



**RESIDENTIAL R-5 PLAN REVIEW  
 INFORMATION LIST  
 2012 IRC**

Purpose: This form will point out some the design requirements for the City and as an advisory for the 2012 code changes. The form also indicates items that will be checked in the field that are not required to be on the plan submittal. Additionally this form provides information on important code sections/criteria to be aware of.

**Climatic and Geographic Design Criteria**

Ground Snow Load	*Wind Speed (mph)	Seismic Design	Weathering Concrete	Frost Line Depth	Termite	Ice Barrier Underlayment	Air Freezing Index	Mean Annual Temp	Heating Degree Days
10 PSF	115Vult 91asd MPH	A	Moderate	12 inches	Moderate to heavy	None Required	250	55 – 66 Degrees	3,421 Days

Winter Design Temp	Summer Design Temp	 Flood Zone AE	Decay Wood	Rainfall Design	Radon Areas	Shrink Swell Soils	 Noise Zones	Manufactured Housing Code
22 Degrees	91 dry 78 wet	Yes Several different areas Design flood height includes 1.5 foot of freeboard above base flood	Moderate to Severe	3.4 inches Per Hour	No	Limited Based on Soil Reports	Yes Fentress Airfield Area	Wind Zone: Zone II – 27 PSF Uplift Snow Load Ground: 10 PSF Climate: Zone 4 Non-marine Climate Zone 3 (built 94 to 2008)

 See the last page for instructions and requirements

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**Design Criteria**


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**Building Code Used:**                      1. 2012 IRC      2. 2012 IBC

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**Occupancy Use Group:**                                      R-5                      R-3

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**ConstructionType:**    5B                      5B

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**Mean Roof Height and Wind Exposure PSF Percentage Factor**

Height and wind exposure adjustments Coefficients from Table R301.2(3);	<u>Mean Roof Height</u>	<u>Exposure B</u>	<u>Exposure C</u>
	15	1.00	1.21
	20	1.00	1.29
	25	1.00	1.35
	30	1.00	1.40
	35	1.05	1.45

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**R408.1 & 2 Foundation Vents:** At least one foundation vent must be within 3 feet of each corner.

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**R408.6 Crawl Finish Grade:** The crawl space finish grade must be equal to the outside grade or higher.

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**Table R301.5**

Minimum Uniformly Distributed Live Loads  
(In pounds per square foot)

<u>Use</u>	<u>Live Load</u>	<u>Use</u>	<u>Live Load</u>
Attics without storage	10	Guardrails and handrails	200 in-fill 50 psf
Attics with limited storage	20	Rooms other than sleeping rooms	40
Attics with fixed stairs	30	Sleeping rooms	30
Habitable Attics	30	Stairs	40
		Decks	40
		Exterior Balconies	40

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**Table R301.6**
**MINIMUM ROOF LIVE LOADS IN POUNDS-FORCE PER SQUARE FEET OF HORIZONTAL PROJECTION**

(Tributary loaded area in square feet for any structural member)

<u>Roof Slope</u>	<u>0 to 200</u>	<u>201 to 600</u>	<u>over 600</u>
Flat or rise less than 4 inches			
Per foot 1:4	20	16	12
Rise 4 inches per foot (1:4) to less than 12 inches per foot	16	14	12
Rise 12 inches per foot (1:1) and greater	12	12	12

**Table N1102.1.1****Insulation and Fenestration Requirements by Component Minimum**

Window Fenestration U-Factor	Skylight U-Factor	Glazed Fenestration SHGC	Ceiling R-Value	Exterior Wall R-Value	Wall Headers Corner in-Fills R-Value	Floor R-Value	Slab Value & Depth	Crawl Space Conditioned Walls
0.35	0.55	0.40	R38	R15 or R13+1	R-3	R19	R10 / 2LF	R10/ R13

\*\*\*The Virginia Construction Code has amended the 2012 IRC, therefore, **Res Checks** are no longer accepted for tradeoffs. All new homes, additions and accessory structures are required to be in full prescriptive compliant with the 2012 VCC or an Architect or Engineered analysis is required. 2012 IRC version or 2012 IECC version at the time of permit issuance.

**Exterior Wall R-values:** R13+1 means r-13 insulation in the cavity and R-1 insulation on the exterior sheathing.

**N1102.2.1 Ceilings with attic spaces:** R-38 insulation is required.

- **Exception:** When R-30 insulation covers 100% of the ceiling area shall be deemed to satisfy the requirements of R-38 wherever the full height of uncompressed R-30 insulation extends fully over the wall top plate at the eaves.

