

**CITY OF PALMDALE
COUNTY OF LOS ANGELES, CALIFORNIA**

ORDINANCE NO. 1362

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF PALMDALE MODIFYING CHAPTER 14.05 TITLE 14 OF THE PALMDALE MUNICIPAL CODE (ENVIRONMENTAL MANAGEMENT) RELATING TO WATER EFFICIENT LANDSCAPING REQUIREMENTS TO INCLUDE RECENT UPDATES TO STATE LAW:

WHEREAS the limited supply of state waters are subject to ever increasing demands; and

WHEREAS, the City's economic prosperity depends on adequate supplies of water; and

WHEREAS the City's policy promotes conservation and efficient use of water; and

WHEREAS, landscapes provide recreation areas, clean the air and water, prevent erosion, offer fire protection, and replace ecosystems; and

WHEREAS, landscape design, installation, and maintenance can and should be water efficient.

WHEREAS this ordinance has been determined to be Categorically Exempt pursuant to Section 15308, Class 8 of the California Environmental Quality Act (CEQA). This section consists of action taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF PALMDALE DOES ORDAIN AS FOLLOWS:

SECTION 1. Title 14 (Environmental Management Chapter 14.05) is hereby amended to read as follows:

Chapter 14.05. WATER EFFICIENT LANDSCAPE

14.05.10 Purpose and Intent

In accordance with the Water Conservation in Landscaping Act (GOVERNMENT CODE SECTIONS 65591 et. seq.) the purpose and intent of this ordinance is to:

- (A) Promote the values and benefits of landscaping while recognizing the need to utilize water and other resources as efficiently as possible.

- (B) Use water efficiently without waste by setting a Maximum Applied Water Allowance as an upper limit for water use and reduce water use to the lowest practical amount.
- (C) Establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects;
- (D) Establish provisions for water management practices and water waste prevention for existing landscapes; and
- (E) Implement water conservation policies contained in the City's General Plan.

14.05.20 Definitions

(A) For the purpose of carrying out the intent of this Ordinance, the words, phrases and terms included herein have the meaning ascribed to them in this article.

- (1) "**Application Rate**" means the depth of water applied to a given area, measured in inches per minute, inches per hour, or gallons per hour.
- (2) "**Applied water**" means the portion of water supplied by the irrigation system to the landscape.
- (3) "**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.
- (4) "**Best Management Practices for Water Waste**" means those practices contained within the City of Palmdale Engineering Design Standards Section VI: Landscape and Irrigation that reduce or prevent water waste and promote water conservation.
- (5) "**Check valve**" or "**anti-drain valve**" means a valve located under a sprinkler head to hold water in the system to prevent drainage from sprinkler heads when the system is off.
- (6) "**Conversion factor**" (.62) means the number that converts the maximum applied water allowance from acre-inches per acre per year to gallons per square foot per year.
- (7) "**Certificate of Completion**" means the document required under Section 14.05.60. Sample provided in the City of Palmdale Engineering Standards, Section VI Appendix.
- (8) "**Certified landscape irrigation Auditor**" means a person certified to perform landscape irrigation audits by a professional trade organization or other educational organization.
- (9) "**Certified irrigation designer**" means a person certified to design irrigation systems by a professional trade organization or other educational organization.
- (10) "**Common interest developments**" means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1353.8.

- (11) **“Controller”** means an automatic timing device used to remotely control valves or heads to set an irrigation schedule. 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).
- (12) **“Development proposal”** shall mean an application for approval of a specific plan, subdivision, conditional use permit, site plan review, tentative tract map, parcel map or any other discretionary development permit or entitlement application which has been filed with and is pending consideration by the City.
- (13) **“Drip irrigation”** means any non-spray low volume irrigation system utilizing emission devices with a flow rate equal to or less than two (2) gallons per hour.
- (14) **“Ecological restoration project”** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- (15) **“Effective precipitation” or “usable rainfall”** means the portion of total precipitation that is used by the plants.
- (16) **“Emitter”** means a drip irrigation emission device that delivers water slowly from the system to the soil measured as gallons per hour.
- (17) **“Established landscape”** means the point at which plants in the landscape have developed significant roots growth into the site. Typically, most plants are established after one or two years of growth.
- (18) **“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.
- (19) **“Estimated Applied Water Use”** means the portion of the Estimated Total Water Use that is derived from applied water, as described in Section 14.05.110. Formulas provided in Engineering Design Standards Section VI.
- (20) **“Estimated Total Water Use,”** means the annual total amount of estimated water needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system, as described in Section 14.05.110. Formulas provided in Engineering Design Standards Section VI.
- (21) **“ET adjustment factor”** means a factor 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. A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The ET adjustment factor and calculation formula is listed in the City of Palmdale Engineering Design Standards, Section VI.

