MEMORANDUM

TO: Interested Parties

FROM: Christopher Alakel, Water Manager

SUBJECT: Draft Water Efficient Landscape Ordinance

DATE: October 23, 2009

Background

The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881) requires cities to adopt landscape water conservation ordinances by January 1, 2010. In accordance with this law, the California Department of Water Resources prepared a Model Water Efficient Landscape Ordinance (MWELO). All cities and counties have until January 1, 2010, to either adopt the state's MWELO or their own local water efficient landscape ordinance.

The intent of the state's model ordinance is to achieve increased landscape water use efficiency in new development. If a City adopts its own local ordinance, it must be at least as effective in achieving water use efficiency as the MWELO.

A draft local ordinance is being prepared. The effort provides requirements that:

- Are at least as effective at achieving water savings as the MWELO; and
- Reduce costs for new homes compared against the State's requirements; and.
- Reduce City's administrative costs compared against the State's MWELO approach.

How the Draft Water Efficient Landscape Ordinance Differs from the State's MWELO approach

The State requires considerable technology-based irrigation infrastructure and processes for virtually any new or retrofitted landscaped area, including any new single family home with greater than 2,500 sq. ft. of landscaping. The requirements include:

- A Maximum Annual Water Allowance be calculated for the project based on a complex formula using evapotranspiration rates.

- Developer/Owners provide a Landscape Documentation Package to include: A Water Use Worksheet by HydroZone, Water Budget Calculations, Maximum Applied Water Allowance, Estimated Total Water Use, a Soil Management Report, a Landscape Design Plan, a detailed Irrigation Design Plan, and a Grading Design Plan.

- All plans be signed by a licensed landscape architect, licensed landscape contractor, or other landscape professional.

- Weather-based or soil moisture-based irrigation controllers.

- An audit of irrigation system operation be conducted and submitted.

- A landscape and irrigation system maintenance schedule be submitted with a Certificate of Completion.

- Annual account water use be monitored by the City to ensure compliance with annual water use allotment.

The detailed and costly plans, audits, and irrigation system requirements required by the State's MWELO would result in high costs and hardship for homebuyers and builders. In addition, the City does not currently, and would not in the future, have sufficient staff to check and evaluate plans and audits for all new single family, multi-family and non-residential projects.

Therefore, the City's draft ordinance requires detailed plans, weather-based irrigation controllers, and irrigation audits only for new and retrofitted landscapes that are 1 acre or larger in size. Instead, for landscapes that are less than 1 acre, the City's draft ordinance would simply limit the amount of turf to a percentage of the landscaped area. This will simplify landscape plan development and review, limit the amount of high water use turf, and achieve significant reductions in landscape water use.

Exhibit A

Chapter 21.22B

LANDSCAPE and IRRIGATION ORDINANCE

Sections:

21.22B.010 Purpose

Consistent with California State Law, it is the purpose of this ordinance to: (a) promote the values and benefits of landscapes while recognizing the need to use water resources as efficiently as possible; (b) establish a structure for planning, designing, installing, maintaining, and managing water efficient landscapes in new construction and rehabilitated projects.

21.22B.020 Definitions (Definitions related to the technical information of the Landscape Documentation Package are provided as Attachment 5, of the Landscape and Irrigation Design Guide.)**:**

"Certificate of Completion" means the document required under Section 21.22B.050.B.4.

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

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

"Landscape Documentation Package (LDP)" means the documents required under Section 21.22B.050.B.3.

"Landscape project" means total area of landscape in a project as defined in "landscape area" for the purposes of this ordinance.

"Multi-family Residential" means two or more attached residential units. Landscape areas for multiple detached units on one parcel will be considered single family units for the purposes of this Ordinance.

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

"Permit" means an authorizing document issued by local agencies for new construction or rehabilitated landscapes.

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

"Project applicant" means the individual or entity submitting a Landscape Documentation Package required under Section 21.22B.050.B.3, to request a permit, plan check or design review from the local agency. A project applicant may be the property owner or his or her designee.

"Rehabilitated landscape" means any re-landscaping project that requires a permit, plan check, or design review.

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

"Single Family Residential" one home on one lot, or multiple detached units on one lot (not attached).

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

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

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

"Water conserving plant species" means a plant species identified as having a low plant factor.

21.22B.030 Applicability

The information within this Chapter applies to new construction and rehabilitated landscapes for commercial, industrial and residential projects that are subject to the development review process and/or a building permit.

