

Building Guide

Colorado Chapter of the International Code Council

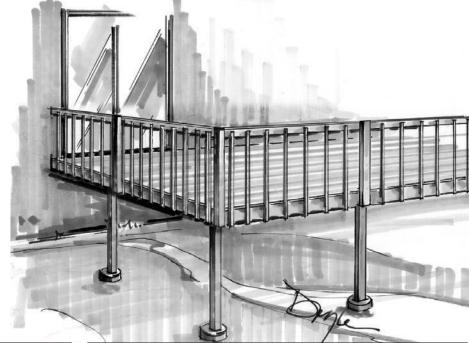
Single Family Residential Uncovered Decks and Porches

How to Use this Guide

Check with your jurisdiction for additional requirements. Draw to scale and complete the following:

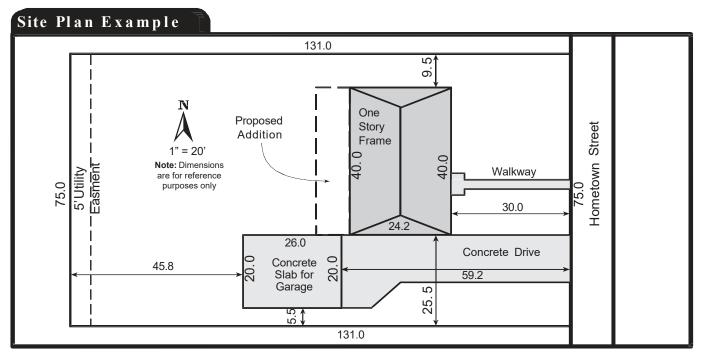
- **1. Complete this Building Guide** by filling in the blanks on page three, and indicating which construction details will be used.
- **2. Provide Plot Plan** (site plan) showing dimensions of your project or addition and its relationship to existing buildings or structures on the property and the distance to existing property lines drawn to scale. See page 2.
- **3. Provide building materials and color samples** Additions and attached structures should match the appearance of the existing structure.
- 4. Fill out a building permit application.

The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.

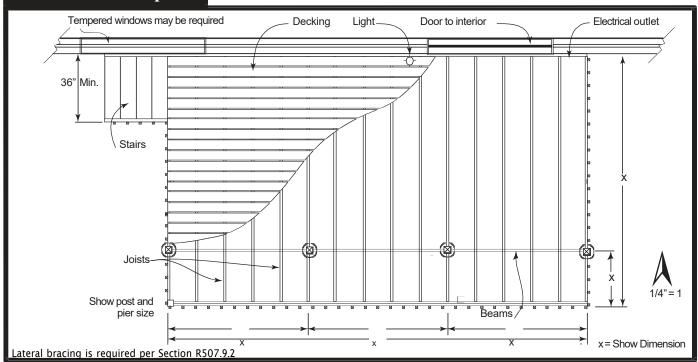


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Note: A plot plan (plan view) showing the dimensions of your project or additions and its relationships to existing buildings or structures on the property must be included. In addition to project dimensions, your plot plan must also show other details such as post locations and spacing, joist and beam spans, and any other pertinent information not shown on the section drawing.



Plan View Example



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Directions Address 1. Fill in the blanks. Please print legibly. 2. Indicate in the check box which detail from page 6 will be used. Size and Spacing of Lag Bolts (example: Two rows 1/2"x 4 1/2" lags @ 16" O.C.) Type of decking (example: 1 x 4 or 2 x 6 or Trex **Deck Section** Existing bldg. 36" high guard ioists Electrical outlet with balusters spaced " apart required on decks spaced so that a (example: 2 x 10" spaced 24" apart) See Table2 4 Inch diameter sphere cannot pass through Approved flashing Beam splices to occur over required beam posts with 1 1/2" bearing (example: (2) 2 x 10 - see detail B) See Table3 Attach decking with non corrosive fasteners Wood Species: example: Western Cedar or Southern Yellow Pine) Check one D Detail B 8 in. min. (see note) D Alternate Detail B1 $X_{\overline{\textit{(example: 4 x 4 posts spaced 8' apart)}}}$ ap D Alternate Detail B2 **Detail A** (see page 6) Post height __(see Table 4) (see page 6) Conditions such as Span attachment to cantilevers (example: 13' - 4") require Engineer's approval ij Span Type of exterior wall covering (example: siding, brick, stucco) Detail C (see page 6) Finished Grade Note: Emergency escape windows are allowed below frost depth check with your to be installed under decks and porches provided the location of the deck allows the emergency escape window to be fully opened and provides a path not less than 36" in height to a yard or court. 6'8" required for walk out basements or patios

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Table 1 Ledger connection

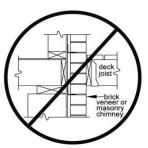
NOTE: Contact your local jurisdiction where snow loads exceed 40 psf.

