

VILLAGE OF LAKE BLUFF
SUSTAINABILITY AND COMMUNITY ENHANCEMENT AD HOC COMMITTEE
REGULAR MEETING

Tuesday, May 21, 2024 - 7:00 P.M.

Members of the public may view and participate in the meeting via:

- In person at the Village Hall Board Room, 40 E. Center Ave.
- Online: lakebluff.org/VirtualSEC
- Dial-in: [\(312\) 626-6799](tel:3126266799). Enter meeting ID [824 8670 7053](https://lakebluff.org/Channel19). Press # when prompted for a Participant ID.
- The meeting will be live-streamed at lakebluff.org/Channel19

AGENDA

1. Call To Order and Roll Call
2. Consideration of the April 16, 2024 Regular Meeting Minutes
3. Non-Agenda Items and Visitors (Public Comment)
The Chair will allocate fifteen (15) minutes during this item for those individuals who would like the opportunity to address the Sustainability and Community Enhancement Ad Hoc Committee on any matter not listed on the agenda. Each person addressing the Sustainability and Community Enhancement Ad Hoc Committee is asked to limit their comments to a maximum of five (5) minutes.
4. General Business
The Sustainability and Community Enhancement Ad Hoc Committee will entertain requests from anyone present to modify the order of business to be conducted.
 - a) World Migratory Bird Day Speaker: Dr. Marianne Alleyne
 - b) Discussion Regarding Draft Lighting Ordinance
5. Village Staff Report
6. Member's Report
7. Chair's Report
8. Adjournment

The Village of Lake Bluff is subject to the requirements of the Americans with Disabilities Act of 1990. Individuals with disabilities who plan to attend this meeting and who require certain accommodations in order to allow them to observe and/or participate in this meeting, or who have questions regarding accessibility of the meeting or the facilities, are requested to contact Clara Gable at (847) 283-6889 or TDD number 234-2153 promptly to allow the Village of Lake Bluff to make reasonable accommodations.

**VILLAGE OF LAKE BLUFF
SUSTAINABILITY AND COMMUNITY ENHANCEMENT AD HOC COMMITTEE
REGULAR MEETING**

April 16, 2024

DRAFT MINUTES

1. Call to Order & Roll Call

The meeting of the Sustainability and Community Enhancement Ad Hoc Committee (SEC) of the Village of Lake Bluff was called to order on Tuesday, April 16 at 7:03 pm.

The following members were present:

Members: Michael Buoscio
McCamie Cole
Alexa Richer
Sophia Twichell

Absent: Brian Rener, Chair
Marietta Hance

Also Present: Clara Gable, Assistant to the Village Administrator (AVA)

AVA Gable stated that in Chair Rener's absence, a Chair Pro Tempore will need to be established and that Member Twichell is the longest standing member. Member McCamie made a motion to establish Member Twichell as the Chair Pro Tempore for the Tuesday, April 16 SEC meeting and the motion was passed with a unanimous voice vote.

2. Consideration of the February 20, 2024 Regular Meeting Minutes

There were no edits to the meeting minutes.

A motion was made by Member Buoscio and seconded by Member Richer to approve the minutes as presented.

3. Non-Agenda Items and Visitors (Public Comment)

There were no non-agenda items.

4. General Business

a. National Pollutant Discharge Elimination System (NPDES) Presentation

Chair Pro Tempore Twichell stated shared that Dan Bounds from Baxter and Woodman is at tonight's meeting to present on the National Pollutant Discharge Elimination System ("NPDES"). Mr. Bounds will talk about the NPDES permit the Village has held for a long time.

Mr. Bounds stepped up to the podium. He shared that he will provide some information about the Village's stormwater quality program and where residents can ask questions about local water quality or express concerns about any water quality issues that might be happening within the Village. Mr. Bounds briefly explained the Illinois EPA program known as the National Pollutant Discharge Elimination System, Municipal Separate Storm Sewer System program ("MS4"). He noted this simply is called the Village's stormwater quality program and the Public Works Department is the lead agency for implementing the requirements from Illinois EPA for this program.

Chair Pro Tempore Twichell asked Mr. Bounds to clarify if the word separate was referring to a separate system and not combined sewer overflow. Mr. Bounds replied yes and stated this program covers discharges from the Village's separate storm sewer system, not the combined or sanitary system that goes to treatment at a wastewater treatment plant. This system utilizes storm drain inlets and storm drain infrastructure where water flows- it receives no treatment and discharges to local waterways.

Mr. Bounds presented on the Village's stormwater quality program. He shared when stormwater hits land surfaces within the Village, it does pick up whatever has been left behind on the land surface and brings it into storm drain inlets (again noting the storm drain system receives no treatment before it goes into discharge).

Mr. Bounds noted that stormwater can contain a lot of material. If left behind, pollutants will get into our waterways through stormwater. So, things like sediment, dirt, and disturbed soils can pollute our waterways. Nutrients like phosphorus or nitrogen from fertilizers or other chemical compounds can get into our waterways if misused, mishandled, or spilled. Dissolved metals, bacteria, and any detergents or oils or greases from washing equipment, vehicles, or maintenance of equipment can get into our waterways along with the general trash from roadway surfaces. Mr. Bounds explained that the Village is required by the Clean Water Act and Illinois EPA to implement programs practices to protect local water quality and prevent pollutants from getting into our storm drain system to the maximum extent practicable. He continued to describe the Illinois EPA programming and the steps the Village takes to monitor water quality.