A. Development Review Process

In conjunction with the submittal of a project for development review (tentative parcel map, tentative tract, development plan or conditional use permit), conceptual landscape and irrigation plans shall be provided that demonstrate that the design of the landscaping and irrigation complies with the standards within this Ordinance. These plans shall be reviewed by City Staff during the development review process.

B. Building Permit

In conjunction with the submittal of a project for building plan check, final landscape and irrigation plans, in compliance with this Ordinance, shall be submitted with the project. After a plan check review by the Planning and/or Public Works Departments for compliance with this Ordinance, a Building Permit may be issued. Fees consistent with the fees established for building plan check will be applied for staff review of the landscape and irrigation plan.

C. Certificate of Completion

Once the landscape and irrigation plans and necessary documentation has been provided in substantial compliance with the LDP, a Certificate of Completion may be issued. A Certificate of Completion shall be issued prior to the project receiving a Certificate of Occupancy by the Building Division.

D. Landscape and Irrigation Installation

For both projects less than or greater than 1 acre, the landscape and irrigation shall be installed per the approved plans prior to the issuance of a Certificate of Occupancy or "final" of the building/project.

E. Landscape Bond

For projects that have a landscape area of 1-acre or greater and require a LDP, a bond may be posted which would allow a building to be finaled and a Certificate of Occupancy to be issued prior to the site landscape and irrigation being completed. The bond shall be based on an estimate for labor and materials to complete the landscape and irrigation project per the approved plans, plus an additional 25-percent. The applicant shall fill out the Landscape Bond Security Bond Agreement along with the necessary bonding information, to the Public Works Department for review and approval to determine the specific bond amount.

For projects that have a landscape area of less than 1-acre which does not require the LDP, the Community Development Director or his or her designee may approve a bond to be posted which would allow a building to be finaled and a Certificate of Occupancy to be issued prior to the site landscape and irrigation being completed.

21.22B.040 Turf Limitations for New Construction and Rehabilitated Landscapes.

A. All new construction projects (residential, commercial, industrial) shall comply with the following limitations:

1. Turf areas less than 8 ft. in width in any direction are prohibited.
2. Turf shall be prohibited within the public right-of-way, including parkways.
3. Developments shall be graded to maximize the on-site distribution of runoff to planted areas.
4. For non-turf areas, drip irrigation methods and low water use plants are recommended.

5. Codes Covenants and Restrictions (CCRs) shall not require turf landscaping nor have the effect of prohibiting low-water use landscaping.

B. Commercial and Industrial projects:

1. The area planted in turf grass and irrigated with spray irrigation shall be limited to 10 percent of the development's landscaped area.

2. Exceptions: This section does not apply to Cemeteries, plant collections as part of botanical gardens and arboretums open to the public, City parks, and school sports fields.

C. Single Family Residences

1. Turf grass installed with spray irrigation in residential front yards shall be limited to 25 percent of the landscapable area.

2. The area planted in turf grass in residential subdivisions and common outdoor areas (including landscape and lighting district areas) shall be limited to 10 percent of the landscaped area. Active play areas open to the public are exempt from this provision.

D. Model Homes

1. Turf grass shall be prohibited in the front yards of model homes, and shall be limited to 50 percent of the landscaped area in back and side yards.

2. Model homes shall be used to educate future home owners about water efficient landscape and irrigation techniques. Education features for Model homes shall include:

   (a) The installation of interpretive landscape information signs that describe the principles of water efficient landscapes including features such as hydrozones, appropriate irrigation equipment and others techniques that contribute to the overall water efficient irrigation theme.
   (b) Information shall be provided to new home owners that include techniques on designing, installing, managing, and maintaining water efficient landscapes.

E. Multi-family Residential Projects

1. Turf grass shall be limited to 20 percent of the landscaped area. The 20 percent limitation shall be exclusive of areas designed as active play surfaces (e.g. ballfields, playgrounds, picnic areas).

F. Rehabilitated Landscapes

1. Rehabilitated landscapes shall comply with the turf limitations outlined in Sections A-E above, as appropriate to the property type.

21.22B.050 Landscape and Irrigation System Design and Information Requirements

A. All project landscaping and irrigation plans/designs shall comply with the following standards:

1. Utilize rain sensors, either integral or auxiliary, that suspend irrigation during and after rainfall events, shall be required on all irrigation control systems.

