

**Union Township  
Berks County  
Outdoor Lighting  
08/18/03**

**ORDINANCE NO. 2003-02**

**SECTION 1. SHORT TITLE**

This Ordinance shall be known as, and may be cited as the “Union Township Outdoor Lighting Ordinance of 2003, as amended”.

**SECTION 2. 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 disabling glare of non-vehicular light sources.
- C. Protect neighbors and the night sky from nuisance glare and light trespass from improperly selected or poorly aimed, placed, applied, maintained or shielded light sources.
- D. Promote energy efficient lighting design and operation
- E. Protect and retain the rural character of Union Township

**SECTION 3. APPLICABILITY**

- A. This Ordinance shall regulate uses that are proposed to operate during hours of darkness.

**SECTION 4. DEFINITIONS**

- A. Footcandle – A unit of light intensity stated in lumens per square foot and measurable with an illuminance meter, a.k.a. footcandle or light meter.
- B. Full Cutoff – A term used by the lighting industry to describe 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.
- C. Glare – The sensation produced by lighting that causes an annoyance, discomfort or loss in visual performance and visibility to the eye.
- D. Illuminance – The quantity of light measured in footcandles.
- E. Light Trespass – Light emitted by a lighting installation, which extends beyond the boundaries of the property on which the installation is sited.
- F. Lumen – The light-output rating of a lamp (light bulb), as used in the context of this Ordinance.

**SECTION 6. LIGHTING CRITERIA**

- A. Illumination Levels
  - 1. Lighting, where required by this Ordinance or otherwise required by the Board of Supervisors, shall have intensities and uniformity ratios in accordance with the current recommended practices of the Illuminating Engineering Society of North America (IESNA) as contained in:
    - a. IESNA RP-33-99 Lighting for Exterior Environments,
    - b. IESNA RP-6-01 Sports and Recreational Area Lighting;
    - c. IESNA RP-8-00 Roadway Lighting; and
    - d. IESNA RP-20-98 Lighting for Parking Facilities

These recommended practices are hereby incorporated by reference as though more fully set forth herein. Copies of the recommended practices are available for use at the Township Municipal Building.

## B. Lighting Fixture Design

1. Fixtures shall be of a type and design appropriate to the lighting application and aesthetically acceptable to the Township.
2. For the lighting of predominantly horizontal surfaces such as, but not limited to, roadways, areas of vehicular and pedestrian passage, 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, unless the aggregate wattage per-fixture does not exceed the output of a standard 40-watt incandescent lamp, in which case non-cutoff fixtures shall be permitted.
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 lighting not meeting IESNA full-cutoff criteria shall be permitted only with the approval of the Board of Supervisors or its designee, based upon acceptable glare control (approval shall not be required if the aggregate wattage per fixture does not exceed the output of a standard 40-watt incandescent lamp, i.e., 500 lumens).
4. "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.

## C. Control of Nuisance and Disabling Glare, i.e., Excessive Brightness or "Hot Spots" in the Field of View

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. Floodlights and spotlights, where 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.
3. Unless otherwise permitted by the Board of Supervisors, e.g., for safety or security or all-night commercial/industrial operations, lighting for commercial, industrial, public recreational and institutional applications shall be controlled by automatic switching devices such as time clocks or combination motion detectors and photocells, to permit extinguishing sources between 11 p.m. and dawn, to conserve energy and to mitigate nuisance glare and sky-lighting consequences.
4. Security lighting proposed for use after 11 p.m., or after the normal hours of operation for commercial, industrial, institutional or municipal applications, shall be reduced by 75% from the levels normally permitted by this Ordinance from then until dawn
5. 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.
6. The intensity of illumination projected onto a residential use from another property shall not exceed 0.1 vertical footcandle, measured line-of -site at the property line.
7. Externally illuminated billboards and signs shall be lighted by fixtures mounted at the top of the billboard or sign and aimed downward. Such fixtures shall be automatically extinguished between the hours of 11 p.m. and dawn except as specifically approved by the Township.
8. Except as provided for below under Recreational Uses, fixtures meeting IESNA full-cutoff criteria shall not be mounted in excess of twenty (20) feet above finished grade and fixtures not meeting IESNA full-cutoff criteria shall not be mounted in excess of sixteen (16) feet above grade.
9. Directional fixtures for such applications as façade, fountain, feature and landscape illumination shall be aimed so as not to project their output beyond the objects intended to be illuminated, shall be extinguished between the hours of 11 p.m. and dawn.
10. Only the United States and the state flag shall be permitted to be illuminated from dusk till dawn and each flag 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.
11. The use of white strobe lighting for tall structures such as smokestacks, chimneys and radio/communications/television towers is prohibited during hours of darkness, except as specifically required by FAA.

12. Canopy lighting, for such applications as gas/service stations, bank and fast-food drive-throughs, 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 level with or below the light source.
13. Uses that require the projection of light out at horizontal or near horizontal angles, which cause offsite glare, shall not be illuminated.

D. Installation

1. For new installations, electrical feeds for pole-mounted fixtures shall be run underground, not overhead.
2. 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 four (4) feet outside paved area or tire stops, or on concrete pedestals at least thirty (30) inches high above the pavement, or suitably protected by other approved means.
3. Pole mounted fixtures shall be aimed straight down.
4. Electrical installation of street lighting shall be in accordance with prevailing regulations and specifications established by the Metropolitan Edison Company. It shall be the responsibility of the installing contractor or his agent to have final construction inspected by an electrical inspection agency and a written report attesting to this fact submitted to Met Ed, thereby allowing the utility to provide pole illumination.