Member Buoscio asked what the small numbers indicate on the map presented on the screen. Mr. Bounds responded that those are reach designations. So, every reach of a stream or a creek has a numeric code associated with that two-mile or a five-mile segment that have been defined by the water quality monitoring program.

Member Buoscio asked how many stream branches Lake Bluff has. Mr. Bounds stated that he does not know the exact number of stream branches specifically in Lake Bluff as there are several, but they are depicted on the graphic presented and every stream is divided into segments and coded. However, he said only select ones are on the impaired water list that have been monitored and show excessive pollution levels.

Chair Pro Tempore Twichell asked where the exact location of Pettibone Creek was and Member Richer echoed her question. Member Richer identified that the creek was in North Chicago near the naval station, but it is in Lake County and the SEC continued discussing the location of creek.

Mr. Bounds outlined the required Illinois EPA program documentation as a part of the stormwater program including notices of intent and annual reports to describe the implementations of plans to preserve water quality.

Chair Pro Tempore Twichell asked for the duration of the stormwater management plan, specifically asking if this was a 5 or a 10-year program. Mr. Bounds explained that the Village will need to apply for an intent to comply with the new permit and its requirements every five years. He continued discussing more in-depth documentation the Village complies with and shared where this information and recent documentation can be found on the Village's website.

Mr. Bounds moved to discuss the minimum control measures (program areas) that have been established to date and how the Village takes part in each of these categories. He presented on the six categories including: public education and outreach on storm water impacts, public involvement/participation, illicit discharge detection and elimination, construction site storm water runoff control, post-construction storm water management in new development and redevelopment, as well as pollution prevention/good housekeeping for municipal operations.

Mr. Bounds then explained the water quality monitoring program the Village complies with, such as annual water sampling in the Skokie River and two stormwater outfalls to Lake Michigan. He also shared that Lake County has their own water sampling that the Village also benefits from.

Member Buoscio asked if the inspections completed are timed after rainfall events to catch the outflow after it has formed on the streets and is picking up things. Mr. Bounds replied yes, the team is storm chasing, so they aim to test immediately after wet weather to catch the outflow as a majority of the time the separate storm drain is not flowing.

Chair Pro Tempore Twichell asked if the samples are taken once a year or multiple times throughout. Mr. Bounds answered these are taken once a year. Chair Pro Tempore Twichell asked if this was best practice. Mr. Bounds explained that sampling once a year does meet the requirements of the permit—that they could do it more often, but there is a cost associated with that and mentioned a few different approaches other communities may take to sample stormwater.

Member Richer asked what time of year the sample is typically taken as there may be other things such as algae that may affect the reading. Mr. Bounds answered that they target either spring or fall. He continued to explain how the Village's Public Works Department is trained on stormwater management and pollution prevention. He noted that they are also able to recognize when there may be illicit discharges. Mr. Bounds shared with the SEC that this Public Works training is also part of an annual requirement and outlined more details about this training program. Additionally, Mr. Bounds discussed how the Village's stormwater webpage has a lot of information about the impact that stormwater discharges may have on local water quality and what residents can do. He also offered the residents can contact the Village for questions on the stormwater quality program.

In terms of what is coming soon with this program, Mr. Bounds explained that within the months of April or May, the Illinois EPA should publish the new permit along with the new requirements.

Chair Pro Tempore Twichell asked if the Village needs to wait for the Illinois EPA to open the application process to renew the Village's permit. Mr. Bounds responded yes and explained that the Village can continue to comply with the current permit until the Illinois EPA gets the next version out.

Chair Pro Tempore Twichell asked if Mr. Bounds notices any particulates that are higher than others when testing. She stated that she knows the Village focuses on public education and does well in general, but asked if there are items that the Village should focus their attention on such as pet waste or native plantings based on what the test results are showing. Mr. Bounds says they usually see elevated levels of nutrients like phosphorus and nitrogen from fertilizers.

Member Cole noted there was a seasonality of the different types of pollutants with spring for example being heavier with fertilizer while winter is heavy with salt. Mr. Bounds agreed with Member Cole's comments stating that in the spring they see higher levels of chloride because the salt is washing off the watershed and as the summer goes on you expect to see lower concentrations.

Chair Pro Tempore Twichell offered that even though the salt use in the winter is mostly in the Village's control, the nutrients is something the SEC can focus on.

Mr. Bounds also highlighted that it is important for dog owners to understand that they should not drop dog waste in storm drain inlets as they contribute to the pathogen levels seen in the water.

Member Cole asked if all of the storm drains in Lake Bluff lead to Lake Michigan. Mr. Bounds answered that he believes there are separate storm drain systems. Both Member Richer and Chair Pro Tempore Twichell noted there is a divider along Green Bay Road and a conversation continued.

Member Buoscio added that this is a great transition to discuss the Village's deep tunnel project. He outlined the project and asked what the impact will be in terms of the volume of water going out to the lake from one point versus multiple in terms of the concentration and volume of elements that are being measured. Mr. Bounds responded it would not be different for those individual locations because if there is a certain pollutant load, it is just going out into different areas.

Member Buoscio asked if the Village monitors water quality at the beach as one of the discharge pipes is about 100 yards away from the beach. Member Cole mentioned that the water quality is tested daily during the swimming season and the other members of the SEC agreed.

