

Agenda Item: 6 (a)

Background Information: The City has purchased 2 downward directional solar lights to illuminate the American Flag in the flag display along Main Street. Both are too dim and ineffective and are impractical to maintain.

In July, Staff contacted the City Attorney and asked if the City could allow upward lighting of the American Flag in zones that require downward directional lighting. His response was: *“The short answer to your question is the City may not impose any regulations that treat the American flag differently than any other sign or flag, as that would be a content based regulation and would be subject to strict scrutiny by the courts (meaning it would almost certainly be struck down if challenged).”*

A FAQ sheet provided by The American Legion states:

“Is it proper to fly the U.S. flag at night?”

The Flag Code states it is the universal custom to display the flag only from sunrise to sunset on buildings and on stationary flag staffs in the open. However, when a patriotic effect is desired, the flag may be displayed 24 hours a day if properly illuminated during the hours of darkness. The American Legion interprets “proper illumination” as a light specifically placed to illuminate the flag (preferred) or having a light source sufficient to illuminate the flag so it is recognizable as such by the casual observer.”

Lighting standards from the City of Bloomington are included.

Applicable Regulations:

Section 17-5.10 COMMERCIAL (C)

- E. Lighting. Lighting shall be minimal. Lighting shall be downward directional and shall be compatible with the surrounding development. Lights approved with signs must be turned off at the close of business each day.

Section 17-5.12 DOWNTOWN MIXED USE (DMU)

- C. Lighting. All building entrances, pathways and other pedestrian areas shall be lit to two-foot candles with pedestrian-scale lighting including wall mounted, sidewalk lamps, bollards, or landscape up-lighting.

Section 17-5.13 LIGHT INDUSTRIAL (LI)

- C. Lighting. Lighting shall be minimal. Lighting shall be downward directional and shall be compatible with the surrounding

development. Fire Lanes. Fire lanes shall remain unobstructed at all times.

Section 17-5.15 PUBLIC (P)

- A. Lighting. Lighting shall be downward directional and shall be compatible with the surrounding development. Signs approved with lights must be turned off at the close of business each day.

Planning Commission Direction: There are numerous flags throughout the City on both City and private property that are ground lit. These would be nonconforming uses, but how does the City move forward complying with the ordinance for new flagpoles? Please visit the flag display after dark to observe the solar light and come prepared to discuss lighting of the American Flag.

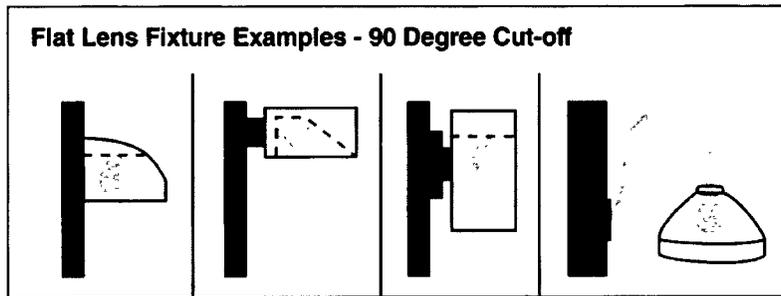
SEC. 21.301.07. EXTERIOR LIGHTING.

