



2018 INTERNATIONAL RESIDENTIAL CODE, Marshall Fire Rebuilds

Revised 01/30/2024

Review Checklist to be filled out by Design Professional or Homeowner

Submittal Date: _____

Building Address: _____

Owner's Name: _____

Main Building Sq. Ft: _____ Other: _____

Total Area Basement: _____ Type of Building: _____

Finished Basement: _____ No. Stories: _____

Garage: _____ No. Levels: _____

Deck/Balcony: _____ Area of LOD: _____

Fire Sprinklers: _____ Area: _____ Number of Bedrooms: _____

Roof Snow Load: 30 Lbs. Per Sq Ft.

Soil Bearing Capacity: _____

No. Backflow Preventers: _____

Energy Compliance Path: _____

Zone District: _____

Name of PUD (if applicable): _____

: Discussed project with the Planning Division

Visit the City's [Online Map](#) for this information

This checklist is compiled for plan checking purposes for use by the Division of Building and Life Safety Inspections.

The owner or architect is required to check each box throughout the check list to verify they have submitted plans with the required information failure to do so will result in the plans not being reviewed. N/A can be used if not Applicable.

The information contained herein will also provide condensed construction information for design and job use. This checklist is not intended to indicate any change in any building code or ordinance by inference or omission. Please circle around a checklist

number to indicate that the items is on the set of plans that you are submitting. **Failure to have the checklist items listed NOT on your set of plans will result in your plans going back to you or your design professional additional plan review fees may be assessed, with an additional wait time of 2-6 weeks.** Any indicated correction not made or construction detail not shown will be assumed to be installed in accordance with the City adopted Building Codes and standards.

SPECIAL REQUIREMENTS:

- SR1. **Wood burning** appliances including fireplaces, are severely restricted. All wood burning devices shall meet the following A fireplace or fireplace insert that meets the most stringent emissions standards for wood stoves established by C.R.S. Title 25, **Article 7** and the Colorado Department of Public Health and Environment Air Quality Control Commission Regulations or any other clean burning device that is approved by the Air Quality Control Commission Regulations.

(Ord. No. 1652-2013, § 2, 2-18-2014)
- SR2. Show on the plans where the parking will be for the construction vehicles.
- SR3. Show on the plans where the construction material storage will be located. Storage of Construction Material shall be allowed in the public right of way per the permit conditions issued with the permit.
- SR4. Show a plan for where the excavated material will be deposited. Keep in mind that a separate permit is required for fill areas if they are not on the same lot as the excavation.
- SR5. Areas of excavation which a slope from the property line to any point that is going to be, or has been excavated exceeds a plane of 45 degree angle must have shoring that was designed and stamped by a Colorado Licensed Engineer.

GENERAL:

- G1. Construction street address, owner's name, designer's name, and an architect and/or engineer's name and seal on the drawings if available.
- G2. Provide a plan index.
- G3. Submit completed set of drawings including: Plot Plan (site plan), **Certified Topographical Survey with certified boundaries**, Floor Plan, Foundation Plan Elevations, Specifications, Building Sections, Wall Sections, Construction Details, and one set of Structural Calculations for Additions, Decks Patios and New Buildings **and staging plans**. See [Handout](#) for Survey Guidelines

- G4. Note the total existing area square footages of each level, using outside wall measurements, and note it on the plans. Also note all new areas square footages separately. List the areas of the garage and deck separately. Also note the area of the LOD (Limits of Disturbance), excluding footprint of house, sidewalks, hard surfaced patios and driveways. Include allowed and proposed lot coverage and floor area ratio, if applicable.
- G5. Provide a grading plan showing the relative elevation of the foundation as it relates to the curb and gutter and the relationship of the home to finish grade. Include a "datum" (USGS) point or other benchmark that will remain available and accessible throughout the construction. See the linked pages on how to determine [Grade](#) and [Building Height](#)
- G6. Label all existing and proposed streets, alleys and adjacent property lines on the Site Plan. Dimension the distances to front, side and rear property lines. Include dimensions to all setbacks.
- G7. Show size of lot on the site plan to conform to the legal description. -IRC R106.2
- G9. If the adjoining properties have a structure that encroaches over property lines onto this new construction site, you must supply a property title search for the property.
- G10. Show the 'Limits-of-Disturbance' on the Site Plan including all utility crossings, material storage and stockpile areas, driveways, re-graded areas, proposed landscaped areas, and construction parking areas.
- G11. Show location and type of silt fence for control of polluted runoff (NPDES Phase II).
- G12. Show and note on site plans: Surface water shall drain away from the house at all points. Direct the drainage water to the street or to an approved drainage course but not onto neighboring properties. The grade shall fall a minimum of 6 inches within the first 10 ft. **Note this on site plan.** IRC R401.3.
- G13. Comply with IRC Chapter 4 for excavations, fill, cuts and grading. Pay special attention to 'tall' cuts close to property lines. **Cut slopes and grade fills steeper than 2:1 require soils reports addressing stability.** General Contractor is to arrange a meeting with the Plan checker, the General Contractor, and the Excavator for this project, prior to any permits being issued.
- G14. Rock walls greater than 4 feet require engineering.
- G15. Provide certification from an architect or engineer demonstrating that the proposed development is in compliance with the City's Flood Hazard Ordinance, if applicable.
- G16. Show on the Site Plan the location of the construction trash container and portable toilet.

