



Decks

The construction of a deck requires a zoning/building permit prior to starting construction.

Building Department & Permit Office

Mon-Fri
8 a.m. -5 p.m.

2332 Royal Drive
Ft Mitchell, KY
41017

859-957-2408

Main:
859-331-8980

Fax:
859-331-8987

Website:
www.pdskc.org

Applications for a Deck Permit must include the following:

1. **A completed Zoning/Building Permit application & associated fee**
2. **Required information for contractor:**
 - a. An affidavit of assurances, pursuant to KRS 198B.060(10)
 - b. Occupational license number for the city/county work is being performed
 - c. Proof of Kentucky Workers Compensation coverage & liability insurance
3. **Three complete sets of construction drawings including site plans:**

Construction drawings including:

- a. Size of deck(s)
- b. Footing information (show size and indicate depth below grade-frost line is 30")
- c. Decking span or joist spacing
- d. Joist span or beam spacing
- e. Beam span or post spacing
- f. Joist, column, beam, and decking size(s)
- g. Spacing, size, and number of anchors for attachment to building
- h. Guardrails required if deck is greater than 30 inches above finished grade at any point-guardrails to be a minimum of 36 inches high
- i. All lumber to be pressure treated
- j. Lumber size, type, and grade

If applicable, the following items must be shown:

- Stair riser height shall be a maximum of 8.25 inches and tread depth shall be a minimum of 9 inches
- The greatest riser height within any flights of steps (stairs) shall not exceed the smallest by more than 3/8 inch
- Handrails shall be a minimum of 34 inches and a maximum of 38 inches
- All handrail grip portions shall not exceed 2'-5/8" in cross sectional dimension
- All handrails shall be continuous without interruption for the entire length of stairways and ends shall be returned to a wall or post
- Intermediate rails of guardrails on any deck, landing, or stair shall be spaced such that a four inch sphere will not pass through.

Site plan indicating:

- a. Location of all existing and proposed easements
- b. Identification of any street adjacent to the property
- c. Proposed or existing septic tank, leach field, or other septic system shall be shown to scale
- d. Property lines with bearing and dimensions
- e. Location of existing and proposed building(s) and uses. The distance from the existing and proposed building to the front and/or right of way lines, side and rear lines
- f. Location of driveway, sidewalks, and other off street parking areas as well as type of surfacing used
- g. Provisions for erosion control, hillside slippage, and sedimentation indicating the temporary and permanent control practices and measures which will be implemented during all phases of clearing, grading, and construction
- h. Water drainage and grading lines
- i. The existing and proposed topography, shown by contours with intervals not to exceed five feet.



Standard Drawings and Applications For Residential Deck Construction

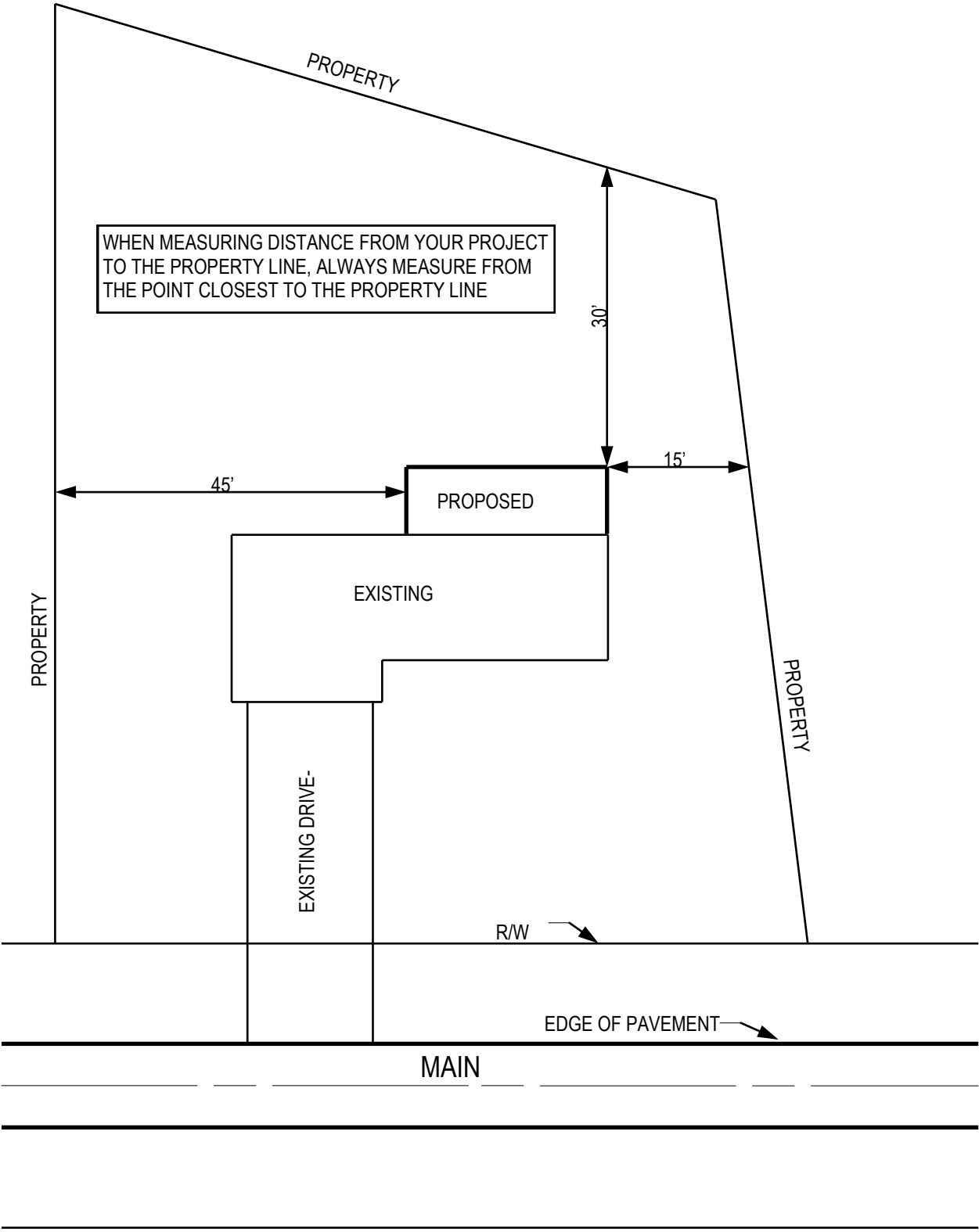
From the Kentucky Residential Code
As enforced by Planning and Development Services of Kenton County