- (a) **Purpose and intent.** The City of Bloomington recognizes the health, safety, welfare, and aesthetic value of providing lighting standards in the community. This Section's provisions are intended to:
- (1) Promote the public health, safety, and general welfare;
 - (2) Establish efficient and cost effective lighting requirements adequate for safety and security;
 - (3) Reduce light pollution, light trespass, glare, and offensive light sources;
 - (4) Provide an environmentally sensitive nighttime environment;
 - (5) Discourage inappropriate, poorly designed or installed outdoor lighting by requiring quality lighting design, light fixture shielding, and maximum uniformity ratios;
 - (6) Protect motor vehicle operators, pedestrians, and adjacent land uses from glare; and
 - (7) Implement the City's Comprehensive Plan.
- (b) **Lighting plan.** Except for single and two-family dwellings, no exterior lighting may be installed prior to approval of a lighting plan by the Issuing Authority. Modifying approved lighting, including lamp or fixture substitution, requires Issuing Authority approval. All plans must be signed by a registered Electrical Engineer or a Lighting Certified (LC) professional certified by the National Council on Qualifications for the Lighting Professions. The lighting plan must include the following information and attachments:
- (1) Name of project, developer, property owner, and architect/designer (all applicable);
 - (2) Date of initial plan preparation and all amendments;
 - (3) Scale of plan (engineering scale only, at a scale of one (1) inch equals fifty (50) feet or less) with North point indication;
 - (4) An accurate site plan indicating the location of property lines and all existing and proposed land improvements including but not limited to buildings, parking lots, aisles and driveways, streets, walkways and accessory structures;
 - (5) The location and description of all existing over story landscaping unless an approved or proposed landscape plan is provided;
 - (6) The location and height above grade of all proposed and existing exterior fixtures (includes decorative and all mounted lighting) on the property;
 - (7) Control descriptions including hours of operation and type of controls (timer, motion sensor, time clock, etc.), the light fixtures to be controlled by each type, and control schedule;
 - (8) Two separate photometric plans superimposed on a site plan (See Section 21.301.07(b)(5)), one plan with the initial at-grade foot-candle levels and the other the maintained at-grade foot-candle levels. Photometric points must be on a grid ten feet by ten feet or less across the entire site and a minimum of ten feet or more beyond the lot or parcel property line. Each point must be to the nearest 0.1 foot-candle;
 - (9) A luminaire schedule table indicating maximum to minimum uniformities for each specific use area such as parking and circulation areas, pedestrian areas, and other common public areas, the type of light source, light source wattage and initial light output lumens rating, color rendering index, color temperature and light loss factor of each lamp source;
 - (10) Detailed information on each light fixture including copy of the manufacturers catalog information sheet and IESNA photometric distribution type, including any shielding information such as house side shields, internal, and/or external shields; and
 - (11) Energy use calculations showing compliance with the Minnesota Energy Code, without exemptions. All parking lots regulated by this Section are considered public parking lots in the Minnesota State Energy Code.
- (c) **Lighting standards.** In addition to the following specific requirements, all exterior lighting must comply with the standards set forth in Section 21.301.07.
- (1) No person may install or operate any device with light levels other than as specified in this Section.
 - (2) **Luminaire.** A complete lighting unit extending from a support structure, parallel to the ground, consisting of a light source and all necessary mechanical, electrical and decorative parts. The light source, lens and other components do not extend below the cutoff angle for the luminaire where a

90 degree cut-off is required. A luminaire does not include a pole or other support. All lighting, unless specifically allowed in this Section, must be 90 degree cut-off with a flat lens design as shown in Section 21.301.07(c)(3)(A).

(3) **Graphic illustration**

(A) Examples of 90 degree cut-off, flat lens fixtures



(4) **Architectural lighting of building facades, signs, landscaping or other features.** The installation of lighting for architectural, aesthetic, or decorative purposes is permitted subject to the limitations in the Minnesota State Energy Code and the following restrictions:

- (A) Upward aimed lighting (except for flagpoles) must not exceed 22,500 initial light output lumens per source and must not exceed an average of 15 initial light output lumens per square foot for each facade. All upward aimed light must be fully shielded from public view.
- (B) Downward aimed lighting must not exceed 45,000 initial light output lumens per source, must not exceed an average of 20 initial light output lumens per square foot for each facade illuminated and must have a 90 degree cut-off with a flat lens.
- (C) In no instance may the combined upward and downward lighting for building facades exceed 25 initial light output lumens per square foot for each facade illuminated; and
- (D) All landscape lighting shall be less than 500 initial light output lumens per source or the light source must be fully shielded from view and limited to 3,000 initial light output lumens per source fixture.

