



Cape May Point Environmental Recommendation Light Trespassing Ordinance

It is the Environmental Commission's recommendation to the Commissioners that a Light Trespass Ordinance be enacted in Cape May Point. Many towns in NJ, including Cape May City, have adopted Lighting Ordinances. The main reason is that bright lights are a form of trespassing onto neighbors' properties. Reduced lights at night have the added benefit for the environment, directly and through reduction of electricity waste. Should the commissioners decide to pursue a light trespass ordinance, the Environmental Commission also recommends tying in a lighting plan whenever a landscaping plan is required.

First, bright lights shining from neighbor's properties are a form of trespassing. Bright lights affect not only nature but people as well. When light is excessive such that it crosses into neighboring properties, it can adversely affect those residents and their environment.

An excerpt from Jefferson Health shows how important it is to avoid bright lighting at night: "Too much light exposure at night – outside the home or inside from devices and other light sources – can cause eye strain, disturb circadian rhythms, suppress melatonin, and disrupt sleep. A number of studies have also linked bright light at night with a risk for cardiovascular disease, type 2 diabetes, hypertension, obesity, depression, and other disorders. Now that we know how much our nighttime environments are becoming brighter, we realize that we could begin to see larger effects on our health, especially in places with glaring light.

LEDs have revolutionized lighting as an energy efficient long-lasting option. They have also become more prevalent in outdoor lighting. The problem is that without alteration, LEDs tend to emit bluer light than other types of lighting. At a time of the day when we are supposed to wind down and prepare for sleep, blue light exposure can make people more alert, and more likely to disrupt their sleep and circadian cycles.

Since LEDs have become more common in outdoor lighting, they certainly could be contributing to the excess light at night. But the problem is aggravated by poor lighting design and excessive lighting. It is possible to design LEDs that emit less blue wavelengths and have warmer tones. Likewise, it is possible to design light fixtures that direct light to certain areas and keep it from splashing into windows. These are steps that would help reduce the impact from excess evening and nighttime light for all of us.

It is also important to change the outdoor lighting around your home if you can. Add a motion detector so that the lights turn on only when needed. Lights can also be designed to point in a particular direction, so they do not flood through windows."

Secondly, Cape May Point prides itself on being an environmentally conscious town with a focus on the natural environment. It has been shown that overly bright lighting affects migrating birds. Cornell University has confirmed that every little bit helps when it comes to reducing light pollution and Cape May Point is directly on the Atlantic Flyway.

Negatively impacting all natural organisms is the interaction of excess lighting. Here are a few excerpts that support this.

"Light pollution is a significant but overlooked driver of the rapid decline of insect populations, according to the most comprehensive review of the scientific evidence to date. Artificial light at night can affect every aspect of insects' lives, from luring moths to their deaths around bulbs, to spotlighting insect prey for rats and toads, to obscuring the mating signals of fireflies. One third of insects trapped in the orbit of a light die before morning."
The Guardian

“Light pollution is one of the leading causes of insect decline. It disrupts natural processes in nocturnal insects.” *Chasing Bugs.com*

“Light pollution is affecting how plants grow and reproduce. It disrupts seasonal rhythms and their fragile relationship with pollinators.” *BBC.com*

“Light pollution disrupts pollinators’ circadian rhythms and general life patterns, which ultimately impedes plant reproduction. It can also stress pollinators’ bodies by reducing their sleep and recovery time making it harder to pollinate and reproduce. Light pollution even impacts migration by attracting insects away from their natural, intended path.” *BBC.com*

“Bats avoid feeding or flying through illuminated areas.
Fluttering insects drawn to streetlights deplete their energy to the point of exhaustion.
Fireflies alter their mating flashes.

Migrating monarchs flit and flutter when they should be resting when exposed to nocturnal light.” *NFW.org*
Cape May Point participates in the Mayors’ Monarch Pledge each year. Therefore, we strive to create a monarch-friendly environment.

“Lighting has detrimental impacts on local insect populations. Lighting strongly reduced moth caterpillar abundance compared with unlit sites.” *Science.org*

A valuable resource for lighting design is *DarkSky International*. DarkSky International’s mission is to “restore the nighttime environment and protect communities from the harmful effects of light pollution through outreach, advocacy, and conservation.”

The following diagrams are from DarkSky: Five Lighting Principles, a graphic showing one light style with changes to make it better, and various Compliant Lighting Design Examples. These could be incorporated into an ordinance to show what light styles are compliant and keep the light from trespassing on neighbors’ properties.

Five Lighting Principles for Responsible Outdoor Lighting

DarkSky | Illuminating Engineering Society

1 Useful **Use light only if it is needed**
All light should have a clear purpose. Consider how the use of light will impact the area, including wildlife and their habitats.

2 Targeted **Direct light so it falls only where it is 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 **Light should be no brighter 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 intended.

4 Controlled **Use light only when it is needed**
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.



VERY BAD

BAD

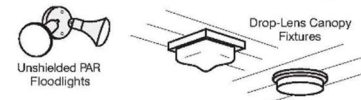
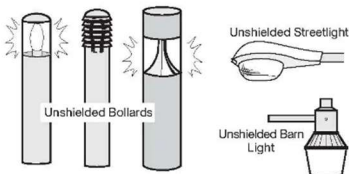
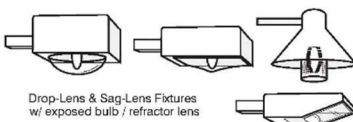
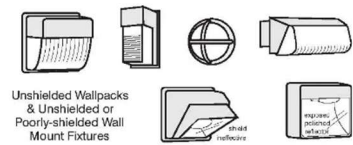
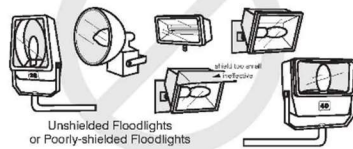
BETTER

BEST

Examples of Acceptable / Unacceptable Lighting Fixtures

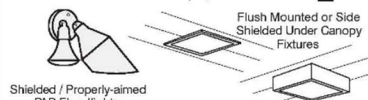
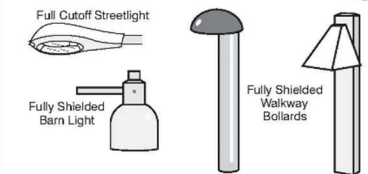
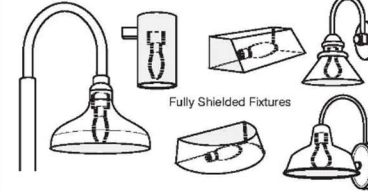
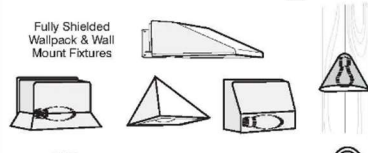
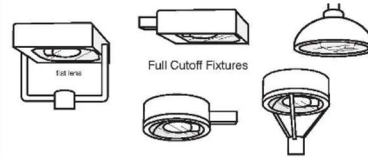
Unacceptable / Discouraged

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



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