

**ARTICLE XX****LIGHTING****§ X.05 - INTENT & PURPOSE**

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The intent and purpose of this Article is to:

- (A) Prevent the reflection and glare of lighting in a manner that creates a nuisance or safety hazard to motor vehicle operators, pedestrians, and neighboring properties and uses;
- (B) Promote dark skies, consistent with the Township's rural nature, by limiting intrusive artificial light that degrades the quality of the nighttime visual environment;
- (C) Reduce atmospheric light pollution, light trespass, and off-site impacts of lighting;
- (D) Recognize the need for buildings and sites to provide lighting for safety and security; and
- (E) Provide standards for the placement, orientation, and fixture details for lighting.

**§ X.10 - EXEMPTIONS**

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The standards of this Article shall not apply to the following lighting:

- (A) **Interior Lighting:** Lighting within a building that is not visible or does not create glare outside of the building;
- (B) **Residential Lighting:** Fixtures for single-family houses, accessory dwellings, and duplexes that do not produce glare and have a maximum illumination level of one thousand six hundred (1,600) lumens; (that's equivalent to 100 watts incandescent)
- (C) **Landscaping:** Decorative landscape lighting for lawns, gardens, or docks that is within five (5) feet of the ground and has a maximum illumination level of one hundred (150) lumens per fixture; (that's equivalent to 10 watts incandescent)
- (D) **Holiday Decorations:** Seasonal lighting associated with holidays including, but not limited to, Christmas, Hanukkah, Halloween, or New Years, with individual lamps that have a maximum illumination level of one hundred fifty (150) lumens; (that's equivalent to 10 watts incandescent)
- (E) **Traffic Control:** Lighting consistent with the Manual on Uniform Traffic Control Devices used for traffic control;
- (F) **Construction or Emergency:** Temporary lighting for construction or emergencies that is discontinued immediately upon completion of the construction or abatement of the emergency;
- (G) **Carnival:** Lighting associated with a carnival or festival that does not produce glare and has a maximum illumination level of one (1) foot candle at any lot line or public street; and
- (H) **Television/Movie:** Lighting for television news and lighting for television or movie production that has a valid temporary zoning permit.
- (I) **Street Lighting:** Lighting installed and maintained by the Road Commission that is designed and maintained to direct light onto ~~the roadway~~ a public street.

### § x.15 - PROHIBITED LIGHTING

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The following lighting shall be prohibited in all zoning districts, unless otherwise ~~provided~~ permitted in this Article:

- (A) **Search Lights:** Search lights used for entertainment or advertisement;
- (B) **Lasers:** The use of lasers and similar high-intensity lighting;
- (C) **Flashing:** Flashing, strobing, moving, or intermittent lighting, except when required by the Federal Aviation Administration; and
- (D) **Non-shielded Bulbs:** Non-shielded, non-parabolic-type bulbs, except for neon luminous tube lighting and light emitting diodes used for signs.

### § x.20 - GENERAL LIGHTING STANDARDS

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All lighting shall meet the standards outlined below, unless otherwise provided in this Article.

