City of Placerville Planning Commission
Agenda Report

MEETING DATE: October 20, 2015

FILE NO: Zone Change (ZC) 2015-05 – City of Placerville Water Efficient Landscape Regulations

PREPARED BY: Andrew Painter, City Planner **DATE:** October 14, 2015

SUBJECT: Make recommendation to the City of Placerville City Council on amendments to the Placerville Zoning Ordinance (Title 10), consistent with Government Code Sections 65591 - 65599, involving the addition of Chapter 6: Water Efficient Landscape Regulations.

PROJECT: The Development Services Department is requesting the Planning Commission recommend that the City Council adopt an ordinance to be consistent with Government Code Sections 65591 - 65599, that will regulate water efficiency for new development projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check, site plan or other discretionary review; rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, site plan or other discretionary review; and, existing landscapes as described in the draft ordinance and cemeteries. The Draft Ordinance is provided as **Attachment A**.

The draft ordinance uses the State's Model Ordinance as a framework but was modified to include references within subsections to work in conjunction with the City's landscaping regulations within the Zoning Ordinance (e.g. Site Plan Review), the City's design guidelines and plant palette of the *Development Guide*, construction requirements within City Code, requirements under state fire and building codes, and other applicable requirements, regulations and guidelines of agencies with oversight within the City, such as the El Dorado Irrigation District.

The regulations would require that the landscape and irrigation design plans include the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design a landscape and irrigation system plans as specified under state law. In addition, the regulations also require an affidavit from the signer of the landscape design plan, the signer of the irrigation design plan or the licensed landscape architect stating that the landscape irrigation system at installation complies with the criteria of the regulations and has applied them accordingly for the efficient use of water. A landscape irrigation audit report must also be submitted to the City before a certificate of completion is approved or denied by the City.

The Ordinance if adopted would require amendments also to Title 10, Chapter 4, and Section 9: Site Plan Review regarding landscape and irrigation plan and maintenance requirements for development projects. These amendments will by requested by separate Zone Change request.

BACKGROUND: The California Water Conservation in Landscaping Act, which included what is known as the State's Model Water Efficient Landscape Ordinance (Model Ordinance) was amended pursuant to AB 2717 (Chapter 682, Stats. 2004) and Assembly Bill (AB) 1881 (Chapter 559, Stats. 2006)). AB 1881, set forth in Government Code Sections 65591 - 65599, required cities and counties, no later than January 1, 2010, to adopt the updated Model Ordinance or an equivalent document which is "at least as effective as" the Model Ordinance in conserving water. In the event cities and counties did not

take such action on or before January 1, 2010, the updated Model Ordinance took effect within the jurisdiction of the local agency as of that date, must be enforced by the local agency and it has the same force and effect as if adopted by the local agency. The City of Placerville did not adopt the Model Ordinance or an ordinance as effective as the Model Ordinance.

Governor Jerry Brown issued Drought Executive Order on April 1, 2015 (EO B-29-15) that directed the Department of Water Resources (DWR) to update the State's Model Ordinance through expedited regulation. The California Water Commission approved the revised Model Ordinance on July 15, 2015. Local agencies (cities and counties) have until December 1, 2015 to adopt the Model Ordinance or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance or the State's Ordinance becomes effective by default until the City adopts its own. The City is required to report their implementation to DWR by December 31, 2015. In addition, in January 2017, DWR will report to the State Water Resources Control Board SWRCB. Staff asked a DWR representative what the ramifications would be to the City should the City not meet the statutory requirement. Staff was not told specifics but was told the implications could be serious if the drought continues.

On August 11, 2015, after conducting a public hearing, the City Council by Minute Order authorized staff to initiate water efficient landscape regulations amendments to City Code to comply with State statute and the Governor's Drought Executive Order.

A copy of the Department of Water Resources' informational flyer, a two page summary and the State's Model Ordinance revision is provided as **Attachment B**.

GENERAL PLAN: The City's General Plan contains specific goals and policies relative to water efficiency and water quality. The Placerville General Plan Natural, Cultural and Scenic Resources Section contains Goal A and Policy 1 of Goal A that serve to promote the conservation of water resources and protect water quality within Placerville. In addition, the General Plan's Community Design Section contains Goal A and Policy 5 of Goal A that encourages the use of native drought-resistant plants in both public and private developments to enhance the visual qualities and attributes of Placerville.

ZONING ORDINANCE: The Ordinance if adopted would require for consistency amendments also to Title 10, Chapter 4, and Section 9: Site Plan Review regarding landscape plans and irrigation maintenance for development projects. These amendments will by requested by separate Zone Change request.

ORDINANCE APPLICABLE AREA: The Ordinance would be potentially applicable within all zoning districts and in all General Plan Land Use designations where proposed landscaping exceeds the exemption thresholds specified, a "rehabilitated landscape" as it is defined within the draft ordinance (Section 10-6-3), existing landscapes that exceed one acre, and cemeteries.

ENVIRONMENTAL DOCUMENT: Staff has determined that this Ordinance is not subject to the California Environmental Quality Act (CEQA) pursuant to Sections 15307 and 15308 of the CEQA Guidelines, in that the activity is authorized by statute to establish procedures to assure the maintenance, restoration, enhancement or protection of water, a natural resource.

PUBLIC NOTICE AND COMMENT: Public notice for the request and public hearing was published in the Mountain Democrat, posted on the Planning Division webpage and posted on the City's Facebook on Monday, October 5, 2015. To date the City no public comment was received.

SUMMARY: The City must by statute uphold the requirements of the State Water Model Water Efficient Landscape Ordinance by adopting the Model Ordinance, or equivalent, or the State's Ordinance becomes effective by default. Adopting its own ordinance that is consistent with the State's Ordinance has benefits. It clearly outlines City General Plan policy related to water efficiency use. By codifying the

City's version of the state's landscape regulations into City Code the regulations, along with additional references to the new regulations from other applicable City Code sections, the regulations would be located in a more visible and accessible location for property owners, site developers of development projects, City decision makers and the general public than if there was no mention within City Code. A further benefit would be that the ordinance could be amended in the future more easily should more restrictive drought or water efficiency related regulations be adopted by the state and implemented through a future revised Model Ordinance.

A text change to the City's Zoning Ordinance is a City Council legislative action. Per state law (Government Code Section 65854) and Zoning Ordinance Section 10-3-1(D), changes to the Zoning Ordinance must first be submitted to the Planning Commission at a noticed public hearing where the Commission must make a recommendation to City Council. Per state law (Government Code Section 95856), City Council must hold a public hearing to introduce the changes to the Zoning Ordinance. Council may then adopt the amendment or as modified at a subsequent Council meeting.

RECOMMENDATION: Staff recommends that the Planning Commission take the following actions:

I. Conduct a public hearing to consider ZC 2015-05: Water Efficient Landscape Regulations, along with public comment and testimony.

