

## **LANDSCAPE (WATER EFFICIENT LANDSCAPE ORD. NO. 238)**

In Title VIII of the Milpitas Municipal Code, add Chapter 5, Sections VIII-5-1 through VIII-5-7, inclusive to read as follows:

### **CHAPTER 5, WATER EFFICIENT LANDSCAPE ORDINANCE**

#### **Section 1 PURPOSE**

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VIII-5-1.01 The City Council has found:

- A. that the limited supply of City waters are subject to ever increasing demands;
- B. that the City's economic prosperity depends on adequate supplies of water;
- C. that City policy promotes conservation and efficient use of water;
- D. that landscapes provide recreation areas; clean the air and water, prevent erosion, offer fire protection, and replace ecosystems displaced by development; and
- E. that landscape design, installation, and maintenance can and should be water efficient.

VIII-5-1.02 Consistent with the findings, the purpose of this ordinance is to:

- A. promote the values and benefits of landscapes while recognizing the need to invest water and other resources as efficiently as possible;
- B. establish a structure for designing, installing, and maintaining water efficient landscapes in new projects; and
- C. establish provisions for water management practices and water waste prevention for established landscapes.

## Section 2 DEFINITIONS

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The words used in this ordinance have the meaning set forth below:

- VIII-5-2.01 **Antidrain valve or check valve:** a valve located under a sprinkler head to hold water in the system so it minimizes drainage from the lower elevation sprinkler heads.
- VIII-5-2.02 **Application rate:** the depth of water applied to a given area, usually measured in inches per hour.
- VIII-5-2.03 **Applied water:** the portion of water supplied by the irrigation system to the landscape.
- VIII-5-2.04 **Automatic controller:** a mechanical or solid state timer, capable of operating valve stations to set the days and length of time of a water application.
- VIII-5-2.05 **Backflow prevention device:** a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.
- VIII-5-2.06 **Conversion factor (0.62):** a number that converts the maximum applied water allowance from inches per acre per year to gallons per square foot per year (1 inch/acre/yr = 0.62 gallons/sf/yr). The conversion factor is calculated as follows:
- $325,829 \text{ gallons} / 43,560 \text{ square feet} / 12 \text{ inches} = 0.62$   
 $325,829 \text{ gallons} = 1 \text{ acre-foot}$   
 $43,560 \text{ square feet} = 1 \text{ acre}$   
 $12 \text{ inches} = 1 \text{ foot}$
- To convert gallons per year to 100 cubic feet per year, another common billing unit for water, divide gallons per year by 748 (748 gallons = 100 cubic feet).
- VIII-5-2.07 **Ecological restoration project:** a project where the site is intentionally altered to establish a defined, indigenous, historic ecosystem.
- VIII-5-2.08 **Effective precipitation or usable rainfall:** the portion of total precipitation that is used by the plants. Precipitation is not a reliable source of water but can contribute to some degree toward the water needs of the landscape. For the purpose of this document, “effective precipitation” is 25 percent of local annual mean precipitation.
- VIII-5-2.09 **Emitter:** drip irrigation fittings that deliver water slowly from the system to the soil.

- VIII-5-2.10 **Established landscape:** the point at which plants in the landscape have developed roots into the soil adjacent to the root ball.
- VIII-5-2.11 **Establishment period:** the first year after installing the plant in the landscape.
- VIII-5-2.12 **Estimated Applied Water Use:** the portion of the Estimated Total Water use that is derived from applied water. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance. The Estimated Applied Water Use may be the sum of the water recommended through the irrigation schedule as referenced in VIII-5-3.03(C).
- VIII-5-2.13 **Estimated Total Water Use:** the annual total amount of water estimated to be needed to keep the plants in the landscaped area healthy. It is based upon such factors as the local evapotranspiration (ET) rate, the size of the landscaped area, the types of plants, and the efficiency of the irrigation system, as described in VIII-5-3.03(D).
- VIII-5-2.14 **ET adjustment factor:** a factor of 0.8, that, when applied to reference evapotranspiration, adjusts for plant factors and irrigation efficiency, two major influences upon the amount of water that needs to be applied to the landscape.
- A combined plant mix with a site-wide average of 0.5 is the basis of the plant factor portion of this calculation. The irrigation efficiency for the purpose of the ET Adjustment Factor is 0.625.
- Therefore, the ET adjustment factor  $(0.8) = (0.5/0.625)$ .
- VIII-5-2.15 **Evapotranspiration:** the quantity of water evaporated from adjacent soil surfaces and transpired by plants during a specific time.
- VIII-5-2.16 **Flow rate:** the rate at which water flows through pipes and valves (gallons per minute or cubic feet per second).
- VIII-5-2.17 **Hydrozone:** 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.
- VIII-5-2.18 **Infiltration rate:** The rate of water entry into the soil expressed as a depth of water per unit of time (inches per hour).
- VIII-5-2.19 **Irrigation efficiency:** the measurement of the amount of water beneficially used divided by the amount of water applied. Irrigation efficiency is derived from