Member Buoscio discussed efforts the Village has put forth in order to meet watershed requirements for water quality, such as scrubbing devices to trap pieces of hard sediment for example. However, he noted that education and awareness also tie into this, offering additional outreach and awareness through campaigns especially during the rainy seasons may be beneficial. Chair Pro Tempore Twichell echoed Member Buoscio's comments and highlighted that this is especially important for the outfalls going to Lake Michigan. A conversation continued. Mr. Bounds stated that the SEC has brought up good points and added this program does say if a community is conducting a flood control project to look for ways to improve water quality from

discharges in the flood control. He also offered that Village Engineer Jeff Hansen and Lake Bluff Public works are excellent resources to ask questions and they know exactly what portions of the underground infrastructure are separate and combined.

Member Cole asked Mr. Bounds if he had any experience with UV treatment or decontamination stations as there have been great successes with these. Mr. Bounds explained how this process has been used for wastewater treatment but not for stormwater. A conversation continued on the cost of implementing this type of decontamination system.

Chair Pro Tempore Twichell asked if this program is all about measuring the outfall of the water quality once a year and not water treatment. Mr. Bounds stated this program is all about pollution prevention (keeping the pollutant load out of the storm drain system), so the Village doesn't have to provide treatment or a reduced pollutant load.

Chair Pro Tempore Twichell asked if there were filters in any of the pipes to capture solids, such as bottle caps. Mr. Bounds said he was unsure and that this would be a question for Village Engineer Hansen. However, he noted there are products on the market that can go right into the inlet where the water will be flowing into a basket. Member Buoscio added that he doesn't think the Village has filters in place to date. He also noted how this links back to the deep tunnel project as well as education and awareness because many residents may not consider what they are doing consciously. Mr. Bounds mentioned he has seen a version of the EPA permit coming out and stated the SEC's discussions are already on track with the new requirements.

The SEC thanked Dan for his presentation.

5. Village Staff Report

AVA Gable shared that next month the SEC will hear from a speaker for the Bird City Illinois Migratory Bird Day Event. The theme of this year is insects, so the speaker will talk about the role insects play in relation to birds. AVA Gable noted that the Village received some questions back from Bird City Illinois and they already sent responses back. So hopefully the Village will hear something soon in terms of the final say on the submitted application and there won't be any issues. She stated the Village's application is still above the requirements for application.

Chair Pro Tempore Twichell asked how the Village would announce this designation should the Village's application be approved. AVA Gable replied saying that is something that can be discussed. She shared they can put this in the e-newsletter, on the website, and are open to anything else beyond that.

Chair Pro Tempore Twichell asked who the bird speaker is. AVA Gable responded it is Professor Marianne Alleyne from the University of Illinois' Department of entomology.

Member Cole stated he will have some questions on the large cicada hatch coming this summer.

AVA Gable also shared that she will continue to work with Chair Rener on the draft lighting ordinance so the SEC can move forward with that. She is unsure if it will be on the next agenda, but it will be sometime in the coming months.

Chair Pro Tempore Twichell asked if the conversation on bike planning will also cycle back. AVA Gable stated yes.

Chair Pro Tempore Twichell also asked if the Village has received any other applications for backyard bees or chickens. AVA Gable noted that they have not received new applications as of this point, but the Village has recently renewed all of the licenses and all of the current holders wanted to renew. Chair Pro Tempore Twichell stated that this is great news.

6. Member's Report

Member Cole suggested that the SEC have some sort of centrally located poster or board in the Village to help spread awareness about the different messages or topics the SEC may be discussing to get the community more involved. Member Buoscio and Member Richer added that there could be information, links, and other valuable resources based on such a poster.

AVA Gable shared that this can be something that is added as an agenda item in a future meeting. In the meantime, the SEC can suggest any editions to the e-newsletter that goes out every Friday. Also, there is also the paper newsletter that gets mailed to residents about 3 times a year so this could be another option for a "sustainability corner."

Chair Pro Tempore Twichell asked if the Village uses social media. AVA Gable mentioned that the Village does and that is something they could look into as well.

Member Cole added that as a part of this agenda item they could be to discuss resources and potential funding options that are available for this type of effort.

Chair Pro Tempore Twichell asked Member Richer how the SEC is going to find a replacement for her after she graduates. Member Richer shared she has been talking about that with VA Irvin for about a year. She explained the different ways she and the SEC may be to reach underclassman to complete the application process. A discussion continued.

Member Buoscio shared that it would be helpful for the SEC to hear more about the deep tunnel project and the different environmental factors that will be impacted on this project, weighing in on the potential best practices, as the ravines are going to be greatly impacted by this project for example. The SEC agreed that this would be an interesting topic to hear more about and post project plans as a future agenda item as the engineers on the project may not always be environmentally minded.

Member Richer offered that the SEC look for an environmental engineer who could perhaps shed light on the potential concerns the SEC has. A conversation continued on the impacts of this project.

7. Chair's Report

There was no report.

8. Adjournment

As there was no further business to come before the SEC, Member Cole moved to adjourn the meeting. Member Buoscio seconded the motion. The motion passed on a unanimous voice vote at 8:03 p.m.

