



Steven M. Neuhaus
County Executive

Orange County Department of Planning

124 Main Street
Goshen, NY 10924-2124
Tel: (845) 615-3840
Fax: (845) 291-2533

Alan J. Sorensen, AICP
Commissioner

www.orangecountygov.com/planning
planning@orangecountygov.com

County Reply – Mandatory Review of Local Planning Action as per NYS General Municipal Law §239-l, m, &n

Local Referring Board: Wawayanda Planning Board

Referral ID #: WYT02-22M

Applicant: RDM; Marangi Solid Waste

Tax Map #: 1-1-4.2, 1-1-52.1, 4-1-50.2, 4-1-50.32, 6-1-3.2, 6-1-3.31, 6-1-3.32, 6-1-90.1, 6-1-107

Project Name: Dolsontown Corridor Draft Generic Environmental Impact Statement

Proposed Action: A Draft General Environmental Impact Statement (DGEIS) for the Dolsontown Corridor from Route 17M to McVeigh Road addressing the cumulative impacts of five proposed projects in this corridor. These projects are the RDM #3 (a/k/a “Dewpoint South”); RDM #4 (a/k/a “Dewpoint North”); RDM #5 (a/k/a “Dolsontown East”); RDM #6 (a/k/a “Simon Business Park”); and Marangi Solid Waste Facility.

Reason for County Review: Within 500 feet of I-84, U.S. Route 6, State Route 17M, the Heritage Trail, State Bike Route 17, a municipal boundary, and an active farm operation in Orange County Agricultural District 1.

Date of Full Statement: May 19, 2022.

Comments:

The Department has reviewed the above referenced Draft General Environmental Impact Statement (DGEIS) for the Dolsontown Corridor, which includes five proposed projects. These projects are (1) RDM # 3 (a/k/a “Dewpoint South”) which proposes 125,000 square feet of warehouse space; (2) RDM #4 (a/k/a “Dewpoint North”) which proposes 32,000 square feet of warehouse space; (3) RDM #5 (a/k/a “Dolsontown East”) which proposes 463,000 square feet of warehouse space; (4) RDM #6 (a/k/a “Simon Business Park”) which proposes 298,200 square feet of warehouse space; and (5) the Marangi Solid Waste Facility which proposes a 36,000 square foot transfer facility, a 25,200 square foot transfer area / collection truck drop off lanes, a 6,080 square foot administrative building, a 4,800 square foot shop, a 36,000 square foot truck maintenance and storage facility, a 12,000 square foot fabrication shop, and a 0.5 acre roll off container storage area and diesel fueling station. We appreciate that the Town is requiring these applicants to coordinate to evaluate the cumulative impacts of the proposed projects on the roadway system, the water and sewer infrastructure, stormwater discharges, threatened and endangered species, and historical and archeological resources. The County Planning Department has determined that the intended land use has the potential to cause inter-municipal and countywide impacts. Therefore, the following binding comments should be addressed and may not be acted contrary upon except by a majority plus one vote of the members of the Town of Wawayanda Planning Board or by disapproving the action.

Coordination

1. *The Town of Wawayanda and the applicant should coordinate with the City of Middletown and the Town of Wallkill regarding the proposed projects, as it is likely that these developments will have an impact on these neighboring communities.*

Cumulative Impacts

2. *The Town should require the applicants to evaluate any potential visual impacts of the proposed projects on the Heritage Trail and I-84. If any visual impacts are identified, the applicants should address these impacts to minimize the visual impacts for people utilizing the trail and travellers on I-84. This may require a visual EAF and/or a visual analysis. Furthermore, the applicant for the Dolsontown East site*

should provide two or more staggered rows of coniferous trees and shrubs along its northeastern lot line (outside of the wetland area) to help visually buffer this site from the Heritage Trail.

Additionally, this Department offers the following **advisory comments** for your consideration.

Coordination

3. The applicant should coordinate with the local fire department, police department and ambulance corps serving this site to ensure that any of their safety concerns are addressed.

