

Kent County Planning Services

Deck Section

Fill in all applicable blanks

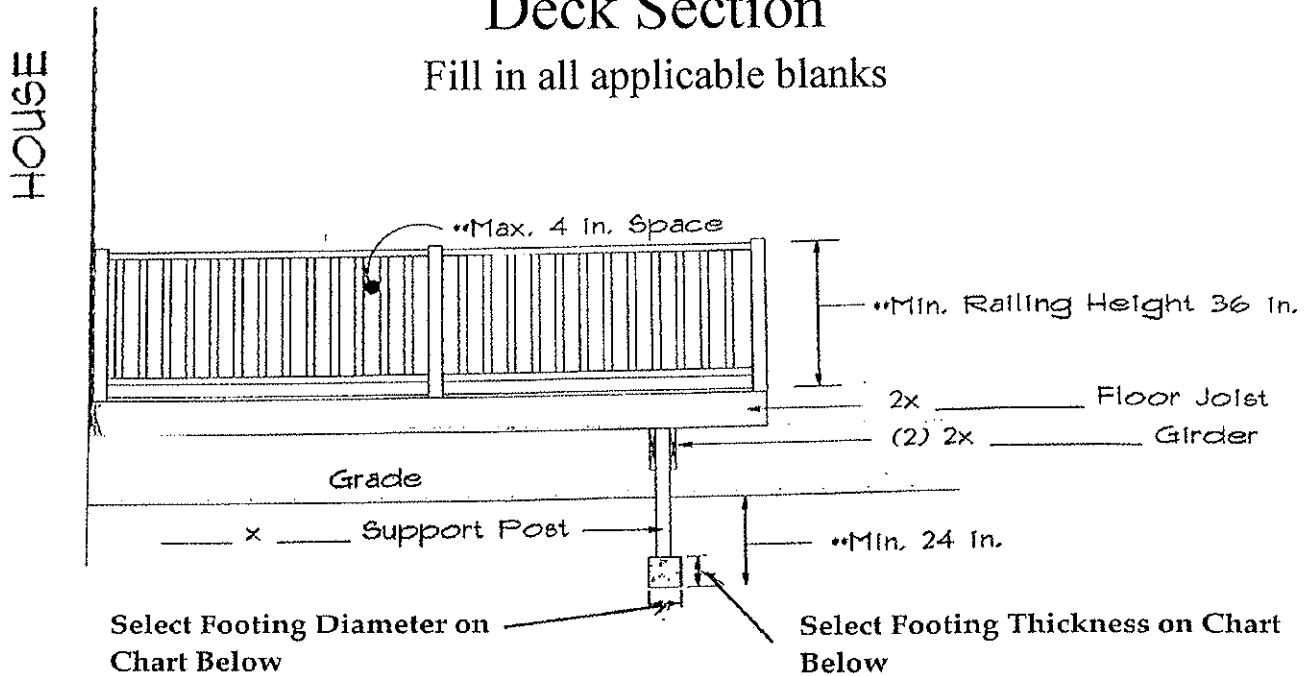


Table 4. FOOTING SIZES ²

Beam Span	Joist Span	Round ¹ Footing Diameter	Footing Thickness ²
6'	≤10'	15"	6"
	≤14'	17"	6"
	≤18'	20"	7"
8'	≤10'	17"	6"
	≤14'	20"	7"
	≤18'	23"	9"
10'	≤10'	19"	7"
	≤14'	22"	9"
	≤18'	25"	10"
12'	≤10'	21"	8"
	≤14'	24"	10"
	≤18'	28"	11"
14'	≤10'	22"	9"
	≤14'	26"	11"
	≤18'	30"	12"
16'	≤10'	24"	9"
	≤14'	28"	11"
	≤18'	32"	13"

••Denotes Code Requirements.

NOTES:

1. Cement Blocks or Deck Blocks may **NOT** be used as footings.
2. All lumber in contact with the ground shall be approved wood of natural decay resistance or approved pressure preservative treated wood.
3. Minimum 1-1/2" bearing for ALL joists

SEE ATTACHED HANDOUT FOR DECK LEDGER TO HOUSE ATTACHMENT REQUIREMENTS.

1. Square footings are permitted to have widths 2" less than the given diameter of round footings.
2. Assumes 1,500 psf soil bearing capacity.
3. Assumes 2,500 psf compressive strength of concrete. Coordinate footing thickness with post base and anchor requirements.

TABLE R507.2 FASTENER SPACING FOR A SOUTHERN PINE OR HEM-FIR DECK LEDGER AND A 2-INCH-NOMINAL SOLID-SAWN SPRUCE-PINE-FIR BAND JOIST^{c, f, g} (Deck live load = 40 psf, deck dead load = 10 psf)

JOIST SPAN	6' and less	6' 1" to 8'	8' 1" to 10'	10' 1" to 12'	12' 1" to 14'	14' 1" to 16'	16' 1" to 18'
Connection details	On-center spacing of fasteners^{d, e}						
1/2 inch diameter lag screw with 15/32 inch maximum sheathing ^a	30	23	18	15	13	11	10
1/2 inch diameter bolt with 15/32 inch maximum sheathing	36	36	34	29	24	21	19
1/2 inch diameter bolt with 15/32 inch maximum sheathing and 1/2 inch stacked washers ^{b, h}	36	36	29	24	21	18	16

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm. 1 pound per square foot = 0.0479 kPa.