2. Prohibit turf on slopes greater than 20% where the toe of the slope is adjacent to an impermeable hardscape. (where 20% means 1 foot of vertical elevation change for every 4 feet of horizontal length rise divided by run X 100 = slope percent).

3. Water features shall use recirculating water systems.

4. Prohibit spray irrigation within 24 inches of a non-permeable surfaces such as but not limited to concrete sidewalks and driveways. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low-flow non-spray type of systems. The setback area may be planted or non-planted. The surfacing of the setback may be mulch, gravel, cobles, or other porous material. These restrictions may be modified if the landscape area is adjacent to permeable surfacing, and no runoff occurs or the adjacent non permeable surface drains entirely to landscaped areas.

5. Apply a minimum two inch (2") layer of mulch on all exposed soil surface of planting areas.

6. The architectural guidelines and Codes, Covenants, and Restrictions of common interest developments shall not have the effect of prohibiting the use of low-water use plants or requiring turf grass in landscaped areas.

B. Projects that have a landscape area <u>equal to or greater than 1 acre</u> need to submit the flowing information:

Please note that the landscape area for new residential subdivisions will be calculated on an individual lot basis as each lot develops, not a total of landscape areas prior to subdivision. Therefore, generally a residential subdivision will not require an LDP for individual lot landscaping, however if there are common areas, or areas within a Landscape and Lighting District that have landscape areas 1 acre or greater, there will be a requirement for an LDP for those areas to be completed prior to the recordation of the final map.

1. All of the items identified in Section A above.

2. Weather-based irrigation controllers, soil moisture-based controllers, or other self-adjusting irrigation controllers shall be required for irrigation scheduling.

3. The following documents and plans need to be submitted prior to the issuance of a Building Permit for the associated project (Please refer to the Landscape & Irrigation Design Guide for specific forms and criteria):

   Compliance with Landscape Documentation Package which includes completion of the following items:
   - Project Information
   - Water Efficient Landscape Worksheet
   - Soil Management Report
   - Landscape Design Plan
   - Irrigation Design Plan
   - Grading Design Plan

4. The following documents and plans need to be completed and the landscape and irrigation project shall be installed prior to the issuance of a Certificate of Occupancy for the associated project (Please refer to the Landscape & Irrigation Design Guide for specific forms and criteria):

   Certificate of Completion which includes documentation of the following items:
   - Irrigation Scheduling
   - Landscape and Irrigation Maintenance Schedule
   - Irrigation Audit, Irrigation Survey and Irrigation Water Use Analysis
   - Irrigation Efficiency
   - Stormwater Management

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
LANDSCAPE AND IRRIGATION DESIGN GUIDE

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Chapter 21.22B of the Zoning Code requires the following:

- The Landscape Documentation Package be submitted in conjunction with or prior to the submittal of construction drawings for building plan check.
- A Certificate of Completion needs to be issued by the City prior to issuance of a Certificate of Occupancy of the associated project/building.

LANDSCAPE DOCUMENT PACKAGE

The Landscape Documentation Package shall include the following six (6) elements:

☐ **1. COMPLETED APPLICATION FORM:** Fill out Standard Development Application Form from Community Development Department. (Attachment 1)

☐ **2. WATER EFFICIENT LANDSCAPE WORK SHEET:**
A project applicant shall complete the Water Efficient Landscape Worksheet which contains two sections (see sample worksheet Attachment 3):

☐1. A hydrozone information table (Attachment 3, Section A) for the landscape project; and

☐2. A water budget calculation (Attachment 3, Section B) for the landscape project. For the calculation of the Maximum Applied Water Allowance and Estimated Total Water Use (Attachment 3, Section C), a project applicant shall use the ETo values from the Reference Evapotranspiration Table (Attachment 2, Section A).

B. Water budget calculations shall adhere to the following requirements:

☐1. The plant factor used shall be from WUCOLS. The plant factor ranges from 0 to 0.3 for low water use plants, from 0.4 to 0.6 for moderate water use plants and from 0.7 to 1.0 for high water use plants.

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

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

☐4. ETAF for Special Landscape Areas shall not exceed 1.0.

C. Maximum Applied Water Allowance
The Maximum Applied Water Allowance shall be calculated using the equation;
MAWA = (ETo) (0.62) [(0.7 x LA)+ (0.3 x SLA)]

See Example Calculations, Attachment 2

☐ **3. SOIL MANAGEMENT REPORT:**

In order to reduce runoff and encourage healthy plant growth, a soil management report shall be completed by the project applicant, or his/her designee, as follows:

☐1. Submit soil samples to a laboratory for analysis and recommendations.

