



## **10 Registered Voter Article 2019 Annual Town Meeting**

### **Title V, Article 14 of the Town Bylaws**

#### **REGULATION OF OUTDOOR LIGHTING – DARK SKIES BYLAW**

To see if the Town will vote to amend the Town Bylaws to further regulate outdoor lighting; to reduce or eliminate light pollution (artificial light which causes a detrimental effect on the environment, interferes with the enjoyment of the night sky, causes undesirable glare, or unnecessary illumination of adjacent properties); determine the penalty for violation thereof; or take any action related thereto.

**Submitted by Paul Schlichtman and 10 registered voters.**

#### **Rationale**

On April 28, 2014, Arlington Town Meeting voted 159-52 to adopt the current “Dark Skies” Bylaw (Title V, Article 14 of the Town Bylaws). Its adoption was unanimously recommended by the Board of Selectmen. In recommending adoption, the board’s report stated:

COMMENT: The primary purpose of this article is to appropriately expand the scope of “dark skies” protections to residents abutted by not only other residential properties, but commercial and industrial properties as well. As presently constituted, Title V, Article 14 allows residents to lodge complaints with the Town Building Inspector regarding other residential properties employing light sources that shine directly into neighbors’ windows or on their properties generally. However, residents with commercial or industrial neighbors presenting the same nuisance do not have an avenue for relief. The proposed amendment to the existing bylaw affords residents and residential property owners the ability to address such nuisances with commercial and industrial property owners, including the Town itself if appropriate, while also codifying some important exemptions from such expanded application. The citizen proponent’s initial proposal presented an even more comprehensive dark skies amendment, which included definitions of luminaries, prohibition of certain types of lighting outright, streetlight design restrictions, and time of night limits for special event exemptions. Moreover, the Board examined whether or not changes to the enforcement mechanism of the bylaw required change. However, after noting some of the practical issues and limitations of the current bylaw, the Board ultimately expressed support for a measured reform which expands the scope of the bylaw’s protections to both residential and non-residential light sources. Accordingly, the Board urges Town Meeting’s adoption of the above motion as an incremental expansion of “dark skies” protections.

As noted, the current bylaw represents a compromise between the initial proposal and the version recommended by the Board of Selectmen and enacted by Town Meeting. Key features of the compromise:

- Restricting enforcement to a response to a “complaint issued by any resident or residential property owner within the Town.”
- Eliminated definitions of “luminaire” and “shielded,” and restrictions on “up-lighting.”
- A one-year “grandfather clause” exempting lighting installed prior to the enactment of this by-law” until April 15, 2015.

On April 17, 2015, I filed my first complaint with the town’s Building Inspector pertaining to the floodlight at the corner of Winslow Street and Russell Terrace that is aimed at my bedroom window. Despite myriad complaints, correspondence with the town manager, and a brief respite when the light wasn’t illuminated, its piercing light continues to invade my bedroom five years later.

The Board of Selectmen described the 2014 bylaw as “a measured reform which expands the scope of the bylaw’s protections to both residential and non-residential light sources,” as an “incremental expansion of ‘dark skies’ protections.” Five years later, it is clear the measured and incremental expansion of the bylaw has proven to be ineffective and unenforceable.

The 2019 article is an attempt to take the next step, adding specifics to the by-law and improving the enforcement provisions. The changes being proposed are:

- Prohibiting the use of mercury vapor, high pressure sodium, and metal halide bulbs. These bulbs are not energy efficient, and produce harsh glare. Eversource no longer installs new high pressure sodium and metal halide installations, but still maintains them. This provision would require their replacement with less expensive, energy efficient Light-Emitting Diode luminaires (LED) by Eversource.
- Adding the definitions of luminaire, shielded luminaire, and requirements for “up-lighting” that were removed in the 2014 compromise language.
- Eliminating the requirement of a citizen complaint in order to proceed with enforcement.
- Designating our electric utility (Eversource) as accountable for lighting under its control.
- Requiring permits for lighting placed on town property, on the public right-of-way or easement, in which the purpose of the luminaire is to illuminate areas outside the public right-of-way or easement. This gives the Select Board oversight over the placement of lighting on most utility poles.



View of high pressure sodium floodlight at Winslow Street and Russell Terrace, photographed from 47 Mystic Street at sunrise, January 22, 2019, 6:47 a.m.

