

ORDINANCE 15-28

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF CLOVIS AMENDING ARTICLE 5, OF CHAPTER 6.5, OF TITLE 6 OF THE CLOVIS MUNICIPAL CODE RELATING TO WATER EFFICIENT LANDSCAPE REQUIREMENTS

THE CITY COUNCIL OF THE CITY OF CLOVIS DOES ORDAIN AS FOLLOWS:

SECTION 1. FINDINGS.

In adopting this Ordinance, the City Council finds that:

1. The waters of the City are of limited supply and are subject to ever increasing demands.
2. The continuation of Clovis' economic prosperity is dependent on the availability of adequate supplies of water for future uses.
3. It is the policy of the City to promote the conservation and efficient use of water and to prevent the waste of this valuable resource.
4. Landscapes are essential to the quality of life in Clovis by providing areas for active and passive recreation and as an enhancement to the environment by cleaning air and water, preventing erosion, offering fire protection, and replacing ecosystems lost to development.
5. Landscape design, installation, maintenance and management can and should be water efficient.
6. Section 2 of Article X of the California Constitution specifies that the right to use water is limited to the amount reasonably required for the beneficial use to be served and the right does not and shall not extend to waste or unreasonable method of use.
7. The City of Clovis is required to adopt by reference or in detail the California Code of Regulations Title 23. Waters, Division 2. Department of Water Resources, Chapter 2.7. Model Water Efficient Landscape Ordinance or adopt a local ordinance as effective to meet the requirements contained in the regulations.
8. The City of Clovis has an existing Water Efficient Landscape Ordinance ("WELO" or "Ordinance") that is proposed to be amended to conform to the new State requirements, as set forth herein.
9. City staff compared the amended WELO to the provisions in the Model Ordinance and found the amended WELO be as effective based upon the following:
 - The Ordinance is applicable to the same landscapes as identified in the Model Ordinance.
 - The Ordinance requires a Maximum Applied Water Allowance water budget based on an evapotranspiration adjustment factor (ETAF) of 0.55 for new and rehabilitated residential landscapes and an ETAF of 0.45 for non-residential projects.

- The Ordinance defines the irrigation efficiency of drip irrigation as 0.81 and overhead irrigation and other technologies must meet a minimum irrigation efficiency of 0.75.
- The Ordinance precludes the use of high water use plants in street median strips.
- The Ordinance requires that areas less than 10 feet wide must be irrigated with subsurface irrigation or other means that produce no runoff or overspray.
- For multi-lot projects the Ordinance requires that soil testing should be completed using a soil sampling rate of approximately 1 in 7 lots or 15 percent.
- Prior to planting 4 yards of compost must be incorporated per 1,000 square feet of permeable area. Compacted soils must be transformed to a friable condition.
- The depth of mulch required has been increased from 2 to 3 inches.
- Graywater and storm retention components must be indicated on the landscape plan.
- Dedicated landscape meters or submeters are required for residential landscapes over 5,000 square feet and non-residential landscapes over 1,000 square feet.
- Irrigation systems are required to have pressure regulation to ensure correct and efficient operation.
- All irrigation emission devices must meet the American National Standards Institute standard, American Society of agricultural and Biological Engineers'/International Code Council's 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard".
- Flow sensors that detect and report high flow conditions due to broken pipes and/or popped sprinkler heads are required for landscape areas greater than 5,000 square feet.
- Master shut-off valves that prevent water waste in case of large failures of irrigation systems due to breakage or vandalism are required on all landscapes except where sprinklers can be individually controlled.
- The irrigation auditor must be a local agency auditor or a third party auditor and must be certified by one of the U.S. EPA WaterSense labeled auditing programs.
- Landscapes that are less than 2,500 square feet and are irrigated entirely with graywater or captured rainwater are subject only to the irrigation system requirements of the prescriptive compliance option.
- Landscape areas are required to have friable soil to maximize stormwater infiltration.
- Based upon calculations the prescriptive compliance option is determined to be as effective as the traditional Model Water Efficient Landscape Ordinance approach.
- Under the Model Ordinance, the prescriptive compliance option is available to all landscapes between 500 and 2,500 square feet in size. The City's Ordinance will additionally allow use of the prescriptive option for single family residential landscapes of any size. The reason for this additional option is that there is no requirement that new single family homes have landscaping installed prior to building permit final and no permit or plan review is required to install landscaping once the valves for the irrigation system have been approved with the building final. Therefore, builders could avoid the Ordinance by not installing the landscaping prior to building permit final. By expanding the ability for all single family landscapes to utilize the prescriptive option, builders will be

encouraged to install the landscape prior to building permit final. This will increase the number of new single family landscapes that meet the goals of the Ordinance and is determined to be more effective than the Model Ordinance.

SECTION 2. AMENDMENT OF MUNICIPAL CODE.

