

CITY OF MURRIETA

January 20, 2011

California Department of Water Resource
Water Use and Efficiency Branch
Post Office Box 942836
Sacramento, CA 94236-0001
Attn: Mr. Simon Eching

Re: Adoption of Updated Model Water Efficient Landscape Ordinance

Dear Mr. Eching:

The City of Murrieta is notifying you that the City adopted an ordinance for water efficient landscaping on November 16, 2010, which is at least as effective in conserving water as the State's updated model ordinance. I have attached a copy of the ordinance for your reference.

If you have any questions, feel free to contact Dennis Watts at (951) 461-6037.

Sincerely,

A handwritten signature in black ink that reads "Dennis Watts". The signature is written in a cursive style.

Dennis Watts
Senior Planner

enc.

ORDINANCE NO. 443 - 10

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MURRIETA,
CALIFORNIA, RESCINDING INTERIM ORDINANCE No. 431-10, REPEALING CHAPTERS
16.27 AND 16.28, AND ADOPTING A NEW CHAPTER 16.28 ALL IN TITLE 16 OF THE
MURRIETA MUNICIPAL CODE WITH REGARD TO LANDSCAPE WATER USE EFFICIENCY
REQUIREMENTS

WHEREAS, the State of California has enacted the Water Conservation in Landscaping Act of 1992 ("Landscaping Act"); and

WHEREAS, Assembly Bill 1881 ("AB 1881"), enacted in 2006, amends said Landscaping Act to require the Department of Water Resources to update the State's model water efficient landscape ordinance in accordance with certain specified requirements; and

WHEREAS, the Department of Water Resources has updated the State's model efficient landscape ordinance to include provisions regarding the efficiency and analysis of landscape irrigation water use; and

WHEREAS, AB 1881 mandates local agencies to adopt the State's model ordinance or a water efficient landscape ordinance that is, at least, as effective in conserving water as the updated State model ordinance, no later than January 1, 2010; and

WHEREAS, on January 19, 2010, the Murrieta City Council approved Interim Ordinance No. 431-10 to comply with the requirements of AB 1881 until it could implement permanent revisions to the Murrieta Municipal Code; and

WHEREAS, it is the purpose of this ordinance to rescind Interim Ordinance 431-10 as of the effective date of this ordinance and to revise the Murrieta Municipal Code to provide an equivalent mechanism to that provided in the State's model ordinance; and

WHEREAS, the purpose of the proposed code amendment is to change the standards related to water efficiency practices in landscaped areas and is, at least as effective in conserving water as the State's updated model ordinance; and

WHEREAS, on May 12, 2010, the Planning Commission held a duly noticed public hearing on the proposed Municipal Code amendments, at which time written and verbal comments from the public were received, and continued the matter to June 9, 2010, and subsequently to July 7, 2010 at which it was presented the staff report, as well as written information and verbal comments from the public, regarding the need for the proposed code amendment and providing evidence in the record to support the Findings required by Section 16.58.080 of the City of Murrieta Municipal Code; and

WHEREAS, the Planning Commission considered and discussed the public comments and written information provided at the public hearing and voted to recommend that the City Council adopt the proposed Municipal Code amendment; and

WHEREAS, on September 7, 2010, the City of Murrieta City Council held a duly noticed public hearing on the proposed Municipal Code amendment and considered the Planning

Commission's recommendations as well as written information and verbal comments from City staff and the public regarding the proposed Development Code amendment; and

WHEREAS, the City Council directed changes be made to the proposed ordinance and continued the hearing to October 19, 2010; and

WHEREAS, the City Council makes the following findings in support of the proposed amendment to the Development Code as required by Development Code section 16.58.080:

1. The proposed amendment ensures and maintains internal consistency with all of the objectives, policies, general land uses, programs, and actions of all elements of the General Plan. The water efficient landscape design standards are addressed in the Conservation and Open Space ("COS") Element. Specifically, Goal COS-1 (Conserve and Manage water resources, which includes surface water, ground water, imported water supplies, and waste water). The proposed amendment is consistent with and implements the following objectives and policies of the General Plan COS Element as summarized: Policy COS-1.1a – Support and cooperate in management of water resources, including water conservation; Objective COS-1.3 – Protect and enhance the local groundwater supply; Objective COS-1.5 (Policy COS1.5a and d) Encourage the utilization of a reclaimed water supply; and Objective COS-1.6 – Water Conservation Practices, including Policy COS-1.6c – Require new construction and development to incorporate sound landscape design and management conserving water and energy. In addition, the proposed amendment maintains General Plan Policy LU-1.8c – Landscaping shall enhance the design quality of the development, contribute to community character and adequately provide such necessary functions as erosion control and screening
2. The proposed amendment would not be detrimental to the public convenience, health, safety, or general welfare of the City because the purpose of the proposed amendment is to protect the public convenience, health safety, or general welfare of the City by providing regulations to aid in the conservation of an essential natural resource, ensuring a sustainable future for the citizens of Murrieta. Any proposed project would still be subject to an environmental review and project review in accordance with State and City of Murrieta regulations.
3. The proposed amendment is in compliance with the provisions of the California Environmental Quality Act ("CEQA") because adoption of the Code amendment is exempt from environmental review under CEQA section 15307 (Actions by Regulatory Agencies for Protection of Natural Resources) because the activity assures the maintenance, restoration, enhancement, or protection of a natural resource by ensuring that water is conserved through more water-efficient landscaping practices; and CEQA section 15378(b)(2) as the activity is not a project as it involves general policy and procedure making; specifically, it involves the setting of policy with regard to the landscaping requirements of future development and does not propose or approve any specific landscaping project.
4. The proposed amendment is internally consistent with other applicable provisions of this Development Code.

