PLANNING AND BUILDING DEPARTMENT

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Model Water Efficient Landscape Ordinance (MWELO)
PERFORMANCE APPROACH CHECKLIST
(Mandatory for landscape areas over 2,500 square feet)

Please be advised that you are required to comply with the California Code of Regulations Title 23, Division 2, Chapter 2.7, Model Water Efficient Landscape Ordinance (MWELO). This checklist is a guide and is not intended as a substitute for the regulations. The Planning and Building Department will review and comment on your submittal documents for compliance with this state mandated regulation.

	Landscape Documentation Package (Title 23, Chapter 2.7 §492.3)	Location on Plans
1	The project's address, total landscape area, water supply type, and contacts shall be stated on the plans.	
2	Add, sign and date the following statement on the plans: "I agree to comply with the requirements of the Model Water Efficient Landscape Ordinance and submit a complete Landscape Documentation Package."	
3	Water Efficient Landscape Worksheet that includes each hydrozone information table and water budget calculations shall be submitted for plan check.	
4	A separate soil management report, landscape design plan, and irrigation design plan shall be submitted for plan check.	
5	A grading design plan consistent MWELO Section 492.8 and with Section 110.14 of the El Dorado County Ordinance Code (Grading, Erosion, and Sediment Control) shall be submitted for plan check.	

	Model Water Efficient Landscape Worksheet (Title 23, Chapter 2.7 §492.4 and §492.13)	Location on Plans
6	Incorporate the Water Efficient Landscape Worksheet into plans. Show that the Maximum Applied Water Allowance (MAWA) meets or exceeds the calculated Estimated Total Water Use (ETWU). Irrigation efficiency is calculated for each hydrozone.	
7	The evapotranspiration adjustment factor (ETAF) for the landscape project shall not exceed a factor of 0.55 for residential areas and 0.45 for non-residential areas, exclusive of Special Landscape Areas.	
8	The plant factor used shall be from Water Use Classification of Landscape Species (WUCOLS) or from horticultural researchers with academic institutions WUCOLS plants database can be found on-line at: http://ucanr.edu/sites/WUCOLS/.	
9	Hydrozone Information Table listing each hydrozone by valve number and square feet irrigated. Trees shall be listed as a separate hydrozone using the area of the TPZ of each tree at maturity.	
10	All water features shall be included in the high water use hydrozone. All temporary irrigated areas shall be included in the low water use hydrozone.	
11	All Special Landscape areas shall be identified on the plans. The ETAF for new and existing (non- rehabilitated) Special Landscape Areas shall not exceed 1.0.	
12	For the purpose of calculating ETWU, the irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices. Irrigation Efficiency (IE) is calculated for each hydrozone.	
13	Information on the Reference Evapotranspiration (ETO) used for water budget calculations in El Dorado County can be found by visiting https://cimis.water.ca.gov/App_Themes/images/etozonemap.jpg.	

	Soil Management Report (Title 23, Chapter 2.7 § 492.5)	Location on Plans
14	Soil samples shall be submitted to a laboratory for analysis and recommendations. Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.	
15	The soil analysis shall include:	
	a) Soil texture; N-P-K and minor trace elements	
	b) Infiltration rate determined by laboratory test or soil texture infiltration rate table	
	c) pH	
	d) Total soluble salts	
	e) Sodium	
	f) Percent organic matter	
	g) Recommendations	
16	The soil management report shall be both integrated into the plans and submitted as a separate document. In projects with multiple landscape installations (i.e. production home developments) a soil sampling of 15% will satisfy this requirement.	