Cumulative Impacts

4. We appreciate that the applicants propose to limit the clearing of trees to October 1 to March 31, as this will minimize the potential to negatively impact Indiana Bats and/or Northern Long-Eared Bats that may be roosting in trees located on these sites.
5. We appreciate that the applicants have provided a traffic study for the Dolsontown Road Corridor and multiple nearby intersections and have proposed several mitigation measures for the anticipated traffic impacts, such as including additional turning lanes on Dolsontown Road, Route 17M, and US Route 6, adding a traffic signal at the intersection of Dolsontown Road and McVeigh Road, and reducing the speed limit on Dolsontown Road to 30 to 35 MPH. However, it appears that the growth rate of 0.5% is applied, which may not accurately reflect the growth rate of this area and the growth rate may need to be adjusted accordingly. Also, it appears that additional mitigation measures will be needed for the left turn, westbound approach from Dolsontown Road onto Route 17M. *The applicant should coordinate with the New York State Department of Transportation (NYSDOT) about the anticipated impacts on this intersection.* Based on the information supplied, the 2032 weekday PM peak hour build condition will have an LOS of F with an increase of 106.6 seconds over the 2032 no-build condition. *Furthermore, the applicants should also expand the traffic study to include the intersections of Route 17M and the I-84 ramps.*
6. The Town should be aware that the segment of Dolsontown Road and James P. Kelley Way between County Route 78 and Genung Street is NOT federal-aid eligible, meaning any pavement or construction is the responsibility of the municipality. Therefore, *a Transportation Improvement District (DGEIS Appendix F, page 14) should be established to help with the roadway improvements.* This district should be considered for long-term use to offset the deterioration of pavement from heavy truck usage over time.
7. *The Town should ensure that the proposed driveways for the proposed projects and any active existing driveways are aligned to minimize the potential for traffic conflicts and/or potential vehicular and truck accidents.* In some instances, it is not clear where the driveways are located in relation to each other. For instance, the submitted site plans for Dewpoint South and Dewpoint North do not indicate where the driveways are located or proposed on the opposite side of the road. Also, the site plans for the Simon Business Park and Lot 1 of Dolsontown East do not show where the proposed driveways are located on the opposite side of the road. As a result, it is difficult to determine how vehicles and trucks entering or exiting these driveways would interact. In other instances, the proposed driveways may be located too close to one another and may result in traffic conflicts. For example, the proposed eastern driveway for Lot 1 of the Doslontown East site and the proposed eastern driveway for the Marangi site are opposite each other, but are staggered by less than 100 feet. Thus, this layout may lead to traffic conflicts and/or accidents.
8. The applicants should investigate the feasibility of providing a jitney service to the proposed warehouses to reduce the amount of car trips that are needed to access the warehouses for employees who live in

Middletown or Wallkill. An alternative to utilizing a jitney is to work with Transit Orange to alter its Middletown Fixed Transit Route to include stops along Dolsontown Road.

