

BILL EMLÉN
Director
(707) 784-6765

TERRY SCHMIDTBAUER
Assistant Director
(707) 784-6765

SAEED IRAVANI
Building Official
(707) 784-6765

DEPARTMENT OF RESOURCE MANAGEMENT



SOLANO COUNTY

675 Texas Street, Suite 5500
Fairfield, CA 94533-6342
(707) 784-6765
Fax (707) 784-4805

www.solanocounty.com

Building & Safety Division

DECK ATTACHMENTS TO RESIDENTIAL STRUCTURES
2016 California Residential Code, section R507

Decks shall be fastened to existing homes with lag screws or bolts. Nails are NOT permitted.

- Step 1: Determine joist span
- Step 2: Select lag screws or bolts
- Step 3: Fasten per table R507.2 & details below
- Step 4: Provide lateral ties per details below
- All members shall be pressure treated wood

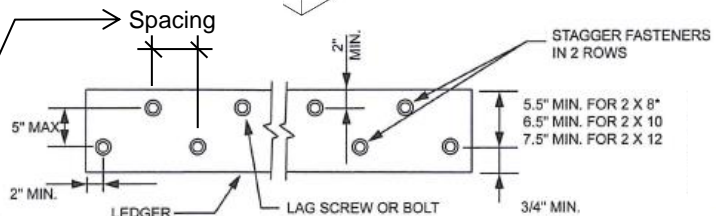
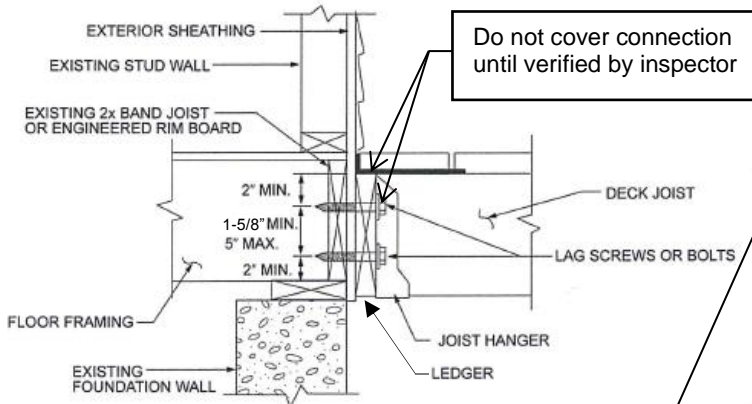
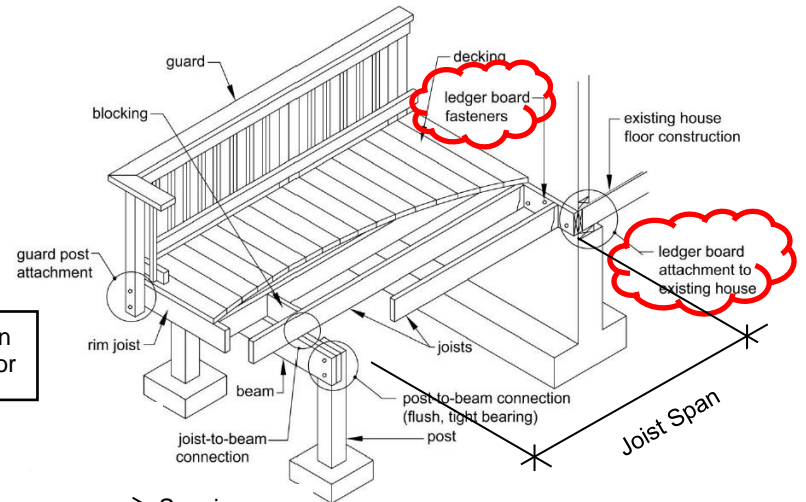


