

DECK LATERAL LOAD CONNECTIONS TO MEET THE 2009/2012 IRC FOR MULTIPLE CONDITIONS

Condition C – Floor Joist is a Wood Truss or I-Joist

The DTT2 must be installed on a minimum 2x wood member. Some wood truss and I-joist manufacturers have developed details to attach a horizontal 2x member to their product to transfer a 1,500-lb. lateral load. Contact the manufacturer of the engineered floor component for more information.

Condition D – Top of Deck Steps Down Below Top of Floor

The DTT2 may be installed with as little as 4" of vertical overlap between the floor joist and deck joist depths. Note that the code prescribed connection between the deck ledger and band joist to support gravity loads will require much more overlap. When a step down results in a deck ledger that is attached to a concrete or grout-filled CMU foundation wall, the DTT2 may attach to a 1/2" diameter anchor rod that is attached to the wall (*ledgers are not permitted to be supported by stone or masonry veneer*). The anchorage and the wall should be designed to support a 1,500-lb. lateral load (see Figure 5).

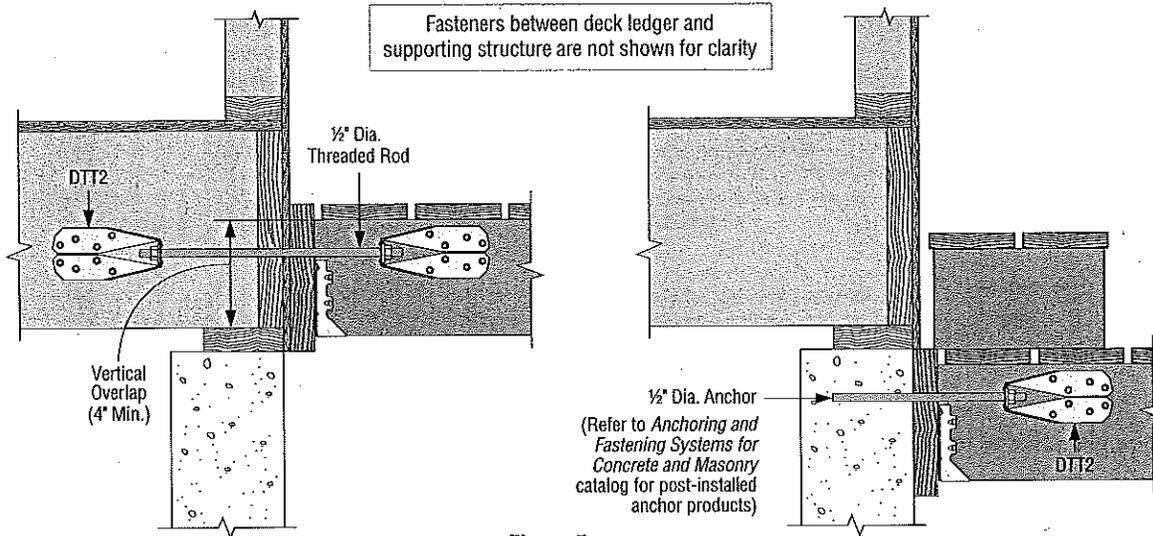


Figure 5

Condition E – No Access to the Top of the Floor Sheathing

When the floor sheathing to joist nailing specified in the IRC cannot be installed, an alternate connection capable of transferring 1,500 lbs. to the floor sheathing is required. Simpson Strong-Tie has evaluated the A35 framing angle installed with SPAX® #6 x 1/2" pan head, full-thread screws* in 1/2" minimum plywood or OSB sheathing. The installation shown in Figure 6 has an allowable lateral load of 425 lbs. per A35 (*based on a 3.0 factor of safety*). Use four A35 framing angles to meet the 1,500-lb. requirement. When fastened to full-height blocking (see Condition B), use at least two A35 framing angles on each block.

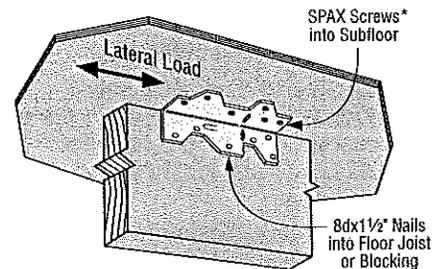


Figure 6

Condition F – No Access to Floor Joist

Where a positive connection to the primary structure cannot be made or verified during inspection, the IRC requires the deck to be self supporting.

Summary

The IRC provides an approved method to resist the lateral loads that can result from wind-, seismic- or occupant-related forces acting on a deck when it is supported by attachment to a ledger. However, as demonstrated not all framing conditions are addressed. When the conditions listed here exist, consider the versatile DTT2 holdown to transfer lateral loads to the supporting structure. Refer to the current *Wood Construction Connectors* catalog for holdown installation information.

*Call (888) ABC-SPAX for local availability of SPAX #6x1/2" pan head, full-thread screw (part #0111010350135).

Available Threaded Rod Sizes

Model No.	Dia. (in.)	Length (in.)	Finish
ATR1/2x18HDG	1/2	18	HDG
ATR1/2x36HDG	1/2	36	HDG
ATR1/2x18SS	1/2	18	Stainless Steel
ATR1/2x36SS	1/2	36	Stainless Steel

This technical bulletin is effective until June 30, 2013, and reflects information available as of May 1, 2011. This information is updated periodically and should not be relied upon after June 30, 2013; contact Simpson Strong-Tie for current information and limited warranty or see www.strongtie.com.

DECK LATERAL LOAD CONNECTIONS TO MEET THE 2009/2012 IRC FOR MULTIPLE CONDITIONS

Background

When decks are supported by attachment to an adjacent structure, the International Residential Code® (2000 through 2012 IRC) requires a positive attachment to that structure to resist lateral (horizontal) loads. These loads can result from wind or seismic forces acting on a deck or from occupants on the deck moving around. If the band joist, deck ledger or deck joists were to pull away from the primary structure as a result of lateral forces, the deck would not be supported for gravity (vertical) loads and would likely collapse (see Figure 1).

To prevent this, the 2009 and 2012 IRC include an approved method to resist these lateral loads. The method calls for holddown devices with a minimum allowable load of 1,500 lbs. to be installed in at least two locations per deck. The holddowns connect a deck joist to a floor joist in the supporting structure that is nailed to the floor sheathing above (see Figure 2).

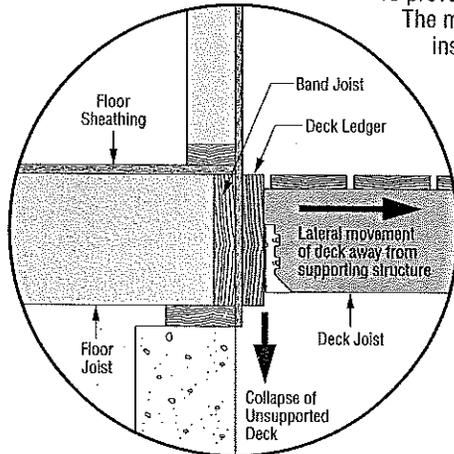


Figure 1

The Simpson Strong-Tie® DTT2 deck tension tie may be used in this critical connection assembly to satisfy the provisions of the IRC and the AF&PA *Prescriptive Residential Wood Deck Construction Guide* (DCA6). Versatile and cost-effective, the DTT2 fastens quickly and easily using Simpson Strong-Tie Strong-Drive® SDS screws, which install with no pre-drilling and are included with each DTT2 connector. The DTT2 is available in ZMAX® coating (DTT2Z) and stainless steel (DTT2SS).

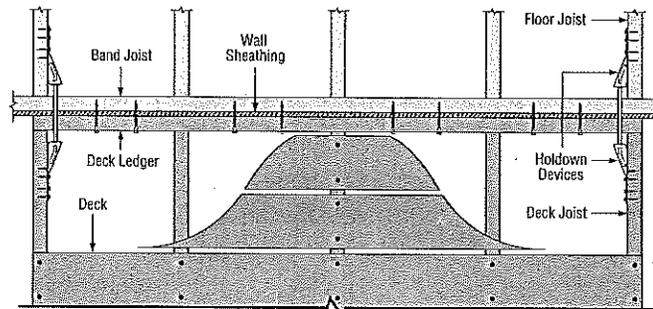


Figure 2

Conditions Not Shown in the IRC

The 2009/2012 IRC detail does not specifically address some common framing conditions. When these are encountered, alternate methods of construction must be approved by the building official to ensure they satisfy the intent of the code and are at least equivalent to the prescribed method. Several alternate construction methods are shown here and are subject to approval by the building official.

Condition A – Floor Joist Framing Does Not Line Up with the Deck Joist

The DTT2 may be installed with a maximum allowable offset of 1½" when the ties are installed at least 18" apart. Larger offsets may require an additional deck joist be added to line up with the floor joist (see Figure 3).

Condition B – Floor Joist Framing is Perpendicular to the Deck Joist

Full-height blocking between joists is a common construction method when lateral load is applied perpendicular to floor framing. The blocking for this application would have to extend into the floor framing far enough to permit enough fasteners from the floor sheathing to transfer 1,500 lbs. An 8d common nail (0.131" x 2½") through 2¾" wood structural-panel floor sheathing (G = 0.50) into SPF or better blocking (G ≥ 0.42) has an allowable lateral design value of 131 lbs. (1.60 load duration factor*). This installation would require 12 nails through the floor sheathing into the blocking. It is recommended the blocking extend into the floor at least two joist bays and the DTT2 be installed in the furthest blocked bay (see Figure 4). When nails into the floor sheathing cannot be installed, see Condition E.

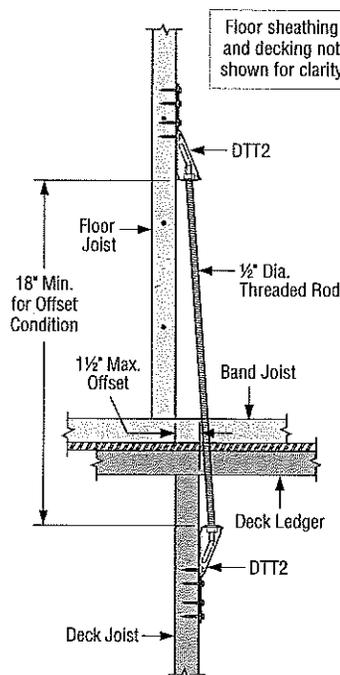


Figure 3

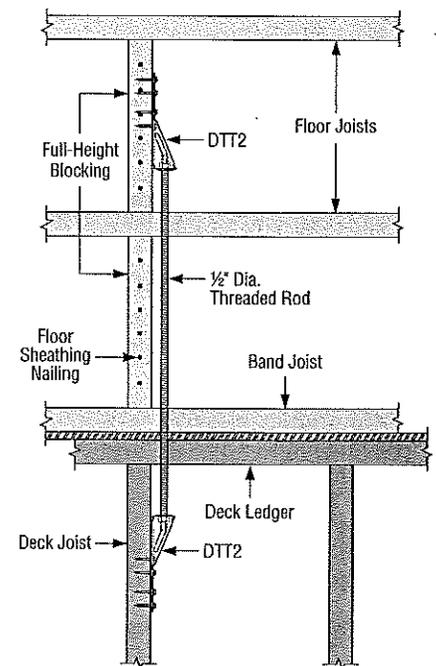


Figure 4

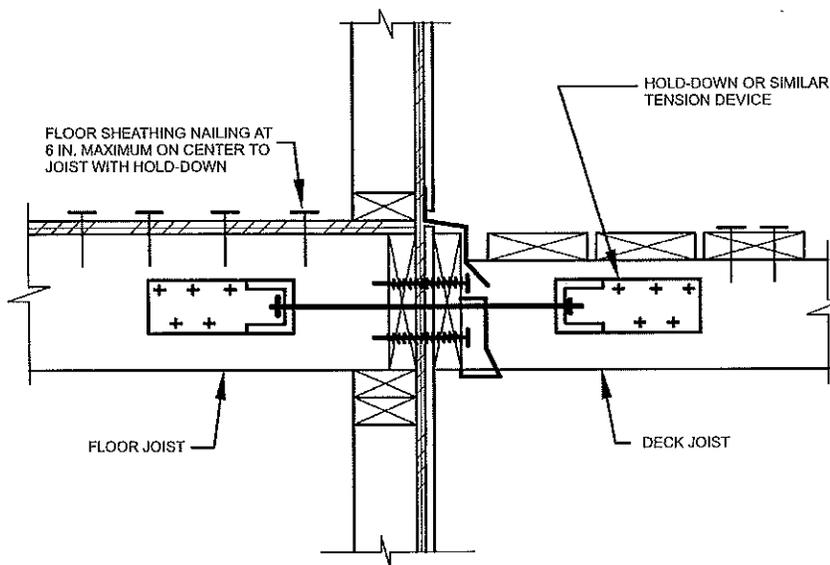
* A load duration factor of 1.60 corresponds to a 10-minute duration of maximum load, adjust for other durations.

