

# City of Malibu

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February 4, 2010

Simon Eching  
California Department of Water Resources  
Water Use and Efficiency Branch  
PO Box 942836  
Sacramento CA 94236-0001

Re: City of Malibu, Los Angeles County, Landscape Water Conservation Ordinance

Dear Mr. Eching:

This letter serves as confirmation that the City of Malibu has prepared and adopted its own local water efficient landscape ordinance in compliance with the requirements of the Water Conservation in Landscaping Bill (AB 1881, Laird). Ordinance No. 343, the Landscape Water Conservation Ordinance, was adopted November 23, 2009, and took effect December 23, 2009. The ordinance prepared by the City is at least as effective as the Department of Water Resources "Model Water Efficient Landscape Ordinance," and is enclosed for your reference.

Should your office have any questions, I can be reached at (310) 456-2489, extension 251 or via email at [vpeterson@ci.malibu.ca.us](mailto:vpeterson@ci.malibu.ca.us).

Sincerely,

Victor Peterson  
Community Development Director

cc: Jim Thorsen, City Manager  
Christi Hogin, City Attorney  
Lisa Pope, City Clerk  
Joyce Parker-Bozylinski, Planning Manager

Enclosure



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ORDINANCE NO. 343

AN ORDINANCE OF THE CITY OF MALIBU ADDING CHAPTER 9.22 TO TITLE 9 OF THE MUNICIPAL CODE TO CREATE LANDSCAPE WATER CONSERVATION STANDARDS

The City Council of the City of Malibu does hereby ordain as follows:

Section 1. Chapter 9.22 of the Malibu Municipal Code is hereby added to the Malibu Municipal Code to read as follows:

“Chapter 9.22 Landscape Water Conservation”

**Sections:**

- 9.22.010 Purpose.
- 9.22.020 Definitions.
- 9.22.030 Applicability.
- 9.22.040 Administration, Enforcement and Landscape Guidelines.
- 9.22.050 Compliance Requirements.
- 9.22.060 Water Budget Calculations.
- 9.22.070 Exceptions.
- 9.22.080 Submittals.
- 9.22.090 Landscape Water Conservation Design Standards.

**9.22.010 Purpose.**

It is the policy of the City of Malibu to promote water conservation. The Landscape Water Conservation Standards detailed in this Chapter are intended to promote water conservation while allowing the maximum possible flexibility in designing healthy, attractive, and cost-effective water efficient landscapes.

These Landscape Water Conservation Standards are to be used in conjunction with the water efficient landscape requirements of the Municipal Code, commencing with Section 17.44.010. Where conflicts in language may exist between these Landscape Water Conservation Standards and Chapter 17.44, the more restrictive water conserving language shall prevail.

**9.22.020 Definitions.**

“*Applied water*” means the portion of water supplied by the irrigation system to the landscape.

“*Director*” means the Community Development Director.

“*Estimated total water use or ETWU*” means the estimated total water use in gallons per year for a landscape area, calculated by summing the estimated water use for each landscape hydrozone as described in the water budget calculations of Section 9.22.060.

*“ET adjustment factor or ETAF”* means a factor used to set an irrigation efficiency goal, that when applied to reference evapotranspiration (or ETo) adjusts for plant water requirements and irrigation efficiency, two of the major influences upon the amount of water that needs to be applied to a landscape. The ETAF as designated by the State for landscape areas is 0.7.

*“ET or evapotranspiration”* means the approximate summation of water losses through evaporation from soil and transpiration from the plants during a specified period of time.

*“ETo or reference evapotranspiration”* means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches for purposes of this Chapter and is an estimate of the evapotranspiration (or water loss) per year from a large field of four to seven inch tall cool season grass that is not water stressed. ETo is used as the basis for determining the maximum applied water allowance so that regional differences in climate can be accommodated. For Malibu, the ETo is 44.2 inches.

*“Guidelines”* refers to the Guidelines for Implementation of the Landscape Water Conservation Ordinance to be prepared by the City to describe procedures, calculations, forms and requirements for landscape projects subject to this Chapter. The guidelines shall also provide information on increasing water use efficiency and avoiding water waste in existing landscapes.

