

## WATER EFFICIENCY MEASURES FOR NEW RESIDENTIAL DEVELOPMENT

v. 08.2021

**GPF = gallons per flush, GPM = gallons per minute, IWF = integrated water factor**

Indoors	Water Usage Rates	Recommendation Details	Federal or State Requirements
Toilets	1.0 GPF	Maximum Performance (MaP) rated Premium High Efficiency Toilet (HETs) or WaterSense labeled HETs with a maximum flush volume of 1.0 gallons per flush (GPF) and a MaP rating of 600 grams; dual flush MaP Premium or WaterSense labeled HETs with an average flush volume maximum of 1.0 GPF.	California Energy Commission (CEC) - Maximum gallons per flush or dual-flush effective flush volume; if sold or for sale on or after January 1, 2014: 1.28 GPF
Showerheads	1.8 GPM	Showerheads with a flow rate of 1.8 GPM or less at 80 psi. Limit to one showerhead per shower stall of 2,500 square inches or less, or shower stall designed so that only one shower outlet can be in operation at a time.	CEC - 1.8 GPM (80 psi), effective July 1, 2018.
Lavatory Faucets	1.2 GPM	Lavatory faucets with aerators that restrict flow to 1.2 GPM or less at 60 psi.	CEC - 1.2 GPM, (60 psi), effective July 1, 2016.
Kitchen Faucets	1.8 GPM	Kitchen faucets with aerators that restrict flow to 1.8 GPM or less at 60 psi; with temporary flow increase to 2.2 GPM for filling pots and pans.	CEC - 1.8 GPM (60 psi) with optional temporary flow of 2.2 GPM, effective January 1, 2016.
Clothes Washers	3.7 IWF	High efficiency clothes washers (HEW) with an integrated water factor of 3.7 or less. IWF rated washers have a maximum average water use of 3.7 gallons per cubic foot of laundry.	CEC - Maximum integrated water factor (IWF) January 1, 2018: top-loading compact 12.0, top-loading standard 6.5, front-loading compact 8.3, front-loading standard 4.7
Dishwashers	3.5 - 5.0 Gallons per cycle	Efficient dishwashers that use 5.0 gallons/cycle or less (standard-sized - 8 or more place settings), 3.5 gallons/cycle or less (compact size - less than 8 place settings)	CEC - Effective May 30, 2013: Compact dishwashers - 3.5 gal/cycle max.; Standard dishwashers - 5.0 gal/cycle max.
Outdoors		Recommendation Details	Federal or State Requirements
Turf Landscaping		No turf shall be installed at the site unless it is functional – functional turf areas include play areas, picnic areas, sports areas, parks, schools, and areas that have some purpose other than aesthetics. Turf should not be installed in areas that are hard to irrigate such as such as narrow strips and slopes.	Many of these measures are now required as part of the CA Model Water Efficient Landscape Ordinance (MWELo), which has been adopted (or an at least as effective ordinance adopted) by local permitting agencies. For MWELo details visit the Department of Water Resources website at: <a href="https://water.ca.gov/Programs/Water-Use-And-Efficiency">https://water.ca.gov/Programs/Water-Use-And-Efficiency</a> . Please contact the local permitting agency (City) permitting department for any variations from the State Ordinance.
Non-turf Landscaping		Select native or low water using plant species. High water using plants should be avoided, but if used they should be grouped together and irrigated separately.	
Irrigation System		Irrigation systems should be designed to maximize efficiency and reduce water waste by minimizing overspray and runoff. Use low volume (e.g., inline drip) irrigation where feasible. Only turf areas shall be irrigated with overhead spray irrigation.	
Irrigation Controller		Install automatic, self-adjusting irrigation controllers, each with a rain sensor. Automatic, self-adjusting controllers utilize prevailing weather conditions, current and historic evapotranspiration, soil moisture levels, and other relevant factors to adapt water applications to meet the needs of plants.	
Valves and Circuits		Should be separated into hydrozones based on plant type and plant water needs. Where feasible, trees shall be placed on separate irrigation valves from shrubs, groundcovers, and turf.	
Decorative fountains		All decorative fountains should recirculate water.	
Swimming Pools and Spas		Covers should be used on all pools or spas.	
Rain Barrels and Cisterns		Evaluate the feasibility of installing rain barrels or cisterns to collect rain water for irrigation, then install in areas where feasible.	
ReScape Landscaping Best Practices		Adopt ReScape's (formerly known as Bay Friendly) 8 best practices best practices for landscaping and gardening. 1. Act Local; 2. Reduce Waste; 3. Nurture Soil; 4. Sequester Carbon; 5. Save Water; 6. Conserve Energy; 7. Protect Water & Air; 8. Create Habitat. More information about these practices here: <a href="https://www.rescapeca.org/eight-principles">https://www.rescapeca.org/eight-principles</a>	

