

# Informational Guide

## Residential Furnace and A/C Replacement

### Permit Procedure

1. Submit a completed permit application (\*IRC-105.1).
2. Furnaces and A/C units must be installed by a contractor licensed by the State of Oklahoma and registered with the City of Stillwater (Section 24-71, 24-72 SCC).

### Locations

**GARAGE** - Heat-producing appliances and comfort-cooling appliances shall not be located in a private garage unless precautions are taken to protect such equipment from impact by automobiles (\*IRC-G2408.2).

- Heat-producing appliances and comfort-cooling appliances having an ignition source, generates a glow, spark or flame capable of igniting flammable vapors and is located in a garage or accessed from the garage shall be installed with the ignition source, burners, burner ignition devices or heating elements and switches at least eighteen inches (18") above the floor level (\*IRC-G2408.2).

**ATTIC** - Attic access opening to be 22" x 30" or large enough to remove the largest piece of equipment. (IRC-R807)

- An attic or furred space where a furnace is installed shall be accessible by an opening and unobstructed passageway as large as the largest piece of equipment and in no case less than 30" high and 22" inches wide and not over 20 feet in length measured along the centerline of the passageway from the opening to the appliance. (IMC-306.3)
- A minimum 30" x 30" working platform shall be provided at the service side of the appliance. (IMC 306.3)
- A working platform need not be provided when the furnace can be serviced directly at the required access opening. (IMC 306.3, exception)
- A permanent electric outlet and lighting fixture controlled by a switch at the passageway opening shall be provided at or near the furnace. (IMC 306.3.1)

**UNDER FLOORS** - Crawl space access opening to be 22" x 30" or large enough to remove the largest piece of equipment. (IMC 306.4)

- A crawl space where a furnace is installed shall be accessible by an opening and unobstructed passageway as large as the largest piece of equipment and in no case less than 30" high and 22" inches wide and not over 20 feet in length measured along the centerline of the passageway from the opening to the appliance. (IMC-306.4)
- A minimum 30" x 30" level service space shall be provided at the service side of the appliance. If the depth of the passageway or the service space exceeds 12 inches below the adjoining grade the walls of the passageway shall be lined with concrete or masonry extending a minimum of 4 inches above adjoining grade with lateral bearing capacity to resist collapse. (IMC 306.4)
- Furnace shall rest on a concrete slab extending not less than 3 inches from adjoining ground level or suspended a minimum of 6 inches above grade level. (IMC-304.10)
- A permanent lighting fixture controlled by a switch at the passageway opening shall be provided at or near the furnace. (IMC 306.4.1)

- A permanent GFCI-protected receptacle shall be provided on the same level and within 25 feet of the appliance. (NEC-210.63)

Air conditioning equipment may not be located within easements located on the property. (\*SCC 23-88).

## Installation

### Furnaces

1. Furnace performance must be not less than 78% AFUE. Unions and drip (dirt) leg must be outside of furnace (\*IRC-1401.1).
2. Any soldering will be done with a solder that contains no lead. (\*IPC-605.13.3).
3. All metallic duct must be free of deterioration and screwed together with three (3) sheet metal screws and sealed at each joint (\*IMC-603.4.1).
4. All electric is to be done in accordance with the electric code. (\*NEC-422, 210.63).
5. Combustion air must be provided (Section \*IRC-1701.1, \*IFGC-304).

### Air Conditioners

1. All wiring is to be done according to the electrical codes, including but not limited to:
  - a) A disconnect within site of and readily accessible to the compressor. (\*NEC-440.14).
  - b) Equipment grounding conductor required (\*NEC 250.92 and 250.110).
  - c) A permanent outdoor GFCI electric outlet shall be provided within twenty-five feet (25') of condensing unit (\*NEC-210.63). An outlet will not be required for replacements not requiring electrical upgrades.
  - d) Thermostat wiring is not permitted to be in same raceway as power conductors (\*NEC-725).
  - e) Branch-circuit, short-circuit and ground fault protection. Follow manufacturer's installation specifications (\*NEC 440.21, 110.3(B)).
2. Any system charging shall conform to Federal and EPA laws concerning CFC contamination of the air.
3. All system discharge shall be performed by licensed and certified HVAC technician.

### References (revised 12/18)

\*SCC = Stillwater City Code

\*IRC = International Residential Code (2015)

\*IFGC = International Fuel Gas Code (2015)

\*IPC = International Plumbing Code (2015)

\*NEC = National Electrical Code (2014)