

### Residential Framing

This tip sheet reflects code requirements of the 2021 International Residential Code (IRC) with Washington State Amendments.

Please verify the following before calling for a framing inspection.

### Permits and Plans

- Job address shall be posted in a visible location. (R319.1)
- Permit and approved plans are on site and accessible to the inspector. (R105.7, R106.1.1, R106.3.1)
- Permit information is correct (e.g., address, permit number, description of work, etc.). (R106.1.1)
- Prior to scheduling the inspection, the contractor or person doing the work has reviewed the approved plans and can assure that the construction being inspected is consistent and complete. Including all required hardware framing and referenced framing details. (R109.3)
- All required electrical, mechanical, fire sprinkler, and plumbing rough-in inspections and prior building inspections have been inspected, approved, and the inspection card has been signed (R109.1.4, or local ordinance)

### General

- The roof is complete and exterior moisture barriers are installed. (R109.4, R703.1)
- There is no significant moisture remaining in the wood framing. (NDS Ch. 4 – 10)
- The penetrations at top and bottom plates, fire blocks, soffits, ceiling lines, etc. are sealed and installed where required. See code section R302.11 for specific locations and approved materials. (R602.8)
- The installation of plumbing, mechanical, electrical or fire sprinkler system rough-in work has not damaged the wall framing, floor joists or roof framing. See also Tip Sheet 11. (R502.8, R602.6)
- Plumbing openings to crawl spaces and to living space above are protected by secured metal screens or collars with no openings greater than 1/2-inch. (UPC 312.12)
- Smoke alarm and carbon monoxide wiring is installed at all required locations. See Tip Sheet 4. (R314, R315).
- Heat detector is required in all attached residential garages. See Tip Sheet 4. (R314.2.3)
- Tempered glazing is installed at all the required areas. See construction Tip Sheet 19. (R308.4)

- Provide attic access to areas exceeding 30 square feet and a vertical height of 30 inches or greater. The rough framed opening is a minimum 22 inches by 30 inches with a minimum 30 inches of unobstructed headroom above the access. See also the Plumbing Rough-In and the Mechanical Rough-In checklists for additional requirements. (R807)
- Sill heights at emergency escape and rescue openings are framed to allow 44 inches maximum distance from finished floor to the bottom of the clear opening. See Tip Sheet 10. (R310.2.3)
- Operable windows with openings more than 6 feet above grade or surface below, where the lowest part of the clear opening is less than 24 inches above interior finished floor are fixed or have openings through which a 4 inches sphere cannot pass. See section for exceptions. (R312.2)

## Stairs

See Tip Sheet 1

- Floor or a 36-inch deep landing is installed at the top and bottom of stairways. Landings of shapes other than square or rectangular are permitted provided the depth at the walk line and the total area is not less than that of a quarter circle with a radius equal to the required landing width. Exception: Not required at the top of an interior flight of stairs, if the door does not swing over stairs. (R311.7.6)
- Stairway headroom clearance is minimum 6 feet-8 inches measured vertically from the sloped line adjoining the stairway tread nosing or the floor surface of the landings and platforms to the soffit or other construction above at all points. (R311.7.2)
- All stairways are provided with illumination. (R311.7.9, R303.7)
- Stair nosing 3/4-inches to 1-1/4 inches are required when solid risers are installed except when the tread depth is 11 inches minimum. (R311.7.5.3)
- The radius of curvature at the leading edge of the tread is not over 9/16 inches. (R311.7.5.3)
- Stair riser/tread maximum dimension does not exceed the smallest by more than 3/8 inches. (R311.7.5.1, R311.7.5.2)

## Hold-downs and Hardware

- The required special inspections have been completed and reports are available to inspector (epoxy or wedge anchor bolting into concrete, structural welding, moment frames, etc.). (R109.1.5, or local ordinance)
- The proper type and size of fasteners are used for each application. (IRC Table R602.3(1))
- The mechanical connectors, straps, hold-downs, clips, hangers, are installed per plan and per manufacturer's specifications. (R301.1)

- Fasteners and hardware for pressure preservative and fire-retardant-treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze, or copper. (R317.3, manufacturer's requirements)
- Joisting at decks shall be of preservative treated lumber unless approved weatherproof decking membrane is used. (R317.1.3)
- Full height studs are installed at all hold-downs, strapping, etc. All nailing into studs at hold-downs and straps is complete. (See manufacturer's specifications and details on the approved plans.)
- Anchor bolting is installed per shear-wall schedule when specified or, at a minimum: 2 per plate, 6 feet on center maximum, 12 inches from the plate ends maximum, and not less than 7 bolt diameters from end of each piece. Properly sized nut and washer (minimum 3"x 3" x 0.229" unless otherwise engineered) tightened on each bolt. (R403.1.6, see the Residential Roof Sheathing and Shear Wall or Braced Wall Panels Checklist for further information.)

### Walls

- The sheathing panel end joints occur over framing and fastener installation is consistent with requirements noted on approved plan. (R602.10.4.4)
- The plans have been checked for installation and securing of special blocking. (R301.1)
- The fastener types and sizes are per approved plans and schedules. (R301.1)
- The lumber grades are the same as shown on plans. (R301.1)
- Top plate splices less than 24 inches, or plates over-notched or over-bored, are strapped with a minimum 16 gage by 1-1/2-inch wide metal tie with (8) 10d nails per side. Exception: When the entire side of the wall with the notch or cut is covered by wood structural panel sheathing. (R602.3.2, R602.6.1)
- All point loads continue to the foundation. (R301.1)
- Double and triple trimmers installed under headers, lintels, and beams. Most header openings require minimum of (2) trimmers. (IRC Table R602.7(1))
- The wall studs are sized per plan and per code (e.g., third story conditions, short walls, bearing for trusses, etc.) (IRC Table R602.3(5))
- All vertical and horizontal framing members that have been notched or bored will need to meet IRC R602.6. See Tip Sheet 11.
- See the see the Residential Roof Sheathing and Shear Wall or Braced Wall Panels Checklist for further information.

## Floor Joists

- Bearing at floor joists to be 1-1/2 inches at wood or steel bearing, and minimum 3 inches at masonry or concrete. (R502.6)
- Joist framing shall lap at least 3 inches where framed from opposite sides of bearing support and nailed together with (3) 10d face nails or strapped together in an approved manner. (R502.6.1)
- Framed openings (R802.9):
  - Trimmer and header joists doubled or equivalent dimension when header span is greater than 4 feet.
  - When the header span is greater than 6 feet, the header joists to be supported by framing anchors or joist hangers, bear on beam, partition or wall.
  - Tail joists greater than 12 feet to be supported at header by framing anchors or 2 by 2 ledgers.
- I-joists installed per manufacturer's specifications and installation guidelines are on site for use by the inspector.
- Floor crawl access is 18 inches by 24 inches. See also the Plumbing Rough-In and the Mechanical Rough-in Checklists for additional requirements. (R408.4)

## Roof

- The ridges, hips, and valleys have shall be designed as beams for roof slopes greater than 3:12. (R802.4.4)
- The rafters are framed opposite each other at the ridges. (R802.4.2)
- Notches on the ends of rafters don't exceed 1/4 the nominal joist depth. (R502.8.1)
- Notches in the top or bottom of rafters don't exceed 1/6 of the nominal depth and are not located in the middle 1/3 of the span. (R802.7.1, R502.8.1)  
Note: Notching that is not longer than 1/3 of the nominal depth is permitted in the top of the rafter, if not located in the middle third of the rafter.
- Holes are not within 2 inches of the top or bottom of the rafter, and the diameter is not greater than 1/3 the nominal depth. For I-joists, refer to manufacturer's specifications. (R802.7.1, R502.8.1)
- Rafter ties are completed if required. (R802.4.2, R802.5.2.2)
- Purlins, collar ties, and struts are installed as required. (R802.4.5, R802.4.6)

### Trusses (R802.10 and ANSI/TPI 1-2000)

- The truss specifications are on site. (R802.10.1)
- The truss specifications have been stamped and signed by an engineer. (R106.1, R802.10.2)
- The truss configuration meets the design drawings. (R802.10.1, Item 1)
- The roofing material has not changed since the original design.
- Trusses have bearing as noted on truss specifications. (R802.10.1, Item 3)
- The lumber grade marks and sizes match the design specifications. (R802.10.1, Item 8)
- Required hangers installed per specifications. (R802.10)
- The connection plate sizes, gauges and locations are per specifications. (R802.10.1, Items 9, 9.1, 9.2, 9.3)
- The truss bracing has been completed as noted and shown on the truss engineers plans. (R106.1, R802.10.3)
- Ganged trusses nailed off per manufacturer's specifications. (R802.10.1, Item 9.2)
- Alterations to trusses are not permitted without the approval of a Registered Design Professional. Alterations such as notching, cutting, drilling or otherwise in any way. Additionally, altering the truss load with HVAC or a water heater shall not be permitted without verification the truss is capable of supporting the additional load. (R802.10.4)