Section numbers refer to the 2018 International Residential Code (IRC), as modified, unless otherwise noted. Revised Effective Sept. 5th, 2018

FOUNDATIONS
1. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6 inches within the first 10 feet (§ R401.3)

2. Footings and foundations shall be supported on undisturbed natural soils, or engineered & tested fill, and shall accommodate all imposed loads. (§ R403.1) (§ R401.2)

3. Footings shall extend 42 inches below finished grade for frost protection (§ 403.1.4.1)

4. Foundation walls shall extend above the finished grade adjacent to the foundation a minimum of 6 inches (4 inches where masonry veneer is used) (§ R404.1.6)

5. Foundation anchor bolts shall be at least ½” in diameter and shall extend a minimum of 7” into concrete, spaced maximum 6’ on center and within 12” of ends of plates. Anchors or straps other than specified above shall be approved, spaced as required to provide anchorage equivalent to the ½ “ diameter bolts and installed per the model code evaluation report and the manufacturer's instructions. (§ R403.1.6)

6. Foundation walls shall be selected and constructed in accordance with the provisions of Section R404.1.3. Masonry foundation walls shall be selected and constructed in accordance with Section R404.1.2.

7. Foundation Drainage for Concrete Basement Foundations:
   • Drainage tiles, gravel or crushed stone drains, perforated pipe, or other approved methods or materials shall be installed at or below the area to be protected. Foundation drains shall discharge to a sump pit located inside the building or discharge to daylight on the same property at an approved location. Sump pits shall be sealed. (§ R405.1 as modified by Section 105.17(23) of the Linn County Construction Regulations)

8. Basement walls shall be dampproofed. (§ R406.1) (In areas where high water table or other severe soil-water conditions are known to exist, the walls shall be waterproofed). (§ R406.2)

TREATED WOOD
9. Pressure preservatively Treated Wood is required for:
   • Wood joists closer than 18” or wood girders closer than 12” to ground; All sills or plates that rest on concrete exterior walls less than 8 inches above finished grade; Plates on a concrete slab in direct contact with the ground; Wood siding, sheathing & exterior wall framing less than 6 inches from the ground or less than 2” from concrete steps, porches, patio slabs; Wood structural members exposed to the weather. (§ R317).
   Note: Anchors, connectors and hardware shall be approved for use with the particular wood treatment (double-dip galvanized, stainless steel, or other approved material)

FLOORS
10. Basement Concrete Floor: A 6-mil poly vapor retarder shall be installed under the slab. (§ R506.2.3)

11. Engineered Wood: Cuts, notches and holes bored in trusses, laminated veneer lumber, glue-lam members or I-Joists are not permitted unless the effects of such are specifically addressed. (§ R502.8.2)

12. LVL (Laminated Veneer Lumber) Girders, Beams, Headers shall be sized by the wood truss manufacturer. Engineer calculations may be required. LVL end bearing determined by total load & span.

13. I-Joist: Manufactured floor I-joist shall be installed in accordance with manufacturer's instructions. Layout drawing required prior to framing inspection. Minimum joist bearing is 1 ½” or as specified. (§ R502.1.2)
14. **Trusses**: Engineered floor truss design drawings and a layout drawing showing girder & hanger locations (specifying hanger type) are required prior to framing inspection. Approved anchors are required at connections and bearing points. Bracing shall be installed per engineered truss design drawings. Trusses shall not be cut, notched, spliced or altered in any way without the approval of a registered design professional. (§ R502.11)

15. **Draftstops** shall be installed when there is usable space both above and below the concealed space of a floor/ceiling assembly. Draftstops shall be installed so that the area of concealed space does not exceed 1000 square feet in approximately equal areas (§ R302.12).

**WALL CONSTRUCTION**

16. Fireblocking required in wood-frame construction to cut off concealed draft openings:
   - In concealed spaces of stud walls, partitions, & furred spaces:
   - Vertically at the ceiling and floor levels. 2. Horizontally at intervals not exceeding 10 feet.
   - At all interconnections between concealed vertical & horizontal spaces such as at soffits.
   - In concealed spaces between stair stringers at the top and bottom of the run.
   - At openings around vents, pipes, ducts at ceiling & floor level, with approved materials. (§R602.8, §R302.11)

**EXTERIOR WALL COVERING**

17. **House Wrap**: Weather-resistive barrier (building felt, house wrap or approved material) is required over exterior wall sheathing and under all siding and veneers (§ R703.2)

**ROOF / CEILING CONSTRUCTION**

18. **Trusses**: Engineered roof truss design drawings and a layout drawing showing girder and hanger locations (specifying hanger type) are required prior to framing inspection. Approved anchors required at connections & bearing points. Bracing shall be installed per engineered truss design drawings. Trusses shall not be cut, notched, spliced or altered in any way without approval of a registered design professional. Truss clips are required for all truss to wall connections. (§ R802.10)

19. **Ventilation**: Enclosed attics require soffit & roof vent free area equal to 1/300 of attic area. (§ R806.2 Exception).

