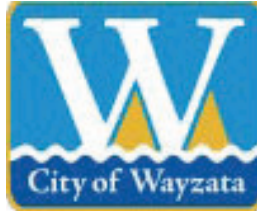


ENERGY AND ENVIRONMENT COMMITTEE

Tuesday, September 24, 2024 5:30 PM – 7:00 PM

**Wayzata City Hall
600 Rice Street East
Wayzata, MN 55391**

1. Roll Call
2. Approve Agenda
3. Approve August 27, 2024 Meeting Minutes
4. [Solar Tour](#) Discussion
5. Dark Sky Discussion
6. Sustainability Champion Award Update
7. Local Climate Action Grant Update
8. Next Meeting – Tuesday, October 29
9. Adjournment



ENERGY AND ENVIRONMENT COMMITTEE

Meeting Minutes

Tuesday, July 30, 2024 5:00 PM – 6:00 PM

1. Roll Call

Committee Attendees: Chair Lauren Lindelof, Ava McNanley, Meaghan Yorro, and David Ferri.

Wayzata City Staff Member: Nick Kieser, Parks and Environment Planner.

2. Approve Agenda

Motion to approve agenda, first by Ferri, seconded by Yorro. Motion passed unanimously.

3. Approve July 30, 2024 Meeting Minutes

Motion to approve minutes as shown, first by Ferri, seconded by Yorro. Motion passed unanimously.

4. DarkSky Initiative Presentation

Staff noted that the DarkSky initiative could be separated into three phases:

1. Create a new Ordinance with specific lighting requirements for new developments.
2. Create educational materials that are promoted in city media outlets and sent directly to businesses and/or residents. The Committee could focus on a specific corridor or area, like Lake Street, to focus efforts to make changes.
3. Create a policy that covers city lighting. Changes in city lighting could also start with a focus area to show success before changes are brought city-wide.

The Committee discussed these phases. For a specific corridor or area to implement DarkSky lighting, the marina/beach area could work well to serve as a case study. Lake Street could also serve as a great example, but that would most likely cost significantly more and more visible.

Staff noted that they will start conducting additional research into a new Ordinance for new developments that could be drafted for review. Staff will also contact the DarkSky representative to determine what changes could be implemented to install DarkSky lighting in the case study areas.

5. Sustainability Champion Award

Staff noted that there are no current applications submitted for the 2024 Sustainability Champion Award. Staff has talked with Folkstone about their sustainability initiatives and they are interested in applying, but they might apply next year.

6. Local Climate Action Grant Update

Staff noted that the MPCA is still working on draft application that they will send to the city for review. Once that is sent to the city then the review process will go through staff and to the City Council for final approval.

7. Next Meeting – Tuesday, September 24

McNanley noted that Wayzata High School has installed a native garden near the High School. The Committee congratulated McNanley on this accomplishment and noted that they will try to visit the garden.

Chair Lindelof updated the Committee that the municipal solar installations were placed on the ACES Solar Tour. The Tour is from October 4-6. Lindelof and staff will partner with Blue Horizon to determine if a specific event could be held during those days for folks that would like to discuss the solar installations. A unique cocktail could also be created at the Bar & Grill to help promote the solar installations.

The Committee also discussed changing the future meeting start times to 5:30 pm.

8. Adjournment

Motion to adjourn the meeting, first by Ferri, seconded by Lindelof. Motion passed unanimously.

21105.06. Exterior Lighting.

Exterior lighting shall comply with the following standards:

- Subd. 1. **Purpose and Scope.** The purpose of this Section is to establish exterior lighting requirements that will 1) permit reasonable uses of lighting for night-time safety, utility, security, productivity, enjoyment and commerce, 2) minimize glare, obtrusive light and artificial sky glow by limiting outdoor lighting that is misdirected, excessive or unnecessary, 3) conserve energy and resources to the greatest extent possible and 4) help protect the natural environment from the damaging effects of night lighting from man-made sources.
- Subd. 2. **Use of Lighting Zones.**
- (a) Using Table 1 as a guide, the City Council shall determine and maintain Lighting Zones within the boundaries of the City.
 - (b) The lighting zones established by this Ordinance are hereby set forth on the Plymouth, Minnesota Lighting Zone Map; and said map is hereby made a part of this Ordinance; said map shall be known as the "Plymouth, Minnesota Lighting Zone Map". Said map and all notations, references, and data shown thereon are hereby incorporated by reference into this Ordinance and shall be as much a part of it as if all were fully described herein. It shall be the responsibility of the Zoning Administrator to maintain said map, and amendments thereto shall be recorded on said Lighting Zone Map within 30 days after official adoption of amendments. The official Lighting Zone Map shall be kept on file in the City Hall. The Lighting Zone of a parcel or project shall determine the limitations for lighting as specified in this Section.
 - (c) Amendments to the Lighting Zones shall be processed according to the procedures established in Section 21010 of this Chapter.

