

VALLEY TOWNSHIP
ORDINANCE NO. 2010- 03

**AN ORDINANCE AMENDING CHAPTER 22, ARTICLE VI OF
THE CODE OF ORDINANCES OF VALLEY TOWNSHIP,
CHESTER COUNTY, PENNSYLVANIA, BY ADDING SECTION 615,
ESTABLISHING STANDARDS FOR OUTDOOR LIGHTING,
INCLUDING THE ESTABLISHMENT OF RECOMMENDED LEVELS
OF INTENSITY AND LUMINAIRE DESIGN, THE CONTROL OF GLARE, THE
INSTALLATION AND MAINTENANCE OF LUMINAIRES, THE PLACEMENT OF
RESIDENTIAL LUMINAIRES, THE REGULATION OF NIGHTTIME ILLUMINATION FOR
RECREATIONAL PURPOSES, THE REQUIREMENT OF THE SUBMISSION OF LIGHTING
PLANS WITH PRELIMINARY/FINAL SUBDIVISION AND LAND DEVELOPMENT PLANS,
THE RESERVATION TO VALLEY TOWNSHIP OF THE ABILITY TO MONITOR AND
ENFORCE THE ORDINANCE, AND THE PRESERVATION
OF NONCONFORMING LIGHTING**

BE IT ENACTED AND ORDAINED, this 22nd day of April, 2010, by the Valley Township Board of Supervisors, that Chapter 22, Article VI, of the Valley Township Code of Ordinances be amended as follows:

SECTION 1. That the current Section 603.8 be deleted, and in its place be substituted the following:

Section 603.8. Parking areas, main entrances and exits that are open to the public shall be lighted in accordance with Section 615.

SECTION 2. That Section 615 be added providing the following:

§615. LIGHTING.

1. Purpose – To require and set minimum standards for outdoor lighting to:
 - A. Provide for and control lighting in outdoor public places where public health, safety and welfare are potential concerns
 - B. Protect drivers and pedestrians from the glare of non-vehicular light sources
 - C. Protect neighbors, the environment, and the night sky from nuisance glare and light trespass from improperly selected, placed, aimed, applied, maintained or shielded light sources
 - D. Promote energy efficient lighting design and operation
 - E. Protect and retain the intended visual character of the various Valley Township venues
2. Applicability
 - A. All uses within Valley Township where there is interior or exterior lighting that creates a nuisance or hazard as viewed from outside, including, but not limited to, residential,

commercial, industrial, public and private recreational/sports and institutional uses, and sign, billboard, architectural and landscape lighting.

- B. Temporary seasonal decorative lighting is exempt from all but the glare-control requirements of this Ordinance.
- C. Lighting for special events, when approved by the Board of Supervisors, is exempt from all but the glare control requirements of this Ordinance.
- D. Emergency lighting, as may be required by any public agency while engaged in the performance of their duties, or for illumination of the path of egress during an emergency as described in NFPA 75 and NFPA 101, are exempt from the requirements of this Ordinance.

3. Definitions

- A. Footcandle – Unit of light density incident on a plane (assumed to be horizontal unless otherwise specified), and measurable with an illuminance meter, a.k.a. light meter.
- B. Full Cutoff – Attribute of a luminaire from which no light is emitted at or above a horizontal plane drawn through the lowest light-emitting portion of the luminaire 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 luminaire. A full-cutoff luminaire, by definition, also is "fully shielded."
- C. Fully Shielded – Attribute of a luminaire from which no light is emitted at or above a horizontal plane drawn through the lowest light-emitting portion of the luminaire.
- D. Glare – Excessive brightness in the field of view that is sufficiently greater than the brightness to which the eyes are adapted, to cause annoyance or loss in visual performance and visibility, so as to jeopardize health, safety or welfare.
- E. Illuminance – Quantity of light, measured in footcandles.
- F. Light Trespass – Light emitted by a luminaire or installation, which is cast beyond the boundaries of the property on which the lighting installation is sited.
- G. Lumen – As used in the context of this Ordinance, the light-output rating of a lamp (light bulb).
- H. Luminaire – A complete lighting unit including lamp, wiring, and all necessary parts.
- I. Shielded – A luminaire from which direct glare is not visible at normal viewing angles by virtue of its being properly aimed, oriented, and located and properly fitted through the use of such devices as shields, barn doors, baffles, louvers, skirts or visors.

