ORDINANCE NO. 614

AN ORDINANCE OF THE CITY OF RANCHO PALOS VERDES TO REPEAL AND REPLACE MUNICIPAL CODE CHAPTER 15.34 TO IMPLEMENT THE STATE OF CALIFORNIA'S REQUIREMENTS FOR WATER EFFICIENT LANDSCAPING.

WHEREAS, the waters of the State of California are of limited supply and are subject to increasing demands; and

WHEREAS, it is the policy of the State of California and of the City of Rancho Palos Verdes to promote the conservation and efficient use of water and to prevent the waste of this valuable resource; and

WHEREAS, the City of Rancho Palos Verdes is a unique, well-established residential community where development consists predominantly of single-family residential homes; and

WHEREAS, the Governor's Drought Executive Order of April 1, 2015 directed the California Department of Water Resources to update the State's Model Water Efficient Landscape Ordinance; and

WHEREAS, the Department of Water Resources approved the revised Model Water Efficient Landscape Ordinance in 2015; and

WHEREAS, California law requires each city to revise their existing water efficient landscaping ordinance to meet updated statutory requirements, or the city will be deemed to have adopted the revised model ordinance drafted by the California Department of Water Resources; and

WHEREAS, the City of Rancho Palos Verdes' water efficient landscaping ordinance, codified in Chapter 15.34 of the Rancho Palos Verdes Municipal Code, must be updated to conform to the revised model ordinance requirements set forth in Title 23 of the California Code of Regulations Section 490, et seq.; and

WHEREAS, the City Council has directed that Chapter 15.34 be amended to reflect the current statutory requirements; and

WHEREAS, the water efficient landscaping standards adopted herein serve to advance the foregoing goals, advance the goal of conserving water and further public health, safety and welfare; and

WHEREAS, the City Council finds and determines that the water efficient landscape ordinance herein adopted is at least as effective in conserving water as the California Department of Water Resources' updated Model Water Efficient Landscape Ordinance, and is reasonably necessary based on the climate, geology, topography and/or environmental conditions in the City.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF RANCHO PALOS VERDES DOES ORDAIN AS FOLLOWS:

Section 1. Chapter 15.34 of Title 15 of the Rancho Palos Verdes Municipal Code is being repealed and replaced to read as follows:

"CHAPTER 15.34"

WATER EFFICIENT LANDSCAPING

SECTION:

15.34.010 Purpose.

It is the policy of the City of Rancho Palos Verdes (City) to promote water conservation. The landscape water conservation standards detailed in this chapter are intended to promote water conservation, while allowing the maximum possible flexibility in designing healthy, attractive, and cost-effective water efficient landscapes.

15.34.020 Definitions.

"Applicant" means the person or entity submitting a Landscape Documentation Package. An Applicant may include the property owner and/or an agent of the owner.

"Applied Water" means the portion of water supplied by an irrigation system to a landscape.

"Certificate of Completion" means the final document submitted to the City which contains irrigation scheduling parameters, a landscape and irrigation maintenance schedule, an irrigation audit report, and a soil analysis report, which has been certified by either the signer of the landscape design plan, the signer of the irrigation design plan or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package.

"Director" means the Director of Community Development.

"Estimated Total Water Use" means the estimated total water use in gallons per year for a Landscape Area, calculated by summing the estimated water use for each Hydrozone as described in the Water Budget Calculations.

"Evapotranspiration" means the approximate summation of water loss through evaporation from soil and transpiration from the plants during a specified period of time.

"Evapotranspiration Adjustment Factor" means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The Evapotranspiration Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The Evapotranspiration Adjustment Factor for existing non-rehabilitated landscapes is 0.8.

"Hardscapes" means any durable material or feature (pervious and nonpervious) installed in or around a Landscape Area, such as pavements or walls.

"Hydrozone" means a portion of a Landscape Area having plants with similar water needs. A Hydrozone may be irrigated or nonirrigated, and if irrigated the Hydrozone may be served by an irrigation valve or set of valves with the same schedule.

"Irrigation Efficiency" means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation Efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. Irrigation Efficiency for purposes of this Chapter is 0.75 for overhead spray devices and 0.81 for drip systems.

"Landscape Area" means all new or altered landscaping areas proposed as part of a development project. Landscape Area shall include the planting areas, turf areas, water features, and design features as allowed in Section 15.34.090(A)(11). The Landscape Area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

"Landscape Documentation Package" means the documents required under Section 15.34.080 required to be submitted to the Director for review and approval.

"Landscape Regulations" refers to the Landscape Regulations for the Implementation of the City of Rancho Palos Verdes Water Efficient Landscape Ordinance prepared by the Director of Community Development describing the procedures, calculations, forms and other requirements for landscape projects subject to this Chapter.

"Maximum Applied Water Allowance" means the maximum annual gallons per year of water allowed for a Landscape Area, calculated as described in the Water Budget Calculations.

"Water Efficient Landscape Permit" means an authorizing document issued to an Applicant by the Director upon approval of the Applicant's Landscape Documentation Package.

"Plant Factor" means a factor that when multiplied by the Reference Evapotranspiration, estimates the amount of water used by a given plant species. For purposes of this Chapter, the Plant Factor range for Very Low Water Use Plants is 0 to 0.1, the Plant Factor range for Low Water Use Plants is 0.1 to 0.3, the Plant Factor range for Moderate Water Use Plants is 0.4 to

0.6, and the Plant Factor range for High Water Use Plants is 0.7 to 1.0. Plant Factors used in this Chapter are derived from Water Use Classification of Landscape Species.

"Reference Evapotranspiration" means a standard measurement of environmental parameters which affect the water use of plants. Reference Evapotranspiration is expressed in inches for purposes of this Chapter and is an estimate of the Evapotranspiration per year from a large field of four to seven-inch tall cool season grass that is not water stressed. Reference Evapotranspiration is used as the basis for determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated. For the City of Rancho Palos Verdes, the Reference Evapotranspiration is 39.7 inches.

"Special Landscape Area" means park and recreational areas, areas permanently and solely dedicated to edible plants (such as orchards and vegetable gardens), and areas irrigated with nonpotable water.

"Turf" means a groundcover surface of mowed grass with an irrigation water need of greater than thirty (30) percent of the Reference Evapotranspiration, except for low water use alternative Turf blends.

"Water Budget Calculation" mean the Maximum Applied Water Allowance and Estimated Total Water Use calculations as outlined within the Landscape Regulations.

"Water Feature" means a design element where open water performs an aesthetic or recreational function. Water Features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of Water Features is included in the high water use Hydrozone of the Landscape Area. Constructed wetlands used for on-site wastewater treatment, habitat protection, or storm water best management practices that are not irrigated with potable water and are used solely for water treatment or storm water retention are not Water Features and are not subject to the Water Budget Calculation.

"Water Use Classifications of Landscape Species" means the document prepared by the University of California Cooperative Extension and available from the State Department of Water Resources at: Department of Water Resources, Bulletins and Reports, P.O. Box 942836, Sacramento, California 94236-0001.

15.34.030 Applicability.

A. This Chapter shall apply to all of the following public or private landscape projects:

1. Any project which proposes a new or altered Landscape Area as part of an industrial, commercial, institutional, cemetery, or multifamily use or a subdivision of any lot.

2. Any project which proposes a new or altered Landscape Area of 500 square feet or more as a part of a new single-family residential use and requiring a building or grading permit.

3. Any project which proposes a new or altered Landscape Area of 2,500 square feet or more as a part of an existing single-family residential use and requiring a building or grading permit.

B. The following shall be exempt from the requirements of this Chapter:

1. Any project which proposes a new or altered Landscape Area on property listed on any applicable local, state or national register of historic places;

2. Any ecological restoration project that does not require a permanent irrigation system;

3. Any mined land reclamation project that does not require a permanent irrigation system;

4. Any botanical garden or arboretum that is open to the public;

5. Any cemetery, except that the Landscape Area of a new or existing cemetery shall meet the irrigation requirements of Section 15.34.090(B).

15.34.040 Administration, Enforcement and Landscape Regulations.

A. The Director shall administer and enforce this chapter.

B. The Director shall promulgate Landscape Regulations for the implementation of the City of Rancho Palos Verdes Water Efficient Landscape Ordinance (Landscape Regulations).

C. The Landscape Regulations shall assist Applicants in compliance with the requirements of this chapter, and shall also provide information on increasing water use efficiency and avoiding water waste in existing landscapes.

D. The Landscape Regulations shall comply with all applicable provisions of Title 23 of the California Code of Regulations Sections 490 through 495 and shall be in full force and effect.

15.34.050 Compliance Requirements.

Applicants for projects covered by Section 15.34.030(A) shall comply with the following, unless an exception is granted pursuant to Section 15.34.070.

A. Prior to issuance of any grading or building permit, an Applicant shall obtain a Water Efficient Landscape Permit from the Director, which shall be issued upon approval of the Applicant's Landscape Documentation Package prepared in accordance with Section 15.34.080.

B. Prior to issuance of a certificate of occupancy or other final project sign- off, the Applicant shall obtain approval from the Director of a Certificate of Completion prepared in accordance with Section 15.34.080.

15.34.060 Water Budget Calculations.

A. Unless an exception is granted pursuant to Section 15.34.070, new or altered landscaping projects listed in Section 15.34.030(A) shall comply with the Water Budget Calculations contained within the Landscape Regulations issued by the Director. To the extent that any Water Budget Calculations issued by the State Department of Water Resources promote greater water conservation than that provided within the Landscape Regulations, the State Department of Water Resources calculations shall control.

15.34.070 Exceptions.

Exceptions to the requirements of this chapter may be granted by the Director upon a finding, based on substantial evidence that the exceptions will promote equivalent or greater water conservation than that provided in this chapter. Requests for exceptions shall be in writing and shall be submitted to the Director at the time the Landscape Documentation Package is submitted for review. Requests for exceptions shall be accompanied by documentary evidence supporting the finding of equivalent or greater water conservation.

15.34.080 Submittals.

A. Landscape Documentation Package.

1. Water Efficient Landscape Permit application shall be submitted to the Director with a filing fee established by resolution of the City Council.

2. A Landscape Documentation Package shall be prepared in accordance with this chapter and the Landscape Regulations issued by the Director.

3. The Landscape Documentation Package shall include a statement of compliance in a form approved by the Director certifying that the landscape design complies with the mandatory elements of this chapter. The statement of compliance shall be signed by the person who prepared the landscape plan.