## **Title V, Article 14 of the Town Bylaws REGULATION OF OUTDOOR LIGHTING – DARK SKIES BYLAW**

VOTED: That Title V, Article 14 (Regulation of Outdoor Lighting) of the Town Bylaws be and hereby is amended as follows:

### **Section 1. Introduction**

It is the intention of this by-law to regulate the use of outdoor lighting so as to **reduce or eliminate light pollution (artificial light which causes a detrimental effect on the environment, interferes with the enjoyment of the night sky, causes undesirable glare, or unnecessary illumination of adjacent properties), and to conserve energy and resources to the greatest extent possible.** ~~not unduly inconvenience and/or disturb residential abutters by having outdoor lighting shining directly into their windows or onto their properties, or by creating observable and unreasonable glare shining into their windows or onto their properties. This by-law is enacted with the understanding that enforcement shall be based upon any complaint issued by any resident or residential property owner with the Town.~~

### **Section 2. Definitions**

**A luminaire shall be defined as a complete outdoor lighting unit or fixture including a lamp or lamps, together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply, but not including a pole on which the luminaire may be mounted.**

**A luminaire shall be considered shielded if it is constructed in such a manner that no light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected above a horizontal plane passing through the lowest direct-light-emitting part of the luminaire.**

### **Section 3~~2~~. Regulation**

a. All outdoor lighting, including but not limited to: floodlighting, decorative lighting, lighting primarily designed to illuminate walks and/or walkways, driveways, flagpoles, outdoor living areas and/or outdoor recreational facilities shall be appropriately continuous, indirect, and installed and/or shielded in a manner that shall prevent unreasonably bright light from shining onto or upon any street and/or nearby ~~residential~~ property whether directly or by creating unreasonably bright glare.

**b. The use of mercury vapor, high pressure sodium, and metal halide bulbs is prohibited.**

**c. any lighting, affixed to a utility pole or placed on town property, on the public right-of-way or easement, in which the purpose of the luminaire is to illuminate areas outside the public right-of-way or easement, shall be subject to a permit by the Select Board. In granting the permit, the Select Board shall establish that the permitted lighting fixture conforms to all provisions of this by-law.**

**d. Up-lighting, the direct light illumination distributed above a 90 degree horizontal plane through the lowest direct light emitting part of the luminaire, is prohibited, except for illumination of the United States Flag, a building façade, or a public monument. For any up-lighting, the luminaire shall be equipped with shields so that the lamp is not visible from a street, or a lot that is in Residential or Conservation use.**

~~e.b.~~ The following lighting shall be exempt from the provisions of this by-law:

- i. Temporary holiday lighting.
- ii. Internally illuminated signs.
- iii. Emergency lighting such as used by the Police, Fire Department, or other official or utility emergency personnel. Placement of longer-term emergency lighting shall, to the largest extent possible, take into consideration the detrimental effects of glare on passing motorists and pedestrians and on residential lots.
- iv. Lighting during special events such as fairs, concerts, or celebrations sponsored by the Town of Arlington or approved by the ~~Select~~ Board of Selectmen;
- v. Lighting on playing fields and courts under the jurisdiction of the Town of Arlington;
- vi. Lighting of historic or architectural significance exempted by a vote of the Arlington Historical Commission.

~~e. Lighting installed prior to the enactment of this by law, as amended, shall be exempt from the provisions of this by law until April 15, 2015.~~

### Section ~~43~~. Enforcement

Enforcement of this by-law shall be under the authority of the Building Inspector.

- a. **For any and all lighting in violation of this by-law, in which the luminaire is owned, leased, or maintained by an electric utility, the Building Inspector shall enforce this by-law as set forth in the Fines & Fees Schedule of the by-law with the utility subject to the penalties set forth in the by-law.**
- b. **For any lighting that fails to conform to the terms and conditions of permit provisions of this by-law, the Building Inspector shall enforce this by-law as set forth in the Fines & Fees Schedule of the by-law.**
- c. **For any lighting that uses mercury vapor, high pressure sodium, or metal halide bulbs, the Building Inspector shall enforce this by-law as set forth in the Fines & Fees Schedule of the by-law.**
- d. **For any other instances, upon receiving a complaint in writing, the Building Inspector shall enforce this by-law as set forth in the Fines & Fees Schedule of the by-law.**

~~Upon receiving a complaint in writing, from a resident or property owner in the Town, the Building Inspector shall enforce this by law as set forth in the Fines & Fees Schedule of the by law.~~

Section ~~54~~. Fines & Fees Schedule

A. First offense: A written warning stating a property owner/~~resident~~ or utility is in violation: Ten (10) days to meet compliance.

