

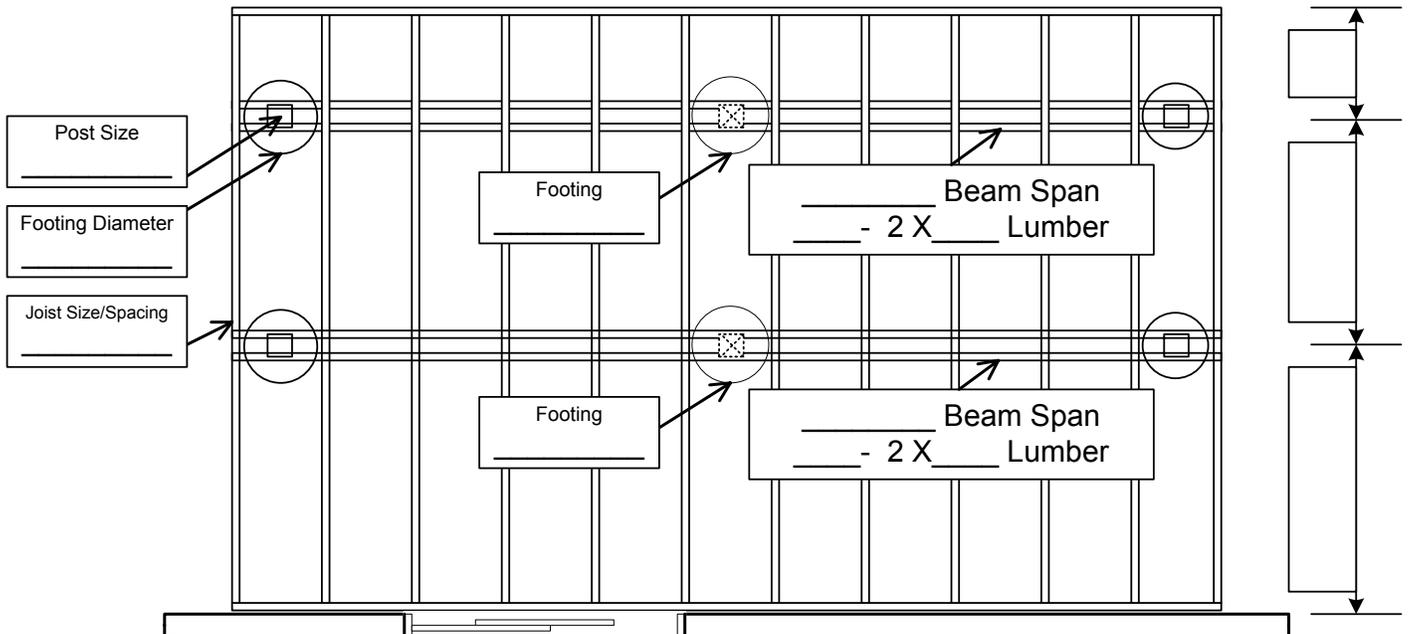
