



## Water Heater Permit Requirements

Planning Building & Transportation  
2263 Santa Clara Ave., Room 190  
Alameda, CA 94501  
510.747.6800  
Hours: 8:30-3:00 Mon-Thur

### CODE SECTION

CPC Chapter 5, CEC 422.31

### PERMITS & INSPECTIONS

- A permit is required for installation, removal, or replacement of a water heater.
- Do not cover any portion of the installation until inspected and instructed: "Okay to cover".

### LOCATION

Water heater installations in bedrooms and bathrooms shall comply with **one** of the following:

- Fuel-burning water heaters shall be permitted to be installed in a closet located in the bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The closet shall be for the exclusive use of the water heater.
- Water heater shall be of the direct vent type.

### TEMPERATURE, PRESSURE & RELIEF DEVICES

A water heater installation shall be provided with overpressure protection and temperature relief devices using an approved, listed device installed in accordance with the terms of its listing and the manufacturer's installation instructions. A vacuum relief device shall be used on tanked water heaters with fixtures located on floors below the water heater.

### COMBUSTION AIR

See **CPC 506** for combustion air requirements

## EXPANSION TANKS

An expansion tank is required on all closed loop systems, or when required by the manufacturer's instructions.

## GAS WATER HEATER VENTING

See **CPC 509** for venting requirements. PVC vent must have contrasting colored primer – 2% slope back to unit.

## DRAIN PAN

Where a water heater (tanked or tankless) is located in an attic, in or on an attic ceiling assembly, floor-ceiling assembly, or floor-subfloor assembly where damage results from a leaking water heater, a watertight pan of corrosion-resistant materials shall be installed beneath the water heater with  $\geq 3/4"$  diameter drain to an approved location. Such pan shall be  $\geq 1.5"$  inches in depth.

## BONDING

**Gas water heater:** #6 copper from hot → cold → to gas

**Electric water heater:** #6 copper from hot → cold

## CONDENSATES

- Discharged to approved plumbing fixture via indirect waste: tail piece, mop sink, ceiling tile, above shower/tub. **CMC 310.1**
- Discharged to approved disposal area: **CMC 310.1**
  - Into the ground.
  - Not the driveway or any other location that can drain to the street.
  - Cannot drain to crawl space or basement floor.
  - Roof downspout (approved material) into approved disposal area.
- Shall be made of corrosion-resistant material. **CMC 310.1. & CMC 811.1**
- $\geq 1\%$  slope. **CMC 310.1**
- Condensate pump discharge shall rise vertically to a point where it is possible to connect to a gravity condensate drain & discharge to an approved location. Pump shall be interlocked with the equipment to prevent the equipment from operating during a failure. **CMC 310.1.1**
- Condensates shall be provided with a cleanout. **CMC 310.3.1**
- Condensates shall be trapped per the manufactures instructions.

## **ELECTRICAL DISCONNECT**

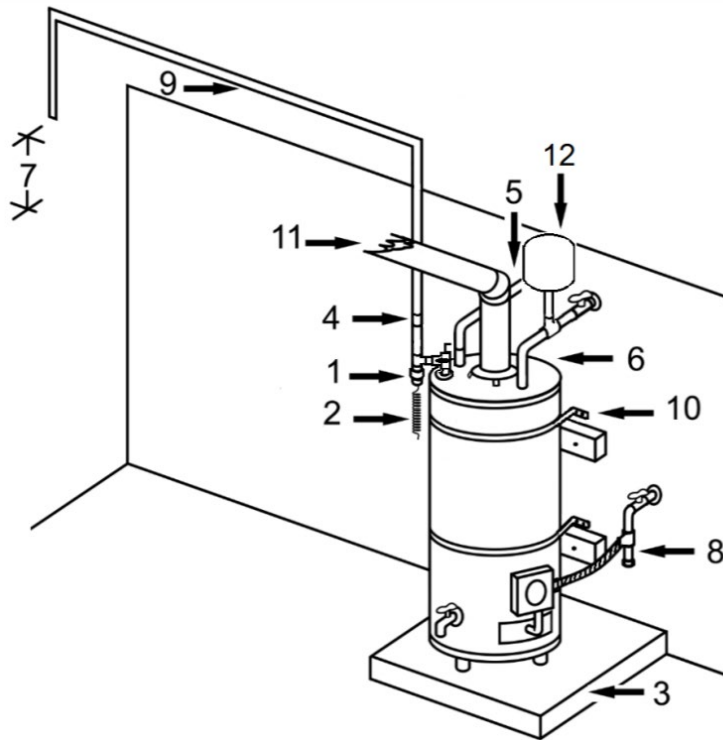
The branch-circuit overcurrent device shall be permitted to serve as the disconnecting means where the switch or circuit breaker is within sight from the appliance or is lockable.

## **TANKLESS WATER HEATERS**

Please provide the following details about your tankless water heater installation with your permit application:

- Water heater BTU rating
- Size of dedicated gas piping
- Type of gas piping
- Length of gas piping
- We will also require a gas line drawing. See our sample gas line drawing document on our Building Department forms page.

### Alternative to Watts 210 for basement installation (unable to obtain T&P slope)



1. 3/4" tee with 1/8" reducer
2. 1/8" tubing, drip coil with slightly crimped end
3. 3" minimum slab or base
4. 3/4" union within 12"
5. Hot water line (insulated first 5')
6. Cold water line with shutoff valve (insulated first 5')
7. Terminate 6-24" from grade at exterior
8. Gas supply line with sediment trap, downstream of shutoff valve
9. 3/4" CPVC or copper tubing, 1/4" per foot slope towards termination
10. Seismic straps, listed for size or use 24g straps (**50gal**: 2 straps, **75gal**: 3 straps, **100gal**: 4 straps) or per the manufacturer's instructions
11. Vent connector: single appliance vent with maximum horizontal length 75% of vertical for single wall, 100% for B-vent
12. Expansion tank, if required