Respectfully submitted,

R. Drew Irvin
Village Administrator

MEMORANDUM



TO: Chair Rener and the Sustainability
and Community Enhancement Ad Hoc Committee

FROM: Clara Gable, Assistant to the Village Administrator
Lauren Chermak, Administrative Intern

DATE: May 17, 2024

SUBJECT: World Migratory Bird Day Special Event Speaker

As the SEC may recall, the Village of Lake Bluff has recently applied to become a Bird City. [Bird City Illinois](#) aims to protect and conserve bird populations and their habitats. Current Bird Cities in Illinois include the Villages of Libertyville, Grayslake, and Freeport and the Cities of Waukegan and Rockford. As a part of being a Bird City, the Village must hold an annual World Migratory Bird Day event to raise awareness of migratory birds, threats to their populations, and ways we can better protect them.

This year, the Village has invited Dr. Marianne Alleyne, an assistant professor of Entomology, with an affiliate in the Department of Mechanical Science and Engineering, at the University of Illinois at Urbana-Champaign. She also holds an appointment at the Beckman Institute for Advanced Science and Technology. Her research group, the Alleyne Bioinspiration Collaborative (ABCLab), uses a wide variety of insects, including cicadas and click beetles, as inspiration for the novel design of materials and mechanical systems. To close the knowledge loop, her research then uses those materials and systems to study biology. Dr. Alleyne is currently the past President, serving as President in 2023, for the Entomological Society of America. Her interests also include science policy and science communication, important skills when tackling insect biodiversity loss due to climate change, and predicting how those insect abundances might change populations of plants and other animals. Professor Alleyne received her B.A. in Integrative Biology from the University of California, Berkeley, her Entomology M.S. from the University of California, Riverside, and an Entomology Ph.D. from the University of Illinois.

You can read more about Insect-inspired Design at insectsdiditfirst.com and about the many projects in the ABCLab at go.illinois.edu/abclab.

MEMORANDUM



TO: Chair Rener & SEC Members

FROM: Clara Gable, Assistant to the Village Administrator
Lauren Chermak, Administrative Intern

DATE: May 17, 2024

SUBJECT: Discussion Regarding Draft Lighting Ordinance

As the SEC may recall, Village staff contracted John Barentine, Principal Consultant of Dark Sky Consulting, LLC, to review the SEC's draft lighting ordinance. Updates have been made to the draft lighting ordinance following the February SEC meeting and recent discussions between Village staff and Chair Rener. The SEC may discuss the most recent draft lighting ordinance and make suggestions on potential changes.

Attachments

1. [February 20, 2024 SEC Meeting Packet](#) (Includes Barentine's Report)
2. Draft Lighting Ordinance
3. Recommended Lighting Zones
4. Draft Lighting Zone Map

TITLE (9? 10?)

CHAPTER XX: OUTDOOR LIGHTING

10-XX-XX PURPOSE

A. This chapter governs lighting within the Village, in order to fulfill the objective identified in the Village's Sustainability Plan of combatting light pollution within the Village.

B. Objectives: The regulation of lighting also accomplishes the following objectives:

- Minimize light pollution and glare resulting from the use of outdoor lighting;
- Protect residents from unwanted light that would enter homes and businesses at night;
- Provide adequate light for safety and security;
- Incorporate responsible lighting design into all new construction projects;
- Promote efficient and cost-effective lighting and to conserve energy;
- Encourage preservation, to the greatest practical extent, of natural nighttime darkness;
- Encourage quality outdoor lighting design and prevent inappropriate, poorly designed or installed outdoor lighting;
- Recognize that certain holidays and special events may have unique lighting needs; and
- Follow the IES and DarkSky International's Five Principles for Responsible Outdoor Lighting:
 1. **Useful:** All light should have a clear purpose
Before installing or replacing a light, determine whether light is needed. Consider how the use of light will impact the area, including wildlife and the environment. Consider using reflective paints or self-luminous markers for signs, curbs, and steps to reduce the need for permanently installed outdoor lighting.
 2. **Targeted:** Light should be directed only to where it's needed
Use shielding and careful aiming to target the direction of the light beam so that it points downward and does not spill beyond where it is needed.
 3. **Low level:** Illumination should be no higher than necessary
Use the lowest light level required. Be mindful of surface conditions, as some surfaces may reflect more light into the night sky than was intended.
 4. **Controlled:** Light should be used only when it is useful
Use controls such as timers or motion detectors to ensure that light is available when it is needed, dimmed when possible, and turned off when not needed.
 5. **Warm-colored:** Use warmer-color lights where possible
Limit the amount of shorter wavelength (blue-violet) light to the least amount needed. Light where you need it, when you need it, in the amount needed, and no more.

10-XX-XX DEFINITIONS

For the purposes of this title, the following terms, phrases, and words shall have the meanings given herein:

Footcandle (FC). A quantitative unit measuring the amount of light (illumination) falling onto a given point. One footcandle equals one lumen per square foot.

Fully shielded. A light luminaire constructed, installed and maintained in such a manner that all light emitted from the luminaire, either directly from the light source or a diffusing element, or indirectly by

reflection or refraction from any part of the luminaire, is projected below the horizontal plane through the luminaires lowest light emitting part.

Mounting height. The vertical distance from the ground directly below the centerline of the luminaire to the lowest direct-light-emitting part of the luminaire.

IES. The Illuminating Engineering Society, a non-profit professional organization of lighting specialists that has established recommended design standards for various lighting applications.

Isocandle plan. A demonstration or topographic of light distribution over a given area.

Light source. The device in a lighting luminaire that provides illumination, typically a bulb, florescent tube, or light emitting diode (LED).

Light source. The element of a lighting luminaire that is the point of origin of the lumens emitted by the luminaire.

