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Richwood Outpost
190 Beatty Avenue
Richwood, Ohio 43344

***Public Service** with integrity*

Residential Deck Requirements

- A separate deck permit is not required when the deck is constructed as part of a new home. The deck will be included in the permit for structure if it is shown on the approved plans and associated fees are paid.

- Submit site plan showing the house and deck location.

- Building plans are to include the deck layout, post locations, concrete footing sizes, floor joist size and spacing, beam sizes and post to beam connection details. Provide the attachment details if you are attaching the deck to an existing structure. Include the stair location and provide the rise, run, handrail and guardrail details.

Inspection Procedures

- Request a post hole inspection after all holes have been dug and **before** any concrete has been placed. Holes must be clear of any debris.

- Request a framing inspection if the bottom of the deck joists is less than 36” above grade. If the joists are over 36” above grade the frame inspection can be done with the final inspection.

- Request a final inspection when the deck is complete, all handrails/guardrails and steps/stair have been installed.

There are currently two ways to schedule an inspection:

1. Directly through OpenGov. This allows for a 7 AM cutoff time for same business day inspections.

2. Call our inspection line at 937.645.3019. You will need to know the permit number, address and type of inspection needed. Please note, this method can take two business days for inspection scheduling. If the timing of your inspection is critical, please use the inspection option with Opengov.

To speak with an inspector please call 937.645.3018.

Cancellation requests are to be made to our office prior to an inspector’s arrival on site.

