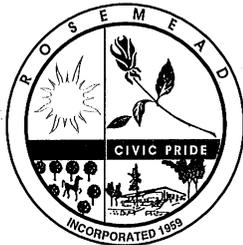


MAYOR:
MARGARET CLARK

MAYOR PRO TEM:
GARY TAYLOR

COUNCIL MEMBERS:
SANDRA ARMENTA
POLLY LOW
STEVEN LY



City of Rosemead

8838 E. VALLEY BOULEVARD • P.O. BOX 399
ROSEMEAD, CALIFORNIA 91770
TELEPHONE (626) 569-2100
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January 4, 2010

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

Subject: City of Rosemead Water Efficient Landscape Ordinance and Technical Guidelines

Dear Mr. Eching:

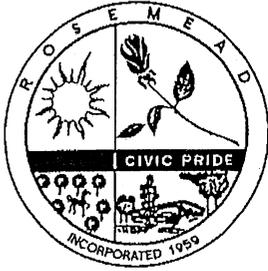
In accordance with the Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881, Laird), the City of Rosemead City Council approved Ordinance No. 885 amending Chapter 13.08 of the Rosemead Municipal Code to establish Water Efficiency Landscape Regulations on December 8, 2009. This ordinance will become effective on January 7, 2010. Enclosed in this letter is a copy of the staff report, adopted ordinance, and guidelines.

Please feel free to contact me if you have any questions regarding this matter. Rosemead City Hall is open from 7:00 a.m. to 6:00 p.m., Monday through Thursday. City Hall is closed on Fridays.

Sincerely,

Sheri Bermejo
Principal Planner

Enclosure(s)



ROSEMEAD CITY COUNCIL STAFF REPORT

TO: THE HONORABLE MAYOR AND CITY COUNCIL

FROM: JEFF ALLRED, CITY MANAGER 

DATE: NOVEMBER 17, 2009

SUBJECT: MUNICIPAL CODE AMENDMENT 09-02, AMENDING CHAPTER 13.08 OF THE ROSEMEAD MUNICIPAL CODE (WATER EFFICIENT LANDSCAPING REGULATIONS) TO COMPLY WITH STATE ASSEMBLY BILL 1881

SUMMARY

The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881, Laird) requires local agencies to adopt landscape water conservation ordinances by January 1, 2010. Pursuant to this law, the Department of Water Resources (DWR) has prepared a Model Water Efficient Landscape Ordinance (Model Ordinance) for use by local agencies. The State's Model Ordinance has been attached as Exhibit "A." Local agencies may adopt the Model Ordinance, or create an ordinance to fit local conditions that is "at least as effective" as the Model Ordinance in regards to water conservation. Each local agency has until January 31, 2010, to either notify DWR that it has adopted the state's Model Ordinance; or submit to DWR a copy of its adopted water efficient landscape ordinance.

Municipal Code Amendment 09-02 is a City initiated amendment that proposes to amend Chapter 13.08 of the Rosemead Municipal Code (Water Efficient Landscaping Regulations) to comply with Assembly Bill 1881. The proposed Water Efficient Landscape Ordinance (Ordinance 885) and associated guidelines (Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance) have been attached as Exhibits "B" and "C," respectively. The proposed ordinance and guidelines will support the City's Water Conservation Ordinance as well as comply with State regulations.

On November 2, 2009, the Planning Commission was presented with this issue and adopted Resolution No. 09-21 recommending approval of the ordinance to the City Council. The Planning Commission staff report, Resolution No. 09-21, and draft meeting minutes have been attached to this report (Exhibits "D" through "F" respectively).

ITEM NO. 6C

Staff Recommendation

Staff recommends that the City Council make the determination that the project is exempt from the California Environmental Quality Act (CEQA) per Section 15307 (14 Cal. Code Regs., § 15307), and introduce Ordinance No. 885 (Attachment A) for first reading, approving Municipal Code Amendment 09-02, modifying Chapter 13.08 of the Rosemead Municipal Code with respect to water efficient landscaping regulations.

ANALYSIS

The proposed Ordinance will, among other things, allow the City to retain its control over the water efficient landscape matters. It has been drafted to ensure as much simplicity, efficiency, and flexibility as possible.

If adopted by the City Council, the Ordinance will apply to the following landscape projects beginning January 1, 2010:

1. New landscape installations or landscape rehabilitation projects by public agencies or private non-residential developers, except for cemeteries, with a landscaped area, including water features but excluding hardscape, equal to or greater than 2,500 square feet;
2. New landscape installations or landscape rehabilitation projects by developers or property managers of single-family and multi-family residential projects or complexes with a landscaped area, including water features but excluding hardscape, equal to or greater than 2,500 square feet; and
3. New landscape installations that are homeowner-installed, including homeowner-hired, in single-family or multi-family residential lots with a total project landscaped area equal to or greater than 5,000 square feet.

The cornerstone of the proposed City of Rosemead Water Efficient Landscape Ordinance and Guidelines is a self-certification process that will streamline the permitting process and reduce costs for applicants and the City. The self-certification includes two steps. First, the landscape designer will sign a Certification of Design, which includes their license number and/or professional stamp, stating that the landscape design is in conformance with the city ordinance and guidelines. The permit will not be issued unless the Landscape Documentation Package is complete, including this certification. Second, once construction of the landscape is complete, the installation contractor or designer will sign the Landscape Installation Certificate of

Completion stating that the installation is complete and is in substantial conformance with the original plan. Once the Landscape Installation Certificate of Completion is accepted by the city, the permit will be completed.

The Landscape Documentation Package proposed will include the following elements to be submitted by the project applicant for permit issuance:

1. Project Information Summary
2. Water Efficient Landscape Worksheet
3. Soil Management Plan
4. Landscape Design Plan
5. Irrigation Design Plan
6. Grading Design Plan
7. Certification of Landscape Design

The Landscape Installation Certificate of Completion package will include:

1. Certification that the project was constructed per the approved plans;
2. Irrigation scheduling parameters used to set the controller;
3. Landscape and irrigation maintenance schedules;
4. An irrigation audit report, documentation of enrollment in regional or local water purveyor(s)' water conservation programs, and/or documentation that the water budget for the landscape project has been submitted to the local water purveyor, may be required at the option of the City.

Rosemead's Proposed Ordinance versus the State Model

The following identifies the significant differences between the Rosemead's proposed Ordinance and the State Model and provides justification for how Rosemead's Model is "at least as effective" as the State's Model.

Issue 1: Maximum Applied Water Allowance Calculation

Justification:

The State Model requires the Maximum Applied Water Allowance (MAWA) and Estimated Applied Water Use (EAWU) calculations for each valve installed in a landscape area. This requirement causes a significant amount of paperwork and labor and does not increase water efficiency in the landscape. The proposed Ordinance requires MAWA and EAWU calculations for each meter rather than each valve. This simplifies the calculation process, while maintaining the "at least as effective" criteria of AB-1881.

Issue 2: Self Certification

2.4 Landscape Design Plan Section 13; 2.5 Irrigation Design Plan Section 7; 2.6 Grading Design Plan Section 3

Justification:

Self certification is performed by a licensed professional that is authorized to perform the tasks required in the Landscape Documentation Package and certifies that the project is "at least as effective" as the State Model. Self certification provides a cost effective method for the City to review plans without increasing the need for in-house technical expertise.

Issue 3: Separation of Ordinance and Guidelines

Justification:

The State Model proposes to codify all regulations related to water efficient landscape. While this is an acceptable way to address this issue, staff is proposing that the City Council consider an alternative approach that would include adopting an ordinance that describes the essential components of AB 1881 but would also require compliance with guidelines that contain process oriented elements, equations, and technology related components. This would allow for changes and/or amendments to landscape water efficiency in the future to be addressed through amending the guidelines rather than the lengthy code amendment process. This approach would also meet the State's "at least as effective" criteria.