4. Criteria

A. Illumination Levels

- (1) Lighting, where required or permitted by this Ordinance, or otherwise required or allowed by Valley Township, shall have illuminances, uniformities and glare control in

accordance with the recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in the IESNA Lighting Handbook, latest edition, unless otherwise directed by Valley Township.

- (2) Examples of intensities for typical outdoor applications that are within the recommended levels in the 9th Edition of the Lighting Handbook, are presented below:

Use/Task	Maintained Footcandles	Uniformity Average Minimum
Streets, local residential	0.4 Avg.	6:1
Streets, local commercial	0.9 Avg.	6:1
Parking, residential, multifamily		
Low vehicular/pedestrian activity	0.2 Min.	4:1
Medium vehicular/pedestrian activity	0.6 Min.	4:1
Parking, industrial/commercial/institutional/municipal		
High activity, e.g. regional shopping centers, fast food facilities, major athletic/cultural/civic events	0.9 Min.	4:1
Medium activity, e.g. community shopping centers, office parks, hospitals, commuter lots, civic/recreational events	0.6 Min.	4:1
Low activity, e.g. neighborhood shopping, industrial employee parking, schools, church parking	0.2 Min.	4:1
Walkways and bikeways		
Adjacent to roadway, commercial	1.0 Avg.	5:1
Adjacent to roadway, intermediate	0.6 Avg.	5:1
Adjacent to roadway, residential	0.2 Avg.	5:1
Distant to Roadway	0.5 Avg.	5:1
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. Luminaire Design

- (1) Luminaires shall be of a type and design appropriate to the lighting application and shall be aesthetically acceptable to Valley Township.
- (2) For the lighting of predominantly horizontal surfaces such as, but not limited to parking areas, 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, bicycle and pedestrian paths, and site entrances, luminaires shall be aimed straight down and shall meet full-cutoff criteria. Luminaires with an aggregate rated lamp output not exceeding 500 lumens (e.g. the rated output of a standard non-directional 40-watt incandescent or 10-watt compact fluorescent lamp) are exempt from the requirements of this paragraph. In the case of decorative street lighting, Valley Township may

approve the use of luminaires that are fully shielded or comply with IESNA cutoff criteria.

- (3) For the lighting of predominantly non-horizontal surfaces such as, but not limited to, facades, landscaping, signs, billboards, fountains, displays and statuary, when their use is specifically approved by Valley Township, luminaires shall be shielded, be field-adjustable, and shall be installed and aimed so as to not project their output into the windows of neighboring residences, adjacent uses, past the object being illuminated, skyward or onto a public roadway. Luminaires with an aggregate rated lamp output not exceeding 500 lumens (e.g. the rated output of a standard non-directional 40-watt incandescent or 10-watt compact fluorescent lamp) are exempt from the requirements of this paragraph.

C. Control of Glare

- (1) 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.
- (2) Directional luminaires such as floodlights and spotlights, when their use is specifically approved by Valley Township, shall be so shielded, 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 or pedestrian way. Floodlights installed above grade on residential properties, except when motion-sensor actuated, shall not be aimed out more than 45° from straight down. When a floodlight creates glare as viewed from an adjacent residential property, the floodlight shall be required to be reaimed and/or fitted with a shielding device to block the view of the glare source from that property.
- (3) NEMA-head fixtures, a.k.a. "barn lights" or "dusk-to-dawn lights", when a source of glare as viewed from an adjacent property, shall not be permitted unless effectively shielded as viewed from that property.
- (4) The use of floodlights and wall-mounted luminaires (wall packs) shall not be permitted to illuminate parking areas unless it can be proven to the satisfaction of Valley Township that the employment of no other means is possible.
- (5) Parking facility and vehicular and pedestrian-way lighting (except for safety and security applications and all-night business operations) 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 for after-hours illumination, it shall not be in excess of twenty-five (25) percent of the number of luminaires or illumination level required or permitted for illumination during regular business hours. When it can be demonstrated to the satisfaction of Valley Township that an elevated security risk exists, such as a history of relevant crime, an appropriate increase above the twenty-five (25) percent limit may be permitted.
- (6) Luminaires shall be automatically controlled through the use of a programmable controller with battery power-outage reset, which accommodates daily and weekly

variations in operating hours, annual time changes, and seasonal variations in hours of darkness. The use of photocells is permitted when in combination with the programmable controller to turn luminaires off at the required time and also for dusk-to-dawn safety/security lighting when such lighting is specifically approved by Valley Township. The use of motion detectors is permitted.