Table 1 — Lighting Zone Ratings and Characteristics		
Zone	Ambient Illumination	Typical Locations
LZ0	No ambient lighting	Natural areas (City-owned open space as defined in the Plymouth Comprehensive Plan).
LZ1	Low ambient lighting	Low and medium density residential areas, (generally properties guided Living Area-1, Living Area-2, Living Area-3).
LZ2	Moderate ambient lighting	High density residential areas (properties guided Living Area-4, Living Area-5), shopping and commercial districts (generally properties guided Commercial, City Center and Commercial Office), industrial parks and districts (properties guided Planned Industrial), City playfields and major institutional uses and mixed use districts.
LZ3	Moderately high ambient lighting	By conditional use permit only.

- Subd. 3. **Applicability.**
- (a) All outdoor lighting fixtures (luminaires) in Lighting Zone 2, and all outdoor lighting fixtures on non-residential properties in Lighting Zones 0 and 1 shall be installed in conformance with the provisions of this Section and Section 21155 (Sign Regulations) as applicable as well as the latest rules, codes and regulations, including but not limited to OSHA, National Fire Codes of Fire Protection Association (NFPA), Minnesota State Building Code, and National Electrical Code. In addition, all luminaires shall be installed under appropriate permit and inspection.

- (b) Lighting on single- and two-family homes, manor homes, and townhouses is subject only to the regulations as outlined in Subd. 6 and in Subd. 7 (c) of this subsection.
- (c) Lighting in the public right-of-way is not regulated by this Section. However, it is recommended that all such lighting conform to the regulations in this Section.

Subd. 4. **General Performance Standards:**

- (a) Luminaire shielding and installation requirements. Luminaires within 300 feet of a residential property line shall be equipped with side shielding (house side shielding), except that luminaires mounted at a height of 12 feet or lower shall be exempt from this requirement provided they meet IESNA U0 rating.
- (b) Height Limits.
 - (1) Pole mounted lighting. Lighting mounted onto poles or any structures intended primarily for mounting of lighting shall not exceed a mounting height of 40 percent of the horizontal distance of the light pole from the property line, nor a maximum height according to Table 2, whichever is lower. Height includes the base and the pole heights.

Table 2 — Maximum Lighting Mounting Height in Feet			
Lighting Zone	Lighting for Driveways, Parking, and Transit	Lighting for Walkways, Plazas, and other Pedestrian Areas	All Other Lighting
LZ0	25 feet	12 feet	4.5 feet
LZ1	25 feet	18 feet	8 feet
LZ2	30 feet	18 feet	15 feet
LZ3*	30 feet	18 feet	15 feet

* By conditional use permit only.

- (2) Exceptions for pole heights.
 - a. Mounting heights greater than 40 percent of the horizontal distance to the property line but no greater than permitted by Table 2 may be used provided that the luminaire has a B0 rating if ideally oriented or a G0 rating if not ideally oriented.
 - b. Lights specifically for driveways, and then only at the intersection of the road providing access to the site, may be mounted at any distance relative to the property line, but may not exceed the mounting height listed in Table 2.
 - c. Landscape lighting may be installed in a tree.
- (3) Lights mounted to buildings or structures. Lighting mounted onto buildings or other structures shall not exceed a mounting height greater than the height of the building or structure at the place where the lighting is attached, nor higher than 40 percent of the horizontal distance of the light from the property line, whichever is less.
- (4) Exceptions for building mounted lights.
 - a. Lighting for facades may be mounted at any height equal to or less than the total height of the structure being illuminated regardless of horizontal distance to property line.

