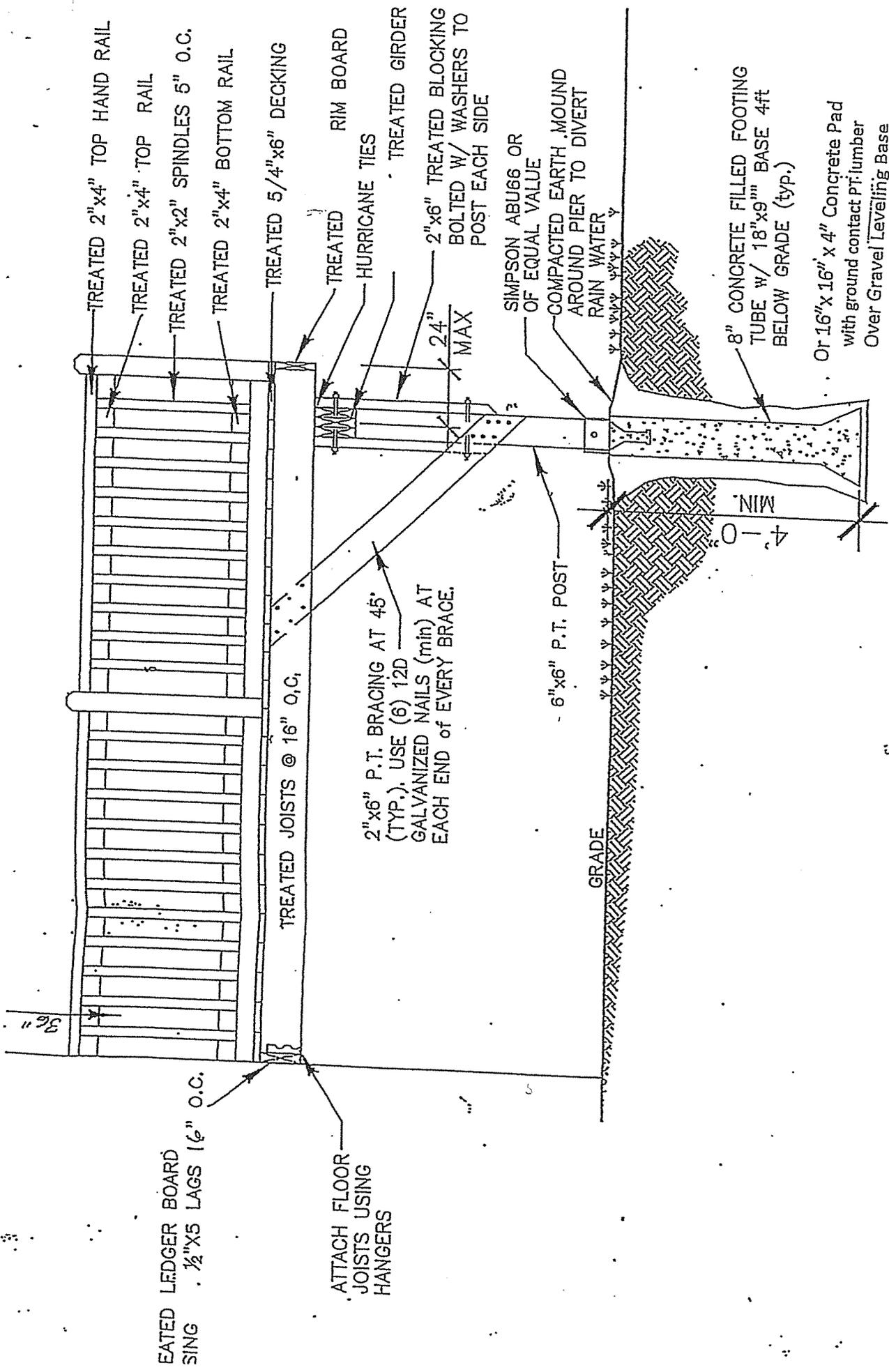


# THE TOWN OF FALLSBURG RESIDENTIAL DECK BUILDING GUIDELINES

*AS COMPLIED FROM THE  
2010 NYS UNIFORM BUILDING CODES  
2013 AMERICAN WOOD COUNCIL  
2009 INTERNATIONAL RESIDENTIAL CODE*

NOTE:

WHERE CODES HAVE BEEN FOUND TO CONFLICT, THE MORE STRINGENT SHALL APPLY



TREATED 2"x4" TOP HAND RAIL  
 TREATED 2"x4" TOP RAIL  
 TREATED 2"x2" SPINDLES 5" O.C.  
 TREATED 2"x4" BOTTOM RAIL

TREATED 5/4"x6" DECKING

TREATED RIM BOARD  
 HURRICANE TIES  
 TREATED GIRDER

24" MAX

2"x6" P.T. BRACING AT 45°  
 (TYP.), USE (6) #12D  
 GALVANIZED NAILS (min) AT  
 EACH END of EVERY BRACE.

SIMPSON ABU66 OR  
 OF EQUAL VALUE

2"x6" TREATED BLOCKING  
 BOLTED W/ WASHERS TO  
 POST EACH SIDE

6"x6" P.T. POST

GRADE

8" CONCRETE FILLED FOOTING  
 TUBE w/ 18"x9" BASE 4ft  
 BELOW GRADE (typ.)

Or 16"x16" x 4" Concrete Pad  
 with ground contact P.F. lumber  
 Over Gravel Leveling Base

4" MIN.

# TYPICAL DECK DETAIL

SCALE: N.T.S.

### Joist Sizing

The span for a joist is measured from the centerline of the bearing at one end of the joist to the centerline at the other and does not include over hangs. Maximum joist span lengths are noted in the table below. R502.3.1 (2)

Residential Joist Spacing Assuming #2 Southern Pine	ASSUME: 40 psf live load using pressure treated lumber / 5 psf dead load
JOIST SPACING	MAX. CLEAR SPAN
2 x 6 @ 16" OC	9'-9"
2 x 6 @ 24" OC	8'-6"
2 x 8 @ 16" OC	12'-10"
2 x 8 @ 24" OC	11'-0"
2 x 10 @ 16" OC	16'-1"
2 X 10 @ 24" OC	13'-1"
2 X 12 @ 16" OC	18'-10"
2 X 12 @ 24" OC	15'-5"

### Girder Sizing

Girder sizing is based on one floor only. Girder sizing determines the maximum space measured at the centers of each support post supporting the girders. Assuming 20' width deck & # 2 Pressure Treated Southern Pine. R502.5(2)