*NOTE:
FASTENERS (SCREWS, NAILS, BOLTS, HANGERS ETC.) FOR PRESSURE TREATED WOOD
MUST BE OF THE FOLLOWING: HOT DIPPED GALVANIZED STEEL, STAINLESS STEEL, OR AS
APPROVED BY THE MANUFACTURER'S REQUIREMENTS.*

No permit is required for decks that meet ALL the criteria listed below:

1. Less than 200 square feet
2. Less than 30 inches above grade
3. Not attached to the house or primary structure
4. Does not serve the required means of egress.

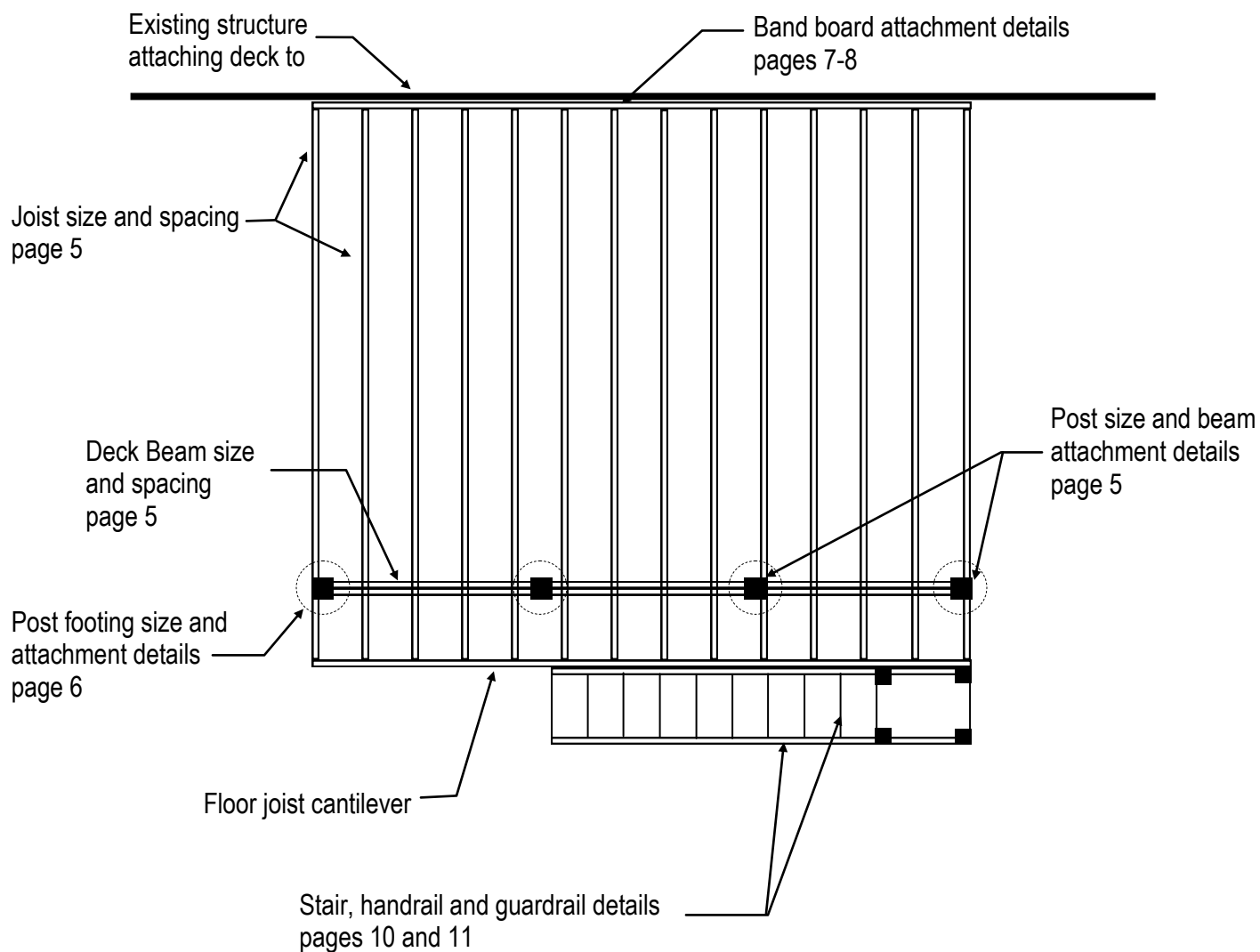
SITE PLAN



Deck Plan Requirements

Your deck plans must provide the information shown below.
Use the page references to find the requirements for each item.