- (22) **“Evapotranspiration rate”** means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specific time.
- (23) **“Flow rate”** means the rate at which water flows through pipes, valves, or emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.
- (24) **“Hardscape”** means any durable surface material (pervious and non-pervious).
- (25) **“Hydrozone”** shall mean a portion of the landscaped area having plants with similar water needs that are served by a valve or set of valves with the same schedule. A hydrozone may be irrigated or non-irrigated. For example, a naturalized area planted with native vegetation that will not need supplemental irrigation once established is a non-irrigated hydrozone.
- (26) **“Infiltration rate”** means the rate of water entry into the soil expressed as a depth of water per unit of time (i.e., inches per hour).
- (27) **“Irrigation efficiency”** means the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is listed in the Engineering Design Standards Section VI.
- (28) **“Landscape Documentation Package”** means the documents required under Section 14.05.80.
- (29) **“Landscape Area”** means all of the irrigated planting and turf areas, water features, and up to 10% of the square footage of pervious non-irrigated planting areas in a landscape design plan subject to the Maximum Applied Water Allowance (MAWA) calculation. The 10% of non-irrigated planting area shall be added to the low water use Hydrozone area, used in the Landscape Documentation Package. The following is not included in the landscaped area: footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscape, and other non-irrigated areas designated for non-development (i.e., open spaces). Designated recreation areas and areas permanently and solely dedicated to edible plants such as orchards and vegetable gardens are subject to the MAWA with an ET adjustment factor not to exceed 1.0.
- (30) **“Landscape Architect”** means a person who holds a license to practice landscape architecture in the State under the authority of Government Code Section 5615 (Landscape Architects Practice Act).
- (31) **“Landscape Contractor”** means a person licensed (i.e., C-27 license) by the State to construct, maintain, repair, install, or subcontract the development of landscape systems and facilities per Business and Professionals Code, Section 7058 and 7059.

- (32) **“Landscape irrigation audit”** shall mean a process to perform site inspections, evaluate irrigation systems, and develop efficient irrigation systems. At a minimum, the audit shall be in accordance with the California Landscape Water Management Program as described in the Landscape Irrigation Auditor Handbook, the entire document that is hereby incorporated by reference. (See Landscape Irrigation Auditor Handbook, Dept. of Water Resources, Water Conservation Office, 2004)
- (33) **“Landscape project”** means a project, for the purposes of this ordinance, meeting the requirements under Section 14.05.30.
- (34) **“Lateral line”** means the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- (35) **“Low volume Irrigation”** means any irrigation system with a flow rate equal to or less than 0.75 inches per hour, including drip irrigation, subsurface drip, micro-sprinklers and similar irrigation types.
- (36) **“Low water use plant material”** shall mean trees, shrubs and ground covers that survive with a limited amount of supplemental water, as recommended by the City of Palmdale Landscape Standards, or as identified in the most recent edition of the following publication: Sunset Western Garden Book, Sunset Books, Lane Publishing Co., Menlo Park, CA;
- (37) **“Main line”** means the pressurized pipeline that delivers water from the water source to the valve or outlet.
- (38) **“Maximum Applied Water Allowance”** means, for design purposes, the upper limit of annual applied water for the established landscaped area as specified in the Water Efficient Landscape Worksheet located in the City of Palmdale Engineering Standards Section VI. It is based upon the area’s reference evapotranspiration, the ET Adjustment Factor, and the size of the landscaped area. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. Formulas available in the Engineering Design Standards Section VI.
- (39) **“Microclimate”** means the climate of a small, specific area that may contrast with the climate of the overall landscape area due to wind, sun exposure, plant density, proximity to reflective surfaces, etc.
- (40) **“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.
- (41) **“Mulch”** means any organic material such as leaves, bark, and straw, or inorganic mineral materials such as rocks, gravel, and decomposed granite left loose and applied to the soil surface for the beneficial purposes of reducing evaporation and suppressing weeds.
- (42) **“Operating pressure”** means the pressure at which an irrigation system is designed by the manufacturer to operate.
- (43) **“Overhead sprinkler irrigation systems”** means systems that deliver water through the air (i.e., spray heads and rotors, etc.).

- (44) **“Overspray”** means the water that is delivered beyond the target area, wetting pavements, walks, structures, or other non-targeted areas.
- (45) **“Plant factor”** means a factor that, in combination with irrigation efficiency, when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the plant factor of low water use plants ranges from 0. to 0.3, the plant factor of moderate water use plants ranges from 0.4 to 0.6, and the plant factor of high water use plants ranges from 0.7 to 1.0.
- (46) **“Precipitation Rate”** means the rate of application of water measured in inches per hour.
- (47) **“Project Applicant”** means the individual or entity submitting a Landscape Documentation Package required under Section 14.05.30, to request a permit, plan check, or design review from the City. A project applicant may be the property owner or his/her designee.
- (48) **“Rain sensor” or “Rain sensing shutoff device”** means a component that automatically suspends the irrigation event when it rains.
- (49) **“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.
- (50) **“Recreational Area”** means portions of parks, playgrounds, sports fields, golf course, or schoolyards in public and private projects where turf provides a playing surface or serves other high use recreational purposes.
- (51) **“Recycled water, reclaimed water, or treated sewage effluent water”** means treated or recycled waste water of a quality suitable for nonpotable uses such as landscape irrigation and water features. This water is not intended for human consumption.
- (52) **“Reference evapotranspiration” or “ETo”** means a standard measurement of environmental parameters that 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 four-to-seven-inch tall, cool season turf that is well watered. Reference evapotranspiration is used as the basis of determining the Maximum Applied Water Allowances so that regional differences in climate can be accommodated. CIMIS data is provided in the City of Palmdale Engineering Design Standards, Section VI Appendix.
- (53) **“Rehabilitated landscapes”** means any modification to existing landscape that requires a permit, plan check, or design review and meets the requirements of Section 14.05.30.
- (54) **“Runoff”** means water that 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.