II. Make the recommendation to City Council that ZC 2015-05: Water Efficient Landscape Regulations is exempt from CEQA pursuant to Sections 15307 and 15308 of the CEQA Guidelines, in that the activity is authorized by statute to establish procedures to assure the maintenance, restoration, enhancement or protection of water, a natural resource.

III. Make the recommendation to City Council to adopt ZC 2015-05, adding Chapter 6: Water Efficient Landscape Regulations to the Placerville Zoning Ordinance for landscaping activities within the City of Placerville.

Attachments

A. Draft Ordinance - Water Efficient Landscape Regulations

B. Department of Water Resources' Informational Flyer, Summary and the State's Model Ordinance Revision

Attachment A

Draft Ordinance - Water Efficient Landscape Regulations

ORDINANCE NO.

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF PLACERVILLE ESTABLISHING REGULATIONS REGARDING WATER EFFICIENT LANDSCAPE INSTALLATION AND MAINTENANCE TO INCLUDE RECENT UPDATES TO STATE LAW AS CHAPTER 6 OF TITLE 10 OF THE CITY OF PLACERVILLE MUNICIPAL CODE: WATER EFFICIENT LANDSCAPE REGULATIONS

WHEREAS, the California Water Conservation in Landscaping Act, which included what is known as the State's Model Water Efficient Landscape Ordinance (Model Ordinance) was amended pursuant to AB 2717 (Chapter 682, Stats. 2004) and Assembly Bill (AB) 1881 (Chapter 559, Stats. 2006)); and

WHEREAS, AB 1881, set forth in Government Code Sections 65591 - 65599, required cities and counties, no later than January 1, 2010, to adopt the updated Model Ordinance or an equivalent document which is "at least as effective as" the Model Ordinance in conserving water. In the event cities and counties did not take such action on or before January 1, 2010, the updated Model Ordinance took effect within the jurisdiction of the local agency as of that date, must be enforced by the local agency, and it has the same force and effect as if adopted by the local agency; and,

WHEREAS, the City of Placerville did not adopt the Model Ordinance or an ordinance as effective as the Model Ordinance; and,

WHEREAS, Governor Jerry Brown issued Drought Executive Order on April 1, 2015 (EO B-29-15) that directed DWR to update the State's Model Ordinance through expedited regulation, furthermore the California Water Commission approved the revised Model Ordinance on July 15, 2015; and,

WHEREAS, local agencies (cities and counties) have until December 1, 2015 to adopt the Model Ordinance or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance; and,

WHEREAS, the City of Placerville General Plan's Natural, Cultural and Scenic Resources Section contains Goal A and Policy 1 of Goal A that serve to promote the conservation of water resources and protect water quality; and,

WHEREAS, the General Plan's Community Design Section contains Goal A and Policy 5 of Goal A that encourages the use of native drought-resistant plants in both public and private developments to enhance the visual qualities and attributes of Placerville; and,

WHEREAS, on August 11, 2015, after conducting a public hearing, the City Council by Minute Order authorized staff to initiate water efficient landscape regulation amendments to City Code to comply with State statute and the Governor's Drought Executive Order.

WHEREAS, on October 20, 2015, the Planning Commission of the City of Placerville conducted and concluded a duly noticed public hearing concerning the Municipal Code amendments contained herein, as required by law. At the conclusion of the hearing, the Planning Commission recommended adoption of said amendments.

WHEREAS, on _____, the City Council of the City of Placerville conducted and concluded a duly noticed public hearing concerning the Zoning Code amendments contained herein as required by law.

WHEREAS, the City Council hereby adopts the staff report dated_____, and the facts contained therein as its own findings of facts.

NOW, THEREFORE, **THE CITY COUNCIL OF THE CITY OF PLACERVILLE HEREBY ORDAINS AS FOLLOWS:**

SECTION 1. Purpose and Authority:

The purpose of this Ordinance is to add Chapter 6 entitled *Water Efficiency Landscape Regulations* to Title 10 *Placerville Zoning Ordinance* of the Placerville Municipal Code to be consistent with the requirements under Government Code Sections 65591 - 65599, and the California Water Conservation in Landscaping Act, which included what is known as the State's Model Water Efficient Landscape Ordinance (Model Ordinance), that will regulate water efficiency for prescribed new development projects and rehabilitated landscape projects requiring a building or landscape permit, plan check, site plan or other discretionary review; existing landscapes as described in the draft ordinance, and cemeteries.

SECTION 2. Findings:

I. That the provisions of this Ordinance contained herein have been reviewed and considered by the City Council in accordance with the provisions of the California Environmental Quality Act (CEQA), as amended, and the CEQA Guidelines; City Council held a public hearing on _____ to consider the Development Service Department's determination that this Ordinance is exempt from environmental review per Sections 15307 and 15308 of the California Environmental Quality Act (CEQA) Guidelines, in that the activity is authorized by statute to establish procedures to assure the maintenance, restoration, enhancement or protection of water, a natural resource.

II. The adoption of this Ordinance is exempt from environmental review per Sections 15307 and 15308 of the CEQA Guidelines, in that the activity is authorized by statute to establish procedures to assure the maintenance, restoration, enhancement or protection of water, a natural resource.

III. That the proposed Ordinance is in conformance with Goal A and Policy 1 of Goal A of the City of Placerville General Plan's Natural, Cultural and Scenic Resources Section that serve to promote the conservation of water resources and protect water quality.

IV. That the proposed Ordinance is in conformance with Goal A and Policy 5 of Goal A of the City of Placerville General Plan's Community Design Section that encourages the use of native drought-resistant plants in both public and private developments to enhance the visual qualities and attributes of Placerville.

SECTION 3. Action: Add Chapter 6 entitled *Water Efficiency Landscape Regulations* to Title 10 *Placerville Zoning Ordinance* of the Placerville Municipal Code to read as follows:

CHAPTER 6

WATER EFFICIENT LANDSCAPE REGULATIONS

Sections:

10-6-1: TITLE: This Ordinance shall be known and may be cited as the "Water Efficient Landscape Regulations."

10-6-2: PURPOSE: It is the policy of the State of California to promote water conservation. It is the policy of the City of Placerville to protect water quality and promote and encourage the installation and maintenance of landscaping in private and public areas appropriate to street type, surrounding architecture and general character of local streets will further to upgrade the visual qualities and functional efficiency of Placerville's local street. The standards detailed in this Chapter are intended to promote the selection, planting and maintenance of landscaping that is water efficient and water conserving, while allowing flexibility in designing healthy, attractive and cost-effective landscapes.

10-6-3: APPLICABILITY:

(A) These regulations shall apply to all of the following projects:

1. New development projects with an aggregate landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check, site plan or other discretionary review;

2. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, site plan or other discretionary review;

3. Existing landscapes limited to Subsection (J) of Section 10-6-15; and

4. Cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 10-6-5 (E), 10-6-9 (B) and 10-6-10 of this Title; and existing cemeteries are limited to Section 10-6-15.