4. The Landscape Documentation Package shall be prepared in accordance with this Chapter and the Landscape Regulations, and shall include a landscape design and soils management plan, an irrigation plan, and a Water Budget Calculation worksheet.

a. The Landscape Design and Soils Management Plan shall, at a minimum:

i. Delineate each Hydrozone by number, letter or other method, and identify the water use level of each. Temporarily irrigated areas shall be included in the low water use Hydrozone for the Water Budget Calculations;

ii. Delineate any existing plant material to be retained or removed by type;

iii. Show the planting areas, plant spacing, plant location and size, natural features, recreational areas, areas dedicated permanently and solely to edible plants, areas irrigated with nonpotable water, surface areas and types of Water Features and all Hardscapes (pervious and nonpervious);

iv. Have a legend listing the common and botanical plant names and total quantities by container size and species;

v. Describe seed mixes with application rates and relevant germination specifications;

vi. Identify soil amendments, type and quantity, based on soil test results and recommendations. Soils recommendations can be included as a generic specification if grading will occur on the site as part of the project prior to landscape installation. However, verification of a soils test, and compliance with soil amendment requirements must be completed after grading is complete and prior to the landscaping installation;

vii. Identify location and installation details of storm water best management practices, as applicable;

viii. Include as a separate sheet, a copy of the project grading plan, when applicable.

b. Irrigation Plan. The Irrigation Plan shall be a separate document from, but use the same format as, the Landscape Design and Soils Management Plan. The Irrigation Plan shall, at a minimum:

i. Identify location and size of separate water meters for landscape; and identify water purveyor name.

ii. Identify location, size and type of all components of the irrigation system, including controllers, main and lateral lines, valves, irrigation heads, moisture sensing devices, rain shut-off sensor, quick couplers, pressure regulators and backflow prevention devices, and power supply, as applicable;

iii. Identify static water pressure at the point of connection to the public water supply, as applicable;

iv. Provide the flow rate (gallons per minute), application rate (inches per hour) and design operating pressure (pressure per square inch) for each station;

v. Show nonpotable water irrigation systems as applicable.

c. Water Budget Calculation Worksheet. A Water Budget Calculation worksheet shall include the following elements:

i. A Hydrozone information table that summarizes the Hydrozone and irrigation information of the landscape design and irrigation plans, including square footage and irrigation method for each Hydrozone;

ii. Identification of the party(ies) responsible for long-term maintenance of the landscape and irrigation systems;

iii. Water Budget Calculations consistent with Section 15.34.060.

B. Certificate of Completion. Prior to issuance of a Certificate of Occupancy or other final project sign-off, the Applicant shall submit to the Director for review and approval a Certificate of Completion. The Certificate of Completion shall be signed in accordance with the Landscape Regulations and shall include the following:

1. A project information sheet containing the date; project name; project Applicant's name, telephone and mailing address; project address and location; and property owner's name, telephone and mailing address.

2. Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Water Efficient Landscape Permit for the Landscape Documentation Package. Where there have been changes made in the field during construction, a revised set of plans showing the changes shall be included with the certification and approved by the Director as a revision to the Water Efficient Landscape Permit.

3. Certification that the irrigation system and controller have been adjusted to maximize irrigation efficiency and eliminate overspray and runoff;

4. A landscape and irrigation maintenance schedule;

5. An irrigation audit report;

6. A soil analysis report and documentation verifying implementation of soil report recommendations.

15.34.090 Landscape Water Conservation Design Standards.

All landscaping and irrigation systems associated with development regulated by this Chapter shall be designed, installed and maintained in accordance with the Water Efficient Landscape Permit issued upon approval of the Landscape Documentation Package meeting the minimum standards of the Landscape Regulations and this Chapter.

A. Planting Requirements.

1. Any plant may be selected for the landscape provided that the Estimated Total Water Use in the Landscaped Area does not exceed the Maximum Applied Water Allowance.

2. Plants shall be grouped into Hydrozones with plant species having similar water demand and by their soil, sun and shade requirements.

3. The Landscape Area of projects proposing commercial or industrial uses shall be designed without the use of Turf. Notwithstanding, commercial or industrial projects may only use Turf where a specific Turf type is proposed for areas adjacent to pedestrian traffic where walking travel or crossings are expected. These walking areas would include corner lot locations or linear areas located along pedestrian routes.

4. Single-family residential, multifamily residential and institutional use projects shall be designed so that Turf occupies no more than 25% or 1,500 square feet, whichever is less, of the Landscape Area. Approved Turf parkways shall not be counted toward the 25% Turf limitation.

5. Turf is not permitted in medians or parking lot landscape finger planters.

6. Turf shall not be used on slopes exceeding 25% or 4:1 within the Landscape Area.

7. Notwithstanding subsections (3) and (4), additional Turf areas may be approved by the Director for areas designed and used for outdoor sporting and recreational activities, or for an approved functional use.

8. The Applicant shall prepare a soils test that conforms to the Landscape Regulations, with recommendations for fertilizers, amendments and horticultural maintenance practices. Recommendations shall be based on soil samples taken from the site at the completion of finish grading. The soils testing requirement may be included as part of the specifications for installation. The soil testing shall include infiltration rates.

9. Soil amendments shall be used when necessary to improve water retention in the soil, to improve the functional structure of the soil for greater water infiltration and percolation, and to buffer pH and to optimize plant growth.

10. Weed-free mulches of organic or inorganic material shall be used in all non-Turf, irrigated areas to minimize Evapotranspiration and runoff, and to moderate the temperature of the root zone. The Landscape Area, except those portions of the Landscape Area planted in Turf, shall be covered with weed-free mulch material to an average thickness of at least 3 inches throughout. In areas with groundcovers planted from flats, mulch shall be installed to an average thickness of 1½ inches. Additional mulch material shall be added from time to time as necessary in order to maintain the required depth of mulch.

11. The Landscape Area may include natural features such as decomposing granite groundcover, rock and stone, non-vegetated natural areas, and structural features, including but not limited to, fountains, reflecting pools, art work, screens, walls, and fences, provided all of these features are integrated into the design of the Landscape Area, the primary purpose of the feature is decorative, and the feature comply with the development standards for the base zoning district. These areas shall be included in the Water Budget Calculations for the project and its various Hydro-zones as specified in the Landscape Regulations.

12. Nothing in this Chapter shall be construed to permit the installation or removal of plants, trees or shrubs of a type or in a manner which is prohibited by another chapter this Code or other applicable law.

B. Irrigation System Requirements.

1. Irrigation systems shall be designed, constructed and managed to maximize overall irrigation efficiency, and to meet the MAWA.

2. Irrigation systems shall be designed to prevent runoff, overspray, low-head drainage, and other similar conditions where irrigation water flows or sprays on to areas not intended for irrigation and not part of the parcel's Landscape Area, such as walkways, driveways, roadways, neighboring properties or the public right-of-way.

3. Irrigation systems (valve systems, piping and pressure regulators) shall be designed to deliver water to Hydro-zones based on the moisture requirements of the plant grouping.

4. Irrigation systems shall be automated and shall include a weather-based irrigation controller, including a rain shut-off sensor.

5. Areas less than 8 feet wide shall be irrigated with appropriately selected equipment that provides the proper amount of water coverage without causing overspray onto adjacent surfaces.

6. All sprinklers shall have matched precipitation rates within each valve and circuit. All irrigation systems shall be designed to include optimum distribution uniformity, head-to-head spacing, and setbacks from walkways and pavement. Overhead sprays shall be set back a minimum of 24 inches from non-pervious surfaces.

7. All irrigation systems shall provide check valves at the low end of irrigation lines to prevent unwanted draining of irrigation lines.

8. Installation of a separate landscape water meter is encouraged where feasible to facilitate water management.

15.34.100. Administration and Appeal Process.

The Director shall administer and enforce this Chapter. The Project Applicant or property owner may appeal the decision made by the Director pursuant to this Chapter by filing a written appeal with the Director within 15 days of the date of Decision, which shall be heard in accordance with the applicable provisions of Chapter 17.80 of the Rancho Palos Verdes Municipal Code.

15.34.110. Penalties.

Violations of this Chapter may be pursued pursuant to Chapters 1.08 and 1.16 of the Rancho Palos Verdes Municipal Code. In addition, the City's Building Official may deny any project subject to this Chapter or withhold a final building permit approval until violations of this Chapter are addressed.

15.34.120. Annual Reporting.

The Director, on behalf of the City, shall comply with the reporting requirements of Title 23 of the California Code of Regulations Section 495.

Section 2. The City Council has considered this Ordinance and finds that this project is exempt from the requirements of the California Environmental Quality Act ("CEQA"). The project is exempt pursuant to State CEQA Guidelines, 14 Cal. Code Regs. Sec. 15307 as an action taken to assure the maintenance, restoration, or enhancement of a natural resource, specifically water, where the regulatory process involves procedures for protection of the environment. This Ordinance does not contemplate any construction activities, and there is no evidence to suggest that the Ordinance will result in a significant impact on the environment, including impacts due to unusual circumstances. The adoption of this Ordinance will result in the enhancement and protection of water resources in the City, and there is no evidence that the Ordinance would produce any adverse environment impacts, cumulative or otherwise. Based on the foregoing and other substantial evidence in the record, the City Council hereby finds and determines that the Ordinance is exempt from the provisions of CEQA, pursuant to State CEQA Guidelines Section 15307. Further, as a separate and independent ground, the City Council finds that the Ordinance is covered by the general rule that CEQA applies only to projects that have the potential for causing a significant effect on the environment. Because there is no possibility that the Ordinance will have a significant effect on the environment, the Ordinance is not subject to CEQA pursuant to State CEQA Guidelines Section 15061 (b)(3).

Section 3. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this Ordinance or the application thereof to any person or place, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remainder of this Ordinance. The City Council hereby declares that it would have adopted this Ordinance, and each and every 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 4. The time within which judicial review of the decision reflected in this Ordinance must be sought is governed by Section 1094.6 of the California Code of Civil Procedure and other applicable periods of limitation.

Section 5. Effective Date. This Ordinance shall go into effect at 12:01AM on the 31st day after its passage.

PASSED, APPROVED and ADOPTED this 18th day of December 2018.

Mayor

ATTEST:

City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) ss
CITY OF RANCHO PALOS VERDES)

I, Emily Colborn, City Clerk of the City of Rancho Palos Verdes, do hereby certify that the whole number of members of the City Council of said City is five; that the foregoing Ordinance No. 614 passed first reading on December 4, 2018, was duly and regularly adopted by the City Council of said City at a regular meeting thereof held on December 18, 2018, and that the same was passed and adopted by the following roll call vote:

AYES: Alegria, Brooks, Cruikshank, Dyda and Mayor Duhovic
NOES: None
ABSENT: None
ABSTAINED: None

City Clerk

CITY OF RANCHO PALOS VERDES

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS
CITY OF RANCHO PALOS VERDES)

AFFIDAVIT OF POSTING

The undersigned, being first duly sworn, deposes and says:

That at all times herein mentioned, she was and now is the City Clerk of the City of Rancho Palos Verdes;

That on December 19, 2018, she caused to be posted the following document entitled: **ORDINANCE NO. 614, AN ORDINANCE OF THE CITY OF RANCHO PALOS VERDES TO REPEAL AND REPLACE MUNICIPAL CODE CHAPTER 15.34 TO IMPLEMENT THE STATE OF CALIFORNIA'S REQUIREMENTS FOR WATER EFFICIENT LANDSCAPING,** a copy of which is attached hereto, in the following locations:

City Hall
30940 Hawthorne Blvd.
Rancho Palos Verdes

Ladera Linda Community Center
32201 Forrestal Drive
Rancho Palos Verdes

Hesse Park
29301 Hawthorne Blvd.
Rancho Palos Verdes

I certify under penalty of perjury that the foregoing is a true and correct affidavit of posting.

City Clerk

LANDSCAPE REGULATIONS

FOR THE

RANCHO PALOS VERDES

WATER EFFICIENT LANDSCAPE ORDINANCE

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1. Purpose and Applicability

1.1 Purpose

(a) The primary purpose of these Landscape Regulations is to provide procedural and design guidance for Project Applicants proposing installation of Landscaped Areas, Altered Landscaped Areas or Landscaped Area irrigation systems that are subject to the Water Efficient Landscape Ordinance as codified in Chapter 15.34 of Title 15 of the Rancho Palos Verdes Municipal Code (RPVMC). The Landscape Regulations are also intended for use and reference by City Staff in reviewing and approving designs and verifying compliance with the City's Water Efficient Landscape Ordinance. The general purpose of the Water Efficient Landscape Ordinance is to promote the design, installation, and maintenance of landscaping in a manner that conserves regional water resources by ensuring that Landscaping Projects are not unduly water-needy and that irrigation systems are appropriately implemented to minimize water waste.

