90 degrees)	Residential districts: 15 ft and non-residential districts: 20 ft for cutoff angles greater than 90 degrees and 30 ft for cutoff angles less than 90 degrees	
Maplewood	Only for recreational, multiple-dwelling or nonresidential development	Does not address full cutoff	Does not prohibit bare light bulbs	Must be concealed from public street	Not to exceed 4/10 foot candles at property line	Not to exceed 4/10 foot candles at property line	25 ft	

Bloom- ington	Not required for single and two-family dwellings	Yes - 90 degree cutoff needed	Requires lenses, deflectors, shields, louvers, or prismatic control devices to be used to eliminate nuisance and hazardous lighting to facilitate compliance with this requirement	No limit along public street	Not to exceed 5/10 footcandle at property line	Not to exceed 1 footcandle	Residential districts and non-residential uses within 300 ft of residential districts: 28 ft and office/industrial uses and retail and service oriented uses: 33 ft	Have separate standards for signs, flagpoles, building facades, canopy lighting, and parking facilities. Have minimum standards for parking, building entrance and exits, pedestrian access
Clearwater	No	No - but lights must be hooded or controlled in some manner to not direct light into any adjacent property	No	Not to exceed 0.5 footcandle	Not to exceed 5/10 footcandle at property line	Not to exceed 5/10 footcandle at property line	Not mentioned	
Royalton	For any project - including residential	Yes, with exceptions	Light source must be fully shielded	Lighting must not exceed the Illuminating Engineering Society of North America (IES) requirements	Lighting must not exceed the Illuminating Engineering Society of North America (IES) requirements	Lighting must not exceed the Illuminating Engineering Society of North America (IES) requirements	Luminaires to be no higher than 25 feet	uplighting prohibited (except for flags)

Ham Lake	For certain development - not including residential development							Does not have a specific lighting ordinance but restricts lighting emitted from industrial uses to exceed 4 footcandles on residential properties
Little Canada	For certain development - not including residential development	Must be hooded or controlled in some manner to deflect light away	Not to be viewable from adjacent property or public right-of-way	Not to exceed 1 footcandle	Not to exceed 4 footcandles as measured from said property	Not to exceed 4 footcandles as measured from residential property	Not mentioned	
Mounds View	For certain development - not including residential development	Must be hooded or controlled in some manner to deflect light away	Not to be viewable from adjacent property or public right-of-way	Not to exceed 1 footcandle	Not to exceed 4/10 footcandles as measured from said property	Not mentioned	Not mentioned	
Rogers	City may require submission of a light distribution plan if deemed necessary to ensure compliance	No	Only approved in conjunction with a site building plan	Mitigative measures must be employed to limit glare and spill light	Not to exceed 5/10 footcandle at property line	Not to exceed 1 footcandle		City may limit hours of operation of outdoor lighting if deemed necessary
Orono	Does not specify	Yes - 90 degree cutoff needed	No	Not to exceed 1 footcandle	Not to exceed 4/10 footcandles as measured from said property	Not mentioned	30 feet	Light source to be setback a minimum of 10 ft from ROW and 5 ft from side or rear lot line, parking lot lights to be turned off one hour after closing

CITY OF LAKE ELMO
COUNTY OF WASHINGTON
STATE OF MINNESOTA

ORDINANCE NO. 08-202

AN ORDINANCE AMENDING THE LAKE ELMO CITY CODE OF ORDINANCES BY
AMENDING REGULATIONS PERTAINING TO LIGHTING, GLARE CONTROL,
AND EXTERIOR LIGHTING STANDARDS

SECTION 1. The City Council of the City of Lake Elmo hereby amends Title XV: Land Use; Chapter 150: General Provisions, by amending the following:

**LIGHTING, GLARE CONTROL, AND EXTERIOR LIGHTING
STANDARDS**

§ 150.035 PURPOSE.

The purpose of §§ 150.035 *et seq.* is to promote the public health, safety, and general welfare of the community while protecting motor vehicle operators, pedestrians, and adjacent land uses from glare. regulate the spillover of light and glare on rural areas of the community, pedestrians, and land uses in the proximity of the light source to evaluate the impact of light source on the safety of adjacent traffic.

(1997 Code, § 1350.01) (Am. Ord. 97-17, passed 9-16-1997)

§ 150.036 EXTERIOR LIGHTING PLAN.

