

City of Franklin

One & Two Family Dwelling Deck Guide

This guide was prepared to assist you in planning your deck. By submitting the necessary information, this office will be better able to process your application and evaluate your structure in terms of code compliance and safety.

NOTE: If the proposed deck will be supporting a hot tub or roof you must specify that on the plans.

1. The following items are required to be submitted with the original application for building permit:
 - a. zoning approval
 - b. Two (2) complete sets of building plans
 - i. Plans must be to scale and stamped by a design professional if deck is over one story in height and/or deck supports hot tub.
 - c. Plans must be in ink or legible copies of a pencil draft

2. The following items are to be indicated on the building plan:
 - a. Building setback dimensions
 - b. Top, front and side views of deck
 - c. Size, thickness, and depth (below grade) of footings
 - d. Size, type and spacing of columns
 - e. Type of wood used (specs & grade) (e.g. southern yellow pine (syp) pressure treated)
 - f. Size of floor joist, span, and distance of repetitive member
 - g. Size, type and span of all girders (beams)
 - h. Method of supporting girders & beams
 - i. Height of wood joist, girders, and floor above exposed earth
 - j. Type and thickness of floor sheathing (deck)
 - k. Height of stair risers and depth/width of tread
 - l. Height of handrail with returns
 - m. Height of guardrail and balustrade spacing
 - n. Bolt spacing and flashing of Ledger board to primary structure
 - o. Type of fasteners (nails, bolts, screws, etc) (hot dip galvanized or stainless), if using other types provided specification from manufacturer for approval for use in pressure treated wood.

Note: Decks are not permitted to be supported by brick or stone veneer

Deck Plan Submittal

Deck Size (overall dimensions): _____ X _____

Note: All fasteners MUST be Exterior grade.

Guardrail: _____

- Required if floor is 30" or more above ground.
- Constructed so no opening will allow a 4" sphere to pass thru.

* - See Note below.

Stairs (where applicable):

- No. of Treads (9" min.): _____
- No. of Risers (8 1/4" max.): _____
- Min. 4" high toe kick.

Handrail: _____

- Constructed so no opening will allow 4-3/8" sphere to pass thru.

* - See Note below.

Flooring: _____

- Material: _____
- Size (nominal): _____ X _____

Floor Joists: _____

- Material: _____
- Size (nominal): _____ X _____
- Spacing Center to Center: _____
- Clear span distance: _____

Carrier Beam: _____

- Material: _____
- Size (nominal): _____ X _____
- Spacing Center to Center: _____
- Clear span distance: _____