Decks can not be supported on ledger boards bolted through brick veneer per KRC 507.2.2.



Draw Floor Joist Layout Here:
Show joists, beam(s), posts and stairs (if applicable) and show all dimensions

**** Deck ledger boards CAN NOT be supported on stone or masonry veneer unless designed by a registered design professional. ****

What will the deck ledger board be attached to/supported by: _____

Fastener type used to attach ledger to structure: Lag Screw, Bolt or Other _____
Note: Lag Screws cannot span as far as Bolts

Fastener Diameter _____ Fastener Length _____ Fastener Spacing _____

Floor Joist size, span and spacing _____ Floor Joist Cantilever (extension past beam): _____

Beam Size (example 2-2 x 10) _____ Beam Span (between posts): _____ Post Size _____

Post Height _____ Post Footing Diameter _____ Footing Depth below grade _____
Min. depth 30"

Will this deck have a hot tub or any other special feature: _____ If so please provide documentation stating the design will support all loads imposed by a fully loaded hot tub or special feature.

I have read this document in its entirety and agree to construct this deck according to these specifications

_____ Title: _____

DECK JOIST SPAN AND SPACING CHART					
Size	Spacing in inches on center	Pressure Treated Southern Yellow Pine Visually Graded			
		SS	No. 1	No. 2	No. 3
2x6	12	10-9	10-7	10-4	9-4
	16	9-9	9-7	9-5	8-1
	19.2	9-0	9-0	8-9	7-4
	24	8-7	8-5	7-10	6-7
2x8	12	14-2	13-11	13-8	11-11
	16	12-11	12-8	12-5	10-3
	19.2	12-2	11-11	11-4	9-5
	24	11-3	11-1	10-2	8-5
2x10	12	18-1	17-9	17-5	14-0
	16	16-5	16-2	15-10	12-2
	19.2	15-6	15-1	14-8	11-1
	24	14-4	13-6	13-1	9-11
2x12	12	22-0	21-7	21-2	16-8
	16	20-0	19-8	18-10	14-6
	19.2	18-10	17-11	17-2	13-2
	24	17-6	16-1	15-5	11-10

DECK BEAM SIZE AND SPAN CHART				
Beam Size	JOIST SPAN			
	6'	8'	10'	12'
2-2x6	8'	7'	6'	5'
2-2x8	10'	9'	8'	7'
2-2x10	12'	11'	10'	9'
2-2x12	14'	13'	12'	11'

RECOMMENDED POST SIZE							
JOIST SIZE	DECKHEIGHT						
	4'	6'	8'	10'	12'	14'	16'
2 x 6	4 x 4	4 x 4	4 x 6	4 x 6	6 x 6	6 x 6	6 x 6
2 x 8	4 x 4	4 x 6	4 x 6	6 x 6	6 x 6	6 x 6	6 x 6
2 x 10	4 x 6	4 x 6	6 x 6	6 x 6	6 x 6	6 x 6	6 x 6

USING THE BEAM CHART:

1. FIND THE SPAN OF YOUR DECK JOISTS
2. LOCATE THE SIZE BEAM YOU INTEND TO USE
3. LOCATE THE POINT ON THE CHART WHERE YOUR JOIST SPAN AND BEAM SIZE INTERSECT AND THAT WILL GIVE YOU THE MAXIMUM SPAN ALLOWED FOR YOUR POSTS.

EXAMPE: USING A 12' JOIST SPAN AND A 2-2X12 BEAM, YOUR MAXIMUM SPACE BETWEEN POSTS WOULD BE 11'.

USING THE POST SIZING CHART:

