



2021 IRC: Residential Framing

Framing:

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.
- 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 Construction also Tip Sheet 11. (R502.8 & R302.11)
- Smoke alarm and carbon monoxide wiring is installed at all required locations. (R314 & R315).
- Tempered glazing is installed at all the required areas. See construction Tip Sheet 19. (R308.4)
- Provide attic access to areas exceeding 30 sqft. and vertical height of 30" or greater. The rough framed opening is a minimum 22" x 30" with a minimum 30" of unobstructed headroom above the access. (R807)
- Sill heights at emergency escape and rescue openings are framed to allow 44" maximum distance from finished floor to the bottom of the clear opening. (R310)
- Operable windows with openings more than 6' above grade or surface below, where the lowest part of the clear opening is less than 24" above interior finished floor is fixed or have openings through which a 4" sphere cannot pass. See section for exceptions. (R312.2)

Stairs

- Floor or 36" deep landing at 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, as long as the door does not swing over stairs. (R311.7.6)
- Stairway headroom clearance is minimum 6' 8" 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 & R303.6)
- Stair nosing $\frac{3}{4}$ " – 1 $\frac{1}{4}$ " required when solid risers are installed except when the tread depth is 11" minimum. (R311.7.5.3)
- Radius of curvature at the leading edge of the tread is not over 9/16". (R311.7.5.3)
- Stair riser/tread maximum dimension doesn't exceed smallest by $>3/8$ ". (R311.7.5.1 & R311.7.5.2)
- Cuts, notches and holes bored in trusses, structural composite lumber, structural glue-laminated members, cross-laminated timber members or I-joists are prohibited except where permitted by the manufacturer's recommendations or where the effects of such alterations are specifically considered in the design of the member by a registered design professional. (802.7.2)

Hold-downs and Hardware

- The required special inspections have been completed and reports are available to inspector. These special inspections include; epoxy or wedge anchor bolting into concrete, structural welding, moment frames, etc. (R109.1)
- The proper type and size of fasteners are used for each application. (Table R602.3(1))
- The mechanical connectors, straps, hold-downs, clips, hangers, are installed per plan and per manufacturer's specifications.
- 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 and 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. Nailing into all studs at hold-downs and straps are complete. (See manufacturer's specifications and architectural details.)
- Anchor bolting is installed per shearwall schedule when specified and at a minimum of 2 per plate, maximum 6' o.c., maximum 12" from plate ends and not less than 7 bolt diameters from end of each piece. Properly sized nut and washer tightened on each bolt. (R403.1.6)

Walls

- The sheathing panel end joints occur over framing and fastener installation is consistent with requirements noted on approved plan. (R602.10.10)

- The plans have been checked for installation and securing of special blocking.
- The fastener types and sizes are per approved plans and schedules.
- The lumber grades are the same as shown on plans.
- Top plate splices < 24", or plates over-notched or over-bored, are strapped with a minimum 16 gage x 1.5 inch wide metal tie with 8-16d 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.
- Double & triple trimmers installed under headers, lintels and beams. Most header openings require minimum of (2) trimmers. (Table R502.5(1))
- The wall studs are sized per plan & per code. (Third story conditions, short walls, bearing for trusses, etc.) (Table R602.3(5))
- All vertical and horizontal framing members that have been notched or bored will need to meet R602.6, see construction tip sheet #11.
- See the Shear wall Inspection Checklist for further information.

Floor Joists

- Bearing at floor joists to be 1½" at wood or steel bearing and minimum 3" at masonry or concrete. (R502.6)
- Joisting lapped at least 3" where framed from opposite sides of bearing support and nailed together with three 10d face nails or strapped together in an approved manner. (R502.6.1)
- Framed floor openings Trimmer and header joists doubled or equivalent dimension when header span is greater than 4'. (R502.10)
- Tail joists greater than 12', to be supported at header by framing anchors or 2x2 ledgers.
- I-joists installed per manufacturer's specifications and installation guidelines are on site for use by the inspector.
- Floor crawl access 18" x 24". (R408.4)

Roof

- The ridges, hips, and valleys have been designed as beams for roof slopes < 3" in 12". (R802.4.2)
- The rafters are framed opposite each other at the ridges. (R802.4.2)
- Notches on the ends of rafters don't exceed ¼ the nominal joist depth. (R802.7.1.2)
- 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, R502.8.)
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" 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 R502.8)
- Rafter ties are completed if required. (R802.3)
- Purlins and struts are installed as required. (R802.5)

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)
- The truss configuration meets the design drawings. (R802.10.1)
- The roofing material has not changed since the original design.
- Trusses have bearing as noted on truss specifications. (R802.10.1)
- The lumber grade marks and sizes match the design specifications. (R802.10.1)
- Required hangers installed per specifications. (R802.10)
- The connection plate sizes, gauges and locations are per specifications. (R802.10.1)
- The truss bracing has been completed as noted and shown on the truss engineers plans. (R106.1, R802.10.3)
- Girder trusses nailed off or bolted per manufacturer's specifications. (R802.10.1)