



SECTION 31

WATER EFFICIENCY REQUIREMENTS

These regulations identify the types of water efficiency requirements for water service and the procedure for notification to Applicants that water efficiency measures are required. The most water-efficient requirement of EBMUD, local, state or federal regulations apply.

A. DETERMINATION OF FEASIBILITY OF WATER EFFICIENCY MEASURES

The District will review applications for new standard services and determine the applicability of, and compliance with, water-efficiency requirements. Applicants for expanded service shall be required to meet the water-efficiency requirements for all new water service facilities and may be required to retrofit existing water service facilities or uses to comply with these requirements. Applicant shall maintain design documents and construction and installation records and furnish a copy of said documents and records to the District upon request. The District may inspect the installation of water efficiency measures to verify that the items are installed and performing to the required water use levels. The Applicant or their representative may be present during any District inspection.

B. WATER EFFICIENCY REQUIREMENTS FOR NEW DEVELOPMENT OR EXPANDED SERVICE

Water service shall not be furnished to any Applicant for new or expanded service, or for any change in customer classification (such as a change from industrial to commercial, residential to commercial, or the like) that includes new or retrofitted water using equipment, unless all the applicable water-efficiency measures hereinafter described in this Section 31 have been reviewed and approved by the District. All the applicable and required water-efficiency measures shall be installed at Applicant expense.

C. RESIDENTIAL SERVICE

1. Indoor Water Use (All Applicants)

- a. Toilets shall be high-efficiency or dual flush models rated and (third party) tested at a maximum average flush volume of 1.28 gallons per flush (gpf), and be certified as passing a 350 gram or higher flush test as established by the U.S. Environmental Protection Agency WaterSense Specification or other District-accepted third party testing entity. No flush or conversion devices of any other kind shall be accepted.
- b. Showerheads shall be individually plumbed and have a maximum rated flow of 2.0 gallons per minute or less and be limited to one showerhead per shower stall of 2,500 sq. inches in area or less. Installation of flow restrictors in existing showerheads does not satisfy this requirement.
- c. Lavatory faucets shall have aerators or laminar flow control devices (i.e. orifices) with a maximum rated flow of 1.5 gallons per minute or less.



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- d. Kitchen faucets shall have aerators or laminar flow control devices (i.e. orifices) with a maximum rated flow of 2.2 gallons per minute or less.
- e. Clothes washing machines shall be front loading horizontal axis or top loading models with a water factor rating of 4.5 or less. A water factor rating of 4.5 means a maximum average water use of 4.5 gallons per cubic foot of laundry.
- f. Dishwashers rated as standard size (i.e. 307 kWh/year) shall use less than or equal to 5.0 gallons/cycle. Dishwashers rated as compact size (i.e. 222 kWh/year) shall use less than or equal to 3.5 gallons/cycle.

2. Outdoor Water Use (All applicants except as noted below)

- a. Landscaping.
 - i. Plans with design details including plants, irrigation, grading and hydrozones shall be submitted to the District for review and approval by District for compliance with these Regulations prior to installation of a water meter. Detailed landscaping plans are required for any application with three or more residential units or for any new or retrofitted landscaping greater than 5,000 square feet of irrigated area. Landscaping shall include water efficient technology and use best management practices to reduce the annual supplemental irrigation requirement to the lowest practical amount not to exceed 70% of reference evapotranspiration for the irrigated area. Applicants with one or two residential units and with less than 5,000 square feet of irrigated landscaping shall be required to complete a check list provided by the District and may also submit a detailed landscaping plan for water-efficiency review by the District.
 - ii. Ornamental Turf areas shall be limited to no more than 25% of the total irrigated area. Exceptions may be granted, in the sole discretion of the District, for approved drought tolerant grasses and for approved recreational areas. Turf is not permitted in any area or portion of an area with a dimension of less than eight feet on any side and shall meet precipitation rate requirements for slopes greater than 25 percent. These provisions do not apply to applicants with only one or two residential units with less than 5,000 square feet of irrigated landscaping.



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- iii. Non-turf areas shall be native or climate-appropriate species that require minimal water once established. Up to 20% of the plant area may have a medium or high water requirement as long as they are appropriately grouped together and irrigated separately.
- iv. Mulch: A minimum 3-inch layer of mulch shall be specified for non-turf planting areas unless there is a horticultural reason not to mulch.
- b. Irrigation.
 - i. Irrigation Efficiency. Irrigation systems shall be designed, installed and operated to avoid overspray and runoff onto any adjacent hardscape or planting area. Irrigation systems shall be designed, installed and operated at the lowest practical amount of water not to exceed 70% of reference evapotranspiration for the irrigated area. These provisions do not apply to applicants with only one or two residential units with less than 5,000 square feet of irrigated landscaping.
 - ii. Automatic, self-adjusting irrigation controllers shall be required on all irrigation systems and shall automatically activate and deactivate the irrigation system based on changes in the climate or soil moisture. All automatic irrigation systems shall be equipped with a rain sensor shutoff. Applicants with only one or two residential units and less than 5,000 square feet of irrigated landscaping are not required to install weather-based controllers.
 - iii. Overhead sprinklers and spray heads shall not be permitted in any area or portion of an area with a dimension of less than eight feet on any side. All sprinklers shall have matched precipitation rates within each control valve or zone. Landscape design best practices shall include distribution uniformity, head-to-head spacing and setbacks from walkways and pavement as required by regulation and/or ordinance.
 - iv. Valves and circuits shall be separated (individual hydrozones) based on plant water requirement, sun exposure, top and bottom of slope and irrigation application rate.
 - v. Dedicated Irrigation Meter shall be required for irrigated landscaping of 5,000 square feet or more.