- (7) 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 be operated while the establishment is actually open for business, and until one hour after closing.
- (8) 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 luminaires, shields and baffles, and appropriate application of luminaire mounting height, wattage, aiming angle, and luminaire placement.
- (9) The illumination projected from any use onto a residential use shall at no time exceed 0.1 footcandle, measured line-of-sight from any point on the receiving residential property.
- (10) The illumination projected from any property onto a non-residential use shall at no time exceed 1.0 footcandle, measured line-of-sight from any point on the receiving property.
- (11) Except as permitted for certain recreational lighting and permitted elsewhere in this paragraph, luminaires shall not be mounted in excess of twenty (20) feet above finished grade of the surface being illuminated. Luminaires not meeting full-cutoff criteria, when their use is specifically approved by Valley Township, shall not be mounted in excess of 16 feet above finished grade of the surface being illuminated. Mounting height shall be defined as the distance from the finished grade of the surface being illuminated to the optical center of the luminaire. Where proposed parking lots consist of 100 or more contiguous spaces, Valley Township may, at its sole discretion, based partially on mitigation of potential off-site impacts, allow a luminaire mounting height not to exceed 25 feet above finished grade. For recreational lighting maximum mounting height requirements, refer to "Recreational Uses" elsewhere in the Ordinance.
- (12) When flags are to be illuminated all night, only the United States and the state flag shall be permitted to be illuminated past 11:00 p.m. Flag lighting sources shall not exceed 7,000 aggregate lamp lumens per flagpole, measured at the source(s) of light. The light source shall have a beam spread no greater than necessary to illuminate the flag and shall be shielded so the light source (lamp and reflector) is not visible at normal viewing angles.
- (13) Under-canopy lighting for such applications as gas/service stations, marquees and building entrances, fast-food/bank/drugstore drive-thru lanes, shall be accomplished using flat-lens full-cutoff luminaires aimed straight down and shielded in such a manner that the lowest opaque edge of the luminaire shall be below the light source on all sides. The average maintained illumination in the area directly below the canopy shall not exceed 20 initial footcandles, and the maximum shall not exceed 30 initial footcandles.

D. Installation

- (1) Electrical feeds for lighting standards shall be run underground, not overhead, and shall be in accordance with the NEC Handbook.
- (2) Poles supporting luminaires for the illumination of parking areas and located directly behind parking spaces, or where they could be hit by snow plows or wide-swinging vehicles, shall be placed a minimum of five (5) feet outside paved areas, or placed on concrete pedestals at least thirty (30) inches high above the pavement, or suitably protected by other Valley Township-approved means.
- (3) Pole mounted luminaires for lighting horizontal tasks shall be aimed straight down, and poles shall be plumb.
- (4) Poles and brackets for supporting luminaires shall be those specifically manufactured for that purpose and shall be designed and rated for the luminaire and mounting accessory weights and wind loads involved.
- (5) Pole foundations shall be designed consistent with manufacturer's wind load requirements and local soil conditions involved.

E. Maintenance – Luminaires and ancillary equipment shall be maintained so as to always meet the requirements of this Ordinance.