9. *The applicants should provide an evaluation of the current status for air pollution and how the proposed projects will impact the air quality in this area.* Particular attention should be paid to the PM2.5 levels in this area, as this has a history of being an issue within Orange County. High levels of PM2.5 pollution can have an impact on human health, particularly by increasing incidence of asthma.
10. *The Town should ensure that the proposed projects will not result in pollution of the sand and gravel recharge area,* which is located on SBLs 1-1-52.1, 4-1-50.2, 4-1-50.32, 6-1-3.2, 6-1-3.32, 6-1-90.1, and 6-1-107. Particular attention should be paid to the sand and gravel recharge are located on SBL 6-1-3.32 due to the potential for contamination from the proposed Marangi Solid Waste Facility.
11. *The Town should ensure that the applicant coordinates with New York State Department of Environmental Conservation (NYSDEC) to identify any wetlands along the Monhagen Brook and its tributary* that are not currently mapped, but that qualify as a DEC wetland. The Town should also ensure that any development on the proposed sites provide a 100-foot buffer from any identified DEC wetlands, including any DEC wetlands that NYSDEC identifies upon evaluating the lands along the Monhagen Brook and its tributary.
12. *The Town should ensure that the Stormwater Pollution Prevention Plans for each site are strictly enforced to minimize potential negative impacts on on-site wetlands, nearby wetlands and the Monhagen Brook and its tributary.* This is particularly important since the Monhagen Brook is “an impaired waterway on the NYS 303D list” (DGEIS, p. 42) and the warehouses were identified as “hot spots” within the DGEIS. Furthermore, the Marangi site will be acting as a solid waste and recyclables transfer station. This activity should be closely monitored to minimize the potential for further contamination of the Monhagen Brook.
13. *The Town should ensure that the proposed projects will not create nighttime light pollution and that they follow the recommendations of the International Dark Sky Association (IDA) for outdoor lighting* (<https://www.darksky.org/our-work/lighting/>) (See attached documents). The proposed lighting should be addressed on both an individual site scale and on a cumulative scale for potential lighting impacts.
14. *The applicants of the proposed projects should design their projects to allow for the installation of solar panels on the roofs of the proposed buildings.* These solar panels would help to provide power for the proposed warehouses and solid waste facility and reduce the need for power from the grid. The County of Orange has adopted the C-PACE Program that could be utilized to finance 100% of the cost of installing roof top solar panels. (See attached information sheet.)
15. The New York State Office of Parks, Recreation, and Historic Preservation (NYOPRHP) indicates that there may be a cemetery on or near the proposed Marangi site. Therefore, *if human remains or burial items are encountered, the applicant should work with NYOPRHP to implement the “Human Remains Discovery Protocol”.*

Specific Site – Dewpoint South (SBL 4-1-50.32)

16. The applicant should clarify why the noise evaluation for Dewpoint South identifies the parcel numbers (SBLs) associated with the the Dolsontown East project, rather than the parcel numbers (SBLs) for Dewpoint South (Appendix A.5). The Town should ensure that the noise evaluation for each site addresses the impacts from the correct site.

Specific Site – Dewpoint North (SBL 4-1-50.2)

17. We appreciate the applicant's effort to provide the Phase IB of the Archeological Report for the Dewpoint North project. However, the applicant should provide additional test pits in the northwestern portion of the proposed construction area, as it does not appear that there are test pits at the 50' intervals that are required for a thorough evaluation of potential archeological and historical artifacts in this area.

Specific Site – Simon Business Park (SBLs 6-1-90.1 & 6-1-107)

18. The applicant indicates that there will be a loss of habitat for the Monarch Butterfly on the Simon Business Park site since there would be a removal of existing milkweed plants that these butterflies feed on. Therefore, the applicant of this site should coordinate with the New York State Department of Environmental Conservation (NYSDEC) and the U.S. Fish and Wildlife Service to minimize the impact on this species.

Specific Site – Marangi Solid Waste Facility (SBLs 6-1-3.31 & 6-1-3.32)

19. We question the proposed location of the Marangi Solid Waste Facility, as this site contains the Monhagen Brook, which is a 303(d) impaired water body. Our office is concerned about the potential for the Monhagen Brook to become further polluted due to anticipated activities at this site. Ideally, the applicant would find an alternative site for the proposed project or approach the Orange County Department of Public Works (OCDPW) to determine whether utilizing the County Transfer Station with extended hours is an option. Should neither of these options be successful, all collected solid wastes and recyclables should be stored strictly indoors. Furthermore, any future pest control for this site should minimize the potential to further pollute the Monhagen Brook.

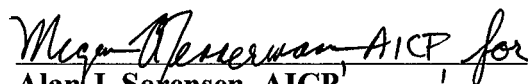
20. The applicant for the Marangi Solid Waste Facility should provide a Long EAF, a soil erosion and sediment control plan, a grading and drainage plan, a lighting plan, a landscaping plan, and a visual impact analysis.

21. The applicant for the Marangi Solid Waste Facility project should indicate if it proposes to dedicate any land to the Town for the Dolsontown Road right-of-way, if this applies to these parcels.

22. The applicant proposes to have one 10,000 gallon and two 5,000 gallon above-ground diesel tanks on the proposed Marangi Solid Waste Facility site. *The applicant should provide a containment system that can hold 110% of the volume of the diesel tanks to contain the diesel fuel*, in the event of a fuel spill. This is particularly important due to the fact that an impaired water body, the Monhagen Brook, is located on this site and is almost certainly down-slope from any proposed fuel tanks based on the site's topography.