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- c. Swimming pools and spas.
 - i. Covers shall be required for all pool and spa water features.

D. NONRESIDENTIAL SERVICE (including Residential Common Area)

1. Indoor Plumbing

- a. Toilets shall be high-efficiency or dual flush models rated and (third-party) tested at a maximum average flush volume of 1.28 gallons per flush (gpf), and be certified as passing a 350 gram or higher flush test as established by the U.S. Environmental Protection Agency WaterSense Specification or other District-accepted third party testing entity. Pressure-assisted type toilets shall be high-efficiency rated at a maximum 1.0 gpf. No flush or conversion devices of any other kind shall be accepted.
- b. Urinals shall have a maximum rated flow of 0.5 gpf or less, or be zero water consumption urinals.
- c. Showerheads shall be individually plumbed and have a maximum rated flow of 2.0 gallons per minute or less, and be limited to one showerhead per shower stall of 2,500 sq. inches in area or less. Installation of flow restrictors in existing showerheads does not satisfy this requirement.
- d. Lavatory faucets shall have aerators or laminar flow control devices (i.e. orifices) with a maximum rated flow of 1.5 gallons per minute or less.
- e. Kitchen faucets shall have aerators or laminar flow control devices (i.e. orifices) with a maximum rated flow of 2.2 gallons per minute or less.
- f. Laundry washing machines shall be front loading horizontal axis or top loading models with both: (1) a maximum water factor rating of 4.5 or less. A water factor of 4.5 means a maximum average water use of 4.5 gallons per cubic foot of laundry or less.
- g. Cooling towers not utilizing recycled water shall be equipped with recirculating systems and operate at a minimum of five (5) cycles of concentration. Newly constructed cooling towers shall be operated with conductivity controllers, as well as make up and blowdown meters.
- h. Food steamers in all food service facilities shall be boiler less or self-contained models where applicable.



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- i. Ice machines shall be air-cooled or use no more than 25 gallons of water per 100 pounds of ice and shall be equipped with a recirculating cooling unit.
- j. Commercial refrigeration shall be air-cooled or if water-cooled, must have a closed looped system. No once through, single pass systems are permitted.
- k. Pre-Rinse Dishwashing Spray Valves shall have a maximum rated flow of 1.6 gpm or less.
- l. Vehicle wash facilities shall reuse a minimum of 50% of water from previous vehicle rinses in subsequent washes.

2. Outdoor Water Use

- a. Landscaping.
 - i. Plans with design details including plants, irrigation, grading and hydrozones shall be submitted to the District for review and approval by District for compliance with these Regulations prior to installation of a water meter. Landscaping shall include water efficient technology and use best management practices to reduce the annual supplemental irrigation requirement to the lowest practical amount not to exceed 70% of reference evapotranspiration for the irrigated area.
 - ii. Ornamental Turf areas shall be limited to no more than 25% of the total irrigated area. Exceptions may be granted, in the sole discretion of the District, for approved drought tolerant grasses and for approved recreational areas such as sports fields, parks and picnic grounds. Turf is not permitted in any area or portion of an area with a dimension less than eight feet and shall meet precipitation rate requirements for slopes greater than 25 percent.
 - iii. Non turf areas shall be native or climate-appropriate species that require minimal water once established. Up to 20% of the plant area may have a medium or high water requirement as long as they are appropriately grouped together and irrigated separately.
 - iv. Mulch: A minimum 3-inch layer of mulch shall be specified for non-turf planting areas unless there is a horticultural reason not to mulch.



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b. Irrigation.

- i. Irrigation Efficiency. Irrigation systems shall be designed, installed and operated to avoid overspray and runoff onto any adjacent hardscape or planting area. Irrigation systems shall be designed, installed and operated at the lowest practical amount of supplemental water not to exceed 70% of reference evapotranspiration for the irrigated area.
- ii. Automatic, self-adjusting irrigation controllers shall be required on all irrigation systems and shall automatically activate and deactivate the irrigation system based on changes in climate or soil moisture. All automatic irrigation systems shall be equipped with a rain sensor shutoff.
- iii. Overhead sprinklers and spray heads shall not be permitted in any area or portion of an area with a dimension of less than eight feet on any side. All sprinklers shall have matched precipitation rates within each control valve or zone. Landscape design best practices shall include distribution uniformity, head-to-head spacing, and setbacks from walkways and pavement as required by regulation and/or ordinance.
- iv. Valves and circuits shall be separated (individual hydrozones) based on plant water requirement, sun exposure, top and bottom of slope and irrigation application rate.
- v. Dedicated Irrigation Meter shall be required for irrigated landscaping of 5,000 square feet or more.

E. PENALTIES/CONSEQUENCES

Failure of Applicant to conform to this Regulation and these water-efficiency requirements stated herein may result in:

1. A requirement to resubmit water service application and water-efficiency plan at Applicant's expense until District approves water service.
2. District's inability to release water meter(s) for installation and inability to activate account until water-efficiency plan is approved by District.