

## Residential Plan Review for New One and Two Family Dwellings

Planning and Development Services Department

[www.opkansas.org](http://www.opkansas.org)

The following is a list of items that are normally included in a set of construction drawings for one and two family dwellings. The items in **bold** depict those items that will be reviewed for during the plan review process.

Two sets of construction documents shall be submitted at the time of permit application. The construction documents shall include plot plans. The construction documents shall be as follows:

- Minimum plan size 18" x 24"
- Drawn to scale: floor plans minimum 1/4" scale; elevations minimum 1/8" scale
- Plans shall be sealed by a licensed Kansas architect or engineer

Requirements for plot plan submittal can be found at (<http://www.opkansas.org/Documents-and-Forms/Detail/Plot-Plan-Requirements>).

### GENERAL

1. **Provide a note on the construction documents stating that plans were designed and reviewed in accordance with the 2006 IRC as adopted by the City of Overland Park.**
2. **Plans shall provide exterior elevations of each side of the building. The elevation drawings shall be coordinated with the plot plan at walk out, daylight window, and minimum low opening locations.**
3. **Plans shall show a floor plan of each floor with dimensions and use of each room or area. The floor plans shall be coordinated with the plot plan for walkout and daylight window locations.**
4. **Plans shall indicate the height of all ceilings.**
5. Plans shall indicate the total square footage of each floor level including the basement, garages, covered porches and balconies.
6. Plans shall indicate the location of the building furnace and water heater.

7. Plans shall include a note that all exterior doors, including the door leading from the garage to the dwelling unit, shall incorporate the physical security provisions of Section 16.110.328 of the Overland Park Municipal Code.
8. Plans shall indicate that the dwelling shall comply with the following load conditions:

Area	Minimum Dead Load	Minimum Live Load
Exterior balconies	10	60
Decks	10	40
Ceiling joists/attics w/o storage scuttle access only	10	10
Ceiling joists/attics w/storage-door/pull down ladder access	10	20
Rooms-non-sleeping	10	40
Sleeping rooms	10	30
Roof-light roof covering	10	20
Roof-heavy roof covering- concrete/tile/slate	20	20

## FOUNDATION

9. **The plan shall note that foundation design shall comply with one of the following:**
  - **Johnson County Residential Foundation Guideline**
  - **Chapter 4 of the 2006 IRC**
  - **ACI 318**
  - **ACI 332**

**Plans submitted in accordance with ACI 318 shall include structural analysis as well as construction details.**

10. Indicate on the plans that the foundation walls shall be damp-proofed or water proofed (*2006 IRC Section R406*). When the foundation is specified to be waterproofed, details or notes for waterproofing shall be provided.
11. Plans shall note how foundation drainage is to be addressed, e.g., provide a minimum 4 inch perforated drain around usable space below grade or other equivalent materials. The pipe shall be covered with not less than 6 inches of washed gravel or crushed rock. The drains shall daylight to the exterior below floor level or terminate in a minimum 20-gallon sump pit.

12. The plan shall indicate that footings shall extend below the frost line - minimum depth 36 inches below grade is required in Overland Park, Kansas.
13. The plan shall note the minimum size of footings. Footing details shall show that the footings are provided with two continuous #4 bars.
14. **The plan shall indicate the location, size and construction details for column pads and interior footings. Loads imposed on column pads shall be provided and indicated in Kips. Loads imposed on interior footings shall be in pounds per lineal foot.**
15. The plan shall note and detail the location of all foundation wall reinforcements.
16. The plan shall note that interior footings for load bearing walls and columns shall be isolated from the basement floor slab.
17. The plan shall note that anchor bolt spacing shall not exceed 3 feet on center with 7" minimum embedment into concrete.
18. **Braced wall panels having hold down devices that are anchored into the foundation shall have a detail on the foundation plan sheet that identifies the type of device, and shows the dimensions for the location of the anchors.**
19. **Plans having foundations designed in accordance with the Johnson County Foundation Guideline shall indicate the location of all return walls. Construction details for such walls shall be provided.**
20. The plan shall provide construction details for all floor slabs which are not supported by fill consisting of 24 inches or less of granular fill or 8 inches of earth. Where applicable, garage floor slabs and certain over dig situations may be constructed in accordance with *Johnson County Residential Foundation Guidelines* (applicable notes and details shall be provided).
21. **The plan shall provide construction details for openings in foundation walls. Foundation window wells for emergency means of egress and rescue shall provide a minimum 3' x 3' open horizontal area (2006 IRC R310.2).**

## STAIRWAYS

22. Indicate on the plan that stairways shall provide a maximum 7-3/4 inch riser and minimum 10-inch tread (*IRC 2006 R311.5.3*).

23. Winding stairs and their associated floor openings shall be fully dimensioned and detailed. Include a dimensioned elevation drawing and a drawing indicating the tread dimension at the 12 inch walk line.

### **GLAZING (hazardous locations)**

24. The plan shall note the location of all glazed openings requiring safety glazing. The plan shall further note the type of glazing and the safety standard for the glazing (2006 IRC Section R308.4).

### **EMERGENCY EGRESS AND RESCUE**

25. The plan shall note the location of the emergency egress and rescue window in each bedroom. A note or detail shall be provided which indicates that the emergency egress window shall have a minimum open-able area of 5.7 square feet with a minimum open-able height of 24 inches and width of 21 inches. The sill height of the window shall not exceed 44 inches.

### **FRAMING**

26. **The plan shall identify all load bearing walls. Load paths must be identified from roof to foundation. Include the locations and designs for connections that transfer loads from structural element to structural element. Interior truss loads shall be indicated on the plans. *Indicate the load on bearing walls in pounds per lineal foot and indicate point loads in kips.***
27. **Wood framed walls that exceed the prescriptive height allowances in IRC Tables 602.3(5) and 602.3.1 will require an engineered design. Submit deflection calculations for walls 18 feet tall and taller.**
28. **The plan shall denote the size, span, spacing and grade identification of all floor joists, ceiling joists, purlins and roof rafters.**
29. **For I-joist construction, specify the type and size and submit a layout plan.**
30. **Where floor or roof trusses are used, submit truss designs and layout plans which bear the seal of a licensed Kansas Design Professional. *(Deferred submittals are allowed but must be submitted prior to installation.)***
31. **The plan shall denote the size, span and material type of all beams, hip rafters and valley rafters. Loads imposed on these structural members shall be provided. Point loads shall be shown in kips. Uniform loading shall be in pounds per lineal foot.**

32. **Column size, location and materials identification for determining code compliance must be shown on the plans. *The loads on columns shall be indicated in kips.***
33. **The plan shall identify the location of interior and exterior braced wall lines. The type, size and location of individually braced wall panels shall be identified. Construction details for each braced wall panel type shall be provided (2006 IRC Section R602.10).**
34. **The plan shall show a fastener schedule for structural members. The schedule shall include fasteners that are commonly used in nail guns. See ICC ES Report 1539.**

## **GARAGE**

35. Plans shall note that garage vehicle doors and frames shall be designed and installed to meet the 90 mph wind load resistance requirements of DASMA 108 and ASTM E 330-96 (2006 IRC R301.2.1).

## **ENERGY REQUIREMENTS**

36. **The plan shall note that the dwelling must meet or exceed the minimum requirements of 2006 IRC Table N1102.1 (1).**

<b>Ceiling R-value</b>	<b>R-38</b>	<b>Exterior wall</b>	<b>R-13</b>
<b>Cathedral Ceiling R-value</b>	<b>R-30</b>	<b>Crawl space wall</b>	<b>R-19</b>
<b>Floor over unheated space</b>	<b>R-19</b>	<b>Glazing</b>	<b>U ≤ 0.40</b>
<b>Floor over outside air</b>	<b>R-30</b>	<b>N/A</b>	
<b>Ducts outside of the conditioned space</b>	<b>Supply and Return</b>		<b>R-8</b>
	<b>In floor and ceiling assembly</b>		<b>R-6</b>
<b>Basement wall</b>	<b>R-13 Insulation concrete walls adjacent to finished space.</b>		
<b>On grade trench footings</b>	<b>R10, R15 for heated slabs</b>		

a. Default U-factor for double pane, argon filled low-e treatment is U = 0.40. For all skylights use U-factor = 0.60.

2. In lieu of the prescriptive measures found in 2006 IRC Table N1102.1(1), calculations using ResCheck compliance software may be submitted. Details or a table showing the minimum insulation values will need to be provided on the construction plans. Note: ResCheck requires the basement walls to be insulated. ResCheck can be downloaded for free from: <http://www.energycodes.gov/rescheck/download.stm>.

37. **Provide a note on the plans that the building thermal envelope is required to be sealed (IRC N1102.4.1).**
38. **Provide a note on the plans that recessed lighting shall be sealed to prevent leakage between conditioned and unconditioned space.**
39. **Provide a note on the plans that ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed (2006 IRC Section N1103.2.).**
40. Indicate on the plans that the minimum SEER rating for the air conditioner is 13.
41. Indicate on the plans that the minimum efficiency rating for the forced air furnace is 78%.