



Community Development Department
14000 City Center Dr., Chino Hills, CA 91709
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www.chinohills.org

WATER HEATER CHANGE OUT

The following forms are required for any residential water heater change outs in the City of Chino Hills prior to permit issuance:

1. Completed City of Chino Hills Building Application
2. Completed California Energy CF-1R-ALT Water Heater form*
3. Site plan required if water heater is located outside or if indoor location is changing.

The following forms are required prior to permit final:

1. The inspector will collect a completed form CF-6R-MECH-01 at the time of final inspection*

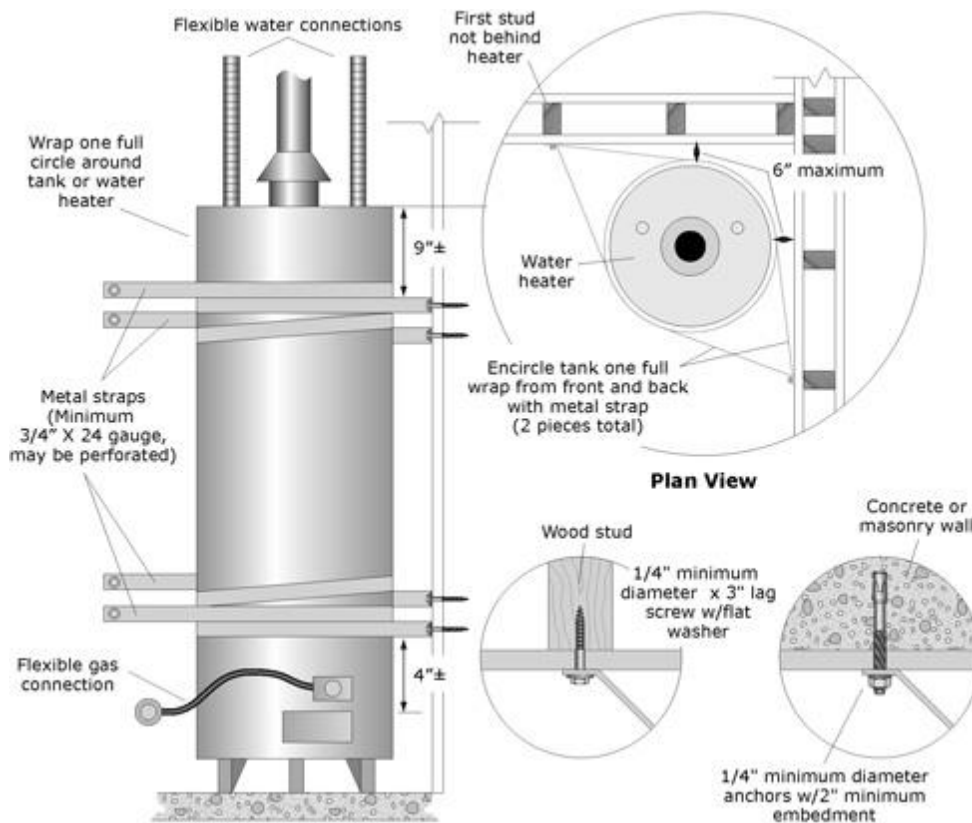
***For assistance or questions regarding the energy standards, please contact the Energy Hotline at 1-800-772-3300. California Energy forms may be obtained at www.energy.ca.gov.**