TABLE R502.2.2.1
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' 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'
Connection details	On-center spacing of fasteners^{d, e}						
1/2 inch diameter lag screw with 15/32 inch maximum sheathing ^a	30	23	18	15	13	11	10
1/2 inch diameter bolt with 15/32 inch maximum sheathing	36	36	34	29	24	21	19
1/2 inch diameter bolt with 15/32 inch maximum sheathing and 1/2 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 = 0.0479 kPa.

- a. The tip of the lag screw 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 1/2".
- 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 2x8 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 designed in accordance with accepted engineering practice.
- g. A minimum 1 x 9/2 Douglas Fir laminated veneer lumber rimboard shall be permitted in lieu of the 2-inch nominal band joist.
- h. Wood structural panel sheathing, gypsum board sheathing or foam 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.



For SI: 1 inch = 25.4 mm.

FIGURE 502.2.2.3
DECK ATTACHMENT FOR LATERAL LOADS

R502.3 Allowable joist spans. Spans for floor joists shall be in accordance with Tables R502.3.1(1) and R502.3.1(2). For other grades and species and for other loading conditions, refer to the AF&PA Span Tables for Joists and Rafters.

R502.3.1 Sleeping areas and attic joists. Table R502.3.1(1) shall be used to determine the maximum allowable span of floor joists that support sleeping areas and

attics that are accessed by means of a fixed stairway in accordance with Section R311.7 provided that the design live load does not exceed 30 pounds per square foot (1.44 kPa) and the design dead load does not exceed 20 pounds per square foot (0.96 kPa). The allowable span of ceiling joists that support attics used for limited storage or no storage shall be determined in accordance with Section R802.4.



DECK CONSTRUCTION SPECIFICATIONS

ACCORDING TO L.R.C. 2800

1. All lumber used for structure framing is to be pressure treated lumber.
2. All metal fasteners, connectors or other hardware in direct contact with any preservative treated lumber shall be stainless steel type 304 or type 316 or have a galvanized coating that complies with ASTM A123 (connectors) or A153 (fasteners) Class D Standards for Fasteners and Hardware. The connectors and fasteners must be made of the same material for compatibility.
3. GIRDER SPANS: refer to Table No. 502.5(2) for supporting one floor only.
4. Refer to Table 502.3.1(2) for allowable floor joist spans that support all areas other than sleeping and attics provided that the designed live load does not exceed 40 psf and the designed dead load does not exceed 10 psf.
5. BEARING: The ends of each joist beam or girder shall not have not less than 1 ½ inches of bearing on wood or metal and not less than 3 inches on masonry.
Floor systems having joists framing from opposite sides over bearing support shall be tied together by lapping joists a minimum of 3 inches or with a wood or metal splice, or by continuity of floor sheathing overlapping the ends of joists at least 3 inches, or by other approved methods. Face nail overlapping joists together with 3-10d nails.
Joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips not less than nominal 2 inches by 2 inches or on properly sized joist hangers.
6. CANTILEVER: Only up to 2 feet cantilever allowed.
7. FOOTER: The footer shall be 8 inches in depth by 12 inches in diameter to support 4" x 4" posts. Posthole depths will be a minimum of 30 inches (C.O.L. Codified Ord. 1301.09)
8. HANDRAILS, GUARDRAILS and STAIRS: Guardrails (Section R316) are required where any portion of the deck is greater than 30 inches above finish grade. Handrails (Section R315) are required on stairs with 3 or more risers. Stairs (Section R314) shall be a minimum of 36 inches wide. Treads are to be a minimum of 10 inches measured nose to nose and risers shall be a maximum of 7 ¼ inches in height.

JOIST SIZE

The span of a joist is measured from the centerline of bearing at one end of the joist to the centerline of bearing at the other and does not include overhangs. Maximum joist span lengths are noted in TABLE 1. See FIGURE 1 and FIGURE 2 for joist span types.

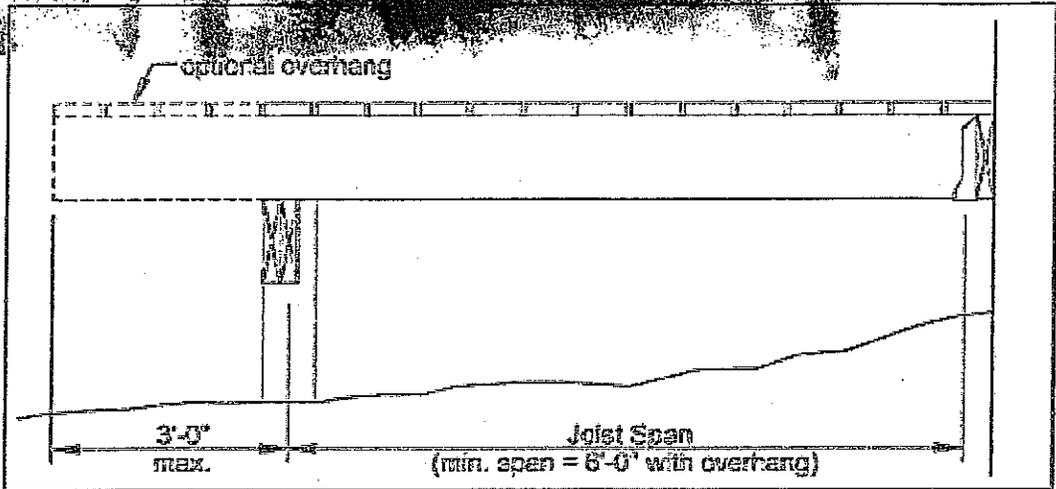


FIGURE 1: JOIST SPAN - DECK ATTACHED AT HOUSE

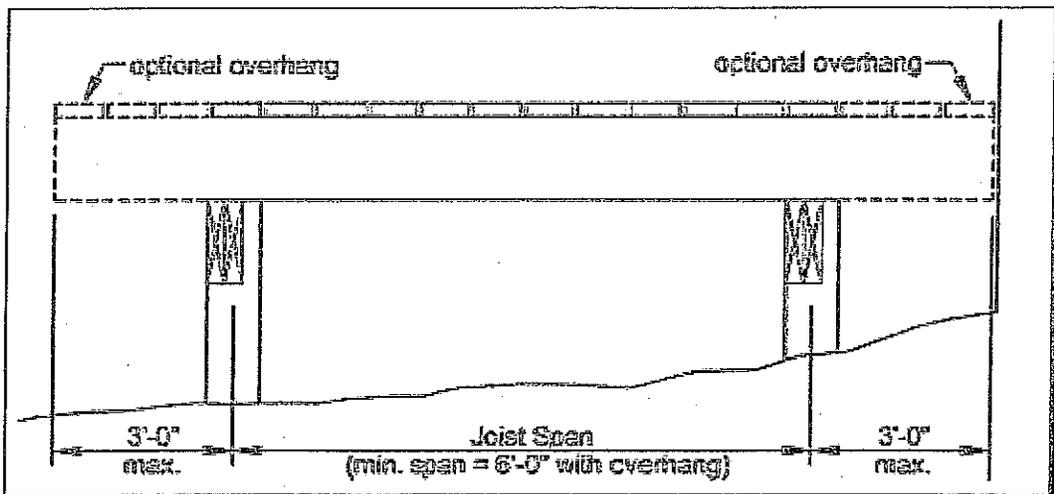


FIGURE 2: JOIST SPAN - FREE-STANDING DECK

RESIDENTIAL JOIST SPACING	
JOIST SPACING	MAX. CLEAR SPAN
2 X 6 @ 16" on center	9' - 9"
2 x 6 @ 24" on center	8' - 6"
2 x 8 @ 16" on center	12' - 10"
2 x 8 @ 24" on center	11' - 3"
2 x 10 @ 16" on center	16' - 5"
2 x 10 @ 24" on center	14' - 4"
2 x 12 @ 16" on center	19' - 11"
2 x 12 @ 24" on center	17' - 5"

ASSUME
 - 40 psf LIVE LOAD using pressure treated lumber
 - 5 psf DEAD LOAD
 - Joist and beam sized are based on the use of #2 Southern Yellow Pine

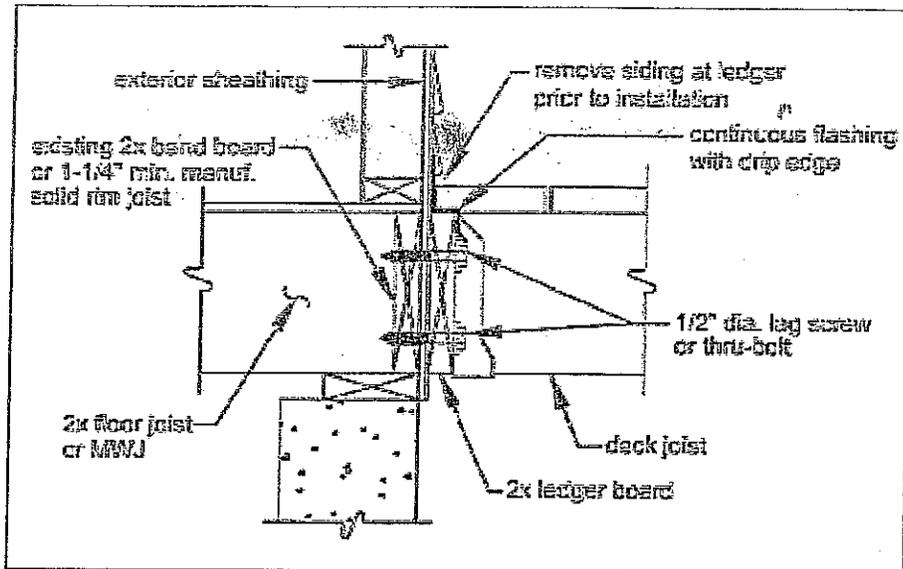


FIGURE 5: ATTACHMENT OF LEDGER BOARD-TO-BAND BOARD

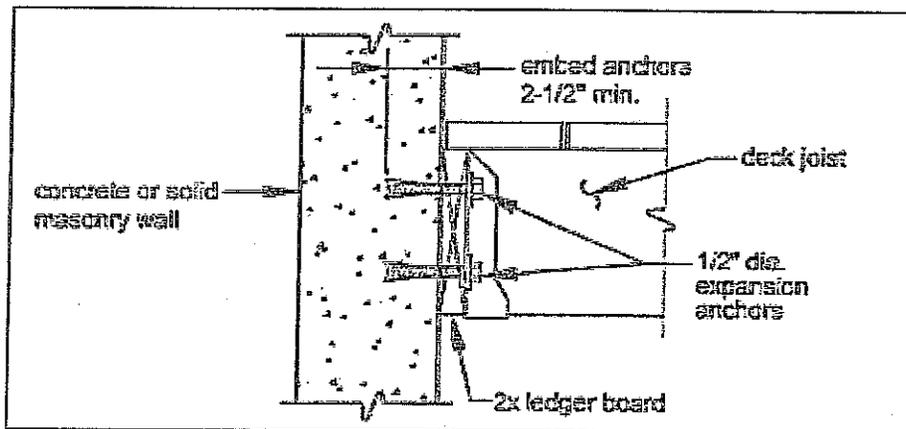


FIGURE 6: ATTACHMENT OF LEDGER BOARD-TO-FOUNDATION WALL (CONCRETE OR SOLID MASONRY)

