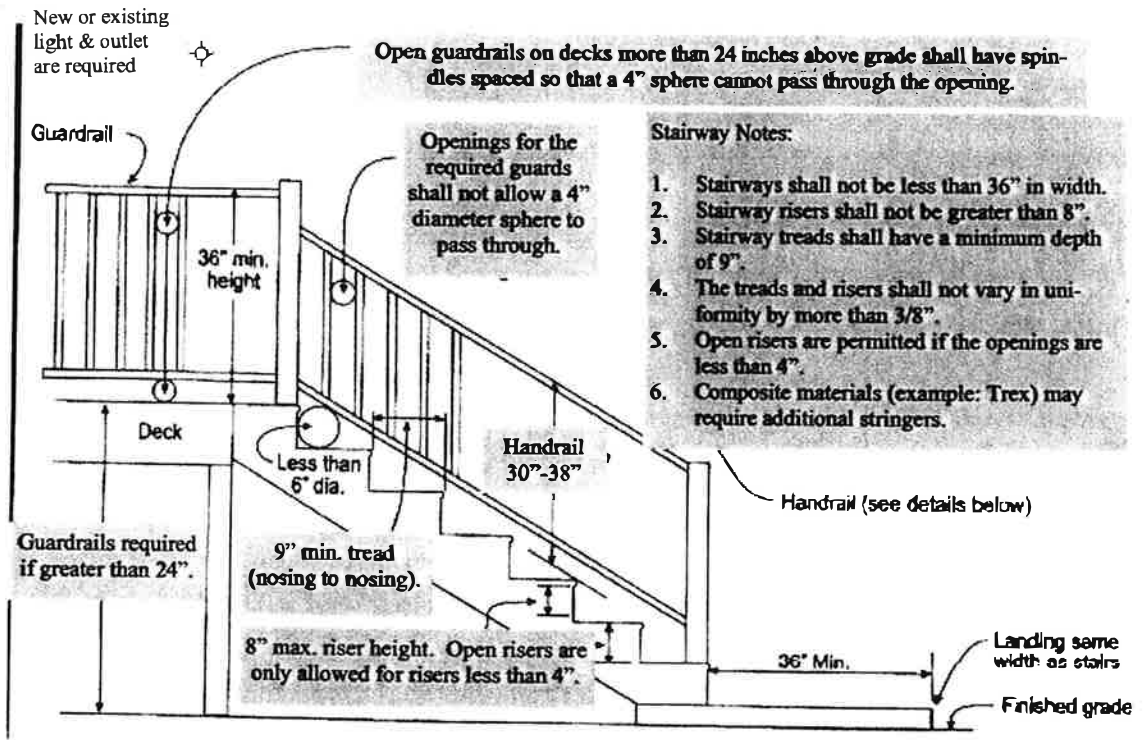


Building a Code Compliant Deck

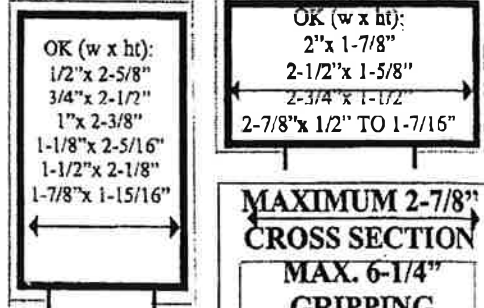


- Stairway Notes:**
1. Stairways shall not be less than 36" in width.
 2. Stairway risers shall not be greater than 8".
 3. Stairway treads shall have a minimum depth of 9".
 4. The treads and risers shall not vary in uniformity by more than 3/8".
 5. Open risers are permitted if the openings are less than 4".
 6. Composite materials (example: Trex) may require additional stringers.

Sample Handrail Shapes:

Make sure to what for the maximum allowable cross section and gripping surface measurements as shown below.

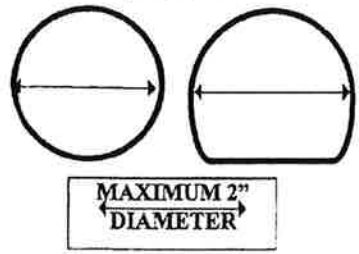
RECTANGULAR



OTHERS



ROUND



Joist Span

Based on No. 2 or better (Loads: 40# LL + 10# DL, Deflection=L/360)

| | Ponderosa Pine | | | Southern Pine | | |
|--------|----------------|--------|--------|---------------|--------|--------|
| | 12" OC | 16" OC | 24" OC | 12" OC | 16" OC | 24" OC |
| 2 x 6 | 9-2 | 8-4 | 7-0 | 10-9 | 9-9 | 8-6 |
| 2 x 8 | 12-1 | 10-10 | 8-10 | 14-2 | 12-10 | 11-0 |
| 2 x 10 | 15-4 | 13-3 | 10-10 | 18-0 | 16-1 | 13-5 |
| 2 x 12 | 17-9 | 15-5 | 12-7 | 21-9 | 19-0 | 15-4 |

In general, joists will not cantilever more than 2' beyond support without structural engineering.

