

Residential Water Heater Replacements General Requirements

A building permit is required for the replacement of a water heater. Plans may be required if the location of the water heater is different than its present location.

Submittal requirements: 1) Complete a building permit application.

Energy Requirements

Water heater tanks are required to be insulated with an R-12 wrap in the following cases:

- Storage gas water heater with an energy factor of less than 0.58 shall be externally wrapped with insulation having an installed value of R-12 or greater.
- Unfired (indirect) hot water tanks, such as storage tanks and backup storage tanks for solar water heating systems, must be wrapped with external insulation having an installed insulating value of at least R-12. An internal insulation of at least R-16 may be used, with a label on the exterior of the tank showing the insulation R-value.
- A completed CF-6R form will be required to be provided to the Inspector on final inspection.

Pressure/Temperature (P/T) Valve

All water heaters have a pressure/temperature (P/T) valve. The valve shall be drained to the exterior and terminate toward the ground maintaining between six inches and 24 inches of clearance from the ground and pointing downward. The diameter of the valve opening (generally $\frac{3}{4}$ inch) must be maintained to the termination of the drain. Check the manufacturer's requirements. Such drain must terminate at an approved location. No part of such drain shall be trapped and the terminal end of the drain shall not be threaded.

Attic or Interior Installations


If located in an attic or furred space (i.e., closet) where leaking could cause damage to underlying wood framing, the water heater must be set in a pan constructed of water tight corrosion resistant material. The pan must be fitted with a minimum $\frac{3}{4}$ inch drain that drains to an approved location. The P/T line is not allowed to terminate at this pan or be connected to it.