measurements and estimates of irrigation system characteristics and management practices. The minimum irrigation efficiency for purposes of this ordinance is 0.625. Greater irrigation efficiency can be expected from well designed and maintained systems.

- VIII-5-2.20 **Landscape irrigation audit:** a process to perform site inspection, evaluate irrigation systems, and develop efficient irrigation schedules.
- VIII-5-2.21 **Landscaped area:** the entire parcel less the building footprint, driveways, non-irrigated portions of the parking lots, hardscape such as decks and patios, and other nonporous areas. Water features are included in the calculation of the landscaped area. Areas dedicated to edible plants such as orchards or vegetable gardens are not included.
- VIII-5-2.22 **Lateral line:** the water delivery pipeline that supplies water to the emitters or sprinklers from the valve.
- VIII-5-2.23 **Local annual mean precipitation:** the Department of Water Resources 20-year historical rainfall data.
- VIII-5-2.24 **Main line:** the pressurized pipeline that delivers water from the water source to the valve or outlet.
- VIII-5-2.25 **Maximum Applied Water Allowance:** for design purposes, the upper limit of annual applied water for the established landscaped area as specified in VIII-5-3.03(B). 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.
- VIII-5-2.26 **Mulch:** any material such as leaves, bark, straw, or other materials left loose and applied to the soil surface to reduce evaporation.
- VIII-5-2.27 **Operating pressure:** the pressure at which a system of sprinklers is designed to operate, usually indicated at the base of a sprinkler.
- VIII-5-2.28 **Overspray:** the water which is delivered beyond the landscaped area, wetting pavements, walks, structures, or other non-landscaped areas.
- VIII-5-2.29 **Plant factor:** a factor that when multiplied by reference evapotranspiration, estimates the amount of water used by plants. For purposes of this ordinance, the average plant factor of low water-using plants range from 0 to 0.3, for average water-using plants the range is 0.4 to 0.6, and for high water-using plants the range is 0.7 to 1.0.

- VIII-5-2.30 **Rain sensing device:** a system which automatically shuts off the irrigation system when it rains.
- VIII-5-2.31 **Record drawing or as-builts:** a set of reproducible drawings which show significant changes in the work made during construction and which are usually based on drawings marked up in the field and other data furnished by the contractor.
- VIII-5-2.32 **Recreational area:** areas of active play or recreation such as sports fields, school yards, picnic grounds, or other areas with intense foot traffic.
- VIII-5-2.33 **Recycled water, reclaimed water, or treated sewage effluent water:** treated or recycled wastewater of a quality suitable for non-potable uses such as landscape irrigation; not intended for human consumption.
- VIII-5-2.34 **Reference evapotranspiration or ETo:** a standard measurement of environment parameter which affect the water use of plants. ETo is given in inches per day, month, or year as represented in VIII-5-6 and is an estimate of the evapotranspiration of a large field of 4- to 7-inch tall, cool-season grass that is well watered. Reference evapotranspiration is used as the basis in determining the Maximum Applied Water Allowance so that regional differences in climate can be accommodated.
- VIII-5-2.35 **Rehabilitated landscape:** any relandscaping project that requires a permit.
- VIII-5-2.36 **Runoff:** water which is not absorbed by the soil or landscape to which it is applied and flows from the area. For example, runoff may result from water that is applied at too great a rate (application rate exceeds infiltration rate) or when there is a severe slope.
- VIII-5-2.37 **Soil moisture sensing device:** a device that measures the amount of water in the soil.
- VIII-5-2.38 **Soil texture:** the classification of soil based on the percentage of sand, silt, and clay in the soil.
- VIII-5-2.39 **Sprinkler head:** a device which sprays water through a nozzle.
- VIII-5-2.40 **Static water pressure:** the pipeline or municipal water supply pressure when water is not flowing.
- VIII-5-2.41 **Station:** an area served by one valve or by a set of valves that operate simultaneously.