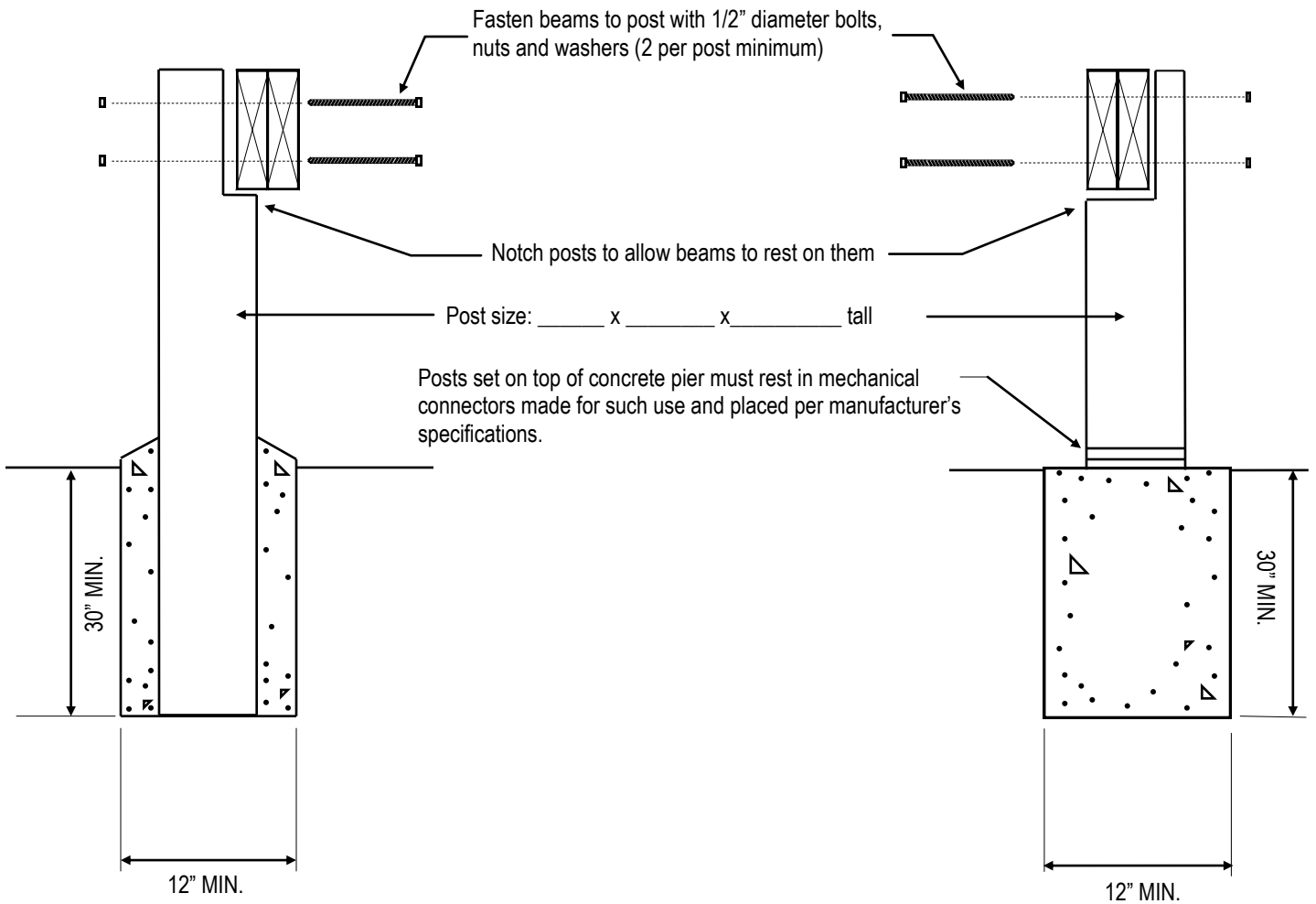
1. FIND THE SIZE OF YOUR DECK JOISTS
2. LOCATE THE HEIGHT OF YOUR DECK
3. LOCATE THE POINT ON THE CHART WHERE YOUR JOIST SIZE AND DECK HEIGHT INTERSECT AND THAT WILL GIVE YOU THE MINIMUM SIZE POST YOU CAN USE.

EXAMPE: USING A 2 x 8 JOIST AND A 10' DECK HEIGHT, YOUR MINIMUM POST SIZE WOULD BE A 6 x 6.

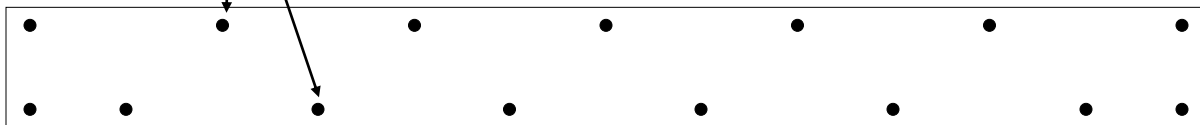
FASTENERS (SCREWS, NAILS, BOLTS, HANGERS ETC.) FOR PRESSURE TREATED WOOD MUST BE OF THE FOLLOWING: HOT DIPPED GALVANIZED STEEL, STAINLESS STEEL, OR AS APPROVED BY THE MANUFACTURER'S REQUIREMENTS.

POST-BEAM AND FOOTING DETAILS

CIRCLE WHICH DETAIL YOU WILL BE USING FOR POST AND BEAM PLACEMENT.
LIST THE POST SIZE AND FOOTING DEPTH AND WIDTH IN THE BLANKS BELOW



Beams must be fastened together with two rows of 10d nails at 32" on center. Place one row in the top 1/3rd of the beam and the other in the bottom 1/3rd and stagger the nails of each row.



FASTENERS (SCREWS, NAILS, BOLTS, HANGERS ETC.) FOR PRESSURE TREATED WOOD MUST BE OF THE FOLLOWING: HOT DIPPED GALVANIZED STEEL, STAINLESS STEEL, OR AS APPROVED BY THE MANUFACTURER'S REQUIREMENTS.