F. Billboards and Signs – The lighting of new or relighting of existing billboards and signs shall be subject to the following requirements:

- (1) Externally illuminated billboards and signs shall have luminaires mounted at the top of the billboard or sign and aimed downward. The luminaires shall be designed, fitted, and aimed to shield the source from off-site view and to place the light output onto and not beyond the sign or billboard. Lighting shall be by linear fluorescent unless it can be demonstrated to the satisfaction of Valley Township that such a mounting arrangement is not possible. At no point on the face of the sign or billboard and at no time shall the illumination exceed 30-vertical footcandles during hours of darkness.
- (2) Internally illuminated signs shall have a dark field and light message. The aggregate output of the light sources shall not exceed 500 initial lumens per square foot of sign face per side.
- (3) Illumination for off-premises billboards and signs shall be extinguished automatically by a programmable controller, with astronomical and daylight savings time control and spring or battery power-outage reset, by no later than 11:00 p.m. each evening until dawn, except that signs for establishments (not companies) that operate or remain open past 11:00 p.m. may remain on no later than one hour past the close of the establishment.
- (4) Rotating, traveling, pulsing, flashing or oscillating light sources, lasers, beacons, searchlights or strobe lighting shall not be permitted.

- (5) LED (light-emitting diode) sign lighting shall only be permitted in commercial and industrial districts, and LED billboard lighting shall only be permitted in industrial districts. LED lighting shall be static, shall not be allowed to operate between 11:00 p.m. and dawn when located where visible from a residential district or use, and shall not be located within 1,000 feet of an approaching interchange or traffic-merging lanes. Except for time and weather signs and public emergency alerts, the message shall not be permitted to change more than once each hour. The LED output shall be automatically reduced to a brightness level that does not create glare during hours of darkness.
- (6) The use of highly reflective signage that creates nuisance glare or a safety hazard shall not be permitted.

5. Residential Development Luminaire Placement

- A. For residential developments where lot sizes are or average less than 20,000 square feet, unless the Board of Supervisors approves otherwise, street lighting powered at the development's expense shall be provided at:
 - (1) the intersection of public roads with entrance roads to the proposed development,
 - (2) intersections involving proposed public or non-public roads within the proposed development,
 - (3) the apex of the curve of any road, public or non-public, within the proposed development, having a radius 300 feet or less,
 - (4) cul-de-sac bulbs,
 - (5) 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,
 - (6) defined pedestrian crossings located within the development,
 - (7) other locations along the street as deemed necessary by Valley Township.

6. Recreational Uses – The nighttime illumination of outdoor recreational facilities for sports, particularly baseball, softball, basketball, soccer, tennis, track and field, and football, typically necessitate higher than normally allowed luminaire mounting heights and aiming angles, utilize very high-wattage lamps, and potentially produce unacceptable levels of light trespass and glare when located near residential properties. Permission to illuminate such facilities shall be granted only when Valley Township is satisfied that the health, safety and welfare rights of nearby property owners and Valley Township as a whole have been properly protected. When recreational uses are specifically permitted by Valley Township for operation during hours of darkness, the following requirements shall apply:

- A. Recreational facilities, for such uses as but not limited to basketball, baseball, softball, football, soccer, miniature golf, tennis or track, shall not be illuminated if located within a

residential district or sited on a nonresidential property located within 1,000 feet of a property containing a residential use.

- B. Sporting activities, except events involving school-sanctioned teams, shall be timed to end at such time that all lighting in the sports facility, other than lighting for safe exit of patrons, shall be extinguished by 10:00 p.m., regardless of such occurrences as extra innings or overtimes.
- C. Maximum mounting heights for recreational lighting shall be in accordance with the following:

(1) Basketball	20'
(2) Football	70'
(3) Soccer	70'
(4) Lacrosse	70'
(5) Baseball	
(a) 200' Radius	60'
(b) 300' Radius	70'
(6) Miniature Golf	20'
(7) Swimming Pool Aprons	20'
(8) Tennis	30'
(9) Track	20'

7. Plan Submission – Lighting plans shall be submitted to Valley Township for review and approval for all proposed outdoor lighting, including but not limited to proposals which are part of a Preliminary or Final Subdivision and/or Land Development Plan, and shall include:

- A. A site plan, complete with all structures, parking spaces, building entrances, traffic areas (both vehicular and pedestrian), existing and proposed vegetation, and adjacent uses that might be adversely impacted by the lighting. The lighting plan shall contain a layout of all proposed and existing luminaires.
- B. 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, illuminance, and uniformity requirements as set forth in this Ordinance or as otherwise required by Valley Township. When the scale of the plan, as judged by Valley Township, makes a 10'x10' grid plot illegible, a more legible grid spacing may be permitted.
- C. Light-loss factors, IES candela test-filename, initial lamp-lumen ratings, and specific lamp manufacturer's lamp ordering nomenclature, used in calculating the plotted illuminance levels.
- D. Description of the proposed equipment, including luminaire catalog cuts, photometrics, glare reduction devices, lamps, on/off control devices, mounting heights, pole foundation details, pole protection means, and mounting methods.
- E. When landscaping plans are involved, they shall contain the luminaire 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.

