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CITY of CHINO

January 25, 2010

Mr. Simon Eching
California Department of Water Resources
Water Use and Efficiency Branch
P.O. Box 942836
Sacramento, CA 94236-0001

Subject: City of Chino – Landscape Ordinance Adoption

Dear Mr. Eching:

On December 7, 2009, the City of Chino Planning Commission adopted Resolution No. 2009-11, recommending the City Council approve an amendment to Chapter 20.15, Landscaping, of the Chino Municipal Code to bring the City Ordinance into compliance with the requirements of AB 1881, the Water Conservation in Landscaping Act of 2006. This Resolution also established findings that the proposed Ordinance is at least as effective in conserving water as the State's Model Water Efficient Landscape Ordinance.

On January 19, 2010, the City Council of the City of Chino approved Ordinance No. 2010-01. The Ordinance will become effective on February 18, 2010.

If you have any questions regarding this matter, please feel free to call me at 909-464-8310.

Sincerely,

Michael T. Kellison, AICP, LEED AP
Senior Planner

Enc.



RESOLUTION NO. 2009-11

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF CHINO, CALIFORNIA, RECOMMENDING THE CITY COUNCIL APPROVE AN AMENDMENT TO CHAPTER 20.15 (LANDSCAPING) OF THE CHINO MUNICIPAL CODE. ZONE ORDINANCE AMENDMENT NO. PL 09-0594.

WHEREAS, Assembly Bill (AB) 1881, the Water Conservation in Landscaping Act of 2006, required the Department of Water Resources (DWR) to update the state's Model Water Efficient Landscape Ordinance; and

WHEREAS, The Department of Water Resources (DWR) has updated the state's Model Water Efficient Landscape Ordinance; and

WHEREAS, AB 1881 requires local agencies to adopt the state's updated model ordinance, or their own equivalent ordinance; and

WHEREAS, in response to AB 1881, the Inland Empire Landscape Alliance prepared a regional model ordinance that member agencies could adopt or use to guide the preparation of their own ordinances; and

WHEREAS, City of Chino staff has determined the best course of action for Chino would be to incorporate the necessary provisions of the state and regional model ordinances into Chino's existing landscape ordinance, as opposed to adopting either the state or regional ordinances; and

WHEREAS, an amendment to Chapter 20.15 (Landscaping) of the Chino Municipal Code has been proposed to incorporate the necessary provisions of the state and regional model ordinances to bring the City's ordinance into compliance with the requirements of AB 1881; and

WHEREAS, the Chino Planning Division has completed its study of the proposed amendment to the Zoning Ordinance; and

WHEREAS, the proposed amendment to the Zoning Ordinance has been determined to be consistent with the intent of the General Plan; and

WHEREAS, the Planning Commission has held a public hearing on the proposed zone ordinance amendment on December 7, 2009; and

WHEREAS, all provisions of the California Government Code and Chino Municipal Code related to the proposed zone ordinance amendment have been complied with, including noticed public hearings; and

WHEREAS, the Planning Commission has considered and clearly established the following findings of fact:

1. The proposed zone ordinance amendment is consistent with the goals and policies of the General Plan, because the changes being proposed are intended to conserve water through the proper planting of landscape areas and the proper design of irrigation systems. The amendment is consistent with General Plan Goal G5-12, Conserve Water, and Policy P5-12.1, Encourage Water Conservation Practices.

2. The proposed zone ordinance amendment is reasonable and beneficial, and in the interest of good zoning practice, as the proposed zone ordinance amendment only modifies Chapter 20.15 (Landscaping) in an effort to conserve water and will not disrupt the appropriate balance of land uses within the City.
3. The proposed zone ordinance amendment will not have a significant adverse impact on the environment, as the intent of the proposed amendment is to conserve water, which will be beneficial to the environment.
4. The proposed zone ordinance amendment meets the requirements of Assembly Bill (AB) 1881, the Water Conservation in Landscaping Act of 2006, in that the proposed ordinance is at least as effective in conserving water as the state's Model Water Efficient Landscape Ordinance, consistent with the following criteria:
 - a. The proposed ordinance is applicable to all landscapes identified in the applicability section of the state's Model Water Efficient Landscape Ordinance; and
 - b. The most efficient and appropriate irrigation equipment is required to be installed to eliminate water waste; and
 - c. The irrigation design plan requires the use of improved technology; and
 - d. The irrigation scheduling shall be based on evapotranspiration data or soil moisture monitoring systems; and
 - e. The ordinance contains a maximum applied water allowance consistent with the state's new adopted formula; and
 - f. To the greatest extent possible, overspray will be eliminated; and
 - g. The ordinance contains auditing and maintenance requirements consistent with the state's model ordinance; and
 - h. The proposed landscape documentation requirements comply with the state's model ordinance; and
 - i. Plants are required to be grouped in hydrozones; and
 - j. Recycled water irrigation systems are required to allow for the current and future use of recycled water; and
 - k. Stormwater management practices are required to be incorporated into the project designs; and
 - l. The use of mulch is required where appropriate; and
 - m. Soil testing is required to ensure the selection of appropriate plant material; and
 - n. The proposed ordinance contains an education component to promote the efficient use of water in landscapes; and
 - o. Appropriate mechanisms are in place to ensure compliance with the proposed ordinance.

WHEREAS, the proposed ordinance is categorically exempt from the California Environmental Quality Act (CEQA) pursuant to CEQA Guidelines sections 15307, Actions by Regulatory Agencies for Protection of Natural Resources, and 15308, Actions by Regulatory Agencies for Protection of the Environment.

NOW, THEREFORE, BE IT RESOLVED, the City of Chino Planning Commission recommends the City Council approve the proposed amendments to Chapter 20.15 (Landscaping) of the Chino Municipal Code, Zone Ordinance Amendment No. PL 09-0594.

APPROVED AND ADOPTED THIS 7th DAY OF DECEMBER 2009.

PLANNING COMMISSION CHAIRPERSON

ATTEST:

SECRETARY, PLANNING COMMISSION

State of California)
County of San Bernardino) §
City of Chino)

I hereby certify the foregoing Resolution was duly adopted by the City of Chino Planning Commission at a regular meeting held on the 7th of December 2009 and entered in the minutes of said Commission.

AYES: COMMISSIONERS:

NOES: COMMISSIONERS:

ABSENT: COMMISSIONERS:

SECRETARY, PLANNING COMMISSION

ORDINANCE NO. 2010-01

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CHINO, CALIFORNIA, AMENDING CHAPTER 20.15 (LANDSCAPING) OF THE ZONING ORDINANCE OF THE CITY OF CHINO (TITLE 20). PL 09-0594 (AMENDS ORDINANCE NO. 1999-22).

