



Building Division
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TYPICAL ATTACHED PATIO COVERS

I. GENERAL

Patio covers are one-story, roofed structures not more than 12 feet above grade and used only for recreational or outdoor living purposes. A patio cover cannot be used as a second story deck, carport, garage, workshop, storage area, or habitable room.

All structures are subject to the Planning, Building Department, and HOA design requirements.

Attached patio covers may be plan checked over the counter. Detached patio covers may require structural engineering and may be taken in for plan check depending on the design and weight of the roof.

Note: Structures less than 5 feet from any property line shall be of 1 hour fire resistive construction pursuant to the 2019 California Residential Code.

II. DEFINITIONS

Enclosure walls shall be permitted to be of any configuration, provided the open area of the longer wall and one additional wall is equal to at least 65 percent of the area below a minimum of 6 feet 8 inches of each wall measured from the floor. The openings may be covered by insect screening, translucent or transparent plastic not more than 0.125 inch in thickness, glass conforming to the provisions or chapter 24 of the 2019 CBC or any combination of the foregoing.

III. EXTERIOR OPENINGS

Exterior openings required for light and ventilation shall be permitted to open into a patio structure. However, the patio structure shall be unenclosed if such openings are serving as emergency egress from sleeping rooms.

IV. CONCRETE MIX

The concrete mix for footings must meet the strength of $F'c = 4500$ psi. Save the trip ticket or purchase receipts for City Inspector verification at Final Inspection.

Note: Gas lines are not allowed to be placed under concrete slab that is covered by any of these structures.

V. LUMBER

Lumber shall be Douglas Fir Larch No. 2 or better; all lumber must be grade marked.

For properties located in the High Fire Severity Zone (HFSZ) please refer to *Clarification of HFSZ requirements*.

VI. POST ANCHORAGE AND BRACING

The details shown on this sheet have been approved by the City of Aliso Viejo Building & Safety. Posts must be anchored at the lower end by any of the methods noted. They must be braced to the upper end using any of the optional methods shown.

Decorative-type bracing may be substituted for the above if the same amount of structural bracing is realized. When the load (live and dead load) on a supporting post does not exceed 750 pounds per post, a minimum 3 1/2" thick concrete slab on grade may be substituted for the pad footings shown on the typical framing details.

Patio covers shall be designed and constructed to sustain, within the stress limits of this code, all dead loads plus a minimum vertical live load of 10 pounds per square foot.

For over the counter plan check, dead loads will typically be calculated at 5 and 10 pounds per square foot respectively for open and solid patio covers.*

*These figures are subject to change based on the specific design of the structure being built and whether or not engineered calculations are provided.

VII. LEDGER TO HOUSE ATTACHMENT

When it is desired to connect and support one side of the structure by attaching it directly to the house, the rafter spans and main beam sizes will be as shown in the table. However, the main beam may be replaced on the side attached to the house with a ledger the same size as the rafters and fastened to the studs with 3/8" X 5" lag screws spaced at 16" on center. Attachment to existing house rafters is achieved with optional method shown (See *Detail B of Sheet 6*).

CLARIFICATION OF VERY HIGH FIRE SEVERITY ZONE REQUIREMENTS:

Section 710A and R337:

When any portion of an attached or detached accessory structure {carports, deck, patio covers, decking, surfaces, stairs, landings, balconies, porches, etc.) is within 50 feet of the primary structure, the entire structure shall comply with one of the following:

1. Noncombustible material OR
2. Ignition-resistant material AND meet SFN 12-7A parts A and B (some materials are listed by State Fire Marshall at: <http://osfm.fire.ca.gov/licensinglistings/licenselistings> bml searchcotest in accordance with ASTM E84 for 30 minutes OR
3. Heavy timber construction OR
4. **Comply with the following for exposed wood framing.**

For Patio Covers:

- a. All structural members, including, but not limited to rafters, blocking, and knee braces shall be 4x6 minimum.
- b. Beams, including hips, headers, and ridge beams shall be 6x8 minimum.
- c. Columns shall be 6x8 minimum.
- d. Latticework must be of noncombustible material or made of parallel wood members that are at least 3x3 nominal self-spaced (edge to edge) at 3 inches minimum.
- e. Solid covers must be 2x tongue and groove planks or 1 1/8" thick tongue and groove plywood.