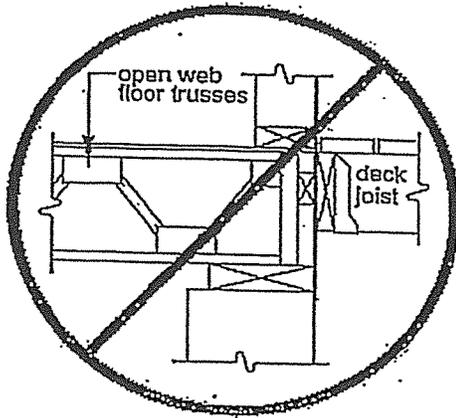
Girder Size	Maximum Span	Girder Size	Maximum Span
2-2 x 6	4'-6"	3 - 2 x 10	8'-9"
2- 2 x 8	5'-9"	3 - 2 x 12	10'-2"
2 -2 x 10	7'-0"	4- 2 x 8	9'-0"
2 - 2 x 12	8'-1"	4- 2 x 10	10'-1"
3 - 2 x 8	7'-2"	4- 2 x 12	11'-9"

**Cantilever:** Only up to 2 feet cantilever allowed. All cantilevers are subject to uplift protection by use of hurricane ties at floor joist to girder connection. All manufacturers provided fastener holes shall be filled with minimum 1.5" galvanized fasteners.

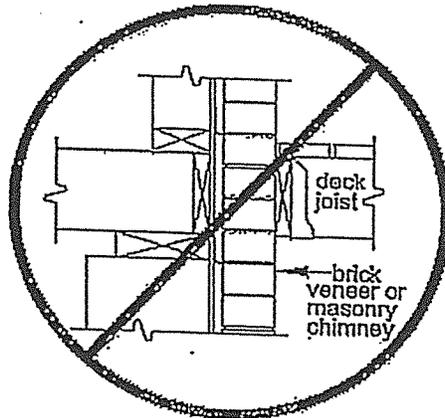
**Footer:** All pre-cast footer pads or concrete forms shall set upon virgin ground or a compacted stone bed of at least 8" with the bottom of either at a minimum 48" depth. When a solid ledge is verified by Code Enforcement the use of drilling and pinning with a minimum of [2] #4 rebar per footing may be utilized. Minimum depth of drilling & pinning shall be 4" into ledge. An inspection of the drilling & pinning must be performed by Code Enforcement after rebar is installed into ledge prior to backfilling.

**PROHIBITED LEDGER ATTACHMENTS**

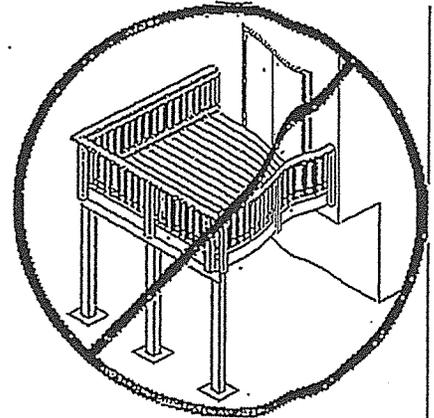
Attachments to the ends of pre-manufactured open web joists, to brick veneers, and to house overhangs/bay windows are strictly prohibited; see Figure 1: through Figure 3: . In such cases the deck shall be free-standing.



**Figure 1: NO ATTACHMENT TO OPEN WEB TRUSSES**



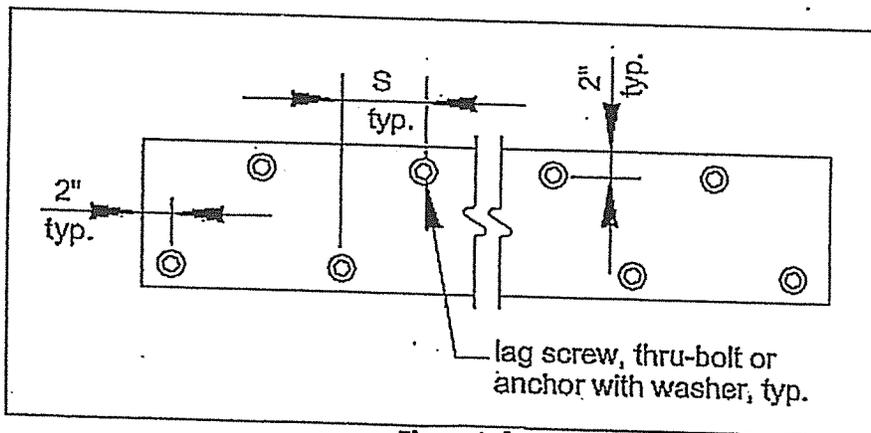
**Figure 2: NO ATTACHMENT TO BRICK VENEER**



**Figure 3: NO ATTACHMENT TO HOUSE OVERHANG**

**LEDGER BOARD FASTENERS**

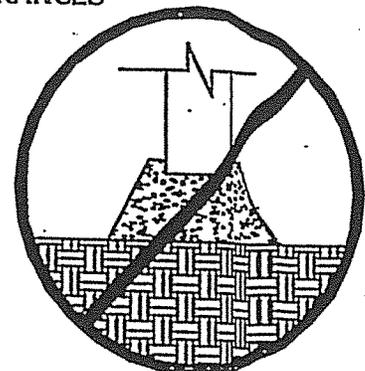
All fastener types shall be spaced per TABLE 4 and installed per Figure 4: . All fasteners shall be installed with washers and must be thoroughly tightened. Adequacy of connections will be verified by inspectors. If a ladder is required to access the ledger board, one must be provided by the property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