B. Second offense: \$25.00 Fine. Five (5) days to meet compliance.

C. Third offense and \$50.00 Fine. Five (5) days to meet compliance before each subsequent offense another ~~\$50.00~~ **\$100.00** fine issues.

**2014 Presentation  
to the  
Arlington Board of  
Selectmen**

**Paul Schlichtman**

## **Article 8: Amending our current “Dark Skies” bylaw.**

Arlington’s current Dark Skies bylaw (Title V: Article 14 Regulation of Residential Outdoor Lighting) was enacted in 2005. The current bylaw only covers lighting on residential properties. If a neighbor places an exterior light that shines into your home, you can seek relief under the existing bylaw. If someone places a large high-power, high-pressure sodium vapor floodlight on a utility pole on the street, an adjacent parking lot, or an adjacent non-residential property, directed at your home, you have no recourse or rights under the current bylaw.

Current deficiencies with present “Dark Skies” Bylaw

- Applies only to lighting located on residential properties.
- Does not regulate light that shines onto residential properties from other classes of properties.
- Does not regulate light that creates glare on public ways.
- Does not regulate high-power high-pressure sodium vapor floodlights.

The intent of this article is to address glare and light trespass caused by the extensive use of unshielded high-power lighting.



High-power, high-pressure, unshielded sodium floodlight.

Why are unshielded high-power lights a problem?

Glare: Bright light, similar to the bright lights of an oncoming vehicle, reduce our ability to see in the dark.

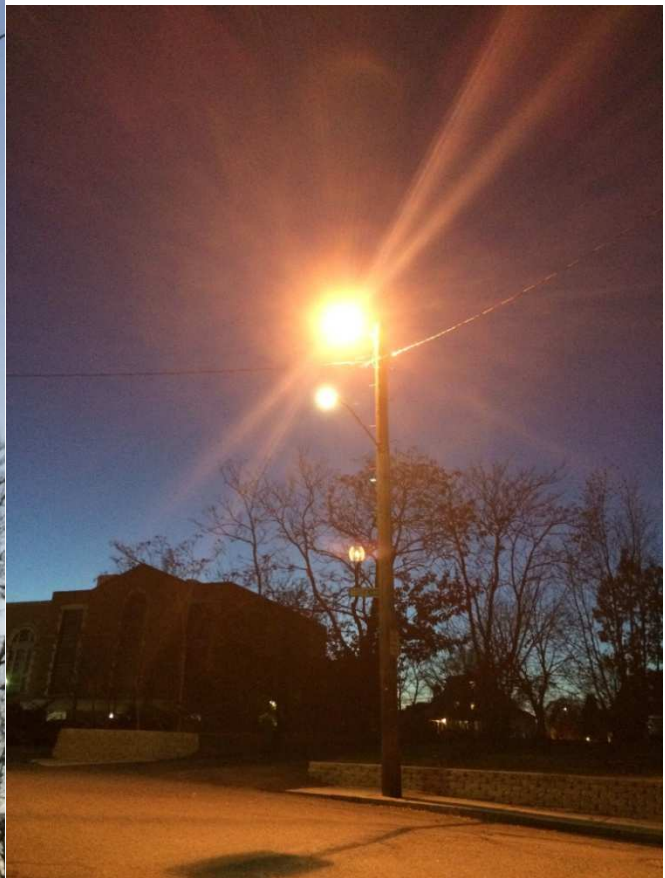
Light trespass: Bright light spreads beyond its intended target, providing unwanted light on neighboring properties.



Example: Floodlight at Russell Terrace and Winslow Street.



Floodlight on a pole at the end of Russell Terrace, across from Winslow Street.

