

Eastsound Lighting Considerations

What are our community's goals that adding lighting could meet?

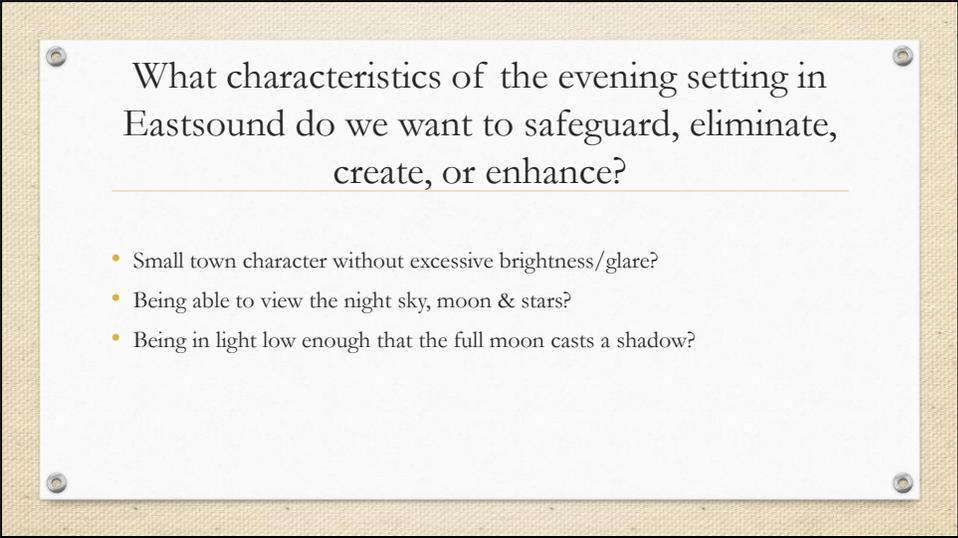
- Are we concerned about public safety? –
 - If so, do we 1) want to increase pedestrians' ability to see where they are stepping in the evening/night when walking along Eastsound streets? 2) And/or, to increase drivers' ability to see pedestrians as they enter the street and cyclists at the street's edge?
- Do we want to provide a welcoming walkable village area that is pleasing to local residents and visitors alike with some sort of lighting of the public realm?
- Do all areas need light? Sidewalks? Streets?

Our community can decide if and where lighting would be useful

This is an open-ended question and series of possible answers. There may be others that are important that are not listed here.

These are the goals we have heard islanders voice as the reason they would like to address street/path lighting in Eastsound.

Almost everyone has said they don't think every square inch of sidewalk needs lighting. Many have said some areas have enough reflected light from shop signs and/or lighted parking areas that they don't require more lighting.



What characteristics of the evening setting in Eastsound do we want to safeguard, eliminate, create, or enhance?

- Small town character without excessive brightness/glare?
- Being able to view the night sky, moon & stars?
- Being in light low enough that the full moon casts a shadow?

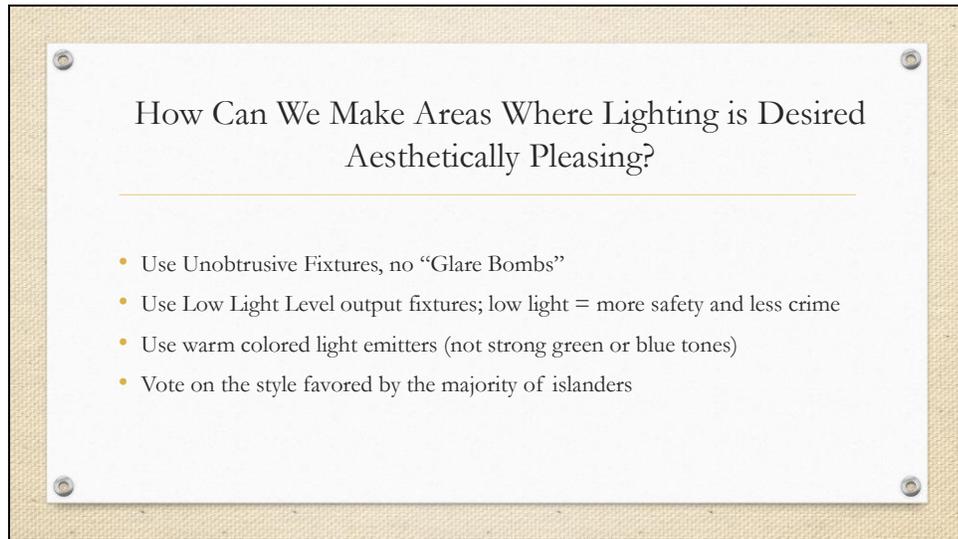
These are common concerns we have heard from islanders and that our community shares with many other small communities who want to develop the usability and safety of their towns without increasing light pollution or losing the pleasures of seeing the night sky at night in their town.

Eastsound is one of the few communities in the state where the light pollution from neighboring cities does not obscure the night sky. We can actually see the stars all the way down to horizon in most places.



It's a fact that highly lighted areas decimate wild life – most importantly, birds of all kinds (that are instinctively attracted to light) and insects. You might not think that a decrease in insects is a bad thing, but it really is. If an indigenous moth or lacewing or beetle is enticed by the lure of light to leave its habitat in the woods, it is more subject to predation by city dwelling creatures; rats, pigeons, crows, etc.. By reducing the insects, you reduce all the native fish, birds, and other animals that would have eaten them. It can also leave a greater opening for non-indigenous species to get a foothold.

Low angle, low intensity lights save money and resources, too.

