

STAFF REPORT
City of Lancaster

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Date: October 14, 2008

To: Mayor Parris and City Council Members

From: James R. Williams, Director of Public Works

Subject: **Introduce New Water Efficient Landscape Ordinance and Adopt the Landscape and Irrigation Design Standards**

Recommendation:

- a. Introduce **Ordinance No. 907**, establishing standards to ensure efficient water use through appropriate landscape design.
- b. Adopt **Resolution No. 08-85**, setting forth updated Landscape and Irrigation Design Standards.

Background:

The City Council has an ongoing interest in ensuring that our entire community has an adequate water supply. To this end, the City Council has conducted a water resources workshop, a water conservation workshop, and studies in recycled water and groundwater recharge. City Council passed a Recycled Water Ordinance and a Water Wasting Ordinance. In addition to causing the construction of a recycled water system, City Council has also received status reports on water supply and availability from various sources and participated as a major stakeholder in the Integrated Regional Water Management Group.

Water shortages are predicted throughout Southern California over the next year because of arid conditions, a dwindling snow pack, low reservoir levels, and court ordered restrictions on pumping from the Sacramento-San Joaquin River Delta.

Actions are in the process of being taken within our community to supplement water supplies (i.e., new recycled water systems, increased treatment capacity of State Water Project water, and groundwater banking). Should predicted water shortages occur, these actions will not be able to meet the short-term water needs of our community. The proposed Lancaster Water Efficient Landscape Ordinance and Landscape and Irrigation Design Standards lay the groundwork for both short-term and long-term water conservation.

The Water Efficient Landscape Ordinance restricts the application of high water use

landscaping and imposes the necessity of water efficient irrigation systems, separate landscape water meters, smart irrigation controllers, and other water conserving features on landscape projects greater than 1,000 square feet. The ordinance has been written so as to be in compliance with the anticipated updated State Model Landscape Ordinance directed by Assembly Bill 1881 (Laird), and also includes additional water conservation measures suggested by City Council members and other interested parties in the community.

The Landscape and Irrigation Design Standards were developed by a coalition of Antelope Valley water purveyors, landscape architects, city officials, builders, and representatives from the Building Industry Association. The design standards contain plan submittal requirements, specifications for irrigation materials, installation procedures, approved plant list, worksheets, and forms.

RCN:cmm

Attachments:

Ordinance No. 907

Resolution No. 08-85

ORDINANCE NO. 907

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF LANCASTER ADDING CHAPTER 8.50, LANDSCAPING INSTALLATION AND MAINTENANCE, TITLE 8 HEALTH AND SAFETY, MODIFYING CHAPTER 8.30, RESIDENTIAL LANDSCAPING INSTALLATION AND MAINTENANCE, TITLE 8 HEALTH AND SAFETY, DELETING CHAPTER 15.48, SPECIFICATIONS FOR LANDSCAPE DEVELOPMENT, TITLE 15 BUILDING AND CONSTRUCTION, MODIFYING CHAPTER 17.08, RESIDENTIAL ZONES, CHAPTER 17.12, COMMERCIAL ZONES, AND 17.16, INDUSTRIAL ZONES, TITLE 17 ZONING OF THE LANCASTER MUNICIPAL CODE 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 policies promote 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; and

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 LANCASTER DOES ORDAIN AS FOLLOWS:

Section 1. Title 8, Chapter 8.50 is hereby added to read as follows:

Chapter 8.50. LANDSCAPING INSTALLATION AND MAINTENANCE

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8.50.010 Title

This chapter shall be known and may be cited as the Lancaster Water Efficient Landscape Ordinance.

8.50.020 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 significantly renovated projects;
- D. Promote water management practices and water waste prevention for existing landscapes;
- E. Implement water conservation policies contained in the City's General Plan.