- (55) **“Soil moisture sensor or sensing device”** means a device that measures the amount of water in the soil.
- (56) **“Soil texture”** means the classification of soil bases on its percentage of sand, silt, and clay.
- (57) **“Sprinkler head”** means a device that delivers water through a nozzle.
- (58) **“Static water pressure”** means the pipeline or municipal water supply pressure when water is not flowing.
- (59) **“Station”** means an area served by one valve or by a set of valves that operate simultaneously.
- (60) **“Swing joint”** means an irrigation component that provides a flexible, leak-free connection between the sprinkler and lateral pipeline to allow movement in any direction and to prevent equipment damage.
- (61) **“Turf”** means a groundcover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are common cool-season grasses. Bermudagrass, Kikyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are common warm-season grasses.
- (62) **“Valve”** means 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.
- (63) **“Water use efficiency statement”** means a narrative summary of the water use efficiency practices to be applied in the landscape project.
- (64) **“Water conserving plant species”** means a plant species identified as using less water than plants in the same water use category.
- (65) **“Water Efficient Landscape Worksheet”** means the document required as part of the Documentation Package and is available in Engineering Design Standards Section VI.

14.05. 30 Applicability

- (A) Except as provided in subparagraph (B) herein below, this Chapter shall apply to the following:
 - (1) General. All new construction and rehabilitated landscaping for public agency (including city projects) and private development projects; requiring a permit, plan check, or design review.
 - (2) Single family Residences. This Chapter applies to all new construction of front yards of Single Family Residences. It also applies to that portion of street side yards located between the back of curb and any perimeter fence, wall or structure, and visible from the right-of-way of Single Family Residences for new construction only. It does not apply to back yards, non-street side yards, or other portions of street side yards.

- (3) Substandard Notice. Any property that has been deemed by the City to be in nonconformance to City standards with regard to landscaping, and has a recorded Declaration of Substandard Property will be required to comply with the provisions of this ordinance prior to the termination of the Declaration of Substandard Property.
 - (4) Exception for Cemeteries. Cemeteries have special landscape management needs. Therefore new cemeteries need only comply with Sections 14.05.140, 14.05.150, 14.05.190, and the Water Efficiency Landscape Work Sheet (available in Engineering Standards Section VI). Existing cemeteries need only to comply with Section 14.05.210.
- (B) This Chapter shall not apply to:
- (1) Registered historical sites;
 - (2) Ecological restoration projects that do not require permanent irrigation systems;
 - (3) Mined-land reclamation projects that do not require a permanent irrigation system.

14.05.40 Required Approval for Projects

(A) No development proposal shall be approved unless the person or entity authorized to grant approval therefore finds that the project complies with the criteria set forth in Chapter 14.05.

(B) Processing Procedures and Submittal Requirements

As a condition of approval for any development proposal, the applicant shall submit landscape plans meeting the requirements of this Chapter to the Engineering and Planning Departments for review.

14.05.50 Landscape Application Documentation Package

Prior to construction, the project applicant shall:

Submit a Landscape Documentation Package to the City Engineering and Planning Departments that meets all the criteria and specifications of this ordinance. The specific format of the documentation package shall comply with the City of Palmdale Engineering Department Design Standards for Landscape and Irrigation, Section VI.

14.05.60 Eligibility for a Certificate of Completion

(A) The project applicant shall:

- (1) Prior to backfilling, have a licensed landscape architect, certified irrigation auditor, or licensed landscape contractor conduct a preliminary field observation of the irrigation system;
- (2) Upon project installation, have a licensed landscape architect or licensed landscape contractor conduct a final field observation for the approval of the certificate;
- (3) Upon project installation, have a certified irrigation auditor conduct a landscape irrigation audit as required under Section 14.05.150
- (4) Submit the signed Certificate of Completion to the City for approval;

(B) No Certificate of Completion shall be approved by the City unless it specifies the following:

- (1) Plants were installed as specified;
- (2) The irrigation system was installed as designed;
- (3) An irrigation audit has been performed;
- (4) Other criteria of the ordinance have been met along with a list of any observed deficiencies.