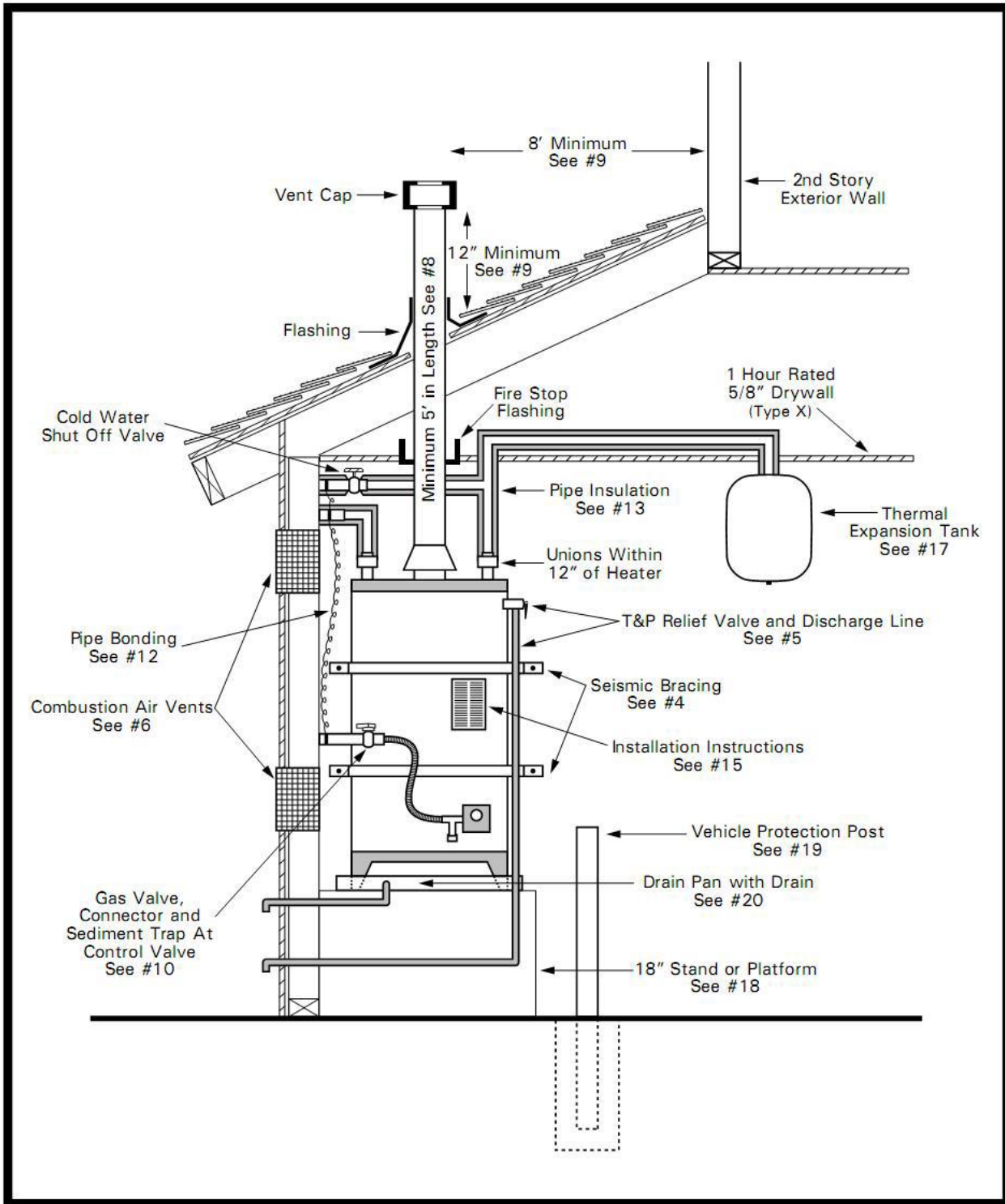
Water Heater Installation Requirements

1. Permits are required for new and replacement water heaters (502.0 C.P.C. 2019). Contact the Building & Safety Department to obtain needed permit.
2. Inspection is required after the water heater is installed to verify compliance within the minimum safety requirements of the code regarding water heater location, combustion air, venting and vent cap, seismic protection / strapping, access and working space around water heater and other appliances, clearances to combustibles, gas piping supply with sediment trap and connections, temperature and pressure relief valve and discharge piping to outside, water and gas hand shut off valves, water piping and connections, metallic piping continuously bonded, to meet energy compliance and if required by location 18" elevation, vehicle damage protection and drain pan (503.2 C.P.C. 2019).
3. Prohibited Locations: Do not install water heaters which depend on the combustion of fuel in rooms used for sleeping purposes, bathroom, closet, or other confined space opening into a bedroom, bathroom, or under a stairway landing (504.1 C.P.C. 2019).
4. Seismic bracing system to be installed to provide protection from displacement due to earthquake motion. Water heater must be anchored / secured with a code approved restraint system consisting of strapping the upper and lower 1/3's of the water heater, minimum 4" above gas control valve and 4" below side T & P outlet (507.2 C.P.C. 2019 and 17958.5 Health & Safety Code).

16. Working platform: A level working surface not less than 30" by 30" shall be provided for service (508.4.3 C.P.C. 2019).
17. Thermal expansion tank system shall be required to protect water heater and water piping systems from excess pressure due to thermal expansion if a regulator is installed (608.3 C.P.C. 2019 & 1006.0 C.M.C. 2019).
18. Water heater stand or built-in platform is required when water heater is installed in a garage to elevate water heater a minimum 18" above grade (507.13 C.P.C. 2019).
19. Vehicle protection must be provided where subject to mechanical damage, post or built in platform (507.13.1 C.P.C. 2019).
20. Drain pan shall be required when a water heater and / or tank is installed in a location where it could cause damage. In case of failure / leak to floor, sub-floor, drywall or platform. Drain pan shall be installed with a minimum 3/4" drain outlet and discharge that drain to the exterior of the building or approved location (507.5 C.P.C. 2019). Discharge from T&P relief valve cannot terminate into water heater drain pan (608.5 C.P.C. 2019).

Example to Strap Water Heater





4. **Number of water heaters in system:** In single-family and multi-family with water heaters in each dwelling units the value is 1. For multi-family central systems serving multiple dwelling units enter the total number of water heaters.
5. **Water heater volume (gal):** tank capacity in gallons. For individual water heaters for a dwelling unit this will be 60 gallons or less. If instantaneous, enter n/a. For multi-family central systems enter the total storage volume.
6. **Fuel Type:** Gas, Propane, Electric (Only if natural gas is not available)
7. **Rated Input Type:** Enter the equipment input rating type, for gas or propane fired units are Btuh, for electric fired system the units are kW.
8. **Rated Input Value:** Enter the numeric value of rated input.
9. **Heating Efficiency Type:** Energy Factor, AFUE, or Thermal Efficiency. From product literature or a California Energy Commission directory.
10. **Heating Efficiency Value:** Enter the value from product literature or a California Energy Commission directory
11. **Standby Loss (percent):** Applies only to large storage water heaters, Enter n/a for small storage or instantaneous water heaters.
12. **Exterior Insulation R-Value:** Enter the R-value if exterior insulation on the storage tank is installed
13. **Back-up solar savings fraction:** If compliance requires a back-up solar system, indicate the solar contribution (e.g., 0.30). External calculations are required.
14. **Central DHW Distribution System:** For multi-family buildings with using a central distribution system a demand recirculation system with at least two distribution loops must be installed. This requirement applies to any building with eight or more units. If the system is non-central or project is individual units enter n/a.
15. **Dwelling Unit DHW Distribution Type:** For a Central DHW this field shall be Standard. If non-central then pick from Standard, Demand Recirculation – Manual Control, Demand Recirculation – Sensor Control. If non-central electric water heater this must be Standard, no recirculation system shall be installed.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
• I certify that this Certificate of Compliance documentation is accurate and complete.	
Name: <input type="checkbox"/> Owner <input type="checkbox"/> Authorized agent <input type="checkbox"/> Contractor	Signature:
Company :	Contractor license #:
Address:	Phone:
City/State/Zip:	Date:

For assistance or questions regarding the Energy Standards, contact the Energy Hotline at: 1-800-772-3300.

INSTALLATION CERTIFICATE		CF-6R-MECH-01
Domestic Hot Water (DHW)		(Page 1 of 2)
Site Address:	Enforcement Agency:	Permit Number:

1. 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) ¹	Standby Loss (%) ¹

*Note 1: For **small gas storage** (rated input 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 Efficiency (RE), Thermal Efficiency, Standby Loss and Rated Input. For **instantaneous gas water heaters**, list the Thermal Efficiency and Rated Input.*

2. Mandatory Measures

TO COMPLY - ALL BOXES MUST BE CHECKED

§110-§113: Water heaters, showerhead and faucets are certified by the California Energy Commission.

§150(j): Water System Pipe and Tank Insulation. And Cooling Line Insulation

1. Storage tank insulation

- A. Storage gas water heaters rated with an Energy Factor no greater than the federal minimal standard are externally wrapped with insulation having an installed thermal resistance of R-12 or greater; and
- B. Unfired storage tanks or other indirect hot water tanks have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.

2. Water piping and cooling system line insulation thickness and conductivity

- First 5 feet of hot and cold water pipes closest to water heater tank, non-recirculating systems, and entire length of recirculating sections of hot water pipes are insulated per Standards Table 150-B; and
- Pipe insulation for steam hydronic heating systems or hot water systems >15 psi, meets the requirements of Standards Table 123-A.
- Insulation is protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.

§151(f)8D: If indicated on the CF-1R, all hot water piping that runs from the hot water source to the kitchen fixtures is insulated per Standards Table 150-B.