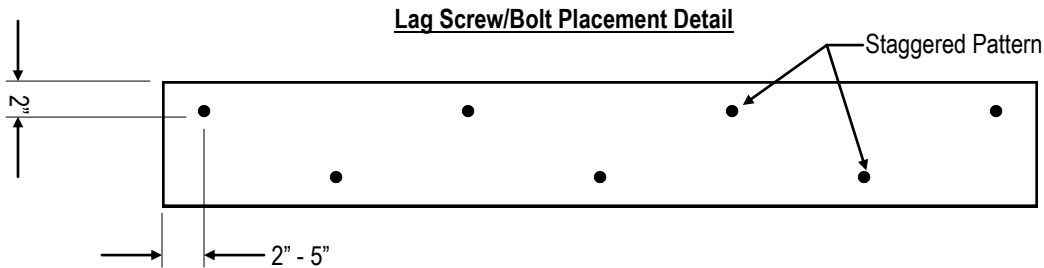
Deck Band Board Attachments

507.1 Where supported by attachment to an exterior wall, decks shall be positively anchored to the primary structure and designed for both vertical and lateral loads. Such attachment shall not be accomplished by the use of toenails or nails subject to withdrawal.

Where positive connection to the primary building structure cannot be verified during inspection, decks shall be self-supporting. For decks with cantilevered framing members, connections to exterior walls or other framing members, shall be designed and constructed to resist uplift resulting from the full live load specified in Table R 301.5 acting on the cantilevered portion of the deck.

R507.2 Decks ledger connection to band joist. For decks supporting a total design load of 50 pounds per square foot: 40 pounds per square foot live load plus 10 pounds per square foot dead load, the connection between a deck ledger of pressure-preservative-treated Southern Pine, incised pressure-preservative treated Hem-Fir or approved decay-resistant species, and a 2-inch (51 mm) nominal lumber band joist bearing on a sill plate or wall plate shall be constructed with ½-inch (12.7 mm) lag screws or bolts with washers in accordance with Table R507.2. Lag screw, bolts and washers shall be hot-dipped galvanized or stainless steel.

507.2.1 Placement of lag screws or bolts in deck ledgers. The lag screws or bolts shall be placed 2 inches in from the bottom or top of the deck ledgers and between 2 and 5 inches in from the ends. The lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger. See drawing below.



507.2.2 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 unless specifically designed by a design professional.**

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' or 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}						
½ inch diameter lag screw with 15/32 maximum sheathing ^a	30	23	18	15	13	11	10
½ inch diameter bolt with 15/32 inch maximum sheathing	36	36	34	29	24	21	19
½ inch diameter bolt with 15/32 inch maximum sheathing and ½ 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 = 0.0479kPa.

- a. The tip of the lag crew 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 ½ ".
- 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 R502.2.2.1.1.
- e. Deck ledger shall be minimum 2 x 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 designated in accordance with accepted engineering practice.
- g. A minimum 1 x 9 ½ Douglas Fir laminated veneer lumber rim board shall be permitted in lieu of the 2-inch nominal band joist.
- h. Wood structural panel sheathing, gypsum board 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.



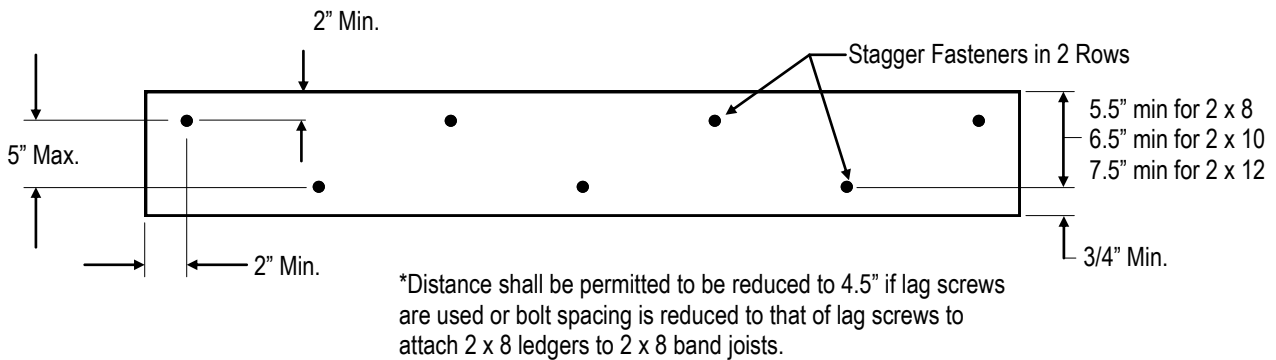
**Table 507.2.1
Placement of Lag Screws and Bolts in Deck Ledgers and Band Joists**

Placement of Lag Screws and Bolts in Deck Ledgers and Band Joists				
	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

