ORDINANCE #JPA 16-03

AN ORDINANCE OF THE MARCH JOINT POWERS COMMISSION OF THE MARCH JOINT POWERS AUTHORITY AMENDING SECTION 9.08.250 OF THE DEVELOPMENT CODE, THE WATER EFFICIENT LANDSCAPE REGULATIONS

WHEREAS, on June 18, 1997, the March Joint Powers Authority ("March JPA") Board of Commissioners (the "Board") adopted Ordinance #JPA 97-01, adopting the March Joint Powers Development Code ("Development Code"); and

WHEREAS, the Development Code establishes the development requirements for projects within the March JPA, inclusive of landscape requirements for new and substantially altered projects within the March JPA; and

WHEREAS, the March Joint Powers Authority General Plan establishes policies for water conservation, including Resource Management Element policies 1.4 and 1.5, which promote use of efficient irrigation systems, use of reclaimed irrigation water, and use of low and moderate water use plants; and

WHEREAS, on August 17, 2005, the Board adopted a prior "Landscape Irrigation Efficiency Ordinance", implementing the initial provisions to assure landscape irrigation efficiency for development within the March JPA; and

WHEREAS, on December 19, 2007, the Board adopted Ordinance #JPA 07-04, implementing a revised landscape irrigation Ordinance for development within the March JPA, to assure efficient use of landscape irrigation while assuring that the landscaping with March JPA will be of high-end nature with large trees, attractive shrubs, accent plants and appropriate ground covers used to establish a desirable and attractive character within the development; and

WHEREAS, California Constitution article X, section 2 and California Water Code section 100 provide that because of conditions prevailing in the state of California (the "State"), it is the declared policy of the State that the general welfare requires that the water resources of the State shall be put to beneficial use to the fullest extent of which they are capable, the waste or unreasonable use of water shall be prevented, and the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and the public welfare; and

WHEREAS, pursuant to California Water Code Section 106, it is the declared policy of the State that the use of water for domestic use is the highest use of water and that the next highest use is for irrigation; and

WHEREAS, California Assembly Bill 1881 ("AB 1881"), enacted into law on September 28, 2008, modifies and strengthens the existing "Water Conservation in Landscaping Act" (California Government Code Section 65591 et seq.) (the "Act"). The Act's goal is to improve state water conservation efforts by establishing a model water efficient landscape ordinance for local agencies to adopt and use for the purpose of reducing water waste associated with irrigation of outdoor landscaping; and

WHEREAS, on January 20, 2010, pursuant to AB 1881, the Board adopted Ordinance #JPA 09-05, implementing Section 9.08.250 of the Development Code pertaining to Water Efficient Landscape Regulations; and

WHEREAS, the Board desires to repeal Ordinance #JPA 09-05, delete Section 9.08.250 in its entirety and replace its provisions with more stringent regulations that will further serve the purposes of water conservation.

NOW THEREFORE, THE JOINT POWERS COMMISSION OF THE MARCH JOINT POWERS AUTHORITY DOES ORDAIN AS FOLLOWS:

SECTION 1. The Board hereby finds and determines that the foregoing recitals are true and correct and are incorporated herein.

SECTION 2. Based on the entire record before the Board and all written and oral evidence presented to it, the Board finds that this Ordinance promotes the public health, safety and welfare of the community because the effective and efficient use of irrigation water benefits residents within the area surrounding the March JPA.

SECTION 3. The Board hereby rescinds and repeals the prior Water Efficient Landscape Regulations, known as Ordinance #JPA 09-05, as adopted by the Board on January 20, 2010.

SECTION 4. The Board hereby finds and determines that the proposed amendments to the Development Code are consistent with the goals and policies of the March JPA General Plan, the March Business Center Specific Plan, and the March Lifecare Specific Plan because the Ordinance implements specific water conservation objectives identified within the March JPA General Plan, the March Business Center Specific Plan, and the March Lifecare Specific Plan.

SECTION 5. Section 9.08.250 of the Development Code is hereby deleted in its entirety and amended to read as follows:

"**Section 9.08.250** **Water Efficient Landscape Regulations**

A. Purpose and Intent

The purpose and intent of this Section is to:

1. Establish provisions for water management practices and water waste prevention;
2. Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new and rehabilitated projects;
3. To reduce the water demands from landscapes without a decline in landscape quality and quantity;
4. To retain flexibility and encourage creativity through appropriate design;
5. To assure the attainment of water efficient landscape goals by requiring that landscapes serviced by potable water not exceed a

maximum water demand of fifty percent (50%) or 0.50 of its reference evapotranspiration (ETo);

6. To assure the attainment of water efficient landscape goals by requiring that landscapes serviced entirely by recycled water not exceed a maximum water demand of seventy percent (70%) or 0.70 of its reference evapotranspiration (ETo);
7. To eliminate water waste from overspray and/or runoff;
8. To achieve water conservation by raising public awareness of the need to conserve water through education and motivation to embrace an effective water demand management program;
9. To implement the requirements of the California Water Conservation in Landscaping Act 2006 and the California Code of Regulations Title 23, Division 2, Chapter 2.7;
10. To promote water conservation within new residential subdivision landscapes by prohibiting the use of natural turfgrass lawns within the front yards of new homes and promoting low water use plants and inert materials for a sustainable and marketable landscape design; and
11. To prohibit the new installation of natural turfgrass within medians and parkways within and along March JPA Public Right-of-Way.

B. **Definitions**. The terms used in this Section shall have the meaning set forth below:

"Backfilling" means to refill an excavation, usually with excavated material.

"Backflow Prevention Device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

"Check Valve" or "Anti-Drain Valve" means a valve located under a sprinkler head or other location in the irrigation system to hold water in the system to prevent drainage from the sprinkler heads or other irrigation device when the system is off.

"Distribution Uniformity" or "DU" means the measure of the uniformity of irrigation water distributed over an area, typically expressed in a percentage and converted to decimal form for water use calculations.

"Emitter Tubing" or "Sub-Surface Emitter Dripline" means the application of irrigation water with a matched precipitation rate at low pressure through a system of tubing or lateral lines containing factory installed low volume drip emitters equally spaced to apply small volumes of water when installed per manufacturers' recommendations at or near the root zone of plants. The DU of this type of irrigation generally does not exceed eighty percent (80%) when plant spacing is random as each emitter is not dedicated to an individual plant but installed in a grid fashion. The DU of this type of

irrigation generally does not exceed eighty-five percent (85%) when plant spacing is densely grouped in a triangular or rectangular spacing as each emitter is not dedicated to an individual plant but installed in a grid fashion.

"Established Landscape" means the point at which plants in the landscape have developed a significant root growth into the site. Typically, most plants are established after one (1) or two (2) years of growth.

"Estimated Annual Water Use" or "EAWU" means the estimated total water use per year as calculated by the formula contained in subsection D.2.m.(2).

"Functional Turf" means the turf areas to be publicly and privately accessible and dedicated as active play and recreation areas such as parks, sports fields, and golf courses; where turf provides a playing field or where turf is needed for high foot traffic activities.

"Hydrozone" means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.

"Invasive Species" are non-indigenous species (e.g., non-native plants or animals) that adversely affect the habitats they invade economically, environmentally, or ecologically. Lists of invasive species are included within the Western Riverside County Multiple Species Habitat Conservation Plan. Said lists are hereby incorporated by reference.

"Landscape Architect" means a person who holds a license or is registered to practice landscape architecture in the State of California.

"Landscaped Area" or "LA" means all of the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of buildings, structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or impervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open space and existing native vegetation).

"Local Water Purveyor" means any entity, including a public agency or private water company that provides retail water service to customers within March JPA.

"Maximum Applied Water Allowance" or "MAWA" means the upper limit of annual applied water allowed for the established landscaped area as calculated by the formula contained in subsection D.2.m.(1).

"Mulch" means a layer of material applied to the surface of an area of soil on the ground to prevent excessive evaporation or erosion, to enrich the soil, inhibit/discourage weed growth, increase the rate of saturation, and reduce

fluctuation in soil temperature. Mulch may be organic (e.g., bark, mulch, or wood chips) or inert (e.g., decomposed granite or gravel).

"Overhead Sprinkler Irrigation Systems" means systems that deliver water through the air (e.g., impulse sprinklers, spray heads, or rotors).

"Point Source Drip" or "Point to Point Drip" means the application type of irrigation water with a matched precipitation rate at low pressure through a system of tubing or lateral lines with a dedicated field-installed low volume emitter or emitters at each specific plant. The DU of this type of irrigation generally does not exceed ninety percent (90%).

"Potable Water" means water that must meet Federal and State safe drinking water standards and is safe for human consumption and contact.

"Reference Evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month, or year. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated. Reference evapotranspiration numbers shall be taken from the most current Evapotranspiration Zones Map developed by the California Department of Water Resources. For geographic areas not covered by the Evapotranspiration Zones Map, data from nearby areas shall be used.

"Rehabilitated Landscapes" means any re-landscaping of a project that requires a discretionary permit.

"Special Landscape Area" means an area of the landscape dedicated to edible plants, and areas dedicated to active play such as parks, sports fields, golf courses, where turf provides a playing field or where turf is needed for high traffic activities. Cemeteries shall also be considered as special landscape areas. These areas shall be allowed 1.0 ETo.

"Temporarily Irrigated" means irrigation for the purposes of establishing plants, or irrigation which will not continue after plant establishment. Temporary irrigation is for a period of six (6) months or less.

"Turf" or "Turfgrass" or "Lawn" means species of warm or cool season grasses that form a dense thick mat of roots. Mowing creates a dense even surface and increases the need for water regardless of season. Turf or turfgrass or lawn does not include artificial turf.

"Water-Intensive Landscaping" means a landscape with a WUCOLS IV plant factor of 0.61 or greater, and categorized as high or between high and moderate.

"WUCOLS" means the publication entitled "Water Use Classification of Landscape Species IV" by the California Department of Water Resources (DWR) Water Use Efficiency Program, California Center for Urban Horticulture (CCUH), University of California Davis, and University of California Cooperative Extension (2014 or most current WUCOLS version).

C. Applicability

1. The water-efficient landscape requirements contained in this Section shall be applicable to all rehabilitated landscapes associated with residential uses (including single family and multi-family projects) with a total landscape area equal to or greater than 2,500 square feet which require a discretionary permit and/or approval; and all new and rehabilitated landscapes associated with commercial or industrial uses which require a discretionary permit and/or approval.

2. In the event Covenants, Conditions, and Restrictions are required for any permit subject to this Section, a condition shall be incorporated into any project approval prohibiting the use of water-intensive landscaping and requiring the use of low water use landscaping pursuant to the provisions of this Section in connection with common area/open space landscaping. Additionally, such a condition shall require Covenants, Conditions, and Restrictions to incorporate provisions concerning landscape irrigation system management and maintenance. This Section shall not be construed as requiring landscaping of common areas or open space that is intended to remain natural. Covenants, Conditions, and Restrictions shall not prohibit use of low-water use plants or the replacement of turf with less water intensive plant species.

3. Recognizing the special landscape needs of cemeteries, new and rehabilitated landscapes within a cemetery are subject only to the provisions set forth in subsections E.1. and E.2. of this Section.

4. The following uses and/or projects are exempt from the provisions of this Section:

    a. Registered local, state, or federal historical sites;

    b. Ecological restoration projects that do not require a permanent irrigation system and have an establishment period of less than five (5) years;

    c. Mined land reclamation projects that do not require a permanent irrigation system; and

d. Botanical gardens and arboretums open to the public.

5. If the local water purveyor has stricter requirements than called for in this Section, the project applicant is responsible for contacting the water purveyor to determine what the requirements are and for designing the plans to those requirements. The March JPA will work with the project applicant to implement the water purveyor requirements.

D. Landscape Documentation Requirements

An applicant proposing any new or rehabilitated landscape for a project subject to the requirements of subsection C of this Section shall prepare and submit a Construction Document Package to the Planning Director or his designee including the following: (A) all project information; (B) a planting plan; (C) an irrigation design plan; (D) a soil management plan; and (E) a grading design plan.

The "Attachment A: County of Riverside Guide to California Friendly Landscaping" (Landscaping Guide) as may be periodically amended by the Planning Director of Riverside County is hereby incorporated by reference to assist in designing, constructing, and maintaining a water efficient landscape and efficient irrigation system. A copy of the Landscaping Guide can be obtained at the Riverside County Planning Department's website.

It is recommended that an applicant proposing any new or rehabilitated landscape that is designated for recycled water use consult with the appropriate local water purveyor early in the development review process to ensure that future recycled water facilities meet the projected demand and that the aforementioned plans when submitted comply with the applicable standards, approvals, and implementation requirements of this Section, the local water purveyor, and applicable maintenance entity.

Water systems for common open space areas shall use non-potable water if approved facilities are made available by the local water purveyor. Provisions for a non-potable water system shall be provided within the irrigation design plan. Water systems designed to utilize non-potable water shall be designed to meet all applicable standards of the appropriate Regional Water Quality Control Board and the Riverside County Health Department.

1. Project Information Located on Cover Sheet:

   a. Date;

   b. Name of applicant and contact information;

   c. Name of project owner and contact information;

d. Project address including parcel and lot numbers;

e. Total landscape area in square feet;

f. Project type (e.g., new or rehabilitated; residential, commercial, or industrial);

g. Water Supply (e.g., potable, well, or recycled (use of recycled water is encouraged));

h. Applicant's signature and date with statement, "I agree to comply with the requirements of Ordinance #JPA 09-05 and submit a complete Landscape Documentation Package."

i. Landscape Architect's information, stamp, and signature; and

j. Status of plans (e.g., plan check set, bid set, or construction set).

2. Planting Plan Requirements:

a. New natural turfgrass lawns are effectively prohibited within the front yard for any new residential subdivisions. New natural turfgrass within medians and parkways within and along March JPA public right-of-way are effectively prohibited.

b. Plant types shall be grouped together in regards to their water, soil, sun, and shade requirements and in relationship to the buildings. Plants with different water needs shall be irrigated separately. Plants with the following classifications shall be grouped accordingly: high and moderate, moderate and low, low and very low. Deviation from these groupings shall not be permitted.

c. Trees for shade shall be provided for residential, commercial, and industrial buildings, parking lots, and open space areas. These trees can be deciduous or evergreen and are to be incorporated to provide natural cooling opportunities for the purpose of energy and water conservation.

d. Plants shall be placed in a manner considerate of solar orientation to maximize summer shade and winter solar gain.

e. Plant selection for projects in high fire hazard areas shall address fire safety and prevention. A defensible space or

zone around a building or structure is required pursuant to Public Resources Code section 4291. Fire-prone plant materials and highly flammable mulches shall be avoided.

f. Invasive species of plants shall be avoided especially near parks, buffers, greenbelts, water bodies, conservation areas/reserves and other open space areas because of their potential to cause harm to environmentally sensitive areas.

g. All exposed surfaces of non-turf areas within the developed landscape area shall be mulched with a minimum three inch (3") layer of material, except in areas with groundcover planted from flats where mulch depth shall be one and one half inches (1 ½").

h. Mulching products used on slopes shall aid in slope stability.

i. Turf areas shall be used in response to functional needs as defined and in compliance with the water budget.

j. Decorative water features shall use re-circulating water systems.

k. Where available, recycled water shall be used as the source for irrigation and decorative water features.

l. Planting plans shall identify and site the following:

(1) New and existing trees, shrubs, ground covers, and turf areas within the proposed landscaped area;

(2) A planting legend indicating all plant species by botanical name and common name, spacing, and quantities of each type of plant by container size;

(3) Designation of hydrozones;

(4) Area, in square feet, devoted to landscaping and a breakdown of the total area by landscape hydrozones;

(5) Property lines, streets, and street names;

(6) Building locations, driveways, sidewalks, retaining walls, and other hardscape features;

(7) Appropriate scale and north arrow;

(8) Any special landscape areas;

(9) Type of mulch and application depth;

(10) Type and surface area of water features;

(11) Type and installation details of any applicable stormwater best management practices; and

(12) Planting specifications and details, including the recommendations from the soil analysis, if applicable.

m. Planting plans shall be prepared and have accurate and complete water budget calculations using one MAWA for the entire project and one EAWU formula for each hydrozone:

(1) Maximum Applied Water Allowance (MAWA):

Planting Plans shall be prepared using the following Water Budget: Formula for projects serviced by potable water sources and required not to exceed 50% or 0.50 ETo:

MAWA (in gallons) = (ETo)(0.62)[0.5 x LA + 0.5 x SLA]

Formula for projects serviced entirely by recycled water sources and required not to exceed 70% or 0.70 ETo:

MAWA (in gallons) = (ETo)(0.62)[0.7 x LA + 0.3 x SLA]

Where:

ETo is reference evapotranspiration, local to the project

SLA is the amount of special landscape area in square feet

LA is total landscape area (including the SLA) in square feet; and

For the purposes of determining the MAWA, average irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71.

(2) Estimated Annual Water Use (EAWU):

EAWU for a given hydrozone is calculated as follows:

EAWU (in gallons) = (ETo)(0.62)[((PF x HA)/IE) + SLA]

Where:

ETo is reference evapotranspiration
PF is Plant Factor
HA is hydrozone area in square feet
IE is irrigation efficiency (minimum 0.71)
SLA is the amount of special landscape area in square feet;

(3) Landscaping plans shall provide EAWU (in the same units as the MAWA) for the sum of all valve circuits in the irrigation hydrozone. The sum of all EAWU hydrozone calculations shall not exceed the MAWA for the project.

(4) The plant factor used shall be from WUCOLS. The plant factor for low water use plants range from 0.4 to 0.6 0- 0.39 for low water use plants and 0.4 to 0.6 for moderate water use plants, and for high water use plants range from 0.61 to 1.0.

(5) The plant factor calculation is based on the proportions of the respective plant water uses and their plant factor, or the factor of the higher water using plant used.

(6) The surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation and temporarily irrigated areas in the low water use hydrozone.

(7) Landscape Concept Plans not for construction shall be required to provide a complete and accurate MAWA calculation only.

n. Planting Plans and Irrigation Design Plans (subsection D.3.) shall be drawn at the same size and scale.

o. The Planting Plan and Irrigation Design Plans (subsection D.3.) including Landscape Concept Plans shall be prepared by a Landscape Architect Licensed or Registered by the State.