Issue 4: Water Purveyor's Water Waste Provisions

Staff has been in communication with all six water purveyors that service the City and believes that their water waste provisions are sufficient to meet the "at least as effective as" criteria.

Explanation:

Budget-based tiered-rate billing structures and enforcement of water waste prohibition provisions are "at least as effective" at achieving outdoor water use efficiency as AB-1881.

Justification:

The local water purveyors for the City of Rosemead are implementing budget-based tiered-rate billing and/or enforcement of water waste prohibitions for all existing metered landscape areas throughout its service area. Furthermore, the City of Rosemead continues to enforce Chapter 13.04 of the Rosemead Municipal Code pertaining to Water Conservation, which prohibits water users from wasting water from any source and any person sanctioning such waste. In addition, Rosemead's current Water Conservation Ordinance has strict penalties for violation of these provisions, which include written warning notices up to punishment as provided in the Penal Code.

Issue 5: 492.10 Irrigation Scheduling

Justification:

It is proposed that prescriptive elements for parameters used to set automatic controllers be removed in order to defer to irrigation controller manufacturer specifications.

Issue 6: 492.11 Landscape and Irrigation Maintenance Schedule

Justification:

The State's Model requires detailed and prescriptive landscape and irrigation maintenance schedule parameters. Ordinance 885 proposes that landscapes must be maintained to ensure water use efficiency in accordance with existing local agency codes, which will be "at least as effective as" the State's Model.

Issue 7: Removal of 492.14 Recycled Water

Justification:

According to the State Model, all projects shall allow for the use of recycled water for irrigation and water features unless written exemption is provided by the local water agency stating that recycled water is not available. This section has been incorporated by reference into the Guidelines for Implementation of City of Rosemead Water Efficient Landscape Ordinance to defer to existing local and state recycled water regulations.

Issue 8: Removal of 492.15 Stormwater Management

Justification:

The State Model encourages stormwater management practices that minimize runoff and increase water infiltration which recharges groundwater and improves water quality. This section has been incorporated by reference into the Guidelines for Implementation of City of Rosemead Water Efficient Landscape Ordinance to defer to existing National Pollutant Discharge Elimination System (NPDES) permits and local stormwater management code.

Issue 9: Removal of 493.2 Water Waste Prevention

Justification:

The State Model requires that local agencies prevent water waste by prohibiting runoff, low head drainage, and over spray. Furthermore, penalties for violation of these prohibitions are required to be established locally. This section has been incorporated by reference into Ordinance 885 and the Guidelines for Implementation of City of Rosemead Water Efficient Landscape Ordinance to defer to existing agency code on water waste prevention. In addition, the local water purveyors for the City of Rosemead are implementing budget-based tiered-rate billing and/or enforcement of water waste provisions for all existing metered landscape areas throughout their service area. In addition, the City continues to enforce Chapter 13.04 of the Rosemead Municipal Code pertaining to water conservation. Pursuant to Rosemead Municipal Code Section

13.04.030, no water use shall waste water from any source nor shall any person sanction such waste.

Issue 10: Removal of 494 Effective Precipitation

Justification:

Effective precipitation or "usable rainfall" refers to the portion of total precipitation which becomes available for plant growth. The State Model states that a local agency may consider effective precipitation (25% of annual precipitation) in tracking water use. Since this section was considered optional in the State Model, it was removed from the City's proposed Ordinance because the annual effective precipitation is not considered adequate for the MAWA adjustment.

Issue 11: Certification of Completion (Now in Guidelines)

Justification:

The State Model requires the submittal of a Certificate of Completion. The elements of the certificate consist of certification of installation, final soils information, irrigation scheduling parameters, maintenance schedules, and an irrigation audit report. The City's proposed ordinance requires enrollment in one of the local or regional water budgeting programs, which fulfills the irrigation system audit report criteria. The water budgeting programs are an in-depth and ongoing irrigation monitoring process that is "at least as effective" as a one time irrigation system audit report.

Planning Commission Review

On November 2, 2009, the City of Rosemead Planning Commission conducted a duly noticed public hearing. Upon hearing all testimonies from the public, the Commission unanimously recommended approval of this municipal code amendment to the City Council. The Planning Commission also made findings of environmental adequacy. The Planning Commission staff report, Planning Commission Resolution, and Planning Commission Minutes have been included in this report as Exhibits "D" through "F" respectively.

Environmental Determination

Municipal Code Amendment 09-02 is exempt from review under the California Environmental Quality Act ("CEQA") (California Public Resources Code Section 21000 et seq.), because pursuant to State CEQA Regulation 15307 (14 Cal. Code Regs., § 15307), Municipal Code Amendment 09-02 is covered by the CEQA Categorical Exemption for actions taken to assure the maintenance, restoration, enhancement, or protection of a natural resource where the regulatory process involves procedures for protection of the environment. Municipal Code Amendment 09-02 will result in the enhancement and protection of water resources in the City, and will not result in

cumulative adverse environment impacts. It is therefore exempt from the provisions of CEQA.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process.

Prepared by:

Sheri Bermejo

Sheri Bermejo
Principal Planner

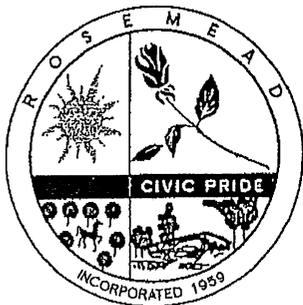
Submitted by:

Brian Saeki

Brian Saeki
Community Development Director

Exhibits

- A: State's Model Ordinance
- B: Ordinance 885
- C: Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance
- D: Planning Commission Staff Report, dated November 2, 2009
- E: Planning Commission Resolution 09-21
- F: Draft Planning Commission Minutes, dated November 2, 2009



ROSEMEAD CITY COUNCIL STAFF REPORT

TO: THE HONORABLE MAYOR AND CITY COUNCIL

FROM: JEFF ALLRED, CITY MANAGER

Handwritten signature of Jeff Allred in black ink.

DATE: DECEMBER 8, 2009

SUBJECT: ORDINANCE 885 – SECOND READING: AMENDING CHAPTER 13.08
OF THE ROSEMEAD MUNICIPAL CODE TO ESTABLISH WATER
EFFICIENCY LANDSCAPE REGULATIONS

SUMMARY

On November 17, 2009, the City Council reviewed the Ordinance No. 885 amending Chapter 13.08 of the Rosemead Municipal Code to establish Water Efficiency Landscape Regulations. Ordinance No. 885 is now before Council at the required second reading for adoption.

Staff Recommendation

Staff requests that City Council ADOPT Ordinance No. 885 at its second reading.

PUBLIC NOTICE PROCESS

This item has been noticed through the regular agenda notification process.

Prepared by:

Handwritten signature of Gloria Molleda in black ink.
GLORIA MOLLEDA
CITY CLERK

Attachment A –Ordinance No. 885

ORDINANCE NO. 885

AN ORDINANCE OF THE ROSEMEAD CITY COUNCIL,
AMENDING CHAPTER 13.08 OF THE ROSEMEAD MUNICIPAL
CODE TO ESTABLISH WATER EFFICIENT LANDSCAPE
REGULATIONS

THE ROSEMEAD CITY COUNCIL DOES ORDAIN AS FOLLOWS:

SECTION ONE: The City Council of the City of Rosemead does hereby find, determine and declare that:

- A. The State Legislature made findings in AB 1881, chaptered in 2006, related to water use, waste, conservation and efficiency.
- B. Pursuant to AB 1881, the California Department of Water Resources has developed a Model Water Efficient Landscape Ordinance.
- C. The City Council intends to amend Chapter 13.08 of the Rosemead Municipal Code so that it is "at least as effective as" the State Model Water Efficient Landscape Ordinance, which is required by AB 1881.
- D. All water services within the City are metered.
- E. Pursuant to State legislation, all new irrigation controllers sold in the City after 2012 will be smart automatic irrigation controllers.
- F. The local water purveyors for the City of Rosemead are implementing budget-based tiered-rate billing and/or enforcement of water waste prohibitions for all existing metered landscaped areas throughout their service area, which combined includes the entire City of Rosemead. In addition, the City of Rosemead continues to enforce Chapter 13.04 of the Rosemead Municipal Code pertaining to Water Conservation. Pursuant to Rosemead Municipal Code Section 13.04.030, no water user shall waste water from any source nor shall any person sanction such waste.

