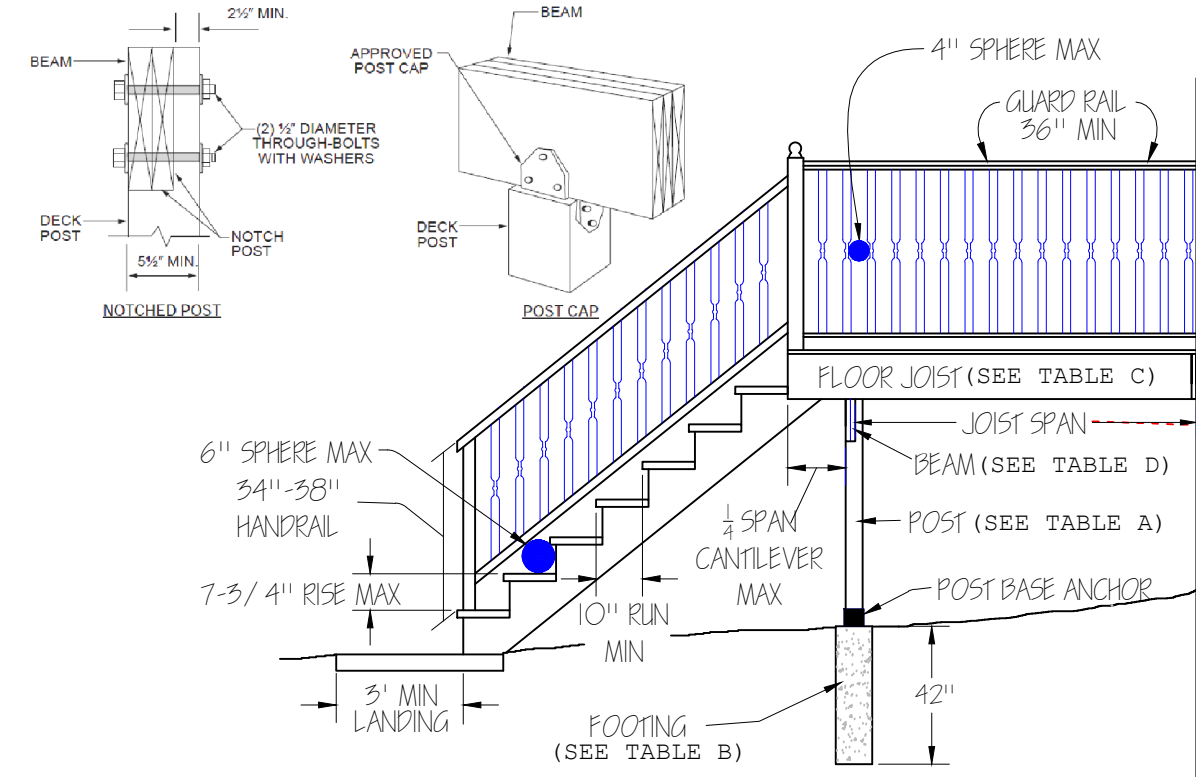
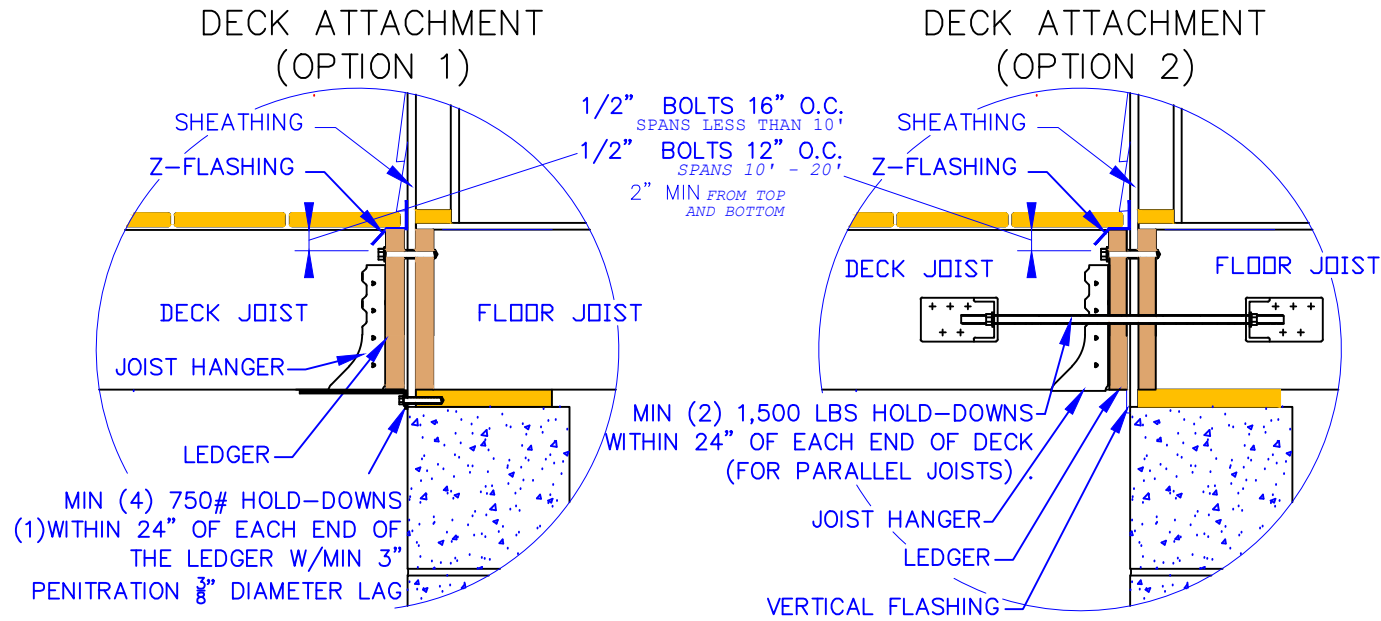