Ledger Connection to rim joist

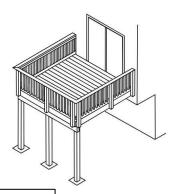
Deck live load =40psf; Snowload =40psf; Dead load=10 psf

		JOIST SPAN								
CONNECTION DETAILS	6'	and	6'1" to	8'1" to 10'	10'1" to	12'1" to	14'1" to	16'1" to		
CONNECTION DETAILS	le	ess	8'		12'	14'	16'	18'		
		On-center spacing of fasteners								
1/2 -inch diameter lag screw with 1/2 -inch maximum sheathing		30	23	18	15	13	11	10		
1/2 -inch diameter bolt with 1/2 maximum sheathing		36	36	34	29	24	21	19		
1/2-inch diameter bolt with I-incl sheathing	n maximum	36	36	29	24	21	18	16		

NOTE: Contact your local jurisdiction where snow loads exceed 40 psf.



Ledger minimum size 2x8 pressure treated HF, DF, or SP #2 or better; shall not be supported by stone or masonry veneer.



Sheathing
Siding
Flashing for water tightness
Decking

Approved joist hangers
2 in. min.

Approved joist hangers
2 x ledger with fasteners in accordance with Table R507.2
Hold-down device min. 750 lb. capacity at 4 locations, evenly distributed along deck and one within 2 ft. of each end of the ledger. Hold-down devices shall fully engage deck joist per

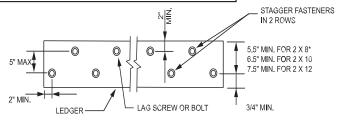
Note:

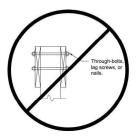
This detail is applicable where floor joists are parallel to deck joists.

A fully threaded % in. diamater lag screw predrilled w/min. 3 in. penetration to center of top plate, studs, or header.

hold-down manufacturer

Attachment to a Cantilevered floor requires Engineered design. See Detail A on page 6 for additional adjustment.





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Table 2 - Wood Joist simple span

Maximum Live Load or Ground Snow Load 40psf, Maximum Dead Load 10psf deflection L/360 Main span; L/180 cantilever

achection 2,500 main spain 2,100 cantilever									
	JOIST SIZE	MAXII	MUM JOIST SPA	N	MAXIMUM CANTILEVER SPACING OF DECK JOISTS WITH CANTILEVERS (inches)				
WOOD		SPACIN	NG OF DECK JOIST	S					
SPECIES			(inches)						
grade # 2 or			1	1					
better	Simple Span	12	16	24	12	16	24		
		on center	on center	on center	on center	on center	on center		
Southern pine	2x6	9-11	9-0	7-7	1-3	1-4	1-6 2-5		
	2x8	13-1	11-10	9-8	2-1	2-3	2-5		
	2x10	16-2	14-0	11-5	3-4	3-6	2-10		
	2x12	18-0	16-6	13-6	4-6	4-2	3-4		
Douglas fir- larch, hem- fir,	2x6	9-6	8-8	7-2	1-2	1-3	1-5		
	2x8	12-6	11-1	9-1	1-11	2-1	2-3		
	2x10	15-8	13-7	11-1	3-1	3-5	2-9		
spruce-pine-fir	2x12	18-0	15-9	12-10	4-6	3-11	3-3		

^{*} Other Wood Species subject to review by the Authority Having Jurisdiction (AHJ)

Table 3 - Wood Beam simple span

Maximum Live Load or Ground Snow Load 40psf, Maximum Dead Load 10psf deflection L/360 Main span; L/180 cantilever

Table 5 - Wood Beam Simple span		deflection L/360 Main span; L/180 cantilever							
WOOD SPECIES		DECK JOIST SPAN (ft-in) LESS THAN OR EQUAL TO:							
grade #2 or better	SIZE	6	8	10	12	14	16	18	
Southern pine	(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)-2x8	10-10	9-8	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,	3 x 8 or (2)- 2 x 8	6-10	5-11	5-4	4-10	4-6	4-1	3-8	
	3 x 10 or (2)- 2 x 10	8-4	7-5	6-6	5-11	5-6	5-1	4-8	
	3 x 12 or (2)- 2 x 12	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	3-5	
	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	
	4 x12	11-5	9-11	8-10	8-1	7-6	7-0	6-7	
	(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	

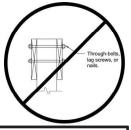
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Table 4 - Wood Post

Proposed deck posts from page 3 are subject to review by the AHJ with reference to Table R507.4.



Use of engineered lumber is not covered by this guide.