(5) **Brightness of signs and unshielded decorative light sources**

- (A) Dusk to Dawn External Illuminance Standards
 - (i) Downward aimed lighting must not exceed 200 initial light output lumens per square foot of sign surface illuminated. The source must provide a 90 degree cut-off with a flat lens.
 - (ii) Upward aimed lighting must not exceed 100 initial light output lumens per square foot of sign surface illuminated. The light source must be fully screened from direct view.
 - (iii) In no instance may the combined upward and downward lighting exceed 250 initial lumens per square foot of surface illuminated.
- (B) Dusk to Dawn Luminance Standards
 - (i) All sign and decorative light sources must not exceed the luminance standards below:

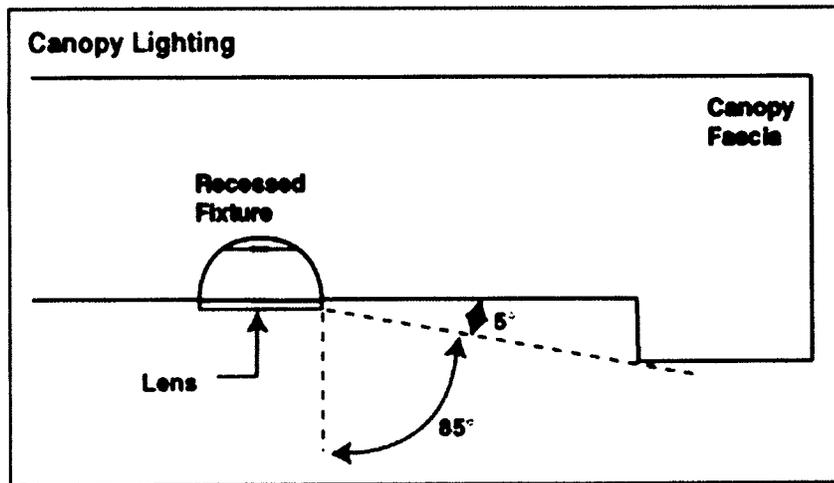
Location	All Signs (except those sign types listed in the next column)	Electronic Graphic Display, Video or Time and Temperature Signs, and Decorative Light Sources
Within the residential zoning districts of R-1, R-1A, RS-1, R-3, R-4, RM-12, RM-24, RM-50, RM-100, RO-24, and RO-50 or within 500 feet of and visible from Protected Residential Property	125 nits	350 nits
Within all other Zoning Districts when greater than 500 feet and not visible from Protected Residential Property within 500 feet	200 nits	425 nits
On sites adjacent to I-494, I-35W, or within the South Loop District and not visible from a Protected Residential Property within 500 feet	300 nits	500 nits

(C) Dawn to Dusk Luminance Standards

- (i) All sign and decorative light sources must not exceed 6,500 nits.

- 6) **Flagpoles.** A flagpole may be illuminated by no more than three upward aimed fully shielded spotlight light fixtures per flag. For flag poles up to 35 feet in height, the fixtures must not exceed a combined 40,000 initial light output lumens for flags of 35 feet or less in height. An additional 500 initial light output lumens for each foot in flag height, not pole height, over 35 feet is allowed up to a maximum of 75,000 initial light output lumens. The light fixtures must be placed as close to the base of the flagpole as reasonably possible and recessed into the ground.
- (7) **Canopy lighting.** Light fixtures mounted under roof overhangs and canopies must be recessed so that the lens cover is recessed or flush with the bottom surface (soffit) of the canopy and/or shielded by the fixture or the edge of the canopy so that light is restrained to no more than 85 degrees from vertical. Lights must not be mounted on the top or sides (fascia) of the canopy for the purposes of illuminating a portion or the entire canopy.

(A) Example of complying recessed canopy light:



- (8) **Building entrances or exits.** A light source must be located at each building entrance and exit.
- (9) **Glare.** In all zoning districts, all lighting must be arranged so as not to shine directly on any adjoining property. A person must not create light that produces glare clearly visible beyond a property line or creates a sensation of brightness within a visual field so as to cause annoyance, discomfort or impairment of vision. Lenses, deflectors, shields, louvers, or prismatic control devices must be used to eliminate nuisance and hazardous lighting to facilitate compliance with this requirement.
- (10) **Parking structures.** Luminaires used for illumination of designated pedestrian walkways in parking structures must be at least two times the average illumination or of a significantly different color value than luminaires used for illuminating vehicle parking and drive aisles. Convex lenses in open parking garages must not extend more than two inches below the source. Fully enclosed and secured parking structures are exempt from the cut-off and lens restrictions.
- (11) **Proof of lighting.** A parking lot used exclusively for daylight use and secured to prohibit nighttime use is exempt from the lighting requirements subject to installation of all conduit and material, other than the lighting and lighting supports, subject to approval by the Issuing Authority.
- (12) **Lighting standards.** All exterior lighting must comply with the following standards, which vary by use. In the event more than one use is present, the highest regulatory standards apply. Single-family and two-family dwellings and residential parking lots with fewer than twelve parking spaces are exempt from the minimum light levels required but shall comply with the lights source and height requirements for any lighting installed. Maintained lighting levels shall be calculated at a Light Loss Factor of 0.81 or the actual tested Light Loss Factor for the source, whichever is less.