*“Hardscapes”* means any durable material or feature (pervious and non-pervious) installed in or around a landscape area, such as pavements or walls.

*“Hydrozone”* means a portion of a landscape area having plants with similar water needs that are served by an irrigation valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated.

*“Irrigation efficiency”* means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average irrigation efficiency for purposes of this Chapter is 0.71. Greater irrigation efficiency can be expected from well designed and maintained systems.

*“Landscape area”* means all new or altered landscaping areas proposed as part of a development project. Landscape area shall include the planting areas, turf areas, water features, and design features as allowed in Section 9.22.090(A)(12). The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

*"Maximum Applied Water Allowance or MAWA"* means the maximum annual gallons per year of water allowed for a landscape area, calculated as described in the water budget calculations of Section 9.22.060.

*"Plant Factor"* means a factor that when multiplied by the ETo, estimates the amount of water used by a given plant species. For purposes of this Chapter, the plant factor range for low water use plants is 0 to 0.3; the plant factor range for moderate water use plants is 0.4 to 0.6; and the plant factor range for high water use plants is 0.7 to 1.0. Plant factors used in this Chapter are derived from "Water Use Classification of Landscape Species" (WUCOLS).

*"Special Landscape Area or SLA"* means park and recreational areas, areas permanently and solely dedicated to edible plants, such as orchards and vegetable gardens, and areas irrigated with non-potable water. A SLA is subject to the MAWA with an ET adjustment factor not to exceed 1.0.

*"Turf"* means a groundcover surface of mowed grass with an irrigation water need of greater than 30 percent of the ETo, except for low water using alternative turf blend.

*"Water budget calculations"* means the maximum applied water allowance and estimated total water use calculations.

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

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

*"Water wise plants"* means those plants that are evaluated as needing "moderate" (40 to 60 percent of ETo), "low" (10 to 30 percent of ETo) and "very low" (less than 10 percent of ETo) amounts of water as defined and listed by WUCOLS. Other sources of water wise plant classifications may be used if approved by the Director.

*"Weather Based Irrigation Controller"* means an irrigation controller that automatically adjusts the irrigation schedule based on changes in the weather.

**9.22.030 Applicability.**

A. This Chapter applies to the following projects for which the City issues an administrative plan review or discretionary permit after the effective date of this Chapter:

1. A project for an industrial, commercial, institutional, or multi-family use or a subdivision, any of which propose a new or altered landscape area, including public agency projects.

2. A project for a single-family residential use proposing a new or altered landscape area of two thousand five hundred (2,500) square feet or more; in the case of a project associated with an existing single-family residence, the new or altered landscape area is subject to this Chapter when the landscape area is five thousand (5,000) square feet or more.

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

1. A single-family residence being rebuilt pursuant to an administrative plan review following destruction or damage due to a natural disaster.

2. A registered local, State or federal historic site.

3. An ecological restoration project that does not require a permanent irrigation system.

4. A mined land reclamation project that does not require a permanent irrigation system.

5. A botanical garden or arboretum that is open to the public.

6. A cemetery, except that a new or altered cemetery shall meet the irrigation requirements of Section 9.22.090(B).

**9.22.040 Administration, Enforcement and Landscape Design Guidelines.**

A. The Community Development Director (Director) shall administer and enforce this Chapter.

B. The Director shall prepare landscape design guidelines that assist applicants with complying with the requirements of this Chapter. The guidelines shall also provide information on increasing water use efficiency and avoiding water waste in existing landscapes.

**9.22.050 Compliance Requirements.**

Applicants for projects covered by Section 9.22.020(A) shall comply with this Chapter as follows, unless an exception is granted pursuant to Section 9.22.070.

A. Prior to construction, the applicant shall obtain approval from the Director of a landscape documentation package prepared in accordance with Section 9.22.080 which demonstrates compliance with this Chapter.