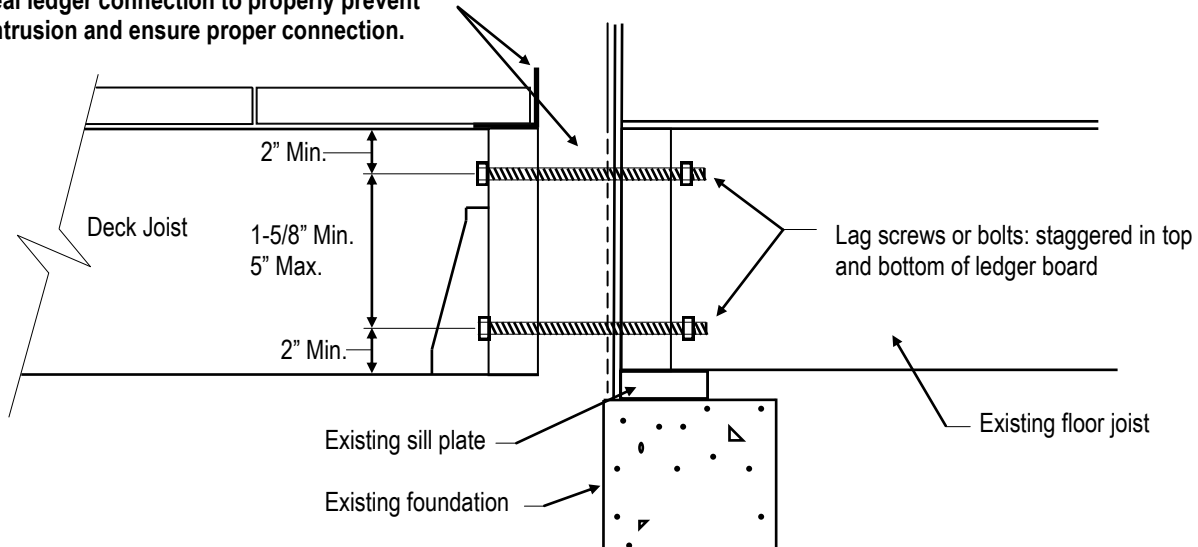
- A. Lag screws or bolts shall be staggered from the top to the bottom along the horizontal run of the deck ledger in accordance with Figure R507.2.1(1).
- B. Maximum 5 inches.
- C. For engineered rim joists, the manufacturer's recommendations shall govern.
- D. The minimum distance from the bottom row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

**Figure 507.2.1 (1)
Placement of Lag Screws and Bolts in Deck Ledgers**



**Figure 507.2.1 (2)
Placement of Lag Screws and Bolts in Band Joists**

Remove exterior wall covering at ledger board and flash/seal ledger connection to properly prevent water intrusion and ensure proper connection.

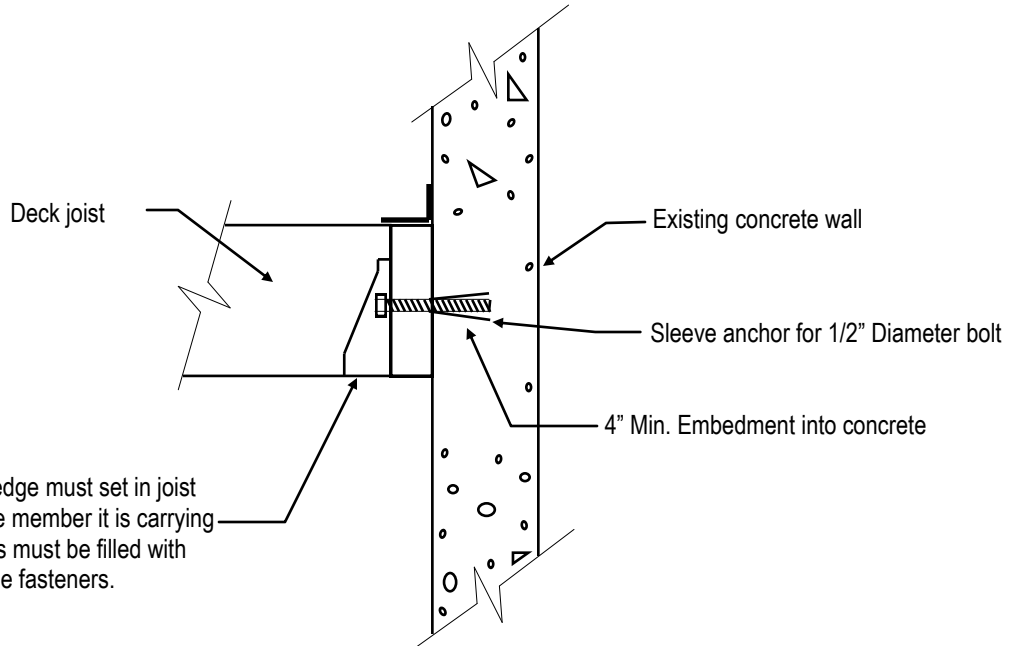


R507.3 Wood/plastic composites. Wood/plastic composites used in exterior deck boards, stair treads, handrails and guardrail systems shall bear a label indicating the required performance levels and demonstrating compliance with the provisions of ASTM D 7032