**Figure 4: 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"



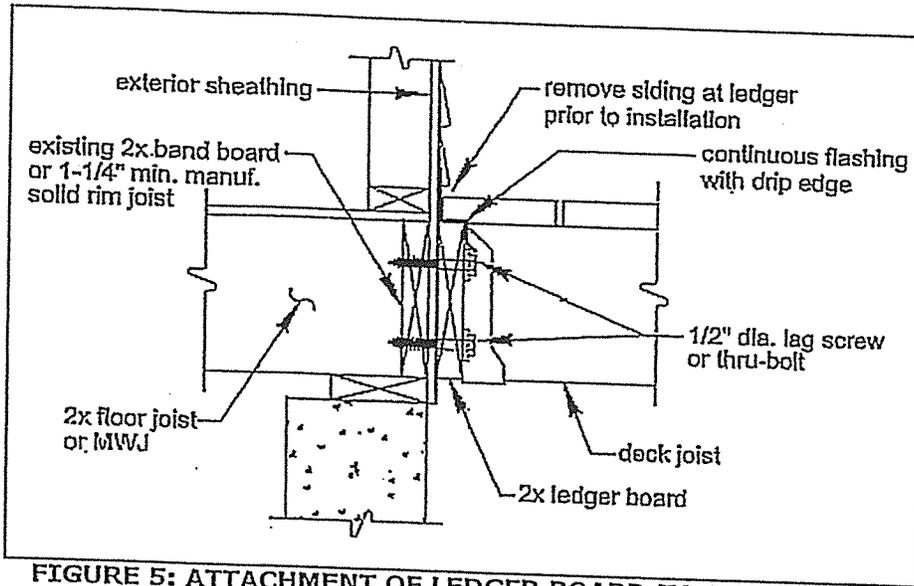


FIGURE 5: ATTACHMENT OF LEDGER BOARD-TO-BAND BOARD

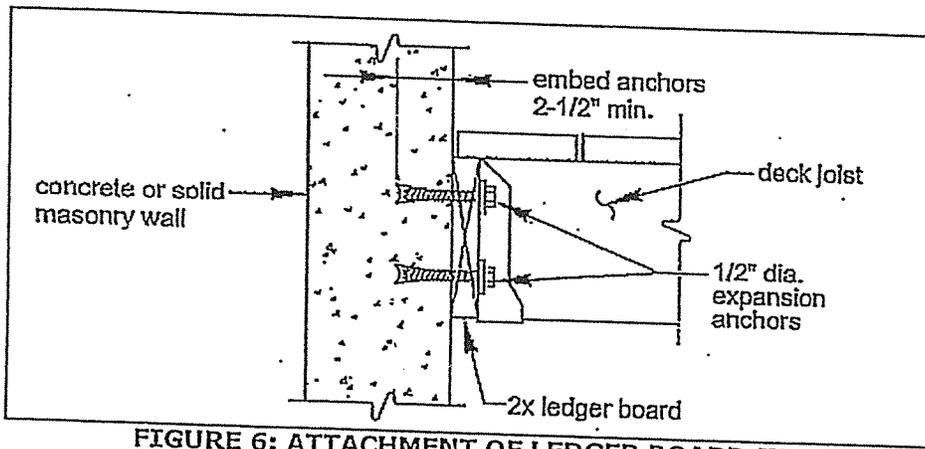


FIGURE 6: ATTACHMENT OF LEDGER BOARD-TO-FOUNDATION WALL (CONCRETE OR SOLID MASONRY)

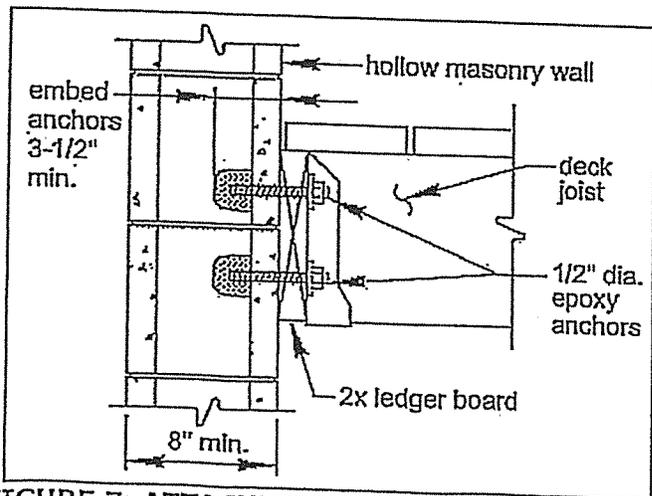


FIGURE 7: ATTACHMENT OF LEDGER BOARD-TO-FOUNDATION WALL (HOLLOW MASONRY)

LEDGER ATTACHMENT REQUIREMENTS

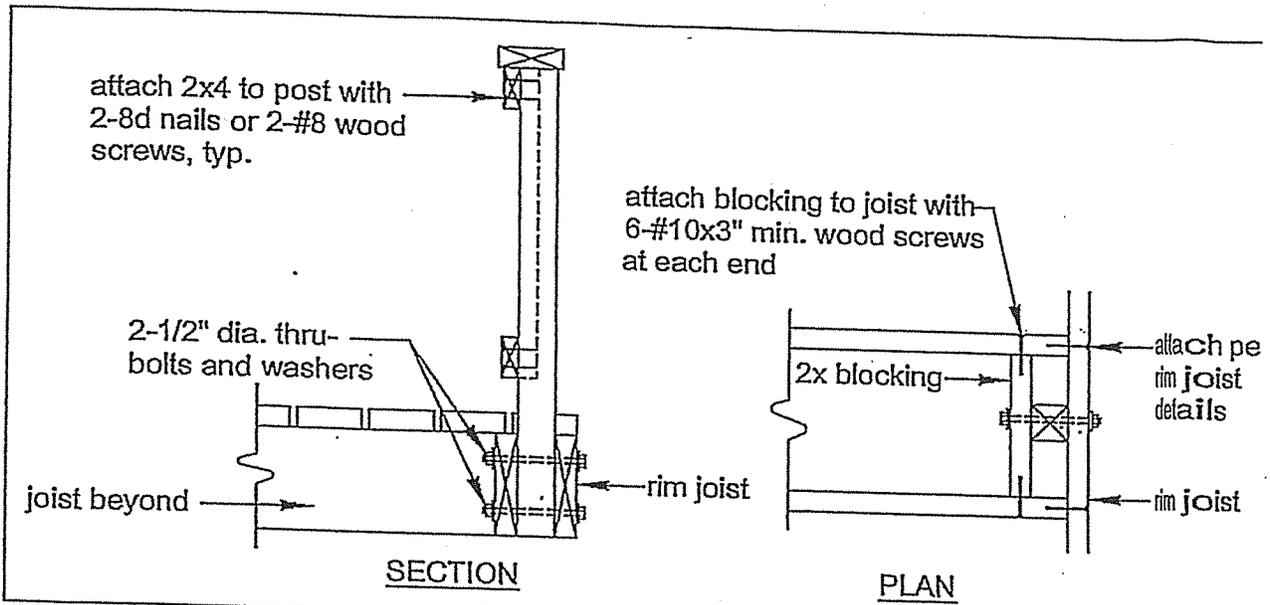


Figure 8: GUARD POST TO RIM JOIST DETAIL, OPTION 1

As shown in Figure 9, guard posts may be attached to the outside face of the rim joist. However, in this condition,

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 8:

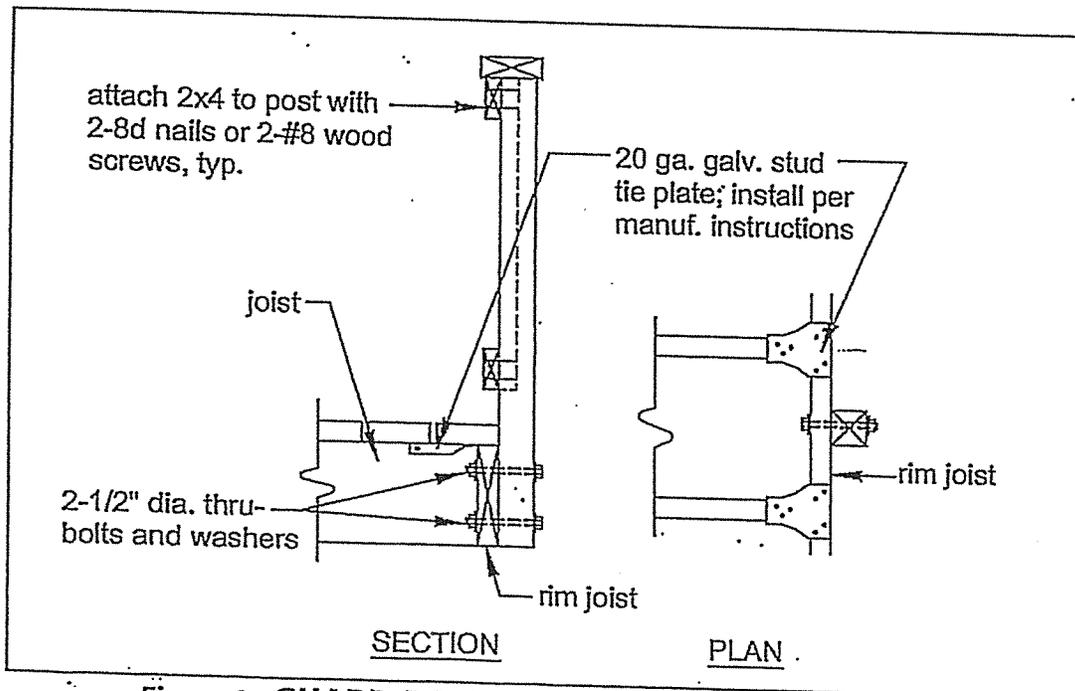


Figure 9: GUARD POST TO RIM JOIST DETAIL, OPTION 2

GUARD REQUIREMENTS

**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.

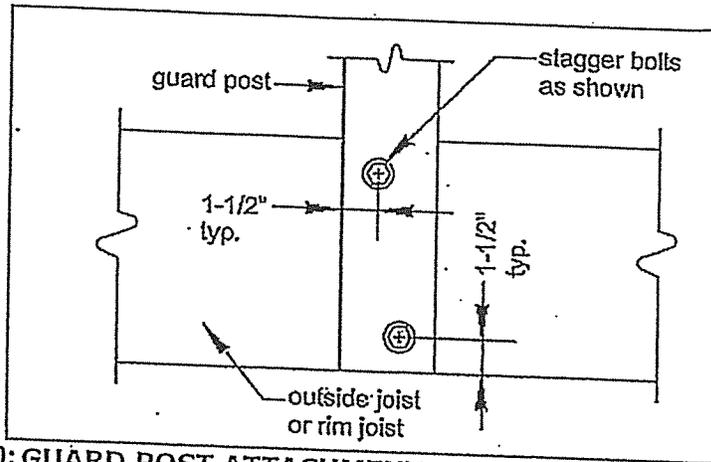


Figure 10: GUARD POST ATTACHMENT DETAIL

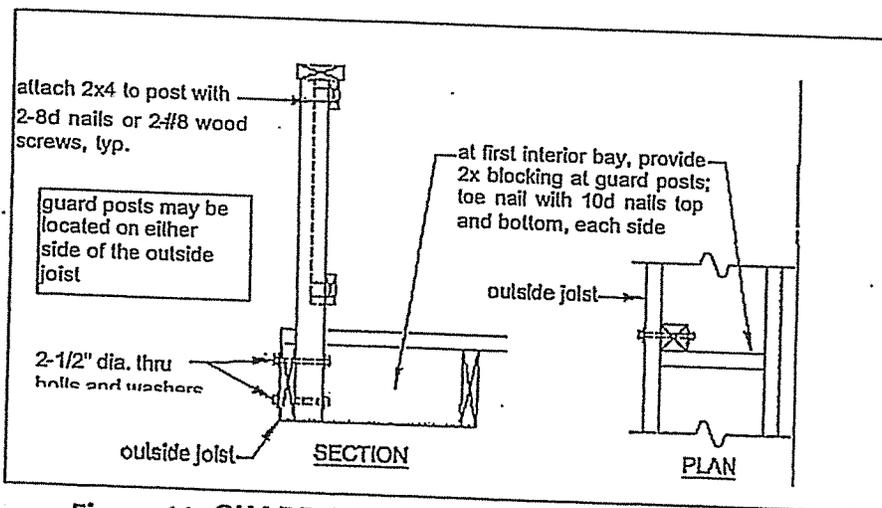


Figure 11: GUARD POST TO OUTSIDE JOIST DETAIL

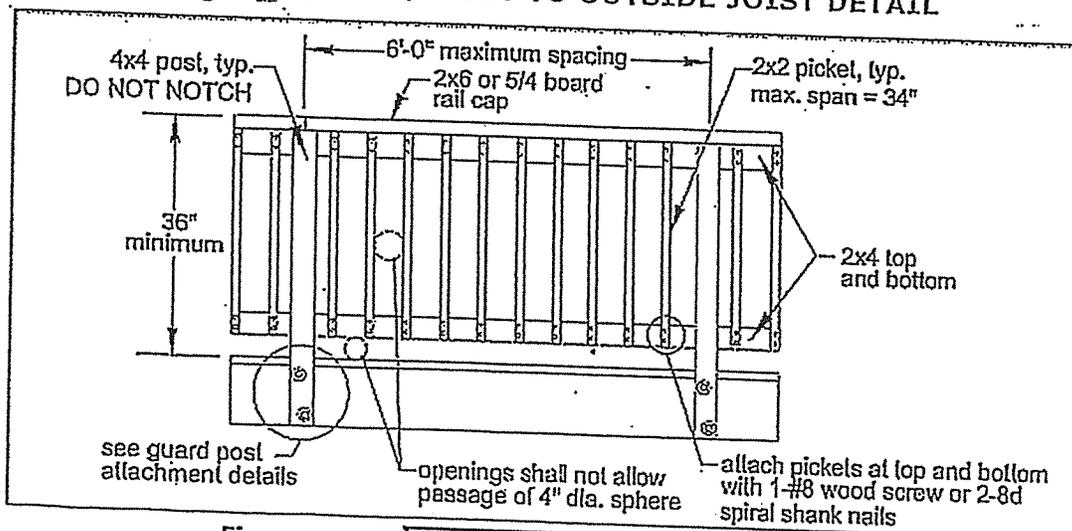


Figure 12:

**GUARD REQUIREMENTS**

**RIM JOIST REQUIREMENTS**

Attach a continuous rim joist to the ends of joists as shown in Figure 13. 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.

