

ORDINANCE NO. \_\_\_\_\_

**AN ORDINANCE OF [insert name of GOVERNING BODY OF JURISDICTIONAL ENTITY]  
ESTABLISHING WATER CONSERVATION IN LANDSCAPING REGULATIONS**

THIS ORDINANCE is adopted in light of the following facts and circumstances, which are hereby found and declared by the [Council/Board of Directors/Board of Supervisors]:

WHEREAS, a reliable minimum supply of potable water is essential to the public health, safety and welfare of the people and economy of [insert City or County name, California].

WHEREAS, the California Water Conservation in Landscaping Act, also known as the State Landscape Model Ordinance (“Model Ordinance”), has been implemented by a Statewide Landscape Task Force which was overseen by the California Urban Water Conservation Council. The California Water Conservation in Landscaping Act was amended pursuant to AB 2717 (Chapter 682, Stats. 2004) and AB 1881 (Chapter 559, Stats. 2006).

WHEREAS, AB 1881 requires 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 do not take such action, the State’s Model Ordinance will be deemed to be automatically adopted by statute.

WHEREAS, the [Entity’s name] has developed this local Water Conservation In Landscaping Ordinance to meet the requirements and guidelines of the Model Ordinance and to address the unique physical characteristics, including average landscaped areas, within [Entity]’s jurisdiction in order to ensure that this Ordinance will be “at least as effective as” the Model Ordinance in conserving water.

WHEREAS, although this Water Conservation in Landscaping Ordinance is more streamlined and simplified than the Model Ordinance, the [Council/Board of Directors/Board of Supervisors] finds that it is “at least as effective as” the Model Ordinance for the following reasons: (1) this Ordinance applies to more accounts than the Model Ordinance does because it lowers the size threshold for applicable landscapes from 2,500 square feet (or, in the case of single-family residences, from 5,000 square feet) to 1,000 square feet, to better reflect the typical landscaped areas located within this [City/County/District]’s boundaries; (2) this Ordinance includes a default turf restriction of 25% of the irrigated area and requires that at least 80% of the plants in non-turf landscape areas be native plants, low-water using plants, or no-water using plants (unless the applicant elects to perform a water budget); and (3) this Ordinance expands the requirement for dedicated irrigation meters to all accounts with landscaping greater than 5,000 square feet. The Model Ordinance does not contain any such default turf restrictions or specified plant requirements and only requires dedicated irrigation meters on non-residential accounts with landscaping greater than 5,000 square feet.

WHEREAS, although this Water Conservation in Landscaping Ordinance is more streamlined and simplified than the Model Ordinance, the [Council/Board of Directors/Board of Supervisors] further finds that it is “at least as effective as” the Model Ordinance because this Ordinance includes water budget parameters and values and landscape parameters that are consistent with the Model Ordinance. By using the same water budget parameters as the Model Ordinance (e.g., plant factors, irrigation efficiency), this Ordinance will be as effective as the

Model Ordinance in developing landscape water budgets. By using the same landscape parameters as the Model Ordinance for, among other things, slope restrictions and width restrictions for turf, irrigation times, and minimum mulch requirements, this Ordinance will be at least as effective as the Model Ordinance in achieving water savings.

WHEREAS, Article X, Section 2 of the California Constitution and Section 100 of the California Water Code declare that the general welfare requires water resources be put to beneficial use, waste or unreasonable use or unreasonable method of use of water be prevented, and conservation of water be fully exercised with a view to the reasonable and beneficial use thereof.

WHEREAS, the San Francisco Public Utilities Commission has imposed an interim water supply limitation on its wholesale customers, including local water suppliers, until at least 2018.

WHEREAS, current supply and demand projections for the Bay Area Water Supply and Conservation Agency ("BAWSCA") member agencies indicate that, in the absence of increased water conservation, water demands will exceed available water supplies in 2015 and implementation of water conserving ordinances is one mechanism by which agencies can reduce future water demands and remain within existing supplies.

WHEREAS, The [City Council/Board of Directors/Board of Supervisors] finds and determines that this Ordinance is consistent with the provisions requiring reductions in outdoor water use for landscaping in the California Green Building Standards Code, as such provisions will be implemented in the coming years. Such requirements include the development of a water budget for landscape irrigation in accordance with methodology outlined in either the Model Ordinance or pursuant to a locally adopted ordinance.