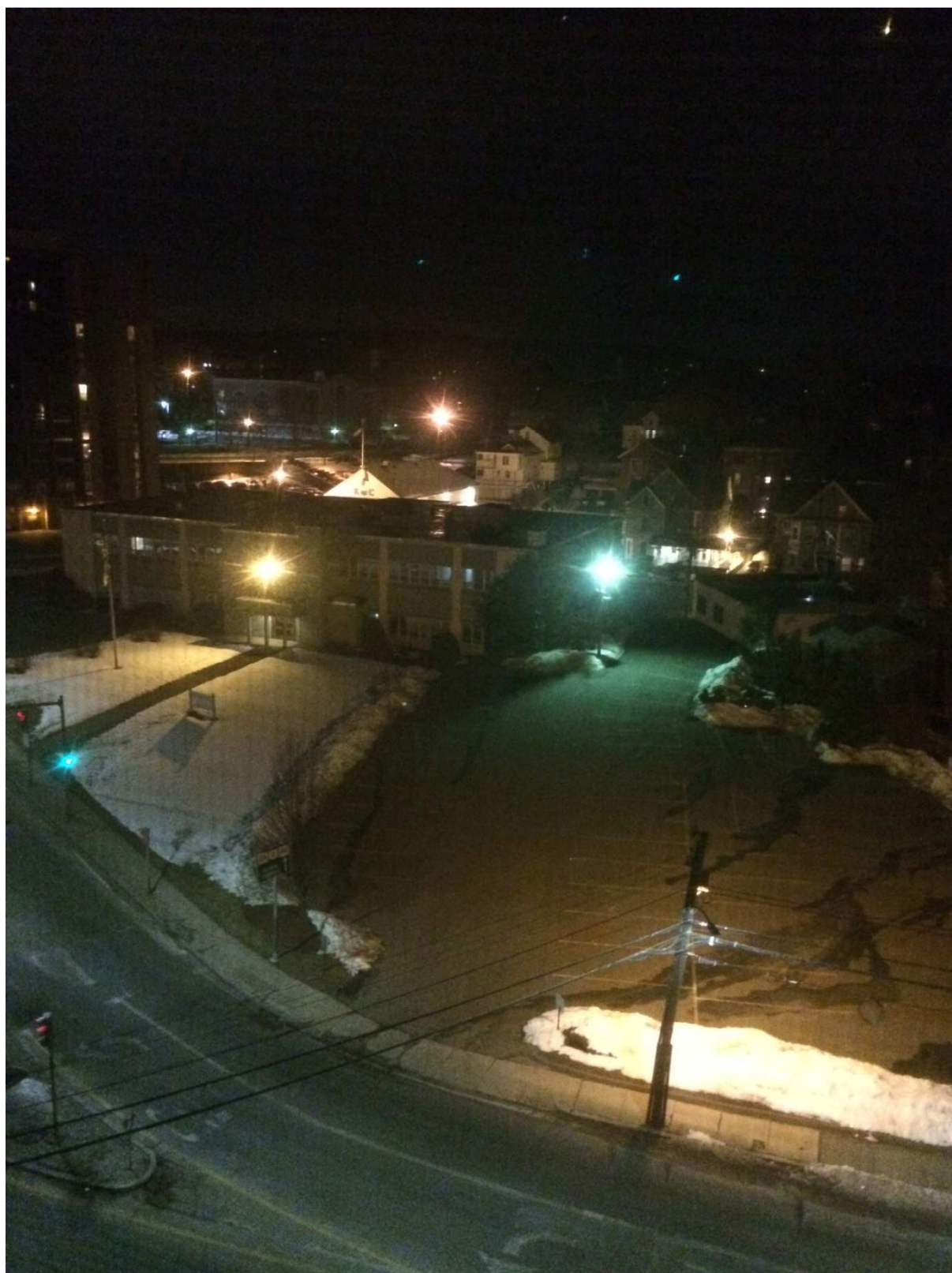


Approaching Russell Terrace from Winslow Street in the late afternoon, and an hour later when it shines in the eyes of drivers.



Approaching from the Minuteman Bikeway, you see the floodlight bathes the residential property at the northeast corner of Winslow Street and Russell Terrace. Notice the glare from another light on Prescott Street shines directly at people approaching this intersection.