**N1102.2.4 Access hatches and doors:** Access hatches and doors from conditioned spaces to unconditioned spaces (e.g. attics and crawl spaces) shall be weather stripped and insulated as follows.

- Hinged doors must have an R-5 insulation value.
- Hatches and scuttle-hole covers must be insulated to a level equivalent to the insulation on the surrounding surfaces.
- Pull down stairs shall have a minimum of R-5 ridged insulation for 75% of the panel area.

**Access shall be provided to all equipment in the attic and access pathway must prevent damaging or compressing the insulation.**

**N1102.41.1:** The components of the **building thermal envelope** must be installed in accordance with manufacturer's instructions and the criteria listed in Table N1102.4.1.1.

**Table N1102.4.1.1** foot notes (b) and (c).

- **Walls:** Cavities within corners and open spaces between the headers they must be insulated completely by filling the cavity with a material having a thermal resistance of R-3 per inch. Knee walls must be sealed with an air barrier.
- **Shower/ Tub on exterior wall:** Exterior walls adjacent to pre-fab showers and tubs must be insulated and an air barrier shall be installed on the interior side of the wall, adjacent to the tub or shower.
- **Fireplaces:** An air barrier must be installed on fireplace walls. Fireplaces must have gasketed doors or tight fitting flue dampers.

**N1102.4.1.2 Air Sealing:** **building envelope air tightness** shall be demonstrated to comply with N1102.1.2.1 or N1102.4.1.2.2.

**N1102.1.2.1: Testing Option;** The building or dwelling must be tested for air leakage, by *an approved* blower door testing for air leakage at a pressure of 0.2 inches of w.g. (50 Pa.) A written report of the results the test shall be signed by the party doing the test and a copy provided to the Building Official.

**N1102.4.1.3: Leakage Rate;** The building or dwelling unit must have a leakage rate less than 5 air changes an hour as verified in accordance with Section N1102.4.1.2. Whole house ventilation is required.

**N1102.4.1.2.2 Visual Inspection option:** Building envelope tightness shall be considered acceptable when the items listed in Table N1102.4.1.1, applicable to the method of construction, are field verified. When this option is chosen, **whole-house mechanical ventilation shall be provided** in accordance with Section **M1507.3**.

**N1102.4.1.2.2 Cont.**

The following must be sealed to limit infiltration: The following must be caulked, gasketed, weather-stripped, foamed or otherwise sealed with an **air barrier material**, suitable film or solid material.

- All joints, seams and penetrations including the joint in the exterior sheathing before insulation must be sealed.
- Windows, doors and skylights
- Openings between windows and door assemblies and their respective jambs and framing.
- Utility penetrations.
- Dropped ceilings or chases adjacent to thermal envelope and Knee walls.
- Walls and ceilings separating garage from conditioned spaces.
- Behind tubs and showers on exterior walls. Common walls between dwelling units. Attic openings. Rim joist junction. Other sources of infiltration.
- *Batts or blankets of mineral or glass insulation is not an approved material to seal the annular space between window and door framing, corner framing and voids in headers.*

**N1103.4.2 and P2603.5: Protect hot water piping** with a minimum of thermal resistance insulation of R-3 shall be applied to the following:

- Piping larger than ¾ nominal diameter.
- All Piping hot and/or cold, including fire sprinkler piping, **located outside of the thermal envelope including garages, attics and crawl spaces.**
- Piping from a water heater to a distribution manifold.
- Hot Water Piping located under a floor slab.
- Hot water buried piping.
- Air conditioning condensation piping when installed in an attic above a finished area.
- Furnace condensation piping, when installed outside of the thermal envelope including all attics, garages, and crawl spaces. Condensation must terminate in an *approved manor* so as to prevent freezing in extreme cold weather.

### Additional Criteria

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**R502.6 & 802.6 Minimum bearing:** Each joist, girder, rafter and ceiling joist must bear a minimum of 1-1/2 inches on wood or metal and 3 inches on masonry or concrete or an *approved* Joist hanger. Rafters or Ceiling joist bearing on masonry or concrete must be direct, or a sill plate of 2 inch nominal thickness and shall provide a minimum nominal bearing area of 48 square inches.