Luminaire. A complete lighting unit consisting of a light source(s) and ballast(s) (when applicable) together with the parts designed to distribute the light, to position and protect the light sources, and to connect the light sources to the power supply. A luminaire does not include any mounting hardware such as poles.

Lumen. A quantitative unit used to identify the amount of light emitted by a light source. A light source is generally rated in lumens. The luminous flux emitted within a unit solid angle (one steradian) by a point source having a uniform luminous intensity of one candela.

10-XX-XX REGULATED ACTIVITIES

This Chapter shall apply to all exterior residential and non-residential (including public) lighting, including illumination from outdoor signs that impact the outdoor environment. No person shall install or maintain any light luminaire unless such luminaire meets the requirements of this Chapter. If an existing light luminaire is removed, replaced, moved, upgraded, or otherwise changed, it shall only be replaced with a conforming light luminaire.

10-XX-XX LUMINAIRE STANDARDS.

A. Maximum Luminaire Emissions.

- a. Fully Shielded. For fully shielded luminaires, the maximum permitted light output per luminaire and the maximum permitted luminaire height shall be:

Zoning District	Maximum Light Output (lumens)	Minimum Height (feet above grade)	Maximum Height (feet above grade)
Residential	1,400	N/A	20
Other Than Residential	2,800	N/A	10
Other Than Residential	17,500	Greater than 10	30

- a. Other Than Fully Shielded. For luminaires that are not fully shielded, the maximum permitted light output per luminaire and the maximum permitted luminaire height shall be:

Zoning District	Maximum Light Output (lumens)	Maximum Height (feet above grade)
Residential	700	10
Other Than Residential	1,400	15

- B. Color Temperature. The maximum correlated color temperature (CCT) of any light source shall be equal to or lower than 3,000 Kelvin degrees to help support the natural nighttime environment.
- C. Architectural Façade Lighting.
- a. Upward-Aimed Façade Lighting. Upward-aimed façade lights are subject to the lumen output restrictions applicable to luminaires that are not fully shielded luminaires. However, Upward-aimed façade lights shall be fully shielded, fully confined from projecting into the sky by eaves, roofs, or overhangs; and will be mounted as flush to a wall as possible.
 - b. Downward-Aimed Façade Lighting. Downward-aimed façade lighting shall be fully shielded and mounted as flush to a wall as possible.
 - c. No Reflective Surfaces. No light shall be aimed at any reflective architectural surface, such as polished metal or glass.
- D. Prohibited Luminaires. No luminaire may be installed that violates the standards of this Section or that:
- a. Distracting Lights. Flickers, flashes, blinks, scrolls, rotates, or varies in intensity except in response to a time or motion lighting control.
 - b. Upward Aiming Lights. Is aimed above 90 degrees, except as otherwise permitted herein.
 - c. Lasers. Is a laser light source.
- E. Exempt Luminaires. The standards of this Section shall not apply to the following luminaires:
- a. Regulatory Lighting. Any lighting required by local, state, or federal agencies, to the extent that such requirements are inconsistent with this Section.
 - b. Temporary Lights. Any lighting used for emergency, repair, construction, special events, or similar activities.
 - c. Right-of-Way Lighting. Any public lighting that is located within the right-of-way.
 - d. Underwater Illumination. Any underwater lighting used to illuminate swimming pools or fountains.

- e. Landscape Lighting. Any lighting used to illuminate landscaping, paths, or similar outdoor features. Landscape lighting must be controlled using timers and may not be upward facing.
- f. Seasonal Lighting Displays. Lighting displays from November 15 through January 30 of the following year.
- g. Ornamental Lighting. Ornamental landscape lighting luminaires and self-contained solar-operated light luminaires where no luminaire emits more than 100 lumens.
- h. Strings of Lights. Suspended strings of lights that are either:
 - i. On a property used as a single-family dwelling; or
 - ii. Around, in, or over outdoor dining areas for eating and drinking establishments only where all of the following are true:
 - 1. Each incandescent bulb emits less than 25 lumens.
 - 2. Each LED bulb emits less than 50 lumens.
 - 3. The lights are only on when the outdoor dining area is in use.
- i. Lighting Controls. Outdoor lighting controls should conform with the Village's latest adopted version of the International Energy Conservation Code (with Illinois Amendments).

10-XX-XX SITE STANDARDS.

- A. Maximum Total Light Emissions. The total light output from all luminaires on any zoning lot shall not exceed a certain ratio of lumens per developed acre (see chart below). Luminaires (other than fully shielded) may not exceed 10% of all installed lumens. A zoning lot used for single-family residential purposes shall be presumed to satisfy this requirement and need not demonstrate conformity.

Zoning District	Lumens Per Developed Acre
Residential (Single Family)	10,000
Residential (Other Than Single Family)	20,000
Other Than Residential	50,000

- B. Footcandle Uniformity in Lighted Areas.
- C. Light Trespass.
 - a. General Standard. All outdoor lighting shall be designed, installed, and maintained in order to minimize light trespass onto adjacent properties and rights-of-way.
 - b. Performance Standard.

- i. The light source of a luminaire shall not be visible at the property line on which the luminaire is located;
 - ii. For adjacent non-residential uses, the illuminance at the property line shall not exceed 1 foot-candle; and
 - iii. At any property line “abutting a residential lot”, the illuminance at the property line shall not exceed 0.5 foot-candle.
- D. Hours of Operation. For zoning lots other than those used for residences, hours of operation should conform with the Village’s latest adopted version of the International Energy Conservation Code (with Illinois Amendments). For residentially used lots, **(need to determine)**.