SECTION TWO: Chapter 13.08 is repealed in its entirety and replaced with the following:

WATER EFFICEINT LANDSCAPES

§ 13.08.010 PURPOSE.

The purpose of this chapter is to establish water efficient landscape regulations that are at least as effective in conserving water as the State Model Water Efficient Landscape

Ordinance, in the context of conditions in the City, in order to ensure that landscapes are planned, designed, installed, maintained, and managed in a manner that uses water efficiently, encourages water conservation, and prevents water waste. The provisions of this chapter shall be deemed to be controlling over the subject matter herein in the event of any conflict between this Chapter and any other provision in the Municipal Code.

§ 13.08.020 DEFINITIONS

For the purposes of this chapter and the Guidelines for the implementation of this chapter, the following terms are defined:

City means the City of Rosemead.

City Manager means the City Manager of the City of Rosemead or his or her designee.

Applicant means the person submitting a landscape documentation package. Applicants can be the property owner or his or her designee.

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

Budget-based tiered-rate structure means tiered or block rates for irrigation accounts charged by the local water purveyor(s) in which the block definition for each customer is derived from lot size or irrigated area and the evapotranspiration requirements of landscaping.

Ecological restoration project means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Estimated Applied Water Use or EAWU means the average annual total amount of water estimated to be necessary to keep plants in a healthy state, calculated as provided in the Guidelines. It is based on the reference evapotranspiration rate, the size of the landscape area, plant water use factors, and the relative irrigation efficiency of the irrigation system.

Evapotranspiration adjustment factor or ET adjustment factor or ETAF is equal to the plant factor divided by the irrigation efficiency factor for a landscape project, as described in the Guidelines. The ETAF is calculated in the context of local reference evapotranspiration, using site-specific plant factors and irrigation efficiency factors that influence the amount of water that needs to be applied to the specific landscaped area. A combined plant mix with a site-wide average plant factor of 0.5 (indicating a moderate water need) and average irrigation efficiency of 0.71 produces an ET adjustment factor of $(0.7) = (0.5/0.71)$, which is the standard of water use efficiency generally required by this chapter and the Guidelines, except that the ETAF for a special landscaped area shall not exceed 1.0.

Guidelines refers to the Guidelines for Implementation of the Water Efficient Landscape Ordinance, as approved by the City, which describes procedures, calculations, and requirements for landscape projects subject to this chapter.

Hardscapes means any durable material or feature (pervious and non-pervious) installed in or around a landscaped area, such as pavements or walls. Pools and other water features are considered part of the landscaped area and are not considered hardscapes.

Homeowner-installed means any landscaping either installed by a private individual for a single family residence or installed by a licensed contractor hired and paid directly by a homeowner. A homeowner, for purposes of this chapter, is a person who occupies the dwelling he or she owns. This definition excludes speculative homes, which are not owner-occupied dwellings and which are subject under this chapter to the requirements applicable to developer-installed residential landscape projects.

Hydrozone means a portion of the landscaped area having plants with similar water needs and typically irrigated by one valve/controller station. A hydrozone may be irrigated or non-irrigated.

Irrigation Efficiency or IE means the measurement of the amount of water beneficially used divided by the amount of water applied to the landscaped area. 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 Documentation Package means the documents required to be provided to the City for review and approval of landscape projects subject to this chapter, as described in the Guidelines.

Landscape professional means a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape pursuant to Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the California Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the California Food and Agriculture Code.

Landscape project means total area of landscape in a project, as provided in the definition of "landscaped area," meeting the requirements under Section 13.08.030 of this chapter.

Landscape rehabilitation means any re-landscaping project that meets the applicability criteria of Section 13.08.030(A) of this chapter, where the modified landscape area is greater than 2,500 square feet or where the cumulative modified area is greater than 2,500 square feet if the modifications are planned to occur incrementally within one year.

Landscaped Area means all the planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance and Estimated Applied Water Use calculations. The landscaped 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).

Local Agency means a city or county, including a charter city or charter county, or local water purveyor that is authorized by the City to implement, administer, and/or enforce any of the

provisions of this chapter on behalf of the City. The local agency may be responsible for the enforcement or delegation of enforcement of this chapter including, but not limited to, design review, plan check, issuance of permits, and inspection of a landscape project.

Local Water Purveyor means any entity, including a city, county, public agency, or private water company that provides retail water service. Local water purveyor shall also mean any entity that provides wholesale water service, for the purpose of Section 13.08.050(b)(1) and Section 13.08.070.

Maximum Applied Water Allowance or MAWA means the upper limit of annual applied water for the landscaped area as specified in Section 2.2 of the Guidelines. It is based upon the area's reference evapotranspiration, the ET adjustment factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the MAWA.

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.

New landscape means, for the purposes of this chapter, a new building with a landscape or other new landscape such as a park, playground, or greenbelt without an associated building.

Non-pervious means any surface or natural material that does not allow for the passage of water through the material and into the underlying soil.

Person means any individual, firm, joint venture, joint stock company, partnership, public or private association, company, corporation, business trust, organization, public or private agency, government agency or institution, school district, college, university, any other user of water provided by the local water purveyor, or the manager, agent, officer, or employee thereof, or any other entity which is recognized by law as the subject of rights or duties.

Pervious means any surface or material that allows the passage of water through the material and into the underlying soil.

Permit means an authorizing document issued by a local agency for new construction or rehabilitated landscape.

Plant Factor or Plant Water Use Factor is a factor, when multiplied by ETo, that 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 cited in this chapter are derived from the Department of Water Resources 2000 publication "Water Use Classification of Landscape Species."

Recycled water or reclaimed water means treated 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.

Reference evapotranspiration or ETo means a standard measurement of environmental parameters which affect the water use of plants. ETo is given expressed in inches per day,

month, or year as represented in the Guidelines, and is an estimate of the evapotranspiration of a large field of four-to seven-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances.

Smart automatic irrigation controller means an automatic timing device used to remotely control valves that operate an irrigation system and which schedules irrigation events using either evapotranspiration (weather-based) or soil moisture data.

Special landscape area or SLA means an area of the landscape dedicated solely to edible plants such as orchards and vegetable gardens; areas irrigated with recycled water; water features using recycled water; and areas dedicated to active play where turf provides a playing surface, such as parks, sports fields, and golf courses.

Turf means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

Valve means a device used to control the flow of water in an irrigation system.

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 landscaped area. Constructed wetlands used for on-site wastewater treatment, habitat protection or storm water best management practices that are not irrigated and used solely for water treatment or storm water retention are not water features and, therefore, are not subject to the water budget calculation.

13.08.030. APPLICABILITY.

A. Beginning January 1, 2010, this chapter applies to the following landscape projects:

1. New landscape installations or landscape rehabilitation projects by public agencies or private non-residential developers, except for cemeteries, with a landscaped area, including water features but excluding hardscape, equal to or greater than 2,500 square feet, and which are subject to a discretionary approval of a landscape plan, or which otherwise require a ministerial permit for a landscape or water feature.

2. New landscape installations or landscape rehabilitation projects by developers or property managers of single-family and multi-family residential projects or complexes with a landscaped area, including water features but excluding hardscape, equal to or greater than 2,500 square feet, and which are subject to a discretionary approval of a landscape plan, or which otherwise require a ministerial permit for a landscape or water feature.