- VIII-5-2.42 **Turf:** a surface layer of earth containing mowed grass with its root. Annual bluegrass, Kentucky bluegrass, perennial ryegrass, red fescue, and tall fescue are cool-season grasses. Bermuda grass, Kikuyugrass, Seashore paspalum, St. Augustine grass, Zoysia grass, and Buffalo grass are warm-season grasses.
- VIII-5-2.43 **Valve:** a device used control the flow of water in the irrigation system.
- VIII-5-2.44 **Water conservation concept statement:** a one-page checklist and a narrative summary of the project as shown in VIII-5-3.03(A).

## **Section 3    PROVISIONS FOR NEW OR REHABILITATED LANDSCAPES**

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### **VIII-5-3.01    APPLICABILITY**

- A.    Except as provided in VIII-5-3.01(C), below, this section shall apply to:
  - 1.    all new and rehabilitated landscaping for public agency projects, and private commercial and industrial projects; and
  - 2.    common area landscaping in single-family and multi-family subdivisions or planned unit developments.
- B.    Projects subject to this section shall conform to the provisions in of this chapter.
- C.    This section shall not apply to:
  - 1.    residential landscaping other than those described in VIII-5-3.01(A-2);
  - 2.    cemeteries;
  - 3.    registered historical sites;
  - 4.    ecological restoration projects that do not require a permanent irrigation system;
  - 5.    any project with a landscaped area less than 2,500 square feet; or
  - 6.    designated cultural resources.

### **VIII-5-3.02    LANDSCAPE DOCUMENTATION PACKAGE**

- A.    A copy of the landscape documentation package conforming to this chapter shall be submitted to the City Engineer. No permit shall be issued until the City reviews and approves the landscape documentation package.
- B.    A copy of the approved landscape documentation package shall be provided to the property owner or site manager along with the record drawings and any other information normally forwarded to the property owner or site manager.
- C.    Each landscape documentation package shall include the following elements, which are described in VIII-5-3.03:
  - 1.    Water Conservation Concept Statement
  - 2.    Calculation of the Maximum Applied Water Allowance
  - 3.    Calculation of the Estimated Applied Water Use

4. Calculation of the Estimated Total Water Use
5. Landscape Design Plan
6. Irrigation Design Plan
7. Irrigation Schedules
8. Maintenance Schedules
9. Landscape Irrigation Audit Schedules
10. Grading Design Plan
11. Soil Analysis
12. Certificate of Substantial Completion (to be submitted after installation of the project)

- D. If effective precipitation is included in the calculation of the Estimated Total Water Use, then an Effective Precipitation Disclosure Statement from the landscape professional and the property owner shall be submitted with the Landscape Documentation Package.

### **VIII-5-3.03 ELEMENTS OF LANDSCAPE DOCUMENTATION PACKAGE**

#### **A. Water Conservation Concept Statement**

Each landscape documentation package shall include a cover sheet referred to as the Water Conservation Concept Statement similar to the attached example. It serves as a checklist to verify that the elements of the landscape documentation package have been completed and has a narrative summary of the project.

#### **B. The Maximum Applied Water Allowance**

1. A project's Maximum Applied Water Allowance shall be calculated using the following formula:

MAWA = (ET<sub>o</sub>) (0.8) (LA) (0.62) where:

MAWA = Maximum Applied Water Allowance (gallons per year)

ET<sub>o</sub> = Reference Evapotranspiration (inches per year)

0.8 = ET Adjustment Factor

LA = Landscaped Area (square feet)

0.62 = Conversion Factor

2. Two example calculations of the Maximum Applied Water Allowance are:

- a. Project Site One

Landscaped area of 50,000 feet<sup>2</sup> in Milpitas.