10-XX-XX SUBMISSION REQUIREMENTS.

- A. Required Technical Submissions. Applications for permits for projects involving outdoor lighting, except for single-family residential projects, shall contain documentation that demonstrates the proposed lighting complies with the provisions of this Chapter. Submission is required at the time of site plan or building permit application and shall contain, but not be limited to, the following, all or part of which may be part of or in addition to other required processes and permits until Titles 9, 10, and 11 of the Municipal Code:
 - a. Photometric Plan. A point-by-point footcandle array or isocandle plan in a printout format indicating the location and aiming of illuminating devices.
 - a. Location and Height. The location and height above grade of all proposed and existing light luminaires on the subject property.
 - b. Schedule of Luminaires. The type, initial luminaire lumen rating, color rendering index, and wattage of each light source.
 - c. Technical Specifications. The general style of the light luminaire such as cutoff, lantern, coach light, globe, and a copy of the manufacturer's catalog information sheet and IESNA photometric distribution type, including any shielding information such as house side shields, internal, and/or external shields.
 - d. Light Controls. Control descriptions including type of controls (timer, motion sensor, time clock, etc.), the light luminaires to be controlled by each type, and control schedule when required;
- B. Waiver for Minor Projects. The Building Commissioner may waive the requirements in subsection A of this Section for small independent projects on less than one-quarter acre, provided the applicant has provided all other required information and can otherwise demonstrate compliance with this article.

10-XX-XX DEVIATIONS.

- A. Purpose. The provisions of this Chapter cannot possibly address every specific situation to which they may have to be applied. Many such situations can be addressed by adjusting the specific provisions of this Chapter in light of the general and specific purposes for which the provisions have been enacted.

- B. Deviation Authority. In conjunction with approval of a site plan, deviations may be granted in implementing the strict standards of this Chapter. Said deviations do not require a finding of hardship or that the deviation will create compensating public amenities. Deviations shall be recommended and approved in the same manner as site plans pursuant to Section 10-2C-5.
- C. Criteria for Deviations. A deviation may be granted where any one of the following criteria is satisfied:
 - a. Special Circumstances. There are special circumstances or conditions applying to the land, buildings, or outdoor light luminaires for which the deviation is sought, which circumstances or conditions are peculiar to such land, buildings or outdoor light luminaires and do not apply generally to the land, buildings or outdoor light luminaires in the vicinity.
 - b. Professional Standards. Both:
 - i. The use is subject to a special use permit, or is a use that is otherwise rare or uncommon within the Village; and
 - ii. The proposed lighting levels are consistent with recommendations from the IESNA for the use or activity to be undertaken.
 - c. Historic Features. Where all of the following are true:
 - i. The lighting luminaire is located on a property designated as a landmark or recognized as a contributing property to a designated historic district;
 - ii. The lighting luminaire is of historic significance to the property; and
 - iii. Removal of or a modification to the lighting that would otherwise be required to come into compliance with the requirements of this Chapter would have an adverse impact on the historic character of the property.

10-XX-XX NON-CONFORMING LIGHTING; GRANDFATHERING; AMORTIZATION.

- A. Purpose. This Section is intended to (i) gradually eliminate inappropriate and substandard lighting practices throughout the Village in a manner that minimizes unnecessary costs to property owners; (ii) allow property owners to realize a reasonable value from existing lighting systems rendered non-conforming by this Chapter; and (iii) ensure that property owners who voluntarily choose to improve their lighting systems are not placed at a competitive disadvantage relative to the owners of non-conforming lighting systems.
- B. General Standard; Amortization. The outdoor lighting of all properties in the Village shall be brought into compliance with the standards of this section no later than **XX, XX** 2034, a date ten years subsequent to the adoption of this Chapter.
- C. Fee Adjustments; Early Adoption Incentive. The following discounts shall apply wherever a property owner proposes to replace a non-conforming lighting system with a completely conforming lighting system:

Complete Application Received:	Site Plan Review Fee Discount:	Discount for Portion of Building Permit Fee Consisting Of Lighting:
Prior to XX, XX 2029 (Less Than 5 Years)	50%	75%
Between XX, XX 2029 and XX, XX 2034 (5-10 Years)	0%	25%
After XX, XX 2034 (Overdue)	0%	0%

D. Loss of Grandfathered Status.

- a. No Replacement of Grandfathered Luminaires; Maintenance Exempted. Whenever a non-conforming luminaire is removed, replaced, moved, upgraded, or otherwise changed, the replacement luminaire must be brought completely into compliance with this Chapter. Routine maintenance is permitted for all existing luminaires, including changing the light source, ballast, starter, photo control, lens, and other required components.
 - i. Exception: Color Temperature. No light source may be replaced with a light source with a color temperature in excess of that permitted by Section 10-XX-XX(C), unless the owner demonstrates to the satisfaction of the Building Commissioner that no light source with an acceptable color temperature is available for the luminaire.
- b. Percentage Replacement Threshold. Whenever more than 20 percent of the original luminaire count of a site is replaced or proposed for replacement with conforming luminaires, the owner shall be required to bring the entirety of the site into conformity with this Chapter.
- c. Major Project Threshold. The owner shall be required to bring the entirety of the site into conformity with this Chapter where any of the following occur relative to a given lot's conditions on XX XX, 2024, the effective date of this Chapter:
 - i. Renovation or addition with a total cost exceeding 25 percent of the assessed market value of the building.
 - ii. Expansions or additions exceeding 25 percent of existing floor area.
 - iii. Any combination of additions or reconstruction of 50 percent or more of the paved area used for on-site parking.
- d. Cessation of Use. No lighting system that has been abandoned or willfully removed from operation for a period of longer than 30 days shall be restored to use unless in full compliance with this Chapter.

