

NORTH COVENTRY TOWNSHIP
SUBDIVISION & LAND DEVELOPMENT ORDINANCE
LIGHTING

Section 628 – Lighting Requirements and Design Standards

- A. Purpose – To require and set minimum standards for outdoor lighting to:
1. Provide for and control lighting in outdoor public places where public health, safety and welfare are potential concerns.
 2. Protect drivers and pedestrians from the glare of non-vehicular light sources.
 3. Protect neighbors and the night sky from nuisance glare and light trespass from improperly selected or poorly placed, aimed, applied, maintained or shielded light sources.
 4. Promote energy-efficient lighting design and operation
 5. Protect and retain the intended visual character of the various venues of the Township
- B. Applicability
1. Uses that are proposed to operate during hours of darkness where there is public assembly and traverse, including but not limited to the following: multi-family residential, residential developments with lot sizes of 20,000 square feet or smaller, commercial, industrial, recreational and institutional uses, and sign, billboard, architectural and landscape lighting applications.
 2. The Board of Supervisors may require lighting be incorporated for other uses, applications and locations, as they deem necessary.
 3. The glare-control requirements herein contained apply to lighting in all uses, applications and locations.
- C. Definitions
1. Footcandle – Unit of light intensity stated in lumens per square foot and measurable with an illuminance meter, a.k.a. light meter
 2. Full Cutoff – Attribute of a lighting fixture from which no light is emitted at or above a horizontal plane drawn through the bottom of the fixture and no more than 10% of the lamp’s intensity is emitted at or above an angle 10° below that horizontal plane, at all lateral angles around the fixture
 3. Glare – Excessive brightness in the field of view that causes loss in visual performance or annoyance, to jeopardize health, safety or welfare
 4. Illuminance – Quantity of light, measured in footcandles
 5. Light Trespass – Light emitted by a lighting fixture or installation, which is cast beyond the boundaries of the property on which the lighting installation is sited.
 6. Lumen – The light-output rating of a lamp (light bulb), as used in the context of this Ordinance.
- D. Criteria
1. Illumination Levels – Lighting, where required by this Ordinance or otherwise required by the Board of Supervisors or proposed by an applicant, shall have intensities and uniformities in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in the IESNA Lighting Handbook and applicable Recommended Practices, except as may otherwise be required by the Board of Supervisors.
 2. Lighting Fixture Design
 - a. Fixtures shall be of a type and design appropriate to the lighting application and aesthetically acceptable to the Township.
 - b. For the lighting of predominantly horizontal surfaces such as, but not limited to, roadways, vehicular and pedestrian passage areas, merchandising and storage areas, automotive-fuel dispensing facilities, automotive sales areas, loading docks, cul-de-sacs, active and passive recreational areas, building entrances, sidewalks, paths, site entrances and parking areas,

fixtures shall be aimed straight down and shall meet IESNA full-cutoff criteria. Fixtures with an aggregate wattage per-fixture that does not exceed the output of a standard 60-watt incandescent lamp, i.e. 1,000 lumens, are exempt from the requirements of this paragraph.

- c. For the lighting of non-horizontal surfaces such as, but not limited to, facades, landscaping, signs, billboards, fountains, displays, flags and statuary, the use of lighting fixtures that are installed and aimed so as to project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway shall not be permitted. Fixtures with an aggregate wattage per-fixture that does not exceed the output of a standard 60-watt incandescent lamp, i.e. 1,000 lumens, are exempt from the requirements of this paragraph.
- d. Barn lights,” aka “dusk-to-dawn lights,” shall not be permitted where they are visible from other uses unless fitted with a reflector to render them full cutoff.

