

## RESIDENTIAL DECK SPECIFICATIONS

Deck Size: \_\_\_\_\_ ft. x \_\_\_\_\_ ft.

Deck Floor Material: \_\_\_\_\_

Floor Joist Size: \_\_\_\_\_ in. x \_\_\_\_\_ in.

Floor Joist Spacing: \_\_\_\_\_ inches on center

Floor Joist Clear Span: \_\_\_\_\_ ft. \_\_\_\_\_ in.

Floor Joist Cantilever: \_\_\_\_\_ ft. x \_\_\_\_\_ in.

Double Carrier / Beam Size: \_\_\_\_\_ in. x \_\_\_\_\_ in.

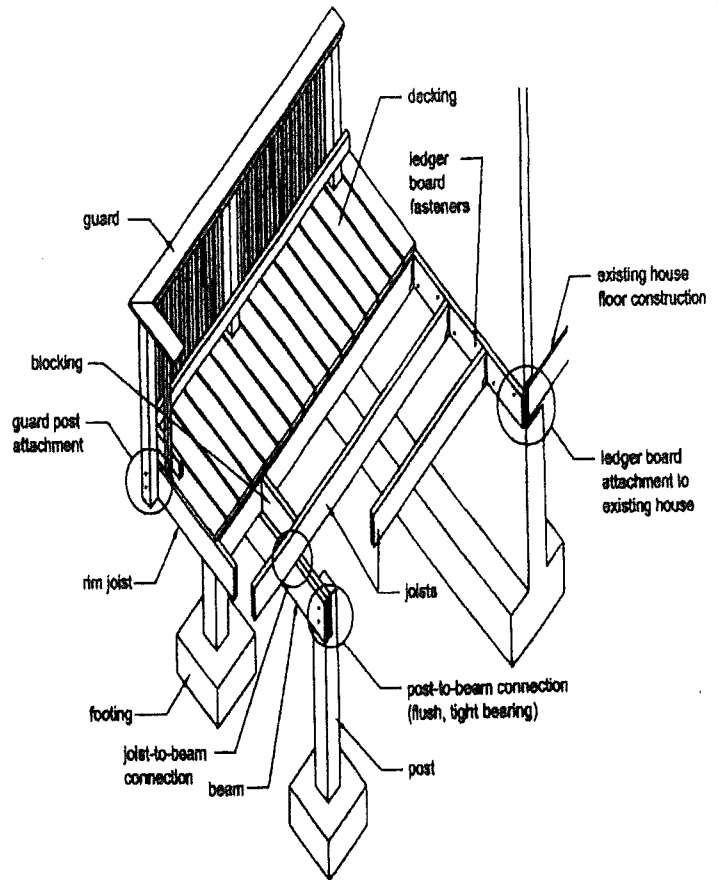
Treated Poles Size: \_\_\_\_\_ in. x \_\_\_\_\_ in.

Post Spacing: \_\_\_\_\_ ft. \_\_\_\_\_ in.

Footings Depth Below Grade: \_\_\_\_\_ in.

Footings: Width \_\_\_\_\_ in. Height \_\_\_\_\_ in.

Is the deck attached to the house? YES / NO



### ***Some requirements of the 2015 Michigan Residential Code Chapter 5, Section R507***

#### **Guards**

- Are required if the floor and stairs measures more than 30 inches above grade.
- Shall have a minimum height of 36 inches for floors and 34 inches for stairs off the nose of the tread.
- Shall be constructed so a 4-inch sphere cannot pass through.

#### **Stairway**

- Shall be a minimum of 36 inches in width.
- Shall have a maximum riser height of 8¼ inches and a minimum tread depth of 9 inches.

#### **Handrails**

- Are required on 4 or more risers.
- Shall have a minimum height of 34 inches and a maximum height of 38 inches measured vertically off the nose of the tread.
- Shall be continuous for the full length of the stairway and ends shall be returned to wall or post.
- Type I handrails shall be graspable measuring at least 1¼ inches and not greater than 2 inches in diameter unless the perimeter of a noncircular handrail is less than 6¼ inches, then it is allowed to be 2¼ inches in width.
- Type II handrails with a perimeter greater than 6¼ inches shall provide a graspable finger recess area on both sides of the profile that meets code requirements. The width of the handrail shall be no less than 1¼" and not more than 2¼".

#### **Spans**

- Joist spacing & spans and beam spans shall meet the requirements of Tables R507.4, R507.5 and R507.6 (*min. 1½" bearing*)

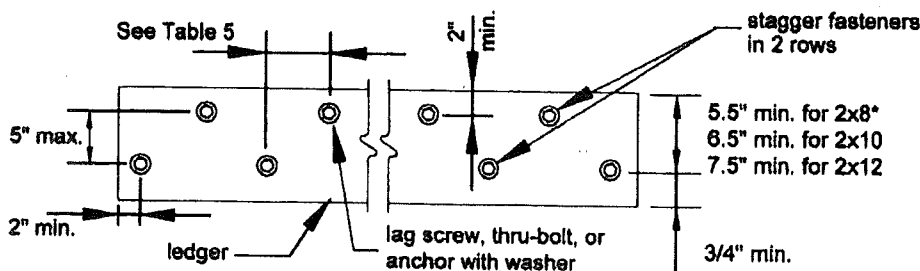
# Joist Spacing (O.C.)

Species	Size	Allowable Span		
		12"	16"	24"
Southern Pine	2x6	9'-11"	9'-0"	7'-7"
	2x8	13'-1"	11'-10"	9'-8"
	2x10	16'-2"	14'-0"	11'-5"
	2x12	18'-0" <sup>7</sup>	16'-6"	13'-6"
Douglas Fir-Larch, Hem-Fir, Spruce- Pine-fire	2x6	9'-6"	8'-4"	6'-10"
	2x8	12'-6"	11'-1"	9'-1"
	2x10	15'-8"	13'-7"	11'-1"
	2x12	18'-0"	15'-9"	12'-10"
Redwood, Western Cedars, Ponderosa Pine, Red Pine	2x6	8'-10"	8'-0"	6'-10"
	2x8	11'-8"	10'-7"	8'-8"
	2x10	14'-11"	13'-0"	10'-7"
	2x12	17'-5"	15'-1"	12'-4"

## FOOTING SIZES FOR DECKS (WITHOUT ROOF)

TOTAL SPAN OF JOISTS BETWEEN SUPPORTS	SUPPORT POST SPACING FOR 1500 LB PER SQUARE FOOT SOIL BEARING CAPACITY						
	4 FEET	6 FEET	8 FEET	10 FEET	12 FEET	14 FEET	16 FEET
4 FEET	4X8	4X10	4X10	6X12	6X14	6X14	6X14
6 FEET	4X10	6X12	6X14	6X14	8X16	8X16	8X18
8 FEET	4X10	6X14	6X14	8X16	8X18	10X20	10X20
10 FEET	6X12	6X14	8X16	8X18	10X20	10X22	10X22
12 FEET	6X14	8X16	8X18	10X20	10X22	12X24	12X24
14 FEET	6X14	8X16	10X20	10X22	12X24	12X26	12X26
16 FEET	6X14	8X16	10X20	12X24	12X26	14X28	14X28

## Ledger Fastener Spacing and Clearances



See Table 5.

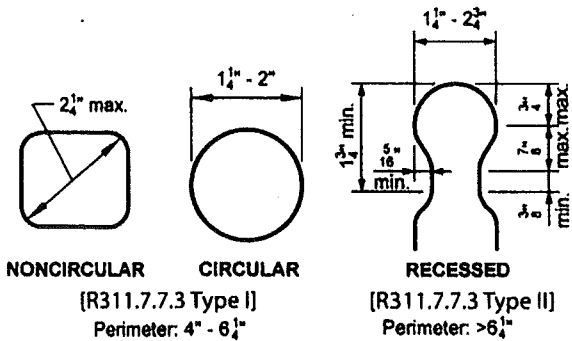
\*Distance can be reduced to 4.5" if lag screws are used or bolt spacing is reduced to that of lag screws to attach 2x8 ledgers to 2x8 band joists (1/2" stacked washers not permitted)

TABLE 6

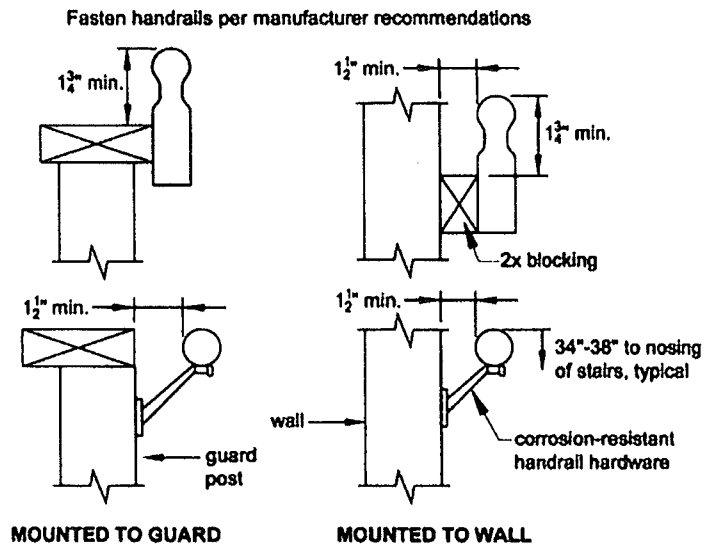
DECK POST SIZE	MAX HEIGHT
4 x 4	8'
4 x 6	8'
6 x 6	14'