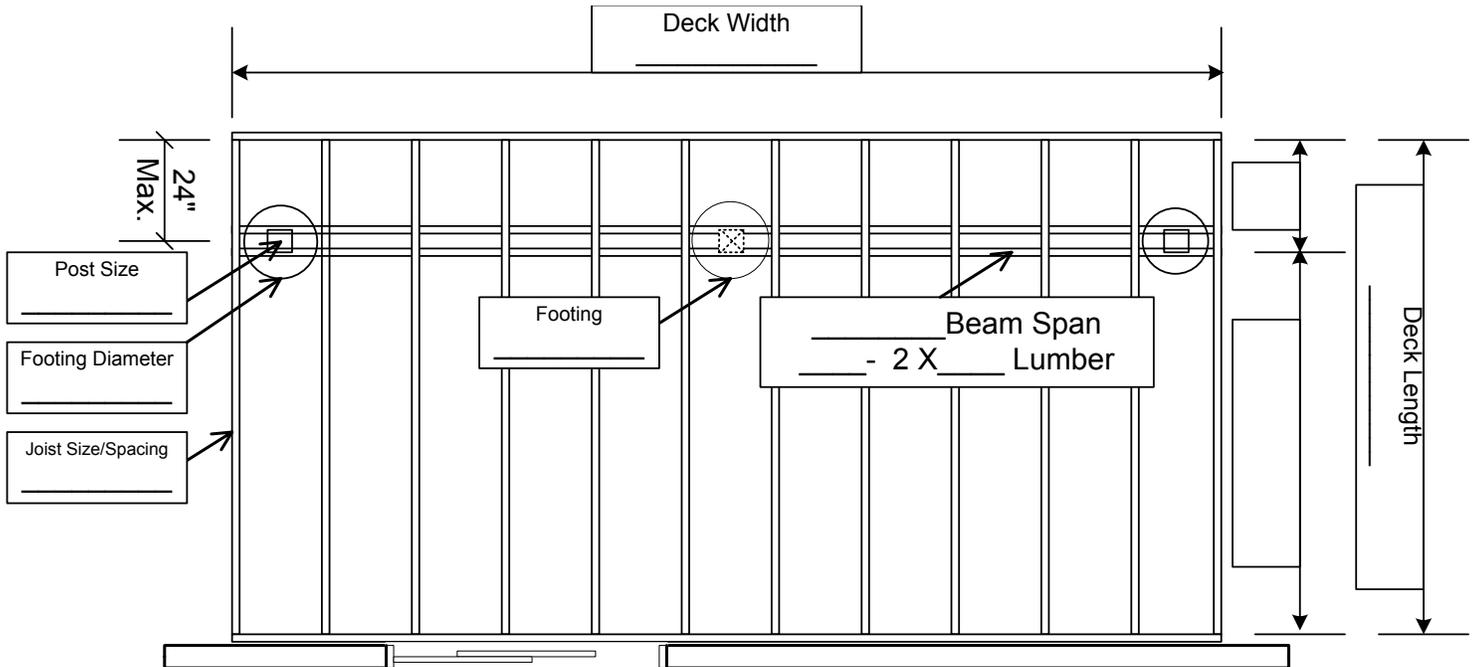