For Exterior Balconies, Decks, and Stairs:

- a. All structural members, including, but not limited to beams, joists, and knee braces shall be 6x10 minimum.
- b. Columns shall be 8x8 inch minimum.
- c. Decking shall be of ignition resistant material that complies with SFM 12-7A-4 and SFM-7A-5 see material list at: <http://osfm.fire.ca.gov/licensinglistings/licenselistings> bml searchcotest. A noncombustible material or exterior fire retardant treated wood are also acceptable.
- d. Guardrails and handrails are deemed safety features and are not regulated by High Fire Severity Zone regulations.

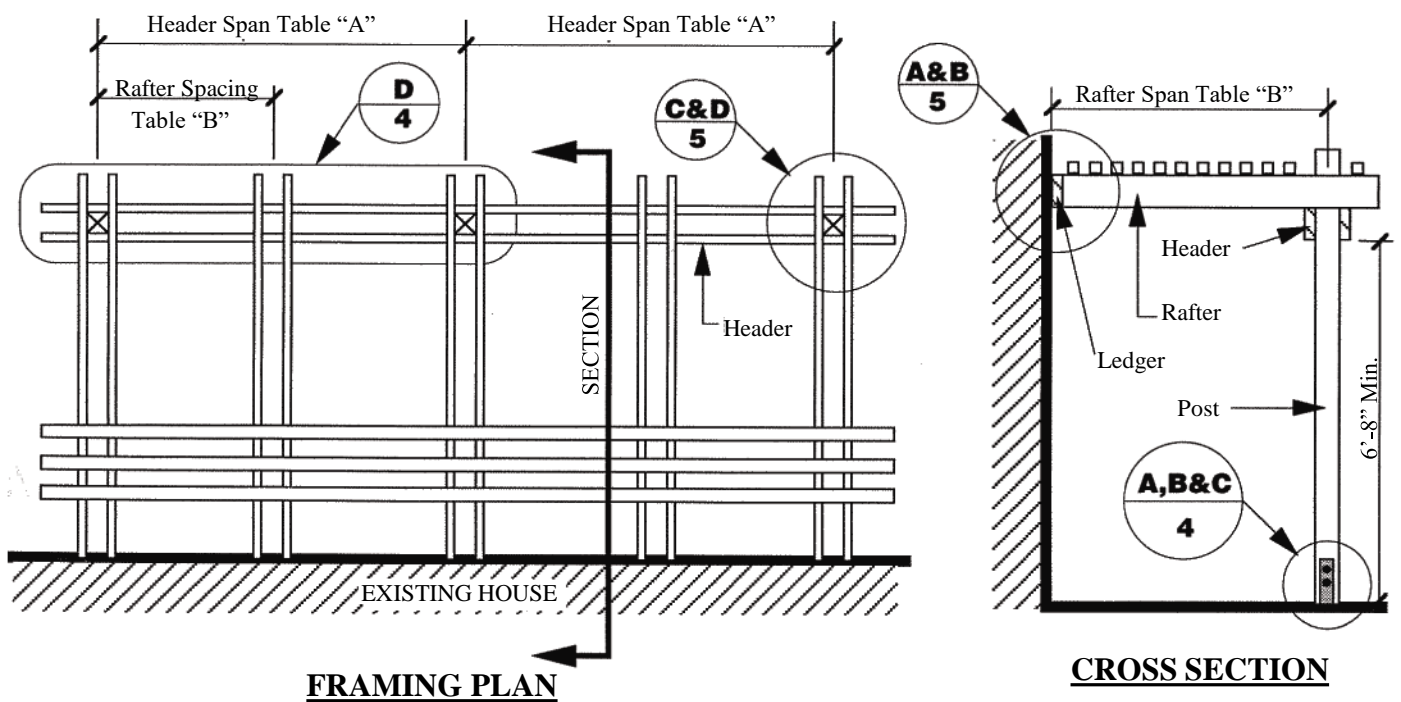
DIRECTIONS

1. Do not use pencil or red ink.
2. If framing is different from plan shown in this form, use a additional page to show the framing plan.
3. Submit the following:
 - a. Three copies of site plan.
 - b. Two copies of this form. Complete both sides.
 - c. A Building Permit and Zoning Compliance Application.
 - d. H.O.A Approvals

GUIDELINES FOR PATIO CONSTRUCTION

(Choose one that best fits your condition)

- Zero lot line
 Condominium
 Town house
 Single Family



PATIO COVER REQUIREMENTS

1. **HEADER:** Header shall be _____ Single Header Double Header
2. **JOISTS:** Joists shall be _____ at on _____ center Single Joist Double Joist
3. **ROOF SHEATHING:** Sheathing shall be _____ Self - spaced