$$\begin{aligned}
 \text{MAWA} &= (\text{ETo}) (0.8) (\text{LA}) (0.62) \\
 &= (45 \text{ inches}) (0.8) (50,000 \text{ feet}^2) (0.62) \\
 &\quad \text{year} \\
 &= 1,116,000 \text{ gallons/year or } 1,492 \text{ 100-feet}^3 \\
 \text{per year} & \\
 & \quad (1,116,000/748 = 1,492)
 \end{aligned}$$

b. Project Site Two

Landscaped area of 50,000 feet<sup>2</sup> in San Francisco.

$$\begin{aligned}
 \text{MAWA} &= (\text{ETo}) (0.8) (\text{LA}) (0.62) \\
 &= (35 \text{ inches}) (0.8) (50,000 \text{ feet}^2) (0.62) \\
 &\quad \text{year} \\
 &= 868,000 \text{ gallons/year or } 1,160 \text{ 100 feet}^2 \text{ per} \\
 \text{year} & \\
 & \quad (868,000/748 = 1,160)
 \end{aligned}$$

# WATER CONSERVATION CONCEPT STATEMENT

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Project Site:	Water Account Number:
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Project Location:

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Landscape Architect/Irrigation Designer

Included in this project submittal package are (Check (4) to indicate completion):

- |                          |  |       |              |
|--------------------------|--|-------|--------------|
| <input type="checkbox"/> | 1. Maximum Applied Water Allowance:                                  | _____ | Gallons/year |
| <input type="checkbox"/> | 2. Estimated Applied Water Use:                                      | _____ | Gallons/year |
| <input type="checkbox"/> | 2a. Estimated Amount of Water Expected from Effective Precipitation: | _____ | Gallons/year |
| <input type="checkbox"/> | 3. Estimated Total Water Use:  | _____ | Gallons/year |

NOTE: \*If the design assumes that a part of the Estimated Total Water Use will be provided by precipitation, the Effective Precipitation Disclosure Statement in VIII-5-5.00 shall be completed and submitted. The Estimated Amount of Water Expected from Effective Precipitation shall not exceed 25 percent of the local annual mean precipitation (average rainfall).

- 4. Landscape Design Plan
- 5. Irrigation Design Plan
- 6. Irrigation Schedule
- 7. Maintenance Schedule
- 8. Landscape Irrigation Audit Schedule
- 9. Grading Design Plan
- 10. Soil Analysis

Description of Project: Briefly describe the planning and design actions that are intended to achieve conservation and efficiency in water use.

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Prepared by:	Date:
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3. Portions of landscaped areas in public and private projects such as parks, playgrounds, sports fields, golf course, or school yards where turf provides a playing surface or serves other recreational purposes may require water in addition to the Maximum Applied Water Allowance. A statement shall be included with the landscape design plan, designating areas to be used for such purposes and specifying any needed amount of additional water above the Maximum Applied Water Allowance.

**C. Estimated Applied Water Use**

1. The Estimated Applied Water Use shall not exceed the Maximum Applied Water Allowance.
2. A calculation of Estimated Applied Water Use shall be submitted with the Landscape Documentation Package. It may be calculated by summing the 12 monthly amounts of applied water recommended in the irrigation schedule on an annual basis.

**D. Estimated Total Water Use**

1. A calculation of the Estimated Total Water Use shall be submitted with the Landscape Documentation Package. The Estimated Total Water Use may be calculated by summing the amount of water recommended in the irrigation schedule and adding any amount of water expected from effective precipitation (not to exceed 25 percent of the local annual mean precipitation) or may be calculated from a formula such as the following:

The Estimated Total Water Use for the entire landscaped area equals the sum of the Estimated Water Use of all hydrozones in that landscaped area.

$$EWU \text{ (hydrozone)} = \frac{(ET_o) (PF) (HA) (0.62)}{(IE)}$$

- EWU = Estimated Water Use (gallons per year)
- ET<sub>o</sub> = Reference Evapotranspiration (inches per year)
- PF = Plant factor
- HA = Hydrozone area (square feet)
- 0.62 = Conversion factor
- IE = Irrigation efficiency

If the Estimated Total Water Use is greater than the Estimated Applied Water Used due to precipitation being included as a source

of water, an Effective Precipitation Disclosure Statement such as the one in VIII-5-5 shall be included in the Landscape Documentation Package.

**E. Landscape Design Plan**

A landscape design plan meeting the following requirements shall be submitted as part of the landscape documentation package.