County Recommendation: Approval subject to modification as per comments # 1 and 2.

Date: June 17, 2022
Prepared by: Jennifer L. MacLeod, AICP
Planner


Alan J. Sorensen, AICP
Commissioner of Planning

As per NYS General Municipal Law 239-m & n, within 30 days of municipal final action on the above referred project, the referring board must file a report of the final action taken with the County Planning Department. For such filing, please use the final action report form attached to this review or available on-line at www.orangecountygov.com/planning.

EIC NY PACE

Commercial and non-profit building owners can now apply for financing to make energy upgrades to their buildings or build new construction to higher energy standards through the EIC OPEN C-PACE Program.

Energy efficiency and/or renewable energy improvements can help you achieve:

- Improved, high-performing properties
- Lower operating expenses
- Positive impacts on communities through reduced greenhouse gas emissions

Property Assessed Clean Energy (PACE) financing is a public benefit authorized by state and local law, with repayment secured through a benefit assessment lien on the improved property.

Open C-PACE paves the way for higher levels of energy efficiency or renewable energy to be included as part of a building's construction or rehabilitation – and might be the pivotal element needed to move the project forward.

EIC Open C-PACE differs from traditional bank loans:

- Financing is available for up to 100% of the project cost, or can be combined with other financing
- Competitive private financing from EIC-approved capital providers
- Customizable loan terms up to the expected life of the improvement(s) (generally 20-30 years)
- Benefit assessment lien is subordinate to municipal taxes and senior to other liens (consent from mortgage holder is required)
- Automatically transfers to new owner upon sale of property
- Available for energy efficiency and renewable energy measures (Projects are qualified according to NYSERDA's C-PACE Guidelines)
- PACE can be included in a project's capital stack to reduce the need for higher-cost financing, lowering the weighted average cost of capital needed for the project.

Visit eicpace.org or Call (914) 302-7300 x8114

Energy Improvement Corporation (EIC), a non-profit, statewide local development corporation, administers Open C-PACE on behalf of its member municipalities.

EIC NY PACE

Getting started

Open C-PACE is a competitive, open-market PACE program. Please visit eicpace.org for eligibility details and the list of approved capital providers. There is a simple online application form and our team will quickly notify you if your property is eligible.

- EIC provides property owners with a list of approved capital providers who are experienced in providing PACE financing in a range of project types and offer additional services such as project governance and engineering. We encourage you to reach out to multiple capital providers on our list to find the best match for your project.
- The capital provider can work with you to obtain an energy audit and determine the scope of work for your project, and then prepares the transaction documents on your behalf and submits them to EIC for approval.
- EIC reviews the transaction documents and confirms that the project complies with NYSERDA's Commercial PACE Guidelines.
- Once you enter a Finance Agreement with your capital provider, EIC records the benefit assessment lien which secures repayment of the financing. EIC will handle all billing directly with you going forward.

Program documents, including the Open C-PACE Handbook, are available on eicpace.org.

Eligible Improvements Include:

Renewable Energy Systems: Solar PV, Solar Thermal, Ground and Air Source Heat Pumps, Wind

Energy Efficiency: Lighting, HVAC, Insulation, Chillers, Windows, Pumps, Smart Controls

Questions? Visit eicpace.org or call us at (914) 302-7300 x8114

Energy Improvement Corporation (EIC), a non-profit, statewide local development corporation, administers Open C-PACE on behalf of its member municipalities.

LED Practical Guide



The light-emitting diode (LED) is transforming the way we light our cities and towns, offering a once-in-a-lifetime chance to radically improve how we use energy and our outdoor spaces at night. With this opportunity comes an obligation to manage these changes responsibly and sustainably. The stakes are high and the potential rewards great, but outcomes depend critically on policymakers and the public having access to reliable information. IDA developed this document to provide planners, lighting designers and public officials an overview of the most important aspects of LED lighting and the choices and challenges involved in its municipal implementation.

What is LED?