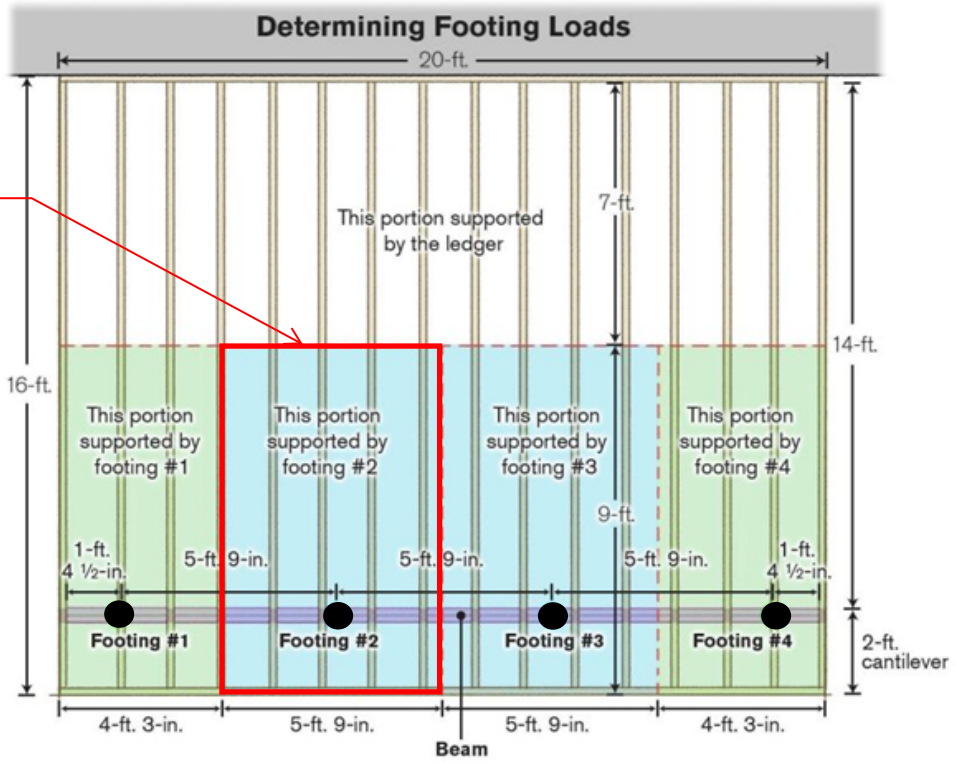
4/22/2025

Jeff Stauch, PE/PS
County Engineer | Environmental Engineer

Sam Cronk, CBO
Chief Building Official

Deck Footing Sizing

Tributary area for footings #2 and #3 is : 5'-9" x 9'-0" = 51.75 SF

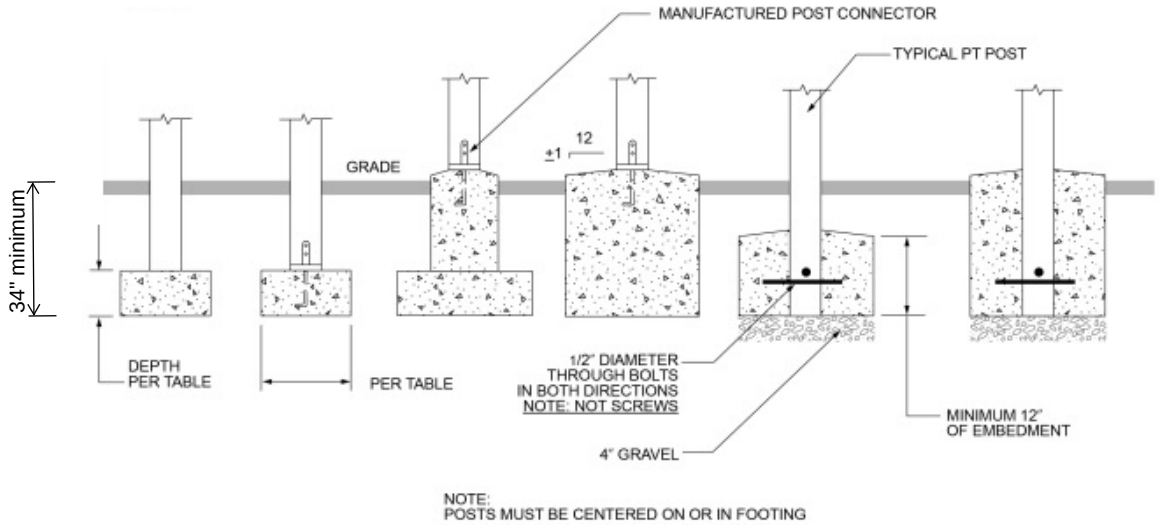


From example above: This is footing size for footings #2 and #3

TABLE R507.3.1

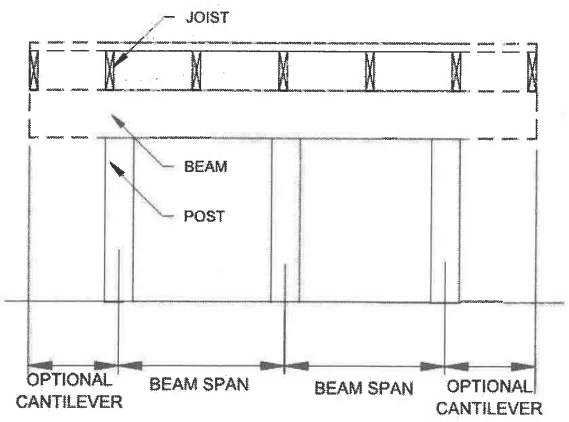
MINIMUM FOOTING SIZE FOR DECKS

LIVE OR GROUND SNOW LOAD (psf)	TRIBUTARY AREA (ft^2)	LOAD-BEARING VALUE OF SOILS (psf) 1,500		
		SIDE OF A SQUARE FOOTING (INCHES)	DIAMETER OF A ROUND FOOTING (INCHES)	THICKNESS (INCHES)
40	5	7	8	6
	20	10	12	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

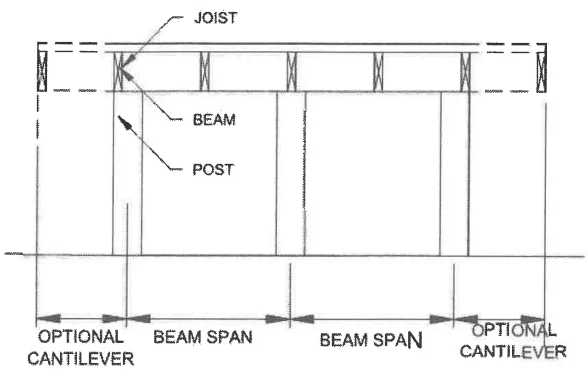


NOTE: R403.1.4 exception 2 of the 2019 RCO states:
Decks not supported by a dwelling unit need not be provided with footings that extend below the frost line. You would need a post hole depth of 12" minimum