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**R703.7.6 Brick or masonry weepholes:** Weepholes must be provided in the outside wythe of masonry above the flashing and a maximum spacing of 33 inches on center and a minimum of 3/16 diameter.

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**R317.3.1 Pressure treated fasteners:** Fasteners, **including nuts and washers**, that are in contact with pressure treated wood, except ½ inch diameter anchor bolts or larger, shall be hot dipped galvanized, stainless steel, copper or silicone bronze. In the absence of manufacture's recommendations, a minimum of ASTM A 653 type G185 zinc-coated galvanized steel, or equivalent, shall be used. Fasteners other than nails and timber rivets shall be permitted to be of mechanically deposited zinc coated steel with weights in accordance with ASTM B 695, Class 55 minimum.

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**R317.3.3 Fasteners for fire-retardant-treated wood:** Fasteners, **including nuts and washers**, for fire-retardant treated wood used in exterior applications or wet in accordance with ASTM B 695, Class 55 minimum.

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**R302.12 Floors draft stopping:** In combustible construction where there is usable space both above and below the concealed space of a floor/ceiling assembly and that space exceeds 1000 sq. ft., draftstops must be installed so that the area of the concealed is divided into approximately equal areas.

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**R703.2 Cladding vapor barrier:** An *approved* vapor barrier must be applied to the exterior sheathing behind all exterior cladding.

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**Table R905.2.4.1(2)** Wind resistance for asphalt shingles: Asphalt shingles must be classified as compliant with ASTM D 3161 class A, D or F, or ASTM D 7158 G or H (115Vult 91asd MPH) for use in Chesapeake.

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**R328.1 Kitchen areas:** In dwellings that do not have an *approved* fire sprinkler system, a fire extinguisher having a rating of 2-A:10B:C must be installed in the kitchen area.

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## MECHANICAL CODE REQUIREMENTS AND 2012 CHANGES

**N1103.6** Heating and cooling *equipment* shall be sized as specified in Section M1401.3

**M1401.3** Heating and cooling *equipment* 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.

**M1601.1** Duct Design: *Duct systems* serving heating, cooling and *ventilation equipment* shall be fabricated in accordance with the provisions of this section and ACCA Manual D or other *approved* methods.

**Manual S, J and D calculations** must be submitted with permit applications or must be available on-site during the mechanical rough-in inspection (applicable to single family residences, townhouses, and residential additions).

**N1102.4.3 New wood burning fireplaces:** All new wood burning fireplaces must have tight fitting flue dampers.

**M1502.4.4.1 Specified Length:** Maximum length of a dryer duct shall be 35 feet. Where fittings are used the maximum length shall be reduced.

**Sealing (USBC N1103.2.2).** All ducts, air handlers, and filter boxes used as ducts shall be sealed. Joints and seams must comply with Section M1601.4.1 IRC. Verification of compliance with this section for duct tightness shall be by either a duct pressure test or a visual rough-in check by the inspector.

**TESTING OPTIONS FOR DUCT TIGHTNESS:**

**Testing Option 1: (USBC N1103.2.2.1)** Post-construction test (after concealment)- A duct pressure test is conducted that includes the air handler end closure (requires all register boots to be taped or otherwise sealed during the test). Total leakage shall be less than or equal to 6 cfm per 100 sq. ft. of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa) across the entire system.

**Testing Option 2 -** Rough-in test (before concealment): A duct pressure test is conducted that includes the air handler enclosure (requires all registers boots to be taped or otherwise sealed during the test). Total leakage shall be less than 5 cfm per 100 sq. ft. of conditioned floor area when tested at a pressure differential of 0.1 inch w.g. (25 Pa) across the roughed-in system, including the air handler enclosure. If the air handler is not installed at the time of the test, the leakage rate must be less than or equal to 5 cfm per 100 sq. ft. of conditioned floor area. When the testing option is chosen, it must be performed by approved qualified individuals, testing companies or contractors. A visual rough-in check must be performed by the inspector is also required before concealment.

**Field Verified Option (USBC N1103.2.2.2)** In place of the testing options a contractor may chose the field verified method as herein described. Field verified shall consist of visual inspections before concealment as follows: 1- Visual inspection of equipment, boots, plenums and duct work before, duct insulation is installed, run-outs, including flex ducts, insulation of the boots, plenums, diffusers, filter boxes and ducts.

