

14'x24' Rectangle Alpine Pavilion for:

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GENERAL NOTES

All notes do not necessarily apply due to different requirements on each project. This plan is intended to reflect only the structural design of this building. The contractor shall review all applicable local, state, and federal building codes prior to the start of construction to ensure building conformance. Timber Tech Engineering, Inc. is not responsible for information pertaining to this project if not shown on drawings or listed below. Revisions to the plans shall be approved by engineer of record.

DESIGN REQUIREMENTS

1. Governing Code:
Including, not limited to: IBC 2009
2. Dead Loads:
 - A. Roof 5 pcf
 - B. Floor n/a pcf
 - C. Other n/a pcf
3. Live Loads:
 - A. Roof (See also note #4) 30 pcf
 - B. Floor n/a pcf
 - C. Other n/a pcf
4. Snow Loads:
 - A. Ground Snow (Pg) 45 pcf
 - B. Flat Roof Snow (Pf) 30 pcf
 - C. Snow Exposure Factor (Ce) 1.0
 - D. Snow Load Importance Factor (I) 0.8
 - E. Unbalanced Snow
 - I. Windward Roof 0 pcf
 - II. Leeward Roof 36 pcf
5. Wind Load
 - A. Basic Wind Speed (V) 142 mph
 - B. Wind Load Importance Factor (I) .77
 - C. Wind Exposure Category C
 - D. Enclosure Category Open
 - E. Components and Cladding: +57 psf/-70 psf
6. Earthquake Design Data:
(Analysis based on equivalent lateral force procedure)
 - A. Spectral Response Acceleration at 1 sec, S 0.50
 - B. Spectral Response Acceleration at short periods, S 0.99
 - C. Seismic Occupancy Category 1
 - D. Occupancy Importance Factor, I 1.0
 - E. Site Class D
 - F. Seismic Design Category D
 - G. Basic Structural System
Cantilevered Column: Timber Frame
 - H. Response Modification Factor (R) 1.5
 - I. Deflection Amplification Factor (Cd) 1.5

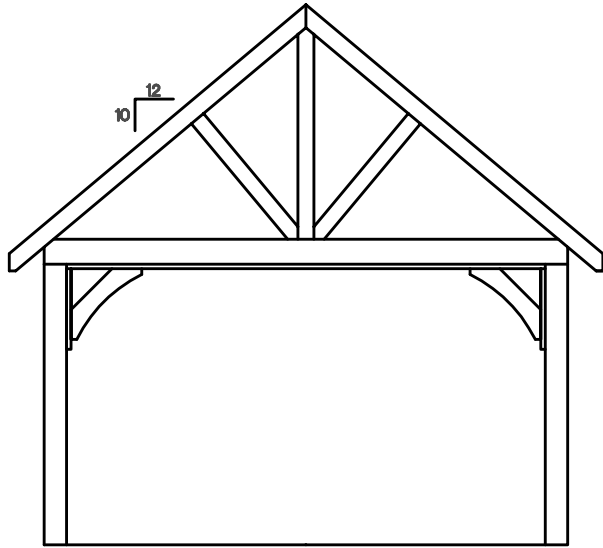
ABBREVIATIONS:

at	mil.	millimeter
bm.	min.	minimum
conc.	nts	not to scale
cont.	o/c	on center
dia.	pcf	pounds per cubic foot
exist.	pl.	plywood
flr.	pcf	pounds per square foot
ft.	psf	pounds per square inch
ga.	req'd.	required
hdw.	s.s.	stainless steel
hdr.	stl.	steel
jst.	thk.	thick
kal.	trd.	treated
lbs.	typ.	typical
max.	w/	with
	mfr.	manufacturer