	Residential zones or uses	Non-residential uses within 300 feet of protected residential uses	Office / Industrial uses	Retail and service oriented uses
Maximum height (Grade to top of Luminaire -- Includes base)	28 Feet		33 Feet	
Maximum power for a 90 degree cut-off – flat lens single light source	30,000 Initial Light Output in Lumens		50,000 Initial Light Output in Lumens	
Maximum power for a zero cut-off fixture	3,000 Initial Light Output in Lumens		6,000 Initial Light Output in Lumens	
Special controls	All lights required for security must be on an alternate circuit. All other exterior lighting must be illuminated no earlier than one hour before the start of business and must be extinguished no later than one hour after the end of business.			
Uniformity Ratio (Max:Min) (25 foot parking perimeter exempt from this calculation)	6 Max :1 Min	10 Max : 1 Min		
Minimum illumination on surface (up to a 50 percent reduction allowed for the perimeter 25 feet of parking, loading, access or other surfaced areas along the property line.)	1.0 FC	As required for the specific uses	1.5 FC	2.0 FC
Minimum illumination for primary building entrance and exits	5.0 FC within 5 feet of the entrance/exit	As required for the specific uses	7.0 FC within 10 feet of the entrance/exit	10.0 FC within a radius extending from the door by a distance equal to twice the door opening width
Minimum illumination for secondary and emergency building entrance and exits	2.0 FC within 3 feet of the entrance/exit	As required for the specific uses	2.0 FC within 5 feet of the entrance	2.0 FC within 5 feet of the entrance
Minimum illumination on the pedestrian access surface from a primary building entrance	2.0 FC within 20 feet	2.0 FC within 30 feet		3.0 FC with 30 feet
Minimum illumination on the designated Pedestrian Crosswalks to the primary entrance	Two (2) times the minimum illumination level of the area where the crosswalk is located.			
Minimum illumination on all pedestrian access surfaces to primary building entrances other than listed above	Same as the parking surface for the use.			
Maximum illumination at property line (No limit along public street)	0.5 FC		1.0 FC	

(13) **Lighting for special uses.** All exterior lighting must comply with the following standards, which vary by use type. In the event more than one use is present within a development, the more restrictive requirements apply.

	Parking structures	Service stations and automobile dealers	Exterior storage
Maximum height	33 Feet (Open air level)	33 Feet	
Maximum power for 90 degree cut-off – flat lens fixture	50,000 Initial Light Output in Lumens	70,000 Initial Light Output in Lumens	50,000 Initial Light Output in Lumens
Maximum power for no cut-off fixtures - Initial Light Output in Lumens	20,000 Lumens (source shielded) 3,000 Lumens (unshielded)	6,000 Lumens	6,000 Lumens
Special Controls	Required – All lights required for security must be on an alternate circuit. All other exterior lighting must be illuminated no earlier than one hour before the start of business and must be extinguished no later than one hour after the end of business.		Not Required
Max:Min Uniformity Ratio (25 foot perimeter exempt)	10 Max : 1 Min		Not Required
Minimum illumination on parking surface (up to a 50 percent reduction allowed for the perimeter 25 feet of the parking, loading, access or other surfaced areas along the property line or ramp)	5.0 FC enclosed areas for retail uses 3.0 FC enclosed areas for non-retail uses Open air levels are regulated as open air parking lots	2.0 FC	1.0 FC (when unsecured)
Minimum illumination for Pedestrian Entrance and Exits	10.0 FC within a radius extending from the door by a distance equal to twice the door opening width for pedestrian exits and entrances on all levels	10.0 FC within 20 Feet of primary entrances 5.0 FC within 10 feet of secondary entrances	Not Applicable
Vehicle entrance and exits	25.0 FC within 35 feet of 100 percent closed structure and within 20 feet for structure at least 45 percent open	2.0 FC	Not Applicable
Minimum illumination on the pedestrian access surface within 30 feet of a primary building entrance	4.0 FC		Not Applicable
Maximum illumination at property line - (No limit along Public Street)	1.0 FC		0.5 FC

(d) **Points of measurement.** Illumination measurements taken at the property line will be measured at the greatest point of illumination of said property line. Illumination measurements to determine the minimum and maximum illumination internal to a site will be measured by positioning the meter horizontally at ground level at the highest and lowest points of artificial illumination for the area illuminated and shall not include exempt areas.

