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MECHANICAL PLAN REVIEW CHECKLIST

GENERAL
(RESIDENTIAL & COMMERCIAL)

The intent of this checklist is to provide a general guideline for the mechanical plan review. This checklist may not include items related to all possible projects. This checklist may include more items than specific set of mechanical plans may encompass.

Referenced Codes:
- 2013 California Mechanical Code (CMC)
- 2013 California Plumbing Code (CPC)

* Code section referenced is CMC unless noted otherwise.

	Code Requirements	Code section*	Req'd
	A. GENERAL		
1.	Indicate location of heating, cooling and ventilating equipment.	308	
2.	It should be noted on the plans that each piece of heating, ventilating and air-conditioning equipment shall be labeled to the space served as required.	307	
3.	Provide information on the approval listing of the equipment installed.	303.2	
4.	Provide the manufacturer's installation instructions for all appliances and the BTU per hour output.	303.1	
5.	Equipment located in a garage that has a flame, generates a spark or uses a glowing ignition source open to the space in which it is installed, shall be elevated so the source of ignition is at least 18 inches above the floor, unless listed as flammable vapor resistant	308.1	
6.	Central-heating furnaces not listed for closet or alcove installation shall be installed in a room or space having a volume at least 12 times the total volume of the furnace; central-heating boilers not listed for closet or alcove installation shall be installed in a room or space having a volume 16 times the volume of the boiler.	303.3	
7.	Submit mechanical equipment schedule identifying the equipment manufacturer's name, model number, capacity, installation methods, etc.	Table 1701	
8.	Submit duct layout showing size, class, duct gage (if metal) and grill (register) locations.	601.2	
9.	Listed heat-producing equipment shall maintain the required clearances to combustible construction specified in the listing. Devices such as doorstops or limits, closers, drapery ties or guards shall not be used to provide the required clearances.	904.2	
10.	Provide access for all appliances for inspection, service, repair and replacement without removing permanent construction.	304	
11.	All mechanical equipment shall be listed and labeled by an approved agency. If equipment is not listed, complete equipment information, including manufacturer's data sheets, test reports, etc., shall be provided to allow for evaluation. Testing by an approved agency will be required before approval is granted.	303.2 303.4	
	B. INSTALLATION REQUIREMENTS		
12.	Equipment designed to be fixed in position shall be securely fastened in place.	303.5	
13.	Liquefied petroleum gas-burning appliances shall not be installed in a pit or basement.	303.8	
14.	Detail of furnace enclosure and blower-type furnace should be shown on the plans. Clearances of listed appliances from combustible materials shall be specified in the listing or on the rating plate.	303.2 Table 904.2	
15.	Provide a level working space of not less than 30 inches wide and 30" deep and in front of the service side of the furnace.	904.10.3	
16.	Provide a permanent 120-volt receptacle outlet and a lighting fixture near appliance. Switch for lighting fixture shall be provided at passageway entrance.	904.10.4	

MECHANICAL PLAN REVIEW CHECKLIST
GENERAL RESIDENTIAL & COMMERCIAL (Cont'd)

	Code Requirements	Code section	Req'd
17.	Access to equipment on roof should be shown on the plans.	304.2	
18.	Details of equipment installed in attic shall be shown on the plans. The following provisions should be considered: a) Attics shall have an access space large enough to allow the largest piece of equipment to be removed, with a minimum of 22 inches by 30 inches. b) Clearances from combustible construction as recommended in the manufacturer's installation instructions shall be maintained. c) Passageway Height: Where the height of the passageway is less than 6 feet, the distance from the passageway access to the appliance shall not exceed 20 feet measured along the center line of the passageway. d) Passageway: The passageway shall be unobstructed and shall have solid flooring not less than 24" wide from the entrance opening to the appliance.	904.10 904.10.5 904.10.1 904.10.2	
19.	Equipment installed in an attic or furred space shall be accessible for inspection, service, repair and replacement without removing permanent construction.	904.10	
20.	Provide 30 inch clearance from range top to combustible materials.	916.1.2.	
21.	Show condensate lines on plans and where they will terminate. Size lines per sec. 312.3. Overflow drains from air-conditioning units should discharge to conspicuous locations.	312.1 312.3 Table 312.3	
	C. VENTILATION AIR SUPPLY		
22.	Provide makeup air for the ventilation system. All rooms and occupied spaces listed in Table 402.1 shall be designed to have ventilation (Outside air).	402 Table 402.1	
	D. COMBUSTION AIR		
23.	All gas appliances shall be vented in accordance with Chapter 7.	Chapter 7	
24.	Combustion air provisions should be shown on the plans for the fuel-burning equipment. Sizes of openings and/or ducts and their points of termination should be indicated in compliance with Chapter 7.	Chapter 7	
25.	Two Permanent Openings Method: An upper combustion air opening or duct should be provided and located within the upper 12 of the enclosure. In addition, a lower combustion air opening or duct should be provided and located within the lower 12 inches of the enclosure. Upper and lower combustion air ducts should not be joined, but should be completely separated.	701.6.1	
26.	One Permanent Opening Method: One combustion air opening sized at 1 square inch per 3,000 Btu/h input of the appliance or appliances, but not smaller than the vent flow area, shall be allowed within the upper 12 inches of the enclosure. When this is done, all of the combustion air shall be taken from the outdoors and the appliance shall have a minimum clearance of 1 inch on the sides and back, and 6 inches on the front.	701.6.2	
27.	Fire dampers or volume dampers should not be installed in combustion air ducts.	701.12	
	E. CHIMNEYS AND VENTS		
28.	The factory-built chimney shall be installed in accordance with the terms of its listing and the manufacturer's installation instructions.	802.5.1	
29.	Provide the manufacturer's installation instructions for the factory-built chimney.		
30.	Termination of venting system to be per Table 802.6.2.	Table 802.6.2	
31.	Portions of venting systems that extend through occupied and storage spaces shall be enclosed. A combustion products vent, vent connector, chimney or chimney connector shall not extend into or through an air duct or plenum. Clearance of appliances or connectors from combustible materials shall comply with Table 802.7.3.4.	Table 802.7.3.4	

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GENERAL RESIDENTIAL & COMMERCIAL (Cont'd)

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32.	Gravity flue vents should not slope more than 60 degrees from the vertical. In addition, the total horizontal run of the vent (less than 45 degrees from horizontal) and the connector should not exceed 75 percent of the vertical height of the vent.	802.6 802.7 Fig 802.6.2	
33.	Detail of the chimney or vent roof penetration should be provided to ensure compliance with the provisions of Chapter 8.	Chapter 8	
34.	Factory-built chimneys for residential fireplaces should terminate at least 3 feet above the roof and 2 feet above any part of the building that is within 10 feet of the chimney.	802.5.4	
35.	The vent for the wall furnace should be a Type BW gas vent. The first ceiling plate above the furnace in a stud cavity enclosing the vent should be ventilated. Each subsequent ceiling plate should be fire stopped by the fire-stop spacers furnished with the vent.	928.0	
	F. COMFORT COOLING		
36.	Condensate shall be collected and discharged to an approved plumbing fixture or disposal area. Overflow condensate disposal shall be provided when condensate or defrost liquids are generated in an attic or furred space and damage may result from overflow.	1106.12	
37.	The overflow discharge lines shall terminate at an approved location where they can be readily observed.	312.2.	
38.	Equipment serving different areas of a building other than where it is installed shall be marked in an approved manner to permanently and uniqly identify the piece of equipment and area served.	303.7	
	G. DUCT SYSTEMS		
39.	Show on plan how the area is to be heated. Indicate the size of duct to each room/ location. Factory made air ducts shall not be installed closer than 4 inches to the ground or where exposed to physical damage. Ducts may be constructed of metal or of nonmetallic material conforming to Chapter 6.	Chapter 6 603.3	
40.	Indicate the location of existing furnace. Fuel burning equipment shall be provided a sufficient supply of combustion air per Chapter 7.	Chapter 7	
	H. FUEL GAS PIPING		
41.	The type of all materials to be used for the fuel gas piping system shall meet the requirements of sec. 1309.5	1309.5	
42.	The design shall conform to Chapter 13.	Chapter 13	
43.	The gas system submittal shall include (and not necessarily be limited to) the following: a) Indicate gas line pipe system sizing method design method(s) referenced in CPC 1309.4.. Call out CPC Chapter 12 table references utilized in design. b) Provide PLAN VIEW and ISOMETRIC riser diagrams for the proposed work. • Gas meter location and pipe locations on plans. • Indicate on plans the total developed length of the system from meter or regulator to most remote gas outlet. • The total developed length for each branch and demand for each branch. • Show all mechanical (e.g. furnace), plumbing (e.g. water heater) and kitchen residential (e.g. range/oven, clothes dryer, etc), gas appliance locations and associated demand factors. • Pipe sizes. c) Provide details as required.	Chapter 13 1309.4	