**Exception-** The duct tightness test is not required if the air handler and all ducts are located within the conditioned space of the structure.

**M1507.3.1 System Design:** Whole-house ventilation system shall consist of one or more supply or exhaust fans, or a combination of such, and associated ducts and controls. Local exhaust or supply fans are permitted to serve as such a system. Outdoor ducts connected to the return side of an air handler must be considered to provide supply ventilation.

**M1507.3.2 System controls:** Whole-house mechanical ventilation system **must provide –outdoor air** at a continuous rate not less than that determined in accordance with **Table M1507.3.3(1)**.

**M1507.3.3 Mechanical Ventilation rate:** The whole-house mechanical ventilation system must provide outdoor air at a continuous rate of not less than that determined in Table M150.3.3(1). Exception: Whole-house mechanical ventilation system is permitted to operate intermittently where the system has controls that enable operation for not less than 25% of each 4 hour segment and the ventilation rate prescribed in Table M1507.3.3(1) is multiplied by a factor determined in Table M1507.3.3(2).

**TABLE M1507.3.3(1)****CONTINUOUS WHOLE-HOUSE MECHANICAL VENTILATION SYSTEM AIRFLOW RATE REQUIREMENTS**

Dwelling Unit Floor area Floor Area in SQ.FT.	Number of Bedrooms				
	0-1	2-3	4-5	6-7	>7
	Air Flow In CFM				
< 1,500	30	45	60	75	90
1,501 – 3,000	45	60	75	90	105
3,001 – 4,500	60	75	90	105	120
4,501 – 6,000	75	90	105	120	135
6,001 – 7,500	90	105	120	135	150
>7,500	105	120	135	150	165

**TABLE M1507.3.3(2)****INTERMITTENT WHOLE-HOUSE MECHANICAL VENTILATION RATE FACTORS**

RUN-TIME PERSENTAGE IN EACH 4 HOUR SEGMENT FACTOR	25%	33%	50%	66%	75%	100%
	4	3	2	1.5	1.3	1.0

**Plumbing Code and 2012 Code Changes**

**R305.1 (Item 2) Minimum Height:** Ceiling must be a minimum of 6'-8" at the center of the front plumbing fixture clearance area. A shower or a tub with a showerhead must have a ceiling height of 6'-8" for area 30"x30" at the showerhead.

**P2603.5 Freezing.** In localities having a winter design temperature of 32 degrees F or lower (Chesapeake is 22 degrees winter design temperature) all water or soil pipe shall not be installed outside of a building, in exterior walls, in attics or crawl spaces, or in any other place subject to freezing temperature unless adequate provision is made to protect it from freezing by insulation or heat or both. Water service pipe must be installed 18 inches below grade and sewer service pipe must be installed 12 inches deep minimum below grade. **N1103** All hot water piping must be insulated with at least an R-3 when located outside of the conditioned space and when located under a concrete slab. See Virginia 2012 Amendment.

**P2609 Third party Certification;** All plumbing products and material shall be listed and labeled by 3<sup>rd</sup> party certification agency as complying with the reference standards.

**P3007.3.5 Ratings;** Pipe and fittings shall be rated for the maximum system operating pressure and temperature.

**P2706.1 Waste Receptors;** Plenums, crawlspaces, interstitial spaces above ceilings and below floors as locations where waste receptors shall not be installed.  
**Exception 2;** Clothes washer standpipes shall not be prohibited in bathrooms.

**P3103.5.1 Location of Vent Terminal;** Change from vent terminal location from a door, openable window or other air intake opening of the building or adjacent building, nor shall any vent terminal be within 10 feet horizontally of an opening unless it is not less than **3 feet** above the such opening. **Change from 2 feet to 3 feet an indicated above.**

**R302.2.2 Parapet Exception:** In townhouses or two family homes **no penetration of the roof** and sheathing including vents or plumbing vents within **4 feet of the common walls.**

## Electrical Code Requirements and 2012 Code Changes

**R315.1 Carbon monoxide detectors:** Carbon monoxide detectors are required to be installed in the immediate vicinity outside of sleeping rooms and habitable attics when fuel fired appliances are installed or the dwelling has an attached garage.

**E3902.2 Garage and accessory building receptacles:** All 125 volt, single- phase, 15 and 20 ampere receptacles installed in garages and grade level portions of unfinished accessory buildings used for storage or work areas must have ground- fault circuit interrupter protection for personnel.