WHEREAS, the State Legislature has identified the provision of a more reliable water supply and the protection, restoration and enhancement of the Delta ecosystem as a high priority for the state. Pursuant to this, in November 2009, the State Legislature passed Senate Bill 7 (7th Extraordinary Session) requiring certain urban water suppliers to reduce per capita urban water use by 20% by the year 2020. Accordingly, the [City Council/Board of Directors/Board of Supervisors] finds that implementation of this Ordinance is consistent with the policies and goals established by the State Legislature in enacting SB 7 (7th Extraordinary Session).

WHEREAS, [For Cities and Counties only ] Article XI, Section 7 of the California Constitution declares that a city or county may make and enforce within its limits all local, policy, sanitary, and other ordinances and regulations not in conflict with general laws.

WHEREAS, [For City/Counties who are not water purveyors] pursuant to AB 1881, enforcement of the landscape conservation ordinance adopted by [Insert name of City/County] will require supportive measures by [\_\_\_\_\_ Water District], the local water provider within these jurisdictions, so as to ensure the successful implementation and enforcement of this Ordinance.

WHEREAS, [For Water Districts] the District has the power to perform all acts necessary to carry out fully the provisions of the County Water District Law (Water Code Section 31001), may establish rules and regulations for the distribution and use of water supplies (Water Code Section 31024), may adopt and enforce a comprehensive water conservation program to reduce

potable water consumption and conserve supplies (Water Code Section 375), and may require as a condition of new service, that reasonable water-saving devices and water reclamation devices be installed to reduce water use (Water Code Section 31035).

WHEREAS, [For Water Districts] the Board of Directors of [\_\_\_\_\_ Water District] has a long-standing policy of engaging in and encouraging efficient water management measures and practices and desires to adopt this Ordinance in order to provide supportive measures to facilitate the enforcement of landscape conservation ordinances by [the applicable City and/or County. ]

WHEREAS, [For Water Districts] the District has followed the procedures for notice, public participation and adoption set forth in Section 375 of the California Water Code.

WHEREAS, [for agencies with recycled water] the adoption of this Ordinance is separate and distinct from [insert Entity's name] adoption of a local ordinance relating to the use of recycled water in outdoor landscapes, as required pursuant to the Recycled Water in Landscaping Act, SB 2095 (Chapter 510, Stats. 2000).

WHEREAS, the [City Council/Board of Directors/Board of Supervisors] finds and determines that this Ordinance is not subject to the California Environmental Quality Act (Public Resources Code Section 2100 et seq.) ("CEQA") pursuant to Section 15307 (the activity assures the maintenance, restoration, enhancement, or protection of a natural resource) and Section 15378(b)(2) (the activity is not a project as it involves general policy and procedure making) of the State CEQA Guidelines, California Code of Regulations, Title 14, Chapter 3, since it makes and implements policies and procedures to ensure that water resources are conserved by reducing water consumption through the establishment of a structure for planning, designing, installing, maintaining and managing water-efficient landscapes.

WHEREAS, the adoption and enforcement of this Ordinance is necessary to manage the [Entity]'s potable water supply in the short and long-term and to avoid or minimize the effects of drought and shortage within the [Entity]. This Ordinance is essential to ensure a reliable and sustainable minimum supply of water for the public health, safety and welfare.

NOW, THEREFORE, THE [COUNCIL/BOARD OF DIRECTORS/SUPERVISORS CITY/COUNTY OR DISTRICT] DOES ORDAIN AS FOLLOWS:

**I. Title**

THIS ORDINANCE shall be known as the [insert name of Entity] Water Conservation in Landscaping Ordinance.

**II. Applicability**

A. The provisions of this Ordinance shall apply to all of the following landscape projects:

- i. Tier 1 Landscapes: All new construction and rehabilitated landscapes with irrigated landscape areas between 1,000 square feet and 2,500

square feet requiring a building or landscape permit, plan check or design review, or requiring new or expanded water service.

- ii. Tier 2 Landscapes: All new construction and rehabilitated landscapes with irrigated landscape areas equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check or design review or requiring new or expanded water service.
- iii. Existing landscapes, including existing cemeteries, shall only be subject to the provisions for existing landscapes provided for in Section XIII "Provisions for Existing Landscapes Over One Acre in Size;" and
- iv. New and rehabilitated cemeteries shall only be subject to the provisions of Section VIII "Water Budget Calculations", Section X "Landscape Audit Report", and Section XI "Landscape and Irrigation Maintenance Schedule."