4. **LEDGER:** Ledger shall be a _____ mounted on existing wall with 3/8" X 5" lag bolts at 16' on center (See Detail A of Sheet 6)
5. **FASCIA:** Existing fascias, if used as a ledger, must be attached to the existing rafters with metal framing anchors on each side of each rafter. (See B of sheet 6)

TABLE: A	MINIMUM HEADER SIZES		
HEADER	ROOF TYPE / MAXIMUM SPAN		
SIZE	LT. WGHT	SIZE	LT. WGHT
4X4	6'-4"	(2)2X4	5'-11"
4X6	10'-0"	(2)2X6	9'-4"
4X8	13'-3"	(2)2X8	12'-4"
4X10	16'-11"	(2)2X10	15'-8"
4X12	20'-6"	(2)2X12	19'-1"
6X6	11'-5"	(2)3X6	12'-8"
6X8	15'-7"	(2)3X8	15'-11"
6X10	19'-9"	(2)3X10	22'-3"

LT. WEIGHT PATIO COVER

NOTES:

* See paragraph on post anchorage

** After prolonged periods of time 2' x 4" rafters spanning more than 8 feet may defect permanently and give an objectionable appearance. It is therefore recommended that for rafter spans exceeding 8 feet a minimum rafter size of 2' x 6" be used

TABLE: B	MAXIMUM RAFTER SPAN TABLE						
RAFTER SIZE	LIGHTWEIGHT ROOF (SPACING CENTER-TO-CENTER)						
	16"	24"	32"	36"	48"	60"	72"
2X4**	11'-6"	10'-0"	7'-11"	7'-7"	6'-11"	6'-5"	6'-1"
2X6	18'-1"	15'-5"	12'-6"	12'-1"	10'-11"	10'-1"	9'-6"
2X8	23'-10"	20'-10"	16'-6"	15'-10"	14'-5"	13'-4"	12'-7"
2X10			20'-11"	20'-2"	18'-4"	17'-0"	16'-0"
4X4		11'-7"	10'-6"	10'-1"	9'-2"	8'-6"	8'-0"
4X6		18'-2"	16'-6"	15'-10"	14'-5"	13'-4"	12'-7"
4X8		24'-1"	21'-10"	21'-0"	19'-1"	17'-3"	16'-8"
4X10					24'-4"	22'-7"	21'-3"

