



City of Oceanside
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Information Bulletin

Water Heater Installations

The purpose of this bulletin is to provide information to the public about the code requirements for the installation of storage tank water heaters.

1. **Permits and Inspections** are required for new and replacement water heaters (503.0, 504.0 CPC 2007).
2. **Installation in a Garage:** Gas water heaters in garages and in adjacent spaces that open to a garage shall be installed so that all burners and burner-ignition devices are located not less than 18" above the floor unless listed as flammable vapor ignition resistant. Stands or platform bases for water heaters shall be properly anchored to the floor. Water heaters shall be located or protected so it is not subject to physical damage by a moving vehicle (508.14 CPC 2007).
3. **Installation in an Attic:** An attic in which a water heater is installed shall be designed to support the weight of the water heater. Access shall be through an opening not less than 22" x 30" inches that is adequate to permit the replacement of the water heater without removing permanent construction. A passageway from the attic access to the water heater shall be unobstructed and shall have solid flooring not less than 24" wide. Where the height of the passageway is less than 6', the distance from the attic access to the water heater shall not exceed 20' measured along the centerline of the passageway. A level working platform not less than 30"x 30" inches shall be provided in front of the service side of the water heater. A permanent 120-volt receptacle outlet and a lighting fixture shall be installed near the water heater. The switch controlling the lighting fixture shall be located at the attic access. Water heaters shall be installed with an approved watertight pan beneath the water heater with a minimum 3/4 inch drain, piped to an approved, readily visible location (508.4, 509.4 CPC 2007)
4. **Installation in a Bedroom or Bathroom:** Fuel-burning water heaters may be installed in a closet located in a bedroom or bathroom provided the closet is equipped with a listed, gasketed door assembly and a listed self-closing device. The door assembly shall be installed with a threshold and bottom door seal. All combustion air for such installations shall be obtained from the outdoors and the closet shall be for the exclusive use of the water heater. Direct vent type or electric water heaters do not require the above mentioned closet and door assembly (505.1 CPC 2007)
5. **A Seismic Bracing System** shall be installed to provide protection from displacement due to seismic motion. The water heater shall be anchored with a code approved restraint system consisting of strapping the upper and lower 1/3's of the water heater; the lower strap shall be a minimum 4" above gas control valve (508.2 C.P.C. 2007).
6. **Temperature and Pressure Relief Valve & Discharge Line:** Water Heaters shall be installed with a T & P relief valve. Discharge piping shall be rigid copper, galvanized steel or CPVC. Install the discharge pipe from the T&P valve to the outside of the building with slope and terminate the pipe pointing downward, not more than 2' feet nor less than 6" above the ground. The discharge pipe shall not be trapped or have a valve installed and the terminating end shall not be threaded. (505.6, 608.5 C.P.C.2007) In circumstances where this is not possible, refer to Building Dept. Policy P-3.

7. **Combustion Air Vents** within 12" of top and bottom of enclosure are required where enclosure has volume less than 50 cubic feet per 1000 B.T.U. per hour of all appliances within enclosure. Minimum area per opening shall be based on 1" square inch per 4000 B.T.U. per hour of input capacity, with minimum a screen mesh of a ¼" (507.4.1 C.P.C. 2007).
8. **Venting Systems** shall be of proper size and type per the water heater manufacturer's installation instructions. Vent pipes shall not terminate less than 12" above the roof. Additional height is required if the roof pitch is greater than 6:12 slope. The vent shall terminate not less than 8' from any second story exterior wall and be 2' above any structure within 10' (510.6.2 C.P.C. 2007). Single wall metal vent piping shall have a minimum 6" clearance from combustible materials and shall be secured together with screws or rivets. Single wall vent piping shall not be installed in a concealed space or attic. Type "B" double wall vent piping shall have a minimum of 1" clearance from combustible materials and shall not be secured together with screws or rivets (510.10.7 C.P.C. 2007). For "power vent" and "tankless" water heaters, refer to the manufacturer's installation instructions for required materials and system design.
9. **Gas Appliance Connectors** shall not exceed 3' in length and shall not be reused per the manufacturer's installation instructions. Gas connectors shall be attached to a hand shut-off type gas valve and be properly sized for B.T.U. rating of water heater.
10. **A Sediment Trap** shall be installed at the water heater control valve with a "T" fitting and a minimum 3" nipple in length with a cap for trapping sediment (1212.7 C.P.C. 2007). This shall only apply to water heater installations with new gas piping systems and/or systems where the gas has been disconnected for 6 months or more. (City of Oceanside Procedure P-5)
11. **Water Piping Insulation** shall be installed on 5' of the cold and 5' of the hot water supplies at water heater.
12. **Installation Instructions** for water heaters are to be on site and readily available for reference (508.26 C.P.C. 2007).
13. **Thermal-Expansion:** Any water system provided with a check valve, backflow preventer or any other normally closed device that prevents dissipation of building pressure back into the water main shall be provided with an approved, listed and adequately sized expansion tank or other approved device having a similar function to control thermal expansion. All residential dwellings shall be considered to have an open system, unless a visual inspection provides evidence of the existence of a check valve, backflow preventer or any other normally closed device (608.3 C.P.C. 2007).
14. **Bonding:** Gas piping shall be bonded. Gas piping is considered to be bonded when it is connected to gas utilization equipment that is connected to the equipment grounding conductor of the circuit supplying that equipment (1211.14 C.P.C.).