3. Control of Nuisance and Disabling Glare

- a. All lighting shall be aimed, located, designed, fitted and maintained so as not to present a hazard to drivers or pedestrians by impairing their ability to safely traverse and so as not to create a nuisance by projecting or reflecting objectionable light onto a neighboring use or property.
- b. Floodlights and spotlights, where their use is specifically approved by the Township, shall be so installed and aimed that they do not project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway.
- c. Parking facility and vehicular and pedestrian way lighting (except for safety and security applications), for commercial, industrial and institutional uses shall be automatically extinguished no later than one hour after the close of business or facility operation. When safety or security lighting is proposed by Applicant for after-hours illumination, it shall not be in excess of thirty-three (33) percent of the illumination levels normally required or permitted for the lighting application.
- d. Illumination for signs, billboards, building facades and/or surrounding landscapes for decorative, advertising or aesthetic purposes is prohibited between 11:00 p.m. and dawn, except that such lighting situated on the premises for a commercial establishment may remain illuminated while the establishment is actually open for business, and until one hour after closing.
- e. Vegetation screens shall not be employed to serve as the primary means for controlling glare. Rather, glare control shall be achieved primarily through the use of such means as cutoff fixtures, shields and baffles, and appropriate application of fixture mounting height, wattage, aiming angle and fixture placement.
- f. The intensity of illumination projected from any use onto a residential use shall not exceed 0.1 initial vertical footcandle, measured line of sight from any point on the receiving residential property.
- g. Externally illuminated billboards and signs shall be lighted by fixtures mounted at the top of the billboard or sign and aimed downward. The fixtures shall be designed, fitted and aimed to limit the light output to and not beyond the sign or billboard.
- h. Fixtures not meeting IESNA full-cutoff criteria, when their use is permitted by the Board of Supervisors, shall not be mounted in excess of sixteen (16) feet above finished grade. Fixtures meeting IESNA full-cutoff criteria shall not be mounted in excess of twenty (20) feet above finished grade except as provided for recreational uses in Section 628.F.
- i. Only the United States and the state flag shall be permitted to be illuminated from dusk till dawn and the flags on each flagpole shall be illuminated by a single source with a beam spread no greater than necessary to illuminate the flag. Flag lighting sources shall not exceed 10,000 lumens per flagpole.

- j. Under-canopy lighting, for such applications as a gas/service station, hotel/theater marquee, fast-food/bank/drugstore drive thru, shall be accomplished using flat-lens full-cutoff fixtures aimed straight down and shielded in such a manner that the lowest opaque edge of the fixture shall be below the light source.
4. Installation
- a. Electrical feeds for lighting poles shall be run underground, not overhead.
 - b. Poles supporting lighting fixtures for the illumination of parking areas and located directly behind parking spaces, or where they could be hit by snow plows, shall be placed a minimum of five (5) feet outside paved area or tire stops, or placed on concrete pedestals at least thirty (30) inches high above the pavement, or suitably protected by other Township-approved means.
 - c. Pole mounted fixtures for the illumination of horizontal tasks shall be aimed straight down.
- E. Residential Development Fixture Placement
1. For residential developments where lot sizes are or average less than 20,000 square feet, street lighting shall be provided as follows:
 - a. At the intersection of public roads with entrance roads to the proposed development.
 - b. Intersections involving proposed public or non-public major-thoroughfare roads within the proposed development.
 - c. At the apex of the curve of any major-thoroughfare road, public or non-public, within the proposed development, having a minimum 300-foot horizontal curve.
 - d. Cul-de-Sac bulb radii.
 - e. Terminal ends of center median islands having concrete structure curbing, trees and/or other fixed objects not having breakaway design for speeds of 25 m.p.h. or greater.
 - f. At defined pedestrian crossings located within the development
 - g. At other locations along the street as deemed necessary by the Township
 2. Where lot sizes permit the parking of less than three (3) vehicles on the residential lot, thereby necessitating on-street parking, street lighting shall be provided along the length of the street.
 3. In multi-family developments, common parking areas shall be illuminated.
 4. In residential developments with lots of less than twenty thousand (20,000) square feet, where five (5) or more common contiguous parking spaces are proposed, such spaces shall be illuminated.
- F. Recreational Uses – When facilities for such outdoor recreational activities as, but not limited to, baseball, tennis, track, football and miniature golf are specifically permitted by the Township for operation during hours of darkness, the following requirements shall apply:
1. Lighting shall be accomplished only through the use of fixtures conforming to IESNA full-cutoff criteria, or as otherwise approved by the Township based on suitable control of glare and light trespass.
 2. Sporting events shall be timed so that all lighting in the sports facility, other than lighting for safe exit of patrons, shall be extinguished by ten (10:00) p.m., regardless of such occurrences as extra innings or overtimes.
 3. Golf driving ranges, racetracks, trap-shooting facilities and other sports necessitating the horizontal or near horizontal projection of illumination shall not be artificially illuminated.
 4. The outdoor recreational activities contained in 5. below, with the exception of tennis, shall not be illuminated if located within a residential district or sited on a nonresidential property located within 1,000 feet of a residential use.