(C) No certificate will be approved unless the following are submitted with the Certificate of Completion;

- (1) Irrigation Schedule, see Section 14.05.130
- (2) Landscape and Irrigation Maintenance Schedule, see Section 14.05.140
- (3) Landscape Irrigation Audit Schedule, see Section 14.05.150 and
- (4) Irrigation Audit Report.

(D) Upon receipt of the Certificate of Completion the City will:

- (1) Conduct a field inspection of the project for compliance with the ordinance. If the project complies, then
- (2) Stamp the Certificate of Completion approved; and
- (3) Issue a Certificate of Occupancy, or equivalent, to the project applicant.

(E) The Applicant shall submit copies of the approved Certificate of Completion to the local retail water purveyor and the property owner or his/her designee.

(F) A Sample of a Certificate of Completion is available in the City of Palmdale Engineering Design Standards Section VI.

14.05.70 Waivers and Variances

The City may administratively waive or modify one or more requirements of the ordinance when unusual difficulties make their strict application impossible, and upon determination that the waiver or variance is consistent with the purpose and intent of the ordinance.

14.05.80 Landscape Documentation Package.

All applications for landscape approval shall include the Landscape Documentation Package, which shall include those documents required by the current City of Palmdale Engineering Design standards Section VI: Landscape and Irrigation.

14.05.90 Soil Management Plan

All applications for landscape approval shall include a soil management plan that addresses the soil attributes of the project site shall include a laboratory soil analysis and an on-site assessment with a statement of recommendations by a qualified soil specialist. A soil management plan meeting the following criteria shall be submitted as part of the Landscape Documentation Package.

(A) A laboratory soil analysis of soil samples from the project site, prior to installation, that evaluates physical and chemical properties shall be required. At a minimum, the soil analysis report shall include:

- (1) Soil texture (percent clay, silt, sand), indicating the percentage of organic matter;
 - (2) Approximate soil infiltration rate (either measured or derived from the soil texture infiltration rate tables). A range of infiltration rates shall be noted where appropriate;
 - (3) PH;
 - (4) Total soluble salts; and
 - (5) Other soil physical or chemical properties relevant to improving water use efficiency and maintaining plant health (e.g., conductivity, nitrogen, phosphorus, potassium, calcium, magnesium, sodium, sulfur, etc).
- (B) A laboratory soil analysis may be excluded if a qualified soil specialist or scientist provides a certified statement addressing reasons for not completing such a soil analysis.
- (C) Prior to installation, an on-site soil assessment by a qualified soil specialist that identifies soil attributes or conditions that may minimize water use efficiency or limit plant growth shall be required. The on-site soil assessment shall:
- (1) Identify planting or turf areas that may need amendment;
 - (2) Provide a statement of recommendations to correct or improve soil conditions (i.e., applying organic compost as a soil amendment in planting and turf areas);
 - (3) Conduct a further analysis of soil conditions (i.e., soil profile, hardpan, bulk density, soil toxicity, salinity, etc.), where applicable; and
- (D) A project applicant shall implement the recommendations from the on-site soil assessment and apply any relevant information from the on-site soil assessment to the design plans.

14.05.100 Landscape Design Plan

For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. A landscape design plan meeting the following design criteria and specifications shall be submitted as part of the Landscape Documentation Package.

(A) Criteria

(1) Plant Material

- (a) Any plant may be selected from the City of Palmdale approved plant list for the landscape, providing the Estimated Applied Water Use recommended for the project site does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:
 - (i) Protection and preservation of native species and natural vegetation.
 - (ii) Selection of water conserving plant species and turf species.
 - (iii) Selection of trees based on the City of Palmdale approved tree list.
 - (iv) Plants shall be selected and planted appropriately based upon their adaptability to the climate, geologic, and topographical

conditions of the project site. To encourage the efficient use of water, the following is highly recommended:

- (v) Use the Sunset Western Climate Zone System, which lists the City of Palmdale as Zone 11.
 - (vi) Recognize the horticulture attributes of plants (i.e. mature plant size, invasive surface roots, etc.) to minimize damage to property or infrastructures (e.g., buildings, sidewalks, power lines, etc.).
 - (vii) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- (b) 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 California Public Resources Code 4291 (a) and (b). Avoid fire-prone plant materials and mulches.
 - (c) Invasive species of plants shall be avoided especially near parks, buffers, greenbelts, water bodies, and open spaces because of their potential to cause harm in sensitive areas.
 - (d) The architectural guidelines of a common interest development, which includes community apartment projects, condominium projects, 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.

(2) Turf

- (a) There will be no turf permitted in any single-family residential front yard. There will be no turf permitted in that portion of street side yards located between the back of curb and any perimeter fence, wall or structure, and visible from the right-of-way of Single Family Residences, whether new construction or rehabilitated landscaping..
- (b) No turf permitted on any multifamily project, except for designated active recreational areas.
- (c) No turf permitted on any commercial or industrial project, unless specifically approved by the Director of Planning and/or City Engineer on designated recreational areas only.
- (d) Turf areas shall be sized and shaped to minimize irrigation overspray and runoff.
- (e) Installation of turf on slopes greater than 4:1 (horizontal to vertical) shall not be permitted.
- (f) Installation of long, narrow, or irregularly shaped turf areas less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or other low volume irrigation technology.
- (g) Irrigated areas (including turf) within 24 inches of non-permeable hardscape shall be irrigated with drip irrigation or subsurface irrigation technology unless waived by the Public Works Director, Director of Planning, or City Engineer.