1. *Plant Selection and Grouping*

- a. Any plants may be used in the landscape, providing the Estimated Applied Water Use recommended does not exceed the Maximum Applied Water Allowance and that the plants meet the specifications set forth (Section VIII-5-3.03 B, C, and D).
- b. Plants having similar water use shall be grouped together in distinct hydrozones.
- c. Groundcover other than turf will be used on all slopes exceeding 10%.
- d. Plants shall be selected appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the site. Protection and preservation of native species and natural areas is encouraged. The planting of trees is encouraged wherever it is consistent with the other provisions of this ordinance.
- e. Fire prevention needs shall be addressed in areas that are fire prone. Information about fire prone areas and appropriate landscaping for fire safety is available from the California Department of Forestry.

2. *Water Features*

- a. Recirculating water shall be used for decorative water features.
- b. Pool and spa covers are encouraged.

3. *Landscape Design Plan Specifications*

The landscape design plan shall be drawn on project base sheets at a scale that accurately and clearly identifies:

- a. Designation of hydrozones.
- b. Landscape materials, trees, shrubs, ground cover, turf, and other vegetation. Planting Symbols shall be clearly drawn and plants labeled by botanical name, common name, container size, spacing, and quantities of each group of plants indicated.

- c. Property lines and street names.
- d. Streets, driveways, walkways, and other paved areas.
- e. Pools, ponds, water features, fences, and retaining walls.
- f. Existing and proposed buildings and structures including elevation if applicable.
- g. Natural features including, but not limited to, rock outcroppings, existing trees, shrubs that will remain.
- h. Tree staking, plant installation, soil preparation details, and any other applicable planting and installation details.
- i. A calculation of the total landscaped area.
- j. Designation of recreational areas.

## **F. Irrigation Design Plan**

An irrigation design plan meeting the following conditions shall be submitted as part of the Landscape Documentation Package.

### *1. Irrigation Design Criteria*

- a. **Runoff and Overspray.** Soil types and infiltration rate shall be considered when designing irrigation systems. All irrigation systems shall be designed to minimize runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures. Proper irrigation equipment and schedules, including features such as repeat cycles, shall be used to closely match application rates to infiltration rates; therefore, minimizing runoff.

Special attention shall be given to minimize runoff on slopes and to avoid overspray in planting areas with a width less than 10 feet and in median strips less than 8 feet wide.

- b. **Irrigation Efficiency.** For the purpose of determining the Maximum Applied Water Allowance, irrigation efficiency is assumed to be 0.625. Irrigation systems shall be designed,

maintained, and managed to meet or exceed 0.625 efficiency.

c. **Equipment.**

**Water meters.** Separate landscape water meters shall be required for all projects except for single-family and duplex homes or any project with a landscaped area of less than 2,500 square feet.

**Controllers.** Automatic control systems shall be required for all irrigation systems and must be able to accommodate all aspects of the design.

**Valves.** Plants which require different amounts of water shall be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Antidrain (check) valves shall be installed in strategic points to minimize or prevent low-head drainage.

**Sprinkler heads.** Heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.

**Rain Sensing Override Devices.** Rain sensing override devices are recommended on all irrigation systems.

**Soil Moisture Sensing Devices.** It is recommended that soil moisture sensing devices be considered where appropriate.

**Backflow Prevention Assemblies.** Backflow protection shall be in accordance with Chapter 3, Title VIII of the Milpitas Municipal Code which establishes backflow prevention and cross-connection control.

2. *Recycled Water*

- a. The installation of recycled water irrigation systems (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 the following section (b).

- b. Irrigation systems shall make use of recycled water unless a written exemption has been granted by the City of Milpitas, stating that recycled water meeting all health standards is not available and will not be available in the foreseeable future.
- c. The recycled water irrigation systems shall be designed and operated in accordance with all local and state codes.

3. *Irrigation Design Plan Specifications*

Irrigation system shall be designed to be consistent with hydrozones.

The irrigation design plan shall be drawn on project base sheets. It should be separate from, but use the same format as, the landscape design plan. The scale shall be the same as that used for the landscape design plan described in VIII-5-3.03(E-3).