Deck Beam Sizing



DROPPED BEAM



FLUSH BEAM

TABLE 507.5
DECK BEAM SPAN LENGTHS [a, b, g] (feet - inches)

SPECIESc	SIZE[d]	DECK JOIST SPAN LESS THAN OR EQUAL TO: (feet)						
		6	8	10	12	14	16	18
Southern pine	1 – 2×6	4-11	4-0	3-7	3-3	3-0	2-10	2-8
	1 – 2×8	5-11	5-1	4-7	4-2	2-10	3-7	3-5
	1 – 2×10	7-0	6-0	5-5	4-11	4-7	4-3	4-0
	1 – 2×12	8-3	7-1	6-4	5-10	5-5	5-0	4-9
	2 – 2×6	6-11	5-11	5-4	4-10	4-6	4-3	4-0
	2 – 2×8	8-9	7-7	6-9	6-2	5-9	5-4	5-0
	2 – 2×10	10-4	9-0	8-0	7-4	6-9	6-4	6-0
	2 – 2×12	12-2	10-7	9-5	8-7	8-0	7-6	7-0
	3 – 2×6	8-2	7-5	6-8	6-1	5-8	5-3	5-0
	3 – 2×8	10-10	9-6	8-6	7-9	7-2	6-8	6-4
	3 – 2×10	13-0	11-3	10-0	9-2	8-6	7-11	7-6
	3 – 2×12	15-3	13-3	11-10	10-9	10-0	9-4	8-10

* Beam cantilevers are limited to the adjacent beam's span divided by 4.

TABLE 507.4
DECK POST HEIGHT [a]

DECK POST SIZE	MAXIMUM HEIGHT [a, b] (feet-inches)
4×4	6-9 [C]
4×6	8
6×6	14
8×8	14

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

a. Measured to the underside of the beam.

b. Based on 40 psf live load.

c. The maximum permitted height is 8 feet for one-ply and two-ply beams. The maximum permitted height for three-ply beams on post cap is 6 feet 9 inches.

