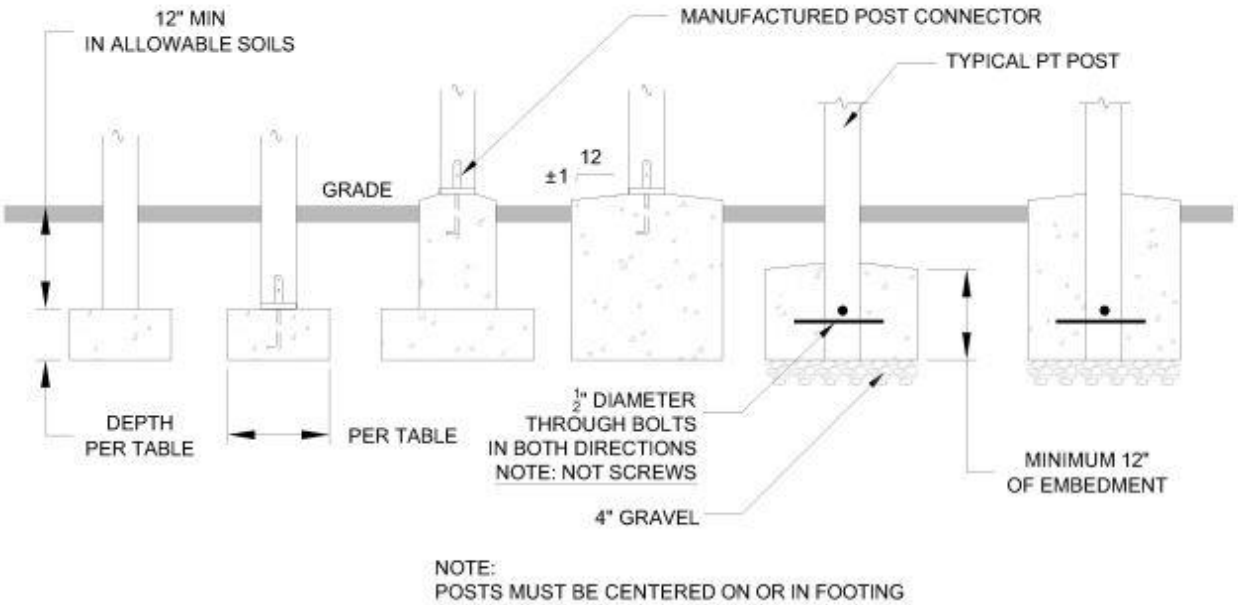
2020 Minnesota Residential Code – Summary of Section R507 Exterior Decks



Summary of Table R507.3.1
Minimum Footing Size for Decks

Live Load (psf)	Tributary Area (sq. ft.)	Load Bearing Value of Soil 1500 lb		
		Size of square footing (inches)	Diameter of round footing (inches)	Thickness (inches)
40	20	12	14	6
	40	14	16	6
	60	17	19	6
	80	20	22	7
	100	22	25	8
	120	24	27	9
	140	26	29	10
	160	28	31	11

*For Future Porch Construction – No Cantilevers are allowed, increase intermediate footing by 55% and corner footing by 90%