Building Division

Decks Page 1 of 8

Simple Deck Plan View

All lumber shall be approved pressure treated to .40 retention or naturally resistant to decay (cedar/redwood)
Fill in boxes with dimensions and sizes



Deck Span and Dimension Table

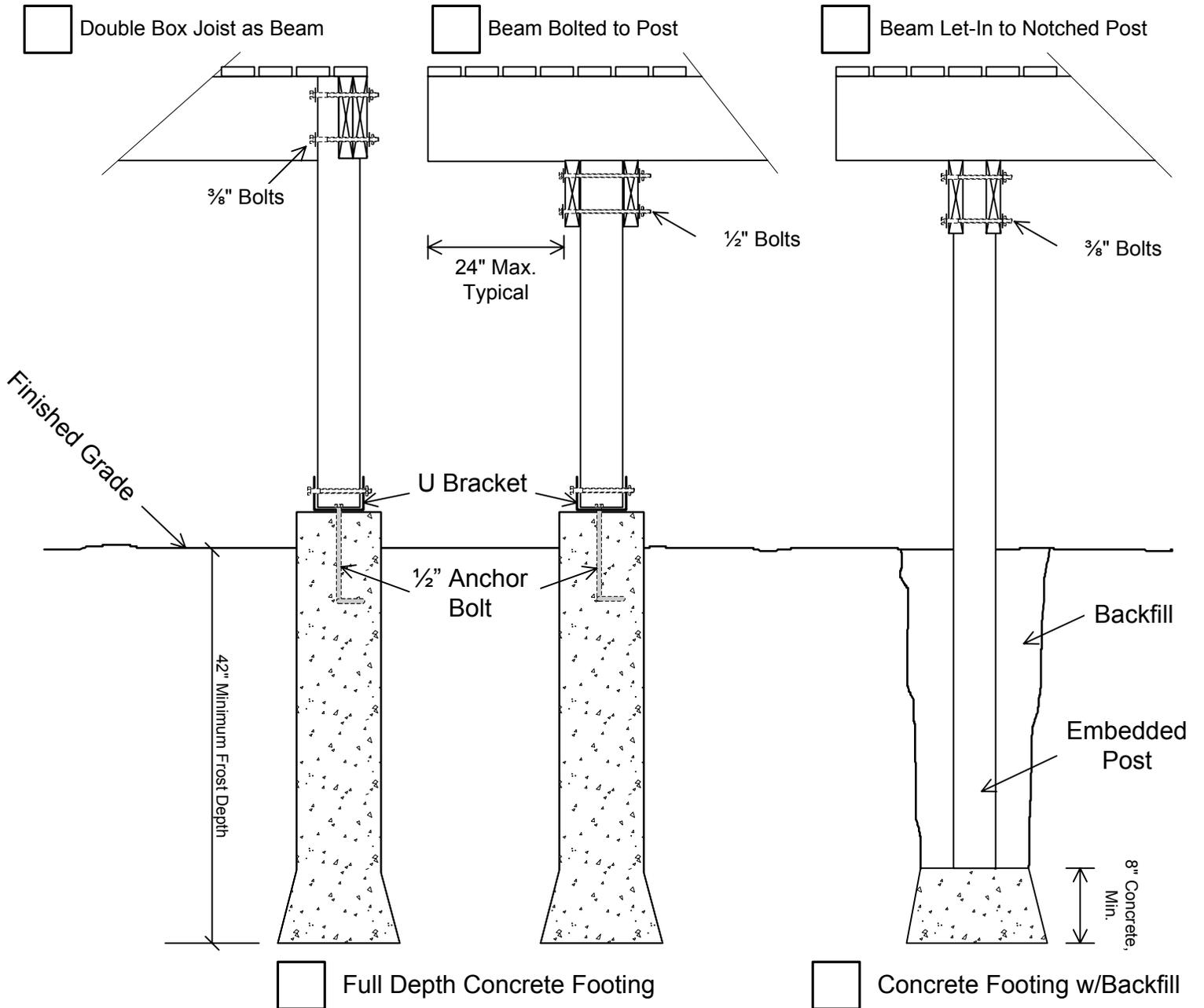
- ◆ Maximum allowable spans are based on #2 Southern Pine CCA .40 pressure-treated lumber
- ◆ Other species of lumber will have shorter spans than indicated in the table below
- ◆ Spans based on 40 spf live load, 10 psf dead load, L/360 live load deflection and exposed to wet weather (wet conditions)
- ◆ Post and Footing sizes are approximate based on 2000 psf soil bearing and other assumptions for building a standard deck
- ◆ Beam sizes are based on a 2' cantilever (the ends of the joist overhang the edge of the beam by 2')
- ◆ Posts may require sway bracing