LEDs use solid-state technology to convert electricity into light. Put simply, LEDs are very small light bulbs that fit into an electrical circuit. Unlike traditional incandescent bulbs, they don't have a filament that burns out and they don't get very warm. Initially, LEDs only emitted red, yellow, or green light, but now white LEDs are widely available. Early LEDs were also energy-inefficient and emitted relatively little light, but due to technological advances LED efficiency and light output have doubled about every three years. Because of their improved quality and falling prices, LEDs are now replacing conventional high-intensity discharge (HID) lamp types for outdoor lighting in communities around the world.

Why Adopt This Technology?

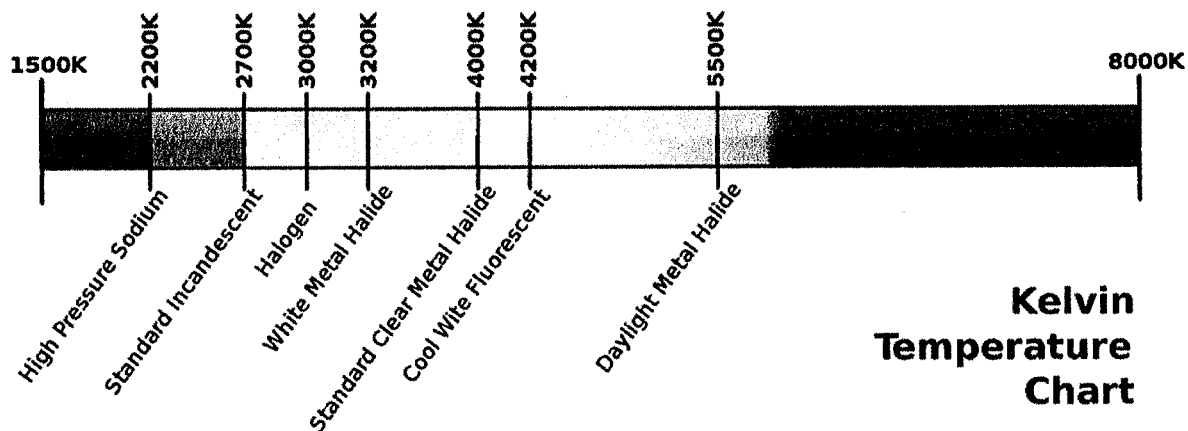
The improved energy efficiency of LEDs means that, coupled with modern luminaire design, these lights allow for lower illumination levels without compromising safety. LEDs help lower carbon emissions by reducing the demand for electricity, which is still largely generated by burning fossil fuels. Another LED benefit is better control over the color content of light. Manufacturers now produce LEDs with "warm" color qualities at high energy efficiency, rendering old arguments about the perceived inefficiency of warm white LEDs moot. These same LED options also provide accurate color rendition without emitting excessive amounts of potentially harmful blue light (see below).

Relative to other outdoor lamps, LEDs are thought to be extremely long-lived. When switched on, LEDs are instantly at full brightness, unlike HID lamps that have a significant time delay to begin emitting light. LEDs also have very low minimum electricity thresholds to produce light, meaning they can be dimmed to much lower illumination levels when less light is needed and resulting in further energy savings.

Blue Light Is Bad

New technical capabilities often come with unanticipated challenges. Most white LED lighting has significant levels of potentially harmful blue light. IDA published a report in 2010 detailing the known and suspected hazards of blue-rich white light sources.[i] In the years since, scientific evidence has coalesced around its conclusions. Blue-rich white light sources are known to increase glare and compromise human vision, especially in the aging eye.[ii],[iii] These lights create potential road safety problems for motorists and pedestrians alike. In natural settings, blue light at night has been shown to adversely affect wildlife behavior and reproduction.[iv],[v] This particularly true in cities, which are often stopover points for migratory species such as birds.

Concerns about blue light reach far beyond biology. Outdoor lighting with strong blue content is likely to worsen skyglow because it has a significantly larger geographic reach than lighting consisting of less blue. According to the 2016 “New World Atlas of Artificial Night Sky Brightness” street lighting and outdoor lighting retrofits using 4000-kelvin white LED lamps could result in a factor of 2.5 increase in light pollution.[vi] Given that the rate of increase of lighting as seen from Earth orbit is about 2 percent per year,[vii] it is all the more important to address this problem.