NOW, THEREFORE, the City Council of the City of Murrieta, California, does ordain as follows:

SECTION 1: INTERIM ORDINANCE No. 431-10.

Interim Ordinance No. 431-10 is hereby rescinded as of the effective date of this ordinance.

SECTION 2: CODE AMENDMENT– Water Efficient Landscape.

Chapter 16.27 of Title 16 of the Murrieta Municipal Code titled Water Efficient Landscape is hereby repealed in its entirety.

SECTION 3: CODE AMENDMENT – Landscaping Standards.

Chapter 16.28 of Title 16 of the Murrieta Municipal Code currently titled Landscaping Standards is hereby amended to now be titled Landscaping Standards and Water Efficient Landscaping, and to read in its entirety as follows:

16.28.010 Purpose.

The purpose of this Chapter is to achieve the following:

- A. Enhance the appearance of all development by providing standards relating to the quality, quantity and functional aspects of landscaping and landscape screening;
- B. Protect public health, safety and welfare by minimizing the impact of all forms of physical and visual pollution, controlling soil erosion, screening incompatible land uses, preserving the integrity of neighborhoods and enhancing pedestrian and vehicular traffic and safety;
- C. Promote water efficient landscaping, water use management, and water conservation through the use of water efficient landscaping, wise use of turf areas and appropriate use of irrigation technology and management;
- D. Eliminate water waste from overspray and/or runoff;
- E. Achieve water conservation by raising the public awareness of the need for an effective management program through education and incentives;
- F. Assure the attainment of water-efficient landscape goals by requiring that landscapes not exceed a maximum water demand of seventy percent (70%) of its reference evapotranspiration (ET_o);
- G. Implement the requirements to meet the State of California Water Conservation in Landscaping Act 2006 and the California Code of Regulations Title 23, Division 2, Chapter 2.7;
- H. Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects; and
- I. Establish provisions for water management practices and water waster prevention.

16.28.020 Applicability.

A. This Chapter applies to:

1. New construction and rehabilitated landscapes with a landscape area equal to or greater than Two Thousand Five Hundred (2,500) square feet requiring a building or landscape permit, plan check, or design review for any of the following:
 - a. Public agency projects;
 - b. Developer-installed single-family and multi-family projects; or
 - c. Non-residential private development projects.
2. New construction landscapes that are homeowner-provided in single-family and multi-family residential projects with a total project landscape area equal to or greater than Five Thousand (5,000) square feet requiring a building or landscape permit, plan check or design review.
3. New construction and rehabilitated landscapes for non-residential private development projects involving discretionary permits and public agency projects with a landscape area equal to or less than Two Thousand Five Hundred (2,500) square feet requiring a building or landscape permit, plan check or design review, excepting the requirements related to irrigation audits pursuant to Section 16.28.050.C.2 and Section 16.28.090 B.
4. New and rehabilitated cemeteries, but solely as to Sections 16.28.060 A (Water Efficient Landscape Worksheet), 16.28.090 (Maintenance of Landscaping), and 16.28.100 (Enforcement of Landscaping Water Use Efficiency), and existing cemeteries, but solely as to Sections 16.28.090 B (Irrigation Audits) and 16.28.100 (Enforcement of Landscaping Water Use Efficiency).
5. All other existing landscapes, but solely as to Section 16.28.100 (Enforcement of Landscaping Water Use Efficiency).
6. This Chapter shall not be construed as requiring landscaping of common areas or open space that is intended to remain natural.

B. This Chapter does not apply to (except for prohibition against water waste as to Section 16.28.100.A):

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

16.28.030 Definitions.

For purposes only of Chapter 16.28, the terms used in this Chapter have the meaning set forth below:

- A. **Applied water** means the portion of water supplied by the irrigation system to the landscape.
- B. **Automatic irrigation controller** means 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. **Certificate of substantial completion** means the document required under Section 16.28.050 C 3.
- E. **Certified irrigation designer** means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program or the Irrigation Association's Certified Irrigation Designer program.
- F. **Certified landscape irrigation auditor** means a person certified to perform landscape irrigation 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 or the Irrigation Association's Certified Landscape Irrigation Auditor program.
- G. **Check valve** or **anti-drain valve** means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.
- H. **Conversion factor (0.62)** means the number that converts acre-inches per acre per year to gallons per square foot per year.
- I. **Director** means, for a project where the applicant is a public entity, the director of the Community Services Department and, where the applicant is other than a public entity, the planning director.
- J. **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.
- K. **Established landscape** means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.
- L. **ET adjustment factor** or **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.