The irrigation plan shall accurately and clearly identify:

- a. Location and size of separate water meters for the landscape.
- b. Location, type, and size of all components of the irrigation system, including automatic controllers, main and lateral lines, valves, sprinkler heads, moisture sensing devices, rain switches, quick couplers, 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 (psi) for each station.
- e. Recycled water irrigation systems as specified in the VIII-5-3.03(F-2).

**G. Irrigation Schedules**

Irrigation schedules satisfying the following conditions shall be submitted as part of the Landscape Documentation Package.

1. An annual irrigation program with monthly irrigation schedules shall be required for the plant establishment period, for the established landscape, and for any temporarily irrigated areas.
2. The irrigation schedule shall:
  - a. include run time (in minutes per cycle), suggested number of cycles per day, and frequency of irrigation for each station; and
  - b. provide the amount of applied water (in hundred cubic feet, gallons, or in whatever billing units the local water supplier uses) recommended on a monthly and annual basis.
3. The total amount of water for the project shall include water designated in the Estimated Total Water Use calculation plus water needed for any water features which shall be considered as a high water using hydrozone.
4. Recreational areas designated in the landscape design plan shall be highlighted and the irrigation schedule shall indicate if any additional water is needed above the Maximum Applied Water Allowance because of high plant factors (but not due to irrigation inefficiency).
5. Whenever possible, irrigation scheduling shall incorporate the use of evapotranspiration data such as those from the California Irrigation Management Information System (CIMIS) weather stations to apply the appropriate levels of water for different climates.
6. Whenever possible, landscape irrigation shall be scheduled during non-daylight hours to avoid irrigating during times of high wind or high temperature.

#### **H. Maintenance Schedules**

A regular maintenance schedule satisfying the following conditions shall be submitted as part of the Landscape Documentation Package:

1. Landscape shall be maintained to ensure water efficiency. A regular maintenance schedule shall include, but not be limited to, checking, adjusting, and repairing irrigation equipment; resetting the automatic controller; aerating and dethatching turf areas;

replenishing mulch; fertilizing; pruning, and weeding in all landscaped areas.

2. Whenever possible, repair of irrigation equipment shall be done with the originally specified materials or their equivalents.

**I. Landscape Irrigation Audit Schedules**

A schedule of landscape irrigation audits, for all but single-family residences, satisfying the following conditions shall be submitted to the City as part of the Landscape Documentation Package.

1. At a minimum, audits shall be in accordance with the State of California Landscape Water Management Program as described in the most current version of the Landscape Irrigation Auditor Handbook, the entire document, which is hereby incorporated by reference.
2. The schedule shall provide for landscape irrigation audits to be conducted by certified landscape irrigation auditors at the owner's cost at least once every 5 years.

**J. Grading Design Plan**

Grading design plans satisfying the following conditions shall be submitted as part of the Landscape Documentation Package:

1. A grading design plan shall be drawn on project base sheets. It should be separate from but use the same format as the landscape design plan.
2. The grading design plan shall indicate finished configurations and elevations of the landscaped area, including the height of graded slopes, drainage patterns, pad elevations, and finish grade.

**K. Soil Analysis**

1. A soil analysis satisfying the following conditions shall be submitted as part of the Landscape Documentation Package:
  - a. Determination of soil texture, indicating the percentage of organic matter.
  - b. An approximate soil infiltration rate (either measured or derived from soil texture/infiltration rate tables). A range of infiltration rates should be noted where appropriate.
  - c. Measure of pH and total soluble salts.
2. A mulch of at least 3 inches shall be applied to all planting areas except turf.

3. Decomposed organic matter or polymer products shall be incorporated into the soil to improve infiltration, water retention and soil structure.

**L. Certification**

1. Upon completing the installation of landscaping and irrigation systems, an irrigation audit shall be conducted by a Certified Landscape Irrigation Auditor (CLIA) prior to the final field observation. The CLIA shall be certified by the Irrigation Association. (See Landscape Irrigation Auditor Handbook as referenced in VIII - 5 - 3.03 [I-1].)
2. A licensed irrigation designer, landscape architect or other licensed or Certified Professional in Horticulture or in a field related to Horticulture shall conduct a final field observation to confirm that the irrigation system was installed as designed, that plants were installed as specified, and that an irrigation audit has been performed.
3. A licensed Landscape Architect, Irrigation Designer or Licensed or Certified Professional in Horticulture or in a field related to Horticulture shall provide a certificate of substantial completion to the City and to the owner of record. This certificate shall specifically indicate that plants were installed as specified, that the irrigation system was installed as designed on the plan, and that an irrigation audit has been performed. Any deficiencies shall also be identified on the certificate of substantial completion.
4. A Certificate of Substantial Completion shall be submitted to the City and to the owner of record. A sample of such a form, which shall be provided by the City is attached.