(B) Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of these regulations or conform to the prescriptive measures contained in Appendix D.

(C) For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 sq. ft of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D section (5).

(D) These regulations do not apply to:

1. Registered local, state or federal historical sites;

2. Ecological restoration projects that do not require a permanent irrigation system;

3. Mined-land reclamation projects that do not require a permanent irrigation system;

4. Existing plant collections, as part of botanical gardens and arboretums open to the public.

10-6-4: DEFINITIONS: The terms used in these regulations have the meaning set forth below:

APPLIED WATER: The portion of water supplied by the irrigation system to the landscape.

AUTOMATIC IRRIGATION CONTROLLER: 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.

BACKFLOW PREVENTION DEVICE: A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

CERTIFICATE OF COMPLETION: The document required under Section 10-6-8.

CERTIFIED IRRIGATION DESIGNER: 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.

CERTIFIED LANDSCAPE IRRIGATION AUDITOR: 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.

CHECK VALVE or ANTI-DRAIN VALVE: 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.

CITY: City of Placerville

COMMON INTEREST DEVELOPMENTS: Community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

COMPOST: The safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

CONVERSION FACTOR (0.62): The number that converts acre-inches per acre per year to gallons per square foot.

DISTRIBUTION UNIFORMITY: The measure of the uniformity of irrigation water over a defined area.

DRIP IRRIGATION: 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.

ECOLOGICAL RESTORATION PROJECT: A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

EFFECTIVE PRECIPITATION OR USABLE RAINFALL (Eppt): The portion of total precipitation which becomes available for plant growth.

EMITTER: A drip irrigation emission device that delivers water slowly from the system to the soil.

ESTABLISHED LANDSCAPE: 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.

ESTABLISHMENT PERIOD OF THE PLANTS: 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.

ESTIMATED TOTAL WATER USE (ETWU): The total water used for the landscape as described in Section 10-6-5 (E).

ET ADJUSTMENT FACTOR (ETAF): 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 Area shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

EVAPOTRANSPIRATION RATE: The quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

FLOW RATE: 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.

FLOW SENSOR: 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.

FRIABLE: 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.

FUEL MODIFICATION PLAN GUIDELINE: Guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

GRAYWATER: 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.

HARDSCAPES: Any durable material (pervious and non-pervious).

HYDROZONE: A portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

INFILTRATION RATE: The rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

INVASIVE PLANT SPECIES: 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.

IRRIGATION AUDIT: 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.

IRRIGATION EFFICIENCY (IE): 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 these regulations is 0.75 for overhead spray devices and 0.81 for drip systems.

IRRIGATION SURVEY: 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.

IRRIGATION WATER USE ANALYSIS: An analysis of water use data based on meter readings and billing data.

LANDSCAPE ARCHITECT: A person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

LANDSCAPE AREA: 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).

LANDSCAPE CONTRACTOR: A person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

LANDSCAPE DOCUMENTATION PACKAGE: The documents required under Section 10-6-5 (D).

LANDSCAPE PROJECT: Total area of landscape in a project as defined in "landscape area" for the purposes of this regulations, meeting requirements under Section 10-6-3.

LANDSCAPE WATER METER: 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.

LATERAL LINE: The water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

LOCAL WATER PURVEYOR: The City, or in some areas of the City, the El Dorado Irrigation District.

LOW VOLUME IRRIGATION: 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.

MAIN LINE: The pressurized pipeline that delivers water from the water source to the valve or outlet.

MASTER SHUT-OFF VALVE: 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.

MAXIMUM APPLIED WATER ALLOWANCE (MAWA): The upper limit of annual applied water for the established landscaped area as specified in Section 10-6-5 (E). 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)].

MEDIAN: An area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

MICROCLIMATE: 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.

MINED-LAND RECLAMATION PROJECTS: Any surface mining operation with a reclamation plan approved in accordance with the Surface Mining and Reclamation Act of 1975.

MULCH: 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.

NEW CONSTRUCTION: For the purposes of these regulations, a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

NON-RESIDENTIAL LANDSCAPE: 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.

OPERATING PRESSURE: The pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

OVERHEAD SPRINKLER IRRIGATION SYSTEMS: Systems that deliver water through the air (e.g., spray heads and rotors).

OVERSPRAY: Irrigation water which is delivered beyond the target area.

PERMIT: An authorizing document issued by the City for new construction or rehabilitated landscapes.

PERVIOUS: Any surface or material that allows the passage of water through the material and into the underlying soil.

PLANT FACTOR or PLANT WATER USE FACTOR: A factor, when multiplied by ETo, estimates the amount of water needed by plants. For purposes of these regulations, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for moderate water use plants is 0.1 to 0.3, and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors cited in these regulations 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).

PROJECT APPLICANT: The individual or entity submitting a Landscape Documentation Package required under Section 10-6-5 (D), to request a permit, plan check, or design review from the City. A project applicant may be the property owner or his or her designee.

RAIN SENSOR or RAIN SENSING SHUTOFF DEVICE: A component which automatically suspends an irrigation event when it rains.

RECORD DRAWING OR AS-BUILTS: 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.

RECREATIONAL AREA: 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.

RECYCLED WATER, RECLAIMED WATER, or TREATED SEWAGE EFFLUENT WATER: Treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.

REFERENCE EVAPOTRANSPIRATION or ETo: 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 Allowance so that regional differences in climate can be accommodated.

REHABILITATED LANDSCAPE: Any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 10-6-3, and the modified landscape area is equal to or greater than 2,500 square feet.

RESIDENTIAL LANDSCAPE: Landscapes surrounding single or multifamily homes.

RUNOFF: Water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

SOIL MOISTURE SENSING DEVICE or SOIL MOISTURE SENSOR: A device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

SOIL TEXTURE: The classification of soil based on its percentage of sand, silt, and clay.

SPECIAL LANDSCAPE AREA (SLA): An area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, or water features using recycled water.

SPRINKLER HEAD: A device which delivers water through a nozzle.

STATIC WATER PRESSURE: The pipeline or municipal water supply pressure when water is not flowing.

STATION: An area served by one valve or by a set of valves that operate simultaneously.

SWING JOINT: 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.

SUBMETER: A metering device to measure water applied to the landscape that is installed after the primary utility water meter.

TURF: 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.

VALVE: A device used to control the flow of water in the irrigation system.

WATER CONSERVING PLANT SPECIES: A plant species identified as having a very low or low plant factor.

WATER FEATURE: 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.

WATERING WINDOW: The time of day irrigation is allowed.

WUCOLS: The Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

10-6-5: LANDSCAPE DESIGN PLAN:

(A) Consistency with Specific Plans, other design guidelines and design criteria: Other regulations and design criteria 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. Zoning Code, including projects subject to Section 10-4-9;
2. The *City of Placerville Development Guide*;
3. The City's Design and Construction Standards Manual;
4. El Dorado County Fire Protection District regulations for fire hazard reduction and fuel modification zones;
5. Any conditions of approval for a specific project;
6. California Building Code;
7. El Dorado Irrigation District design and construction standards.