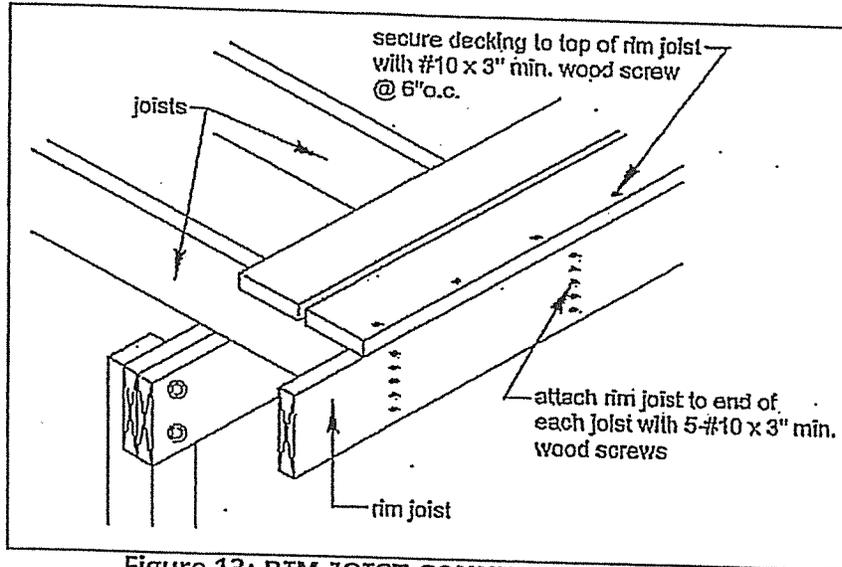


Figure 13: RIM JOIST CONNECTION DETAILS

**BUILT-UP BEAM REQUIREMENTS**

Built-up beams shall be assembled in accordance with Figure 14. The nailing pattern shall be staggered as shown.

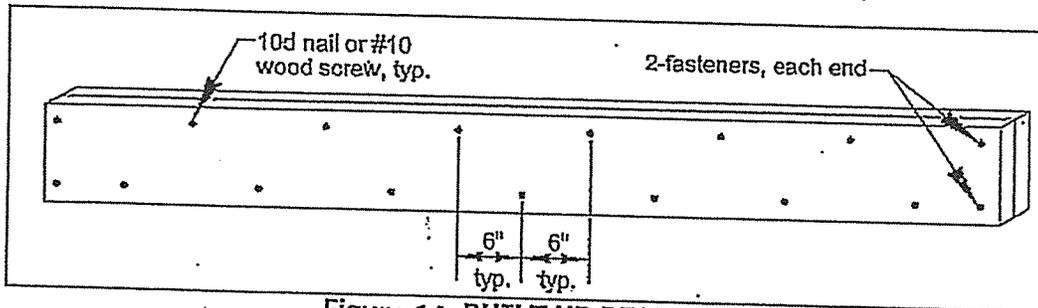


Figure 14: BUILT-UP BEAM DETAIL

Figure 15: Post-to-Beam Attachment Requirements

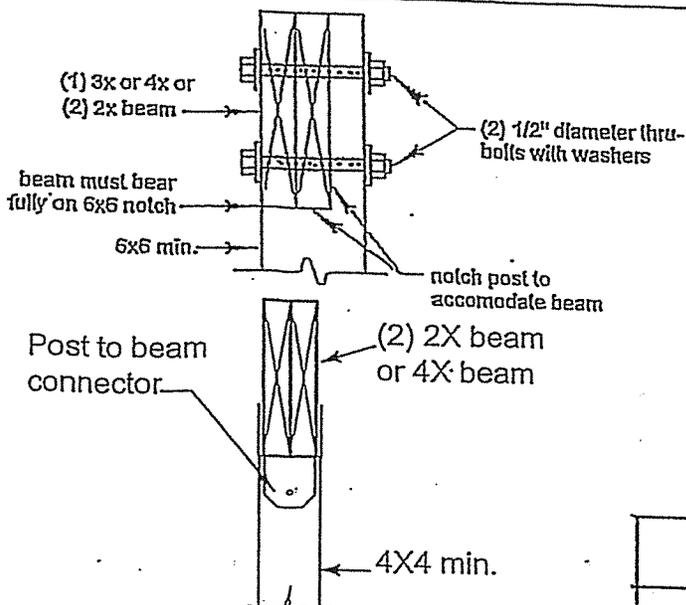
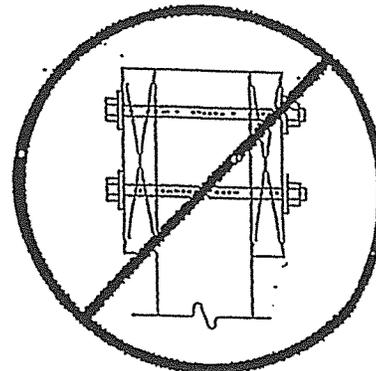


Figure 16: Prohibited Post-to-Beam Attachment Condition



**JOIST-TO-BEAM CONNECTION**

**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.

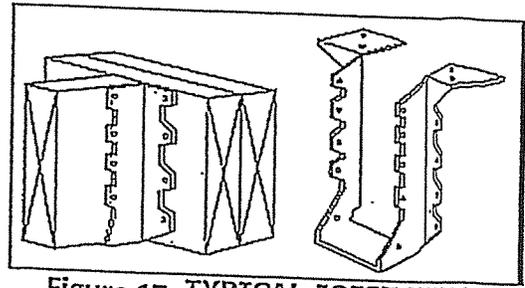


Figure 17: TYPICAL JOIST HANGERS

**JOIST-TO-BEAM CONNECTION**

Each joist shall be attached to the beam as shown in Figure 18: . Mechanical fasteners shall be galvanized with 1.85 oz/sf of zinc (G-185 coating) or shall be stainless steel.

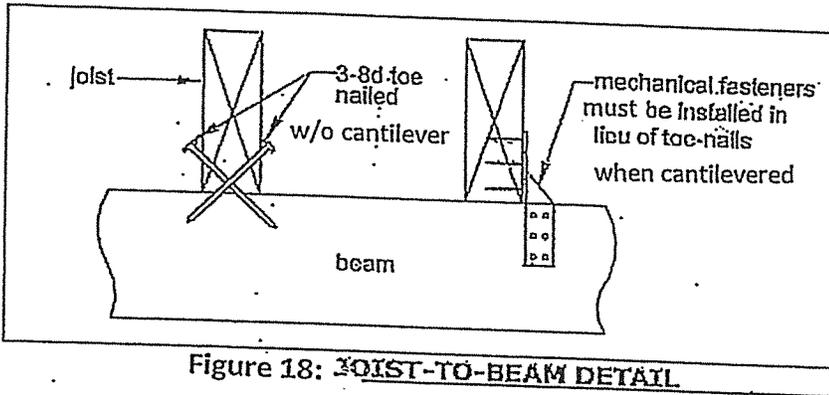


Figure 18: JOIST-TO-BEAM DETAIL

**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 19: for lag screw length and shank requirements. All lag screws shall be installed with washers.