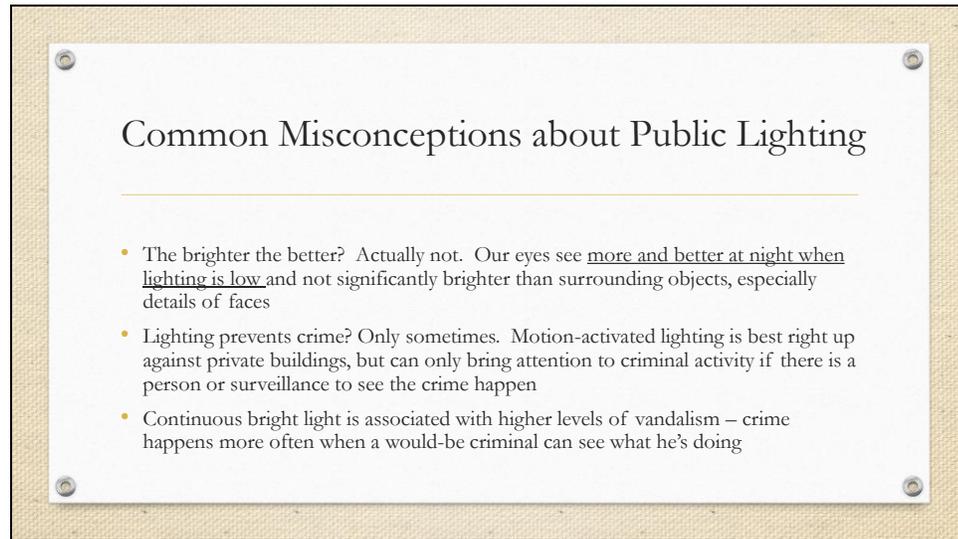


Supplemental public lighting that illuminates just the ground (not toward your eyes) allows pedestrians to see where to walk, where their car is, and allows drivers of cars to see pedestrians where they step onto the street.

Most people report liking warm to white light more than blue green or orange.

It is easier to recognize faces of friends and neighbors in low light with the dark background of night than it is in bright light contrasted with a dark background. It's also easier for security cameras to capture details of faces if the face is illuminated in low light vs. bright light.

Anyone in our community can participate in working toward a consensus around where and what style of lighting we want.



-High intensity lights make it more difficult for you to see where you are going after you look at them. "Dark adaptation" of the rods in our eyes develops rather slowly over a period of 20 to 30 minutes, it can be lost in moments of exposure to bright light.

-If there is 1) no human being around who can see and will report the crime or 2) no camera capable of recording the crime, then supplemental light can help a criminal and/or encourage a would-be criminal to act.

For a home owner or business owner, no lighting with infrared cameras, and silent alarms with motion sensors may be the best protection if there is no one actively watching the building

From the burglar's perspective...

The main reasons given for a burglar to start committing that crime were the influence of friends, the need to fund drug use, and boredom.

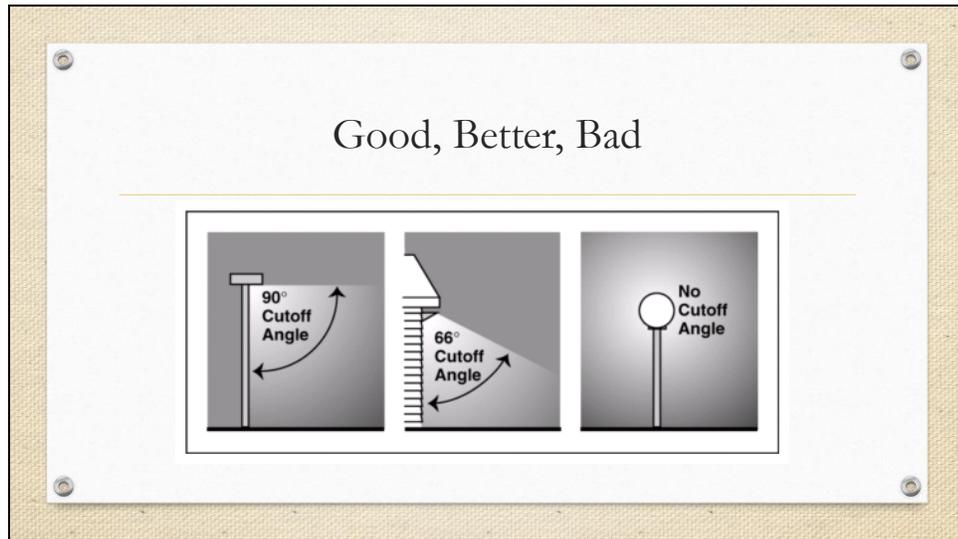
Increasing over time, need of money for drugs was the main reason given for burglaries.

The likely 'yield' was a burglar's key consideration when deciding which place to target. Offenders were more likely to base decisions about the attractiveness of a property on the belief that the property had goods worth stealing than on physical aspects of the building.

Offenders were most likely to take cash, jewelry, laptops and credit cards.

Over two-thirds of the sample said they had returned to a property they had burgled before and taken items from it on a second occasion.

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The best light is low in output and directed down at an angle so that you would not be able to see the filament unless you were underneath it, looking up.