Where any inconsistencies arise between this Chapter and other adopted policy documents, the more restrictive requirement shall govern.

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

1. Plant Material

(a) Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. Methods to achieve water efficiency shall include one or more of the following:

1. Protection and preservation of native species and natural vegetation;
2. Selection of water-conserving plant, tree 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 local tree regulations or tree shading guidelines, and size at maturity as appropriate for the planting area;
5. Selection of plants from City and local landscape program plant lists; and
6. Selection of plants from local Fuel Modification Plan Guidelines.

(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 10-6-6 (A).

(c) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. Methods to achieve water efficiency shall include one or more of the following:

1. Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;

2. Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth, 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) High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.

(f) 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.

(g) The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.

(h) 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 (see Section 10-6-5 (F)).

(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. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.

(e) Stabilizing mulching products shall be used on slopes that meet current engineering standards.

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

(g) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local regulations.

(C) The landscape design plan, at a minimum, shall:

1. Delineate and label each hydrozone by number, letter, or other method;

2. Identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;

3. Identify recreational areas;

4. Identify areas permanently and solely dedicated to edible plants;

5. Identify areas irrigated with recycled water;

6. Identify type of mulch and application depth;

7. Identify soil amendments, type, and quantity;

8. Identify type and surface area of water features;

9. Identify hardscapes (pervious and non-pervious);

10. Identify location and installation details, and 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 regional Water Quality Control Board for information on any applicable stormwater technical requirements. Stormwater best management practices are encouraged in the landscape design plan and examples are provided in Section 10-6-14.

11. Identify any applicable rain harvesting or catchment technologies as discussed in Section 16 and their 24-hour retention or infiltration capacity;

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

13. Contain the following statement: "I have complied with the criteria of the regulations and applied them for the efficient use of water in the landscape design plan"; and

14. Bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.).

(D) Elements of the Landscape Documentation Package.

1. The Landscape Documentation Package shall include the following six (6) elements:

(a) Project information:

(A) Date.

(B) Project applicant.

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

(D) Total landscape area (square feet).

(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) Checklist of all documents in Landscape Documentation Package.

(H) Project contacts to include contact information for the project applicant and property owner.

(I) Applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape regulations and submit a complete Landscape Documentation Package."

(b) Water Efficient Landscape Worksheet:

(A) Hydrozone information table

(B) Water budget calculations

1. Maximum Applied Water Allowance (MAWA)

2. Estimated Total Water Use (ETWU)

(c) Soil management report;

(d) Landscape design plan;

(e) Irrigation design plan; and

(f) Grading design plan

(E) Water Efficient Landscape Worksheet:

1. 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.

   (a) In calculating the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Appendix A.

2. Water budget calculations shall adhere to the following requirements:

   (a) 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.

   (b) 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.

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

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

(F) Soil Management Report:

1. 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:

   (a) Submit soil samples to a laboratory for analysis and recommendations.

      (1) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

      (2) The soil analysis shall include:
         1. soil texture;
         2. infiltration rate determined by laboratory test or soil texture infiltration rate table;

3. pH;
4. total soluble salts;
5. sodium;
6. percent organic matter; and
7. recommendations.

(3) 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 City as part of the Landscape Documentation Package; or

(b) If significant mass grading is planned, the soil analysis report shall be submitted to the City as part of the Certificate of Completion.

3. The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

4. The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the City with Certificate of Completion.

10-6-6: 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 manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

1. System

(a) 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. but not more than 5,000 sq.ft. (the level at which *Water Code* 535 applies) 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) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required 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 City code (i.e., public health) for additional backflow prevention requirements.

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

(h) 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.

(i) 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.

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

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

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

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

(n) 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.

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

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

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

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

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

(t) Check valves or anti-drain valves are required on all sprinkler heads where low point discharge could occur.

(u) 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.

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

1. The landscape area is adjacent to permeable surfacing and no runoff occurs; or

2. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or

3. The irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 10-6-5. Prevention of overspray and runoff must be confirmed during the irrigation audit.

(w) Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

2. Hydrozone

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

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

(c) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf 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 plant factor; or

2. The plant factor of the higher water using plant is used for calculations.

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

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

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

(a) Location and size of separate water meters for landscape;

(b) Location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;

(c) Static water pressure at the point of connection to the public water supply;

(d) Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

(e) Recycled water irrigation systems as specified in Section 10-6-12;

(f) The following statement: "I have complied with the criteria of the regulations and applied them accordingly for the efficient use of water in the irrigation design plan"; and

(g) The signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

10-6-7: GRADING DESIGN PLAN:

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

1. The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:

   (a) height of graded slopes;

   (b) drainage patterns;

   (c) pad elevations;

   (d) finish grade; and

   (e) stormwater retention improvements, if applicable.

2. To prevent excessive erosion and runoff, it is highly recommended that project applicants:

   (a) grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;

   (b) avoid disruption of natural drainage patterns and *undisturbed soil*; and

   (c) avoid soil compaction in landscape areas.

3. The grading design plan shall contain the following statement: "I have complied with the criteria of the regulations and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law.

10-6-8: CERTIFICATE OF COMPLETION:

(A) Prior to issuance of a certificate of occupancy, a signed landscape certificate of completion shall be submitted to the Development Services Department on a form prescribed by the Department that shall include the following information and documentation:

1. Project information sheet that contains:

   (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 "as-built" or record drawings shall be included with the certification;

(b) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

3. Irrigation scheduling parameters used to set the controller (see Section 10-6-9);

4. Landscape and irrigation maintenance schedule (see Section 10-6-9);

5. Irrigation audit report (see Section 10-6-10); and

6. Soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 10-6-5).

(B) The project applicant shall:

1. Submit the signed Certificate of Completion to the City (Development Services Department) for review;

2. Ensure that copies of the approved Certificate of Completion *are submitted* to the local water purveyor and property owner or his or her designee.

(C) The City shall:

1. Receive the signed Certificate of Completion from the project applicant;

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.

10-6-9: IRRIGATION SCHEDULING AND MAINTENANCE:

(A) Irrigation Scheduling: 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 automatic irrigation controllers.

2. Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. If allowable hours of irrigation differ from the local water purveyor, the stricter of the two shall apply. Operation of the irrigation system outside the normal 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 (e.g., 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.

(B) Landscape and Irrigation Maintenance

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

2. A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, 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 obstruction to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

3. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.

4. A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

10-6-10: IRRIGATION WATER USE ANALYSIS AND MONITORING:

(A) All landscape irrigation audits shall be conducted by a City 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.

(B) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.