(b) Other regulations affecting landscape design and maintenance practices are potentially applicable and should be consulted for additional requirements. These regulations include, but may not be limited, to:

(1) National Pollutant Discharge Elimination Permit for the Municipal Separate Storm Sewer System;

(2) Rancho Palos Verdes Fire Code;

(3) Rancho Palos Verdes Zoning Code;

(4) Rancho Palos Verdes Building Code;

(5) Rancho Palos Verdes Specific Plans, General Plan or other similar land use and planning documents;

(6) Conditions of approval for a specific project; and

(7) Rancho Palos Verdes Landslide Moratorium Ordinance.

1.2 Applicability

(a) The Water Efficient Landscape Ordinance and these Landscape Regulations apply to all of the following Landscape Projects:

(1) New construction projects with an aggregate landscape area equal to or greater than 500 square feet as a part of a new single-family residential use and requiring a building, grading, or landscape permit, plan check or design review;

(2) Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet as a part of an existing single-family residential

use and requiring a building, grading, or landscape permit, plan check, or design review;

(3) Sections 3 and 8 of these Landscape Regulations apply to existing landscapes, including existing cemeteries that were installed before January 1, 2015 and are over one acre in size.

(4) Sections 2.3, 2.10, and 3 apply to new and rehabilitated cemeteries.

(b) The Water Efficient Landscape Ordinance and these Landscape Regulations do not apply to:

(1) Landscape that is part of a property listed on any applicable local, state or federal register of historic places; or

(2) Existing plant collections as part of botanical gardens and arboretums open to the public.

(3) Ecological restoration projects that do not require a permanent irrigation system.

2. Submittal Requirements for New Landscape Area Installations or Altered Landscape Area Projects

2.1 Standard Condition of Approval on a Discretionary Project.

Landscape Projects that are subject to the Water Efficient Landscape Ordinance typically involve discretionary approval such that standard or special conditions of approval are imposed on the project. A standard condition of approval may be imposed that reads generally as follows:

"Prior to issuance of the Certificate or Occupancy or permit final, landscaping for the project shall be designed and implemented to comply with the City's Water Efficient Landscape Ordinance and with the Landscape Regulations, and shall be maintained in perpetuity by the property owner and subsequent property owners."

2.2 Compliance with Landscape Documentation Package.

(a) Prior to construction, the City shall:

(1) Provide the Project Applicant with the Water Efficient Landscape Ordinance, Landscape Regulations, and procedures for Permits;

(2) Review the Landscape Documentation Package submitted by the Project Applicant for completeness and compliance with the City's Water Efficiency Landscape Ordinance;

(3) Render a decision of the Landscape Documentation Package;

(4) Issue a Permit to the Project Applicant; and

(5) Upon approval of the Landscape Documentation Package, submit a copy of the Water Efficient Landscape Worksheet to West Basin Municipal Water District.

(b) Prior to construction, the Project Applicant shall:

(1) Submit a Landscape Documentation Package to the City.

(2) Respond to corrections to the satisfaction of the Director or designee prior to deeming the Landscape Documentation Package complete for processing.

(c) Upon approval of the Landscape Documentation Package by the City, the Project Applicant shall:

(1) Receive a Permit and record the date of the Permit in the Certificate of Completion;

(2) Submit a copy of the approved Landscape Documentation Package along with the record drawings, and any other information to the Property Owner or his/her designee; and

(3) Submit a copy of the Water Efficient Landscape Worksheet to the West Basin Municipal Water District.

2.3 Elements of the Landscape Documentation Package

(a) Prior to issuance of a Permit for any project that involves Landscaped Areas or Altered Landscaped Areas, the Project Applicant must submit a Landscape Documentation Package for review and approval by the Department. The Landscape Documentation Package shall include all of the documentation set forth in Section 15.34.040 of the RPVMC, all of the following information either on plan sheets or supplemental pages or on a form provided by the City, and the full payment of a fee as prescribed by the Rancho Palos Verdes Fees and Charges Schedule:

(1) Project Information, including, but not limited to, all of the following:

(a) Date;

(b) Project Applicant name;

(c) Project address, including parcel and/or lot number(s);

(d) Total Landscaped Area/Altered Landscaped Area (square feet) as applicable;

(e) Project type (e.g., new, altered, public, private, homeowner-installed, irrigation system);

(f) Water supply type (e.g., potable, well);

(g) Checklist of all documents in the Landscape Documentation Package;

(h) Project contacts, including contact information for the Project Applicant and Property Owner;

(i) Project Applicant's signature and date with the statement: "I agree to comply with the requirements of the Water Efficient Landscape Ordinance and Landscape Regulations and hereby submit a complete Landscape Documentation Package."

(j) Any other information the City deems relevant for determining whether the project complies with the Water Efficient Landscape Ordinance and these Landscape Regulations.

(2) Landscape design plan as described in Section 15.34.050 of the RPVMC.

(3) Irrigation design plan as described in Section 15.34.060 of the RPVMC.

(4) Grading design plan as described in Section 15.34.070 of the RPVMC.

(5) A soil management report as described in Section 15.34.080 of the RPVMC.

(6) Water Efficient Landscape Worksheet as described in Section 15.34.090 of the RPVMC and attached hereto as Appendix B.

2.4 Water Efficient Landscape Calculations and Alternatives

(a) A Project Applicant shall complete the Water Efficient Landscape Worksheet which contains **information** on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. Calculations are then made to show that the evapotranspiration adjustment factor (ETAF) **for the** landscape project does not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas. The ETAF for a landscape project is based on the plant factors and irrigation methods selected. The Maximum Applied Water Allowance is calculated based on the maximum ETAF allowed (0.55 for residential areas and 0.45 for non-residential areas) and expressed as annual gallons required. The Estimated Total Water Use (ETWU) is calculated based on the plants used and irrigation method selected for the landscape design. ETWU must be below the MAWA.

(b) For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a Project Applicant shall use the ETo values for the City of Long Beach from the Reference Evapotranspiration Table in Appendix A, which are:

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7

(c) The water budget calculations shall adhere to the following requirements:

(1) The plant factor used shall be from WUCOLS or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

(2) All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.

(3) All Special Landscape Areas shall be identified and their water use calculated as shown in Appendix B.

(4) ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

2.5 Soil Management Report

(a) 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 certified agronomic soils 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, but is not limited to:

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.

(c) In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or

approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.

(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 Department as part of the Landscape Documentation Package; or

(b) If significant mass grading is planned, the soil analysis report shall be submitted to the Department as part of the Certification 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 in order 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 Department with the Certification of Completion.

2.6 Landscape Design Plan

(a) For the efficient use of water, landscape shall be carefully designed and planned for the intended function of the project. A Landscape Design Plan that meets 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 Landscaped Area or Altered Landscaped Area provided the Estimated Total Water Use ("ETWU") does not exceed the Maximum Applied Water Use ("MAWA"). 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 species and Turf species, especially local native plants;

3. Selection of plants based on local climate suitability, disease and pest resistance;

4. Selection of trees based on applicable City View Ordinance (17.02.040 of the RPVMC), tree ordinances or tree shading guidelines, and size at maturity as appropriate for the planting area; 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 2.6(a)(2)(d) of these Landscape Regulations.

(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, and 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.

(3) Soil Preparation, Mulch and Amendments

(a) Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement.

(b) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.

(c) For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.

(d) A minimum three inch (3") 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.

(e) Stabilizing Mulching products shall be used on slopes.

(f) The Mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the Mulching requirement.

(g) Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 2.4).

(b) 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 landscaped area 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, a 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Project applicants shall refer to the City or Los Angeles Regional Water Quality Control Board for information on any applicable stormwater technical requirements. Storm water best management practices are encouraged in the landscape design plan and examples include, but are not limited to:

(a) Stormwater management practices minimize runoff and increase infiltration which recharges groundwater and improves water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff and to increase on-site rainwater retention and infiltration are encouraged.

(b) Project applicants shall refer to the local agency or Regional Water Quality Control Board for information on any applicable stormwater technical requirements.

(c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to 23 Cal. Code of Regulations § 492.6(a)(3).

(d) It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from either: the one inch, 24-hour rain event or (2) the 85th percentile, 24-hour rain event, and/or additional capacity as required by any applicable local, regional, state or federal regulation.

(e) It is recommended that storm water projects incorporate any of the

following elements to improve on-site storm water and dry weather runoff capture and use:

- Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.
- Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways.
- Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
- Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.
- Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
- Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil.
- Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

(11) Identify any applicable graywater discharge piping, system components and area(s) of distribution;

(12) Contain the following statement: "I have complied with the criteria of the Water Efficient Landscape Ordinance and Landscape Regulations 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.

2.7 Irrigation Design Plan

(a) This section applies to landscaped areas requiring permanent irrigation, not areas that require temporary irrigation solely for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturer's 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) Landscape water meters, defined as either a dedicated water service meter or private submeter, shall be installed for all non-residential irrigated landscapes of 1,000 sq. ft. or greater but not more than 5,000 sq. ft. and residential irrigated landscapes of 5,000 sq. ft. or greater. A landscape water meter may be either: (1) a customer service meter dedicated to landscape use provided by the local water purveyor; or (2) a privately owned meter or submeter.

(b) Automatic Irrigation Controllers utilizing either evapotranspiration or Soil Moisture Sensor Data utilizing non-volatile memory 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 for additional backflow prevention requirements.

(g) Flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended and are required for all non-residential landscapes and residential landscapes of 5000 sq. ft or larger.

(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, non-irrigated areas, Hardscapes, 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 2.3, regarding the Maximum Applied Water Allowance.

(l) It is highly recommended that the Project Applicant inquire with West Basin Municipal Water District 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.

(q) Check Valves or Anti-Drain Valves are required for all irrigation systems.

(r) Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(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 Landscaped 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 for the Landscape Project specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates strict adherence to the irrigation system design criteria in Section 2.7(a)(1). Prevention of Overspray and Runoff must be confirmed during an 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 of the Landscape Project 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.

(u) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.

(v) All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard, all sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(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 to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.

(d) Individual Hydrozones that mix plants of moderate and low water use or moderate and high water use may be allowed if:

1. The Plant Factor calculation is based on the proportions of the respective plant water uses and their respective Plant Factors; or

2. The Plant Factor of the higher water using plant is used for the 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. This Valve number shall be used in the Hydrozone Information Table (Appendix B). This table can also assist with the Irrigation Audit and programming the controller.

(b) The Irrigation Design Plan, at a minimum, shall contain:

(1) The location and size of separate water meters for landscape;

(2) The 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, flow sensors, 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 5 below;

(6) The following statement: “I have complied with the criteria of the Water Efficient Landscape Ordinance and the Landscape Regulations 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 Landscaped Contractor, or any other person authorized to design an irrigation system**.**

2.8 Grading Design Plan

(a) For the efficient use of water, grading of a Landscape Project site shall be designed to minimize soil erosion, Runoff, and water waste. The Project Applicant shall submit a grading plan as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for the project for other City permits, would satisfy this requirement.

(b) The Project Applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the Landscaped Area, including:

(1) Height of graded slopes;

(2) Drainage patterns;

(3) Pad elevations;

(4) Finish grade; and

(5) Storm water retention improvements, if applicable.

(c) To prevent excessive erosion and Runoff, it is highly recommended that the Project Applicant:

(1) Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable Hardscapes;

(2) Avoid disruption of natural drainage patterns and undisturbed soil; and

(3) Avoid soil compaction in Landscaped Areas.

(d) The Grading Design Plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscape Ordinance and Landscape Regulations and applied them accordingly for the efficient use of water in the grading design plan." This statement shall bear the signature of a licensed professional, as authorized by law.