Support Post: _____

- Material: _____
- Size (nominal): _____ X _____
- Post Length: _____

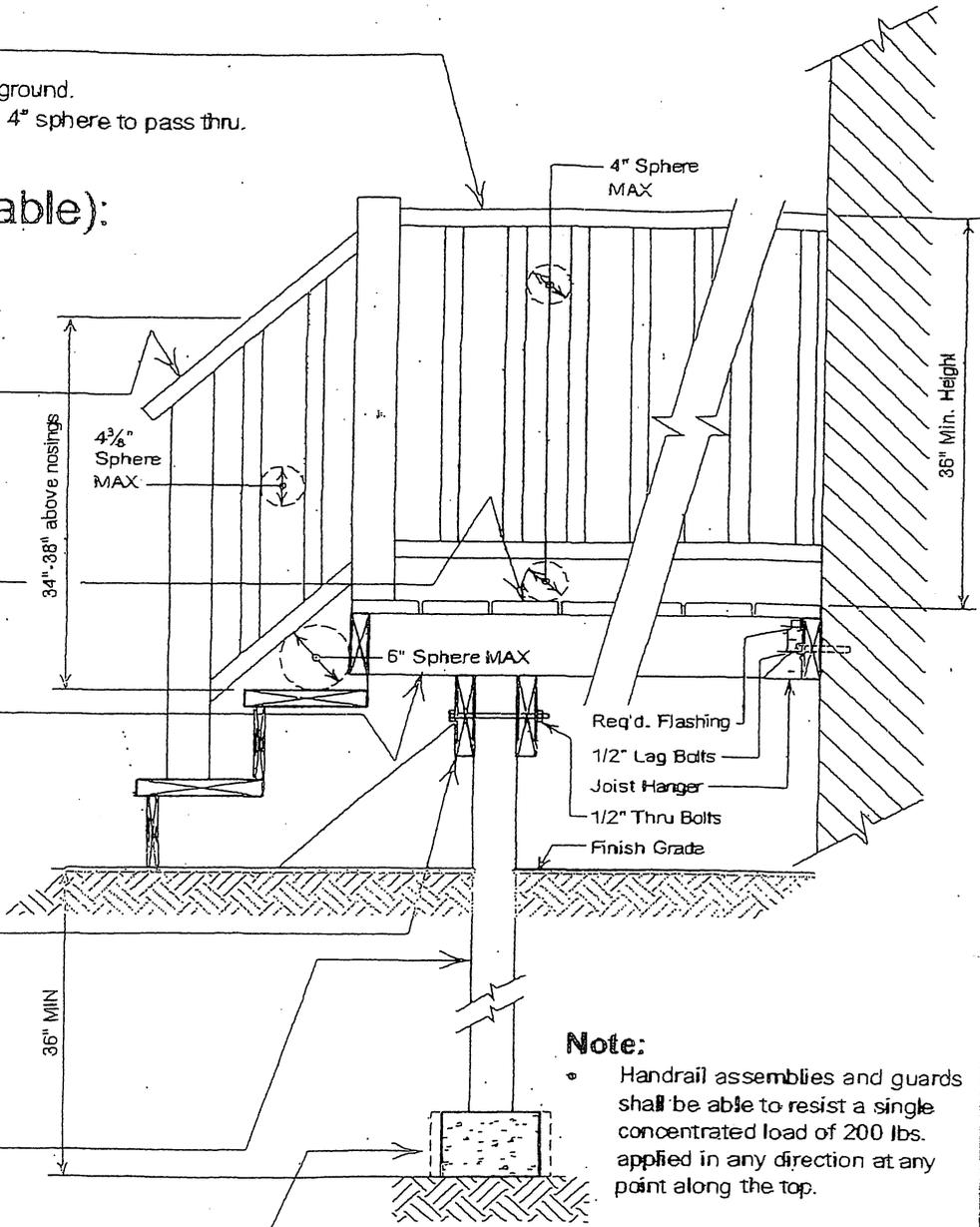
Footer: _____

- (NOTE) IF SACRETE OR OTHER BAGGED DRY MIX MATERIAL IS BEING USED IT MUST BE PREMIXED WITH WATER AS PER INSTRUCTIONS BEFORE PLACEMENT INTO HOLE, NO EXCEPTIONS

- Size of footer from footing chart - Diameter _____ Square _____

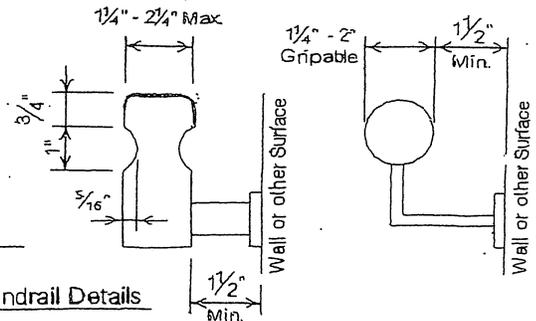
Depth _____
8" Minimum

Acceptable Handrail Details



Note:

- Handrail assemblies and guards shall be able to resist a single concentrated load of 200 lbs. applied in any direction at any point along the top.



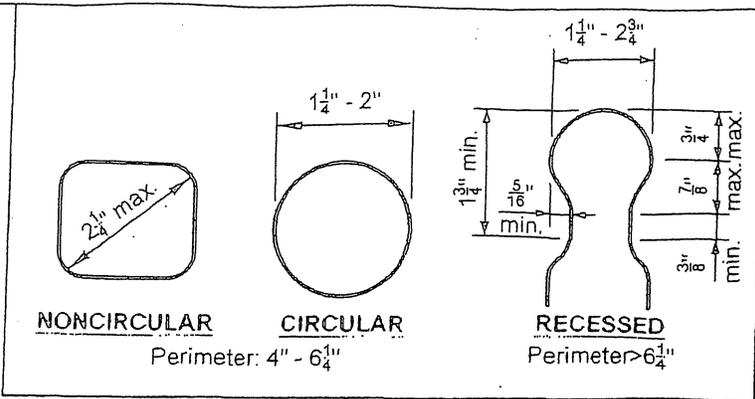


FIGURE 39: HANDRAIL GRASPABILITY TYPES/GEOMETRY

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 41. Handrails may be interrupted by guard posts only at a turn in the stair.