Beam Sizing

#2 or better Southern Pine (SP) or Ponderosa Pine (PP)

Post Spacing

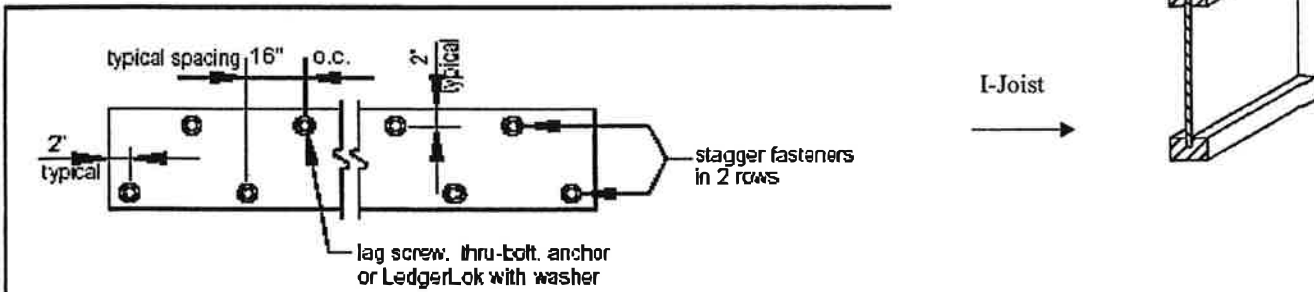
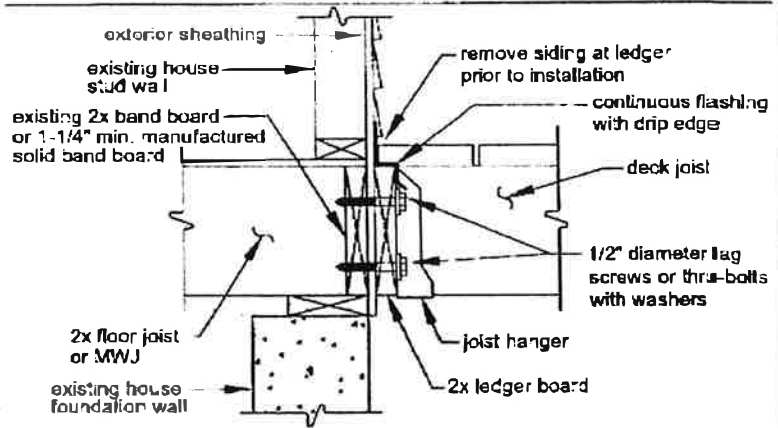
| | | 4' | 5' | 6' | 7' | 8' | 9' | 10' | 11' | 12' |
|-----|----|-------|-------|--------|--------|--------|--------|--------|----------|----------|
| 6' | SP | 2x6 | 2x6 | 2x6 | 2-2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 |
| | PP | 2x6 | 2x6 | 2x8 | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 |
| 7' | SP | 2x6 | 2x6 | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 |
| | PP | 2x6 | 2x6 | 2x8 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x10 | 2-2x12 |
| 8' | SP | 2x6 | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 |
| | PP | 2x6 | 2x6 | 2-2x8 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x10 | 3-2x10 |
| 9' | SP | 2x6 | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 |
| | PP | 2x6 | 2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x10 | 3-2x10 | 3-2x12 |
| 10' | SP | 2x6 | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 | 2-2x12 |
| | PP | 2x6 | 2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 3-2x10 | 3-2x12 |
| 11' | SP | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 2-2x12 |
| | PP | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 | 2-2x12 | 3-2x12 | 3-2x12 |
| 12' | SP | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 3-2x10 |
| | PP | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 2-2x12 | 3-2x12 | 3-2x12 |
| 13' | SP | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 3-2x12 |
| | PP | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x10 | 2-2x12 | 2-2x12 | 2-2x12 | 3-2x12 | Eng. Bm. |
| 14' | SP | 2x6 | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x10 | 2-2x10 | 2-2x12 | 3-2x10 | 3-2x12 |
| | PP | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 | 3-2x10 | 3-2x12 | 3-2x12 | Eng. Bm. |
| 15' | SP | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 | 2-2x12 | 3-2x10 | 3-2x12 |
| | PP | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 3-2x10 | 3-2x10 | 3-2x12 | 3-2x12 | Eng. Bm. |
| 16' | SP | 2-2x6 | 2-2x6 | 2-2x8 | 2-2x8 | 2-2x10 | 2-2x12 | 2-2x12 | 3-2x12 | 3-2x12 |
| | PP | 2-2x6 | 2-2x8 | 2-2x10 | 2-2x10 | 3-2x10 | 3-2x10 | 3-2x12 | Eng. Bm. | Eng. Bm. |