Note: No roof loads are assumed; converting a deck to a porch or room will require larger posts & footings and/or more posts & footings

Joist Size	Joist Spacing	Joist Max Span	Beam Size	Beam Max Span (post spacing)	Posts: Size & Max Height Above Grade			Footing Diameter inches	Corner Footing Diameter inches	Deck Boards Min Size
					4 x 4 In feet	4 x 6 In feet	6 x 6 In feet			
2 x 6	12" o.c.	10'-4"	2 – 2 x 6	6'-0"	12	16		14	12	5/4 x 6
2 x 6	16" o.c.	9'-5"	2 – 2 x 6	6'-3"	12	16		12	12	5/4 x 6
2 x 6	24" o.c.	7'-10"	2 – 2 x 6	6'-10"	12	16		12	12	2 x 4 or 2 x 6
2 x 8	12" o.c.	13'-8"	2 – 2 x 8	6'-9"	10	12	20	16	14	5/4 x 6
2 x 8	16" o.c.	12'-5"	2 – 2 x 8	7'-2"	10	12	20	16	12	5/4 x 6
2 x 8	16" o.c.	12'-5"	2 – 2 x 10	8'-10"	9	12	20	18	14	5/4 x 6
2 x 8	24" o.c.	10'-2"	2 – 2 x 8	7'-8"	10	12	20	16	12	2 x 4 or 2 x 6
2 x 8	24" o.c.	10'-2"	2 – 2 x 10	9'-6"	10	12	20	18	14	2 x 4 or 2 x 6
2 x 10	12" o.c.	17'-5"	2 – 2 x 10	7'-9"	8	10	16	20	16	5/4 x 6
2 x 10	16" o.c.	15'-10"	2 – 2 x 10	8'-0"	8	10	16	18	16	5/4 x 6
2 x 10	16" o.c.	15'-10"	2 – 2 x 12	9'-2"	6	10	16	20	16	5/4 x 6
2 x 10	24" o.c.	13'-1"	2 – 2 x 10	8'-7"	9	10	20	18	14	2 x 4 or 2 x 6
2 x 10	24" o.c.	13'-1"	2 – 2 x 12	10-0"	8	10	16	20	16	2 x 4 or 2 x 6
2 x 12	12" o.c.	21'-2"	2 – 2 x 12	8'-3"	6	8	16	22	16	5/4 x 6
2 x 12	16" o.c.	18'-10"	2 – 2 x 10	7'-5"	8	8	16	20	16	5/4 x 6
2 x 12	16" o.c.	18'-10"	2 – 2 x 12	8'-7"	6	8	16	20	16	5/4 x 6
2 x 12	24" o.c.	15'-5"	2 – 2 x 10	8'-2"	8	8	16	18	14	2 x 4 or 2 x 6
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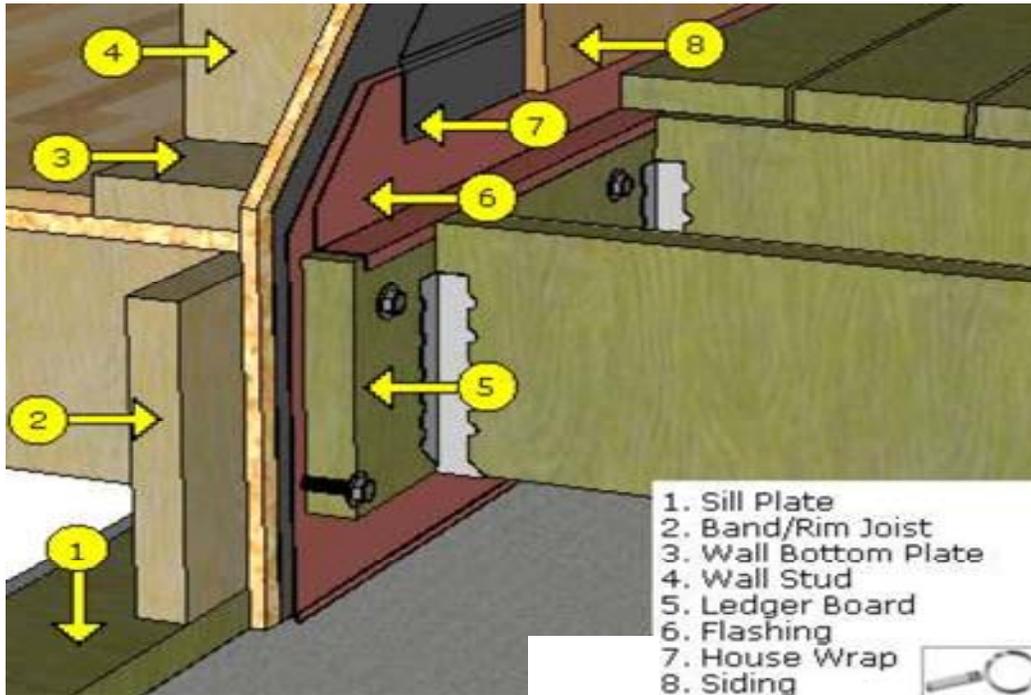
Deck Section Drawings – Footing, Post, and Beam Details:

- Check beam construction for this deck.
- Check footing design for this deck.



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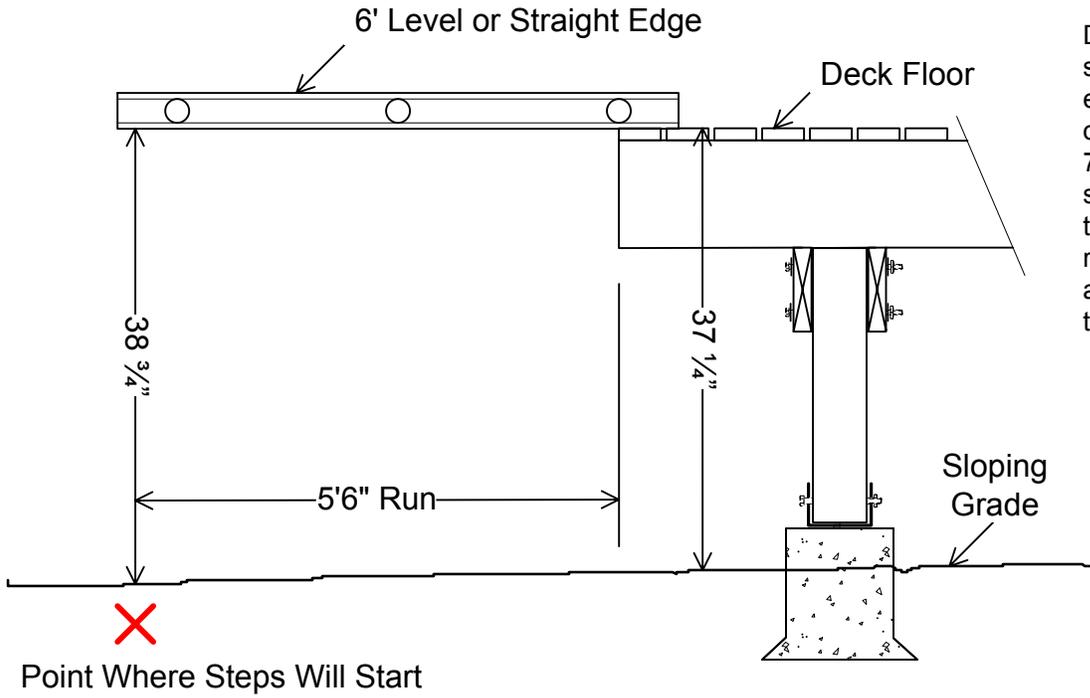
Ledger Board, Joist Hangers, and Flashing



Fasten the ledger board to the framing of the house or the foundation.

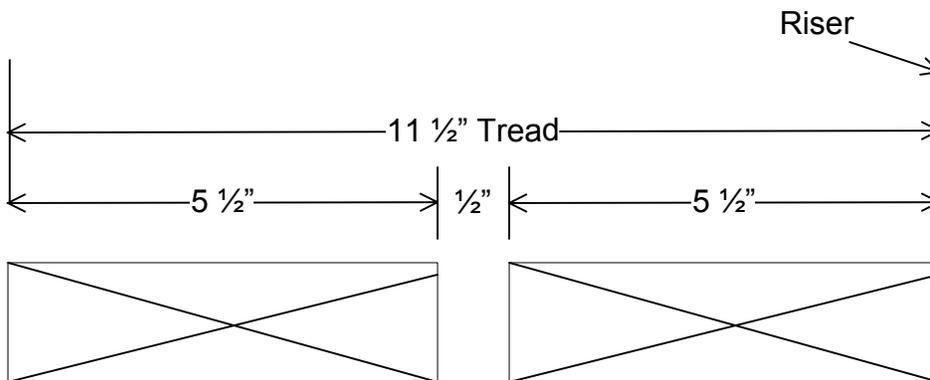
- Too often decks are nailed or bolted to whatever looks sturdy. Take the time to investigate and find where the band/rim joist is for the floor system. ***Deck ledgers shall be bolted to the rim joist at a minimum 16" on center, staggered.***
- Flash ledger board to keep water from seeping behind the ledger and infiltrating the wall.
- **Approved corrosion resistant joist hangers, nails, brackets, and uplift clips shall be used.**

Stairs, Guardrails, and Handrails



Determine total rise at point where steps will start, not at the deck. In this example, 5 steps would get a total rise of 38 ³/₄" (7 ³/₄" is the max riser, so 5 x 7 ³/₄" = 38 ³/₄" total rise). Commercial steps cannot exceed 7" in rise; therefore, a 38 ³/₄" total rise would require 6 risers (38 ³/₄" / 6 = 6.45 or approximately 6-7/16" per rise). See table to convert decimals to fractions.

Table	
.06" = 1/16"	.56" = 9/16
.13" = 1/8"	.63" = 5/8"
.19" = 3/16"	.69" = 11/16"
.25" = 1/4"	.75" = 3/4"
.31" = 5/16"	.81" = 13/16"
.38" = 3/8"	.88" = 7/8"
.44" = 7/16"	.94" = 15/16"
.50" = 1/2"	