- M. **Evapotranspiration** means the process by which a quantity of water evaporates from adjacent soil and other surfaces and is transpired by plants during a specified time.
- N. **Hardscapes** means any durable material (pervious and non-pervious).
- O. **Homeowner-provided landscaping** means any landscaping either installed by a homeowner for a single family residence or installed by a licensed contractor hired by a homeowner. A homeowner, for purposes of this Chapter, is a person who occupies the dwelling he or she owns. This excludes speculative homes, which are not owner-occupied dwellings.
- P. **Hydrozone** means a portion of the landscaped area having plants with similar water needs that are served by one irrigation valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated.
- Q. **Invasive species** means non-indigenous species (e.g., plants or animals) that adversely affect the habitats they invade economically, environmentally, or ecologically and includes those species listed within the Western Riverside County Multi-Species Habitat Conservation Plan as such plan may be amended from time to time, and any invasive species identified as such by the City.
- R. **Irrigation audit** means an in-depth evaluation of the performance of an irrigation system conducted by a certified landscape irrigation auditor. An irrigation audit includes, but is not limited to: inspection, system tune-up, system test with distribution uniformity or emission uniformity, reporting overspray or runoff that causes overland flow, and preparation of an irrigation schedule.
- S. **Licensed landscape architect** means a person who holds a license to practice landscape architecture in the State of California pursuant to the California Business and Professions Code section 5615.
- T. **Landscape area** or **LA** means all the planting areas, turf areas, and water features in a landscape design plan subject to the maximum applied water allowance calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation). Landscape area includes special landscape areas as defined in section 16.28.020 GG.
- U. **Landscape contractor** means a person licensed by the State of California to construct, maintain, repair, install, or subcontract the development of landscape systems.
- V. **Local water purveyor** means any entity, including a public agency, city, county, or private water company that provides retail water service.
- W. **Low volume irrigation** means the application of irrigation water at low pressure through a system of tubing or lateral lines and low-volume emitters such as drip, drip lines, and bubblers. Low volume irrigation systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

- X. **Maximum Applied Water Allowance** or **MAWA** means the upper limit of annual applied water for the established landscaped area calculated using the formula provided in section 16.28.060 A 3.
- Y. **Mulch** means any material placed on the soil to conserve soil moisture, moderate soil temperature, prevent soil erosion and/or prevent weed growth, including such materials as bark, wood chips, rock, gravel, decomposed granite, or other suitable material.
- Z. **Overspray** means the irrigation water which is delivered beyond the target area.
- AA. **Pervious** means any surface or material that allows the passage of water through the material and into the underlying soil.
- BB. **Plant factor** means a value that, when multiplied by ETo, estimates the amount of water needed by plants. 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 pursuant to the requirements of this Chapter shall be derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species" as the same may be amended from time to time.
- CC. **Recycled water** means any kind of treated, reclaimed, or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and water features. This water is not intended for human consumption.
- DD. **Reference evapotranspiration** or **ETo** means a standard measurement of environmental parameters which affect the water use of plants and is 55.0 for purposes of Chapter 16.28.
- EE. **Rehabilitated landscape** means any re-landscaping project that requires a permit, plan check, or design review, meets the applicability requirements of section 16.28.020, and the modified landscape area is equal to or greater than Two Thousand Five Hundred (2,500) square feet.
- FF. **Runoff** means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.
- GG. **Special landscape area** or **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 natural turf provides a playing surface.
- HH. **Synthetic Turf** means an artificial product manufactured from synthetic materials that effectively simulate the appearance of natural turf, grass, sod, or lawn. The use of indoor or outdoor plastic or nylon carpet as a replacement of synthetic turf or natural turf shall be prohibited.
- II. **Water feature** means a design element where open water performs an aesthetic or recreational function. Water features include ponds, lakes, waterfalls, fountains, artificial

streams, spas, and swimming pools (where water is artificially supplied). The surface area of water features is included in the high water use hydrozone of the landscape area. Constructed wetlands used for on-site wastewater treatment or stormwater best management practices that are not irrigated and used solely for water treatment or stormwater retention are not water features and, therefore, are not subject to the water budget calculation.

JJ. **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 as the same may be amended from time to time.

16.28.040 General Provisions.

- A. All landscape plan approvals are subject to and dependent upon the applicant complying with all applicable city ordinances, codes, regulations, and adopted policies.
- B. If the water purveyor for a proposed project has adopted more restrictive water efficient landscaping requirements, all landscaping and irrigation plans submitted shall comply with the water purveyor's requirements. Said plans shall be accompanied by a written document from the water purveyor delineating the more restrictive requirements.
- C. Landscape design shall facilitate the implementation of landscape maintenance practices which foster long-term water conservation and plant viability. These practices may include, but not be limited to, scheduling irrigation based on established industry standards, conducting irrigation audits and establishing a water budget to limit the amount of water applied per landscape acre.
- D. Landscaping for fuel modification zones shall be subject to standards required by the City's Fire Department, and they shall include plant materials, plant spacing, and irrigation as directed by the Fire Department, in consultation with the Community Development Department, and/or Community Services Department.
- E. Landscaping adjacent to the Western Riverside County Multi-Species Habitat Conservation Plan ("MSHCP") conservation areas shall avoid invasive species as listed in the MSHCP.
- F. To the extent feasible, existing mature trees that represent the existing significant landscaping elements shall be preserved as identified in Chapter 16.42 (Tree Preservation).
- G. In the event Covenants, Conditions, and Restrictions are required by the City for any permit subject to this Chapter, a condition shall be incorporated into any project approval prohibiting the use of water-intensive landscaping and requiring the use of low water use landscaping pursuant to the provisions of this Chapter in connection with common area/open space landscaping. Additionally, such a condition shall also require the Covenants, Conditions, and Restrictions to incorporate provisions concerning landscape irrigation system management and maintenance. Covenants, Conditions, and Restrictions shall not prohibit use of low-water use plants. Covenants, Conditions, and Restrictions shall not prohibit the replacement of natural turf with less water-intensive plant species.