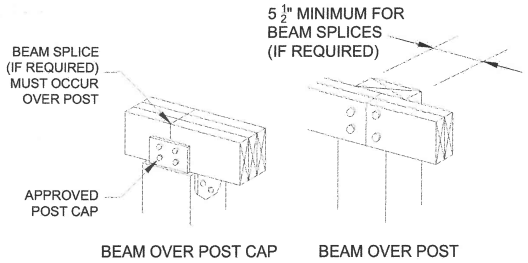


FIGURE 507.5.1(1)
DECK BEAM TO DECK POST

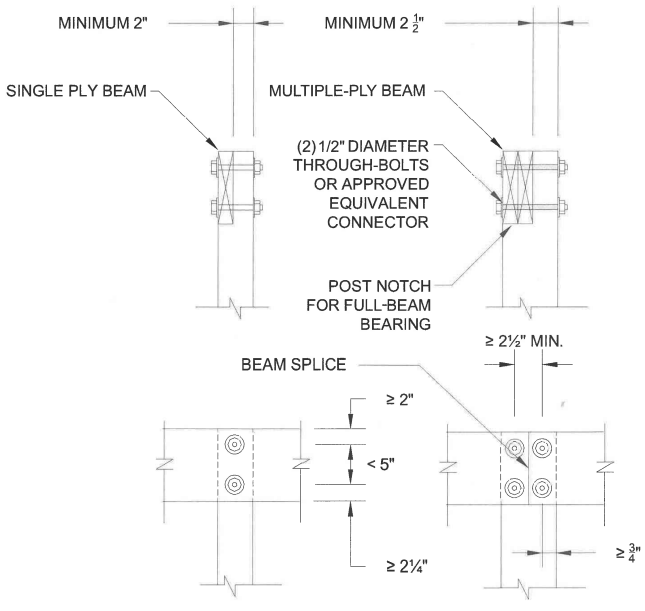
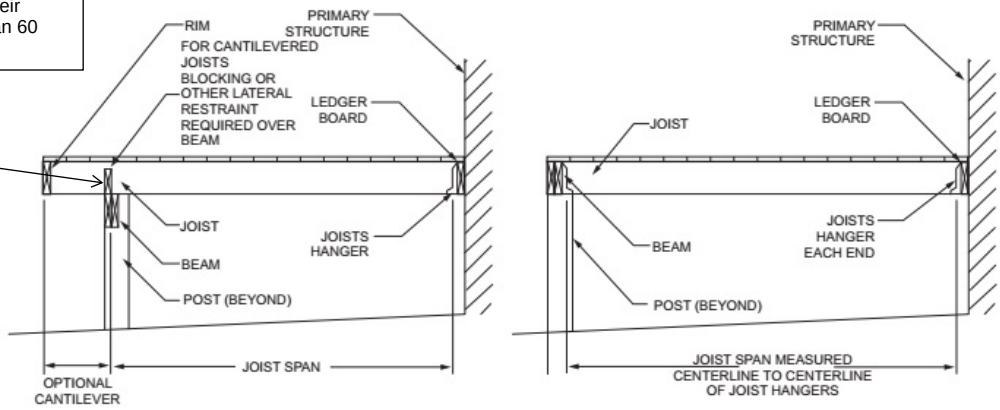


FIGURE 507.5.1(2)
NOTCHED POST-TO-BEAM CONNECTION

Deck Floor Joist Sizing

507.6.2 Deck joist lateral restraint. Joist ends and bearing locations shall be provided with lateral resistance to prevent rotation. Where lateral restraint is provided by joist hangers or blocking between joists, their depth shall equal not less than 60 percent of the joist depth.



CANTILEVERED JOISTS WITH DROPPED BEAM

JOISTS WITH FLUSH BEAM

TABLE 507.6
DECK JOIST SPANS FOR COMMON LUMBER SPECIES (ft. - in.)

SPECIES[a]	SIZE	ALLOWABLE JOIST SPAN[b] SPACING OF DECK JOISTS (inches)			MAXIMUM CANTILEVER [c, f] SPACING OF DECK JOISTS WITH CANTILEVERS [c] (inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	1-3	1-4	1-6
	2 × 8	13-1	11-10	9-8	2-1	2-3	2-5
	2 × 10	16-2	14-0	11-5	3-4	3-6	2-10
	2 × 12	18-0	16-6	13-6	4-6	4-2	3-4
Douglas fir-larch[d], hem-fir[d] spruce-pine-fir[d],	2×6	9-6	8-8	7-2	1-2	1-3	1-5
	2×8	12-6	11-1	9-1	1-11	2-1	2-3
	2×10	15-8	13-7	11-1	3-1	3-5	2-9
	2×12	18-0	15-9	12-10	4-6	3-11	3-3
Redwood, western cedars, ponderosa pine[e], red pine[e]	2×6	8-10	8-0	7-0	1-0	1-1	1-2
	2 × 8	11-8	10-7	8-8	1-8	1-10	2-0
	2×10	14-11	13-0	10-7	2-8	2-10	2-8
	2×12	17-5	15-1	12-4	3-10	3-9	3-1

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 pound per square foot = 0.0479 kPa, 1 pound = 0.454 kg.

a. No. 2 grade with wet service factor.

b. Ground snow load, live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$.

c. Ground snow load, live load = 40 psf, dead load = 10 psf, $L/\Delta = 360$ at main span, $L/\Delta = 180$ at cantilever with a 220-pound point load applied to end.

d. Includes incising factor.

e. Northern species with no incising factor.

f. Cantilevered spans not exceeding the nominal depth of the joist are permitted.