B. The provisions of this Ordinance shall not apply to:

- i. New construction and rehabilitated landscapes with irrigated landscape areas less than 1,000 square feet or that do not require a building or landscape permit, plan check or design review, or new or expanded water service;
- ii. Landscapes, or portions of landscapes, that are only irrigated for an establishment period;
- iii. Registered local, state or federal historical sites where landscaping establishes a historical landscape style, as determined by a public board or commission responsible for architectural review or historic preservation;
- iv. Ecological restoration or mined-land reclamation projects that do not require a permanent irrigation system; or
- v. Community gardens or plant collections, as part of botanical gardens and arboretums open to the public, agricultural uses, commercial nurseries and sod farms.

### III. Definitions

- A. "applied water" means the portion of water supplied by the irrigation system to the landscape.
- B. "automatic irrigation controller" means an automatic timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers 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. “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.
- E. “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.
- F. “certified professional” or “authorized professional” means a certified irrigation designer, a certified landscape irrigation auditor, a licensed landscape architect, a licensed landscape contractor, a licensed professional engineer, or any other person authorized by the state to design a landscape, an irrigation system, or authorized to complete a water budget.
- G. “conversion factor (0.62)” means the number that converts acre-inches per acre per year to gallons per square foot per year
- H. “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.
- I. “ecological restoration project” means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- J. “effective precipitation” or “usable rainfall” (Eppt) means the portion of total precipitation which becomes available for plant growth.
- K. “establishment period” 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.
- L. “Estimated Total Water Use” (ETWU) means the total water used for the landscape as described in Section VIII “Water Budget Calculations.”
- M. “ET adjustment factor” (ETAF) means a factor of 0.7, 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. ETAF for a Special Landscape Area shall not exceed 1.0. ETAF for existing non-rehabilitated landscapes shall not exceed 0.8.
- N. “evapotranspiration rate” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

- O. “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.
- P. “hardscapes” means any durable material (pervious and non-pervious).
- Q. “hydrozone” means a portion of the landscaped area having plants with similar water needs. A hydrozone may be irrigated or non-irrigated.
- R. “invasive plant species” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. “Noxious weeds” means any weed designated by the Weed Control Regulations in the Weed Control Act and identified on a Regional District noxious weed control list. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.
- S. “irrigation audit” means an in-depth evaluation of the performance of an irrigation system. 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.
- T. “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 minimum average irrigation efficiency for purposes of this Ordinance is 70%. Greater irrigation efficiency can be expected from well-designed and maintained systems.
- U. “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.
- V. “irrigation water use analysis” means an analysis of water use data based on meter readings and billing data.
- W. “landscape architect” means a person who holds a license to practice landscape architecture in California as further defined by the California Business and Professions Code, Section 5615.
- X. “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, other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation), agricultural uses, commercial nurseries and sod farms.

- Y. “landscape contractor” means a person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- Z. “landscape project” means the total area comprising the landscape area, as defined in this Ordinance.
- AA. “lateral line” means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- BB. “local agency” means a city or county, including a charter city or charter county, or water district that is responsible for adopting and implementing this Ordinance. The local agency is also responsible for the enforcement of this Ordinance, including but not limited to, in the case of a city or county, approval of a permit and plan check or design review of a project; and in the case of a district, approval of a new or expanded water service application.
- CC. “local water purveyor” means any entity, including a public agency, city, county, district or private water company that provides retail water service.
- DD. “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.
- EE. "low water use plant" means a plant species whose water needs are compatible with local climate and soil conditions. Species classified as "very low water use" and "low water use" by *WUCOLS*, having a regionally adjusted *plant factor* of 0.0 through 0.3, shall be considered low water use plants.
- FF. “Maximum Applied Water Allowance” (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section VIII “Water Budget Calculations.”
- GG. “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.
- HH. “mulch” means any organic material such as leaves, bark, straw, compost, or inorganic mineral materials such as rocks, gravel, and 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.
- II. “native plant” means a plant indigenous to a specific area of consideration. For the purposes of these guidelines, the term shall refer to plants indigenous to the coastal ranges of Central and Northern California, and more specifically to such plants that are suited to the ecology of the present or historic natural community(ies) of the project’s vicinity.