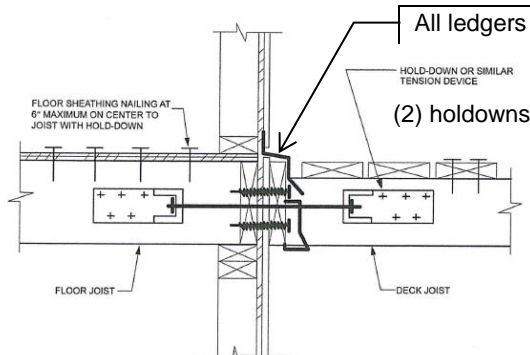
TABLE R507.2
DECK LEDGER CONNECTION TO BAND JOIST^{a,b}
(Deck live load = 40 psf, deck dead load = 10 psf, snow load ≤ 40 psf)

CONNECTION DETAILS	JOIST SPAN						
	6' and less	6'1" to 6'	6'1" to 10'	10'1" to 12'	12'1" to 14'	14'1" to 16'	16'1" to 18'
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

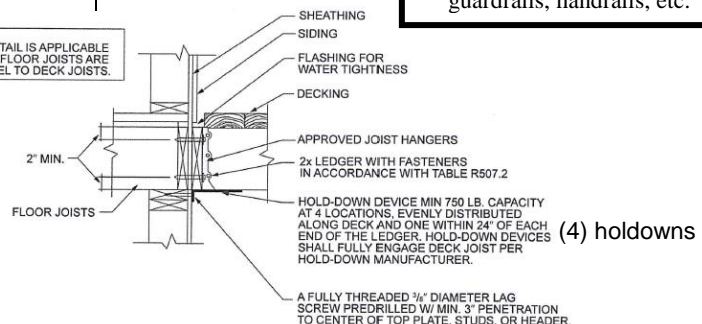
Required Deck Inspections

1. Footing/pier concrete placement
2. Ledger fastening to band joist. Leave out deck boards adjacent to house so fastening is visible during inspection.
3. Final inspection: deck framing, guardrails, handrails, etc.

Lateral Tie Options (select one per R507.2.4)



NOTE: THIS DETAIL IS APPLICABLE WHERE FLOOR JOISTS ARE PARALLEL TO DECK JOISTS.



SAEED IRAVANI
Building Official
Building & Safety

MIKE YANKOVICH
Program Manager
Planning Services

JAG SAHOTA
Manager
Environmental Health

SU KRISHNAN
Senior Staff Analyst
Administrative Services

MATT TUGGLE
Engineering Manager
Public Works Engineering

CHARLES BOWERS
Operations Manager
Public Works Operations

CHRIS DRAKE
Parks Services
Manager Parks

ROBERTA GOULART
Water & Natural Resources Program
Manager

**TABLE R507.5
DECK JOIST SPANS FOR COMMON LUMBER SPECIES^f (ft. - in.)**

SPECIES ^a	SIZE	SPACING OF DECK JOISTS WITH NO CANTILEVER ^b (inches)			SPACING OF DECK JOISTS WITH CANTILEVERS ^c (inches)		
		12	16	24	12	16	24
Southern pine	2 × 6	9-11	9-0	7-7	6-8	6-8	6-8
	2 × 8	13-1	11-10	9-8	10-1	10-1	9-8
	2 × 10	16-2	14-0	11-5	14-6	14-0	11-5
	2 × 12	18-0	16-6	13-6	18-0	16-6	13-6
Douglas fir-larch ^d , hem-fir ^d spruce-pine-fir ^d	2 × 6	9-6	8-8	7-2	6-3	6-3	6-3
	2 × 8	12-6	11-1	9-1	9-5	9-5	9-1
	2 × 10	15-8	13-7	11-1	13-7	13-7	11-1
	2 × 12	18-0	15-9	12-10	18-0	15-9	12-10
Redwood, western cedars, ponderosa pine ^e , red pine ^e	2 × 6	8-10	8-0	7-0	5-7	5-7	5-7
	2 × 8	11-8	10-7	8-8	8-6	8-6	8-6
	2 × 10	14-11	13-0	10-7	12-3	12-3	10-7
	2 × 12	17-5	15-1	12-4	16-5	15-1	12-4

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.