Article 5, of Chapter 6.5, of Title 6 of the Clovis Municipal Code is hereby amended to read in its entirety as follows:

Article 5. Water Efficient Landscape Requirements

6.5.501 Applicability.

- (a) The requirements herein shall apply to all of the following landscape projects:
- (1) new construction projects with an aggregated landscape area equal to or greater than 500 square feet requiring a building or landscape permit, plan check or design review;
 - (2) rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 square feet requiring a building or landscape permit, plan check, or design review;
 - (3) existing landscapes constructed prior to the effective date of this chapter are limited to Sections 6.5.512 and 6.5.513.
 - (4) new and rehabilitated cemeteries are limited to Sections 6.5.503(b)(2), 6.5.506 and 6.5.507; and existing cemeteries are limited to Sections 6.5.512; and 6.5.513.
- (b) Any individual single family residential lot of any size or any project with an aggregate landscape area of 2,500 square feet or less may comply with the performance requirements of this ordinance or conform to the prescriptive measures contained in Section 6.5.515.
- (c) For projects using treated or untreated graywater or rainwater captured on site, any lot or parcel within the project that has less than 2,500 square feet of landscape and meets the lot or parcel's landscape water requirement (Estimated Total Water Use) entirely with treated or untreated graywater or through stored rainwater captured on site is subject only to 6.5.515(b)(5).
- (d) This ordinance does not apply to:
- (1) registered local, state or federal historic 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) existing plant collections, as part of botanical gardens and arboretums open to the public.

6.5.502 Definitions.

The terms used in this article have the meaning set forth below:

- (a) "applied water" means the portion of water supplied by the irrigation system to the landscape.

(b) "automatic irrigation controller" means timing device used to remotely control valves that operate an irrigation system. Automatic irrigation controllers are able to self-adjust and schedule irrigation events using either evapotranspiration (weather-based) or soil moisture data.

(c) "backflow prevention device" means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

(d) "Certificate of Completion" means the document required under Section 6.5.04.

(e) "certified irrigation designer" means a person certified to design irrigation systems by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation designer certification program and the Irrigation Association's Certified Irrigation Designer program.

(f) "certified landscape irrigation auditor" means a person certified to perform landscape irrigation audits by an accredited academic institution, a professional trade organization or other program such as the US Environmental Protection Agency's WaterSense irrigation auditor certification program and the Irrigation Association's Certified Landscape Irrigation Auditor program.

(g) "check valve" or "anti-drain valve" means a valve located under a sprinkler head, or other location in the irrigation system, to hold water in the system to prevent drainage from sprinkler heads when the sprinkler is off.

(h) "City" shall mean the City of Clovis Department of Planning and Development Services unless indicated otherwise.

(i) "common interest developments" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351.

(j) "compost" means the safe and stable product of controlled biologic decomposition of organic materials that is beneficial to plant growth.

(k) "conversion factor (0.62)" means the number that converts acre-inches per acre per year to gallons per square foot per year

(l) "distribution uniformity" means the measure of the uniformity of irrigation water over a defined area.

(m) "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.

(n) "ecological restoration project" means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.

(o) "effective precipitation" or "usable rainfall" (Eppt) means the portion of total precipitation which becomes available for plant growth.

(p) "emitter" means a drip irrigation emission device that delivers water slowly from the system to the soil.

(q) "established landscape" means the point at which plants in the landscape have developed significant root growth into the soil. Typically, most plants are established after one or two years of growth.

(r) "establishment period of the plants" means the first year after installing the plant in the landscape or the first two years if irrigation will be terminated after establishment. Typically, most plants are established after one or two years of growth. Native habitat mitigation areas and trees may need three to five years for establishment.

(s) "Estimated Total Water Use" (ETWU) means the total water used for the landscape as described in Section 6.5.503(b)(2)(ii)(ac).

(t) "ET adjustment factor" (ETAF) means a factor of 0.55 for residential areas and 0.45 for non-residential areas, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape. The ETAF for a new and existing (non-rehabilitated) Special Landscape Area shall not exceed 1.0. The ETAF for existing non-rehabilitated landscapes is 0.8.

(u) "evapotranspiration rate" means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

(v) "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.

(w) "flow sensor" means an inline device installed at the supply point of the irrigation system that produces a repeatable signal proportional to flow rate. Flow sensors must be connected to an automatic irrigation controller, or flow monitor capable of receiving flow signals and operating master valves. This combination flow sensor/controller may also function as a landscape water meter or submeter.

(x) "friable" means a soil condition that is easily crumbled or loosely compacted down to a minimum depth per planting material requirements, whereby the root structure of newly planted material will be allowed to spread unimpeded.

(y) "Fuel Modification Plan Guideline" means guidelines from a local fire authority to assist residents and businesses that are developing land or building structures in a fire hazard severity zone.

(z) "graywater" means untreated wastewater that has not been contaminated by any toilet discharge, has not been affected by infectious, contaminated, or unhealthy bodily wastes, and does not present a threat from contamination by unhealthful processing, manufacturing, or operating wastes. "Graywater" includes, but is not limited to, wastewater from bathtubs, showers, bathroom washbasins, clothes washing machines, and laundry tubs, but does not include wastewater from kitchen sinks or dishwashers. Health and Safety Code Section 17922.12.

(aa) "hardscapes" means any durable material (pervious and non-pervious).