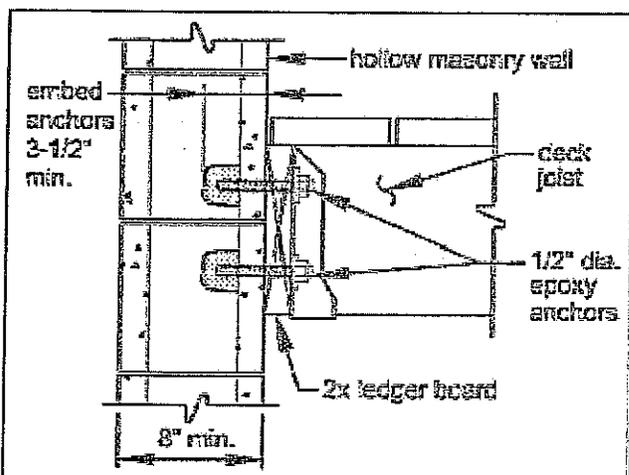


FIGURE 7: ATTACHMENT OF LEDGER BOARD-TO-FOUNDATION WALL (HOLLOW MASONRY)

PROHIBITED LEDGER ATTACHMENTS

Attachments to the ends of pre-manufactured open web joists, to brick veneers, and to house overhangs/bay windows are strictly prohibited; see FIGURE 8 through FIGURE 10. In such cases the deck shall be free-standing. See FREE-STANDING DECKS on sheet 8.

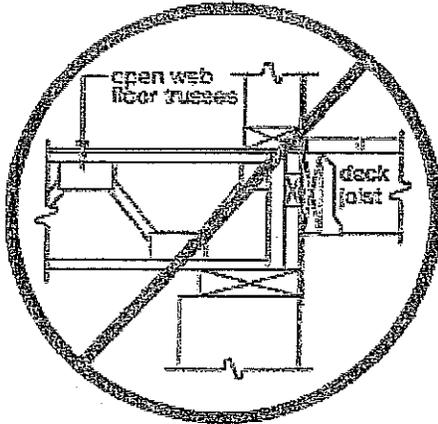


FIGURE 8: NO ATTACHMENT TO OPEN WEB TRUSSES

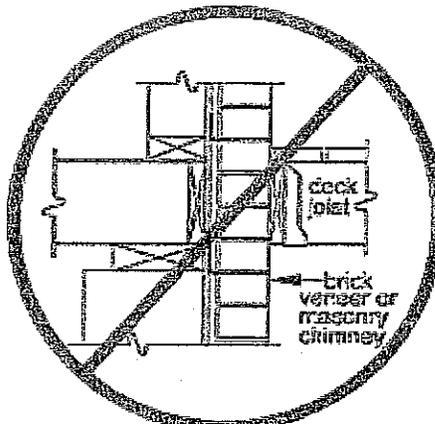


FIGURE 9: NO ATTACHMENT TO BRICK VENEER

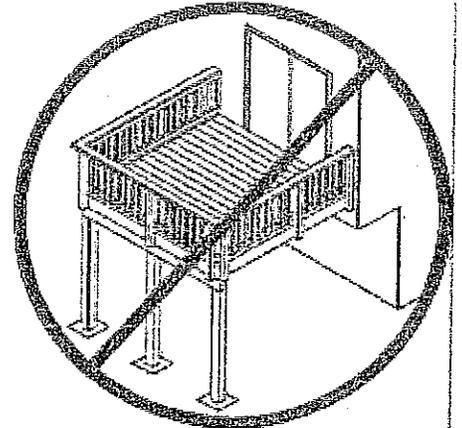


FIGURE 10: NO ATTACHMENT TO HOUSE OVERHANG

LEDGER BOARD FASTENERS

All fastener types shall be spaced per TABLE 4 and installed per FIGURE 11. All fasteners shall be installed with washers and must be thoroughly tightened. Adequacy of connections will be verified by county inspectors. If a ladder is required to access the ledger board, one must be provided by the property owner, permit holder, or their representative.

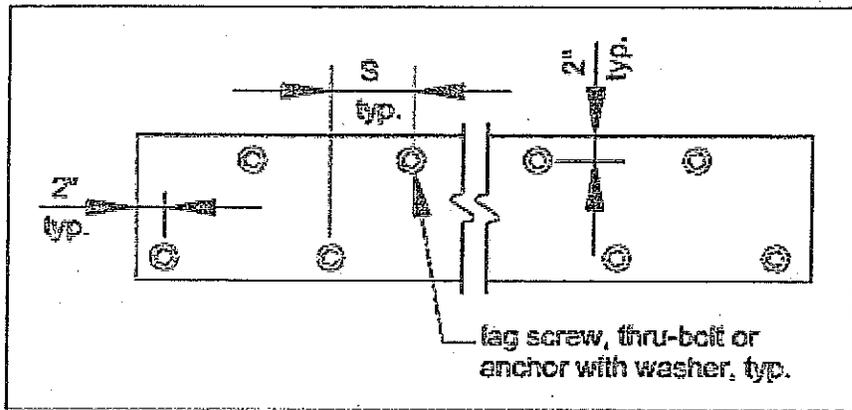
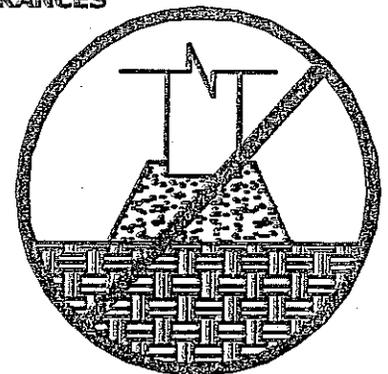


FIGURE 11: LEDGER BOARD FASTENER SPACING AND CLEARANCES

TABLE 4: LEDGER BOARD FASTENER SCHEDULE

Joist Span	S (spacing), on center
0 - 8'	10"
8' - 10'	8"
10' - 14'	6"
14' - 18'	5"
greater than 18'	4"



Thru-Bolts

Thru-bolts shall have a minimum diameter of 1/2". Lead (pilot) holes for thru-bolts shall be 17/32" to 9/16" in diameter. Thru-bolts must be equipped with washers at the bolt head as well as the nut.

Expansion Anchors

Use expansion anchors when attaching a ledger board to a concrete or solid masonry wall as shown in FIGURE 6. Bolt diameters of the anchors shall be a minimum of 1/2"; in some cases, this may require an anchor size of 5/8". Minimum embedment length shall be 2-1/2". Expansion anchors must have washers.

Epoxy Anchors

When attaching to hollow masonry, fill the cells with grout and use expansion anchors, or use one of the approved epoxy anchors listed in TABLE 5 and install as shown in FIGURE 7. Epoxy anchors shall have a minimum diameter of 1/2" and minimum embedment length of 3-1/2". Installation shall be in strict conformance to the manufacturers' instructions. Epoxy anchors must have washers.

TABLE 5: APPROVED EPOXY ANCHORS

Manufacturer	Product
ITW Ramset/Red Head	Epcon Acrylic 7
Hilti	HY-20

Lag Screws

Lag screws shall have a minimum diameter of 1/2" and shall be hot-dipped galvanized or stainless steel. Lag screws may be used only when the field conditions match those shown in FIGURE 5. You must verify the existing conditions in the field prior to applying for a building permit and installing lag screws. Compliance with all the requirements herein is critical to ensure the structural stability of your deck. See FIGURE 12 for lag screw length and shank requirements. All lag screws shall be installed with washers.

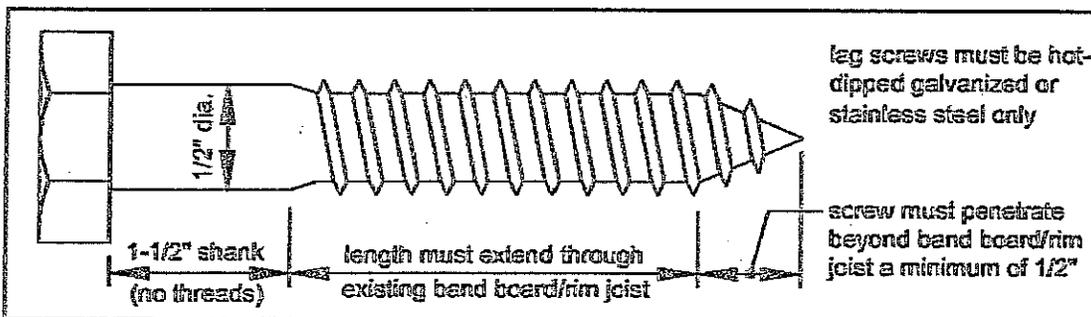


FIGURE 12: LAG SCREW REQUIREMENTS

Lag screw installation requirements: each lag screw shall have lead (pilot) holes drilled as follows: 1) drill a 1/2" diameter hole in the ledger board, 2) drill a 5/16" diameter hole into the solid connection material of the existing house. **DO NOT DRILL A 1/2" DIAMETER HOLE INTO THE SOLID CONNECTION MATERIAL.**

FREE-STANDING DECKS

Decks which are free-standing do not utilize the exterior wall of the existing house to support vertical loads. Support at or near the house is provided by an additional beam and posts. See FIGURE 13. Beam size is determined by TABLE 2 and TABLE 3.

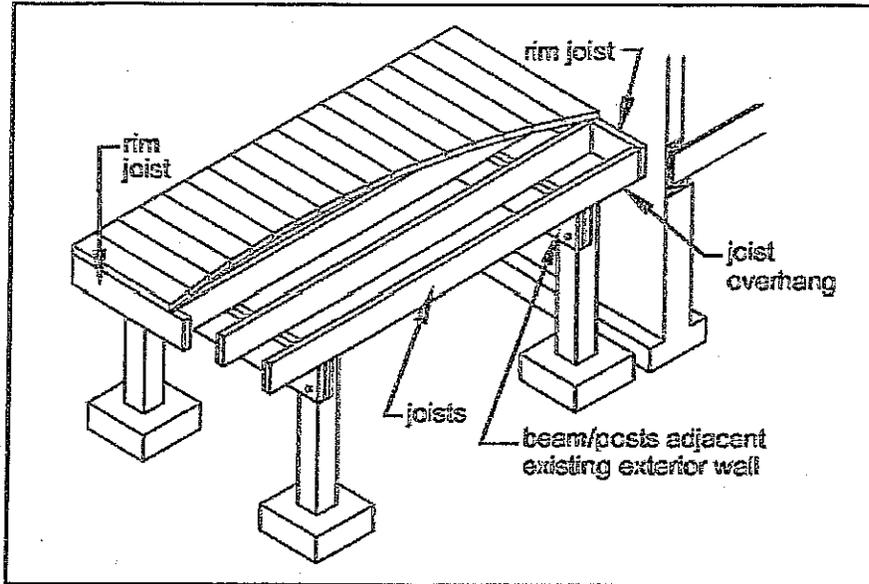


FIGURE 13:

**FREE-STANDING DECK LATERAL SUPPORT
OF FREE STANDING DECKS**

Free standing decks greater than 2 feet above grade shall resist lateral loading and movement by one of the following methods.