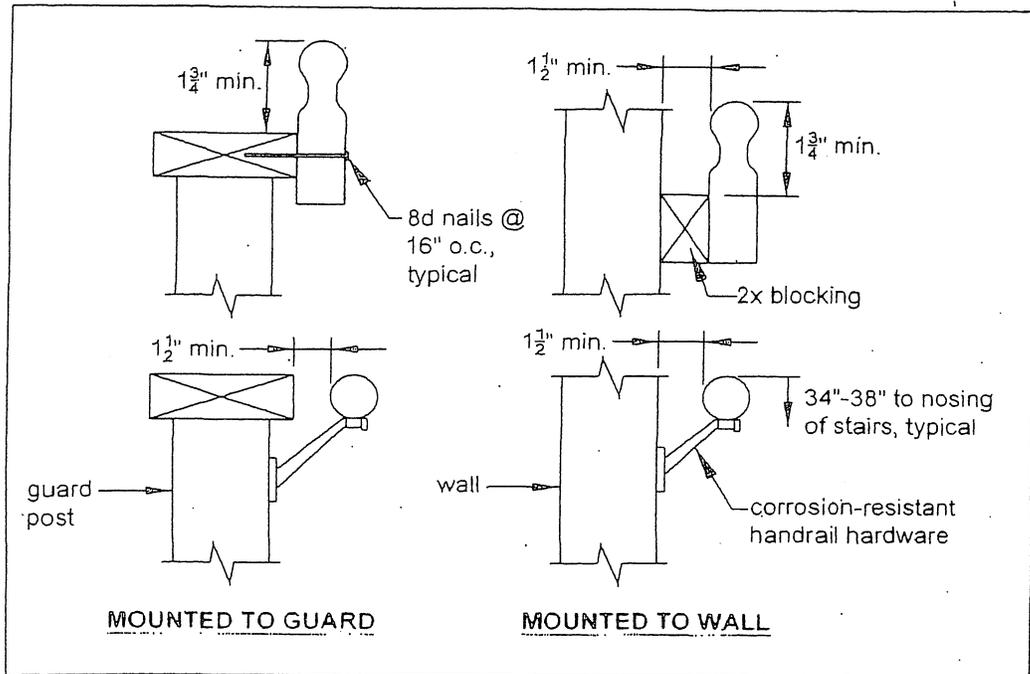


FIGURE 40: HANDRAIL REQUIREMENTS

TABLE 1: MAXIMUM JOIST SPANS¹ (excludes overhangs).

Joist Size	Joist Spacing, on center		
	12"	16"	24"
2x6	11'-1"	9'-7"	7'-10"
2x8	14'-4"	12'-4"	10'-1"
2x10	17'-10"	16'-0"	13'-1"
2x12	18'-0"	18'-0"	15'-4"

¹ Spans are based on 40 PSF live load, 10 PSF dead load, southern pine #2, normal loading duration, wet service conditions and deflection: $\Delta = l/360$.

BEAM SIZE & ASSEMBLY REQUIREMENTS

The determination of beam size is based on the characteristics of the joist, i.e., span length and overhang. Use TABLE 2 to determine your beam size; see FIGURE 4 for beam span types.