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Existing building Approved flashing required behind existing exterior wall covering Attach to joists with non-corrosive fasteners Attach ledger to existing bldg. with non-corrosive fasteners. Locate fasteners to penetrate rim joist or wall studs. See IRC R507.9.2 for Lateral Load connections

Non-corrosive metal joist hanger

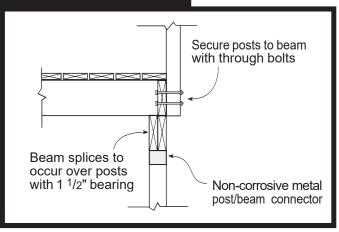
Connections such as attachment to cantilevers or

Approved flashing

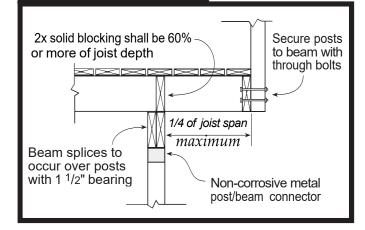
veneers may require Engineer Design

Beam splices to occur over posts with 11/2" bearing Non-corrosive metal joist hanger Secure posts to beam with through bolts Non-corrosive metal post/beam connector

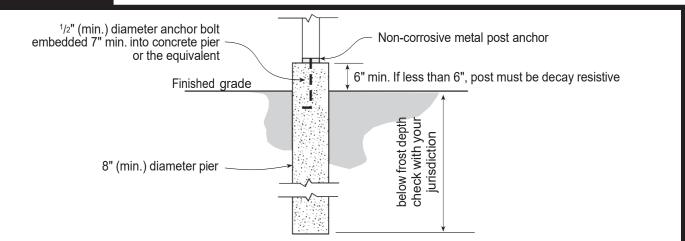
Alternate Detail B1



Alternate Detail B2

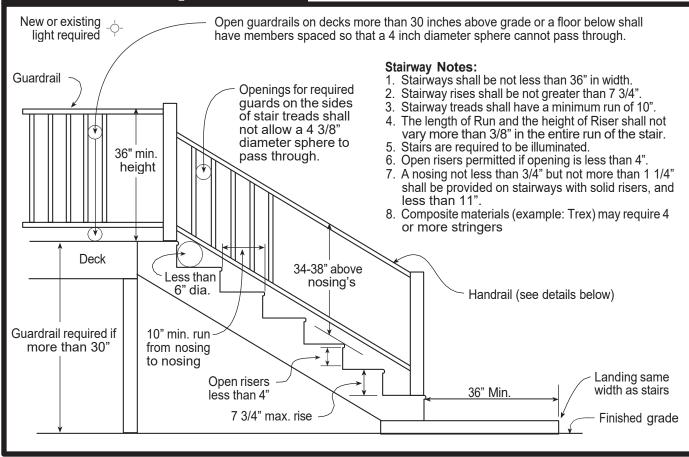


* Consult with your Local Jurisdiction for special connector requirements in high wind areas.



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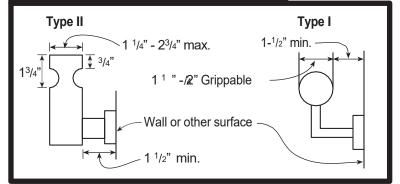
Stair & Handrail Specifications



Handrail Notes:

- 1. Handrails shall be continuous on at least one side of stairs with 4 or more risers.
- 2. Top of the handrails shall be placed not less than 34 inches nor more than 38 inches above stair nosing's.
- 3. The handgrip portion of handrails shall be not less than 1-1/4 inches nor more than 2 1/4 inches in cross section for non circular handrails.
- 4. Handrails shall be placed not less than 1-1/2 inches from any wall or other surface.
- 5. Handrails to be returned to wall, post or safety terminal (per 311.7.8.4 IRC)

Acceptable Handrail Details

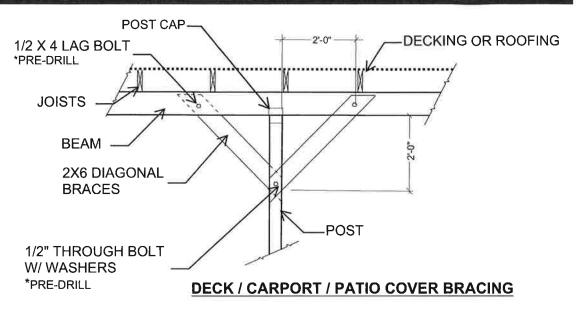


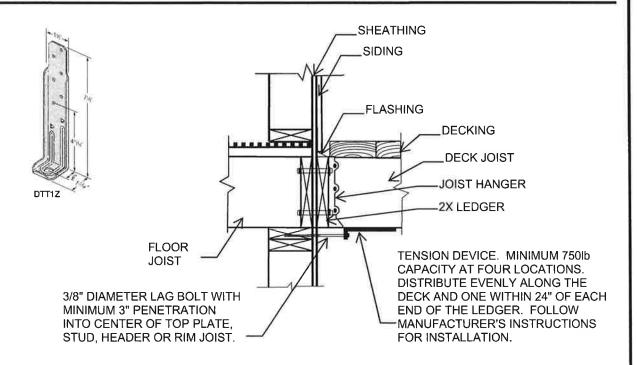
Unacceptable Handrails

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DECK LATERAL ATTACHMENT