Summary of Table R507.4
Deck Post Height

Deck Post Size	Maximum Height (feet-inches)
4x4	6-9
4x6	8
6x6	14
8x8	14

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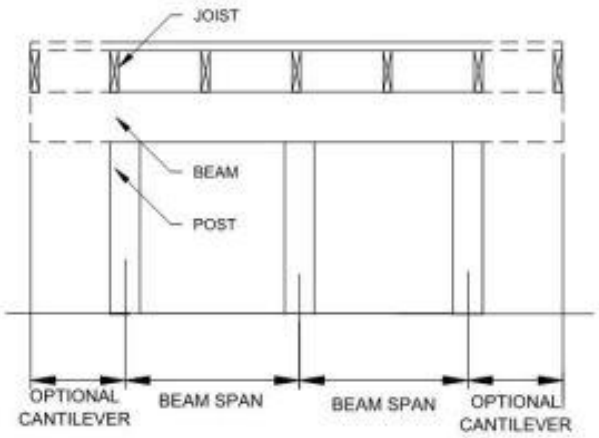
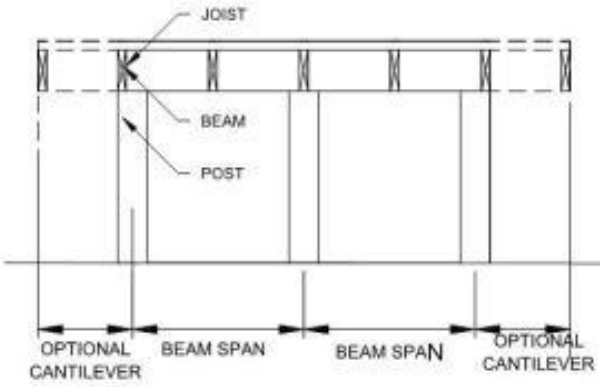


DROPPED BEAM

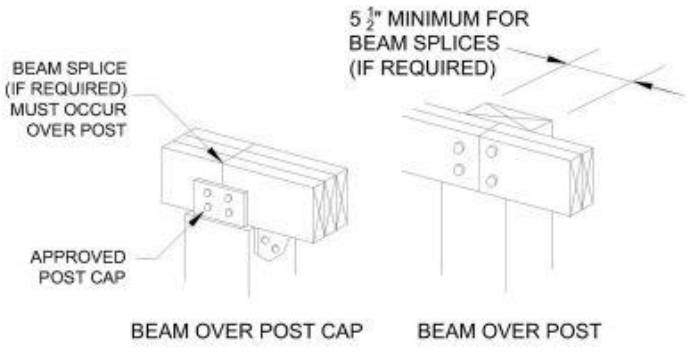


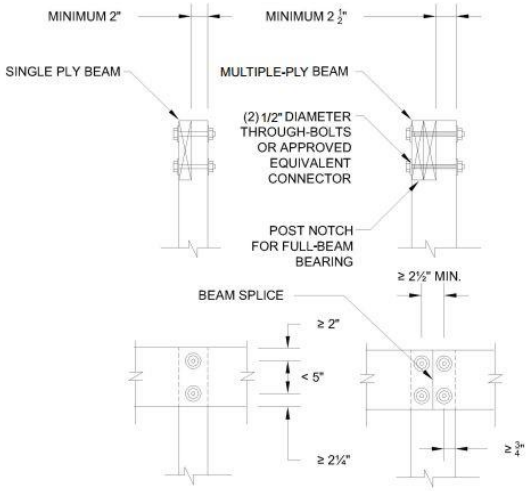
FLUSH BEAM

Summary of Table R507.5
Deck Beam Span Lengths (feet-inches)

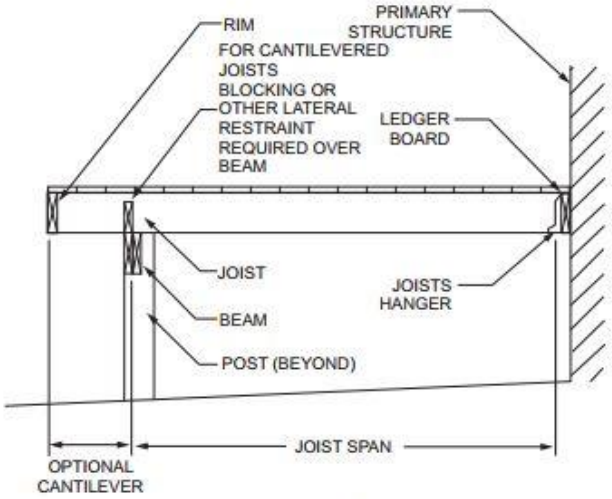
Size	Deck Joist Span – less than or equal to: (feet)						
	6	8	10	12	14	16	18
2-2x6	5-5	4-8	4-2	3-10	3-6	3-1	2-9
2-2x8	6-10	5-11	5-4	4-10	4-6	4-1	3-8
2-2x10	8-4	7-3	6-6	5-11	5-6	5-1	4-8
2-2x12	9-8	8-5	7-8	6-10	6-4	5-11	5-7
3-2x6	7-4	6-8	6-0	5-6	5-1	4-9	4-6
3-2x8	9-8	8-6	7-7	6-11	6-5	6-0	5-8
3-2x10	12-0	10-5	9-4	8-6	7-10	7-4	6-11
3-2x12	13-11	12-1	10-9	9-10	9-1	8-6	8-1