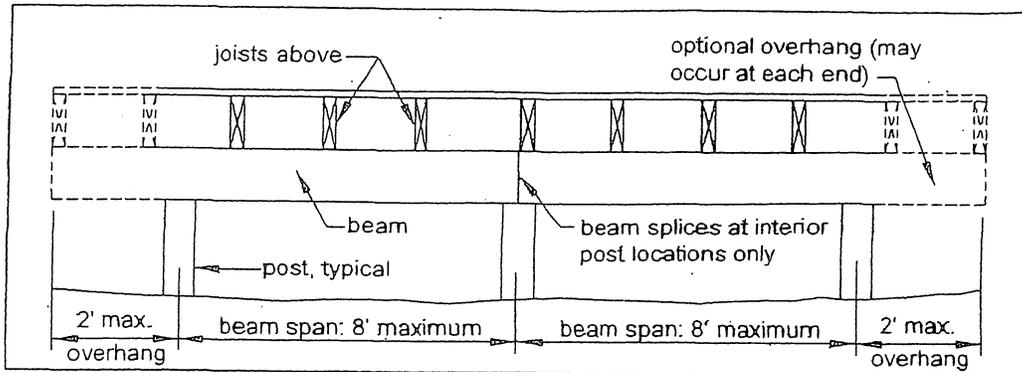


FIGURE 4: BEAM SPAN TYPES

TABLE 2: MINIMUM BEAM SIZE*

Joist Span	Beam Size	
	when joists overhang beam	when joists attach to side of beam
0 - 6'-0"	(2) 2x8	(2) 2x6
6'-1" - 11'-2"	(2) 2x10	(2) 2x8
11'-3" - 12'-8"	(2) 2x10	(2) 2x10
12'-9" - 16'-0"	(2) 2x12	(2) 2x10
16'-1" - 18'-0"	(2) 2x12	(2) 2x12

* You may substitute a larger beam size for the one shown in the table. For instance, if the table requires (2) 2x8, you may substitute a (2) 2x10 or (2) 2x12.

The beam is assembled by attaching the two members identified in the tables above in accordance with FIGURE 5.

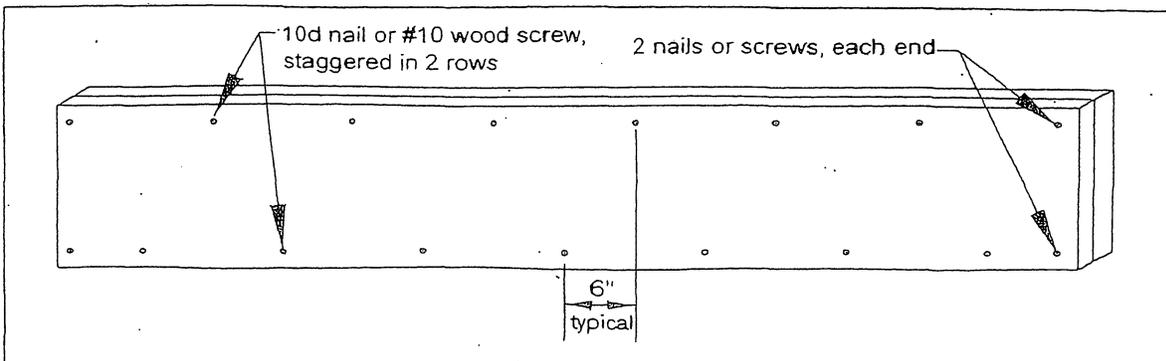


FIGURE 5: BEAM ASSEMBLY DETAIL

PROHIBITED LEDGER ATTACHMENTS

Attachments to the ends of pre-manufactured open web joists, to brick veneers or chimneys, and to house overhangs or bay windows are strictly prohibited; see FIGURE 17 through FIGURE 19. In such cases the deck shall be free-standing. See FREE-STANDING DECKS on Sheet 12.

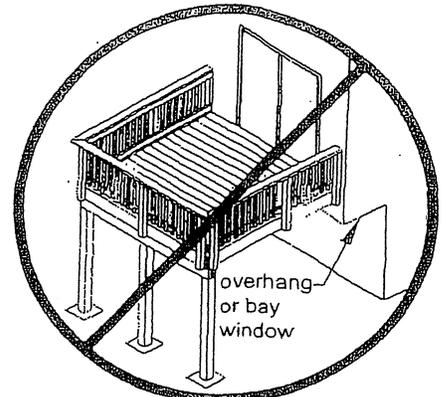
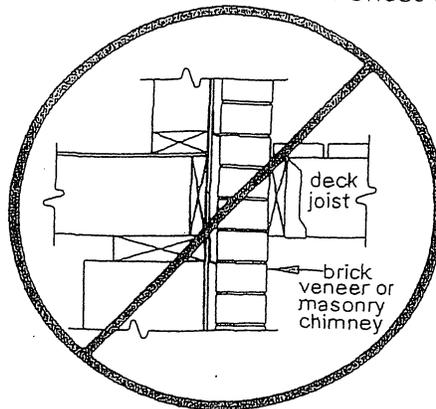
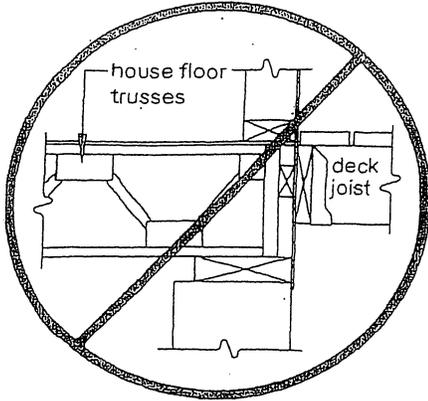