(C) For new construction and rehabilitated landscape projects installed after December 1, 2015, as described in Section 10-6-3:

1. The project applicant shall submit an irrigation audit report with the Certificate of Completion to the City that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;

2. The City shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

10-6-11: IRRIGATION EFFICIENCY:

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

10-6-12: RECYCLED WATER:

(A) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.

(B) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.

(C) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

10-6-13: GRAYWATER SYSTEMS:

(A) 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 regulations standards. Refer to §490.1 (d) for the applicability of this regulations to landscape areas less than 2,500 square feet with the Estimated Total Water Use met entirely by graywater.

10-6-14: STORMWATER MANAGEMENT AND RAINWATER RETENTION:

(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 City of Placerville Design and Construction Standards Manual.

(C) All planted landscape areas are required to have friable soil to maximize water retention and infiltration. Refer to Section 10-6-5.

(D) It is strongly recommended that all 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. See the City of Placerville Design and Construction Standards for the required hydraulic sizing criteria that apply to projects that create or replace more than 5,000 square feet of impervious surfaces.

(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:

1. Grade impervious surfaces, such as driveways, during construction to drain to vegetated areas.

2. Minimize the area of impervious surfaces such as paved areas, roof and concrete driveways.

3. Incorporate pervious or porous surfaces (e.g., gravel, permeable pavers or blocks, pervious or porous concrete) that minimize runoff.

4. Direct runoff from paved surfaces and roof areas into planting beds or landscaped areas to maximize site water capture and reuse.

5. Incorporate rain gardens, cisterns, and other rain harvesting or catchment systems.

6. Incorporate infiltration beds, swales, basins and drywells to capture storm water and dry weather runoff and increase percolation into the soil.

7. Consider constructed wetlands and ponds that retain water, equalize excess flow, and filter pollutants.

10-6-15: PROVISIONS FOR EXISTING LANDSCAPES INSTALLED PRIOR TO DECEMBER 1, 2015:

(A) This Section, 10-6-15, shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.

1. For all landscapes in 10-6-15(A) that have a water meter, the City shall administer programs that may include, but not be limited to, irrigation water use 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 in 10-6-15(A), 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.

(B) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

10-6-16: VIOLATION; PENALTY: Violations of this Chapter, unless otherwise excepted, are considered administrative violation of City Code, subject to enforcement procedures under Section 1-4A-1 et. seq. of City Code.

10-6-17: SEVERABILITY:

(A) If any section, subsection, phrase, or clause of this ordinance is for any reason held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance.

(B) The City Council hereby declares that it would be passed this ordinance and each section, subsection, phrase or clause thereof irrespective of the fact that any one or more sections, subsections, phrases, or clauses be declared unconstitutional.

Appendix A - Reference Evapotranspiration (ETo) Table*

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Placerville	1.41	1.88	2.99	4.47	5.91	7.46	9.00	8.21	6.23	4.19	1.84	1.37	56.96

* The values in this table were derived from Table 2-1, (DWR Table 3) Climate Characteristics of the 2005 Urban Water Management Plan for the City of Placerville.

Appendix B – Sample Water Efficient Landscape Worksheet.

Reference Evapotransporation (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 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 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			All Landscape Areas	
Total ETAF x Area	(B)		Total ETAF x Area	(B+D)
Total Area	(A)		Total Area	(A+C)
Average ETAF	B ÷ A		Average ETAF	(B+D) ÷ (A+C)

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

Appendix C – Sample 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_____
2. Date the Landscape Documentation Package was approved by the City_____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor_____

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 regulations and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

<table>
<tr><td>Signature**</td><td colspan="2">Date</td></tr>
<tr><td rowspan="2">Name (print)</td><td colspan="2">Telephone No.</td></tr>
<tr><td colspan="2">Fax No.</td></tr>
<tr><td>Title</td><td colspan="2">Email Address</td></tr>
<tr><td colspan="3">License No. or Certification No.</td></tr>
<tr><td>Company</td><td colspan="2">Street Address</td></tr>
<tr><td>City</td><td>State</td><td>Zip Code</td></tr>
</table>

**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 regulations Section 10-6-8.

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

Attach schedule of Landscape and Irrigation Maintenance per regulations Section 10-6-8.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per regulations Section 10-6-9.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per regulations Section 10-6-4.

Attach documentation verifying implementation of recommendations from soil analysis report per regulations Section 10-6-4.

Appendix D –Water Efficient Landscape Worksheet

Prescriptive Compliance Option

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

(b) 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.

(B) Irrigation controllers shall be of a type which does not lose programming date 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.

(c) 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.

SECTION 4. Effective Date: This ordinance shall become effective on and after the thirtieth (30th) day following adoption.

INTRODUCED on _____, and **PASSED AND ADOPTED** on _____, 2015, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:
RECUSED:

_____
Mayor Patricia Borelli

ATTEST:

_____
Susan Zito, CMC, City Clerk

Attachment B

Department of Water Resources' Informational Flyer, Summary and the State's Model Ordinance Revision

Department of Water Resources

Model Water Efficient Landscape Ordinance: 2015 Revision

Governor Brown's Drought Executive Order of April 1, 2015 (EO B-29-15) directed DWR to update the State's Model Water Efficient Landscape Ordinance (Ordinance) through expedited regulation. The California Water Commission approved the revised Ordinance on July 15, 2015.

Which Projects are Subject to the Ordinance?

New development projects that include landscape areas of 500 sq. ft. or more are subject to the Ordinance. This applies to residential, commercial, industrial and institutional projects that require a permit, plan check or design review. The previous landscape size threshold for new development projects ranged from 2500 sq. ft. to 5000 sq. ft.

The size threshold for existing landscapes that are being rehabilitated has not changed, remaining at 2500 sq. ft. Only rehabilitated landscapes that are associated with a building or landscape permit, plan check, or design review are subject to the Ordinance.

When Does the Ordinance Go into Effect?

Local agencies (cities and counties) have until December 1, 2015 to adopt the Ordinance or adopt their own ordinance, which must be at least as effective in conserving water as the State's Ordinance. Local agencies working together to develop a regional ordinance have until February 1, 2016 to adopt, but they are still subject to the December 2015 reporting requirements (see *Reporting Requirements* below). If a local agency does not take action on a water efficient landscape ordinance by the specified dates, the State's Ordinance becomes effective by default.

What are the Significant Revisions?

More Efficient Irrigation Systems

- Dedicated landscape water meters or submeters are required for residential landscapes over 5000 sq. ft. and non-residential landscapes over 1000 sq. ft.
- Irrigation systems are required to have pressure regulators and master shut-off valves.
- All irrigation emission devices must meet the national standard stated in the Ordinance to ensure that only high efficiency sprinklers are installed.
- Flow sensors that detect and report high flow conditions due to broken pipes and/or popped sprinkler heads are required for landscape areas greater than 5000 sq. ft.
- The minimum width of areas that can be overhead irrigated was changed from 8 feet to 10 feet; areas less than 10 feet wide must be irrigated with subsurface drip or other technology that produces no over spray or runoff.