2.9 Certification of Completion

(a) A Certificate of Completion shall be in the form attached as Appendix C and shall include the following elements:

(1) A project information sheet that contains the following:

(a) Date;

(b) Project name;

(c) Project Applicant name, telephone and mailing address;

(d) Project address and location; and

(e) Property Owner name, telephone and mailing address.

(2) Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed Landscape Contractor that the Landscape Project has been installed per the approved Landscape Documentation Package.

(a) Where there have been significant changes made in the field during construction, these Record Drawings or As-Builts shall be included with the certification.

(3) Irrigation scheduling parameters used to set the controller (see Section 2.9).

(4) Landscape and irrigation maintenance schedule (see Section 2.10).

(5) Irrigation audit report (see Section 3).

(6) Soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 2.4).

(b) The Project Applicant shall:

(1) Submit the signed Certificate of Completion to the City for review; and

(2) Ensure that copies of the approved Certificate of Completion are submitted to the West Basin Municipal Water District and Property Owner or his or her designee.

(c) The City shall:

(1) Receive the signed Certificate of Completion from the Project Applicant; and

(2) Approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the City shall provide information to the Project Applicant regarding reapplication, appeal, or other assistance.

2.10 Irrigation Scheduling

(a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:

(1) Irrigation scheduling shall be regulated by Smart Irrigation Controllers.

(2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. Operation of the irrigation system outside the allowable Watering Window is allowed for auditing and system maintenance.

(3) For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, Flow Rate, and current Reference Evapotranspiration, so that Applied Water meets the Estimated Total Water Use. Total annual Applied Water shall be less than or equal to Maximum Applied Water Allowance ("MAWA") Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (i.e., CIMIS) or Soil Moisture Sensor data.

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

  (a) The plant establishment period;

  (b) The Established Landscape; and

  (c) Temporarily irrigated areas.

(5) Each irrigation schedule shall consider for each Station all of the following that apply:

  (a) Irrigation interval (days between irrigation);

  (b) Irrigation run times (hours or minutes per irrigation event to avoid Runoff);

  (c) Number of cycle starts required for each irrigation event to avoid Runoff;

  (d) Amount of Applied Water scheduled to be applied on a monthly basis;

  (e) Application rate setting;

  (f) Root depth setting;

  (g) Plant type setting;

  (h) Soil type;

  (i) Slope factor setting;

(j) Shade factor setting; and

(k) Irrigation uniformity or efficiency setting.

2.11 Landscape and Irrigation Maintenance

(a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.

(b) A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching Turf areas; replenishing Mulch; fertilizing; pruning, weeding in all Landscape Areas, and removing any obstruction to emission devices. Operation of the irrigation system outside the allowable Watering Window is allowed for auditing and system maintenance.

(c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

(d) A Project Applicant is encouraged to implement sustainable Best Practices for all landscape maintenance activities.

3. Provisions for Existing Landscapes – Irrigation Audits

(a) For new Landscaped Areas or Altered Landscaped Areas installed after January 1, 2010, including but not limited to new construction and rehabilitated landscape projects, the Project Applicant shall submit an Irrigation Audit report with the Certificate of Completion that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting Overspray or Runoff that causes overland flow, and preparation of an irrigation schedule. The City may administer programs that may include, but not be limited to, Irrigation Water Use Analysis, Irrigation Surveys and/or Irrigation Audits for compliance with the Maximum Applied Water Allowance.

(b) For all existing landscapes that were installed before November 1, 2015 and are over one acre in size, the following shall apply:

(1) For all landscapes that have a water meter, the City shall administer programs that may include, but not be limited to, irrigation water uses analyses, Irrigation Surveys, and Irrigation Audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The Maximum Applied Water Allowance for existing landscapes shall be calculated as MAWA = (0.8)(ETo)(LA)(0.62).

(2) For all landscapes that do not have a meter, the City shall administer programs that may include, but not be limited to, Irrigation Surveys and

Irrigation Audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

(c) All Irrigation Audits shall be conducted by a local agency landscape irrigation auditor or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.

4. Irrigation Efficiency

For the purpose of determining Estimated Total Water Use, average irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices.

5. Recycled Water

(a) The installation of Recycled Water irrigation systems shall allow for the current and future use of Recycled Water, unless a written exemption has been granted as described herein.

(b) Irrigation systems and decorative water features shall use Recycled Water unless the West Basin Municipal Water District provides a written exemption stating that recycled water meeting all public health code and standards is not available and will not be available for the foreseeable future.

(c) All Recycled Water irrigation systems shall be designed and operated in accordance with all applicable local and state laws.

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

6. Storm Water Management and Rainwater Retention

(a) Storm water management practices minimize Runoff and increase infiltration which recharges groundwater and improves water quality. Implementing storm water best management practices into the landscape and grading design plans to minimize Runoff and to increase on-site retention and infiltration are encouraged.

(b) Project Applicants shall refer to the City or Regional Water Quality Control Board for information on any applicable storm water ordinances and storm water management plans.

(c) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to 23 Cal. Code of Regulations §492.6(a)(3).

(d) It is strongly recommended that landscape areas be designed for capture and infiltration capacity that is sufficient to prevent runoff from impervious surfaces (i.e. roof and paved areas) from either: the one inch, 24-hour rain event or (2) the 85th percentile, 24-hour rain event, and/or additional capacity as required by any applicable local, regional, state or federal regulation.

(e) It is recommended that storm water projects incorporate any of the following elements to improve on-site storm water and dry weather runoff capture and use:

- Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.
- Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways.
- Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.
- Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.
- Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.
- Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil.
- Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

7. Public Education

(a) Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of design, installation, management and maintenance that save water is encouraged in the City. The Director shall cooperate with the West Basin Municipal Water District to provide information to owners of permitted renovations and new, single-family residential homes regarding the design, installation, management and maintenance of water efficient landscapes based on a water budget.

(b) Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.

(1) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed per the local ordinance; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, graywater systems, and rainwater catchment systems.

(2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

8. Water Waste Prevention

The City prohibits Runoff from leaving the target landscape due to low head drainage, Overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots or structures. Restrictions regarding Overspray and Runoff may be modified if the landscape area is adjacent to permeable surfacing and no Runoff occurs or if the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

9. Effective Precipitation

The City may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate Maximum Applied Water Allowance:

- MAWA = (ETo - Eppt) (0.62) [(0.55 x LA) + (0.45 x SLA)] for residential areas.
- MAWA = (ETo - EPPT) (0.62) [(0.45 x LA) + (0.55 x SLA)] for non-residential areas.

10. Graywater Systems

Graywater systems promote the efficient use of water and are encouraged to assist in on-site landscape irrigation. All graywater systems shall conform to the California Plumbing Code (Title 24, Part 5, Chapter 16) and any applicable local ordinance standards. Refer to 23 CCR § 490.1 (d) for the applicability of this ordinance to landscape areas less than 2,500 square feet with the Estimated Total Water Use met entirely by graywater.

Appendix A – Reference Evapotranspiration (ETo) Table

County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
ALAMEDA													
Fremont	1.5	1.9	3.4	4.7	5.4	6.3	6.7	6.0	4.5	3.4	1.8	1.5	47.0
Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.2
Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Oakland Foothills	1.1	1.4	2.7	3.7	5.1	6.4	5.8	4.9	3.6	2.6	1.4	1.0	39.6
Pleasanton	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
Union City	1.4	1.8	3.1	4.2	5.4	5.9	6.4	5.7	4.4	3.1	1.5	1.2	44.2
ALPINE													
Markleeville	0.7	0.9	2.0	3.5	5.0	6.1	7.3	6.4	4.4	2.6	1.2	0.5	40.6
AMADOR													
Jackson	1.2	1.5	2.8	4.4	6.0	7.2	7.9	7.2	5.3	3.2	1.4	0.9	48.9
Shanandoah Valley	1.0	1.7	2.9	4.4	5.6	6.8	7.9	7.1	5.2	3.6	1.7	1.0	48.8
BUTTE													
Chico	1.2	1.8	2.9	4.7	6.1	7.4	8.5	7.3	5.4	3.7	1.7	1.0	51.7
Durham	1.1	1.8	3.2	5.0	6.5	7.4	7.8	6.9	5.3	3.6	1.7	1.0	51.1
Gridley	1.2	1.8	3.0	4.7	6.1	7.7	8.5	7.1	5.4	3.7	1.7	1.0	51.9
Oroville	1.2	1.7	2.8	4.7	6.1	7.6	8.5	7.3	5.3	3.7	1.7	1.0	51.5
CALAVERAS													
San Andreas	1.2	1.5	2.8	4.4	6.0	7.3	7.9	7.0	5.3	3.2	1.4	0.7	48.8
COLUSA													
Colusa	1.0	1.7	3.4	5.0	6.4	7.6	8.3	7.2	5.4	3.8	1.8	1.1	52.8
Williams	1.2	1.7	2.9	4.5	6.1	7.2	8.5	7.3	5.3	3.4	1.6	1.0	50.8
CONTRA COSTA													
Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.3
Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	48.3
Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	43.4
Courtland	0.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.0
Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	41.8
Moraga	1.2	1.5	3.4	4.2	5.5	6.1	6.7	5.9	4.6	3.2	1.6	1.0	44.9
Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	45.4
Walnut Creek	0.8	1.5	2.9	4.4	5.6	6.7	7.4	6.4	4.7	3.3	1.5	1.0	46.2
DEL NORTE													
Crescent City	0.5	0.9	2.0	3.0	3.7	3.5	4.3	3.7	3.0	2.0	0.9	0.5	27.7
EL DORADO													
Camino	0.9	1.7	2.5	3.9	5.9	7.2	7.8	6.8	5.1	3.1	1.5	0.9	47.3
FRESNO													
Clovis	1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Coalinga	1.2	1.7	3.1	4.6	6.2	7.2	8.5	7.3	5.3	3.4	1.6	0.7	50.9
Firebaugh	1.0	1.8	3.7	5.7	7.3	8.1	8.2	7.2	5.5	3.9	2.0	1.1	55.4
FivePoints	1.3	2.0	4.0	6.1	7.7	8.5	8.7	8.0	6.2	4.5	2.4	1.2	60.4
Fresno	0.9	1.7	3.3	4.8	6.7	7.8	8.4	7.1	5.2	3.2	1.4	0.6	51.1
Fresno State	0.9	1.6	3.2	5.2	7.0	8.0	8.7	7.6	5.4	3.6	1.7	0.9	53.7

