

WATER EFFICIENT LANDSCAPING
LANDSCAPE DOCUMENTATION APPLICATION PACKET

BUTTE COUNTY
DEPARTMENT OF DEVELOPMENT SERVICES
7 COUNTY CENTER DRIVE, OROVILLE, CALIFORNIA 95965



BUTTE COUNTY
LANDSCAPE DOCUMENTATION APPLICATION PACKET

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Introduction

The State's Model Water Efficient Landscape Ordinance (MWELO) was updated on July 15, 2015. The purpose of the MWELO is to promote the values and benefits of landscaping practices that integrate conservation and efficient use of water. The MWELO establishes a structure for planning, designing, installing, maintaining and managing water efficient landscapes in new construction and rehabilitated projects. The Landscape Documentation Application Packet is to provide procedural and design guidance for project applicants proposing landscape installation or rehabilitation projects that are subject to the requirements of MWELO. You can find more information on the State's current water efficient landscape efforts on the [Department of Water Resources' website](#).

Applicability

MWELO requirements apply to any landscaping project greater than 500 square feet that requires a building permit, plan check, design review, grading permit or discretionary permit. Landscape area means all the planting areas, turf areas, and water features in a landscape design plan. 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-irrigation areas designated for non-development (e.g., open spaces and existing native vegetation). Projects applicable to MWELO include:

- New 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 or rehabilitated landscape projects between 500 and 2,500 square feet may comply with the prescriptive requirements.
- New or rehabilitated projects using treated or untreated graywater or rainwater capture on site, any lot or parcels within the project that has less than 2,500 square feet of landscape area and meets the lot or parcel's landscape water requirements (Estimated Total Water Use) entirely with the treated or untreated graywater or though stored rainwater capture on site is subject only to the prescriptive requirements.
- Special Landscape Areas, such as areas dedicated to edible plants, irrigated with recycled water, or dedicated to active play, shall prepare a water efficient landscape worksheet and landscape documentation package according to specification for Special Landscape Areas;
- Cemeteries. Recognizing the special landscape management needs of cemeteries, new and rehabilitated cemeteries are limited to Sections 2.2 and 2.9 of these Guidelines; and existing cemeteries are limited to Section 3 of these Guidelines.

Projects exempt from MWELO include:

- Registered local, state and federal historical sites;
- Ecological restoration projects that do not require a permanent irrigation system;
- Surface mining reclamation projects that do not require a permanent irrigation system; or
- Plant collections, as part of botanical gardens and arboretums open to the public.

LANDSCAPE DOCUMENTATION PACKET CHECKLIST

The following materials must be completed by the applicant, prior to permit issuance. One (1) set of each, or a digital copy (.pdf or .tiff format) of the packet may be submitted in lieu of a hardcopy.

- 1. Application Form (Appendix A)
- 2. Application Filing Fee – An initial retainer fee of **\$187.44** must be provided at the time application submittal. If initial retainer funds become depleted, replenishment of the retainer must be paid to continue processing the application.
- 3. Water Efficient Landscape Worksheet (Appendix C)
- 4. Landscape Design Plan
- 5. Irrigation Design Plan
- 6. Soil Management Report*
- 7. Grading Plan
- 8. Drainage Plan

* If significant mass grading is not planned, submit soil analysis report together with the items above. If significant grading is planned, submit the soil analysis together with the Certificate of Completion.

The following materials must be fully completed and submitted at the time of final building inspection, prior to final occupancy, or upon completion of the project.

- A. Certificate of Completion (Appendix B)
- B. Irrigation Scheduling
- C. Landscape and Irrigation Maintenance Schedule
- D. Landscape Irrigation Audit, Survey, Water Use Analysis Report

Water Efficient Landscape Worksheet

The project applicant shall provide the calculated Maximum Applied Water Allowance (MAWA) and Estimated Total Water Use (ETWU) for the landscaped area as part of the Landscape Documentation Package submittal to the County. The MAWA and ETWU shall be calculated based on completing the Water Efficient Landscape Worksheet in Appendix C. The Worksheet contains information on the plant factor, irrigation method, irrigation efficiency, and area associated with each hydrozone. 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. The ETAF for a landscape project and ETWU are based on the plant factors and irrigation methods selected for the landscape design. The MAWA is calculated based on the maximum ETAF allowed and expressed as annual gallons required. The ETWU allowable for the landscaped area may not exceed the MAWA.