16.28.050 Procedures.

The following required landscape and irrigation plans shall be submitted and reviewed in accordance with the applicable Development Code review procedures for the permit, map or other land use entitlement requested.

A. **Landscape Concept Plan.** A landscape concept plan shall be submitted as part of an application for a land use entitlement. The land use entitlement application shall not be deemed complete without a complete Landscape Concept Plan.

1. The Landscape Concept Plan shall provide a design layout that demonstrates the desired landscaping program for the project in terms of location, size/scale, function, theme, and similar attributes.
2. The Landscape Concept Plan shall provide the review authority with a clear understanding of the landscaping program prior to the preparation of detailed construction landscape and irrigation plans.

B. **Landscape Documentation Package.** After discretionary land use entitlement approval and prior to the issuance of a building permit for a project, a landscape documentation package (as further described in Section 16.28.060) shall be prepared for the project and submitted for review and approval by the director.

A licensed landscape architect shall sign all documents and plans required as part of the landscape documentation package verifying compliance with this Chapter. Any plans submitted without the signature of a licensed landscape architect shall not be accepted for review. Homeowner provided landscape projects may be designed by any person authorized to design a landscape in accordance with State law.

C. **Completion, Irrigation Audit, Certificate of Substantial Completion and Security.** Prior to the issuance of a certificate of use and occupancy or final inspection, the applicant shall:

1. Complete installation of landscaping and irrigation components.
2. Conduct and submit an irrigation audit as further described in Section 16.28.090 B, which shall be conducted by a certified landscape irrigation auditor prior to the final field observation. See State of California Landscape Irrigation Auditor Handbook.
3. Prepare and submit to the City a certificate of substantial completion which shall be prepared, signed and certified by a licensed landscape architect following a field observation conducted by a landscape architect or landscape contractor, certified irrigation designer, or other licensed or certified professional in a related field. Such certification shall indicate:
 - a. All plant materials and irrigation system components have been installed in accordance with the approved final landscape and irrigation plans;

- b. The automatic irrigation controller has been set according to the irrigation schedule;
 - c. The irrigation system has been adjusted to maximize irrigation efficiency and eliminate overspray and runoff; and
 - d. That a copy of the irrigation and maintenance schedule has been given to the property owner and placed in the irrigation controller enclosure after lamination.
4. Deliver a copy of the certification of substantial completion to the retail water supplier, and the property owner of record.
5. All landscape projects, except for developer and homeowner-installed single family residential landscaping, and other landscapes as determined by the Director, shall post performance securities to guarantee the adequate maintenance of the landscaping and irrigation system in accordance with the approved plans for a period of one (1) year from the date of occupancy subject to the following requirements:
- a. The security amount and agreement shall be posted with the Planning Department.
 - b. The performance securities shall be released one (1) year after final clearance of the installed landscaping by the City, upon written request by the owner, if the landscaping has been adequately maintained. The Director shall determine the condition of the landscaping and whether the bond will be released. A deposit to cover re-inspection of the landscape, at the current city rate shall be posted prior to re-inspection for maintenance bond release.
- D. The director shall have the right to enter upon the project site at any time before, during and after installation of the landscaping to conduct inspections for the purpose of enforcing this Chapter.

16.28.060 Landscape Documentation Package.

A landscape documentation package shall be prepared following approval of the land use entitlement application by the review authority and shall be comprised of the following elements, each as further described below: a water efficient worksheet, a landscape design plan, an irrigation design plan, a grading design plan, and a soil management report.

A. Water Efficient Landscape Worksheet.

- 1. A water efficient landscape worksheet contains two components:
 - a. A hydrozone information table; and
 - b. A water budget calculation for the landscape project which includes estimated annual water use (in hundred cubic feet per year (ccf/yr)), the

area (in square feet) to be irrigated, and precipitation rates for each valve circuit.

2. A project's water budget calculations shall adhere to the following requirements:
 - a. The plant factor used shall be from WUCOLS. The plant factor ranges from 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 surface area of water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
 - c. All special landscape areas shall be identified and their water use calculated as described below.
 - d. ETAF for special landscape areas shall not exceed 1.0.
3. A project's MAWA shall be calculated using the following formula:

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

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration (inches per year) (55.0 for Murrieta)

0.62 = Conversion Factor (to gallons)

0.7 = ET Adjustment Factor (ETAF)

LA = Landscape Area including SLA (square feet)

0.3 = Additional Water Allowance for SLA

SLA = Special Landscape Area (square feet)

Sample Calculation

(50,000 sq. ft. project with no special landscaped area in Murrieta):

$$\begin{aligned} \text{MAWA} &= (55.0 \text{ inches}) (0.62) [(0.7 \times 50,000 \text{ square feet}) + (0.3 \times 0)] \\ &= 1,193,500 \text{ gallons per year} \end{aligned}$$

To convert from gallons per year to hundred cubic feet per year:

$$1,193,500 / 748 = 1,596 \text{ hundred cubic feet per year}$$

(100 cubic feet = 748 gallons)

4. A project's estimated total water use shall be calculated using the equation below. The sum of the estimated total water use calculated for all hydrozones shall not exceed MAWA.