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

b. The soil analysis may include:
   1. soil texture;
   2. infiltration rate determined by laboratory test or soil texture infiltration rate table;
   3. pH;
   4. total soluble salts;
   5. sodium;
   6. percent organic matter; and
   7. recommendations.

☐ 2. The project applicant, or his/her designee, shall comply with one of the following:
   a. If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation Package; or
   b. If significant mass grading is planned, the soil analysis report shall be submitted to the local agency as part of the Certificate of Completion.

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

☐ 4. The project applicant, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with Certificate of Completion.

☐ **4. 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 shall be submitted as part of the Landscape Documentation Package.

☐ 1. Plant Material

a. Any plant may be selected for the landscape, providing the Estimated Total Water Use in the landscape area does not exceed the Maximum Applied Water Allowance. To encourage the efficient use of water, the following is highly recommended:
   b. protection and preservation of native species and natural vegetation;
   c. selection of water-conserving plant and turf species;
   d. selection of plants based on disease and pest resistance;
   e. selection of trees based on applicable local tree ordinances or tree shading guidelines; and
   f. selection of plants from local and regional landscape program plant lists.

b. Each hydrozone shall have plant materials with similar water use, with the exception of hydrozones with plants of mixed water use.

c. Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended:
   1. Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
   2. Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure [e.g., buildings, sidewalks, power lines]; and
   3. Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.

d. Turf is not allowed on slopes greater than 20% where the toe of the slope is adjacent to an impermeable hardscape and where 20% means 1 foot of vertical elevation change for every

4 feet of horizontal length (rise divided by run x 100 = slope percent).

e. A landscape design plan for projects in fire-prone areas shall address fire safety and prevention. A defensible space or zone around a building or structure is required per Public Resources Code Section 4291(a) and (b). Avoid fire-prone plant materials and highly flammable mulches.

f. The use of invasive and/or noxious plant species is strongly discouraged.

g. The architectural guidelines of a common interest development, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

☐2. Water Features
a. Recirculating water systems shall be used for water features.
b. Where available, recycled water shall be used as a source for decorative water features.
c. Surface area of a water feature shall be included in the high water use hydrozone area of the water budget calculation.
d. Pool and spa covers are highly recommended.

☐3. Mulch and Amendments
a. A minimum two inch (2″) layer of mulch shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers or direct seeding applications where mulch is contraindicated.
b. Stabilizing mulching products shall be used on slopes.
c. The mulching portion of the seed/mulch slurry in hydro-seeded applications shall meet the mulching requirement.
d. Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected.

☐4. The landscape design plan, at a minimum, shall:
☐a. delineate and label each hydrozone by number, letter, or other method;
☐b. identify each hydrozone as low, moderate, high water or mixed water use. Temporarily irrigated areas of the landscape shall be included in the low water use hydrozone for the water budget calculation.;
☐c. identify recreational areas;
☐d. identify areas permanently and solely dedicated to edible plants;
☐e. identify areas irrigated with recycled water;
☐f. identify type of mulch and application depth;
☐g. identify soil amendments, type, and quantity;
☐h. identify type and surface area of water features;
☐i. identify hardscapes (pervious and non-pervious);
☐j. identify location and installation details of any applicable stormwater best management practices that encourage on-site retention and infiltration of stormwater. Stormwater best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
1. infiltration beds, swales and basins that allow water to collect and soak into the ground;
2. constructed wetlands and retention ponds that retain water, handle excess flow and filter pollutants; and
3. pervious or porous surfaces (e.g., permeable pavers or blocks, pervious or porous concrete, etc.) that minimize runoff.
☐k. identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
☐l. contain the following statement: “I have complied with the criteria of the ordinance and applied them for the efficient use of water in the landscape design plan;” and

☐ m. bear the signature of a licensed landscape architect, licensed landscape contractor or any other person authorized to design a landscape. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

☐ **5. IRRIGATION DESIGN PLAN:**

For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturers' recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan meeting the following design criteria shall be submitted as part of the Landscape Documentation Package.

☐ 1. Irrigation System

☐ A. Dedicated landscape water meters are highly recommended on landscape areas smaller than 5,000 square feet to facilitate water management.