	Landscape Design Plan (Title 23, Chapter 2.7 § 492.6)	Location on Plans
17	The landscape design plans, at a minimum, shall:	
	a) Include a plant list that identifies all plant material by botanic names and common names, their WUCOLS rating, the total quantity of each plant, percentage of total trees for each tree species and the size of each specified plant using ANSI standards.	
	b) Delineate and label each hydrozone by number, letter, or other method.	
	c) Identify each hydrozone as very low, low, moderate, high water, or mixed water use.	
	d) Identify recreational areas; areas solely dedicated to edible plants; areas irrigated with recycled water; type of mulch and application depth; identify soil amendments, type, and quantity; type and surface area of water features; impermeable and permeable hardscape; and any infiltration systems.	
	e) Identify location, 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.	
18	For hydrozone with a mix of both low and moderate water use plants or both moderate and high water use plants, the higher plant factor or the plant factor based on the proportions of the For respective plant water uses shall be used. Hydrozones may only contain a mix of adjacent ratings. For example: Very Low and Low may be mixed but Very Low and Moderate shall not be mixed. Low and Moderate may be mixed but Low and High shall not.	
19	Turf is not allowed on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape.	
20	Graywater and storm retention components must be indicated on the landscaping plan.	
21	Add note to plans: “Recirculating water systems shall be used for water features.”	
22	Add note to plans: “A minimum 3-inch layer of organic mulch shall be applied on all exposed soil surfaces of planting areas except turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.”	
23	Add note to plans: “For soils less than 6% organic matter in the top 6 inches of soil, 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 except within the TPZ of protected trees, which shall receive 4 - 6” of hardwood chip mulch.”	

	Irrigation Design Plan (Title 23, Chapter2.7 § 492.7) All irrigation emission devices must meet the American National Standards Institute standard, American Society of Agricultural and Biological Engineers'/International Code Council's 802- 2014 "Landscape Irrigation Sprinkler and Emitter Standard." 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 5,000 square feet. Master shut-off valves that prevent water waste in case of large failures of irrigation systems due to breakage or vandalism are required on all landscapes except where sprinklers can be individually controlled.	**Location on Plans**
24	The irrigation plans, at a minimum, shall contain the following:	
	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., type, and quantity; type and surface area of water features; impermeable and permeable hardscape; and any infiltration systems.	
25	A dedicated water service meter or private submeter shall be installed for all non- residential irrigated landscapes of at least 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.	
26	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. Irrigation schedules shall be consistent with the requirements of Section 492.10 of the MWELO.	
27	Add note to plans: "Pressure regulating devices are required if water pressure is below or exceeds the recommended pressure of the specified irrigation devices."	
28	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.	
29	Manual shut-off valves shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency or routine repair.	
30	Backflow prevention devise 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.	
31	Flow sensors that detect high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes of 5,000 sq. ft. or larger.	
32	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.	
33	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.	
34	Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designed irrigation systems.	
35	The design of the irrigation system shall conform to the hydrozones of the landscape design plan.	
36	The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 of the MWELO regarding Maximum Applied Water Allowance.	
37	In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.	
38	Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.	
39	Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.	
40	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.	
41	Add note to plans: "Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur."	
42	Areas less than 10 feet in width in any direction shall be irrigated with subsurface or drip irrigation.	

43	Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface unless specially designed to prevent runoff onto non-permeable surface.	
44	Slopes greater than 25% shall not be irrigated with an irrigation system with an application rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designed 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.	

Graywater Systems (Title 23, Chapter 2.7 § 492.15, and § 490.1(d))		**Location on Plans**
45	Landscapes area less than 2,500 square feet that are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of Appendix D, Prescriptive Compliance Option.	

Stormwater and Rain water Retention (Title 23, Chapter 2.7 § 492.16)		**Location on Plans**
46	All planted landscape areas are required to have friable soil to maximize water retention and infiltration.	

Required Statements and Certification (Title 23, Chapter 2.7 § 492.6, § 492.7, and § 492.9)	**Location on Plans**
Add the following statement, signed by the designer, on the landscape and irrigation plans: "I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape designplans."	
The final set of landscape and irrigation plans shall bear the signature of a licensed landscape architect, licensed landscape contractor, certified irrigation designer, licensed architect, licensed engineer, licensed land surveyor, or personal property owner (as allowed by the CA Business and Professions code, see https://www.latc.ca.gov/docs/publications/consumer_guide.pdf).	
Add note to plans: "A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes."	
Add note to plans: "A Certificate of Completion shall be filled out and certified by either the designer of the landscape plans, irrigation plans, or the licensed landscape contractor for the project."	
Add note to plans: "An irrigation audit report by a disinterested third party shall be completed at the time of final inspection" (certified by U.S. EPA water sense https://www.epa.gov/watersense).	

Public Education (Title 23, Chapter 2.7 § 492.17)	**Location on Plans**
All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in the MWELO.	