

**WORKSHEET (WS-2)  
20 PERCENT REDUCTION WATER USE**

20 PERCENT REDUCTION WATER USE CALCULATION TABLE									
FIXTURE TYPE	FLOW RATE (gpm)		DURATION		DAILY USES		OCCUPANTS <sup>2,3</sup>	=	GALLONS PER DAY
Showerheads		X	5 min.	X	1	X	Note 3a	=	
Showerheads residential		X	8 min.	X	1	X		=	
Lavatory faucets residential		X	.25 min.	X	3	X		=	
Lavatory faucets nonresidential		X	.25 min.	X	3	X		=	
Kitchen faucets		X	4 min.	X	1	X	Note 3b	=	
Replacement aerators		X		X		X		=	
Wash fountains		X		X		X		=	
Metering faucets		X	.25 min.	X	3	X		=	
Metering faucets for wash fountains		X	.25 min.	X		X		=	
Gravity tank type water closets		X	1 flush	X	1 male <sup>5</sup> 3 female	X		=	
HET <sup>4</sup> High efficiency toilet	1.28	X	1 flush	X	1 male <sup>5</sup> 3 female	X		=	
Flushometer tank water closets		X	1 flush	X	1 male <sup>5</sup> 3 female	X		=	
Flushometer valve water closets		X	1 flush	X	1 male <sup>5</sup> 3 female	X		=	
Electromechanical hydraulic water closets		X	1 flush	X	1 male <sup>5</sup> 3 female	X		=	
Urinals		X	1 flush	X	2 male	X		=	
Urinals nonwater supplied	0.0	X	1 flush	X	2 male	X		=	
Proposed water use								=	
_____ (BWU from WS-1) X .80 = _____ Allowable water use									

1. The flow rate values shall not exceed the baseline flow rates from the *California Code of Regulations, Title 20, 2010 Appliance Efficiency Regulations (See Table 4.303.2.)*
2. For low-rise residential occupancies, the number of occupants shall be based on two persons for the first bedroom, plus one additional person for each additional bedroom.
3. For nonresidential occupancies, refer to Table A, Chapter 4, 2010 *California Plumbing Code*, for occupant load factors.
  - a. Shower use by occupants depends on the type of use of a building or portion of a building, e.g., total occupant load for a health club, but only a fraction of the occupants in an office building as determined by the anticipated number of users.
  - b. Nonresidential kitchen faucet use is determined by the occupant load of the area served by the fixture.
4. Includes single and dual flush water closets with an effective flush of 1.28 gallons or less.
  - Single flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is the average flush volume when tested in accordance with ASME A 112.19.2.
  - Dual flush toilets - The effective flush volume shall not exceed 1.28 gallons (4.8 liters). The effective flush volume is defined as the composite, average flush volume of two reduced flushes and one full flush. Flush volumes will be tested in accordance with ASME A 112.19.2 and ASME A 112.19.14.
5. The daily use number shall be increased to three if urinals are not installed in the room.