3. New landscape installations that are homeowner-installed, including homeowner-hired, in single-family or multi-family residential lots with a total project landscaped area equal to or greater than 5,000 square feet, and which are otherwise subject to a discretionary approval

of a landscape plan, or which otherwise require a ministerial permit for a landscape or water feature.

B. Section 13.08.060(b) of this chapter regarding water waste applies to all landscaped areas installed prior to or after January 1, 2010.

C. Section 13.08.060(c) of this chapter regarding water efficiency programs applies to all existing landscapes installed before January 1, 2010 that are greater than one acre in size and are served by a dedicated landscape water meter.

13.08.040. EXEMPTIONS.

A. This chapter does not apply to:

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.

B. The requirements of this chapter may be partially or wholly waived, at the discretion of the City Manager or his/her designee, for landscape rehabilitation projects that are limited to replacement of plantings with equal or lower water needs and where any modifications to the irrigation system do not require ministerial permits and the irrigation system is found to be designed, operable, and programmed consistent with minimizing water waste in accordance with local water purveyor(s)' regulations or programs.

13.08.050. IMPLEMENTATION PROCEDURES.

A. A Landscape Documentation Package is required to be submitted to the City for review and approval prior to the issuance of permits and prior to the start of construction. Any Landscape Documentation Package submitted to the City must comply with provisions of this chapter and the Guidelines.

B. The Landscape Documentation Package must include a certification by a landscape professional stating that the landscape design plan, soil management report, irrigation design plan, and water calculations have been prepared by or under the supervision of the landscape professional and are certified to be in compliance with the provisions of this chapter.

1. Landscape and irrigation plans must be submitted to the City for review and approval with appropriate water use calculations. Water use calculations must be consistent with calculations contained in the Guidelines.

2. A Certification of Completion is required to verify compliance with the approved plans and must be obtained in conjunction with a Certificate of Use and Occupancy or a Permit Final, as provided in the Guidelines.

13.08.060. LANDSCAPE WATER USE STANDARDS.

A. For applicable new landscape or landscape rehabilitation projects subject to Section 13.08.030(A) of this chapter, the Estimated Applied Water Use allowed for the landscaped area may not exceed the MAWA calculated using an ET adjustment factor of 0.7, except for the portion of the MAWA applicable to any special landscaped areas within the landscape project, which may be calculated using an ETAF of 1.0. Where the design of the landscaped area can be otherwise shown to be equivalently water efficient, the applicant may submit alternative or abbreviated information supporting the demonstration that the annual EAWU is less than the MAWA, at the discretion of and review and approval of the City.

B. Irrigation of all landscaped areas must be conducted in a manner conforming to the rules and requirements, and is subject to penalties and incentives for water conservation and water waste prevention as determined and implemented by the local water purveyor(s) or as mutually agreed by local water purveyor(s) and the City.

C. For all existing landscapes installed before January 1, 2010 that are greater than one acre in size and are served by a dedicated landscape water meter, the City and/or local water purveyor(s) must administer programs to achieve landscape water use efficiency community-wide.

13.08.070. DELEGATION.

The City may delegate to, or enter into an agreement with, one or more local agencies to implement, administer, and/or enforce any of the provisions of this chapter on behalf of the City.

SECTION THREE: The City Council hereby determines that this Ordinance is exempt from review under the California Environmental Quality Act ("CEQA") (California Public Resources Code Section 21000 *et seq.*), because pursuant to State CEQA Regulation 15307 (14 Cal. Code Regs., § 15307), this Ordinance is covered by the CEQA Categorical Exemption for actions taken to assure the maintenance, restoration, enhancement, or protection of a natural resource where the regulatory process involves procedures for protection of the environment. The adoption of this ordinance will result in the enhancement and protection of water resources in the City, and will not result in cumulative adverse environment impacts. It is therefore exempt from the provisions of CEQA. The City Council hereby directs the City Manager or designee to prepare and file a Notice of Exemption as soon as possible following adoption of this Ordinance.

SECTION FOUR: This Ordinance shall take effect and be in full force and operation thirty (30) days after adoption.

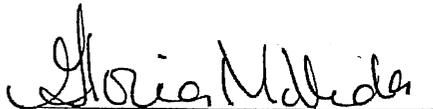
SECTION FIVE: If any section, subsection, subdivision, sentence, clause, or portion of this ordinance, is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of the ordinance. The City Council hereby declares that it would have adopted this ordinance, and each section, subsection, subdivision, sentence, clause, phrase, or portion thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses, phrases, or portions thereof be declared invalid or unconstitutional.

SECTION SIX: The city clerk shall certify to the adoption of this ordinance and shall cause the same to be published in accordance with law.

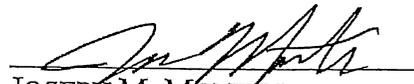
PASSED, APPROVED, AND ADOPTED this 8th day of December, 2009.


MARGARET CLARK
MAYOR

ATTEST:


GLORIA MOLLEDA
CITY CLERK

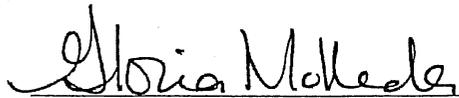
APPROVED AS TO FORM:


JOSEPH M. MONTES
CITY ATTORNEY

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS.
CITY OF ROSEMEAD)

I, Gloria Molleda, City Clerk of the City of Rosemead, California, do hereby certify that the foregoing **Ordinance No. 885** was regularly introduced and placed upon its first reading at a regularly meeting of the City Council on the 17th of November, 2009. That after said Ordinance was duly adopted and passed at a regular meeting of the City Council on the 8th of December, 2009 by the following vote to wit:

Yes: Armenta, Clark, Low, Ly, Taylor
No: None
Absent: None
Abstain: None



Gloria Molleda
City Clerk

**GUIDELINES
FOR IMPLEMENTATION OF THE
CITY OF ROSEMEAD
WATER EFFICIENT LANDSCAPE
ORDINANCE**

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1. Purpose and Applicability

1.1 Purpose

- (a) The primary purpose of these Guidelines is to provide procedural and design guidance for applicants proposing new landscape or landscape rehabilitation projects that are subject to Chapter 13.08 of the City of Rosemead Municipal Code. This document is also intended for use and reference by City staff in reviewing and approving designs and verifying compliance with Chapter 13.08.
- (b) Other regulations affecting landscape design and maintenance practices are potentially applicable and should be consulted for additional requirements. These regulations include but may not be limited to:
 - (1) State of California Assembly Bill 1881 (Laird, Water Conservation), Chapter No. 559;
 - (2) National Pollutant Discharge Elimination Permit(s) for the Municipal Separate Storm Sewer System;
 - (3) Los Angeles County Fire Code Regulations in Title 32 for fuel modification in landscapes;
 - (4) Water Conservation, Water Supply Shortage, and Drought Response Regulations of the Local Water Purveyor(s) and those contained in Sections 13.04.040 – 13.04.060 of Chapter 13.04 (Water Conservation) of the Rosemead Municipal Code pertaining to Phase I, II, and III water shortage regulations;
 - (5) Local and State Regulations governing use of Recycled Water;
 - (6) Rosemead Municipal Code;
 - (7) Zoning Code;
 - (8) Building Code;
 - (9) Specific Plans, Master Plans, General Plan, or similar land use and planning documents; and
 - (10) Conditions of approval for a specific project

1.2 Applicability

See Section 13.08.030 of Chapter 13.08 of the City of Rosemead Municipal Code.

2. Submittal Requirements for New Landscape Installations or Landscape Rehabilitation Projects

- (a) Discretionary approval is typically required for landscape projects that are subject to site plan reviews, or where a variance from a local building code is requested, or other procedural processes apply such that standard or special conditions of approval may be required by the City. Discretionary projects with conditions of approval may be approved administratively by city staff, or acted on formally by the Planning Commission, City Council, or other jurisdictional authority. A typical standard condition of approval reads:

“Landscaping for the project shall be designed to comply with the City’s Water Efficient Landscape Ordinance and with the Guidelines for Implementation of the Water Efficient Landscape Ordinance.”