TABLE 507.7
MAXIMUM JOIST SPACING FOR DECKING

DECKING MATERIAL TYPE AND NOMINAL SIZE	MAXIMUM ON-CENTER JOIST SPACING	
	Decking perpendicular to joist	Decking diagonal to joist[a]
$1^1/_2$ -inch-thick wood	16 inches	12 inches
2-inch-thick wood	24 inches	16 inches
Plastic composite	In accordance with Section 507.2	In accordance with Section 507.2

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.01745 rad.

a. Maximum angle of 45 degrees from perpendicular for wood deck boards

Ledger Board Details

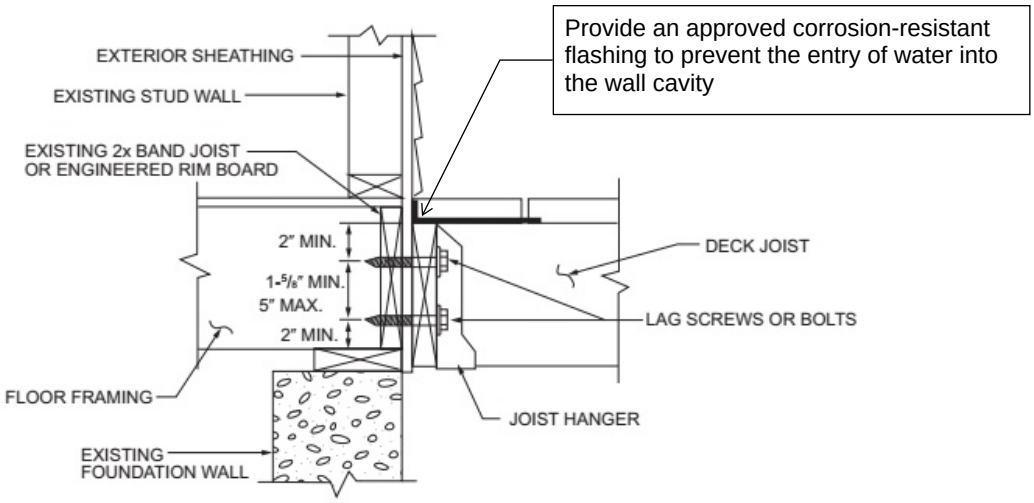


FIGURE R507.9.1.3(2)PLACEMENT OF LAG SCREWS AND BOLTS IN BAND JOISTS

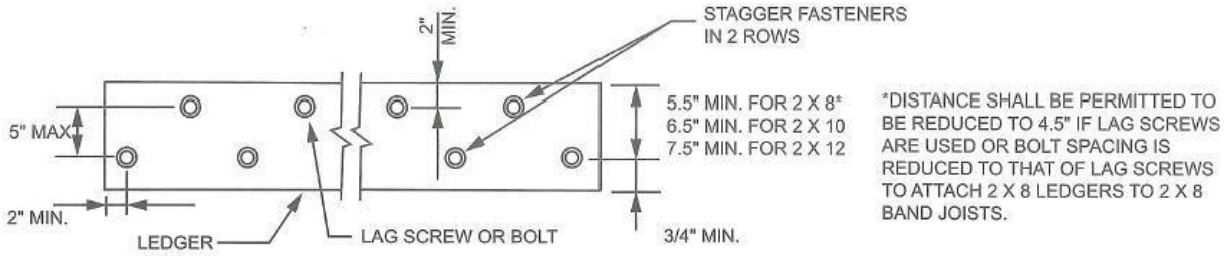


TABLE 507.9.1.3(1)
DECK LEDGER CONNECTION TO BAND JOIST[a, b]
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

CONNECTION DETAILS	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′
	On-center spacing of fasteners						
1/2-inch diameter lag screw with 1/2-inch maximum sheathing[c, d]	30	23	18	15	13	11	10
1/2-inch diameter bolt with 1/2-inch maximum sheathing[d]	36	36	34	29	24	21	19
1/2-inch diameter bolt with 1-inch maximum sheathing[e]	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. Ledgers shall be flashed in accordance with Section 703.4 to prevent water from contacting the house band joist.

b. Snow load shall not be assumed to act concurrently with live load.

c. The tip of the lag screw shall fully extend beyond the inside face of the band joist.

d. Sheathing shall be wood structural panel or solid sawn lumber.

e. Sheathing shall be permitted to be wood structural panel, gypsum board, fiberboard, lumber or foam sheathing. Up to 1/2-inch thickness of stacked washers shall be permitted to substitute for up to 1/2 inch of allowable sheathing thickness where combined with wood structural panel or lumber sheathing.