Beam Splice Connections and Notched Post to Beam Connections

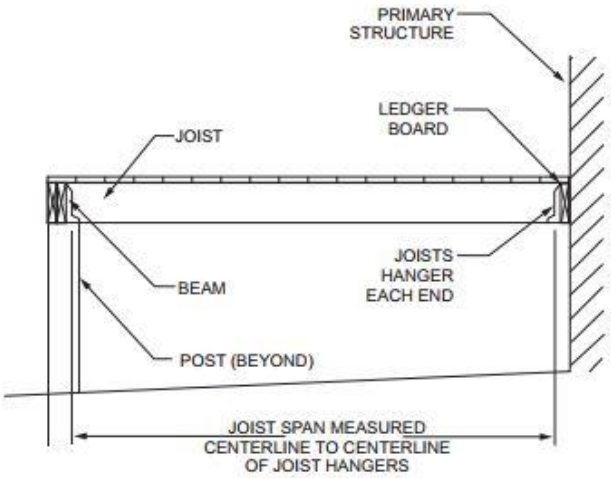




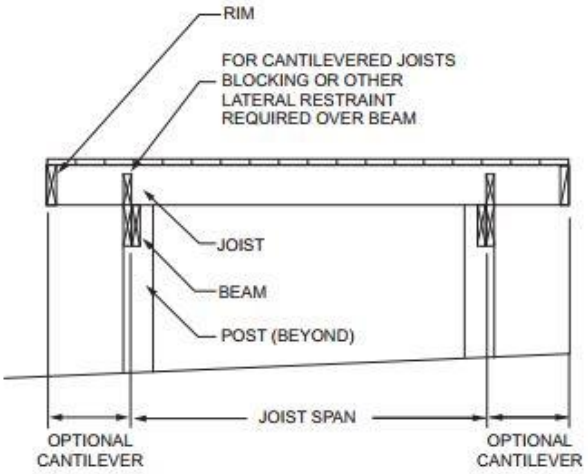
2020 Minnesota Residential Code – Summary of Section R507 Exterior Decks



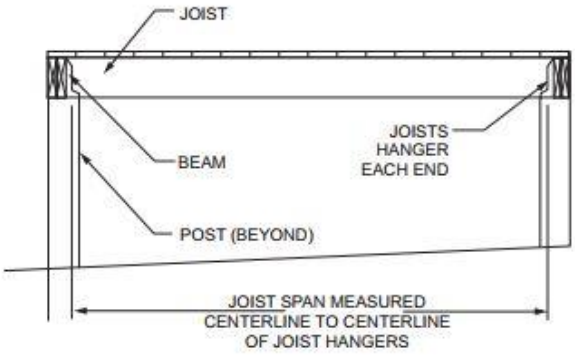
CANTILEVERED JOISTS WITH DROPPED BEAM



JOISTS WITH FLUSH BEAM



JOISTS ON FREE-STANDING DECK WITH DROPPED BEAM



JOISTS ON FREE-STANDING DECK WITH FLUSH BEAM

Summary of Table R507.6
Deck Joist Span (feet-inches)

Size	Allowable Joist Span			Maximum Cantilever		
	Spacing of Joists (inches)					
	12	16	24	12	16	24
2x6	8-10	8-0	7-0	1-0	1-1	1-2
2x8	11-8	10-7	8-8	1-8	1-10	2-0
2x10	14-11	13-0	10-7	2-8	2-10	2-8
2x12	17-5	15-1	12-4	3-10	3-9	3-1

2020 Minnesota Residential Code – Summary of Section R507 Exterior Decks

Summary of Lateral Load Connections - R507.9.2 Lateral connection.