3. Irrigation Design Plan Requirements:

a. New natural turfgrass lawns are effectively prohibited within the front yard for any new residential subdivisions. New

natural turfgrass within medians and parkways within and along March JPA public right-of-way is effectively prohibited.

b. Irrigation Systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71.

c. All irrigation systems shall be designed to prevent runoff, over-spray, low head drainage, and other similar conditions where water flows off-site on to adjacent property, non-irrigated areas, walks, roadways, or structures. Irrigation systems shall be designed, constructed, managed, and maintained to achieve as high an overall efficiency as possible. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

d. Landscaped areas shall be provided with a smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to real time weather conditions unless the use of the property would otherwise prohibit use of a timer. The planting areas shall be grouped in relation to moisture control zones based on similarity of water requirements (e.g., turf separate from shrub and groundcover, full sun exposure areas separate from shade areas, from top of slope). Additional water conservation technology may be required, where necessary, at the discretion of the Planning Director or his/her designee.

e. Water systems for common open space areas shall use non-potable water, if approved facilities are made available by the water purveyor. Provisions for the conversion to a non-potable water system shall be provided within the landscape plan. Water systems designed to utilize non-potable water shall be designed to meet all applicable standards of the California Regional Water Quality Control Board and the Riverside County Health Department.

f. Separate valves shall be provided for separate water use planting areas, so that plants with similar water needs are irrigated by the same irrigation valve. Trees should be placed on separate irrigation valves from other plants (hydrozoned) with either bubblers or drip emitters. All installations shall rely on highly efficient state of the art

irrigation systems to eliminate runoff and maximize irrigation efficiency as required by the Landscaping Guide.

g. Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at the installation.

h. The capacity of the irrigation system shall not exceed:

(1) The capacity required for peak water demand based on water budget calculations within the required water window;

(2) Meter capacity;

(3) Backflow preventer type and device capacity; or

(4) A velocity of five (5) feet per second for polyvinyl chloride (PVC) materials and seven (7) feet per second for copper and brass materials.

i. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer.

j. Within inert mulched planting areas, the use of point source drip irrigation is required to maximize water infiltration into the root zone. In three inch (3") organic mulched planting areas where slopes are less steep than 4:1, the use of Emitter Tubing irrigation or point source drip irrigation is required to maximize water infiltration into the root zone. Low water use plants that require overhead spray may be exempted from this requirement but shall be grouped, spaced, and hydrozoned independently on overhead spray. In three inch (3") organic mulched planting areas where slopes are steeper than 4:1, the use of low volume irrigation or point source drip irrigation is required to maximize water infiltration into the root zone. Drip irrigation shall be installed under the mulch. If grading conditions require increased stability not obtainable through low volume drip methods then overhead irrigation will be permitted with proper justification at the discretion of the Planning Director.

k. Slopes greater than or equal to 4:1 shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75

inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the landscape documentation required to be submitted pursuant to this Section, and if there is a clear demonstration that no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

l. Long-narrow, or irregularly shaped landscaped areas including functional turf areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or low-volume irrigation technology.

m. Overhead irrigation shall not be permitted within twenty-four (24) inches of any non-permeable surface including DG walking trails or paths. There are no restrictions on the irrigation system type if the landscape area is adjacent to permeable surfacing or if no overspray and runoff occurs.

n. For the purpose of design, overhead irrigation shall be limited to the hours of 9:00 p.m. to 6:00 a.m. (9 hour water window) and no more than six (6) days a week.

o. All irrigation systems shall be equipped with the following:

(1) A smart irrigation controller as defined in subsection D.3.d. of this Section;

(2) A rain sensing device to prevent irrigation during rainy weather;

(3) Anti-drain check valves installed at strategic points to minimize or prevent low-head drainage;

(4) A manual shut-off valve shall be required as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency or routine repair;

(5) A mainline pressure regulator when the static water pressure is fifteen percent (15%) above the recommended operating pressure of the irrigation system;

(6) Pressure regulation within each valve circuit to establish optimal operating pressure per manufacturers' recommendations;

(7) Backflow prevention devices within lockable cage or enclosure or other anchoring device to prevent theft; and

(8) Risers shall not be used in high traffic areas.

p. Dedicated landscape meters shall be required for all projects greater than two thousand five hundred (2,500) square feet except single-family residences.

q. Irrigation design plans shall identify and site the following:

(1) Hydrozones;

(i) Each hydrozone shall be designated by number, letter or other designation;

(ii) A hydrozone information table shall be prepared for each hydrozone;

(iii) Each hydrozone shall be identified by a low, medium, or high priority designation in the event of a drought or water budgeting event as determined by the local water purveyor.

(2) The areas irrigated by each valve;

(3) Irrigation point of connection (POC) to the water system;

(4) Static water pressure at POC;

(5) Location and size of water meter(s), service laterals, and backflow preventers;

(6) Location, size, and type of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads and nozzles, pressure regulator, drip and low volume irrigation equipment;

(7) Total flow rate (gallons per minute), and design operating pressure (psi) for each overhead spray and bubbler circuit, and total flow rate (gallons per hour) and psi for each drip and low volume irrigation circuit;

(8) Precipitation rate (inches per hours) for each irrigation circuit;

(9) Irrigation legend with the manufacturer name, model number, general description for all specified equipment, separate symbols for all irrigation equipment with different spray patterns, spray radius, and precipitation rate;

(10) Irrigation system details and specifications for assembly and installation; and

(11) Recommended irrigation schedule for each month, including number of irrigation days per week, number of start times (cycles) per day, minutes of run time per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year, for the established landscape.

r. For each valve, two irrigation schedules shall be prepared, one for the initial establishment period of six (6) months and one for the established landscape, which incorporate the specific water needs of the plants and functional turf throughout the calendar year.

s. The Planting Plans (subsection D.2.) and Irrigation Design Plans shall be drawn at the same size and scale.

t. The Planting Plans (subsection D.2.) and Irrigation Design Plans including Landscape Concept Plans shall be prepared by a Landscape Architect Licensed or Registered by the State.

4. Soil Management Plan Requirements:

a. After mass grading, the project applicant shall:

(1) Perform a preliminary site inspection;

(2) Determine the appropriate level of soil sampling and sampling method needed to obtain representative soil sample(s), typically one (1) test per every twenty-five thousand (25,000) square feet of landscaped area;

(3) Conduct a soil probe test to determine if the soil in the landscape area has sufficient depth to support the intended plants; and

(4) Obtain appropriate soil sample(s).

b. The project applicant shall submit soil sample(s) to a laboratory for analysis and recommendation. The soil analysis and recommendation may include:

(1) Soil texture;

(2) Infiltration rate determined by laboratory test or soil texture infiltration rate tables;

(3) pH;

(4) Total soluble salts;

(5) Sodium; and

(6) Soil analysis recommendations.

c. The project applicant shall prepare documentation describing the following:

(1) Soil type;

(2) Identification of limiting soil characteristics;

(3) Identification of planned soil management actions to remediate limiting soil characteristics; and

(4) Submit the soil analysis report and documentation verifying implementation of soil analysis report recommendations to the Planning Director or his/her designee pursuant to the requirements of subsection F.3.

5. Grading Design Plan Requirements:

a. The landscape documentation submitted shall include rough/precise grade elevations prepared for the project by a licensed civil engineer.

E. Landscape Irrigation and Maintenance

This subsection shall apply to all projects subject to the provisions of this Section as set forth in subsection C.

1. Two irrigation schedules shall be prepared, one for the initial establishment period of six (6) months and one for the established landscape, which incorporate the specific water needs of the plants

and turf throughout the calendar year. The irrigation schedule shall take into account the particular characteristics of the soil; shall be continuously available on site to those responsible for the landscape maintenance; and shall contain specifics as to optimum run time and frequency of watering, and irrigation hours per day. The schedule currently in effect shall be posted at the controller.

2. A regular maintenance schedule and Certificate of Completion shall be submitted to the Planning Director or his/her designee, property owner, and water purveyor. A regular maintenance schedule shall include, but not be limited to, routine inspection, adjustments, and repair of irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas and removing any obstruction to irrigation devices. Repair of all irrigation equipment shall be done with the original equipment manufacturers installed components or equivalent/improved quality components.

3. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this Section.

4. Information shall be provided to owners of new, single family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes.

F. Compliance/Plan Submittal Process

Prior to issuance of a building permit for the project, the project applicant shall:

1. Submit all landscape documents for review and approval by the Planning Director or his/her designee. The Planting Plan, Irrigation Design Plan, Soil Management Plan, and Grading Design Plan shall be reviewed by a Licensed or Registered Landscape Architect to ensure that all components of the plans adhere to requirements of this Section. The Licensed and Registered Landscape Architect shall sign the plans verifying that the plans comply with this Section. Any plans submitted without the signature of a Licensed or Registered Landscape Architect shall not be accepted for review.

2. Prior to issuance of a certificate of occupancy or final inspection for the project, a regular maintenance schedule and a Certificate of Completion shall be submitted to the Planning Director or his/her designee certifying that the landscaping has been completed in accordance with the approved planting, irrigation design, soil management, and grading design plans for the project. The

Certificate of Completion shall be signed by a Licensed or Registered Landscape Architect and shall indicate:

a. Date;

b. Project information: project name; project applicant name, telephone and mailing address; project address and location; and mailing address; and property owner name and mailing address;

c. Prior to backfilling, evidence that the party responsible for irrigation installation conducted a preliminary field inspection of the irrigation system (evidence of field inspection shall be attached);

d. The landscaping has been installed in conformance with the approved planting and irrigation design plans;

e. Irrigation audit report performed by a certified irrigation auditor after project installation (audit report shall be attached);

f. The smart irrigation controller has been programmed appropriately according to the parameters of each valve circuit;

g. The irrigation system has been adjusted to maximize irrigation efficiency and eliminate overspray and runoff;

h. A copy of the approved landscape documentation (subsection D), the irrigation schedule (subsection E.1.), and the maintenance schedule (subsection E.2.) has been given to the property owner and local water purveyor; and

i. Verification that the maintenance schedule has been provided to the Planning Director or his/her designee.

3. At a minimum, all landscape irrigation audits shall comply with the "Irrigation Association Certified Landscape Irrigation Auditor (CLIA) Training Manual" (3rd Edition, 2013 or most current) and shall be conducted by a certified Landscape Irrigation Auditor. Any Landscape Irrigation Auditor performing audits shall maintain a current certification as a CLIA from the Irrigation Association.

4. The Planning Director or his/her designee shall have the right to enter upon the project site at any time before, during, and after installation of the landscaping, to conduct inspections for the purpose of enforcing this Section.

5. The Planning Director or his/her designee shall have the discretion to interpret and determine suitable compliance based upon the intent of this Section."

SECTION 6. The Board hereby determines that this Ordinance is exempt from review under the California Environmental Quality Act ("CEQA") (California Public Resources Code Section 21000 et seq.). Pursuant to State CEQA Guidelines Section 15307 (14 Cal. Code Regs., § 15307, this Ordinance is covered by the CEQA Categorical Exemptions for actions taken to assure the maintenance, restoration, enhancement, or protection of a natural resource where the regulatory process involves procedures for protection of the environment. The adoption of this Ordinance will result in the enhancement and protection of water resources, and will not result in cumulative adverse environment impacts or other potentially significant impact described in State CEQA Guidelines Section 15300.2. It is therefore exempt from the provisions of CEQA. The Board hereby directs the Chairperson of the Board to prepare and file a Notice of Exemption within five business days following adoption of this Ordinance.

SECTION 7. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this Ordinance for any reason is held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The Commission hereby declares that it would have adopted this Ordinance, and each section, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sentences, clauses, phrases, or portions thereof be declared invalid or unconstitutional.

SECTION 8. If provisions of this Ordinance are in conflict with each other, other provisions of the Development Code, the March JPA General Plan, the March Business Center Specific Plan, the March Lifecare Specific Plan, any other resolution or ordinance of the March JPA, or any State law or regulation, or requirements pertaining to fire-prone areas, the more restrictive provisions shall apply.

SECTION 9. The Commission Clerk shall certify as to the adoption of this Ordinance and shall cause it to be published within fifteen (15) days of the adoption and shall post a certified copy of this Ordinance, including the vote for and against the same, in the Office of the Commission Clerk, in accordance with California Government Code Section 36933.

SECTION 10. This Ordinance shall be effective thirty (30) days after its adoption.

INTRODUCED on the 22nd day of June, 2016.

PASSED, APPROVED AND ADOPTED, by the members of the Joint Powers Commission of the March Joint Powers Authority this 13th day of July, 2016.

Daryl R. Busch

Daryl R. Busch, Chairman

March Joint Powers Commission

ATTEST:

I, Carey L. Allen, Clerk of the Commission of the March Joint Powers Authority, do hereby certify the foregoing Ordinance #JPA 16-03 was introduced by the Commission of the March Joint Powers Authority at a regular meeting thereof held on the 22nd day of June, 2016, and subsequently adopted at a regular meeting thereof held on the 13th day of July, 2016, by the following vote of the Commission:

AYES:	Gardner, Gutierrez, Ashley (2 votes), Melendrez, Rogers, Giba, Busch
NOES:	None
ABSENT:	Jeffries
ABSTAIN:	None

Date: July 13th, 2016

Carey L. Allen, CMC, Clerk
March Joint Powers Authority Commission

Attachment A:

"County of Riverside Guide To California Friendly Landscaping"

(Landscaping Guide)

December 2009

County of Riverside Guide to California Friendly Landscaping



BOARD OF SUPERVISORS
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PLANNING DEPARTMENT
Ron Goldman, Planning Director

December 2009

For more information concerning this Landscaping Guide or the Riverside County Landscape Program, please contact:

Kristi Lovelady, Principal Planner
Riverside County Planning Dpt.
Landscape Program
951-955-0781

See also: http://www.rctlma.org/planning/content/devproc/landscpe/landscape.html

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California Friendly ® is a registered trademark of the Metropolitan Water District of Southern California. Learn more about water conservation and landscape rebate programs at: www.bewaterwise.com

Water Efficient Landscapes can be inviting and attractive

Photo Credit: Eastern Municipal Water District

1. Why Do We Need This Guide?

The purpose of the Riverside County Guide to California Friendly Landscaping (Landscaping Guide) is to present practical standards for landscape and irrigation design for projects within Riverside County. Additionally, the Landscaping Guide is designed to assist landscape architects, irrigation designers, contractors, planners, and the public in the selection of plant materials and irrigation methods that meet the objectives of County Ordinance No. 859 and Ordinance No. 348. In order to conserve water in the drought prone state of California, legislation such as AB 325 and AB 1881 mandates the practice of water conservation.

Riverside County's commitment to water conservation is exemplified in the adoption of standards and the implementation of guidelines which result in a reduction of landscape related water usage County-wide. It is the County's goal to reduce landscape related water usage by approximately thirty percent (30%) per site, through implementation of this Landscaping Guide. To meet this goal, Planting Plans and Irrigation Plans shall be prepared using the Water Budget Formula described in Section 9 of this document.

2. Who Does Ordinance No. 859 Apply To?

A. On December 2006, the Riverside County Board of Supervisors adopted Ordinance No. 859. In October 2009 the County adopted revisions to Ordinance No. 859 to ensure that it was consistent with AB1881.

   Ordinance No. 859 applies to all new and rehabilitated landscapes associated with residential uses with a total landscape area equal to or greater than 2,500 square feet and all new and rehabilitated landscapes associated with commercial or industrial uses. This includes:

   1. Commercial development.
   2. Industrial development.
   3. Residential development:
      - Multi-family development
      - Single family common areas
      - Single family homes
      - Erosion control landscaping (slopes over 3 feet in vertical height)
      - Model homes
   4. Road rights-of-way.
   5. Parks and public lands.
   6. Landscaping associated with entry sign monuments.

Invasive plants are prohibited near MSHCP conservation areas.

7. Fuel modification areas - applicants are encouraged to consult with the County Fire Department, determine their fuel modification requirements, and select fire-resistive plant material.
8. Flood control areas including retention/detention basins and water quality swales ('bioswales')
9. Development adjacent to Multiple Species Habitat Conservation Plan (MSHCP) and other conservation areas — applicants are required to consult with the Environmental Programs Department (EPD) to determine acceptable plant species that may be planted within the vicinity of MSHCP conserved lands.

B. In the event that the water purveyor for a proposed project has adopted more stringent water-efficient landscape requirements, the more stringent guidelines shall be taken into consideration during the County's landscape review process.

Ceanothus griseus—Louis Edmunds
Photo Credit: Tree of Life Nursery

3. What Are The County's General Landscaping Design Guidelines?

Landscaping and proper irrigation is a critical component of any successful development project. Landscaping should define a sense of space by making a statement, ensuring community continuity, complementing good architectural design, and creating a cohesive finished product. Emphasis on California Friendly® design elements can achieve aesthetic objectives while acknowledging the practical water constraints of our unique geographic environment.

Design guidelines have been adopted for a number of communities throughout the County. Many of these guidelines contain specific landscape requirements that must be reflected in landscape plans for these areas. For more information, please see the Riverside County Planning Department's web page for design guidelines.

KB Homes Martha Stewart Collection
Photo Credit: Moises Lopez

Conceptual Landscape Plans and/or Landscaping Minor Plot Plans shall incorporate the following design guidelines relative to their respective product type(s). Such plans shall also follow Section 5 of this Landscaping Guide and incorporate the use of drought-tolerant/water-efficient plants to reduce water demand. A rich variety of plantings and hardscape should be selected and integrated appropriately into the landscape design based on their intend uses. Landscaping Plans shall be prepared by a Landscape Architect licensed by the State of California and shall consist of plants found in the Riverside County California Friendly Plant List (Plant List) included in this Guide as Attachment A.

A. Single Family Residential Design Guidelines:

1. Turf areas shall be used sparingly in response to functional recreational needs and shall be in compliance with the Water Budget Formula (Section 9 of this Guide).

Hesperaloe parviflora

2. Trees, shrubs, and groundcover shall be incorporated within single-family development projects to create a comfortable and aesthetically pleasing environment for residents and those viewing from public areas.

County-Wide Guidelines	Minimum Shrubs[1], Groundcover, and Mulch	Minimum Trees		Automatic Irrigation
		15 gal.[3]	24" box[3]	
All	50%[2]	1	1	With smart controller
Corner Lot Returns	50%[2]	1	3	With smart controller

The following minimum standard shall be applied to front-yard typical landscaping plans:

Minimum Front Yard Landscaping Standard

Notes: [1] Of this amount, 60% shall be 5 gal. foundation shrubs and 40% shall be 1 gal. shrubs. 50% of the area underneath the shrubs shall be covered by a vegetative, drought-tolerant groundcover, and/or mulch.

[2] Calculating number of shrubs: Area for shrubs to be divided by 25 sq. ft. The resulting number is the total number of shrubs that must be planted to achieve full coverage.

[3] The 24" box tree shall be a minimum 2" caliper and the 15 gal. tree shall be a minimum 1" caliper.