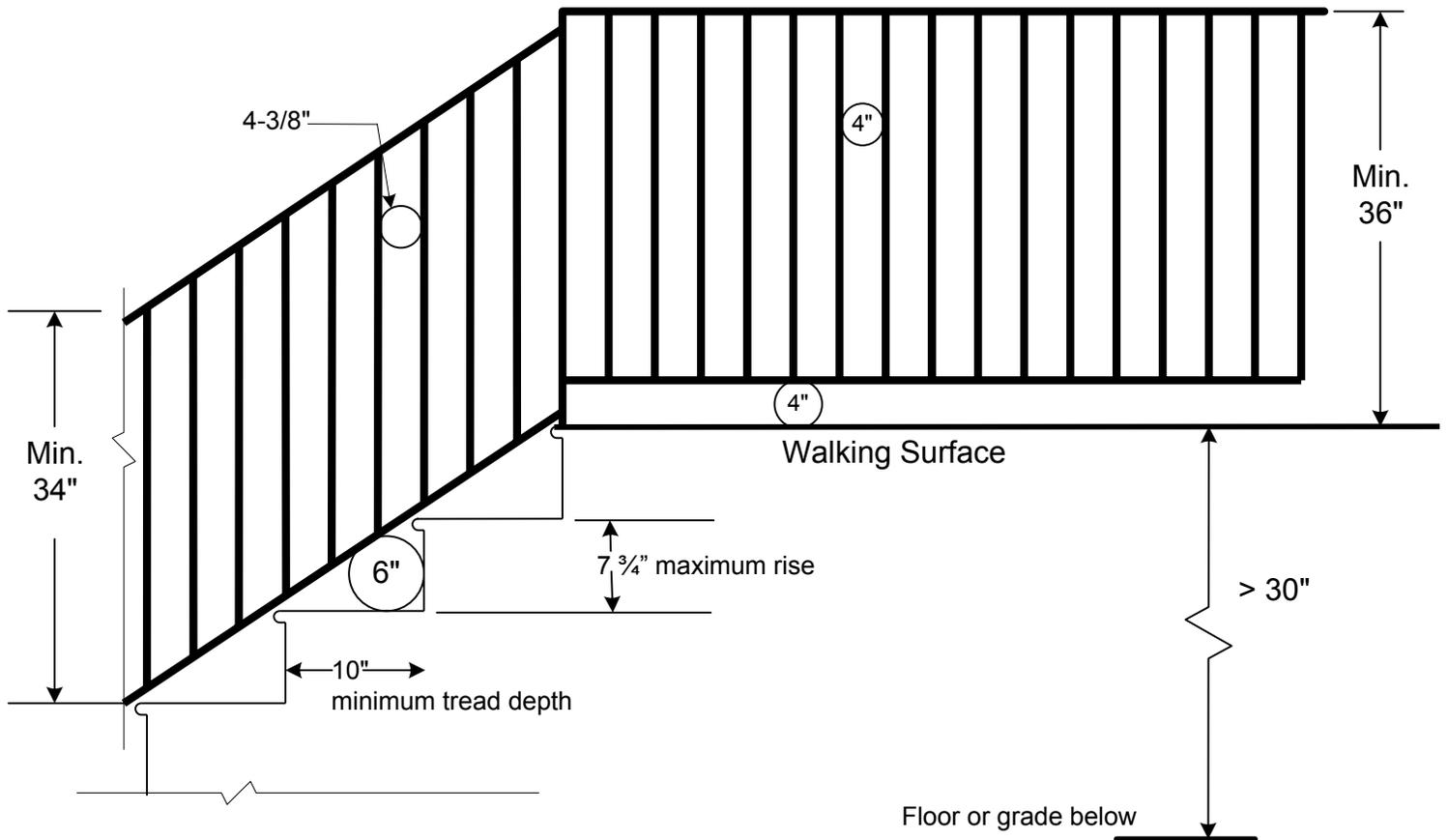
Know what you want to use for tread material & determine your run. Remember that minimum residential run is 10"; minimum commercial run is 11".

- Note:
- * Risers will be equal in size to within ³/₈"
 - * There is always one less run total than required risers