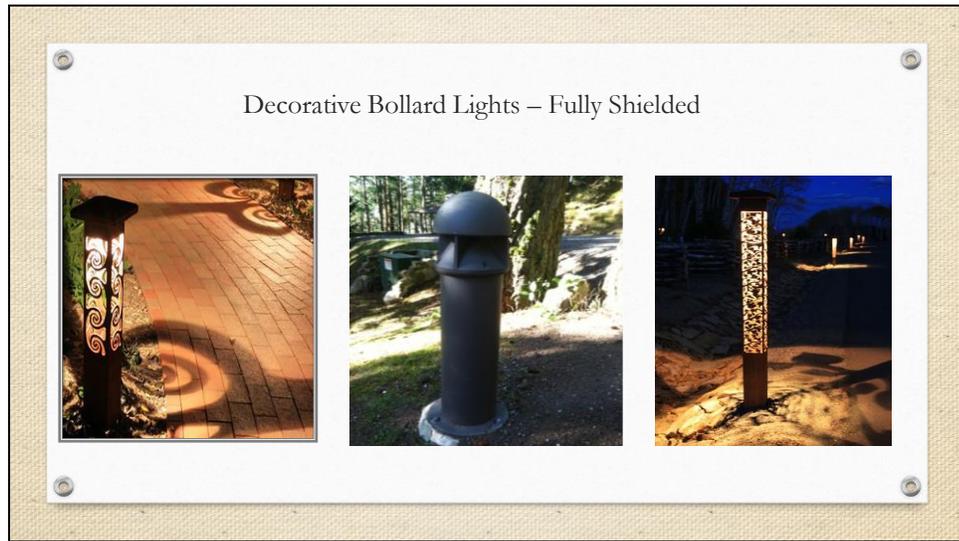
- 1) Good: See where to walk without glare or light pollution
 - 2) Bad: Excessive glare, pollution, can't see under the light
 - 3) Bad: Excessive glare and unnecessary light pollution
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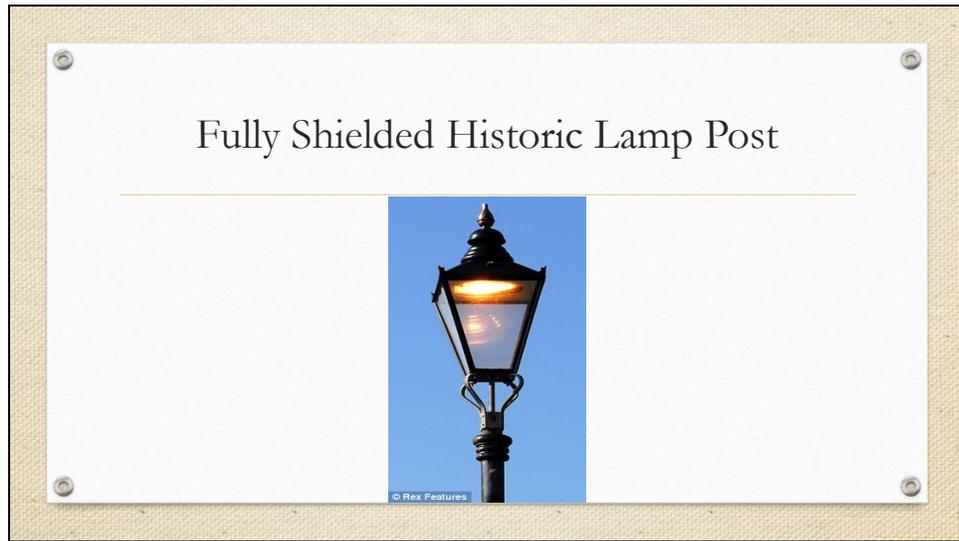
66 degree angled lights make the least pollution, allowing people in & near the lighted area to see more of the night sky, all preventing light pollution from escaping and causing city glow for people looking at the lighted area from a distance. (This is especially applicable to the many people and visitors who can see Eastsound from their homes.)

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Again, we as a community can decide where and what lighting makes sense.

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This is a new lamp that is fully shielded and fits the period of several Eastsound buildings.

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Some lighting companies have gotten their fixtures approved by the leading anti-light pollution organization, IDA or International Dark-sky Association.

By the way, hundreds of US National Parks and National Monuments have IDA approved lighting designs.

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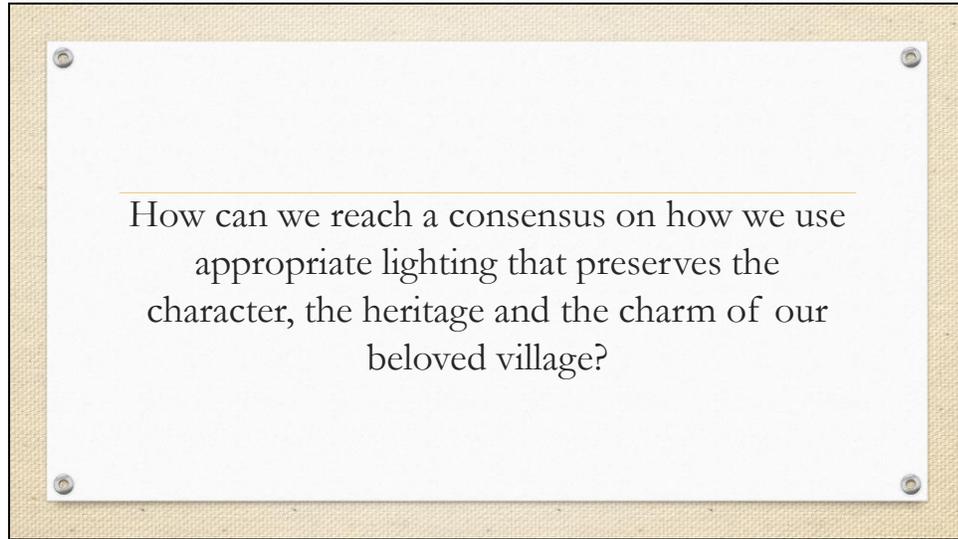


Another historic design fixture.