**VIII-5-3.04 PUBLIC EDUCATION**

**A. Publications**

The City will maintain public information materials on water efficient landscaping at the public information counter at City Hall.

**B. Model Homes**

At least one model home that is landscaped in each project consisting of eight or more homes shall demonstrate via signs and information the principles of water efficient landscape described in this ordinance.

1. Signs shall be used to identify the model as an example of water efficient landscape and featuring elements such as hydrozones, irrigation equipment, and others which contribute to the overall water efficient theme.
2. Information shall be provided about designing, installing, and maintaining water efficient landscapes.

# CERTIFICATE OF SUBSTANTIAL COMPLETION

Project Site:	Water Account Number:
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Project Location:
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Preliminary Project Documentation Submitted: (Check (4) to indicate submittal):

- 1. Maximum Applied Water Allowance: \_\_\_\_\_ Gallons/year
- 2. Estimated Applied Water Use: \_\_\_\_\_ Gallons/year
- 2a. Estimated Amount of Water Expected from Effective Precipitation: \_\_\_\_\_ Gallons/year
- 3. Estimated Total Water Use: \_\_\_\_\_ Gallons/year

NOTE: \*If the design assumes that a part of the Estimated Total Water Use will be provided by precipitation, the Effective Precipitation Disclosure Statement in VIII-5-5 shall be completed and submitted. The Estimated Amount of Water Expected from Effective Precipitation shall not exceed 25 percent of the local annual mean precipitation (average rainfall).

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li><input type="checkbox"/> 4. Landscape Design Plan</li> <li><input type="checkbox"/> 5. Irrigation Design Plan</li> <li><input type="checkbox"/> 6. Irrigation Schedule</li> <li><input type="checkbox"/> 7. Maintenance Schedule</li> </ul> | <ul style="list-style-type: none"> <li><input type="checkbox"/> 8. Landscape Irrigation Audit Schedule</li> <li><input type="checkbox"/> 9. Grading Design Plan</li> <li><input type="checkbox"/> 10. Soil Analysis</li> </ul> |
|--|--|

Post-Installation Inspection: (Check (4) to indicate substantial completion)

- A. Plants installed as specified
- B. Irrigation system installed as designed
  - dual distribution system for recycled water
  - minimal runoff or overspray
- C. Landscape Irrigation Audit performed

Project submittal package and a copy of this certification has been provided to property owner/manager and local water agency.  
Comments:

***/I/we certify that work has been installed in accordance with the contract documents.***

Contractor

Signature	Date	State License Number
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***/I/we certify that based upon periodic site observations, the work has been substantially completed in accordance with the Water Efficient Landscape Ordinance and that the landscape planting and irrigation conform with the approved plans and specifications.***

Landscape Architect, Irrigation Designer or Licensed or Certified Professional in Horticulture or in a field related to Horticulture.

Signature	Date	State License Number
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***/I/we certify that I/we have received all of the contract documents and that it is our responsibility to see that the project is maintained in accordance with the contract documents.***

Owner

Signature	Date
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## **Section 4 PROVISIONS FOR EXISTING LANDSCAPES**

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### **VIII-5-4.01 WATER MANAGEMENT**

All existing landscaped areas to which the City provides potable water that are 1 acre or more, including golf courses, green belts, common areas, schools, businesses, parks, and publicly owned landscapes shall have a landscape irrigation audit at least every 5 years. At a minimum, the audit shall be in accordance with the California Landscape Water Management Program as described in the most current version of the Landscape Irrigation Auditor Handbook, the entire document which is hereby incorporated by reference.

- A. If the project's water bills indicate that they are using less than or equal to the Maximum Applied Water Allowance for that project site, an audit shall not be required.
- B. Projects that stay within the Maximum Applied Water Allowance is encouraged.

### **VIII-5-4.02 WATER WASTE PREVENTION**

Water waste resulting from inefficient landscape irrigation such as runoff, low head drainage, overspray, or other similar conditions where water flows onto adjacent property, non-irrigated areas, walks, roadways, or structures is prohibited.