**NEC 210.52 & E3901.7 Outdoor outlets:** At least one accessible outdoor receptacle outlet is required to be installed within the perimeter of a balcony, deck, or porch. Maximum height 6'-6". **20 sq. ft. rule eliminated.**

**N1104.1 Lighting equipment:** A minimum of 50 percent of the lamps in permanently installed lighting fixtures must be High-efficiency lamps.

**E3608.1.2 Concrete encased electrode:** When footings or foundations are structurally re-enforced with # 4 (1/2 inch) rebar at least 20 feet long, turn up a short Length out of the foundation and expose near the service panel for an electrical connection.

**E3902.11 USBC, Arc-fault circuit-interrupter protection:** All branch circuits that supply 120-volts, single-phase, 15 & 20 ampere outlets installed in bedrooms must be protected by combination type arc-fault circuit interrupter to provide protection of the branch circuit. Only required **for one and two family homes only.**

**E3105.2 Working clearances for energized equipment and panel boards; Two new 2012 code exceptions added,** 1. In existing dwelling units, service equipment and panel board that are not in excess of 200 amperes shall be permitted in spaces where the height of working space is less than 6.5 feet. 2. Meters that are installed in meter sockets shall be permitted to extend beyond the other equipment. Existing units the work space shall be permitted to be only as high as the equipment. Glass meters must not extend more than 6 inches beyond the front of the equipment.

**E3901.6 Accessory buildings:** Accessory buildings with power must have a receptacle and it must be GCFI protected.

**E3901.4.5 Countertop Receptacles;** Listed receptacle assemblies may be installed in the counter top.

**NEC250.53 E3608.4 Supplemental Electrode required:** A single rod, pipe, or plate electrode shall be supplemented by an additional electrode of a type specified in section W3608.1.2 through E3608.1.6. The supplemental electrode must be one of the following. 1. A rod or plate electrode. 2. A grounding electrode conductor. 3. A grounded service conductor. 4. A nonflexible grounded service raceway. 5. A grounded service enclosure. Where multiple rod, pipe, or plate electrodes are installed to meet the requirements of this section, they shall be not less than 6 feet apart.

**NEC 250.121 & E3610.4 Equipment grounding conductors:** Equipment grounding conductors are not allowed to be used as a Grounding Electrode Conductor. GEC is located between the service point and the service disconnecting means.

**NEC210.52(1) & IRC E3901.11 Foyers:** Foyers that not part of a hallway in accordance with Section E3901.10 and that have an area that is greater than 60 sq. ft. shall have a receptacle(s) located in each wall space that is 3 feet or more in width and unbroken by doorways, floor-to-ceiling windows, and similar openings.

**NEC 314.27(C) & IRC 3905.8 Ceiling Fan Outlets:** Listed ceiling fan box required when a spare, separately switched conductor, is present in the box.

**NEC 410.16 & IRC 4003.12 Clothes Closet Luminaires:** LED lighting may be installed in a closet, must flows the rules for spacing as incandescent lighting.

**NEC 680.21(c) GFCI Motor Protection:** 120 volt through 240 volt outlets supplying pool pump motors must be GCFI protection for permanent installations.

**NEC 680.43 EX #2 Indoor Spas and Hot Tubs:** New exception for indoor spas and hot tubs on finished floors, equipotential bonding not required.



## Building Codes and 2012 Building Code Changes

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### Accessibility: All single family homes and additions

**R311.2.1 Interior passage:** Where a dwelling unit has both a kitchen and a living or entertainment area on the same level as the egress door required by Section R311.2, an interior passage route shall be provided from such egress door to the kitchen and living or entertainment area and to at least one bedroom and at least one bathroom containing a water closet, lavatory and a bathtub or shower, where such rooms are provided on the same level. Any doors or cased openings along such passage route providing access to the area identified above shall comply with the following.

1. Cased openings shall provide a minimum 34-inch clear width.
2. Doors shall be, at a minimum, nominal 34-inch doors.

#### Exceptions:

1. Where a cased opening, 34" width, and its associated molding or trim, is at the end and facing the length of a hallway and the width of the hallway is not wide enough to accommodate such doors or cased openings.
2. Closet doors or cased openings.
3. Pantry doors or cased openings.
4. Bathrooms only accessed directly from a bedroom that is not required to comply with this section unless it's the only full bath on the 1<sup>st</sup> floor or main living area.