## WATER EFFICIENCY MEASURES FOR NEW COMMERCIAL DEVELOPMENT

v. 08.2021

**GPF = gallons per flush, GPM = gallons per minute, IWF = integrated water factor**

Indoors	Water Usage Rates	Recommendation Details	Federal or State Requirements
Toilets	1.0 GPF	Tank style toilets: Maximum Performance (MaP) rated Premium High Efficiency Toilet (HETs) or WaterSense labeled HETs with a maximum flush volume of 1.0 gallons per flush (GPF) and a MaP rating of 600 grams; dual flush MaP Premium or WaterSense labeled HETs with an average flush volume maximum of 1.0 GPF. Flushometer or Valve type toilets : WaterSense labeled HETs with a maximum flow of 1.0 GPF and a MaP rating of at least 350 grams.	California Energy Commission (CEC) - Maximum gallons per flush or dual-flush effective flush volume; if sold or for sale on or after January 1, 2014: 1.28 GPF
Urinals	0.125 GPF	High efficiency urinals (HEU) with a flush volume of 0.125 GPF or less.	CEC - Maximum gallons per flush on or after January 1, 2016: 0.125 GPF (wall-mounted) or 0.5 GPF (other)
Showerheads	1.8 GPM	Showerheads with a flow rate of 1.8 GPM or less at 80 psi. Limit to one showerhead per shower stall of 2,500 square inches or less, or shower stall designed so that only one shower outlet can be in operation at a time.	CEC - 1.8 GPM (80 psi), effective July 1, 2018.
Lavatory Faucets	0.5 GPM	Lavatory faucets with aerators that restrict flow to 0.5 GPM or less.	CEC - 1.2 GPM, (60 psi), effective July 1, 2016.
Kitchen Faucets	1.8 GPM	Kitchen faucets with aerators that restrict flow to 1.8 GPM or less at 60 psi; with temporary flow increase to 2.2 GPM for filling pots and pans.	CEC - 1.8 GPM (60 psi) with optional temporary flow of 2.2 GPM, effective January 1, 2016.
Clothes Washers	4.0 IWF	High efficiency clothes washers (HEW) with an integrated water factor of 4.0 or less. IWF rated washers have a maximum average water use of 4.0 gallons per cubic foot of laundry.	CEC - Maximum integrated water factor (IWF) January 1, 2018: integrated water factor (IWF): top-loading 8.8, front-loading 4.1
Cooling Towers		Should be equipped with a recirculating system with a minimum of five (5) cycles of concentration. Newly constructed cooling towers should be operated with conductivity controllers, as well as make up and blowdown meters.	
Food Steamers		Should be boiler less or self-contained, using 3.0 GPH or less where applicable.	
Ice Machine		Should be air-cooled, or use no more than 20 gallons of water per 100 pounds of ice and should be equipped with a recirculating cooling unit.	
Commercial Refrigeration		Should be air-cooled or if it is water cooled it should have a closed loop system, no one through, single pass systems.	
Pre-rinse Dishwashing Spray Valve	1.2 GPM	Should have a maximum flow rate of 1.2 or less GPM.	CEC - Manufactured on or after January 1, 2016 shall be capable of cleaning 60 plates in an average time of not more than 30 secs per plate.
Vehicle Wash Facility		Shall install, use, and maintain a water recycling system that recycles and reuses at least 60% of the wash and rinse water.	California Water Code Section 10950 - In-bay and conveyor car wash facilities, as defined in the Water Code, constructed after January 1, 2014, must have a water recycling system that reuses at least 60 percent of the wash and rinse water.
Outdoors		Recommendation Details	Federal or State Requirements
<b>Same recommendations as for Residential Developments</b>			