Lateral loads shall be transferred to the ground or to a structure capable of transmitting them to the ground. Where the lateral load connection is provided in accordance with Fig. R507.9.2(1), hold-down tension devices shall be installed in not less than two locations per deck, within 24 inches of each end of the deck. Each device shall have an allowable stress design capacity of not less than 1,500 lbs. Where that lateral load connections are provided in accordance with Figure R507.9.2(2), the hold-down tension devices shall be installed in not less than four locations per deck, and each device shall have an allowable stress capacity of not less than 750 lbs.

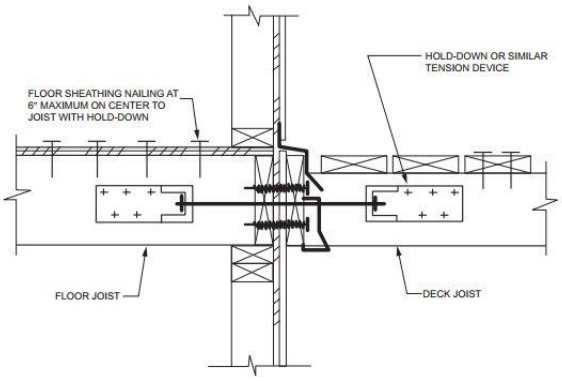


Fig. R507.9.2(1)

