

MONTEREY COUNTY PLANNING COMMISSION

Meeting: December 11, 2013 Time: 1:30 P.M.	Agenda Item No.: 11
Project Description: Hold a public workshop to consider and provide direction to staff on options for the development of lighting criteria pursuant to Policy No. LU – 1.13 of the 2010 General Plan	
Project Location: Inland Area Only (Non-coastal)	APN: Inland Area Only (Non-coastal)
Planning File Number: REF130036	Applicant: County of Monterey
Planning Area: Inland Area Only (Non-coastal)	Flagged and staked: N/A
Zoning Designation: : Inland Area Only (Non-coastal)	
CEQA Action: Statutorily Exempt per Section 15262	
Department: RMA - Planning	

RECOMMENDATION:

Staff recommends that the Planning Commission:

- 1) Hold a public workshop to consider and provide direction to staff on options for the development of lighting criteria pursuant to Policy No. LU – 1.13 of the 2010 General Plan; and
- 2) Provide direction to staff on the preparation of lighting criteria.


PROJECT OVERVIEW:

The 2010 General Plan Land Use Element Policy LU-1.13 directs staff to develop lighting criteria in the form of enforceable design guidelines for the inland portion of Monterey County. General Plan policies Carmel Valley (CV) 3.16 and 3.17, and Toro (T) 3.2 are policies to prevent offsite glare for activities and street lighting in Carmel Valley and require additional controls to preserve scenic areas in Toro, respectively. Long Range Planning staff began researching and scoping current state and county regulations relevant to lighting controls, lighting and shielding techniques, and dark sky initiatives. This topic has been internally scoped and presented to a professional group, the Streamlining Task Force, in September and October of 2013. Staff also met with staff from the Monterey Institute for Research in Astronomy and discussed lighting with a ranger at Fremont Peak State Park.

OTHER AGENCY INVOLVEMENT: The following agencies and departments reviewed this project:

- √ County Counsel


The topic was referred to the Streamlining Task Force (STF) on September 6th and October 4th, 2013. Staff presented a preliminary scoping memo outlining the 2010 General Plan policies, background research regarding State regulations, current County regulations and technical information regarding light bulb types and different ways to measure light output.


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 November 18, 2013

- cc: Front Counter Copy; Planning Commission; LUAC's; Fire Protection Districts; Public Works Department; Parks Department; Environmental Health Bureau; Water Resources Agency; California Coastal Commission; Jacqueline R. Onciano, Planning Services Manager; Grace Bogdan, Project Planner; Carol Allen, Senior Secretary; The Open Monterey Project (Molly Erickson); LandWatch (Amy White); Refinement Group (Nancy Isakson), Streamlining Task Force (Ernie Mill); Norm Groot; Michael Waxer; Richard Rudisil; Ag Advisory Committee (Christina McGinnis); Monterey Institute for

Research in Astronomy (Bruce Weaver); Fremont Peak Observatory Association;
California Energy Commission; International Dark-Sky Association; Planning File
REF130036.

Attachments: Exhibit A - Project Discussion
Exhibit B - Light Fixtures Diagram

This report was reviewed by Jacqueline  Onciano, Planning Services Manager (Long Range Planning)

**EXHIBIT A
PROJECT DISCUSSION**

Purpose and Objective:

The 2010 General Plan policies *LU-1.13*; *CV-3.16*, *3.17*; *T-3.2* address lighting criteria for the inland areas of Monterey County. The County’s goal is to balance the need for exterior lighting while controlling off site glare. It is understood that exterior lighting is needed for a variety of reasons including safety, street lighting and outdoor activities. Many entitlements require exterior lighting based on proposed uses of properties, but cumulatively, glare and excessive lighting is degrading the nighttime environment. Preserving the dark sky environment is akin to similar actions to protect natural resources such as forests and habitats. The intent of this task is to restrict “light pollution” and ensure Monterey County maintains a setting in which the residents can enjoy the day and nighttime environments to the fullest degree possible, biological habitat areas are protected, and safety is provided for the traveling public.

Policy Basis

GP Policy	Policy Language
LU-1.13:	<i>All exterior lighting shall be unobtrusive and constructed or located so that only the intended area is illuminated, long range visibility is reduced of the lighting source, and off-site glare is fully controlled. Criteria to guide the review and approval of exterior lighting shall be developed by the County in the form of enforceable design guidelines, which shall include but not be limited to guidelines for the direction of light, such as shields, where lighting is allowed.</i>
CV-3.16:	<i>Lighting for outdoor sports shall not be allowed where it would be visible from off-site.</i>
CV-3.17:	<i>Street lighting shall be designed to promote traffic safety and be unobtrusive and harmonious with the local character. Such lighting must be constructed and located to illuminate only the intended area and prevent off-site glare.</i>
T-3.2:	<i>Land use, architectural and landscaping controls shall be applied, and sensitive site design encouraged, to preserve Toro’s visually sensitive areas and scenic entrances:</i> <i>a. River Road/Highway 68 intersection; and</i> <i>b. Laureles Grade scenic vista overlooking the Planning Area (Figure 16)</i>

Current Regulations:

California Code Title 24 and RMA – Building Code:

The Board of Supervisors adopted California Code Title 24, Part 6 as the Energy Code for Monterey County in Section 18.08.010 of Monterey County Code (MCC) in December of 2010. This code implements two things: 1) default lighting zones for the entire state, and 2) mandatory lighting standards for *non residential* projects. These standards include wattage allowance for projects according to the lighting zones. Each zone has a formula to equate the total number of watts allowed for a project. The Energy Commission allows the local authority to adjust these zones appropriately to the surrounding environment with approval of the Energy Commission.