8.50.030 Definitions

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 volume of water applied to a given area, measured in inches per minute, inches per hour, or gallons per hour.
2. **"Applied Water"** means the quantity of water supplied by the irrigation system to the landscape.
3. **"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.
4. **"Certificate of Completion"** means the document required under 8.50.052 and 8.50.059.
5. **"Certified Landscape Irrigation Auditor"** means a person certified to perform landscape irrigation audits by a recognized professional trade organization or other educational organization.
6. **"Certified Irrigation Designer"** means a person certified to design irrigation systems by a professional trade organization or other educational organization.
7. **"Check Valve"** means a "one way" valve that prevents water from flowing backward through it. Spring loaded check valves are sometimes installed inside or at the inlet of sprinkler heads. The check prevents low head drainage.
8. **"Common Interest Developments"** means community apartment projects, condominium projects, planned developments and stock cooperatives per Civil Code Section 1353.8.
9. **"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).

10. **“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.
11. **“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.
12. **“Ecological Restoration Project”** means a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
13. **“Effective Precipitation”** or **“Usable Rainfall”** means the portion of total precipitation that is used by the plants.
14. **“Emitter”** means a drip irrigation emission device that delivers water slowly from the system to the soil measured as gallons per hour.
15. **“Established Landscape”** means the point at which plants in the landscape have developed significant roots growth into the soil. Typically, most plants are established after one or two years of growth.
16. **“Estimated Applied Water Use”** means the portion of the Estimated Total Water Use that is derived from applied water, as described in the current City of Lancaster Landscape and Irrigation Design Standards.
17. **“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 the current City of Lancaster Landscape and Irrigation Standard.
18. **“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 a target landscape. A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation.
19. **“Evapotranspiration Rate”** means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specific time.
20. **“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.
21. **“Hardscape”** means any durable surface material (pervious and non-pervious). Hardscape shall be considered in the determination of the maximum applied water allowance and storm water runoff flows.
22. **“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.

23. **“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).
24. **“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.
25. **“Landscape Documentation Package”** means the documents required under 8.50.054.
26. **“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). Excessive uses of impervious areas are discouraged as it will increase storm water runoff. 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.
27. **“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).
28. **“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 Professions Code, Section 7058 and 7059.
29. **“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)
30. **“Landscape Project”** means a project, for the purposes of this ordinance, meeting the requirements under 8.50.040.
31. **“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 systems.

32. **“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 Lancaster Plant List, or as identified in the most recent edition of the following publication: Sunset Western Garden Book, Sunset Books, Lane Publishing Co., Menlo Park, California.
33. **“Maximum Applied Water Allowance”** means, for design purposes, the upper limit of annual applied water for the established landscaped area as specified in the current City of Lancaster Landscape and Irrigation Design Standards. 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.
34. **“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.
35. **“Mulch”** means any organic material such as leaves, bark, 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.
36. **“Operating Pressure”** means the pressure at which an irrigation system is designed by the manufacturer to operate.
37. **“Overspray”** means the water that is delivered beyond the target area, wetting pavements, walks, structures, or other non-targeted areas.
38. **“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 0.0 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.
39. **“Precipitation Rate”** means the rate of rainfall measured in inches per hour.
40. **“Project Applicant”** means the individual or entity submitting a Landscape Documentation Package required under 8.50.054, to request a permit, plan check, or design review from the City. A project applicant may be the property owner or his/her designee.
41. **“Rain Sensor”** or **“Rain Sensing Shutoff Device”** means a component that automatically suspends the irrigation event when it rains.
42. **“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.
43. **“Recycled Water or Reclaimed 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.