FIGURE 17: NO ATTACHMENT TO OPEN WEB TRUSSES

FIGURE 18: NO ATTACHMENT OR THROUGH BRICK VENEER

FIGURE 19: NO ATTACHMENT TO HOUSE OVERHANG

LEDGER BOARD FASTENERS

Ledger board fasteners shall be installed in accordance with FIGURE 20 and the spacing in TABLE 4. Only those fastener types noted herein are approved for use; LEAD ANCHORS ARE STRICTLY PROHIBITED. Adequacy of connections will be verified by county inspectors.

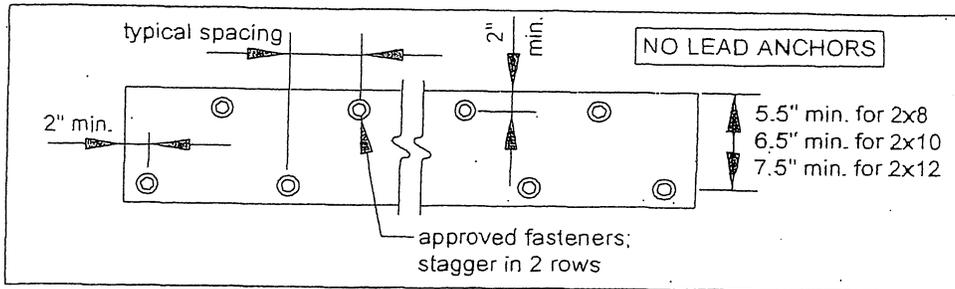


FIGURE 20: LEDGER BOARD FASTENER SPACING AND CLEARANCES

TABLE 4: LEDGER BOARD FASTENER SPACING¹

Fastener	Band Board Material ²	Joist Span						
		0 to 6'-0"	6'-1" to 8'-0"	8'-1" to 10'-0"	10'-1" to 12'-0"	12'-1" to 14'-0"	14'-1" to 16'-0"	16'-1" to 18'-0"
Spacing of Fasteners, on center								
Lag Screws	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1-1/8" EWP	28"	21"	16"	14"	12"	10"	9"
	2x lumber	30"	23"	18"	15"	13"	11"	10"
Through Bolts	1" EWP	24"	18"	14"	12"	10"	9"	8"
	1-1/8" EWP	28"	21"	16"	14"	12"	10"	9"
	2x lumber	36"	36"	34"	29"	24"	21"	19"
Approved Wood Screws	1" EWP	18"	13"	11"	9"	8"	7"	6"
	1-1/8" EWP	21"	15"	12"	10"	9"	7"	7"
	2x lumber	19"	14"	11"	9"	8"	7"	6"
Expansion Anchors		36"	36"	34"	29"	24"	21"	19"
Approved Epoxy Anchors		32"	32"	32"	24"	24"	16"	16"

¹See Sheet 11 for fastener specifications.

²EWP = manufactured engineered wood product; see Sheet 8 for more information.

DECK FRAMING PLAN

A framing plan shows a bird's-eye view of the joist and beam layout; the location of the ledger board, posts and footings, and the type, size and spacing of the ledger board fasteners. See FIGURE 6 for an example of a typical deck framing plan.