F. When requested by Valley Township, Applicant shall also submit a visual-impact plan that demonstrates appropriate steps have been taken to mitigate potential consequences of on-site and off-site glare and to retain the intended character of Valley 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).

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

- (1) Post-approval alterations to lighting plans or intended substitutions for approved lighting equipment shall be submitted to Valley Township for review and approval. Requests for substitutions shall be accompanied by catalog cuts of the proposed equipment and lighting plans, including a point-by-point plot, as required, that demonstrate full compliance with the Valley Township-approved plan.
 - (2) All exterior lighting, including building-mounted lighting, shall meet IESNA full-cutoff criteria unless otherwise specifically approved by Valley Township.
 - (3) Installer shall notify Valley Township to arrange for inspection and approval of all exterior lighting, including building-mounted lighting, prior to its installation.
8. Post-Installation Inspection – Valley Township reserves the right to conduct post-installation inspections to verify compliance with the Ordinance requirements and approved Lighting Plan commitments, and if deemed appropriate by Valley Township, to require remedial action at no expense to Valley Township.
9. Compliance Monitoring
- A. Safety Hazards
 - (1) If Valley Township judges a lighting installation creates a safety hazard, the person(s) responsible for the lighting shall be notified in writing and required to take remedial action.
 - (2) If appropriate corrective action has not been effected within fifteen (15) days of notification, Valley Township may take appropriate legal action including remedying, enforcing, and assessing penalties under §206, §207, and §208 of Chapter 10, Health and Safety, of the Code of the Township of Valley.
 - B. Nuisance Glare and Inadequate Illumination Levels
 - (1) When Valley Township judges an installation produces unacceptable levels of nuisance glare, skyward light, excessive or insufficient illumination levels or otherwise varies from this Ordinance, Valley Township may cause written notification of the person(s) responsible for the lighting and require appropriate remedial action.
 - (2) If appropriate corrective action has not been effected within thirty (30) days of notification, Valley Township may take appropriate legal action including remedying, enforcing, and assessing penalties under §805.

10. Nonconforming Lighting – Any luminaire or lighting installation existing on the effective date of this Ordinance that does not conform with the requirements of this Ordinance, shall be considered as a lawful nonconformance.

A. A nonconforming luminaire or lighting installation shall be made to conform with the requirements of this Ordinance when:

- (1) Minor corrective action, such as reaiming or shielding, can achieve conformity with the applicable requirements of this Ordinance.
- (2) It is deemed by Valley Township to create a safety hazard.
- (3) It is replaced by another luminaire or luminaires or abandoned or relocated.
- (4) The number of existing luminaires is increased by 50% or more.
- (5) There is a change in use.

SECTION 3. APPLICABILITY. The provisions hereof shall supersede any Ordinances or parts of Ordinances which are inconsistent herewith.

SECTION 4. SEVERABILITY. If any provision, sentence, clause, section or part of this Ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts hereof. It is hereby declared as the intent of the Board of Supervisors that this Ordinance would have been adopted had such unconstitutional, illegal or invalid provision, sentence, clause, section or part thereof not been included herein.

SECTION 5. EFFECTIVE DATE. This Ordinance shall become effective five (5) days after enactment as by law provided.

**BOARD OF SUPERVISORS OF
VALLEY TOWNSHIP**

By: Patrice Proctor
Patrice Proctor, Chairperson

Walter P. Johnson
Walter P. Johnson, Supervisor

Christopher Lehenky, Supervisor

Yolanda R. Beattie, Supervisor

Arlyn Yoder
Arlyn Yoder, Supervisor

Attest: Karen B. Chandy
Secretary