Landscape or water features that typically require a ministerial permit (i.e., a building, plumbing, electrical, or other similar permit), thereby triggering compliance with the Water Efficient Landscape Ordinance requirements independently of the need for discretionary approval include, but are not limited to, swimming pools, fountains or ponds, retaining walls, and overhead trellises.

2.1 Landscape Documentation Package

- (a) A Landscape Documentation Package is required to be submitted by the applicant for review and approval prior to the issuance of ministerial permits and prior to the start of construction. Unless otherwise directed by the City, the Landscape Documentation Package must include the following elements either on plan sheets or supplemental pages as directed by the City:
- (1) Project Information, including, but not limited to, the following:
- (a) date;
 - (b) project name;
 - (c) project address, parcel, and/or lot number(s);
 - (d) total landscaped area (square feet) and rehabilitated landscaped area (if applicable);
 - (e) project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed);
 - (f) water supply type (e.g., potable, recycled, or well) and identification of the local retail water purveyor if the project applicant is not served by a private well;

- (g) checklist or index of all documents in the Landscape Documentation Package;
 - (h) project contacts, including contact information for the project applicant and property owner;
 - (i) a Certification of Design in accordance with **Exhibit A** of these Guidelines that includes a landscape professional's professional stamp, as applicable, signature, contact information (including email and telephone number), license number, and date, certifying the statement that "The design of this project complies with the requirements of the City's Water Efficient Landscape Ordinance" and shall bear the signature of the landscape professional as required by law; and
 - (j) any other information the City Manager or his or her designee deems relevant for determining whether the landscape project complies with the Water Efficient Landscape Ordinance and these Guidelines.
- (2) Maximum Applied Water Allowance (MAWA) and Estimated Applied Water Use (EAWU) expressed as annual totals including, but not limited to, the following:
 - (a) a Water Efficient Landscape Worksheet for the landscape project;
 - (b) water budget calculations for the landscape project
 - (c) hydrozone information table for the landscape project; and
 - (3) A soil management report or specifications, or specification provision requiring soil testing and amendment recommendations and implementation to be accomplished during construction of the landscape project.
 - (4) A landscape design plan for the landscape project.
 - (5) An irrigation design plan for the landscape project.
 - (6) A grading design plan, unless grading information is included in the landscape design plan for the landscape project or unless the landscape project is limited to replacement planting and/or irrigation to rehabilitate an existing landscaped area.

2.2 Water Efficient Landscape Calculations and Alternatives

- (a) The applicant must provide the calculated Maximum Applied Water Allowance (MAWA) and Estimated Applied Water Use (EAWU) for the landscaped area as

part of the Landscape Documentation Package submittal to the City. The MAWA and EAWU shall be calculated based on completing the Water Efficient Landscape Worksheets (in accordance with the sample worksheets in **Appendix B**).

- (b) The EAWU allowable for the landscaped area may not exceed the MAWA. The MAWA must be calculated using an evapotranspiration adjustment factor (ETAF) of 0.7 except for the portion of the MAWA applicable to any special landscaped areas within the landscape project, which must be calculated using an ETAF of 1.0. Where the design of the landscaped area can otherwise be shown to be equivalently water-efficient, the applicant may submit alternative or abbreviated information supporting the demonstration that the annual EAWU is less than the MAWA, at the discretion of and for the review and approval of the City.
- (c) Water budget calculations must adhere to the following requirements:
 - (1) The MAWA must be calculated using the Water Efficient Landscape Worksheets and equation presented in **Appendix B** on page B-1. The example calculation on page B-1 is a hypothetical example to demonstrate proper use of the equation.
 - (2) The EAWU must be calculated using the Water Efficient Landscape Worksheets and equation presented in **Appendix B** on page B-2. The example calculation on page B-2 is a hypothetical example.
 - (3) For the calculation of the *MAWA* and *EAWU*, a *project applicant* must use the *ET_o* values from the closest location listed the Reference Evapotranspiration Table in **Appendix C**. For geographic areas not covered in **Appendix C**, data from other cities located nearby in the same reference evapotranspiration zone may be used, as found in the CIMIS Reference Evapotranspiration Zones Map, Department of Water Resources, 1999.
 - (4) For calculation of the EAWU, the plant water use factor must be determined as appropriate to the project location from the Water Use Efficiency of Landscape Species (WUCOLS) Species Evaluation List. The plant factor is 0.1 for very low water use plants, 0.2 to 0.3 for low water use plants, 0.4 to 0.6 for moderate water use plants, and 0.7 to 1.0 for high water use plants.
 - (5) For calculating the EAWU, the plant water use factor must be determined for each valve hydrozone based on the highest-water-use plant species within the zone. The plant factor for each hydrozone may be required to be further refined as a "landscape coefficient," according to protocols defined in detail in the WUCOLS document, to reflect planting density and microclimate effects on water need at the option of the applicant or the City.

- (6) For calculation of the EAWU, the area of a water feature is defined as a high water use hydrozone with a plant factor of 1.0.
- (7) For calculation of the EAWU, a temporarily irrigated hydrozone area, such as an area of highly drought-tolerant native plants that are not intended to be irrigated after they are fully established, is defined as a very low water use hydrozone with a plant factor of 0.1.
- (8) For calculation of the MAWA, the ETAF for special landscaped areas is set at 1.0. For calculation of the EAWU, the ETAF for special landscaped areas is calculated as the special landscaped area (SLA) plant factor divided by the SLA irrigation efficiency factor.
- (9) Irrigation efficiency must be calculated using the worksheet and equation presented in **Appendix B** on page B-2.
- (d) The Maximum Applied Water Allowance must adhere to the following requirements:
 - (1) The Maximum Applied Water Allowance must be calculated using the equation presented in **Appendix B**. The example calculation in **Appendix B** is hypothetical to demonstrate proper use of the equation and does not represent an existing and/or planned landscape project. The reference evapotranspiration (ET_o) values used in this calculation are from the Reference Evapotranspiration Table in **Appendix C** and are for planning purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and must use current ET_o data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

2.3 Soil Management Report

- (a) In order to reduce runoff and encourage healthy plant growth, a soil management report must be completed by the applicant, or his/her designee, as follows:
 - (1) Submit soil samples to a certified agronomic soils laboratory for analysis and recommendations.
 - (a) Soil sampling must be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
 - (b) The soil analysis may include:
 - 1. soil texture;

2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
 3. pH;
 4. total soluble salts;
 5. sodium;
 6. percent organic matter; and
 7. recommendations.
- (2) The applicant, or his/her designee, must comply with one of the following:
- (a) If significant mass grading is not planned, the soil analysis report must be submitted to the local agency as part of the Landscape Documentation Package; or
 - (b) If significant mass grading is planned, the soil analysis report must be submitted to the City as part of the Certification of Completion.
 - (c) The soil analysis report must be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans in order to make any necessary adjustments to the design plans.
 - (d) The applicant, or his/her designee, must submit documentation verifying implementation of soil analysis report recommendations to the local agency with the Certification of Completion.