B. Prior to certificate of occupancy or other final project sign off, the applicant shall obtain approval from the Director of a certificate of completion prepared in accordance with Section 9.22.080.

**9.22.060 Water Budget Calculations.**

A. New or altered landscaping projects listed in Section 9.22.020(A) shall comply with the following water budget calculations in the design, installation and maintenance of the landscape area, unless an exception is granted pursuant to Section 9.22.070. In the event that the State Department of Water Resources or other water agency develops a model ordinance with a different ET adjustment factor or enacts other provisions that affect water budget formulas, then that ET adjustment factor or any other water budget formula changes shall be automatically incorporated into this Chapter and the Guidelines. Abbreviations are defined in subsection (D).

B. Maximum Applied Water Allowance (MAWA)

New or altered landscaping shall not exceed the MAWA. The MAWA shall be determined by the following calculation:

$$\text{MAWA} = (\text{ETo}) (0.62) [0.7 \times \text{LA} + 0.3 \times \text{SLA}]$$

C. Estimated Total Water Use

1. The estimated total water use (ETWU) for the project shall be calculated as the sum of the estimated water use for each landscape area hydrozone, as described in 2 through 4 below. The ETWU for a proposed project shall not exceed the MAWA.

2. Estimated water use for each hydrozone, except a special landscape area, shall be determined according to the following calculation:

$$\text{Estimated Water Use} = (\text{ETo})(0.62)(\text{PF} \times \text{HA} / \text{IE})$$

3. Estimated water use for special landscape areas shall be determined according to the following calculation:

$$\text{Estimated Water Use} = (\text{ETo})(.62)(\text{SLA})$$

D. The abbreviations used in the equations shall have the following meanings:

ETo	= Reference Evapotranspiration (44.2 inches per year for the City of Malibu)
0.7	= ET Adjustment Factor (ETAF)
LA	= Landscape Area (square feet, including SLA)
.62	= Conversion Factor (inches to gallons per square foot)
SLA	= Special Landscape Area (square feet)
.3	= The additional ETAF for the SLA ( $1.0 - 0.7 = 0.3$ )
PF	= Average plant factor for each hydrozone based on whether the hydrozone is classified as high, medium or low water use. The hydrozone classification shall be based on the data included in the landscape and irrigation plans and WUCOLS
HA	= Hydrozone area in square feet
IE	= Irrigation Efficiency of the irrigation method used in the hydrozone

#### **9.22.070 Exceptions.**

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

#### **9.22.080 Submittals.**

##### **A. Landscape Documentation Package**

1. A landscape documentation package shall be prepared in accordance with the provisions of the California Business and Professions Code relating to the practice of landscape architecture (Business and Professional Code Section 5641 et seq.).

2. The landscape documentation package shall include a statement of compliance in a form approved by the Director certifying that the landscape design complies with the mandatory elements of this Chapter. The statement of compliance shall be signed by the person who prepared the landscape plan.

3. The landscape documentation package shall be designed in accordance with the Landscape Water Conservation Standards and the Guidelines, and shall include a landscape design and soils management plan, an irrigation plan and a water budget calculation worksheet.

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

i. Delineate each hydrozone by number, letter or other method, and identify the water use level of each. Temporarily irrigated areas shall be included in the low water use hydrozone for the water budget calculations.

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

iii. A plan showing the planting areas, plant spacing, plant location and size, natural features, recreational areas, areas dedicated permanently and solely to edible plants, areas irrigated with non-potable water, surface areas and types of water features and all hardscape areas (pervious and non-pervious).

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

v. A description of seed mixes with application rates and relevant germination specifications.

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

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

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

b. Irrigation Plan. The irrigation plan shall be a separate document from, but use the same format as, the landscape design and soils management plan. The irrigation plan shall, at a minimum:

i. Identify location and size of separate water meters for landscape.

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

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

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

v. Show non-potable water irrigation systems as applicable.

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

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

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

iii. Water budget calculations consistent with Section 9.22.060.