☐ B. Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for irrigation scheduling in all irrigation systems.

☐ C. The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.
1. If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
2. Static water pressure, dynamic or operating pressure and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.

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

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

☐ F. Backflow prevention devices shall be required to protect the water supply from contamination by the irrigation system. A project applicant shall refer to the applicable local agency code (i.e., public health) for additional backflow prevention requirements.

☐ G. High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.

☐ H. The irrigation system 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.

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

☐ J. The design of the irrigation system shall conform to the hydrozones of the landscape design plan.

☐K. The irrigation system must be designed and installed to meet, at a minimum, the irrigation efficiency criteria as described in Section 492.4 regarding the Maximum Applied Water Allowance.

☐L. It is highly recommended that the project applicant or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system.

☐M. In mulched planting areas, the use of low volume irrigation is required to maximize water infiltration into the root zone.

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

☐O. Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible distribution uniformity using the manufacturer's recommendations.

☐P. Swing joints or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.

☐Q. Check valves or anti-drain valves are required for all irrigation systems.

☐R. Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or low volume irrigation system.

☐S. Overhead irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be mulch, gravel, or other porous material. These restrictions may be modified if:

1. the landscape area is adjacent to permeable surfacing and no runoff occurs; or
2. the adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
3. the irrigation designer specifies an alternative design or technology, as part of the Landscape
   Documentation Package and clearly demonstrates strict adherence to irrigation system design criteria in Section IV.F (1) (H). Prevention of overspray and runoff must be confirmed during the irrigation audit.

☐T. Slopes greater than 20% shall not be irrigated with an irrigation system with a precipitation rate exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer specifies an alternative design or technology, as part of the Landscape Documentation Package, and clearly demonstrates no runoff or erosion will occur. Prevention of runoff and erosion must be confirmed during the irrigation audit.

☐2. Hydrozone

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

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

☐ C. Where feasible, trees shall be placed on separate valves from shrubs, groundcovers and turf.

☐ D. Individual hydrozones that mix plants of moderate and low water use or moderate and high water use, may be allowed if:
1. plant factor calculation is based on the proportions of the respective plant water uses and their plant factor; or
2. the plant factor of the higher water using plant is used for calculations.

☐ E. Individual hydrozones that mix high and low water use plants shall not be permitted.

☐ F. On the landscape design plan and irrigation design plan, hydrozone areas shall be designated by number, letter or other designation. On the irrigation design plan, designate the areas irrigated by each valve, and assign a number to each valve. Use this valve number in the Hydrozone Information Table (see Attachment 3, Section A). This table can also assist with the irrigation audit and programming the controller.

☐ 3. The irrigation design plan, at a minimum shall contain:

☐ A. location and size of separate water meters for landscape;

☐ B. location, type and size of all components of the irrigation system, including controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, pressure regulators and backflow prevention devices;

☐ C. static water pressure at the point of connection to the public water supply;

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

☐ E. recycled water irrigation systems (if applicable);

☐ F. the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the irrigation design plan," and

☐ G. the signature of a licensed landscape architect, certified irrigation designer, licensed landscape contractor or any other person authorized to design an irrigation system. (See Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the Business and Professions Code, Section 832.27 of Title16 of the California Code of Regulations, and Section 6721 of the Food and Agriculture Code.)

☐ **6. GRADING DESIGN PLAN:**

For the efficient use of water, grading of a project site shall be designed to minimize soil erosion, runoff and water waste. A grading plan shall be submitted as part of the Landscape Documentation Package. A comprehensive grading plan prepared by a civil engineer for other local agency permits satisfies this requirement.

☐ 1. The project applicant shall submit a landscape grading plan that indicates finished configurations and elevations of the landscape area including:
- ☐ A. Height of graded slopes;
- ☐ B. Drainage patterns;
- ☐ C. Pad elevations;
- ☐ D. Finish grade;
- ☐ E. Stormwater retention improvements, if applicable.

☐2. To prevent excessive erosion and runoff, it is highly recommended that project applicants:
- ☐A. Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable hardscapes;
- ☐B. Avoid disruption of natural drainage patterns and undisturbed soil; and
- ☐C. Avoid soil compaction in landscape areas.

☐3. The grading design plan shall contain the following statement: "I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan" and shall bear the signature of a licensed professional as authorized by law.