(bb) "hydrozone" means a portion of the landscaped area having plants with similar water needs and rooting depth. A hydrozone may be irrigated or non-irrigated.

(cc) "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).

(dd) "invasive plant species" means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. Invasive species may be regulated by county agricultural agencies as noxious species. Lists of invasive plants are maintained at the California Invasive Plant Inventory and USDA invasive and noxious weeds database.

(ee) "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. The audit must be conducted in a manner consistent with the Irrigation Association's Landscape Irrigation Auditor Certification program or other U.S. Environmental Protection Agency "Watersense" labeled auditing program.

(ff) "irrigation efficiency" (IE) means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The irrigation efficiency for purposes of this ordinance are 0.75 for overhead spray devices and 0.81 for drip systems.

(gg) "irrigation survey" means an evaluation of an irrigation system that is less detailed than an irrigation audit. An irrigation survey includes, but is not limited to: inspection, system test, and written recommendations to improve performance of the irrigation system.

(hh) "irrigation water use analysis" means an analysis of water use data based on meter readings and billing data.

(ii) "landscape architect" means a person who holds a license to practice landscape architecture in the state of California Business and Professions Code, Section 5615.

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

(kk) "landscape contractor" means a person licensed by the state of California to construct, maintain, repair, install, or subcontract the development of landscape systems.

(ll) "Landscape Documentation Package" means the documents required under Section 6.5.503.

(mm) "landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance, meeting requirements under Section 6.5.501.

(nn) "landscape water meter" means an inline device installed at the irrigation supply point that measures the flow of water into the irrigation system and is connected to a totalizer to record water use.

(oo) "lateral line" means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.

(pp) "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.

(qq) "main line" means the pressurized pipeline that delivers water from the water source to the valve or outlet.

(rr) "master shut-off valve" is an automatic valve installed at the irrigation supply point which controls water flow into the irrigation system. When this valve is closed water will not be supplied to the irrigation system. A master valve will greatly reduce any water loss due to a leaky station valve.

(ss) "Maximum Applied Water Allowance" (MAWA) means the upper limit of annual applied water for the established landscaped area as specified in Section 6.5.503(b)(2)(ii)(ab). It is based upon the area's reference evapotranspiration, the ET Adjustment Factor, and the size of the landscape area. The Estimated Total Water Use shall not exceed the Maximum Applied Water Allowance. Special Landscape Areas, including recreation areas, areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens, and areas irrigated with recycled water are

subject to the MAWA with an ETAF not to exceed 1.0. $MAWA = (ET_o)(0.62)[(ETAF \times LA) + ((1-ETAF) \times SLA)]$

(tt) "median" is an area between opposing lanes of traffic that may be unplanted or planted with trees, shrubs, perennials, and ornamental grasses.

(uu) "microclimate" means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

(vv) "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.

(ww) "mulch" means any organic material such as leaves, bark, straw, 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.

(xx) "new construction" means a new building with a landscape or other new landscape, such as a park, playground, or greenbelt without an associated building.

(yy) "non-residential landscape" means landscapes in commercial, institutional, industrial and public settings that may have areas designated for recreation or public assembly. It also includes portions of common areas of common interest developments with designated recreational areas.

(zz) "operating pressure" means the pressure at which the parts of an irrigation system are designed by the manufacturer to operate.

(aaa) "overhead sprinkler irrigation systems" or "overhead spray irrigation systems" means systems that deliver water through the air (e.g., spray heads and rotors).

(bbb) "overspray" means the irrigation water which is delivered beyond the target area.

(ccc) "parkway" means the area between a sidewalk and the curb or traffic lane. It may be planted or unplanted, and with or without pedestrian egress.

(ddd) "permit" means an authorizing document issued by the City for new construction or rehabilitated landscapes.

(eee) "pervious" means any surface or material that allows the passage of water through the material and into the underlying soil.

(fff) "plant factor" or "plant water use factor" is a factor, when multiplied by the reference evapotranspiration (ET_o), estimates the amount of water needed by plants. For purposes of this chapter, the plant factor range for very low water use plants is 0 to 0.1, the plant factor range for low water use plants is 0.1 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 publication "Water Use Classification of Landscape Species". Plant factors may also be obtained from horticultural researchers from academic institutions or professional associations as approved by the California Department of Water Resources (DWR).

(ggg) "project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 6.5.503, to request a permit, plan check, or design review from the City. A project applicant may be the property owner or his or her designee.

(hhh) "rain sensor" or "rain sensing shutoff device" means a component which automatically suspends an irrigation event when it rains.

(iii) "record drawing" or "as-builts" means a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.

(kkk) "recreational area" means areas, excluding private single family residential areas, designated for active play, recreation or public assembly in parks, sports fields, picnic grounds, amphitheaters or golf tees, fairways, roughs, surrounds and greens.

(lll) "recycled water", "reclaimed water", or "treated sewage effluent 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.

(mmm) "reference evapotranspiration" or "ETo" means a standard measurement of environmental parameters which affect the water use of plants. ETo is expressed in inches per day, month, or year as represented in Section 6.5.503(b)(2)(ii)(aa), 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 Allowance so that regional differences in climate can be accommodated.