WOOD

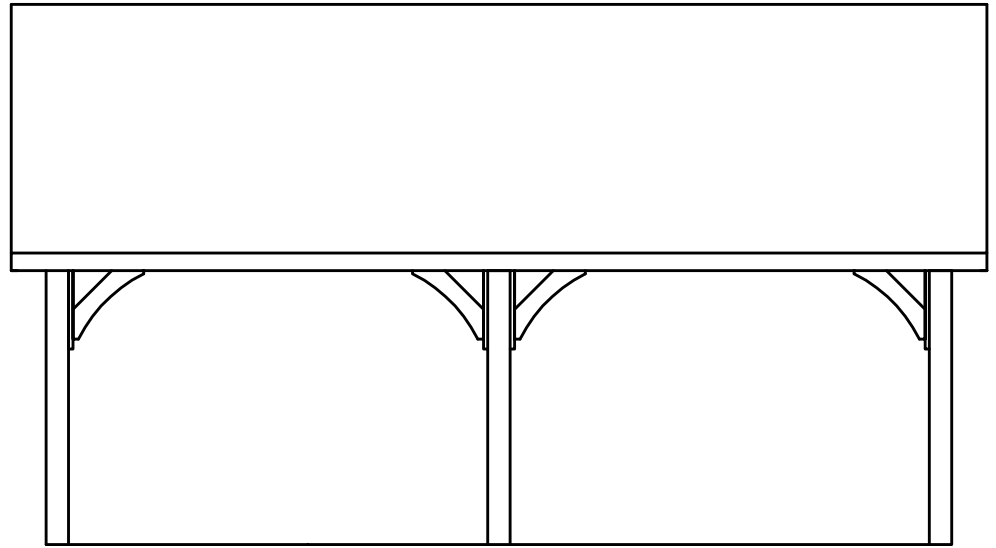
1. General Requirements
 - A. Structural wood members and connections shall be of sufficient size or capacity to carry all design loads without exceeding the allowable design values specified in "The National Design specification for Wood Construction" (NDS), 2005 edition, and its "Supplement" by the American Forest and Paper Association (AF+PA).
 - B. Wood members used for load supporting purposes shall have the grade mark of a lumber grading agency certified by the American Lumber Standards Committee.
2. Dimension Lumber
 - A. All lumber species, graded visually or mechanically, shall comply with the NDS by AF+PA, and the "American Softwood Lumber Standard" (PS 20-94) by the U.S. Department of Commerce.
 - B. The minimum grade and species for posts, beams, headers, rafters, and other primary structural members shall be Dense Select Structural Southern Pine, unless specified otherwise.
 - C. Lumber Noted as Cedar in this plan shall be Rough Sawn #1 Western Cedar except for header and brace material shall be Rough Sawn Select Structural Western Cedar
 - D. Lumber used for secondary framing shall be #1 Southern Yellow Pine (SYP) or better, unless noted otherwise
 - E. Mechanically laminated columns shall conform with ANSI/ASAE EP 559.
3. Pressure Preservative Treatment (PPT)
 - A. Pressure treatment to be performed according to the American Wood Preservers' Association (AWPA) standards.
 - B. Pressure treated members shall have the inspection mark of an agency accredited by the American Lumber Standards Committee.
 - C. Preservative: Ammonia Copper Quaternary ammonia (ACQ) or Copper Boron Azole (CBA)
 - D. Minimum waterborne treatment retention shall be 0.4 pcf for members above ground, and 0.8 pcf for members in contact with earth.
 - E. Treat indicated items and the following:
 1. Wood members exposed to weather or insect infestation.
 2. Wood members in direct contact with earth or concrete.
 3. Wood members exposed to high moisture content (19% for dimension lumber, 16% for glued laminated timber).
 4. Wood members less than 12 inches above grade.
 - F. Field treat newly exposed wood where cutting, drilling or notching pressure treated lumber.
 - G. Metal connectors used in treated wood shall be hot-dip galvanized as per ASTM A153-01a.
4. Connections shall be designed and constructed according to the NDS by AF+PA and shall conform to the following:
 - A. The minimum connection shall be two 12 penny nails, or as detailed on the drawings.
 - B. Other connections as per standard construction practice.

Design Reaction Chart	
Max. uplift at column base	1250 lb
Max. downward force at column base	6300 lb
Max. shear at column base	925 lb