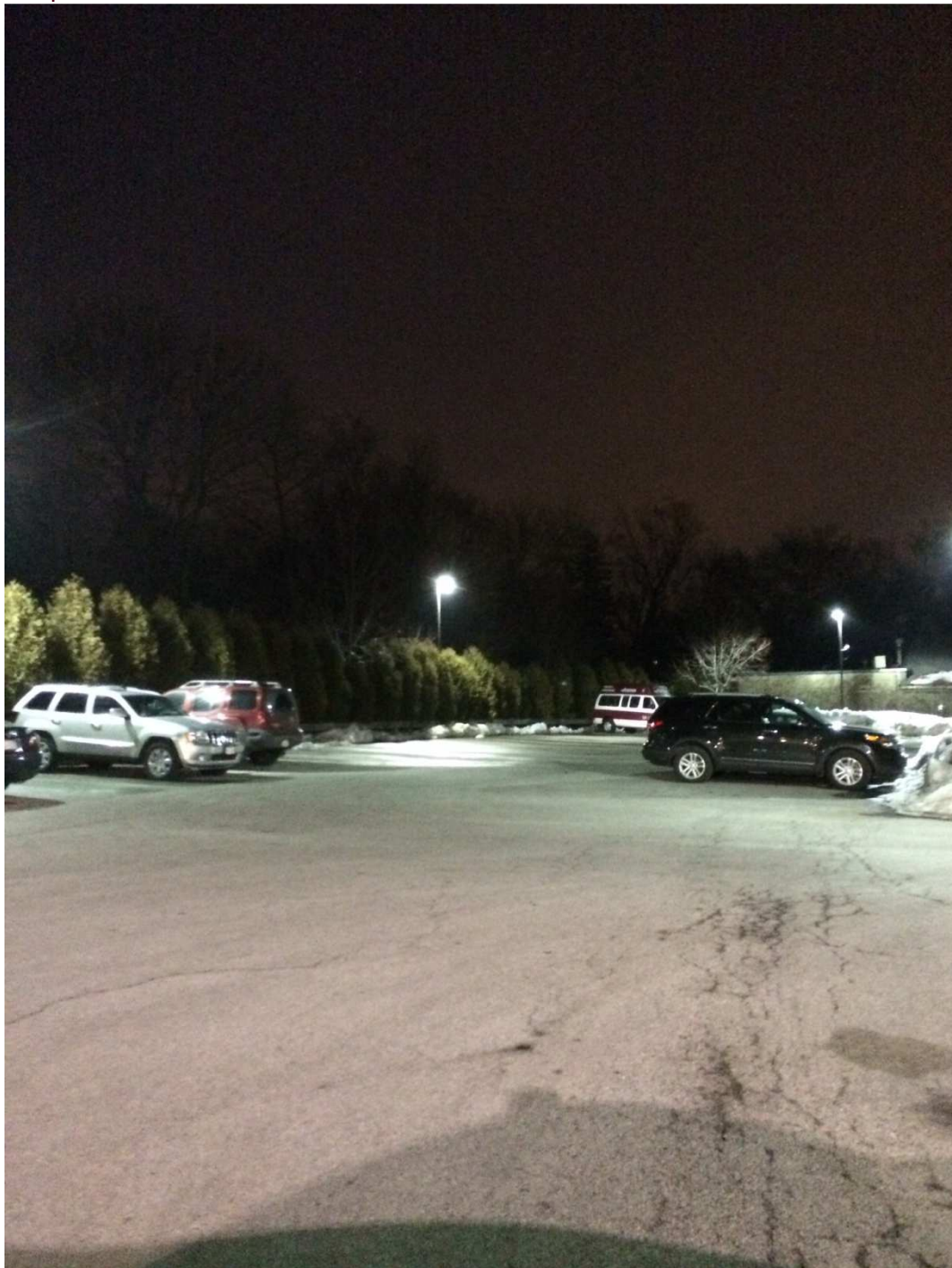
The light is powerful enough to create an orange glow in bedrooms two blocks away on the eighth floor of 47 Mystic Street. Notice the use of two high-power high-pressure sodium floodlights in the parking lot of 30 Mystic Street are not effective in lighting the lot, but generate significant glare and light pollution.

**It doesn't need to be that way.**

Lighting that is directed toward the intended target, and shielded from neighbors, is highly effective. Without glare, energy efficient and shielded lighting provides an excellent result.

Example: Armstrong Ambulance, 87 Mystic Street

The parking lot at the rear of Armstrong Ambulance is very well lit, but creates no glare and no light trespass.





Parking lot at the rear of Armstrong Ambulance, 87 Mystic Street.



View of Armstrong Ambulance from the eighth floor of 47 Mystic Street. No glare, no light trespass.