20. **Attic Access**: Readily accessible opening for access 22” x 30” with 30” headroom. (§ R807.1) When accessible from conditioned space, shall be weather-striped and insulated. (N1102.2.4)

**ROOFING**

21. Roofing underlayment (felt) is required. (§ R905.1.1 (1), R905.1.1 (2), R905.1.1 (3)).

22. **Ice protection** barrier (such as a self-adhering polymer modified bitumen sheet) is required at eaves and shall extend from the eaves edge to a point at least 24” inside the exterior wall line. (§ R905.1.2)

23. Metal flashings shall be corrosion resistant, minimum .019” or 26 Gage. (§ R903.2.1)

24. Asphalt shingles shall be installed in accordance with the manufacturer’s instructions and § R905.2.

**CHIMNEYS AND FIREPLACES**

25. **Masonry** fireplaces require masonry or concrete hearth & hearth extensions with noncombustible supports. Hearth extensions shall extend 16” in front of & 8” beyond each side of the opening. For a fireplace opening ≥ 6 square feet, the hearth extension shall extend 20” in front of & 12” beyond each side of the opening. Woodwork shall not be placed within 6” of a fireplace opening. Woodwork within 12” of the opening shall not project more than 1/8” / 1” distance from such opening. (§ R1001.10, R1001.11)

26. **Factory-built** chimneys and fireplaces shall be listed, labeled and installed per conditions of the listing. (§ R1004 & R1005)
27. Factory-built or masonry fireplaces shall be provided with an exterior air supply (§ R1006).

**ENERGY EFFICIENCY**

28. Simplified Prescriptive Building Envelope Requirements:

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29. Vapor retarder shall be installed on the warm-in winter side of insulation of the above grade building thermal envelope, except basement walls, below grade portions of any wall, or where moisture or its freezing will not damage the materials. (§R702.7)

**MEANS OF EGRESS**

30. **Emergency Escape & Rescue Window:** Basements and every sleeping room shall have at least one openable emergency escape and rescue window or door opening directly to the outside. Minimum net clear openable area under normal operation shall be at least 5.7 sq. ft. (5.0 sq. ft. when sill height is no more than 44” above or below finished grade), with minimum net clear width of 20", and net clear height of 24". Finished sill height shall be not more than 44" above the floor. (§ R310.1)

31. **Window wells** for below grade emergency escape and rescue windows shall provide a minimum net area of 9 square feet with minimum dimension of 36 inches. (§ R310.2.3)

32. **Hallway:** Minimum width for a hallway is 3 feet. (§ R310.6)

33. **Egress Door:** One 3'-0" (32" clear @ 90 degrees) x 6'-8" side hinged exterior exit door that does not pass through the garage is required. (§R311.2)

34. **Landings at doors.** There shall be a floor or landing on each side of each exterior door.
   - Exception: Where a stairway of one tread and two risers is located on the exterior side of a door, other than the required exit door, a landing is not required for the exterior side of the door.
   - The landing at an exterior doorway shall not be more than 7-3/4 inches below the top of the threshold, provided the door, other than the storm door does not swing over the landing.
   - The width of each landing shall not be less than the door served and shall have a minimum dimension of 36 inches in the direction of travel. (§ R311.3)

35. **Type of lock or latch.** All egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. (§R311.2)

36. **Stairways**
   - **Width** Minimum clear above handrails of 36 inches. (§ R311.7.1):
   - **Treads** (net run) minimum 10 inches deep (§ R311.7.5.2)
   - **Risers** not greater than 7¾ inches in height (§ R311.7.5.1)
   - Tread or riser variance shall not exceed 3/8 inch within any flight of stairs.
   - **Profile** A nosing not less than ¾ inch & not more than 1 ¼” required on stairways with solid risers. Open risers are permitted, provided the opening between treads does not permit the passage of a 4” diameter sphere. (Exception for exterior stairs) (§ R311.7.5.3).
   - **Headroom** shall be not less than 6 feet, 8 inches. (§ 311.7.2)
   - **Landing** is required at the top and bottom of stairways. (Except for top of interior stairs). (§ R311.7.6; 311.8.2)

37. Enclosed accessible **space under stairs** requires ½ inch gypsum board on enclosed side. (R302.7)

38. **Illumination:** Interior and exterior stair illumination is required (§ R303.7 & R303.8).
39. Handrails
   - A continuous handrail is required on one side of the stairway with top of handrail 34" - 38" above nosing of treads with ends returned to wall or terminated in post.
   - Approved rail shape 1-¼” – 2-¾” cross-sectional dimension or circular shape diameter of 1-¼” – 2”.
   - Handrails adjacent to wall shall have a space of at least 1 ½ inches between wall and rail. (§ R311.7.8)

40. Guards for decks, porches, floors, stairs, and ramps which are more than 30” above grade or floor below.
   - Not less than 36" in height (34” open sides of stairs)
   - Rails spaced so a 4” diameter sphere cannot pass through (4-3/8” on the open sides of stairs). (§ R312)
   - Insect screening shall not be considered as a guard (§R312.1)

SAFETY GLAZING

41. Safety Glazing is required in the following locations: (§R308 & section 105.17 (16) of the Linn County Construction Regulations):
   - Glazing in doors; Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge of the glazing is within a 24- inch arc of either vertical edge of the door in a closed position and where the bottom exposed edge of the glazing is less than 60 inches above the floor or walking surface shall be considered a hazardous location.; Window panels with area > 9 sq. ft., bottom edge < 18” above floor & top edge > 36” above floor.
   - Glazing in doors and enclosures for hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers, & in windows with bottom exposed edge of glazing less than 60” above any standing or walking surface;
   - Glazing adjacent to stairways, landings & ramps when the glass is < 36” above the adjacent walking surface; glazing adjacent to stairways within 60” of the bottom tread of a stairway in any direction.

FIRE SAFETY

42. Smoke Alarms shall be located in each sleeping room, each hall or area giving access to sleeping rooms and in each additional story including basement. Smoke Alarms shall be powered by house wiring with battery backup and alarms interconnected. Smoke Alarms shall be dual sensor (per State of Iowa Law) and shall be listed and installed per approved manufacturer’s instructions and NFPA 72. (§ R314)

43. Carbon Monoxide Alarms shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms (§R315).

44. Garage
   - Shall not open directly into a room used for sleeping purposes. (§ R302.5.1)
   - 1-¾ inch solid wood door, solid or honeycomb core metal door or 20-minute fire-rated door required between the garage and dwelling. (§ R302.5.1)
   - Shall be separated from the dwelling with ½” gypsum board applied to the garage side. Garages beneath habitable rooms shall be separated from all habitable rooms above by not less than 5/8” Type X gypsum board & the structure supporting the separation shall be protected by not less than ½” gypsum board. (§ R302.6)

45. Insulation including facings, when not enclosed in concealed spaces, shall have a flame spread index ≤ 25 & smoke developed index ≤ 450. (Kraft faced insulation must be covered by ½” gypsum board). (§ R302.10.1)

46. Foam plastic insulation shall be separated from the interior of the building by minimum ½” gypsum board or an approved finish material equivalent to a 15 minute thermal barrier. (§ 316.4)

GENERAL REQUIREMENTS

47. The minimum ceiling height for habitable rooms in general is 7 feet. Bathrooms, toilet rooms, and laundry rooms shall have a ceiling height of not less than 6’8”. (§ R305.1).

48. Minimum clearance for toilets is 21” in front & 15” from side to centerline of the toilet. (§ 307.1)

49. Bathroom mechanical ventilation ≥ 50 cfm for intermittent or 20 cfm for continuous operation. Discharge directly to outside air at least 3’ from any opening into house. (§ M1505.4.4)
50. **Basement Finishing Requirements** for any work not specifically covered by the current active permits. The following are required when applicable as they relate to work done at any time to finish off portions of the basement, including partitions, drywall, and other work:
   - Additional Building Permit; Electrical, Mechanical & Plumbing Permits; Emergency Escape & Rescue Window or door in any sleeping room; Minimum ceiling height of 7’ 0”; Smoke Alarm in any sleeping room and area leading to sleeping rooms; Outdoor ventilation air for habitable rooms by openable windows or mechanical ventilation. (§ R105)

51. **Plumbing** per Linn County Plumbing Regulations. A separate permit is required.

52. **Whirlpool Access:** A removable panel is required to provide access to the pump motor and electrical wiring (12” X 12” or 18” X 18” minimum, depending on distance from motor to access panel) (§P2720.1)

53. **Heating Ventilating, Air Conditioning** per Linn County Mechanical Regulations. A separate permit is required.

54. **Combustion Air:** Provide adequate combustion air for fuel burning appliances (furnace and water heater).

55. **Electrical Installations:** Per Linn County Electrical Regulations. A separate permit is required.

56. **Working Clearance** in front of electrical service panel shall be a minimum 30” wide x 36” deep, maintained free from any obstruction including pipes, ducts, & sump pit. Linn County Electrical Regulations.

57. **Passive Radon System** required per IRC Appendix F. Subslab and/or submembrane system, 3” min. PVC or ABS Vent, electrical receptacle in attic for future fan/system activation. Seal cracks, joints, and penetrations in membrane or slab.