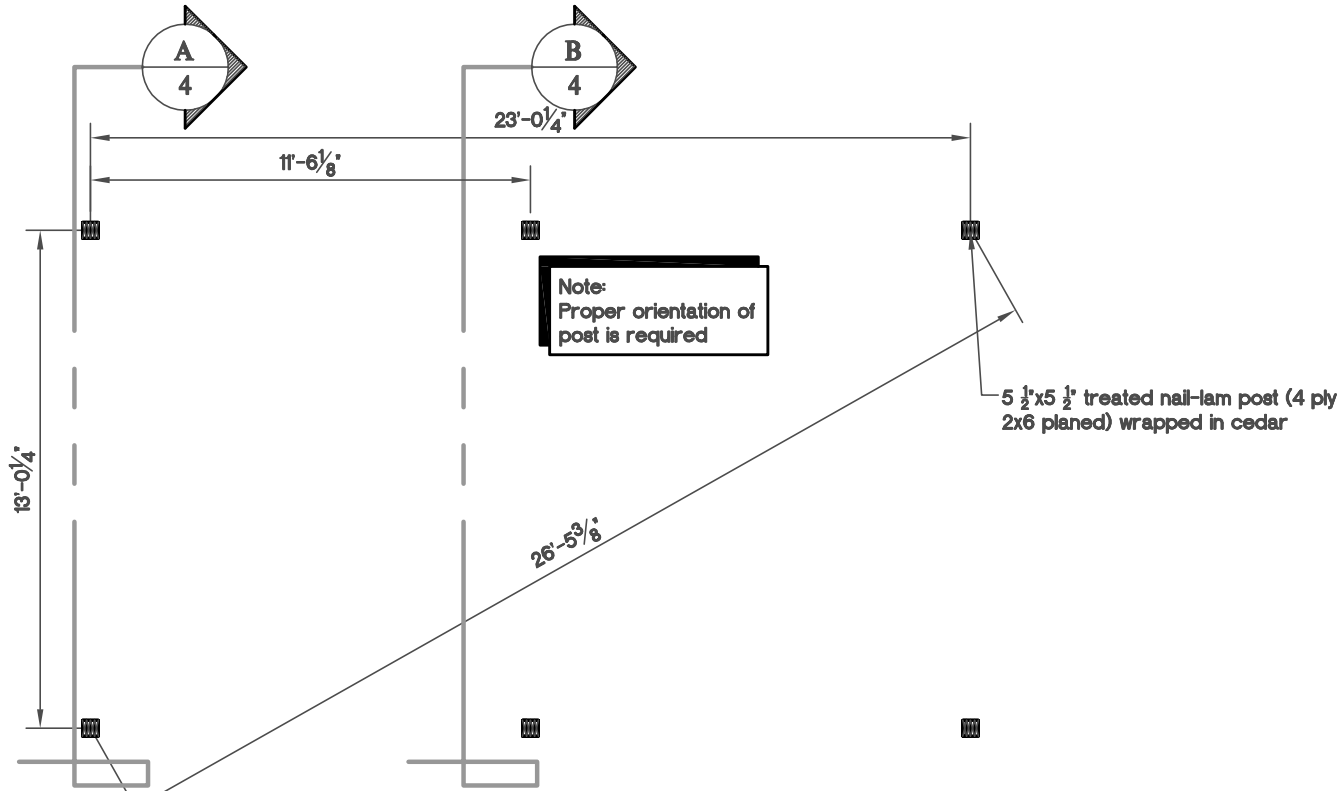
End Elevation

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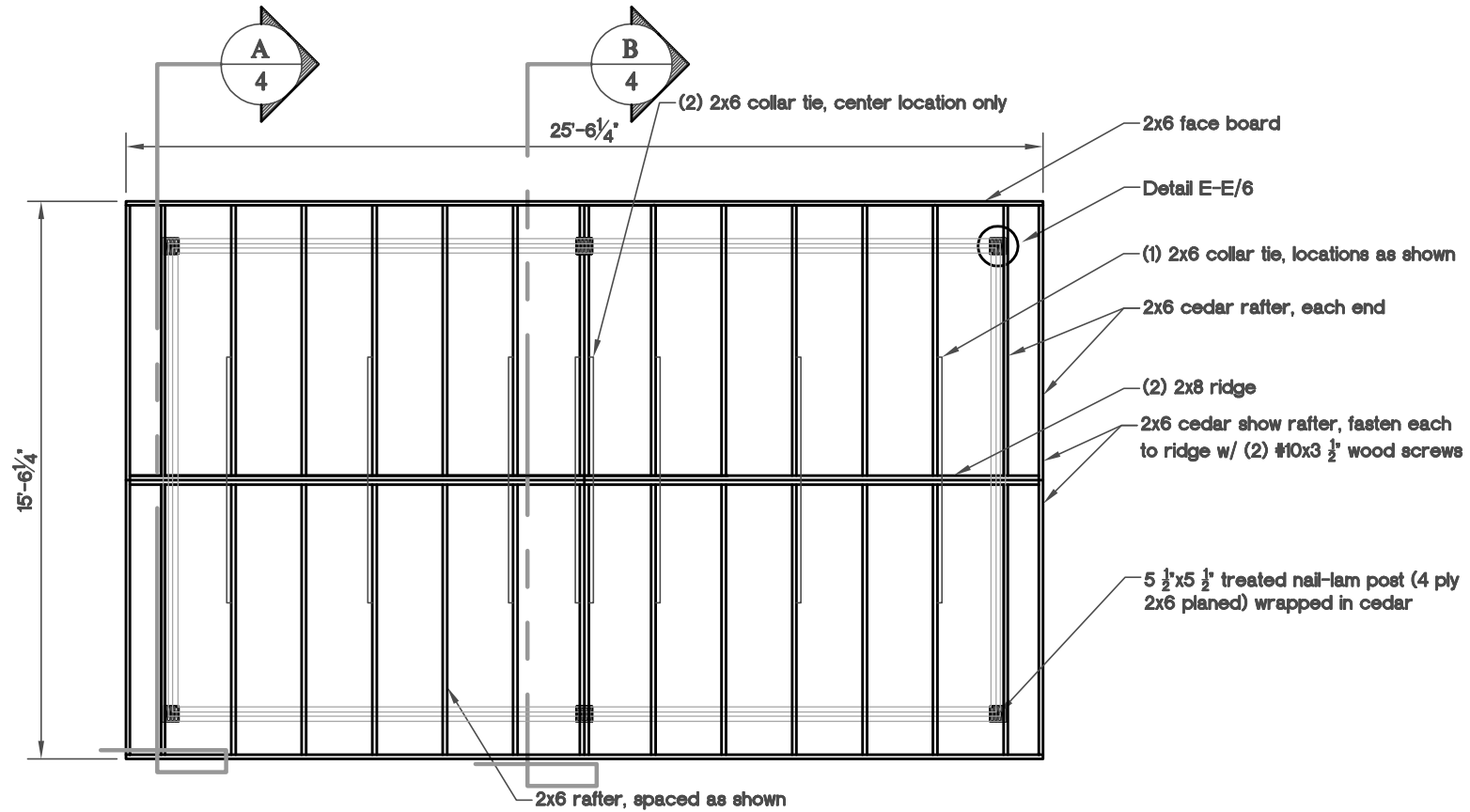
Side Elevation