## **Section 5    EFFECTIVE PRECIPITATION**

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**VIII-5-5.00** If effective precipitation is included in the calculation of the Estimated Total Water Use, an Effective Precipitation Disclosure Statement (similar to the following Effective Precipitation Disclosure Statement sample) shall be completed, signed, and submitted with the Landscape Documentation Package. No more than 25 percent of the local annual mean precipitation shall be considered effective precipitation in the calculation of the Estimated Total Water Use.

## EFFECTIVE PRECIPITATION DISCLOSURE STATEMENT

I certify that I have informed the project owner and developer that this project depends on \_\_\_\_\_ gallons of effective precipitation per year. This represents \_\_\_\_\_ percent of the local mean precipitation of \_\_\_\_\_ inches per year.

I have based my assumptions about the amount of precipitation that is effective upon:

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I certify that I have informed the project owner and developer that in times of drought, there may not be enough water available to keep the entire landscape alive.

\_\_\_\_\_  
Licensed or Certified Landscape Professional

\_\_\_\_\_  
Date

I certify that I have been informed that in times of drought, there may not be enough water available to keep the entire landscape alive.

\_\_\_\_\_  
Owner

\_\_\_\_\_  
Date

\_\_\_\_\_  
Developer

\_\_\_\_\_  
Date

## Section 6 REFERENCE EVAPOTRANSPIRATION

In Inches (Historical Data, Extrapolated from 12-Month Normal Year  
ETo Maps and U.C. Publication 21426)

County	City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Alameda	Livermore	1.2	1.5	2.9	4.4	5.9	6.6	7.4	6.4	5.3	3.2	1.5	0.9	47.
	Oakland	1.5	1.5	2.8	3.9	5.1	5.3	6.0	5.5	4.8	3.1	1.4	0.9	41.8
Contra Costa	Benicia	1.3	1.4	2.7	3.8	4.9	5.0	6.4	5.5	4.4	2.9	1.2	0.7	40.
	Brentwood	1.0	1.5	2.9	4.5	6.1	7.1	7.9	6.7	5.2	3.2	1.4	0.7	3
	Courtland	1.9	1.5	2.9	4.4	6.1	6.9	7.9	6.7	5.3	3.2	1.4	0.7	48.
	Concord	1.1	1.4	2.4	4.0	5.5	5.9	7.0	6.0	4.8	3.2	1.3	0.7	3
	Martinez	1.2	1.4	2.4	3.9	5.3	5.6	6.7	5.6	4.7	3.1	1.2	0.7	48.
	Pittsburg	1.0	1.5	2.8	4.1	5.6	6.4	7.4	6.4	5.0	3.2	1.3	0.7	43.4
Marin	Novato	1.3	1.5	2.4	3.5	4.4	6.0	5.9	5.4	4.4	2.8	1.4	0.7	39.
	San Rafael	1.2	1.3	2.4	3.3	4.0	4.8	4.8	4.9	4.3	2.7	1.3	0.7	35.8
San Benito	Hollister	1.5	1.8	3.1	4.3	5.5	5.7	6.4	5.9	5.0	3.5	1.7	1.1	45.1
San Francisco	San Francisco	1.5	1.3	2.4	3.0	3.7	4.6	4.9	4.8	4.1	2.8	1.3	0.7	35.1
San Mateo	Half Moon Bay	1.5	1.7	2.4	3.0	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1.0	33.
	Redwood City	1.5	1.8	2.9	3.8	5.2	5.3	6.2	5.6	4.8	3.1	1.7	1.0	42.8



## Section 7 PENALTIES

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**VIII-5-7.00** Any person or persons, company, corporation or association, who shall violate any of the provisions of this Chapter or fail to comply therewith, or who shall violate or fail to comply with any order made thereunder, shall severally for each and every violation and non-compliance respectively, be guilty of an infraction, punishable in accordance with the provisions of I-1-4.09-1 of the Milpitas Municipal Code. The imposition of one fine for any violation shall not excuse the violation or permit it to continue; and all such persons shall be required to correct or remedy such violations or defects within a reasonable time; and when not otherwise specified, each day that prohibited conditions are maintained shall constitute a separate offense.