- JJ. “new construction” means the construction of a new building or structure containing a landscape or other new land improvement, such as a park, playground, or greenbelt without an associated building.
- KK. "no-water using plant" means a plant species with water needs that are compatible with local climate and soil conditions such that regular supplemental irrigation is not required to sustain the plant after it has become established.
- LL. “operating pressure” means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.
- MM. “overhead sprinkler irrigation systems” means systems that deliver water through the air (e.g., spray heads and rotors).
- NN. “overspray” means the irrigation water which is delivered beyond the target area.
- OO. “permit” means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.
- PP. “pervious” means any surface or material that allows the passage of water through the material and into the underlying soil.
- QQ. “plant factor” or “plant water use factor” is a factor, when multiplied by ETo, estimates the amount of water needed by plants.
- RR. “precipitation rate” means the rate of application of water measured in inches per hour.
- SS. “project applicant” means the individual or entity submitting a Project Landscape Application required under Section VI, to request a permit, plan check, or design review from the local agency or requesting new or expanded water service from the water district. A project applicant may be the property owner or his or her designee.
- TT. “rain sensor” or “rain sensing shutoff device” means a component which automatically suspends an irrigation event when it rains.
- UU. “recreational area” means areas dedicated to active play such as parks, sports fields, and golf courses where turf provides a playing surface.
- VV. “reference evapotranspiration” or “ETo” means a standard measurement of environmental parameters which affect the water use of plants.
- WW. “rehabilitated landscape” means any re-landscaping project that requires a permit, plan check, design review, or requires a new or expanded water service application.
- XX. “runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area.

- YY. “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.
- ZZ. “Special Landscape Area” (SLA) means an area of the landscape dedicated solely to edible plants, areas irrigated with recycled water, water features using recycled water and areas dedicated to active play such as parks, sports fields, golf courses, and where turf provides a playing surface.
- AAA. “sprinkler head” means a device which delivers water through a nozzle.
- BBB. “station” means an area served by one valve or by a set of valves that operate simultaneously.
- CCC. “turf” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermuda grass, Kikuyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
- DDD. “valve” means a device used to control the flow of water in the irrigation system.
- EEE. “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).
- FFF. “WUCOLS” means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension, the Department of Water Resources and the Bureau of Reclamation, 2000.

#### **IV. Water Conservation in Landscaping Ordinance Requirements**

- A. All owners of new construction and rehabilitated landscapes of applicable sizes shall: (1) complete the Landscape Project Application (Section VI) and (2) comply with the Landscape and Irrigation Maintenance Schedule (Section XI) requirements of this Ordinance.
- B. All owners of existing landscapes over one acre in size, even if installed before enactment of this Ordinance, shall: (1) comply with local agency programs that may be instituted relating to irrigation audits, surveys and water use analysis, and (2) shall maintain landscape irrigation facilities to prevent water waste and runoff.

#### **V. Compliance with Ordinance.**

- A. The local agency shall:
  - i. Provide the project applicant with the Ordinance and Landscape Project Application requirements and the procedures for permits, plan checks, design reviews, or new or expanded water service;

- ii. Review the Landscape Project Application submitted by the project applicant;
  - iii. Approve or deny the project applicant's Landscape Project Application submittal;
  - iv. Issue or approve a permit, plan check or design review that complies with the approved Landscape Project Application or approve a new or expanded water service application that complies with the approved Landscape Project Application;
  - v. Submit a copy of the complete Landscape Project Application to the local water purveyor or land use authority, as the case may be.
- B. The project applicant shall:
- i. Prior to construction, submit all portions of the Landscape Project Application, except the Landscape Audit Report, to the local agency; and
  - ii. After construction, submit the Landscape Audit Report portion of the Landscape Project Application to the local agency.

## **VI. Landscape Project Application**

- A. The elements of a landscape must be designed to achieve water efficiency and will comply with the criteria described in this Ordinance. In completing the Landscape Project Application, project applicants may choose one of two options to demonstrate that the landscape meets the Ordinance's water efficiency goals. Regardless of which option is selected, the applicant must complete and comply with all other elements of the Ordinance. The options include:
- i. Planting restrictions:
    - a. The turf area may not be more than 25% of the landscape area [*or no more than \_\_\_\_\_ square feet*]; and
    - b. At least 80% of the plants in non-turf landscape areas shall be native plants, low-water using plants, or no-water using plants; or the
  - ii. Water Budget Calculation option (Section VIII).
- B. The Landscape Project Application shall include the following elements:
- i. Project Information;
  - ii. Outdoor Water Use Efficiency Checklist (Section VII);
  - iii. Water Budget Calculations, if applicant selects to use a water budget approach rather than comply with the turf area limitations or specified plant type restrictions (Section VIII);

- iv. Landscape and Irrigation System Design Plans (Section IX); and
- v. Landscape Audit Report (Section X).