Reference Evapotranspiration (ET_o) Values in Butte County

Chico	Durham	Gridley	Oroville
51.7	51.1	51.9	51.5

Water Budget Calculations

1. The MAWA and ETWU shall be calculated using the Water Efficient Landscape Worksheet and equation presented in Appendix C. A calculation example is provided to demonstrate proper use of the equation.
2. The plant factor used shall be from Water Use Efficiency of Landscape Species (WUCOLS) Species Evaluation List or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

Plant Type	Plant Factor Range
Low Water Use Plants	0.1 – 0.3
Moderate Water Use Plants	0.4 – 0.6
High Water Use Plants	0.7 – 1.0

3. 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.
4. The plant water use factor shall be determined for each hydrozone based on the highest-water-use plant species within the zone. The plant factor for each hydrozone may be required to be further refined as a “landscape coefficient,” according to protocols defined in detail Water Efficient Landscape & Irrigation Application in the WUCOLS document, to reflect planting density and microclimate effects on water need at the option of the applicant or the County.
5. The ETAF for new and existing (non-rehabilitated) Special Landscape Areas is set at 1.0. All Special Landscape Areas shall be identified and their water use calculated as shown in Appendix D. For calculation of the ETWU, the ETAF for SLA shall be calculated as the SLA plant factor divided by the SLA irrigation efficiency factor.

Information on plant water needs can be found through the [Water Use Classification of Landscape Species \(WUCOLS\) Database](#).

Landscape Design Plan Checklist

A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package:

- A. Exterior boundaries and dimensions of the entire site, utilities and utility easements, streets, driveways, walkways, and other paved areas or hardscapes (pervious or impervious).
- B. Identify buildings and structures including pad elevation(s), if applicable.
- C. Identify natural features to remain, including rock outcroppings, existing oak and ornamental trees, shrubs, etc.
- D. North arrow and scale.
- E. Designation of each hydrozone as very low, low, moderate, high water, or mixed use (temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation).
- F. Location of recreational areas or Special Landscape Areas.
- G. Areas irrigated with recycled water.
- H. Type, quantity, and application depth and/or rate of soil of mulch and amendments.
- I. Location, type, and surface area of water features (water features (e.g. fountain) of the landscape shall be included in the high water use hydrozone for the water budget calculation).
- J. 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.
- K. Location and 24-hour retention or infiltration capacity of any rain harvesting or catchment technologies.
- L. Location of any graywater discharge piping, system components, and areas of distribution.
- M. Certification from a licensed landscape architect, licensed landscape contractor, or other person authorized to design a landscape (e.g. licensed engineer) with the following statement: "I have complied with the criteria of the landscape ordinance and applied them for the efficient use of water in the landscape design plan."

Irrigation Design Plan Checklist

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:

- A. Location and size of separate water meters for landscaping.
- B. Location, type and size of all components of the irrigation system, including controllers, main and lateral line, valves, sprinkler heads, moisture sensing devices, rain switched quick couplers, pressure regulators, and backflow devices.
- C. Static water pressure at the point of connection to the public water supply, if applicable.
- 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 specific in MWEL Section 492.14.

- F. Certification from a licensed landscape architect, licensed landscape contractor, or other person authorized to design a landscape (e.g. licensed engineer) with the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient wae of water in the irrigation design plan."