**Not all floodlights are mounted on a utility pole.**



Traveling westbound on Chestnut Street, a floodlight glares from a pole in the municipal parking lot (left) while another light above the front door of 30 Mystic Street creates glare directly in the eyes of drivers approaching the intersection. Note the glare from the municipal lot floodlight when you drive into the lot.



Glare from a light above the front door at 30 Mystic Street faces drivers on westbound Chestnut Street.

## Possible vote under Article 8 – 2014 Annual Town Meeting

New language *in italics*.

Deleted language ~~stricken~~.

### Title V:

## ARTICLE 14 REGULATION OF RESIDENTIAL OUTDOOR LIGHTING

ART. 17 ATM 05/16/05

### Section 1. Introduction

It is the intention of this by-law to regulate the use of ~~residential~~ outdoor lighting so as to not unduly inconvenience abutters by having outdoor lighting shining directly into their windows or onto their properties, *or by creating glare*. This by-law is enacted with the understanding that enforcement shall be based upon any complaint issued by any resident or property owner within the Town.

### Section 2. Regulation

~~a. In all residential neighborhoods,~~ All outdoor lighting, including but not limited to: floodlighting, decorative lighting, lighting primarily designed to illuminate walks and/or walkways, driveways, outdoor living areas and/or outdoor recreational facilities, ~~except for temporary holiday lighting,~~ shall be continuous, ~~indirect,~~ and installed and ~~or~~ shielded in a manner that shall prevent direct light from shining onto or upon any street and/or adjacent or abutting property.

*A luminaire shall be defined as a complete outdoor lighting unit or fixture including a lamp or lamps, together with the parts designed to distribute the light, to position and protect the lamps, and to connect the lamps to the power supply, but not including a pole on which the luminaire may be mounted.*

*A luminaire shall be considered shielded if it is constructed in such a manner that no light emitted by the fixture, either directly from the lamp or a diffusing element, or indirectly by reflection or refraction from any part of the luminaire, is projected above a horizontal plane passing through the lowest direct-light-emitting part of the luminaire.*

*Up-lighting, the direct light illumination distributed above a 90 degree horizontal plane through the lowest direct light emitting part of the luminaire, is prohibited, except for illumination of the United States Flag, a building façade, or a public monument. For any up-lighting, the luminaire shall be equipped with shields so that the lamp is not visible from a street, or a lot that is in Residential or Conservation use.*

*Streetlights, installed within a street and intended primarily for the illumination of the street, sidewalk, or town owned parking lot, shall be of a design approved by the Town Manager. Floodlights or any other luminaires that are not shielded, and not installed for the primary purpose of illuminating a street, shall not be permitted along streets, in parking lots, or on any town-owned property.*

*b. The following lighting shall be exempt from the provisions of this by-law:*

- 1. Temporary holiday lighting.*

2. *Internally illuminated signs.*
3. *Emergency lighting such as used by the Police, Fire Department, or other official or utility emergency personnel. Placement of longer-term emergency lighting shall, to the largest extent possible, take into consideration the detrimental effects of glare on passing motorists and pedestrians and on residential lots.*
4. *Lighting during special events such as fairs, concerts, or celebrations sponsored by the Town of Arlington or approved by the Board of Selectmen; but not later than 10:30 p.m.*
5. *Lighting on playing fields and courts under the jurisdiction of the Town of Arlington; but not later than 10:30 p.m.*
6. *Lighting of historic or architectural significance exempted by a vote of the Arlington Historical Commission.*

*c. Lighting installed prior to the enactment of this by-law, as amended, shall be exempt from the provisions of this by-law until April 15, 2015.*

### **Section 3. Enforcement**

Enforcement of this by-law shall be under the authority of the Building Inspector. Upon receiving a complaint in writing, from a resident or property owner in the Town, the Building Inspector shall enforce this by-law as set forth in the Fines & Fees Schedule of the by-law.

### **Section 4. Fines & Fees Schedule**

- A. First offense: A written warning stating a property owner/resident is in violation: Ten (10) days to meet compliance.
- B. Second offense:\$25.00 Fine. Five (5) days to meet compliance.
- C. Third offense and \$50.00 Fine. Five (5) days to meet compliance before each subsequent offense another \$50.00 fine issues.

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### **References:**

Green Acton: <http://greenacton.org/outdoorlighting.htm>

Current Town of Acton zoning bylaw (section 10.6 begins at page 155):