**Table R502.3.1(1) and Table R502.3.1(2) Floor Joist Spans:** for sleeping areas 30 PSF and living areas 40 PSF live load . The floor joist spans in these tables have been reduced for Southern Pine for the 2012 Virginia Construction Code. Note some spans have been reduces up to 20% for the 2012 Code.

**New Table R502.5(3) Girder and Header Spans for Porches. This table will allow much greater spans for girders, porch roofs and floors.**

Example: Porch roof with rafters spanning 8 feet may have a southern pine header or girder of 2-2x8's spanning 12'-10" between supports.

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#### R507.4 Decking:

#### New Span Table R507.4 for maximum Joist Spacing for Deck Boards; Maximum Joist Spacing in Inches

Material type and nominal size	Perpendicular to joist	Diagonal to joist
5/4-inch thick wood	16 inches o.c.	12 inches o.c.
2-inch thick wood	24 inches o.c.	16 inches o.c.
Wood plastic composite	must bear a label indicating compliance with ASTM D 7032 and compliance with manufacture's installation	

**R302.11 Fireblocking.** In combustible construction fireblocking shall be provided to cut off all concealed draft openings (both horizontal and vertical) and form an effective fire barrier between stories, and between a top story and the roof space. All openings around vents, pipes, ducts, cables and wire at ceiling and floor levels require an approved material to resist the free passage of flame and products of combustions. *Batt or blankets of mineral or glass fiber is not an approved material to seal ceiling or floor penetrations.*

**R308.4.6 Glazing Adjacent to Stairs and Ramps;** The landing at the top of a flight of stairs is no longer considered a hazardous location. Change hazardous location height from less than 60" inches above the adjacent walking surface "to where the bottom edge of the glazing is less than 36" inches above the adjacent walking surface.

**Table R302.6 Dwelling/Garage Separation:** Structural components supporting the floor/ceiling assemblies used for separation required by this section must be covered with a minimum of ½ inch gypsum or equivalent. Examples; wood or steel columns, beams, headers and bearing walls.

**If a habitable room is above the garage, the entire ceiling, including drop down LVLs and Steel beams, must be covered with at least 5/8 inch Type X gypsum board.**

**R329.1 Kitchen areas:** In dwellings without an *approved* fire sprinkler system, a fire extinguisher having a rating of 2-A: 10-BC shall be installed in the kitchen area.

**R602.3 Exterior studs continuous:** Exterior walls of wood frame construction shall have studs that are continuous from a support at the bottom plate to a support at the top plate to resist loads perpendicular to the wall. The support shall be a foundation or floor, ceiling or roof diaphragm.

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#### Building cont.

**R311.3.1 Floor elevation at the required 3'-0" minimum egress door;** Maximum step height allowed is 8-1/4 inches.



**R314.1 Smoke detection and notification;** Physical interconnection of smoke alarms is not required when there is wireless interconnection.

**R315.2 Carbon Monoxide Systems;** A household CO detection system is now allowed.

**R316.4 Thermal Barrier;** Foam plastic requires separation from the interior of the building by an *approved* thermal barrier of a minimum of ½ gypsum wallboard or a material that meets the fire test of NFPA 275.

**Table R602.3.(1) Fastener Schedule for Structural Members:** This table has been modified to reflect some new fastener spacing and location requirements for rafters to top plate connections, built up studs connections, abutting studs at corners and rim joist.

**R602.7 Single Member Headers;** See Table 602.7.1 for max spans.

**R602.7.4 King Studs;** Fasten each king stud with 4 12d nails. King studs are required at the end of a header.

**R703.7.3.2 Masonry Veneer lintels;** New table was added to give minimum and maximum veneer height above the opening.

**R703.7.3.2 Masonry Veneer Anchorage;** This table was changed to reflect revised spacing for veneer ties.


**Chapter 8 span tables-Roof-Ceiling Construction;** Changes were made to ceiling joist and rafter span tables to reflect revisions to Southern Pine strength values.

**R903.2.1 & R905.2.8.3 sidewall Flashing;** Flashing shall divert water away from the vertical sidewall at the eave.

**USBC 113.3 Minimum inspections:** *Insulation* must not be installed until after the framing (performed by a building inspector) and rough-in inspections (performed by electrical, mechanical, gas, and plumbing inspectors) have been approved. The structure may be insulated only after the approval of the required rough-in inspection by each discipline (building, plumbing, mechanical, gas and electrical). The building contractor must request a separate inspection for insulation prior to concealment. The building inspector may inspect the crawl space and blown attic insulation during the final building inspection, if the area is accessible.