Joist Span (ft.-in.)							
SPECIES	SIZE	Spacing (no Cantilever)			Spacing of Joist (Cantilever)		
		12	16	24	12	16	24
Southern Pine	2 X 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 X 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 X 10	16-2	14-0	11-5	14-0	14-0	11-5
	2 X 12	18-0	16-6	13-6	16-6	16-6	13-6
Douglas fir	2 X 6	9-6	8-8	7-2	6-3	6-3	6-3
Hem-fir	2 X 8	12-6	11-1	9-1	9-5	9-5	9-1
spruce-pine-fir	2 X 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 X 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood,	2 X 6	8-10	8-0	7-0	5-7	5-7	5-7
Western cedars,	2 X 8	11-8	10-7	8-8	8-6	8-6	8-6
Ponderosa Pine	2 X 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 X 12	17-5	15-1	12-4	16-5	15-1	12-4

Beam Span (ft.-in.)									
SPECIES	SIZE	Deck Joist span less than or equal to:							
		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	3 X 6 or 2-2X6	5-5	4-8	4-2	3-10	3-6	3-1	2-9	
Hem-fir	3 X 8 or 2-2X8	6-10	5-11	5-4	4-10	4-6	4-1	3-8	
spruce-pine-fir	3 X 10 or 2-2X10	8-4	7-3	6-6	5-11	5-6	5-1	4-8	
Redwood,	3 X 12 or 2-2X12	9-8	8-5	7-6	6-10	6-4	5-11	5-7	
Western cedars,	4 X 6	6-5	5-6	4-11	4-6	4-2	3-11	3-8	
Ponderosa Pine	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	



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# How To Design A DECK

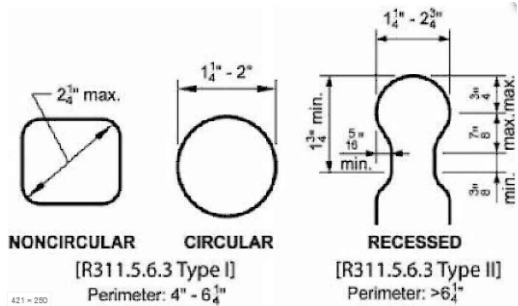
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## General requirements for decks:

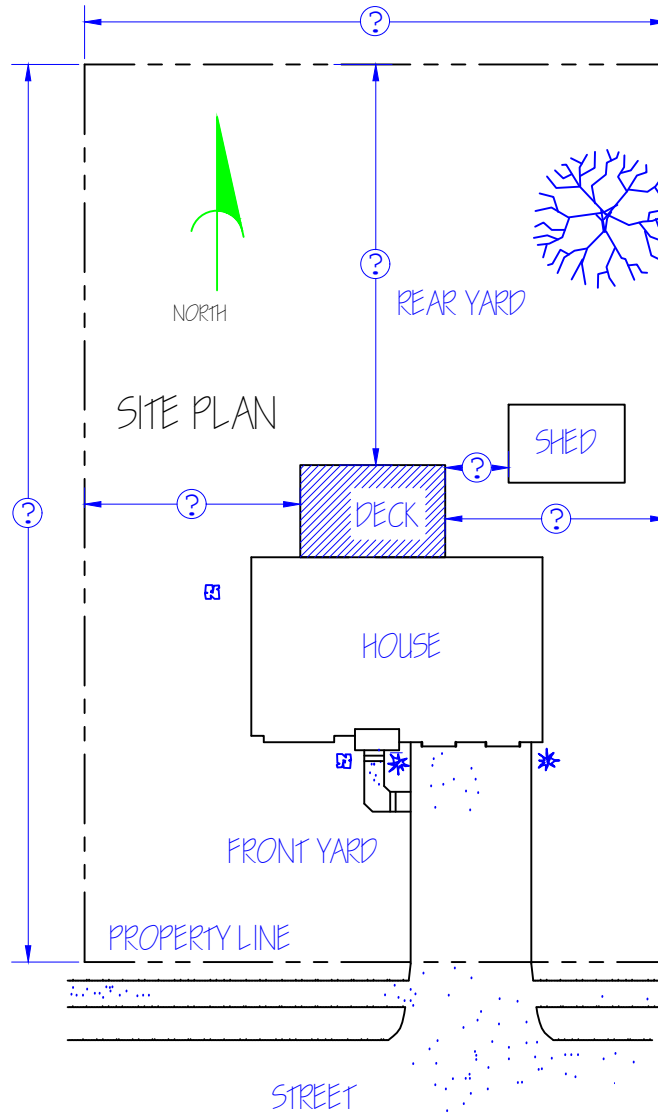
- Decks more than 30" above finish grade are required to have a guardrail not less than 36".
- Stair railing, handrails, and landings are required with 4 or more risers. Handrails need to be 34"-38" measured vertically off the nosing of the treads. Handrails shall have returns.
- Handrails must return to the guardrail and be either Type I, or Type II