TABLE: C	MINIMUM SQUARE FOOTING SIZES							
POST SPACING	RAFTER SPAN (SEE CROSS SECTION)							
	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"
4'-0"	12" sq.	12" sq.	12" sq.	12" sq.	12" sq.	12" sq.	14" sq.	14" sq.
6'-0"	12" sq.	12" sq.	14" sq.	14" sq.	14" sq.	16" sq.	16" sq.	16" sq.
8'-0"	14" sq.	14" sq.	14" sq.	16" sq.	16" sq.	18" sq.	18" sq.	20" sq.
10'-0"	14" sq.	16" sq.	16" sq.	18" sq.	18" sq.	20" sq.	20" sq.	22" sq.
12'-0"	16" sq.	16" sq.	18" sq.	20" sq.	20" sq.	22" sq.	22" sq.	24" sq.
14'-0"	16" sq.	18" sq.	20" sq.	20" sq.	22" sq.	22" sq.	24" sq.	24" sq.
16'-0"	18" sq.	20" sq.	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.
18'-0"	20" sq.	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.	30" sq.
20'-0"	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.	30" sq.	30" sq.

TABLE: D	ROOF SHEATHING	
2" X 2" Self Space Spans	6'-0"	
2" x 4" Self Spaced Spans on edge**	11'-0"	

SOLID COVER PATIO COVER

TABLE: A	MINIMUM HEADER SIZES		
HEADER	ROOF TYPE / MAXIMUM SPAN		
SIZE	SOLID	SIZE	SOLID
4X4	5'9"	(2)2X4	5'1"
4X6	9'1"	(2)2X6	8'1"
4X8	12'0"	(2)2X8	10'8"
4X10	15'4"	(2)2X10	13'7"
4X12	18'8"	(2)2X12	16'6"
6X6	10'4"	(2)3X6	10'5"
6X8	14'2"	(2)3X8	13'9"
6X10	17'11"	(2)3X10	17'7"

NOTES:

* See paragraph on post anchorage

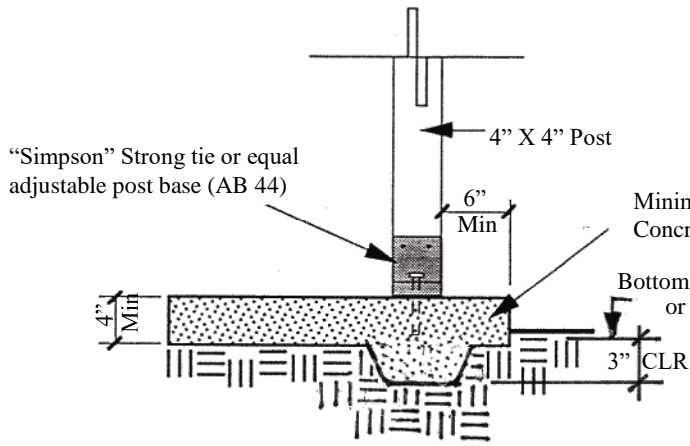
** After prolonged periods of time 2' x 4" rafters spanning more than 8 feet may deflect permanently and give an objectionable appearance. It is therefore recommended that for rafter spans exceeding 8 feet a minimum rafter size of 2' x 6" be used

*** R905.2.8.3, Sidewall Flashing. Flashing against a vertical surface shall be by the step-flashing method. This involves the removal of house stucco so that flashing can be placed underneath the moisture barrier.

TABLE: B	MAXIMUM RAFTER SPAN TABLE					
RAFTER SIZE	SOLID ROOF (SPACING CENTER-TO-CENTER)					
	16"	24"	32"	36"	48"	
2X4**	9'1"	7'11"	7'2"	6'11"	6'3"	
2X6	13'10"	12'6"	11'4"	10'11"	9'11"	
2X8	18'10"	16'6"	14'11"	14'5"	13'1"	
2X10	24'0"	20'11"	19'0"	18'4"	16'7"	
4X4	12'1"	10'6"	9'7"	9'2"	8'4"	
4X6	18'10"	16'6"	14'11"	14'5"	13'1"	
4X8	23'1"	21'10"	19'10"	19'1"	17'4"	
4X10			25'4"	24'4"	22'1"	