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Ledger:

The exterior finish system (siding) is to be removed prior to the installation of the ledger. Flashing is required at any ledger board connection to a wall of wood framed construction. The ledger board shall be equal to or greater than the depth of the floor joist. When attachments are made to the existing house rim board, the rim board shall be capable of supporting the new deck. Many new homes have been constructed with Manufactured "I" Joists and some of these homes were constructed with a plywood rim board that cannot support a deck. In such cases a free-standing deck may be the easiest and only option.



Ledger Attachment: Minimum of $3/8'' \times 5 \ 1/2''$ lag bolts or screws with washers @ 16'' o/c in a staggered pattern. When using lag screws pilot holes must be drilled and the lag screw must be fully driven to be effective. Pilot holes shall be about $3/4$ of the diameter of the screw for the threaded portion and full diameter for the unthreaded shank. Make sure that the lag screw is long enough so that at least half of its length penetrates the member to which it is attached.

Floor joists:

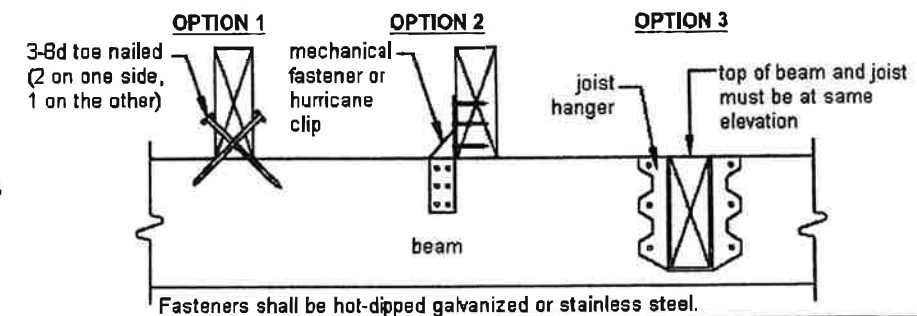
All deck floor joists shall be sized and spaced to meet minimum building code requirements. The allowable spans for deck floor joists can be obtained from the enclosed chart at the end of this packet.

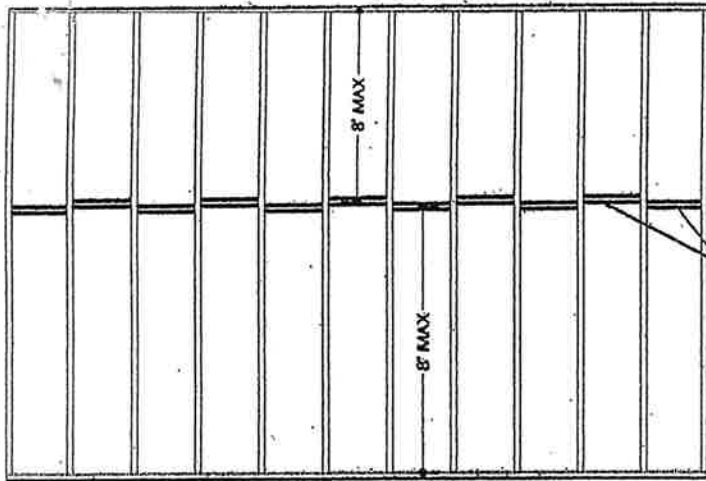
Minimum Bearing: 1 1/2 inches on the beam or ledger board

Blocking: Maximum 8 foot intervals

Maximum Cantilever: 2 feet

Joists shall be attached to the beam as shown in the following diagram. Joists may also be attached with joist hangers. Hangers, clips and mechanical fasteners shall be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel.