**Table 5**

Connection Details	Rim Board or Band Joist	Joist Span						
		6'-0" and less	6'-1" to 8'-0"	8'-1" to 10'-0"	10'-1" to 12'-0"	12'-1" to 14'-0"	14'-1" to 16'-0"	16'-1" to 18'-0"
<b>On-Center Spacing of Fasteners</b>								
$\frac{1}{2}$ " diameter lag screw <sup>1</sup> with $\frac{15}{32}$ " maximum sheathing	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1- $\frac{1}{8}$ " EWP	28"	21"	16"	14"	12"	10"	9"
	1- $\frac{1}{2}$ " Lumber	30"	23"	18"	15"	13"	11"	10"
$\frac{1}{2}$ " diameter bolt with $\frac{15}{32}$ " maximum sheathing	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1- $\frac{1}{8}$ " EWP	28"	21"	16"	14"	12"	10"	9"
	1- $\frac{1}{2}$ " Lumber	36"	36"	34"	29"	24"	21"	19"
$\frac{1}{2}$ " diameter bolt with $\frac{15}{32}$ " maximum sheathing and $\frac{1}{2}$ " stacked washers <sup>2,7</sup>	1- $\frac{1}{2}$ " Lumber	36"	36"	29"	24"	21"	18"	16"

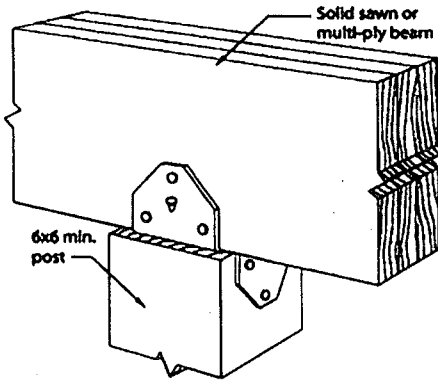
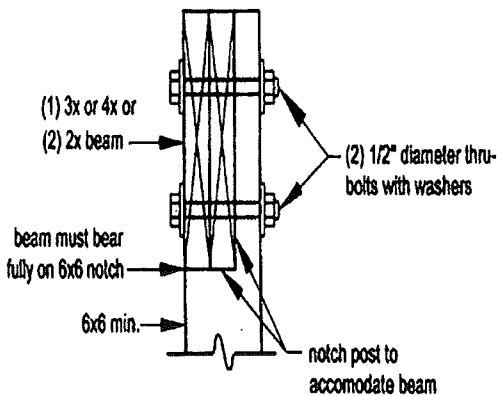


**Handrail Grip Size**

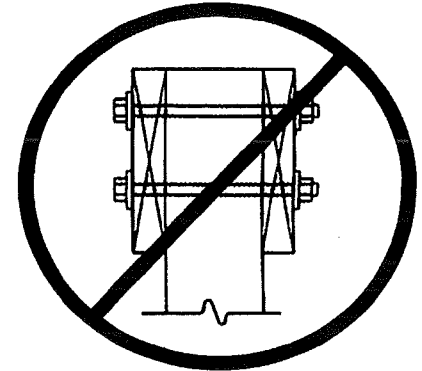


**Handrail Mounting Examples**

# Deck Beam & Floor Joist Spans, Ledger Fastener Spacing and Handrail Detail



Approved Deck Post Cap



## Deck Beam Span Length

Species	Size	Deck Joist Span less than or equal to						
		6'	8'	10'	12'	14'	16'	18'
Southern Pine	2-2x6	6'-11"	5'-11"	5'-4"	4'-10"	4'-6"	4'-3"	4'-0"
	2-2x8	8'-9"	7'-7"	6'-9"	6'-2"	5'-9"	5'-4"	5'-0"
	2-2x10	10'-4"	9'-0"	8'-0"	7'-4"	6'-9"	6'-4"	6'-0"
	2-2x12	12'-2"	10'-7"	9'-5"	8'-7"	8'-0"	7'-6"	7'-0"
	3-2x6	8'-2"	7'-5"	6'-8"	6'-1"	5'-8"	5'-3"	5'-0"
	3-2x8	10'-10"	9'-6"	8'-6"	7'-9"	7'-2"	6'-8"	6'-4"
	3-2x10	13'-0"	11'-3"	10'-0"	9'-2"	8'-6"	7'-11"	7'-6"
	3-2x12	15'-3"	13'-3"	11'-10"	10'-9"	10'-0"	9'-4"	8'-10"
Douglas Fir- Larch, Hem-Fir, Spruce-Pine-Fir, Redwood, Western Cedars, Ponderosa Pine, Red Pine	3x6 or 2-2x6	5'-5"	4'-8"	4'-2"	3'-10"	3'-6"	3'-1"	2'-9"
	3x8 or 2-2x8	6'-10"	5'-11"	5'-4"	4'-10"	4'-6"	4'-1"	3'-8"
	3x10 or 2-2x10	8'-4"	7'-3"	6'-6"	5'-11"	5'-6"	5'-1"	4'-8"
	3x12 or 2-2x12	9'-8"	8'-5"	7'-6"	6'-10"	6'-4"	5'-11"	5'-7"
	4x6	6'-5"	5'-6"	4'-11"	4'-6"	4'-2"	3'-11"	3'-8"
	4x8	8'-5"	7'-3"	6'-6"	5'-11"	5'-6"	5'-2"	4'-10"
	4x10	9'-11"	8'-7"	7'-8"	7'-0"	6'-6"	6'-1"	5'-8"
	4x12	11'-5"	9'-11"	8'-10"	8'-1"	7'-6"	7'-0"	6'-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"