

CROCKERY TOWNSHIP

OUTDOOR LIGHTING

DESIGN AND CONSTRUCTION STANDARDS

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INTRODUCTION

TO ALL DEVELOPERS, CONSULTING ENGINEERS AND CONTRACTORS:

The Crockery Township Design and Construction Requirements are intended to ensure the use of uniform, adequate, and acceptable construction methods and materials. The Township strives at all times to stay up to date regarding construction engineering developments.

This 2008 Edition is considered the standard requirements that are to apply to work and materials bid or contracted on or after January 1, 2009.

Crockery Township also has ordinances to administer, regulate, and provide additional requirements and regulations related to public and private improvements. Owners, consulting engineers, contractors, and plumbers are encouraged to review the document ordinances for requirements pertaining to water services, sanitary sewers, private streets, parking lots, outdoor lighting and ponds.

Leon Stille, Supervisor
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CROCKERY TOWNSHIP
OUTDOOR LIGHTING
DESIGN AND CONSTRUCTION STANDARDS

INTENT AND PURPOSE

The purpose of this Section is to provide reasonable regulations to direct the location, design, illumination level, and use of outdoor lighting to minimize its undesirable effects. The standards set forth in this document shall be the minimum standards for all outdoor lighting occurring in Crockery Township. All outdoor lighting shall be built to Crockery Township Design and Construction Standards and Specifications. Specifically, this Section is intended to promote the public health, safety, and general welfare of the Crockery Township by:

- Maintaining safe nighttime driver performance on public streets by minimizing both brightly lit surfaces and lighting glare.
- Promoting lighting that provides security but protects the privacy of adjacent properties.
- Allowing lighting that is not unduly intrusive or a nuisance to nearby residents, property occupants, and drivers.
- Eliminating intrusive artificial light and lighting that unnecessarily contributes to "sky glow" and energy consumption.

The minimum design and construction standards for outdoor lighting are as follows:

1. Lighting Plan

The following information shall be included for all Site Plan Reviews. Where Site Plan Review is not required, one or more of the following items may be required by the Zoning Administrator prior to outdoor lighting installation:

- A.** A site plan drawn to a scale of one (1) inch equaling no more than thirty (30) feet showing the buildings, landscaping, parking and service areas, and location and type of all proposed outdoor lighting.
- B.** A photometric grid overlaid on the proposed site plan.
- C.** Analyses showing that the proposed installation conforms to the lighting level standards in this Chapter. A photometric plan shall indicate lighting levels at ground level based on no greater than a twenty-five (25) foot on-center grid and shall project twenty-five (25) feet onto adjacent properties or to the setback limit line, whichever is greater. Illumination levels shall also be measured for all surrounding streets at the public right-of-way.
- D.** Specifications for all proposed lighting fixtures including mounting heights, photometric data, designation as Illuminations Engineering Society of North America (IESNA) "cut-off" fixtures, Color Rendering Index (CRI) of all lamps

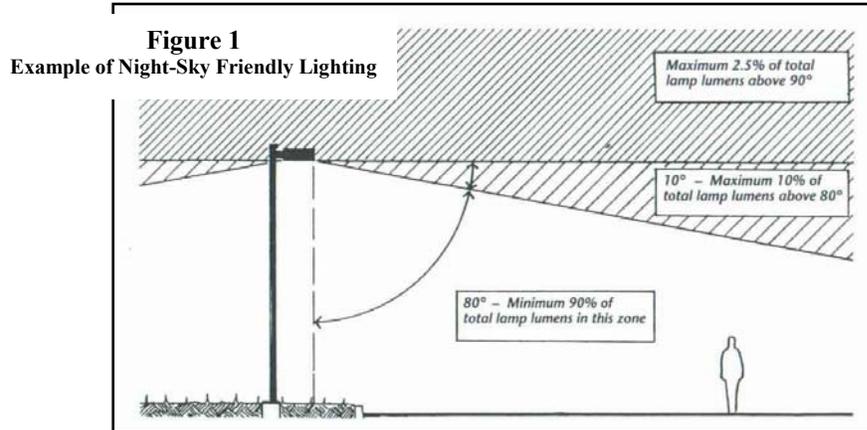
(bulbs), and other descriptive information on the fixtures. All lighting shall have the intensities and uniformity ratio consistent with the Lighting Handbook of the IESNA.

- E. All lighting Plans submitted for approval shall be prepared under the supervision of, and be signed and sealed by a Civil or Electrical Engineer, Registered in the State of Michigan.

2. General Requirements

- A. Type - All exterior lighting, including freestanding, canopy, pole, and building mounted, shall be fully shielded, and directed downward to prevent off-site glare and illumination.
- B. Intensity – The intensity of light within a site shall not exceed ten (10) foot-candles within any part of the site and one (1) foot-candle at any lot line, except where it abuts a residential Zone District or residential use, where the maximum shall be 0.5 foot-candles.
- C. Vehicle Fuel or Outdoor Sales Areas – In areas where lighting levels from existing, similar vehicle fuel stations or outdoor vehicle sales areas are located on both sides of the lot and across the street, up to eighty (80) percent of the existing light levels may be used.
- D. Uniformity Ratios - In order to maintain uniformity in light levels across a development and prevent or minimize dark areas, the ratio of maximum to minimum lighting levels on a given lot is measured in foot-candles at ground level, and shall not exceed a ratio of fifteen-to-one (15:1) in residential Zone Districts or ten-to-one (10:1) in nonresidential and mixed-use Zone Districts. Parking lots shall maintain the same uniformity ratios as the main building or principal use served.
- E. Height - Except as otherwise required, the mounting height of fixtures that are located in (or within two hundred (200) feet of) a residential zoning district should not exceed twenty (20) feet, except as may be approved in conjunction with a Special Land Use permit.
- F. Hours – Except for security of safety, all outdoor lighting fixtures shall be turned off one-half (1/2) hour after the close of business. Security and safety lighting shall be reduced to the minimum level necessary for that purpose.
- G. Fixtures
 - i. All outdoor fixtures, including building mounted fixtures, shall be full cut-off, shielded fixtures as shown in **Figure 2** located at the end of this section.
 - ii. Poles for lighting fixtures shall be of a fixed height. Adjustable poles are prohibited.

- iii. High Intensity Discharge (HID) fixtures shall be used in an effort to maintain a unified lighting standard and prevent “sky glow.” High-pressure sodium fixtures are prohibited.
- iv. Lighting shall be required in Parking Areas and shall comply with the applicable regulations of the underlying zoning district. Additionally, lighting in all Parking Areas shall be night-sky friendly (see **Figure 1** below).



- v. Decorative light fixtures may be approved as an alternative to shielded fixtures when it can be proven that there shall be no off-site glare or illumination and the proposed fixtures will improve the appearance of the site.
- vi. Existing fixture replacements shall comply with the requirements of this Section. Any change to an existing site plan may require existing light fixtures be re-directed in conditions where excessive glare onto adjacent properties and roadways creates a nuisance or safety concern.

3. Security Lighting

- A. The need for security lighting (e.g. the lighting for safety of persons and property) shall be demonstrated. To the extent that an area is illuminated for other purposes, independent security lighting shall not be allowed.
- B. All security fixtures shall be shielded and aimed so that illumination is directed only to designated areas. In no case shall lighting be directed above a horizontal plane through the top of the lighting fixture, and the fixture shall include full cut-off shields that prevent the light source or lens from being visible on adjacent lots and streets. The use of general floodlighting fixtures shall not be allowed.

4. Architectural Lighting

When buildings and structures are to be illuminated, a design for the illumination shall use the following standards:

- A. Direction of Lights - Lighting fixtures shall be carefully located, aimed, and shielded so that light is directed only onto the building facade. Lighting fixtures shall not be directed toward adjacent streets, or properties, and light shall not trespass onto surrounding properties.
- B. Façade Lighting - Lighting fixtures mounted on the building and designed to "wash" the facade with light are permitted.
- C. Accent Lighting - Luminous tube (neon), LED or fluorescent lighting shall be allowed as an architectural detail on the exterior of any structure, provided however, that exposed bulbs shall be shielded. Internally illuminated architectural bands or similar shielded accents may be allowed upon determining that such accents would not cause off-site glare or light pollution and such lighting is not used to the extent that it constitutes a sign.
- D. Landscape Lighting - The illumination of landscaping shall not generate excessive light levels, cause glare, or direct light beyond the landscaping.

5. Other Lighting

- A. Indirect illumination of signs, canopies, bollards, and buildings is permitted provided a maximum one hundred twenty five (125) watt (or equivalent) bulb is utilized and there is no glare.
- B. Electrical feeds shall run underground, not overhead.
- C. The use of a laser light source, searchlights or any similar high intensity light for outdoor advertisement or entertainment is prohibited.
- D. Lighting shall not consist of or have the appearance of movement or flashing components.

6. Public Street Lighting

The cost of installing and operating approved street lighting on any public street and the costs of all other lighting systems shall be borne by the developer/property owner.

7. Electrical Supply

- A. All electrical supply shall be provided underground.
- B. All electrical supply shall be installed within the sixty-six foot (66') road right of way or approved easements.

8. Exemptions

The following outdoor light fixtures are exempt from the provisions of this Section:

- A. Streetlights located within a public right-of-way.

- B. Outdoor light fixtures which have a lighting output of one hundred fifty (150) lumens or less.
- C. Lighting necessary for street or utility construction or emergencies.
- D. Lighting necessary for baseball, softball, football and soccer fields, or similar uses that cannot reasonably comply with the standards and provide sufficient illumination of the recreational field for safe use, following IESNA standards. The fixtures shall be aimed so that their beams are directed and fall within the primary playing or performance area. Lights shall be extinguished within one-half (1/2) hour of the completion of the event.
- E. Government facilities, parks and open areas, public utility facilities, and other uses where sensitive or dangerous materials are located providing all, of the following apply:
 - i. The lighting is necessary for adequate protection of the public.
 - ii. The condition, location, or use of the land, or history of activity in the area, indicates the land or any materials stored or used on it are in greater danger of theft or damage, or members of the public are at greater risk for harm than on other property.
 - iii. The deviations from this section shall not have a significant adverse effect on neighboring areas.

9. Administrative Departure

The Zoning Administrator or Planning Commission may grant a departure from the requirements this Section if it is determined that in so doing, it shall not contradict the purposes of this Section or negatively affect the health, safety, and welfare of the public.

Please use the following diagram when determining appropriate lighting fixtures.

Figure 2: Appropriate Light Fixtures