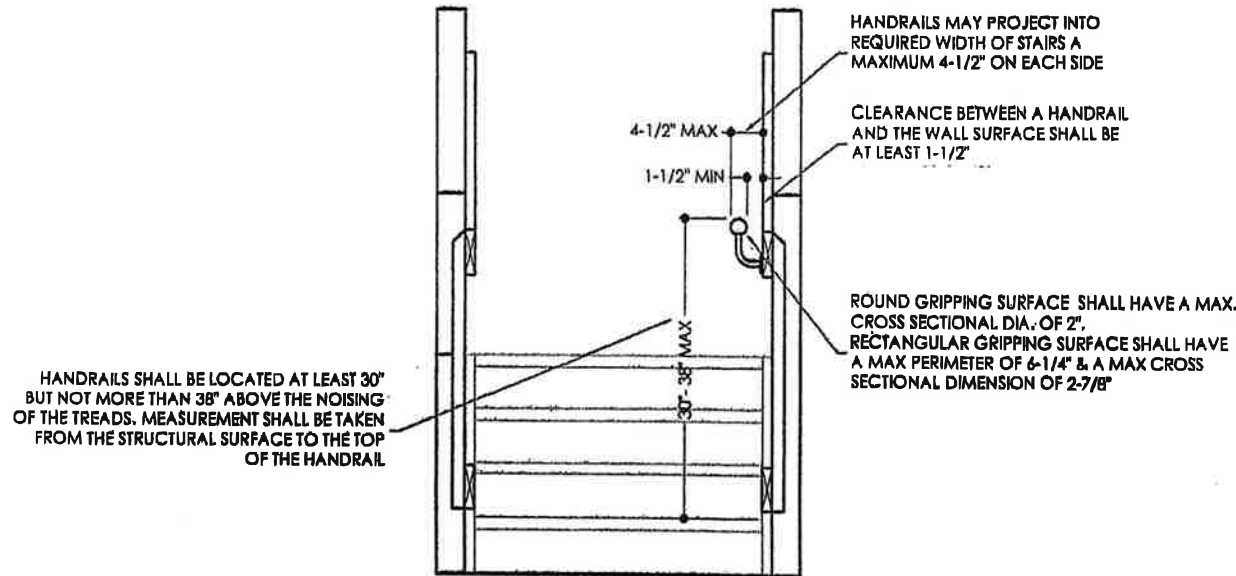
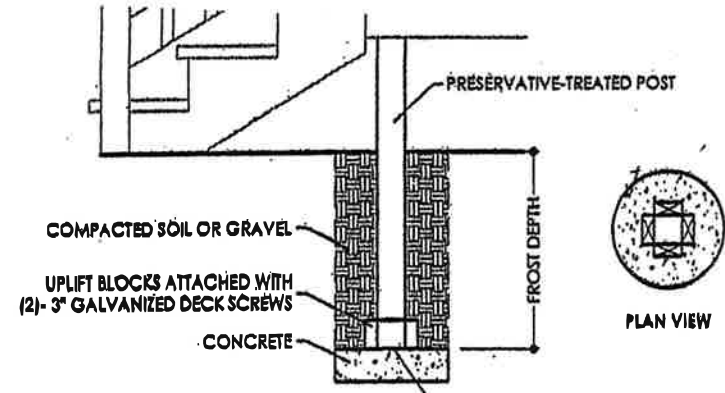




Bridging shall be provided at intervals not exceeding 8' where nominal depth to thickness ratio is greater than 4 to 1 (2x10 or 2x12 joists)

TYPICAL BRIDGING DETAIL

Typical Footings



TYPICAL HANDRAIL DETAIL

* STAIR FLIGHTS WITH MORE THAN 3 RISERS SHALL BE PROVIDED WITH AT LEAST ONE HANDRAIL FOR THE FULL LENGTH OF STAIR FLIGHT

Footing Sizes¹

| Beam Span, | Joist Span | Round Footing Diameter | Square Footing Dimension | Footing Thickness ² |
|------------|------------|------------------------|--------------------------|--------------------------------|
| 6' | <10' | 15" | 13" | 6" |
| | <14' | 17" | 15" | 6" |
| | <18' | 20" | 18" | 7" |
| 8' | <10' | 17" | 15" | 6" |
| | <14' | 20" | 18" | 8" |
| | <18' | 23" | 21" | 9" |
| 10' | <10' | 19" | 17" | 7" |
| | <14' | 22" | 20" | 9" |
| | <18' | 25" | 23" | 10" |
| 12' | <10' | 21" | 19" | 8" |
| | <14' | 24" | 22" | 10" |
| | <18' | 28" | 26" | 11" |
| 14' | <10' | 22" | 20" | 9" |
| | <14' | 26" | 24" | 11" |
| | <18' | 30" | 28" | 12" |
| 16' | <10' | 24" | 22" | 9" |
| | <14' | 28" | 26" | 12" |
| | <18' | 32" | 30" | 13" |
| 18' | <10' | 25" | 23" | 10" |
| | <14' | 30" | 28" | 12" |
| | <18' | 34" | 32" | 14" |

1. Assumes 1,500 psf soil bearing capacity.
2. Assumes 2,500 psi soil compressive strength of concrete. Coordinate footing thickness with post base and anchor requirements.

You may also use the UDC prescriptive column footing of 24"x24"x12"