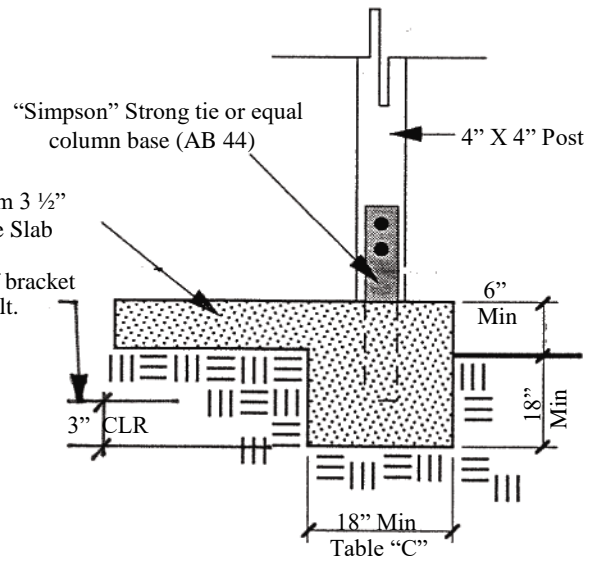
ROOF SHEATHING	
Minimum 1/2" exterior rated sheathing or approved equivalent.	

TABLE: C	MINIMUM SQUARE FOOTING SIZES								
POST SPACING	RAFTER SPAN (SEE CROSS SECTION)								
	6'-0"	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"	20'-0"	
4'-0"	12" sq.	12" sq.	12" sq.	12" sq.	12" sq.	12" sq.	14" sq.	14" sq.	
6'-0"	12" sq.	12" sq.	14" sq.	14" sq.	14" sq.	16" sq.	16" sq.	16" sq.	
8'-0"	14" sq.	14" sq.	14" sq.	16" sq.	16" sq.	18" sq.	18" sq.	20" sq.	
10'-0"	14" sq.	16" sq.	16" sq.	18" sq.	18" sq.	20" sq.	20" sq.	22" sq.	
12'-0"	16" sq.	16" sq.	18" sq.	20" sq.	20" sq.	22" sq.	22" sq.	24" sq.	
14'-0"	16" sq.	18" sq.	20" sq.	20" sq.	22" sq.	22" sq.	24" sq.	24" sq.	
16'-0"	18" sq.	20" sq.	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.	
18'-0"	20" sq.	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.	30" sq.	
20'-0"	20" sq.	22" sq.	24" sq.	24" sq.	27" sq.	27" sq.	30" sq.	30" sq.	



