

City of Scott City

Residential Plumbing Rough-in Inspection Checklist

This inspection checklist reflects the code requirements of the 2015 International Residential Code (IRC) and 2006 International Plumbing Code (IPC)

Please verify the following before calling for a plumbing rough-in inspection.

A plumbing or drainage system, or part thereof, shall not be covered, concealed or put into use until it has been tested, inspected and *approved* by the *building official*. (IRC P2503.2)

Test equipment, materials and labor shall be furnished by the permittee (IRC P2503.3)

Permits and Plans

- Job address is posted in a visible location. (IRC 319.1)

Underground Plumbing

- Trenching and excavation provides appropriate support to underground piping. Backfill material does not contain any rocks, broken concrete or frozen chunks. (IPC 306, IRC P2604)
- Backwater valves are required to be accessible for service and repair. (IPC 715.5)
- Pipes passing through a footing or foundation wall installed with a pipe sleeve sized at least two pipe sizes greater than pipe passing through wall. Sleeve shall be appropriately sealed, (IPC 305.4 & 305.5, IRC P2606.1)
- The size of drainage pipe is not reduced in size in the direction of flow. (IPC 704.2)
- Drain, waste and vents (DWV) shall be tested by water or air without evidence of leaking. (IRC P2503.5.1)
 - Water test – system filled with water to a point not less than 5 feet above the highest fitting connection. Water held under test for at least 15 minutes. Leak free by visual inspection.
 - Air test (not allowed for plastic pipe) – portion under test shall hold a pressure of 5 psi or 10 inches of mercury without introduction of additional air for a period of at least 15 minutes.
- Water supply shall be tested with water or air without evidence of leaking. (IRC P2503.7)
 - Water test – system filled with potable water and held under pressure not less than the working pressure of the system for at least 15 minutes.
 - Air test – system shall hold a pressure of not less than 50 psi for at least 15 minutes.

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Drains

- Appropriate materials are used for sanitary drainage, vent pipes and fittings. (IRC Tables P3002.1(1), P3002.1(2), P3002.2, P3002.3)
- Horizontal drainage piping is sloped appropriately. (IPC Table 704.1)
- Drainage system is appropriately sized. (IPC 709 & 710, IRC P3005.4)
- Changes in direction of sanitary drainage system are made with approved fittings. (IPC 706.1, IPC Table 706.3)
- Drainage system shall be adequately supported. (IPC Table 308.5)
- Drainage system shall be protected from freezing (IPC 305.6)
- Drainage system shall be protected from physical damage. Where piping other than cast iron or galvanized steel is installed less than 1.5" from the nearest edge of the framing member, the pipe shall be protected by steel shield plates of a minimum of 0.062" thick and covers the pipe and extend a minimum of 2" above sole plates or 2" below top plates.
- Drilling and notching of structural members for drainage piping is only allowed as listed in IRC P2603.2.

Traps

- Each plumbing fixture is separately trapped by a water-seal trap (unless fixture has an integral trap). (IPC 1002.1)
- Water seal on trap should be at least 2" but not more than 4". (IPC 1002.4, IRC P3201.2)
- Prohibited traps: Bell traps, "S" traps, drum traps, crown vented traps, traps that depend on moving parts to maintain the seal, traps not integral with a fixture and that depend on interior partitions for the seal. (IPC 1002.3, IRC P3201.5)
- Each plumbing fixture is separately trapped by a water seal trap. A single trap is allowed to serve two or three similar fixtures limited to kitchen sinks, laundry tubs and lavatories located within 30" of each other and in the same room. (IRC P3201.6)
- The vertical distance from the fixture outlet to the trap weir is less than 24" and horizontal distance is less than 30" measured from the centerline of the fixture outlet to the centerline of the trap inlet. (IRC P3201.6)
- Height of clothes washer stand pipe above trap is not less than 18" and not more than 42" above the trap weir. (IRC P2706.1.2)
- Fixtures are not double trapped. (IRC P3201.6)
- Traps are sized per IRC Table P3201.7.

Cleanouts

- Horizontal drains have cleanouts located not more than 100 feet apart. (IPC 708.3.1, IRC P3005.2.1)

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- Cleanouts installed at each change of direction greater than 45 degrees in the building sewer, building drain, and horizontal waste or soil lines. (IPC 708.3.3, IRC P3005.2.4)
- Cleanouts installed at the base of each waist or soil stack. (IPC 708.3.4)
- Cleanout installed near the junction of the building drain and the building sewer. Cleanout is at finished ground level or at basement floor level (not required if a 3" or larger soil stack is located within 10 feet of the building drain and building sewer connection). (IPC 708.3.5, IRC P3005.2.3)
- Cleanouts are installed to open to allow cleaning in the direction of the flow. (IPC 708.5, IRC P3005.2.8)
- Cleanouts are the same size as the pipe they serve unless pipe is larger than 4", then cleanout is 4". (IPC 708.7, IRC P3005.2.5)
- Cleanouts are accessible. For pipes 6" and smaller, clearance of not less than 18". For pipes 8" and larger, clearance of not less than 36". (IPC 708.8, IRC P3005.2.9)

Vents

- A vent stack is installed for every drainage stack that has five branch intervals or more (IPC 903.2)
- Open vent pipes that extend through the roof terminate at least 6 inches above anticipated snow accumulation level. If the roof will be an occupied space then vent pipes terminate at least 7 feet above the roof. (IPC 904.1, IRC P3103.1)
- Open vent terminals are not located less than 4 feet directly beneath a door, operable window or other air intake opening of the building or adjacent building. (IRC P3103.6)
- Open vent terminals are not located less than 10 feet horizontally from a building air intake unless it more than 3 feet above such opening. (IRC P3103.6)
- Vent pipes are sized per IPC Table 916.1.

Wet Vents

- Horizontal wet vents only connect fixtures within two bathroom groups on the same floor. (IPC 909.1, IRC P3108.1)
- Not more than one fixture is connected upstream from the dry vent connection (IPC 909.2, IRC P3108.2.1)
- Vertical wet vents only connect fixtures within two bathroom groups on the same floor. Each wet vented fixture connects independently to the vertical wet vent. (IPC 909.1.1, IRC P3108.4)
- Wet vents are sized per IPC Table 909.3 or IRC Table P3108.3

Island-Fixture Venting

- Island fixture venting is limited to kitchen sinks and lavatories. Kitchen sinks with food waste disposers and dishwasher waste connections are allowed. (IPC 913.1, IRC P3112.2)
- A cleanout is installed in the island vent. (IPC 913.3, IRC P3112.3)

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Sewage Ejectors

- Sump shall not receive drainage from any piping within the building capable of being discharged by gravity to the building sewer. (IPC 712.1, IRC P3007.1)
- Check valve and full open valve installed on discharge side of pump or ejector between pump or ejector and gravity drainage system. Valves are accessible. (IPC 712.2, IRC P3007.2)
- Pump or ejector connection to gravity drainage system is a minimum of 10 feet from any stack or drain fixture. If discharge connects to horizontal drain piping, the connector is made through a wye fitting into the top of the drainage piping. (IPC 712.3.5, IRC P3007.3.5)
- Sump pit sized to a minimum of 18" diameter and 24" deep, constructed of tile, concrete, steel, plastic or other approved materials. Pit is fitted with gas-tight removable cover. (IPC 712.3.2, IRC P3007.3.2)
- Pump or ejector has the capacity and head for the application requirements. Minimum capacity of discharge piping as follows: 2" diameter if pump/ejector capacity is 21 gpm, 2-1/2" diameter if pump/ejector capacity is 20 gpm, 3" diameter if pump/ejector capacity is 46 gpm. (IPC 712.4.2, IRC P3007.6)

Water Service

- Size of water service pipe is at least 3/4". (IPC 603.1, IRC 2903.7)
- Water service pipe and building sewer pipe are separated by at least 5 feet of undisturbed or compacted earth (IPC 603.2 see exceptions)
- Static water pressure does not exceed 80 psi. If static water pressure is greater than 80 psi then an approved water-pressure reducing valve (with strainer) is installed to reduce pressure to 80 psi or less. (IPC 604.8, IRC P2903.3.1)
- Water pipes and fittings installed are listed on IPC Tables 605.3, 605.4 and 605.5 or IRC Tables P2906.4, P2906.5, and P2906.6.
- Hot water distribution pipe is rated for a minimum of 100 psi at 180°F (82°C).
- Full-open valves are installed on the water supply entry to a dwelling, on the water supply pipe to a water heater and on the water supply pipe to a gravity or pressurized water tank. (IPC 606.1)
- Shutoff valves are located on the fixture supply to each plumbing fixture other than bathtubs and showers and on the water supply pipe to each appliance or mechanical equipment. (IPC 606.2)
- Hose bibs subject to freezing, including the "frostproof" type have an accessible stop-and-waste type valve inside the building so that they can be controlled and drained during cold periods. (Frostproof hose bibs installed which extend into conditioned or semi-conditioned spaces do not need separate valves.) (IRC P2903.10)
- All valves are accessible (IPC 606.3)
- Backflow or anti-siphon devices, or air gaps are installed to prevent contamination of the potable water supply. (IPC 608.13, IRC P2902.3)

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Pipe Support

- Hangers do not promote galvanic action. (IPC 308.3)
- Hanger spacing is in accordance with IPC table 308.5.

Number of Fixtures

- Minimum number of fixtures installed meets requirements in IPC Table 403.1.

Automatic Clothes Washers

- Waste connection has an air break into stand pipe. (IPC 406.3)
- The trap and fixture drain for a clothes washer standpipe is a minimum of 2" in diameter and connects to a branch drain or drainage stack of at least 3" in diameter. (IPC 406.3)

Bathtubs

- Waste outlet is minimum 1.5" diameter and has approved stopper. (IPC 407.2)

Dishwashing Machines

- Domestic dishwashing machines discharge indirectly through an air gap or air break into standpipe or waste receptor, or discharge into a wye- branch fitting on the tailpiece of the kitchen sink or the dishwasher connection of a food waste grinder. (IPC 802.1.6)

Floor Drains

- Removable strainer is installed. (IPC 412.2)
- Drain outlet is a minimum of 2" in diameter. (IPC 412.3)

Food Waste Grinders

- Connected to a drain not less than 1.5" in diameter for residential and not less than 2" in diameter for commercial. (IPC 413.2 & 413.3)
- Provided with a cold water supply. (IPC 413.4)

Lavatories

- Waste outlet is not less than 1.25" in diameter. (IPC 416.3)

Showers

- Water supply riser from the shower valve to the shower head outlet is attached to structure. (IPC 417.2)
- Waste outlet is not less than 1.5" in diameter and has a removable strainer not less than 3" in diameter with openings no more than .25". (IPC 417.3)

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- Shower area shall not be less than 30" wide in the smaller dimension. (IPC 417.4)
- Shower walls of smooth, noncorrosive and nonabsorbent waterproof materials extend to a height of not less than 6 feet above the floor level and not less than 70" measured above the drain. (IPC 417.4.1)
- Shower pan lining turns up at least 2" above the finished threshold level. Liners are pitched 0.25" per foot (2% slope) toward the drain and are fastened to the waste outlet at the seepage entrance. (IPC 417.5.2)

Sinks (other than lavatories)

- Waste outlet is a minimum of 1.5" in diameter. (IPC 418.2)

Water Closets

- Water closets for public use are elongated bowl type. (IPC 420.2)
- Flanged drain of at least 3" in diameter is installed (4" by 3" closet bend is acceptable). (IPC 420.4)

Whirlpool Bathtubs

- Pump is installed above the trap weir of the fixture trap. (IPC 421.2)
- Pump is accessible via an opening of at least 12" x 12". If pump is more than 2 feet from opening, then a minimum of 18" x 18" is installed. Access opening is unobstructed. (IPC 421.6)

Water Heaters

- Temperature & Pressure Relief valve is installed to protect against thermal expansion. (IPC 504.4)
- TPR valve discharge piping meets requirements listed in IPC 504.6 or IRC P2804.6.
- Galvanized steel pan of at least 24 gauge thickness is installed if water heater is installed in a location where leaks could cause damage. Pan is at least 1.5" deep and drained by an indirect waste pipe of at least 0.75" in diameter. (IPC 504.7)
- Water heater with an ignition source, installed in a garage, is elevated at least 18" above the garage floor. (This is not required if the appliance is listed as "flammable vapor ignition resistant") (IRC P2801.7)

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