Residential Construction Drawings Requirements

Bulletin 79

Division of Building, Safety, and Inspection for 2018 International Codes

This bulletin is designed to provide a detailed list of the *minimum items* that should be on your building/architectural plans. These are also the items that your building plan reviewer will be looking for during their plan review. Items are listed in the order they should be in the plan set.

EVERY PLAN PAGE MUST HAVE THE FOLLOWING:

- **Page Number**
- **Scale (example: 1/4" – 1')**
- **Directional Label (north arrow, or label of north, south etc.)**

Coversheet

- Parcel Number
- Site/Build Address
- Name of Property Owner
- Name of Designer
- Engineer of Record (if applicable)
- Codes Used, including which edition (year)
- Index of Pages within the set
- Energy Code Credits used
- House Ventilation CFM
- Key of Symbols/Notations etc.

Code references from the current International Residential Code (IRC) and WA State Amendments (WAC) are listed after applicable items below.

Floor Plan

- **Walls**. Show exterior, interior, half & knee walls. Show height (walls studs over 10' in height require engineering). (IRC, Chapter 6)
- **Openings**. Show all openings (door and window) with dimensions. List if fixed or operable or tempered (safety). Light and ventilation requirements apply (R303, WAC).
- **Emergency escape openings**. Label emergency (egress) escape type (window or door) and size of opening in all bedrooms and floors (R310, WAC).
- **Window wells.** Emergency escape with a sill height below the ground outside must have window wells (R310.2.3).
- **Doors**. Call out sizes and show swing. Show sliding door locations. If a pocket door is proposed, show the entire pocket area. One egress door is required (R310.3).
- **Stairs**. Show direction of travel (up/down) (R311.7).
- **Label all rooms**. Example: Bedroom, bathroom, kitchen, closet, etc.

- **Fireplace**. Show location. Installed per manufacturer's specifications.
- **Attic Access**. Attic access and other openings in the floor or ceiling (R807).
- **Smoke Detectors**. Show location; minimum one in each bedroom and one directly outside of bedroom. Additional detectors may be required depending (R314, WAC).
- **Carbon Monoxide Alarms**. Show location; just outside each bedroom and on levels that do not contain a bedroom (R315, WAC).
- **Plumbing fixtures**. Show location of all fixtures, including bath & kitchen fixtures, water heater, pressure tanks and sump pumps (Uniform Plumbing Code).
- **Furnace**. Show location of heating appliance and source of combustion air where applicable. **INDICATE IF GAS OR ELECTRIC.**
- **Mechanical ventilation**. Show all fan locations including kitchen hood, bathroom/laundry room, whole house exhaust fans, outdoor air inlets, etc. (Chapter 15).
- **Garage/dwelling separation.** Doors between the garage and the residence must be solid wood, or a solid or honeycomb core steel door not less than 1-3/8 inches thick or labeled as 20-minute fire rated, with a self-closing device (R302.5).
- **Fire Protection.** Walls separating garage and dwelling must have ½-inch gypsum board on the inside of the garage side. Habitable rooms above garages must have 5/8-inch type X gypsum on the lid of garage (Table R302.6).

  NOTE: *When using the modified one-hour construction option for fire flow purposes, all interior wood frame surfaces must be covered with fire rated Type X gypsum wallboard.*

Elevations

- **Exterior Elevations**. Provide elevation views AND LABEL (north east, south, west) each outside view of the building.
- **Siding and Trim.** Label the materials.

  Note: *If you are using siding and roof material for Fire Credits, please state this and list type.*
- **Vertical Dimensions.** Provide the height of each story including header heights.
- **Location of All Openings**. Windows, doors, gable vents, etc.
- **Proposed Finished Grade**. This should match your site plan's topographical lines.

Foundation Plans

- **Plan View of Foundation**. Show the size and shape with a dashed line for the footing. Include all dimensions (R403).
- **Cross Sections**. Call out sizes of footings, required steel and anchor bolts. Show all interior support beams, posts and footings (R403).
- **Slab on Grade**. Show which areas are slab on grade and insulation if applicable (R403.1.3.3).
- **Crawl Space Vents**. Show location, size, and ventilation area (1/300 in WAC R408.1).
- **Ground Cover**. List type; 6-mil. black polyethylene or equivalent typical (R408.1, WAC).
- **Carports, Patios, Breezeways, Decks**, **etc.** Show extent and location of all slabs, foundations, and footings.
- **Damp/Waterproofing.** Foundation and basement walls**.** (R406).

Shear-Wall Plan

- **Foundation Plan** showing the location and length of shear walls/braced walls, brace wall lines and bearing walls. (R602.10.2.2.1).
- ***INCLUDE SHEARWALL SCHEDULE ON THIS SHEET, including nailing.***

Hold-down/Anchor Bolt Plan (can be on Shear-Wall/Braced-Wall plan if legible)

- **Foundation Plan** showing location of anchor bolts, straps and hold downs. Label all hardware for size, length, embedment and bolt/washer sizes. (R602.10.8.1)
- ***INCLUDE HOLD-DOWN SCHEDULE ON THIS SHEET***

Framing Plan; Underfloor (R502), Walls (R602), Roof (R802)

Note *- Engineered Truss packages are not required for review. However, they must be onsite during inspection.*

- **Layout**. Show direction of layout for the floor joists, ceiling joists, rafters and trusses, including spacing.
- **Roof Framing/Trusses**. Show and label hip masters, hip jacks, end jacks, girder trusses, hangers, bearing areas, headers etc.
- **Materials and Species**. Show floor, roof, and deck framing including size, species, grade, and spacing, i.e., 2" x 10" HEM-FIR #2 @ 16" O.C.
- **Connectors**. Beam to beam, post to beam, truss joist and beam hanger, call out size and location. Custom fabricated connectors require engineering.
- **Ridges, Hips and Valleys**. Call out size and species of ridge board, hip & valley rafters and purlins. Show outline of structure including overhangs and cantilevers.
- **Skylights**. Call out sizes and location (R308.6).
- **Fireplace**. Show framing and structural support for wood chase (R606.8).
- **Stairs**. Show locations of rough opening, headers, double joist, etc.

Cross Sections

- **Wall Section.** Show wall from bottom of the footing through the top of roof. Include height, framing, hardware & insulation. Studs greater than 10' require engineering.
- **Stairs**. Show stair rise & run, handrails, landing & headroom (R311.7).
- **Chimneys.** Must extend 2' vertically above any structure within a 10' radius (R1003.9). Call out wood chase, metal cap and show how supported.
- **Roof Slope**. Show rise and run.
- **Roof Sheathing**. Call out material type, thickness & spacing (R803).
- **Roof Covering Material**. List type of roofing material to be used.
- **Eave Blocking**. Indicate if blocking is used for attic ventilation.
- **Overhang**. Provide dimensions.
- **Patios, Decks.** Specify type of materials used and distance above grade (R507).
- **Guards.** Show height, spacing of pickets etc. (R312).
- **Handrails.** Show dimensions of hand grip portion, continuity, etc. (R311.7.8).

S-Pages (Structural Pages) and Details/Callouts

- **Details.** These should line up/match the callouts in the plan set. If details are not used in the plan set, they should be clearly crossed out.

Engineering

- Construction that meets the parameters of the current International Residential Code (IRC) does not require engineering. Work outside this code requires review and Structural Calculations prepared by a WA state registered engineer.
- It is acceptable to have a building partially designed per code, with some portions engineered. Engineering must clearly identify what portions are being address (lateral only, beam calculation etc.).
- These calculations must be submitted as a separate document from the architectural plans and have the engineer's wet stamp and signature on the cover page. Digital stamps and signatures are acceptable.
- All structural plan pages (S-pages) prepared by the engineer must be stamped and signed (wet or digitally).
- Structural plans must be on scaled, plan sized sheets. Plans embedded in calculations will not be accepted.
- Engineering must identify the *code and cycle* (IBC, 2015) and site-specific design criteria used for the calculations (Seismic, wind, snow load etc.)