- b. For buildings less than 40 feet to the property line, including canopies or overhangs onto a sidewalk or public right-of-way, luminaires may be mounted to the vertical façade or underside of canopies at 16 feet or less.
 - c. The top exterior deck of parking garages shall be treated as normal pole mounted lighting rather than as lights mounted to buildings. The lights on the outside edges of such a deck must be side shielded to the property line.
- (c) Lighting Quality.
- (1) All permanently installed lighting for high density residential developments and all non-residential lighting shall have a minimum color-rendering index (CRI) of 70.
 - (2) All permanently installed lighting for high density residential developments and all non-residential lighting shall have a correlated color temperature (CCT) of no greater than 4100 Kelvin.
- (d) Lighting quantity and luminaire distribution.
- (1) Total site lumen limit: The total installed initial luminaire lumens of all outdoor lighting shall not exceed the total site lumen limit. The total site lumen limit shall be determined using either the Parking Space Method (Table 3) or the Hardscape Area Method (Table 4). Only one method shall be used per application, and for sites with existing lighting, existing lighting shall be included in the calculation of total initial installed luminaire lumens. The total installed initial luminaire lumens is calculated as the sum of the initial luminaire lumens for all luminaires.

Table 3 — Allowed Total Initial Luminaire Lumens per Site per Parking Space Method (May only be applied to properties with no more than 10 parking spaces, including handicapped accessible spaces)				
Lighting Zone	LZ0	LZ1	LZ2	LZ3*
Allowance	350 lumens/space	490 lumens/space	630 lumens/space	840 lumens/space

* By conditional use permit only.

Table 4 — Allowed Total Initial Luminaire Lumens per Site per Hardscape Area Method (May be used for any project)				
Lighting Zone	LZ0	LZ1	LZ2	LZ3*
Base allowance of lumens per square foot of hardscape ¹	0.5	1.25	2.5	5
Additional allowances for sales and service facilities. No more than two additional allowances per site. Use it or lose it.				
Outdoor Sales Lots. This allowance is lumens per square foot of uncovered sales lots used exclusively for the display of vehicles or other merchandise for sale, and may not include driveways, parking or other non-sales areas. To use this allowance, luminaires must be within 2 mounting heights of the sales lot area.	0	4 lumens/sf	8 lumens/sf	16 lumens/sf
Outdoor Sales Frontage. This allowance is for lineal feet of sales frontage immediately adjacent to the principal viewing location(s) and unobstructed for its	0	0	1,000 lumens/LF	1,500 lumens/LF

viewing length. A corner sales lot may include two adjacent sides provided that a different principal viewing location exists for each side. In order to use this allowance, luminaires must be located between the principal viewing location and the frontage outdoor sales area.				
Drive Up Windows. in order to use this allowance, luminaires must be within 20 feet horizontal distance of the center of the window.	0	2,000 lumens per drive-up window	4,000 lumens per drive-up window	8,000 lumens per drive-up window
Vehicle Service Station. This allowance is lumens per refueling bay.	0	4,000 lumens per bay	8,000 lumens per bay	16,000 lumens per bay

* By conditional use permit only.

¹ When lighting intersections of site drives and public streets or roads, a total of 600 square feet for each intersection may be added to the actual site hardscape area to provide for intersection lighting.

- (2) Limits to off-site impacts: All luminaires shall be rated and installed according to Tables 5, 6 and 7. A luminaire may be used if it is rated for the lighting zone of the site or lower in number for all B, U and G ratings. Luminaires equipped with adjustable mounting devices permitting alteration of luminaire aiming in the field shall not be permitted.

Table 5 — Maximum Allowable Backlight Ratings				
Mounting Condition ¹	LZ0	LZ1	LZ2	LZ3*
Greater than 2 mounting heights from property line or not ideally oriented	B1	B3	B4	B5
1 to less than 2 mounting heights from property line and ideally oriented	B1	B2	B3	B4
0.5 to less than 1 mounting height from property line and ideally oriented	B0	B1	B2	B3
Less than 0.5 mounting height from property line and ideally oriented	B0	B0	B0	B1

* By conditional use permit only.

¹ For property lines that abut public walkways, bikeways, plazas, and parking lots, the property line may be considered to be five feet beyond the actual property line for purpose of determining compliance with this table. For property lines that abut public roadways and public transit corridors, the property line may be considered to be the centerline of the public roadway or public corridor for the purpose of determining compliance with this table. NOTE: This adjustment is relative to Tables 5 and 7 only, and shall not be used to increase the Hardscape Area of the site.