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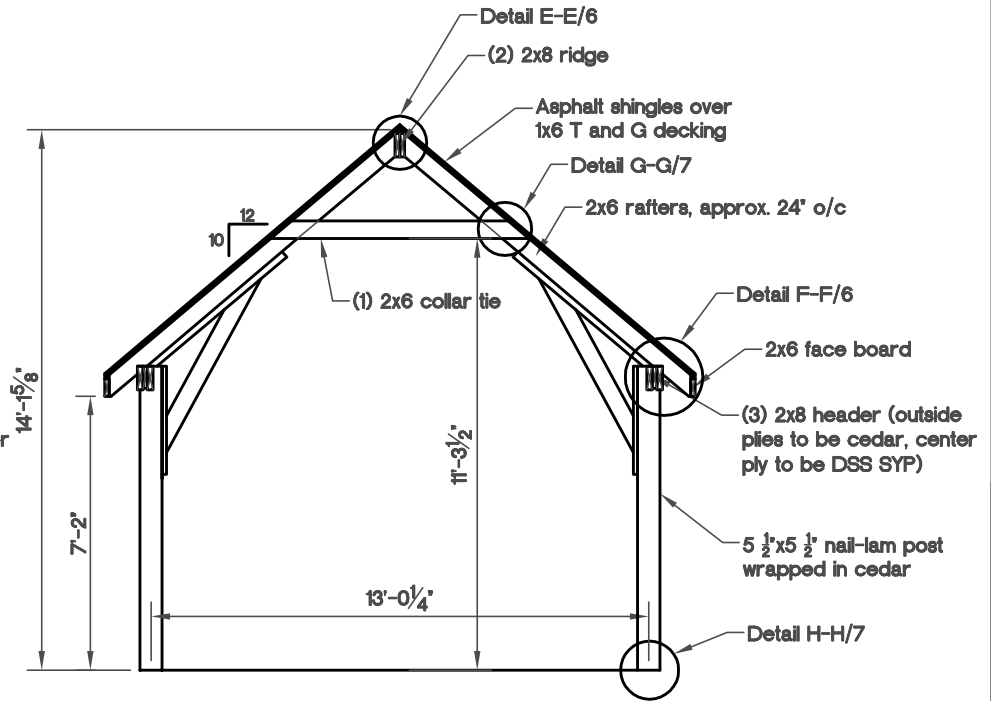
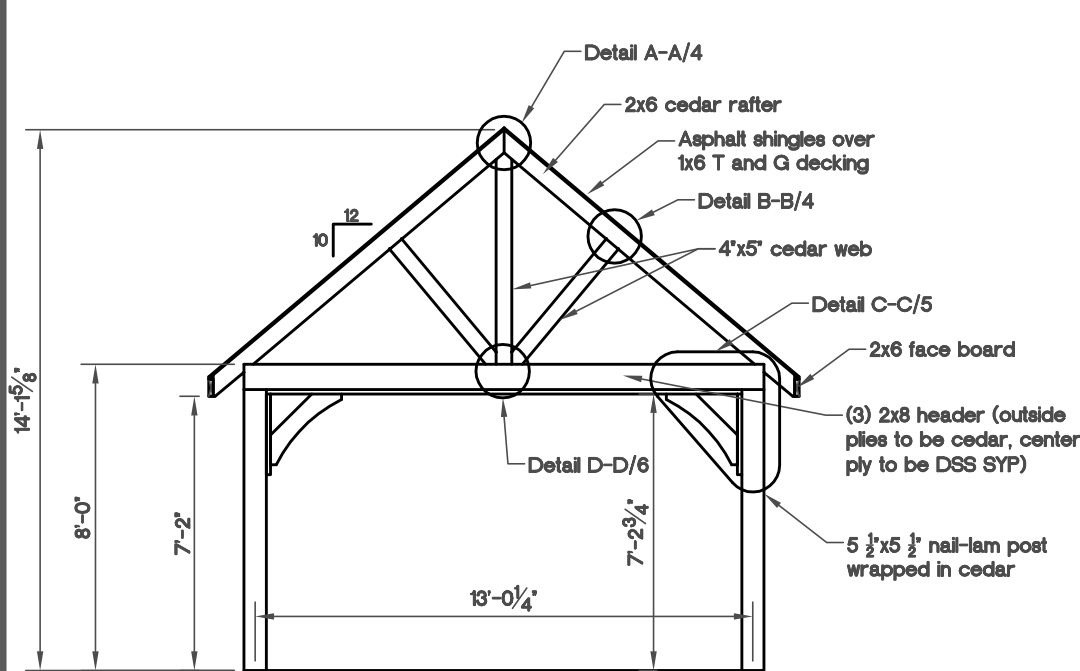
Post Layout Plan