#### B. Certificate of Completion

Prior to final inspection or other final project sign off (as applicable), the applicant shall submit to the Director for review and approval a certificate of completion. The certificate of completion shall be signed in accordance with the provisions of the California Business and Professions Code relating to the practice of landscape architecture (Business and Professional Code Section 5641 et seq.) and shall include the following:

1. A copy of a landscape management plan for the ongoing operation and maintenance of the landscape and irrigation system, including the water budget calculation worksheet with anticipated total annual water requirements, precipitation rates for the various hydrozones identified in the landscape plan, seasonal irrigation water schedules or procedures for programming of proposed weather-based controllers and certification that these have been provided to the property owner, along with a copy of the final landscape design and irrigation plans.

2. Certification that the landscaping and irrigation system have been installed in substantial conformance with the approved planting and irrigation plans and

appropriate soil amendments have been made in accordance with soil tests. Where there have been significant changes to the landscape documentation package during the installation of landscaping or irrigation devices or irrigation system components, the applicant shall submit "as built" plans that show the changes, along with the statement of compliance required by Section 9.22.080.

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

4. Certification that the water budget calculation worksheet has been provided to the appropriate water agency.

5. Acknowledgement that any changes to the irrigation system, plant materials or location or size of landscape areas that occur in the field due to site conditions or plant material availability must be submitted to the Director prior to installation.

6. Installed landscaping found not to comply with the approved landscape plan is subject to correction. Under such circumstances, the Director may require resubmittal of all or part of the landscape documentation package in accordance with Section 9.22.080.

#### **9.22.090 Landscape Water Conservation Design Standards.**

All landscaping and irrigation systems associated with development regulated by this Chapter shall be designed, installed and maintained in accordance with a Landscape Documentation Package that meets the minimum standards of the Guidelines and this section.

##### **A. Planting Requirements**

1. Plants shall be selected to meet a MAWA determined by the water budget calculations and the Guidelines.

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

3. The landscape area of projects proposing commercial or industrial uses shall be designed without the use of turf and with one hundred (100) percent water wise plants. Notwithstanding that requirement, projects may use turf where a specific turf type is proposed for any required bio-swale or bio-filter systems, or areas adjacent to pedestrian traffic where walking travel or crossings are expected. These walking areas would include corner lot locations or linear areas located along pedestrian routes. Any landscape trees and shrubs installed on commercial properties situated along public street

frontage shall be limited to water wise species native to the Santa Monica Mountains area.

4. Turf is acceptable in parkways where vehicle parking is permitted adjacent to the parkway curb or edge; however, the use of a water wise alternative is encouraged. Where parking is not permitted adjacent to the parkway curb or edge, the parkway shall be designed using one hundred (100) percent water wise plants.

5. Single-family residential, multi-family residential, and institutional use projects shall be designed so that turf occupies not more than forty (40) percent or one thousand five hundred (1,500) square feet, whichever is less, of the landscape area. Approved turf parkways shall not be counted toward the forty (40) percent turf limitation. For single-family residences, plants that are not water wise plants shall be limited to not more than forty (40) percent of the landscape area or limited to an area within fifty (50) feet of the primary residential structure on the parcel, whichever results in less landscape area installed with plants that are not water wise species. For landscape area more than fifty (50) feet from the primary residential structure and outside the required irrigated fuel modification zone, new or altered plantings shall be limited to water wise species native to the Santa Monica Mountains.

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

7. Turf shall not be used on slopes exceeding twenty (20) percent or five (5) to one (1) within the landscape area.

8. Notwithstanding subsections (3) and (4) above, additional turf areas may be approved by the Director for areas designed and used for outdoor sporting and recreational activities, or for an approved functional use. Such approved turf areas may be watered at a rate of 1.0 of the reference evapotranspiration (ET<sub>o</sub>). However, water wise turf blends are encouraged as an alternative.

9. Soils Test. The applicant shall prepare a soils test that conforms to the Guidelines, with recommendations for fertilizers, amendments and horticultural maintenance practices. Recommendations shall be based on soil samples taken from the site at the completion of finish grading. The soils testing requirement may be included as part of the specifications for installation.