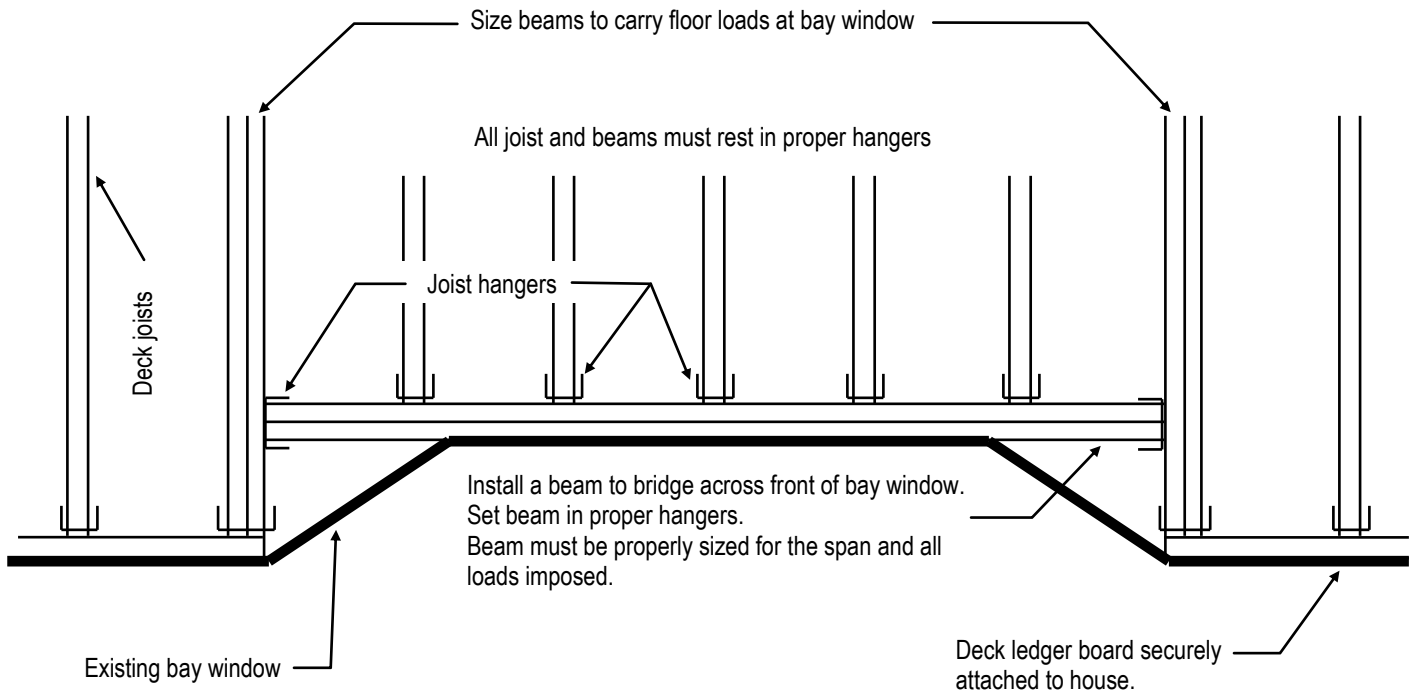
R507.3.1 Installation of wood/plastic composites. Wood/plastic composites shall be installed in accordance with the manufacturer's instructions.

ATTACHING BAND BOARD TO CONCRETE OR SOLID MASONRY WALL

Instead of bolting through concrete walls you may attach deck ledger board by a sleeve anchor made for a 1/2" diameter bolt and set a minimum 4" into the concrete wall.



ATTACHING DECK TO A BAY WINDOW



DECK STAIR DETAILS

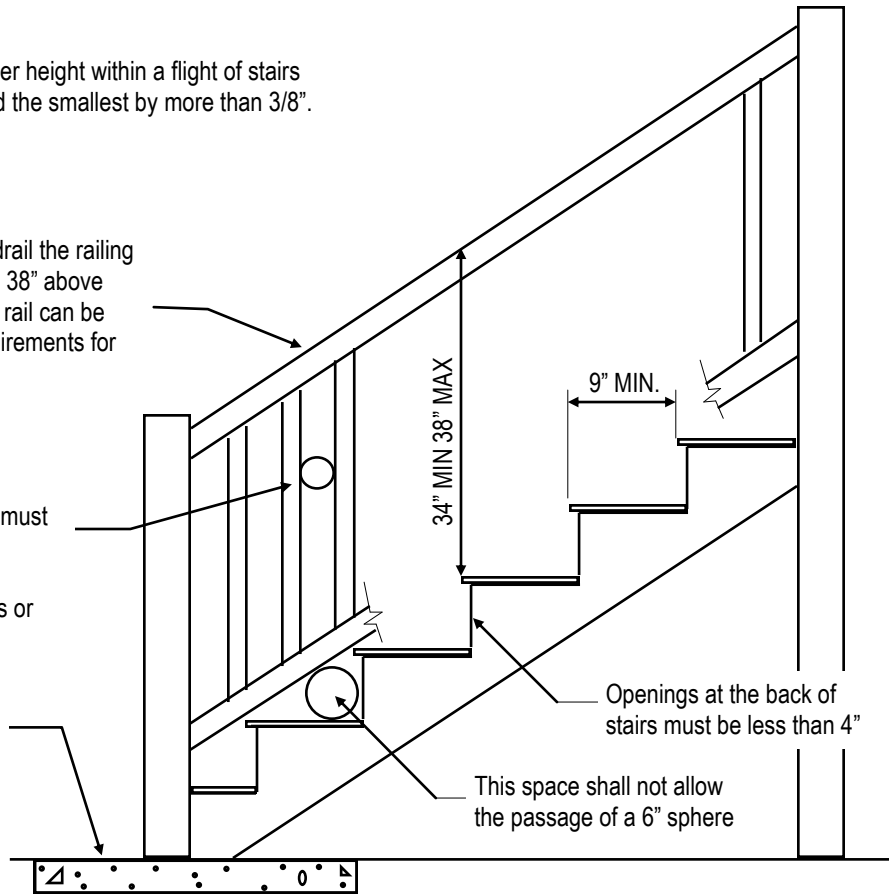
The greatest riser height within a flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ ".