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Roof Framing Plan

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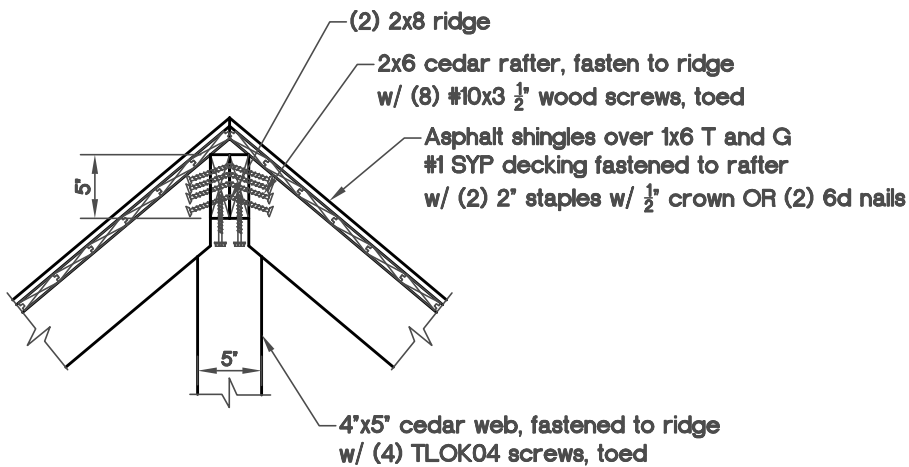


Cross Section A/4

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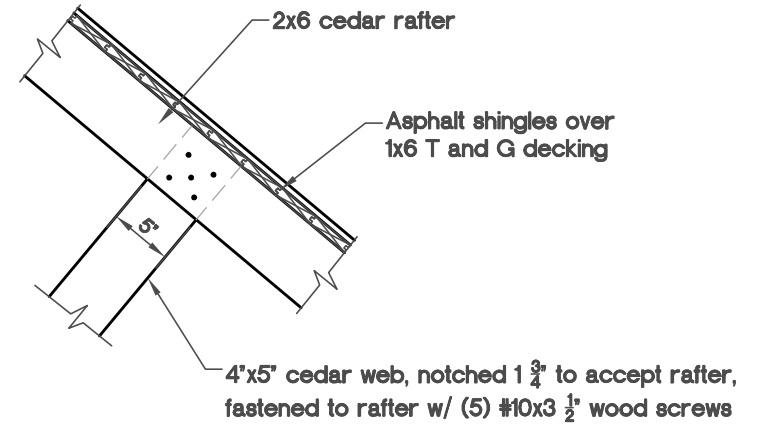
Cross Section B/4

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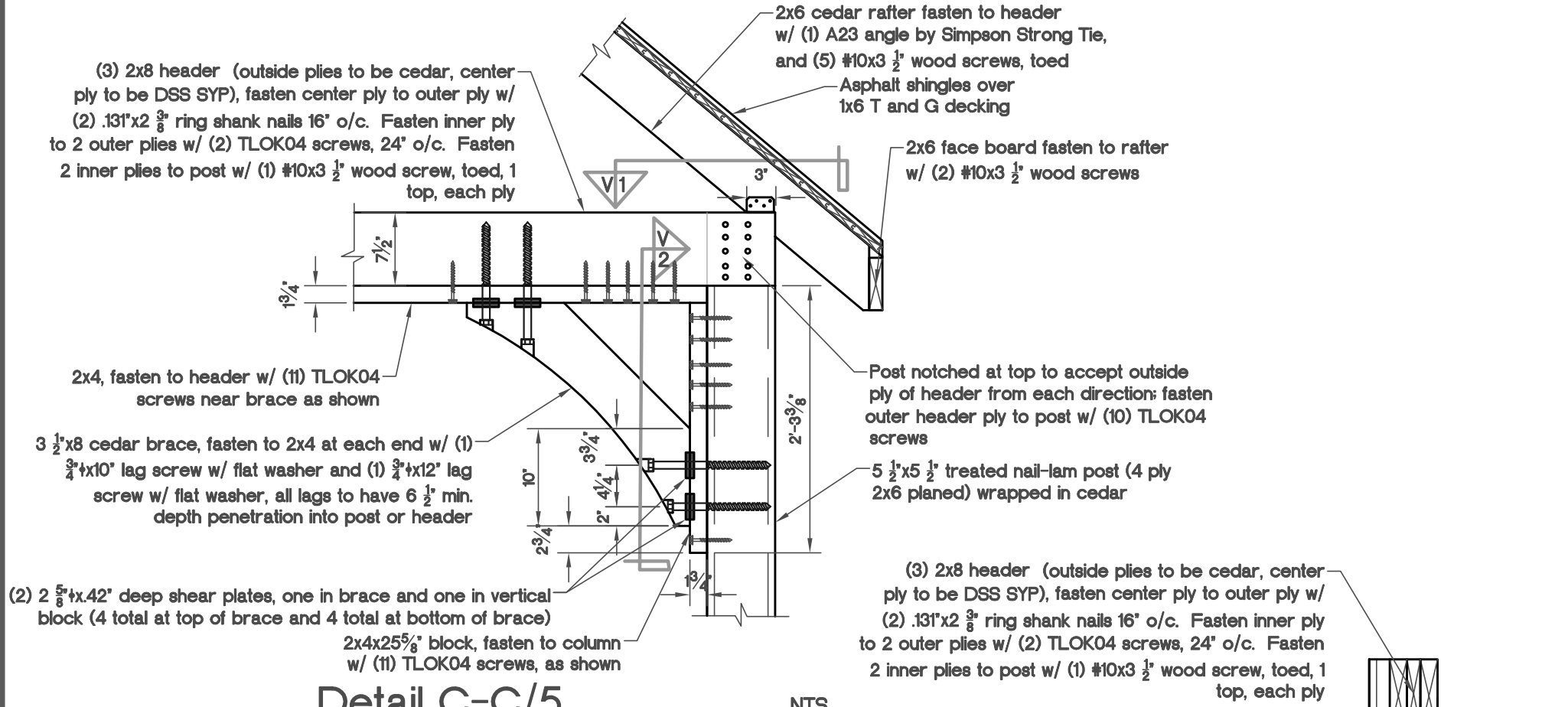
Detail A-A/4