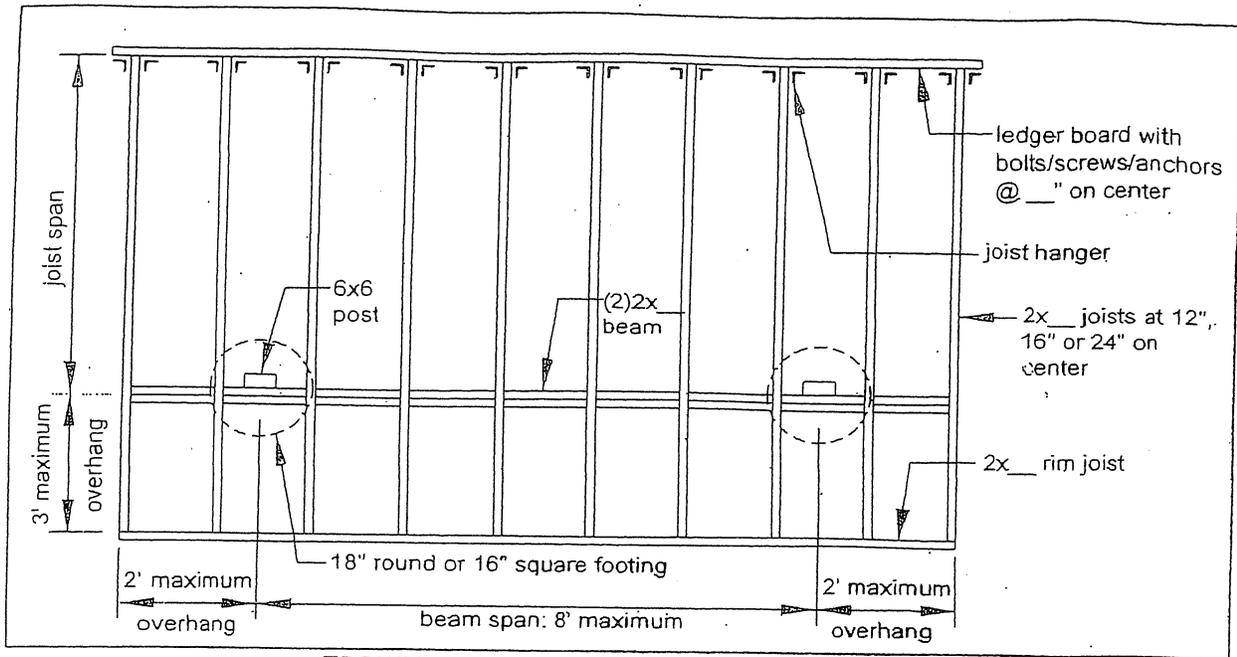


FIGURE 6: TYPICAL DECK FRAMING PLAN

JOIST-TO-BEAM CONNECTION

Each joist shall be attached to the beam as shown in FIGURE 7. Use Option 1 or Option 2 when joists bear on or overhang past the beam; see FIGURE 1 and FIGURE 3. Use Option 3 when joists attach to the side of the beam

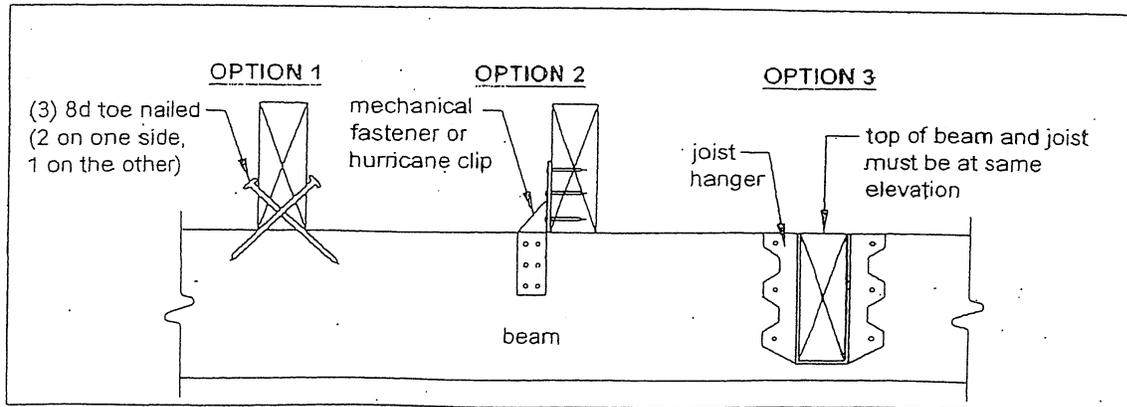


FIGURE 7: JOIST-TO-BEAM DETAIL