- G17. Show and identify all proposed and existing buildings on the Plot Plan.
- G18. Note the floor elevation for all floors, landings, and decks on plan views and building elevations.
- G 20. For driveways that go across public property (we believe 99% of them will, so we will assume all do), provide a copy of the "Application to work in a Public Right of Way" that has been approved by the City Engineering Department.
- G21 **Mine Hazards:** Provide a plan that shows the location of Mine Hazards such as shafts and tunnels as they relate to this site. This would be any mines etc. within 100 feet of this lot. Mine Hazards shall also be documented in geotechnical soils reports. See the "map" that is part of "the agreement". See City Website for map:
<https://louisvillecogov.maps.arcgis.com/apps/webappviewer/index.html?id=b6051926d6f14b14afb745a434ec90a3>
- Demonstrate radon mitigation is provided in compliance with 2018 IRC APPENDIX F.

Additional General Comments:

FOUNDATION PLAN:

- F1. Verify type of soil at this site. The classification of the soil at each building site shall be determined when required by the Building Official. The Building Official may require that this determination be made by an engineer or architect licensed by the State. When expansive soils are present special provisions may be required in design of foundations. -IRC R401.4.1
- F2. Provide a plan that shows the location of mine shafts and tunnels as they relate to this site. This would be any mines within 200 feet of this lot.
- F3. Show footings a minimum of 36 inches below finish grade. -IRC R403.1.4
- F4. Specify concrete mix with a minimum compressive strength of 3,000 psi. - IRC R402.2
- F5. Submit a complete gravity load path design including roof, floors, walls, columns, foundations and footings. Detail these elements on the drawings. Submit a complete lateral-force resisting system design. Detail these elements on the drawings.

- F6. Show the top of foundation walls a minimum 6 inches above adjacent finish grade. -IRC R404.1.6
- F7. Show minimum ½" foundation anchor bolts embedded minimum 7 inches into the concrete or masonry. Specify type, size and spacing of other bolts or alternate plate fastening methods. -IRC R602.11.1. / R403.1.6
- F8. Show minimum 18 inch clearance for wood joists and 12 inches clearance for wood girders in the crawlspace unless proper redwood or pressure treated wood is specified. -IRC R317.1
- F9. Conditioned Crawlspace must show how it meets Code section R 408.3 If venting the under floor: Minimum 1 sq ft for each 150 sq ft of under floor area. One such ventilating opening shall be within 3 feet of each corner of the building. -IRC R408
- F10. Concrete floor slabs, except those in unheated accessory structures, shall have a vapor retarder consisting of a 6 mil (.006 inch) polyethylene or approved vapor retarder with joints lapped not less than 6 inches placed between the concrete floor slab and the base course or the prepared sub-grade where no base course exists. -R506.2.3
- F11. Slab-on-grade floors with a floor surface less than 12 inches below grade shall be insulated, R10 or R15 for heated slabs. IRC- N1102.2.10
- F12. Note on foundation plans: For foundations rebar inspections for foundation walls over 8 feet high, forms are not to be installed on one side until after the rebar has been inspected and approved.
- F13. Provide a perimeter foundation drain. Drained to an approved location, show on site plan. R405
- F14. Provide a U-FER ground. Note this on foundation plan and in elect. notes. E3608, NEC 250.50.
- F15. Note the elevation of the top of the footings and top of the foundation on foundation and footing plan.