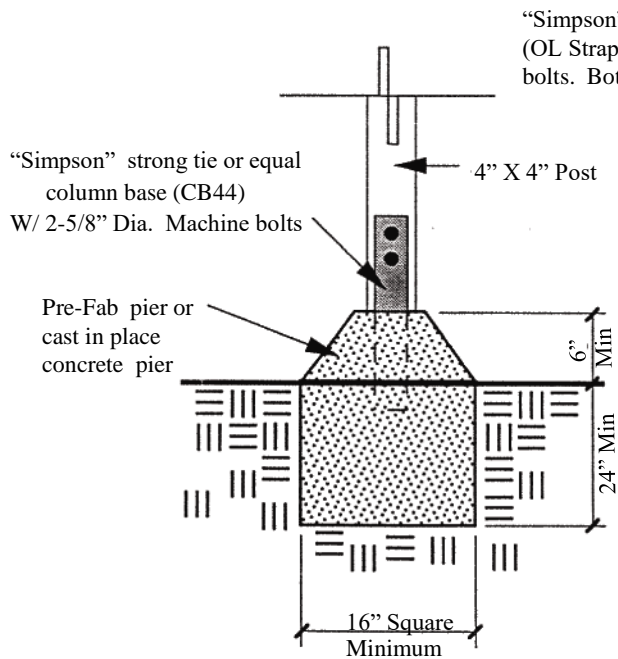
A
4

SLAB FOOTING



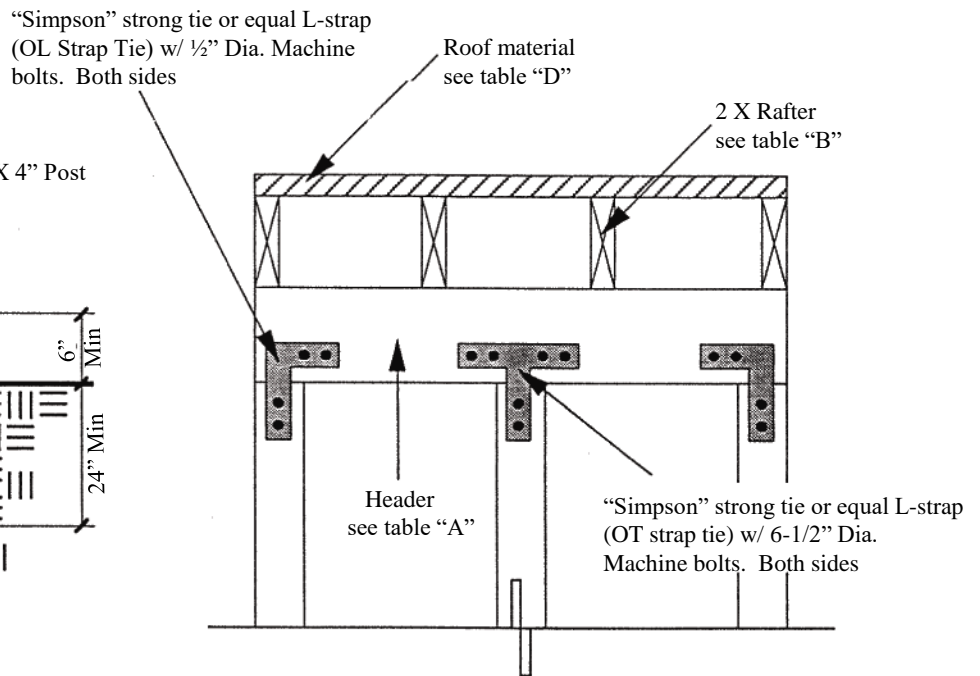
B
4

PAD FOOTING



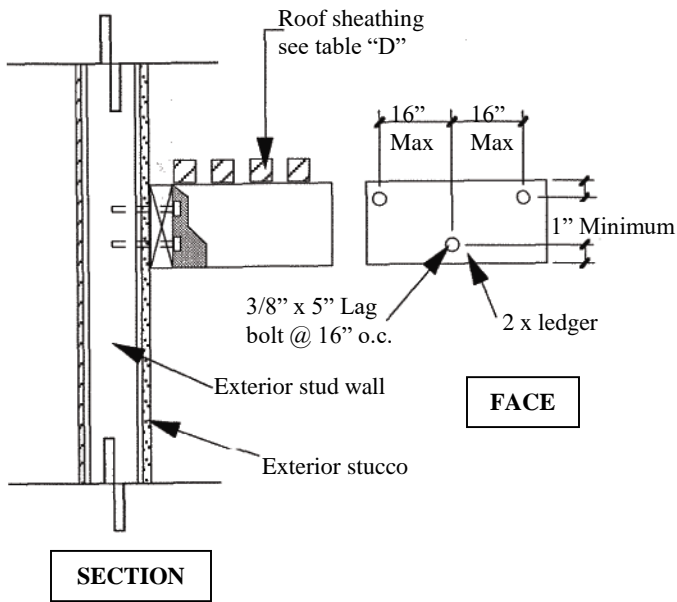
C
4

PIER FOOTING



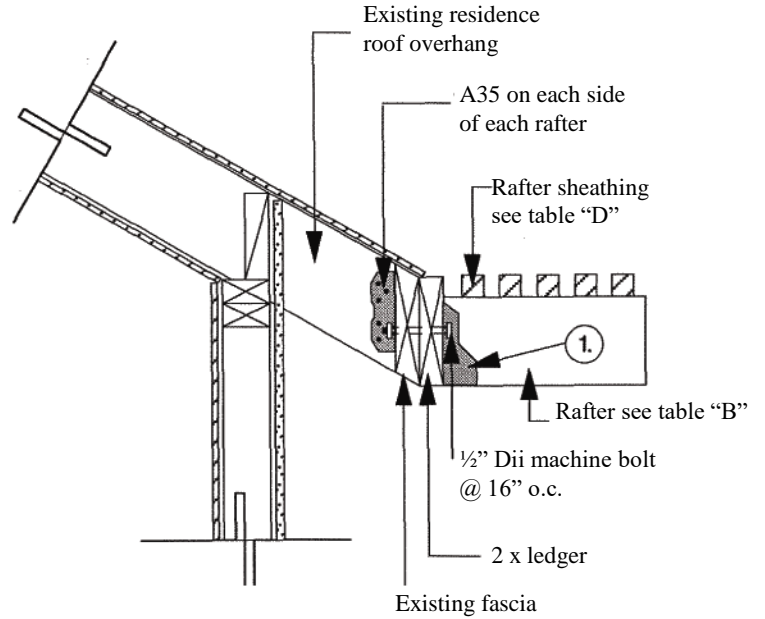
D
4

HEADER ELEVATION