1. **Diagonal Bracing:** provide diagonal bracing as shown in FIGURE 14. Bracing shall be located between posts parallel to beams and bolted to the beam and post as shown. Diagonal bracing shall also be located perpendicular to beams and, in such cases, bracing shall be bolted to the post and joist above the post location.

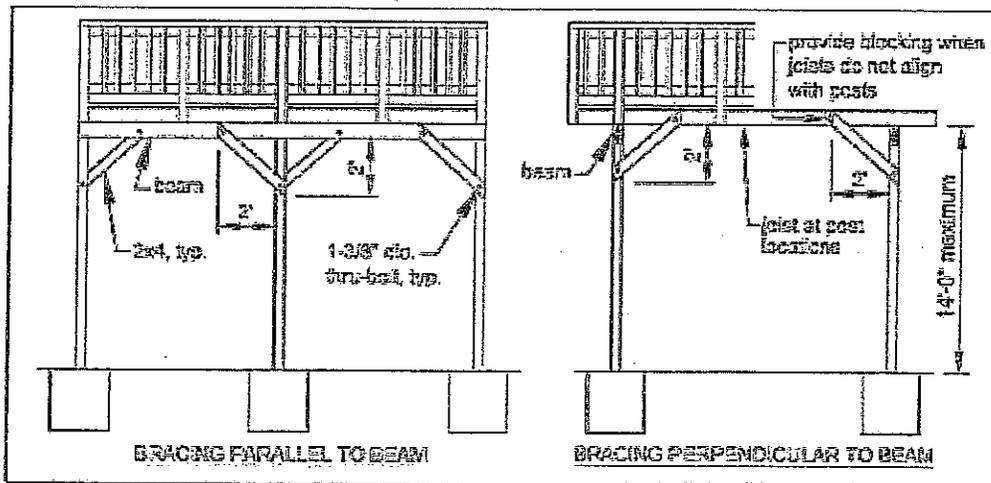


FIGURE 14: DIAGONAL BRACING REQUIREMENTS

2. **Attachment To House:** lateral support is provided by the attachment of the deck rim joist to the existing house as shown in FIGURE 15. The existing exterior wall must have sheathing consisting of structural wood panels with a minimum thickness of $\frac{3}{8}$ " and the fasteners shall attach to an existing band board or wall stud. The deck rim joist may also attach to a masonry or concrete wall, but not to a brick veneer. **YOU MUST VERIFY THIS CONDITION IN THE FIELD PRIOR TO UTILIZING THIS METHOD.** Fasteners shall be 16" on center and must penetrate existing wall studs. See also the provisions noted on sheet 6. Flashing over the rim joist is required and must be installed in accordance with the flashing provisions noted on sheet 4. For rim joist size and requirements, see sheet 10.

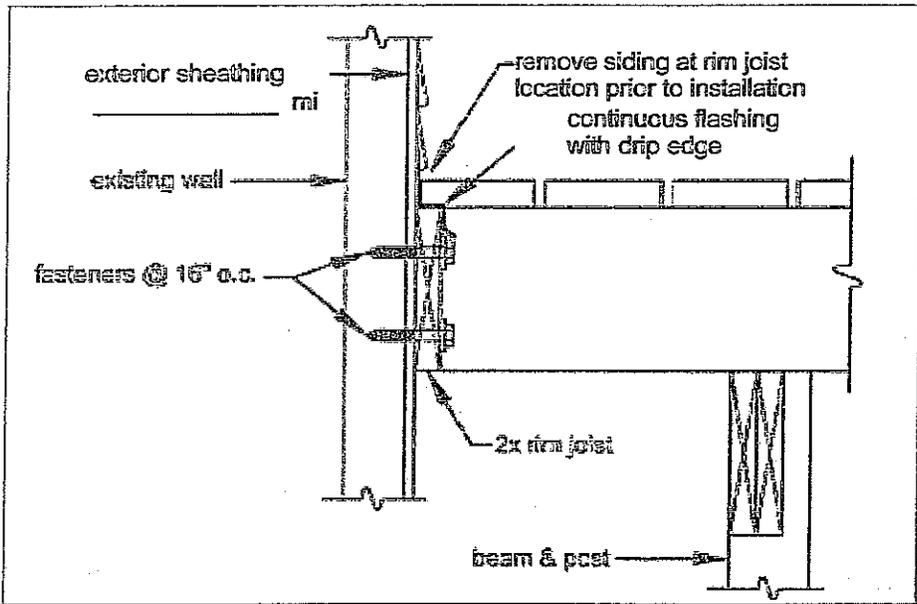


FIGURE 15: ATTACHMENT TO HOUSE LATERAL SUPPORT

JOIST HANGERS

Joist hangers, as shown in FIGURE 16, shall have a Minimum capacity of 1000 lbs. Joist hangers used Shall be manufactured for their intended lumber size. Joist hangers shall be galvanized with 1.85 oz/sf of Zinc (G-185 coating) or shall be stainless steel.

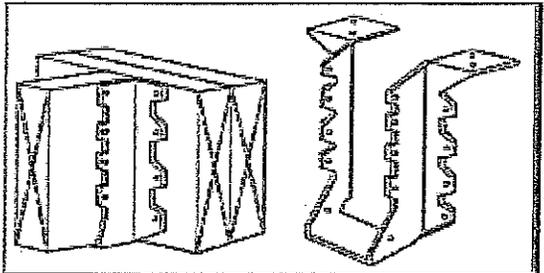


FIGURE 16: TYPICAL JOIST HANGERS

JOIST-TO-BEAM CONNECTION

Each joist shall be attached to the beam as shown in FIGURE 17. Mechanical fasteners shall be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel.

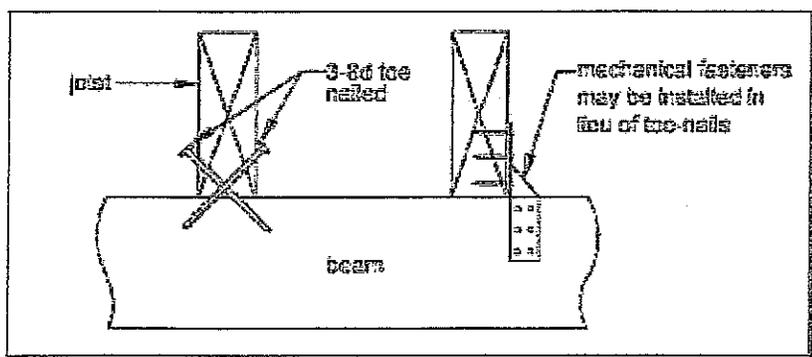


FIGURE 17: JOIST-TO-BEAM DETAIL

RIM JOIST REQUIREMENTS

Attach a continuous rim joist to the ends of joists as shown in FIGURE 18. Please note: rim joists are required at both ends of joists associated with free-standing decks. Minimum rim joist dimensions shall be equal to the dimensions of the joist.

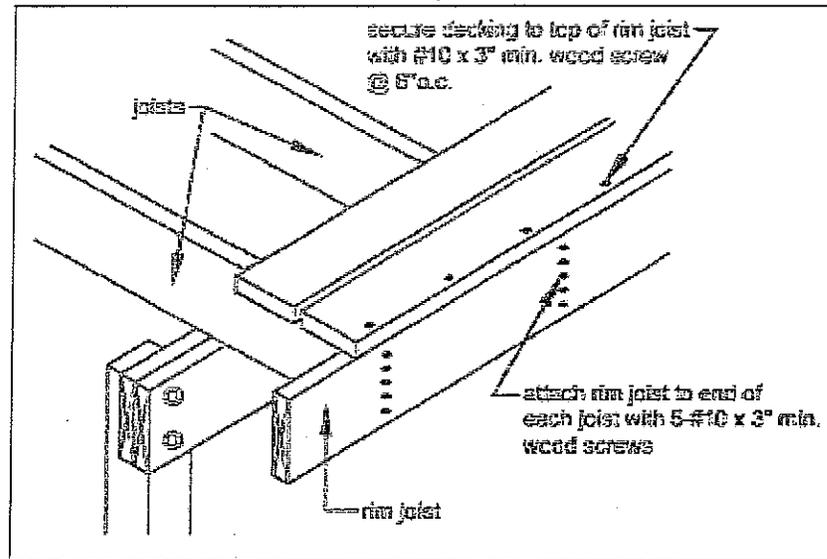


FIGURE 18: RIM JOIST CONNECTION DETAILS

BUILT-UP BEAM REQUIREMENTS

Built-up beams shall be assembled in accordance with FIGURE 19. The nailing pattern shall be staggered as shown.

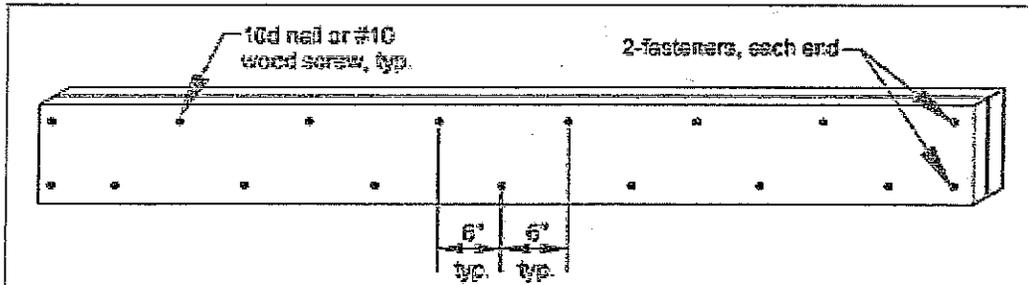


FIGURE 19: BUILT-UP BEAM DETAIL

POST-TO-BEAM REQUIREMENTS

The post-to-beam connection may be accomplished by notching the 6x6 post as shown in FIGURE 20. All thru-bolts shall have washers at the bolt head and nut. All post sizes shall be 6x6, and the maximum height shall be 14'-0".