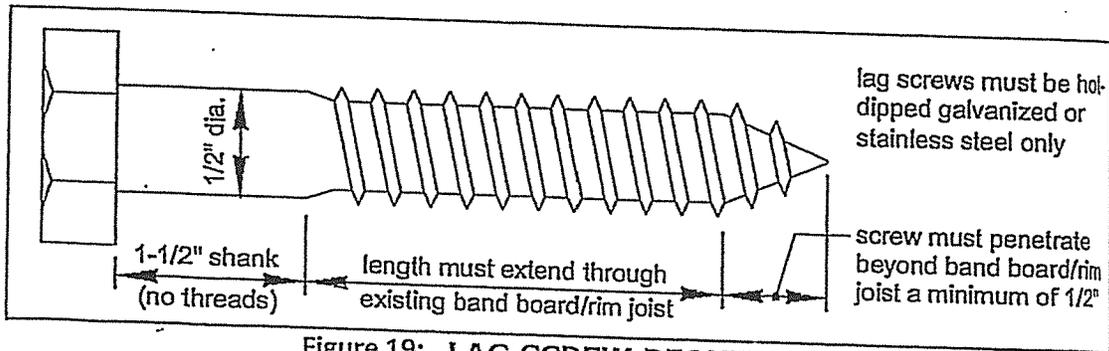


Figure 19: LAG SCREW REQUIREMENTS

**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.**

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

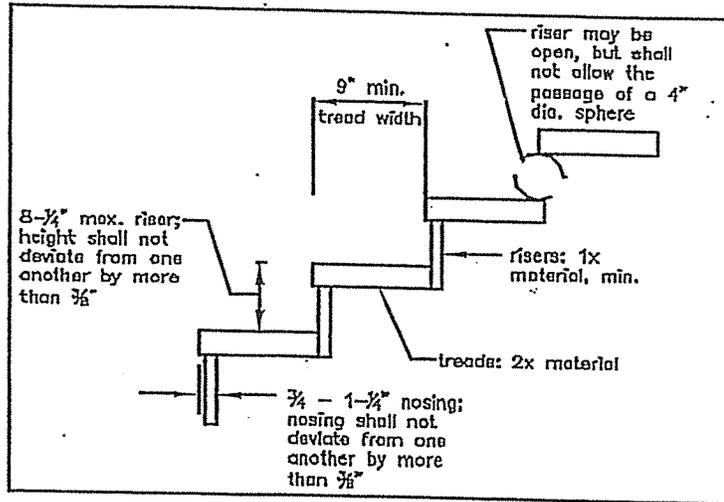


Figure 20: TREAD AND RISER DETAIL

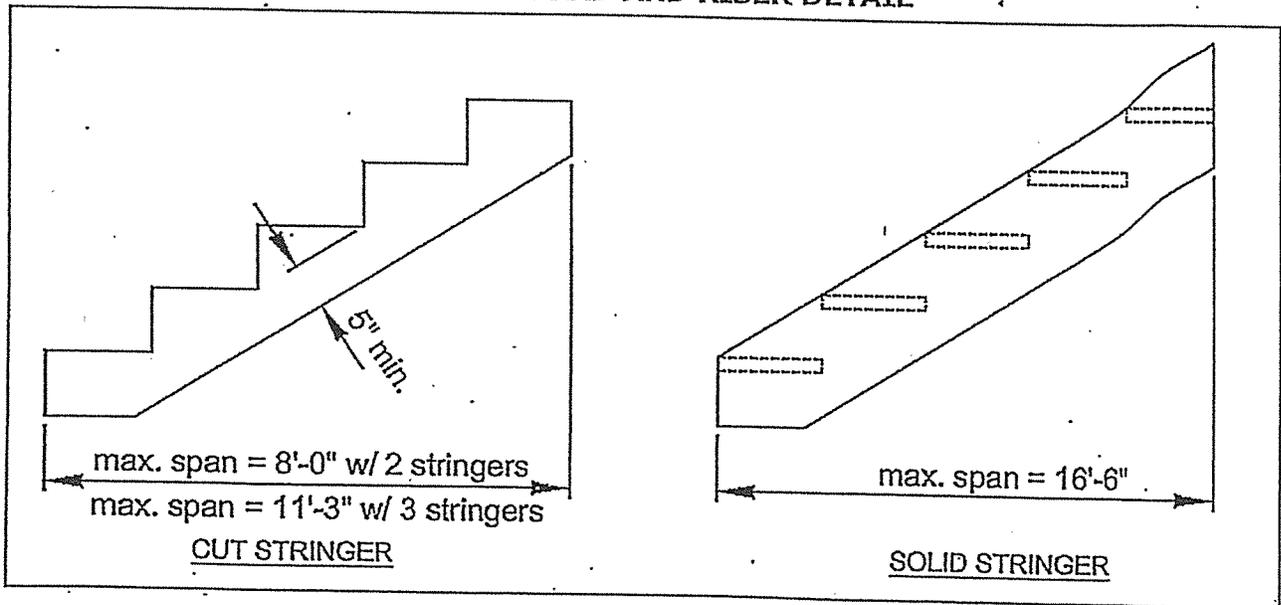


Figure 21: STAIR STRINGER REQUIREMENTS

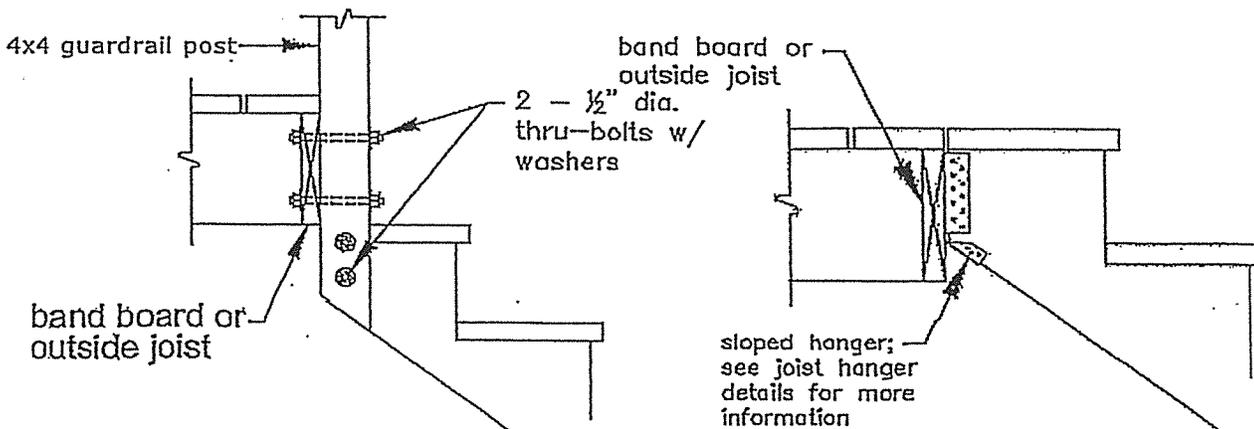
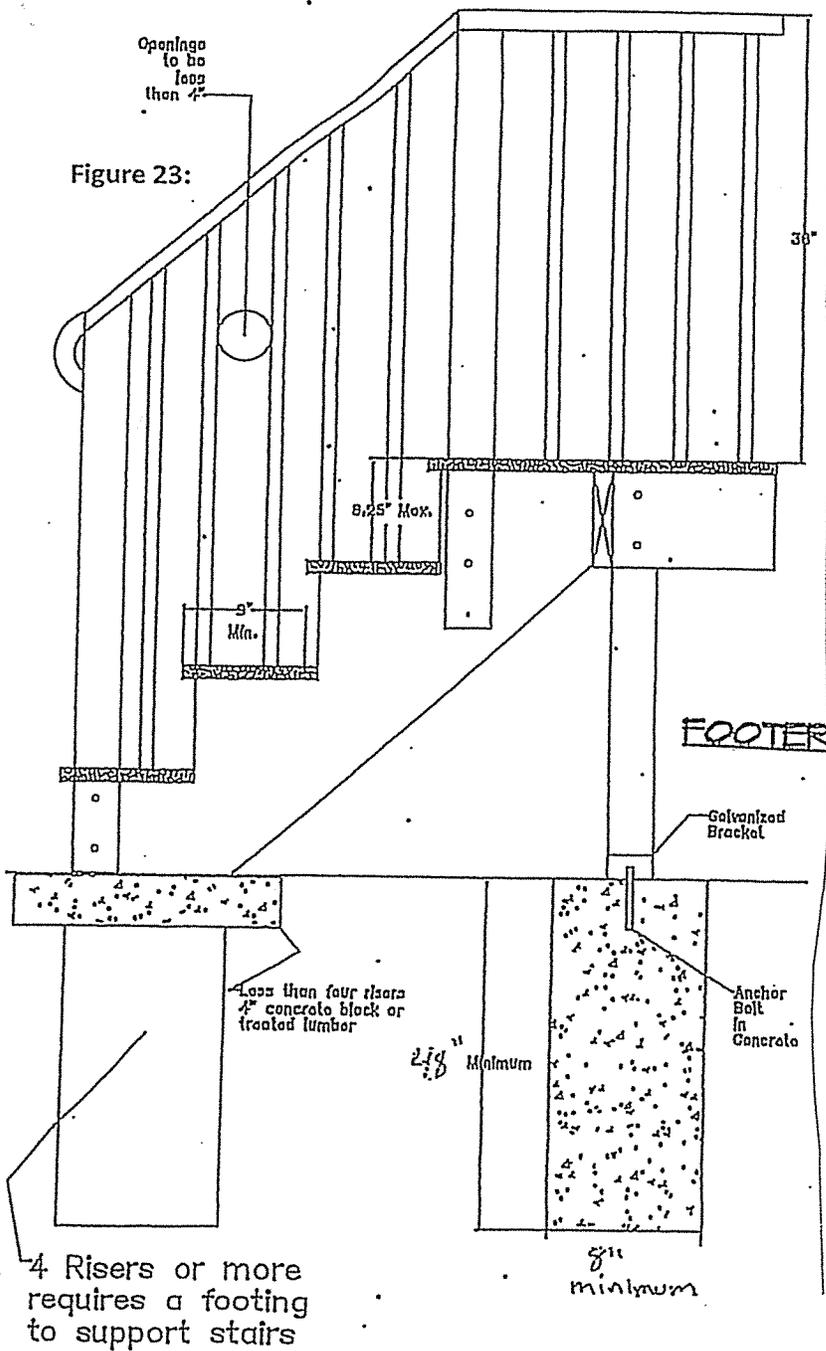


Figure 22: STAIR STRINGER CONNECTION DETAIL



### Incidental Requirements.

#### Setbacks:

Unless more stringent local zoning codes apply, all open decks and parts thereof shall be maintained a minimum of 3 feet from property lines and a minimum of 6 feet from another deck or structure whether on the same lot or an adjoining property.

