

OTC PLUMBING PERMIT



CITY OF HEMET DEPARTMENT OF LIFE SAFETY WATER HEATER

Types: 1. Gas 2. Electric 3. Tankless

Building Permit Requirements

Documents Required

- Permit Application completed and signed.
- Notarized Letter of Authorization if agent of Owner/Licensed Contractor or Owner Signed Contract
- CF1R – Residential Alteration for Water Heater form completed and signed.
- Site Plan required for all Water Heater installations.
- Manufacturer Installation Specifications (all types)

GENERAL REQUIREMENTS

- Water heaters located in garages must be protected from mechanical damage. This means placing them out of the path of vehicular traffic or providing a protective post.

- Water heaters must be seismic strapped. Provide two 1-1/2" X 18 gage straps. Locate the top strap

- 1/3 of the way down and the bottom strap in the lower 1/3 of the water heater. See drawing on page 3. Provide a minimum of 4 inches of clearance from the temperature control valve. Use 3/8" dia. Lag bolts to connect the straps to the framing members. Do not use molly bolts or lag shields into the drywall only.

- A different method for seismic strapping could be use if approved by the Building Official.

- Provide a temperature and pressure relief valve as required by the manufacturer and hard pipe plumb to the outside and directed to the ground and terminated a minimum of 6" to a maximum of 24" above grade. When replacing an existing water heater, the T & P may be re-installed to drain to the garage floor provided the new installation is in the existing location.

- The first 5 feet of both the hot and cold supply pipes must be insulated per the 2016 Energy Efficiency Standard requirements

- 5.3.4 High-Efficiency Water Heater Ready §150.0(n) To facilitate future installations of high-efficiency equipment, the Energy Standards contain the following mandatory requirements for systems using gas or propane water heaters that serve individual dwelling units

These requirements are for new construction and additions (if a water heater is installed in the added floor area), and they are not applicable to alterations.

1. A 120-volt (V) electrical receptacle that is within three feet of the water heater and accessible to the water heater with no obstructions.

2. A Category III or IV vent or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed

3. A condensate drain that is no more than 2 inches higher than the base of the installed water heater and allows natural draining without pump assistance

4. A gas supply line with a capacity to provide at least 200,000 BTU/hr. to the water heater.

These requirements make it easier for someone to retrofit high efficiency gas water heaters in the future. Virtually all high efficiency gas water heaters require an electrical connection and wiring during initial construction stage is much less costly than trying to retrofit it later.

FUEL GAS

Fuel gas piping must be sized for the demand upon it. If a water heater is replaced with a larger one then the pipe sizing should be reviewed. See the fuel gas pipe sizing handout available at the Building Counter. A listed flexible supply with a maximum length of 3 feet is required. Do not re-use an old flexible supply line.

PROHIBITED LOCATIONS

Water heaters located in bedrooms or bathrooms are required to: [2016 CPC, Section 504.1]

1. Be installed in a dedicated closet with a listed, gasketed door assembly and a self-closing device. All combustion air shall be obtained from the outside.
2. Water Heater shall be of the direct vent pipe

Water heaters installed in attic spaces or floor ceiling / floor subfloor assemblies where damage may result from a leaking heater, a watertight pan of corrosion resistant materials shall be installed beneath the water heater with a minimum ¾" dia. Drain to an approved location. [CPC 507.5]

COMBUSTION AIR

Fuel burning water heaters must be provided with a sufficient supply of air to assure proper combustion of fuel. (CPC 506.0) In tightly constructed buildings with vapor barriers and weather stripping the combustion air must be ducted in from the outside or from attic spaces that freely communicate with the outside via permanent screened openings. Combustion air openings must be placed so that one half of the required supply enters the water heater enclosure within 12" of the ceiling and one half enters within 12" of the floor. Openings must be a minimum of three inches in least dimension. They should be at least 10 ft. away from a return air inlet.