(nnn) "rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, or design review, meets the requirements of Section 6.5.501, and the modified landscape area is equal to or greater than 2,500 square feet.

(ooo) "residential landscape" means landscapes surrounding single or multi-family homes.

(ppp) "run off" means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscape area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a slope.

(qqq) "soil moisture sensing device" or "soil moisture sensor" means a device that measures the amount of water in the soil. The device may also suspend or initiate an irrigation event.

(rrr) "soil texture" means the classification of soil based on its percentage of sand, silt, and clay.

(sss) "Special Landscape Area" (SLA) means an area of the landscape dedicated solely to edible plants, recreational areas, areas irrigated with recycled water, or water features using recycled water.

(ttt) "sprinkler head" or "spray head" means a device which delivers water through a nozzle.

(uuu) "static water pressure" means the pipeline or municipal water supply pressure when water is not flowing.

(vvv) "station" means an area served by one valve or by a set of valves that operate simultaneously.

(www) "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.

(xxx) "submeter" means a metering device to measure water applied to the landscape that is installed after the primary utility water meter.

(yyy) "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.

(zzz) "valve" means a device used to control the flow of water in the irrigation system.

(aaaa) "water conserving plant species" means a plant species identified as having a very low or low plant factor.

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

(cccc) "watering window" means the time of day irrigation is allowed.

(dddd) "WUCOLS" means the Water Use Classification of Landscape Species published by the University of California Cooperative Extension and the Department of Water Resources 2014.

6.5.503 Landscape Documentation Package Submittal Requirements

(a) Prior to issuance of a building permit, encroachment permit, or beginning of construction, the project applicant shall submit a Landscape Documentation Package to the City for review and approval. The Landscape Documentation Package shall contain the information required by (b) and shall be incorporated into the improvement plan and/or landscape plan set required for permit approvals.

(b) Elements of the Landscape Package. The Landscape Package shall include the following six (6) elements:

(1) project information, which shall include the following;

- (i) date;
- (ii) project applicant;
- (iii) project address;
- (iv) total landscape area (square feet), including a breakdown of turf and plant material;
- (v) project type (e.g. new, rehabilitated, public, private, cemetery, homeowner installed);
- (vi) water supply type (e.g. potable, recycled, private well, untreated surface water);
- (vii) checklist of all documents in Landscape Package;
- (viii) project contacts to include contact information for the project applicant and property owner; and
- (ix) applicant signature and date with statement, "I agree to comply with the requirements of the water efficient landscape ordinance and submit a complete Landscape Documentation Package."

(2) Water Efficient Landscape Worksheet;

- (i) hydrozone information table for the landscape project, and
- (ii) water budget calculations

(aa) For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use, a project applicant shall use the following ETo values:

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
1.0	1.5	3.2	4.8	6.4	7.7	8.5	7.3	5.3	3.4	1.4	0.7	51.4

Water budget calculations shall adhere to the following requirements:

1. The plant factor used shall be from WUCOLS (Water Use Classification Of Landscape Species) or from horticultural researchers with academic institutions or professional associations as approved by the California Department of Water Resources (DWR). The plant factor ranges from 0 to 0.1 for very low water using plants, 0.1 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants, and from 0.7 to 1.0 for high water use plants.

2. All water features shall be included in the high water use hydrozone and temporarily irrigated areas shall be included in the low water use hydrozone.

3. All Special Landscape Areas shall be identified and their water use calculated as described below.

4. ETAF for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

(ab) The Maximum Applied Water Allowance (MAWA) shall be calculated using the equation:

MAWA = (ETo) (0.62) [(ETAF x LA) + ((1-ETAF) x SLA)] where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ETo = Reference Evapotranspiration (inches per year)

0.62 = Conversion Factor (to gallons)

ETAF = ET Adjustment Factor (0.55 for residential areas and 0.45 for non-residential areas)

LA = Landscape Area including SLA (square feet)

SLA = Special Landscape Area (square feet)

(ac) The Estimated Total Water Use shall be calculated using the equation below. The sum of the Estimated Total Water Use calculated for all hydrozones shall not exceed MAWA.

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

Where:

ETWU = Estimated Total Water Use per year (gallons)

ETo = Reference Evapotranspiration (inches)

PF = Plant Factor from WUCOLS (see Section 6.5.502)

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

SLA = Special Landscape Area (square feet)

0.62 = Conversion Factor

IE = Irrigation Efficiency (0.75 for spray head and 0.81 for drip)

(3) Soil Management Report. In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant or designee, as follows:

(i) Submit soil samples to a laboratory for analysis and recommendations.

(aa) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.

(ab) The soil analysis shall 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.

(ac) In projects with multiple landscape installations (i.e. production home developments) a soil sampling rate of 1 in 7 lots or approximately 15% will satisfy this requirement. Large landscape projects shall sample at a rate equivalent to 1 in 7 lots.