44. **“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.
45. **“Rehabilitated Landscapes”** means any modification to existing landscaping that requires a permit, plan check, or design review and meets the requirements of 8.50.040.
46. **“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. Grading and landscape shall be designed to minimize runoff.
47. **“Soil Moisture Sensor or Sensing Device”** means a device that measures the amount of water in the soil.
48. **“Soil Texture”** means the classification of soil based on its percentage of sand, silt and clay.
49. **“Sprinkler Head”** means a device that delivers water through a nozzle.
50. **“Static Water Pressure”** means the pipeline or municipal water supply pressure when water is not flowing or at rest.
51. **“Station”** means an area served by one valve or by a set of valves that operate simultaneously.
52. **“Turf”** means a groundcover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue and Tall fescue are common cool-season grasses. Bermuda grass, Kikyu grass, Seashore Paspalum, St. Augustine grass, Zoysia grass and Buffalo grass are common warm-season grasses.
53. **“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.
54. **“Water Use Efficiency Statement”** means a narrative summary of the water use efficiency practices to be applied in a landscape project.
55. **“Water Conserving Plant Species”** means a plant species identified as using less water than plants in the same water use category.
56. **“Water Efficient Landscape Worksheet”** means the document described in the current City of Lancaster Landscape and Irrigation Design Standards.

8.50.040 Applicability

- A. Except as provided in subparagraph B herein below, this Chapter shall apply to the following:

- (1) All new construction and rehabilitated landscaping for public agency and private development projects with a landscape area equal to or greater than 1,000 square feet; therefore requiring a permit, plan check and/or design review;
- (2) New construction and rehabilitated landscapes which are developer-installed in single-family and multi-family residential projects with a landscape area equal to or greater than 1,000 square feet requiring a permit, plan check and/or design review;
- (3) New construction and rehabilitated landscapes which are homeowner-provided and/or homeowner-hired landscaping in single-family and multi-family residential projects with a landscape area equal to or greater than 1,000 square feet, therefore requiring a permit, plan check and/or design review;
- (4) Existing landscapes with a landscape area equal to or greater than 1,000 square feet are limited to Sections 8.50.070, 8.50.071 and 8.50.081;
- (5) Cemeteries. Recognizing the special landscape management needs of cemeteries, new cemeteries are limited to completing the Water Efficient Landscape Worksheet and the Landscape and Irrigation Maintenance Schedules found in the City of Lancaster Landscape and Irrigation Design Standards and to meeting the requirements of Sections 8.50.061 and 8.50.062. Existing cemeteries are limited to the provisions of 8.50.071. Where recycled water is reasonably available, as determined by the Director of Public Works, all cemeteries shall use recycled water for landscape irrigation purposes;
- (6) All existing improved properties that are purchased by the City under the home foreclosure program for resale as low-moderate income homes.

B. This section 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;
- (4) Any project with a landscaped area less than 1,000 square feet;
- (5) Any project whose landscaping and water features is supplied solely from recycled water systems;
- (6) Homeowner-provided and homeowner-hired landscaping at single-family and multi-family residential projects less than 1,000 square feet.

C. Required Approval for Projects

No development proposal shall be approved unless the person or entity authorized to grant approval therefore finds that the project satisfies the criteria set forth in the provisions of this chapter.

D. Processing Procedures and Submittal Requirements

As a condition of approval for any development proposal, the applicant shall submit landscape plans meeting the requirements listed below to the Planning Department for review.

E. Residential Landscaping

As a condition of approval for any residential development proposal, the applicant shall submit landscape plans for all areas other than footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other pervious or non-pervious hardscape and other approved non-irrigated areas

designated for non-development (i.e., open spaces); including front, rear and side yards.

8.50.050 Provisions for New Construction or Rehabilitated Landscapes

Landscape projects subject to 8.50.040 are also subject to all of the provisions set forth in the provisions of this chapter unless explicitly exempted, and shall meet the City of Lancaster Landscape and Irrigation Design Standards which shall be adopted by separate resolution of the City Council.

8.50.051 Compliance with Landscape Documentation Package

Prior to construction, the project applicant shall submit a Landscape Documentation Package to the City Public Works Department that meets all the criteria and specifications of this Ordinance. The specific format of the documentation package shall comply with the City of Lancaster Landscape and Irrigation Design Standards.