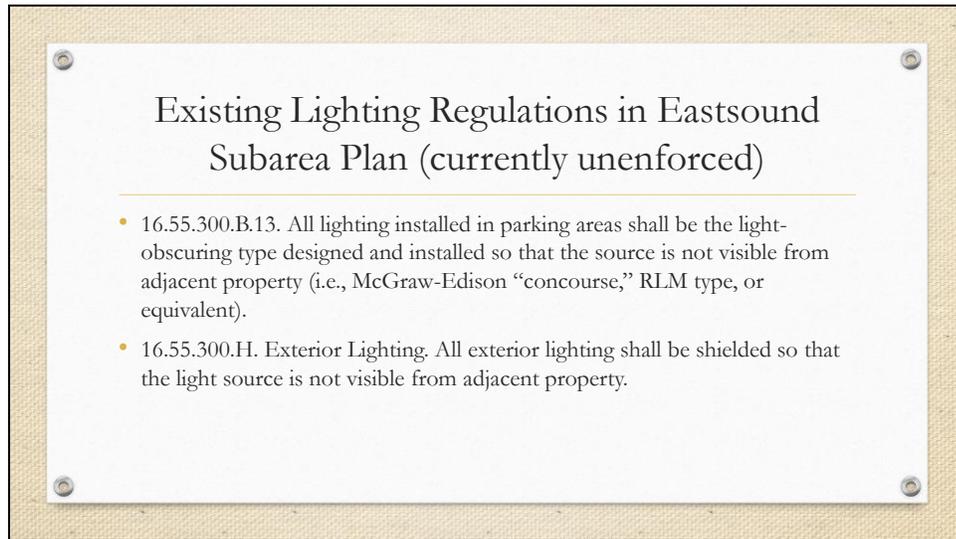


Properly designed, fully shielded fixtures come in all shapes and sizes.

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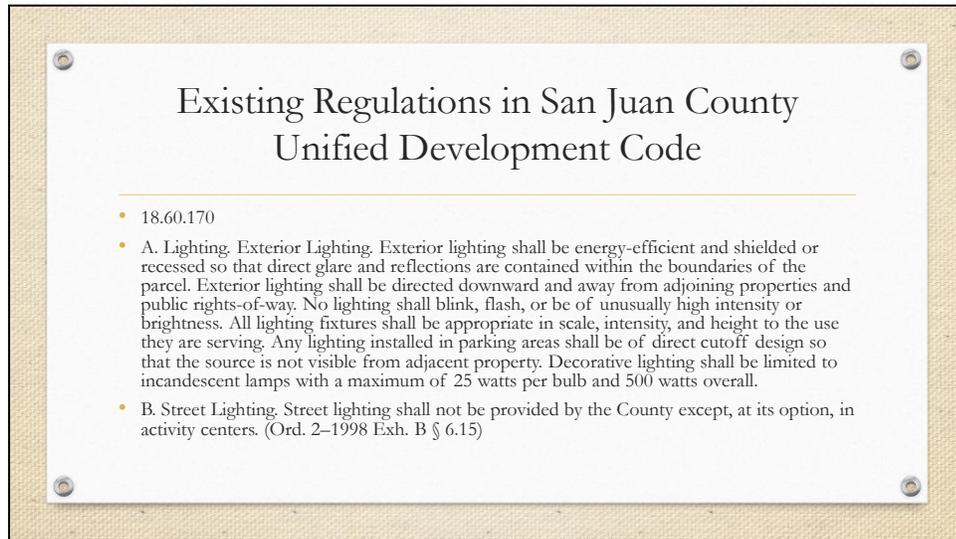
Let's make this a group effort, including anyone and everyone from the community who would like to participate.



An important point for us to consider is that there are already excellently written county regulations for good lighting. Many newer buildings have followed them (examples to follow), but many do not meet the requirements.

Existing Regulations for Lighting Critical Area Ordinance, San Juan County Code

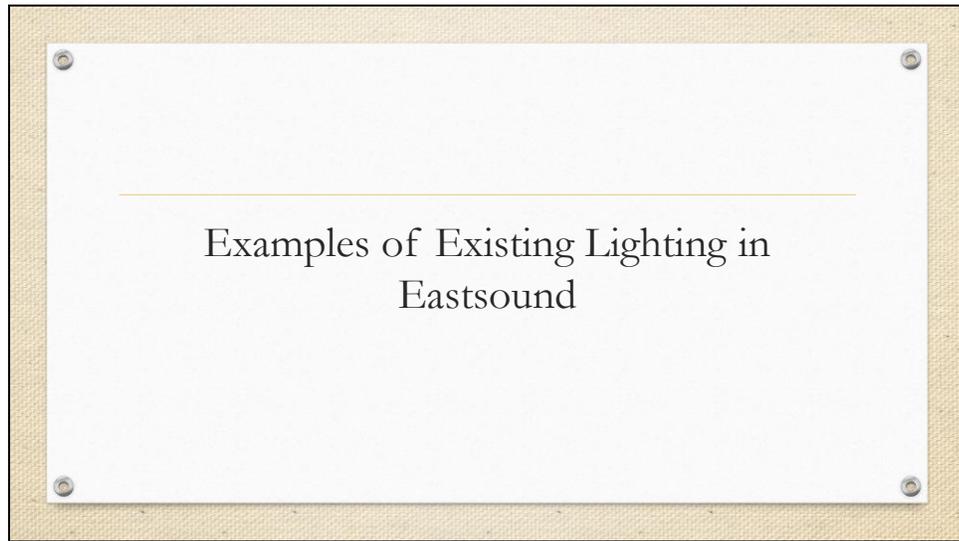
- D.7. Lighting. Exterior lighting fixtures must be shielded and the light must be directed downward and away from wetlands, their buffers, and the habitat of any species listed as endangered, threatened, sensitive, or a San Juan County species of special importance



