RESIDENTIAL BUILDERS INSPECTION CHECKLIST

The following guide is provided to you as a courtesy of the City of Anderson Building and Codes Department. It is the intent of this checklist to be a guide for builders, contractors and inspectors utilizing the *2015 International Residential Code* (IRC). **It is not all inclusive and should never be used as a replacement of/for the IRC.** It is the responsibility of the builder to ensure proper compliance with all local, State and Federal laws concerning the construction of homes. It will be our intent to update this list as needed. Handouts of this publication are available in hard copy form in our office, located at 601 South Main Street, Suite 204, Anderson, SC 29624 or online at www.cityofandersonsc.com.

INSPECTION PROCEDURE

Below is a list of inspection steps that are required by the City of Anderson Building and Codes Department. **It is the responsibility of the builder to contact the department inspection line at 864. 231. 2219 prior to 8:30 a.m. on the day of the requested inspection.** If the scheduled inspection is not ready at the requested time, a fee of $50.00 is required before a re-inspection can occur. No work shall be performed beyond what is requested unless approved by the Building Official or the Inspector. No building shall be occupied until all inspections have been completed and a Certificate of Occupancy has been issued.

- **Temp Power Inspection:** Temporary Power should be set and grounded.
- **Footing Inspection:** When the footing and or foundation is complete. Prior to placement of concrete. ***Note: Refer to Section 401.4.1 regarding minimum soil compaction per square foot.***
- **Plumbing under Slab Inspection:** Plumbing test is on with fittings exposed. (This can be combined with the footing inspection)
- **Building Slab Inspection:** When all utilities and gravel base have been placed along with vapor barrier and reinforcement.
- **Rough In Inspection:** Prior to installing sheetrock. At this step, all framing, HVAC, plumbing and electrical work should be roughed in.
- **Final Utilities Inspection:** Gas tags and Permanent power are approved.
- **Final Building Inspection:** Prior to occupancy, the structure is complete with appliances set and all prior inspections approved. Certificate of Occupancy is issued at this time.

Please feel free to call our office (864.231.2217) and speak with an inspector if you have any questions or concerns prior to performing the task. It is much cheaper to ask questions before the work is done to prevent any delays in the building process or costly repairs. Additional inspections can be requested at no charge and as time permits.

Footing Inspection Checklist

1. Building permit must be posted on the jobsite and kept dry and accessible until final completion of the project.
2. All approved building plans must be kept on site for duration of project.
3. Runoff or sediment control which includes but is not limited to silt fences, gravel access for equipment into and out of the jobsite must be in place.
4. No mud or water is allowed in the footing at time of inspection.
5. Verification of setbacks must be visible upon arrival for all footing inspections. This can be accomplished by string lines being properly placed. **NO FOOTING WILL BE APPROVED IF THE SETBACKS ARE NOT CLEARLY VISIBLE BY THE INSPECTOR.**
6. All vegetation, topsoil and organic material must be removed from footing trenches.
7. All footings shall be a minimum of 12 inches below ground surface. Minimum width must comply with Table R403.1 IRC.
8. Footings must be level and "Hog Outs" are not allowed. Bulkheads for stepped footings must be in place at time of inspection. Cold pours are not allowed without a design professional.
9. If rebar is used it must be installed correctly. Rebar is not allowed to contact the ground. Improper splice lap ties, red or concrete bricks are not allowed.
10. Soils tests may be required if questionable or on engineered fill.

	R403.1 (1)	**R403.1(2)**	**R403.1(3)**
	Conventional Light Frame Construction	Light Frame W/Brick Veneer	Concrete or Fully Grouted Masonry Wall
1 Story Slab on Grade	12X6	12X6	12X6
1 Story with Crawl Space	12X6	12X6	14X6
1 Story plus Basement	14X6	15X6	19X6
2 Story Slab on Grade	12X6	12X6	18X6
2 Story with Crawl Space	12X6	15X6	22X6
2 Story plus Basement	16X6	20X6	26X8
3 Story Slab on Grade	12X6	15X6	24X7
3 Story with Crawl Space	14X6	19X6	28X9
3 Story plus Basement	19X6	24X7	33X11

Under Slab Inspection Checklist

1. Slab inspections are required whenever any utility (plumbing, electrical, mechanical duct or condensate) is located underneath a slab.
2. Plumbing must be under a water pressure test. DWV's must have a minimum 10 foot head of water from the highest fitting connection
3. All work must be exposed and cannot be covered prior to inspection. This will include straight runs and all fittings.
4. All drains must be properly sized, fitted and sloped.
5. Use of proper primer and solvents must be used and primer must be seen on all connections.
6. Sleeve protection piping must be in place under slabs and/or through foundation walls at inspection. This is for water supply and DWV lines.