## VII. Outdoor Water Use Efficiency Checklist

[*Entity's name*] [has developed/will develop] an Outdoor Water Use Efficiency Checklist (Checklist), based on the criteria described below. For Tier 1 projects, either the project applicant or a certified or authorized professional shall complete the Checklist and submit it to [*Entity's name*] along with the Landscape and Irrigation Design Plan. For Tier 2 projects, the Checklist shall be completed by a certified or authorized professional and submitted to [*Entity's name*] along with the Landscape and Irrigation Design Plan.

### A. Plant Material

- i. Each hydrozone shall have plant materials with similar water use that are selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site.
- ii. The turf area shall not be more than 25% of the landscape area [*or no more than \_\_\_\_\_ square feet*], unless the project applicant develops a site-specific water budget and the ETWU of the landscape area does not exceed the MAWA.
- iii. Turf shall not be planted on slopes greater than 25% or in areas that are less than eight feet wide, unless irrigated with subsurface irrigation or a low volume irrigation system.
- iv. At least 80% of the plants in non-turf landscape areas shall be native plants, low-water using plants, or no-water using plants, unless the project applicant develops a site-specific water budget and the ETWU of the landscaped area does not exceed the MAWA.
- v. Fire-prone plant materials and highly flammable mulches should be avoided.
- vi. The use of invasive and/or noxious plant species is strongly discouraged.
- vii. The architectural guidelines of a common interest development shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

### B. Mulch

A minimum two-inch layer of mulch shall be applied on all exposed soil surfaces of planting areas, although a three-inch layer is recommended.

### C. Irrigation System

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.

- i. Dedicated landscape water meters shall be required for landscape areas greater than 5,000 square feet and are highly recommended for landscape areas greater than 2,500 square feet.
- ii. Tier 2 Landscapes are required to have automatic irrigation controllers that utilize either evapotranspiration or soil moisture sensor data for irrigation scheduling.
- iii. 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.
- iv. The irrigation system shall be designed to prevent runoff, low head drainage, overspray, or other similar conditions.
- v. Low volume irrigation required in mulched areas, in areas with slope greater than 25%, and within 24-inches of a non-permeable surface, or in narrow or irregularly shaped areas that are less than eight feet in width in any direction.
- vi. Average irrigation efficiency is assumed to be 70%. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 70%.
- vii. Irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m., unless unfavorable weather prevents it or otherwise renders irrigation unnecessary.

D. Hydrozone

- i. Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- ii. Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.
- iii. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf.
- iv. Individual hydrozones that mix plants with different water uses may be allowed if a water budget is performed, and the plant factor calculation is based on the proportion of the respective plant water uses or the plant factor of the higher water using plant is used.

E. Water Features

- i. Recirculating water systems will be used for water features.

- ii. The surface area of a water feature will not exceed 10% of the landscape area and will be counted as a high-water using plant for purposes of a water budget calculation.
- iii. Pool and spa covers are highly recommended.

F. Soil Amendments

Soil amendments, such as compost, shall be incorporated according to the soil conditions at the project site and based on what is appropriate for the selected plants.

**VIII. Water Budget Calculations**

Project applicant may elect to complete a water budget calculation for the landscape project. A Tier 1 water budget may be developed and completed by the project applicant. A Tier 2 water budget calculation must be completed by a certified or authorized professional. Water budget calculations, if prepared, shall adhere to the following requirements:

- A. The plant factor used shall be from WUCOLS. The plant factor ranges from 0.0 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.
- C. All Special Landscape Areas (SLA) shall be identified and their water use included in the water budget calculations.
- D. The reference evapotranspiration adjustment factor (ETAF) for SLA shall not exceed 1.0. The ETAF for all other landscaped areas shall not exceed 0.7.
- E. Irrigation system efficiency shall be greater than or equal to 70%.
- F. Maximum Applied Water Allowance (MAWA) shall be calculated using the equation below:

$$MAWA = (ET_o) (0.62) [(0.7 \times LA) + (0.3 \times SLA)]$$

Where:

- MAWA = Maximum Applied Water Allowance (gallons per year)
- ET<sub>o</sub> = Reference Evapotranspiration (inches per year)
- 0.62 = Conversion Factor (to gallons)
- 0.7 = Reference Evapotranspiration Adjustment Factor (ETAF)
- LA = Landscape Area including SLA (square feet)
- 0.3 = Additional Water Allowance for SLA
- SLA = Special Landscape Area (square feet)

- G. A local agency or project applicant may consider Effective Precipitation (25% of annual precipitation) in tracking water use and may use the following equation to calculate the MAWA:

$$MAWA = (ET_o - Eppt) (0.62) [(0.7 \times LA) + (0.3 \times SLA)]$$

- H. Estimated Total Water Use (ETWU) will be calculated using the equation below. The sum of the ETWU calculated for all hydrozones will not exceed the MAWA.

$$ETWU = (ET_o)(0.62) \left( \frac{PF \times HA}{IE} + SLA \right)$$

Where:

ETWU = Estimated Total Water Use per year (gallons)

ET<sub>o</sub> = Reference Evapotranspiration (inches)

PF = Plant Factor from WUCOLS (see Section 491)

HA = Hydrozone Area [high, medium, and low water use areas] (square feet)

SLA = Special Landscape Area (square feet)

0.62 = Conversion Factor

IE = Irrigation Efficiency (minimum 0.70)

## IX. Landscape and Irrigation Design Plans

- A. Tier 1 Landscapes: The Landscape and Irrigation Design Plan may be prepared by, and bear the signature of, the project applicant, or that of a certified or authorized professional.
- B. Tier 2 Landscapes: The components of the Landscape and Irrigation Design Plan shall be prepared as follows:
- i. The landscape design portion shall be prepared by, and bear the signature of, a licensed landscape architect, licensed landscape contractor, or that of a certified or authorized professional; and
  - ii. The irrigation design portion shall be prepared by, and bear the signature of, a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or that of a certified or authorized professional.
- C. The landscape design portion of the Landscape and Irrigation Design Plan, at a minimum, shall:
- i. Delineate and label each hydrozone;
  - ii. Identify each hydrozone as low, moderate, high water, or mixed water use;

- iii. Identify Special Landscape Areas (i.e., recreational areas; areas permanently and solely dedicated to edible plants; areas irrigated with recycled water);
  - iv. Identify type of mulch and application depth;
  - v. Identify type and surface area of water features;
  - vi. Identify hardscapes (pervious and non-pervious); and
  - vii. Contain the following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them for the efficient use of water in the Landscape and Irrigation Design Plan."
- D. The irrigation design portion of the Landscape and Irrigation Design Plan, at a minimum, shall contain:
- i. Location and size of separate water meters for landscape;
  - ii. 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;
  - iii. Static water pressure at the point of connection to the public water supply;
  - iv. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
  - v. Irrigation schedule;
  - vi. The following statement: "I have complied with the criteria of the Water Conservation in Landscaping Ordinance and applied them accordingly for the efficient use of water in the Landscape and Irrigation Design Plan."
- E. Grading

If the Landscape Project will be graded, then the grading shall be designed to minimize soil erosion, runoff, and water waste. All grading should be conducted to:

- i. Maintain all irrigation and normal rainfall within property lines and avoid drainage on to non-permeable hardscapes;
- ii. Avoid disruption of natural drainage patterns and undisturbed soil;
- iii. Avoid soil compaction in landscape areas; and
- iv. Be consistent with city and county grading requirements.

## **X. Landscape Audit Report**

- A. *Tier 1 Landscapes*: Landscape irrigation audits for new or rehabilitated landscapes installed after [*Ordinance adoption date*] shall be conducted after the landscaping and irrigation systems have been installed. The audit may be conducted by the project applicant or by a certified landscape irrigation auditor.
- B. *Tier 2 Landscapes*: Landscape irrigation audits for new or rehabilitated landscapes installed after [*Ordinance adoption date*] shall be conducted by a certified landscape irrigation auditor after the landscaping and irrigation system have been installed.
- C. The Landscape Audit Report shall include, but is not limited to: inspection to confirm that the landscaping and irrigation system were installed as specified in the Landscape and Irrigation Design Plan, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.
- D. The Landscape Audit Report shall include the following statement: "The landscape and irrigation system has been installed as specified in the Landscape and Irrigation Design Plan and complies with the criteria of the Ordinance and the permit".
- E. Local agency shall administer on-going programs that may include, but not be limited to, post-installation landscape inspection, irrigation water use analysis, irrigation audits, irrigation surveys and water budget calculations to evaluate compliance with the MAWA.