California Friendly® Model Home
Photo Credit: Eastern Municipal Water

3. Landscape architects are strongly encouraged to use clinging vines, espaliers, trellises, and shrubs to enhance the architecture and define attractive private open spaces.

4. Front yard areas should be designed using landscape elements pertaining to the form, horizontal and vertical lines, hardscape and softscape, and ornate qualities that are compatible with the primary structure. Visual openness and water efficiency should be maintained. Special attention shall be given to selecting appropriate trees and plants that, at their maturity, will be in scale with the house and yard.

5. Landscape architects are encouraged to use visual focal points such as boulders, landscape mounds, planter beds, etc.

6. To the extent feasible, existing mature trees and shrubs that represent the existing significant landscaping elements shall be preserved.

7. Vegetative ground cover that will absorb rainwater and reduce runoff shall be used. Permeable surfaces should be used wherever possible to reduce paving.

Osteospermum fruticosum

Lavatera assurgentiflora

8. Air conditioning, mechanical equipment, and trash enclosures shall be screened from the public right-of-way with suitable plantings.

9. Landscaping shall be included as part of the design for a fence or wall. It should be used to soften and screen large masses of blank wall surface area and deter graffiti.

10. Model homes shall display a sign indicating that the home features water efficient planting and irrigation. The sign shall be displayed in the front yard and be clearly visible to home buyers.

11. Check with local water purveyors' and Metropolitan Water District's web sites for rebate programs that incentivize California Friendly® landscaping and irrigation systems.

B. Multi-Family Residential Design Guidelines:

Chitalpa tashkentensis

1. Turf areas shall be used sparingly in response to functional needs and shall be in compliance with the Water Budget Formula (Section 6 of this Guide).

2. Trees, shrubs, and groundcover should be incorporated within multi-family development projects to create a comfortable and aesthetically pleasing environment for residents and those viewing from public areas.

3. Landscape architects shall use clinging vines, espaliers, trellises, and shrubs to enhance the architecture and define useful public and private spaces.

4. Landscape architects shall integrate visual focal points such as boulders, landscaped mounds or berms, sculpture, and public art into their planting design.

Photo: Courtesy of Tree of Life Nursery
www.treeoflifenursery.com

5. Planting plans shall utilize hardy native or drought tolerant trees, shrubs, and groundcover that are easy to water and maintain.

6. Paved areas, especially parking lots, must incorporate adequate shading. Off-street parking and shading plans shall comply with provisions in Section 18.12 of Ordinance No. 348.

7. Seating options in landscaped areas should be provided. They shall be constructed of durable, easy-care material such and treated with a graffiti resistant coating.

8. Entrances to alleys must be landscaped. Walls in alleys abutting residential uses shall be screened with landscaping such as clinging vines. Landscape areas

adjacent and between garages in alley-loaded residential areas are encouraged.

9. Pedestrian walkways should be safe, visually attractive, and well defined by landscaping and lighting.

10. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

11. Planting plans shall complement the landscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

12. Model homes shall display a sign indicating that the home features water efficient planting and irrigation. The sign shall be displayed in the front yard and be clearly visible to home buyers.

Photo Credit: Tree of Life Nursery

C. Commercial, Mixed Use, and Industrial Design Guidelines:

1. Landscaping is required to be in scale with adjacent buildings and be of appropriate size at maturity to accomplish its intended goals. A balance of deciduous and evergreen trees should be used.

2. Landscaping shall be incorporated around the base of buildings (except loading or service areas) to soften the edge between the parking lot, structure(s), and street. Such landscaping should be accentuated at entrances to provide a focal point.

3. New projects proposed adjacent to existing residential land uses shall incorporate adequate landscape screening/buffering.

Photo Credit: Arid Zone Trees

4. Berming in conjunction with landscaping should be used at the building edge to reduce structure mass and height along façades.

5. Evergreen trees and shrubs shall be used whenever a landscape screen or buffer is required.

6. Service areas, equipment, and solid enclosures must be screened using landscaping such as tall shrubs and clinging vines especially those properties whose side yard fronts a primary street or abuts a residential property.

7. Design and locate perimeter planters and plantings for the purpose of creating a physical barrier, providing a visual screen, and shading the parking area. The parking lot and perimeter landscape shall also be designed

Vines soften fences and walls and deter graffiti. They shall have designated valves for irrigation.

This recreation center is themed after the local wine country.

Park Master Plan and Photo

for safe and convenient pedestrian circulation throughout, including designated paths across perimeter planters.

8. Plans shall comply with provisions in Section 18.12 of Ordinance No. 348.

9. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

10. Hardscape amenities such as benches, seating areas, and trellises, shall be included and designed to be consistent with the landscaping.

11. Landscaping plans shall complement the landscape and hardscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

12. Turf areas shall be used sparingly in response to functional needs and shall be in compliance with the Water Budget Formula (Section 9 of this Guide).

D. Park Design Guidelines:

1. A balance of deciduous and evergreen trees shall be used.

2. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

3. Landscaping shall complement the landscape and hardscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

4. Plans shall comply with provisions of Section 18.12 of Ordinance No. 348.

5. Seating options and drinking fountains in landscaped areas should be provided. Seating and drinking fountains should be constructed of durable, easy-care material such as concrete and shall be treated with a graffiti resistant coating.

6. Adequate lighting shall be incorporated into the landscape design pursuant to the prevailing local or state standards.

Anigozanthos flavidus - red cultivar

7. Sprinklers or other emitters shall be positioned so that no irrigation water shall come in contact with drinking fountains, picnic tables, benches, playground equipment, buildings, or other hardscape features.

8. Plans shall conform to the standards and be approved by the maintenance district responsible for perpetual maintenance.

D. Entry Monument Guidelines:

1. Monuments shall define a sense of space, individuality, and arrival. Each monument should be different from adjacent tracts and hold their own style.

2. To define a sense of arrival and place, entry monument shall incorporate 5 gallon or greater size shrubs, and boulders, annual color plants, lighting or other distinct visual focal points.

3. Monuments shall incorporate signature trees that complement the community theme. A minimum 36 inch box or larger shall be used. Where only one signature tree is incorporated in the monument landscaping plan, such a tree shall be a 42 inch box size or greater. Entry lighting shall be used on signature trees.

Photo: Courtesy of Arid Zone Trees

4. What Is the Required Landscape Documentation Package and When Does it Get Submitted?

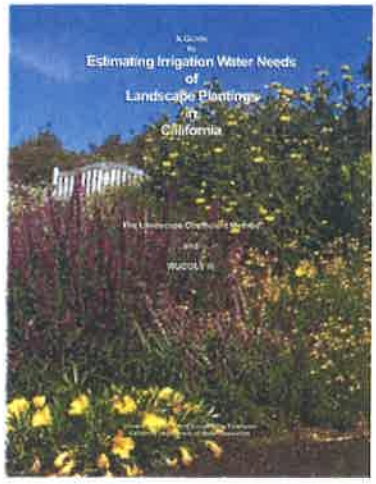
Most projects that require discretionary permits are required to prepare a Conceptual Landscape Plan. This is done early in the land use development process to ensure compliance with Ordinance No. 859, applicable community design guidelines/standards, and other important planning concepts. It also allows decision makers the opportunity to review and approve landscape commitments made by the land developer. The Conceptual Landscape Plans shall include the elements of the Planting Plan identified with a red asterisk (*) in Chapter 5.

Rendering of Fossanova Vineyards Courtesy Tim Jachlewski, In-Site Landscape Architecture

Prior to receiving a building permit, new or rehabilitated landscapes subject to Ordinance No. 859 must prepare and submit a Landscape Documentation Package to the County Planning Department for review and approval. The package shall include the following elements:

1. Project Information
2. Planting Plan
3. Irrigation Design Plan
4. Soil Management Plan
5. Grading Design Plan

Items 1, 2, 3, and 5 above are submitted as a Minor Plot Plan. Item 4 shall be completed and submitted prior building final inspection. The following pages describe the specific requirements for each of the



The WUCOLS III guide provides estimated water uses for landscape plants. It can be downloaded from: www.owue.water.ca.gov/docs/wucols00.pdf

aforementioned Landscape Documentation Package elements. Each landscape package must be submitted with applicant's signature, date, and a statement indicating, "I agree to comply with the requirements of Ordinance No. 859 and submit a complete Landscape Documentation Package."

5. What Should My Planting Plan Include?

Landscape plans for permits and/or approvals described in Section 2 shall be prepared by a landscape architect licensed by the State of California. Plant species must be selected from the Plant List found in Attachment A of this Landscaping Guide. The species listed are not guaranteed for all situations. Consultation with a landscape architect, arborist, the proposed maintenance entity, or a local plant nursery is recommended. In order to incorporate plant species other than those listed, the project applicant must provide the Planning Director with the following:

1. Water use requirements per Water Use Classification of Landscape Species (WUCOLS III) or field data verifying the plant's landscape (crop) coefficient.

2. Plant species description from Sunset Western Garden Book or other comparable source.

3. Comparison to a similar species included in the plant list.

The following minimum design standards identified with an asterisk (*) , together with the appropriate elements of Section 3 of this Landscaping Guide, shall be incorporated into Conceptual Landscape Plans. Conceptual plans are also required to provide an estimate of the landscape's Maximum Annual Water Use (see Section 9). All of the following standards are required as part of the Landscape Documentation Package Submitted as a Minor Plot Plan:

A. Plants shall be selected based on their level of maintenance, durability, mature widths and heights, aesthetic appeal, and thematic qualities. A greater percentage of "low" or "very low" water use plant species is strongly encouraged.*

B. Shade trees shall be provided for residential, commercial and industrial building parking lot and open space areas. They shall be incorporated to provide natural cooling opportunities and for the purpose of energy and water conservation. Plants shall be placed in a manner to maximize summer shade.*

Inland Empire Utilities Agency—LEED Platinum Certified Building
Photo Credit: IEUD

C. Plant species must be selected based on their appropriate plant hardiness climate zones as defined by Sunset Western Garden Book. The climate zones are also depicted in Figure 1 and are noted on the Plant List included as Attachment A of this Landscaping Guide.*

D. All non-turf planting areas (except hydroseeded areas) must be mulched on a regular basis to retain moisture, suppress weeds,

Regular application of mulch retains moisture and suppresses weeds.
Photo Credit: R Cedar, LLC

and moderate soil temperature. Mulch depth, type, and maintenance replenishment frequency must be noted on plans.*

1. Planting areas shall be mulched with a three inch (3") minimum layer of organic wood mulch. Areas of groundcover planted from flats shall be mulched with a one and one half inch (1 1/2") minimum layer of organic mulch.

2. Some maintenance districts require differing mulch thicknesses. The more stringent (thicker) requirement shall prevail.

3. Color enhanced mulches are discouraged.

4. Mulch may be omitted for native revegetation projects upon the recommendation of the project biologist.

5. Planting areas in the desert regions (Sunset Climate Zones 11 and 13) shall be mulched with a two inch (2") layer of decomposed granite (DG) /gravel mulch.

    - One inch (1") minus granite mulch is suggested for aesthetic purposes.

Decomposed granite mulch

E. Turf shall be used as a functional recreational element and not solely for aesthetic purposes.*

1. Small, irregularly shaped turf areas shall be avoided.

2. Turf areas shall be sized and shaped to minimize overspray and runoff.

Planting Plan

Irrigation Plan

Hyrdozones - Plants grouped and irrigated based on water use requirements

Turf to serve as a functional recreational component.

3. Lower water use, warm season turf grasses are encouraged. Grasses such as Bermuda, which are dormant (brown) in the winter, are acceptable if the maintenance entity over-seeds with perennial rye on an annual basis during the dormancy period.

4. Turf is prohibited within County road rights-of-way, unless the turf areas are contiguous to turf areas within parks, residential front yards, cemeteries or golf courses.

5. Turf is prohibited on slopes greater than 4:1.

6. Turf areas less than eight feet (8') in width shall be irrigated with subsurface irrigation or other low volume irrigation technology.

F. Plants must be grouped and irrigated on separate valve zones (hydrozones) based on their water use requirements, slope aspect, and sun/shade microclimate.*

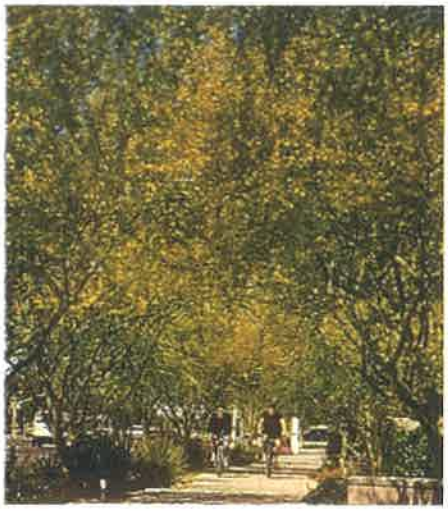
Space plants appropriately so that their mature width does not require excessive pruning.
Photo Credit: Greg Rubin, California's Own Nursery

G. If low water use plants (those that can also survive/flourish with medium water application) are used in a medium water use hydrozone, they must be counted as medium water use in the irrigation calculations.*

H. Shrub planting/spacing shall be designed so that their mature width will not require excessive pruning. Excessive pruning is discouraged.*

I. The contractor shall tag one plant of each variety with the plant's scientific name, and cultivar or variety if applicable, and common name. This is to ensure that accurate replacement plants are installed if necessary.

J. To prevent graffiti, self-clinging vines shall be planted to ensure full coverage of the public facing side of all walls.*



Maintaining community cohesiveness is essential to establishing a sense of "place" and "destination."
Photo Credit: Arid Zone Trees

K. The Planting Plan shall be prepared at the same scale as the Irrigation Plan and, at a minimum, shall identify the following:

1. Proposed and existing trees, shrubs, ground covers, vines and turf areas indicated within the developed landscape area and within publicly maintained landscape areas within 200 feet (200') of proposed project site. Where appropriate, plans should incorporate the surrounding elements of surrounding landscape components to ensure community cohesiveness.*

2. Individual trees, shrubs, and groundcover plants drawn at their average growth size to ensure coverage of the area to be landscaped.*

3. Legend including plant symbol, genus, species, common name, spacing, size, quantity of each type of plant by container size, water use per applicable WUCOLS III Zone, and detail call-out (i.e.: P-1, P-2, P-3, etc.).*

4. Any special landscape area(s).*

Model home reduces front yard turf area by planting low- water use shrubs

Photo: Courtesy of Steve Morgan Landscaping

A Weather Based Irrigation Controller (WBIC) is a sprinkler control device that automatically adjusts irrigation schedules in response to changing weather or environmental conditions.

5. Location of each hydrozone, area (in square feet) devoted to landscaping, and a break down of the total area by landscape hydrozones.*
6. Existing trees, shrubs, groundcovers, turf areas that are to remain and any existing landscape elements that are to be removed. *
7. Type of mulch and application depth.
8. Stabilizing products to be used on slopes.*
9. Type and surface area of any water features.*
10. Location of street lights. Trees shall be located so that there is a minimum of ten feet (10') of clearance with respect to the lights.
11. Root barrier noted for trees within six feet of hardscape.
12. Property lines, limit-of-work lines, streets, and street names.*
13. Building locations, driveways, sidewalks, and other hardscape features.*
14. Appropriate four inch (4") graphic scale, title block, page numbers, and north arrow, notes, details, and specifications.*
15. Estimated Maximum Annual Water Use (MAWA).*
16. Existing land uses adjacent to the boundaries of the project site including residential development, individual homes, commercial development, fuel modification zones and any MSHCP regulated open space.*
17. Defensible space or zone around building or structure(s) is required per Public Resources Code Section 429(a) and (b). Fire-prone plant material and highly flammable mulches shall be avoided.*
18. Avoidance of invasive plant species near parks, buffers, greenbelts, water bodies, and open spaces.*
19. Type and installation details of any applicable stormwater best management practices.

6. What Should My Irrigation Plan Include?

Irrigation systems shall be designed, constructed, managed, and maintained to achieve the highest overall efficiency possible. Efficiency is measured by the amount of water beneficially used to sustain plant life divided by the amount of water applied. Efficiency is affected by the attributes of the controller, method of irrigation, irrigation equipment, proper hydrozoning, site topography, condition and size of plants, and weather conditions.

Although an irrigation plan is not required at the conceptual stage of a land use project, it is required as one of four key components of

MP Rotator sprinklers are 15% more efficient than conventional spray applica-

Standard low-emission hub.

One of many "smart controller" options.

a Landscape Documentation Package submitted as a Minor Plot Plan prior to an applicant pulling a building permit. Other key components of the Landscape Documentation Package include the Planting Plan (Section 5 of this Guide), Soils Management Plan (Section 7), and the Grading Design Plan (Section 8). If the water purveyor for a proposed project has adopted more rigorous irrigation efficiency standards, then the more rigorous standard would prevail.

Landscaping Minor Plot Plans shall be prepared by a landscape architect licensed to work in the State of California. Irrigation plans shall include the following minimum irrigation design standards:

A. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71. High efficiency irrigation methods (e.g. drip, MP rotators, micro-sprays) shall be utilized.

B. All irrigation systems shall be designed to prevent runoff, overspray, low head drainage, and other similar conditions where water flows off-site on to adjacent property, non-irrigated areas, walkways, roadways, or structures. Check valves are recommended.

C. Optimally, overhead irrigation should occur between the hours of 8 p.m. to 9 a.m. Check with local water purveyor to determine the correct watering window for your project and schedule accordingly.

D. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. There are no restrictions on the irrigation system type if the landscape area is adjacent to permeable surfacing and no overspray and run off occurs.

E. Irrigation systems shall be designed, constructed, managed, and maintained to achieve as high an overall efficiency as possible. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

F. Rotors and spray heads shall be designed and installed with minimized overspray onto paved surfaces, structures, and non-vegetated areas. The design shall be head-to-head coverage with matched precipitation heads and a maximum of fifty percent (50%) diameter overlap. Rotors and spray heads shall be zoned separately. Half rotors and full rotors shall be zoned separately unless matched precipitation nozzles are used.

G. For drip line installations, in-line pressure regulators shall be used per factory recommendations for the specific irrigation products being used. If drip line is being installed, it must be filtered at the valve along with any other necessary equipment.

H. Irrigation systems shall be zoned according to plant water use, slope aspect, and sun/shade microclimate. If low water use plants (that can also survive/flourish with medium water application) are used within a medium water use hydrozone, they must be counted as medium water use in the irrigation calculations.

How Can I Find A "Smart" Controller?

The Irrigation Association regularly tests "smart" controllers and provides a list of recommended controllers for commercial or private use. Below are the tested and recommended smart controllers from the Association's 2009 list.,. For more information and a current list of controllers, see the Irrigation Association's web site located at: http://www.irrigation.org/SWAT/Industry/ia-tested.asp

- Alex-Tronix Enercon Plus
- Alex-Tronix Smart Clock
- Aqua Conserve Aqua ET-9
- Calsense ET2000e
- Cyber-Rain XCI
- ETwater Smart Controller
- Hunter ET System
- Hunter Solar Sync
- Hydrosaver ETIC
- Irritrol Smart Dial
- Rain Bird ESP: LX & SMT
- Rain Bird ET Manager
- Rain Master RME Eagle
- SMG Superior Controls Sterling 8
- Toro Intelli-Sense
- Toro RKS w/Tipping Rain Bucket
- WaterOptimizer
- Weathermatic SL1600
- WeatherTRAK

I. Water systems for common open space areas shall use non-potable water if approved facilities are made available by the water purveyor. Provisions for the conversion to a non-potable water system shall be provided within the landscape plan. Systems designed to use non-potable water shall be designed to meet all applicable standards of the California Regional Water Quality Control Board and the Riverside County Health Department. With the exception of single family residential units, all irrigation plans shall be designed for recycled water in areas that are scheduled for recycled water in the future.

J. All irrigation systems shall be equipped with the following:

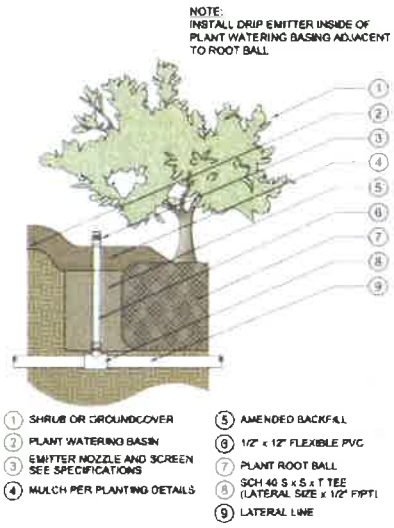
1. A smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions.
2. A rain sensing device to prevent irrigation during rainy weather;
3. Anti-drain check valves installed at strategic points to prevent low-head drainage.
4. A manual shut-off valve as close as possible to the point of connection of the water supply to minimize water loss in case of an emergency or routine repair.
5. A pressure regulator when the static water pressure is above or below the recommended operating pressure of the irrigation system.
6. Backflow prevention devices.
7. Riser protection components for all risers in high traffic areas.

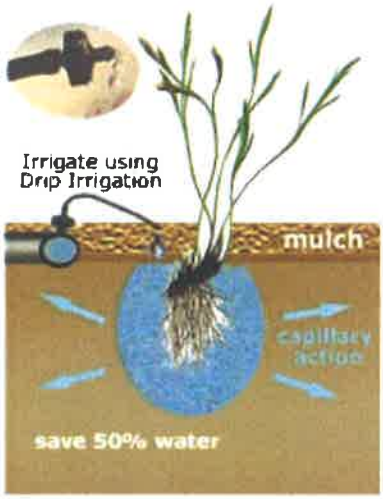
K. Irrigation systems shall be scheduled so that the irrigation precipitation rate does not exceed the infiltration rate of the soil. The irrigation schedules shall include the recommended irrigation days per week, number of cycles per day, minutes of run times per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year.

L. A baseline irrigation schedule shall be provided on the plans for the six-month initial plant establishment period. The contractor shall adjust the schedule to meet site specific requirements and use the baseline schedule to set the weather-based controller. The schedule currently in effect shall be posted in the controller.

M. A second baseline irrigation schedule shall be provided on the plans which incorporates the specific water needs of the plants throughout the post-establishment calendar year. The contractor shall adjust the schedule to meet site specific requirements and use the baseline schedule to set the weather-based controller. The schedule currently in effect shall be posted in the controller.

Standard low-emission bubbler.





Drip irrigation is 30% more efficient than conventional spray applications.

N. The irrigation schedules shall include the recommended irrigation days per week, number of cycles per day, minutes of run times per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year.

O. The controller shall be operational and set to real-time weather prior to the completion of the 90-day maintenance period of the installing contractor.

P. Commercial projects shall include a Central Controller programmed to distinguish irregular flows (e.g. broken valve, line, spray head, etc.), temporarily shut off the affected branch or the entire system, and send an immediate electronic message to the maintenance entity.

Q. Residential Front Yard Typical Irrigation Plans must demonstrate that sufficient capacity exists on the specified irrigation controller to supply adequate additional zones for future side and backyard landscaping. More than one controller per residential unit shall be avoided.

R. Dedicated landscape meters are required for all projects greater than 2,500 square feet except single family homes.

S. Separate valves shall be provided for separate water use planting areas so that plants with similar water needs are irrigated by the same irrigation valve. All installations shall rely on highly efficient state of the art irrigation systems to eliminate runoff and maximize irrigation efficiency as required by this Landscaping Guide.

T. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at the installation.

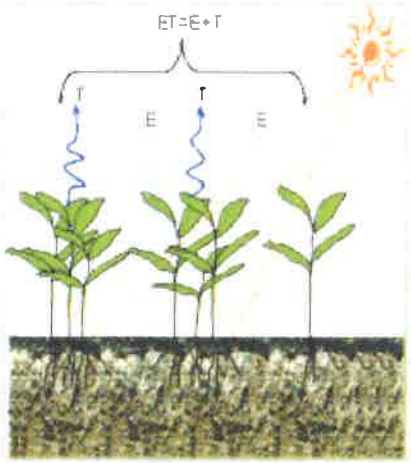
U. The capacity of the irrigation system shall not exceed the capacity required for peak water demand based on water budget calculations, meter capacity, or backflow preventer type and device capacity.

V. Sprinkler heads and other emission devices shall have matched precipitation rates unless otherwise directed by the manufacturer.

W. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.

X. Non-turf areas on slopes greater than 25% shall be irrigated with drip irrigation or other low volume irrigation technology unless an alternate design or technology can demonstrate adequate irrigation with no runoff or erosion.

Y. Long, narrow, or irregularly shaped areas including turf less than eight feet in width in any direction shall be irrigated with subsurface irrigation or low-volume irrigation technology.



Evapotranspiration = the loss of water to the atmosphere from plants and soil.

Photo: Courtesy of Greg Rubin, California's Own Nursery.

Z. The Irrigation Plan shall be prepared at the same scale as the Planting Plan and, at a minimum, shall identify the following:

1. Location and size of service lateral(s) and water meter(s).
2. Point of connection (POC) location and static pressure at POC.
3. Total flow rate (gallons per minute) and designed operating pressure (psi) for each overhead spray and bubbler circuit, and total flow rate (gallons per hour) and design operating pressure (psi) for each drip and low volume irrigation circuit.
4. Precipitation rate (inches per hour) for each overhead spray circuit.
5. Pressure loss calculations for valve with worse condition.
6. Location, size, and type of all irrigation components including, but not limited to, smart controller, central controller (backflow prevention device. ball valves, anti-drain check valves, pressure supply (main) line, lateral lines, pipe sizing, valves, spray heads, rotors, drip, low volume irrigation equipment, gallons per minute, pressure regulators, and pumps. Water sense components are strongly recommended.
7. Hydraulic Calculation worksheet including flow rate (gallons per minute) and design operating pressure.
8. Precipitation rate (inches per hour) for each spray type circuit.
9. Irrigation legend with the symbol, manufacturer name, model number (or non-proprietary description for publicly funded projects), separate symbols for irrigation equipment with different spray patterns, spray radius, and precipitation rate.
10. Location, size, and type (high, medium, low) of each hydrozone.
11. Topographic elevation lines to determine slope.
12. Irrigation system details for assembly and installation. Calculation for the project's landscape Water Budget. (Section 10 of this Landscaping Guide).
13. Irrigation design plans shall contain the following statement, "I agree to comply with the criteria of Ordinance No. 859 and to apply the criteria for the efficient use of water in the irrigation design plan."

7. What Is Required In A Soil Management Plan?

Soil sampling is performed after mass grading. A laboratory analyzes the soil and recommends necessary amendments for remediating the limiting soil characteristics.

Soil amendments improve the water holding capacity of the soil, adjust soil pH, provide nutrients, and improve drainage. Agronomic soil tests are required to determine the recommended types, rates, and application methods of soil amendments. Implementation of the recommendations is required to help ensure optimum soil conditions for the specified plants.

A Soils Management Plan is required as a component of the Landscape Documentation Package and must be completed and inspected (see Section 10) by the County Landscape Inspector prior to receiving a Certificate of Completion. The following information is intended to guide applicants through the development and implementation of the soils management component of the Landscape Documentation Package.

A. Prior to Building Final Inspection, the project applicant or his/her designee shall:

   1. Perform a preliminary site inspection;

   2. Determine the appropriate level of soil sampling and sampling method needed to obtain representative soil sample(s);

   3. Conduct a soil probe test to determine if the soil in the landscape area has sufficient depth to support the intended plants; and

   4. Obtain appropriate soil sample(s).

Soil sampling tools

B. The project applicant shall submit soil sample(s) to the appropriate laboratory for analysis and recommendation. At a minimum, the soil analysis should include soil texture; infiltration rate determined by lab test or soil texture infiltration rate tables; pH; total soluble salts; sodium; and recommendations.

C. Prior to the Pre-Installation Inspection, the Soils Management Plan shall be submitted electronically to the County Landscape Division to be included as part of the Landscape Documentation Package and shall include the following:

   1. Soil type;

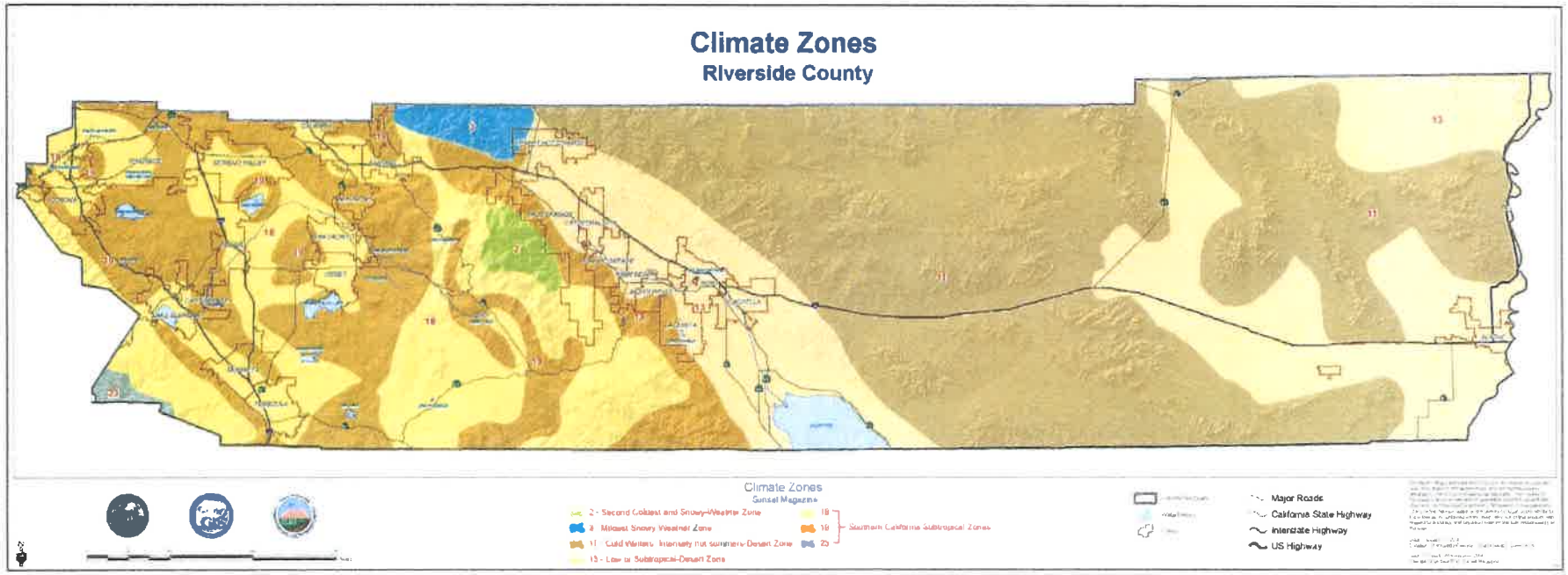
   2. Identification of limiting soil characteristics; and

   3. Identification of planned soil management actions to remediate limiting soil characteristics.

   4. Documentation verifying implementation of the soils analysis report recommendations.

Soil is prepped for better plant growing conditions

FIGURE 1


Climate Zones
Riverside County
Climate Zones
Sunset Magazine
2 - Second Coastal and Snowy-Weather Zone
8 - Midwest Snowy Weather Zone
11 - Cold Winters, Intensely Hot Summers-Desert Zone
13 - Low or Subtropical-Desert Zone
18
19
20
Southern California Subtropical Zones
Major Roads
California State Highway
Interstate Highway
US Highway

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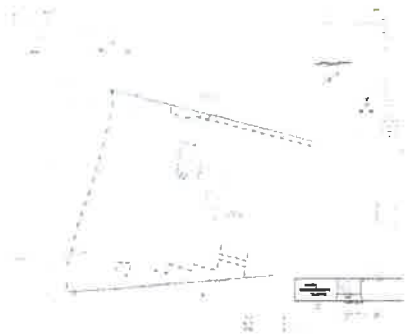
8. How Do My Grading Plans Relate to My Landscape Design Requirements?



For the efficient use of water, grading of a project shall be designed to minimize soil erosion, runoff, and water waste. To ensure that this occurs, the Landscape Documentation Package shall include rough or precise grade elevations prepared for the project by a licensed civil engineer. The County Planning Department recognizes that rough grading plans may be reviewed by another department on a parallel track with the Landscaping Package. Therefore, the applicant shall provide the most current version of the rough grading plans with each subsequent landscape plan check review.

9. What Is A Water Budget And How Is It Calculated?

Water budgets are used to assist designers and governing authorities to verify compliance with the State and local requirements for water conservation. Water budgets also assist with water demand management. A water budget determines how much water a particular landscape needs over a specified period of time. The Maximum Annual Water Allowance (MAWA) is calculated and compared to the Estimated Annual Water Use (EAWU) to verify that the project landscaping is not exceeding the allowed water use. It is important to note that AB1881 requires water budgets to account for the surface area of water features.

If the water purveyor for a proposed project has adopted more rigorous irrigation efficiency standards, then the more rigorous standard would prevail and must be reflected in the water budget for the proposed project.

A. Maximum Annual Water Allowance and Evapotranspiration Rate (ETo).

Photo Credit: Sunset Magazine on-line blog "Fresh Dirt"

ETo, or Annual Reference Evapotranspiration Rate, is the quantity of water evaporated from adjacent soil surfaces and transpired by plants in terms of inches for a particular climate zone. Your total square footage of landscape and ETo are essential components of the MAWA formula (below).

MAWA (in gallons)=(ETo)(0.62)[0.7 x LA + 0.3 x SLA]

Where:
ETo is reference evapotranspiration
SLA is the amount of special landscape area in square feet
LA is total landscape area (incl. SLA) in square feet

ETo rates vary according to climate, the ETo rate must be identified for your project in order to calculate MAWA. ETo data is taken from the California Irrigation Management Information

TABLE 1		
CIMIS Station	**Location**	**Reference ETo**
24	Thermal	73.03
25	Rancho Mirage	71.40
34	Rancho California	49.54
36	Blythe	71.40
44	UC Riverside (Riverside)	56.37
55	Palm Desert	72.77
62	Temecula	66.14
118	Cathedral City	57.06
130	Temecula East	49.54
135	Blythe Northeast	70.80
136	Oasis	71.40
141	Mecca	62.68
151	Ripley	71.40
154	Salton Sea North	71.65
162	Indio	71.40
176	La Quinta	71.40
179	Winchester	57.33

TABLE 2	
Plant Category	**Average PF**
High	0.8
Medium	0.5
Low	0.2
Very Low	0.1

System (CIMIS). Table 1 will help you find your ETo. If your project is not within one of the weather station areas listed, use the closest representative station.

To ensure the attainment of water-efficient landscape goals, the County requires that landscapes not exceed a maximum water demand of 70% of its referenced ETo. However, applicants are advised that local water purveyors may impose a stricter conservation standard for calculating the maximum allowable percentage of ETo allotted to projects within their service area. Therefore, landscape plans and MAWA calculations must comply with the standard that is stricter and adjust the aforementioned formula accordingly. Early consultation with the prevailing water agency is encouraged.

B. Estimated Annual Water Use (EAWU).

EAWU for water budgets shall be calculated using the following formula. Please note that a separate EAWU calculation must be performed for each hydrozone within the proposed project.

EAWU (in gallons)=(ETo)(0.62)[((PFxHA)/IE) + SLA

Where:
ETo is reference evapotranspiration
PF is Plant Factor
HA is hydrozone area in square feet
IE is irrigation efficiency (minimum 0.71)
SLA is the amount of special landscape area in square feet

For purposes of the water budget formula:

1. Turf and the surface area of water features are considered to have a *high* water requirement.
2. Temporarily irrigated areas are considered to have a *low* water requirement. Refer to Table 2 to establish your PF for each hydrozone.
3. The average Plant Factor (PF) is established by the WUCOLS III for plants that are considered high, medium, low, and very low based on their water requirements. The WUCOLS plant category designation for any given plant can differ depending on the region in which the plant is used. For more information, see California Friendly Plant List (Attachment A).
4. For the purpose of determining the EAWU, average irrigation efficiency (IE) is assumed to be 0.71 because all irrigation systems must be designed to meet or exceed an average irrigation efficiency of 0.71.
5. Special landscape area is defined as an are of the landscape dedicated to edible plants, areas irrigated with recycled water, and publicly accessible areas dedicated to active play such as parks, sports fields, golf courses, where turf provides a playing field or where turf is needed for high traffic activities.

TABLE 3	
WUCOLS III Region	**Corresponding Sunset Zones**
1	2,3,14,15,16,17
2	8,9
3	22,23,24
4	18,19,20,21
5	11
6	13

Plant water use requirements can vary according to regional climate zones. The PF figure used in the EAWU calculation above is derived from the plant category designation identified by WUCOLS for the region in which a given plant is used in a landscape. For example: Albizia julibrissin is a low water using tree in WUCOLS Regions 1 and 2 with an average PF of 0.2 but a medium water using tree in WUCOLS Regions 3-6 (see WUCOLS columns in Plant List included as Attachment A) with an average PF of 0.5.

Since many plants are identified by their associated Sunset Zone, Table 3 illustrates the relationships between the Sunset Zones and WUCOLS regions. Sunset Zones are also displayed geographically in Figure 1.

C. Finalizing the Water Budget Calculations.

Add together the EAWU subtotals for each hydrozone within the proposed project, this will be the Sub-Total EAWU. Now, divide that number by 0.85. The resulting number will be the Total EAWU. Subtract the Total EAWU number from the MAWA. The resulting number must be positive. If the number is negative, then adjustments will need to be made to the Planting Plan (e.g. use more vegetation types that consume less water) and/or the Irrigation Plan (e.g. use more efficient application methods).

Inspectors will confirm that plants are installed per approved plans and are thriving

10. What Are the County's Installation and Maintenance Requirements?

Correct installation and consistent landscape maintenance is paramount to water efficient landscaping and water conservation. Regardless of the efficiency of the irrigation design and installation, a landscape can quickly lose its efficiency and aesthetic appeal without proper maintenance. To ensure that the soils management plan is prepared and executed, planting and irrigation components are installed properly, and landscape is maintained throughout a minimum plant establishment period, the County Planning Department will conduct the following series of site visits:

A. Pre-Installation Inspection

After the Soils Management Plan is transmitted to the County and the soil preparation measures are implemented by the applicant at the project site, then the applicant shall contact the County Landscape Inspector to arrange for the Pre-Installation Inspection. The County Landscape Inspector will confirm that the soils management plan recommendations are properly executed and the subsurface irrigation system is properly installed and connected prior to the installation of the plants and top dressing.

B. Landscape Installation Inspection

The County Landscape Inspector will, at a minimum, confirm that the landscaping has been installed in conformance with the approved planting and irrigation design plans; perform an

Photo: Courtesy of Michael Payne

irrigation audit; verify that the smart controller is set according to the irrigation schedule identified on the irrigation plans; verify that that the irrigation system is adjusted to maximize efficiency and eliminate overspray and runoff; ensure that the project meets all other conditions of its landscape approval, verify that the performance security has been approved and executed. Upon successful completion of the Landscape Installation Inspection, a Certificate of Completion will be issued to the project applicant.

C. One Year Post-Establishment Inspection

Personnel will, at a minimum, verify that plants are established and thriving, and ensure that the post-establishment irrigation schedule is programmed and posted in the controller, and confirm that any remaining Conditions of Approval are met. If components of either the irrigation system or the landscape have been replaced, personnel will confirm that their replacement components reflect the original approved Irrigation and Planting Plans.

Upon successful completion of the Post-Establishment Inspection, the landscaping/irrigation component of the performance bond will be deemed complete. Post-Establishment Inspections are not required for residential or model homes.

Photo: Courtesy of Toyon Designs

D. At the Planning Director's discretion, projects may be required to maintain an annual maintenance inspection schedule to ensure that the following obligations are met:

1. Smart controllers are monitored and adjusted for maximum operating efficiency and irrigation application equipment is calibrated to provide maximum efficiency.

2. Non-functioning irrigation and hardscape components are replaced with identical or better components.

3. Plant materials that fail to thrive are replaced with identical plant materials or those with similar water requirements.

4. Minimum mulching levels are maintained.

5. Plants are pruned to eliminate irrigation application interference.

Photo Credit: Eastern Municipal Water District

11. How is Recycled Water Used?

Recycled water determined to be available pursuant to Section 13550 of the California State Water Code shall be used for appropriate non-potable uses whenever it: a) provides a beneficial use to the customer, b) is economically and technically feasible, c) is consistent with applicable regulatory requirements, and d) is in the best interests of public health, safety, and welfare. With the exception

Photo Credit: Eastern Municipal Water District

of non-common areas of single-family home residential developments, irrigation systems must be designed and installed to accommodate the current or future use of recycled water for irrigation. When recycled water is not available, landscape irrigation plans shall provide for below ground installation of purple pipe components to minimize the cost of a retrofit at a later date.

Applicants proposing landscaping that is designated for recycled water use shall consult with the appropriate water purveyor early in the development review process (Conceptual Landscape Plan or prior to a County discretionary action). This will ensure that future recycled water facilities meet the projected demand and that subsequent landscape plans comply with the applicable standards, approvals, and implementation requirements of the local water purveyor, land use agency, and maintenance entity.

Recycled water plans shall be developed in accordance with standards and policies of the applicable recycled water purveyor. Recycled water systems shall be designed to meet regulatory requirements of the California Department of Public Health, California Regional Water Quality Control Board, and the local recycled water purveyor.

<END>

KB Homes Martha Stewart Collection, City of Perris
Photo Credit: Moises Lopez

We Invite You to Visit the Following Web Sites for More Information or Contact Your Local Water Purveyor to Learn More About Their Respective Water Efficiency Programs:

Riverside County Planning Department—Landscape Section
http://www.rctlma.org/planning/content/devproc/landscpe/landscape.html

Riverside County Water Task Force
http://www.h2oriversidecounty.org/

California Friendly/Drought Tolerant Gardens
http://www.bewaterwise.com/knowledge01.html

California Department of Water Resources
http://www.owue.water.ca.gov/index.cfm

California Friendly Developments
http://www.bewaterwise.com/home03.html

California Plant Nurseries
http://www.rctlma.org/planning/content/devproc/landscpe/drought_tolerant_plant_nurseries.pdf

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NOTICE OF EXEMPTION

TO:	FROM:
☐ Office of Planning and Research P. O. Box 304 Sacramento, CA 95812-3044 ☐ Clerk of the Board of Supervisors or ☒ County Clerk County of: Riverside	March Joint Powers Authority 14205 Meridian Parkway, Suite 140 Riverside, CA 92518

1.	Project Title:		Ordinance #JPA 16-03 – Water Efficient Landscape Regulations
2.	Project Applicant:		March Joint Powers Authority
3.	Project Location – Identify street address and cross streets or attach a map showing project site (preferably a USGS 15' or 7 1/2' topographical map identified by quadrangle name):		March JPA: jurisdictional-wide
4.	(a) Project Location – City:		March JPA
	(b) Project Location – County:		Riverside
5.	Description of nature, purpose, and beneficiaries of Project:		Ordinance #JPA 16-03 will establish reduced landscape irrigation water use through greater water use efficiency and use of drought tolerant plants.
6.	Name of Public Agency approving project:		March Joint Powers Authority
7.	Name of Person or Agency undertaking the project, including any person undertaking an activity that receives financial assistance from the Public Agency as part of the activity or the person receiving a lease, permit, license, certificate, or other entitlement of use from the Public Agency as part of the activity:		March Joint Powers Authority
8.	Exempt status: (check one)		
	(a)	☐ Ministerial project.	
	(b)	☐ Not a project.	
	(c)	☐ Emergency Project.	
	(d)	☒ Categorical Exemption. State type and class number:	15307 Actions by Regulatory Agencies for Protection of Natural Resources – Class 7
	(e)	☐ Declared Emergency.	
	(f)	☐ Statutory Exemption. State Code section number:	
	(g)	☐ Other. Explanation:	

14205 MERIDIAN PARKWAY, SUITE 140 ★ RIVERSIDE, CALIFORNIA 92518 ★ (951)656-7000 ★ FAX (951)653-5558
E-MAIL: info@marchjpa.com ★ WEBSITE: www.marchjpa.com

9.	Reason why project was exempt:	Pursuant to State CEQA Guidelines Section 15307 the Ordinance #JPA 16-03 Section 15307 (14 Cal. Code Regs., Section 15307), the adoption of this Ordinance will result in the enhancement and protection of water resources, and will not result in CEQA Guidelines Section 15300.2. It is therefore exempt from the provisions of CEQA.
10.	Lead Agency Contact Person:	Lauren Churchman
	Telephone:	(951) 656-7000
11.	If filed by applicant: Attach Preliminary Exemption Assessment (Form "A") before filing.	
12.	Has a Notice of Exemption been filed by the public agency approving the project? Yes **X** No	
13.	Was a public hearing held by the lead agency to consider the exemption? **X** Yes No If yes, the date of the public hearing was: 06/22/2016	

Signature:_____ Date:_____ Title:_____

X Signed by Lead Agency Signed by Applicant

Date Received for Filing: _____

(Clerk Stamp Here)

Authority cited: Sections 21083 and 21100, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

14205 MERIDIAN PARKWAY, SUITE 140 ★ RIVERSIDE, CALIFORNIA 92518 ★ (951)656-7000 ★ FAX: (951)653-5558
E-MAIL: info@marchjpa.com ★ WEBSITE: www.marchjpa.com

MARCH JOINT POWERS COMMISSION
OF THE
MARCH JOINT POWERS AUTHORITY

MJPA Operations - Ordinance Adoption
Agenda Item No. 7c (1)

Meeting Date: July 13, 2016

Action: **WAIVE THE SECOND READING AND ADOPT ORDINANCE #JPA 16-03, AN ORDINANCE THAT WILL ASSURE REDUCED LANDSCAPE IRRIGATION WATER USE THROUGH GREATER IRRIGATION EFFICIENCY AND USE OF DROUGHT TOLERANT PLANTS; AND DIRECT STAFF TO FILE A NOTICE OF EXEMPTION PURSUANT TO MARCH JPA'S LOCAL CEQA GUIDELINES**

Motion: Move to waive the Second Reading and Adopt Ordinance #JPA 16-03, an Ordinance that will assure reduced landscape irrigation water use through greater irrigation efficiency and use of drought tolerant plants; and direct staff to file a Notice of Exemption Pursuant to March JPA's Local CEQA Guidelines.

Background:

A public hearing was conducted for this item on June 22, 2016 whereby the Commission waived the first reading of the Ordinance, and directed staff to place this item on a subsequent agenda for a second reading and final adoption. No public comments were received on the day of the hearing, or since the hearing; as such, the following information is provided to finalize the Commission's action on this item.

In April of 2015, the State of California adopted an update to their Model Water Efficient Landscape Ordinance (MWELO), in response to Governor Brown's Executive Order B-29-15 regarding "the Continued State of Emergency that exists throughout the State of California due to the ongoing drought." The changes to the State's MWELO were to increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turfgrass. As such, stricter regulations to the amount of water made available to plant species included a not to exceed evapotranspiration adjustment factor (ETAF) of 0.55 for residential areas and 0.45 for non-residential areas. Landscapes using recycled water are considered Special Landscape Areas (SLA). The State ETAF for SLAs is 1.0. In regards to prohibiting turfgrass, the updated MWELO prohibits turfgrass in two areas; 1) on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape (25% means 1 foot of vertical elevation change for every 4 feet of horizontal length); and 2) in street medians. The State of California allows local agencies to choose the updated MWELO as their

default ordinance, or adopt a localized ordinance with higher water conservation measures than specified within the MWELO.

Based on the aforementioned, March JPA staff wishes to introduce modifications to the landscape irrigation and planting requirements within the existing March JPA Landscape Water Efficiency Ordinance (JPA #05-07) by repealing the existing ordinance so that it reflects more stringent water use provisions. To assure the March JPA efforts in water efficiency are aligned with our member agencies' efforts, the proposed amendments would be in concert with Riverside County's July 2015 update to their Ordinance No. 859.3 (An Urgency Ordinance of the County of Riverside Amending Ordinance No. 859 – the Water Efficient Landscape Requirements). The following assurances would be reflected in an amended JPA Ordinance:

1) Establish provisions for water management practices and water waste prevention;
2) Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new and rehabilitated projects;
3) Reduce the water demands from landscapes without a decline in landscape quality and quantity;
4) Retain flexibility and encourage creativity through appropriate design;
5) Assure the attainment of water efficient landscape goals by requiring that landscapes serviced by potable water not exceed a maximum water demand of fifty percent (50%) or 0.50 of its reference evapotranspiration (ETo).
6) Assure the attainment of water efficient landscape goals by requiring that landscapes serviced entirely by recycled water not exceed a maximum water demand of seventy percent (70%) or 0.70 of its reference evapotranspiration (ETo).
7) Eliminate water waste from overspray and /or runoff;
8) Achieve water conservation by raising public awareness of the need to conserve water through education and motivation to embrace an effective water demand management program;
9) Implement the requirements of the California Water Conservation in Landscaping Act 2006 and the California Code of Regulations Title 23, Division 2, Chapter 2.7;
10) Promote water conservation within new residential subdivision landscapes by prohibiting the use of natural turfgrass lawns within the front yards of new homes, and promoting low water use plants and inert materials for a sustainable and marketable landscape design; and
11) Prohibit the new installation of natural turf grass within medians and parkways within March JPA maintained roads.

The aforementioned provisions would introduce more stringent standards for residential landscapes than those provided by the State of California under California's Code of Regulations Title 23, Division 2, Chapter 2.7 MWELO. The reference evapotranspiration rate (ETo) of 0.45 assigned to potable water servicing non-residential landscapes remains consistent with the State MWELO, County Ordinance No. 859.3 and the March JPA Ordinance #16-03. For projects whose landscaping is serviced through recycled water, the evapotranspiration rate (ETo) of 0.7 is more stringent than what is defined in the State MWELO at 1.0. Lastly, the use of turfgrass in the front yards of new residential communities is permitted according to the State MWELO, although County Ord. 859.3 and Ordinance #JPA 16-03 effectively prohibit turfgrass in the front yards of new residential communities. These

provisions support the goal of reducing landscape irrigation water use through greater irrigation efficiency and the use of drought tolerant plant species.

The following table summarizes the differences in standards as adopted by the State and County, versus the modifications being considered under the proposed March JPA Landscape Water Efficiency Ordinance:

Comparison of Water Efficiency Regulations			
Jurisdiction	State MWELO	County Ord. 859.3	March JPA draft Ord.
Residential ETO	.55	.50	.50
Non Residential ETO	.45	.45	.45
Recycled ETO	1.0	.7	.7
Turfgrass in Front Yard	Yes	No	No

CEQA:

March JPA staff has determined that the ordinance is exempt from review under the California Environmental Quality Act ("CEQA") (California Public Resources Code Section 21000 et seq.). Pursuant to State CEQA Guidelines Section 15307 (14 Cal. Code Regs., § 15307, this ordinance is covered by the CEQA Categorical Exemptions for actions taken to assure the maintenance, restoration, enhancement, or protection of a natural resource where the regulatory process involves procedures for protection of the environment. The adoption of this ordinance will result in the enhancement and protection of water resources, and will not result in cumulative adverse environment impacts or other potentially significant impact described in State CEQA Guidelines Section 15300.2. It is therefore exempt from the provisions of CEQA. Pursuant to local CEQA Guidelines, staff is requesting authorization by the Joint Powers Commission to file a Notice of Exemption with the Riverside County Clerk-Recorder's office upon the approval of Ordinance #JPA 16-03.

Fiscal Impact:

No financial impact is anticipated for the adoption of the proposed Ordinance.

Recommendations:

Based on the aforementioned, Staff recommends the Commission waive the second reading and adopt Ordinance #JPA 16-03, an ordinance that will assure reduced landscape irrigation water use through greater irrigation efficiency and use of drought tolerant plants; and direct staff to file a Notice of Exemption pursuant to March JPA's Local CEQA Guidelines.

Attachments:

1) Ordinance #JPA 16-03.
   a) Attachment A- County of Riverside Guide to California Friendly Landscaping
2) Notice of Exemption.

Preparation Date: July 7, 2016

MARCH JOINT POWERS COMMISSION
OF THE
MARCH JOINT POWERS AUTHORITY

MJPA - Public Hearing
Agenda Item No. 11a

Meeting Date: June 22, 2016

Action: **WAIVE THE FIRST READING AND CONDUCT A PUBLIC HEARING ON ORDINANCE #JPA 16-03, AN ORDINANCE THAT WILL ASSURE REDUCED LANDSCAPE IRRIGATION WATER USE THROUGH GREATER IRRIGATION EFFICIENCY AND USE OF DROUGHT TOLERANT PLANTS; AND DIRECT STAFF TO PLACE THIS ITEM ON A FUTURE JPC AGENDA FOR A SECOND READING AND FINAL ADOPTION**

Motion: Move to waive the First Reading and Conduct a Public Hearing on Ordinance #JPA 16-03, an Ordinance that will assure reduced landscape irrigation water use through greater irrigation efficiency and use of drought tolerant plants; and direct staff to place this item on a future JPC agenda for a second reading and final adoption.

History:

On March 16, 2016, March JPA staff discussed with the Joint Powers Commission the objective of adopting water efficiency requirements consistent with, or more stringent than, new legislation adopted by the State of California. At that time, staff's proposal was to develop an ordinance that would follow the provisions within the County of Riverside's Water Efficient Landscape Ordinance No. 859.3, with the exception of allowing limited turfgrass, or natural lawns, in front yards of new residential communities. The County's Ordinance prohibits the use of natural lawns within new single family developments. Staff's proposal was based upon a conceptual master plan by Lewis Communities for single family homes at the General Old Golf Course. The Joint Powers Commission directed staff to participate in Riverside County Water Task Force meetings for further input on residential landscaping; as such, on April 22, 2016 MJPA staff met with representatives from the Water Task Force that included staff members of local water purveyors, Western Riverside Council of Governments and County of Riverside.

Since March JPA staff's meeting with the Task Force, the Joint Powers Commission determined that new residential housing will not be pursued at General Old Golf Course. Therefore, to ensure consistency with regional efforts on water efficiency, Ordinance #JPA 16-03 will mirror the County of Riverside Ordinance No. 859.3 (adopted July of 2015) with no

exceptions. The following paragraphs summarize the purpose of the proposed JPA Ordinance and the provisions it will introduce for achieving greater irrigation efficiency.

Background:

In April of 2015, the State of California adopted an update to their Model Water Efficient Landscape Ordinance (MWELO), in response to Governor Brown's Executive Order B-29-15 regarding "the Continued State of Emergency that exists throughout the State of California due to the ongoing drought." The changes to the State's MWELO were to increase water efficiency standards for new and existing landscapes through more efficient irrigation systems, greywater usage, onsite storm water capture, and limit the portion of landscapes that can be covered in turfgrass. As such, stricter regulations to the amount of water made available to plant species included a not to exceed evapotranspiration adjustment factor (ETAF) of 0.55 for residential areas and 0.45 for non-residential areas. Landscapes using recycled water are considered Special Landscape Areas (SLA). The State ETAF for SLAs is 1.0. In regards to prohibiting turfgrass, the updated MWELO prohibits turfgrass in two areas; 1) on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape (25% means 1 foot of vertical elevation change for every 4 feet of horizontal length); and 2) in street medians. The State of California allows local agencies to choose the updated MWELO as their default ordinance, or adopt a localized ordinance with higher water conservation measures than specified within the MWELO.

Based on the aforementioned, March JPA staff wishes to introduce modifications to the landscape irrigation and planting requirements within the existing March JPA Landscape Water Efficiency Ordinance. To assure the March JPA efforts in water efficiency are aligned with our member agencies' efforts, the proposed amendments would be in concert with Riverside County's July 2015 update to their Ordinance No. 859.3 (An Urgency Ordinance of the County of Riverside Amending Ordinance No. 859 – the Water Efficient Landscape Requirements). The following assurances would be reflected in an amended JPA Ordinance:

1) Establish provisions for water management practices and water waste prevention;
2) Establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new and rehabilitated projects;
3) Reduce the water demands from landscapes without a decline in landscape quality and quantity;
4) Retain flexibility and encourage creativity through appropriate design;
5) Assure the attainment of water efficient landscape goals by requiring that landscapes serviced by potable water not exceed a maximum water demand of fifty percent (50%) or 0.50 of its reference evapotranspiration (ETo).
6) Assure the attainment of water efficient landscape goals by requiring that landscapes serviced entirely by recycled water not exceed a maximum water demand of seventy percent (70%) or 0.70 of its reference evapotranspiration (ETo).
7) Eliminate water waste from overspray and /or runoff;
8) Achieve water conservation by raising public awareness of the need to conserve water through education and motivation to embrace an effective water demand management program;

9) Implement the requirements of the California Water Conservation in Landscaping Act 2006 and the California Code of Regulations Title 23, Division 2, Chapter 2.7;
10) Promote water conservation within new residential subdivision landscapes by prohibiting the use of natural turfgrass lawns within the front yards of new homes, and promoting low water use plants and inert materials for a sustainable and marketable landscape design; and
11) Prohibit the new installation of natural turf grass within medians and parkways within March JPA maintained roads.

The aforementioned provisions would introduce more stringent standards for residential landscapes than those provided by the State of California under California's Code of Regulations Title 23, Division 2, Chapter 2.7 MWELO. The reference evapotranspiration rate (ETo) of 0.45 assigned to potable water servicing non-residential landscapes remains consistent with the State MWELO, County Ordinance No. 859.3 and the March JPA #16-03. For projects whose landscaping is serviced through recycled water, the evapotranspiration rate (ETo) of 0.7 is more stringent than what is defined in the State MWELO at 1.0. Lastly, the use of turfgrass in the front yards of new residential communities is permitted according to the State MWELO, although County Ord. 859.3 and Ordinance #JPA 16-03 effectively prohibit turfgrass in the front yards of new residential communities. These provisions support the goal of reducing landscape irrigation water use through greater irrigation efficiency and the use of drought tolerant plant species.

The following table summarizes the differences in standards as adopted by the State and County, versus the modifications being considered under the proposed March JPA Landscape Water Efficiency Ordinance:

Comparison of Water Efficiency Regulations			
Jurisdiction	State MWELO	County Ord. 859.3	March JPA draft Ord.
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CEQA:

March JPA staff has determined that the ordinance is exempt from review under the California Environmental Quality Act ("CEQA") (California Public Resources Code Section 21000 et seq.). Pursuant to State CEQA Guidelines Section 15307 (14 Cal. Code Regs., § 15307, this ordinance is covered by the CEQA Categorical Exemptions for actions taken to assure the maintenance, restoration, enhancement, or protection of a natural resource where the regulatory process involves procedures for protection of the environment. The adoption of this ordinance will result in the enhancement and protection of water resources, and will not result in cumulative adverse environment impacts or other potentially significant impact described in State CEQA Guidelines Section 15300.2. It is therefore exempt from the provisions of CEQA. Pursuant to local CEQA Guidelines, staff has planned to file a Notice of Exemption with the Riverside County Clerk-Recorder's office after the second reading of Ordinance #JPA 16-03 and approval by the Joint Powers Commission.

Fiscal Impact:

No financial impact is anticipated for the adoption of the proposed Ordinance.

Recommendations:

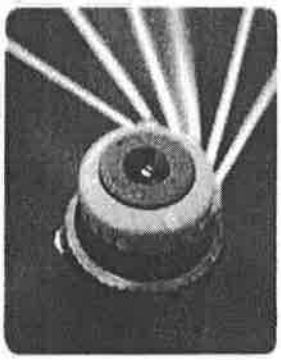
Based on the aforementioned, Staff recommends the Commission waive the first reading and conduct a public hearing on Ordinance #JPA 16-03, an ordinance that will assure reduced landscape irrigation water use through greater irrigation efficiency and use of drought tolerant plants; direct staff to place this item on a future JPC Agenda for a second reading and final adoption.

Attachment:

1) Ordinance #JPA 16-03.
   a) Attachment A- County of Riverside Guide to California Friendly Landscaping.

County of Riverside Guide to California Friendly Landscaping



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December 2009

For more information concerning this Landscaping Guide or the Riverside County Landscape Program, please contact:

Kristi Lovelady, Principal Planner
Riverside County Planning Dpt.
Landscape Program
951-955-0781

See also: http://www.rctlma.org/planning/content/devproc/landscape/landscape.html

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California Friendly ® is a registered trademark of the Metropolitan Water District of Southern California. Learn more about water conservation and landscape rebate programs at: www.bewaterwise.com

Water Efficient Landscapes can be inviting and attractive

Photo Credit: Eastern Municipal Water District

1. Why Do We Need This Guide?

The purpose of the Riverside County Guide to California Friendly Landscaping (Landscaping Guide) is to present practical standards for landscape and irrigation design for projects within Riverside County. Additionally, the Landscaping Guide is designed to assist landscape architects, irrigation designers, contractors, planners, and the public in the selection of plant materials and irrigation methods that meet the objectives of County Ordinance No. 859 and Ordinance No. 348. In order to conserve water in the drought prone state of California, legislation such as AB 325 and AB 1881 mandates the practice of water conservation.

Riverside County's commitment to water conservation is exemplified in the adoption of standards and the implementation of guidelines which result in a reduction of landscape related water usage County-wide. It is the County's goal to reduce landscape related water usage by approximately thirty percent (30%) per site, through implementation of this Landscaping Guide. To meet this goal, Planting Plans and Irrigation Plans shall be prepared using the Water Budget Formula described in Section 9 of this document.

2. Who Does Ordinance No. 859 Apply To?

A. On December 2006, the Riverside County Board of Supervisors adopted Ordinance No. 859. In October 2009 the County adopted revisions to Ordinance No. 859 to ensure that it was consistent with AB1881.

   Ordinance No. 859 applies to all new and rehabilitated landscapes associated with residential uses with a total landscape area equal to or greater than 2,500 square feet and all new and rehabilitated landscapes associated with commercial or industrial uses. This includes:

   1. Commercial development.
   2. Industrial development.
   3. Residential development:
      - Multi-family development
      - Single family common areas
      - Single family homes
      - Erosion control landscaping (slopes over 3 feet in vertical height)
      - Model homes
   4. Road rights-of-way.
   5. Parks and public lands.
   6. Landscaping associated with entry sign monuments.

Invasive plants are prohibited near MSHCP conservation areas.

7. Fuel modification areas - applicants are encouraged to consult with the County Fire Department, determine their fuel modification requirements, and select fire-resistive plant material.

8. Flood control areas including retention/detention basins and water quality swales ('bioswales')

9. Development adjacent to Multiple Species Habitat Conservation Plan (MSHCP) and other conservation areas — applicants are required to consult with the Environmental Programs Department (EPD) to determine acceptable plant species that may be planted within the vicinity of MSHCP conserved lands.

B. In the event that the water purveyor for a proposed project has adopted more stringent water-efficient landscape requirements, the more stringent guidelines shall be taken into consideration during the County's landscape review process.

Ceanothus griseus—Louis Edmunds
Photo Credit: Tree of Life Nursery

3. What Are The County's General Landscaping Design Guidelines?

Landscaping and proper irrigation is a critical component of any successful development project. Landscaping should define a sense of space by making a statement, ensuring community continuity, complementing good architectural design, and creating a cohesive finished product. Emphasis on California Friendly® design elements can achieve aesthetic objectives while acknowledging the practical water constraints of our unique geographic environment.

Design guidelines have been adopted for a number of communities throughout the County. Many of these guidelines contain specific landscape requirements that must be reflected in landscape plans for these areas. For more information, please see the Riverside County Planning Department's web page for design guidelines.

KB Homes Martha Stewart Collection
Photo Credit: Moises Lopez

Conceptual Landscape Plans and/or Landscaping Minor Plot Plans shall incorporate the following design guidelines relative to their respective product type(s). Such plans shall also follow Section 5 of this Landscaping Guide and incorporate the use of drought-tolerant/water-efficient plants to reduce water demand. A rich variety of plantings and hardscape should be selected and integrated appropriately into the landscape design based on their intend uses. Landscaping Plans shall be prepared by a Landscape Architect licensed by the State of California and shall consist of plants found in the Riverside County California Friendly Plant List (Plant List) included in this Guide as Attachment A.

A. Single Family Residential Design Guidelines:

1. Turf areas shall be used sparingly in response to functional recreational needs and shall be in compliance with the Water Budget Formula (Section 9 of this Guide).

Hesperaloe parviflora

California Friendly® Model Home.
Photo Credit: Eastern Municipal Water

Osteospermum fruticosum

2. Trees, shrubs, and groundcover shall be incorporated within single-family development projects to create a comfortable and aesthetically pleasing environment for residents and those viewing from public areas.

County-Wide Guidelines	Minimum Shrubs[1], Groundcover, and Mulch	Minimum Trees		Automatic Irrigation
		15 gal.[3]	24" box[3]	
All	50%[2]	1	1	With smart controller
Corner Lot Returns	50%[2]	1	3	With smart controller

The following minimum standard shall be applied to front-yard typical landscaping plans:

Minimum Front Yard Landscaping Standard

Notes: [1] Of this amount, 60% shall be 5 gal. foundation shrubs and 40% shall be 1 gal.
shrubs. 50% of the area underneath the shrubs shall be covered by a vegetative, drought-tolerant groundcover, and/or mulch.

[2] Calculating number of shrubs: Area for shrubs to be divided by 25 sq. ft. The resulting number is the total number of shrubs that must be planted to achieve full coverage.

[3] The 24" box tree shall be a minimum 2" caliper and the 15 gal. tree shall be a minimum 1" caliper.

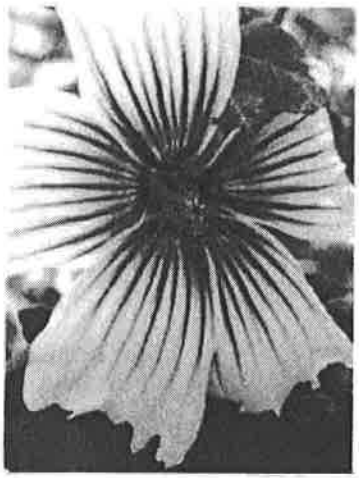
3. Landscape architects are strongly encouraged to use clinging vines, espaliers, trellises, and shrubs to enhance the architecture and define attractive private open spaces.

4. Front yard areas should be designed using landscape elements pertaining to the form, horizontal and vertical lines, hardscape and softscape, and ornate qualities that are compatible with the primary structure. Visual openness and water efficiency should be maintained. Special attention shall be given to selecting appropriate trees and plants that, at their maturity, will be in scale with the house and yard.

5. Landscape architects are encouraged to use visual focal points such as boulders, landscape mounds, planter beds, etc.

6. To the extent feasible, existing mature trees and shrubs that represent the existing significant landscaping elements shall be preserved.

7. Vegetative ground cover that will absorb rainwater and reduce runoff shall be used. Permeable surfaces should be used wherever possible to reduce paving.



Lavatera assurgentiflora

8. Air conditioning, mechanical equipment, and trash enclosures shall be screened from the public right-of-way with suitable plantings.

9. Landscaping shall be included as part of the design for a fence or wall. It should be used to soften and screen large masses of blank wall surface area and deter graffiti.

10. Model homes shall display a sign indicating that the home features water efficient planting and irrigation. The sign shall be displayed in the front yard and be clearly visible to home buyers.

11. Check with local water purveyors' and Metropolitan Water District's web sites for rebate programs that incentivize California Friendly® landscaping and irrigation systems.

B. Multi-Family Residential Design Guidelines:

Chitalpa tashkentensis

1. Turf areas shall be used sparingly in response to functional needs and shall be in compliance with the Water Budget Formula (Section 6 of this Guide).

2. Trees, shrubs, and groundcover should be incorporated within multi-family development projects to create a comfortable and aesthetically pleasing environment for residents and those viewing from public areas.

3. Landscape architects shall use clinging vines, espaliers, trellises, and shrubs to enhance the architecture and define useful public and private spaces.

4. Landscape architects shall integrate visual focal points such as boulders, landscaped mounds or berms, sculpture, and public art into their planting design.

Photo: Courtesy of Tree of Life Nursery
www.treeoflifenursery.com.

5. Planting plans shall utilize hardy native or drought tolerant trees, shrubs, and groundcover that are easy to water and maintain.

6. Paved areas, especially parking lots, must incorporate adequate shading. Off-street parking and shading plans shall comply with provisions in Section 18.12 of Ordinance No. 348.

7. Seating options in landscaped areas should be provided. They shall be constructed of durable, easy-care material such and treated with a graffiti resistant coating.

8. Entrances to alleys must be landscaped. Walls in alleys abutting residential uses shall be screened with landscaping such as clinging vines. Landscape areas

adjacent and between garages in alley-loaded residential areas are encouraged.

9. Pedestrian walkways should be safe, visually attractive, and well defined by landscaping and lighting.

10. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

11. Planting plans shall complement the landscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

12. Model homes shall display a sign indicating that the home features water efficient planting and irrigation. The sign shall be displayed in the front yard and be clearly visible to home buyers.

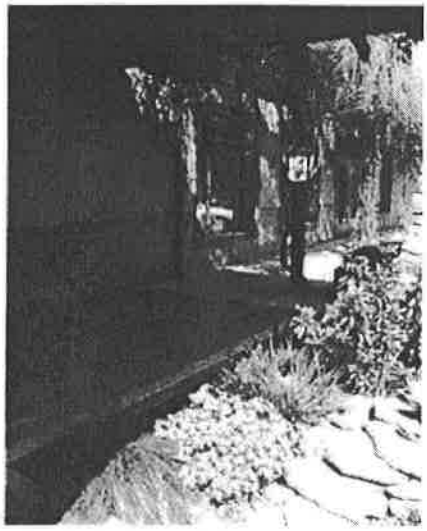


Photo Credit: Tree of Life Nursery

C. Commercial, Mixed Use, and Industrial Design Guidelines:

1. Landscaping is required to be in scale with adjacent buildings and be of appropriate size at maturity to accomplish its intended goals. A balance of deciduous and evergreen trees should be used.

2. Landscaping shall be incorporated around the base of buildings (except loading or service areas) to soften the edge between the parking lot, structure(s), and street. Such landscaping should be accentuated at entrances to provide a focal point.

3. New projects proposed adjacent to existing residential land uses shall incorporate adequate landscape screening/buffering.

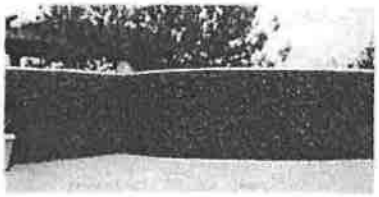
Photo Credit: Arid Zone Trees

4. Berming in conjunction with landscaping should be used at the building edge to reduce structure mass and height along façades.

5. Evergreen trees and shrubs shall be used whenever a landscape screen or buffer is required.

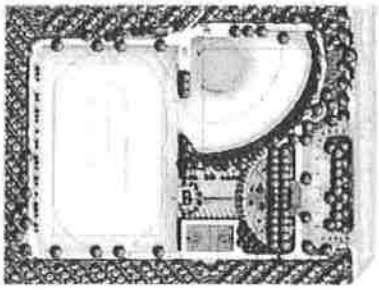
6. Service areas, equipment, and solid enclosures must be screened using landscaping such as tall shrubs and clinging vines especially those properties whose side yard fronts a primary street or abuts a residential property.

7. Design and locate perimeter planters and plantings for the purpose of creating a physical barrier, providing a visual screen, and shading the parking area. The parking lot and perimeter landscape shall also be designed



Vines soften fences and walls and deter graffiti. They shall have designated valves for irrigation.

This recreation center is themed after the local wine country.



Park Master Plan and Photo

for safe and convenient pedestrian circulation throughout, including designated paths across perimeter planters.

8. Plans shall comply with provisions in Section 18.12 of Ordinance No. 348.

9. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

10. Hardscape amenities such as benches, seating areas, and trellises, shall be included and designed to be consistent with the landscaping.

11. Landscaping plans shall complement the landscape and hardscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

12. Turf areas shall be used sparingly in response to functional needs and shall be in compliance with the Water Budget Formula (Section 9 of this Guide).

D. Park Design Guidelines:

1. A balance of deciduous and evergreen trees shall be used.

2. Landscaping shall be included as part of the design for the fence or wall. It should be used to soften and screen large masses of blank wall surface area and to deter graffiti.

3. Landscaping shall complement the landscape and hardscape elements between the proposed project, surrounding streetscapes, and adjacent publicly maintained landscaping to ensure community continuity and character.

4. Plans shall comply with provisions of Section 18.12 of Ordinance No. 348.

5. Seating options and drinking fountains in landscaped areas should be provided. Seating and drinking fountains should be constructed of durable, easy-care material such as concrete and shall be treated with a graffiti resistant coating.

6. Adequate lighting shall be incorporated into the landscape design pursuant to the prevailing local or state standards.

Anigozanthos flavidus - red cultivar

7. Sprinklers or other emitters shall be positioned so that no irrigation water shall come in contact with drinking fountains, picnic tables, benches, playground equipment, buildings, or other hardscape features.

8. Plans shall conform to the standards and be approved by the maintenance district responsible for perpetual maintenance.

D. Entry Monument Guidelines:

1. Monuments shall define a sense of space, individuality, and arrival. Each monument should be different from adjacent tracts and hold their own style.

2. To define a sense of arrival and place, entry monument shall incorporate 5 gallon or greater size shrubs, and boulders, annual color plants, lighting or other distinct visual focal points.

3. Monuments shall incorporate signature trees that complement the community theme. A minimum 36 inch box or larger shall be used. Where only one signature tree is incorporated in the monument landscaping plan, such a tree shall be a 42 inch box size or greater. Entry lighting shall be used on signature trees.

Photo: Courtesy of Arid Zone Trees

4. What Is the Required Landscape Documentation Package and When Does it Get Submitted?

Most projects that require discretionary permits are required to prepare a Conceptual Landscape Plan. This is done early in the land use development process to ensure compliance with Ordinance No. 859, applicable community design guidelines/standards, and other important planning concepts. It also allows decision makers the opportunity to review and approve landscape commitments made by the land developer. The Conceptual Landscape Plans shall include the elements of the Planting Plan identified with a red asterisk (*) in Chapter 5.