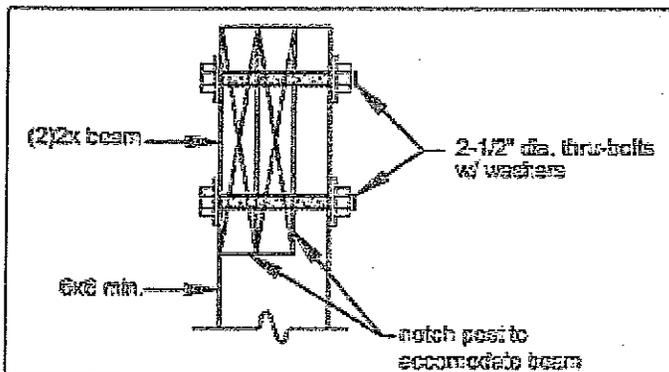
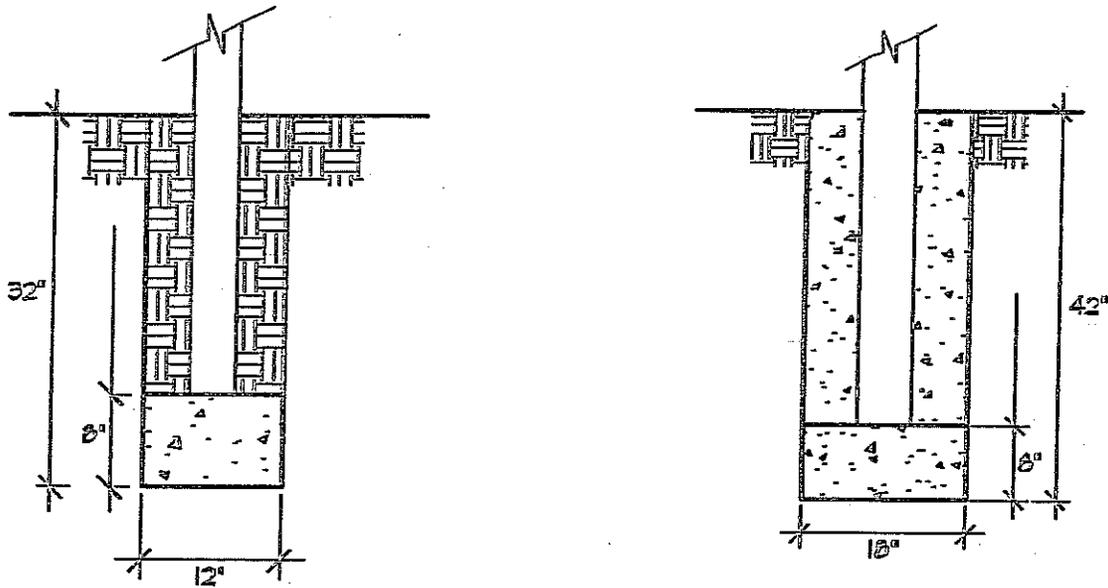


FIGURE 20: POST-TO-BEAM REQUIREMENTS

FOOTINGS

See FIGURE 21 for footing size, footing thickness and post attachment options and requirements. All footings shall bear on solid ground; bearing conditions shall be verified in the field by County inspectors prior to placement of concrete. Footings closer than 5'-0" to the existing exterior house wall must bear at the same elevation as the existing wall footing. Do not construct footings over utility lines or enclosed meters.

Pre-manufactured post anchors shall be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel.



GUARD REQUIREMENTS

Decks less than 30" above grade are not required to have a guard; however, if one is installed, it must meet these requirements. All guards shall be constructed in strict conformance with figures herein; any deviations require a plan submission.

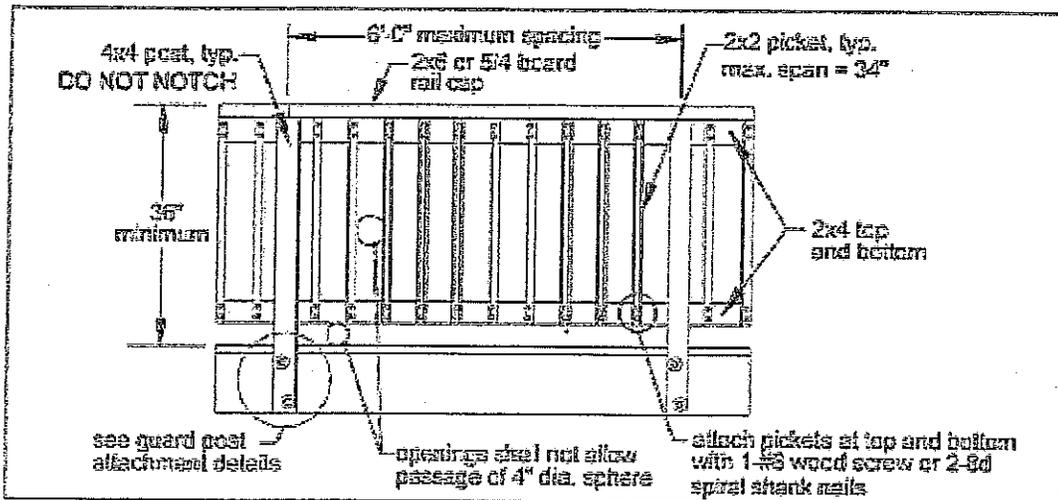


FIGURE 22: TYPICAL GUARD DETAIL

Any pre-fabricated wood, plastic or manufactured guard system purchased from a home center store, lumber company or similar will also require a plan submission. The rail cap is designed to withstand a concentrated load of 200 LBS anywhere along its length; the infill area is designed to withstand a horizontal load of 50 LBS on a square foot area.

GUARD POST ATTACHMENT: Guard posts shall be spaced per FIGURE 22 and attached per FIGURE 23 through FIGURE 26.

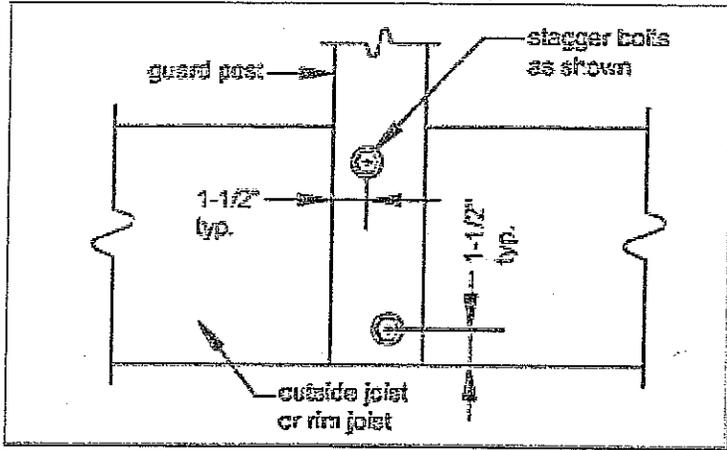


FIGURE 23: GUARD POST ATTACHMENT DETAIL

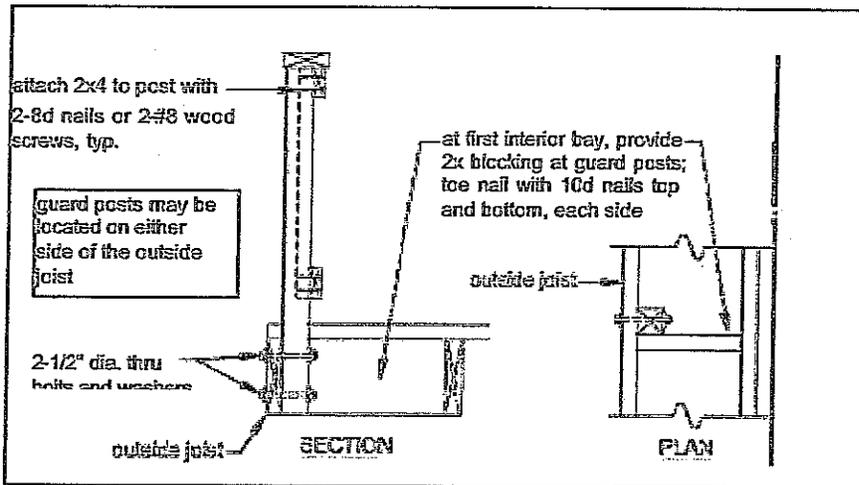


FIGURE 24: GUARD POST TO OUTSIDE JOIST DETAIL

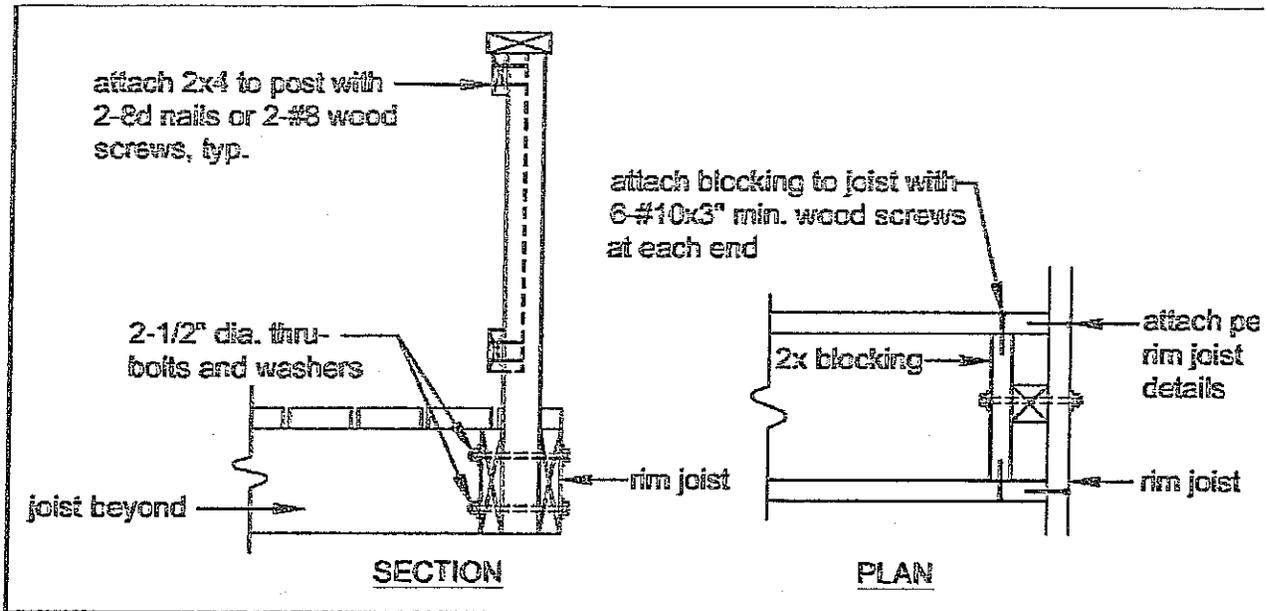


FIGURE 25: GUARD POST TO RIM JOIST DETAIL, OPTION 1

As shown in FIGURE 26, guard posts may be attached to the outside face of the rim joist. However, in this condition, and in addition to the attachment requirements shown in FIGURE 18, the rim joist must be fastened to the next adjacent joists with 20 gage. *stud tie plates* attached per the manufacturer's instructions with hot-dipped galvanized or stainless steel fasteners. Stud tie plates must be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel. Look for model number SP1 in a Zmax coating from Simpson Strong-Tie or model number SPT22 in a Triple Zinc coating from USP. If you are unable to use *stud tie plates* in this condition, you must follow the requirements of FIGURE 25.