8.50.052 Compliance with the 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 8.50.062;
- (4) Submit the signed Certificate of Completion to the City for approval;
- (5) Receive the Certificate of Occupancy or equivalent from the City;
- (6) Submit copies of the approved Certificate of Completion to the local retail water purveyor and the property owner or his/her designee.

B. The City will:

- (1) Receive the signed Certificate of Completion from the project applicant;
- (2) Conduct a field inspection of the project;
- (3) Approve the Certificate of Completion;
- (4) Issue a Certificate of Occupancy, or equivalent, to the project applicant.

8.50.053 Waivers and Variances

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

8.50.054 Landscape Documentation Package

The Landscape Documentation Package shall include those documents contained within the current City of Lancaster Landscape and Irrigation Design Standards.

8.50.055 Soil Management Plan

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;
 - (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;
- 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.

8.50.056 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 and the City of Lancaster Landscape and Irrigation Design Standards shall be submitted as part of the Landscape Documentation Package.

A. Criteria

(1) Plant Material

- a. Plant material shall be selected from the City of Lancaster approved plant list or other approved source for the landscape, providing the Estimated Applied Water Use recommended for the project site does not exceed the Maximum Applied Water Allowance.
- 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). Fire-prone plant materials and mulches are to be avoided.
- c. Invasive species of plants shall be prohibited near parks, buffers, greenbelts, water bodies and open spaces and are generally discouraged for landscape use.

- 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. Turf is prohibited in commercial and industrial development proposals except where approved as a recreational area.
- b. Turf is not to exceed 30% of the landscape areas in residential development proposals.

(3) Water Features

- a. Re-circulating water shall be used for decorative water features.
- b. Where available, recycled water shall be used as the source for decorative 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 required.

8.50.057 Irrigation Design Plan

For the efficient use of water, the irrigation system shall be carefully designed and planned for the intended function of the project. The irrigation system and its related components shall be planned and designed to allow for proper installation, management and maintenance. The irrigation system design plan meeting the following design criteria and specifications and the City of Lancaster Landscape and Irrigation Design Standards 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 where the total landscape area exceeds 5,000 square feet.
- 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. Water pressure regulators are required on all landscape projects. 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, or booster pumps, 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. High-flow check valves, or other technology to interrupt operation in high flow conditions created by irrigation system damage or malfunction, shall be required.
- g. 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.
- h. Relevant information from the soil management plan, such as soil type and infiltration rate, shall be utilized when designing irrigation systems.
- i. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

8.50.058 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 and the City of Lancaster Landscape and Irrigation Design Standards shall be submitted as part of the Landscape Documentation Package.

A. Criteria

- (1) All projects where the total landscape area exceeds 5,000 square feet shall be designed to capture on-property run-off for a 10-year rain event through the use of earth berms, drainage swales, subsurface storage, or other approved methodology. Exceptions may be granted for design features such as driveways, sidewalks and other features from which it is impractical to capture storm water flow.
- (2) Grading of a project site shall avoid disturbing natural drainage patterns and avoid soil compaction in landscape areas.

8.50.059 Certificate of Completion

- A. The project applicant shall comply with the Certificate of Completion as specified under 8.50.052. See the City of Lancaster Landscape and Irrigation Design Standards for a sample of a Certificate of Completion.
- B. The Certificate shall specifically indicate that:
 - (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 this Chapter have been met along with a list of any observed deficiencies.
- C. The following shall be submitted with the Certificate of Completion:
 - (1) Irrigation Schedule, see 8.50.060;
 - (2) Landscape and Irrigation Maintenance Schedule, see Section 8.50.061.3;
 - (3) Landscape Irrigation Audit Schedule, see 8.50.062;
 - (4) Irrigation Audit Report.

8.50.060 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 City of Lancaster Landscape and Irrigation Design Standards and the following requirements 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. See CIMIS data for Lancaster area in the City of Lancaster Landscape and Irrigation Design Standards; and
- B. Where automated irrigation systems are installed, irrigation shall be scheduled between 10:00 p.m. and 10:00 a.m. between May 1st and October 31st. If allowable hours of irrigation differ from the local retail purveyor, the stricter of the two shall apply. Hand watering of landscape areas is permissible where an automated system is not installed.