WATTAGE ALLOWANCE BY AREA TABLE 10-114-A & 1403-A		
Zone 1: National Parks and Wildlife Preserves	Zone 2: Census designated rural areas (2000 Census)	Zone 3: Census designated urban areas (2000 Census)
0.035 w/ft ²	0.045 w/ft ²	0.090 w/ft ²

LIMITATIONS OF CALIFORNIA CODE:

- 1) **Wattage does not determine illumination:** Title 24, Part 6 was written to encourage energy saving light sources. The main limitation of the Code relevant to issues within Monterey County is that wattage does not determine the level of illumination. Due to new technology, wattage varies between different lighting sources (for example, a 60 watt incandescent bulb is not as bright as a 60 watt LED bulb.)
- 2) **Many projects are exempt from Title 24, Part 6:** The California Code exempts a number of projects from the designated wattage allowance, which includes:
 - Temporary outdoor lighting
 - Lighting for public streets, roadways, driveway entrances, etc
 - Lighting for sports and athletic fields
 - Landscape lighting and public monuments
 - Lighting for qualified historic buildings

For full list please see Section §147(b) of Title 24
- 3) **Lack of requirements for residential development:** Standards from Title 24, Part 6 do not pertain to any residential development. There are minimal regulations for residential development in the 2010 Green Buildings Standards Code. These regulations do not limit wattage, illumination or shielding.

RMA - Planning Regulations:

Lighting regulations do not currently exist in Monterey County Code; however discretionary projects may require the submittal of exterior lighting plans as a condition of approval. The lighting plans are submitted concurrently with the building permit, along with manufacturers' cut sheets of the proposed light fixtures.

LIMITATIONS OF COUNTY REGULATIONS:

- 1) **Lack of criteria to guide review of exterior lighting plans:** Staff looks for light fixtures that are unobtrusive, down-lit, harmonious with the local area, and constructed or located so that only the intended area is illuminated and off-site glare is fully controlled. This policy is qualitative in nature and does not give staff sufficient direction.
- 2) **Inconsistent review:** Due to lack of criteria for review of lighting plans and fixtures, this process is inconsistent. For this reason GP LU-1.13 included the following, *"Criteria to guide the review and approval of exterior lighting shall be developed by the County in the form of enforceable design guidelines, which shall include but not be limited to guidelines for the direction of light, such as shields, where lighting is allowed"*
- 3) **Lack of enforceability:** Without the addition of exterior lighting regulations in Title 21, this policy cannot be enforced on sites that are not in compliance with LU-1.13, unless there has been a previous entitlement granted. In cases where a previous entitlement has been granted and the lighting plan has

been submitted as a condition of approval, it has been observed that applicants will change out their light fixtures. A lighting ordinance could enforce these policies for all exterior lighting throughout the County, not just entitlements and condition compliance. Any future light fixtures that are not consistent with the lighting ordinance would be carried out through code enforcement.

Summary of Research:

Staff researched a wide variety of options for the creation of lighting criteria which includes the following:

- Light sources
- Measurements of light
- Surrounding jurisdiction precedents
- Shielding and design of light fixture

There are different types of light sources (light emitting diode, low pressure sodium, high pressure sodium, mercury vapor, etc.) and it has been noted by both the International Dark Sky Association (IDA) and Illuminating Engineering Society of North America (IES) that certain light sources are more energy efficient and better for the night sky than others. Regulating types of light sources can only restrict glare by so much. It has been found that other jurisdictions have adopted regulations that restrict light by the amount of lumens, or average footcandles of an area, though measuring light can be difficult to enforce. There are many directions the County could take to prepare lighting criteria, however to satisfy the 2010 General Plan Policies staff recommends that lighting criteria focus on shielding of the light source. Regulating the shielding of light will not restrict the choice of light source or the amount of lights, rather ensure that lights are located, angled and designed correctly to restrict glare.

Shielding: Many lights are advertised as “fully shielded” or “full cut-off” when in practical circumstances, this is not the case. Staff recommends development of guidelines that focus heavily on defining what shielding means, along with variations of light fixtures that would be reviewed. This would educate staff and the public when designing exterior lighting. Proper shielding can benefit many, as the more focused and down-lit a light is, the less energy and light pollution trespasses into the night sky or unintended areas, and less intrusive the light is to others at night.