- **R301. 2.1 Wind Limitations:** Buildings, structures and portions thereof including, exterior wall coverings, exterior windows, exterior doors, skylights, roof coverings, curtain walls and garage doors, must be designed and installed to withstand, without structural damage, the pressures exerted by 115Vult MPH for strength design method and 91asd MPH for allowable stress design method per 2010 ASCE standards for the City of Chesapeake. The 115Vult MPH wind speed must be converted to positive and negative design pressures for the roof and exterior walls including exterior openings and component sizes. These pressures must then be adjusted for mean roof height and exposure to determine the design load performance requirements for all exterior components of the building or structure.
- **The permit holder is responsible for verifying, through the manufacturers' specs and/or nationally recognized product evaluation reports, that these products meet or exceed the design requirements.**

## FLOOD ZONE AND NOISE ZONE REQUIREMENTS

 **Flood Zone AE:** In accordance with the Chesapeake Floodplain Management Ordinance, the lowest finished floor elevation of all new construction or substantial improvement of residential structures (including manufactured homes) must be a minimum of one foot six inches (1'-6") above the base flood elevation (BFE) per the Flood Ordinance. This elevation is called the design flood elevation (DFE).

- All mechanical equipment, and electrical devices must be elevated to or above the DFE.
- HVAC ducts may be below the DFE but must be elevated above the base food elevation (BFE).
- All mechanical equipment support stands must be elevated to the DFE and be anchored to resist flotation. Equipment located on the exterior of the structure, must be anchored to the stand to resist both wind and flood loads. The stand must be made of flood resistant materials per ASCE-24.
- Flood vents are required on all homes located in a flood zone, regardless of the elevation of the enclosed area. Flood openings must be installed on at least two different exterior wall sides of each enclosed area, such as crawl spaces, attached garage areas or lowest floor of a shed or similar utility building.
- Flood vents must be installed not more than twelve (12) inches above the highest adjacent grade on an exterior wall.
- The crawl grade must be at or above the highest adjacent exterior grade.
- All construction materials including wood studs, sheathing, insulation and drywall must not be installed below the BFE unless the material is flood resistant as per ASCE-24, the IBC and IRC. Examples of flood resistant materials are pressure treated wood and cement board. For more details, see FEMA Technical Bulletin 2.
- Sheds, utility buildings and detached garages may be installed at grade in a flood hazard area but must be anchored to resist flotation and all materials below the BFE must be water-resistant.

**A FEMA flood elevation certificate, prepared by a licensed surveyor, must be submitted and approved by this department before issuance of a certificate of occupancy.**

 **Fentress Airfield Noise Zone area:** Dwelling units constructed in the Fentress noise zone area, as determined by Chesapeake Zoning Ordinance, must submit a noise attenuation test, conducted by a registered design professional before a certificate of occupancy is issued. The test must indicate a noise level no greater than 45 Ldn over a 24 hour period of time.

## RESIDENTIAL R-5 PLAN REVIEW INFORMATION LIST AFFIDAVIT

By signing this Information List Affidavit, I agree to comply with all listed code items as referenced under the Residential R-5 Plan Review Information List. The listing of code items can be found under: <http://www.cityofchesapeake.net/Government/City-Departments/Departments/Department-of-Development-and-Permits/forms.htm>. I understand the use of the Information List allows the applicant to reduce the amount of information submitted on the construction drawings but does not relieve the applicant from complying with the requirements of the Virginia Uniform Statewide Building Code and referenced International Residential Code.

I understand approval of all required construction stages is contingent upon codes compliance and field inspection. I further agree that I am authorized to sign this document as the responsible Contractor, Owner or agent.

Please Check the Correct Box: Contractor  Owner  Agent

Print Name: \_\_\_\_\_ IRC Code Edition:  2012  2015

Signature: \_\_\_\_\_

Mailing Address: \_\_\_\_\_ City \_\_\_\_\_ Zip Code \_\_\_\_\_

Email address: \_\_\_\_\_ Business Name: \_\_\_\_\_

Date: \_\_\_\_\_

Effective Date- July 14, 2015  
Updated 4/4/15