VENTING

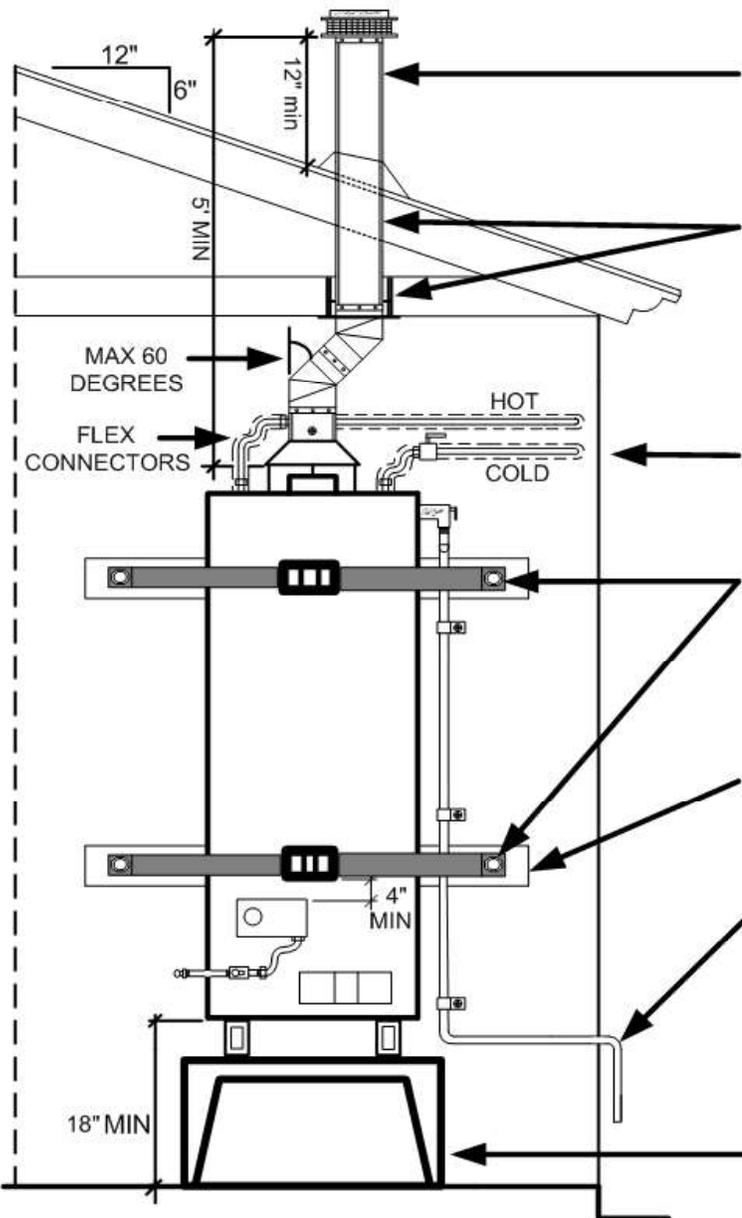
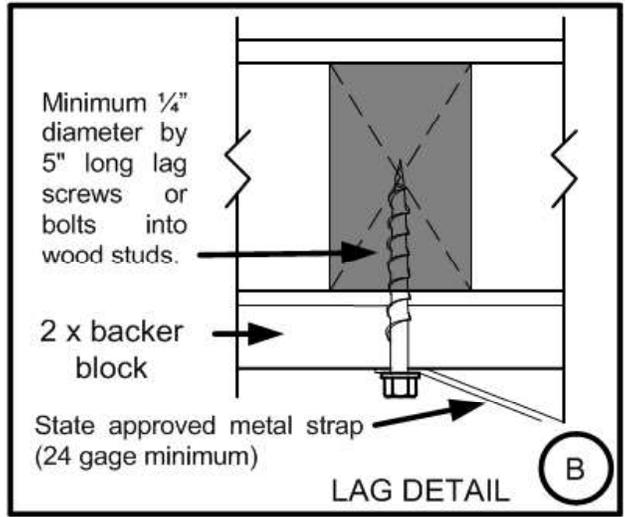
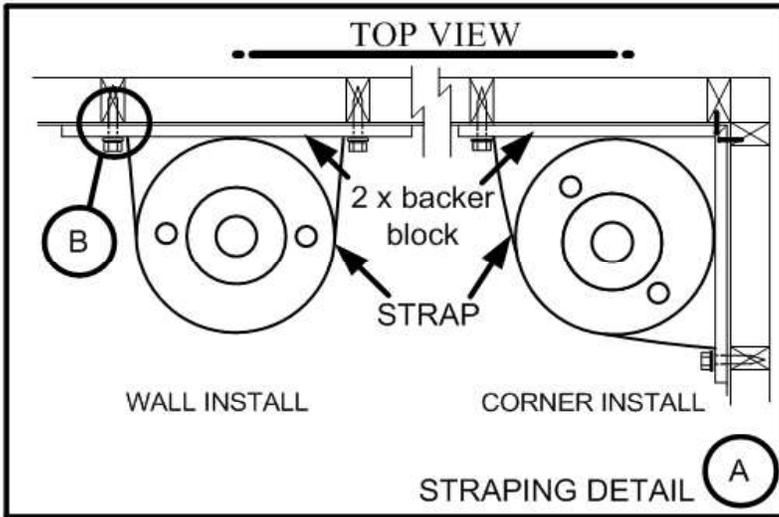
- A single wall vent connector must be fastened with three sheet metal screws, rivets or other approved fasteners at each joint. Do not use cloth tape
- Single wall vent connectors must start and end in the same space as the water heater.
- No portion of the connector may be concealed within the construction of the building.
- Vent connectors must be the same size as the draft hood outlet on the appliance. They must slope up from the draft hood to the vent at least ¼" per foot.
- The total horizontal length of the vent system including vent and vent connectors must not exceed 75% of the vertical height of the vent.
- A gravity type venting system must terminate at least 5 ft. above the draft hood
- Roof top vent termination must be 8 feet away from a vertical wall and extend 2 feet above the highest point where it passes through the roof.
- In multiple venting situations the largest vent size plus 50% must be used.
- Gravity and induced draft systems may not be interconnected unless a draft hood is present.