(ii) The project applicant or designee shall comply with one of the following:

(aa) If significant mass grading is not planned, the soil analysis report shall be submitted as part of the Landscape Documentation Package; or

(ab) If significant mass grading is planned, the soil analysis report shall be submitted as part of the Certificate of Completion.

(iii) The soil analysis shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans to make any necessary adjustments.

(iv) Upon completion of construction and prior to issuance of an occupancy permit or project acceptance, the project applicant or designee shall submit documentation verifying implementation of soil analysis report recommendations within the landscaped area to the City with the Certificate of Completion.

(4) Landscape Design Plan. Landscape plans, including plant selection shall be designed consistent with City Landscape Design Standards and guidelines. A landscape design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

(i) Plant material. The Estimated Total Water Use for plants selected for the landscape area shall not exceed the Maximum Applied Water Allowance. The landscape plan shall identify landscape materials, trees, shrubs, groundcover, and turf. Plant symbols shall be clearly drawn and plants shall be labeled by botanical name, common name, container size, spacing and quantities for each group of plants specified. Planting areas dedicated permanently and solely to edible plants should be clearly delineated.

(ii) Plant selection. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site and consideration of the following factors: protection and preservation of native species and natural vegetation; selection of water conserving plant, tree and turf species, especially local native plants; selection of plants based on local climate

suitability, disease and pest resistance; selection based on climate zone tolerance; selection based on the horticultural attributes of plants such as mature plant size and invasive roots to minimize damage to property or infrastructure; allow for adequate soil volume for healthy root growth; selection of trees based on tree shading requirements; the solar orientation for plant placement to maximize summer shade and winter solar gain; selection of plants from local Fuel Modification Plan Guidelines; and selection from City recommended plant lists.

(iii) Hydrozone information. Delineate and label each hydrozone by number, letter, or other method; identify each hydrozone as low, moderate, high water, or mixed water use; identify recreational areas; identify areas permanently and solely dedicated to edible plants; identify areas irrigated with recycled water; identify type and surface area of water features; Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use, as specified in Section 6.5.503(b)(5)(ii)(ad).

(iv) Turf is not allowed 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.

(v) High water use plants, characterized by a plant factor of 0.7 to 1.0 are prohibited in street medians.

(vi) 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.

(vii) Water features may be permitted, subject to design review, and the provisions of Section 6.5.514.

(viii) Soil Preparation, Mulch and Amendments. Prior to the planting of any materials, compacted soils shall be transformed to a friable condition. On engineered slopes, only amended planting holes need meet this requirement. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected. For landscape installations, compost at a rate of a minimum of four cubic yards per 1,000 square feet of permeable area shall be incorporated to a depth of six inches into the soil. Soils with greater than 6% organic matter in the top 6 inches of soil are exempt from adding compost and tilling. A minimum three inch (3") layer of mulch shall 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. To provide habitat for beneficial insects and other wildlife, up to 5% of the landscape area may be left without mulch. Designated insect habitat must be included in the landscape design plan as such. Stabilizing mulching products shall be used on slopes that meet current engineering standards. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.

(ix) Other design considerations. The landscape design plan shall also identify; hardscapes (pervious and non-pervious); property lines; utilities and utility easements; streets; buildings and structures; natural features to remain; location, installation details, and 24-hour retention or infiltration capacity of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater;

any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.); and any applicable graywater discharge piping, system components and area(s) of distribution.

(x) Verification. The landscape plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscape Requirements Ordinance and applied them for the efficient use of water in the landscape design plan"; and shall bear the signature of a licensed landscape architect, licensed landscape contractor, or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

(5) Irrigation Design Plan. This section applies to landscaped areas requiring permanent irrigation, not areas require temporary irrigation for the plant establishment period. For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance.

(i) System requirements.

(aa) Landscape water meters shall be installed for all non-residential irrigated landscapes of 1,000 square feet or more and residential irrigated landscapes of 5,000 square feet or greater.

(ab) Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data utilizing non-volatile memory shall be required for irrigation scheduling in all irrigation systems.

(ac) If the water pressure is below or exceeds the recommended pressure of the specified irrigation devices, the installation of a pressure regulating device is required 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 shall 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 shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.

(ad) Sensors (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.

(ae) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss in case of an emergency (such as a main line break) or routine repair.

(af) Backflow prevention devices shall be provided as required by the City Water Division to protect the water supply from contamination by the irrigation system.

(ag) Flow sensors that detect high flow conditions created by system damage or malfunction are required for all non-residential landscapes and residential landscapes of 5,000 square feet or larger.

(ah) Master shut-off valves are required on all projects except landscapes that make use of technologies that allow for the individual control of sprinklers that are individually pressurized in a system equipped with low pressure shut down features.

(ai) The irrigation system shall 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.

(aj) Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.

(ak) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

(al) The irrigation system must be designed and installed to meet the irrigation efficiency criteria as described in Section 6.5.503(b)(2) regarding the Maximum Applied Water Allowance.

(am) All irrigation emission devices must meet the requirements set in the American National Standards Institute (ANSI) standard, American Society of Agricultural and Biological Engineers'/International Code Council's (ASABE/ICC) 802-2014 "Landscape Irrigation Sprinkler and Emitter Standard. All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(an) The project applicant shall consult with the City Water Division about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.

(ao) Low volume irrigation shall be used in mulched planting areas to maximize water infiltration into the root zone.

(ap) Sprinkler heads and other emission devices shall have matched precipitation rates, unless otherwise directed by the manufacturer's recommendations.

(aq) Sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

(ar) Swing joints or other riser-protection components shall be provided on all risers subject to damage that are adjacent to hardscapes or in high traffic areas of turfgrass.

(as) Check valves or anti-drain valves are required on all sprinkler heads where low point drainage could occur.

(at) Areas less than ten (10) feet in width in any direction, shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(au) Overhead irrigation shall not be 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 volume 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 landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
3. the irrigation designer specifies an alternative design or technology, as part of the Landscape Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section 6.5.503(b)(5)(i)(ai). Prevention of overspray and runoff must be confirmed during the irrigation audit.

(av) Slopes greater than 25% shall not be irrigated with an irrigation system with a application rate exceeding 0.75 inches per hour. This restriction may be modified if the

landscape designer 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.

(ii) Hydrozone irrigation design parameters.

(aa) Each valve shall irrigate a hydrozone with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.

(ab) Sprinkler heads and other emission devices shall be selected based on what is appropriate for the plant type within that hydrozone.

(ac) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and turf to facilitate the appropriate irrigation of trees. The mature size and extent of the root zone shall be considered when designing irrigation for the tree.

(ad) Individual hydrozones that mix plants of moderate and low water use, or moderate and high water use, may be allowed if:

1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or

2. plant factor of the higher water using plant is used for calculations.

(ae) Individual hydrozones that mix high and low water use plants shall not be permitted.

(af) The areas irrigated by each valve shall be designated, and each valve shall be assigned a number corresponding to the hydrozones identified on the landscape plan. The valve numbers shall be listed in the Hydrozone Information Table on the plans.

(iii) The irrigation design plan, at a minimum, shall identify:

(aa) location and size of separate water meters for landscape;

(ab) 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;

(ac) static water pressure at the point of connection to the public water supply;

(ad) flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;

(ae) recycled water irrigation systems as specified in Section 6.5.509;

(iv) Verification. The irrigation plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscape Requirements Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan"; and shall bear the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor, or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the Food and Agricultural Code.)

(6) Grading Design Plan. 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 comprehensive grading plan prepared by a civil engineer for other permits satisfies this requirement.

(i) The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including: height of graded slopes; drainage patterns; pad elevations; finish grade; proposed underground and in-ground drainage improvements; and stormwater retention improvements, if applicable.

(ii) The grading design plan shall contain the following statement: "I have complied with the criteria of the Water Efficient Landscape Requirements Ordinance and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law.

(c) Approval required. Upon approval of the Landscape Documentation Package by the City, the project applicant shall:

(1) receive a permit or approval of the plan check or design review and record the date of the permit in the Certificate of Completion;

(2) submit a copy of the approved Landscape Documentation Package along with the record drawings, and any other information to the property owner or his/her designee; and

(3) submit a copy of the Water Efficient Landscape Worksheet to the City Water Division.

6.5.504 Landscape certificate of completion.

(a) Prior to issuance of a certificate of occupancy or final project acceptance, project applicant shall submit a signed Certificate of Completion to the City for review. The Certificate of Completion shall include the following elements:

(1) project information sheet that contains: date; project name; project applicant name, telephone, and mailing address; project address and location; and property owner name, telephone, and mailing address;

(2) 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. Where there have been significant changes made in the field during construction, "as-built" or record drawings shall be included with the certification; A diagram of the irrigation plan showing hydrozones shall be kept with the irrigation controller for subsequent management purposes.

(3) irrigation scheduling parameters used to set the controller (see Section 6.5.505);

(4) landscape and irrigation maintenance schedule (see Section 6.5.506);

(5) irrigation audit report (see Section 6.5.507); and

(6) soil analysis report, if not initially submitted with the Landscape Documentation Package, and documentation verifying implementation of soil report recommendations.

(b) The project applicant shall: ensure that copies of the approved Certificate of Completion are submitted to the City Water Division and property owner or his or her designee.

(c) The City shall receive and either approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the City shall provide information to the project applicant regarding reapplication, appeal, or other assistance.

6.5.505 Irrigation scheduling.

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

(1) Irrigation scheduling shall be regulated by automatic irrigation controllers.

(2) Overhead irrigation shall be scheduled between 8:00 p.m. and 10:00 a.m. unless weather conditions prevent it. Operation of the irrigation system outside the normal watering window is allowed for auditing, system maintenance and during plant establishment period.

(3) The irrigation schedule shall factor in irrigation run times, emission device, flow rate, and current reference evapotranspiration, so that applied water meets the Estimated Total Water Use. Total annual applied water shall be less than or equal to Maximum Applied Water Allowance (MAWA). Actual irrigation schedules shall be regulated by automatic irrigation controllers using current reference evapotranspiration data (e.g., CIMIS) or soil moisture sensor data.