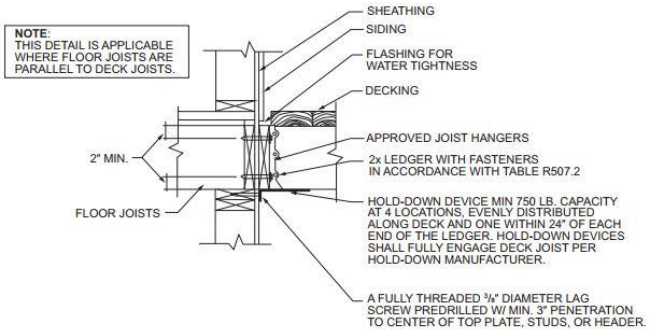
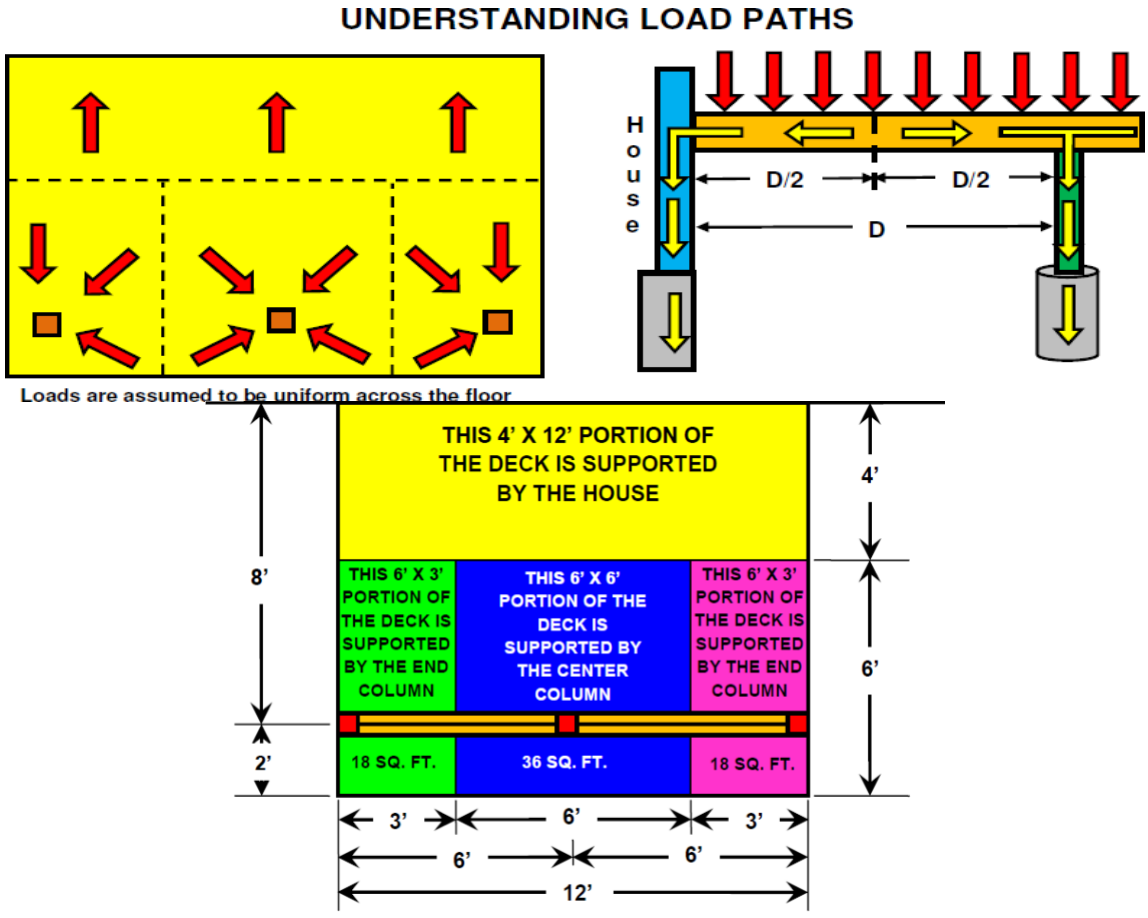
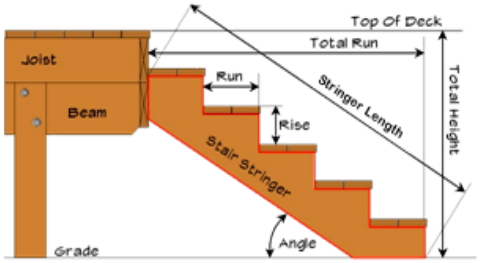


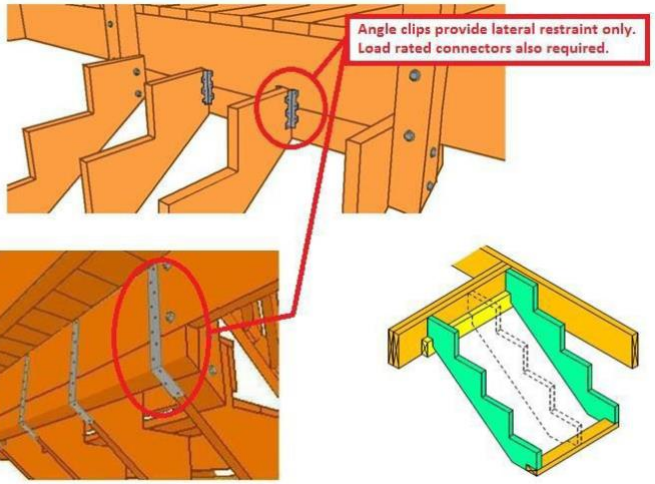
Fig. R507.9.2(2)



2020 Minnesota Residential Code – Summary of Section R507 Exterior Decks

STAIR TERMINOLOGY





Stair Basics

- The maximum riser height is 7 ¾ inches
- The minimum tread run is 10 inches
- Treads and risers should be approximately equal with the largest not exceeding the smallest by more than ⅜ inch.