8.50.061 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. Maintenance schedules developed for new landscapes shall clearly indicate irrigation controller timing adjustment and inspection after the landscape establishment period.
- 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; prescribing the amount of water applied per landscaped acre; aerating and dethatching turf areas; replenishing mulch; fertilizing; and 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.

8.50.062 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. All landscape irrigation audits and audit reports shall be conducted by a certified landscape irrigation auditor.
- C. For new construction and rehabilitated landscape projects installed on or after January 1, 2010, 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 January 1, 2010, except for home owner-installed, homeowner-provided landscape less than

1,000 square feet, the City or the water purveyor will 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 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: and
 - (2) Annually conduct landscape irrigation audits on a minimum of 20% of the total customer landscapes identified in the paragraph above (customers whose landscapes exceed the maximum applied water allowance).
 - a. The City will 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 Lancaster shall make a good faith effort to obtain necessary water use information from the local retail water purveyor.
- E. All existing improved properties that are sold, transferred or foreclosed, as well as those that are materially renovated, remodeled or altered shall arrange to have a recently completed (within six [6] months of the sale) landscape irrigation audit that identifies the quantity of water that is needed month to month to sustain healthy landscaping without over-watering. The audit will be performed by the water purveyor and a copy thereof will be provided to the City.

8.50.063 Irrigation Efficiency

For the purpose of determining the maximum applied water allowance, an irrigation efficiency is assumed. Irrigation systems shall be designed, maintained and managed to meet or exceed the design irrigation efficiency.

8.50.064 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 this Section.
- B. Irrigation systems shall make use of recycled water unless a written exemption has been granted by the City, 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 and State codes.
- D. If the irrigation water (recycled water or blended water) has electrical conductivity equal to or greater than 3 deci-Seimens per meter (dS/m) or 3 milli-mhos 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.
- F. Recycled water used in landscaping and water features shall be exempted from water budget calculation requirements.

8.50.065 Public Education

A. Publications

The City of Lancaster 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 shall be landscaped to demonstrate, via signs and information, 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.

8.50.070 Provisions for Existing Landscapes - Landscape Irrigation Audits

For existing landscapes installed before January 1, 2010, 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. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.
- 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; and
 - (2) Implement the water management and maintenance recommendations from the landscape irrigation audit report.
- D. For existing landscapes equal to or greater than 1,000 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; and
 - (2) Annually conduct landscape irrigation audits on a minimum of 20% of the total customer landscapes identified in the paragraph above.

- a. The City will 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 City 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.

8.50.080 Effective Precipitation

The City does not have enough reliable annual precipitation to include in water budget formulae; consequently this portion of the formula has been eliminated.

8.50.081 Water Waste Prevention

Water waste resulting from inefficient landscape irrigation, such as runoff, low head drainage, overspray, etc., is prohibited. Similar conditions where water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, hardscapes, roadways, or structures are also prohibited. Penalties for violation of these prohibitions shall be subject to City policy and procedure.

8.50.082 Penalties for Project Applicants

The City may administer penalties to the project applicant for non-compliance with the ordinance, including, but not limited to:

- A. Deny Certificate of Occupancy or equivalent until the Certificate of Completion has been submitted, reviewed and approved by the City;
- B. Issue warning letters or citations;
- C. Impose and collect monetary penalties or fines;
- D. Administer an appeals process or equivalent;
- E. Terminate water service.

Section 2. **Title 8, Chapter 8.30, RESIDENTIAL LANDSCAPING INSTALLATION AND MAINTENANCE** is hereby amended to read as follows:

Section 8.30.040 Landscape requirements for new residential development, paragraphs A and B, are replaced with the following:

A. Multiple Family Residential Development. All multiple family residential developments shall be landscaped in accordance with the requirements of Chapter 8.50, Landscaping Installation and Maintenance, Title 8, HEALTH AND SAFETY of the Lancaster Municipal Code. Such landscaping shall include installation of an irrigation system and an appropriate combination of plant materials and hardscape.