If using the top of the guardrail for handrail the railing must be set a min. 34" and a maximum 38" above the leading edge of the stair tread. The rail can be no wider than 2-5/8" and meet the requirements for handrails.

All openings on stair guard rail must be less than 4-3/8".

Openings in guard rail on decks or platforms must be less than 4"

Bottom of stair riser must rest on solid material or post in footing



9" MIN.

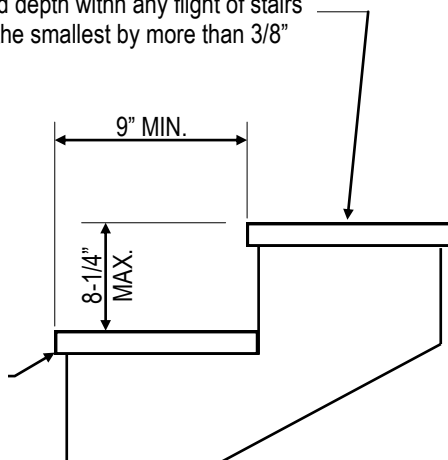
Openings at the back of stairs must be less than 4"

This space shall not allow the passage of a 6" sphere

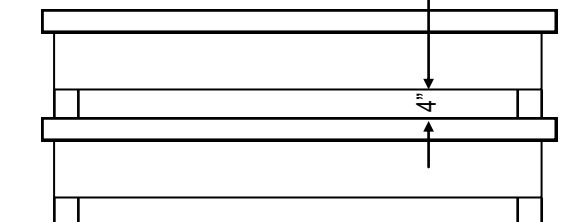
STAIR TREADS AND RISERS

The greatest tread depth within any flight of stairs shall not exceed the smallest by more than $\frac{3}{8}$ "

All stairs must overhang a MIN. 3/4" and a MAX. 1-1/4"



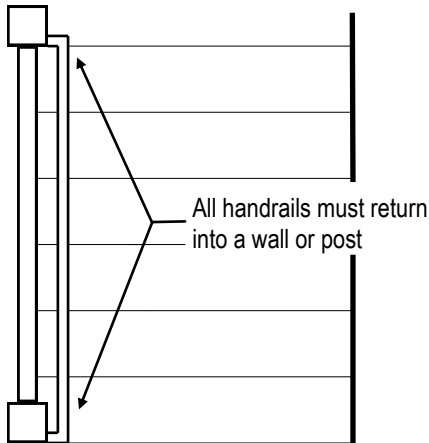
The openings at the back of the stairs must be less than 4"



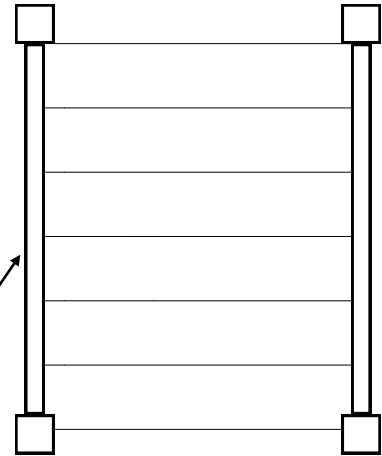
STAIR AND HANDRAIL DETAILS

Handrails are required on all stairs with 4 or more risers

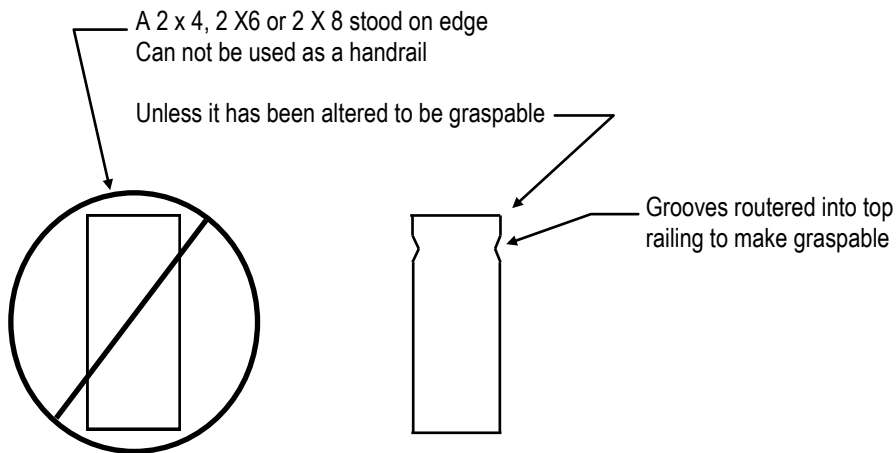
Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight.



If using the top of the guardrail as the required handrail it must be no wider than 2-5/8" and graspable.



GRASPABLE HANDRAILS



Maximum handrail width for any type handrail is 2-5/8"

