

WEST WHITELAND TOWNSHIP
 SUBDIVISION AND LAND DEVELOPMENT ORDINANCE
 OUTDOOR LIGHTING SECTION
 03/10/04 REVISION

Section 428. Lighting Control

1. Purpose. The standards established in this section set forth criteria for:
 - A. Providing lighting in outdoor public places where public health, safety and welfare are potential concerns.
 - B. Controlling glare from non-vehicular light sources that shine directly into driver's and pedestrian's eyes and thereby impair their safe traverse.
 - C. Protecting neighbors and the night sky from nuisance glare and stray light from poorly aimed, placed, applied or shielded light sources.
 - D. Promoting energy efficient lighting design and operation
 - E. Protecting the intended character within West Whiteland Township

2. Applicability.
 - A. Outdoor lighting shall be required for safety and personal security for uses that operate during hours of darkness where there is public assembly and/or traverse; including but not limited to: multiple family dwelling, commercial, industrial, public recreational, and institutional uses.
 - B. The Board of Supervisors may require lighting to be incorporated for other uses or locations or may restrict lighting in any of the above uses, as they deem necessary.
 - C. The glare control requirements herein contained apply to lighting in all above mentioned uses as well as sign, architectural, landscaping, and residential lighting.

3. Criteria

A. Illumination Levels

(1) Illumination, where required by this Ordinance, shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) Lighting Handbook, from which typical uses and tasks are herein presented.

Use/Task	Maintained Footcandles	Uniformity Avg. : Min.
(a) Streets, local residential (when required by the Board of Supervisors)	0.4 Avg.	6:1
(b) Streets, local commercial	0.9 Avg.	6:1
(c) Parking, residential, multi-family <ul style="list-style-type: none"> • Low vehicular/pedestrian activity • Medium vehicular/pedestrian activity 	0.2 Min. 0.6 Min.	4:1 4:1
(d) Parking, industrial/commercial/institutional/municipal <ul style="list-style-type: none"> • High activity, e.g., regional shopping centers/fast food facilities, major athletic/civic/cultural events. • Medium activity, e.g. community shopping centers, 	0.9 Min. 0.6 Min.	4:1 4:1

office parks, hospitals, commuter lots, cultural/civic/ recreational events • Low activity, e.g., neighborhood shopping, industrial employee parking, schools, church parking.	0.2 Min.	4:1
(e) Walkways and Bikeways	0.5 Avg.	5:1
(f) Building entrances	5.0 Avg.	-
<u>(g) Service Station Pump Islands Avg./Max</u>	<u>20/30</u>	<u>4:1</u>
<u>(h) Car Dealerships Front Row/Other Sales Areas</u>	<u>20/10 Max.</u>	<u>5:1 Max:Min</u>

Notes: 1. Illumination levels are maintained horizontal footcandles on the task, e.g., pavement or area surface.
2. Uniformity ratios dictate that average illuminance values shall not exceed minimum values by more than the product of the minimum value and the specified ratio. E.g., for commercial parking high activity, the average footcandles shall not be in excess of 3.6 (0.9 x 4).

B. Fixture Design

- (1) Fixtures shall be of a type and design appropriate to the lighting application, and aesthetically acceptable to the Board of Supervisors.
- (2) For lighting of predominantly horizontal tasks such as, but not limited to, roadways, pathways, parking, merchandising and storage, automotive-fuel dispensing, automotive sales, loading docks, active and passive recreation, building entrances and sidewalks, fixtures shall meet IESNA full-cutoff criteria.
- (3) For the lighting of non-horizontal surfaces such as, but not limited to, facades, landscaping, signs, fountains, displays, flags and statuary, the use of floodlighting, spotlighting, wall-mounted fixtures, decorative globes and other fixtures not meeting IESNA “cutoff” criteria, shall be permitted only with the approval of the Board of Supervisors, based upon acceptable glare control.
- (4) When necessary to redirect offending light distribution, fixtures shall be equipped with or be capable of being back fitted with light directing devices such as shields, visors or hoods.

C. Control of Nuisance and Disabling Glare

- (1) All outdoor lighting, whether or not required by this ordinance; on private, residential, commercial, industrial, municipal, recreational or institutional property; 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 (disabling glare), and so as not to create a nuisance by projecting or reflecting objectionable light onto a neighboring use or property (light trespass and nuisance glare).
- (2) Flood or spot lights, when permitted, shall be so installed and aimed that they do not project their output into the window of a neighboring residence, an adjacent use, skyward or onto a roadway.
- (3) Unless otherwise permitted by the Board of Supervisors, lighting shall be controlled by automatic switching devices such as timers, motion detectors and/or photocells, to extinguish offending sources between 11 p.m., or one hour following the close of business, whichever comes first, and dawn, to mitigate glare and sky-lighting consequences. Where all-

night safety or security lighting is deemed necessary, the lighting intensity levels shall generally not exceed 25% of the levels normally permitted by this ordinance but in no case shall they be less than the minimum levels for safety or security as invoked by IESNA.