Decks with roofs must comply with local zoning setbacks and lot coverage restrictions.

#### R303.6 Stair Lighting 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. However, motion detected or timed switches are acceptable.

#### E3801.7 Outdoor Outlets:

At least one Balconies, decks and porches that are accessible from inside of the dwelling unit and have a usable area of 20 sq. ft. of floor area or greater shall have at least one receptacle outlet installed within the perimeter of the balcony, deck or porch. The receptacle shall be located not more than 6 feet, 6 inches above the balcony, deck or porch surface.

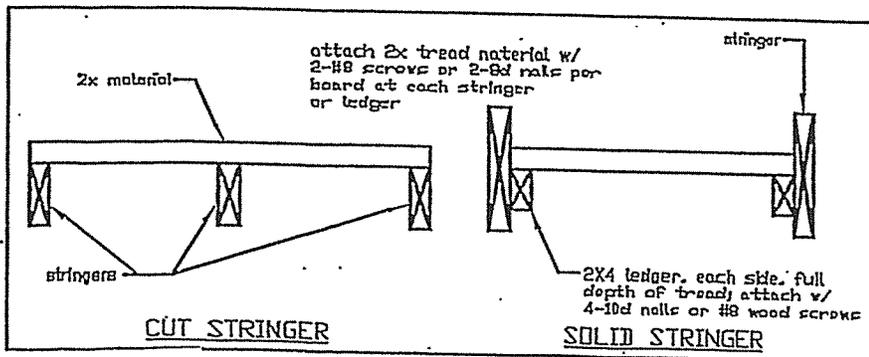
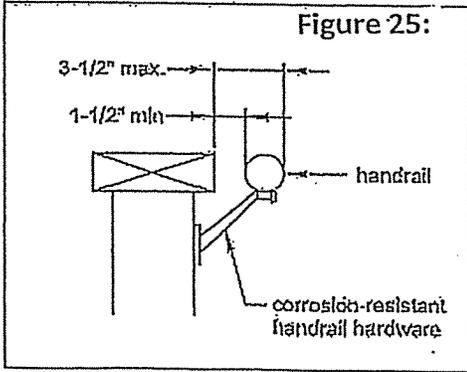