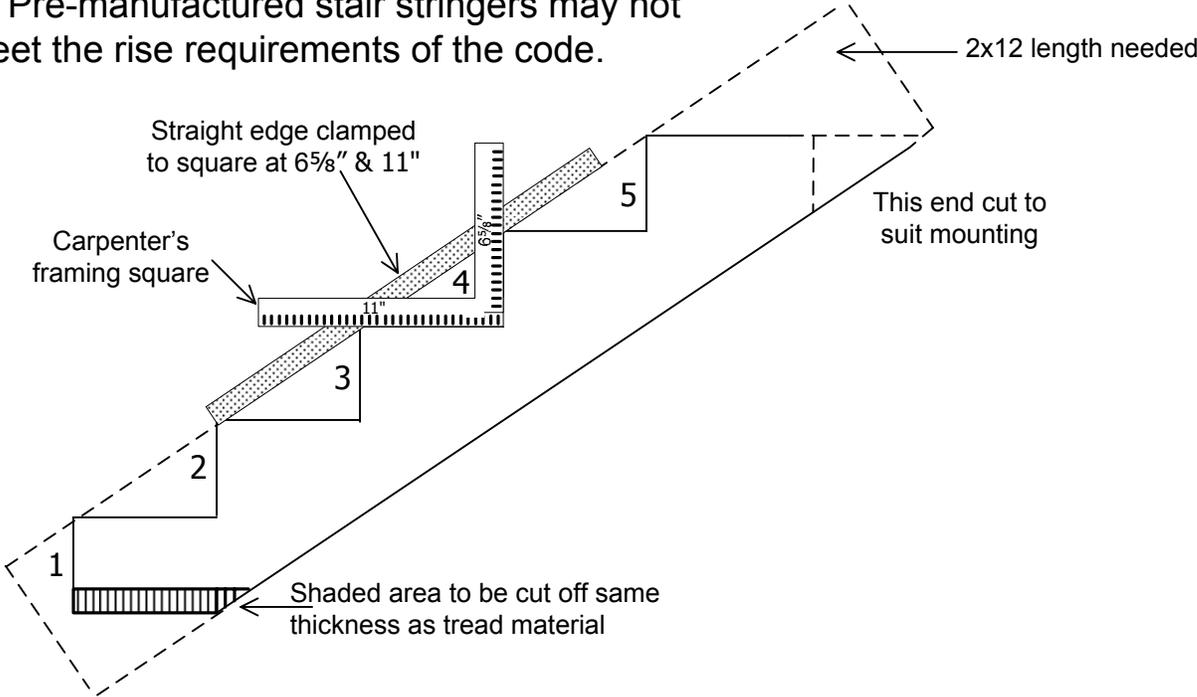
Guardrails are required at unenclosed floor openings and open sides of stairways, landings, ramps, porches and decks which are more than 30 inches above grade or the floor below. Minimum guardrail height is 36". Intermediate rails shall be spaced so that a 4" sphere cannot pass through.

Stairs shall have a maximum rise of 7 3/4", minimum net tread of 10", minimum width of 36" and minimum headroom height of 6'8".

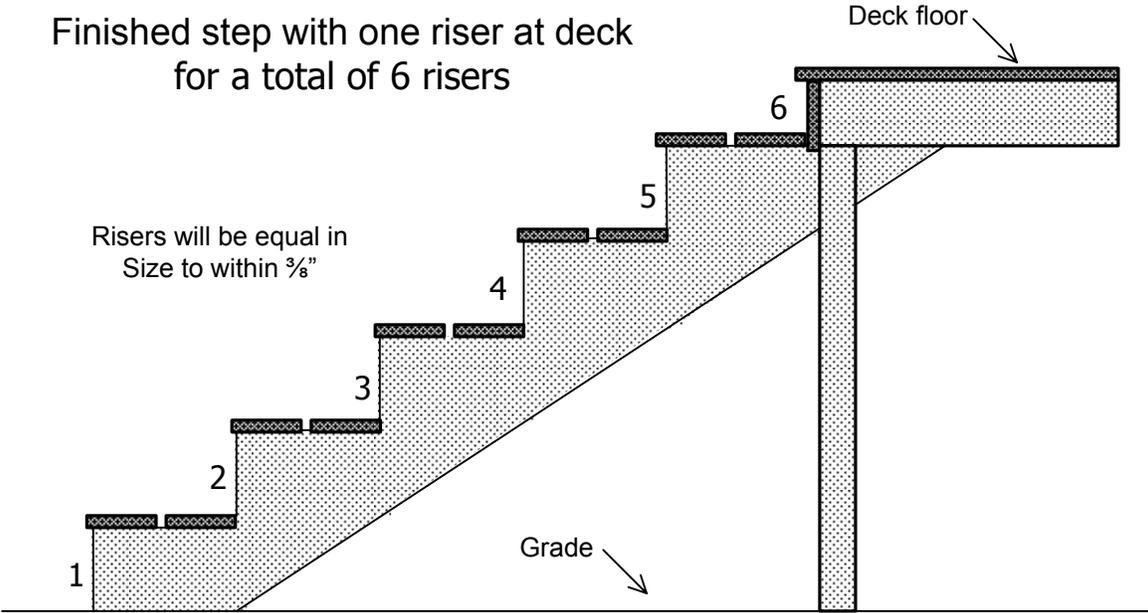
Handrails are required on one side of any stairway having four or more risers. Handrails shall be 34" – 38" above the nose of the tread, have a graspable shape with a cross section dimension of 1 1/4" minimum to 2 5/8" maximum and be continuous throughout the flight.