B. Single Family Residential Development. Landscaping and irrigation systems shall be installed on all portions of single family residential lots not used for buildings, vehicle access, or parking.

The first paragraph of **Section 8.30.050** Landscape requirements for existing residential development is revised as follows:

All residential development for which a building permit was issued prior to the effective date of this chapter shall comply with the requirements of Chapter 8.50, Landscaping Installation and Maintenance, Title 8, HEALTH AND SAFETY of the Lancaster Municipal Code and the following requirements within six months of the effective date of this chapter:

Section 3. **Title 15, Chapter 15.48, SPECIFICATIONS FOR LANDSCAPE DEVELOPMENT**, is hereby deleted in its entirety.

Section 4. **Title 17, Chapter 17.08, RESIDENTIAL ZONES** is hereby amended as follows:

Section 17.08.100 Property development regulations, Paragraph B. Residential Zones, Subparagraph 3 Yard Requirements, b. HDR and MDR Zones, table footnote a. is revised as follows:

a. The front, side and rear yards of all uses shall be landscaped and maintained as required in Title 8, Chapter 8.50, Landscaping Installation and Maintenance, Title 8, Chapter 8.30, Residential Landscaping Installation and Maintenance and Title 15, Chapter 15.48, Specifications for Landscape Development of the Lancaster Municipal Code.

Section 17.08.100 Property development regulations, Paragraph B. Residential Zones, Subparagraph 4, Open Space, d. Landscaped Areas is revised as follows:

d. Landscaped Areas. Of the required open space, a minimum of 50%, shall be landscaped. Consideration shall be given when designing the landscaped areas to the function of the area. Trees and drought-tolerant plants perform many essential functions for the community such as beauty, shading, wind protection, screening, noise buffering and air filtering. All landscaped areas shall conform to Title 8, Chapter 8.50, Landscaping Installation and Maintenance, Title 8, Chapter 8.30, Residential Landscaping Installation and Maintenance and Title 15, Chapter 15.48, Specifications for Landscape Development of the Lancaster Municipal Code.

Section 17.08.150 Property development regulations, Paragraph I. Landscaping for Multiple-Family or Other Projects., Paragraphs 3 and 4 are revised as follows:

3. Plant material shall be selected for interest in its structure, texture, color, ultimate growth and water efficiency. Plants that are native or climate adaptive to the high desert area of Lancaster and/or others that will be hardy, harmonious with project design and of good appearance shall be used. Drought-resistant varieties of plants shall be used in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance, Title 8, Chapter 8.30, Residential Landscaping Installation and Maintenance, and Title 15, Chapter 15.48, Specifications for Landscape Development of the Lancaster Municipal Code.

4. Landscaped areas shall be irrigated by an automatic system with separate stations for each hydrozone. The irrigation system shall be designed and equipped to incorporate water conservation techniques, such as drip systems, moisture sensors and anti-drain valves. Sprinkler systems shall be designed to prevent water from falling onto impervious surfaces. The system shall comply with Title 8, Chapter 8.50, Landscaping Installation and Maintenance; Title 8, Chapter 8.30, Residential Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 17.08.290 Landscaping and screening is revised as follows:

All yards and setbacks required for mobile home parks shall be landscaped and shall appear similar to conventional residential developments. A decorative masonry wall 6 feet in height shall screen the mobile home park and shall be located 20 feet from the back of the sidewalk on a street frontage and on the property line elsewhere. The landscaping shall be permanently maintained and shall consist predominantly of drought-resistant trees and vegetation in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance; and Title 8, Chapter 8.30, Residential Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 5. **Title 17, Chapter 17.12**, COMMERCIAL ZONES is hereby amended to read as follows:

Section 17.12.130 Property development regulations. Paragraph B. C Zone, Subparagraph 2. Yard Requirements, b) 4) is revised as follows:

4) Front and street side yards of properties developed after the adoption of this section shall be landscaped and maintained in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code for a minimum depth of 10 feet measured from the back of the sidewalk. This requirement may be increased by the director where he finds it to be necessary to make the proposed development compatible with existing development in the vicinity of the site. Landscaping and irrigation plans shall be submitted to the director for his approval. Such plans must be approved prior to the issuance of any building permit for the site. Such landscaping and irrigation systems shall have been installed in accordance with the approved plans and verified prior to final inspection approval. The director's determinations on these items may be appealed in accordance with Section 17.36.030.

Yards required by this zone are also subject to the general provisions and exceptions contained in Section 17.28.030 which shall apply as specified.

Section 17.12.230 Paragraph A. General requirements applicable to all development, subparagraph 10. Landscaping, d and e. are revised as follows:

d. Plant material shall be selected for interest in its structure, texture, color, ultimate growth and water efficiency. Plants that are native or climate adaptive to the high desert area of Lancaster and/or others that will be hardy, harmonious with project design, and of good appearance shall be used. Drought-resistant varieties of plants shall be used wherever feasible. Turf shall not be permitted except for recreational areas. Drought-resistant varieties of plants shall be used in accordance with Title 8, Chapter 8.50 Landscaping Installation and Maintenance of the Lancaster Municipal Code.

e. Landscaped areas shall be irrigated by an automatic system with separate stations for each hydrozone. The irrigation system shall be designed and equipped to incorporate water conservation techniques such as drip systems, moisture sensors and anti-drain valves. Sprinkler systems shall be designed to prevent water from falling onto impervious surfaces. The system shall comply with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 17.12.460 Design requirements, Paragraph A. General requirements applicable to all development, subparagraph 4. Landscaping, c. is revised as follows:

c. Plant material shall be selected for interest in its structure, texture, color, ultimate growth and water efficiency. Plants that are indigenous to the area and others that will be hardy, harmonious with project design, and of good appearance, shall be used. Drought-resistant varieties of plants shall be used in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 17.12.800 Property development regulations. Paragraph B. OP Zone, subparagraph 5, is revised as follows:

5. Landscaping. Plant materials used in landscaping shall include drought-tolerant species and the landscaping shall be designed to minimize water usage and prevent runoff. No landscaping shall be placed in a manner which shades or would ultimately shade any existing solar energy system from the sun on a contiguous lot. All landscaped areas shall conform to Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code. All landscaping shall be completed prior to occupancy by any use and shall be maintained as defined in this title.

Section 17.12.890 Design and performance standards. Paragraph A. General requirements applicable to all development, subparagraph 8. Landscaping, c & d. are revised as follows:

c. Plant material shall be selected for interest in its structure, texture, color, ultimate growth and water efficiency. Plants that are native or climate adaptive to the high desert area of Lancaster and/or others that will be hardy, harmonious with project design, and of good appearance, shall be used. Turf shall not be permitted except for recreational areas. Drought-resistant varieties of plants shall be used in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

d. Landscaped areas shall be irrigated by an automatic system with separate stations for each hydrozone. The irrigation system shall be designed and equipped to incorporate water conservation techniques such as drip systems, moisture sensors and anti-drain valves. Sprinkler systems shall be designed to prevent water from falling onto impervious surfaces. The system shall comply with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 17.12.1030 Design and performance standards. Paragraph L. Landscape Standards and Guidelines, subparagraph 2. General Standards, d, is revised as follows:

d. Soil preparation, staking requirements, sprinkler and irrigation systems and water usage requirements shall meet the standards set forth in Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 17.12.1030 Design and performance standards. Paragraph L. Landscape Standards and Guidelines, subparagraph 3. Amount and Size Standards, a, is revised as follows:

a. Turf areas are not permitted in commercial zones except for recreational areas.