The City Council of the City of Chino, California, does hereby ordain as follows:

Section 1: Chapter 20.15 (Landscaping) of the Zoning Ordinance of the City of Chino (Title 20) is hereby replaced as follows:

Sections:

- 20.15.010 – Purpose
- 20.15.020 – Applicability
- 20.15.030 – Definitions
- 20.15.040 – Landscape Documentation Package
- 20.15.050 – Landscape Design Standards
- 20.15.060 – Parking Lot Landscape Standards
- 20.15.070 – Public Education

20.15.010 Purpose

The landscaping provisions contained in this chapter are provided to:

- A. Enhance the aesthetic appearance of development in all areas of the City by providing standards relating to the quality, quantity, and functional aspects of landscaping;
- B. Help mitigate land use compatibility conflicts between different land uses;
- C. Preserve natural vegetation and incorporate native plants, plant communities, and ecosystems into landscape design;
- D. Protect the environment by increasing on-site infiltration, controlling soil erosion, and reducing runoff;
- E. Protect wildlife habitat and foster biodiversity;
- F. Reduce heat and glare generated by development;
- G. Promote public health, safety and welfare by minimizing the impacts of all forms of physical and visual pollution, preserving the integrity of neighborhoods, and enhancing pedestrian and vehicular traffic safety;
- H. Promote the conservation of potable and recycled water by encouraging the preservation of existing plant communities, encouraging the planting of natural or

uncultivated areas, and encouraging the appropriate design, installation, maintenance, and management of landscape areas so that water demand can be decreased, runoff can be minimized, and flooding can be reduced without a decline in the quality or quantity of landscape areas;

- I. Retain the land's natural hydrological role within the Santa Ana Watershed and promote the infiltration of surface water into the groundwater in the Chino Basin;
- J. Acknowledge that landscape water use accounts for more than 60% of all domestic water use in the Chino Basin;
- K. Promote and encourage the inclusion of low water use plants in landscape design plans;
- L. Minimize the use of cool season turf;
- M. Maximize the use of recycled water and other water conserving technology for appropriate applications;
- N. Promote public education about water conservation and efficient water management;
- O. Reduce or eliminate water waste;
- P. Be at least as effective in conserving water as the model ordinance adopted pursuant to Government Code Section 65595; and
- Q. Comply with Statutes of 2006, AB 1881, Chapter 559, Article 44.5, Section 535.

20.15.020 Applicability

- A. The provisions of this chapter shall apply to all landscape areas meeting the following requirements:
 - 1. Newly constructed and rehabilitated landscape areas associated with public agency projects or private development projects that require a building permit and have a project landscape area equal to or greater than 2,500 square feet; and
 - 2. Newly constructed and rehabilitated residential landscape areas associated with a homeowner-installed project that requires a building permit and has a project landscape area equal to or greater than 5,000 square feet.
- B. All existing landscape areas that were approved pursuant to the requirements of subdivision A and were installed after January 1, 2010 are subject to programs/audits by the City to ensure the applied water does not exceed the approved Maximum Applied Water Allowance (MAWA).

- C. All existing landscape areas that are one acre or more and were installed before January 1, 2010 are limited to preparing the Water Efficient Landscape Worksheet for Existing Landscape Areas in section 20.15.040(D).
- D. The use of Artificial Turf is permitted within the City of Chino. Any installation of artificial turf shall comply with section 20.15.050(B)(3).
- E. The provisions of section 20.15.060 shall apply to all new or altered development projects.
- F. The provisions of this chapter shall not apply to:
 - 1. Registered local, state, or federal historical sites;
 - 2. Ecological restoration projects that do not require a permanent irrigation system; and
 - 3. Botanical gardens and arboretums open to the public.

20.15.030 Definitions

For the purposes of this Chapter, the following terms, words and phrases, and their derivations, shall have the meanings set forth below:

Amendments – Any material added to a soil to improve its physical properties, such as water retention, permeability, water infiltration, and drainage.

Antitranspirant – A protective coating, generally applied to plant materials prior to or immediately after transplanting, that reduces water loss through the leaf surface.

Applicant – Any person required to submit a Landscape Documentation Package. Applicant may include the property owner or an agent of the owner.

Application Rate – The depth of water applied to a given area, usually measured in inches per hour or gallons per hour.

Applied Water – The portion of water supplied by the irrigation system to the landscape area.

Backflow Prevention Device—A safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

Botanical Gardens and Arboretums – A public or private facility for the demonstration and observation of the cultivation of flowers, fruits, vegetables, or ornamental plants.

California Invasive Plant Council (Cal-IPC) – Across California, invasive plants damage wildlands. Invasive plants displace native plants and wildlife, increase wildfire and flood danger, consume valuable water, degrade recreational opportunities, and destroy productive range and

timber lands. Cal-IPC works with land managers, researchers, policy makers, and concerned citizens to protect the state from invasive plants.

California Irrigation Management Information System (CIMIS) - CIMIS is a program in the Office of Water Use Efficiency (OWUE), California Department of Water Resources (DWR) that manages a network of over 120 automated weather stations in the state of California. CIMIS was developed in 1982 by the California Department of Water Resource and the University of California at Davis to assist California's irrigators manage their water resources efficiently.

Certified Landscape Irrigation Auditor – A person certified to perform landscape irrigation audits by an accredited educational institution or a professional trade organization.

CFS – Cubic feet per second.

Check Valve – A valve located under a sprinkler head to hold water in the system so it minimizes drainage from the lower elevation sprinkler heads.

Control Valve – A device used to control the flow of water in the irrigation system. It may also mean all of the sprinklers or emitters in a line controlled by the valve.

Controller – An automatic timing device used to control valves or heads to operate an irrigation system. A weather-based controller is a controller that uses evapotranspiration or weather data. A self adjusting irrigation controller is a controller that uses sensor data (i.e., soil moisture sensor).

Conversion Factor (0.62)—A number that converts the maximum applied water allowance from acre-inches per acre per year, to gallons per SF per year. The conversion factor is calculated as follows:

$$(325,851 \text{ gallons}/43,560 \text{ SF})/12 \text{ inches} = 0.62$$

Where:

325,851 gallons	= one acre foot
43,560 square feet	= one acre
12 inches	= one foot

To convert gallons per year to 100 CF per year, divide gallons per year by 748 (748 gallons equals 100 CF).

Cultivated Landscape Area – Planted areas that are frequently maintained by mowing, irrigating, pruning, fertilizing, etc.