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

Where:

ETWU = Estimated Total Water Use per year (gallons)

ETo = Reference Evapotranspiration (inches) (55.0 for Murrieta)

PF = Plant Factor from WUCOLS

- 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 0.71)

B. Landscape Design Plan. Projects subject to these regulations shall comply with the following plant and irrigation requirements:

1. **Plant and Materials Requirements.** Consistent with the landscape standards established in Section 16.28.080, plant and material selections shall comply with the following:
 - a. The applicant shall choose and group plant species with similar water demands to facilitate efficient irrigation. Estimated total water use in the landscape area shall not exceed the maximum applied water allowance.
 - b. To encourage the efficient use of water, the following is highly recommended:
 - (1) Selection of water-conserving plant and natural turf species; and
 - (2) Selection of plants based on disease and pest resistance.
 - c. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use.
 - d. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:
 - (1) Use the Sunset Western Climate Zone System, or approved equal, 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 (i.e., buildings, sidewalks, power lines); and
 - (3) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
 - e. Soil amendments such as compost shall be provided to improve water holding capacity of soil where soil conditions warrant. No sewage sludge shall be allowed. All fertilizers and soil amendments shall consist of organic materials.
 - f. All exposed surfaces of non-turf areas within the developed landscape area shall be mulched with a minimum four (4) inch layer of material

except in areas with groundcover planted from flats. In this instance, the mulch depth shall be a minimum of two (2) inches of approved material.

- g. Mulch shall be used to stabilize slopes.
- h. Natural turf areas shall be used in response to functional needs and in compliance with the approved project water budget.
- i. Plant selection 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 sections 4291(a) and (b). Fire-prone plant materials and highly flammable mulches shall be avoided.
- j. Invasive species of plants shall be avoided especially near parks, buffers, greenbelts, water bodies, and open spaces because of their potential to cause harm to environmentally sensitive areas.
- k. Decorative water features shall use recirculating water systems.
- l. Where available, recycled water shall be used as the source for irrigation and decorative water features.
- m. Water quality management plan best management practices that affect the landscaping shall be identified on the detailed construction landscape plans (i.e., swales, permeable paving, sub-grade tanks).

2. **Minimum Design Plan Detail.** The landscape design plan shall be prepared by a licensed landscape architect (homeowner provided landscaping projects may also use any other person authorized to design a landscape in accordance with State law) using water budget calculations described in Section 16.28.060 A 2, and, at a minimum, shall:

- a. Delineate and label each hydrozone by number, letter, or other method; identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation;
- b. Identify recreational areas;
- c. Identify areas permanently and solely dedicated to edible plants;
- d. Identify areas irrigated with recycled water;
- e. Identify type of mulch and application depth;
- f. Identify soil amendments, type, and quantity;
- g. Identify type and surface area of water features;

- h. Identify hardscapes (pervious and non-pervious);
- i. Identify location of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
 - (1) Infiltration beds, swales, and basins that allow water to collect and soak into the ground;
 - (2) Constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
 - (3) Pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.
- j. Identify any applicable rain harvesting or catchment technologies; and
- k. Contain the following certification from the landscape architect: "I have complied with the criteria established in Chapter 16.28 of the Murrieta Municipal Code and applied them for the efficient use of water in the landscape design plan."

C. **Irrigation Design Plan.** The Irrigation Design Plan shall be prepared by a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system in accordance with State law and shall include system design and hydrozones that are consistent with planting plan requirements that outline a project's equivalent water demand and irrigation efficiency.

- 1. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average irrigation efficiency of 0.71.
- 2. All irrigation systems shall be designed to prevent runoff, over-spray, low-head drainage and other similar conditions where water flows off-site on to adjacent property, non-irrigated areas, walk, roadways, or structures. Irrigation systems shall be designed, constructed, managed, and maintained to achieve as high an overall efficiency as possible. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
- 3. Landscaped areas shall be provided with an automatic irrigation controller, which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions unless the use of the property would otherwise prohibit use of a timer. The planting areas shall be grouped in relation to moisture-control zones based on similarity of water requirements (i.e., turf separate from shrub and groundcover, full sun exposure areas separate from shade areas, top of slope separate from toe of slope). Additional water conservation technology may be required, where necessary, at the discretion of the Community Development Director, or designee.

4. Water systems for common open space areas shall use non-potable water, if approved facilities are made available by the water purveyor. Provisions for the conversion to a non-potable water system shall be provided within the landscape plan. Water systems designed to utilize non-potable water shall be designed to meet all applicable standards of the California Regional Water Quality Control Board, the Riverside County Health Department, and the water purveyor.
5. Separate valves shall be provided for separate water use planting areas, so that plants with similar water needs are irrigated by the same irrigation valve. All installations shall rely on highly efficient state-of-the-art irrigation systems to eliminate runoff, and maximize irrigation efficiency.
6. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at the installation.
7. The capacity of the irrigation system shall not exceed:
 - a. The capacity required for peak water demand based on water budget calculations;
 - b. Meter capacity; and
 - c. Backflow preventer type and device capacity.
8. Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer.
9. In mulched planting areas, the use of low-volume irrigation is required to maximize water infiltration into the root zone.
10. Non-turf areas shall be irrigated with drip irrigation.
11. Long, narrow, or irregularly-shaped areas including turf less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low-volume irrigation technology.
12. Overhead irrigation shall not be permitted within twenty-four (24) inches of any non-permeable surface, unless:
 - a. The landscape area is adjacent to permeable surfacing and no runoff to the public right of way or storm drain system occurs; or
 - b. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping area.
 - c. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology.
13. Overhead irrigation shall be limited to the hours of 8 p.m. to 9 a.m.