- Deck risers can't exceed 7-3/4" and must not have more than 3/8" variance between any two risers. Stair treads must be a minimum of 10". There may not be more than 3/8" variance between tread depth.
- Deck stairs are required to be a minimum of 36" wide. Where the stairs have two or more risers they will be served by a landing extending past the last tread nosing a min. of 36" for the width of the stairs.
- Supporting posts must rest on top and be connected to the footing. Posts are not permitted to be buried in the ground or footing.
- Deck Footing sized from **Table B**.
- Flashing is required to separate the deck from the house.

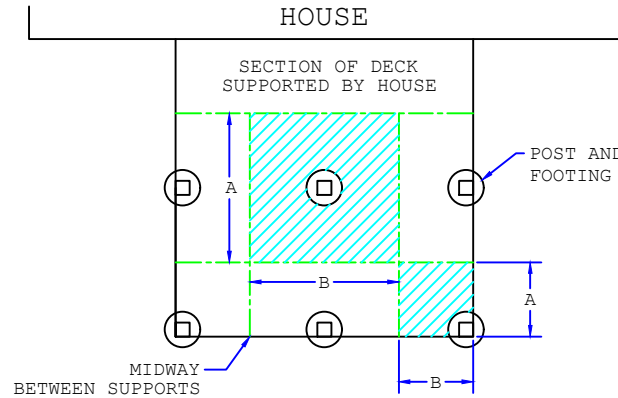
## Distances required On Site plan

Distance minimums are dependant on the zoning. Additional neighborhood covenants and easements are the responsibility of the builder or homeowner.



All question mark symbols (?) (seen in site plan above) are required for plan submittal.

## POST AND FOOTING SIZES



### Determining Post height and Footing Sizes

- First determine the square footage of the area being supported by each post/footing. This is done by determining the mid points between supports (as seen above).

$$(A) \times (B) = \text{Load Area}$$

(This gives you the load area in square feet.)

- Take this load area and go to **(Table A)** to find the maximum post height.
- To calculate footing sizes, use the same load area and multiply it by the load of your deck. **Taken from below**

$$(\text{Load Area}) \times (\text{Deck Load}) = \text{Total Load}$$

- Take the Total Load calculated above and go to **(Table B)** to find footing size.

- Continue with Beam and Joist sizing on Back **(Tables C & D)**.

Deck = 50 lbs/ square foot  
Deck w/ roof = 70 lbs/ square foot  
Deck w/ roof & ceiling = 85 lbs/ square foot  
Deck w/ a hot tub = 90 lbs/ square foot  
(Values for roofs with slopes over 4/12)

## (TABLE A) MAX HEIGHT OF POST

Load Area	4 x 4	4 x 6	6 x 6
36 sq.ft.	10'	14	17
48 sq.ft.	10	12	17
60 sq.ft.	9	11	17
72 sq.ft.	8	10	17
84 sq.ft.	7	9	17
96 sq.ft.	7	9	17
108 sq.ft.	6	8	17
120 sq.ft.	6	8	17
132 sq.ft.	5	7	16
144 sq.ft.	5	7	15
156 sq.ft.	5	7	14
168 sq.ft.	-	6	14
180 sq.ft.	-	6	13

## (TABLE B) FOOTING SIZES

FOOTINGS CAST IN FORMS			
TOTAL LOAD (LB.)	HOLE DEPTH	ROUND Diameter (in.)	SQUARE Length (in.)
500	42"	8	8
1000	42"	12	10
1500	42"	14	12
2000	42"	16	14
2500	42"	18	16
3000	42"	20	18
3500	42"	22	19
4000	42"	23	20
4500	42"	24	21
5000	42"	25	22

FOOTINGS CAST DIRECTLY AGAINST UNDISTURBED SOIL

	DEPTH	
	42"	48"
8"	941	1481
10"	1340	2071
12"	1805	2747
14"	2334	3509
16"	2930	4360
18"	3591	5298
20"	4316	6323

Based on soil capacity of 1500 lbs/ft<sup>2</sup>