(e) **Prohibitions.** After the effective date of this ordinance, no person may install any of the following types of outdoor lighting fixtures:

- (1) Lights with a Color Rendition Index of less than 50 (except for approved architectural lighting);

- (2) Lights with a Color Temperature (k) of less than 2,500 K (except for approved architectural lighting);
 - (3) Blinking, flashing, moving, revolving, flickering, changing intensity or color, and chase lighting, except lighting for temporary seasonal displays, lighting for public safety or required for air traffic safety;
 - (4) Any light fixture that may be confused with or construed as a traffic control device; and
 - (5) Any upward oriented lighting, including searchlights, beacons, and laser source light fixtures, except as otherwise provided for in this Section or approved by the City Council for a special event or purpose.
 - (6) The installation or replacement of parking lot and access lighting with an efficacy less than 70 lumens per watt for the luminaire.
 - (7) Building and grounds lighting that operate at greater than 100 watts must have an efficacy of 60 initial lumens per watt unless controlled by a motion sensor.
- (f) **Preliminary and final inspection and certification.** Prior to the installation of outdoor lighting, an inspection to verify delivery of the approved lamp, fixture, and pole heights must be completed. Before a Certificate of Occupancy may be issued, a post-installation inspection by the Issuing Authority must verify compliance with the approved plan depicting the initial foot-candles levels. Individual points may not vary more than 20 percent with the average of all points within 10 percent of the initial foot-candle level on the approved plans. Any deviation beyond these criteria must be remedied prior to the issuance of a Certificate of Occupancy.
- (g) **Exceptions.** This Section's standards do not apply to the following types of exterior lighting:
- (1) **Ornamental lighting.** Low voltage light fixtures (12 volts or less), low wattage ornamental landscape lighting fixtures, and solar operated light fixtures having self-contained rechargeable batteries, where any single light fixture does not exceed 200 initial light output lumens;
 - (2) **Right of way lighting.** Public lighting located within and intended for the right of way;
 - (3) **Temporary lighting.** Temporary lighting for approved public sporting events and theatrical, television or performance areas;
 - (4) **Required lighting.** Lighting required as part of the City of Bloomington adopted Electrical or Building Codes or required by the Federal Aviation Administration or other State or Federal Agency; and
 - (5) **Public safety lighting.** Temporary lighting for police, fire or public safety construction and repair personnel.
- (h) **Conformance triggers.** Any new lighting designed after the effective date of this ordinance must be in compliance with the requirements of this ordinance. Any lighting legally in existence before the effective date of this ordinance that does not comply with its requirements must come into compliance upon the occurrence of any of the following events. Any lighting illegally in existence before the effective date of this ordinance must come into compliance immediately upon adoption of this ordinance.
- (1) **Alterations to existing lighting.**
 - (A) When poles and support structures are removed and replaced for reasons other than acts of god or accidents, they must be replaced with luminaires, poles and supports that comply with this Section; and
 - (B) When luminaires are replaced without replacement of poles or support structure, they must be replaced with luminaires that comply with all provisions of this Section except the minimum light intensity provisions of subsection 21.301.07(c)(11). In no event, however, may the existing light intensity levels be reduced below existing lighting levels for the parking area.
 - (2) **Removal and replacement of parking lot surface.** When less than 50 percent of the gross area of the parking lot surface on a particular site is removed and replaced, the parking area replaced must be provided with lighting in compliance with this Section within 30 days of parking lot completion. If 50 percent or more of the parking area on a particular site is removed and replaced

within one year, the entire parking lot or lots on the site where the construction activity occurs must be brought into full compliance with this Section within 30 days of parking lot completion. A parking lot or portion thereof is "removed and replaced" when any portion of the existing parking surface material is removed and a new surface is installed.