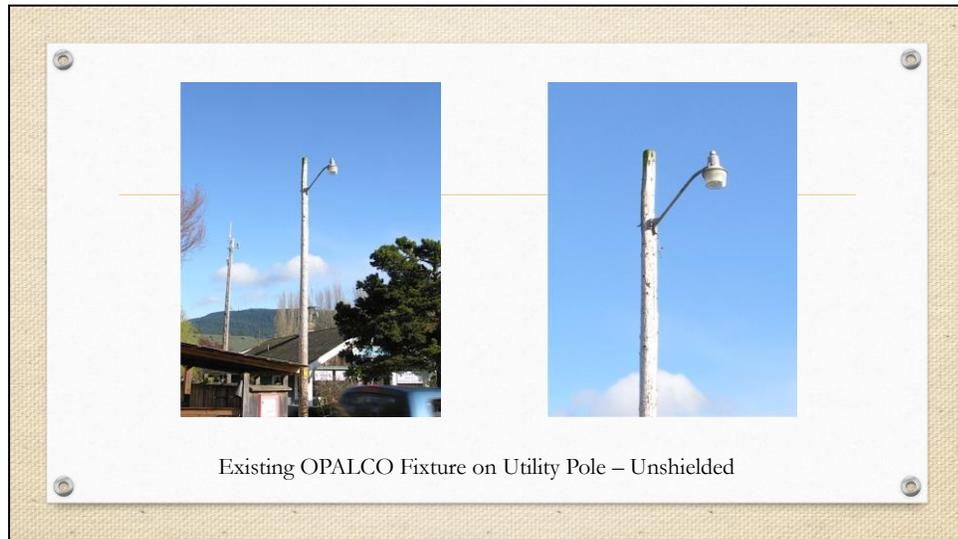
Existing Regulations in San Juan County
Unified Development Code

- 18.60.170
- A. Lighting. Exterior Lighting. Exterior lighting shall be energy-efficient and shielded or recessed so that direct glare and reflections are contained within the boundaries of the parcel. Exterior lighting shall be directed downward and away from adjoining properties and public rights-of-way. No lighting shall blink, flash, or be of unusually high intensity or brightness. All lighting fixtures shall be appropriate in scale, intensity, and height to the use they are serving. Any lighting installed in parking areas shall be of direct cutoff design so that the source is not visible from adjacent property. Decorative lighting shall be limited to incandescent lamps with a maximum of 25 watts per bulb and 500 watts overall.
- B. Street Lighting. Street lighting shall not be provided by the County except, at its option, in activity centers. (Ord. 2-1998 Exh. B § 6.15)

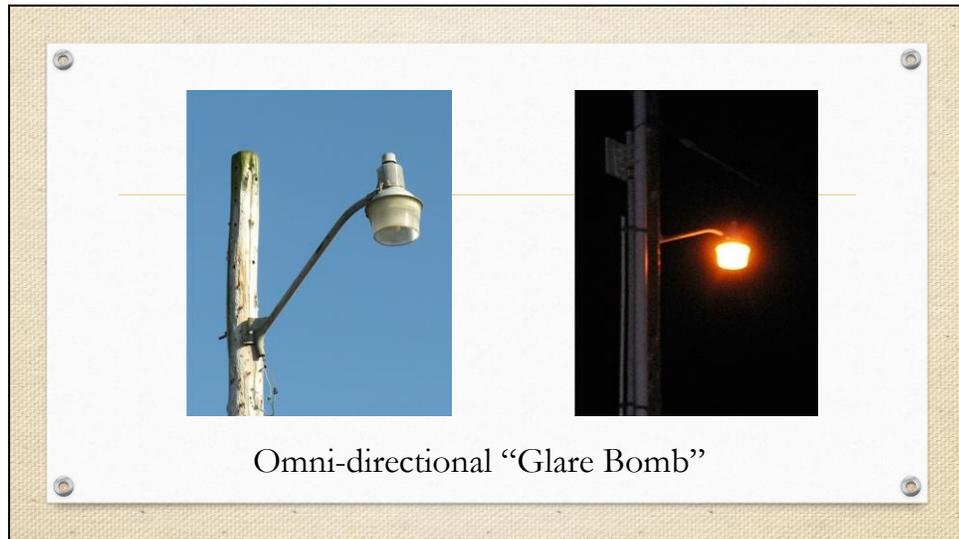
How can we bring the existing public and private lighting into compliance?



Examples of Existing Lighting in
Eastsound

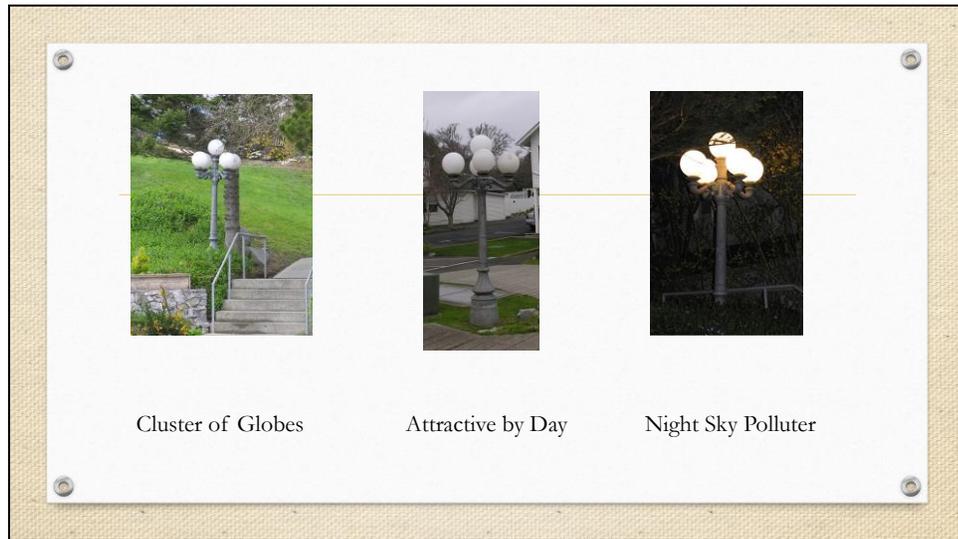


This style of light was probably selected for its inexpensiveness and shotgun approach to lighting anything and everything for a significant distance. It is also a huge light polluter and costly to operate (electricity usage and expensive bulbs that don't last as long as other options)