14. All irrigation systems shall be equipped with the following:
 - a. A automatic irrigation controller;
 - b. A rain sensing device to prevent irrigation during rainy weather;
 - c. Anti-drain valves or check valves installed at strategic points to minimize or prevent low-head drainage;
 - d. A manual shut-off 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 or routine repair;
 - e. A pressure regulator when the static water pressure is above or below the recommended operating pressure of the irrigation system; and
 - f. Backflow prevention devices.
15. Dedicated landscape meters shall be required for all projects greater than Two Thousand Five Hundred (2,500) square feet, except single-family residences.
16. Irrigation Design Plans shall identify and site the following:
 - a. Hydrozones;
 - b. Each hydrozone shall be designated by number, letter, or other designation;
 - c. A hydrozone information table shall be prepared for each hydrozone;
 - d. The areas irrigated by each valve;
 - e. Irrigation point of connection ("POC") to the water system;
 - f. Static water pressure at POC;
 - g. Location and size of water meter(s), service laterals, and backflow preventers;
 - h. Location, size, and type of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads and nozzles, pressure regulator, drip and low volume irrigation equipment;
 - i. Total flow rate (gallons per minute), and design operating pressure (psi) for each overhead spray and bubbler circuit, and total flow rate (gallons per hour) and design operating pressure (psi) for each drip and low volume irrigation circuit;
 - j. Precipitation rate (inches per hour) for each overhead spray circuit;

- k. Irrigation legend with the manufacturer name, model number, and general description for all specified equipment, separate symbols for all irrigation equipment with different spray patterns, spray radius, and precipitation rate;
 - l. Irrigation system details for assembly and installation;
 - m. Recommended irrigation schedule for each month, including number of irrigation days per week, number of start times (cycles) per day, minutes of run time per cycle, and estimated amount of applied irrigation water, expressed in gallons per month and gallons per year, for the established landscape; and
 - n. Irrigation design plans shall contain the following statement, "I agree to comply with the criteria contained in Chapter 16.28 of the Murrieta Municipal Code and to apply them for the efficient use of water in this irrigation design plan."
17. For each valve, two (2) irrigation schedules shall be prepared, one for the initial establishment period of six (6) months and one for the established landscape, which incorporate the specific water needs of the plants and turf throughout the calendar year.
18. The irrigation design plan (Section 16.28.060 C) and the landscape design plan (Section 16.28.060 B) shall be drawn to the same size and scale.
- D. **Grading Design Plan.** The grading design plan shall be drawn on base sheets, be fully dimensioned, and include information specified below.
- 1. Indicate finished configurations and elevations of the landscaped area, including the height of graded slopes, drainage patterns, pad elevations, and finish grade.
 - 2. Include rough/precise grade elevations prepared in accordance with Chapter 15.52 (Grading, Erosion and Sediment Control) of the Murrieta Municipal Code for the project by a licensed civil engineer.
- E. **Soil Management Report.** A Soil Management Report shall be prepared based upon soils analysis and shall include recommendations for soil preparation for the project approved plant material, in accordance with the following:
- 1. Soils sampling and analysis shall be conducted by a certified soils analysis laboratory and in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
 - 2. The soils analysis shall 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. Nutrients-macro;
 - g. Nutrients-micro;
 - h. Percent organic matter; and
 - i. Soil preparation recommendations.
3. 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 plans.
 4. The applicant shall submit documentation verifying implementation of Soil Management Report recommendations to the local agency with certificate of substantial completion.

16.28.070 Landscape Area Requirements.

A. General Requirements. Landscaping shall be provided as follows:

1. **Setbacks.** All setback and open space areas required by this Development Code shall be landscaped, except where a required setback is occupied by a sidewalk or driveway, or where a required setback is screened from public view and it is determined by the director that landscaping is not necessary to fulfill the purposes of this Chapter.
2. **Unused Areas.** All areas of a project site shall be landscaped unless it is determined by the director. The director shall determine the level or intensity of landscaping to be provided for vacant areas based on an approved phasing plan. Landscaping within vacant pad sites shall not be counted towards meeting the landscape area requirements of this Section.
3. **Parking Areas.** Parking areas shall be landscaped in compliance with Chapter 16.34 (Off-Street Parking and Loading Standards). Parking lot landscaping, including perimeter screening, may be counted in order to meet the landscape area requirements of this Section.

B. Zoning District Landscaping Requirements. Each land use shall provide and maintain landscaped areas in compliance with Table 3-4 for the applicable zoning district. The landscape area requirements identified in the following table (Table 3-4) may include setback areas and other unused areas of the site that are not intended for future use. Parking lot landscaping may be counted towards meeting the requirements of this Section.

**TABLE 3-4
MINIMUM LANDSCAPED AREA BY ZONING DISTRICT**

Zoning District	Minimum % of Site Area Required to be Landscaped
MF-1, MF-2	Ten (10) percent
NC, PC, BP, MU-2	Fifteen (15) percent
RC, CC, RRC, MU-3	Twenty (20) percent
GI	Five (5) percent
RR, ER-1, ER-2, ER-3, SF-1, SF-2	Twenty-five (25) percent of front yard area

C. Single Family Residential Requirements. New single-family developments and custom homes shall provide landscaping with an automatic irrigation system for the area of the site between the street curb and the front of the structure from side property line to side property line. The landscape design should include a combination of trees, shrubs, groundcover, mulch, and hardscape, and shall emphasize water-conserving plant materials and irrigation to the greatest extent feasible.