Incentives for Graywater Usage

Landscapes under 2500 sq. ft. that are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of Appendix D, Prescriptive Compliance Option.

Improvements in Onsite Stormwater Capture

Friable soil is required in planted areas to maximize water retention and infiltration. Four yards of compost per 1000 sq. ft. of area must be incorporated. Other recommended measures for increasing onsite stormwater retention are listed in the Ordinance.

Limiting the Portion of Landscapes that can be Planted with High Water Use Plants

The maximum amount of water that can be applied to a landscape is reduced from 70% of the reference evapotranspiration (ETo) to 55% for residential landscape projects, and to 45% of ETo for non-residential projects. This water allowance reduces the landscape area that can be planted with high water use plants such as cool season turf. For residential projects, the coverage of high water use plants is reduced from 33% to 25% of the landscaped area. In non-residential landscapes, planting with high water use plants is not feasible. However, unchanged in the Ordinance is the extra water allowance made for non-residential areas when used for specific functional areas, such as recreation and edible gardens. Extra water allowance is also made for landscapes irrigated with recycled water, as was the case in the previous ordinance.

The irrigation efficiency of devices used to irrigate landscapes is one of the factors that goes into determining the maximum amount of water allowed. Rather than having one default irrigation efficiency for the entire site, the revised Ordinance allows the irrigation efficiency to be entered for each area of the landscape. The site-wide irrigation efficiency of the previous ordinance was 0.71; the revised Ordinance defines the irrigation efficiency of drip as 0.81 and that of overhead spray as 0.75.

Median strips cannot be landscaped with high water use plants, precluding the use of cool season turf. Also because of the requirement to irrigate areas less than ten feet wide with subsurface irrigation or other means that produces no runoff or overspray, the use of cool season turf in parkways is limited.

Reporting Requirements

All local agencies will report on the implementation and enforcement of their ordinances to DWR by December 31, 2015. Local agencies developing a regional ordinance will report on their adopted regional ordinance by March 1, 2016. Reporting for all agencies will be due by January 31st of each year thereafter.

Prescriptive Checklist Option for Landscapes under 2500 sq. ft.

Projects with landscape areas under 2500 sq. feet may comply with the performance requirements of the Ordinance or conform to the prescriptive measures contained in Appendix D. Many will find that the Appendix D checklist simplifies compliance.

How Much Water Will Be Saved?

DWR estimates that a typical California landscape will use 12,000 gallons less a year, or 20 percent less than allowed by the 2009 ordinance. Commercial landscapes will cut water use by 35%. Over the next three years, it is predicted that 472,000 new homes associated with 20,000 acres of landscape will be built in California. With proper implementation and enforcement by local agencies, the Ordinance will lead to substantial water savings.

How Can I Get Additional Assistance?

In Fall 2015, DWR will release a guidance document to accompany the Ordinance. Training workshops for local agency staff and landscape professionals will be held throughout the State.

Contact Information:

Julie Saare-Edmonds, DWR Senior Environmental Scientist at Julie.Saare-Edmonds@water.ca.gov or (916) 651-9676

2015 DWR Update: Model Water Efficient Landscape Ordinance (MWELO)
Summary of Major Changes and Key Provisions

Background:
As required by 2006 legislation, AB 1881 (Laird), the Department of Water Resources (DWR) was required to update their Model Water Efficient Landscape Ordinance (MWELO). Starting in January of 2010, all local jurisdictions throughout the state were required to enforce the state MWELO or adopt their own version that was at least as stringent as that adopted by the state.

On April 1, 2015, Governor Brown issued Executive Order B-29-15 which, among other things, directed DWR to update their MWELO once again via expedited regulatory process. The Governor's directive specifically listed five items for DWR to address in revising the ordinance:

- More efficient irrigation systems
- Promote greywater systems and usage
- Promote onsite stormwater capture
- Significantly limit the percentage of turf planted in landscapes
- Require reporting on the implementation and enforcement of the ordinance by local agencies

DWR's Draft Update to the MWELO was adopted unanimously by the California Water Commission on July 15th.

When:
Local agencies are required to enforce the updated MWELO after **December 1, 2015**.

Applicability:
(1) New residential and commercial development projects with and **aggregate** landscape area equal to or greater than 500 square feet requiring a building 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 requiring a building or landscape permit, plan check, or design review.

New MWELO Provisions

Efficient Irrigation Systems:

- Dedicated water submeters for residential landscapes exceeding 5,000 square feet and no-residential landscapes exceeding 1,000square feet.
- Water pressure regulators and manual shut-off valves (in case of a severed line or broke sprinkler head)
- Flow sensors for landscape areas exceeding 5,000 square feet
- Automatic soil-moisture or weather-based irrigation controllers are required to prevent the automatic irrigation of soil when it's not needed. (already required by CALGreen)
- An increase in minimum width of grass turf from 8-feet to 10-feet that can be irrigated via overhead irrigation (sprinkler).
- Irrigation emission devices must meet the national standard (ASABE/ICC 802-2014) and sprinklers must have a low quarter distribution uniformity of 0.65.

Graywater Usage:

- To incentivize graywater use, the updated MWELO allows landscapes that are less than 2,500 square feet and irrigated only with graywater or captured rainwater to NOT be subject to the entire ordinance but only meet a simple irrigation checklist.
- Changes to the Maximum Applied Water Allowance (MAWA) give significantly more benefit to the water reuse technology (graywater & recycled water).

Onsite Stormwater Capture:

DWR has revised the stormwater management section of the MWELO to require friable soil in landscape areas in effort to maximize water retention and infiltration. In addition, the MWELO now includes a listing of "recommended" measures which, if required at the local level, would further reduce stormwater runoff.

Impact on Turf:

DWR has made some changes to the water budget calculation commonly known at the Maximum Applied Water Allowance (MAWA) that results in a reduction in the amount of turf grass that can be used. For residential landscapes, the area of grass turf which can be irrigated with potable water has been reduced from roughly 33% to 25%. For non-residential landscapes, decorative grass turf is effectively eliminated, however; grass turf would still be allowed for specified purposes such as sports fields and recreational areas. And, as mentioned earlier, the updated MWELO provides extra water allowances for specific functions (sports, recreational, picnic areas **and areas irrigated with recycled water**).

Future Activities

Landscape Stakeholder Committee:

Recognizing that this was an expedited regulatory proceeding, DWR will be convening a "Landscape Stakeholder Committee" in early 2016 to deal with a number of outstanding issues and to fine-tune those areas for which implementation has highlighted some level of confusion or conflict in the field.

Building Code Update:

Now that the DWR update of the MWELO is complete, the Department of Housing & Community Development and the Building Standards Commission will need to make related changes to the landscape water conservation provisions contained in the California Green Building Code.

