

Section 700

Design Criteria Landscaping and Irrigation Systems

700.1 DESCRIPTION

These requirements promote efficient water use through landscape design and irrigation management appropriate to the local climate.

700.2 APPLICABILITY

Except as provided in Section 492 (a) (3) of the California Model Water Efficient Landscape Ordinance, these landscape Design Criteria apply to all New Construction projects with aggregate landscape area equal to or greater than 2,500 square feet.

700.3 DEFINITIONS

Equipment listed and terms used in this document are consistent with those used in AB325 and the District's *Standard Specifications*. Exceptions are defined below.

ET-Based Irrigation Controllers

All controllers must adjust watering parameters, including but not limited to, duration, frequency, and start times, automatically based upon current, local reference evapotranspiration data provided by the California Irrigation Management Information System (CIMIS) or similar, localized, weather-based information system or monitoring device.

Master Control Valve

Electronically actuated valve, commonly a normally open type of valve, used in conjunction with an integral controller and Flow Meter to shut off the supply of water in the mainline when unauthorized water use is detected.

Flow Meter/Sensor

Inline device that monitors flow amounts in the mainline and transmits this flow data to the irrigation controller where it is recorded.

700.4 LANDSCAPE PLAN SUBMITTALS

700.4.1 Water Conservation In Landscaping Act, AB325

In 1990, State Legislators passed Assembly Bill No. 325, The Water Conservation in Landscaping Act. In response to increasing demand on our limited water resources throughout California, many State and local water agencies have adopted water conservation measures and legislation based on the Model Water Efficient Landscape Ordinance written in AB325.

The applicant/engineer shall submit the following items for review and approval by the District. These submittals are consistent with AB325 and are further defined in the Text of Proposed Regulations; Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495.

1. Landscape Design Plan
2. Irrigation Design Plan
3. Grading Design Plan
4. Water Conservation Concept Statement.
5. Calculation of the Maximum Applied Water Allowance. (0.8 ET adjustment factor, where landscape coefficient equals 0.5 and irrigation efficiency is assumed 60% minimum and annual ETo shall be 36.0 inches/square foot/year)
6. Calculation of the Estimated Applied Water Use
(Where irrigation efficiency is assumed 60% minimum)
7. Calculation of the Estimated Total Water Use
8. Irrigation Schedules
9. Maintenance Schedule
10. Landscape Irrigation Audit Schedule
11. Soil analysis
12. Certificate of Substantial Completion (submitted after project completion) to include an irrigation audit, final field inspection documentation, and copies of operation manuals for specified irrigation controllers.

700.4.2 Additional Plan Check Submittals

The applicant/engineer shall submit the following items for review and approval by the District.

1. Total project and individual lot square footage or acreage
2. Total project and individual building square footage
3. Total project and individual lot hardscape square footage
4. Total project and individual lot irrigated landscape square footage
5. Total project and individual lot non-irrigated landscape square footage

6. Total square footage for irrigated landscape turf areas, calculated for individual irrigation meters.
7. Total square footage for irrigated plantings other than turf, calculated for individual irrigation meters.

700.5 REQUIRED WATER CONSERVATION DEVICES

700.5.1 Irrigation Equipment

To promote water conservation the following equipment is required. Equipment terminology used in this section are consistent with those used in AB325 and the District's *Standard Specifications*. Exceptions are defined in sub-section 700.3 of this document.

1. District-approved, ET Based Irrigation Controllers shall be installed by the developer to control watering systems in:
 - A. All parcels and lots with irrigated landscape area equal to or greater than 500 square feet. This includes home sites and lots where irrigated landscaping is probable.
 - B. Multiple parcels and lots served by a single point of connection and having an aggregate landscape area greater than 2,500 square feet.

All controllers must adjust watering parameters, including but not limited to, duration, frequency, and start times, automatically based upon current, local reference evapotranspiration data provided by the California Irrigation Management Information System (CIMIS) or similar, localized, weather-based information system.

2. All irrigation control systems shall be equipped with rain sensing devices to prevent irrigation during periods of rain.
3. All electronic irrigation control valves shall include design and construction features allowing trouble-free use in harsh conditions including use with non-potable, reclaimed effluent water. These advanced features include brass or industrial-strength nylon housing, flow control, port filtration, captured solenoid plungers, manual external bleeding, and "scrubber" type debris removal.

700.5.2 Additional Equipment for Large Landscapes

700.5.2.1 Flow Sensing Control Equipment

These requirements provide additional protection against water waste in larger landscape projects greater than 21,780 square feet (0.5 acres). This equipment or equipment features are in addition to the requirements in sub-section 700.5.1.

1. The ET-Based Irrigation Controllers installed Large Landscapes must have water use recording and alarm features. The controllers must also be capable of 1) shutting off malfunctioning individual stations automatically without disrupting the remaining programs and 2) shutting off the Master Valves in the event of a mainline or valve failures.
2. Automatically operated Master Control Valves must be installed to protect against water loss due to mainline breaks or system malfunction.
3. Flow Meters must be installed to allow observation, water loss protection, and recordkeeping of irrigation parameters.

700.6 Supplemental Design Criteria

These landscape and irrigation design requirements promote the efficient use of water.

1. Overhead spray irrigation systems are prohibited in roadway median strips, parking islands, roadside planting strips and other narrow areas measuring less than ten feet in width. In these areas where planter width is greater than ten feet, fan-type spray nozzles are not permitted. The use of low trajectory and low precipitation rate stream type nozzles is permitted and encouraged.
2. The District may require the use of drip irrigation or low volume application devices in certain cases where it is determined during plan check procedures that overhead spray irrigation may result in waste of water due to excessive runoff or wind drift away from the application target.
3. Subsurface irrigation must be used on turf areas less than 500 square feet in size.