- a. The tip of the lag screw shall fully extend beyond the inside face of the band joist.
- b. The maximum gap between the face of the ledger board and face of the wall sheathing shall be 1/2 inch.
- c. Ledgers shall be flashed to prevent water from contacting the house band joist.
- d. Lag screws and bolts shall be staggered in accordance with Section R507.2.1.
- e. Deck ledger shall be minimum 2 × 8 pressure-preservative-treated No. 2 grade lumber, or other approved materials as established by standard engineering practice.
- f. When solid-sawn pressure-preservative-treated deck ledgers are attached to a minimum 1-inch-thick engineered wood product (structural composite lumber, laminated veneer lumber or wood structural panel band joist), the ledger attachment shall be designed in accordance with accepted engineering practice.
- g. A minimum 1 × 9 1/2 Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.
- h. Wood structural panel sheathing, gypsum board sheathing or foam sheathing not exceeding 1 inch in thickness shall be permitted. The maximum distance between the face of the ledger board and the face of the band joist shall be 1 inch.

R507.2.1 Placement of lag screws or bolts in deck ledgers and band joists.

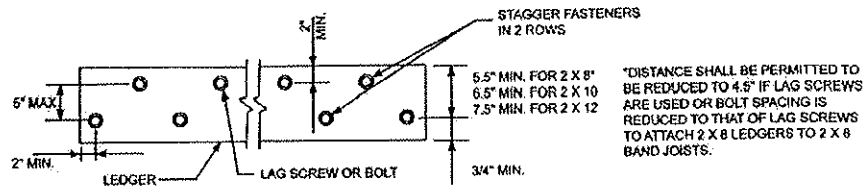
The lag screws or bolts in deck ledgers and band joists shall be placed in accordance with Table R507.2.1 and Figures R507.2.1(1) and R507.2.1(2).

TABLE 507.2.1 PLACEMENT OF LAG SCREWS AND BOLTS IN DECK LEDGERS AND BAND JOISTS

MINIMUM END AND EDGE DISTANCES AND SPACING BETWEEN ROWS				
	TOP EDGE	BOTTOM EDGE	ENDS	ROW SPACING
Ledger ^a	2 inches ^d	1/4 inch	2 inches ^b	1 5/8 inches ^b
Band Joist ^c	3/4 inch	2 inches	2 inches ^b	1 5/8 inches ^b

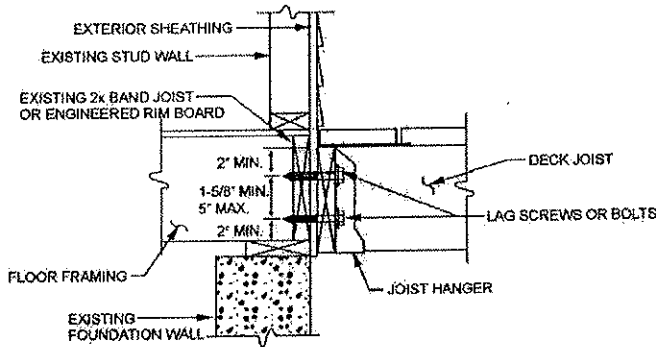
For SI: 1 inch = 25.4 mm.

- a. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.2.1(1).
- b. Maximum 5 inches.
- c. For engineered rim joists, the manufacturer's recommendations shall govern.
- d. The minimum distance from bottom row of lag screws or bolts to the top edge of the ledger shall be in accordance with Figure R507.2.1(1).



For SI: 1 inch = 25.4 mm.

FIGURE R507.2.1(1) PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGERS



For SI: 1 inch = 25.4 mm.

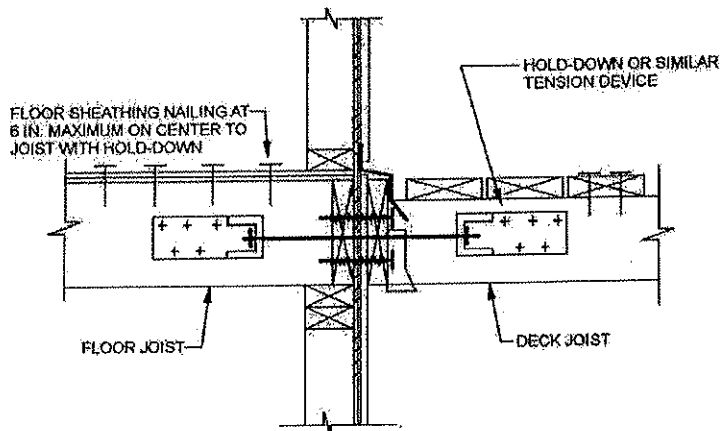
FIGURE R507.2.1(2) PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

R507.2.2 Alternate deck ledger connections.

Deck ledger connections not conforming to Table R507.2 shall be designed in accordance with accepted engineering practice. Girders supporting deck joists shall not be supported on deck ledgers or band joists. Deck ledgers shall not be supported on stone or masonry veneer.

R507.2.3 Deck lateral load connection.

The lateral load connection required by Section R507.1 shall be permitted to be in accordance with Figure R507.2.3. Where the lateral load connection is provided in accordance with Figure R507.2.3, hold-down tension devices shall be installed in not less than two locations per deck, and each device shall have an allowable stress design capacity of not less than 1500 pounds (6672 N).



For SI: 1 inch = 25.4 mm.

FIGURE 507.2.3 DECK ATTACHMENT FOR LATERAL LOADS