CERTIFICATE OF COMPLETION

☐ **1.** The project applicant shall:

☐1. Submit the signed Certificate of Completion to the City for review;

☐2. Ensure that copies of the approved Certificate of Completion are submitted to the property owner or his or her designee.

The City will:

☐1. Receive the signed Certificate of Completion from the project applicant;

☐2. Approve or deny the Certificate of Completion. If the Certificate of Completion is denied, the local agency shall provide information to the project applicant regarding reapplication, appeal or other assistance.

The Certificate of Completion (see Attachment 4 for certificate form) shall include the following six (6) elements:

☐1. Project information sheet that contains:
- Standard Development Application Form from the Community Development Department;

☐2. Certification by either the signer of the landscape design plan, the signer of the irrigation design plan, or the licensed landscape contractor that the landscape project has been installed per the approved Landscape Documentation Package;
- Where there have been significant changes made in the field during construction, these "as-built" or record drawings shall be included with the certification;

☐3. Irrigation scheduling parameters used to set the controller;

☐4. Landscape and irrigation maintenance schedule;

☐5. Irrigation audit report; and

☐6. Soil analysis report, if not submitted with Landscape Documentation Package, and documentation verifying implementation of soil report recommendations.

☐ **2. 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 shall meet the following criteria:

☐1. Irrigation scheduling shall be regulated by automatic irrigation controllers.

☐2. Overhead irrigation shall be scheduled between 7:00 p.m. and 9:00 a.m. unless weather conditions prevent it. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance, only when audit and maintenance staff are present.

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

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

- The plant establishment period;
- The established landscape; and
- Temporarily irrigated areas.

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

- Irrigation interval (days between irrigation);
- Irrigation run times (hours or minutes per irrigation event to avoid runoff);
- Number of cycle starts required for each irrigation event to avoid runoff;
- Amount of applied water scheduled to be applied on a monthly basis;
- Application rate setting;
- Root depth setting;
- Plant type setting;
- Soil type;
- Slope factor setting;
- Shade factor setting; and
- Irrigation uniformity or efficiency setting.

☐ **3. LANDSCAPE AND IRRIGATION MAINTENANCE SCHEDULE:**

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

☐ 2. A regular maintenance schedule shall include, but not be limited to, routine inspection; adjustment and repair of the irrigation system and its components; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning; weeding in all landscape areas and removing and obstruction to emission devices. Operation of the irrigation system outside the normal watering window is allowed for auditing and system maintenance.

☐ 3. Repair of all irrigation equipment shall be done with the originally installed components or their equivalents.

☐ 4. A project applicant is encouraged to implement sustainable or environmentally-friendly practices for overall landscape maintenance.

☐ **4. IRRIGATION AUDIT, IRRIGATION SURVEY AND IRRIGATION WATER USE ANALYSIS:**

☐ 1. All landscape irrigation audits shall be conducted by a certified landscape irrigation auditor.

☐ 2. For new construction and rehabilitated landscape projects installed after January 1, 2010: the project applicant shall submit an irrigation audit report with the Certificate of Completion to the local agency that may include, but is not limited to, inspection, system tune-up, system test with distribution uniformity, reporting overspray or run off that causes overland flow, and preparation of an irrigation schedule.

☐ **5. IRRIGATION EFFICIENCY:**

For the purpose of determining Maximum Applied Water Allowance, average irrigation efficiency is assumed to be 0.71. Irrigation systems shall be designed, maintained, and managed to meet or exceed an average landscape irrigation efficiency of 0.71.

☐ **6. STORMWATER MANAGEMENT:**

☐ 1. Stormwater management practices minimize runoff and increase infiltration, increasing groundwater

recharge and improving water quality. Implementing stormwater best management practices into the landscape and grading design plans to minimize runoff and to increase on-site retention and infiltration are encouraged.

☐ 2. Project applicants shall refer to Municipal Code Section ____ for information on applicable stormwater ordinances and stormwater management plans.

☐ 3. Rain gardens, cisterns, and other landscapes features and practices that increase rainwater capture and create opportunities for infiltration and/or onsite storage are recommended.

ATTACHMENT 1

Standard Development Application form

ATTACHMENT 2

Reference Evapotranspiration (ETo) Table

From CIMAS Reference Evapotranspiration Zone Map, Department of Water Resources, 1999 (All values in inches)													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ETo
Paso Robles	1.6	2.0	3.2	4.3	5.5	6.3	7.3	6.7	5.1	3.7	2.1	1.4	49.0

ATTACHMENT 3

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package.
Please complete all sections (A and B) of the worksheet.