5. Maximum mounting heights for recreational lighting shall be in accordance with the following:

- a. Basketball 20'
- b. Football 70'
- c. Soccer 70'
- d. Little League Baseball
 - (1) 200' Radius 60'
 - (2) 300' Radius 70'
- e. Miniature Golf 20'
- f. Swimming Pool Aprons 20'
- g. Tennis 20'
- h. Track 20'

G. Plan Submission – For subdivision and land-development applications where site lighting is required by this Ordinance, is otherwise required by the Township or is proposed by Applicant, lighting plans shall be submitted to the Township for review and approval with preliminary and final subdivision/land development plan applications and conditional use applications and shall contain the following:

- 1. Site plans, complete with all structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), vegetation that might interfere with lighting, and adjacent uses that might be adversely impacted by the lighting. The lighting plan shall contain a layout of all proposed fixtures by location, orientation, aiming direction, mounting height and type. The submission shall include, in addition to area lighting, all other exterior lighting, e.g., architectural, building-entrance, landscape, flag, sign, etc.
- 2. A 10'x10' illuminance-grid (point-by-point) plot of maintained horizontal footcandles overlaid on the site plan, plotted out to 0.0 footcandles, which demonstrates compliance with the light trespass, intensity and uniformity requirements as set forth in this Ordinance or as otherwise required by the Township.
- 3. The lamp lumen ratings and types, maintenance (light-loss) factors and IES file nomenclature used in calculating the illuminance levels.
- 4. Description of the proposed equipment, including fixture catalog cuts, photometrics, glare reduction devices, lamps, on/off control devices, mounting heights, pole foundation details and mounting methods.
- 5. Landscaping plans shall contain lighting fixture locations and shall demonstrate that the site lighting and landscaping have been coordinated to minimize conflict between vegetation and intended light distribution, both initially and at vegetation maturity.
- 6. When requested by the Township, Applicant shall also submit a visual-impact plan that demonstrates appropriate steps have been taken to mitigate the potential consequences of on-site and off-site glare and to retain the intended character of the Township. This plan may require the inclusion of initial vertical footcandle values at specific off-site venues, e.g., bedroom windows of adjacent residential uses.

7. Plan Notes – The following notes shall appear on the Lighting Plan:

- a. Post-approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval.
- b. The Township reserves the right to conduct post-installation nighttime inspections to verify compliance with the Ordinance requirements and approved Lighting Plan commitments, and if deemed appropriate by the Township, to require remedial action at no expense to the Township.
- c. All exterior lighting shall meet IESNA full-cutoff criteria unless otherwise approved by the Township.

H. Street Lighting Dedication

1. When street lighting is to be dedicated to the Township, applicant shall be responsible for all costs involved in the lighting of streets and street intersections until the street is accepted for dedication.
2. Prior to dedication and in the event of the formation of a homeowner's association and/or property management declaration, Township shall require said agency to enter into an agreement guaranteeing the Township payment of all costs associated with dedicated street lighting.
3. Assumption of Costs of Dedicated Street Lighting – Upon dedication of public streets, the Township shall assess the homeowners' association, individual property owners, or corporations, as may be necessary to collect all revenues required that are directly or indirectly associated with all costs of each specific street lighting fixture. These costs shall include:
 - a. Administration
 - b. Collection
 - c. Pro-ration of non payables
 - d. Actual utility electrical charges
 - e. Maintenance and maintenance contracts for maintenance of fixtures and associated equipment.

Approved 6/23/03