2.4 Landscape Design Plan

- (a) For the efficient use of water, a landscape must be carefully designed and planned for the intended function of the project. The following design criteria must be submitted as part of the Landscape Documentation Package.
 - (1) Plant Material
 - (a) Any plant may be selected for the landscaped area provided the EAWU in the landscaped area does not exceed the MAWA. To encourage the efficient use of water, the following is highly recommended:
 1. protection and preservation of non-invasive water-conserving plant species and water-conserving turf;
 2. selection of water-conserving plant species and water-conserving turf;

3. selection of plants based on disease and pest resistance;
 4. selection of trees based on applicable City and local tree ordinances or tree shading guidelines; and
 5. selection of plants from local and regional landscape program plant lists.
- (b) Each hydrozone must have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 2.5(a)(2)(D) of these Guidelines.
- (c) Plants must 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 for inclusion in the landscape design plan:
- (1) use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
 - (2) recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, and power lines); and
 - (3) consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- (d) Turf is discouraged on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
- (e) A landscape design plan for projects in fire-prone areas and fuel modification zones shall comply with requirements of Los Angeles County, where applicable. When conflicts between water conservation and fire safety design elements exist, the fire safety requirements have priority.
- (f) The use of invasive plant species and/or noxious plant species is strongly discouraged.
- (g) The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, may not prohibit or include conditions that have the effect of prohibiting the use of water efficient plant species as a group.
- (1) Water Features

- (a) Recirculating water systems must be used for water features.
 - (b) Where available and consistent with public health guidelines, recycled water must be used as a source for decorative water features.
 - (c) The surface area of a water feature must be included in the high water use hydrozone area of the water budget calculation.
 - (d) Pool and spa covers are highly recommended.
- (2) Mulch and Amendments
- (a) A minimum two inch (2") layer of mulch must be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications where mulch is contraindicated.
 - (b) Stabilizing mulching products must be used on slopes.
 - (c) The mulching portion of the seed/mulch slurry in hydro-seeded applications must meet the mulching requirement.
 - (d) Soil amendments must be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 2.3 of these Guidelines).
- (h) The landscape design plan, at a minimum, must:
- (1) delineate and label each hydrozone by number, letter, or other method;
 - (2) identify each hydrozone as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the landscaped area must be included in the low water use hydrozone for the water budget calculation;
 - (3) identify recreational areas;
 - (4) identify areas permanently and solely dedicated to edible plants;
 - (5) identify areas irrigated with recycled water;
 - (6) identify type of mulch and application depth;
 - (7) identify soil amendments, type, and quantity;
 - (8) identify type and surface area of water features;
 - (9) identify hardscapes (pervious and non-pervious);

- (10) identify location and installation details of any applicable storm water best management practices that encourage on-site retention and infiltration of storm water. Storm water best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
 - (a) infiltration beds, swales, and basins that allow water to collect and soak into the ground;
 - (b) constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
 - (c) pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.
- (11) identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
- (12) contain the following statement: "I have complied with the criteria of the City of Rosemead Water Efficient Landscape Ordinance (Rosemead Municipal Code Chapter 13.08) and applied them for the efficient use of water in the landscape design plan;" and
- (13) bear the signature of a California-licensed landscape professional.

2.5 Irrigation Design Plan

- (a) For the efficient use of water, an irrigation system must meet all the requirements listed in this section and the manufacturer's recommendations. The irrigation system and its related components must be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria must be submitted as part of the Landscape Documentation Package.
 - (1) System
 - (a) Dedicated landscape water meters are highly recommended on landscaped areas smaller than 5,000 square feet to facilitate water management.
 - (b) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data are required for irrigation scheduling in all irrigation systems.
 - (c) The irrigation system must be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices must be installed to meet the required dynamic pressure of the irrigation system.
 2. Static water pressure, dynamic or operating pressure, and flow reading of the water supply must be measured at the point of connection. These pressure and flow measurements must be conducted at the design stage. If the measurements are not available at the design stage, the measurements must be conducted at installation.
- (d) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions are required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
 - (e) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) are required as close as possible to the point of connection of the water supply to minimize water loss in case of an emergency (such as a main line break) or routine repair.
 - (f) Backflow prevention devices are required to protect the water supply from contamination by the irrigation system. A project applicant must refer to the applicable City code (i.e., public health) for additional backflow prevention requirements.
 - (g) High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.
 - (h) The irrigation system must be designed to prevent runoff, low head drainage, overspray, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures.
 - (i) Relevant information from the soil management plan, such as soil type and infiltration rate, must be utilized when designing irrigation systems.
 - (j) The design of the irrigation system must conform to the hydrozones of the landscape design plan.
 - (k) Average irrigation efficiency for the project must be determined in accordance with the EAWU calculation sheet in **Appendix B**. Unless otherwise indicated by the irrigation equipment manufacturer's specifications or demonstrated by the project

applicant, the irrigation efficiency of the irrigation heads used within each hydrozone shall be assumed to be:

Pop-up stream rotator heads = 75%

Stream rotor heads = 75%

Microspray = 75%

Bubbler = 80%

Drip emitter = 85%

Subsurface irrigation = 90%

- (l) It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.
- (m) In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.
- (n) Sprinkler heads and other emission devices must have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.
- (o) Head to head coverage is recommended. However, sprinkler spacing must be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.
- (p) Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.
- (q) Check valves or anti-drain valves are required for all irrigation systems.
- (r) Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction must be irrigated with subsurface irrigation or a low volume irrigation system.
- (s) Overhead irrigation is not permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:
 1. the landscaped 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; or

3. the irrigation designer for the landscape project specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates strict adherence to the irrigation system design criteria in Section 2.5 (a)(1)(H) hereof. Prevention of overspray and runoff must be confirmed during an irrigation audit.
4. Slopes greater than 25% may not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer of the landscape project specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

(2) Hydrozone

- (a) Each valve must irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- (b) Sprinkler heads and other emission devices must be selected based on what is appropriate for the plant type within that hydrozone.
- (c) Where feasible, trees must be placed on separate valves from shrubs, groundcovers, and turf.
- (d) Individual hydrozones that mix plants of moderate and low water use or moderate and high water use may be allowed if:
 1. the plant factor calculation is based on the proportions of the respective plant water uses and their respective plant factors; or
 2. the plant factor of the higher water using plant is used for the calculations.
- (e) Individual hydrozones that mix high and low water use plants are not permitted.
- (f) On the landscape design plan and irrigation design plan, hydrozone areas must be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each valve and assign a number to each valve.
- (g) The irrigation design plan, at a minimum, must contain:
 1. the location and size of separate water meters for landscape;

2. the 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;
3. static water pressure at the point of connection to the public water supply;
4. flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
5. irrigation schedule parameters necessary to program smart timers specified in the landscape design;
6. the following statement: "I have complied with the criteria of the City of Rosemead Water Efficient Landscape Ordinance (Rosemead Municipal Code Chapter 13.08) and applied them accordingly for the efficient use of water in the irrigation design plan;" and
7. the signature of a California-licensed landscape professional.

[Note: Authority Cited: Section 65595, Government Code.
Reference: Section 65596, Government Code.]

2.6 Grading Design Plan

- (a) For the efficient use of water, grading of a landscape project site must be designed to minimize soil erosion, runoff, and water waste. Finished grading configuration of the landscaped area, including pads, slopes, drainage, post-construction erosion control, and storm water control Best Management Practices, as applicable, must be shown on the Landscape Plan unless this information is fully included in separate Grading Plans for the project, or unless the project is limited to replacement planting and/or irrigation to rehabilitate an existing landscaped area. The Landscape Grading Design Plan shall be prepared in compliance with the City of Rosemead Building Code or comply with Section 2.6 (b) and (c).
- (b) The applicant must submit a landscape grading plan that indicates finished configurations and elevations of the landscaped area including:
 - (1) height of graded slopes;
 - (2) drainage patterns;
 - (3) pad elevations;

- (4) finish grade; and
 - (5) storm water retention improvements, if applicable.
- (c) To prevent excessive erosion and runoff, it is highly recommended that the project applicant:
- (1) grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
 - (2) avoid disruption of natural drainage patterns and undisturbed soil; and
 - (3) avoid soil compaction in landscaped areas.
- (d) The Grading Design Plan must contain the following statement: “I have complied with the criteria of the Rosemead Water Efficient Landscape Ordinance (Rosemead Municipal Code Chapter 13.08) and applied them accordingly for the efficient use of water in the grading design plan” and shall bear the signature of the landscape professional, as required by law.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