Table 6 — Maximum Allowable Uplight Ratings				
Description	LZ0	LZ1	LZ2	LZ3*
Area lighting	U0	U0	U0	U0
Ornamental lighting and luminaires not used for area lighting	U0	U1	U2	U3

* By conditional use permit only.

Table 7 — Maximum Allowable Glare Ratings				
Mounting Condition	LZ0	LZ1	LZ2	LZ3*
Greater than 2 mounting heights from property line or ideally oriented	G0	G1	G2	G3
1 to less than 2 mounting heights from property line and not ideally oriented	G0	G0	G1	G1
0.5 to less than 1 mounting height from property line and not ideally oriented	G0	G0	G0	G1
Less than 0.5 mounting heights from property line and not ideally oriented	G0	G0	G0	G0

* By conditional use permit only.

- (3) Shielding for parking lot lighting: All parking lot lighting shall have a U0 rating, except that ornamental parking lot lighting shall meet the requirements of Tables 5, 6 and 7 without the need for external field-added modifications.
- (e) Required lighting controls. Lighting systems for non-residential properties shall be extinguished or reduced in lighting by at least 50 percent beginning at curfew and continuing until dawn or start of business, whichever is sooner. The reduction shall be determined as an overall average for a site. When possible, the lighting system should be turned off entirely.
 - (1) Curfew. Curfew shall be as follows:
 - LZ0, the later of 8:00 p.m. or close of business
 - LZ1, the later of 8:00 p.m. or close of business
 - LZ2, the later of 10:00 p.m. or close of business
 - LZ3, the later of midnight or close of business (by conditional use permit only)
 - (2) Low voltage landscape lighting shall be completely extinguished at the Curfew time stated above or one hour after the site is closed, whichever is sooner.
 - (3) Exceptions to curfew:
 - a. When there is only one (conforming) luminaire for the site.
 - b. Code required lighting for steps, stairs, walkways, and building entrances.
 - c. When in the opinion of the City Council, reduced lighting levels at a given location will cause unacceptable increased risk and design levels must be maintained.
- (f) Prohibited lighting.
 - (1) Mercury vapor lamps.
 - (2) Luminaires mounted to aim light only toward a property line.

- (3) Luminaires mounted in a way so as to cause confusion or hazard to traffic or to conflict with traffic control signs or lights.
- (g) Following installation of any lighting on a site, the engineer or lighting professional who prepared the lighting plan shall certify in writing that the location, type, mounting height, initial luminaire lumens, and photometric data including BUG ratings all comply with the approved lighting plan.
- (h) Any new lighting installed after the effective date of this ordinance shall be in compliance with the requirements of this Section. Any lighting in existence before the effective date of this ordinance that does not comply with the requirements shall be considered legally non-conforming. However, if a property owner proposes to replace 50 percent or more of the existing exterior luminaires or standards in any one year period, the luminaires or standards must be replaced in conformance with this Chapter.

(Amended by Ord. No. 2015-15, 05/26/15; Ord. No. 2016-11, 04/26/16; Ord. No. 2019-01, 02/12/19; Ord. No. 2020-11, § 9, 10/13/2020)

Subd. 5. **Light Trespass Limitations.** The illuminance levels provided in Table 8 shall be used for enforcement should concerns of obtrusive lighting or questions of compliance arise. This provision shall apply to all exterior lighting, and to interior lighting if the light source is visible off-site. The illuminance values provided in Table 8 shall be measured at the lot line unless said lot line abuts a public street, in which case the illuminance values shall be measured at the centerline of such public street.