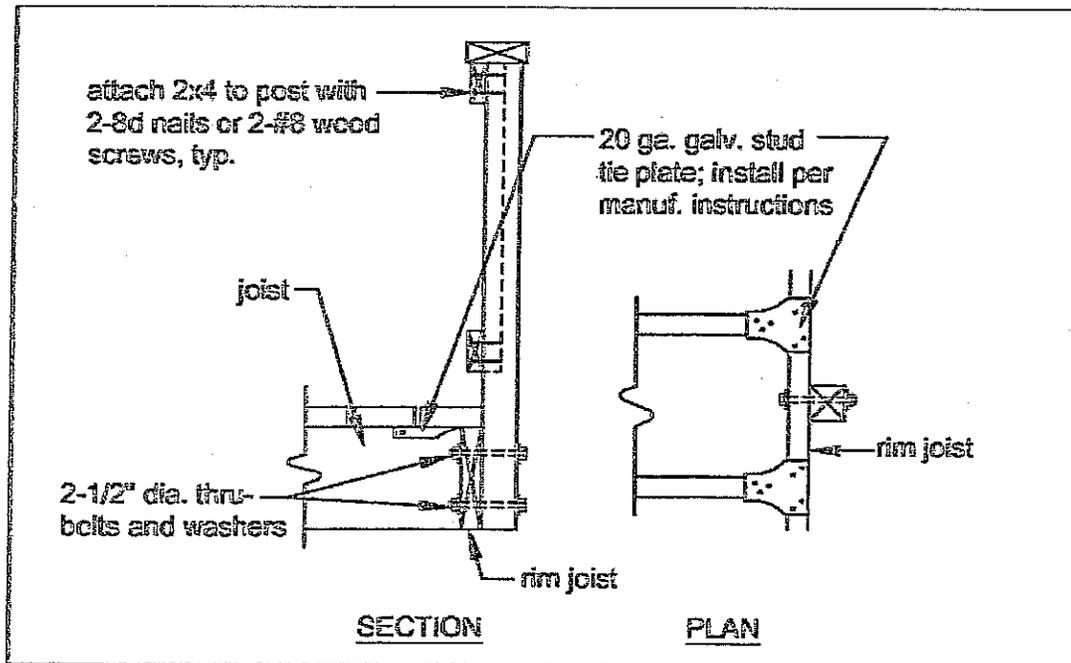


FIGURE 26: GUARD POST TO RIM JOIST DETAIL, OPTION 2

Stairs, stair stringers, and stair guard shall meet the requirements shown in FIGURE 27 through FIGURE 33. All stringers shall be 2x12.

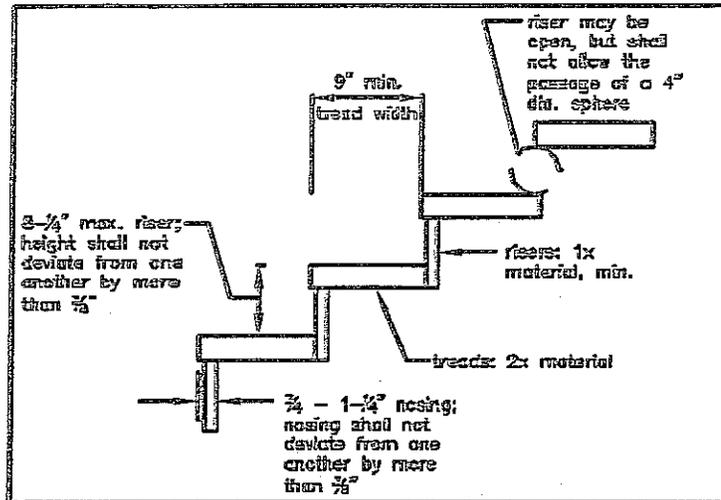


FIGURE 27: TREAD AND RISER DETAIL

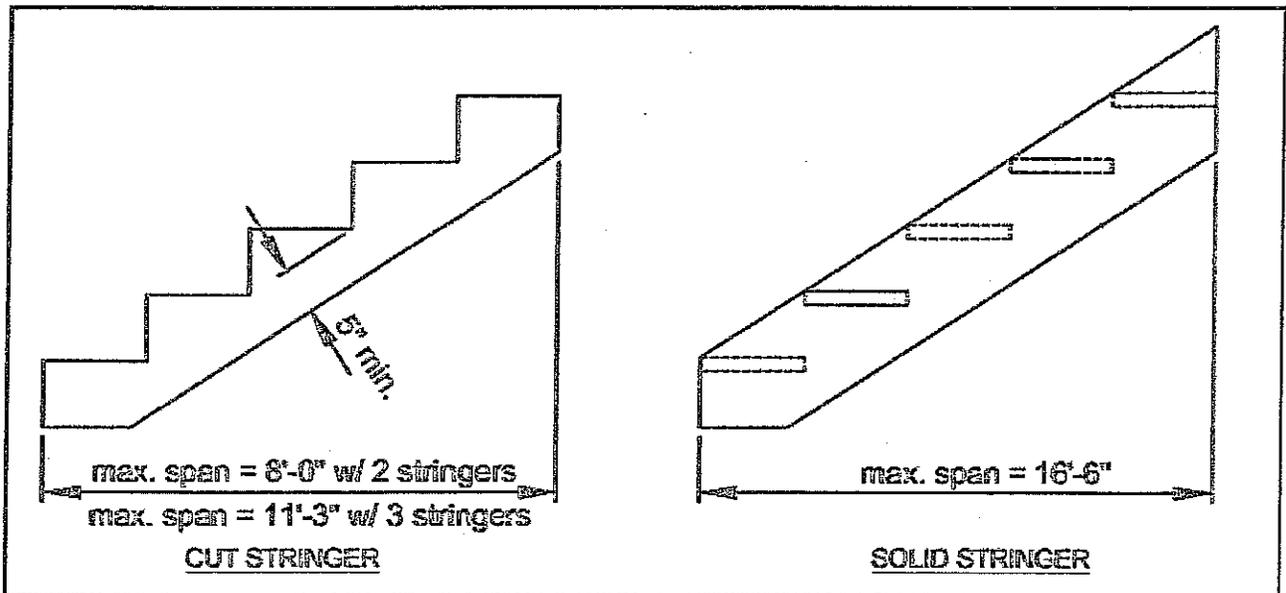


FIGURE 28: STAIR STRINGER REQUIREMENTS

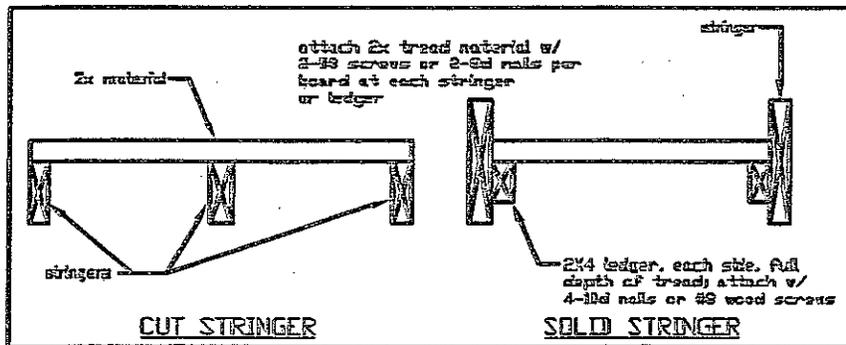


FIGURE 29: TREAD CONNECTION REQUIREMENTS

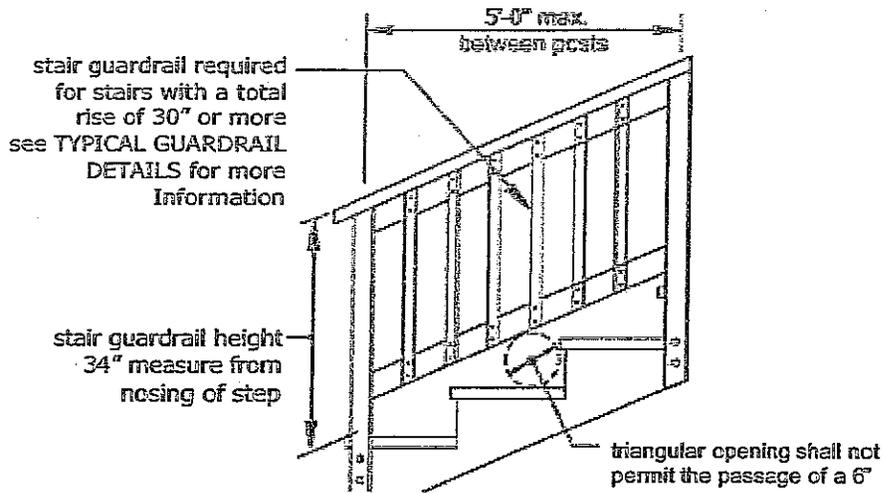


FIGURE 30: STAIR GUARD REQUIREMENTS

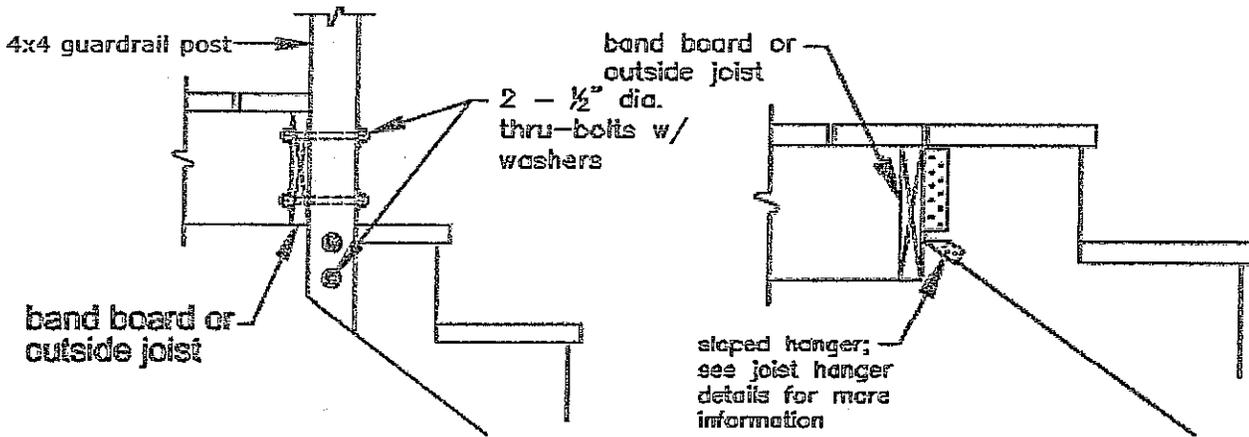
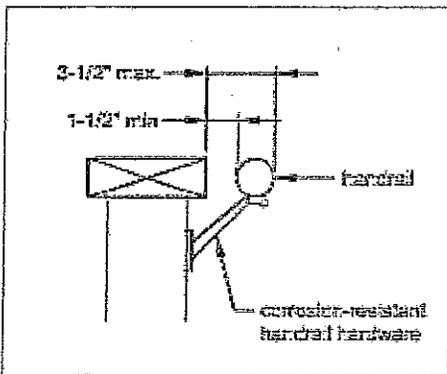


FIGURE 31: STAIR STRINGER CONNECTION DETAIL

STAIR HANDRAIL REQUIREMENTS

All stairs with 2 or more risers shall have a handrail on one side. Handrails shall be graspable and shall be composed of decay-resistant and/or corrosion resistant material. The hand grip portion, if circular, shall be between 1-1/4" and 2-1/4" in cross section. Shapes other than circular shall have a perimeter dimension between 4" and 6-1/4" with a maximum cross sectional dimension of 2-1/4". All shapes shall have a smooth surface with no sharp corners. Handrails shall run continuously from a point directly over the lowest riser to a point directly over the highest riser and shall return to the guard at each end; see FIGURE 33. Handrails may be interrupted at guards posts only at a turn in the stair. See FIGURE 32.