California Code of Regulations
Title 23. Waters
Division 2. Department of Water Resources
Chapter 2.7. Model Water Efficient Landscape Ordinance

§ 490. Purpose.

(a) The State Legislature has found:

(1) that the waters of the state are of limited supply and are subject to ever increasing demands;

(2) that the continuation of California's economic prosperity is dependent on the availability of adequate supplies of water for future uses;

(3) that it is the policy of the State to promote the conservation and efficient use of water and to prevent the waste of this valuable resource;

(4) that landscapes are essential to the quality of life in California by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development; ~~and~~

(5) that landscape design, installation, maintenance and management can and should be water efficient; and

(6) that Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.

(b) Consistent with the legislative findings, the purpose of this model ordinance is to:

(1) promote the values and benefits of landscaping practices that integrate and go beyond the conservation and efficient use of water;

(2) establish a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects by encouraging the use of a watershed approach that requires cross-sector collaboration of industry, government and property owners to achieve the many benefits possible;

(3) establish provisions for water management practices and water waste prevention for existing landscapes;

(4) use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount;

(5) promote the benefits of consistent landscape ordinances with neighboring local and regional agencies;

(6) encourage local agencies and water purveyors to use economic incentives that promote the efficient use of water, such as implementing a tiered-rate structure; and

(7) encourage local agencies to designate the necessary authority that implements and enforces the provisions of the Model Water Efficient Landscape Ordinance or its local landscape ordinance.

(c) Landscapes that are planned, designed, installed, managed and maintained with the watershed based approach can improve California's environmental conditions and provide benefits and realize sustainability goals. Such landscapes will make the urban environment resilient in the face of climatic extremes. Consistent with the legislative findings and purpose of the Ordinance, conditions in the urban setting will be improved by:

(1) Creating the conditions to support life in the soil by reducing compaction, incorporating organic matter that increases water retention, and promoting productive plant growth that leads to more carbon storage, oxygen production, shade, habitat and esthetic benefits.

(2) Minimizing energy use by reducing irrigation water requirements, reducing reliance on petroleum based fertilizers and pesticides, and planting climate appropriate shade trees in urban areas.

(3) Conserving water by capturing and reusing rainwater and graywater wherever possible and selecting climate appropriate plants that need minimal supplemental water after establishment.
(4) Protecting air and water quality by reducing power equipment use and landfill disposal trips, selecting recycled and locally sourced materials, and using compost, mulch and efficient irrigation equipment to prevent erosion.
(5) Protecting existing habitat and creating new habitat by choosing local native plants, climate adapted non-natives and avoiding invasive plants. Utilizing integrated pest management with least toxic methods as the first course of action.

Note: Authority cited: Section 65593, Government Code. Reference: Sections 65591, 65593 and 65596, Government Code.

§ 490.1. Applicability.

(a) After December 1, 2015, and consistent with Executive Order No. B-29-15, this ordinance shall 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 requiring a building 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 requiring a building or landscape permit, plan check, or design review;
(3) existing landscapes limited to Sections 493, 493.1 and 493.2; and
(4) cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 492.4, 492.11, and 492.12; and existing cemeteries are limited to Sections 493, 493.1, and 493.2.

(b) For local land use agencies working together to develop a regional water efficient landscape ordinance, the reporting requirements of this ordinance shall become effective December 1, 2015 and the remainder of this ordinance shall be effective no later than February 1, 2016.
(c) Any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Appendix D.
(d) For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2500 sq. ft. of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to Appendix D section (5).
(~~b~~e) This ordinance does not apply to:

(1) registered local, state or federal historical sites;
(2) ecological restoration projects that do not require a permanent irrigation system;
(3) mined-land reclamation projects that do not require a permanent irrigation system; or
(4) existing plant collections, as part of botanical gardens and arboretums open to the public.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 491. Definitions.

The terms used in this ordinance have the meaning 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~~n automatic~~ 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.
(~~i~~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 ~~a~~ 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” means a city or county, including a charter city or charter county, that is responsible for adopting and implementing the ordinance. The local agency is also responsible 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.

Note: Authority cited: Section 65595, Government Code. Reference: Sections 65592 and 65596, Government Code.

§ 492. Provisions for New Construction or Rehabilitated Landscapes.
(a) A local agency may designate by mutual agreement, another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity’s specific responsibilities relating to this ordinance.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.4. Water Efficient Landscape Worksheet.
(a) A project applicant shall complete the Water Efficient Landscape Worksheet in Appendix B 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.

(1) In calculating the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the ETo values from the Reference Evapotranspiration Table in Appendix A. For geographic areas not covered in Appendix A, use data from other cities located nearby in the same reference evapotranspiration zone, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.

(b) 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.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.5. 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 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 shall include:

1. soil texture;
2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
3. pH;
4. total soluble salts;
5. sodium;
6. percent organic matter; and
7. recommendations.

(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 local agency as part of the Landscape Documentation Package; or

(B) If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.

(3) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments to the design plans.

(4) The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.6. Landscape Design Plan.

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

(1) Plant Material

(A) Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. Methods to achieve water efficiency shall include one or more of the following:

1. protection and preservation of native species and natural vegetation;
2. selection of water-conserving plant, tree 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 local 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.
6. selection of plants from local Fuel Modification Plan Guidelines.

(B) Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 492.7(a)(2)(D).

(C) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. Methods to achieve water efficiency shall include one or more of the following:

1. use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
2. recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; allow for adequate soil volume for healthy root growth; 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) High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.

(F) 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. Refer to the local Fuel Modification Plan guidelines.

(G) The use of invasive plant species, such as those listed by the California Invasive Plant Council, is strongly discouraged.

(H) 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 (see Section 492.5).
(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 ~~two~~three inch (~~2~~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. To provide habitat for beneficial insects and other wildlife, up to 5 % of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such.
(E) Stabilizing mulching products shall be used on slopes that meet current engineering standards.
(F) The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
(G) Organic mulch materials made from recycled or post-consumer shall take precedence over inorganic materials or virgin forest products unless the recycled post-consumer organic products are not locally available. Organic mulches are not required where prohibited by local Fuel Modification Plan Guidelines or other applicable local ordinances.

(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 landscape shall be included in the low water use hydrozone for the water budget calculation;
(3) identify recreational areas;
(4) identify areas permanently and solely dedicated to edible plants;
(5) identify areas irrigated with recycled water;
(6) identify type of mulch and application depth;
(7) identify soil amendments, type, and quantity;
(8) identify type and surface area of water features;
(9) identify hardscapes (pervious and non-pervious);
(10) identify location, ~~and~~ installation details, and 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 local agency or regional Water Quality Control Board for information on any applicable stormwater technical requirements. Stormwater best management practices are encouraged in the landscape design plan and examples are provided in Section 492.16.
(11) identify any applicable rain harvesting or catchment technologies as discussed in Section 492.16 and their 24-hour retention or infiltration capacity;

(12) identify any applicable graywater discharge piping, system components and area(s) of distribution;
(13) contain the following statement: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan"; and
(14) bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code; and Section 1351, Civil Code.