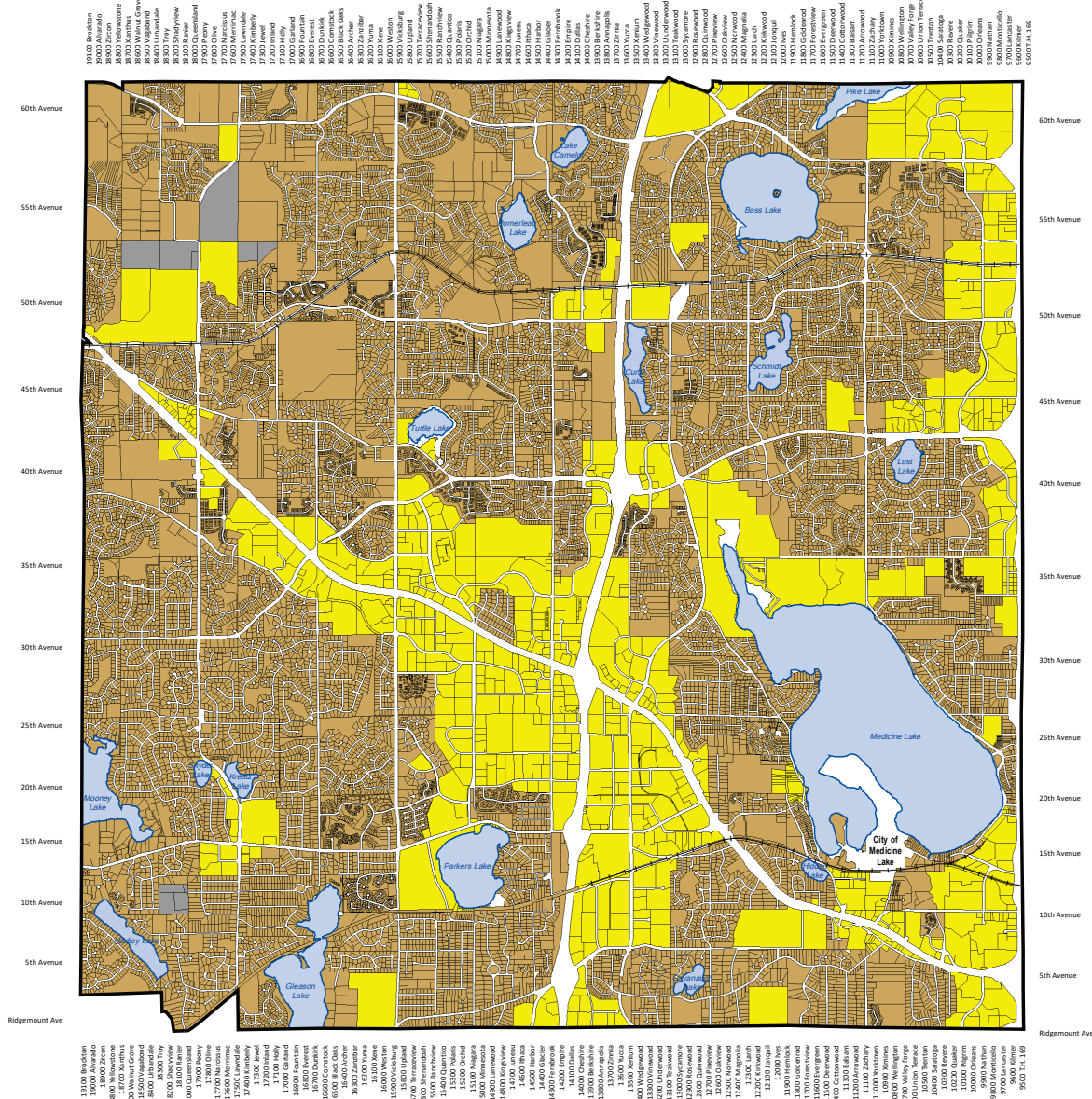
Table 8 — Light Trespass Limitations		
Lighting Zone	Maximum Illuminance Level — Pre-Curfew	Maximum Illuminance Level — Post-Curfew
LZ0	0.0 foot-candles	0.0 foot-candles
LZ1	0.1 foot-candles	0.1 foot-candles
LZ2	0.3 foot-candles	0.1 foot-candles
LZ3	0.8 foot-candles	0.2 foot-candles

- Subd. 6. **Exempt Lighting.** The following luminaires and lighting systems are exempt from the provisions of this Section.
- (a) Lighting required and regulated by the Federal Aviation Administration or other federal or state agency.
 - (b) Situations where fire, police, rescue or repair personnel need light for temporary emergencies or road repair work.
 - (c) Temporary seasonal lighting provided that individual lamps are less than ten watts and 70 lumens.
 - (d) Temporary lighting for theatrical, television and performance areas.
 - (e) Soffit or wall-mounted luminaires with less than 375 initial luminaire lumens and permanently attached to dwellings (including multi-family residence but excluding hotels or motels) at a height not to exceed 20 feet above the adjacent grade.
 - (f) Lighting in swimming pools and other water features governed by Article 680 of the National Electrical Code.
 - (g) Code required exit signs.