Building Slab Inspection Checklist

1. A 4-inch thick base of course gravel or stone must be in place with a minimum of 6 mil polyethylene or other approved vapor retarder with joints lapped not less than 6 inches prior to pouring slab. *(vapor barrier now required for garages, but not utility buildings, driveways, patios that are not likely to be enclosed or heated at a later date)*
2. Concrete shall be a minimum of 3.5 inches thick and air entrained, 2500 psi compressive strength.
3. The area within the foundation walls shall have all vegetation, top soil and foreign material removed.
4. Any fill shall be compacted according to section R506.2.1.
5. Garage floors must be sloped to facilitate the movement of liquids.
6. Termite treatment is required prior to pour.
7. Slabs poured prior to inspection or without vapor retarder may be subject to removal.
8. Where provided, reinforcement shall be supported from the center to upper one third of the slab for the duration of the concrete placement.

Foundation Inspection Checklist

1. ½" anchor bolts shall be required within 12 inches of each corner and the end of each sill plate and every 6 feet. Anchor straps shall be installed according to manufacturer's installation instructions. (R403.1.6)
2. All wood that rests on concrete or is embedded within concrete and are less than 8 inches from grade must be pressure treated.
3. Minimum wall thickness is based on supported walls. (R606.4.1)
4. Foundation drainage must conform to section R405.1

5. If masonry foundation walls enclose habitable or usable space, walls must be dampproffed in accordance with Section R406.
6. Decay and Termite protection shall adhere to Section R317.
7. Crawl space access must be a minimum of 18 inches X 24 inches or, if equipment is located within the crawl space area, the access must be as large as the equipment.
8. Crawlspace shall be properly vented and openings shall not be less than 1 square foot for each 150 square feet of under floor space. Each corner shall have a ventilation opening located within 3 feet.
9. All masonry construction shall follow procedures as established in (Section R606.7 and R606.7.1) Hollow piers shall be capped with 4 inches of solid masonry or concrete or shall have the top course filled with concrete or grout.

Framing Rough In Inspection Checklist

1. All sub trade rough-ins (Framing, electrical, plumbing and mechanical) must be completed and inspected at this time.
2. The structure must be "dried in" with all doors and windows installed. Stacking of sheetrock against walls is not recommended as this may impede a potential inspection process by the inspector.
3. The Building Thermal Envelope shall be durably sealed to limit infiltration per the 2009 International Energy Code (2009 IECC). The Energy Code Checklist must be completed and submitted at the Final Inspection.
4. Each structure must have at least one exit door that measures 32 inches wide by 78 inches high. Each sleeping room must have an emergency egress window or exit door. The window sash must have a minimum clear opening at least 20 inches wide, 24 inches tall, be within 44 inches of the floor and have a net clear opening of at least 5.7 square feet for second story windows and at least 5.0 square feet for grade floor openings.
5. If stairs are installed, they must be a minimum of 36 inches wide and all landings are required to be 36 inches X 36 inches. Headroom in stairways must be a minimum of 6 feet 8 inches.
6. Stairs exceeding 12' 3" in vertical rise between floors are not permitted.
7. Handrails must be installed according to section R311.5.6.
8. All glazing installed in hazardous locations must be tempered. (**Sections R308.4.1;R308.4.2; R308.4.3;R308.4.4; R308.4.5; R308.4.6 and R306.4.7**)
9. All structural members, sizes, spans and method of attachment must be in accordance with the code. (Section R502 and Section R802.)
10. All engineered trusses, laminated beams; I-joists shall be installed according to manufacturer's installation instructions.
11. All engineered trusses, laminated beams, I-joists shall not be bored, notched or otherwise be altered without approval of a design professional.
12. All truss drawings shall be provided at the time of inspection.
13. Use of "hurricane clips" used will be installed according to manufacturer's specifications or as otherwise required by Table R802.11.
14. Wall bracing is installed according to Design Category C and Table 602.10.

15. The garage must be separated from the residence and the attic area by not less than ½ inch gypsum (sheetrock) board on the garage side.
16. Doors that separate garages shall be a minimum of 1& 3/8 inch thick wood or metal.
17. Habitable rooms above garages must be separated by not less than 5/8 inch gypsum (sheetrock) board on the ceiling side of the garage.
18. Attic areas shall be properly ventilated (R806.2) and an access opening of no less than 22 inches X 30 inches shall be located in a hallway or other readily accessible location.
19. If equipment is located within the attic space, an access the size of the equipment is required.
20. Fire blocking shall be in accordance with Section R302.11
21. All exterior siding material will require a weather resistant membrane over studs or sheathing of all exterior walls.
22. All porches, exterior windows and doors shall be flashed according to manufacturer's specifications. Wall sheathing should be at least 6 inches from grade.
23. A drip edge will need to be provided at eaves and rakes of asphalt shingle roofs if required by the manufacturer. (State Modification 2015-22)