(A) (1) Except for single and two-family dwellings, At the time any exterior light is installed or modified for projects, an exterior lighting plan shall be submitted to the city in order to determine whether the purpose and requirements of §§ 150.035 *et seq.* have been met prior to installation or modification of exterior lighting.

(2) This plan will be prepared by a certified architect, landscape architect, or lighting designer.

(B) (1) The applicant must provide a plan that identifies the location, size, and type of luminaire, and show how the applicant intends to comply with §§ 150.035 *et seq.*

(2) A photometric plan of the site and fixture data sheet must be submitted with a site plan for office, commercial, or any type of industrial project in order to determine the effect of the luminaire on surrounding properties.

~~—(3) The applicant shall provide the fixture data sheet for residential lighting proposals.~~

(1997 Code, § 1350.03) (Am. Ord. 97-17, passed 9-16-1997) Penalty, see § 10.99

§ 150.037 PROHIBITED LIGHTING.

(A) *Public roadway or street.* No lights shall be placed in view of any public roadway or street so that its beams or rays are directed at any portion of the roadway when light is of the brilliance and so positioned as to impair the vision of the driver of any motor vehicle.

~~—(B) Luminaires.~~

~~—(1) Except for "full cutoff luminaires" as defined in §§ 150.035 *et seq.*, no luminaires are allowed which do not meet the standards outlined in §§ 150.035 *et seq.*~~

~~—(2) See illustration below.~~

~~(EB)~~ *Lighting in all zoning districts.* No direct or sky-reflected glare, whether from floodlights or from high temperature processes such as combustion or welding, shall be directed into any adjoining property.

~~(DC)~~ *Bare light bulbs.* Bare light bulbs shall not be permitted in view of adjacent property or public right-of-way.

~~(ED)~~ *Light cast.* No light or combination of lights, which cast light on a public street, shall exceed 1 foot-candle. Meter reading as measured from the centerline of the street, nor shall any light or combination of lights, which cast light on an adjacent residential property, exceed 4/10 foot-candles as measured from said property line.

(E) Maximum Height. The maximum permitted height for any light pole, as measured from at grade from the base of the pole to the top of the luminaire, shall be 15 feet in all residential districts and 30 feet in all non-residential districts.

(F) Exceptions. The requirements of § 150.035 *et seq.* do not apply to the following types of exterior lighting:

(1) Ornamental lighting. Ornamental landscape lighting fixtures, and solar operated light fixtures having self-contained rechargeable batterieis, or any other ornamental lighting where any single light fixture does not exceed 200 initial light output lumens;

(2) Right-of-way lighting. Public lighting located within and intended for the right-of-way;

(3) Temporary lighting. Temporary lighting for public events (including but not limited to public sporting events, theatrical, television or performance areas) with an approved special event permit or held by the City;

(4) Required lighting. Lighting required by the Federal Aviation Administration or other State and Federal Agency; and

(5) Public safety lighting. Temporary lighting for police, fire or public safety construction and repair personnel.

(1997 Code, § 1350.04) (Am. Ord. 97-17, passed 9-16-1997) Penalty, see § 10.99

~~§ 150.038 MINIMUM STANDARDS.~~

~~—(A) Minimum standards for lighting with a total cutoff angle of greater than 90 degrees.~~

~~—(1) When a luminaire has a total cutoff of an angle greater than 90 degrees (see illustration below), the maximum illumination and the maximum permitted luminaire height is designated below. This standard is designed to ensure that no light is emitted above a horizontal plane parallel to the ground. In order to achieve a total cutoff at 90 degrees, the luminaire will emit maximum (peak) candle power at an angle not exceeding 75 degrees. This angel is formed by the line at which maximum candlepower is emitted for the light source and a line perpendicular to the ground from the light source.~~

~~—(2) Illumination may exceed the stated maximums for a radius of 20 feet measured from the center point of the light fixture, but shall not exceed those maximums beyond the exterior property line of the site upon which the fixture is located.~~

~~(Am. Ord. 97-104, passed 3-19-2002)~~

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<i>Use and District</i>	<i>Maximum Permitted Illumination at a Point 6 Feet Above the Ground (In Foot Candles)</i>	<i>Maximum Permitted Height</i>
All Residential Districts	0.30	15 feet
All Non-Residential Districts	1.50	20 feet