§ 492.7. 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 manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(1) System

(A) 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. but not more than 5,000 sq.ft. (the level at which *Water Code* 535 applies) 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) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

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

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

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

(E) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.
(F) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.
(G) Flow sensors that detect high flow conditions created by system damage or malfunction are required for all on non-residential landscapes and residential landscapes of 5000 sq. ft. or larger.
(H) 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.
(I) 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.
(J) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
(K) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
(L) The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 regarding the Maximum Applied Water Allowance.
(M) 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.
(N) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
(O) In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
(P) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
(Q) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
(R) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.
(S) Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.
(T) 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.
(U) Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:

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

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

3. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 492.7 (a)(1)(I). Prevention of overspray and runoff must be confirmed during the irrigation audit.

(V) Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) Hydrozone

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

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

(C) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf 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. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or

2. the plant factor of the higher water using plant is used for calculations.

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

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

(b) The irrigation design plan, at a minimum, shall contain:

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

(2) location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators, and backflow prevention devices;

(3) static water pressure at the point of connection to the public water supply;

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

(5) recycled water irrigation systems as specified in Section 492.14;

(6) the following statement: “I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan”; and

(7) the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.9. Certificate of Completion.

(a) The Certificate of Completion (see Appendix C for a sample certificate) shall include the following six (6) elements:

(1) project information sheet that contains:

(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 "as-built" or record drawings shall be included with the certification;

(B) A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

(3) irrigation scheduling parameters used to set the controller (see Section 492.10);

(4) landscape and irrigation maintenance schedule (see Section 492.11);

(5) irrigation audit report (see Section 492.12); and

(6) soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations (see Section 492.5).

(b) The project applicant shall:

(1) submit the signed Certificate of Completion to the local agency for review;

(2) ensure that copies of the approved Certificate of Completion are submitted to the local water purveyor and property owner or his or her designee.

(c) The local agency shall:

(1) receive the signed Certificate of Completion from the project applicant;

(2) approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the local agency shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.11. Landscape and Irrigation Maintenance Schedule.

(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; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing ~~and~~ obstructions to emission devices. Operation of the irrigation system outside the normal 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 or with components with greater efficiency.

(d) A project applicant is encouraged to implement established landscape industry sustainable Best Practices for all landscape maintenance activities.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.12. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

(a) All landscape 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.

(b) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.

(c) For new construction and rehabilitated landscape projects installed after ~~January 1, 2010~~December 1, 2015, as described in Section 490.1:

(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;

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

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.13. Irrigation Efficiency.

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

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.14. Recycled Water.

(a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.

(b) All recycled water irrigation systems shall be designed and operated in accordance with all applicable local and State laws.

(c) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.15. Graywater Systems.

(a) 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 § 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.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.16. Stormwater Management and Rainwater Retention.

(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 § 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.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.17. Public Education.
(a) Publications. 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 community.

(1) A local agency or water supplier/purveyor shall 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.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 492.18. Environmental Review.
(a) The local agency must comply with the California Environmental Quality Act (CEQA), as appropriate.

Note: Authority cited: Section 21082, Public Resources Code. Reference: Sections 21080 and 21082, Public Resources Code.

§ 493. Provisions for Existing Landscapes.

(a) A local agency may by mutual agreement, designate another agency, such as a water purveyor, to implement some or all of the requirements contained in this ordinance. Local agencies may collaborate with water purveyors to define each entity's specific responsibilities relating to this ordinance.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 493.1. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

(a) This section, 493.1, shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.

(1) For all landscapes in 493.1(a) that have a water meter, the local agency shall administer programs that may include, but not be limited to, irrigation water use 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 in 493.1(a), that do not have a meter, the local agency 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.

(b) All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 494. Effective Precipitation.

(a) A local agency 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.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

§ 495. Reporting.

(a) Local agencies shall report on implementation and enforcement by December 31, 2015. Local agencies responsible for administering individual ordinances shall report on their updated ordinance, while those agencies developing a regional ordinance shall report on their existing ordinance. Those agencies crafting a regional ordinances shall also report on their new ordinance by March 1, 2016. Subsequently, reporting for all agencies will be due by January 31st of each year. Reports shall be submitted to the Department of Water Resources.

(b) Local agencies are to address the following:

(1) State whether you are adopting a single agency ordinance or a regional agency alliance ordinance, and the date of adoption or anticipated date of adoption.

(2) Define the reporting period. The reporting period shall commence on December 1, 2015 and the end on December 28, 2015. For local agencies crafting regional ordinances with other agencies, there shall be an additional reporting period commencing on February 1, 2016 and ending on February 28, 2016. In subsequent years, all local agency reporting will be for the calendar year.

(3) State if using a locally modified Water Efficient Landscape Ordinance (WELO) or the MWELO. If using a locally modified WELO, how is it different than MWELO, is it at least as efficient as MWELO, and are there any exemptions specified?
(4) State the entity responsible for implementing the ordinance.
(5) State number and types of projects subject to the ordinance during the specified reporting period.
(6) State the total area (in square feet or acres) subject to the ordinance over the reporting period, if available.
(7) Provide the number of new housing starts, new commercial projects, and landscape retrofits during the reporting period.
(8) Describe the procedure for review of projects subject to the ordinance.
(9) Describe actions taken to verify compliance. Is a plan check performed; if so, by what entity? Is a site inspection performed; if so, by what entity? Is a post-installation audit required; if so, by whom?
(10) Describe enforcement measures.
(11) Explain challenges to implementing and enforcing the ordinance.
(12) Describe educational and other needs to properly apply the ordinance.

Note: Authority cited: Section 65595, Government Code. Reference: Section 65596, Government Code.

Appendix A. Reference Evapotranspiration (ETo) Table.

Appendix A - Reference Evapotranspiration (ETo) Table*													
County and City	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Annual ETo**
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

* 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 – Sample 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)[e]
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 – Sample 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 local agency_____
2. Date the Landscape Documentation Package was approved by the local agency_____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor_____

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

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

<table>
<tr><td>Signature*</td><td colspan="2">Date</td></tr>
<tr><td rowspan="2">Name (print)</td><td colspan="2">Telephone No.</td></tr>
<tr><td colspan="2">Fax No.</td></tr>
<tr><td>Title</td><td colspan="2">Email Address</td></tr>
<tr><td colspan="3">License No. or Certification No.</td></tr>
<tr><td>Company</td><td colspan="2">Street Address</td></tr>
<tr><td>City</td><td>State</td><td>Zip Code</td></tr>
</table>

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

PART 3. IRRIGATION SCHEDULING

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

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

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

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section 492.6.

Attach documentation verifying implementation of recommendations from soil analysis report per ordinance Section 492.6.

Appendix D – Prescriptive Compliance Option

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

(b)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.

(c) 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.