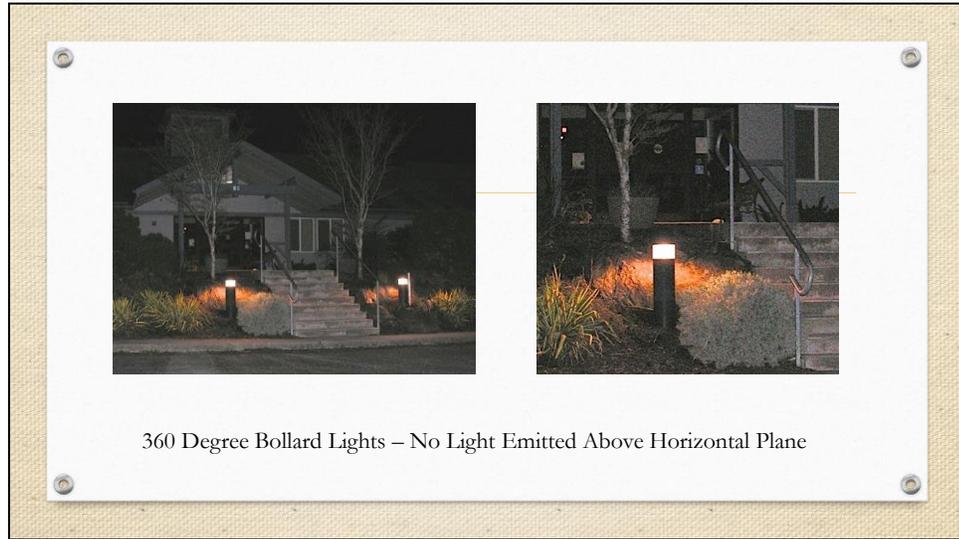
The first two photos are of a simple, inexpensive, fully shielded light that places a small soft pool of light to illuminate a walkway. The third photo is the same light with no shielding producing high glare.



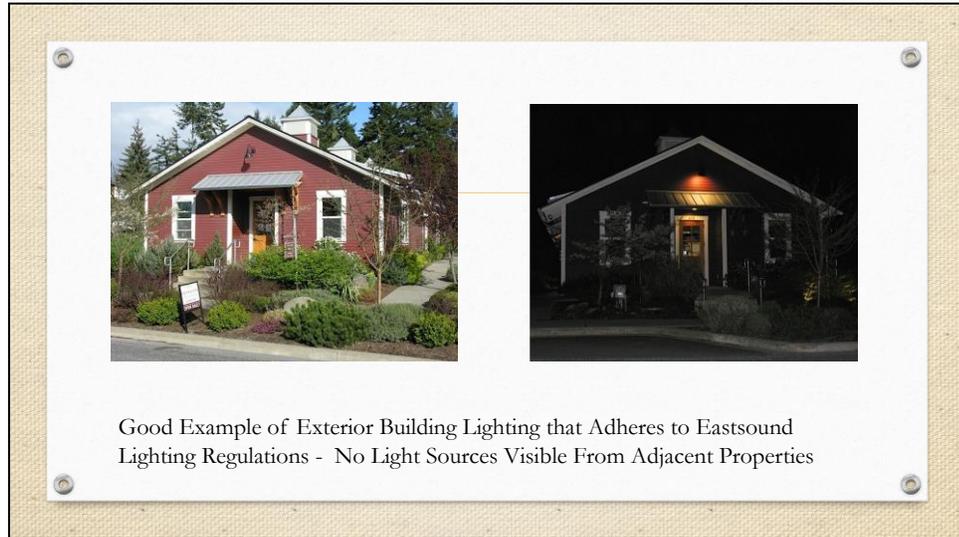
Globes are attractive but send half of their light up above the horizon – wasting energy and making light pollution.



Bollard Reflector Light - Three Feet in Height



Bollard lights can be useful in the right places, but they need to be spaced closer together to cover a path than taller fixtures do.



Effective and meets code.



Good Example of Exterior Building Lighting that Adheres to Eastsound Lighting Regulations - No Light Sources Visible From Adjacent Properties Also, Good Example of Effective Security Lighting



Another Good Example of Effective Exterior Building Lighting -
Good Lighting Doesn't Necessarily Mean Bright Lighting

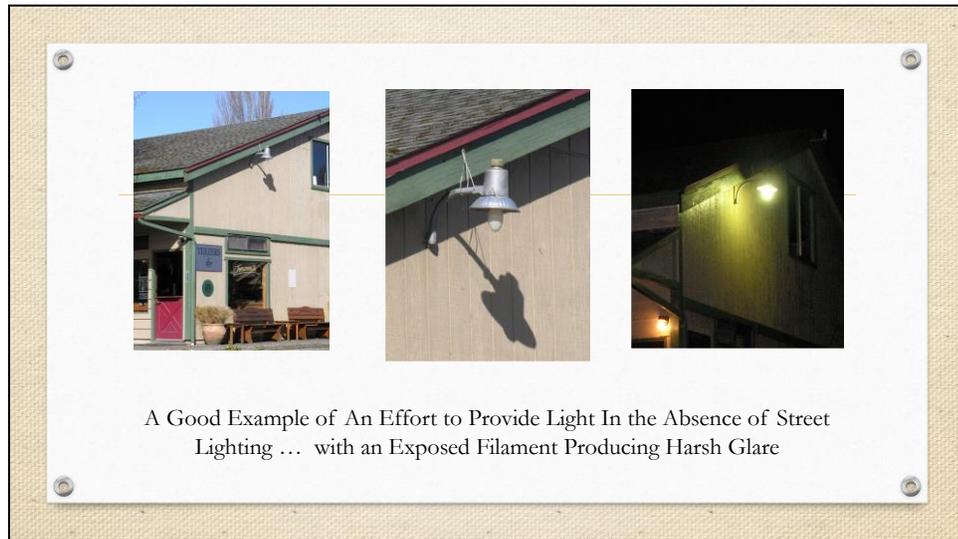


You might not see it, but soft, under soffit lighting on this building meets its ambient and security lighting needs. No light spills into the street or across to the neighboring property. No glare for pedestrians or drivers.