(4) Parameters used to set the automatic controller shall be developed and submitted for each of the following:

- (i) the plant establishment period;
- (ii) the established landscape; and
- (iii) temporarily irrigated areas.

(5) Each irrigation schedule shall consider for each station all of the following that apply:

- (i) irrigation interval (days between irrigation);
- (ii) irrigation run times (hours or minutes per irrigation event to avoid runoff);
- (iii) number of cycle starts required for each irrigation event to avoid runoff;
- (iv) amount of applied water scheduled to be applied on a monthly basis;
- (v) application rate setting;
- (vi) root depth setting;
- (vii) plant type setting;
- (viii) soil type;
- (ix) slope factor setting;
- (x) shade factor setting; and
- (xi) irrigation uniformity or efficiency setting.

6.5.506 Landscape and irrigation maintenance.

(a) Landscapes shall be maintained to ensure water use efficiency. A regular maintenance schedule shall be submitted with the Certificate of Completion.

(b) A regular maintenance schedule shall include, but not be limited to, routine inspection; auditing, adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; topdressing with compost, replenishing mulch; fertilizing; pruning; weeding in all landscape areas, and removing obstructions to emission devices.

(c) Repair of all irrigation equipment shall be done with the originally installed components or their equivalents or with components with greater efficiency.

6.5.507 Irrigation Audit, Irrigation Survey, and Irrigation Water Use Analysis.

(a) All landscape irrigation audits shall be conducted by a City landscape irrigation auditor or a third party certified landscape irrigation auditor. Landscape audits shall not be conducted by the person who designed the landscape or installed the landscape.

(b) In large projects or projects with multiple landscape installations (i.e. production home developments) an auditing rate of 1 in 7 lots or approximately 15% will satisfy this requirement.

(c) For new construction and rehabilitated landscape projects installed after December 1, 2015, as described in Section 6.5.501:

(1) the project applicant shall submit an irrigation audit report with the Certificate of Completion to the City that shall include, but is not limited to: inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule, including configuring irrigation

controllers with application rate, soil types, plant factors, slope, exposure and any other factors necessary for accurate programming;

(2) The City Public Utilities Department shall administer programs that may include, but not be limited to, irrigation water use analysis, irrigation audits, and irrigation surveys for compliance with the Maximum Applied Water Allowance.

6.5.508 Irrigation Efficiency.

For the purpose of determining Estimated Total Water Use, average irrigation efficiency is assumed to be 0.75 for overhead spray devices and 0.81 for drip system devices.

6.5.509 Recycled Water.

(a) The installation of recycled water irrigation systems shall allow for the current and future use of recycled water.

(b) All recycled water irrigation systems shall be designed and operated in accordance with all applicable City and State laws.

(d) Landscapes using recycled water are considered Special Landscape Areas. The ET Adjustment Factor for new and existing (non-rehabilitated) Special Landscape Areas shall not exceed 1.0.

6.5.510 Stormwater Management.

Project applicants shall implement stormwater best management practices as required in chapter 6.7, Urban Storm Water Quality Management and Discharge Control.

6.5.511 Public Education.

(a) The City shall make available information to owners of permitted renovations and new single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes based on a water budget.

(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 chapter.

(1) Signs shall be used to identify the model as an example of a water efficient landscape featuring elements such as hydrozones, irrigation equipment, and others that contribute to the overall water efficient theme. Signage shall include information about the site water use as designed; specify who designed and installed the water efficient landscape; and demonstrate low water use approaches to landscaping such as using native plants, graywater systems, and rainwater catchment systems.

(2) Information shall be provided about designing, installing, managing, and maintaining water efficient landscapes.

6.5.512 Provisions for Existing Landscapes

a) This section, shall apply to all existing landscapes that were installed before December 1, 2015 and are over one acre in size.

(1) For all landscapes in 6.5.512(a) that have a water meter, the City Public Utilities Department shall administer programs that may include, but not be limited to, irrigation water use analyses, irrigation surveys, and irrigation audits to evaluate water use and provide recommendations as necessary to reduce landscape water use to a level that does not exceed the Maximum Applied Water Allowance for existing landscapes. The

Maximum Applied Water Allowance for existing landscapes shall be calculated as:
 $MAWA = (0.8) (ET_o)(LA)(0.62)$.

(2) For all landscapes in 6.5.512 (a), that do not have a meter, the City Public Utilities Department shall administer programs that may include, but not be limited to, irrigation surveys and irrigation audits to evaluate water use and provide recommendations as necessary in order to prevent water waste.

(b) All required landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

6.5.513 Water Waste Prevention.

Water wasting is prohibited and for purposes of this chapter shall be defined as runoff leaving a landscape due to low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, parking lots, or structures. Runoff and overspray is not considered water waste if the landscape area is adjacent to permeable surfacing and no runoff occurs from the property, or the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping. Penalties for water wasting shall be per Section 6.5.110.

6.5.514 Water features.

(a) Regulated water features for purposes of this section contain 500 gallons of water or more and in the case of swimming pools are more than eighteen inches (18") in depth.