2.7 Certification of Completion

- (a) Landscape project installation may not proceed until the Landscape Documentation Package has been approved by the City and any ministerial permits required are issued.
- (b) The applicant must notify the City at the beginning of the installation work and at intervals, as necessary, for the duration of the landscape project work to schedule all required inspections.
- (c) Certification of Completion of the landscape project must be obtained prior to Planning and Building Department final inspection approvals. The requirements for the Final Inspection and Permit Closure include submittal of:
 - (1) A Landscape Installation Certificate of Completion in the form included as **Appendix D** of these Guidelines, which must include: (i) certification by a landscape professional that the landscape project has been installed per the approved Landscape Documentation Package; and (ii) the following statement: “The landscaping has been installed in substantial conformance to the design plans, and complies with the provisions of the Water Efficient Landscape Ordinance for the efficient use of water in the landscape.”
 - (2) Documentation of the irrigation scheduling parameters used to set the controller(s);

- (3) An irrigation audit report from a certified irrigation auditor, documentation of enrollment in regional or local water purveyor(s)' water conservation programs, and/or documentation that the MAWA and EAWU information for the landscape project has been submitted to the local water purveyor, may be required at the option of the City.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

2.8 Post-Installation Irrigation Scheduling

- (a) For the efficient use of water, all irrigation schedules must be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules must meet the following criteria:

- (1) Irrigation scheduling must be regulated by automatic irrigation controllers.
- (2) Overhead irrigation must be in accordance with the Chapter 13.04 of the Rosemead Municipal Code and local water purveyor(s)' Water Conservation Ordinance. In addition, for purposes of the Water Efficient Landscape Ordinance, operation of overhead irrigation systems shall only be allowed between the hours of 5:00 pm and 9:00 am. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

2.9 Post-Installation Landscape and Irrigation Maintenance

- (a) Landscapes must be maintained to ensure water use efficiency in accordance with existing local agency code.

3. Provisions for Existing Landscapes

- (a) Irrigation of all landscaped areas must be conducted in a manner conforming to the rules and requirements and must be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by the local water purveyor and as may be mutually agreed upon by the City.
- (b) The City and/or the regional or local water purveyor may administer programs such as irrigation water use analyses, irrigation surveys and/or irrigation audits, tiered water rate structures, water budgeting by parcel, or other approaches to achieve landscape water use efficiency community-wide to a level equivalent to or less than would be achieved by applying a MAWA calculated with an ETAF of 0.8.

- (c) The architectural guidelines of a common interest development, including apartments, condominiums, planned developments, and stock cooperatives, may not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

CERTIFICATION OF LANDSCAPE DESIGN

I hereby certify that:

(1) I am a professional appropriately licensed in the State of California to provide professional landscape design services.

(2) The landscape design and water use calculations for the property located at _____
(provide street address or parcel number(s)) were prepared by me or under my supervision.

(3) The landscape design and water use calculations for the identified property comply with the requirements of the City of Rosemead Water Efficient Landscape Ordinance (Municipal Code Chapter 13.08) and the City of Rosemead Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance.

(4) The information I have provided in this Certificate of Landscape Design is true and correct and is hereby submitted in compliance with the City of Rosemead Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance.

Print Name

Date

Signature

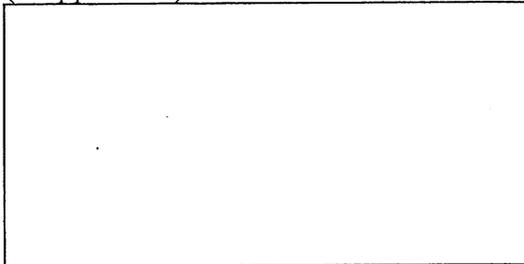
License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If applicable)



Appendix B

EXAMPLE WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant for each Point of Connection. Please complete all sections of the worksheet.

Point of Connection # 1

Maximum Applied Water Allowance (MAWA)

Total MAWA = (ETo x 0.7 x LA in Sq. Ft. x 0.62) + (ETo x 1.0 x SLA in Sq. Ft. x 0.62) = Gallons per year for LA+SLA

where:

- MAWA = Maximum Applied Water Allowance (gallons per year)
- ETo = Reference Evapotranspiration Appendix C (inches per year)
- 0.7 = Evapotranspiration Adjustment Factor (ETAF)
- 1.0 = ETAF for Special Landscaped Area
- LA = Landscaped Area (square feet)
- 0.62 = Conversion factor (to gallons per square foot)
- SLA = Special Landscaped Area (square feet)

Example Calculation: a hypothetical landscape project in Rosemead, CA with an irrigated landscaped area of 40,000 square feet with 10,000 square feet of Special Landscaped Area. To calculate MAWA, the annual reference evapotranspiration value for Pasadena (closest City to Rosemead) is 52.3 inches as listed in the Reference Evapotranspiration Table in Appendix C.

ETo		ETAF		LA or SLA (ft ²)		Conversion		MAWA (Gallons Per Year)
MAWA for LA =	52.3	x	0.7	x	40,000	x	0.62	= 907,927
MAWA for SLA =	52.3	x	1.0	x	10,000	x	0.62	= 324,260
Total MAWA =				50,000				1,232,187 Gallons per year for LA+SLA

Estimated Applied Water Use

$$EAWU = ETo \times K_L \times LA \times 0.62 \div IE = \text{Gallons per year}$$

where:

EAWU = Estimated Applied Water Use (gallons per year)

ETo = Reference Evapotranspiration Appendix C (inches per year)

K_L = Landscape Coefficient

LA = Landscaped Area (square feet)

0.62 = Conversion factor (to gallons per square foot)

IE = Irrigation Efficiency = *IME* x *DU* (See definition in Appendix E for example *IE* percentages)

IME = Irrigation Management Efficiency (90%)

DU = Distribution Uniformity of irrigation head

Example Calculation:

	ETo	K _L	LA	Conversion	IE	EAWU (Gallons per year)
Special Landscaped Area	52.3	x 1.00	x 10,000	x 0.62	÷ 0.75	= 432,346
Cool Season Turf	52.3	x 1.00	x 0	x 0.62	÷ 0.71	= 0
Warm Season Turf	52.3	x 0.65	x 0	x 0.62	÷ 0.71	= 0
High Water Using Shrub	52.3	x 0.70	x 0	x 0.62	÷ 0.71	= 0
Medium Water Using Shrub	52.3	x 0.50	x 15,000	x 0.62	÷ 0.65	= 374,146
Low Water Using Shrub	52.3	x 0.30	x 25,000	x 0.62	÷ 0.75	= 324,260
Very Low Water Using Shrub	52.3	x 0.20	x 0	x 0.62	÷ 0.71	= 0
Other	52.3	x 0.50	x 0	x 0.62	÷ 0.71	= 0
Other	52.3	x 0.50	x 0	x 0.62	÷ 0.71	= 0
Total <i>EAWU</i> =			50,000			1,130,752 Gallons per year

$K_L = K_s \times K_d \times K_{mc}$
K_s = species factor (range = 0.1-0.9) (see *WUCOLS* list for values)
K_d = density factor (range = 0.5-1.3) (see *WUCOLS* for density value ranges)
K_{mc} = microclimate factor (range = 0.5-1.4) (see *WUCOLS*)

WUCOLS – www.owue.water.ca.gov/docs/wucols00.pdf

Compare *EAWU* with *MAWA*.

The *EAWU* (1,130,752 gallons per year) is less than *MAWA* (1,232,187 gallons per year). For this example, the water budget complies with the *MAWA*.

List sprinkler heads, microspray, and drip emitters here along with average precipitation rate and Distribution Uniformity of Irrigation Head.

<u>Sprinkler Head Types</u>	<u>Average Precipitation Rate</u>	<u>Distribution Uniformity of Irrigation Head</u>
Drip		
Microspray		
Bubbler		
Low precipitation rotating nozzles		
Stream rotors		

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the *project applicant* for each Point of Connection. Please complete all sections of the worksheet.