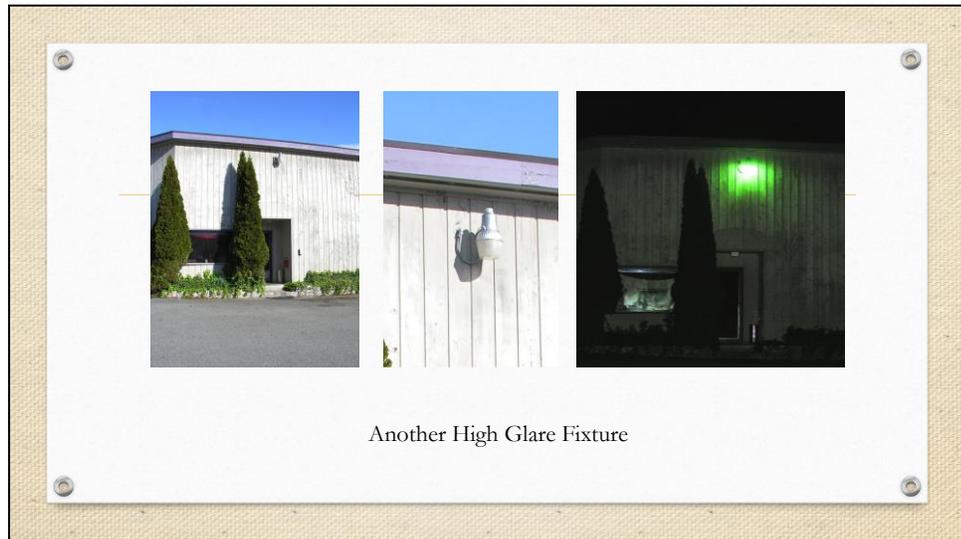
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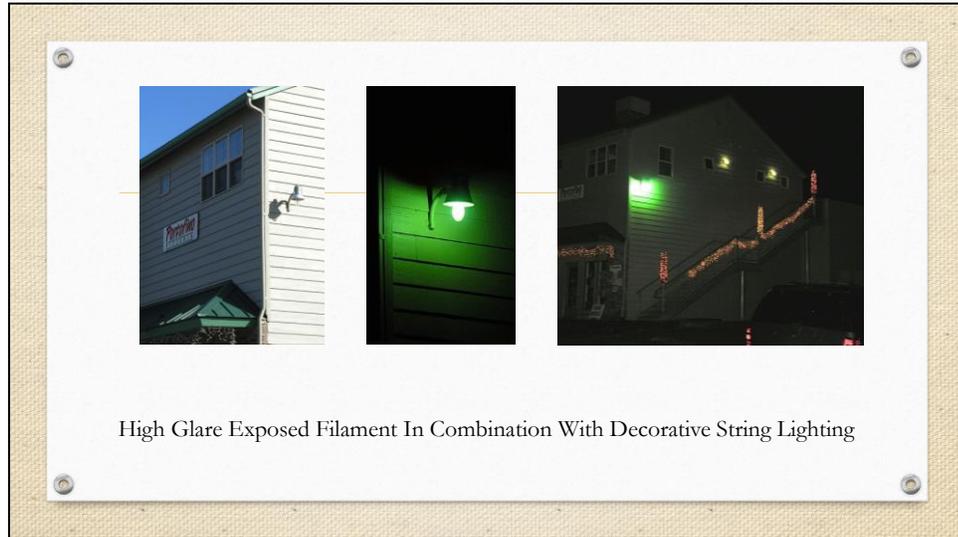


A mixture of good and not ideal lighting.

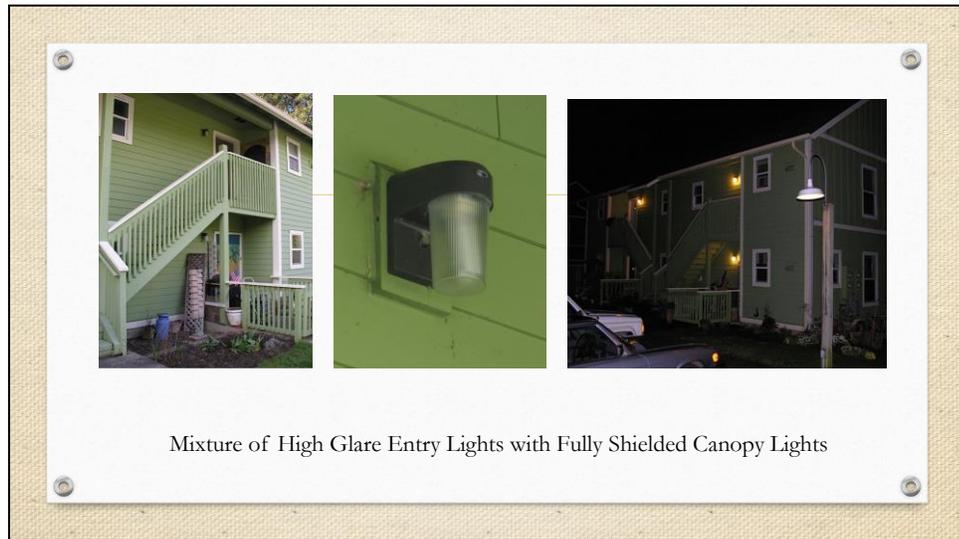


A different fixture here and/or nearby could produce light for safety, security, and walkability without the glare or light pollution.