(b) Recirculating water. All water features shall use recirculating water or the water shall be reused for landscape irrigation. If untreated surface water or recycled water is used and is used for artificial recharge of the groundwater aquifer, recirculating water is not required.

(c) Permits required. No water feature shall be constructed or installed within the City by any person without first securing a permit therefore from the Building Division of the Planning and Development Services Department in accordance with Title 8, Building Regulations.

(d) Management Plan. All persons applying for a permit to construct or install a water feature shall prior to permit issuance provide a management plan prepared by a registered engineer or other professional determined to be competent by the City for the water feature. The management plan shall indicate how the water feature will be maintained and shall be reviewed and approved by the City Water Division prior to permit issuance.

(e) Seepage. All water features, unless filled with reclaimed or untreated surface water, shall not lose more than one inch (1") per year in water depth due to seepage. The applicant shall by calculations based on the type of material used for the water feature lining, determine the expected water loss due to seepage prior to permit approval.

6.5.515 Prescriptive Compliance Option

(a) This section contains prescriptive requirements which may be used as a compliance option per Section 6.5.01(b) and Section 6.5.01(c).

(b) Compliance with the following items is required and shall be documented on a landscape plan to utilize the prescriptive compliance option.

(1) Project applicant or designee shall submit a Landscape Documentation Package which includes the following elements:

- (i) date.
- (ii) project applicant.
- (iii) project address (if available, parcel and/or lot number(s)).
- (iv) total landscape area (square feet), including a breakdown of turf and plant material.
- (v) project type (e.g. new, rehabilitated, public, private, cemetery, homeowner installed).
- (vi) water supply type (e.g., potable, recycled, private well).
- (vii) contact information for the project applicant and property owner.
- (viii) applicant signature and date with statement, "I agree to comply with the requirements of the prescriptive compliance option of the Water Efficient Landscape Ordinance".

(2) Project applicant or designee shall incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six inches into landscape area (unless contra-indicated by a soil test);

(3) Plant material shall comply with all of the following:

(i) For residential areas, install climate adapted plants that require occasional, little or no summer water (WUCOLS) plant factor 0.3) for 75% of the plant area excluding edibles and areas using recycled water. For non-residential areas, install climate adapted plants that require occasional, little or no summer water (average WUCOLS plant factor 0.3) for 100% of the plant area excluding edibles and areas using recycled water;

(ii) A minimum three inch (3") layer of mulch shall 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.

(4) Turf shall comply with all of the following:

(i) Turf shall not exceed 25% of the landscape area in residential areas, and there shall be no turf in non-residential areas;

(ii) Turf shall not be planted on sloped areas which exceed a slope of 1 foot vertical elevation change for every 4 feet of horizontal length;

(iii) Turf is prohibited in parkways less than 10 feet wide, unless the parkway is adjacent to a parking strip and used to enter and exit vehicles. Any turf in parkways must be irrigated by sub-surface irrigation or by other technology that creates no overspray or runoff.

(5) Irrigation systems shall comply with the following:

(i) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.

(ii) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.

(iii) Pressure regulators shall be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.

(iv) Manual shut-off valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.

(v) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "Landscape Irrigation Sprinkler and Emitter Standard." All sprinkler heads installed in the landscape must document a distribution

uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.

(vi) Areas less than ten (10) feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.

(vii) Flow sensors that detect high flow conditions created by system damage or malfunction are required for residential landscapes of 5,000 square feet or larger.

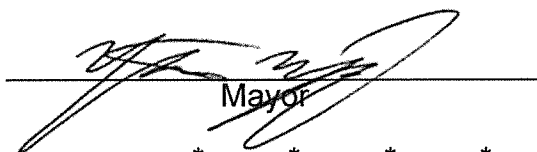
(6) Dedicated landscape meters or submeters are required for residential landscapes over 5,000 square feet and for non-residential projects with landscape areas of 1,000 square feet or more, private submeter(s) to measure landscape water use shall be installed.

(c) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and schedule of landscape and irrigation maintenance. The permit applicant shall also provide the owner of the property a plan for the completion of the backyard landscape if backyard landscape is not included with the original permit meeting the requirements of this section.

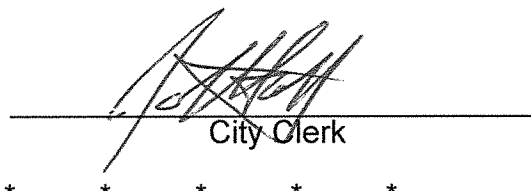
SECTION 3. EFFECTIVE DATE.

This Ordinance shall go into effect and be in full force from and after thirty (30) days after its final passage and adoption.

APPROVED: December 7, 2015



Mayor



City Clerk

* * * * *

The foregoing Ordinance was introduced and read at a regular meeting of the City Council held on December 7, 2015, and was adopted at a regular meeting of said Council held on December 14, 2015 by the following vote, to wit:

AYES: Councilmembers Armstrong, Ashbeck, Flores, Whalen, Mayor Magsig

NOES: None

ABSENT: None

ABSTAIN: None

DATED: December 14, 2015



City Clerk