E. Extension of Amortization Schedule

- a. Factors for Extension. It is anticipated that the general amortization period provided in this Section will be adequate to provide all property owners with a reasonable value from any non-conforming lighting improvements before they must be replaced. However, the Building Commissioner may extend the amortization period in order to avoid causing an economic hardship based on his consideration of the following factors:
 - i. The owner's investment in improvements and other assets on the property before the time the improvements became non-conforming.
 - ii. Any costs that are directly attributable to the compliance date, such as demolition and reconstruction expenses.
 - iii. Any return on investment since inception of the non-conforming systems, including net income and depreciation.
 - iv. The anticipated annual recovery of investment, including net income and depreciation.
- b. Extension Binding Upon Owner. The Building Commissioner may provide a date certain for the conclusion of the non-conforming lighting use. All non-conforming lighting systems on the site must cease operations on that day and may not operate thereafter except in complete conformity with this Section. The owner shall sign and acknowledge the revised amortization schedule in writing in a form provided by the Building Commissioner. Said document shall be filed with the Lake County Recorder of Deeds and any requirements, regulations, restrictions, or conditions thereto shall be a covenant running with the land benefitting from the extended schedule.
- c. No Late Application. No application to extend the amortization schedule shall be accepted after the date listed for full compliance in subsection B of this Section.

Other items to consider (will need to find correct location in code):

Lighting zones:

We recommend that the Village consider the use of the IES Lighting Zones (LZs) as overlays to existing land-use zones. Such overlays enable the potential for allowances in the code that scale according to needs. A rough correspondence between use types and appropriate LZs is:

- Open space: LZ0
- Recreational and institutional: LZ1
- Single-family residential: LZ1
- Industrial and service: LZ2
- Multi-family residential: LZ2
- Central Business District: LZ2
- Other business: LZ1

Outdoor sports lighting:

To the extent that there are certain outdoor recreational facilities in the Village that may involve nighttime use, and given that the lighting needs associated with this kind of activity are distinct from

other lighting applications imagined in the draft, we recommend that the Village add regulations for outdoor sports lighting to the ordinance. In particular, we recommend adopting the elements of the International Dark Sky Community guidelines specific to athletic field lighting:

1. IES lighting guidelines (RP-6) are followed according to the appropriate class of play
2. Field lighting is provided exclusively for illumination of the surface of play and viewing stands, and not for any other applications
3. Illuminance levels must be adjustable based on the task (e.g., active play vs. field maintenance)
4. Off-site impacts of the lighting will be limited to the greatest practical extent possible
5. A strict curfew requirement (e.g., lights must be extinguished by 10pm/2200h or one hour after the end of play, whichever is later) is observed
6. Timers must be installed to prevent lights being left on accidentally overnight by automatically extinguishing them

Sign code:

The sign code (Chapter 10) regulates aspects of illuminated signs that may either conflict with the provisions of the draft lighting code or that otherwise do not follow best practice. We recommend that the Village consider amending the sign code as needed to modernize it, especially with respect to the regulation of electronic displays, and to harmonize its content with the lighting code.

Phased implementation:

Overall, we recommend a plan along the lines of the following:

1. Begin community education efforts as soon as possible, even as the new ordinance is still being developed.
2. As the details of the ordinance come into focus, prepare materials for property owners, contractors and others that help answer questions, and resources that help them comply with the new requirements.
3. Affect an amnesty, for a period not to exceed one year, during which building permits may be sought and granted using standards in the Municipal Code prior to the enactment of the new ordinance.
4. Promote early compliance through simple changes to existing lighting, where possible, and through provisions like the Early Adoption Incentive.
5. As amnesties and grandfathering periods come to an end, consider a limited period in which penalties for non-compliance are reduced.



Recommended Lighting Zones

Lighting zones reflect the base (or ambient) light levels desired by a community. The use of lighting zones (LZ) was originally developed by the International Commission on Illumination (CIE) and appeared first in the US in IES Recommended Practice for Exterior Environmental Lighting, RP-33-99. To learn more read about our [Model Lighting Ordinance](#).

IDA Suggested Lighting Zones for Codes and Ordinances

At this time, IDA recommends the use of five (5) outdoor lighting zones. The following are suggested criteria for the appropriate wording of the proposed lighting zones.