1. Front yard landscaping shall be provided in all residential zoning districts. The minimum landscaped area should be located within the front yard setback, whenever possible, as identified in Table 3-4.
2. A minimum of one (1) street tree (24"-box) forty (40) feet on center (two [2] feet on private side of property) and two (2) shade trees (15-gallon) on the property shall be provided. Corner lots shall provide a minimum of three shade trees (15-gallon minimum).
3. Front yard landscaping shall also include a variety of drought-tolerant shrubs, ground cover, and planting at a minimum of ten (10) 5-gallon size shrubs and twelve (12) 1-gallon size shrubs. The quantity of shrubs and groundcover may be adjusted due to irregular lot size (i.e. cul de sac lots, flag lots), subject to the director's determination.
4. For purposes of this section, landscape area shall consist of a variety of plantings and hardscape that should be selected and provided appropriately for their intended use and as an integral part of the overall project design.
5. Synthetic turf may be incorporated as an element of a landscaping plan as a substitute for natural turf and for the purposes of water conservation. The Community Development Director shall review and approval all requests to install synthetic turf subject to the following criteria:
 - a. Synthetic turf shall consist of lifelike individual blades of grass that emulate real grass in look and color and have a minimum pile height of 1 ½ inches. The use of indoor or outdoor plastic or nylon carpeting as a substitute for synthetic turf or natural turf is prohibited.

- b. Synthetic turf shall be permitted only in combination with other live plant materials (i.e. trees, shrubs, and groundcovers) that are designed to achieve an overall natural landscaped appearance for the property.
 - c. In no case shall synthetic turf be used in combination with natural turf in the same landscape areas, or in a landscaping scheme where both elements can be viewed together.
 - d. Property drainage shall be provided for all synthetic turf installations to prevent excess runoff or pooling of water. In some cases, a drainage plan prepared by a Registered Civil Engineer may be required.
 - e. Synthetic turf shall be installed in a professional manner and routinely maintained to effectively simulate the appearance of a well-maintained lawn.
 - f. Synthetic turf shall not be included as part of the landscape area when calculating the MAWA.
6. Residential Model Home Requirements. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this Chapter.
- a. Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme.
 - b. Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

D. Hardscaping.

- 1. Hardscaped materials may be allowed as a portion of the minimum required landscaping in Table 3-4. The requirements in Table 3-4 may be reduced by up to twenty-five (25) percent for projects of fifteen (15) acres or larger that include enhanced hardscape materials, and shall include public art, sculpture and/or water features. The hardscape shall be stone or masonry, and shall provide a distinctively different visual appearance from the normal paved and concrete surfaces of the project. The hardscape materials shall be used in areas of pedestrian circulation, seating areas, pedestrian corridors crossing driveways, at project entries and in similar locations within a project site. The use of permeable materials that provide a varied visual appearance is highly encouraged.
- 2. This condition shall apply to all commercial and industrial projects over fifteen (15) acres. For the purposes of this Section, "public art" shall mean the creation of an original work including but not limited to earthworks, mosaics, murals and sculptures. For the purposes of this Section, "water feature" shall include but is not limited to fountains or pools designed as an architectural feature.

3. The minimum standard of performance shall be that the public art and water feature components shall have a value of not less than one (1) percent of the Building Permit valuation. Prior to issuance of the Building Permit, the proposed public art and/or water feature shall be approved by the Planning Commission.

16.28.080 Landscape Standards.

Landscape areas and materials shall be designed, installed, and maintained in compliance with the following:

A. General Design Standards. The following features shall be incorporated into the design of the proposed landscape and shown on required landscape plans:

1. Landscaping shall be planned as an integral part of the overall project design and not simply located in excess space after parking areas and structures have been planned;
2. Pedestrian access to sidewalks and structures shall be considered in the design of all landscaped areas;
3. Landscape planting shall be provided for all adjacent public rights-of-way, in compliance with Chapter 16.108 (Improvements);
4. With the exception of single-family residential units, landscape adjacent to driveways and parking areas shall be protected from vehicle damage through the provision of minimum six (6) inch high concrete curbs or other types of barriers as approved by the director;
5. Landscaped areas shall not be less than five (5) feet in width, except where determined by the director;
6. Concrete strips, a minimum of four (4) inches in width, shall be provided to separate all turf areas from other landscaped areas, except for single-family residential landscape projects;
7. Permeable surfaces shall be used wherever permissible in place of impervious paving, to encourage on-site water infiltration and support water conservation measures. Permeable surfaces shall be identified on plans; and
8. Protective tree grates shall be provided for trees planted in pedestrian areas, except for single-family residential landscape projects and as determined by the director.

B. Plant Materials. Plant materials shall be selected and installed to comply with the following requirements:

1. A mix of plant materials shall be provided in compliance with the following table (Table 3-5). Calculations documenting the required mix shall be shown on the landscape plan;

**TABLE 3-5
MINIMUM REQUIRED MIX OF PLANT MATERIALS**

Plant Material	Minimum Required Percentage
Trees	
Twenty-four (24) inch box	35%*
Fifteen- (15-) gallon	65%
Shrubs	
Five- (5-) gallon	70%
One- (1-) gallon (herbaceous only) with City approval	30%
Groundcover	
Coverage within two (2) years	100%

* A greater percentage of specimen trees may be utilized with a corresponding reduction in the number of fifteen (15) gallon trees subject to the review of the director.