Rendering of Fossanova Vineyards
Courtesy Tim Jachlewski, In-Site Landscape Architecture

Prior to receiving a building permit, new or rehabilitated landscapes subject to Ordinance No. 859 must prepare and submit a Landscape Documentation Package to the County Planning Department for review and approval. The package shall include the following elements:

1. Project Information
2. Planting Plan
3. Irrigation Design Plan
4. Soil Management Plan
5. Grading Design Plan

Items 1, 2, 3, and 5 above are submitted as a Minor Plot Plan. Item 4 shall be completed and submitted prior building final inspection. The following pages describe the specific requirements for each of the

The WUCOLS III guide provides estimated water uses for landscape plants. It can be downloaded from: www.owue.water.ca.gov/docs/wucols00.pdf

aforementioned Landscape Documentation Package elements. Each landscape package must be submitted with applicant's signature, date, and a statement indicating, "I agree to comply with the requirements of Ordinance No. 859 and submit a complete Landscape Documentation Package."

5. What Should My Planting Plan Include?

Landscape plans for permits and/or approvals described in Section 2 shall be prepared by a landscape architect licensed by the State of California. Plant species must be selected from the Plant List found in Attachment A of this Landscaping Guide. The species listed are not guaranteed for all situations. Consultation with a landscape architect, arborist, the proposed maintenance entity, or a local plant nursery is recommended. In order to incorporate plant species other than those listed, the project applicant must provide the Planning Director with the following:

1. Water use requirements per Water Use Classification of Landscape Species (WUCOLS III) or field data verifying the plant's landscape (crop) coefficient.

2. Plant species description from Sunset Western Garden Book or other comparable source.

3. Comparison to a similar species included in the plant list.

The following minimum design standards identified with an asterisk (*) , together with the appropriate elements of Section 3 of this Landscaping Guide, shall be incorporated into Conceptual Landscape Plans. Conceptual plans are also required to provide an estimate of the landscape's Maximum Annual Water Use (see Section 9). All of the following standards are required as part of the Landscape Documentation Package Submitted as a Minor Plot Plan:

A. Plants shall be selected based on their level of maintenance, durability, mature widths and heights, aesthetic appeal, and thematic qualities. A greater percentage of "low" or "very low" water use plant species is strongly encouraged.*

B. Shade trees shall be provided for residential, commercial and industrial building parking lot and open space areas. They shall be incorporated to provide natural cooling opportunities and for the purpose of energy and water conservation. Plants shall be placed in a manner to maximize summer shade.*

Inland Empire Utilities Agency—LEED Platinum Certified Building
Photo Credit: IEUD

C. Plant species must be selected based on their appropriate plant hardiness climate zones as defined by Sunset Western Garden Book. The climate zones are also depicted in Figure 1 and are noted on the Plant List included as Attachment A of this Landscaping Guide.*

D. All non-turf planting areas (except hydroseeded areas) must be mulched on a regular basis to retain moisture, suppress weeds,

Regular application of mulch retains moisture and suppresses weeds
Photo Credit: R Cedar, LLC

and moderate soil temperature. Mulch depth, type, and maintenance replenishment frequency must be noted on plans.*

1. Planting areas shall be mulched with a three inch (3") minimum layer of organic wood mulch. Areas of groundcover planted from flats shall be mulched with a one and one half inch (1 1/2") minimum layer of organic mulch.

2. Some maintenance districts require differing mulch thicknesses. The more stringent (thicker) requirement shall prevail.

3. Color enhanced mulches are discouraged.

4. Mulch may be omitted for native revegetation projects upon the recommendation of the project biologist.

5. Planting areas in the desert regions (Sunset Climate Zones 11 and 13) shall be mulched with a two inch (2") layer of decomposed granite (DG) /gravel mulch.

   - One inch (1") minus granite mulch is suggested for aesthetic purposes.

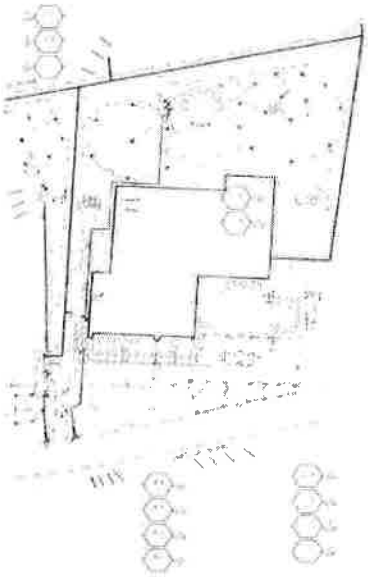
Decomposed granite mulch

E. Turf shall be used as a functional recreational element and not solely for aesthetic purposes.*

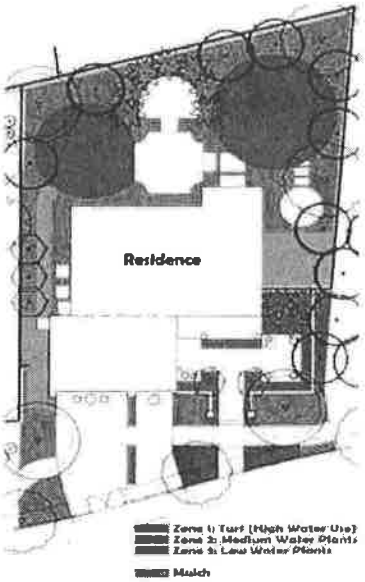
1. Small, irregularly shaped turf areas shall be avoided.

2. Turf areas shall be sized and shaped to minimize overspray and runoff.

Planting Plan



Irrigation Plan



Hyrdozones - Plants grouped and irrigated based on water use requirements

Turf to serve as a functional recreational component.

3. Lower water use, warm season turf grasses are encouraged. Grasses such as Bermuda, which are dormant (brown) in the winter, are acceptable if the maintenance entity over-seeds with perennial rye on an annual basis during the dormancy period.

4. Turf is prohibited within County road rights-of-way, unless the turf areas are contiguous to turf areas within parks, residential front yards, cemeteries or golf courses.

5. Turf is prohibited on slopes greater than 4:1.

6. Turf areas less than eight feet (8') in width shall be irrigated with subsurface irrigation or other low volume irrigation technology.

Space plants appropriately so that their mature width does not require excessive pruning.
Photo Credit: Greg Rubin, California's Own Nursery

F. Plants must be grouped and irrigated on separate valve zones (hydrozones) based on their water use requirements, slope aspect, and sun/shade microclimate.*

G. If low water use plants (those that can also survive/flourish with medium water application) are used in a medium water use hydrozone, they must be counted as medium water use in the irrigation calculations.*

H. Shrub planting/spacing shall be designed so that their mature width will not require excessive pruning. Excessive pruning is discouraged.*

I. The contractor shall tag one plant of each variety with the plant's scientific name, and cultivar or variety if applicable, and common name. This is to ensure that accurate replacement plants are installed if necessary.

J. To prevent graffiti, self-clinging vines shall be planted to ensure full coverage of the public facing side of all walls.*

Maintaining community cohesiveness is essential to establishing a sense of "place" and "destination."
Photo Credit: Arid Zone Trees

K. The Planting Plan shall be prepared at the same scale as the Irrigation Plan and, at a minimum, shall identify the following:

1. Proposed and existing trees, shrubs, ground covers, vines and turf areas indicated within the developed landscape area and within publicly maintained landscape areas within 200 feet (200') of proposed project site. Where appropriate, plans should incorporate the surrounding elements of surrounding landscape components to ensure community cohesiveness.*

2. Individual trees, shrubs, and groundcover plants drawn at their average growth size to ensure coverage of the area to be landscaped.*

3. Legend including plant symbol, genus, species, common name, spacing, size, quantity of each type of plant by container size, water use per applicable WUCOLS III Zone, and detail call-out (i.e.: P-1, P-2, P-3, etc.).*

4. Any special landscape area(s).*

Model home reduces front yard turf area by planting low- water use shrubs

Photo: Courtesy of Steve Morgan Landscaping

A Weather Based Irrigation Controller (WBIC) is a sprinkler control device that automatically adjusts irrigation schedules in response to changing weather or environmental conditions.

5. Location of each hydrozone, area (in square feet) devoted to landscaping, and a break down of the total area by landscape hydrozones.*
6. Existing trees, shrubs, groundcovers, turf areas that are to remain and any existing landscape elements that are to be removed. *
7. Type of mulch and application depth.
8. Stabilizing products to be used on slopes.*
9. Type and surface area of any water features.*
10. Location of street lights. Trees shall be located so that there is a minimum of ten feet (10') of clearance with respect to the lights.
11. Root barrier noted for trees within six feet of hardscape.
12. Property lines, limit-of-work lines, streets, and street names.*
13. Building locations, driveways, sidewalks, and other hardscape features.*
14. Appropriate four inch (4") graphic scale, title block, page numbers, and north arrow, notes, details, and specifications.*
15. Estimated Maximum Annual Water Use (MAWA).*
16. Existing land uses adjacent to the boundaries of the project site including residential development, individual homes, commercial development, fuel modification zones and any MSHCP regulated open space.*
17. Defensible space or zone around building or structure(s) is required per Public Resources Code Section 429(a) and (b). Fire-prone plant material and highly flammable mulches shall be avoided.*
18. Avoidance of invasive plant species near parks, buffers, greenbelts, water bodies, and open spaces.*
19. Type and installation details of any applicable stormwater best management practices.

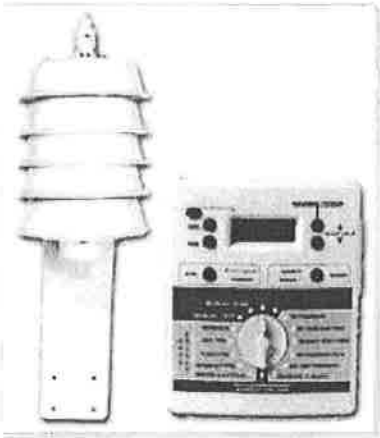
6. What Should My Irrigation Plan Include?

Irrigation systems shall be designed, constructed, managed, and maintained to achieve the highest overall efficiency possible. Efficiency is measured by the amount of water beneficially used to sustain plant life divided by the amount of water applied. Efficiency is affected by the attributes of the controller, method of irrigation, irrigation equipment, proper hydrozoning, site topography, condition and size of plants, and weather conditions.

Although an irrigation plan is not required at the conceptual stage of a land use project, it is required as one of four key components of

MP Rotator sprinklers are 15% more efficient than conventional spray applica-

Standard low-emission hub.



One of many "smart controller" options.

a Landscape Documentation Package submitted as a Minor Plot Plan prior to an applicant pulling a building permit. Other key components of the Landscape Documentation Package include the Planting Plan (Section 5 of this Guide), Soils Management Plan (Section 7), and the Grading Design Plan (Section 8). If the water purveyor for a proposed project has adopted more rigorous irrigation efficiency standards, then the more rigorous standard would prevail.

Landscaping Minor Plot Plans shall be prepared by a landscape architect licensed to work in the State of California. Irrigation plans shall include the following minimum irrigation design standards:

A. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71. High efficiency irrigation methods (e.g. drip, MP rotators, micro-sprays) shall be utilized.

B. All irrigation systems shall be designed to prevent runoff, overspray, low head drainage, and other similar conditions where water flows off-site on to adjacent property, non-irrigated areas, walkways, roadways, or structures. Check valves are recommended.

C. Optimally, overhead irrigation should occur between the hours of 8 p.m. to 9 a.m. Check with local water purveyor to determine the correct watering window for your project and schedule accordingly.

D. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. There are no restrictions on the irrigation system type if the landscape area is adjacent to permeable surfacing and no overspray and run off occurs.

E. Irrigation systems shall be designed, constructed, managed, and maintained to achieve as high an overall efficiency as possible. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

F. Rotors and spray heads shall be designed and installed with minimized overspray onto paved surfaces, structures, and non-vegetated areas. The design shall be head-to-head coverage with matched precipitation heads and a maximum of fifty percent (50%) diameter overlap. Rotors and spray heads shall be zoned separately. Half rotors and full rotors shall be zoned separately unless matched precipitation nozzles are used.

G. For drip line installations, in-line pressure regulators shall be used per factory recommendations for the specific irrigation products being used. If drip line is being installed, it must be filtered at the valve along with any other necessary equipment.

H. Irrigation systems shall be zoned according to plant water use, slope aspect, and sun/shade microclimate. If low water use plants (that can also survive/flourish with medium water application) are used within a medium water use hydrozone, they must be counted as medium water use in the irrigation calculations.

How Can I Find A "Smart" Controller?

The Irrigation Association regularly tests "smart" controllers and provides a list of recommended controllers for commercial or private use. Below are the tested and recommended smart controllers from the Association's 2009 list.,. For more information and a current list of controllers, see the Irrigation Association's web site located at: http://www.irrigation.org/SWAT/Industry/ia-tested.asp

- Alex-Tronix Enercon Plus
- Alex-Tronix Smart Clock
- Aqua Conserve Aqua ET-9
- Calsense ET2000e
- Cyber-Rain XCI
- ETwater Smart Controller
- Hunter ET System
- Hunter Solar Sync
- Hydrosaver ETIC
- Irritrol Smart Dial
- Rain Bird ESP: LX & SMT
- Rain Bird ET Manager
- Rain Master RME Eagle
- SMG Superior Controls Sterling 8
- Toro Intelli-Sense
- Toro RKS w/Tipping Rain Bucket
- WaterOptimizer
- Weathermatic SL1600
- WeatherTRAK

I. Water systems for common open space areas shall use non-potable water if approved facilities are made available by the water purveyor. Provisions for the conversion to a non-potable water system shall be provided within the landscape plan. Systems designed to use non-potable water shall be designed to meet all applicable standards of the California Regional Water Quality Control Board and the Riverside County Health Department. With the exception of single family residential units, all irrigation plans shall be designed for recycled water in areas that are scheduled for recycled water in the future.

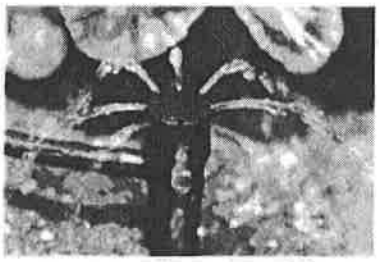
J. All irrigation systems shall be equipped with the following:

1. A smart irrigation controller which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions.
2. A rain sensing device to prevent irrigation during rainy weather;
3. Anti-drain check valves installed at strategic points to prevent low-head drainage.
4. A manual shut-off valve as close as possible to the point of connection of the water supply to minimize water loss in case of an emergency or routine repair.
5. A pressure regulator when the static water pressure is above or below the recommended operating pressure of the irrigation system.
6. Backflow prevention devices.
7. Riser protection components for all risers in high traffic areas.

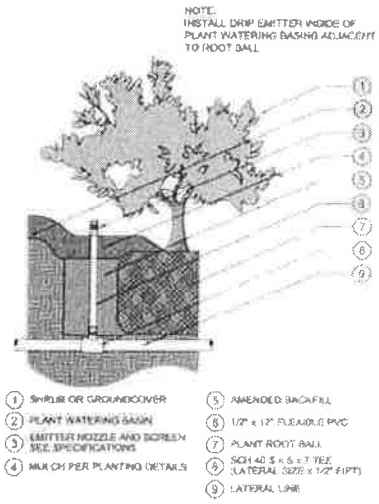
K. Irrigation systems shall be scheduled so that the irrigation precipitation rate does not exceed the infiltration rate of the soil. The irrigation schedules shall include the recommended irrigation days per week, number of cycles per day, minutes of run times per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year.

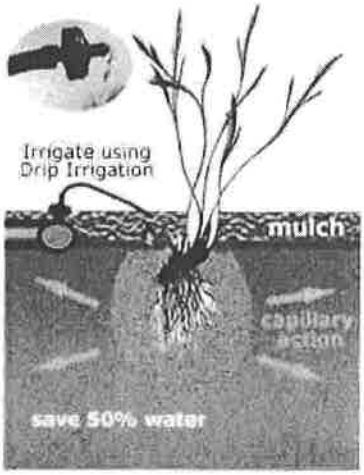
L. A baseline irrigation schedule shall be provided on the plans for the six-month initial plant establishment period. The contractor shall adjust the schedule to meet site specific requirements and use the baseline schedule to set the weather-based controller. The schedule currently in effect shall be posted in the controller.

M. A second baseline irrigation schedule shall be provided on the plans which incorporates the specific water needs of the plants throughout the post-establishment calendar year. The contractor shall adjust the schedule to meet site specific requirements and use the baseline schedule to set the weather-based controller. The schedule currently in effect shall be posted in the controller.



Standard low-emission bubbler.





Drip irrigation is 30% more efficient than conventional spray applications.

N. The irrigation schedules shall include the recommended irrigation days per week, number of cycles per day, minutes of run times per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year.

O. The controller shall be operational and set to real-time weather prior to the completion of the 90-day maintenance period of the installing contractor.

P. Commercial projects shall include a Central Controller programmed to distinguish irregular flows (e.g. broken valve, line, spray head, etc.), temporarily shut off the affected branch or the entire system, and send an immediate electronic message to the maintenance entity.

Q. Residential Front Yard Typical Irrigation Plans must demonstrate that sufficient capacity exists on the specified irrigation controller to supply adequate additional zones for future side and backyard landscaping. More than one controller per residential unit shall be avoided.

R. Dedicated landscape meters are required for all projects greater than 2,500 square feet except single family homes.

S. Separate valves shall be provided for separate water use planting areas so that plants with similar water needs are irrigated by the same irrigation valve. All installations shall rely on highly efficient state of the art irrigation systems to eliminate runoff and maximize irrigation efficiency as required by this Landscaping Guide.

T. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at the installation.

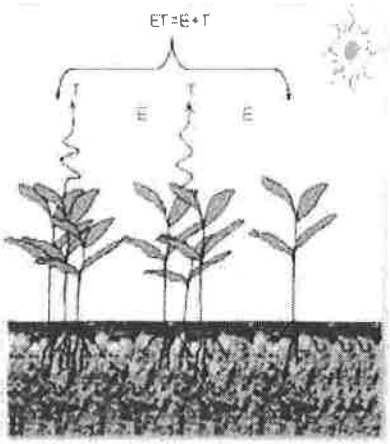
U. The capacity of the irrigation system shall not exceed the capacity required for peak water demand based on water budget calculations, meter capacity, or backflow preventer type and device capacity.

V. Sprinkler heads and other emission devices shall have matched precipitation rates unless otherwise directed by the manufacturer.

W. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.

X. Non-turf areas on slopes greater than 25% shall be irrigated with drip irrigation or other low volume irrigation technology unless an alternate design or technology can demonstrate adequate irrigation with no runoff or erosion.

Y. Long, narrow, or irregularly shaped areas including turf less than eight feet in width in any direction shall be irrigated with subsurface irrigation or low-volume irrigation technology.



Evapotranspiration = the loss of water to the atmosphere from plants and soil.

Photo: Courtesy of Greg Rubin, California's Own Nursery.

Z. The Irrigation Plan shall be prepared at the same scale as the Planting Plan and, at a minimum, shall identify the following:

1. Location and size of service lateral(s) and water meter(s).

2. Point of connection (POC) location and static pressure at POC.

3. Total flow rate (gallons per minute) and designed operating pressure (psi) for each overhead spray and bubbler circuit. and total flow rate (gallons per hour) and design operating pressure (psi) for each drip and low volume irrigation circuit.

4. Precipitation rate (inches per hour) for each overhead spray circuit.

5. Pressure loss calculations for valve with worse condition.

6. Location, size, and type of all irrigation components including, but not limited to, smart controller, central controller (backflow prevention device, ball valves, anti-drain check valves, pressure supply (main) line, lateral lines, pipe sizing, valves, spray heads, rotors, drip, low volume irrigation equipment, gallons per minute, pressure regulators, and pumps. Water sense components are strongly recommended.

7. Hydraulic Calculation worksheet including flow rate (gallons per minute) and design operating pressure.

8. Precipitation rate (inches per hour) for each spray type circuit.

9. Irrigation legend with the symbol, manufacturer name, model number (or non-proprietary description for publicly funded projects), separate symbols for irrigation equipment with different spray patterns, spray radius, and precipitation rate.

10. Location, size, and type (high, medium, low) of each hydrozone.

11. Topographic elevation lines to determine slope.

12. Irrigation system details for assembly and installation. Calculation for the project's landscape Water Budget. (Section 10 of this Landscaping Guide).

13. Irrigation design plans shall contain the following statement, "I agree to comply with the criteria of Ordinance No. 859 and to apply the criteria for the efficient use of water in the irrigation design plan."

7. What Is Required In A Soil Management Plan?

Soil sampling is performed after mass grading. A laboratory analyzes the soil and recommends necessary amendments for remediating the limiting soil characteristics.

Soil amendments improve the water holding capacity of the soil, adjust soil pH, provide nutrients, and improve drainage. Agronomic soil tests are required to determine the recommended types, rates, and application methods of soil amendments. Implementation of the recommendations is required to help ensure optimum soil conditions for the specified plants.

A Soils Management Plan is required as a component of the Landscape Documentation Package and must be completed and inspected (see Section 10) by the County Landscape Inspector prior to receiving a Certificate of Completion. The following information is intended to guide applicants through the development and implementation of the soils management component of the Landscape Documentation Package.

A. Prior to Building Final Inspection, the project applicant or his/her designee shall:

Soil sampling tools.

1. Perform a preliminary site inspection:
2. Determine the appropriate level of soil sampling and sampling method needed to obtain representative soil sample(s);
3. Conduct a soil probe test to determine if the soil in the landscape area has sufficient depth to support the intended plants; and
4. Obtain appropriate soil sample(s).

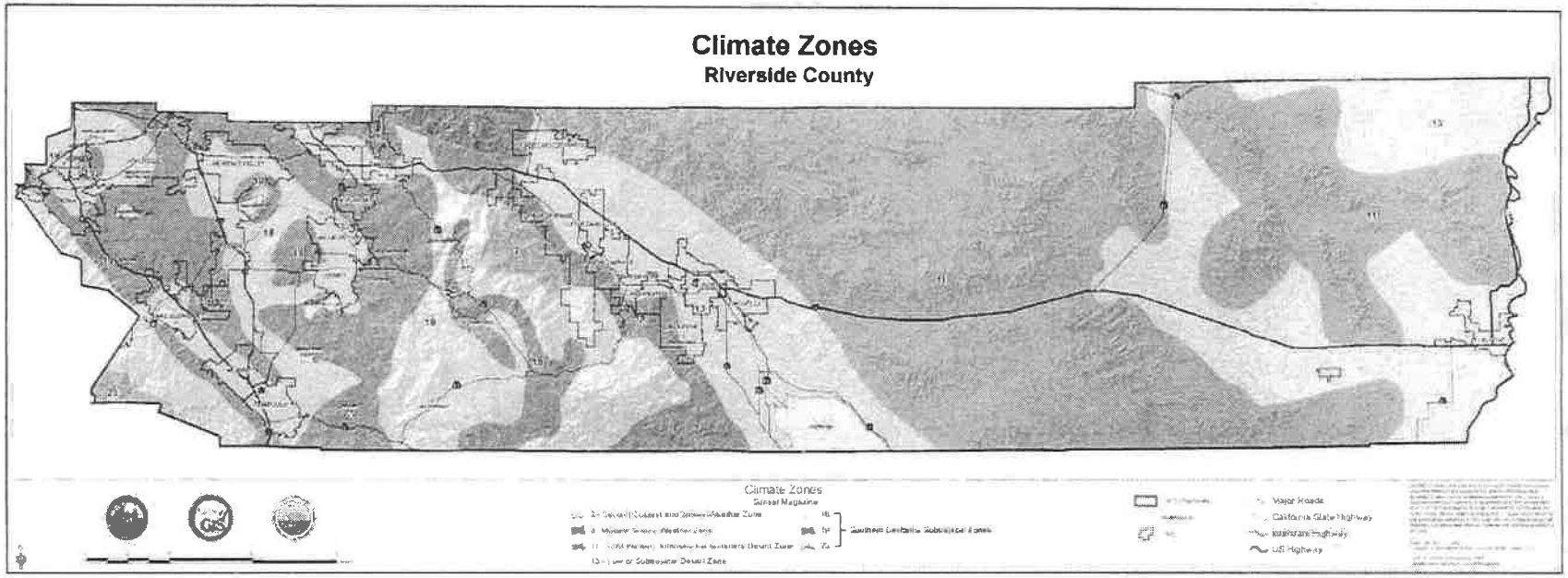
B. The project applicant shall submit soil sample(s) to the appropriate laboratory for analysis and recommendation. At a minimum, the soil analysis should include soil texture; infiltration rate determined by lab test or soil texture infiltration rate tables; pH; total soluble salts; sodium; and recommendations.

C. Prior to the Pre-Installation Inspection, the Soils Management Plan shall be submitted electronically to the County Landscape Division to be included as part of the Landscape Documentation Package and shall include the following:

Soil is prepped for better plant growing conditions

1. Soil type;
2. Identification of limiting soil characteristics; and
3. Identification of planned soil management actions to remediate limiting soil characteristics.
4. Documentation verifying implementation of the soils analysis report recommendations.

FIGURE 1


Climate Zones
Riverside County
Climate Zones
Sunset Magazine
Major Roads
California State Highway
Interstate Highway
US Highway

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8. How Do My Grading Plans Relate to My Landscape Design Requirements?

For the efficient use of water, grading of a project shall be designed to minimize soil erosion, runoff, and water waste. To ensure that this occurs, the Landscape Documentation Package shall include rough or precise grade elevations prepared for the project by a licensed civil engineer. The County Planning Department recognizes that rough grading plans may be reviewed by another department on a parallel track with the Landscaping Package. Therefore, the applicant shall provide the most current version of the rough grading plans with each subsequent landscape plan check review.

9. What Is A Water Budget And How Is It Calculated?

Water budgets are used to assist designers and governing authorities to verify compliance with the State and local requirements for water conservation. Water budgets also assist with water demand management. A water budget determines how much water a particular landscape needs over a specified period of time. The Maximum Annual Water Allowance (MAWA) is calculated and compared to the Estimated Annual Water Use (EAWU) to verify that the project landscaping is not exceeding the allowed water use. It is important to note that AB1881 requires water budgets to account for the surface area of water features.

If the water purveyor for a proposed project has adopted more rigorous irrigation efficiency standards, then the more rigorous standard would prevail and must be reflected in the water budget for the proposed project.

A. Maximum Annual Water Allowance and Evapotranspiration Rate (ETo).

Photo Credit: Sunset Magazine on-line blog "Fresh Dirt"

ETo, or Annual Reference Evapotranspiration Rate, is the quantity of water evaporated from adjacent soil surfaces and transpired by plants in terms of inches for a particular climate zone. Your total square footage of landscape and ETo are essential components of the MAWA formula (below).

$$MAWA\ (\text{in gallons}) = (ETo)(0.62)[0.7 \times LA + 0.3 \times SLA]$$

Where:
ETo is reference evapotranspiration
SLA is the amount of special landscape area in square feet
LA is total landscape area (incl. SLA) in square feet

ETo rates vary according to climate, the ETo rate must be identified for your project in order to calculate MAWA. ETo data is taken from the California Irrigation Management Information

TABLE 1		
CIMIS Station	**Location**	**Reference ETo**
24	Thermal	73.03
25	Rancho Mirage	71.40
34	Rancho California	49.54
36	Blythe	71.40
44	UC Riverside (Riverside)	56.37
55	Palm Desert	72.77
62	Temecula	66.14
118	Cathedral City	57.06
130	Temecula East	49.54
135	Blythe Northeast	70.80
136	Oasis	71.40
141	Mecca	62.68
151	Ripley	71.40
154	Salton Sea North	71.65
162	Indio	71.40
176	La Quinta	71.40
179	Winchester	57.33

TABLE 2	
Plant Category	**Average PF**
High	0.8
Medium	0.5
Low	0.2
Very Low	0.1

System (CIMIS). Table 1 will help you find your ETo. If your project is not within one of the weather station areas listed, use the closest representative station.

To ensure the attainment of water-efficient landscape goals, the County requires that landscapes not exceed a maximum water demand of 70% of its referenced ETo. However, applicants are advised that local water purveyors may impose a stricter conservation standard for calculating the maximum allowable percentage of ETo allotted to projects within their service area. Therefore, landscape plans and MAWA calculations must comply with the standard that is stricter and adjust the aforementioned formula accordingly. Early consultation with the prevailing water agency is encouraged.

B. Estimated Annual Water Use (EAWU).

EAWU for water budgets shall be calculated using the following formula. Please note that a separate EAWU calculation must be performed for each hydrozone within the proposed project.

EAWU (in gallons)=(ETo)(0.62)[((PFxHA)/IE) + SLA

Where:
ETo is reference evapotranspiration
PF is Plant Factor
HA is hydrozone area in square feet
IE is irrigation efficiency (minimum 0.71)
SLA is the amount of special landscape area in square feet

For purposes of the water budget formula:

1. Turf and the surface area of water features are considered to have a *high* water requirement.
2. Temporarily irrigated areas are considered to have a *low* water requirement. Refer to Table 2 to establish your PF for each hydrozone.
3. The average Plant Factor (PF) is established by the WUCOLS III for plants that are considered high, medium, low, and very low based on their water requirements. The WUCOLS plant category designation for any given plant can differ depending on the region in which the plant is used. For more information, see California Friendly Plant List (Attachment A).
4. For the purpose of determining the EAWU, average irrigation efficiency (IE) is assumed to be 0.71 because all irrigation systems must be designed to meet or exceed an average irrigation efficiency of 0.71.
5. Special landscape area is defined as an are of the landscape dedicated to edible plants, areas irrigated with recycled water, and publicly accessible areas dedicated to active play such as parks, sports fields, golf courses, where turf provides a playing field or where turf is needed for high traffic activities.

TABLE 3	
WUCOLS III Region	**Corresponding Sunset Zones**
1	2,3,14,15,16,17
2	8,9
3	22,23,24
4	18,19,20,21
5	11
6	13

Plant water use requirements can vary according to regional climate zones. The PF figure used in the EAWU calculation above is derived from the plant category designation identified by WUCOLS for the region in which a given plant is used in a landscape. For example: Albizia julibrissin is a low water using tree in WUCOLS Regions 1 and 2 with an average PF of 0.2 but a medium water using tree in WUCOLS Regions 3-6 (see WUCOLS columns in Plant List included as Attachment A) with an average PF of 0.5.

Since many plants are identified by their associated Sunset Zone, Table 3 illustrates the relationships between the Sunset Zones and WUCOLS regions. Sunset Zones are also displayed geographically in Figure 1.

C. Finalizing the Water Budget Calculations.

Add together the EAWU subtotals for each hydrozone within the proposed project, this will be the Sub-Total EAWU. Now, divide that number by 0.85. The resulting number will be the Total EAWU. Subtract the Total EAWU number from the MAWA. The resulting number must be positive. If the number is negative, then adjustments will need to be made to the Planting Plan (e.g. use more vegetation types that consume less water) and/or the Irrigation Plan (e.g. use more efficient application methods).

Inspectors will confirm that plants are installed per approved plans and are thriving

10. What Are the County's Installation and Maintenance Requirements?

Correct installation and consistent landscape maintenance is paramount to water efficient landscaping and water conservation. Regardless of the efficiency of the irrigation design and installation, a landscape can quickly lose its efficiency and aesthetic appeal without proper maintenance. To ensure that the soils management plan is prepared and executed, planting and irrigation components are installed properly, and landscape is maintained throughout a minimum plant establishment period, the County Planning Department will conduct the following series of site visits:

A. Pre-Installation Inspection

After the Soils Management Plan is transmitted to the County and the soil preparation measures are implemented by the applicant at the project site, then the applicant shall contact the County Landscape Inspector to arrange for the Pre-Installation Inspection. The County Landscape Inspector will confirm that the soils management plan recommendations are properly executed and the subsurface irrigation system is properly installed and connected prior to the installation of the plants and top dressing.

B. Landscape Installation Inspection

The County Landscape Inspector will, at a minimum, confirm that the landscaping has been installed in conformance with the approved planting and irrigation design plans; perform an

Photo: Courtesy of Michael Payne

irrigation audit; verify that the smart controller is set according to the irrigation schedule identified on the irrigation plans; verify that that the irrigation system is adjusted to maximize efficiency and eliminate overspray and runoff; ensure that the project meets all other conditions of its landscape approval, verify that the performance security has been approved and executed. Upon successful completion of the Landscape Installation Inspection, a Certificate of Completion will be issued to the project applicant.

C. One Year Post-Establishment Inspection

Personnel will, at a minimum, verify that plants are established and thriving, and ensure that the post-establishment irrigation schedule is programmed and posted in the controller, and confirm that any remaining Conditions of Approval are met. If components of either the irrigation system or the landscape have been replaced, personnel will confirm that their replacement components reflect the original approved Irrigation and Planting Plans.

Upon successful completion of the Post-Establishment Inspection, the landscaping/irrigation component of the performance bond will be deemed complete. Post-Establishment Inspections are not required for residential or model homes.

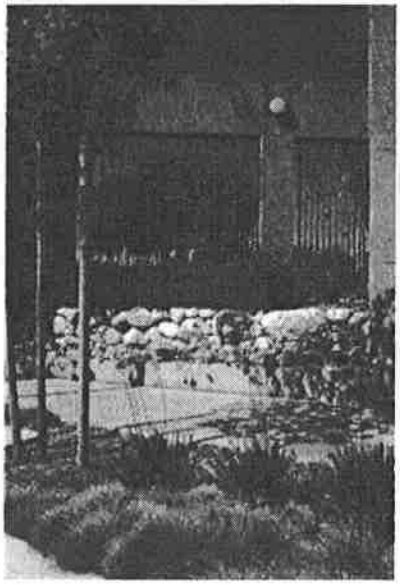

Photo: Courtesy of Toyon Designs

D. At the Planning Director's discretion, projects may be required to maintain an annual maintenance inspection schedule to ensure that the following obligations are met:

1. Smart controllers are monitored and adjusted for maximum operating efficiency and irrigation application equipment is calibrated to provide maximum efficiency.

2. Non-functioning irrigation and hardscape components are replaced with identical or better components.

3. Plant materials that fail to thrive are replaced with identical plant materials or those with similar water requirements.

4. Minimum mulching levels are maintained.

5. Plants are pruned to eliminate irrigation application interference.

Photo Credit: Eastern Municipal Water District

11. How is Recycled Water Used?

Recycled water determined to be available pursuant to Section 13550 of the California State Water Code shall be used for appropriate non-potable uses whenever it: a) provides a beneficial use to the customer, b) is economically and technically feasible, c) is consistent with applicable regulatory requirements, and d) is in the best interests of public health, safety, and welfare. With the exception

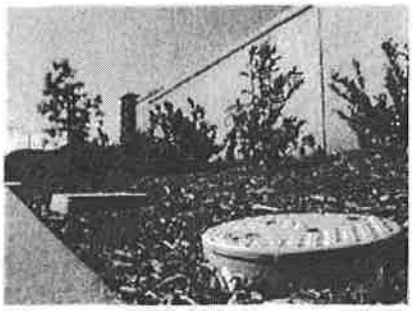

Photo Credit: Eastern Municipal Water District.

of non-common areas of single-family home residential developments, irrigation systems must be designed and installed to accommodate the current or future use of recycled water for irrigation. When recycled water is not available, landscape irrigation plans shall provide for below ground installation of purple pipe components to minimize the cost of a retrofit at a later date.

Applicants proposing landscaping that is designated for recycled water use shall consult with the appropriate water purveyor early in the development review process (Conceptual Landscape Plan or prior to a County discretionary action). This will ensure that future recycled water facilities meet the projected demand and that subsequent landscape plans comply with the applicable standards, approvals, and implementation requirements of the local water purveyor, land use agency, and maintenance entity.

Recycled water plans shall be developed in accordance with standards and policies of the applicable recycled water purveyor. Recycled water systems shall be designed to meet regulatory requirements of the California Department of Public Health, California Regional Water Quality Control Board, and the local recycled water purveyor.

<END>

KB Homes Martha Stewart Collection, City of Perris
Photo Credit: Moises Lopez

We Invite You to Visit the Following Web Sites for More Information or Contact Your Local Water Purveyor to Learn More About Their Respective Water Efficiency Programs:

Riverside County Planning Department—Landscape Section
http://www.rctlma.org/planning/content/devproc/landscpe/landscape.html

Riverside County Water Task Force
http://www.h2oriversidecounty.org/

California Friendly/Drought Tolerant Gardens
http://www.bewaterwise.com/knowledge01.html

California Department of Water Resources
http://www.owue.water.ca.gov/index.cfm

California Friendly Developments
http://www.bewaterwise.com/home03.html

California Plant Nurseries
http://www.rctlma.org/planning/content/devproc/landscpe/drought_tolerant_plant_nurseries.pdf

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Attachment A

County of Riverside California Friendly Plant List