E. Post-Installation Inspection

1. The Township reserves the right to conduct 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.

## **SECTION 6. LIGHTING OF RESIDENTIAL DEVELOPMENTS**

A. Street and Parking Lot Lighting for Residential Applications

1. Illumination of residential subdivisions shall be in accordance with this Ordinance and Section 504.2 of the Union Township Subdivision and Land Development Ordinance, Ordinance No. 95-02, as amended.
2. For concentrated residential developments where lot sizes are on average less than 20,000 square feet (½ acre), street lighting shall be provided as follows:
  - a. At the intersection of public roads with entrance roads to the development
  - b. At the intersection of roads within the development
  - c. At cul-de-sac bulb radii
  - d. At terminal ends of center median islands having concrete structure curbing, trees, signs or other fixed objects, and at cul-de-sac center islands with curbing
  - e. At defined pedestrian crossings located within the development
  - f. At other locations along the street as deemed necessary by the Board of Supervisors
  - g. In residential developments where lot sizes are too small to accommodate the parking of two (2) vehicles on the lot, thereby necessitating on-street parking, street lighting shall be provided along the length of the street, in accordance with the illuminance requirements contained in this Ordinance.
  - h. In multi-family developments, common parking areas shall be illuminated in accordance with the illuminance requirements contained in this Ordinance.
3. In residential developments with lesser density, where lot sizes are on average over 20,000 square feet (½ acre), street lighting may be required as deemed necessary by the Board of Supervisors.

4. In residential developments where six (6) or more off-street contiguous parking spaces are proposed, for common use, by several residences, such spaces shall be illuminated in accordance with the illuminance requirements contained in Section 5.A.1. above.

## **SECTION 7. PLAN SUBMISSION**

- A. For subdivision and land-development applications where outdoor site lighting is proposed by applicant or required by this Ordinance, lighting plans shall be submitted to the Township for review and approval with any preliminary or final subdivision/land development plan application. Where public health, safety and welfare are at issue, the Township may also require that lighting plans be submitted for building permit applications, Conditional Use applications, Special Exception applications and Variance applications. Lighting plans shall include:
  1. A site plan, 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, containing a layout of all proposed fixtures by location, mounting height and type. The submission shall include, in addition to area lighting, exterior architectural, building-entrance, landscape lighting, etc.
  2. A 10'x10' illuminance-grid (point-by-point) plot of maintained footcandles overlaid on the site plan, plotted out to 0.0 footcandles, which demonstrate 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 names 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.”
- B. For applications presenting unique lighting issues, a visual-impact plan may be required of the applicant to demonstrate appropriate steps have been taken to mitigate on-site and off-site glare.
- C. 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 the Township for review and approval.
  2. The Township reserves the right to conduct post-installation nighttime inspections to verify compliance with the requirements of this Ordinance and as otherwise agreed upon by the Township, and if appropriate, to require remedial action at no expense to the Township.
  3. All site lighting shall meet IESNA full-cutoff criteria

## **SECTION 8. COMPLIANCE MONITORING**

- A. Safety Hazards
  1. If appropriate designees of the Township judge a lighting installation creates a safety or personal-security 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 ninety (90) days of written notification, the Township may commence legal action as provided in this Ordinance.
- B. Nuisance Glare and Inadequate Illumination Levels
  1. When appropriate designees of the Township judge an installation produces unacceptable levels of nuisance glare, skyward light, excessive or insufficient illumination levels or otherwise varies from this Ordinance, the 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 ninety (90) days of notification, the Township may commence legal action as provided in this Ordinance.

#### **SECTION 9. NONCONFORMING LIGHTING**

- A. Any lighting fixture or lighting installation existing on the effective date of this Ordinance that does not conform with the requirements of this Ordinance, shall be brought into conformance when:
  1. Minor corrective action, such as reaiming or shielding can bring conformity with the applicable requirements of the Ordinance.
  2. It is deemed by the Township to create a safety hazard or other health and welfare concerns.
  3. It is replaced with another fixture or fixtures, abandoned or relocated
  4. There is a change in use

#### **SECTION 10. PENALTIES AND ENFORCEMENT**

- A. Any person who IS FOUND TO HAVE VIOLATED AN order of the Township or who willfully or negligently failed to comply with the provisions of this Ordinance and the orders, rules, regulations, and permits issued hereunder, shall be prosecuted by action brought before a District Justice in the same manner provided for the enforcement of summary offenses under the Pennsylvania Rules of Criminal Procedure. The Municipal Solicitor or the Code Enforcement Officer may assume charge of prosecution without the consent of the District Attorney as required by Pa. R.Crim.P. No. 83 (relating to trial in summary cases). The board shall prescribe criminal fines not to exceed One Thousand Dollars (\$1,000.00) for the violation of this Ordinance and shall prescribe imprisonment to the extent allowed by law for the punishment of summary offenses. Each day or portion thereof that such violation continues or is permitted to continue shall constitute a separate offense, and each section of this Ordinance that is violated shall also constitute a separate offense.
- B. The Union Township Board of Supervisors may take any appropriate action at law or equity, civil or criminal, to enforce the provisions of this Ordinance, and this Ordinance shall in no way restrict any remedies or otherwise available and provided by law.