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

11. Mulch. Weed-free mulches of organic or inorganic material shall be used in all non-turf, irrigated areas to minimize evapotranspiration and runoff, and to moderate the temperature of the root zone. The landscape area, except those portions of the landscape area planted in turf, shall be covered with weed-free mulch material to an

average thickness of at least three (3) inches throughout. In areas with groundcovers planted from flats, mulch shall be installed to an average thickness of one and one half (1 ½) inches. Additional mulch material shall be added from time to time as necessary in order to maintain the required depth of mulch.

12. Non-Plant Material for Landscaping. The landscape area may include natural features such as decomposing granite groundcover, rock and stone, non-vegetated natural areas, and structural features, including but not limited to, fountains, reflecting pools, art work, screens, walls, and fences, provided all of these features are integrated into the design of the landscape area and the primary purpose of the feature is decorative. These areas shall be included in the water budget calculations for the project and its various hydrozones as specified in the Guidelines.

13. Nothing in this Chapter shall be construed to permit the installation or removal of plants, trees or shrubs of a type or in a manner which is prohibited by another chapter of this code or the Malibu Local Coastal Program.

#### B. Irrigation System Requirements

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

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

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

4. An automatic irrigation system is required and shall include a weather-based irrigation controller, including a rain shut-off sensor.

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

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

D. The ordinance provides that landscape areas in single- and multi-family residential and institutional projects shall be designed such that turf occupies not more than 40 percent or 1,500 square feet, whichever is less. Plants that are not water wise plants are limited to not more than 40 percent of the landscape area of a single-family residence or to areas within 50 feet of the residence, whichever results in less square footage of such plants. New plantings proposed more than 50 feet from the residence are required to be water wise species native to the Santa Monica Mountains.

E. Automatic irrigation systems are required by the ordinance and must employ weather based irrigation controllers with rain shut off sensors and check valves at the end of each line to hold water in the system, preventing unwanted drainage from the irrigation heads. The systems are required to be designed for optimum distribution uniformity and setbacks from hardscape so as to avoid overspray and runoff.

F. Soils assessment and management is required by the ordinance to promote healthy plant growth and prevent excessive erosion and runoff.

G. Identification of water wise plants and calculation factors used in the ordinance matches that of the DWR updated model ordinance; namely, the Water Use Classification of Landscape Species prepared University of California Cooperative Extension.

H. Design compliance and installation verification are required by the professionals who design and install the landscaping and irrigation system. Compliance requires providing a landscape and irrigation maintenance plan to the property owner to help ensure proper water use is maintained over the long term.

I. The ordinance is consistent with the requirements of the Water Conservation in Landscaping Act of 2006 and is as effective as the DWR updated model landscape ordinance.

Section 3. CEQA.

In accordance with the California Environmental Quality Act (CEQA), the City Council finds that the adoption of this ordinance is exempt from CEQA pursuant to Sections 15305 and 15308 of the CEQA Guidelines.

Section 4. Effective Date.

This ordinance shall go into effect and be in full force and operation from and after 30 days after its final passage and adoption.

Section 5. Certification.

The City Clerk shall certify the adoption of this Ordinance.

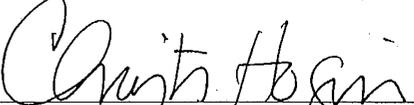
PASSED, APPROVED AND ADOPTED this 23rd day of November 2009.

  
SHARON BAROVSKY, Mayor

ATTEST:

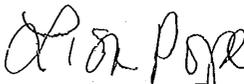
  
LISA POPE, City Clerk  
(seal)

APPROVED AS TO FORM:

  
CHRISTI HUGIN, City Attorney

I CERTIFY THAT THE FOREGOING ORDINANCE NO. 343 was passed and adopted at the regular City Council meeting of November 23, 2009, by the following vote:

AYES:	5	Councilmembers:	Conley Ulich, Sibert, Stern, Wagner, Barovsky
NOES:	0		
ABSTAIN:	0		
ABSENT:	0		

  
LISA POPE, City Clerk  
(seal)

