



Water Efficient Landscape

Community Development

Department

APPLICANT INFORMATION

Project Applicant _____

Project Address _____

Phone Number _____ Email _____

PROPERTY OWNER INFORMATION same as applicant

Property Owner _____

Phone Number _____ Email _____

PROJECT INFORMATION

Total Landscape Area _____ square feet

Project Type: New Construction Rehabilitated Public Private Cemetery

Water Supply: Potable Recycled Well

APPLICANT SIGNATURE

I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Document Package

Signature _____

Date _____

SUBMITTAL REQUIREMENTS

- A. Water Efficient Landscape Worksheet
- B. Soil Management Report
- C. Landscape Design Plan
- D. Irrigation Design Plan
- E. Grading Design Plan

POST-CONSTRUCTION REQUIREMENTS

- I. Certificate of Completion
- II. Landscape and Irrigation Maintenance Schedule



WATER EFFICIENT LANDSCAPE WORKSHEET (1/3)

SECTION A. HYDROZONE INFORMATION TABLE—Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone *	Zone or Valve	Irrigation Method **	Area (sq. ft.)	% of Landscape Area
Total				100%

* Hydrozone

HW = High Water Use Plants

MW = Moderate Use Plants

LW = Low Water Use Plants

** Irrigation Method

MS = Micro-spray

S = Spray

R = Rotor

B = Bubler

D = Drip

O = Other

WATER EFFICIENT LANDSCAPE WORKSHEET (2/3)



SECTION B. WATER BUDGET CALCULATIONS

SECTION B1. Maximum Applied Water Allowance (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using this equation:

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

where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration from Appendix A (inches per year)

0.7 = ET Adjustment Factor (ETAF)

LA = Landscaped Area includes Special Landscape Area (square feet)

0.62 = Conversion factor (to gallons per square foot)

SLA = Portion of the landscape area identified as Special Landscape Area (square feet)

0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = _____ gallons per year

Show calculations.

Effective Precipitation (Eppt)

If considering Effective Precipitation, use 25% of annual precipitation. Use the following equation to calculate Maximum Applied Water Allowance:

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

Maximum Applied Water Allowance = _____ gallons per year

Show calculations.

SOIL MANAGEMENT REPORT



In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:

- (1) Submit soil samples to a laboratory for analysis and recommendations.
 - (A) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
 - (B) The soil analysis may include:
 1. soil texture;
 2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
 3. pH;
 4. total soluble salts;
 5. sodium;
 6. percent organic matter; and
 7. recommendations.
- (2) The project applicant, or his/her designee, shall comply with one of the following:
 - (A) If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation Package; or
 - (B) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.
- (3) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.
- (4) The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.



LANDSCAPE DESIGN PLAN

For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) Plant Material

- (A) Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:
 - 1. protection and preservation of native species and natural vegetation;
 - 2. selection of water-conserving plant and turf species;
 - 3. selection of plants based on disease and pest resistance;
 - 4. selection of trees based on applicable local tree ordinances or tree shading guidelines; and
 - 5. selection of plants from local and regional landscape program plant lists.
- (B) Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 492.7(a)(2)(D).
- (C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:
 - 1. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
 - 2. recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; and
 - 3. consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- (D) Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
- (E) A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
- (F) The use of invasive and/or noxious plant species is strongly discouraged.
- (G) The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

(2) Water Features

- (A) Recirculating water systems shall be used for water features.
- (B) Where available, recycled water shall be used as a source for decorative water features.
- (C) Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
- (D) Pool and spa covers are highly recommended.

LANDSCAPE DESIGN PLAN



(3) Mulch and Amendments

- (A) A minimum two inch (2") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
- (B) Stabilizing mulching products shall be used on slopes.
- (C) The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
- (D) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 492.5).

The landscape design plan, at a minimum, shall:

- (1) delineate and label each hydrozone by number, letter, or other method;
- (2) identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;
- (3) identify recreational areas;
- (4) identify areas permanently and solely dedicated to edible plants;
- (5) identify areas irrigated with recycled water;
- (6) identify type of mulch and application depth;
- (7) identify soil amendments, type, and quantity;
- (8) identify type and surface area of water features;
- (9) identify hardscapes (pervious and non-pervious);
- (10) identify location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
 - (A) infiltration beds, swales, and basins that allow water to collect and soak into the ground;
 - (B) constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
 - (C) pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.
- (11) identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
- (12) contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan"; and
- (13) bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)



IRRIGATION DESIGN PLAN

For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) System

(A) Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.

(B) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for irrigation scheduling in all irrigation systems.

(C) 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.

1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.

2. Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured at the point of connection. 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 installation.

(D) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.

(E) Manual shut-off valves (such as a gate valve, ball valve, or butterfly 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 (such as a main line break) or routine repair.

(F) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.

(G) High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.

(H) The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, nonirrigated areas, hard-scapes, roadways, or structures.

(I) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.

(J) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

(K) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 regarding the Maximum Applied Water Allowance.

(L) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.

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

(N) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.

(O) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

(P) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

IRRIGATION DESIGN PLAN



(Q) Check valves or anti-drain valves are required for all irrigation systems.

(R) Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low volume irrigation system.

(S) Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if: 1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or 2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or 3. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7 (a)(1)(H). Prevention of overspray and runoff must be confirmed during the irrigation audit.

(T) Slopes greater than 25% 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 Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) Hydrozone

(A) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

(B) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

(C) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.

(D) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if: 1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or 2. the plant factor of the higher water using plant is used for calculations.

(E) Individual hydrozones that mix high and low water use plants shall not be permitted.

(F) On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Appendix B Section A). This table can also assist with the irrigation audit and programming the controller.

The irrigation design plan, at a minimum, shall contain:

- (1) location and size of separate water meters for landscape;
- (2) location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;
- (3) static water pressure at the point of connection to the public water supply;
- (4) flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
- (5) recycled water irrigation systems as specified in Section 492.14;
- (6) the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan"; and
- (7) the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.) Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.



GRADING DESIGN PLAN

For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for other local agency permits satisfies this requirement.

- (1) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
 - (A) height of graded slopes;
 - (B) drainage patterns;
 - (C) pad elevations;
 - (D) finish grade; and
 - (E) stormwater retention improvements, if applicable.
- (2) To prevent excessive erosion and runoff, it is highly recommended that project applicants:
 - (A) grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
 - (B) avoid disruption of natural drainage patterns and undisturbed soil; and
 - (C) avoid soil compaction in landscape areas.
- (3) The grading design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law. Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

CERTIFICATE OF COMPLETION



This certificate is filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

Date	Date	
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Project Address and Location

Street Address	Parcel, tract or lot number, if available
City	
State	Zip Code

Property Owner or his/her designee:

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Property Owner

“I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule.”

Property Owner Signature Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency _____
2. Date the Landscape Documentation Package was approved by the local agency _____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor _____

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CERTIFICATE OF COMPLETION

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

“I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package.”

Signature*	Date	
Name (print)	Telephone No.	
	Fax No.	
Title	Email Address	
License No. or Certification No.		
Company	Street Address	
City	State	Zip Code

*Signer of the landscape design plan, signer of the irrigation plan, or a licensed landscape contractor.

PART 3. IRRIGATION SCHEDULING

Attach parameters for setting the irrigation schedule on controller per ordinance Section 492.10.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per ordinance Section 492.11.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.5.

Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.5.