

Model Water Efficient Landscape Ordinance




June 4, 2009
Final Review Meeting



Landscape Defined

A landscape is an array of various plant materials, selectively picked and appropriately placed, so as to enhance and beautify the irrigation system.





Welcome!

Agenda Review

Purpose

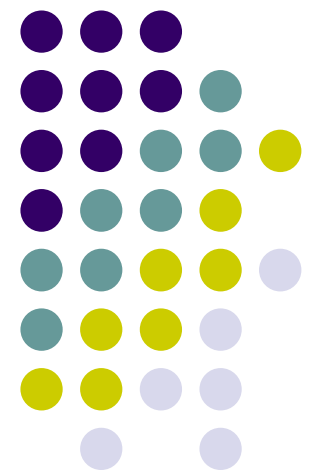
This is an **informational** and
interactive meeting

Your comments are encouraged




Public Comment Period

Comment Period is over
Final Version has been
submitted to Office of
Administrative Law (**OAL**)





Agenda Review

- Review key points of the final Model Ordinance.
 - Provide Constructive Comments.
 - Understand how this Ordinance affects the way we design.
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Intent

.. to use water efficiently without waste by setting a Maximum Applied Water Allowance (MAWA)

ISSUE:


..the ordinance does not target the users who are responsible for operating the irrigation system.






Applicability

.. new construction and rehabilitated landscapes which are developer-installed, homeowner-provided and/or homeowner-hired landscaping in single-family and multi-family residential projects with a landscape area equal to and greater than 2,500 square feet requiring a permit, plan check, or design review.






Definitions

- “ET adjustment factor” (*ETAF*) means a factor of *0.7* .
 - “irrigation survey” means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test and written recommendations to improve performance of the irrigation system.
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Definitions

- *“low volume irrigation” means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.*
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Definitions

- *“Special Landscape Area” (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.*
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Penalties

A local agency may establish and administer penalties to the project applicant for non-compliance with the ordinance to the extent permitted by law.





Elements of Landscape Documentation Package

Prepare Hydrozone Informational Table

Requires:

- Controller #
- Valve Circuit #
- Plant Type
- Irrigation Method
- **Area in Square feet**
- **% of Landscape Area**



Water Efficient Landscape Worksheet

- *All Special Landscape Areas shall be identified and their water use calculated as described below.*
- *ETAF for Special Landscape Areas shall not exceed 1.0.*




Landscape Design Plan

(a) Long list of design criteria


(b) Where available, recycled water shall be used as the source for water features.

May conflict with current codes.

(c) Surface area of a water feature shall be included in the Maximum Applied Water Allowance (MAWA) calculation



Landscape Hydrozone

- 1. Delineate and label each hydrozone by number, letter, or other method.*
 - 2. Indicate the square footage of each hydrozone.*
 - 3. Identify each hydrozone as low, moderate, high water use, etc.*
 - 4. Identify recreational areas (see Section 491.48).*
 - 5. Identify any other pertinent factors (e.g., sun exposure, microclimate, etc.)*
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Irrigation Design Plan

- (a) Long list of design criteria*
- (b) Weather-based irrigation controllers, soil moisture based controllers required*
- (c) Sensors (e.g., rain, freeze, wind, etc.) required.*



Irrigation Design Plan

*Narrow, or irregularly shaped areas less than eight (8) feet in width in any direction shall be irrigated with **sub-surface or low volume** irrigation technology.*



Irrigation Design Plan

*Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include **drip, drip line, or other low flow non-spray technology.** The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. **These restrictions may be modified if:***



Irrigation Design Plan

the landscape area is adjacent to permeable surfacing and no overspray or runoff occurs;

or

the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping;


or





Irrigation Design Plan


the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7





Irrigation Hydrozone

*On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter or other designation. **On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table***



Irrigation Scheduling

The Certificate of Completion shall include Irrigation scheduling parameters used to set the controller (see Section 492.10)


Section 492.10 says

Actual irrigation schedules shall be based on current time reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor.




Irrigation Scheduling

Parameters used to set the controller shall be developed and submitted for each of the following:


- (A) the plant establishment period*
 - (B) the established landscape*
 - (C) temporary irrigated areas*
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Irrigation Scheduling

Each irrigation schedule shall consider for each station all of the following that apply:

- (A) irrigation interval (days between irrigation);*
 - (B) irrigation run times (hours or minutes per irrigation event to avoid runoff);*
 - (C) number of cycle starts required for each irrigation event to avoid runoff;*
 - (D) amount of applied water scheduled to be applied on a monthly basis;*
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Irrigation Scheduling

- (E) application rate setting;*
 - (F) root depth setting;*
 - (G) plant type setting;*
 - (H) soil type;*
 - (I) slope factor setting;*
 - (J) shade factor setting; and*
 - (K) irrigation uniformity or efficiency setting.*
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Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis.

- (1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that **MAY** include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule;*


Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis.

- (2) *the local agency shall administer programs that **MAY** include, but not be limited to, irrigation water use analysis, irrigation audits and irrigation surveys for compliance with the Maximum Applied Water Allowance.*



Irrigation Efficiency

For the purpose of determining the maximum applied water allowance, irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed 0.71 efficiency.





Recycled Water

*(d) Landscapes using recycled water are considered Special Landscape Areas. **The ET Adjustment Factor for Special Landscape Areas shall not exceed 1.0.***



The Human Element

It take people working together to make water management work.