Additional Foundation Comments:

ARCHITECTURAL:

- A1. Dimension the overall length and width of the building.

- A2. Dimension all rooms.
- A3. State the use of all rooms on the floor plan(s).
- A4. All habitable rooms, except kitchens, are to have an area of not less than 70 sq ft with a minimum of 7 ft in any dimension. -IRC R304
- A5. Habitable rooms, hallways, corridors, laundry rooms and basements shall have a ceiling height of not less than 7 feet measured from finished floor to finished ceiling, bathrooms can be at 6'8". Not more than 50% of the required floor area is permitted to have a sloped ceiling less than 7 feet with no portion of the required floor area less than 5 ft in height. -IRC R305
- A6. Dimension all windows and show what area of the window opens.
- A7. Minimum window area shall equal not less than 8% of the floor area of the room unless artificial light is provided capable of producing an average illumination of 6 foot candles over the area of the room at a height of 30 inches. - IRC R303
- A8. Natural ventilation equaling 4% of the floor area shall be through windows, doors, louvers or other approved openings to the outdoors unless an approved mechanical ventilation system is provided capable of producing 0.35 air changes per hour in the room or a whole-house mechanical ventilation system is installed. -IRC R303
- A9. Show emergency egress for basements with habitable space and each sleeping room: an exterior door or window with a finished sill height within 44" of the floor, minimum net clear operable area of 5.7 sq ft, minimum net clear operable width of 20" and minimum net clear operable height of 24". Grade floor openings may have a minimum net clear opening of 5 sq ft. -IRC R310
- A10. The operable window area in bathrooms, water closet compartments, and other similar rooms shall not be less than 3 sq ft unless a mechanical ventilation system capable of producing 50 cfm for intermittent operation or 20 cfm for continuous operation is provided. Ventilation air shall be exhausted directly to the outside. -IRC R303.3
- A11. Glazing used in doors and panels of showers and bathtub enclosures and walls enclosing these compartments shall be tempered. -IRC Table R308.4.
- A12. Tempered glass shall be provided in: Frameless glass doors, glass in doors, glass within a 24" arch of doors, glazing less than 60" above a walking surface that is within 5 ft of stairs, or glazing within 5 ft of spas or pools, certain fixed glass panels, and similar glazed openings subject to human impact. -IRC R308.
- A13. Show not less than 1/2 inch gypsum board on the garage side of the wall and 5/8 "types X on ceiling separating a garage and a dwelling. Where the separation is a floor-ceiling assembly, the assembly and the structure supporting

- the separation shall be protected with not less than 5/8 inch type X gypsum board on the ceiling. –IRC R302.6
- A14. Doors leading from dwellings to the garage shall be 1-3/8" thick solid core or 20 minute rated and must be labeled self-closing and latching On plans. Doors shall not open into a sleeping room. –IRC R302.5.1
 - A15. Carports not open on at least two sides shall be considered a garage and shall comply with the fire separation requirements of a garage. -IRC R309.2
 - A16. If the property is in the Old Town Overlay, provide a table showing compliance with the Roof Pitch requirement.
 - A17. Stairways shall not be less than 36 inches in clear width at all points above the permitted handrail height. Handrails shall not project more than 4.5 inches on either side. –IRC 311.7.1
 - A18. The tops of handrails shall be placed between 34 inches and 38 inches above the nosing of the treads. They shall be continuous the full length of the stairs. Ends shall be returned or shall terminate in newel posts or safety terminals. The handgrip portion of handrails shall be not less than 1-1/4 inches nor more than 2-5/8 inches in cross-sectional dimension or the shape shall provide an equivalent gripping surface. Handrails projecting from a wall shall have a space of not less than 1.5 inches between the wall and the handrail. -- IRC R311.7.8.
 - A19. All unenclosed floor and roof openings, open and glazed sides of landings and stairs, balconies and porches more than 30 inches above grade, and roofs used for other than service of the building shall be protected by a guard (aka "Guardrail"). Guards shall not be less than 36 inches in height. Open guards shall have intermediate rails or an ornamental pattern such that no sphere 4 inches in diameter can pass through. –IRC R312
 - A20. The minimum headroom in all parts of a stairway shall not be less than 6'-8" measured vertically from the sloped plane adjoining the tread nosing or from the floor surface of the landing or platform. -IRC R311.7.2
 - A21. Stairway risers shall not exceed 7 3/4 inches and tread shall not be less than 10 inches. If open risers are provided, the openings shall be less than 4". IRC 311.7.5.1
 - A22. Landings shall have a minimum dimension measured in the direction of travel of 36 inches. –IRC R311.7.6.
 - A23. Show 1/2" gypsum board on walls and soffits under a stairway with enclosed accessible space. -IRC R302.7
 - A24. Fire block stud spaces at soffits, floor and ceiling joist lines, at 10 ft vertically and horizontally, and at openings between attic spaces and chimney spaces for factory-built chimneys, and at any other locations not specifically mentioned which could afford passage for flames. –IRC R302.11