SECTION A. HYDROZONE INFORMATION TABLE

Complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Irrigation Point of Connection (P.O.C.) #_____					
Controller #	Valve Circuit #	Plant Type(s)*	Irrigation Method**	Area (Sq. Ft.)	% of Landscape Area
			TOTAL		100%

* Hydrozone
HW = High Water Use Plants
MW = Moderate Water Use Plants
LW = Low Water Use Plants

**Irrigation Method
MS = Micro-spray
S = Spray
R = Rotor
B= Bubbler
D= Drip
O = Other

SECTION B. WATER BUDGET CALCULATIONS

Section B1. Maximum Applied Water Allowance (MAWA)

The project's Maximum Applied Water Allowance shall be calculated using this equation:

MAWA = (ETo)(0.62)[(0.7 x LA) + (0.3 x SLA)]

where:

MAWA = Maximum Applied Water Allowance (gallons per year)
ETo = Reference Evapotranspiration from Appendix A (inches per year)
0.7 = ET Adjustment Factor (ETAF)
LA = Landscaped Area includes Special Landscape Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
0.3 = the additional ET Adjustment Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Maximum Applied Water Allowance = _____gallons per year

Show calculations.

Effective Precipitation (Eppt)

If considering Effective Precipitation, use 25% of annual precipitation. Use the following equation to calculate
Maximum Applied Water Allowance:

MAWA= (ETo – Eppt) (0.62)[(0.7 x LA)+(0.3 x SLA)]

Maximum Applied Water Allowance = _____gallons per year

Show calculations.

Section C. Estimated Total Water Use (ETWU)

The project's Estimated Total Water Use is calculated using the following formula:

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

where:

ETWU = Estimated total water use per year (gallons per year)
ETo = Reference Evapotranspiration (inches per year)
PF = Plant Factor from WUCOLS (see Definitions)
HA = Hydrozone Area [high, medium, and low water use areas] (square feet)
SLA = Special Landscape Area (square feet)
0.62 = Conversion Factor (to gallons per square foot)
IE = Irrigation Efficiency (minimum 0.71)

Hydrozone Table for Calculating ETWU

Please complete the hydrozone table(s). Use as many tables as necessary.

Hydrozone	Plant Water Use Type(s)	Plant Factor (PF)	Area (square feet)	PF x Area (square feet)
			Sum	
	SLA			

Estimated Total Water Use = _____gallons

Show calculations.

ATTACHMENT 4

CERTIFICATE OF COMPLETION

To be filled out by the project applicant upon completion of the landscape project.

PART 1. PROJECT INFORMATION SHEET

Date		
Project Name		
Name of Project Applicant	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Project Address and Location:

Street Address		Parcel, tract or lot number, if available.
City		Latitude/Longitude (optional GIS applications)
State	Zip Code	

Property Owner or his/her designee:

Name	Telephone No.	
	Fax No.	
Title	Email Address	
Company	Street Address	
City	State	Zip Code

Property Owner

"I/we certify that I/we have received copies of all the documents within the Landscape Documentation Package and the Certificate of Completion and that it is our responsibility to see that the project is maintained in accordance with the Landscape and Irrigation Maintenance Schedule."

_____

Property Owner Signature Date

Please answer the questions below:

1. Date the Landscape Documentation Package was submitted to the local agency_____
2. Date the Landscape Documentation Package was approved by the local agency_____
3. Date that a copy of the Water Efficient Landscape Worksheet (including the Water Budget Calculation) was submitted to the local water purveyor_____

PART 2. CERTIFICATION OF INSTALLATION ACCORDING TO THE LANDSCAPE DOCUMENTATION PACKAGE

"I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the ordinance and that the landscape planting and irrigation installation conform with the criteria and specifications of the approved Landscape Documentation Package."

Signature*	Date	
Name (print)	Telephone No.	
Title	Fax No.	
	Email Address	
License No. or Certification No.		
Company	Street Address	
City	State	Zip Code

*Signer of the landscape design plan, signer of the irrigation plan or a licensed landscape contractor.

PART 3. IRRIGATION SCHEDULING
Attach parameters for setting the irrigation schedule on controller per ordinance Section ____

PART 4. SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE
Attach schedule of Landscape and Irrigation Maintenance per ordinance Section _____.

PART 5. LANDSCAPE IRRIGATION AUDIT REPORT
Attach Landscape Irrigation Audit Report per ordinance Section _____.

PART 6. SOIL MANAGEMENT REPORT
Attach soil analysis report, if not previously submitted with the Landscape Documentation Package per ordinance Section _____.
Attach documentation verifying implementation of recommendations from soil analysis report per ordinance
Section _____.

COMMUNITY DEVELOPMENT DEPARTMENT
PLANNING DIVISION
DEVELOPMENT APPLICATION FORM

1000 Spring Street
Paso Robles, CA. 93446
Phone: (805) 237-3970
Fax: (805) 237-3904
planning@prcity.com

GENERAL INFORMATION REQUIRED

Applicant: _____ Phone: _____ Fax #_____

Mailing/Billing Address: _____ Email: _____

Representative: _____ Phone: _____ Fax _____

Mailing Address: _____ Email: _____

Property Owner: _____ Phone: _____ Fax #_____

Owner's Address: _____ Email: _____

PROJECT DESCRIPTION

Assessor's Parcel Number(s)_____

Project Location: _____

Project Description: _____

OWNER / APPLICANT AUTHORIZATION

APPLICANT / REPRESENTATIVE: I have reviewed this completed application and the attached material. The information included with this application is true and correct to the best of my knowledge. I am submitting the project description, site plan, and elevations for this project on a 3.5 inch disk or IBM compatible CD with all graphics/illustrations in PDF or JPEG format. I understand the city might not approve what I am applying for, or might set conditions of approval.

_____
Signed Date

PROPERTY OWNER / AUTHORIZED AGENT: I certify that I am presently the legal owner of the above described property. Further, I acknowledge the filing of this application and certify that all of the above information is true and accurate. I understand that I am responsible for ensuring compliance with conditions of approval. (If the undersigned is different from the legal property owner, a letter of authorization must accompany this form). I hereby authorize the City of Paso Robles and/or its designated agent(s) to enter onto the subject property to confirm the location of existing conditions and proposed improvements, including compliance with applicable City code requirements.

By signing this application I certify that I have reviewed this completed application and the attached material and consent to its filing. I agree to allow the Community Development Department to duplicate and distribute plans to interested persons as it determines is necessary for the processing of the application.

_____
Signed Date

BELOW AREA FOR OFFICE USE ONLY

Notes to File / Staff Notes:

_____
_____
_____
_____

Action / Body / Date:

_____
_____
_____
_____

THIS AREA FOR OFFICE USE ONLY

DEPOSIT APPLICATIONS	APPLICATION NO.
❒ General Plan Amend.	_____
❒ Rezone	_____
❒ Conditional Use Permit	_____
❒ Development Plan	_____
❒ Tentative Tract Map	_____
❒ Tentative Parcel Map	_____
❒ Lot Line Adjustment	_____
❒ _____	_____
Total Deposit Paid (G.L. # 406-000-2304-209)	$_____

FEE APPLICATIONS	APPLICATION NO.
❒ Site Plan Review ($50)	_____
❒ Plot Plan Review ($20)	_____
❒ Sign Review ($20)	_____
❒ _____	_____
❒ _____	_____
Total Fees Paid (G.L. # 100-000-4704)	$_____

Application Received By:_____ Date:_____

AGREEMENT TO PAY ALL DEVELOPMENT APPLICATION FEES

In accordance with City Council Resolution 96-75, the City collects fees based on the actual cost of providing service. The application deposit for this project (as indicated below) may not cover the total cost of processing this application. I am aware that if greater than 75 percent of the application deposit amount is depleted prior to completion of the project, staff will notify the undersigned, in writing, of the amount of additional deposit required to complete processing of the application, based on staff's reasonable estimate of the hours remaining to complete this application process.

Further, I understand that if I do not submit the required additional deposit to the City within 15 days from the date of the letter, staff may stop processing of the application and/or not schedule the project for action by the Planning Commission or City Council. Any remaining deposit will be refunded to me at the time of closeout after I have submitted the approved project plans and forms electronically, or upon my written request to formally withdraw the application.

As the applicant, I understand that I am responsible for the cost of processing this application and I agree that the actual time spent processing this application will be paid to the City of El Paso de Robles.

Deposit Paid: $_____

Applicant's Signature_____ Date:_____

Applicant's Name_____
(Please Print)