- **LZ0: No ambient lighting**
Areas where the natural environment will be seriously and adversely affected by lighting. Impacts include disturbing the biological cycles of flora and fauna and/or detracting from human enjoyment and appreciation of the natural environment. Human activity is subordinate in importance to nature. The vision of human residents and users is adapted to total darkness, and they expect to see little or no lighting. When not needed, lighting should be extinguished.
- **LZ1: Low ambient lighting**
Areas where lighting might adversely affect flora and fauna or disturb the character of the area. The vision of human residents and users is adapted to low light levels. Lighting may be used for safety, security and/or convenience but it is not necessarily uniform or continuous. After curfew, most lighting should be extinguished or reduced as activity levels decline.
- **LZ2: Moderate ambient lighting**
Areas of human activity where the vision of human residents and users is adapted to moderate light levels. Lighting may typically be used for safety, security and/or convenience but it is not necessarily uniform or continuous. After curfew, lighting may be extinguished or reduced as activity levels decline.
- **LZ3: Moderately high ambient lighting**
Areas of human activity where the vision of human residents and users is adapted to moderately high light levels. Lighting is generally desired for safety, security and/or convenience and it is often uniform and/or continuous. After curfew, lighting may be extinguished or reduced in most areas as activity levels decline.
- **LZ4: High ambient lighting**
Areas of human activity where the vision of human residents and users is adapted to high light levels. Lighting is generally considered necessary for safety, security and/or convenience

[Model Lighting Ordinance \(MLO\) PDF](#)

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Find a Dark Sky Friendly Lighting



Illuminating
ENGINEERING SOCIETY



INTERNATIONAL
DARK-SKY
ASSOCIATION

JOINT IDA - IES **Model Lighting Ordinance** **(MLO)** **with USER'S GUIDE**

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NORTH SHORE LIFE
LAKE BLUFF STYLE

Village of Lake Bluff, Illinois Lighting Zones - DRAFT July 2022

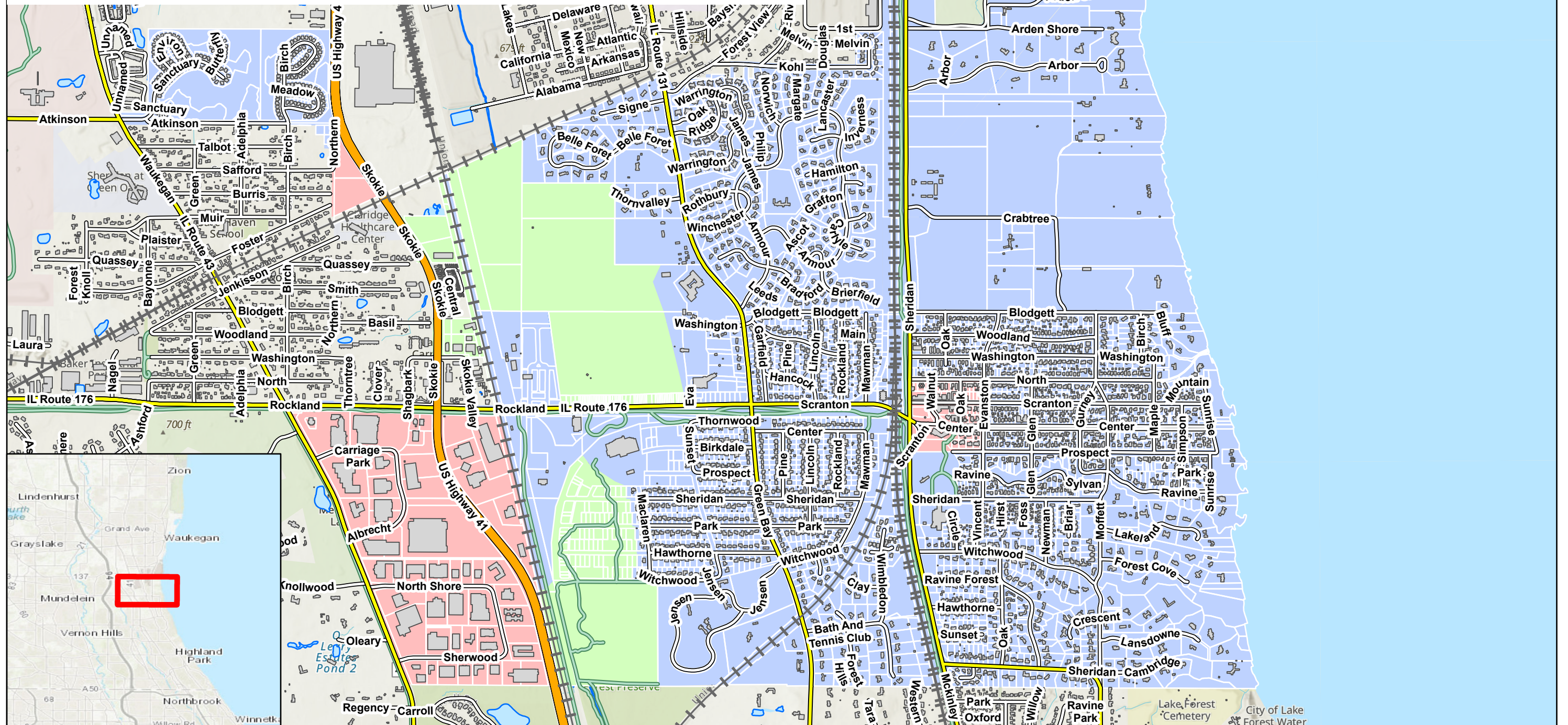
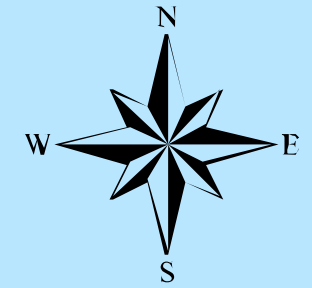
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Features

- Limited access highway
- Highway
- Major road
- Minor road
- Limited access
- Trail
- Railroad
- Bodies of Water
- Building Footprints
- Parcels

Lighting Zones (LZ)

- LZ-0
- LZ-1
- LZ-2



0 0.25 0.5 1 Miles

1:17,000