- (A) **Hazard & Nuisance:** All lighting shall be aimed, located, designed, fitted, and maintained so as to not create a hazard to drivers and pedestrians or a nuisance to a neighboring use or property.
- (B) **Lighting Level:** The maximum light level projected onto a residentially-zoned or used property shall be 0.1 footcandles. The maximum light level projected onto any other property shall not exceed 0.5 footcandles. This shall be measured at ground level along the lot line; the measurement shall be made along the edge of the travelled street instead of along the front lot line.
- (C) **Direction:** Outdoor lighting shall be directed away from adjoining lots, rights-of-way, and waterbodies as much as possible.
- (D) **Cut-off Angle:** Light fixtures shall be a full cut-off fixture, with a one hundred (100) percent cut-off angle above the horizontal plane. The ~~light source~~ bulb lamp shall be located above the bottom of the fixture and shall not be visible from off site.
- (E) **Screening:** Vegetative screens shall not serve as the primary means for controlling glare or lighting levels. Control shall be achieved primarily through the use of cutoff luminaires, shields and baffles, appropriate mounting height, wattage, direction, and placement.
- (F) **Duration:** Outdoor lighting, except for residential and agricultural uses, shall be turned off or reduced in intensity between the hours of 11:00 pm and 6:00 am. The duration of full intensity may be extended, if any of the following are determined to be true:
  - (1) **Hours of Operation:** The duration shall be extended to half an hour after the use of the site concludes and shall begin half an hour before the use of the site begins;
  - (2) **Motion Detector:** The light fixtures are activated by motion detectors beyond the hours of operation; or
  - (3) **Security & Safety:** The duration shall be extended if the approving authority makes a written finding that the extended hours are necessary for the security and safety of the site or vicinity.
- (G) **Wiring:** Electrical service for outdoor lighting that is not attached to a building shall be located underground.
- (H) **Color:** Light sources shall have a color temperature between two thousand seven hundred (2,700) Kelvin and four thousand one hundred (4,100) Kelvin. This shall not apply to neon luminous tubes, architectural accent lighting, and light emitting diodes used for electronic message centers.

## § X.25 - FREESTANDING LIGHTING

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In addition to other applicable standards, freestanding lighting shall meet the standards outlined below.

- (A) **Light Intensity:** The maximum light intensity at ground level below the light fixture shall be (10) footcandles.
- (B) **Height:** The maximum height shall be twenty (20) feet. This height shall be measured from the ground adjacent to the light pole. If a light pole is placed on a berm, the height shall be measured from the base of the berm.
- (C) **Location:** Freestanding pole lighting located near parking lots, driveways, or streets or within a landscaped island shall be at least three (3) feet from the edge of the curb or pavement and shall not interfere with traffic flow.
- (D) **Concrete Base:** Freestanding pole lighting located within parking areas shall be mounted on a concrete base at least thirty (30) inches high.
- (E) **Bollard Height:** Bollard lighting shall have a maximum height of three (3) feet.
- (F) **Outdoor Protection Lighting:** Outdoor protection lighting shall meet the following additional standards:
  - (1) Location: Outdoor protection lighting shall not be placed in a waterfront yard.
  - (2) Light Intensity: Outdoor protection lighting may be brighter along lot lines if a letter of non-objection is obtained from the affected adjacent property owner. This letter shall be in a form approved by the Township and shall be recorded with the Register of Deeds, with a copy of the recorded agreement supplied to the Township.
  - ~~(1)~~(3) Height: Outdoor protection lighting installed by a utility company may be higher than the maximum height for freestanding lighting if it is mounted on an existing pole.

## § X.30 - BUILDING & STRUCTURE LIGHTING

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In addition to other applicable standards, building and structure-mounted lighting shall meet the standards outlined below.

- (A) **Light Intensity:** The maximum light intensity at ground level below the light fixture shall be (10) footcandles. The light intensity on any vertical surface shall not exceed five (5) footcandles.
- (B) **Height:** The maximum fixture height shall be twenty (20) feet or the height of the building, whichever is less.
- (C) **Awning Lighting:** Awnings shall be opaque and not allow any lighting to cause the exterior surface of the awning to glow.
- (D) **Canopy Luminaires:** Fixtures located within a canopy shall have their bottom surface flush with or above the bottom of the canopy surface.
- (E) **Architectural Accent Lighting:** Architectural accent lighting shall be low wattage and shall be directed entirely onto the structure.

### § x.35 - FLAGPOLE LIGHTING

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In addition to other applicable standards, lighting for flagpoles shall meet the standards outlined below.

- (A) **Permitted Flags:** The United States Flag and the State of Michigan Flag shall be the only flags illuminated after 11:00 pm.
- (B) **Lighting Power:** The fixture shall have maximum output of four thousand five hundred (4,500) lumens per flag pole. (that's equivalent to 300 watts incandescent)
- (C) **Details:** The fixture shall have a beam spread no greater than necessary to illuminate the flag and shall be fully shielded to direct light away from streets and adjacent properties.

### § x.40 - STREET LIGHTING

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Street lighting shall meet the standards outlined below, unless otherwise provided in this Article.

- (A) **General:** Street lighting shall meet the other standards of this Article, except as noted in this Section.
  - (1) **Lighting Level:** Street lighting may exceed the lighting level along lot lines.
  - (2) **Breakaway Design:** All light poles that are within thirty (30) feet of the travelled road shall be of a breakaway design. The design shall be approved by the Road Commission for light poles within or along a public street right-of-way and by the Township Engineer for light poles within or along a private street right-of-way.
- (B) **Public Street:** Street lights within or along a public street right-of-way shall meet the following additional provisions.
  - (1) **Road Commission Approval:** The light fixture and location shall be approved by the Road Commission.
  - (2) **Height:** The height may be increased if it allows for attaching to an existing utility pole or is necessary for public safety, as determined by the Road Commission.
- (C) **Private Street:** Street lights within or along private street rights-of-way shall meet the following additional provisions.
  - (1) **Location:** Street lights shall be located within the right-of-way. The approving authority may approve a location outside of the right-of-way, within individual lots or common area, if the alternate location is necessary to avoid conflicts with utilities or preserve clear vision for motorists, pedestrians, or cyclists.
  - (2) **Maintenance:** The developer shall be responsible for maintaining the street lights until acceptance by the home owners association. The street lights shall be maintained by the home owners association following acceptance. The approving authority may approve an alternate maintenance plan if the alternate plan would provide equal or better maintenance of the street lights.

### § x.45 - REPLACEMENT

Nonconforming lighting shall be replaced as outlined in this Section.

- (A) ***New Use:*** Whenever a new, ~~nonresidential or nonagricultural~~ use is established that requires site plan approval by the Planning Commission, all lighting on the site shall be brought into compliance with this Article before the new use may commence.
- (B) ***Resumption of Use:*** If the use of a site with nonconforming lighting is abandoned for a period of six (6) or more months, whether or not there is an intent to reestablish use, all lighting shall be brought into compliance with this Article before the use is reestablished.
- (C) ***Additions or Alterations:*** Whenever a change is made that requires a site plan approval by the Planning Commission, all lighting on the site shall be brought into compliance with this Article. The Planning Commission may grant an administrative adjustment from upgrading all of the lighting upon making a written finding that: 1) the amount of improvements to the site are of an extremely-limited and minor nature, or 2) that the nonconforming lighting is of a specific nature that its continued use does not cause negative impacts on surrounding properties, public spaces, or the site.
- (D) ***New Fixtures:*** When new lighting fixtures are added to a ~~lot~~site, fixtures that are outside of the color temperature range shall be replaced.
- ~~(D)~~(E) ***Outdoor Protection Lighting:*** Whenever an outdoor protection lighting fixture is replaced, it shall be replaced with a fixture that meets the standards of this Article.

### § x.50 - LIGHTING PLAN

A separate lighting plan shall be submitted as part of a site plan demonstrating that all of the applicable standards of this Article are met. A lighting plan may be required as part of a plot plan if the Director of Planning and Zoning determines the lighting plan is necessary to determine compliance with this Article. A lighting plan shall include at least the following information:

- (A) ***Fixture Location:*** The location of all free-standing and building mounted lighting on the site or plot plan and building elevations;
- (B) ***Photometric Plan:*** A photometric plan showing horizontal light intensity in footcandles, in a point-by-point connected by contour lines, on the site plan within the site and extending ten (10) feet off the site and showing the light intensity along the lot lines at ground level along lot lines and the street edge;
- (C) ***Fixture Specifications:*** Specifications and details for the fixtures, including manufacturer specification and data sheets, the fixture type, method of shielding, type of lens, lumen rating, color temperature, lamp type, and timer controls;
- ~~(C)~~(D) ***Certification:*** Certification from a professional engineer, lighting technician, or similarly-qualified individual that the lighting will meet the standards of this Article; and
- ~~(D)~~(E) ***Other Information:*** Other information necessary to determine compliance with this Article.

***End of Article.***

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