Developer – A landowner or owner's agent responsible for the development of land. Does not include homeowners or landlords of single-family homes.

Development – The uses to which land will be put; the buildings and structures to be constructed on the land; and all alteration of the land and other construction incident to these uses, buildings, and structures.

Ecological Restoration Project – A project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

Emitter – Drip irrigation fittings that deliver water slowly from the system to the soil.

Established Landscape – The point in which plants in the landscape area have developed roots into the soil adjacent to the root ball.

Establishment Period – The first year after installing plant material in the landscape area.

Estimated Total Water Use (ETWU) – The annual total amount of water estimated to be needed to keep plant material in a landscape area in a healthy and thriving condition, based upon such factors as the local evapotranspiration rate, the size of the landscape area, the types of plants and the efficiency of the irrigation system, as referenced in Section 20.15.040.C (*Calculation of the Estimated Total Water Use*) of this Chapter.

ET Adjustment Factor – 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 to be applied to the landscape area. A combined plant mix with a statewide average 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for purposes of the ET adjustment factor is 0.71.

ETo (Reference Evapotranspiration) – A standard measurement of environmental parameters which affect the water use of plants. ETo is given in inches per day, month, or year, and is an estimate of the evapotranspiration of a large field of 4 to 7 inch tall cool-season grass that is well watered.

Evapotranspiration – The quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time. The reference evapotranspiration rates (in inches) are as follows:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
2.1	2.9	3.9	4.5	5.7	6.5	7.3	7.1	5.9	4.2	2.6	2.0	54.6

Flow Rate – The rate at which water flows through pipes and valves, usually in GPM or CFS.

GPM – Gallons per minute.

Ground Cover – Plants, other than turf grass, normally reaching an average maximum height of not more than 2 FT at maturity.

Hedge – A barrier formed by branches, shrubs, or small trees growing close together in a line with interwoven branches.

Hydrozone – A portion of landscape area having similar plants with similar watering needs that are served by a valve or set of valves with the same schedule.

IPH – Inches per hour.

Infiltration Rate – The rate of water entry into the soil, expressed as a depth of water per unit of time (inches per hour).

Invasive Species – Non-indigenous species that adversely affect the habitats they invade economically, environmentally, or ecologically.

Irrigation Audit – An evaluation of the performance of an irrigation system conducted by a Certified Landscape Irrigation Auditor.

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

Irrigation System – A permanent, artificial watering system designed to transport and distribute water to plants.

Landscape Architect – A person licensed to practice landscape architecture in this state pursuant to Chapter 3.5 (commencing with Section 5615) of Division 3 of the Business and Professions Code.

Landscape Area – The planting areas, turf areas, and water features in a landscape design plan subject to the Maximum Applied Water Allowance (MAWA) calculation. The landscape area does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, artificial turf, other pervious or non-pervious hardscapes, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

Landscaping – Any combination of living plants (such as grass, ground cover, shrubs, vines, hedges or trees) and nonliving landscape material (such as artificial turf, rocks, pebbles, sand, mulch, walls, fences, or decorative paving materials).

Low-Head Drainage – Drainage from a sprinkler that is caused by water flowing down an irrigation system from a higher level of elevation.

Maximum Applied Water Allowance (MAWA) – For design purposes, the upper limit of annual applied water for the established landscape area as specified in Section 20.15.040.B of this Chapter (*Calculation of the Maximum Applied Water Allowance*). The maximum applied water allowance is based upon the reference evapotranspiration, the ET adjustment factor, and the size of the landscape area.

Mulch – Any organic material such as leaves, bark, or inorganic material such as pebbles, stones, gravel, decorative sand or decomposed granite left loose and applied to the soil surface to reduce evaporation.

Operating Pressure – The pressure at which a system of sprinklers is designed to operate, usually indicated at the base of a sprinkler.

Overspray – Irrigation that is delivered beyond the landscape area, wetting pavement, walkways, structures, or other non-landscaped areas.

Plant Factor – A factor that when multiplied by referenced evapotranspiration, estimates the amount of water used by plants. For the purposes of this Chapter, the average plant factor for:

low water using plants is from 0 to 0.3, average water using plants is from 0.4 to 0.6, and high water using plants is from 0.7 to 1.0.

Potable Water – Water meant for human consumption that is treated to legal standards for human consumption.

Pressure Regulator – A device used in sprinkler systems for radius and high pressure control.

PSI – Pounds per square inch.

Recycled Water – Treated wastewater of a quality suitable for non-potable uses, such as landscape irrigation and water features. Because it is suitable for a direct beneficial use, or a controlled use that would not otherwise occur, it is considered a valuable resource. This water is not intended for human consumption.

Rehabilitated Landscapes – Any re-landscaping associated with a project that requires a building permit and meets the requirements of Section 20.15.020.

Runoff – Water that is not absorbed by the soil or landscape area to which it is applied and flows from the 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 steep slope.

Shade tree – A self-supporting woody plant or species normally growing to a mature height of at least 20 FT and a mature spread of at least 15 FT. Clusters of more than one tree may be used when it is demonstrated that the grouping of trees will, at maturity, surpass the 15 FT diameter requirement and that the grouping of trees is suitable for the proposed location.

Shrub – A self-supporting woody perennial plant of low to medium height, characterized by multiple stems and branches continuous from the base, usually not more than 8 FT in height at maturity.

SMART Irrigation Controller – A controller that monitors and uses information about environmental conditions, such as soil moisture, rain, wind, slope, soil type, plant type, etc., to automatically adjust watering schedules for specific hydrozones.

Soil test – A test done by a soil test lab that indicates at minimum soil texture, water holding capacity, pH, and soluble salts.

Soil Type – The classification of soil based on the percentage of its composition of sand, silt, and clay.

Special Landscape Area – Landscape areas dedicated to edible plants or irrigated with recycled water, water features filled with recycled water, and areas dedicated to active play or entertainment such as parks, sports fields, golf courses, fairgrounds, and outdoor amphitheaters.

Sprinkler Head – A device which delivers water through a nozzle.

Static Water Pressure – Water supply pressure when it is not flowing.

Station – An area served by one valve or by a set of valves that operate simultaneously.

Sunset Western Climate Zone System – The Sunset Western Climate Zone System utilizes data from climate zones to determine which plants are best suited for each climate zone.

Tree – Any self-supporting woody perennial plant which has a trunk diameter of 2-inches or more and which attains an overall height of at least 15 FT at maturity, usually with one main stem or trunk and many branches; however, in some cases, may appear to have several stems or trunks.

Turf – A surface layer of earth containing mowed grass or grass-like plant with its roots. A groundcover surface of mowed grass or grass-like plant. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are common cool-season turf. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, Carex pansa, and Buffalo grass are common warm-season turf.

Water Feature – Any object that utilizes water for non-irrigation, decorative purposes. Fountains, streams, man-made ponds, man-made lakes, and swimming pools are considered water features.

WUCOLS – The publication entitled “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. The project was developed by the San Francisco and San Mateo County Office in cooperation with 32 landscape professionals. This project was initiated and funded by DWR. The purpose and intended use is to provide guidance to landscape professionals when selecting plant material, while taking into consideration water needs. It also serves as a guide to assist in developing irrigation schedules for existing landscapes.

Valve – A device used to control the flow of water in an irrigation system.

Vegetation, Native – Any plant species with a geographic distribution indigenous to all or part of the southern region of the state of California. Plant species that have been introduced by man are not native vegetation.

20.15.040 Landscape Documentation Package

Prior to the installation of landscaping and irrigation systems as required by this Chapter, a landscape documentation package shall be submitted to the Director of Community Development for review and approval. The documentation package shall be prepared by, and bear the seal of, a landscape architect registered with the State of California, and shall include the following elements:

- A. Water Conservation Concept Statement.** A Water Conservation Concept Statement shall be provided on the cover sheet of each landscape documentation package, which serves as a checklist to verify that all required elements of the landscape documentation package have been provided and that it includes a narrative summary of the project. The water conservation concept statement shall have the following form and content:

WATER CONSERVATION CONCEPT STATEMENT

Date: _____
Project Site: _____ Project File No: _____
Project Location: _____
Landscape Architect/Irrigation Designer/Contractor: _____
Total Project Area: _____
Project Type (Per Section 20.15.020): _____
Water Supply Type: _____

Included in this project submittal package are (check to indicate completion):

- Maximum Applied Water Allowance: _____ cubic feet per year
- Estimated Total Water Use: _____ cubic feet per year
- Landscape Design Plan
- Irrigation Design Plan
- Soil Management Plan
- Irrigation Schedules
- Maintenance Schedule

Description of Project (briefly describe the planning and design actions that are intended to achieve conservation and efficiency in water use): _____

Prepared By: _____ Date: _____

B. Calculation of the Maximum Applied Water Allowance (MAWA). A project's MAWA shall be calculated using the following formula:

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

- Where: MAWA = Maximum applied water allowance (in gallons per year)
ET_o = Reference evapotranspiration (in inches per year)
0.7 = ET adjustment factor
LA = Landscape area including Special Landscape Area (in square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.3 = The additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

1. The MAWA shall be calculated for each parcel/lot separately and for the project as a whole.

C. Calculation of the Estimated Total Water Use (ETWU). The estimated total water use shall be calculated using the equation below. The ETWU shall not exceed the MAWA.

$$\text{ETWU} = (\text{ETo} \times 0.62) \times [((\text{PF} \times \text{HA})/\text{IE}) + \text{SLA}]$$

Where:

ETWU = Estimated total water use per year (gallons)

ETo = Reference Evapotranspiration (inches)

PF = Plant factor from WUCOLS

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

0.62 = Conversion Factor

IE = Irrigation Efficiency (minimum 0.71)

SLA = Portion of the landscape area identified as Special Landscape Area (square feet)

1. ETWU calculations shall use the following requirements:
 - a. The plant factor used shall be from WUCOLS. The plant factor ranges from 0.0 to 0.3 for low water use plants, 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use. The ranges shall be used to adjust for micro-climate conditions.
 - b. All water a. features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.
2. The ETWU shall be calculated for each parcel/lot separately and for the project as a whole.

D. Existing Landscape Areas. Per 20.15.020(C), all existing landscape areas that are one acre or more and were installed before January 1, 2010 are limited to preparing the Water Efficient Landscape Worksheet for Existing Landscape Areas. The MAWA for existing landscape areas shall be calculated as: $\text{MAWA} = (\text{ETo})(0.62)(0.8)(\text{LA})$. Existing special landscape areas shall be allotted additional water, as appropriate, for the needs of the landscape area.

**WATER EFFICIENT LANDSCAPE WORKSHEET
EXISTING LANDSCAPE AREAS**

1. Calculation of the MAWA: $\text{MAWA} = (\text{ETo})(0.62)(0.8)(\text{LA})$
 - $\text{ETo} = 54.6$
 - Conversion Factor = 0.62
 - ET Adjustment Factor = 0.8
 - Landscape Area = ____

MAWA = (54.6)(0.62)(0.8)(_____) = _____

2. For Landscape Areas that do not have a dedicated water meter, use the following ETWU calculation:

Calculation of the ETWU: $ETWU = (ET_o \times 0.62) \times [((PF \times HA)/IE) + SLA]$

- $ET_o = 54.6$
- Conversion Factor = 0.62
- Plant Factor from WUCOLS = _____
- Hydrozone Area = _____
- Irrigation Efficiency = 0.71
- Special Landscape Area = _____

Hydrozone	Plant Water Use	Plant Factor (PF) from WUCOLS	Insert Hydrozone Area (HA) (square feet)	Multiply PF x HA (square feet)
1	Very Low Water Use	0.1		
2	Low Water Use	0.2		
3	Medium Water Use	0.5		
4	High Water Use	0.8		
			Sum of PF x HA =	

ETWU = (54.6 x 0.62) x (_____/0.71) + _____] = _____

Total ETWU = _____

MAWA – ETWU = _____

(If this number is not positive, then see the comments below on how to reduce your ETWU to a level that does not exceed the MAWA)

3. For Landscape Areas that have a dedicated water meter, the annual applied water for the landscape area shall not exceed the MAWA:

MAWA – Applied Water = _____

(If this number is not positive, then see the comments below on how to reduce your ETWU to a level that does not exceed the MAWA)

Recommendations to reduce water use to a level that does not exceed the MAWA:

- Reprogram existing controller to correct seasonal run times and adjust annually.
- Install a weather based controller.
- Check for and repair any leaks in the irrigation system.
- Replace high volume sprinkler heads with new low flow heads.
- Where applicable, convert sprinkler areas to drip irrigation.