(3) Water Features

- (a) Recirculating water shall be used for decorative water features.
- (b) Where available, recycled water shall be used as the source for water features.
- (c) Surface area of a water feature shall be included in the Maximum Applied Water Allowance (MAWA) calculation. The evaporation rate for all water features shall be equivalent to the evapotranspiration rate of a high water use plant.
- (d) Pool and spa covers are highly recommended.

(4) Mulch

A minimum two-inch (2") layer of mulch shall be applied on all exposed surfaces of planting areas except in turf areas, and creeping or rooting groundcovers. In mulched planting areas, the use of drip irrigation is highly recommended.

(B) Specifications

The landscape design plan shall be drawn on project base sheets at a scale that accurately and clearly identifies the following specifications, where applicable:

(1) Site

- (a.) Location map with north arrow, scale, and legal description of the property
- (b) Project Name
- (c) Title block with name, license number, mailing address, email address, and telephone number of licensed landscape architect.
- (d) Total landscape area (square feet).
- (e) Benchmark name, elevation, and location.
- (f) Topography with proposed contour lines and elevations.
- (g) Property lines and setbacks.
- (h) Street names.
- (i) Location of all utilities, (e.g. telephone, electrical, gas, sewer, drainage, etc.). The use of this information is limited to the landscape design and installation.
- (j) Location and details of existing and proposed public improvements within right-of-way (e.g. curb, gutter, sidewalk, street light, fire hydrants, driveways, or approaches, etc.)

(2) Hydrozone.

- (a) Delineate and label each hydrozone by number, letter, or other method.
- (b) Indicate the square footage of each hydrozone.
- (c) Identify each hydrozone as low, moderate, high water use, etc.
- (d) Identify recreational areas (see Section 14.05.20.49).
- (e) Identify areas permanently and solely dedicated to edible plants.
- (f) Identify any other pertinent factors (e.g., sun exposure, microclimate, etc.)

(3) Plant

- (a) Location of all plant material (e.g., turf, annuals, perennials, groundcovers, shrubs, trees and other vegetation, etc.).

- (b) Detailed legend explaining all the symbols used in the landscape design plan including botanical names, common names, quantity, container size, etc.
- (c) Mulch
 - (i) Type of mulch.
 - (ii) Depth (inches)
- (4.) Design Elements
 - (a) Water features.
 - (b) Hardscapes (pervious and non-pervious).
 - (c) Existing natural features including, but not limited to, rock outcroppings, creeks or streams, wetlands, and plant materials that will remain.
 - (d) Other
 - (i) Installation details for the landscape including soil preparation, plant material installation, tree planting and staking, and any other applicable details.
 - (ii) Location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Examples include, but not limited to:
 - (iii) Infiltration beds, swales, and basins that allow water to collect and soak into the ground.
 - (iv) Constructed wetlands and retention ponds that retain water handle excess flows and filter pollutants.
 - (v) Pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff (volume and velocity).
 - (vi) Each sheet of the landscape design plan shall contain the following statement along with a licensed landscape architect's or licensed landscape contractor's stamp and signature: " I have agreed to comply with the criteria and specifications of the ordinance and I have applied them accordingly for the efficient use of water in the landscape design plan."

14.05.110 Irrigation Design Plan

For the efficient use of water, an irrigation system shall meet all irrigation design criteria and specifications, manufacturer's specifications, and any City of Palmdale code requirements. An irrigation system and it's related components shall be planned and designed to allow for proper installation, management and maintenance. An irrigation design plan meeting the following design criteria and specifications shall be submitted as part of the Landscape Documentation Package.

- (A) Criteria
 - (1) System
 - (a) Dedicated (separate) landscape water meters shall be installed for all projects greater than 5,000 square feet, except for single-family residences (Authority Cited: Statues of 2006, AB 1881, Chapter 559, Article 44.5, Section 535). Dedicated landscape water meters are highly

- recommended on landscape areas less than 5,000 square feet to facilitate water management.
- (b) Weather-based irrigation controllers, soil moisture based controllers or other self-adjusting irrigation controllers, shall be required for all irrigation systems. The controller must be able to accommodate all aspects of the landscape and irrigation design plans.
 - (c) All irrigation systems shall be designed to avoid excessive pressure. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the time of day the system will operate. These pressure and flow measurements shall be conducted at the design phase, if available, or prior to installation, if not available at the design phase.
 - (d) If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure regulators, booster pumps or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
 - (e) Sensors (e.g., rain, freeze, wind, etc.), either integral or auxiliary, that suspend irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions.
 - (f) Ball valves (i.e., gate valve or butterfly valve) shall be required, as close as possible to the point of connection of the water supply, to minimize water loss due to an emergency (i.e., main line break) or repair.
 - (g) Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the City of Palmdale code (i.e., public health) for additional backflow prevention requirements.
 - (h) Long, narrow, or irregularly shaped areas less than eight (8) feet in width in any direction shall be irrigated with drip irrigation or low volume irrigation technology.
 - (i) 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.
 - (j) Individual hydrozones that mix plants of moderate and low water use plants or moderate and high water use plants, may be allowed if the EWU calculation is based on the proportions of the respective plant water uses and their plant factors. Individual hydrozones that mix high and low water use plants shall not be permitted.