- (h) Code required lighting for stairs and ramps.
 - (i) Interior lighting, except as addressed by Section 21105.06, Subd. 5 of this Section.
- Subd. 7. **Special Purpose Lighting.**
- (a) High intensity lighting. The following lighting systems are prohibited from being installed except by administrative permit.
 - (1) Aerial lasers.
 - (2) Skytrackers.
 - (3) Motion detection security lighting, except that such lighting for single- and two-family homes shall be permitted and shall be exempt from the requirement for an administrative permit.
 - (b) Other special lighting.
 - (1) Lighting systems not complying with the technical requirements of this Section but consistent with its intent may be installed for the following applications upon issuance of a conditional use permit. Each request for a conditional use permit shall be evaluated based upon the standards and criteria set forth in Section 21015.02, Subd. 5 of this Chapter.
 - (i) Outdoor athletic fields and recreation areas.
 - (ii) Construction lighting.
 - (iii) National and State flag lighting with spotlights greater than 3,400 lumens in LZ2 and LZ3 and greater than 2,000 lumens in LZ0 and LZ1.
 - (iv) Floodlighting of buildings over two stories high.
 - (v) Public monuments, public buildings, and religious institutions.
 - (vi) Ornamental lighting in LZ0 and LZ1.
 - (2) To obtain a conditional use permit, applicants shall demonstrate that the proposed lighting installation:
 - (a) Is not within LZ0 or LZ1, except for ornamental lighting and necessary construction lighting.
 - (b) Utilizes fully shielded luminaires and, if required, side shielded and internally shielded luminaires that are installed in a fashion that maintains the shielding characteristics unless certified in writing by a registered engineer or by a certified lighting professional that such shielding is impractical. Where fully shielded fixtures cannot be utilized, acceptable luminaires shall include only those that are installed with maximum aiming angles of 65 degrees above nadir. Said aiming angle shall be measured from nadir as defined by an independent testing agency using Type B photometry as defined by the IES.
 - (c) Has received every reasonable effort to mitigate light trespass and light pollution, supported by a signed statement from a registered engineer or by a certified lighting professional describing the mitigation measures.
 - (d) Complies with all the technical requirements of this Section after curfew, with the following exception: No illumination of athletic fields shall be permitted after 11:00 p.m., except to conclude a scheduled event that was in progress before 11:00 p.m. and circumstances prevented concluding before 11:00 p.m.

- (c) Lighting for single and two family homes, manor homes, and townhouses.
- (1) Lighting systems for single family homes in all Lighting Zones shall be in compliance with the Pre-Curfew Light Trespass Limitations at the lot line provided in Table 8 above. Lighting systems for two family homes, manor homes, and townhouses in all Lighting Zones may consider the Pre-Curfew Light Trespass Limitations at the subdivision boundary instead of the lot line.
 - (2) Motion activated lighting systems for single family homes in all Lighting Zones shall not be activated by movement beyond the lot line, and motion activated lighting systems for two family homes, manor homes, and townhouses in all Lighting Zones shall not be activated by movement beyond the subdivision boundary.
 - (3) Lighting systems for single family homes, two family homes, manor homes, and townhouses in all Lighting Zones that provide lighting, or are intended to provide lighting, for recreational purposes (i.e., sport courts, hockey rinks, or other similar features) shall direct lighting downward and inward from the perimeter lot boundaries, shall not exceed 15 feet in height, and shall be turned off between 10:00 p.m. and 7:00 a.m.

(Amended by Ord. No. 2013-27, 10/22/13; Ord. No. 2022-10, § 6, 8/16/2022)



Light Zone Map

Adopted November 23, 2004
As Amended through January 28, 2020
Ordinance No. 2020-03

Legend

Light Zone

- LZ-0; No Ambient Lighting
- LZ-1; Low Ambient Lighting
- LZ-2; Moderate Ambient Lighting
- LZ-3; Moderately High Ambient Lighting



THIS REPRESENTS A COMPILATION OF INFORMATION AND DATA FROM CITY, COUNTY, STATE AND OTHER SOURCES THAT HAS NOT BEEN FIELD VERIFIED. INFORMATION SHOULD BE FIELD VERIFIED AND COMPARED WITH ORIGINAL SOURCE DOCUMENTS.