Friant	1.2	1.5	3.1	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Kerman	0.9	1.5	3.2	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.2
Kingsburg	1.0	1.5	3.4	4.8	6.6	7.7	8.4	7.2	5.3	3.4	1.4	0.7	51.6
Mendota	1.5	2.5	4.6	6.2	7.9	8.6	8.8	7.5	5.9	4.5	2.4	1.5	61.7
Orange Cove	1.2	1.9	3.5	4.7	7.4	8.5	8.9	7.9	5.9	3.7	1.8	1.2	56.7
Panoche	1.1	2.0	4.0	5.6	7.8	8.5	8.3	7.3	5.6	3.9	1.8	1.2	57.2
Parlier	1.0	1.9	3.6	5.2	6.8	7.6	8.1	7.0	5.1	3.4	1.7	0.9	52.0
Reedley	1.1	1.5	3.2	4.7	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.3
Westlands	0.9	1.7	3.8	6.3	8.0	8.6	8.6	7.8	5.9	4.3	2.1	1.1	58.8
GLENN													
Orland	1.1	1.8	3.4	5.0	6.4	7.5	7.9	6.7	5.3	3.9	1.8	1.4	52.1
Willows	1.2	1.7	2.9	4.7	6.1	7.2	8.5	7.3	5.3	3.6	1.7	1.0	51.3
HUMBOLDT													
Eureka	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Ferndale	0.5	1.1	2.0	3.0	3.7	3.7	3.7	3.7	3.0	2.0	0.9	0.5	27.5
Garberville	0.6	1.2	2.2	3.1	4.5	5.0	5.5	4.9	3.8	2.4	1.0	0.7	34.9
Hoopa	0.5	1.1	2.1	3.0	4.4	5.4	6.1	5.1	3.8	2.4	0.9	0.7	35.6
IMPERIAL													
Brawley	2.8	3.8	5.9	8.0	10.4	11.5	11.7	10.0	8.4	6.2	3.5	2.1	84.2
Calipatria/Mulberry	2.4	3.2	5.1	6.8	8.6	9.2	9.2	8.6	7.0	5.2	3.1	2.3	70.7
El Centro	2.7	3.5	5.6	7.9	10.1	11.1	11.6	9.5	8.3	6.1	3.3	2.0	81.7
Holtville	2.8	3.8	5.9	7.9	10.4	11.6	12.0	10.0	8.6	6.2	3.5	2.1	84.7
Meloland	2.5	3.2	5.5	7.5	8.9	9.2	9.0	8.5	6.8	5.3	3.1	2.2	71.6
Palo Verde II	2.5	3.3	5.7	6.9	8.5	8.9	8.6	7.9	6.2	4.5	2.9	2.3	68.2
Seeley	2.7	3.5	5.9	7.7	9.7	10.1	9.3	8.3	6.9	5.5	3.4	2.2	75.4
Westmoreland	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Yuma	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
INYO													
Bishop	1.7	2.7	4.8	6.7	8.2	10.9	7.4	9.6	7.4	4.8	2.5	1.6	68.3
Death Valley Jct	2.2	3.3	5.4	7.7	9.8	11.1	11.4	10.1	8.3	5.4	2.9	1.7	79.1
Independence	1.7	2.7	3.4	6.6	8.5	9.5	9.8	8.5	7.1	3.9	2.0	1.5	65.2
Lower Haiwee Res.	1.8	2.7	4.4	7.1	8.5	9.5	9.8	8.5	7.1	4.2	2.6	1.5	67.6
Oasis	2.7	2.8	5.9	8.0	10.4	11.7	11.6	10.0	8.4	6.2	3.4	2.1	83.1
KERN													
Arvin	1.2	1.8	3.5	4.7	6.6	7.4	8.1	7.3	5.3	3.4	1.7	1.0	51.9
Bakersfield	1.0	1.8	3.5	4.7	6.6	7.7	8.5	7.3	5.3	3.5	1.6	0.9	52.4
Bakersfield/Bonanza	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Bakersfield/Greenlee	1.2	2.2	3.7	5.7	7.4	8.2	8.7	7.8	5.7	4.0	2.1	1.2	57.9
Belridge	1.4	2.2	4.1	5.5	7.7	8.5	8.6	7.8	6.0	3.8	2.0	1.5	59.2
Blackwells Corner	1.4	2.1	3.8	5.4	7.0	7.8	8.5	7.7	5.8	3.9	1.9	1.2	56.6
Buttonwillow	1.0	1.8	3.2	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.5	0.9	52.0
China Lake	2.1	3.2	5.3	7.7	9.2	10.0	11.0	9.8	7.3	4.9	2.7	1.7	74.8
Delano	0.9	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.4	3.4	1.4	0.7	52.0
Famoso	1.3	1.9	3.5	4.8	6.7	7.6	8.0	7.3	5.5	3.5	1.7	1.3	53.1
Grapevine	1.3	1.8	3.1	4.4	5.6	6.8	7.6	6.8	5.9	3.4	1.9	1.0	49.5
Inyokern	2.0	3.1	4.9	7.3	8.5	9.7	11.0	9.4	7.1	5.1	2.6	1.7	72.4
Isabella Dam	1.2	1.4	2.8	4.4	5.8	7.3	7.9	7.0	5.0	3.2	1.7	0.9	48.4
Lamont	1.3	2.4	4.4	4.6	6.5	7.0	8.8	7.6	5.7	3.7	1.6	0.8	54.4
Lost Hills	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
McFarland/Kern	1.2	2.1	3.7	5.6	7.3	8.0	8.3	7.4	5.6	4.1	2.0	1.2	56.5

Shafter	1.0	1.7	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.5	0.9	52.1
Taft	1.3	1.8	3.1	4.3	6.2	7.3	8.5	7.3	5.4	3.4	1.7	1.0	51.2
Tehachapi	1.4	1.8	3.2	5.0	6.1	7.7	7.9	7.3	5.9	3.4	2.1	1.2	52.9
KINGS													
Caruthers	1.6	2.5	4.0	5.7	7.8	8.7	9.3	8.4	6.3	4.4	2.4	1.6	62.7
Corcoran	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Hanford	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.2	5.4	3.4	1.4	0.7	51.5
Kettleman	1.1	2.0	4.0	6.0	7.5	8.5	9.1	8.2	6.1	4.5	2.2	1.1	60.2
Lemoore	0.9	1.5	3.4	5.0	6.6	7.7	8.3	7.3	5.4	3.4	1.4	0.7	51.7
Stratford	0.9	1.9	3.9	6.1	7.8	8.6	8.8	7.7	5.9	4.1	2.1	1.0	58.7
LAKE													
Lakeport	1.1	1.3	2.6	3.5	5.1	6.0	7.3	6.1	4.7	2.9	1.2	0.9	42.8
Lower Lake	1.2	1.4	2.7	4.5	5.3	6.3	7.4	6.4	5.0	3.1	1.3	0.9	45.4
LASSEN													
Buntingville	1.0	1.7	3.5	4.9	6.2	7.3	8.4	7.5	5.4	3.4	1.5	0.9	51.8
Ravendale	0.6	1.1	2.3	4.1	5.6	6.7	7.9	7.3	4.7	2.8	1.2	0.5	44.9
Susanville	0.7	1.0	2.2	4.1	5.6	6.5	7.8	7.0	4.6	2.8	1.2	0.5	44.0
LOS ANGELES													
Burbank	2.1	2.8	3.7	4.7	5.1	6.0	6.6	6.7	5.4	4.0	2.6	2.0	51.7
Claremont	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
El Dorado	1.7	2.2	3.6	4.8	5.1	5.7	5.9	5.9	4.4	3.2	2.2	1.7	46.3
Glendale	2.0	2.2	3.3	3.8	4.7	4.8	5.7	5.6	4.3	3.3	2.2	1.8	43.7
Glendora	2.0	2.5	3.6	4.9	5.4	6.1	7.3	6.8	5.7	4.2	2.6	2.0	53.1
Gorman	1.6	2.2	3.4	4.6	5.5	7.4	7.7	7.1	5.9	3.6	2.4	1.1	52.4
Hollywood Hills	2.1	2.2	3.8	5.4	6.0	6.5	6.7	6.4	5.2	3.7	2.8	2.1	52.8
Lancaster	2.1	3.0	4.6	5.9	8.5	9.7	11.0	9.8	7.3	4.6	2.8	1.7	71.1
Long Beach	1.8	2.1	3.3	3.9	4.5	4.3	5.3	4.7	3.7	2.8	1.8	1.5	39.7
Los Angeles	2.2	2.7	3.7	4.7	5.5	5.8	6.2	5.9	5.0	3.9	2.6	1.9	50.1
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
Palmdale	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Pearblossom	1.7	2.4	3.7	4.7	7.3	7.7	9.9	7.9	6.4	4.0	2.6	1.6	59.9
Pomona	1.7	2.0	3.4	4.5	5.0	5.8	6.5	6.4	4.7	3.5	2.3	1.7	47.5
Redondo Beach	2.2	2.4	3.3	3.8	4.5	4.7	5.4	4.8	4.4	2.8	2.4	2.0	42.6
San Fernando	2.0	2.7	3.5	4.6	5.5	5.9	7.3	6.7	5.3	3.9	2.6	2.0	52.0
Santa Clarita	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Santa Monica	1.8	2.1	3.3	4.5	4.7	5.0	5.4	5.4	3.9	3.4	2.4	2.2	44.2
MADERA													
Chowchilla	1.0	1.4	3.2	4.7	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.4
Madera	0.9	1.4	3.2	4.8	6.6	7.8	8.5	7.3	5.3	3.4	1.4	0.7	51.5
Raymond	1.2	1.5	3.0	4.6	6.1	7.6	8.4	7.3	5.2	3.4	1.4	0.7	50.5
MARIN													
Black Point	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.8
Point San Pedro	1.1	1.7	3.0	4.2	5.2	6.2	6.6	5.8	4.3	2.8	1.3	0.9	43.0
San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
MARIPOSA													
Coulterville	1.1	1.5	2.8	4.4	5.9	7.3	8.1	7.0	5.3	3.4	1.4	0.7	48.8
Mariposa	1.1	1.5	2.8	4.4	5.9	7.4	8.2	7.1	5.0	3.4	1.4	0.7	49.0
Yosemite Village	0.7	1.0	2.3	3.7	5.1	6.5	7.1	6.1	4.4	2.9	1.1	0.6	41.4