CLEARANCES

- Clearances for most water heaters are found on the appliance label.
- Please note the front clearance is usually greater than the side and rear.
- Access and working space must be provided.
- The opening must be at least 24" wide and large enough to remove the water heater.
- Water heaters installed in a garage must be elevated 18" above the floor unless it is listed as flammable vapor ignition resistant (CPC507.13) Note that electric water heaters with a switch and/or heating element located less than 18" above the base must also be elevated

Required Inspections

- Final **
 - a. Final Gas/Final Plumbing
 - b. Final Electric (Tankless)



Venting for the water heater shall be Type B (double wall) vent pipe and shall terminate at least 5 feet above the draft hood or flue collar and at least 12" above roof. (steeper pitched roofs will require additional clearances)

Provide minimum 1" clear space from vent to any combustible materials. When type B water heater vent is installed in an attic, provide approved ceiling thimble for the double wall vent. NO single wall vents allowed in attic.

Insulate pipes (hot & cold) within the first 5' feet of the water heater.

Strapping shall be within the upper 1/3 and the lower 1/3 of the water heater. At the lower point, a minimum distance of 4" inches shall be maintained between the controls and the lower strap. Other methods may be acceptable, check with the Building Inspector. See strap and lag detail above.

Provide a 2 x backer block top and bottom behind water heater for support if there is no stud directly behind the water heater. See detail (A)

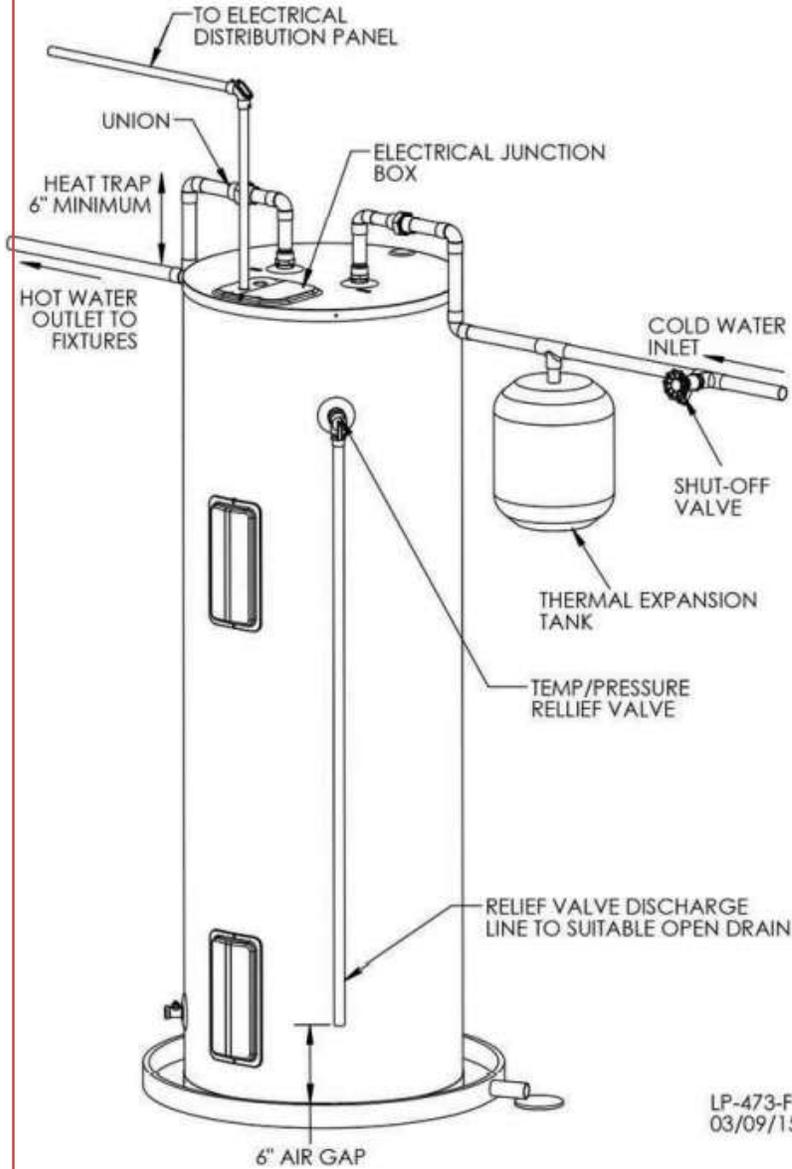
Temperature and pressure (T&P) relief valve piping shall extend from the valve to the outside of the building with end of pipe not more than 24" nor less than 6" from the ground. Other methods and locations may be acceptable, check with the Building Inspector. Piping shall be of galvanized steel, hard-drawn copper or CPVC.

Gas water heaters in residential garages must be a minimum of 18" above the floor to the burner device. Additionally, water heaters installed in garages shall be protected so as to not be subject to physical damage by a moving vehicle.

ELECTRIC WATER HEATER TYPES

Electric Tank Water Heater

*Requires Seismic Water Heater Straps



Tankless Water Heater

Please include the Manufacturer's Installation Manual with your Application, Site Plan and required documents for Electric and Tankless waterheater permits.



REVISED 7/2023