- *Adjust spray pattern of existing sprinklers to eliminate overspray and runoff.*
- *Replace existing high water use landscaped areas with drought tolerant decorative shrub and ground cover beds.*

E. Landscape Design Plan. The landscape design plan shall be fully dimensioned and detailed, and shall include the following materials and information:

1. A scaled site plan indicating site perimeter, the geographic features surrounding the site, north arrow, topography, vegetation, and other site features such as approximate slope percentage, solar exposure, and orientation.
2. Location of all buildings, parking areas, and any other improvements on the project site.
3. Location and description of all plant material to be installed or preserved (including street trees), light standards, parkway treatments, fences and walls, and curbing and hardscape treatments (including type and finish).
4. A full plant legend calling out all plant types by botanic and common name, number and size of plants, and planting distances. All exotic species shall be identified. Verification shall be provided that none of the species listed by the California Invasive Plant Council as invasive in the area are included in the planting plan.
5. Location and type of all passive and active recreation equipment and amenities, including outdoor equipment provided for employee welfare (such as benches, tables, etc.).
6. Location of all ground mounted equipment, including transformers, fire equipment, utility boxes, etc.
7. Tree staking, plant installation, soil preparation details, and other applicable planting and installation details.
8. Calculation of the total landscape area to determine water use.
9. Any other such information that may be required by the Director of Community Development that is reasonable and necessary to determine that the landscape design plan meets the requirements of this chapter.

F. Irrigation Design Plan. The irrigation design plan shall be separate from, but use the same format and scale as the landscape design plan, and shall include the following information:

1. The location and size of separate water meter(s) used for landscape irrigation purposes;
2. The location, type, and size of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads, recycled water systems, moisture sensing devices, rain cut-off switches, quick couplers, and backflow prevention devices;
3. The static water pressure at the point of connection to the public water supply;

4. The flow rate (GPM), application rate (IPH) and design operating pressure (PSI) for each station;
5. Proposed recycled water irrigation systems.
 - a. The installation of recycled water irrigation systems shall be required to allow for the current and future use of recycled water.
 - b. Irrigation systems shall make use of recycled water unless it is not available. In areas where recycled water is not currently available, but may be available in the foreseeable future, irrigation systems shall be designed to allow for the conversion from potable to recycled water.
 - c. The recycled water irrigation systems shall be designed and operated in accordance with City and State codes.
6. An irrigation schedule that identifies the runtime (in minutes per cycle), suggested number of cycles per day, and suggested number of days per week.
7. The amount of applied water (in 100 cubic feet) recommended on a monthly and annual basis.
8. A regular maintenance schedule for checking, adjusting, and repairing irrigation equipment and resetting automatic controllers.
9. An automatic irrigation system with a smart irrigation controller shall be provided for all landscape areas.
10. Landscape irrigation systems shall be designed so that, to the greatest extent practical, overspray is eliminated. This can be accomplished through the use of low-trajectory spray nozzles to reduce the effect of wind velocity on the spray system and by placing sprinkler heads to reduce direct overspray onto non-pervious areas.
11. For the purpose of determining the MAWA, irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed 0.71 efficiency.
12. A separate landscape irrigation water meter shall be installed for all projects, excepting single-family homes.
13. Sprinkler heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.
14. It is recommended that soil moisture-sensing devices be considered where appropriate.
15. All irrigation systems shall be designed to prevent runoff, over-spray, low head drainage, and other similar conditions. Soil types and infiltration rates shall be considered when designing irrigation systems. Irrigation systems shall be designed, constructed, managed, and maintained to achieve as high an overall efficiency as possible.

16. 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.
17. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surfaces. 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:
 - a. The landscape area is adjacent to permeable surfacing and no overspray and runoff occurs;
 - b. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscape areas; or
 - c. The irrigation designer specifies an alternative design or technology that will prevent overspray and runoff.
18. Non-turf areas on slopes greater than 25% shall be irrigated with drip irrigation or other low volume irrigation technology.
19. All irrigation systems shall include:
 - a. A smart irrigation controller or other equivalent technology which automatically adjusts the frequency and/or duration of irrigation events in response to changing weather conditions. The planting areas shall be grouped and irrigated in relation to hydrozones based on similarity of water requirements (i.e. turf separate from shrub and groundcover, full sun exposure areas separate from shade areas, and top of slope separate from toe of slope);
 - b. Anti-drain check valves shall be installed to prevent low-head drainage in sprinkler heads;
 - c. A pressure regulator when the static water pressure exceeds the maximum recommended operating pressure of the irrigation system;
 - d. A manual shutoff valve(s) to prevent water loss resulting from a leak in the irrigation system; and
 - e. Backflow prevention devices.

G. Grading Plan

1. For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff, and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package.
 - a. The project applicant shall submit a grading plan that indicates finished configurations and elevations of the landscape area, including:
 - Height of graded slopes;
 - Drainage patterns;
 - Pad elevations;

- Finish grade; and
 - Stormwater retention improvements, if applicable.
- b. To prevent excessive erosion and runoff, it is highly recommended that project applicants:
- Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
 - Avoid disruption of natural drainage patterns and undisturbed soil; and
 - Avoid soil compaction in landscape areas.

H. Soil Management Plan

1. Soil testing shall be performed after mass grading and prior to landscape installation to ensure the selection of appropriate plant material that is suitable for the site. A soil management plan shall be submitted, and include:
 - a. Determination of soil texture, indicating the available water holding capacity.
 - b. An approximate soil infiltration rate (either) measured or derived from soil texture/infiltration rate tables. A range of infiltration rates shall be noted where appropriate.
 - c. Measure of pH and total soluble salts.
 - d. Recommend soil amendments to accommodate the planned landscape palette.

I. Irrigation Schedules

1. An irrigation program with monthly irrigation schedules shall be required for the plant establishment period, for the established landscape, and for any temporarily irrigated areas.
2. The irrigation schedule shall include:
 - a. Irrigation interval (days between irrigation);
 - b. Runtime (in minutes per cycle), suggested number of cycles per day, and frequency of irrigation for each station;
 - c. The amount of applied water (in 100 cubic feet) recommended on a monthly and annual basis;
 - d. Amount of applied water scheduled to be applied on a monthly basis;
 - e. Application rate setting;
 - f. Root depth setting;
 - g. Plant type setting;
 - h. Soil type;
 - i. Slope factor setting;

- j. Shade factor setting; and
 - k. Irrigation uniformity or efficiency setting.
3. The total amount of water for the project shall include water designated in the estimated total water use calculation, plus water needed for any water features (considered as a high water using hydrozone).
 4. Automated irrigation of landscape areas shall be scheduled between the hours of 8:00 p.m. and 6:00 a.m. to avoid irrigating during times of high wind, high temperature, and high water usage. Automated irrigation outside of the 8:00 p.m. to 6:00 a.m. period is allowed for irrigation audits and irrigation system maintenance.
 5. Irrigation scheduling shall use automatic irrigation systems and evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations or soil moisture monitoring systems to apply the appropriate levels of water for different climates.
 6. For implementation of the irrigation schedule, particular attention must be paid to irrigation run times, emission device, flow rate, and current ETo, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to the MAWA. Actual irrigation schedules should be based on current time ETo data (e.g., CIMIS or soil moisture sensor).