- (3) **New parking lots or parking lot additions.** When a new parking lot or addition to an existing parking lot is constructed, the new lot or lot addition must be provided with lighting in compliance with Section 21.301.06 of this Code.
 - (4) **New structures, additions, or replacements.** When a site is improved with new structures or additions to or replacements of existing structures, the lighting for the new structure, addition or replacement on the site must be upgraded with complying lighting and the parking lot lighting must be upgraded with complying lighting over a portion of the parking area that is equivalent to the amount of parking that would be required for the new structure, addition or replacement by Section 21.301.06 of this Code. In the event the new structure, addition, or replacement is accompanied by new or replaced parking area, the amount of upgraded lighting area must be that required under this subparagraph (4), or that required under the combination of Section 21.301.07(h)(2) and (3), whichever is greater.
 - (5) **Change of type of occupancy.** When the type of occupancy for a portion or entire site or structure is changed, site lighting must be upgraded throughout the site, as necessary, to comply with this Section for the structure, or portion thereof, and the parking lot be upgraded for the required parking for the occupancy as established in Section 21.301.06 of this Code. For purposes of determining the type of occupancy of a site, the occupancy classifications of the Minnesota State Building Code must be utilized.
 - (6) **Unoccupied sites.** When a site has been unoccupied for a period of one year, the lighting must be upgraded to fully comply with this Section prior to any reoccupation of the site.
 - (7) **Conditions of approval.** When a development application is made for a site, the City Council may as a condition of approval require compliance with any or all of the performance standards of this Section, and the extent of compliance required in such cases may be greater than that otherwise required under subdivision (d), if deemed reasonably necessary to protect the public health, safety or welfare and to achieve the purposes of this Section.
 - (8) **Nuisance conditions.** Lighting that creates a public nuisance must be brought into compliance upon issuance of orders from the Issuing Authority.
- (i) **Date for final compliance.** Notwithstanding any of the above, all site lighting within the City must be in compliance with the minimum illumination levels at ground level as specified in Section 21.301.07 no later than December 31, 2018, unless the site or portion thereof meets one of the following exemptions:
- (1) The site has an approved lighting plan with installation on or after August 19, 1996, and the lighting has been maintained at the levels on the approved plan;
 - (2) Reserved;
 - (3) The site has an approved lighting plan with installation prior to August 19, 1996, that documents illumination levels of no less than 75 percent of the illumination levels required in Section 21.301.07(C)(11) or (12) for the respective use, provided code complying light fixtures are used and illumination levels are maintained as per the approved plan;
 - (4) The site or portion thereof is mapped and scheduled for acquisition by January 1, 2020, by a Federal, State or Local government agency. In the event that only a portion of the site is mapped, only that portion is exempt from compliance;
 - (5) The site is planned for redevelopment prior to January 1, 2020, as evidenced by an approved Preliminary Development Plan; or
 - (6) The City Council has approved a variance exempting compliance due to a hardship or special circumstance.
- (j) **Flexibility Measures.** Site lighting levels in a specific area may be reduced from the standards discussed above subject to the inclusion of the following Crime Prevention Through Environmental Design (CPTED) measures and approval by the City of Bloomington Police Department. These flexibility measures are limited to a total reduction in site lighting levels of 25 percent.

- (1) Enhanced Max:Min Uniformity Ratio at or below 3:1 Max:Min qualifies for up to a 10% lighting level reduction;
- (2) Inclusion of CCTV or sound surveillance devices monitored by security personnel qualify for up to a 10% lighting level reduction;
- (3) Installation of panic buttons, intercoms or emergency phones throughout the parking area qualifies for up to a 5% lighting level reduction;
- (4) Secured access and use of the parking area qualifies for up to a 5% lighting level reduction;
- (5) Inclusion of signs and graphics to enhance movements throughout the site qualifies for up to a 3% lighting level reduction;
- (6) For parking structures, increased parking structure windows or openings to enhance natural surveillance of parking structure occupants qualify for up to a 3% lighting level reduction in the parking structure; or
- (7) Additional measures identified in a CPTED Study submitted and approved with the reduction level determined by the City of Bloomington Police Department.