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~~—(B) Minimum standards for lighting with a total cutoff angle of less than 90 degrees.~~

~~—(1) When a luminaire has a total cutoff of light at an angle less than 90 degrees and is located so that the bare light bulb, lamp, or light source is completely shielded from the direct view of an observer 5 feet above the ground at the point where the cutoff angle intersects the ground, the maximum permitted illumination and the maximum permitted height is illustrated below. This type of light fixture may be taller and provide greater illumination at the property line than the 1 specified above, because the design of this fixture ensures that its light source will not be directly visible off site.~~

~~—(2) Illumination may exceed the stated maximums for a radius of 20 feet measured from the center point of the light fixture, but shall not exceed those maximums beyond the exterior property line of the site upon which the fixture is located.~~

~~(Am. Ord. 97-104, passed 3-19-2002)~~

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<i>Use and District</i>	<i>Maximum Permitted Illumination at a Point 6 Feet Above the Ground (In Foot Candles)</i>	<i>Maximum Permitted Height</i>
All Residential Districts	1.00	15 feet
All Non-Residential Districts	3.00	30 feet

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~~—(C) Minimum standards for lighting on agricultural lands. When a permanent outdoor luminaire is placed on agricultural land, only Mercury lamps shall be permitted.~~

~~—(D) Attachments. Attachment entitled "Good Neighbor Outdoor Lighting" is on file in the Building Official's office, and can be found in Appendix A of this code. This is the guide to be used for residential lighting.~~

(1997 Code, § 1350.05) (Am. Ord. 97-17, passed 9-16-1997) Penalty, see § 10.99

SECTION 2. Effective Date. This ordinance shall become effective immediately upon adoption and publication in the official newspaper of the City of Lake Elmo.

SECTION 3. Adoption Date. This Ordinance 08-202 was adopted on this _____ day of ____ 2018, by a vote of ____ Ayes and ____ Nays.

LAKE ELMO CITY COUNCIL

Mike Pearson, Mayor

ATTEST:

Julie Johnson, City Clerk

This Ordinance 08-202 was published on the _____ day of _____, 2018.

**CITY OF LAKE ELMO
COUNTY OF WASHINGTON
STATE OF MINNESOTA**

RESOLUTION NO. 2018-022

**RESOLUTION AUTHORIZING PUBLICATION OF ORDINANCE 08-202 BY TITLE
AND SUMMARY**

WHEREAS, the City Council of the City of Lake Elmo has adopted Ordinance No. 08-202, an ordinance replacing the administrative provisions of the City's Zoning Code; and

WHEREAS, the ordinance is lengthy; and

WHEREAS, Minnesota Statutes, section 412.191, subd. 4, allows publication by title and summary in the case of lengthy ordinances or those containing charts or maps; and

WHEREAS, the City Council believes that the following summary would clearly inform the public of the intent and effect of the ordinance.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Lake Elmo, that the City Clerk shall cause the following summary of Ordinance No. 08-202 to be published in the official newspaper in lieu of the entire ordinance:

Public Notice

The City Council of the City of Lake Elmo has adopted Ordinance No. 08-202, which replaces the administrative provisions of the City's Zoning Code. The revised ordinance includes the following components:

- Exempts single and two family dwellings from having to provide a lighting plan to the City prior to installation or modification of exterior lighting.
- Removes varying minimum standards for lighting with a total cutoff angle greater than 90 degrees and lighting with a total cutoff angle less than 90 degrees.
- Removes the requirement that only mercury lamps are permitted as exterior lighting on agricultural land.
- Makes the following exceptions to exterior lighting standards: ornamental lighting, right-of-way lighting, temporary lighting, required lighting, and public safety lighting.

The full text of Ordinance No. 08-202 is available for inspection at Lake Elmo city hall during regular business hours.

BE IT FURTHER RESOLVED by the City Council of the City of Lake Elmo that the City Administrator keep a copy of the ordinance at City Hall for public inspection and that a full copy of the ordinance be placed in a public location within the City.

Dated: March 6, 2018

Mayor Mike Pearson

ATTEST:

Julie Johnson, City Clerk

(SEAL)

The motion for the adoption of the foregoing resolution was duly seconded by member

_____ and upon vote being taken thereon, the following voted in favor thereof:

and the following voted against same:

Whereupon said resolution was declared duly passed and adopted.