## **XI. Landscape and Irrigation Maintenance Schedule**

Landscapes shall be maintained to ensure water use efficiency.

- A. A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas; and removing obstructions to emission devices.
- B. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.
- C. A Project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

## **XII. Stormwater Management**

Stormwater best management practices should be implemented into the landscape and grading design plans to minimize runoff and to increase on-site retention and infiltration and should be consistent with city and county stormwater management requirements.

### **XIII. Provisions for Existing Landscapes Over One Acre in Size**

This section shall apply to all existing landscapes that were installed before [*Ordinance adoption date*] and are over one acre in size.

#### **A. Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.**

- i. For landscapes 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 MAWA for existing landscapes. The MAWA for existing landscapes shall be calculated as:

$$\text{MAWA} = (0.8) (\text{ET}_o)(\text{LA})(0.62).$$

- ii. For landscapes 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.
- iii. All landscape irrigation audits for existing landscapes that are greater than one acre in size shall be conducted by a certified landscape irrigation auditor.

#### **B. Water Waste Prevention.**

Local agencies shall prevent water waste resulting from inefficient landscape irrigation by prohibiting runoff from leaving the target landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures.

### **XIV. Penalties**

A local agency may establish and administer penalties to the project applicant for non-compliance with this Ordinance to the extent permitted by law.

*[Note: The precise provisions of this section should be tailored to the specific policies and goals of your organization.]*

#### **A. Violation and Notice of Correction.**

It is unlawful for any person, firm, partnership, association, or corporation subject to the requirements of this Ordinance to fail to comply with the outdoor water use efficiency requirements of this Ordinance. [*Insert appropriate City/County/Water District official*] has the authority to conduct such inquiries, audits or surveys to ensure compliance with the requirements of this Ordinance. Whenever the [*insert appropriate City/County/Water District official*] determines that a violation of this Ordinance has occurred, the [*insert appropriate City/County/Water District official*] may serve a notice of correction on the owner(s) of the property on which

the violation is situated. The owner(s) of record shall have ninety (90) days to take corrective action.

B. **[For Cities and Counties]** Administrative Enforcement.

In addition to any other remedy provided by the *[insert entity's name]*'s Municipal Code, any provision of this Ordinance may be enforced by an administrative order issued pursuant to any one of the administrative processes set forth in Section \_\_\_\_\_ of the *[insert entity's name]*'s Municipal Code. The *[insert commission/governing body]* shall serve as the administrative enforcement hearing officer for the purposes of considering any appeals.

C. **[For Water Districts]** Enforcement.

If an applicant for new or expanded water service fails to comply with the provisions of this Ordinance, the District may require the applicant to resubmit its water service application and revised Landscape Project Application for approval and may withhold approval of the application until the applicant complies with the terms of this Ordinance. In addition to any other remedy provided herein, the District may also refer enforcement of violations under this Ordinance to the City Attorney of the municipality *[or District Attorney/County Counsel/County]* where the violation occurred.

**XV. Public Education**

- A. The local agency shall provide information to all applicants regarding the design, installation, management, and maintenance of water-efficient landscapes and irrigation systems.
- B. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water-efficient landscapes that are described in this Ordinance.

**XVI. Severability**

If any section, subsection, provision or part of this Ordinance, or its application to any person or circumstance, is held to be unconstitutional or otherwise invalid, the remainder of this Ordinance, and the application of such provision to other person or circumstances, shall not be affected thereby and shall remain in full force and effect and, to that end, the provisions of this Ordinance are severable.

**XVII. Effective Date**

This Ordinance shall become effective on \_\_\_\_\_, 2009/2010. *[For Cities/Counties, 30 days after enactment]*

INTRODUCED at a regular meeting of the *[City Council/Board of Directors/Board of Supervisors]* held on \_\_\_\_\_, 2009/2010.

PASSED AND ADOPTED at a regular meeting of the [*City Council/Board of Directors/Board of Supervisors*] of the [*City of \_\_\_\_\_/District/County of \_\_\_\_\_*] held on \_\_\_\_\_, 2009/2010, by the following vote:

AYES:

NOES:

ABSENT:

\_\_\_\_\_  
[MAYOR/PRESIDENT OF THE BOARD]

ATTEST:

\_\_\_\_\_  
[CITY CLERK/BOARD SECRETARY]