B. Specifications

The irrigation design plan shall be drawn on separate project base sheets at a scale identical to the landscape design plan to accurately and clearly identify the following specifications, where applicable:

- (1.) Site

- (a) Location map with north arrow, scale, and legal description of the property.
 - (b) Project name.
 - (c) Title block with name, license/certification number, mailing address, email address, and phone number of licensed landscape architect or certified irrigation designer, etc.
 - (d) Benchmark name, elevation, and location.
 - (e) Topography with proposed contour lines and elevations.
 - (f) Property lines and setbacks.
 - (g) Street names.
 - (h) Location of all utilities (e.g. telephone, electrical, gas, sewer, drainage, etc. The use of this information is limited to the landscape design and installation.
 - (i) Location and details of existing and proposed public improvements within right-of-way (e.g., curb, gutter, sidewalk, street lights, fire hydrants, driveways, other approaches, etc.).
- (2) Irrigation System
- (a) Layout of the irrigation system and all related components
 - (b) Detailed legend explaining all the symbols used in the irrigation design plan.
 - (c) Location, manufacturer, model, type and size of all components of the irrigation system such as:
 - (d) Water meters
 - (e) Controllers
 - (f) Valves
 - (g) Check valves
 - (h) Main lines and lateral lines (indicate depth)
 - (i) Swing joints or other riser-protection components
 - (j) Sprinkler heads, drip emitters and other emission devices
 - (k) Sensors (e.g., rain, freeze, wind, etc.)
 - (l) Soil moisture sensors
 - (m) Pressure regulators
 - (n) Pumps
 - (o) Backflow prevention devices
 - (p) Quick couplers
 - (q) Other related components
- (3) Hydrozone - Delineate and label each hydrozone by number, letter or other method.
- (a) Indicate the square footage of each hydrozone.
 - (b) Identify each hydrozone as low, moderate, or high water use, etc.
 - (c) Identify recreational areas (see Section 14.05.20.49)
 - (d) Identify areas permanently and solely dedicated to edible plants.
 - (e) Identify any other pertinent factors (e.g., sun exposure, microclimate, etc.).

- (4) Hydraulics
 - (a) Static water pressure (pounds per square inch, psi).
 - (b) Recommended system operating pressure range (psi).
 - (c) Acceptable system operating pressure range (psi), minimum and maximum.
 - (d) Flow rate (gallons per minute, gpm) and application rate (inches per hour) for each valve.
- (5) Other
 - (a) Details for recycled water irrigation systems as specified in Section 14.05.170
 - (b) Construction or installation details for irrigation system.
 - (c) Each sheet of the irrigation design plan shall contain the following statement along with a licensed landscape architect's, certified irrigation designer's, or licensed landscape contractor's stamp and signature: "I have agreed to comply with the criteria and specifications of the ordinance and I have applied them accordingly for the efficient use of water in the irrigation design plan."
 - (d) Apply best management practices for installation of irrigation systems

14.05.120 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 design plan meeting the following design criteria and specifications shall be submitted as part of the Landscape Documentation Package.

(A) Criteria

- (1) The grading design plan shall delineate configurations and elevations of all the landscaped areas, including the height of graded slopes, drainage patterns, pad elevations, and finished grade.
- (2) Grading of a project site shall avoid disturbing natural drainage patterns and avoid soil compaction in landscape areas

(B) Specifications

(1) Site

- (a) Location map with north arrow, scale, and legal description of the property.
- (b) Project name.
- (c) Title block with name, license number, address, and phone number of registered civil engineer, licensed landscape architect's, or licensed landscape contractor's stamp and signature; "I have agreed to comply with the criteria and specifications of the ordinance and I have applied them accordingly for the efficient use of water in the grading design plan."

14.05.130 Irrigation Scheduling

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 meeting the following criteria shall be submitted with the Certificate of Completion.