High Glare Exposed Filament In Combination With Decorative String Lighting

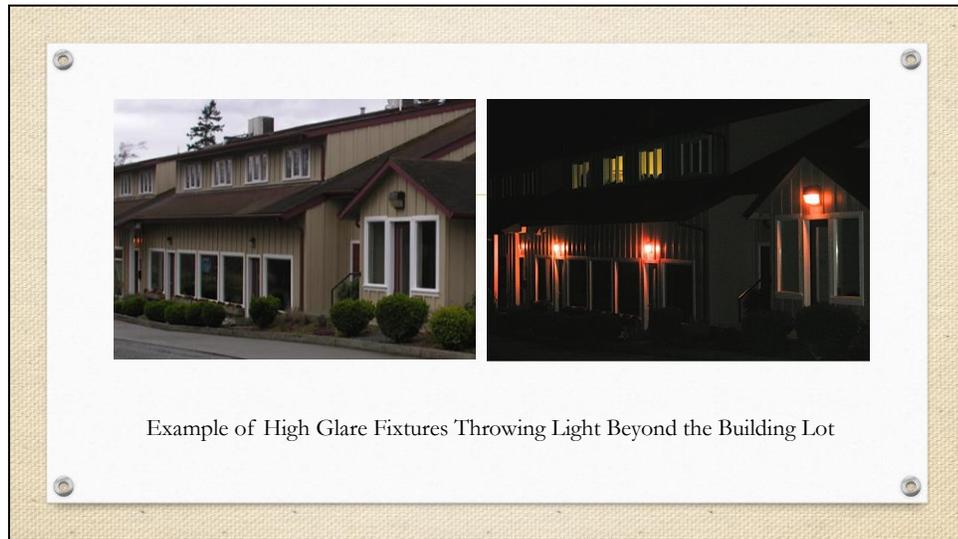


The canopy lights are not polluters. The ones attached to the building are.

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Wow, that's bright.



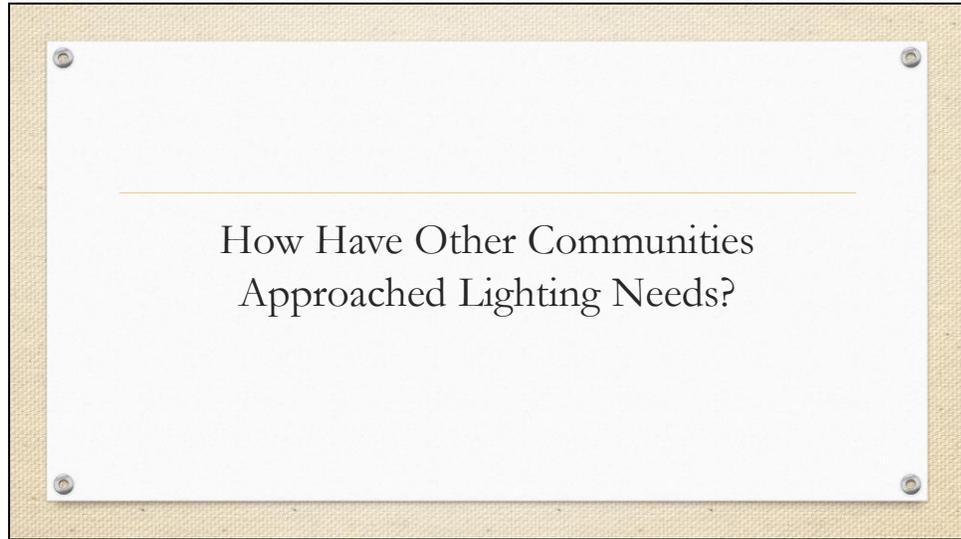
These could be just as useful and produce less glare and light pollution if they pointed downward or had appropriate shielding to comply with current code.



Another Example of a Harsh Glare Fixture



Example of Indirectly Lit Sign on Building



How Have Other Communities
Approached Lighting Needs?



Rogue River, Oregon is in the process of recreating an inviting, pedestrian/car friendly streetscape by replacing an all-concrete parking strip and existing tall, high-glare, light-polluting “Cobra” style street fixtures (in the background) with lower, highly energy efficient, no-glare canopy lights appropriate to the town’s heritage and green garden strips on the parkway, for attractive and safe parking areas & crosswalks



Attractive, Safe Fully-Shielded Canopy Lights & Landscaping Areas
Now Augment Rogue River's Streetscape

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On the other end of the spectrum, Bridgeport, California. In spite of these lovely historic landmarks, as the town grew, it ignored its streetscape which evolved into a concrete wasteland. See more on the next slide...



A cautionary tale: More of Bridgeport, CA
As it grew, the heritage of this community was ignored, transforming a walkable town into a sea of concrete with extremely high, glaring "Cobra head" street lights and exposed narrow sidewalks.



References

- <http://www.britastro.org/dark-skies/crime.html?6O> Environmental damage from bright night time lighting Several studies on Crime and Lighting
- <http://physics.fau.edu/observatory/lightpoll-Insects.html#Eisenbeis> Streetlight Attract Insects Study of Environmental damage
- <http://www.newyorker.com/magazine/2007/08/20/the-dark-side-2> Article on the effects of artificial lighting over time