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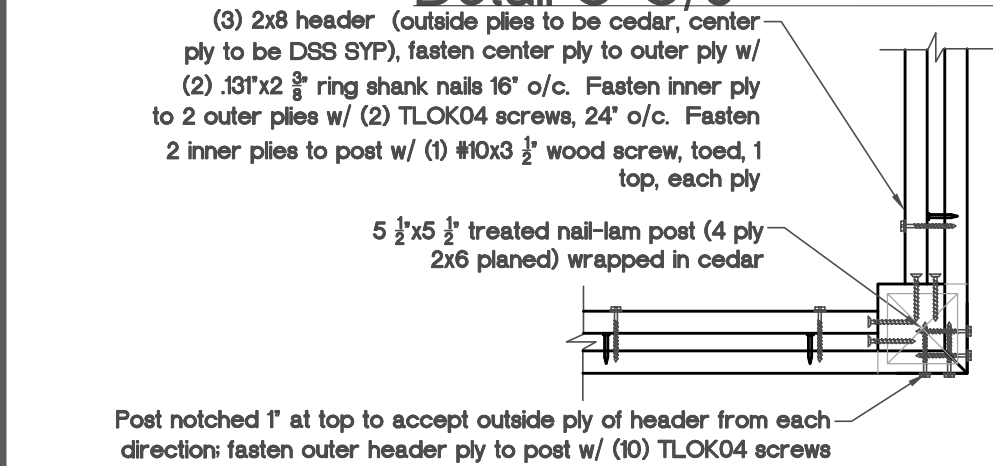
Detail B-B/4

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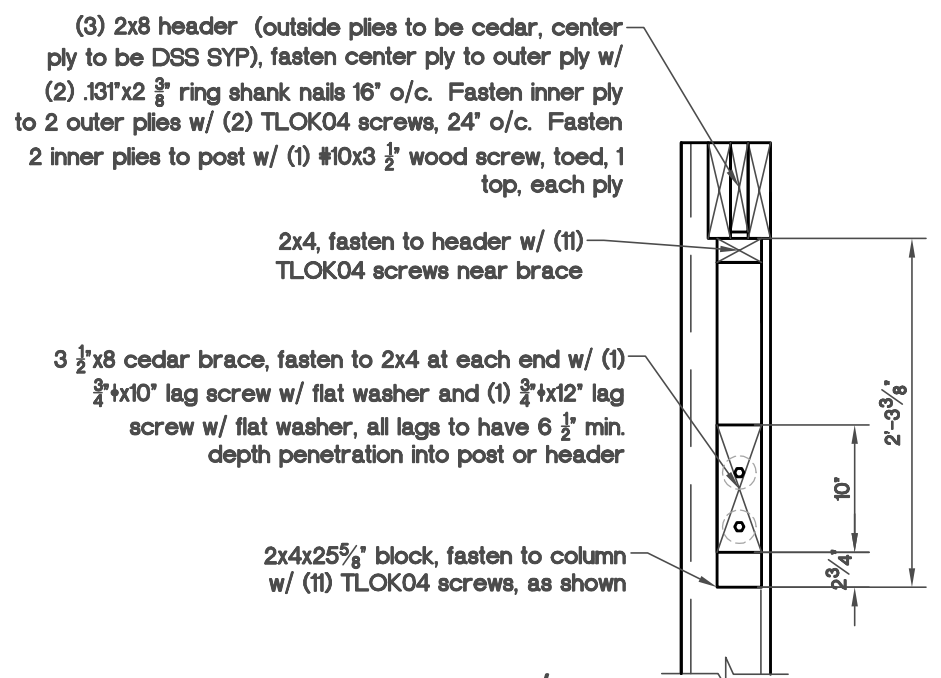
Detail C-C/5