Soil Management Report

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

- 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 sample analysis may include:
 - a) Soil texture;
 - 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; and
 - g) Recommendations
 - 3. In projects with multiple landscape installations (i.e. planned unit 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.
- B. The project applicant, or his/her designee, shall comply with one of the following:
 - 1. If significant mass grading is not planned, the soil management report shall be submitted to the local agency as part of the Landscape Documentation Package; or
 - 2. If significant mass grading is planned, the soil management report shall be submitted to the County as part of the Certificate of Completion.
- C. The soil management 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.
- D. The project applicant, or his/her designee, shall submit documentation verifying implementation of soil management report recommendations to the County with the Certificate of Completion.

Grading Design Plan

For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for a grading permit to grade over 50 cubic yards satisfies this requirement.

- A. The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
 - 1. Height of graded slopes
 - 2. Drainage patterns

3. Pad elevations
 4. Finish grade; and
 5. Stormwater retention improvements, if applicable.
- B. To prevent excessive erosion and runoff, it is highly recommended that project applicants;
1. Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
 2. Avoid disruption of natural drainage patterns and undisturbed soil; and
 3. Avoid soil compaction in landscape areas.
- C. The grading design plan shall contain the following statement: “I have complied with the criteria of the State ordinance and applied them accordingly for the efficient use of water in the grading design plan” and shall bear the signature of a licensed professional as authorized by law.

Drainage Plan

If no grading is proposed, applicant shall include information showing elevations at 2 foot contour intervals and direction of drainage flow through the site either on the landscape plan or on a separate drainage plan.

GUIDELINES AND REQUIREMENTS

Plant Material

- A. Any plant may be selected for the landscape, provided 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 lists.
- B. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Hydrozone Section of this document.
- C. Provide a list of all plants identified by species and common name for each hydrozone along with the WUCOLS plant water use evaluation and WUCOLS plant factor. (i.e. Ceanothus spp, California Liliac, Low, 0.2);
- D. 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]; and
 3. Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- E. 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).
- F. High water use plants, characterized by a plant factor of 0.7 to 1.0, are prohibited in street medians.
- G. 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.
- H. The use of invasive plant species, such as those listed by the California Invasive Plant Council, is discouraged.
- I. 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.

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 such as swimming pools, fountains, ponds, etc. shall be calculated at the WUCOLS highest plant factor range number for the hydrozone area in the water budget calculation.
- D. Pool and spa covers are highly recommended.

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 to meet this requirement.
- B. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.
- C. For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling.
- D. A minimum three inch (3") layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers or direct seeding applications where mulch is contraindicated. 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 approved 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.

Irrigation 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, and 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 state, 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.
 - G. 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.
 - H. Flow sensors that detect and report 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.
 - 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 irrigation efficiency criteria as described in Section 492.4, Water Efficient Landscape Worksheet 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 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-protections components are required on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turf grass.
- 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 overspray or runoff occurs; or
 - 2. The adjacent non-permeable surfaces are designed and constructed to drain entirely into landscaping; or Water Efficient Landscape & Irrigation Application
 - 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 Glendora Municipal Code Section 21.03.060. T, Irrigation Runoff. Prevention of overspray and runoff must be confirmed during 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 irrigation audit.

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, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table in this application. This table can also assist with pre-inspection and final inspection of the irrigation system, and programming the controller

CERTIFICATE OF COMPLETION – SUBMITTAL CHECKLIST

- ✓ **Part 1.** Certificate of Completion filled-out and signed by the property owner or designee (Appendix B).
- ✓ **Part 2.** Certificate of Installation signed by licensed contractor or landscape architect.
 - As-built drawings if there have been significant changes in the field.
 - A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.
- ✓ **Part 3.** Irrigation scheduling parameters used to set the controller.
- ✓ **Part 4.** Landscape and Irrigation Maintenance Schedule.
- ✓ **Part 5.** Landscape Irrigation Audit Report – Certificate of Irrigation Audit.
- ✓ **Part 6.** Soil Analysis and Management Report.