The promise of cheaper outdoor lighting based on electricity and maintenance savings from LED conversion should be weighed against other factors, such as the blue light content of white LEDs. Blue-rich white LEDs are among the most efficient light sources in terms of the conversion of electricity to light, and therefore have the lowest electricity cost to produce a given amount of light compared to “warmer,” less efficient white LED lamps. At the same time, we should make every effort to diminish or eliminate blue light emission and exposure after dark.

Product Selection Considerations

Choosing LED products for outdoor lighting applications involves a series of considerations and tradeoffs. These include:

- **Luminous Efficiency** (Watts-to-lumens): How much light is produced per input Watt of electricity? More importantly, how many lumens from the light source are meeting the task (“Fixture Lumens” vs. “Lamp Lumens”)
- **Lumen Output**: How much light is produced relative to the amount required for a particular task? When replacing existing fixtures, it is important to use the only level of illumination needed, and not to adopt unneeded increases in brightness.
- **Correlated Color Temperature (CCT)**: Does the light have a “warm” or “cool” quality?

- **Color Rendering Index (CRI):** How accurately does the light render colors to the human eye? A high CRI is not needed for all situations. The need for good color rendition should be considered relative to the lighting application in question.
- **Adaptive Control Integration:** Does the lighting make use of adaptive controls such as dimmers, timers, and/or motion sensors? These controls are the wave of the future in outdoor lighting and achieve additional energy savings, improve light source efficacy and increase visual task performance. It is important to build in the ability to make use of adaptive controls during the adoption of designs for new lighting installations, even if they will not immediately be implemented.
- **Heat Mitigation:** Is the lamp housing designed to adequately dissipate heat? Because LED efficiency decreases with rising operating temperature, controlling heat emitted by LED lamps is critical in warm climates.
- **Lumen Depreciation:** How robust is the lamp against efficacy loss over time? Manufacturers typically quote “L70,” the expected use time until a bulb reaches 70% of its initial light output.

Closely related to all these factors is expense: How much will LED replacement solutions cost? The price of commercial LED lighting products continues to drop, and capital cost recovery times for new LED street light installations, once 10 years or more, are now typically less than two years and continue to decline. As barriers to implementation fall, LED is gaining momentum as the lighting technology of choice in both new outdoor installations and existing replace-on-failure installations. Already many white LED options are available on the outdoor lighting market and that number will only rise in the future.

IDA Recommends

IDA has developed a set of recommendations for those choosing lighting systems. These suggestions will aid in the selection of lighting that is energy and cost efficient, yet ensures safety and security, protects wildlife, and promotes the goal of dark night skies. These include:

- **Always choose fully shielded fixtures** that emit no light upward.
- **Use “warm-white” or filtered LEDs**(CCT \leq 3000 K; S/P ratio \leq 1.2) to minimize blue light emission.
- **Look for products that are capable of accepting 7-pin controls** that can enable to use of dimmers, timers, motion sensors, and networking.
- **Consider dimming or turning off lights during overnight hours.**
- **Avoid the temptation to over-light** because of the higher luminous efficiency of LEDs.
- **Only light the exact space and in the amount required for particular tasks.**
- **Select fixtures that have aftermarket shields available** if light trespass is an issue in some lighting situations.
- **Give the community a chance to have a say** in what they will be living with for a generation, with test installations for soliciting public input and feedback.

References

- [i] “Visibility, Environmental, and Astronomical Issues Associated with Blue-Rich White Outdoor Lighting” (PDF: <http://bit.ly/2gKiEfN>)
- [ii] Lin, Y., Liu, Y., Sun, Y., Zhu, X., Lai, J., & Heynderickx, I. (2014). Model predicting discomfort glare caused by LED road lights. *Optics Express*, 22(15), 18056. <https://doi.org/10.1364/oe.22.018056>
- [iii] Sweater-Hickcox, K., Narendran, N., Bullough, J., & Freyssinier, J. (2013). Effect of different coloured luminous surrounds on LED discomfort glare perception. *Lighting Research & Technology*, 45(4), 464–475. <https://doi.org/10.1177/1477153512474450>