- (A) Irrigation scheduling shall incorporate the use of evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations or other validated weather data or soil moisture monitoring systems to apply the appropriate levels of water for different climates. CIMIS data for Palmdale is available in the Engineering Design Standards for Landscape and Irrigation, Section VI.
- (B) Overhead irrigation should be scheduled between 8:00 PM and 10:00 AM unless weather conditions are unfavorable. If allowable hours of irrigation differ from the local retail purveyor, the stricter of the two shall apply. Exceptions for large projects are subject to approval by the Director of Public Works, City Engineer or Director of Planning.
- (C) 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 Applied Water Use. Total annual applied water shall be less than or equal to MAWA.
- (D) Using an appropriate controller, an annual irrigation program with monthly irrigation schedules shall be developed and submitted for each of the following:
 - (1) The plant establishment period;
 - (2) The established landscape; and
 - (3) Temporarily irrigated areas.
- (E) Each Irrigation Schedule shall include for each station all that apply:
 - (1) Irrigation interval (days between irrigation);
 - (2) Irrigation run times (hours or minutes per irrigation event to avoid runoff);
 - (3) Number of cycle starts required for each irrigation event to avoid runoff;
 - (4) Amount of applied water scheduled to be applied on a monthly basis;
 - (5) Application rate setting;
 - (6) Root depth setting;
 - (7) Plant type setting;
 - (8) Soil type;
 - (9) Slope factor setting;
 - (10) Shade factor setting;
 - (11) Irrigation uniformity or efficiency setting.

14.05.140 Landscape and Irrigation Maintenance Schedule

- (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, adjustment, and repair of the irrigation system and its components; conducting water audits; and prescribing the amount of water applied per landscaped acre; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning and weeding in all landscape areas.
- (C) Repair of all irrigation equipment shall be done with the originally specified components or their equivalents.
- (D) A project applicant is encouraged to implement sustainable or environmentally friendly practices for overall landscape maintenance.

14.05.150 Irrigation Audits and Audit Schedules

- (A) At a minimum, all landscape irrigation audits shall be in accordance with the "Irrigation Association Certified Landscape Irrigation Auditor Training Manual (2004)," the entire document, which is hereby incorporated by reference.
- (B) A certified landscape irrigation auditor shall conduct the audits and produce the audit reports.
- (C) For new construction and rehabilitated landscape projects installed subsequent to the effective date of this ordinance, the project applicant shall fulfill the following requirements for landscape irrigation audits:
 - (1) Submit a landscape irrigation audit report with the Certificate of Completion to the City;
 - (2) For landscapes equal to or greater than one acre submit a schedule of landscape irrigation audits with the Certificate of Completion to the City;
 - (3) Implement the recommendations from the landscape irrigation audit report; and
 - (4) For landscapes equal to or greater than one acre submit a landscape irrigation audit report every 5 years to the City.
- (D) For new construction and rehabilitated landscape projects installed after the effective date of this ordinance, except for home owner-installed, homeowner-provided landscape less than 2,500 square feet, the City shall fulfill the following requirements for landscape irrigation audits:
 - (1) Annually compare customers' maximum applied water allowances, which are found in the Water Efficient Landscape Worksheet (Section C) submitted as part of the Landscape Documentation Package, to customer's water use and identify customers whose landscapes exceed the maximum applied water allowance for at least one year, to the extent that customer water use information is available to the City.
 - (2) Annually conduct landscape irrigation audits on a minimum of 20% of the total customer landscapes identified in 14.05.150 (D) (1).
 - (a) The City shall obtain permission from the project applicant to access the property for the purposes of conducting a landscape irrigation audit.

- (b) The City's cost of conducting the landscape irrigation audit shall be paid by the project applicant.
- (c) The City of Palmdale shall make a good faith effort to obtain necessary water use information from the local retail water purveyor.

14.05.160 Irrigation Efficiency.

For the purpose of determining the maximum applied water allowance, the irrigation efficiency statistics are available in the Engineering Design Standards, Section VI.

14.05.170 Recycled Water

- (A) The installation of recycled water irrigation systems (i.e., dual distribution systems) shall be required to allow for the current and future use of recycled water, unless a written exemption has been granted as described in Section 14.05.170 (B).
- (B) Irrigation systems shall make use of recycled water unless a written exemption has been granted by the local water agency, stating that recycled water meeting all public health codes and standards is not available and will not be available in the foreseeable future.
- (C) All recycled water irrigation systems shall be designed and operated in accordance with all City of Palmdale and State codes.
- (D) If the irrigation water (recycled water or blended water) has electrical conductivity equal to or greater than 3 deciSeimens per meter (dS/m) or 3 millimhos per centimeter (mmh/cm) or 2000 mg per liter total dissolved solids (TDS), a leaching fraction of up to 10% may be included in the MAWA calculation. The leaching fraction shall not exceed 10% of MAWA.
- (E) For more information on recycled water, see the University of California Agriculture & Natural Resources "Landscape Plant Salt Tolerance Selection guide for Recycled Water Irrigation (2005)," the entire document, which is hereby incorporated by reference.

14.05.180 Stormwater Management

- (A) Stormwater management combines practices to minimize runoff and water waste to recharge groundwater, and to improve water quality. Implementing stormwater best management practices into the landscape, irrigation, and grading design plans to minimize runoff, and increase on-site retention and infiltration are highly recommended.
- (B) Project applicants shall refer to the City or Regional Water Quality Control Board for information on any stormwater ordinances and stormwater management plans.