2. Trees for shade shall be provided for buildings/structures, as well as for parking lots and open space areas. These trees can be deciduous or evergreen and are to be incorporated to provide natural cooling opportunities for the purpose of energy and water conservation;
3. Trees shall be planted in areas of public view adjacent to and along structures, at an equivalent of at least one (1) tree per thirty (30) linear feet of structure. Other areas shall provide trees at a ratio of one (1) tree for each three hundred (300) square feet of landscaped area. The clustering of trees is encouraged;
4. Mature specimen trees in thirty-six (36) inch and forty-eight (48) inch boxes shall be provided for large projects in sufficient quantity subject to the approval of the director, to provide variety and emphasis at main focal areas;
5. All trees shall be staked or guyed (on a case-by-case basis) subject to the review of the director and in compliance with City standards;
6. Trees and shrubs shall be planted so that at maturity they do not interfere with service lines and traffic safety sight areas;
7. Trees and shrubs shall be planted and maintained in a manner that protects the basic rights of adjacent property owners, particularly the right to solar access;
8. Trees planted near public sidewalks or curbs shall be of a species and installed in a manner that prevents physical damage to sidewalks, curbs, gutters and other public improvements; and
9. Groundcover shall be of live plant material. Limited quantities of gravel, colored rock, bark, and similar materials may be used in combination with a living groundcover.

16.28.090 Maintenance of Landscaping.

- A. **Maintenance.** Landscapes shall be maintained to ensure water use efficiency. An annual landscape maintenance schedule shall be prepared and submitted with the Certificate of Completion and provided to the property owner and director. The maintenance schedule shall identify plant types (i.e., turf, shrubs, groundcover, trees, etc.), mulch and/or inorganic groundcover, and shall indicate the frequency of pruning and fertilizer applications by plant type and the replenishment of mulch.

Maintenance of approved landscaping shall consist of regular watering, mowing, pruning, fertilizing, clearing of debris and weeds, monitoring for pests and disease, the removal and timely replacement of dead plants, and the repair and timely replacement of irrigation systems and integrated architectural features.

Repair of irrigation equipment shall be done with originally specified material or their equivalent.

- B. **Irrigation Audits.** New or rehabilitated landscape areas, subject to the provisions of this Chapter, shall be subject to an irrigation audit. The irrigation audit shall include inspection of plant materials and irrigation systems in accordance with the State of California Landscape Water Management Program, as described in the Landscape Irrigation Auditors Handbook (latest edition).

Irrigation audits will be coordinated with the water purveyor and shall be conducted by a certified landscape irrigation auditor.

16.28.100 Enforcement of Landscaping Water Use Efficiency.

- A. **Prohibition Against Wasteful and Inefficient Use of Water.** It is hereby declared that the willful and knowing waste of water from inefficient landscape irrigation shall be a public nuisance. It shall be unlawful for any firm, corporation, person, or persons to knowingly allow water waste resulting from inefficient landscape irrigation runoff leaving the target landscape due to low head drainage, overspray, or other similar conditions in which water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures.

Restrictions regarding overspray and runoff may be modified if:

1. The landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping.

- B. **Enforcement.** The City will rely on water purveyors to enforce landscape water use efficiency requirements for existing landscaping. The City shall coordinate with local water purveyors and identify programs that enhance and encourage landscape water use efficiency, which shall apply to existing and new landscaping, such as:

1. Tiered water rate structure;

2. Allocation-based conservation water pricing structure;
3. A rate structure at least as effective as the above options;
4. Irrigation audits and/or irrigation surveys; or
5. Penalties for water waste.

Nothing in this section shall preclude City's authority to enforce violation of provisions of Chapter 16.28 as provided in Chapter 16.84 (Enforcement Provisions) of the Development Code.

SECTION 4: EFFECTIVE DATE.

This ordinance shall take effect thirty (30) days after its adoption.

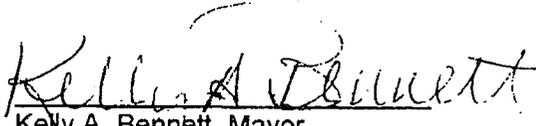
SECTION 5: SEVERABILITY.

If any provision of this ordinance or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications, and to this end the provisions of this ordinance are declared to be severable.

SECTION 6: NOTICE OF ADOPTION.

The City Clerk shall certify to the adoption of this ordinance and shall publish a summary of this ordinance and post a certified copy of the full ordinance in the office of the City Clerk at least five (5) days prior to the adoption of the proposed ordinance; and within fifteen (15) days after adoption of the ordinance, the City Clerk shall publish a summary of the ordinance with the names of the council members voting for and against the ordinance.

ADOPTED by the City Council, signed by the Mayor, and attested by the City Clerk this 16th day of November, 2010.


Kelly A. Bennett, Mayor

ATTEST:


A. Kay Vinson, City Clerk

APPROVED AS TO FORM:


Leslie E. Devaney, City Attorney

I, A. Kay Vinson, City Clerk of the City of Murrieta, California, hereby certify under penalty of perjury that the foregoing Ordinance was duly and regularly introduced at a meeting of the City Council on the 19th day of October, 2010, and that thereafter the said Ordinance was duly and regularly adopted at a regular meeting of the City Council on the 16th day of November, 2010, by the following vote, to-wit:

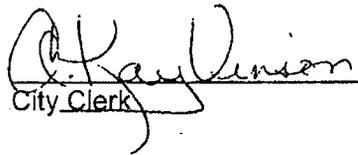
AYES: Bennett, Gibbs, Lane, McAllister, Thomasian

NOES: None

ABSENT: None

ABSTAIN: None

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the City of Murrieta, California, this 16th day of November, 2010.



City Clerk