MENDOCINO													
Fort Bragg	0.9	1.3	2.2	3.0	3.7	3.5	3.7	3.7	3.0	2.3	1.2	0.7	29.0
Hopland	1.1	1.3	2.6	3.4	5.0	5.9	6.5	5.7	4.5	2.8	1.3	0.7	40.9
Point Arena	1.0	1.3	2.3	3.0	3.7	3.9	3.7	3.7	3.0	2.3	1.2	0.7	29.6
Sanel Valley	1.0	1.6	3.0	4.6	6.0	7.0	8.0	7.0	5.2	3.4	1.4	0.9	49.1
Ukiah	1.0	1.3	2.6	3.3	5.0	5.8	6.7	5.9	4.5	2.8	1.3	0.7	40.9
MERCED													
Kesterson	0.9	1.7	3.4	5.5	7.3	8.2	8.6	7.4	5.5	3.8	1.8	0.9	55.1
Los Banos	1.0	1.5	3.2	4.7	6.1	7.4	8.2	7.0	5.3	3.4	1.4	0.7	50.0
Merced	1.0	1.5	3.2	4.7	6.6	7.9	8.5	7.2	5.3	3.4	1.4	0.7	51.5
MODOC													
Modoc/Alturas	0.9	1.4	2.8	3.7	5.1	6.2	7.5	6.6	4.6	2.8	1.2	0.7	43.2
MONO													
Bridgeport	0.7	0.9	2.2	3.8	5.5	6.6	7.4	6.7	4.7	2.7	1.2	0.5	43.0
MONTEREY													
Arroyo Seco	1.5	2.0	3.7	5.4	6.3	7.3	7.2	6.7	5.0	3.9	2.0	1.6	52.6
Castroville	1.4	1.7	3.0	4.2	4.6	4.8	4.0	3.8	3.0	2.6	1.6	1.4	36.2
Gonzales	1.3	1.7	3.4	4.7	5.4	6.3	6.3	5.9	4.4	3.4	1.9	1.3	45.7
Greenfield	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
King City	1.7	2.0	3.4	4.4	4.4	5.6	6.1	6.7	6.5	5.2	2.2	1.3	49.6
King City-Oasis Rd.	1.4	1.9	3.6	5.3	6.5	7.3	7.4	6.8	5.1	4.0	2.0	1.5	52.7
Long Valley	1.5	1.9	3.2	4.1	5.8	6.5	7.3	6.7	5.3	3.6	2.0	1.2	49.1
Monterey	1.7	1.8	2.7	3.5	4.0	4.1	4.3	4.2	3.5	2.8	1.9	1.5	36.0
Pajaro	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.1
Salinas	1.6	1.9	2.7	3.8	4.8	4.7	5.0	4.5	4.0	2.9	1.9	1.3	39.1
Salinas North	1.2	1.5	2.9	4.1	4.6	5.2	4.5	4.3	3.2	2.8	1.5	1.2	36.9
San Ardo	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
San Juan	1.8	2.1	3.4	4.6	5.3	5.7	5.5	4.9	3.8	3.2	2.2	1.9	44.2
Soledad	1.7	2.0	3.4	4.4	5.5	5.4	6.5	6.2	5.2	3.7	2.2	1.5	47.7
NAPA													
Angwin	1.8	1.9	3.2	4.7	5.8	7.3	8.1	7.1	5.5	4.5	2.9	2.1	54.9
Carneros	0.8	1.5	3.1	4.6	5.5	6.6	6.9	6.2	4.7	3.5	1.4	1.0	45.8
Oakville	1.0	1.5	2.9	4.7	5.8	6.9	7.2	6.4	4.9	3.5	1.6	1.2	47.7
St Helena	1.2	1.5	2.8	3.9	5.1	6.1	7.0	6.2	4.8	3.1	1.4	0.9	44.1
Yountville	1.3	1.7	2.8	3.9	5.1	6.0	7.1	6.1	4.8	3.1	1.5	0.9	44.3
NEVADA													
Grass Valley	1.1	1.5	2.6	4.0	5.7	7.1	7.9	7.1	5.3	3.2	1.5	0.9	48.0
Nevada City	1.1	1.5	2.6	3.9	5.8	6.9	7.9	7.0	5.3	3.2	1.4	0.9	47.4
ORANGE													
Irvine	2.2	2.5	3.7	4.7	5.2	5.9	6.3	6.2	4.6	3.7	2.6	2.3	49.6
Laguna Beach	2.2	2.7	3.4	3.8	4.6	4.6	4.9	4.9	4.4	3.4	2.4	2.0	43.2
Santa Ana	2.2	2.7	3.7	4.5	4.6	5.4	6.2	6.1	4.7	3.7	2.5	2.0	48.2
PLACER													
Auburn	1.2	1.7	2.8	4.4	6.1	7.4	8.3	7.3	5.4	3.4	1.6	1.0	50.6
Blue Canyon	0.7	1.1	2.1	3.4	4.8	6.0	7.2	6.1	4.6	2.9	0.9	0.6	40.5
Colfax	1.1	1.5	2.6	4.0	5.8	7.1	7.9	7.0	5.3	3.2	1.4	0.9	47.9
Roseville	1.1	1.7	3.1	4.7	6.2	7.7	8.5	7.3	5.6	3.7	1.7	1.0	52.2
Soda Springs	0.7	0.7	1.8	3.0	4.3	5.3	6.2	5.5	4.1	2.5	0.7	0.7	35.4
Tahoe City	0.7	0.7	1.7	3.0	4.3	5.4	6.1	5.6	4.1	2.4	0.8	0.6	35.5
Truckee	0.7	0.7	1.7	3.2	4.4	5.4	6.4	5.7	4.1	2.4	0.8	0.6	36.2

PLUMAS													
Portola	0.7	0.9	1.9	3.5	4.9	5.9	7.3	5.9	4.3	2.7	0.9	0.5	39.4
Quincy	0.7	0.9	2.2	3.5	4.9	5.9	7.3	5.9	4.4	2.8	1.2	0.5	40.2
RIVERSIDE													
Beaumont	2.0	2.3	3.4	4.4	6.1	7.1	7.6	7.9	6.0	3.9	2.6	1.7	55.0
Blythe	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Cathedral City	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Coachella	2.9	4.4	6.2	8.4	10.5	11.9	12.3	10.1	8.9	6.2	3.8	2.4	88.1
Desert Center	2.9	4.1	6.4	8.5	11.0	12.1	12.2	11.1	9.0	6.4	3.9	2.6	90.0
Elsinore	2.1	2.8	3.9	4.4	5.9	7.1	7.6	7.0	5.8	3.9	2.6	1.9	55.0
Indio	3.1	3.6	6.5	8.3	10.5	11.0	10.8	9.7	8.3	5.9	3.7	2.7	83.9
RIVERSIDE													
La Quinta	2.4	2.8	5.2	6.5	8.3	8.7	8.5	7.9	6.5	4.5	2.7	2.2	66.2
Mecca	2.6	3.3	5.7	7.2	8.6	9.0	8.8	8.2	6.8	5.0	3.2	2.4	70.8
Oasis	2.9	3.3	5.3	6.1	8.5	8.9	8.7	7.9	6.9	4.8	2.9	2.3	68.4
Palm Deser	2.5	3.4	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.6
Palm Springs	2.0	2.9	4.9	7.2	8.3	8.5	11.6	8.3	7.2	5.9	2.7	1.7	71.1
Rancho California	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
Rancho Mirage	2.4	3.3	5.3	6.9	8.7	9.6	9.6	8.7	6.9	5.0	3.0	2.2	71.4
Ripley	2.7	3.3	5.6	7.2	8.7	8.7	8.4	7.6	6.2	4.6	2.8	2.2	67.8
Salton Sea North	2.5	3.3	5.5	7.2	8.8	9.3	9.2	8.5	6.8	5.2	3.1	2.3	71.7
Temecula East II	2.3	2.4	4.1	4.9	6.4	7.0	7.8	7.4	5.7	4.1	2.6	2.2	56.7
Thermal	2.4	3.3	5.5	7.6	9.1	9.6	9.3	8.6	7.1	5.2	3.1	2.1	72.8
Riverside UC	2.5	2.9	4.2	5.3	5.9	6.6	7.2	6.9	5.4	4.1	2.9	2.6	56.4
Winchester	2.3	2.4	4.1	4.9	6.4	6.9	7.7	7.5	6.0	3.9	2.6	2.1	56.8
SACRAMENTO													
Fair Oaks	1.0	1.6	3.4	4.1	6.5	7.5	8.1	7.1	5.2	3.4	1.5	1.0	50.5
Sacramento	1.0	1.8	3.2	4.7	6.4	7.7	8.4	7.2	5.4	3.7	1.7	0.9	51.9
Twitchell Island	1.2	1.8	3.9	5.3	7.4	8.8	9.1	7.8	5.9	3.8	1.7	1.2	57.9
SAN BENITO													
Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Benito	1.2	1.6	3.1	4.6	5.6	6.4	6.9	6.5	4.8	3.7	1.7	1.2	47.2
San Juan Valley	1.4	1.8	3.4	4.5	6.0	6.7	7.1	6.4	5.0	3.5	1.8	1.4	49.1
SAN BERNARDINO													
Baker	2.7	3.9	6.1	8.3	10.4	11.8	12.2	11.0	8.9	6.1	3.3	2.1	86.6
Barstow NE	2.2	2.9	5.3	6.9	9.0	10.1	9.9	8.9	6.8	4.8	2.7	2.1	71.7
Big Bear Lake	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Chino	2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6
Crestline	1.5	1.9	3.3	4.4	5.5	6.6	7.8	7.1	5.4	3.5	2.2	1.6	50.8
Lake Arrowhead	1.8	2.6	4.6	6.0	7.0	7.6	8.1	7.4	5.4	4.1	2.4	1.8	58.6
Lucerne Valley	2.2	2.9	5.1	6.5	9.1	11.0	11.4	9.9	7.4	5.0	3.0	1.8	75.3
Needles	3.2	4.2	6.6	8.9	11.0	12.4	12.8	11.0	8.9	6.6	4.0	2.7	92.1
Newberry Springs	2.1	2.9	5.3	8.4	9.8	10.9	11.1	9.9	7.6	5.2	3.1	2.0	78.2
San Bernardino	2.0	2.7	3.8	4.6	5.7	6.9	7.9	7.4	5.9	4.2	2.6	2.0	55.6
Twentynine Palms	2.6	3.6	5.9	7.9	10.1	11.2	11.2	10.3	8.6	5.9	3.4	2.2	82.9
Victorville	2.0	2.6	4.6	6.2	7.3	8.9	9.8	9.0	6.5	4.7	2.7	2.1	66.2
SAN DIEGO													
Chula Vista	2.2	2.7	3.4	3.8	4.9	4.7	5.5	4.9	4.5	3.4	2.4	2.0	44.2
Escondido SPV	2.4	2.6	3.9	4.7	5.9	6.5	7.1	6.7	5.3	3.9	2.8	2.3	54.2
Miramar	2.3	2.5	3.7	4.1	5.1	5.4	6.1	5.8	4.5	3.3	2.4	2.1	47.1