Section 6. **Title 17, Chapter 17.16, INDUSTRIAL ZONES** is hereby amended to read as follows:

Section 17.16.220 Design and performance standards, paragraph A, General requirements applicable to all development, subparagraph 8, Landscaping, c and d, are revised as follows:

c. Plant material shall be selected for interest in its structure, texture, color, ultimate growth and water efficiency. Plants that are native or climate adaptive to the high desert area of Lancaster and/or others that will be hardy, harmonious with project design, and of good appearance, shall be used. Drought-resistant varieties of plants shall be used wherever feasible. Turf shall not be permitted. Drought-resistant varieties of plants shall be used in accordance with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

d. Landscaped areas shall be irrigated by an automatic system with separate stations for each hydrozone. The irrigation system shall be designed and equipped to incorporate water conservation techniques such as drip systems, moisture sensors and anti-drain valves. Sprinkler systems shall be designed to prevent water from falling onto impervious surfaces. The system shall comply with Title 8, Chapter 8.50, Landscaping Installation and Maintenance of the Lancaster Municipal Code.

Section 7. 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.

I, Geri K. Bryan, CMC, City Clerk of the City of Lancaster, do hereby certify that the foregoing ordinance was regularly introduced and placed upon its first reading on the ____ day of _____, 2008 and placed upon its second reading and adoption at a regular meeting of the City Council on the ____ day of _____, 2008 by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

APPROVED:

GERI K. BRYAN, CMC
City Clerk
City of Lancaster

R. REX PARRIS
Mayor
City of Lancaster

STATE OF CALIFORNIA }
COUNTY OF LOS ANGELES } ss
CITY OF LANCASTER }

CERTIFICATION OF ORDINANCE
CITY COUNCIL

I, _____, _____ City of Lancaster, California, do hereby certify that this is a true and correct copy of the original Ordinance No. 907, for which the original is on file in my office.

WITNESS MY HAND AND THE SEAL OF THE CITY OF LANCASTER, on this _____ day of _____, _____.

(seal)

RESOLUTION NO. 08-85

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF LANCASTER, CALIFORNIA, ESTABLISHING LANDSCAPE AND IRRIGATION DESIGN STANDARDS

WHEREAS, the California State Legislature has enacted requirements for the Department of Water Resources to update the Water Conservation in Landscaping Act (AB 1881), requiring cities and counties to enact an ordinance pertaining to water conservation; and

WHEREAS, pursuant to Lancaster’s Water Efficient Landscape Ordinance, Ordinance No. 907, the City must adopt Landscape and Irrigation Design Standards (Exhibit “A” on file with City Clerk); and

WHEREAS, this City Council has examined and considered the diagrams, assessments, and the proceedings prior thereto; and

WHEREAS, the City of Lancaster has participated in a coalition of Antelope Valley water purveyors, landscape architects, city officials, builders, and representatives from the Building Industry Association in the drafting of the proposed Landscape and Irrigation Design Standards; and

WHEREAS, the City Council finds that adopting such standards will enable City staff to review proposed projects with special attention to design and installation of water conserving plant material and irrigation systems.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED by the City Council of the City of Lancaster, State of California, that:

Section 1. The Landscape and Irrigation Design Standards are established and will become effective on the date of adoption of Ordinance No. 907.

PASSED, APPROVED and ADOPTED this _____ day of _____, 2008, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

APPROVED:

GERI K. BRYAN, CMC
City Clerk
City of Lancaster

R. REX PARRIS
Mayor
City of Lancaster

STATE OF CALIFORNIA }
COUNTY OF LOS ANGELES }ss
CITY OF LANCASTER }

CERTIFICATION OF RESOLUTION
CITY COUNCIL

I, _____, _____ City of Lancaster, CA, do hereby certify that this is a true and correct copy of the original Resolution No. 08-85, for which the original is on file in my office.

WITNESS MY HAND AND THE SEAL OF THE CITY OF LANCASTER, on this
_____ day of _____, _____.

(seal)