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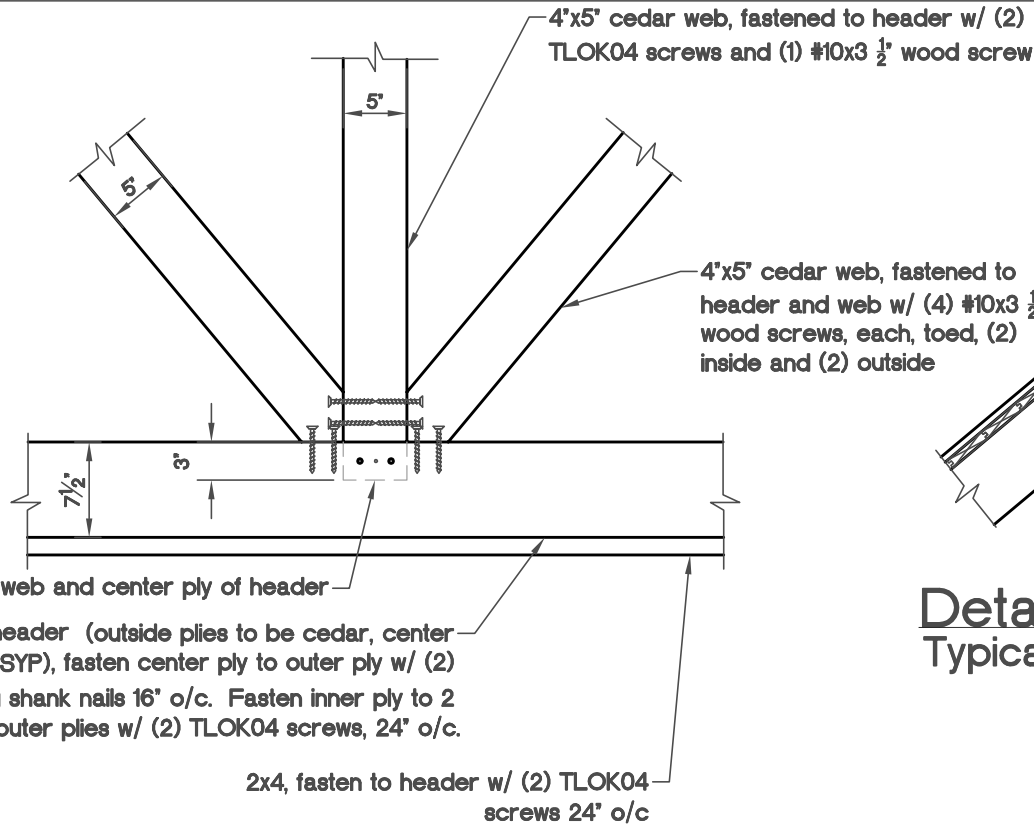
View 1 Detail C-C/5

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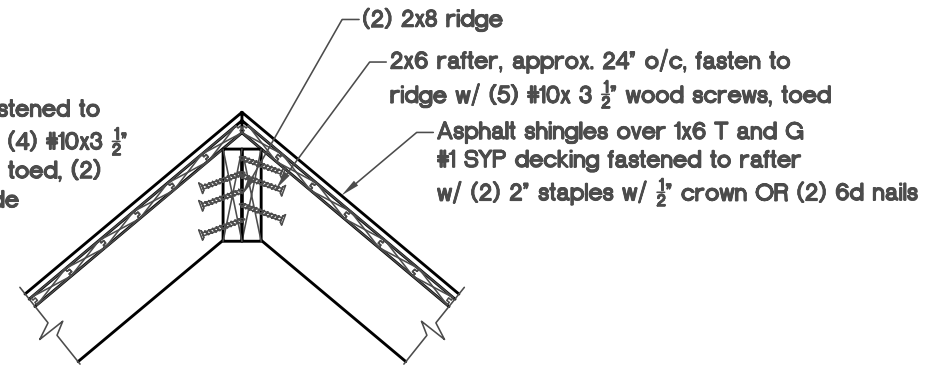
View 2 Detail C-C/5

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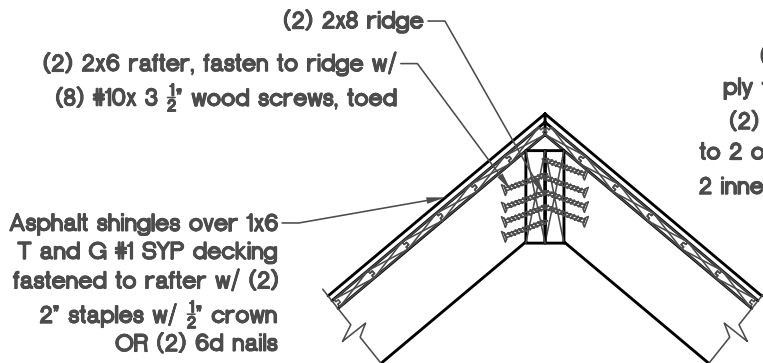
Detail D-D/6

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Detail E-E/6
Typical Single Rafter

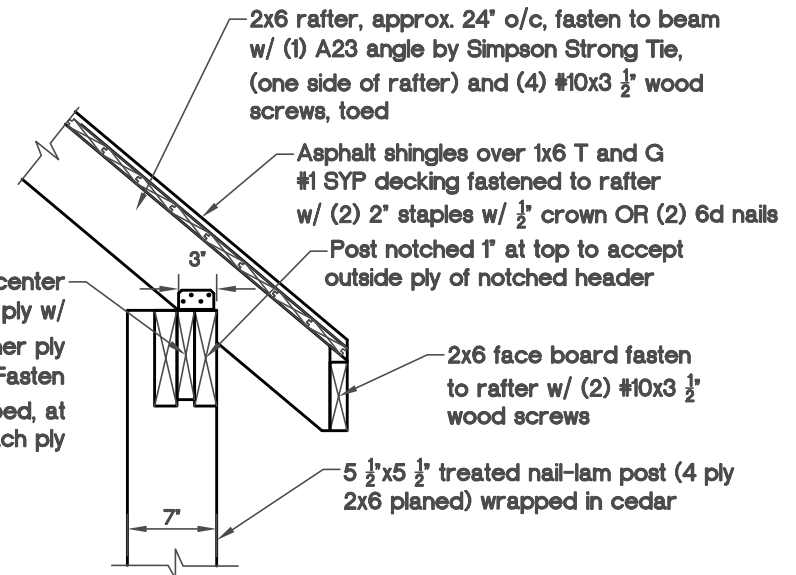
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Detail E-E/6
Center Double Rafter