Oceanside	2.2	2.7	3.4	3.7	4.9	4.6	4.6	5.1	4.1	3.3	2.4	2.0	42.9
Otay Lake	2.3	2.7	3.9	4.6	5.6	5.9	6.2	6.1	4.8	3.7	2.6	2.2	50.4
Pine Valley	1.5	2.4	3.8	5.1	6.0	7.0	7.8	7.3	6.0	4.0	2.2	1.7	54.8
Ramona	2.1	2.1	3.4	4.6	5.2	6.3	6.7	6.8	5.3	4.1	2.8	2.1	51.6
San Diego	2.1	2.4	3.4	4.6	5.1	5.3	5.7	5.6	4.3	3.6	2.4	2.0	46.5
Santee	2.1	2.7	3.7	4.5	5.5	6.1	6.6	6.2	5.4	3.8	2.6	2.0	51.1
Torrey Pines	2.2	2.3	3.4	3.9	4.0	4.1	4.6	4.7	3.8	2.8	2.0	2.0	39.8
Warner Springs	1.6	2.7	3.7	4.7	5.7	7.6	8.3	7.7	6.3	4.0	2.5	1.3	56.0
SAN FRANCISCO													
San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
SAN JOAQUIN													
Farmington	1.5	1.5	2.9	4.7	6.2	7.6	8.1	6.8	5.3	3.3	1.4	0.7	50.0
SAN JOAQUIN													
Lodi West	1.0	1.6	3.3	4.3	6.3	6.9	7.3	6.4	4.5	3.0	1.4	0.8	46.7
Manteca	0.9	1.7	3.4	5.0	6.5	7.5	8.0	7.1	5.2	3.3	1.6	0.9	51.2
Stockton	0.8	1.5	2.9	4.7	6.2	7.4	8.1	6.8	5.3	3.2	1.4	0.6	49.1
Tracy	1.0	1.5	2.9	4.5	6.1	7.3	7.9	6.7	5.3	3.2	1.3	0.7	48.5
SAN LUIS OBISPO													
Arroyo Grande	2.0	2.2	3.2	3.8	4.3	4.7	4.3	4.6	3.8	3.2	2.4	1.7	40.0
Atascadero	1.2	1.5	2.8	3.9	4.5	6.0	6.7	6.2	5.0	3.2	1.7	1.0	43.7
Morro Bay	2.0	2.2	3.1	3.5	4.3	4.5	4.6	4.6	3.8	3.5	2.1	1.7	39.9
Nipomo	2.2	2.5	3.8	5.1	5.7	6.2	6.4	6.1	4.9	4.1	2.9	2.3	52.1
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0
San Luis Obispo	2.0	2.2	3.2	4.1	4.9	5.3	4.6	5.5	4.4	3.5	2.4	1.7	43.8
San Miguel	1.6	2.0	3.2	4.3	5.0	6.4	7.4	6.8	5.1	3.7	2.1	1.4	49.0
San Simeon	2.0	2.0	2.9	3.5	4.2	4.4	4.6	4.3	3.5	3.1	2.0	1.7	38.1
SAN MATEO													
Hal Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.7
Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8
Woodside	1.8	2.2	3.4	4.8	5.6	6.3	6.5	6.2	4.8	3.7	2.4	1.8	49.5
SANTA BARBARA													
Betteravia	2.1	2.6	4.0	5.2	6.0	5.9	5.8	5.4	4.1	3.3	2.7	2.1	49.1
Carpenteria	2.0	2.4	3.2	3.9	4.8	5.2	5.5	5.7	4.5	3.4	2.4	2.0	44.9
Cuyama	2.1	2.4	3.8	5.4	6.9	7.9	8.5	7.7	5.9	4.5	2.6	2.0	59.7
Goleta	2.1	2.5	3.9	5.1	5.7	5.7	5.4	5.4	4.2	3.2	2.8	2.2	48.1
Goleta Foothills	2.3	2.6	3.7	5.4	5.3	5.6	5.5	5.7	4.5	3.9	2.8	2.3	49.6
Guadalupe	2.0	2.2	3.2	3.7	4.9	4.6	4.5	4.6	4.1	3.3	2.4	1.7	41.1
Lompoc	2.0	2.2	3.2	3.7	4.8	4.6	4.9	4.8	3.9	3.2	2.4	1.7	41.1
Los Alamos	1.8	2.0	3.2	4.1	4.9	5.3	5.7	5.5	4.4	3.7	2.4	1.6	44.6
Santa Barbara	2.0	2.5	3.2	3.8	4.6	5.1	5.5	4.5	3.4	2.4	1.8	1.8	40.6
Santa Maria	1.8	2.3	3.7	5.1	5.7	5.8	5.6	5.3	4.2	3.5	2.4	1.9	47.4
Santa Ynez	1.7	2.2	3.5	5.0	5.8	6.2	6.4	6.0	4.5	3.6	2.2	1.7	48.7
Sisquoc	2.1	2.5	3.8	4.1	6.1	6.3	6.4	5.8	4.7	3.4	2.3	1.8	49.2
Solvang	2.0	2.0	3.3	4.3	5.0	5.6	6.1	5.6	4.4	3.7	2.2	1.6	45.6
SANTA CLARA													
Gilroy	1.3	1.8	3.1	4.1	5.3	5.6	6.1	5.5	4.7	3.4	1.7	1.1	43.6
Los Gatos	1.5	1.8	2.8	3.9	5.0	5.6	6.2	5.5	4.7	3.2	1.7	1.1	42.9
Morgan Hill	1.5	1.8	3.4	4.2	6.3	7.0	7.1	6.0	5.1	3.7	1.9	1.4	49.5
Palo Alto	1.5	1.8	2.8	3.8	5.2	5.3	6.2	5.6	5.0	3.2	1.7	1.0	43.0
San Jose	1.5	1.8	3.1	4.1	5.5	5.8	6.5	5.9	5.2	3.3	1.8	1.0	45.3

SANTA CRUZ													
De Laveaga	1.4	1.9	3.3	4.7	4.9	5.3	5.0	4.8	3.6	3.0	1.6	1.3	40.8
Green Valley Rd	1.2	1.8	3.2	4.5	4.6	5.4	5.2	5.0	3.7	3.1	1.6	1.3	40.6
Santa Cruz	1.5	1.8	2.6	3.5	4.3	4.4	4.8	4.4	3.8	2.8	1.7	1.2	36.6
Watsonville	1.5	1.8	2.7	3.7	4.6	4.5	4.9	4.2	4.0	2.9	1.8	1.2	37.7
Webb	1.8	2.2	3.7	4.8	5.3	5.7	5.6	5.3	4.3	3.4	2.4	1.8	46.2
SHASTA													
Burney	0.7	1.0	2.1	3.5	4.9	5.9	7.4	6.4	4.4	2.9	0.9	0.6	40.9
Fall River Mills	0.6	1.0	2.1	3.7	5.0	6.1	7.8	6.7	4.6	2.8	0.9	0.5	41.8
Glenburn	0.6	1.0	2.1	3.7	5.0	6.3	7.8	6.7	4.7	2.8	0.9	0.6	42.1
McArthur	0.7	1.4	2.9	4.2	5.6	6.9	8.2	7.2	5.0	3.0	1.1	0.6	46.8
Redding	1.2	1.4	2.6	4.1	5.6	7.1	8.5	7.3	5.3	3.2	1.4	0.9	48.8
SIERRA													
Downieville	0.7	1.0	2.3	3.5	5.0	6.0	7.4	6.2	4.7	2.8	0.9	0.6	41.3
Sierraville	0.7	1.1	2.2	3.2	4.5	5.9	7.3	6.4	4.3	2.6	0.9	0.5	39.6
SISKIYOU													
Happy Camp	0.5	0.9	2.0	3.0	4.3	5.2	6.1	5.3	4.1	2.4	0.9	0.5	35.1
MacDoel	1.0	1.7	3.1	4.5	5.9	7.2	8.1	7.1	5.1	3.1	1.5	1.0	49.0
Mt Shasta	0.5	0.9	2.0	3.0	4.5	5.3	6.7	5.7	4.0	2.2	0.7	0.5	36.0
Tule lake FS	0.7	1.3	2.7	4.0	5.4	6.3	7.1	6.4	4.7	2.8	1.0	0.6	42.9
Weed	0.5	0.9	2.0	2.5	4.5	5.3	6.7	5.5	3.7	2.0	0.9	0.5	34.9
Yreka	0.6	0.9	2.1	3.0	4.9	5.8	7.3	6.5	4.3	2.5	0.9	0.5	39.2
SOLANO													
Dixon	0.7	1.4	3.2	5.2	6.3	7.6	8.2	7.2	5.5	4.3	1.6	1.1	52.1
Fairfield	1.1	1.7	2.8	4.0	5.5	6.1	7.8	6.0	4.8	3.1	1.4	0.9	45.2
Hastings Tract	1.6	2.2	3.7	5.1	6.8	7.8	8.7	7.8	5.7	4.0	2.1	1.6	57.1
Putah Creek	1.0	1.6	3.2	4.9	6.1	7.3	7.9	7.0	5.3	3.8	1.8	1.2	51.0
Rio Vista	0.9	1.7	2.8	4.4	5.9	6.7	7.9	6.5	5.1	3.2	1.3	0.7	47.0
Suisun Valley	0.6	1.3	3.0	4.7	5.8	7.0	7.7	6.8	5.3	3.8	1.4	0.9	48.3
Winters	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
SONOMA													
Bennett Valley	1.1	1.7	3.2	4.1	5.5	6.5	6.6	5.7	4.5	3.1	1.5	0.9	44.4
Cloverdale	1.1	1.4	2.6	3.4	5.0	5.9	6.2	5.6	4.5	2.8	1.4	0.7	40.7
Fort Ross	1.2	1.4	2.2	3.0	3.7	4.5	4.2	4.3	3.4	2.4	1.2	0.5	31.9
Healdsburg	1.2	1.5	2.4	3.5	5.0	5.9	6.1	5.6	4.5	2.8	1.4	0.7	40.8
Lincoln	1.2	1.7	2.8	4.7	6.1	7.4	8.4	7.3	5.4	3.7	1.9	1.2	51.9
Petaluma	1.2	1.5	2.8	3.7	4.6	5.6	4.6	5.7	4.5	2.9	1.4	0.9	39.6
Santa Rosa	1.2	1.7	2.8	3.7	5.0	6.0	6.1	5.9	4.5	2.9	1.5	0.7	42.0
Valley of the Moon	1.0	1.6	3.0	4.5	5.6	6.6	7.1	6.3	4.7	3.3	1.5	1.0	46.1
Windsor	0.9	1.6	3.0	4.5	5.5	6.5	6.5	5.9	4.4	3.2	1.4	1.0	44.2
STANISLAUS													
Denair	1.0	1.9	3.6	4.7	7.0	7.9	8.0	6.1	5.3	3.4	1.5	1.0	51.4
La Grange	1.2	1.5	3.1	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Modesto	0.9	1.4	3.2	4.7	6.4	7.7	8.1	6.8	5.0	3.4	1.4	0.7	49.7
Newman	1.0	1.5	3.2	4.6	6.2	7.4	8.1	6.7	5.0	3.4	1.4	0.7	49.3
Oakdale	1.2	1.5	3.2	4.7	6.2	7.7	8.1	7.1	5.1	3.4	1.4	0.7	50.3
Patterson	1.3	2.1	4.2	5.4	7.9	8.6	8.2	6.6	5.8	4.0	1.9	1.3	57.3
Turlock	0.9	1.5	3.2	4.7	6.5	7.7	8.2	7.0	5.1	3.4	1.4	0.7	50.2
SUTTER													
Nicolaus	0.9	1.6	3.2	4.9	6.3	7.5	8.0	6.9	5.2	3.4	1.5	0.9	50.2

Yuba City	1.3	2.1	2.8	4.4	5.7	7.2	7.1	6.1	4.7	3.2	1.2	0.9	46.7
TEHAMA													
Corning	1.2	1.8	2.9	4.5	6.1	7.3	8.1	7.2	5.3	3.7	1.7	1.1	50.7
Gerber	1.0	1.8	3.5	5.0	6.6	7.9	8.7	7.4	5.8	4.1	1.8	1.1	54.7
Gerber Dryland	0.9	1.6	3.2	4.7	6.7	8.4	9.0	7.9	6.0	4.2	2.0	1.0	55.5
Red Bluff	1.2	1.8	2.9	4.4	5.9	7.4	8.5	7.3	5.4	3.5	1.7	1.0	51.1
TRINITY													
Hay Fork	0.5	1.1	2.3	3.5	4.9	5.9	7.0	6.0	4.5	2.8	0.9	0.7	40.1
Weaverville	0.6	1.1	2.2	3.3	4.9	5.9	7.3	6.0	4.4	2.7	0.9	0.7	40.0
TULARE													
Alpaugh	0.9	1.7	3.4	4.8	6.6	7.7	8.2	7.3	5.4	3.4	1.4	0.7	51.6
Badger	1.0	1.3	2.7	4.1	6.0	7.3	7.7	7.0	4.8	3.3	1.4	0.7	47.3
Delano	1.1	1.9	4.0	4.9	7.2	7.9	8.1	7.3	5.4	3.2	1.5	1.2	53.6
TULARE													
Dinuba	1.1	1.5	3.2	4.7	6.2	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.2
Lindcove	0.9	1.6	3.0	4.8	6.5	7.6	8.1	7.2	5.2	3.4	1.6	0.9	50.6
Porterville	1.2	1.8	3.4	4.7	6.6	7.7	8.5	7.3	5.3	3.4	1.4	0.7	52.1
Visalia	0.9	1.7	3.3	5.1	6.8	7.7	7.9	6.9	4.9	3.2	1.5	0.8	50.7
TUOLUMNE													
Groveland	1.1	1.5	2.8	4.1	5.7	7.2	7.9	6.6	5.1	3.3	1.4	0.7	47.5
Sonora	1.1	1.5	2.8	4.1	5.8	7.2	7.9	6.7	5.1	3.2	1.4	0.7	47.6
VENTURA													
Camarillo	2.2	2.5	3.7	4.3	5.0	5.2	5.9	5.4	4.2	3.0	2.5	2.1	46.1
Oxnard	2.2	2.5	3.2	3.7	4.4	4.6	5.4	4.8	4.0	3.3	2.4	2.0	42.3
Piru	2.8	2.8	4.1	5.6	6.0	6.8	7.6	7.8	5.8	5.2	3.7	3.2	61.5
Port Hueneme	2.0	2.3	3.3	4.6	4.9	4.9	4.9	5.0	3.7	3.2	2.5	2.2	43.5
Thousand Oaks	2.2	2.6	3.4	4.5	5.4	5.9	6.7	6.4	5.4	3.9	2.6	2.0	51.0
Ventura	2.2	2.6	3.2	3.8	4.6	4.7	5.5	4.9	4.1	3.4	2.5	2.0	43.5
YOLO													
Bryte	0.9	1.7	3.3	5.0	6.4	7.5	7.9	7.0	5.2	3.5	1.6	1.0	51.0
Davis	1.0	1.9	3.3	5.0	6.4	7.6	8.2	7.1	5.4	4.0	1.8	1.0	52.5
Esparto	1.0	1.7	3.4	5.5	6.9	8.1	8.5	7.5	5.8	4.2	2.0	1.2	55.8
Winters	1.7	1.7	2.9	4.4	5.8	7.1	7.9	6.7	5.3	3.3	1.6	1.0	49.4
Woodland	1.0	1.8	3.2	4.7	6.1	7.7	8.2	7.2	5.4	3.7	1.7	1.0	51.6
Zamora	1.1	1.9	3.5	5.2	6.4	7.4	7.8	7.0	5.5	4.0	1.9	1.2	52.8
YUBA													
Browns Valley	1.0	1.7	3.1	4.7	6.1	7.5	8.5	7.6	5.7	4.1	2.0	1.1	52.9
Brownsville	1.1	1.4	2.6	4.0	5.7	6.8	7.9	6.8	5.3	3.4	1.5	0.9	47.4