J. Maintenance Schedule

1. Landscape irrigation shall be maintained to ensure water efficiency. A regular maintenance schedule shall include, but not be limited to checking, adjusting, and repairing irrigation equipment; resetting automatic controllers; aerating and dethatching turf areas; replenishing mulch; fertilizing; and pruning and weeding.
2. Repair of irrigation equipment shall be done with the originally specified materials or their equivalents.

K. Certificate of Completion

1. Upon completion of the installation of landscaping and irrigation systems, a certified landscape irrigation auditor shall conduct an irrigation audit.
2. A licensed landscape architect or contractor, or other licensed or certified professional in a related field, shall conduct a final field inspection and shall prepare a certificate of completion, which shall be filed with the Director of Community Development. The certificate of completion shall specifically indicate that plants were installed as specified by the landscape design plan, that the irrigation system was installed as specified by the irrigation design plan, and that an irrigation audit has been performed.
3. The Certificate of Completion shall include the following:
 - a. Date;
 - b. Project name;
 - c. Project applicant name, telephone, and mailing address;

- d. Project address and location;
- e. Property owner name, telephone, and mailing address;
- f. Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;
- g. Landscape and irrigation maintenance schedule;
- h. Irrigation Audit Report; and
- i. Soil analysis report and documentation verifying implementation of soil report recommendations.

20.15.050 Landscape Design Standards

A. Stormwater Management

- 1. The applicant shall incorporate stormwater management practices into the project design that minimize runoff, increase on-site infiltration, and improve water quality as necessary to comply with applicable stormwater regulations.
- 2. The applicant is encouraged to incorporate stormwater management practices into the project design that minimize runoff, increase on-site infiltration, and improve water quality if not specifically required by stormwater regulations.

B. Minimum On-Site Planting Requirements

- 1. General requirements.
 - a. Trees shall not be placed where they interfere with site drainage or require frequent pruning in order to avoid interference with overhead utilities.
 - b. Trees should be grouped together to simulate natural tree stands. A design that places trees in a linear or symmetric pattern is not encouraged, with the exception of street trees.
 - c. When more than 10 trees are to be planted to meet the requirements of this chapter, a mix of tree sizes shall be provided as specified by Table 20.15-1 (*Minimum Tree Size Mix*).

TABLE 20.15-1 MINIMUM TREE SIZE MIX

Minimum Percent Mix of Required Trees	Size
10%	36-inch box or larger
25%	24-inch box
65%	15-gallon

- d. When more than 10 trees are to be planted to meet the requirements of this chapter, a mix of tree species shall be provided as specified by Table 20.15-2 (*Minimum Tree Species Mix*).

TABLE 20.15-2 MINIMUM TREE SPECIES MIX

Number of Required Trees	Minimum Number of Tree Species Required
Less than 21	2
21 to 30	3
31 to 40	4
More than 40	5

- e. In addition to the on-site trees required by this chapter, street trees of a minimum 15-gallon or larger shall be installed at an average spacing of every 30 feet and shall comply with the applicable standard drawings of the City's Public Works Department.
 - f. A mulch bed of at least 3 inches of thickness shall be applied where appropriate. Organic materials, including mulch from plant debris, are preferable over inorganic materials because they supply nutrients over time.
2. Selection of Plant Materials
- a. Any plant may be selected for the landscape area, providing the ETWU in the landscape area does not exceed the MAWA. To encourage the efficient use of water, the following is highly recommended:
 - Protection and preservation of native species and natural vegetation;
 - Selection of water conserving plant species and turf species; and
 - Selection of trees based on tree shading guidelines;
 - b. Each hydrozone shall have plant materials with similar water use except under the following circumstances:
 - Individual hydrozones that mix moderate and low water use plants or moderate and high water use plants, may be allowed if:
 - The plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
 - The plant factor of the higher water using plant is used for the calculation.
 - Individual hydrozones that mix high and low water use plants shall not be permitted.
 - c. 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:
 - 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;

- Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, power lines); and
 - Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- d. Installation of turf on slopes greater than 25% shall not be permitted 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 shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.
 - f. 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.
 - g. The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.
3. Artificial Turf
- a. Artificial turf may be incorporated into the landscaping of a project. The type and quantity of artificial turf to be incorporated into the landscaping of a project shall be submitted for review as part of the landscape documentation package.
 - b. Artificial turf shall consist of lifelike individual blades of grass that emulate real grass in look and color.
 - c. A proper drainage system shall be installed underneath the turf to prevent excess runoff or pooling of water.
 - d. Artificial turf shall be installed and maintained to effectively simulate the appearance of a well-maintained lawn.
 - e. The use of indoor or outdoor plastic or nylon carpeting as a replacement for artificial turf or natural turf is prohibited.
 - f. Artificial turf shall be installed in combination with natural plant materials (i.e., trees, shrubs, and groundcover) to enhance the overall landscaping design.
 - g. Artificial turf may be used to satisfy up to 30% of the minimum landscape coverage required for a project. Any such request shall be submitted for review as part of the landscape documentation package and must be approved by the Director of Community Development.
 - h. Artificial turf shall not be included as part of the landscape area when calculating the MAWA.

- i. Artificial turf may be incorporated into existing landscaping, and may be used to satisfy a portion of the minimum landscape coverage requirement. Any such request shall be submitted for review and must be approved by the Director of Community Development.
4. Water Features
- a. Recirculating water systems shall be used for decorative water features.
 - b. Where available, recycled water shall be used as the source for decorative water features (excluding swimming pools and spas).
 - c. The surface area of a decorative water feature shall be included in the high water use hydrozone of the water budget calculation.
5. Residential Zoning Districts. The following standards shall apply to residential development projects:
- a. Developments of detached single-family dwellings shall provide front yard landscaping and permanent automatic irrigation in the front yard of each lot. Furthermore, appropriate shrubs and trees shall be provided and a variety of landscape designs shall be provided for use throughout the subdivision.
 - b. Planned developments shall provide landscaping in accordance with Part B.5.a of this Section. Furthermore, all common areas shall be provided with full landscape improvements and permanent automatic irrigation. For the purposes of this Part, "planned development" means a subdivision of detached or attached single-family dwellings sharing common open space facilities.
 - c. Multiple-family developments shall be provided with full landscape improvements and permanent automatic irrigation.
 - d. Within residential projects, on-site trees shall be provided as specified by Table 20.15-3 (*Minimum On-Site Tree Requirements of Residential Projects*).

TABLE 20.15-3 MINIMUM ON-SITE TREE REQUIREMENTS OF RESIDENTIAL PROJECTS

Residential Development Type	Minimum Number of Trees	Minimum Percent Shade Trees	Notes
Single-family; lots more than 40,000 sq.ft.	7 per lot	50%	
Single-family; lots 20,000 to 40,000 sq.ft.	5 per lot	50%	
Single-family; lots 15,000 to 19,999 sq.ft.	4 per lot	50%	
Single-family; lots 7,200 to 14,999 sq.ft.	3 per lot	50%	
Single-family;	2 per lot	50%	

TABLE 20.15-3 MINIMUM ON-SITE TREE REQUIREMENTS OF RESIDENTIAL PROJECTS

Residential Development Type	Minimum Number of Trees	Minimum Percent Shade Trees	Notes
lots less than 7,200 sq.ft.			
Planned Development	20 per acre	50%	The total number of trees shall be located on lots and in common open space.
Multiple Family	40 per acre	75%	The total number of trees shall be located in private and common open space areas.

6. Commercial and Industrial Zoning Districts. The following standards shall apply to commercial and industrial development projects:
 - a. A minimum of 20 trees per gross acre shall be provided. Exceptions from this standard (an increase or decrease in the minimum standard) may be granted/required by the Director of Community Development upon consideration of the following factors:
 - Building height(s) and setbacks(s);
 - Size and quantity of landscape areas along the street frontage, within the surface parking areas, and around the building perimeter;
 - Presence of special landscape features and treatments; and
 - Extent of textural treatment on buildings and articulation of building elevations visible from the street.
 - b. Those portions of a property which are not used for drive entries, parking, or approved outdoor uses shall be fully landscaped; all unpaved areas shall be landscaped; and all future development phase areas shall be hydroseeded in a manner that is consistent with the MAWA.

C. Planting Standards and Specifications

1. Trees shall conform to the minimum measurements specified by Table 20.15-4 (*Minimum Tree Size Specifications*).

TABLE 20.15-4 MINIMUM TREE SIZE SPECIFICATIONS

Size	Caliper	Height	Spread
48-inch box	3.25-inches	16 to 18 ft.	8 to 9 ft.
36-inch box	2.75-inches	12 to 14 ft.	6 to 7 ft.
24-inch box	1.75-inches	9 to 10 ft.	4 to 5 ft.
15-gallon	0.75-inch	7 to 8 ft.	2 to 3 ft.

2. All tree and plant pits, vine pits, hedge trenches, and shrub beds shall be excavated as follows:
 - a. All pits shall be generally circular in outline, with vertical sides, deep enough to allow 1 to 2-inches of the root ball to be above the existing grade and a minimum of 2.5 times the diameter of the root ball. Plants should rest on undisturbed existing soil or well-compacted backfill; and
 - b. Areas designated for shrub beds shall be cultivated to at least 1.5 feet in depth. Areas designated for vines or groundcovers shall be cultivated to a depth of 1 foot.
3. Sheared hedges are discouraged and should be replaced with plants that can grow to their natural shape and size. Shearing is not only labor-intensive, but contributes to constant waste material.
4. All landscape materials shall be installed using planting soil of a type appropriate to the individual plant material and the soil conditions in which the planting is occurring, per the soil management plan.
5. In order to reduce the transpiration rate of plant material during the installation process, antitranspirants should be used. (Antitranspirants reduce the amount of water loss through the leaves of plant material during installation, thereby reducing the amount of water required for the survival of the plants.) Plant installations are encouraged during the fall season, and should be avoided in the middle of the summer season.
6. To minimize damage to paved areas due to tree root growth, trees located within 5 feet of any paved surface shall be provided with root barriers, unless it can be demonstrated to the satisfaction of the Director of Community Development that the root growth characteristics of the type of tree proposed does not warrant their installation. Root barriers should be linear and not encircling the tree, which will result in encircled roots and stumped growth.
7. All 15-gallon or smaller size trees shall be double-staked. All 24-inch or larger box trees shall be provided with guy wires or reinforced double-stakes.

D. Maintenance of Cultivated Landscape Areas

1. The owner or assigns of any lot or parcel subject to the provisions of this chapter shall be responsible for the maintenance of said land in good condition so as to present a healthy, neat, and orderly landscape area.
2. All landscape areas shall be maintained in a healthy, pest-free condition. Upon a determination of the Director of Community Development that a plant is dead or severely damaged or diseased, the plant shall be replaced by the property owner(s) in accordance with the standards specified in this chapter.
3. Any removal of mature landscaping shall require the replacement of such with landscaping of similar size and maturity as that which was removed.
4. All pruning should be accomplished according to good horticultural standards. Trees shall only be pruned as necessary to promote healthy growth.
5. All watering of planted areas shall be managed so as to maintain healthy flora, make plant material more drought tolerant, avoid excessive turf growth, minimize fungus growth, stimulate deep root growth, and minimize the leaching of soil nutrients.
6. Watering of plants and trees should be of sufficient quantity to thoroughly soak the root ball of the plant and surrounding area, thereby promoting deep root growth and drought tolerance.
7. Integrated Pest Management (IPM) shall be used to mitigate weeds, fertilize with organic matter, and minimize the use of pesticides and herbicides.
8. Irrigation systems shall be constantly maintained to eliminate wastewater due to loss of head, broken pipes, or misadjusted nozzles.

20.15.060 Parking Lot Landscape Standards

- A. Parking facilities for 10 or more vehicles shall comply with the following standards for landscaping within surface parking lots:
 1. **Street Frontage Landscaping.** When a parking lot is located adjacent to a public or private street, a main drive aisle that functions as a street, or a common drive aisle designed to serve three or more users, a landscaped strip shall be provided for the purpose of shielding parked cars from view of passing motorists and pedestrians, and to establish coordination among architecturally diverse buildings, creating a pleasing, harmonious appearance along roadways. Street frontage landscaping shall be provided as specified by Table 20.15-5 (*Street Frontage Landscape Requirements*).

TABLE 20.15-5 STREET FRONTAGE LANDSCAPE REQUIREMENTS

Street Type	Minimum Width of Street Frontage Landscaping*
Public Street	10 feet, measured from the street right-of-way property line
Private Street or Main Drive Aisle	10 feet, measured from the back of the curb of the private street

* The landscape strip may not contain any paved surfaces, except pedestrian walkways or vehicular drives that cross the strip.