Point of Connection # _____

Maximum Applied Water Allowance (MAWA)

Total MAWA = (ETo x 0.7 x LA in Sq. Ft. x 0.62) + (ETo x 1.0 x SLA in Sq. Ft. x 0.62) = Gallons per year for LA+SLA

where:

- MAWA = Maximum Applied Water Allowance (gallons per year)
- ETo = Reference Evapotranspiration Appendix C (inches per year)
- 0.7 = Evapotranspiration Adjustment Factor (ETAF)
- 1.0 = ETAF for Special Landscaped Area
- LA = Landscaped Area (square feet)
- 0.62 = Conversion factor (to gallons per square foot)
- SLA = Special Landscaped Area (square feet)

MAWA Calculation:

	ETo		ETAF		LA or SLA (ft ²)		Conversion		MAWA (Gallons Per Year)
MAWA for LA =		x	0.7		x		0.62	=	
MAWA for SLA =		x	1.0		x		0.62	=	
Total MAWA =									

Estimated Applied Water Use

$$EAWU = ETo \times K_L \times LA \times 0.62 \div IE = \text{Gallons per year}$$

where:

EAWU = Estimated Applied Water Use (gallons per year)

ETo = Reference Evapotranspiration Appendix C (inches per year)

K_L = Landscape Coefficient

LA = Landscaped Area (square feet)

0.62 = Conversion factor (to gallons per square foot)

IE = Irrigation Efficiency = *IME* x *DU*

IME = Irrigation Management Efficiency (90%)

DU = Distribution Uniformity of irrigation head

EAWU Calculation:

$$K_L = K_s \times K_d \times K_{mc}$$

K_s = species factor (range = 0.1-0.9) (see *WUCOLS* list for values)

K_d = density factor (range = 0.5-1.3) (see *WUCOLS* for density value ranges)

K_{mc} = microclimate factor (range = 0.5-1.4) (see *WUCOLS*)

WUCOLS – www.owue.water.ca.gov/docs/wucols00.pdf

	ETo	K _L	LA	Conversion	IE	EAWU (Gallons Per Year)
Special Landscaped Area	x	x	x	0.62	÷	=
Cool Season Turf	x	x	x	0.62	÷	=
Warm Season Turf	x	x	x	0.62	÷	=
High Water Using Shrub	x	x	x	0.62	÷	=
Medium Water Using Shrub	x	x	x	0.62	÷	=
Low Water Using Shrub	x	x	x	0.62	÷	=
Very Low Water Using Shrubs	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
	x	x	x	0.62	÷	=
Other	x	x	x	0.62	÷	=
Total <i>EAWU</i> =						

List sprinkler heads, microspray, and drip emitters here along with average precipitation rate and Distribution Uniformity of Irrigation Head.

<u>Sprinkler Head Types</u>	<u>Average Precipitation Rate</u>	<u>Distribution Uniformity of Irrigation Head</u>
Drip		
Microspray		
Bubbler		
Low precipitation rotating nozzles		
Stream rotors		

Appendix C

Reference Evapotranspiration (ETo) Table

Appendix C - Reference Evapotranspiration (ETo) Table*													
County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Los Angeles County													
Pasadena	2.1	2.7	3.7	4.7	5.1	6.0	7.1	6.7	5.6	4.2	2.6	2.0	52.3
Monrovia	2.2	2.3	3.8	4.3	5.5	5.9	6.9	6.4	5.1	3.2	2.5	2.0	50.2
* The values in this table were derived from:1) California Irrigation Management Information System (CIMIS) 2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999, 3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922 4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426													

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Appendix D

LANDSCAPE INSTALLATION CERTIFICATE OF COMPLETION

I hereby certify that:

- (1) I am a professional appropriately licensed in the State of California to provide professional landscape design services.
- (2) The landscape project for the property located at _____
_____ (provide street address or parcel number(s)) was installed by me or under my supervision.
- (3) The landscaping for the identified property has been installed in substantial conformance with the approved Landscape Documentation Package and complies with the requirements of the City of Rosemead Water Efficient Landscape Ordinance (Municipal Code Chapter 13.08 and the City of Rosemead Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance for the efficient use of water in the landscape.
- (4) The information I have provided in this Landscape Installation Certificate of Completion is true and correct and is hereby submitted in compliance with the City of Rosemead Guidelines for Implementation of the City of Rosemead Water Efficient Landscape Ordinance.

Print Name

Date

Signature

License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If Appropriate)

D-1

Appendix E

Definitions

The terms used in these *Guidelines* have the meaning set forth below:

“**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.

“**Conversion factor**” means the number that converts acre-inches per acre per year to gallons per square foot per year.

“**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.

“**Certified Landscape Irrigation Auditor**” means 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.

“**Certification of Design**” means the certification included as Exhibit E of these Guidelines that must be included in the *Landscape Documentation Package* pursuant to Section 2.1 of these Guidelines.

“**Common interest developments**” means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351

“**Distribution Uniformity**” or “**DU**” is a measure of how uniformly an irrigation head applies water to a specific target area and theoretically ranges from zero to 100 percent.

“**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.

“**Emitter**” means a drip irrigation emission device that delivers water slowly from the system to the soil.

“**Evapotranspiration rate**” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

“**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.

“**Infiltration rate**” means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

“**Invasive plants species**” or “**noxious**” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic

resources. Invasive plant species may be regulated by county agricultural agencies as *noxious species*.

“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.

“Irrigation Management Efficiency” or **“IME”** means the measurement used to calculate the irrigation efficiency of the irrigation system for a landscaped project. A 90% IME can be achieved by using evapotranspiration controllers, soil moisture sensors, and other methods that will adjust irrigation run times to meet plant water needs.

“Landscape coefficient” (K_L) is the product of a plant factor multiplied by a density factor and a microclimate factor. The landscape coefficient is derived to estimate water loss from irrigated landscaped areas and special landscaped areas.

“Landscape Installation Certificate of Completion” means the certificate included as Exhibit F of these Guidelines that must be submitted to the City pursuant to Section 2.7(a)(1) of hereof.

“Lateral line” means the water delivery pipeline that supplies water to the emitters or sprinklers from the *valve*.

“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.

“Main line” means the pressurized pipeline that delivers water from the water source to the *valve* or outlet.

“Maximum Applied Water Allowance” or **“MAWA”** means the upper limit of annual applied water for the established *landscaped area*, as specified in Section 2.2 of these *Guidelines*. It is based upon the area’s *reference evapotranspiration*, the *ETAF*, and the size of the *landscaped area*. The *Estimated Applied Water Use* shall not exceed the *Maximum Applied Water Allowance*.

“Mulch” means any organic material such as leaves, bark, straw or compost, or inorganic mineral materials such as rocks, gravel, or 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.

“Operating pressure” means the pressure at which the parts of an irrigation system of sprinklers are designed to operate at by the manufacturer

“Overspray” means the irrigation water which is delivered beyond the target area.

“Precipitation rate” means the rate of application of water measured in inches per hour.

“Recycled water” or **“reclaimed water”** means treated 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.

“Runoff” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscaped 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.

“Sprinkler head” means a device which delivers water through a nozzle.

“Static water pressure” means the pipeline or municipal water supply pressure when water is not flowing.

“Station” means an area served by one *valve* or by a set of *valves* that operate simultaneously.

“Swing joint” means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

“Water Efficient Landscape Ordinance” means City of Rosemead Ordinance No. ____ and codified in Chapter 15.26 of the City the Municipal Code.

“Water Efficient Landscape Worksheets” means the worksheets required to be completed pursuant to Section 2.2 of these Guidelines and which are included in Appendix B hereof.

“Watering window” means the time of day irrigation is allowed.

“WUCOLS” means the Water Use Classification of Landscape published by the University of California Cooperative Extension, the Department of Water Resources, and the Bureau of Reclamation, 2000. www.owue.water.ca.gov/docs/wucols00