- [iv] Bennie, J., Davies, T. W., Cruse, D., & Gaston, K. J. (2016). Ecological effects of artificial light at night on wild plants. *Journal of Ecology*, 104(3), 611–620. <https://doi.org/10.1111/1365-2745.12551>
- [v] Hori, M., & Suzuki, A. (2017). Lethal effect of blue light on strawberry leaf beetle, *Galerucella grisescens* (Coleoptera: Chrysomelidae). *Scientific Reports*, 7(1). <https://doi.org/10.1038/s41598-017-03017-z>
- [vi] Falchi, F., Cinzano, P., Duriscoe, D., Kyba, C. C. M., Elvidge, C. D., Baugh, K., Portnov, B. A., Rybnikova, N. A., & Furgoni, R. (2016). The new world atlas of artificial night sky brightness. *Science Advances*, 2(6), e1600377. <https://doi.org/10.1126/sciadv.1600377>
- [vii] Kyba, C. C. M., Kuester, T., Sánchez de Miguel, A., Baugh, K., Jechow, A., Hölker, F., Bennie, J., Elvidge, C. D., Gaston, K. J., & Guanter, L. (2017). Artificially lit surface of Earth at night increasing in radiance and extent. *Science Advances*, 3(11), e1701528. <https://doi.org/10.1126/sciadv.1701528>

Accessed from <https://www.darksky.org/our-work/lighting/lighting-for-citizens/led-guide/> on February 15, 2022.

Outdoor Lighting Basics

Modern society requires outdoor lighting for a variety of needs, including safety and commerce. IDA recognizes this but advocates that any required lighting be used wisely. To minimize the harmful effects of light pollution, lighting should

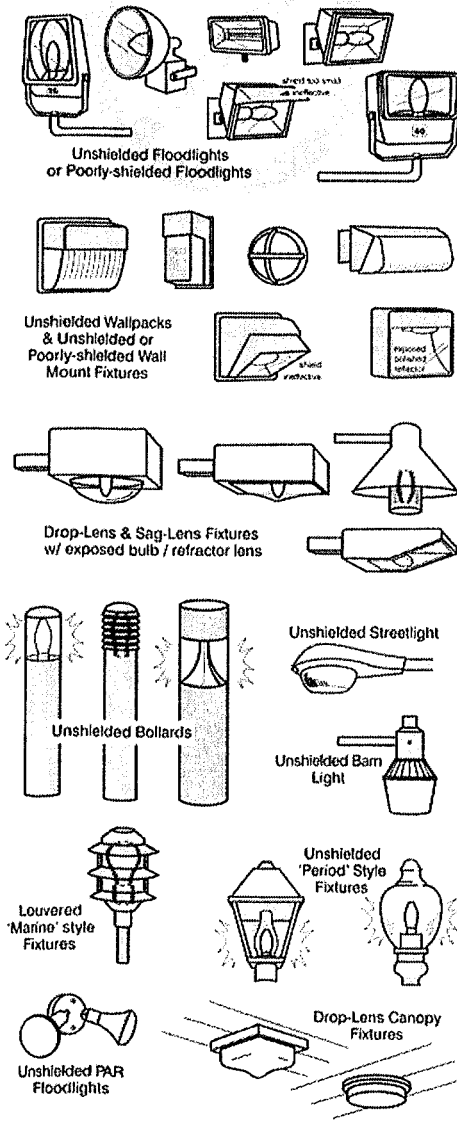
- Only be on when needed
- Only light the area that needs it
- Be no brighter than necessary
- Minimize blue light emissions
- Be fully shielded (pointing downward)

The illustration below provides an easy visual guide to understand the differences between unacceptable, unshielded light fixtures and those fully shielded fixtures that minimize skyglow, glare and light trespass.