* The values in this table were derived from:

1) California Irrigation Management Information System (CIMIS);

2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999; and

3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources

(1987) Bulletin 1922, 4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426

Appendix B – Water Efficient Landscape Worksheet

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.

Reference Evapotranspiration (ETo) _____

Hydrozone # /Planting Description[a]	Plant Factor (PF)	Irrigation Method[b]	Irrigation Efficiency (IE)[c]	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF x Area	Estimated Total Water Use (ETWU)[d]
Regular Landscape Areas							
			Totals		(A)	(B)	
Special Landscape Areas							
				1			
				1			
				1			
			Totals		(C)	(D)	
						ETWU Total	
						Maximum Allowed Water Allowance (MAWA)[e]	

[a] *Hydrozone #/Planting Description E.g*
1.) front lawn
2.) low water use plantings
3.) medium water use planting

[b] *Irrigation Method*
overhead spray or drip

[c] *Irrigation Efficiency*
0.75 for spray head
0.81 for drip

[d] *ETWU* (Annual Gallons Required) = *Eto x 0.62 x ETAF x Area*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year.

[e] *MAWA (Annual Gallons Allowed) = (Eto) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]*
where 0.62 is a conversion factor that converts acre-inches per acre per year to gallons per square foot per year, LA is the total landscape area in square feet, SLA is the total special landscape area in square feet, and ETAF is .55 for residential areas and 0.45 for non-residential areas.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	(B)
Total Area	(A)
Average ETAF	**B ÷ A**

Average ETAF for Regular Landscape Areas must be 0.55 or below for residential areas, and 0.45 or below for non-residential areas.

All Landscape Areas

Total ETAF x Area	(B+D)
Total Area	(A+C)
Sitewide ETAF	**(B+D) ÷ (A+C)**

Appendix C – Certificate of Completion

CERTIFICATE OF COMPLETION

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

PART 1. PROJECT INFORMATION SHEET

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		Latitude/Longitude (optional)	
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 City of Rancho Palos Verdes _____
2. Date the Landscape Documentation Package was approved by the City of Rancho Palos Verdes _____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to City of Rancho Palos Verdes _____

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 Water Efficient Landscape Ordinance and Landscape Regulations, 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 Landscape Regulations Section 2.9.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per Landscape Regulations Section 2.10.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per Landscape Regulations Section 3.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per Landscape Regulations Section 2.4.
Attach documentation verifying implementation of recommendations from soil analysis report per Landscape Regulations Section 2.4.

Appendix D – Definitions

The terms defined in the Water Efficient Landscape Ordinance apply also to the Landscape Regulations. In addition, the terms below, as used in these Landscape Regulations and in the Water Efficient Landscape Ordinance, have the meanings set forth below:

(a) “applied water” means the portion of water supplied by the irrigation system to the landscape.

(b) “automatic irrigation controller” means a timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

(c) “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.

(d) “Certificate of Completion” means the document required under Section 492.9.

(e) “certified irrigation designer” means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and Irrigation Association's Certified Irrigation Designer program.

(f) “certified landscape irrigation auditor” means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and Irrigation Association's Certified Landscape Irrigation Auditor program.

(g) “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 sprinkler heads when the sprinkler is off.

(h) “common interest developments” means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

(i) “compost” means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

(j) “conversion factor (0.62)” means the number that converts acre-inches per acre per year to gallons per square foot per year.

(k) “distribution uniformity” means the measure of the uniformity of irrigation water over a defined area.

(l) “drip irrigation” means any non-spray low volume irrigation system utilizing emission devices with a flow rate measured in gallons per hour. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

(m) “ecological restoration project” means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

(n) “effective precipitation” or “usable rainfall” (Eppt) means the portion of total precipitation which becomes available for plant growth.

(o) “emitter” means a drip irrigation emission device that delivers water slowly from the system to the soil.

(p) “established landscape” means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

(q) “establishment period of the plants” means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

(r) “Estimated Total Water Use” (ETWU) means the total water used for the landscape as described in Section 492.4.

(s) “ET adjustment factor” (ETAF) means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

(t) “evapotranspiration rate” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

(u) “flow rate” means the rate at which water flows through pipes, valves and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

(v) “flow sensor” means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

(w) “friable” means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

(x) “Fuel Modification Plan Guideline” means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

(y) “graywater” means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. “Graywater” includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

(z) “hardscapes” means any durable material (pervious and non-pervious).

(aa) “hydrozone” means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

(bb) “infiltration rate” means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

(cc) “invasive plant species” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

(dd) “irrigation audit” means an in-depth evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency “Watersense” labeled auditing program.

(ee) “irrigation efficiency” (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems.

(ff) “irrigation survey” means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

(gg) “irrigation water use analysis” means an analysis of water use data based on meter readings and billing data.

(hh) “landscape architect” means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

(ii) “landscape area” means all 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 or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

(jj) “landscape contractor” means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

(kk) “Landscape Documentation Package” means the documents required under Section 492.3.

(ll) “landscape project” means total area of landscape in a project as defined in “landscape area” for the purposes of this ordinance, meeting requirements under Section 490.1.

(mm) “landscape water meter” means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

(nn) “lateral line” means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(oo) “local agency” or “City” means a the City of Rancho Palos Verdes, which is responsible for adopting and implementing the ordinance and for the enforcement of this ordinance, including but not limited to, approval of a permit and plan check or design review of a project.

(pp) “local water purveyor” means any entity, including a public agency, city, county, or private water company that provides retail water service.

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

(rr) “main line” means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(ss) “master shut-off valve” is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

(tt) “Maximum Applied Water Allowance” (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 492.4. It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are subject to the MAWA with an ETAF not to exceed 1.0. MAWA = (ETo) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)]

(uu) “median” is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

(vv) “microclimate” means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

(ww) “mined-land reclamation projects” means any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

(xx) “mulch” means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

(yy) “new construction” means, for the purposes of this ordinance, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

(zz) “non-residential landscape” means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.

(aaa) “operating pressure” means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

(bbb) “overhead sprinkler irrigation systems” or “overhead spray irrigation systems” means systems that deliver water through the air (e.g., spray heads and rotors).

(ccc) “overspray” means the irrigation water which is delivered beyond the target area.

(ddd) “parkway” means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.

(eee) “permit” means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

(fff) “pervious” means any surface or material that allows the passage of water through the material and into the underlying soil.

(ggg) “plant factor” or “plant water use factor” is a factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of this ordinance, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 to 0.3, the plant factor range for moderate water use plants is 0.4 to 0.6, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in this ordinance are derived from the publication “Water Use Classification of Landscape Species”. Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

(hhh) “project applicant” means the individual or entity submitting a Landscape Documentation Package required under Section 492.3, to request a permit, plan check, or design review from the local agency. A project applicant may be the property owner or his or her designee.

(iii) “rain sensor” or “rain sensing shutoff device” means a component which automatically suspends an irrigation event when it rains.

(jjj) “record drawing” or “as-builts” means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

(kkk) “recreational area” means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf course tees, fairways, roughs, surrounds and greens.

(lll) “recycled water,” “reclaimed water,” or “treated sewage effluent water” means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and water features. This water is not intended for human consumption.

(mmm) “reference evapotranspiration” or “ETo” means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Appendix A, and is an estimate of the evapotranspiration of a large field of four- to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated.

(nnn) “Regional Water Efficient Landscape Ordinance” means a local Ordinance adopted by two or more local agencies, water suppliers and other stakeholders for implementing a consistent set of landscape

provisions throughout a geographical region. Regional ordinances are strongly encouraged to provide a consistent framework for the landscape industry and applicants to adhere to.

(ooo) “rehabilitated landscape” means any relandscaping project that requires a permit, plan check, or design review, meets the requirements of Section 490.1, and the modified landscape area is equal to or greater than 2,500 square feet.

(ppp) “residential landscape” means landscapes surrounding single or multifamily homes.

(qqq) “run off” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, run off may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

(rrr) “soil moisture sensing device” or “soil moisture sensor” means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

(sss) “soil texture” means the classification of soil based on its percentage of sand, silt, and clay.

(ttt) “Special Landscape Area” (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

(uuu) “sprinkler head” or “spray head” means a device which delivers water through a nozzle.

(vvv) “static water pressure” means the pipeline or municipal water supply pressure when water is not flowing.

(www) “station” means an area served by one valve or by a set of valves that operate simultaneously.

(xxx) “swing joint” means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

(yyy) “submeter” means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.

(zzz) “turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

(aaaa) “valve” means a device used to control the flow of water in the irrigation system.

(bbbb) “water conserving plant species” means a plant species identified as having a very low or low plant factor.

(cccc) “water feature” means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

(dddd) “watering window” means the time of day irrigation is allowed.

(eeee) “WUCOLS” means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

APPENDIX E - Prescriptive Compliance Option.

This appendix contains prescriptive requirements which may be used as a compliance option to the Model Water Efficient Landscape Ordinance.

Compliance with the following items is mandatory and must be documented on a landscape plan in order to use the prescriptive compliance option:

(1) Submit a Landscape Documentation Package which includes the following elements:

(A) date

(B) project applicant

(C) project address (if available, parcel and/or lot number(s))

(D) total landscape area (square feet), including a breakdown of turf and plant material

(E) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed)

(F) water supply type (e.g., potable, recycled, well) and identify the local retail water purveyor if the applicant is not served by a private well

(G) contact information for the project applicant and property owner

(H) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option to the MWELO".

(2) Incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);

(3) Plant material shall comply with all of the following:

(A) For residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water; For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

(B) A minimum three inch (3″) 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.

(4) Turf shall comply with all of the following:

(A) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(B) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(C) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

(5) Irrigation systems shall comply with the following:

(A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

(B) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

(C) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

(D) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

(E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. “Landscape Irrigation Sprinkler and Emitter Standard,” All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(F) Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(6) For non-residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water use shall be installed.

(7) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance.