



CITY OF PRESCOTT

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Plan Review Checklist 2012 International Residential Code

**NOTE: This is not an all-inclusive list
2018 IRC Technical Code Revisions Pending**

GENERAL

- **PLANS DRAWN TO SCALE:** Provide two sets of plans, minimum 24" x 36", maximum size of 36" x 42" on a non-erasable median. The building plans should be drawn to a scale of 1/4" = 1'; detail scaled at 1/2" = 1" minimum. Indicate the scale and the direction of North (site plan). Structural calculations and manufacturer's cut sheets to accompany plans. All plans shall be of sufficient clarity to show proposed construction methods, including dimensions. **ALL PLANS, PAGES AND SHEETS SHALL BE LEGIBLE.** IRC Section: R106
- Indicate the location of any yard lines, including the water meter size or well location, water service supply size, sewer or septic system location with size of line and any gas lines. Location, size and clearance distances from buildings and property lines are required for any propane tank installations. IRC Sections: P2901, P3001, G2415
- Provide a square footage summary for each of the following: livable, garage, covered patios and porches, accessory buildings, decks. IRC Section: R108.3
- Guest Houses, Fences, Retaining walls, Swimming pools, Spas are allowed on same permit with minimum required construction details. IRC R105, IFC Chap 61
- Site Plan per minimum requirements (see site plan application information on packet)
- Special Inspection Certificate Form

CONSTRUCTION DETAIL: Show building cross-section, including materials to be used (roof through foundation), stairs and stairway details, retaining walls, and materials, anchors, hold downs, ties, mechanical equipment locations and type (gas or electric); foundation sections and any other special construction detail required to clarify code compliance.

FOUNDATION PLAN: Show all support foundations for all exterior and bearing walls, pier pads, interior pads for braced wall panels and any retaining wall footings. Minimum 18" frost depth

- Footing details (interior and exterior) shall be located on the foundation sheet or the detail sheet and shall be cross-referenced and keyed to the foundation plans. Specify depth and size of all footings and pads. Show all reinforcing steel (vertical and horizontal). IRC Section: R401 R403.1.4
- Foundation plates and sills shall be bolted to the foundation with minimum 1/2-inch bolts at 6 feet or less o.c. and embedded a minimum 7 inches into the foundation. IRC Section: R403.1.6
- All plates (interior and exterior, load bearing and non-load bearing) shall be pressure treated or foundation grade redwood. All wood columns shall be pressure treated unless supported on a 1" pedestal. IRC Section: R317.1 R317.1.4
- Footings shall be on undisturbed soil or approved fill. Concrete and masonry foundation walls shall extend above the adjacent, finished grade a minimum of 6 inches. IRC Section: R401.2 R404.1.6
- Required hold downs, as specified on lateral design or as required for all alternate braced wall panels, shall be shown on the foundation plan. IRC Section: R602.10.4 R602.10.6
- The area of the garage or carport floor used for parking shall be sloped toward a drain or the main vehicle entry door. IRC Section: R309.1 R309.2

FLOOR PLAN: Show proposed arrangement of rooms (uses noted), locations, sizes and ceiling heights. Show arrangement, sizes and types of windows and doors. Provide dimensioning of exterior and interior spaces.

- Label and dimension all rooms and spaces. Reference ceiling height of all rooms and areas. 5/8" gypsum board or 1/2" sag-resistant gypsum board is required on lids (ceilings) if support is 24" o.c. and water based treatment is used. IRC Sections: R304 & R305 Table R702.3.5
- There shall be a floor or landing on each side of each exterior door. The width of the landing shall not be less than the door served with a minimum dimension of 36" measured in the direction of travel. May be 7/4" lower than threshold if the door does not swing over the landing. IRC Section: R311.3
- Prescriptive requirements include ceiling/attic R-Value of R-49 (min.), frame wall R-Value of R-20 (min.), wood floor R-Value of R-19 (min.), slab floor R-Value of R-10 for 24" (min.) Window U-Value of 0.35 (max.), Solar Heat Gain Coefficient of 0.40 (max.), basement walls R-10 (cont. interior or exterior) /13 (cavity interior) and Supply & Return Air Duct insulation value of R-8 attic / others R-6 (min.). IRC Section: N1102 N1103.2 2012 IECC table R402.1.1
- An attic access, weather stripped and insulated, shall be provided to attic areas that exceed 30 sf and have a vertical height of 30" or greater. It shall not be less than 22" by 30" with 30" minimum unobstructed headroom in the attic space at some point above the access opening. IECC R402.2.4 IRC Section: R807.1
- Openings between the garage and residence shall be equipped with solid wood doors not less than 1 3/8-inch thick, or shall be 20-minute fire-rated doors. IRC Section: R302.5.1
- The garage shall be separated from the residence by not less than 1/2" gypsum board applied to the garage side. Garage beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8" Type X gypsum board, including supporting walls. IRC Table: R302.6
- Appliances having an ignition source shall be elevated such that the source of ignition is not less than 18" above the floor in garages. Exception: clothes dryers and appliances that are listed as flammable vapor ignition resistant. IRC Section: M1307.3
- All habitable rooms shall be provided with aggregate glazing area of not less than 8 percent of the floor area of such rooms. The minimum openable area to the outdoors shall be 4 percent of the floor area being ventilated. IRC Section: R303.1
- Every sleeping room and basements shall have a least one window (min. 5.7 sf clear opening), min. opening width of 20", min. opening height of 24" and a sill height shall not be more than 44"; or provide exterior door for emergency egress. IRC Section: R310.1
- There shall be a floor or landing at the top & bottom of each stair (except at the top of an interior stair if door does not swing over the stair). Width of each landing shall not be less than the stair served. Every landing shall have a min. dimension of 36" measured in the direction of travel. IRC Section: R311.7.1 R311.7.6
- The maximum riser height shall be 7 3/4 inches and minimum tread depth shall be 10 inches. The min. headroom shall be not be less than 6 feet 8 inches measured vertically from the slope plane adjoining the tread nosing or from the floor surface of the landing or platform. IRC Sections: R311.7.5 & R311.7.2
- Four or more stair risers shall have at least one handrail continuous the full length of the stairs and have min. and max. heights of 34" and 38", respectively. The handgrip portion shall have a circular cross section of 1 1/4 inches minimum to 2 inches maximum inch. IRC Section: R311.7.8
- The min height of guards located more than 30" above the floor shall be not less than 36" except at the sides of stairs where the min. height is 34". Openings in guards shall have intermediate rails or ornamental closures that do not allow passage of a sphere 4" (4 3/8" at stairs rail). IRC Section: R312.1
- The following shall be considered specific hazardous locations for the purpose of safety glazing: □ Glazing
 - in a wall enclosing a tub/shower/sauna compartment where the bottom edge of the glazing is less than 60" measured vertically above any standing walking surface. □
 - Glazing adjacent to a door (including closets > 3' deep) where the nearest vertical edge is w/in a 24-inch arc of the door in a closed position and whose bottom < 60" above the floor. □
 - Glazing when all of the following exist; area of a pane is greater than 9 sf, bottom edge is less than 18" above the floor and top edge is greater than 36" above the floor. □

- Glazing in walls enclosing stairway landings or within 60” of the bottom and top of stairways where the bottom edge of the glass is less than 60” above a walking surface. IRC Section: R308.4.5; R308.4.2; R308.4.3; R308.4.6
- Where the opening of an operable window is located more than 72” above the finished grade or surface below, the lowest part of the clear opening of the window shall be a minimum of 24 “above the finished floor of the room in which the window is located. IRC Section: R312.2

ENERGY CONSERVATION (2012): Show applicable, insulation materials and their *R*-values; fenestration *U*-factors and SHGCs; area-weighted *U*-factor and SHGC calculations; mechanical system design criteria (manuals S & J); mechanical and service water heating system and equipment types, sizes and efficiencies; economizer description; equipment and systems controls; fan motor horsepower (hp) and controls; duct sealing, duct and pipe insulation and location; lighting fixture schedule with wattage and control narrative; and air sealing details, show all mandatory 2012 IECC residential minimum compliance standard with-in construction documents. Compliance with Chapter 11 of the 2012 IRC or Residential Provisions of the 2012 International Energy Code is required (Zone 4B). A permanent Energy Certificate will be required at time of final to be posted in the electrical distribution panel. (R, U & SHGC values and equipment). IRC Section: N1101.5 N1101.16 & 2012 IECC table R402.1.

FLOOR FRAMING PLAN: Show all beam sizes and materials, joist sizes, spacing any support post locations and any connection hardware to be used. All Pre-manufactured floor trusses, TJI or similar type systems, a copy of the sealed layout sheet(s), specifications and design drawings from the manufacturer are to be submitted with the plans.

ROOF FRAMING PLAN: Show all beam sizes and materials, rafter sizes, spacing any support post locations and any connection hardware to be used. All Pre-manufactured roof trusses, TJI or similar type systems, a copy of the sealed specifications sheets(s) and a manufacture supplied layout sheet(s) design drawings from the manufacturer are to be submitted with the plans.

ELEVATIONS: Show all exterior views with finish floor(s), windows, ceiling, existing and finish grade heights, callout exterior materials and sufficient portions of land slope showing site drainage ways from building. ICC-ES Evaluation Reports numbers for designed exterior finishing and barrier (stucco, culture stone/ brick, water-resistive, etc.) systems shall be submitted.

- Surface drainage shall be diverted so as to not cause a hazard. Lots shall be graded so as to drain surface water away from foundation walls a minimum of 6” within the first 10’. IRC Section: R401.3
- Provide exterior wall covering including anchoring method and backing (ICC ES #, if applicable). Stucco systems may require a moisture barrier and a weep screed (The word “weep” implies that the moisture leaves through the bottom of the screed). IRC Section: R703.6.2
- Provide attic ventilation calculations for all concealed attic spaces; include required and provided net free ventilation area. Also, indicate the type and location of attic ventilation. Unvented attics are allowed if the conditions of R806.5 are met. IRC Section: R806
- The chimney shall extend at least 2 feet higher (minimum 3 feet at roofline) than any portion of the roof within 10 feet'. IRC R1003.9

STRUCTURAL PLANS

- Specify type of design and construction of all walls and partitions. Wood stud walls shall comply w/ IRC Section R602, steel framing w/ IRC Section 603, masonry walls shall comply w/ IRC Section R606 - R609, concrete walls w/ R611 or shall be designed by an Arizona Registrant. IRC Sections: R404, R602, R603 & R611
- Raised heel trusses may be required to allow for R-38 insulation over the exterior wall (R402.2.1). Specify lumber grade, species, and size of members (R502.1 & R802.1). IRC Section: R502.11 R802.10

- Specify all hangers used to hang trusses from girder trusses, walls, or other locations. Trusses and rafters need be connected to top plates to prevent uplift. IRC Section: R802.11.1 Table R602.3(1)
- Indicate the size and span of headers and lintels in all bearing and non-bearing walls. Provide manufacturer's span charts for pre-manufactured steel lintels. IRC Sections: R602.7 R606.10
- Call out hardware required for greater than 600 lbs specified uplift, 1000 lbs bearing and 548 inches lateral column displacement protection on all columns, posts & trusses. Provide top plate, girder trusses and any master hip and/ or girder trusses hardware at both top plates/ beams and bottom of columns/ posts to floor/ foundation connections. Also provide post base hardware to be used to accommodate uplift protection on girder truss and any master hip posts to floor/ footing connection(s). IRC Section R602.11.2

BRACE WALL PLANS: Show all EXTERIOR and INTERIOR brace wall lines and panels, their spacing and means of anchoring to floor/ foundation and fastening to framing in ceiling/ roof/ trusses or floor systems above. Indicate any special hardware used to secure brace walls to other building systems. Indicate all braced wall panel locations. Specify the method of bracing to be used. A sealed lateral analysis, prepared by an Arizona Registrant, will be required if the bracing does not comply with the conventional provisions. IRC Section: R602.10

FUEL GAS SYSTEM SIZING: Piping systems shall be of such size and so installed as to provide a supply of gas sufficient to meet the maximum demand without undue loss of pressure between the point of delivery and the appliance. Show all gas outlets, valves and shutoffs. A gas systems development sizing diagram (i.e. gas isometric), shall be submitted.

PLUMBING PLANS

- Specify if appliances and equipment are natural gas, electric, propane or other (specify). Tubs, showers, lavs, clothes washers & sinks may be connected to a gray water system. (P3009) Provide water fixture unit calculations to determine water meter and line size (P2903.7). IRC Sections: G2401 E3401
- If gas is indicated, provide a schematic indicating BTU rating for appliances, size, and length of main and all branch lines. Sediment traps are required downstream of the shutoff valve G2419.4. IRC Section: G2413 P2803
- Indicate locations and size of roof drains and scuppers. Each hose bibb shall have a backflow preventer installed. See IRC P2902.3 Water hammer arrestors are required at quick-closing valves. (Dishwashers & Clothes washers). IRC Section: R903.4.1 P2903.5
- Appliances located in a garage or carport shall be protected from impact by automobiles by a curb 4" high and 3' deep, a minimum 3" steel pipe bollard installed a minimum of 18" below and a minimum of 44" above the finished floor in front of the equipment or a wall. IRC Section: M1307.3.1 & M.A.G. Interp.
- Access shall be provided to circulation pumps/ heaters in accordance with the fixture manufacturer's installation instructions or field fabricated access openings, a 12-inch by 12-inch minimum size opening shall be installed to provide access to the circulation pump or heaters. Where pumps are located more than 2 feet from the access opening, an 18-inch by 18-inch minimum size opening shall be installed. P2720.1

SANITARY DRAINAGE SIZING: Show materials, design, construction and installation of sanitary drainage systems drainage, waste and vent (DWV) system of all piping for conveying wastes from plumbing fixtures, appliances and appurtenances, including fixture traps; above-grade drainage piping; below-grade drains within the building (building drain); below- and above-grade venting systems; building yard line dual cleanout, backflow prevention on piping to the public sewer or private septic system. A DWV diagram/ isometric development sizing diagram shall be submitted.

MECHANICAL PLANS

- Provide a complete mechanical plan showing the locations of all HVAC equipment. Mechanical equipment and appliances must be sized per ACCA Manual "S" and Manual "J". IRC Section: R106.1 M1401.3
- Provide exhaust fans to the outside from bathrooms, water closet compartments, and similar rooms if not supplied with natural ventilation. See also M1507.4. IRC Section: R303.3 & M1506

- Provide combustion air for all gas-fired appliances including size, type, and location of openings. IRC Section: G2407
- Attics containing appliances shall be provided with an opening and passageway large enough to remove the largest appliance and not more than 20' in length. A level service space at least 30" deep and 30" wide shall be present along the access sides of the appliance. IRC Section: M1305.1.3
- The clothes dryer exhaust duct shall be at least the diameter of the appliance outlet and shall terminate on the outside of the building. It shall not exceed 35 feet in length with reductions for bends. The duct shall terminate not less than 3 feet from a property line. IRC Sections: M1502 Table R302.1
- All materials used shall be installed in strict accordance with the standards under which the materials are accepted and approved. In the absence of such installation procedures, the manufacturer's instructions shall be followed. The minimum provisions shall be the code. IRC Sections: M1301.3

MECHANICAL SYSTEM SIZING: Heating and cooling EQUIPMENT and APPLIANCES shall be sized in accordance with ACCA **Manual S** based on building loads calculated in accordance with ACCA **Manual J** or other *approved* heating and cooling calculation methodologies. A copy of the systems report documentation and layout sheets are to be submitted with the plans.

ELECTRICAL PLAN: Show all outlets for common, GFCI and arc-fault receptacles, lights, fans, switches, smoke alarms, carbon monoxide alarms, mechanical equipment, ect. Provide a single line diagram, panel schedule with circuit and AMP sizing, electrical service and meter base location with overall AMP size.

- Provide a complete electrical plan. Indicate the size (rating) and location of the electric panel, including any sub panel(s). Provide Electrical Load Calculations to substantiate SES rating (E3602.2). IRC Sections: R106.1 E3401
- Provide an approved grounding electrode system. Bond all interior water and gas piping. Provide a One Line Diagram. IRC Sections: E3608 E3609
- All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in family, dining, living, dens, bedrooms, closets and halls shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the entire branch circuit. IRC Section: E3902.12
- Receptacles shall be installed so that no point along the floor line in any wall space is more than 6 feet, measured horizontally, from an outlet in that space, including any wall space 2 feet or more in width. 15- and 20-ampere receptacles must be listed as tamper-resistant. (E4002.14). IRC Section: E3901.2.1 to E3901.2.4
- In kitchen and dining rooms, at least one receptacle outlet shall be installed at each island or peninsular counter space with a long dimension of 24 inches or greater and a short dimension of 12 inches. IRC Sections: E3901.4.2 E3901.4.3
- In kitchen and dining rooms, a receptacle outlet shall be installed at each wall counter space 12 inches or wider so that no point along the wall is more than 24 inches from a receptacle outlet. IRC Section: E3901.4.1
- Provide at least one receptacle outlet on the wall within 36 inches of the outside edge of each lavatory basin in bathrooms. All receptacles located in bathrooms shall be GFCI protected. IRC Sections: E3901.6 E3902.1
- Provide at least one weatherproof receptacle outlet, not more than 6 feet 6 inches above grade and GFCI protected, at the front and back of each dwelling. All 125-volt, single-phase, 15- and 20-ampere receptacle outlets installed outdoor shall have GFCI protection for personnel. IRC Sections: E3901.7 E3902.3
- Provide a receptacle outlet in hallways 10 feet or more in length. IRC Section: E3901.10
- Provide a convenience receptacle outlet for the servicing of appliances (HVAC) within 25 feet of the appliance. IRC Section: E3901.12
- All 125-volt, single-phase, 15- and 20-ampere receptacles that serve countertop surfaces in kitchens or are located within 6 feet of the outside edge of a bar sink shall be GFCI protected. IRC Section: E3902.6 E3902.7
- All 125-volt, single-phase, 15- and 20-ampere receptacles installed in garages shall be GFCI protected. At least one receptacle is required in the garage. IRC Section: E3902.2 E3901.9

- Provide a lighting outlet on the exterior side of all exits/entrances. Provide a lighting outlet in all stairways, switched at each floor level. IRC Section E3903.3
- Provide interconnected (or wireless) smoke alarms in each sleeping room, outside each sleeping room and on each story, in the hall or immediately adjacent room. Smoke alarms shall be hard wired with battery backup. Carbon Monoxide detectors if there is fuel-fired appliance and/ or a attached garage.. IRC Section: R314.3/314.4 R315

Urban Wildland Interface Areas (UWIA): 2012 IUWIC dwellings located within a UWIA shall comply with the following:

- All roofs shall have a class “A” rated roof covering.
- All eaves shall be enclosed with a minimum 5/8” re-sawn plywood or equivalent.
- Exterior walls shall be constructed of ignition resistant materials.
- Supports for appendages or projections shall be a minimum of 1 hour fire resistance rated construction or heavy timber:
 - Posts min 8” x 8”
 - floor beams min. 6” x 10”
 - roof beams min 6” x 8”
 - exposed rafter tails min 4” x 6”
 - exterior ledgers min 2” thick at wood walls, min. 3” thick at masonry walls,
 - Exterior door and window glazing shall be 20 minute rated, dual pane or laminated, see code for solar tubes.
- Exterior doors shall be 1-3/4” thick solid core with 3/4” thick stiles, rails and panels.
- Ventilation openings for attics and crawl spaces shall be covered with non-combustible construction or corrosion resistant mesh not exceeding 1/8” at openings.
- Under floor areas shall be enclosed to finished grade with exterior walls.
- Frost free hose bibs shall be installed on 4 sides of the dwelling unit.
- Provide manufacturers specifications:
- Fireplaces, including clearances to combustibles and direct vent locations.
- Trex or structural composite lumbers, provide span charts for joists and stairs and railings
- Any alternate materials, provide ICC reports for use and testing.