NOTE: Pre-manufactured stair stringers may not meet the rise requirements of the code.



Finished step with one riser at deck for a total of 6 risers



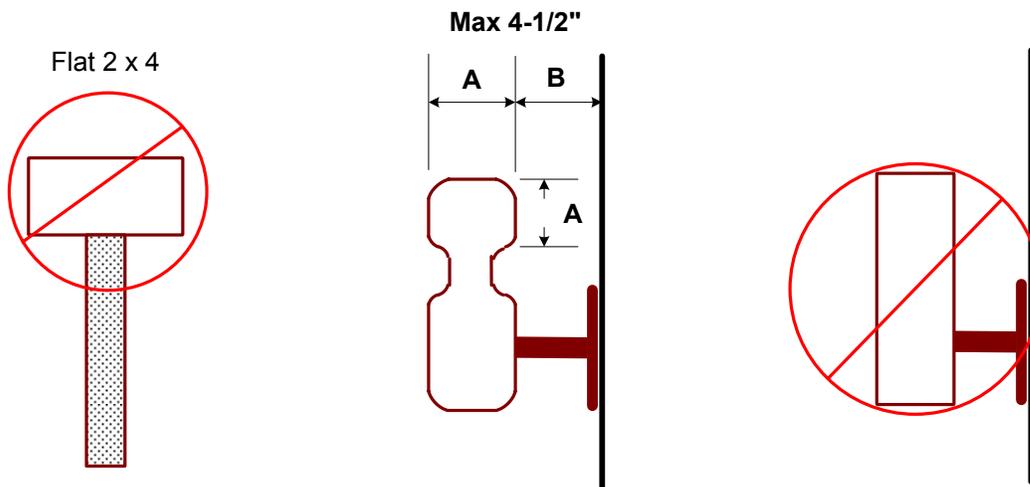
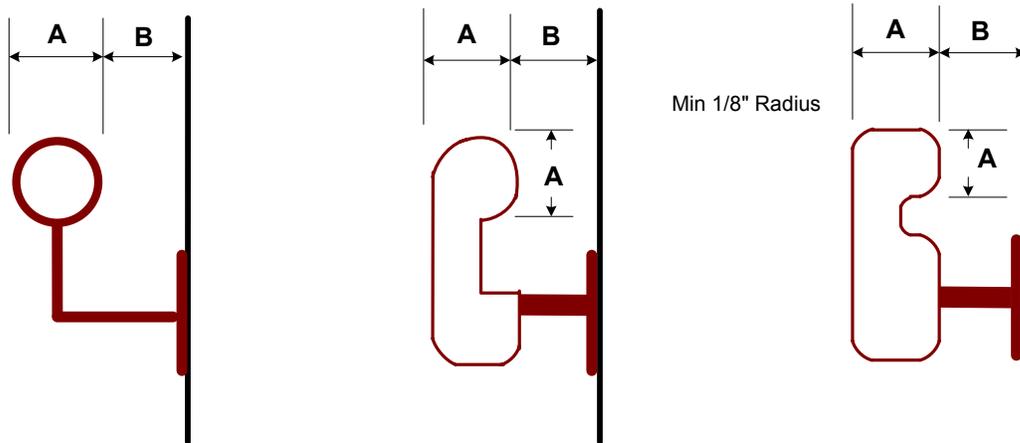
Handrails & guardrails required but omitted for clarity

Residential stairs require a handrail on one side. The handrail must be an approved shape for grasping while walking up or down the stairs.

Handrail mounting height is 34" - 38" measured vertically from the nose of the tread to the top of the rail.

A = 1 1/4" to 2 5/8"

B = 1 1/2" Minimum



Other shapes may be acceptable if they provide equivalent gripping surface.