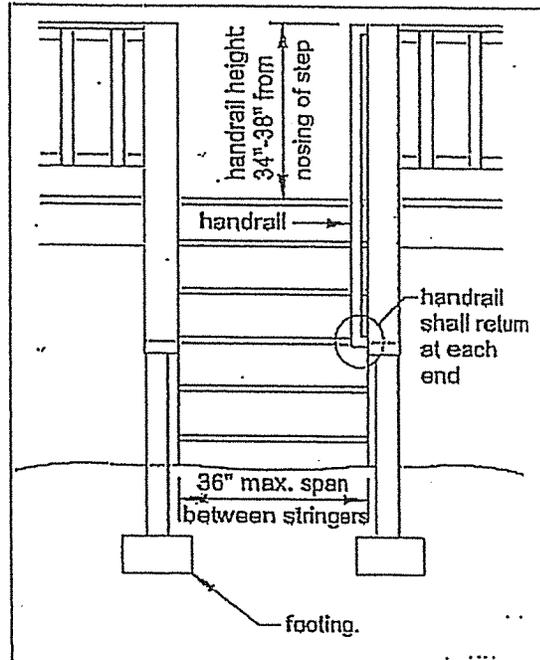
Figure 24: TREAD CONNECTION REQUIREMENTS

# 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 27. Handrails may be interrupted at guards posts only at a turn in the stair.

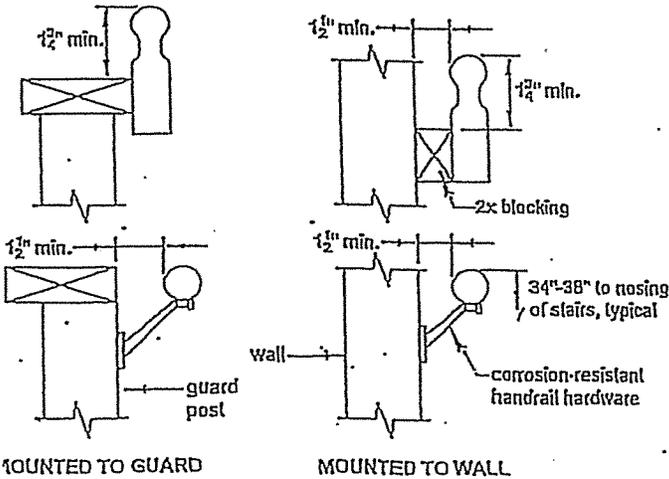


**Figure 26:**

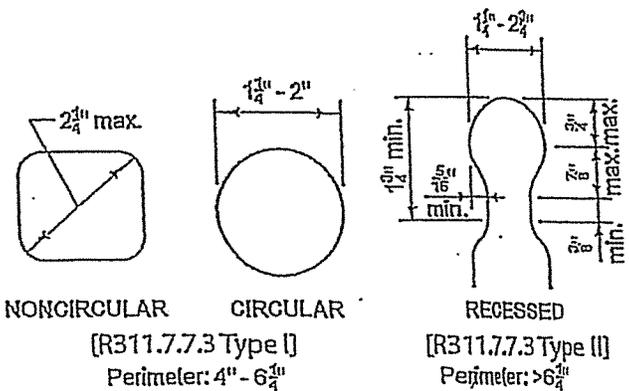


**Figure 27: Handrail Mounting Examples**

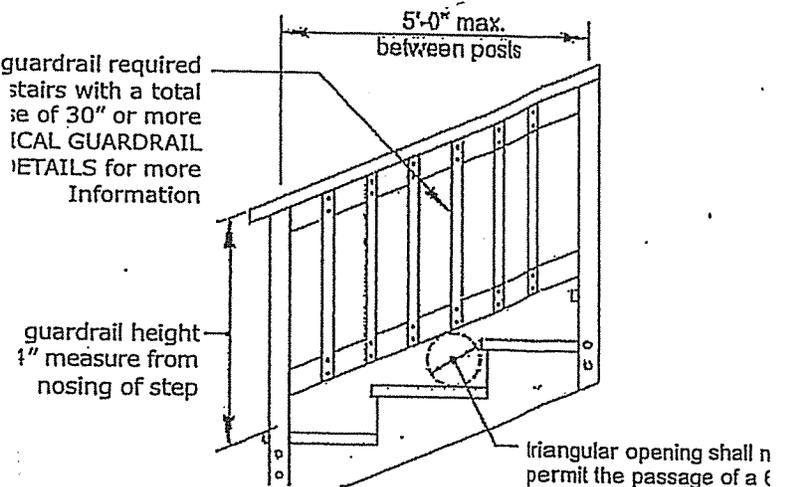
Fasten handrails per manufacturer recommendations



**Figure 28: Handrail Grip Size**



stair guardrail required stairs with a total rise of 30" or more. See LOCAL GUARDRAIL DETAILS for more information.



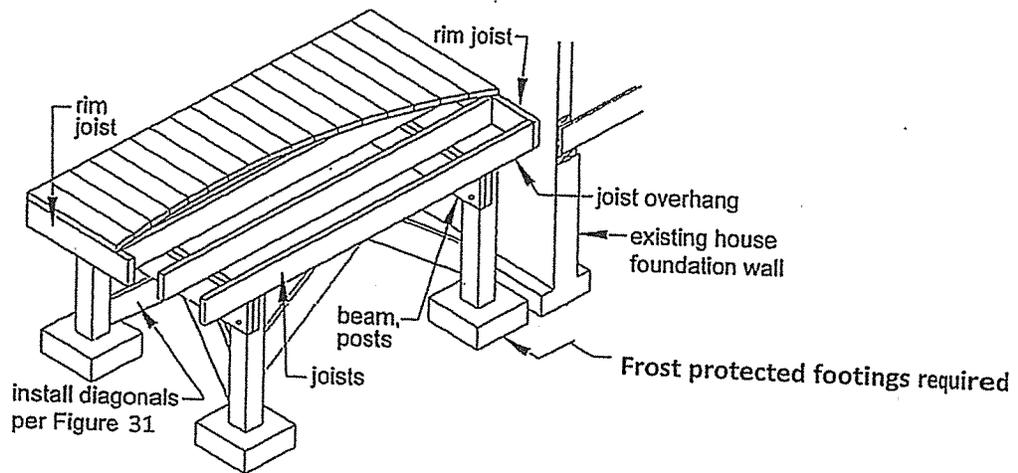
**Figure 29: STAIR GUARD REQUIREMENTS**

For Pools, Manufactured Homes & Prohibited Ledger Connections As Per Figures 1,2&3.

**FREE-STANDING DECKS**

Decks which are free-standing do not utilize the exterior wall of the existing house to support vertical loads (see Figure 30); instead, an additional beam with posts is provided with a maximum 24" cantilever

**Figure 30: Free-Standing Deck**



**DECK STABILITY**

Decks greater than 2 feet above grade shall be provided with diagonal bracing.

**Figure 31: Diagonal Bracing Requirements**