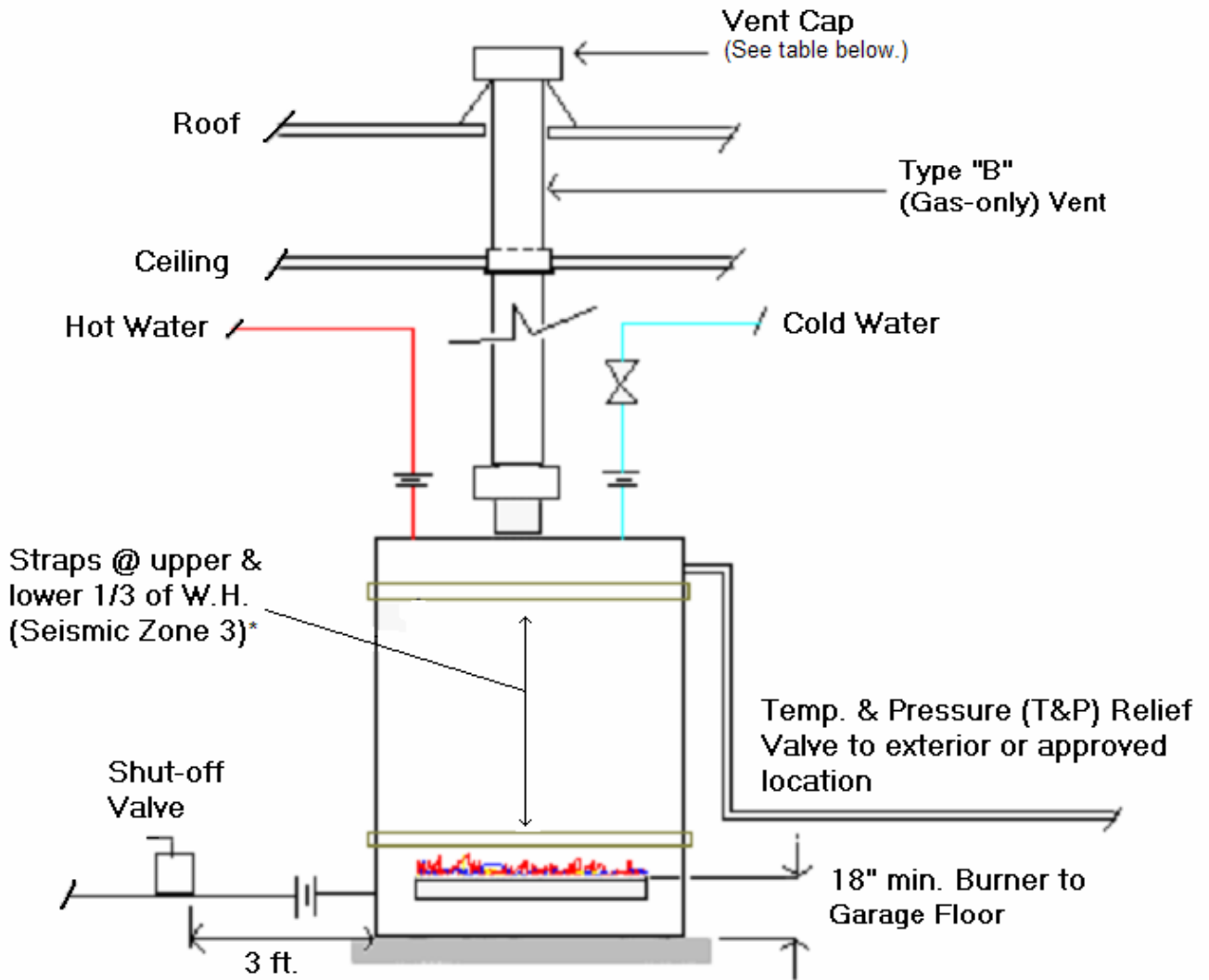
Garage Location

Appliances generating a glow, spark, or flame capable of igniting flammable vapors may be installed in a garage provided the pilots and burners or heating elements and switches are at 18 inches above floor level. If subject to vehicular damage, adequate barriers, such as **bollards**, must be installed (e.g., four inch diameter steel post installed in a one foot diameter by two foot deep footing).

Combustion Air

When the water heater is located in an unconfined space (e.g., a garage), the combustion air can be used from that area. When located in a closet, combustion air must be provided at a minimum of two openings (one at the top and one at the bottom) sized at 100 square inches each.

 CITY OF STOCKTON	Building Division		
	Residential Water Heater Replacements		
(209) 937-8561	345 N El Dorado St., Stockton CA 95202		
FAX: (209) 937-8603	06/12/06		1 of 2




Gas vents with vent caps 12 inches (305mm) in size or smaller can be terminated as follows:

Min. Height of Vent Opening Above Roof**

Roof Slope, Inches	Inches
Flat, to 6/12	12"
Over 6/12 to 7/12	15"
Over 7/12 to 8/12	18"
Over 8/12 to 9/12	24"

* -- Strap width = 1 1/2" metal strap or equivalent to prevent horizontal displacement.

**-- Minimum 5' vertical distance between vent collar and termination point.

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Site Address

Permit Number

Installation certificates (CF-6R) are required for each and every dwelling unit. When the installation of measures that require field verification and diagnostic testing is complete, the builder or the builder’s subcontractor shall complete diagnostic testing and the procedures specified in this section. When the installation is complete, the builder or the builder’s subcontractor shall complete the CF-6R (Installation Certificate), and keep it at the building site for review by the building department. The builder also shall provide a copy of the Installation Certificate to the HERS rater for any measures requiring field verification and diagnostic testing, per Section 10-103(a).

WATER HEATING SYSTEMS:

Heater Type	CEC Certified Mfr Name & Model Number	Distribution Type (Std, Point-of-Use, etc)	If Recirculation, Control Type	# of Identical Systems	Rated Input (kW or Btu/hr) ¹	Tank Volume (gallons)	Efficiency (EF, RE) ²	Standby Loss (%) ²	External Insulation R-value ²

- For **small gas storage** (rated input of less than or equal to 75,000 Btu/hr), **electric resistance** and **heat pump water heaters**, list Energy Factor (EF). For **large gas storage water heaters** (rated input of greater than 75,000 Btu/hr), list Recovery (RE), Thermal Efficiency, Standby Loss and Rated Input. For **instantaneous gas water heaters**, list Thermal Efficiency and Rated Input.
- R-12 external insulation is mandatory for storage water heaters with an energy factor of less than 0.58.

Kitchen Piping:

If indicated on the CF-1R, all hot water piping ≥ 3/4 inches in diameter that runs from the hot water source to the kitchen fixtures is insulated.

Faucets & Shower Heads:

All faucets and showerheads installed are certified to the Energy Commission, pursuant to Title 24, Part 6, Section 111.

Central Water Heating in Buildings with Multiple Dwelling Units (required for prescriptive)

- ✓ All hot water piping in main circulating loop is insulated to requirements of §150(j)
 - Central hot water systems serving six or fewer dwelling units which have (1) less than 25’ of distribution piping outdoors; (2) zero distribution piping underground; (3) no recirculation pump; and (4) insulation on distribution piping that meets the requirements of Section 150(j)
 - Central hot water systems serving more than 6 dwelling units - presence of either a time control or a time/temperature control
- ✓ I, the undersigned, verify that equipment listed above my signature is: 1) the actual equipment installed; 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings; and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the *Appliance Efficiency Regulations* or Part 6), where applicable.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	
Signature:	Date:

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY