

# Residential Deck Building Requirements

City of Jackson Missouri  
Building & Planning Department  
101 Court Street  
Jackson, MO 63755  
(573) 243-2300



Revised April 2018

## **I. Permit Process**

1. Fill out an application for plan examination and building permit which can be picked up at our office or on our website <http://www.jacksonmo.org/Information-Center/Applications-and-Forms/>
2. Attach a site plan and deck plan drawing compliant with the requirements below
3. Ensure that your contractors have a current Contractor license through the City Of Jackson

### **Site Plan**

1. All property lines, including where the property pins are located
2. All existing buildings on the property
3. Footage from proposed deck to the property lines because decks are considered an extension of the house
  - a. For zoning setback requirements refer to Chapter 65 of the Jackson City code

### **Building Plan Drawings**

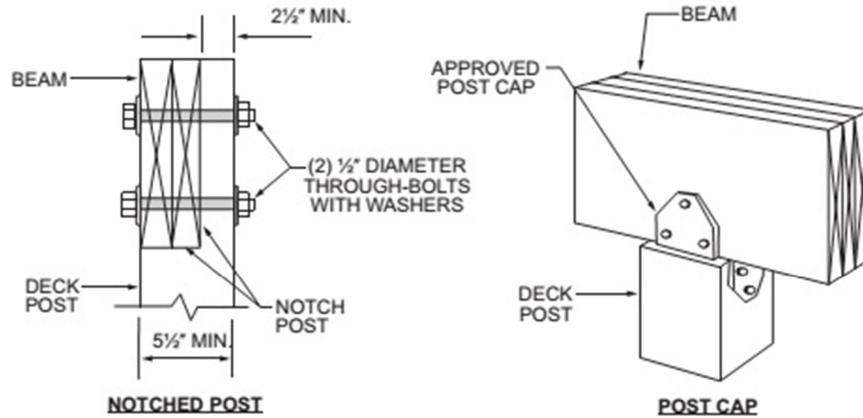
1. Proposed deck size
2. Size and depth of footings
3. Size, spacing, grade and material being used for floor joist and beams
4. Size and type of decking
5. Size, location and spacing of posts
6. Height of the deck floor from finished grade at lowest and highest points
7. Guardrail height and spacing of rails
8. Stair detail location and size if applicable
9. Roof detail if applicable
10. How ledger board will be attached

## **II. General Building Code Requirements**

1. Footings shall be designed and constructed so the bottom of the footing is at least 18" below finished grade (18" Frost line)
2. Plastic material that resist decay must be in accordance with ASTM D 7032
3. Approved wood of natural resistance to decay or treated wood shall be used for wood structures
4. Deck ledger board shall be bolted or lag bolted to the house framing and not to the brick veneering as in figure R507.2.1(1) below



8. Deck beams shall be attached to deck posts in accordance with figure R507.7.1 below. Manufactured post-to-beam connectors shall be sized for the post and beam sizes. All bolts shall have washers under the head and nut



For SI: 1 inch = 25.4 mm.

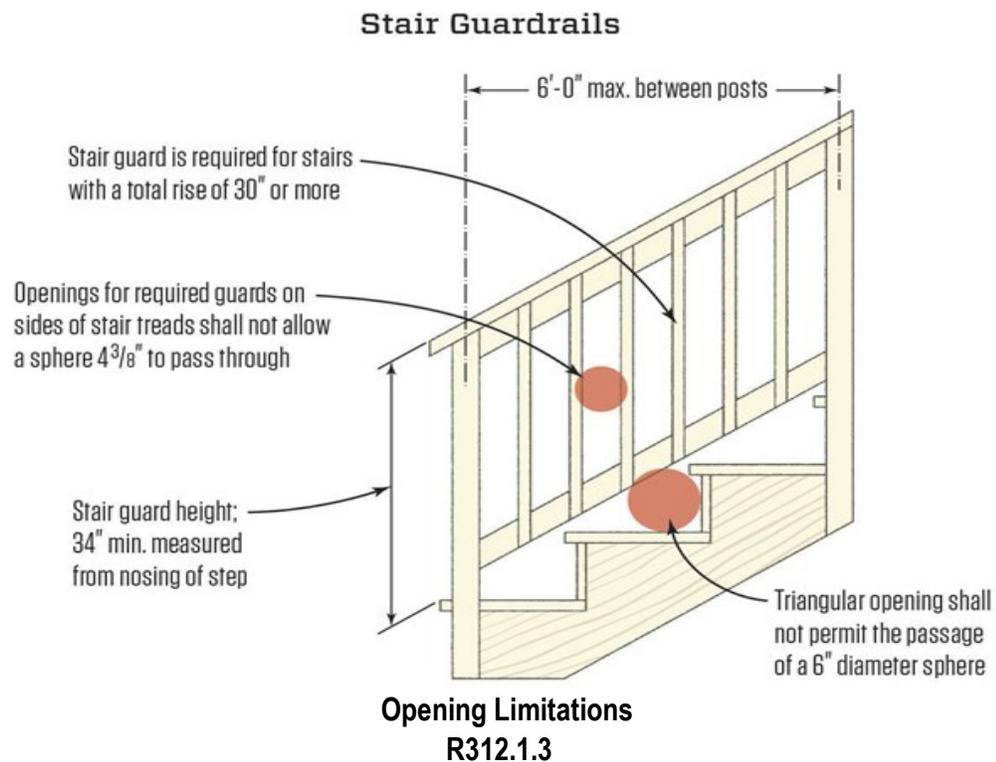
**FIGURE R507.7.1  
DECK BEAM TO DECK POST**

9. Maximum allowable spans for wood deck beams shall be in accordance with table R507.6 below. Splices in beam members shall occur over posts

**TABLE R507.6  
DECK BEAM SPAN LENGTHS<sup>a, b</sup> (ft. - in.)**

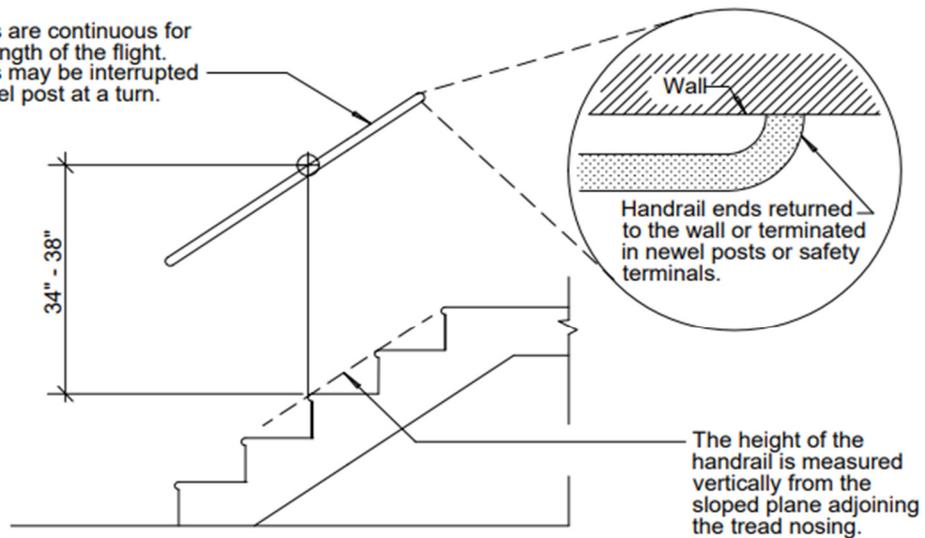
SPECIES <sup>c</sup>	SIZE <sup>d</sup>	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	2 - 2 x 6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 - 2 x 8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 - 2 x 10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 - 2 x 12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 - 2 x 6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 - 2 x 8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 - 2 x 10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 - 2 x 12	15-3	13-3	11-10	10-9	10-0	9-4	8-10
Douglas fir-larch <sup>e</sup> , hem-fir <sup>e</sup> , spruce-pine-fir <sup>e</sup> , redwood, western cedars, ponderosa pine <sup>f</sup> , red pine <sup>f</sup>	3 x 6 or 2 - 2 x 6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
	3 x 8 or 2 - 2 x 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
	3 x 10 or 2 - 2 x 10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
	3 x 12 or 2 - 2 x 12	9-8	8-5	7-6	6-10	6-4	5-11	5-7
	4 x 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8
	4 x 8	8-5	7-3	6-6	5-11	5-6	5-2	4-10
	4 x 10	9-11	8-7	7-8	7-0	6-6	6-1	5-8
	4 x 12	11-5	9-11	8-10	8-1	7-6	7-0	6-7
	3 - 2 x 6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
	3 - 2 x 8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
	3 - 2 x 10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
	3 - 2 x 12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

10. Deck post shall be 6 inch X 6 inch
11. Deck post to footing connection shall be restrained to prevent lateral displacement. Such lateral restraint shall be provided by approved manufactured connectors or a minimum post embedment of 12 inches in soil or concrete piers
12. Stairways shall not be less than 36 inches wide
13. Stair treads shall be not less than 10 inches and stair risers shall not be more than 7 ¾ inches.
14. Open stair risers are permitted provided that the openings located 30 inches above finished grade does not permit the passage of a 4 inch diameter sphere
15. Guardrails shall not be less than 36 inches in height as measured vertically above the adjacent walking surface
16. Guardrails are required for decks more than 30 inches above finished grade. Open guardrails and stair railings shall have a horizontal, vertical, or diagonal rails such that a 4 inch in diameter sphere cannot pass through



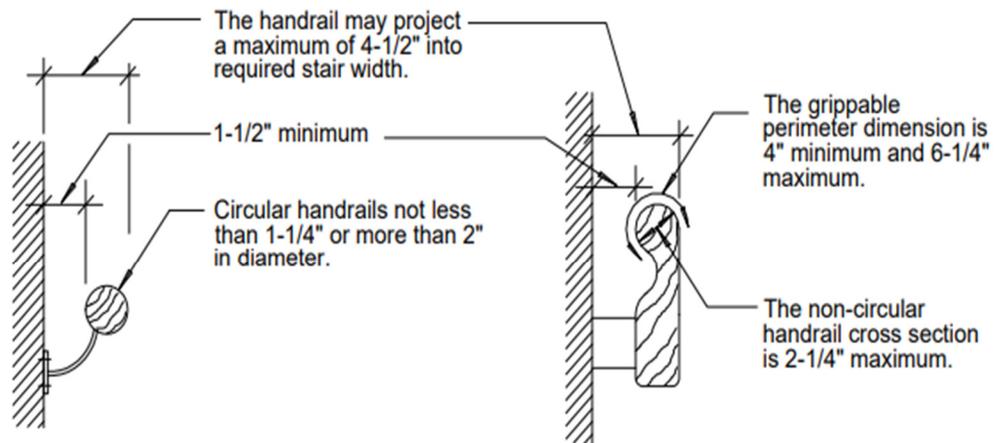
17. Handrails on the open sides of stairs shall be not less than 34 inches and not more than 38 inches

Handrails are continuous for the full length of the flight. Handrails may be interrupted by a newel post at a turn.



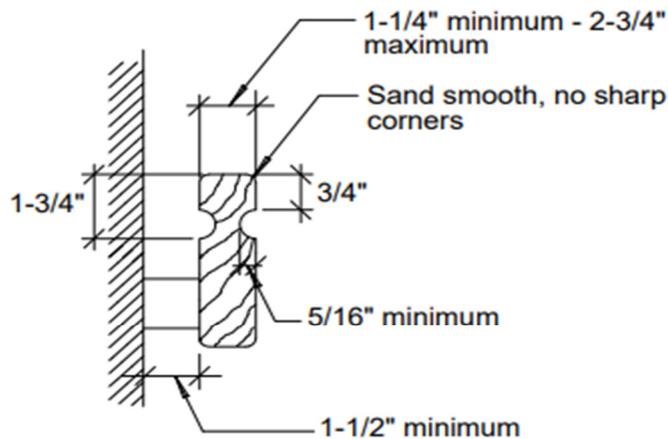
**Typical Handrail Elevation**  
**R311.7.8.1**

18. Handrails shall be provided on not less than one side of each continuous run of treads or flight with four or more risers
19. Handrails shall be of one of the following types or provide equivalent grasp-ability
- Type I. Handrails with a circular cross section shall have an outside diameter of at least 1-1/4 inches (32 mm) and not greater than 2 inches (51 mm). If the handrail is not circular it shall have a perimeter dimension of at least 4 inches (102 mm) and not greater than 6-1/4 inches (160 mm) with a maximum cross section of dimension of 2 1/4 inches (57 mm)

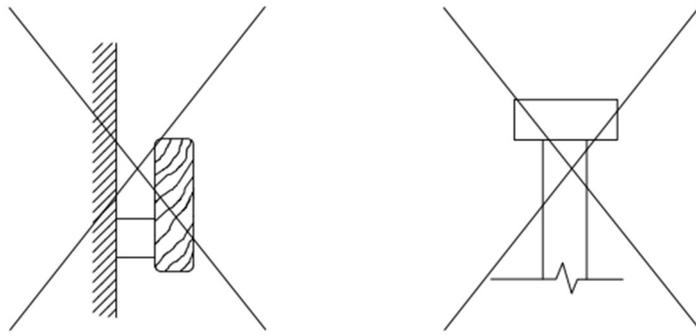


**Type I Handrails**  
**R311.7.8.3**

- b. Type II. Handrails with a perimeter greater than 6-1/4 inches (160mm) shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4 inch (19 mm) measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16 inch (8mm) within 7/8 inch (22mm) below the widest portion of the profile. This required depth shall continue for at least 3/8 inch (10mm) to a level that is not less than 1-3/4 inches (45 mm) below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1-1/4 inches (32 mm) to a maximum of 2-3/4 inches (70 mm). Edges shall have a minimum radius of 0.01 inches (0.25 mm). Edges shall have a minimum radius of 0.01 inches (0.25 mm)



**Type II Handrails**  
**R311.7.8.3**  
 (At handrails with a perimeter greater than 6-1/4")



**Unacceptable Handrails**

20. All fasteners (screws and nails) must be corrosion resistant. Only joist hanger nails or screws may be used in joist hangers in every hole (roofing nails are prohibited)