TABLE 507.9.1.3(2)
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]	3/4 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 507.9.1.3(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 507.9.1.3(1).

Stairs, Guardrail and Handrail Details

1. Handrails shall be provided on at least one side of each flight of stairs with four or more risers and shall comply with section 311.7.8 of the RCO.

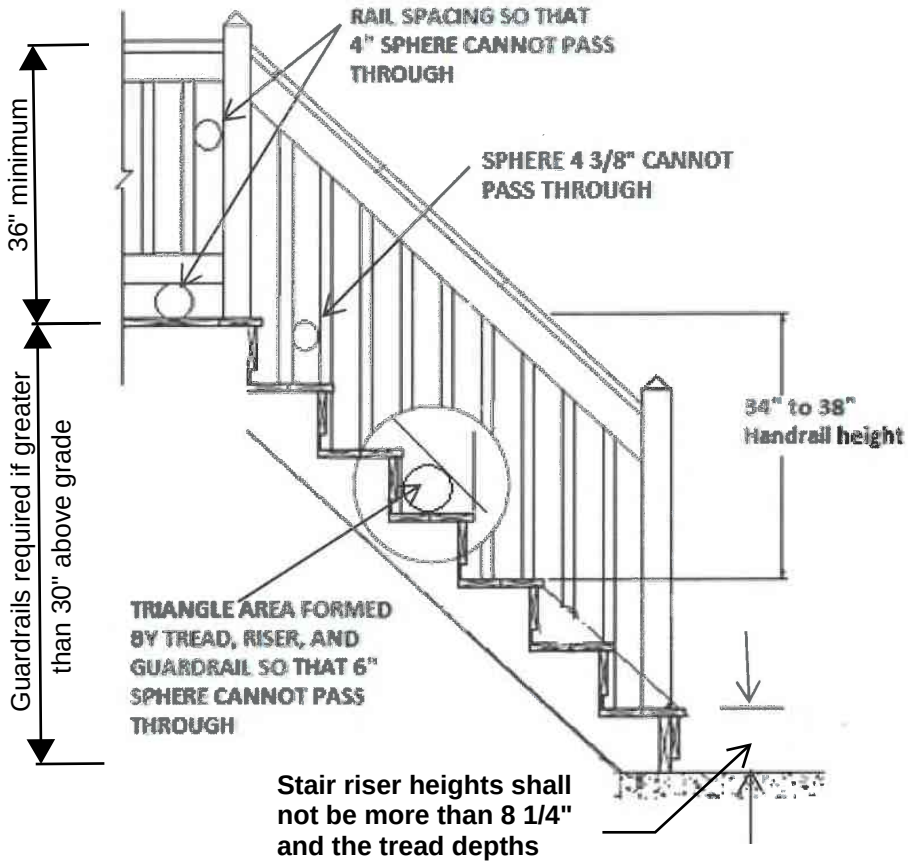
2. Handrail height: shall be no less than 34" and no more 38" from the tread nosing to the top of the handrail.

3. Handrails shall be graspable. (See examples below).

4. Handrails shall be continuous from a point directly above the top riser to a point directly above the bottom riser. Handrails ends shall be returned or shall terminate into newel posts.

5. Guardrails are required when the deck floor height is greater than 30" above adjacent grade.

6. Guardrails are required to be no less than 36" tall and have balusters (vertical or otherwise) that will prevent a 4" sphere from passing through.



Stair riser heights shall not be more than 8 1/4" and the tread depths shall not be less than 9".