Electrical Rough- In Checklist

1. All grounds must be made up in boxes and panel. Wiring must be run to all locations.
2. Service loads must be calculated in accordance with the code.
3. Unless the meter base and the service panel are located back-to-back or next to an adjacent stud cavity, a four wire system with an exterior service disconnect is required. The sub-panel must isolate neutrals from the grounds.
4. A grounding electrode system is required at each structure served. **A minimum of two grounding electrodes is now required and shall not be less than (6) six feet apart.**
5. Panel box locations must meet clearance requirements (30 inches wide, 36 inches deep and 6 feet, 6 inches high) and cannot be located in bathrooms or clothes closets.
6. Panels and overcurrent protection devices (breakers) shall be permanently and legibly marked.
7. Any unused opening must be effectively closed.
8. Receptacle spacing on walls shall not be more than 12 feet apart, within 6 feet of a door and on any wall over two feet in length.
9. A minimum of two, 20 amp circuits are required in the kitchen, one in the laundry room and one for the bathrooms. Minimum wire size is 12-gauge.
10. Kitchen countertop receptacle spacing is every two feet on center, with one receptacle required for an island or peninsula countertop over certain sizes. (E3801.4.2 & 3801.4.3)
11. GFCI receptacles in all damp or wet locations in bathrooms, garages, including the receptacle that serves the garage door opener, kitchens, outdoors, crawlspaces, unfinished basements and bar sinks. (If outdoors in wet locations, must be protected with weatherproof covers)
12. A receptacle is required at the front and back door of each dwelling and within 6 feet, 6 inches of grade **including balconies, decks and porches** that are accessible from the inside and must be GFCI protected.

13. Crawl space receptacles must be GFCI protected. (E3902.4)
14. Laundry room circuit is required to be GFCI protected. (E3902.9)
15. Dishwasher circuit is to be GFCI protected. (E3902.10)
16. A switch controlled lighting outlet is required in every habitable room, bath, hallway, stairway, attached garage, in attics or crawl spaces with appliances, basements and each exterior grade exit.
17. In unfinished basements, if conductors are smaller than 8 AWG they shall be run either through bored holes or on a running board.
18. All wiring shall be protected from abrasion and physical damage. All bored holes within 1 ¼ inches of the edges of studs are required to be protected.
19. All metal pipes, water and gas that are likely to become energized must be properly bonded.
20. Fixtures or devices used in wet or damp locations must be listed for that specific use.
21. Smoke detectors are required and must be installed utilizing hard wiring and battery back- up.
22. Smoke detectors are required in each sleeping room on each level and in the hallway immediately adjacent to each bedroom. ***Carbon Monoxide detectors are now required within dwelling units that contain fuel-fired appliances or that have attached garages and must follow the same installation requirements as smoke detectors. Where a fuel burning appliance is located within the bedroom or attached bathroom, a carbon monoxide alarm shall be installed within the bedroom.***
23. If smoke detectors in bedrooms are supplied by circuits that serve the bedroom outlets, the devices are required to be Arc-Fault protected.
24. Disconnects for HVAC or water heater must be located in accordance with Table E4001.5
25. All metal piping systems, including gas piping capable of becoming energized shall be bonded to the service equipment enclosure or one or more of the grounding electrodes used. All points of attachment must be accessible.
26. An intersystem bonding termination is required for communication systems, cable TV, etc.
27. Temporary Power shall be granted, if installed and inspected, *prior* to the rough-in.
28. Arc-Fault Circuit Interrupters (AFCI) are required in all branch circuits that supply 120 volt, single phase 15 and 20 amp outlets installed in **all other rooms** not listed that are GFCI protected. All other rooms include; Family Rooms, Dining Rooms, Living Rooms, Parlors, Libraries, Dens, Bedrooms, Sunrooms, Recreation rooms, Closets, Hallways and similar rooms or areas.
29. Tamper Resistance Outlets are required in all 125 volt 15 and 20 amp receptacles in areas specified in Section E3901.1 (Exceptions; E4002.14)
30. The *NFPA 70: 2014 National Electrical Code* is a referenced standard and should be used in conjunction with the IRC.

Plumbing Rough –In Checklist

1. PVC piping is not allowed to be used for any water distribution or supply inside the structure.
2. DWV systems shall be tested by water or air with no evidence of leaking. (Section P2503.5.1)
3. Water supply pipes shall be tested in accordance with Section P2503.6
4. A cut off valve shall be supplied for the cold water supply on all water heaters.
5. Water heater pressure relief valve discharge pipe shall extend to the outside of the building.
6. All bored holes located with 1.25 inches of edges of studs shall be protected (Section P2603.2.1)
7. Pipes through footings or foundations shall be protected utilizing a pipe sleeve that is two sizes greater than the pipe passing through or a relieving arch.
8. Vents must terminate a minimum of 6 inches above the roof and roof "boots" shall be installed.
9. Vent terminals shall not be installed within 10 feet of openings into the building unless it is a minimum of two feet above the opening.
10. One main stack must run to the exterior of the structure.
11. Water heaters located in garages must be protected from impact of automobiles.
12. **Access to circulation pumps for Whirlpool Bathtubs must be provided per manufacture's specifications. A copy is to be provided to the inspector on site.**
13. The *2015 International Plumbing Code* is a referenced standard and should be used in conjunction with the IRC.

Mechanical Rough-In Checklist

1. Gas piping shall be run to all locations and shall be pressure tested. A minimum pressure of 10 psi is required. Mechanical gauges used to measure pressure shall have a range such that the highest end of the scale is not more than five times the test pressure.
2. If gas lines are used to supply gas logs or fireplaces, these lines must be run at rough in.
3. Gas lines will not be inspected until all gypsum has been installed and no further chance of damage to piping exists (Exception: Continuous hard piping.)
4. Gas lines provided for appliances shall have sediment traps except for decorative appliances.
5. Foundation or manufactured slabs for outdoor mechanical systems shall be raised a minimum of 3 inches above grade.
6. Fuel fired appliances are prohibited in sleeping rooms, bathrooms and storage closets. (Some manufacturer's offer exceptions to this rule, please consult manufacturer's installation instructions if in doubt.)
7. Appliances having an ignition source shall be elevated a minimum 18 inches from floor in garages.

8. HVAC supply boots and metal duct piping must be insulated in non-conditioned spaces to prevent condensation.
9. Duct coverings shall not penetrate a fire blocked wall or floor.
10. HVAC returns must be installed and are prohibited in kitchens, bathrooms, garages and within 10 feet of fuel fired appliances. (Section M1602)
11. Ductwork must be properly supported; raised off ceiling joists in attics and minimum clearance of 4 inches from grade in crawlspaces.(Duct tape cannot be considered a strap)
12. Install drain pan and condensate line under the attic appliance and ensure no foreign material is the pan.
13. Appliances installed shall conform to manufacturer's installation procedures and manuals shall be left with the appliance.
14. All chimneys and vents shall be inspected for proper sizes and clearances. Chimneys shall extend 2 feet higher than any portion of a building within 10 feet, but not less than 3 feet above the highest point where it passes through the roof.
15. Any mechanical venting system shall terminate not less than 2 feet higher than any air inlet within 10 feet.
16. Clothes dryer exhaust can be vented a **maximum of 35 feet away from the dryer location** to the exterior wall or roof termination. (SC modification IRC 2015-27)
17. Bathroom exhaust fans must be installed in each bathroom and water closet and vent duct must terminate to the outdoors. **Vent cannot terminate into an attic, soffit, ridge vent, or crawl space.**
18. The *2015 International Mechanical Code* and the *2015 International Fuel Gas Code* are referenced standards and should be used in conjunction with the IRC.

Final Utilities Inspection Checklist

1. Ensure that all electrical appliances, receptacles, lighting fixtures are installed.
2. Breaker panel must be marked legibly and cover placed on panel.
3. All grounding electrodes must be properly secured with approved grounding clamps.
4. Upon inspection and approval, a yellow tag will be adhered to the outside of the meter box and Duke Energy will be notified that the inspection has been approved.
5. Gas meter sets require that all gas piping be installed and properly grounded with pressure gauge installed and pressure not less than 3 psig for a minimum duration of not less than 10 minutes.
6. Upon inspection and approval of gas lines, a tag will be placed on the gas line and Piedmont Natural Gas will be notified that the inspection has been approved.

Final Inspection Checklist

Warning: No building is to be occupied prior to the issuance of a signed and dated "Certificate of Occupancy" by the inspector and the Building Official.

1. Emergency 911 letters must be permanently placed in a position to be plainly legible and visible from the street or road fronting the property. Numbers shall contrast with the background upon which they are attached and be a minimum of 4 inches in height.
2. Grade must fall 6 inches within the first 10 feet or have adequate swale.
3. Porches, decks, balconies, ramps over 30 inches above grade plane require guards. (Minimum 36 inches tall) Elevated screen porches require guards.
4. Steps or stairs with 4 or more risers require handrails. Handrail height is a minimum of 34 inches and a maximum of 38 inches and must be graspable.
5. A minimum 3 foot X 3 foot landing is required for all exterior doors.
6. All appliances and HVAC equipment must be installed and in operating mode upon final inspection.
7. Seal all foundation penetrations.