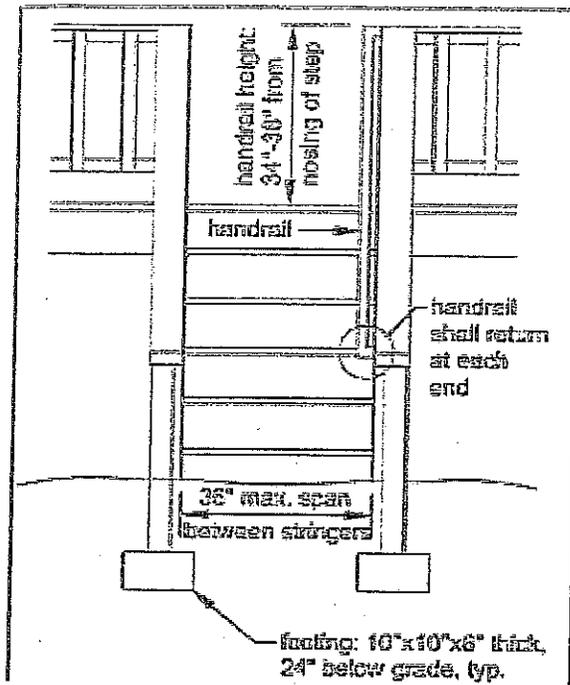


FIGURE 33: MISCELLANEOUS STAIR REQUIREMENTS

STAIR ILLUMINATION REQUIREMENTS

Stairways shall have a light source located at the top landing such that all stairs and landings are illuminated. The light switch shall be operated from inside the house.

FRAMING AT CHIMNEY OR BAY WINDOW

All members at a chimney or bay window shall be framed in accordance with FIGURE 34. Headers with a span length greater 6'-0" require a plan submission.

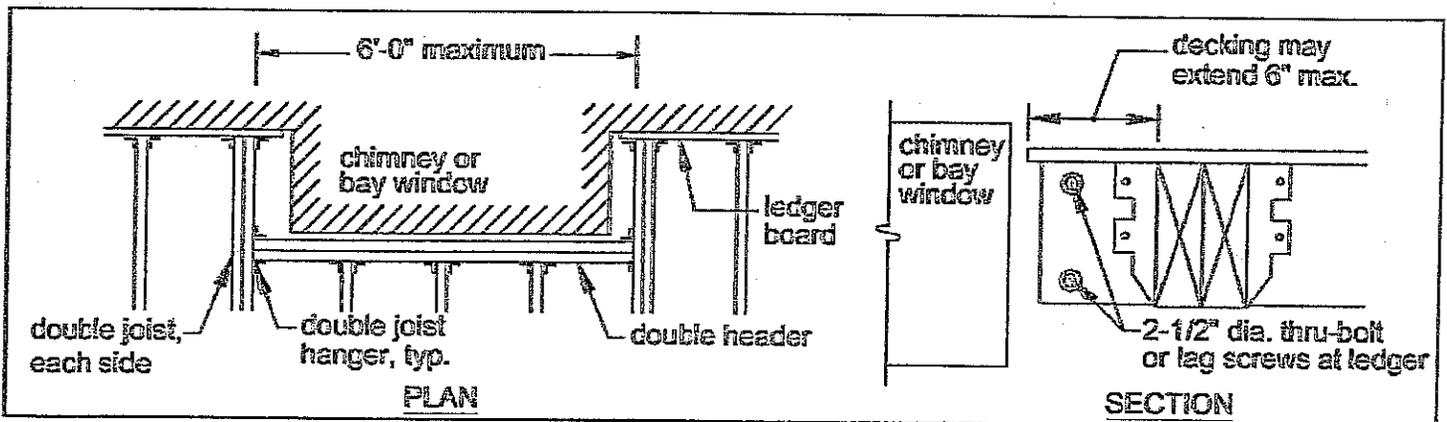


FIGURE 34: REQUIREMENTS FOR FRAMING AT CHIMNEY OR BAY WINDOW

FOUNDATION PLAN (FIGURES 1 and 2)

Plan View: Standard (See Figure 1), Flooding (See Figure 2)
 All dimensions locating post holes must be shown

SKIRTING

The use of solid skirting to enclose the underside of decks and screened patios to grade is **PROHIBITED**. Where skirting is used, it shall be done in such a manner so as to be not more than 70% opaque (closed). Skirting which is more than 10' above grade or be installed in conjunction with a rat wall which meets all requirements (CEC 452310)

FIGURE 1 FOUNDATION PLAN STANDARD

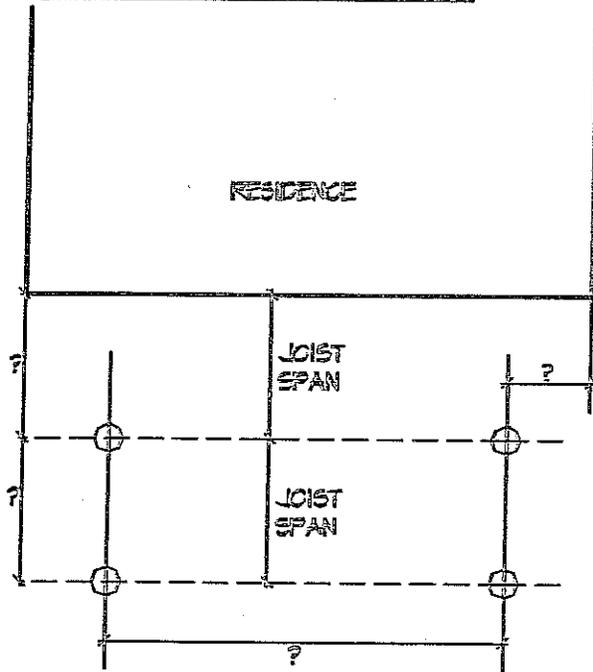
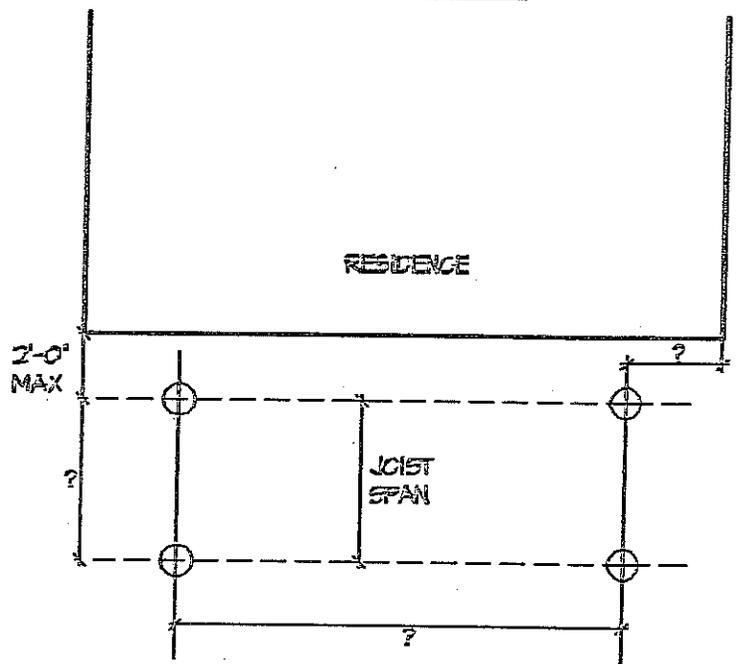


FIGURE 2 FOUNDATION PLAN FLOODING



RESIDENTIAL JOIST SPACING	
JOIST SPACING	MAX. CLEAR SPAN
2 X 6 @ 16" on center	9' - 9"
2 x 6 @ 24" on center	8' - 6"
2 x 8 @ 16" on center	12' - 10"
2 x 8 @ 24" on center	11' - 3"
2 x 10 @ 16" on center	16' - 5"
2 x 10 @ 24" on center	14' - 4"
2 x 12 @ 16" on center	19' - 11"
2 x 12 @ 24" on center	17' - 5"

ASSUME

- 40 psf LIVE LOAD using pressure treated lumber
- Joist and beam sized are based on the use of #2 Southern Yellow Pine
- 5 csf DEAD LOAD

FOOTER PLAN (FIGURES 3 and 4)

Items that must be shown:

Footers for decks NOT exceeding 12' in height - See Figure 3

1. Hole diameter to be 12" throughout

2. Depth of hole 32"

3. 8" poured concrete in bottom of 32" hole.

4. Back fill around 4x4 posts with either compacted earth or poured concrete.

Footers for decks 12' to 16.5' in height - See Figure 4

1. Hole diameter to be 18" throughout

2. Depth of hole 42"

3. 8" poured concrete in bottom of 42" hole

6x6 post MUST be set in poured concrete with 1/2" rebar penetrating the post (6") above the 8" poured foundation.

Wind bracing may be required by plans examiner.

FIGURE 3 FOOTERS-DECK HEIGHT LESS THAN 12'

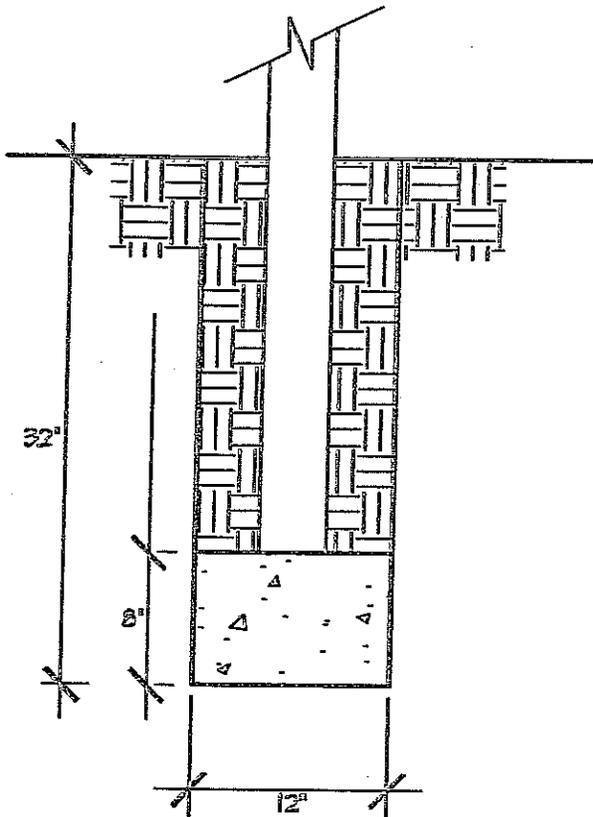
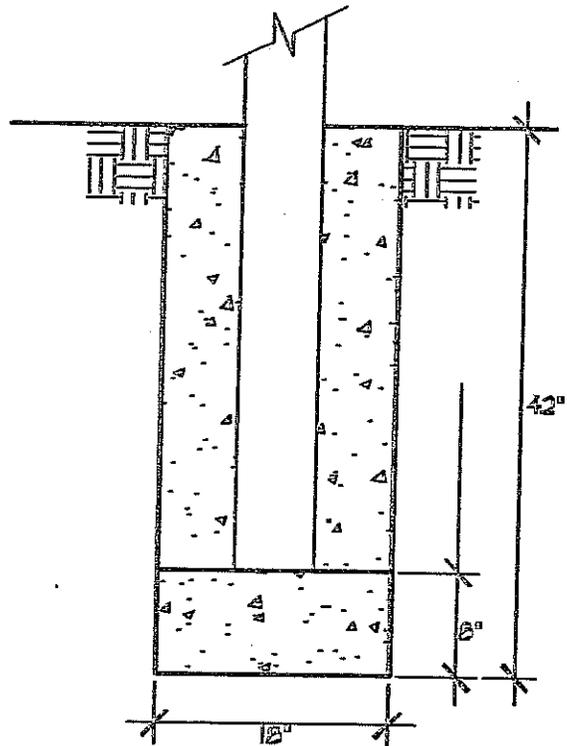


FIGURE 4 FOOTERS-DECK HEIGHT 12' TO 16.5'



FRAMING PLAN (Figures 5 and 6)

Items that must be shown:

Plan View - See Figure 5

1. All beams sized with spacing dimensions shown.
2. All joists sized with direction of joists and spacing dimensions shown.