2. **Perimeter Landscaping.** Parking lots shall be provided with perimeter landscaping for the purpose of defining parking areas and preventing two adjacent lots from becoming one large expanse of paving. Perimeter landscaping shall be a minimum of 5.5 feet in width. The requirement for perimeter landscaping shall not preclude any need to provide vehicular access between abutting lots or parcels.
3. **Interior Landscaping.** Within parking areas, landscaping shall be incorporated to provide shade, color, interest, and a hierarchy of vehicular circulation through the parking lot. Such landscaped areas shall have a minimum width of 6 feet and a minimum length of not less than the longest abutting parking stall.
4. **Interior Parking Lot Landscape Requirements.** Landscaping shall be provided as specified in Table 20.15-6 (*Residential/Commercial Interior Parking Lot Landscape Requirements*) and Table 20.15-7 (*Industrial Interior Parking Lot Landscape Requirements*). For the purposes of this Part, interior landscaping shall be defined as any landscaped area surrounded on at least two sides by parking spaces or drive aisles, excluding those areas around the site or building perimeter.

TABLE 20.15-6 RESIDENTIAL/COMMERCIAL INTERIOR PARKING LOT LANDSCAPE REQUIREMENTS

Total Area of Site (Project)	Percent of Surface Parking Area to be Landscaped
Less than 1 acre	5%
1 to 3 acres	10%
More than 3 acres	15%

TABLE 20.15-7 INDUSTRIAL INTERIOR PARKING LOT LANDSCAPE REQUIREMENTS

Parking Area Size	Percent of Surface Parking Area to be Landscaped
Less than 15,000 SF	5%
15,000 to 30,000 SF	7.5%
More than 30,000 SF	10%

5. **Landscape Islands.** All rows of parking spaces shall be provided with landscape islands at each row terminus to protect parked vehicles, ensure visibility, confine moving traffic to drive aisles and driveways, and provide space for landscaping. Additionally, landscape islands shall be provided as needed to prevent more than ten vehicles from being parked side-by-side in an abutting configuration.

An island for a single row of parking spaces shall be landscaped with at least one tree and vegetative groundcover or turf. An island for a double row of parking spaces shall contain not less than two trees and vegetative groundcover or turf.

6. **Concrete Curbs.** All landscape areas within parking areas shall be separated from parking spaces, drive aisles, and driveways by a continuous, raised concrete curb to protect landscape areas from encroachment by vehicular traffic, unless the concrete curb is designed or removed to allow parking area drainage into landscape areas for the purposes of stormwater treatment and on-site retention. The concrete curb shall be a minimum of six inches high by six inches wide, except where a landscape area is parallel and adjacent to a parking stall, the curb shall be a minimum of 6 inches high by 12 inches wide to provide an area for persons to step when entering or exiting a motor vehicle.
7. **Shade Trees.** Within parking areas, shade trees shall be placed in such numbers and locations so that 50 percent of the parking stalls are shaded within fifteen years of planting. However, at a minimum, at least one tree shall be provided for every 4 parking spaces, with the maximum spacing between trees or clusters of trees not to exceed 30 feet.
8. **Permanent Landscape Areas.** Within parking areas, all areas not used for driveways, maneuvering areas, parking spaces, or walkways, shall be permanently landscaped with suitable materials and permanently maintained in accordance with landscape plans approved by the Director of Community Development.
9. **Parking Stalls.** To increase parking lot landscaped area, a maximum of 2 feet of the parking stall depth may be landscaped in lieu of paving surface, while maintaining the required parking space dimensions.
10. **Innovative Landscaping Approaches.** Rainwater shall be managed on-site with designs that encourage infiltration, evapotranspiration, and water re-use by:
 - a. Utilizing permeable paving for parking spaces, drive aisles, overflow parking, and other hard surfaces in the parking lot;
 - b. Planting trees, shrubs and other permeable landscaping throughout the parking lot to provide shade and places for water infiltration;
 - c. Creating bio-retention areas, such as swales, vegetated islands and overflow ponds; and
 - d. Incorporating opportunities to harvest rainwater (active or passive) from rooftops and other hard surfaces for landscape irrigation.

20.15.070 Public Education

A. Publications. Education is a critical component to promote the efficient use of water in landscapes. The use of appropriate principles of landscape and irrigation design, installation, management, and maintenance that save water is encouraged in the community.

1. Homebuilders shall provide information packets to residents purchasing new single-family residential homes regarding the design, installation, management, and maintenance of the specific water efficient landscapes and irrigation systems installed in their homes. This information shall be reviewed and approved by the Director of Community Development prior to issuance of any building permits.

B. Model Homes. All model homes that are landscaped shall use signs and written information to demonstrate the principles of water efficient landscapes described in this ordinance.

1. Signs shall be used to identify the models landscape area as an example of a water efficient landscaping featuring elements such as hydrozones, irrigation equipment, and other features that contribute to the overall water efficient theme.

Section 2: Severability.

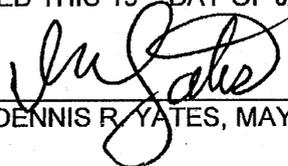
If any part or provision of this chapter is held invalid by a court of competent jurisdiction, such part or provision shall be considered a separate and distinct provision and such court holding shall not affect the validity and enforceability of the other provisions of this chapter.

Section 3: Certification.

The City Clerk of the City of Chino shall certify to the passage and adoption of this Ordinance and shall cause the same to be published in the *Chino Champion*, a newspaper of general circulation, within said City in accordance with the provisions of the Government Code.

ADOPTED THIS 19TH DAY OF JANUARY 2010.

By:


DENNIS R. YATES, MAYOR

ATTEST:

By:


LENJA J. TANNER, CITY CLERK

City of Chino

STATE OF CALIFORNIA)
COUNTY OF SAN BERNARDINO) §
CITY OF CHINO)

I, Lenna J. Tanner, City Clerk of the City of Chino do hereby certify that the foregoing Ordinance of the City of Chino was duly adopted by said City Council at a regular meeting held on the 19th day of January 2010 by the following vote:

AYES: COUNCILMEMBERS: YATES, ELROD, DUNCAN, HAUGHEY, ULLOA

NOES: COUNCILMEMBERS: NONE

ABSENT: COUNCILMEMBERS: NONE

By: *Lenna J. Tanner*
LENNA J. TANNER, CITY CLERK

City of Chino