- A25. No wood shall be closer than 8 inches to earth unless separated by concrete at least 3 inches in thickness with an impervious membrane installed between the earth and the concrete. This includes decks and siding. -IRC R317
- A26. Provide a detail that shows how the joint between the wood columns and the veneer will be flushed. Keep in mind the differentials in materials. IRC R703
- A27. Specify roofing material products and Ice and Water shield. Show roof slope. -IRC Chapter 9
Include drainage.
- A28. Show 30 # felt interlaid with 18" wide strips of felt shingled between each course in such a manner that felt is not exposed to the weather between courses of shakes. Show roof valley flashing minimum 28 galvanized sheet gauge corrosion-resistant metal extending at least 11 inches from centerline each way. Show ice shield extending from the eaves to a point at least 24 inches up from inside the exterior wall line. -IRC R905.8.7
- A29. Show wood shake exposure per IRC table 905.8.
- A30. Composition shingles shall not be installed on roofs having a slope less than 4 to 12 unless double underlayment is installed in accordance with IRC Section R905.2.2.
- A31. Asphalt shingle, clay and concrete tile, metal shingle, mineral-surfaced roll roofing, slate and slate-type shingle, wood shingle, and wood shake roof materials require an ice barrier that extends from the edge of the eaves to a point not less than 24 inches inside the exterior wall line of the building. -IRC R905
- A32. Accessible below-floor areas shall be provided with a minimum 18" x 24" access opening. IRC R408.4. For access to mechanical equipment in these areas see IRC M1305.1.4.
- A33. Show cross ventilation for enclosed attics and spaces between rafters for each separate space. Ventilating openings shall be protected against the entrance of rain or snow. The total net free ventilating area shall not be less than 1 to 150 of the area of the space ventilated. This may be reduced to not less than 1 to 300 if: (1) openings are provided in the upper and lower portions of the ventilated space, OR, (2) a 1 perm vapor barrier is installed on the warm side of the ceiling. -IRC R806
- A34. Unvented conditioned attic assemblies and unvented roof assemblies shall comply with R806.5.
- A35. Show a minimum 22" x 30" attic access in a hallway or other readily accessible location. -IRC R807. See M1305.1.3 for access to furnaces and other mech. equipment in attics.
- A36. Provide listing (approval) number for fireplace stove, fireplace insert, or shower steamer appliance. -IRC M1302.1

- A37. Include a cross-section detail of the firewalls for townhouses on Party walls and "Zero" lot lines. -IRC R302.
- A38. Show minimum of 2 inch thick redwood planks for deck if deck joist spacing is 16" on center or greater. Nominal 1" thick planking shall not be used where deck joists are spaced greater than 12" on center. -IRC R502
- A39. Show exterior grade plywood or other approved exterior materials for soffits. -IRC R703.
- A40. Exterior siding shall comply with R703. Provide a detail on plans.
- A41. Show 24-inch on-center blocking for vertical siding. -IRC Table R703.4 footnote J
- A42. Provide information on the plans demonstrating compliance with the City of Louisville Energy Code such as R Values, U factors and solar heat gain coefficients, area weighted U factor, mechanical system design, mechanical and service water heating systems and equipment size and efficiencies, equipment and system controls, duct sealing and piping insulation and air sealing details. N1001.5
- A43. Stair tread nosing: The radius of curvature at the leading edge of the tread shall be no greater than 9/16 inch (914.3 mm). A nosing not less than ¾ inch (19 mm) but not more than 1 ¼ inches (32 mm) shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projection by more than 3/8 inch (9.5 mm) between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed ½ inch (12.7 mm). Risers shall be vertical or sloped from the underside of the leading edge of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. R311.7.5.3
 - A. A nosing is not required where the tread depth is a minimum of 11 inches (254 mm).
 - B. The opening between adjacent treads is not limited on stairs with a total rise of 30 inches (762 mm) or less. Note: This means that concrete stairs, without nosing's, must have a tread depth of 11 inches.
- A44. Show a minimum 4-mil polyethylene vapor retarder over the insulation on the inside (warm side) of all exterior walls and roof ceilings or which system is going to be used. -IRC R702.7
- A45. Exterior walls shall provide the building with a weather-resistive exterior wall envelope. Provide weather-resistive barrier flashing details for windows, door and other openings in the building envelope, include manufacturer's installation instructions. **Also provide flashing details for over doors, windows, sills, at foundation, columns, and other locations requiring flashings. R703.2**
- A46. Show the location of the clothes washer and dryer. -IRC R106

- A47. Tubs and showers with tiled walls require a Portland cement application, fibered-cement or glass mat gypsum backer; green board is no longer allowed in this application.
- A48. Show on the drawings that inspections are required for all stucco and EIFS systems. Provide product specifications and ICBO Evaluation Report (or equal) for any stucco or EIFS system used. -IRC R109.1.5
ICC ES report.
- A49. Show that window wells will provide a minimum net clear opening of 9 sq ft with a minimum dimension of 36 inches. Show a permanent ladder if window well is more than 44 inches deep. -IRC R310.2
- A50. Provide fire assembly construction details and approval listings for dwelling unit separations and exterior walls with a fire separation distance less than 3 feet. IRC R302.1 Note: If a fire sprinkler system is required, it may be substituted for the fire assembly of some of the exterior walls per table R302.1
- A51. Snow shedding: If the setback from any property line is less than 10 feet, or if snow shedding occurs over any exit door, site plans and building designs shall resolve snow release issues to the satisfaction of the Chief Building Official. Solutions must minimize the impacts of snow shedding on adjacent properties and/or improvements.
- A52. Showers shall have doors sized to provide a minimum of 22" inch net clear opening. P2708.1.1. Also, hinged shower doors shall open outward. P2708.1
- A53. No Deferred Submittals for Residential Projects
- A54. Sills of exterior windows which are located more than 6 feet above grade, and less than 24 inches above the interior floor surface must meet some new requirements. The area of the window less than 24 inches above the interior floor surface must now be fixed or have an opening or a guard which does not allow the passage of a 4 inch diameter sphere. R312
- A55. A permanent certificate shall be posted on a wall in the space where the furnace is located or a utility room or electrical panel (must not cover obstruct the visibility of circuit directory) predominant R-values of insulation installed in or on ceiling /roof, walls, foundation, (slab, basement wall, crawlspace wall and /or floor) and ducts outside the conditioned spaces; U-factors of windows, and the solar heat gain coefficient of windows. The type and efficiency of heating, cooling and service water heating equipment shall also be listed. Note: The listing of the electrical panel will not allow you to drill or modify the panel or cover in any way to accomplish this. IRC N1101.14
- A56. Define the location of the thermal envelope.
- A57. Projects with a HERS report shall require a final approved and signed off RESNET energy report demonstrating compliance with the approved HERS rating.

Additional Architectural Comments

STRUCTURAL:

Note: On Plans Note that City of Louisville is Seismic Design Category B, Snow Load of 30 Lb psf, Wind Load of 145 mph 3 sec Exposure B, Frost Depth of 36",

- S1. Consider all snow loads on the roof; i.e., sliding snow, wind drift, doubled eave loads, unbalanced loads and impact loads. Show these areas and loads on the roof plan drawing by shading or cross-hatching. **Engineer's design criteria shall state a min of 30 lb. snow load, unbalanced loads, sliding and impact loads.** –IRC R301.1
- S2. Provide wall bracing and shear wall schedule.
- S3. Show solid blocking at bearing points on floor joists or rafters. –IRC R502.7
- S4. Justify size and spacing of floor joists, especially those carrying additional loads from partitions and roof loads. –IRC R501.2
- S5. Show T&G underlay-grade plywood and nailing schedule for subfloor if there is not additional particleboard. –IRC R503.2
- S6. Show size, spacing and direction of ceiling joists in all rooms.
- S7. Show roof sheathing rating and nailing schedule as per engineering design, or minimum 7/16", 40/20 rating if no professional design is provided.
- S8. All lumber in contact with concrete or masonry including ledgers, furring walls and structural supports for exterior decks must be preservative treated or foundation-grade redwood. -IRC R317.
- S9. Show grade, species, size, and spacing of wall studs. Specify types of interior and exterior wall surfaces.
- S10. Exterior walls more than 10' high should be investigated to determine the ability of the studs to resist the required wind loads, combined with any axial loads. See IBC 2306.
- S11. Show size, slope, spacing and span of rafters. Justify with Calculations.

- S12. Show hurricane ties on all rafters and trusses. –IRC R802.11.1.
- S13. All structural Connections need to be detailed and called-out on the plans: Truss to plate, truss to truss, rafter to plate, truss to beam, beam to plate, beam to beam, beam/truss/rafter to column.
- S14. All structural masonry walls are to be professionally designed in accordance with accepted engineering practice. –IRC R301. Masonry walls not requiring professional design shall be detailed and specified in accordance with IRC R603.9.5.1 for Seismic Design Category B.
- S15. Masonry Fireplaces: Combustible material shall not be placed within 2 inches of fireplace smoke chamber or chimney walls. Combustible material shall not be placed within 6 inches of the fireplace opening. No such combustible material within 12 inches of the fireplace opening shall project more than 1/8" for each 1" distance from such an opening. –IRC R1003.18 and R1001.11
- S16. Masonry Fireplaces: Show fireplace plan and section views. Show vertical and horizontal reinforcing steel. –IRC R1003
- S17. Provide ½" airspace at tops, sides and ends of girders entering exterior concrete or masonry walls unless woods resistant to decay are used. –IRC 317.
- S18. Chimneys shall extend at least 2 feet higher than any portion of a building within 10 feet, but shall not be less than 3 feet above the point where the chimney passes through the roof. –IRC R1003.9
- S19. Provide a cross-section of the masonry veneer that includes thickness of total masonry, attachment methods, nailing schedules, ledger sizes and attachment methods, furring details, weather-barrier membrane, etc.
- S20. Note on plans: Special inspection is required for field welding and high strength bolting. 2018 IBC, per Chapter 17
- S21. Call out on the cover sheet of the plans, that any field welding or torch work, will require a separate "hot work" permit prior to beginning work. IFC 105.6.11.
- S22. In specification criteria state wood species used for structural lumber. Make sure this information matches what is on plans.
- S23. All exterior decks need to be engineered
- S24. Call out "naturally durable wood, or wood that is preservative-treated" for the structural members for exterior decks. R317.1.3
- S25. Specify lumber grade and species in accordance with the IRC span tables for light framing where professional design is not provided.
- S26. Show size, spacing, spans, and directions of floor joists, beams, girders and posts.

- S27. Show the framed basements walls floated a min of 1 ½ inches

Additional Structural Comments:

ELECTRICAL:

- E1. **Note on plans: All electrical installations shall comply with the 2018 IRC, 2023 NEC**
- E2. All receptacles serving kitchen countertops, in garages, baths, unfinished basements and outside receptacles shall be GFCI protected. -IRC E3902
- E3. Lights in closets must comply with the clearance dimensions of IRC E4003.12.
- E4. Electrical panels must comply with IRC E3405 for 30" by 36" working space and 6'-6" headroom. Show location.
- E5. Show smoke detectors and CO detectors conforming to IRC section R314. All levels, all bedrooms, access to all bedrooms and in all rooms with sloped ceilings next to halls serving bedrooms. All detectors shall be hard-wired to power, interconnected to each other, and have battery backup.
- E6. Show at least two outside grade level receptacles – one in the front yard and one in the rear yard. -IRC E3901.7. Reference at deck locations.
- E7. All branch circuits that supply electrical in bedrooms need to be provided with arc-fault protection. Show this on plans. IRC E3902.11. More than just the bedrooms are required to be arc-fault protected.
- E8. Carbon Monoxide detectors shall be installed in each habitable level and no greater than 15 feet from the bedroom door or within the bedroom if a gas fired appliance is used in the bedroom or connected room off of the bedroom if a dwelling unit is equipped with a fuel burning appliance. R314 as amended by state and local authority.
Per HB09-1091
- E9. Hot tub and spa installations and location shall comply with Chapter 42 & NEC 680.
- E10. Electrical panels penetrating the garage side gypsum board membrane shall be wrapped with 1/2" Type X gypsum board on the top, bottom, sides and back. Table R302.6

PLUMBING:

- P1. **Note on plans: All plumbing installations shall comply with 2018 IRC.**
- P2. Show location of gas and electrical meters in an area that is protected from snow and ice damage.
- P3. Show tank type water closets with a flow rate of not more than 1.6 gallons per flush. -IRC R2903.2
- P4. Show showerheads with a flow rate of note more than 2.5 gpm. -IRC P2903.2
- P5. Show non-freeze type backflow preventer hose bibs. -IRC P2902.3.3, P2603.6
- P6. Show a minimum of one 3" vent through the roof.
- P7. Show location of expansion tank on the culinary water system. -IRC P2903.4
- P8. Show location of access for whirlpool type tubs. **No grouted tile access allowed.** -IRC P2720, E4109.3
- P9. Show 21" clearance in front of water closet. Show a full 30" wide finished space for water closet. -IRC R2705
- P10. Showers shall be finished to a height of not less than 72 inches above the floor. Material shall be non-absorbent. -IRC R307.2
- P11. Show location of water heater and heating equipment. -IRC G2406
- P12. Show a floor drain by the water heater. Show a metal pan under the water heater or steam shower equipment if located on a wood floor. -IRC P2801
- P13. State on the cover sheet of the drawings the number of 'backflow preventers' to be installed in the Work. Remember to include the lawn sprinkler system, fire sprinkler system, number of boilers, etc. -IRC P2902
- P14. Two fixture count forms required, one for existing fixtures and one for proposed.

MECHANICAL:

- M1. **Note on plans: All mechanical installations shall comply with the 2018 IRC & 2018 IFGC.**

- M2. Provide a comfort heating system capable of maintaining 68° F at a point 36 inches above the floor in all rooms. In general equipment cannot be installed in sleeping rooms or bathrooms. -IRC R303.9
- M3. Show combustion air for all fuel-burning appliances at a minimum rate of 1 sq inch per 3000 Btu/hour input. The one opening must be in the top 12 inches of the room. Show minimum 1 inch clearance around equipment at sides and rear of the appliance. Show minimum 6 inch clearance in front of the appliance. -IRC M1701
- M4. Show gas logs and each gas appliance with a shut-off valve within 6 feet of the appliance. -IRC G2420
- M5. Fuel-burning appliances, including fireplaces, are not permitted to be installed in sleeping rooms, bathrooms, or toilet rooms unless the appliances are Direct Vent appliances. See IRC Section G2406 and IMC 303.3 for more information and the list of exceptions. **Note: All construction in Louisville is considered “unusually tight construction.”**
- M6. Fuel-fired water heaters shall not be installed in a room used as a storage closet. Non-direct-vent water heaters located in a bedroom or bathroom shall be installed in a sealed enclosure so that combustion air will not be taken from the living space. -IRC M2005.2
- M7. Appliances having an ignition source shall be elevated such that the source of ignition is not less than 18 inches above the floor in garages. Rooms or spaces that are not part of the living space of a dwelling unit and that communicate with a private garage through openings shall be considered to be part of the garage. -IRC M1307.3
- M8. Appliances located in a garage or carport shall be protected from impact by automobiles. -IRC M1307.3.1
- M9. Submit layout plans, design calculations, and product specifications for the radiant heat system. IRC R106.1. No snow melt tubing or mesh is permitted in the public right-of-way without a separate permit from the City Engineer.
- M10. Insulate heating trunk and branch supply ducts in unfinished areas, crawl spaces, attics, unheated garages, etc. -IRC N1103
- M11. Vent the dryer to the outside. Maximum length of the duct with two 90-degree elbows is 15 feet. -IRC M1502.2 Provide makeup air to laundry room. IRC G2439.4
The makeup air is only required if exhausted 200 cfm or more.
- M12. If gas pipe system is over 4 ounces pressure provide a gas piping schematic for the system. Clearly identify the operating pressure, type of piping material, size of the gas pipe, lengths of the piping runs, capacity of each appliance in Btu's/hour or cubic feet of gas per hour, identify the brand and location of each regulator, and venting of each regulator. -IRC R106.1.1 Note:

Note on cover sheet of plans that all 2/5 lb. gas pipe system meter sets requires prior approval from Excel Energy.

- M13. Natural gas service lines shall be no less than 1 inch (25 mm) in diameter. R156-56-709 (3) Note on plans.
- M14. Required make up air for a hoods that exhausts 400 and greater cfm
- M15. Show how appliance vents will pass through the structure.
- M16. HVAC Load calculations: Provide whole building load calculations using ACCA Manual J long report. Calculations must show room-by-room calculations. Calculations must reflect the values used in the Prescriptive Energy Code.
- M17. HVAC Duct Systems: Provide at least a single line duct layout with duct sizes and duct type being identified on the plans. Size all duct systems to accommodate air-conditioning. Layout must be submitted and approved prior to calling for a 4-way inspection, (deferred submittal). This should include fittings and such.
- M18. Mechanical Rooms located in the house or basement that have makeup from the outside will be considered outside the thermal envelope and will need to be insulated as an exterior area from the rest of the home and shall be sheet rocked with R-21 walls, R-38 floors, R-49 Ceiling and exterior rated door shall be fully gasketed water lines insulated and ducts shall have R-8 insulation. Unless the use of direct vent appliances are used and there is not make up air required. R402.4.4 and N1102.4.4

Additional Elec/Mech/Plumbing Comments:

Helpful Links:

<https://coloradochaptericc.org/>

Click on the box for training to show what classes are being offered from the Colorado Chapter of the ICC. This Website has building guides.

www.iccsafe.org

International Code Council – Click the box on the right hand side for job opportunities and code talk. “Click on” bulletin board and type in key words or sections from the codes for a discussion on various topics. •Check out the bookstore for a list of current publications and code related material. “Click on” ES (Evaluation Services) to find a research report on fireplaces, stucco or any other product. Free Codes are also available online from the ICC.

<https://fmac-co.wildapricot.org/>

Fire Marshal Association of Colorado

<https://apps.colorado.gov/dora/licensing/Lookup/LicenseLookup.aspx>

Department of Regulatory Agencies. Check to see if a firm or person is currently licensed or adopted codes and amendments.

www.nahb.org

National Association of Home Builders. Current up to date web site with a wide variety of information such as mold issues, affordable housing, green building practices, ect.

www.cedarbureau.org

Cedar Shake and Shingle Bureau. Information on Class A standard for fire retardant roofing products, including alternatives to wood. Impact and wind resistant information.

www.strongtie.com

Simpson Strong-Tie connectors for wood construction. Corrosion testing on connectors in contact with preservative-treated wood.

www.usgbc.org/chapters/organizing/colorado.asp

U. S. Green Building Council – Colorado Organizing Group

www.dcat.net

Development Center for Appropriate Technology

www.BuildingGreen.com

Partnership between the Natural Resources Defense Council, Enterprise Foundation, American Institute of Architects and the American Planning Association

www.fpl.fs.fed.us

Forest Service directory for salvaged or recycled materials in each state. There are roughly 1,400 companies around the country that sell salvaged/recycled materials.

<https://www.colorado.edu/ecenter/recycling/recycling/construction-and-demolition-recycling>

University of Colorado Environmental Center

▪ Construction and Demolition Recycling

Typical Insulation Certificate (printed on a 3 3/8"X 2 3/8" Avery 8395 Laser/Ink Jet self-sticking label.)

Address: _____ Date: _____

Registered Design Prof: _____

Builder: _____

Ceiling/Roof Rv: _____

Floor Rv: _____

Regular Walls Rv: _____

Foundation Furred Walls: _____

Crawl Space- Walls: _____ Floor: _____

Perimeter Slab Rv: _____

Duct Rv: _____

Window U: _____ SHGC: _____

Heating Equip. AFUE: _____

Cooling AFUE: _____ Ton: _____

Service Water Heating Equip.: _____

Other: _____

Affidavit:

I (print name) _____ understand by signing below I agree that I have noted all the requirements on my submitted set of plans and I acknowledge that failure to do so will result in the plans being returned until such requirements are addressed on the set of plans and additional plan review fees could added with an additional plan review wait time not limited to 2-6 weeks.

Signature: _____ Date: _____