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:

- A. Irrigation scheduling shall be regulated by automatic irrigation controllers.
- B. Irrigation shall be scheduled between 5:00 p.m. and 8:00 a.m. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.
- C. Implementation of the irrigation schedule must consider 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 based on current time reference evapotranspiration data or soil moisture sensor.
- D. Parameters used to set the controller shall be developed and submitted for each of the following:
 - 1. The plant establishment period;
 - 2. The established landscape; and
 - 3. Temporarily irrigated areas.
- E. Each irrigation schedule shall consider the following for each station:
 - 1. Irrigation interval (days between irrigation);
 - 2. Irrigation run times (hours or minutes per irrigation event to avoid runoff);
 - 3. Number of cycle starts required for each irrigation event to avoid runoff;
 - 4. Amount of applied water scheduled to be applied on a monthly basis;
 - 5. Application rate setting;
 - 6. Root depth setting;
 - 7. Plant type setting;
 - 8. Soil type;
 - 9. Slope factor setting;
 - 10. Shade factor setting; and
 - 11. Irrigation uniformity or efficiency setting.

Schedule of Landscape and Irrigation Maintenance

- A. Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.
- B. A regular maintenance schedule shall include, but not be limited to, routine inspection; 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 obstructions to emission devices.
- C. Repair of all irrigation equipment should 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.

Irrigation Audit, Survey, and Water Use Analysis Report

- 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, the project applicant shall submit an irrigation audit report with the Certificate of Completion that shall include but not be limited to: Inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, verification of compliance with Maximum Applied Water Allowance and Estimated Total Water Use calculations, 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.

Soil Analysis and Management Report

Attach soil management report, if not previously submitted with the Landscape Documentation Package.
Attach documentation verifying implementation of recommendations from soil sample analysis report.



LANDSCAPE DOCUMENTATION PACKET - APPLICATION

Water Efficient Landscaping

(For landscape projects with a total landscape area over 2,500 square feet)

Project Address and Location:

Street Address		Building Permit Number / Project Number (to be completed by County)
City	Zip Code	Assessor Parcel Number

Applicant:

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

Project Type (check all that apply):

- New - Residential
- New - Commercial
- Rehabilitation – Residential
- Rehabilitation – Commercial
- Public

_____ **Existing Landscaped Area** (sq. ft.)

_____ **Proposed Landscape Area** (sq. ft.)

_____ **Total Landscape Area** (sq. ft.)

_____ **Turf Area** (sq. ft.)

_____ **Non-Turf Area** (sq. ft.)

_____ **Special Landscape Area** (sq. ft.)

_____ **Water Type** (potable, recycled, well, etc.)

_____ **Name of water purveyor** (if not by private well)

I agree to comply with the requirements of the Water Efficient Landscape Ordinance (WELO) and submit a complete Landscape Documentation Packet. I certify that all the information contained in the Landscape Documentation Packet is complete and accurate to the best of my knowledge.

Signature of Property Owner

Date

Print Property Owner Name



Department of Development Services

Tim Snellings, Director

Pete Calarco, Assistant Director

7 County Center Drive
Oroville, California 95965

T: 530.538.7601
F: 530.538.7785

buttecounty.net/dds

CERTIFICATE OF COMPLETION Water Efficient Landscaping

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

PART 1. PROJECT INFORMATION SHEET

Project Address and Location:

Street Address		Building Permit Number
City	Zip Code	Assessor Parcel Number or Lot Number, if available.

Permit Applicant:

Name of Permit Applicant		Telephone No.	
Title		Street Address	
Company		City	
Email Address	State		Zip Code

Property Owner or his/her designee:

Name		Telephone No.	
Title		Street Address	
Company		City	
Email Address	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 to the criteria and specifications of the approved Landscape Documentation Package."

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

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

PART 3. IRRIGATION SCHEDULING

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

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE

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

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT

Attach Landscape Irrigation Audit Report per ordinance Section 492.12.

PART 6. SOIL MANAGEMENT REPORT

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

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

APPENDIX C – 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) =**
 $Eto \times 0.62 \times ETAF \times Area$
 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) =** $(Eto) (0.62) [(ETAF \times LA) + ((1-ETAF) \times SLA)]$
 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)

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 (ET_o) 50.1

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							
1 / FRONT YARD	.8	Spray	.75	0.94	1,000	940	29,198
2 / SIDE YARD	.5	Drip	.81	0.61	300	183	5,685
3 / REAR YARD	.3	Drip	.81	0.37	3,300	1221	37,927
4 / POOL	1.0	n/a	1	1	400	400	12,425
				Totals	5,000 (A)	2744 (B)	
Special Landscape Areas							
NONE				1	-----	-----	-----
-----				1	-----	-----	-----
-----				1	-----	-----	-----
				Totals	0 (C)	0 (D)	
						ETWU Total	85,234
						Maximum Allowed Water Allowance (MAWA)^e	85,420

^aHydrozone #/Planting Description
E.g
1.) front lawn
2.) low water use plantings
3.) medium water use planting

^bIrrigation Method
overhead spray
or drip

^cIrrigation Efficiency
0.75 for spray head
0.81 for drip

^dETWU (Annual Gallons Required) =
ET_o 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.

^eMAWA (Annual Gallons Allowed) = (ET_o) (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)	2744
Total Area	(A)	5000
Average ETAF	B ÷ A	0.549

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)	2,744
Total Area	(A+C)	5,000
Sitewide ETAF	(B+D) ÷ (A+C)	0.549

A copy of this form may be obtained from Department of Water Resources website:
<http://www.water.ca.gov/wateruseefficiency/landscapeordinance/>



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LANDSCAPING PRESCRIPTIVE COMPLIANCE APPLICATION

Water Efficient Landscaping

(For landscape projects with a total landscape area between 500 and 2,499 square feet)

Project Address and Location:

Street Address		Building Permit Number
City	Zip Code	Assessor Parcel Number

Permit Applicant:

Name of Permit Applicant	Telephone No.	
Title	Street Address	
Company	City	
Email Address	State	Zip Code

Project Type (new residence, commercial, or rehab): _____

Total Landscape Area (sq. ft.): _____

Turf Area (sq. ft.): _____

Non-Turf Area (sq. ft.): _____

Special Landscape Area (sq. ft.): _____

Water Type (potable, recycled, well): _____

Name of water purveyor (if not served by private well): _____

LANDSCAPING PRESCRIPTIVE COMPLIANCE CHECKLIST

Water Efficient Landscaping

(For landscape projects with a total landscape area between 500 and 2,499 square feet)

Landscape Parameter	Design Measures	Location on Plans (N/A if not applicable)
Compost	Incorporate compost at a rate of at least four (4) cubic yards per 1,000 sq. ft. to a depth of 6 inches into landscape area (unless contra-indicated by a soils test).	
Plant Water Use	Residential: Install climate adapted plants that require occasional, little or no water (average WUCOLS plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water.	
	Non-residential: 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.	
Mulch	A minimum 3-inch layer of mulch should be applied on all exposed soil surfaces of planting areas, except in areas of turf or creeping or rooting groundcovers.	
Turf	Total turf area shall not exceed 25% of the landscape area. Turf is not allowed in non-residential projects.	
	Turf (if utilized) is limited to slopes not exceeding 25% and is not used in parkways less than 10 feet in width.	
	Turf, if utilized in parkways is irrigated by sub-surface irrigation or other technology that prevents overspray or runoff.	
Irrigation System	Irrigation controllers use evapotranspiration or soil moisture data and utilize a rain sensor.	
	Irrigation controller programming data will not be lost due to an interruption in the primary power source.	
	Areas less than 10 feet in any direction utilize sub-surface irrigation or other technology that prevents overspray or runoff.	
	A private landscape submeter is installed at non-residential landscape areas of 1,000 sq. ft. or more.	

Property Owner or Designee:

"I/we agree to comply with the requirements of the prescriptive compliance option of the Model Water Efficient Landscape Ordinance – Appendix D.

Signature of property owner or authorized representative

Date

Note

Landscape area calculations include all the planting areas, turf areas, and water features (uncovered pools included) in a landscape design plan subject to the Maximum Applied Water Allowance calculation. The landscape area does not include footprints of building 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).