14.05.190 Public Education

- (A) Publications
The City of Palmdale will provide information to owners of new, single-family residential homes regarding the design, installation, management, and maintenance of water efficient landscapes.
- (B) Model Homes.

- (1) All model homes that are landscaped shall demonstrate via signs and information provided by the Developer showing the principles of water efficient landscapes described in this ordinance.
- (2) Signs shall be used to identify the model as an example of a water efficient landscape and featuring elements such as hydrozones, water efficient irrigation equipment and other elements, which contribute to the overall water efficient theme.
- (3) Information shall be provided to prospective homeowners about designing, installing and maintaining water efficient landscapes. The information provided should also include potential cost savings associated with water conservation techniques.

14.05.200 Provisions for Existing Landscapes

Existing landscaping shall comply with Section 14.05.210.

14.05.210 Landscape Irrigation Audits

For existing landscapes installed before the effective date of this ordinance, the following shall apply:

- (A) At a minimum, all landscape irrigation audits shall be in accordance with the "Irrigation Association Certified Landscape Irrigation Auditor Training Manual (2004)".
- (B) A certified landscape irrigation auditor shall conduct all irrigation audits.
- (C) For existing landscapes equal to or greater than one acre (43,560 square feet), the property owner or his/her designee of the landscape project shall fulfill the following requirements for landscape irrigation audits:
 - (1) Submit a landscape irrigation audit report every 5 years to the City.
 - (2) Implement the water management and maintenance recommendations from the landscape irrigation audit report.
- (D) For existing landscapes equal to or greater than 2,500 square feet, the City will fulfill the following irrigation audit requirements:
 - (1) Annually survey and compare customer's landscape water use to local reference evapotranspiration and identify customers whose landscapes exceed 80% of local reference evapotranspiration for at least one year, to the extent that customer water use information is available to the City.
 - (2) Annually conduct landscape irrigation audits on a minimum of 20% of the total customer landscapes identified in Section 14.05.210 (D)(1).
 - (a) The City shall obtain permission from the property owner or his/her designee to access the property for the purposes of conducting a landscape irrigation audit.
 - (b) The property owner or his/her designee shall pay the Cities cost of conducting the landscape irrigation audit.
 - (c) The City shall make a good faith effort to obtain necessary water use information from the local retail water purveyor.

14.05.220 Compliance for New Landscaping

(A) The City shall not issue a Certificate of Occupancy or equivalent until the project is in full compliance with this Chapter.

14.05.230 Enforcement

(A) It is unlawful for any person to violate any provision or to fail to comply with any of the mandatory requirements of this Chapter. This Chapter is enforceable as set forth in Title 1 of this Code and violations of this Chapter are punishable as set forth therein.

(B) It shall constitute a new and separate offense for each and every day during any portion of which a violation of, or failure to comply with, any provision of requirement of this code is committed, continued, or permitted by any person, and such person shall be punished accordingly as provided in Title 1 of the Palmdale Municipal Code.

14.05.240 Water Waste Prevention

(A) The City of Palmdale shall encourage the reduction of water waste resulting from inefficient landscape irrigation by prohibiting runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures through the adherence with best management practices as contained in the City of Palmdale Engineering Design Standards Section VI: Landscape and Irrigation. The City may, at the discretion of the Director of Public Works, require the property owner to conduct a landscape irrigation audit and make corrections to the landscape based on the findings of the water audit. At a minimum, the audit shall be in accordance with the California Landscape Water Management Program as described in the Landscape Irrigation Auditor Handbook published in 2004.

(B) Failure to comply with the direction of the Director of Public Works within a period of thirty days after receipt of such notice shall be deemed a violation of this Chapter.

SECTION 2.

If any section, clause or phrase of this Ordinance is for any reason held unconstitutional, or otherwise invalid, such decision shall not affect the validity of the remaining sections of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clause or phrases be declared unconstitutional or otherwise invalid.

SECTION 3.

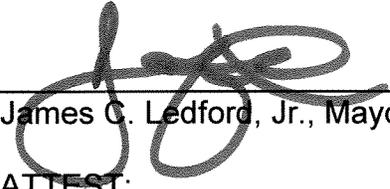
The City Clerk shall certify to the passage of this Ordinance and shall cause this Ordinance to be published or posted as required by law.

PASSED, APPROVED AND ADOPTED on October 15, 2008 by the following vote:

AYES: Ledford, Knight, Hofbauer, and Dispenza

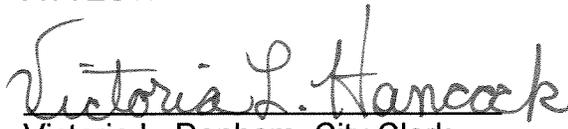
NOES: None

ABSENT: Lackey ABSTAIN: None



James C. Ledford, Jr., Mayor

ATTEST:



Victoria L. Denham, City Clerk

Hancock

Approved as to form:



Wm. Matthew Ditzhazy,
City Attorney