Examples of Acceptable / Unacceptable Lighting Fixtures

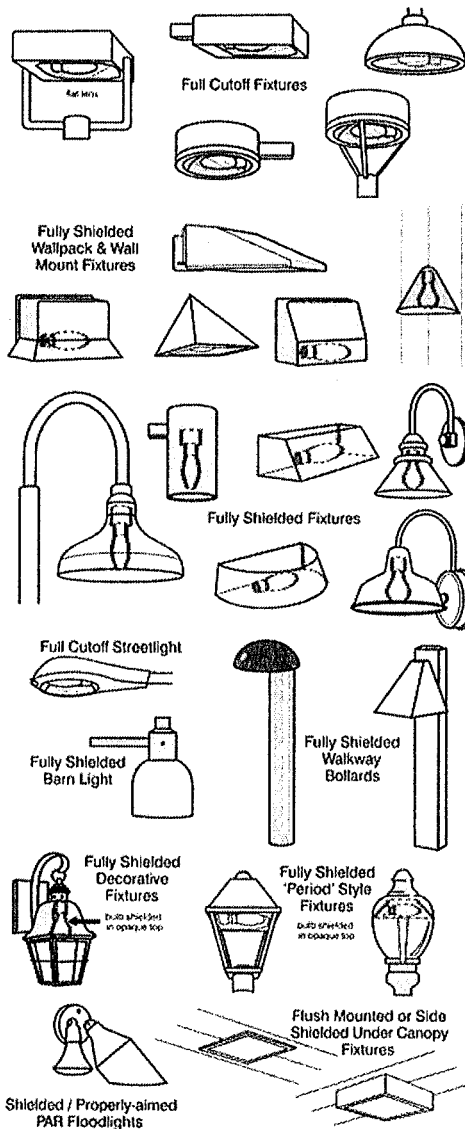
Unacceptable / Discouraged

Fixtures that produce glare and light trespass



Acceptable

Fixtures that shield the light source to minimize glare and light trespass and to facilitate better vision at night



Types of Light

Most people are familiar with incandescent or compact fluorescent blubs for indoor lighting, but outdoor lighting usually makes use of different, more industrial, sources of light. Common light sources include low-pressure sodium (“LPS”), high-pressure sodium (“HPS”), metal halide and light emitting diodes (“LEDs”).

LPS is very energy efficient but emits only a narrow spectrum of pumpkin-colored light that some find to be undesirable. Yet, LPS is an excellent choice for lighting near astronomical observatories and in some environmentally sensitive areas.

HPS is commonly used for street lighting in many cities. Although it still emits an orange-colored light, its coloring is more “true to life” than that of LPS.

In areas where it’s necessary to use white light, two common choices are metal halide and LEDs. One of the advantages of LED lighting is that it can be dimmed. Thus, instead of always lighting an empty street or parking lot at full brightness, LEDs can be turned down, or even off, when they aren’t needed and then brought back to full brightness as necessary. This feature both saves on energy and reduces light pollution during the night.

Because of their reported long life and energy efficiency, LEDs are rapidly coming into widespread use, replacing the existing lighting in many cities. However, there are important issues to consider when making such a conversion. See our LED Practical Guide for more information.

Color Matters

As the illustration above, it is crucial to have fully shielded lighting, but we now know that the color of light is also very important. Both LED and metal halide fixtures contain large amounts of blue light in their spectrum. Because blue light brightens the night sky more than any other color of light, it’s important to minimize the amount emitted. Exposure to blue light at night has also been shown to harm human health and endanger wildlife. IDA recommends using lighting that has a color temperature of no more than 3000 Kelvins.

Lighting with lower color temperatures has less blue in its spectrum and is referred to as being “warm.” Higher color temperature sources of light are rich in blue light. IDA recommends that only warm light sources be used for outdoor lighting. This includes LPS, HPS and low-color-temperature LEDs. In some areas, the white light of even a low-color-temperature LED can be a threat to the local nighttime environment. In those cases, LPS or narrow-spectrum LEDs are preferred choices.

Finding What You Need

IDA doesn’t sell dark sky friendly lighting, but our Fixture Seal of Approval program makes it easy for you to find the right products. The FSA program certifies dark sky friendly outdoor lighting – these are fixtures that are fully shielded and have low color temperature. Search our database and then check with your local retailer.

Accessed from <https://www.darksky.org/our-work/lighting/lighting-for-citizens/lighting-basics/> on February 15, 2022.