- (4) 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 full-cutoff fixtures, shields and baffles, and appropriate application of mounting height, wattage, aiming angle, fixture placement, etc.
- (5) The amount of illumination projected onto a residential use from another property shall not exceed 0.1 *vertical* footcandle measured line-of-sight from any point on the adjacent residential property.
- (6) The amount of illumination projected onto any non-residential property line from another property shall not exceed 1.0 vertical footcandle measured line-of-sight from any point on the property. .
- (7) Lighting fixtures used to light the area under outdoor canopies, including but not limited to those used at automotive fuel dispensing facilities, bank drive-thru lanes, marques and building entrances, shall have flat lenses and have no light emitted from the side of the fixture.
- (8) When flags are to be illuminated all night, only the US and state flags shall be permitted to be illuminated from dusk until dawn and each flagpole shall be illuminated by a single source with a beam spread no greater than necessary to illuminate the flag(s). Flag lighting sources shall not exceed 20,000 lumens per flagpole.

D. Security Lighting

- (1) The Township may require that grade-level windows be internally or externally illuminated during hours of darkness to facilitate police determination if a break-in has occurred.

E. Installation

- (1) Fixtures meeting IESNA full-cutoff criteria shall not be mounted in excess of 20 feet above the finished grade of the surface being illuminated. Fixtures not meeting IESNA full-cutoff criteria, when their use is permitted by the Board of Supervisors, shall not be mounted in excess of 15 feet above grade.
- (2) Fixtures used for general area lighting shall be aimed so as to project their output straight down.
- (3) Electrical feeds to lighting standards shall be run underground, not overhead.
- (4) Lighting standards in parking areas shall be placed a minimum of 5 feet outside paved area, curbs or tire stops, or placed on concrete pedestals at least 30 inches high above the pavement, or suitably protected by other approved means.

- (5) Fixtures used for architectural lighting, e.g., facade, feature, and landscape lighting shall be aimed so as not to project their output beyond the objects intended to be illuminated and shall be extinguished between the hours of 11 PM and dawn.

F. Maintenance - Lighting fixtures shall be maintained so as to always meet the requirements of this Section.

4. Plan Submission - Lighting plans shall be submitted to the municipality for review and approval and shall include:

- A. Layout of the proposed fixture locations
- B. Ten by ten (10'X10') foot illuminance grid (point-by-point) plots carried out to 0.0 footcandles, which demonstrate compliance with the light trespass, intensities and uniformities set forth in this Ordinance or as otherwise required by the Township. The lamp-lumen rating and nomenclature, light-loss factors and IES file names used in calculating the illuminance values shall be documented on the plan.
- C. Description of the equipment, including fixture catalog cuts, photometrics, glare reduction devices, lamps, control devices, mounting heights, pole foundation details and mounting methods proposed.
- D. When requested by the Board of Supervisors, applicant shall submit a visual impact plan that demonstrates appropriate steps have been taken to mitigate glare.

5. Plan Notes – The following notes shall appear on the lighting plan:

- A. The Township reserves the right to conduct one or more post installation nighttime inspections to verify compliance with the requirements of this Ordinance and, if appropriate, to require remedial action at no expense to the Township.
- B. Post approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to the Township for review and approval.

6. Compliance Monitoring

A. Safety Hazards

- (1) If the Township judges a lighting installation creates a safety or personal-security hazard, the person(s) responsible for the lighting shall be so notified and required to take remedial action within a specified time period.
- (2) If appropriate corrective action has not been effected within the specified time period, the Township may take appropriate legal action.

B. Nuisance Glare and Inadequate Illumination Levels

- (1) When the Township judges that an installation produces unacceptable levels of nuisance glare or skyward light or that illumination levels are insufficient or not being maintained in accordance with this Ordinance, the Township shall cause notification of the person(s) responsible for the lighting and require remedial action.
- (2). If the infraction so warrants, the Township may act to have the problem corrected as in 6.A.(2) above.

7. Street Lighting Dedication –

- A. The Township may accept dedication of street lighting facilities in the instance of said lighting being in the right-of-way of a street dedicated to the Township. Street lighting may be accepted along with the acceptance of the street.
- B. Until such time as the street lighting is dedicated, the developer of the tract (who has escrowed the street lighting) will be responsible for any and all costs associated with each streetlight. Such costs shall include, but not be limited to: administration, placement, electrical charges from the utility and maintenance.
- C. Streetlights not dedicated to the Township will remain the responsibility of the developer or appropriate private entity to which the lights are turned over. Said private entity shall then assume all costs and responsibilities for the lighting in perpetuity.

Section 726. Lighting/Light-Poles

- 1. Overview. To maintain a low level of illumination for nonessential lighting and to conserve energy, lights for signs should be turned down at night whenever the business is closed.
- 2. Street Lights
 - A. Street lights shall be required along all street frontages for all land development applications
 - B. The design of streetlights shall be as depicted in Appendix L, or approved equal.
 - C. One street light shall be provided for every one hundred twenty-five (125) feet of street frontage.
 - D. Street lights shall be located every one hundred twenty-five (125) feet, except as approved by the Township.
 - E. Street lights shall remain illuminated from dusk to dawn.
- 3. Plaza/Courtyard Lights
 - A. The design of plaza/courtyard lights shall be as depicted in Appendix L, or approved equal.
 - B. Illumination of Plaza/courtyard lights shall comply with the requirements of 428.3.C(3), except as approved by the Township