Elevation View - See Figure 6

Height of deck (measured from finish grade to deck floor) must be shown.

DECKS (Figure 5)

Size of decking and the direction it is to be installed must be shown.
 AC units are NOT permitted to be placed directly on top of decking.

FIGURE 5 FRAMING PLAN

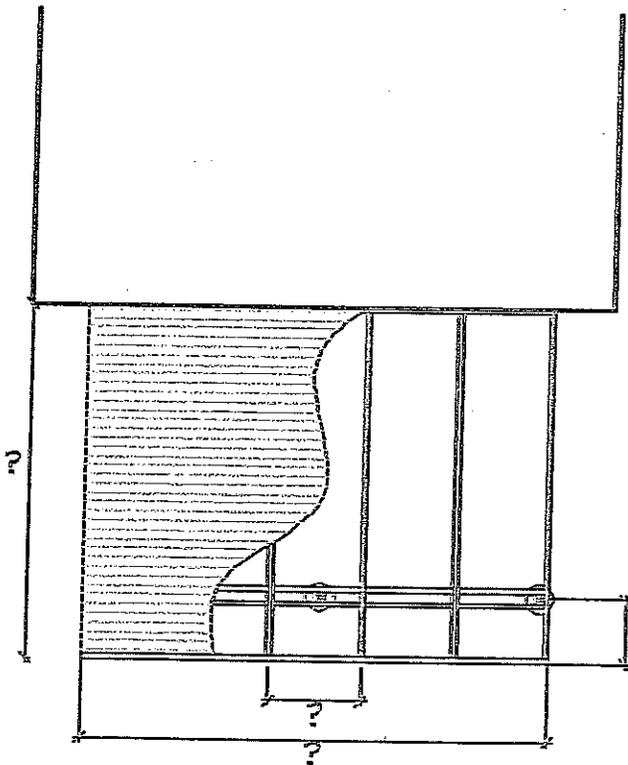
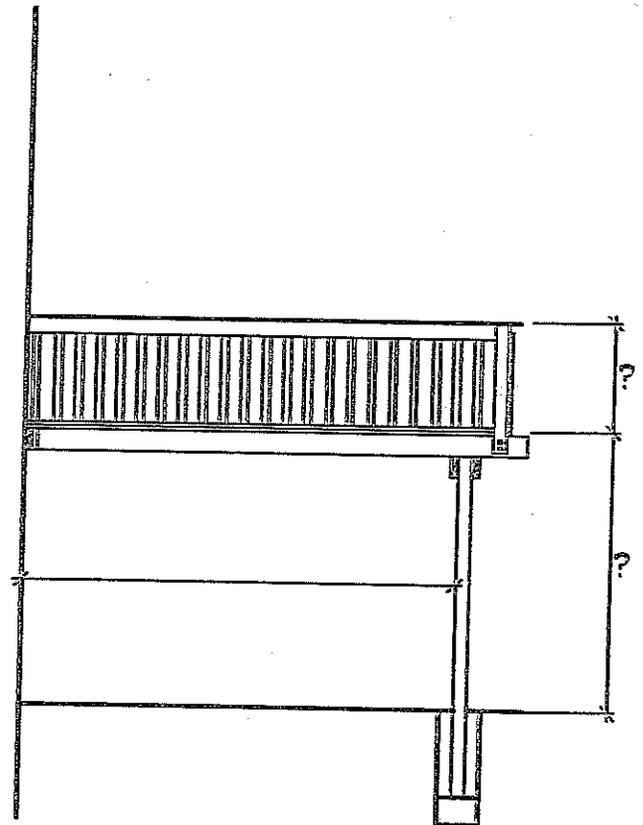


FIGURE 6 FRAMING ELEVATION

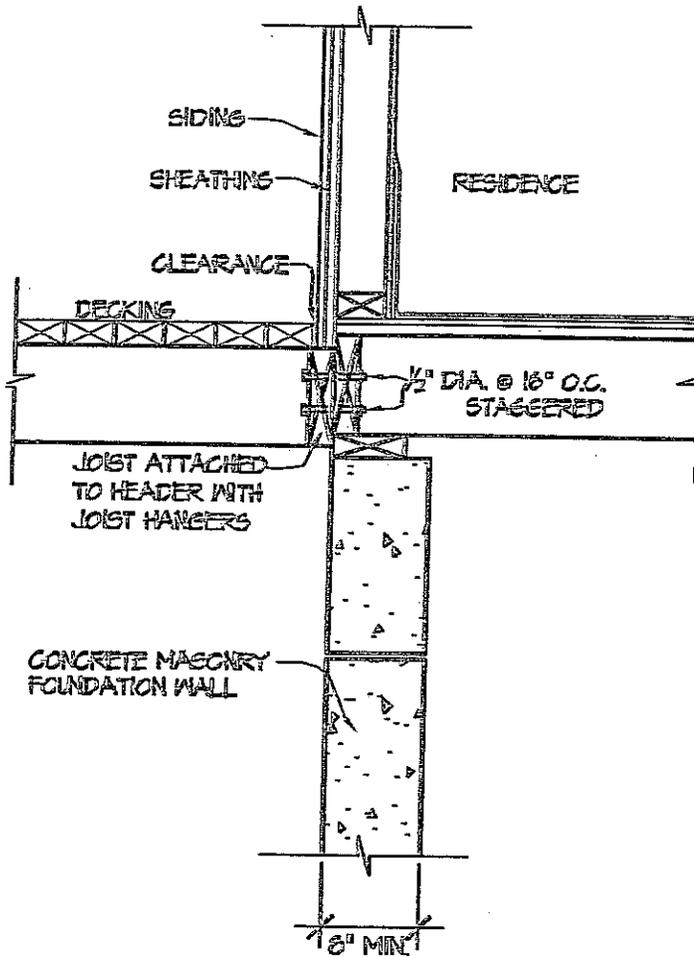


CONNECTIONS (Figures 7, 8, and 9)

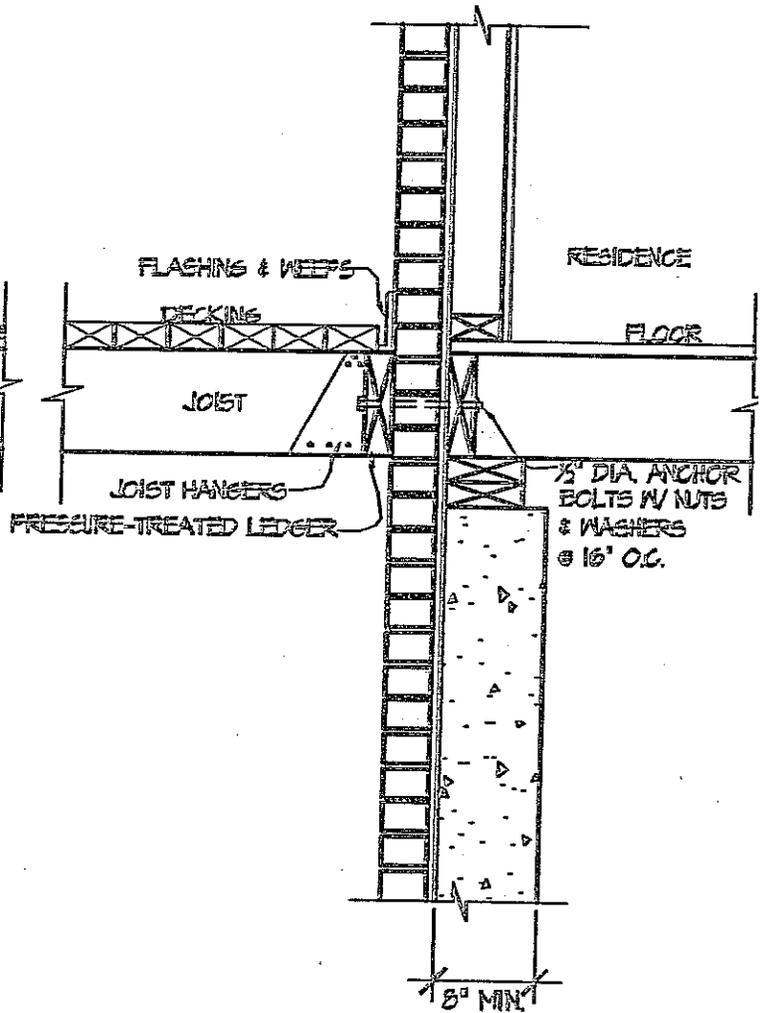
Items that must be shown:

1. Rim joist of deck to rim joist of residence
2. Beams to post
3. Joist to beams

FRONT DECK TO SIDED WALL



FRONT DECK TO BRICK VENEER WALL



GUARD RAILS (Figures 6 and 10)

Elevation view must show:

1. Minimum height 36"
2. Guard rail constructed to prevent a 4" sphere from passing through.
3. An baluster other than the traditional vertical pattern must meet all building requirements and be approved by a plans examiner.

A guard rail is NOT required if the height is less than 30" from finish grade.

Items that must be shown:

1. Location of stairs (see Figure 5)
2. Indicate rise and run of stairs showing material sizes
3. Show handrail attached to stairs. (Must be grippable)

FIGURE 6: ELEVATION DECK

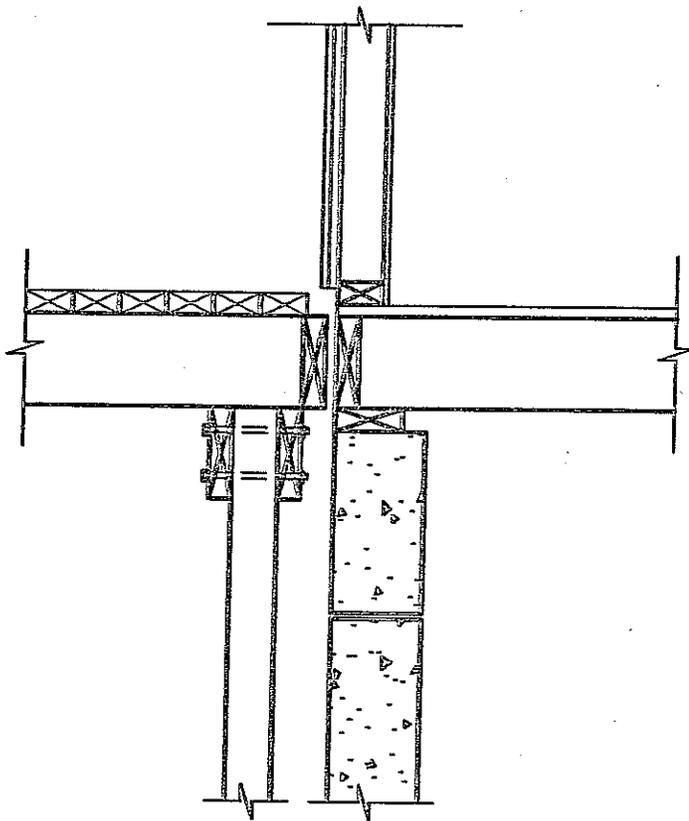


FIGURE 10: DECK RAILING