A
5

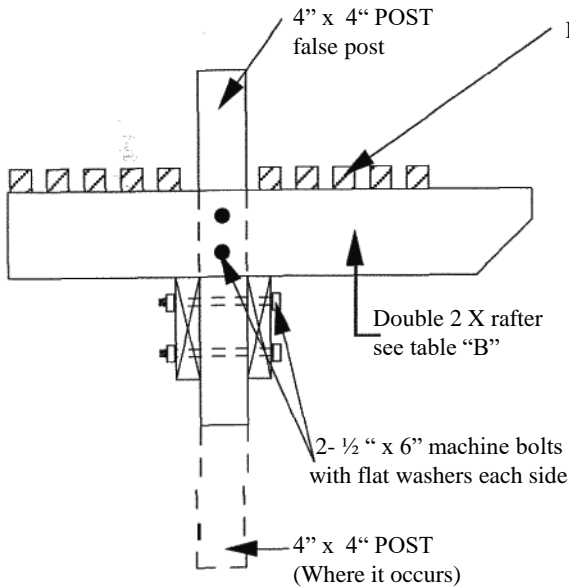
LEDGER DETAIL



NOTE: 1. "Simpson" strong tie or equal standard joist hanger (U26)

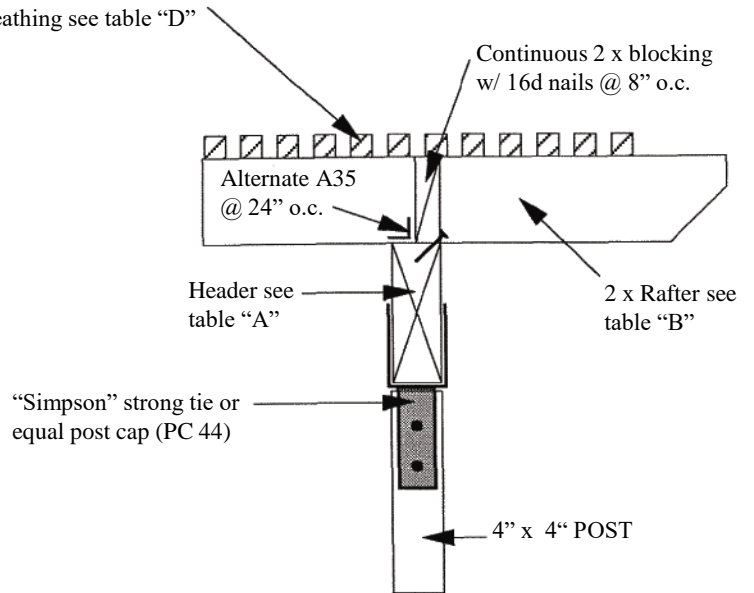
B
5

EAVE CONNECTION



C
5

HEADER DETAIL



D
5

HEADER DETAIL