Enforceability: Monterey County Code does not address exterior lighting, therefore the County cannot require modification to site lighting that clearly is inconsistent with the 2010 General Plan policies. This is a common issue with the County as many property owners add exterior lighting that is not shielded or angled into the sky or directly into the line of sight of others. To properly enforce the guidelines, regulations need to be incorporated into Title 21. The proposal is not meant to add new regulatory requirements, but rather codify the ideas and policies that have been in place.

Expressed Concerns:

Staff presented a scoping memo for this task to the Streamlining Task Force, Current Planning staff, and Monterey Institute for Research in Astronomy (MIRA) staff. There were concerns expressed by members of both organizations and County staff.

Impact on Agricultural production: During specific times of the year tractors, harvesting equipment, and trucks use lights to shine on the crops while working in the fields. These lights and other needs related to agricultural production are federally regulated, and are not proposed for inclusion in the development of lighting criteria for the County of Monterey.

Over regulation: While scoping this task one option was to regulate light sources (types of light bulbs); this was viewed as *over regulation* and not in line with trying to control glare. Staff recommends lighting criteria focus on the design and location of light fixtures.

Safety: Exterior lights are needed for a variety of reasons; first and foremost is safety. The development of lighting criteria is intended to not interfere with lighting for safety reasons. In fact, properly shielding lights will improve safety by angling lights to focus on the intended area as opposed to angling lights in directions that can be intrusive.

Tehama lighting guidelines: A representative from Tehama suggested County staff read the design guidelines for Tehama development. Tehama's guidelines aim to preserve the night sky yet permit lighting for safety and aesthetics. Staff has reviewed Tehama's design guidelines and has incorporated certain points regarding shielding.

Protection of the night sky: MIRA staff expressed concern that the night sky is being degraded by light pollution. Pictures show how development has impacted the view of the Milky Way and Zodiacal light from both their Marina and Chews Ridge Observatories.

Options for consideration:

Staff proposes three options to the Planning Commission. These options are similar and include multiple tasks that vary in the amount of regulation the Commissioners think is necessary to satisfy the 2010 General Plan policies.

A) Design Guidelines: This document will encompass how to properly light areas for commercial, residential activity and types of fully shielded lights. See Exhibit B, "do's" and "don'ts" light fixtures

- Street/pole lighting
- Path lighting
- Building mounted lighting
- Sign lighting
- Residential lighting

B) Lighting ordinance incorporated into Title 21:

- Definitions for shielding, light pollution, light trespass, full cut off, etc.
- Prohibited lights (search lights, illuminated signs, lighting during certain periods of the night)
- Exemptions to include Ag facilities, airport facilities, temporary lighting, seasonal lighting, etc
- Requirements for submittal by zoning district (residential, commercial, resource conservation, visual sensitivity, etc)
- General requirements
 - o Full cut off/fully shielded
 - o Requirements for up lighting (historic monument, gateway signs, landscaping)
 - o Angle of lights
 - o Flood light motion sensor requirements
- Specific requirements for activity and street lighting in Carmel Valley (CV-3.16 & 3.17)

C) Analysis of Title 24 default zones: The zones defined by Title 24, Part 6 are default zones. The zones limit the amount of wattage for exterior lighting projects and the California Energy Commission allows local jurisdictions to adjust these zones appropriately to the surrounding environment. Wattage affects the amount of power going into the light source, and planning staff's focus is on the output of the light source, specifically shielding of the light source.

Option 1 – The development of (A) Design Guidelines in accordance with 2010 General Plan policy LU-1.13. The Design Guidelines would be adopted by the Board of Supervisors and will therefore be enforceable.

Option 2 - The development of (A) Design Guidelines and (B) lighting ordinance that will be added to Title 21 of Monterey County Code. A lighting ordinance will be more enforceable, and will regulate “what” and “where,” while design guidelines can explain “how” and “why.”

Option 3 - The development of (A) Design Guidelines and (B) lighting ordinance and (C) analyze the default lighting zones established by Title 24, Part 6. The default zones determine wattage allowance, but wattage does not solely determine how bright a light shines.

Staff Recommendation:

Staff does not recommend option one because Design Guidelines can be perceived as optional and not regulatory. The analysis of the default zones are optional, as they are already in place and reviewed through RMA-Building Services. Wattage can affect the brightness of the light, however if properly shielded it will reduce the brightness. For this reason, staff recommends option two, the development of Design Guidelines and a lighting ordinance for Title 21.

The development for lighting criteria for inland portions of Monterey County was driven by 2010 General Plan policies, however staff believes the goal behind the policies is pertinent and applicable for the coastal areas of the County as well. Staff requests direction from the Planning Commission regarding the option to develop similar Design Guidelines and a lighting ordinance for Title 20.

Next Steps:

Staff has completed the first two steps in the process, as shown below, and requests the Planning Commission's consideration on proposed options. Staff will return to the Planning Commission in the following months to present draft documents with the feedback given today.

1. Internal Discussion of recommendations
2. Presentation of concepts to stakeholders
3. PC Workshop, request direction
4. Prepare design guidelines and staff report, including stakeholder outreach for specific information
5. Prepare environmental analysis
6. PC Hearing and Recommendation
7. BOS Hearing and Adoption

EXHIBIT B

Light Fixtures Diagram