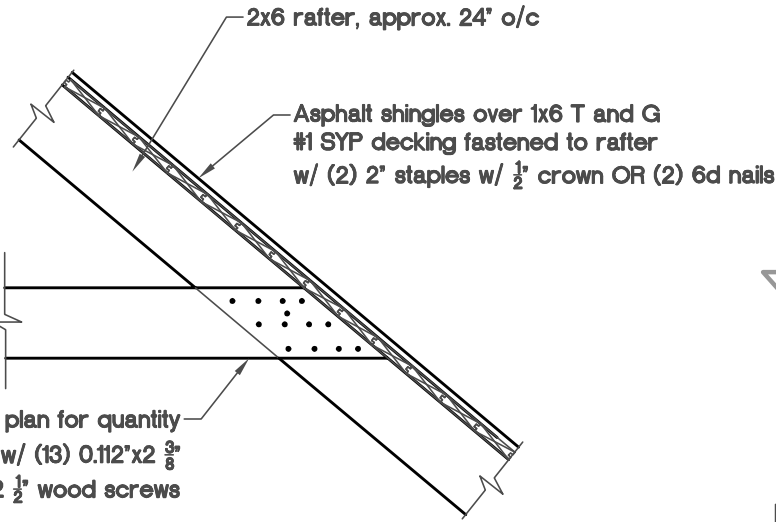
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(3) 2x8 header (outside plies to be cedar, center ply to be DSS SYP), fasten center ply to outer ply w/ (2) .131"x2 3/8" ring shank nails 16" o/c. Fasten inner ply to 2 outer plies w/ (2) TLOK04 screws, 24" o/c. Fasten 2 inner plies to post w/ (1) #10x3 1/2" wood screw, toed, at top, each ply



Detail F-F/6
Typical Single Rafter

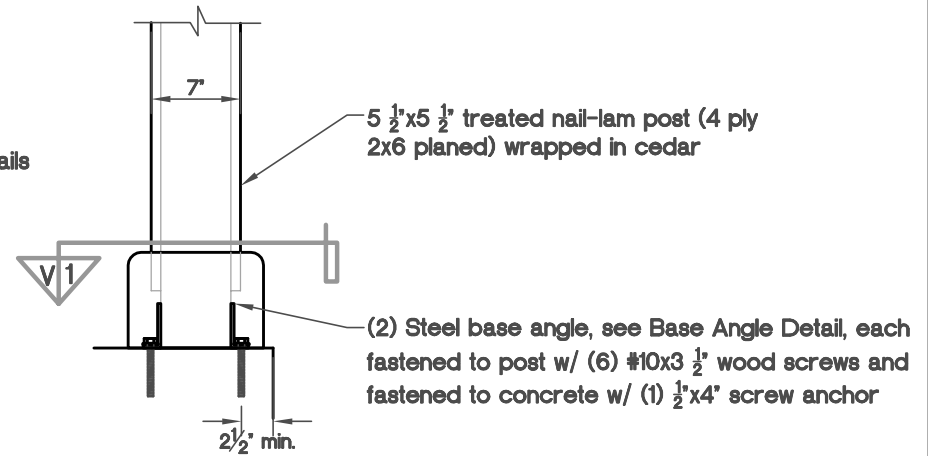
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(1) 2x6 collar tie (see roof framing plan for quantity and location) fasten to rafter w/ (13) 0.112"x2 3/8" nails OR (11) #10x2 1/2" wood screws

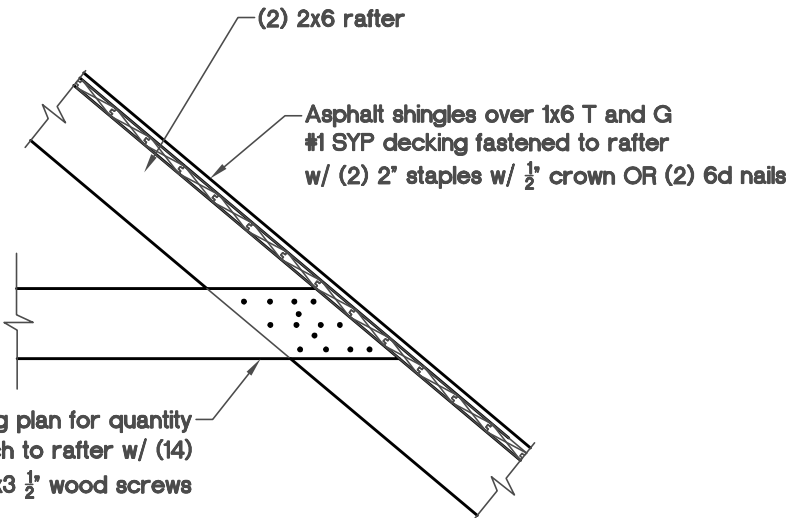
Detail G-G/7
Typical Single Collar

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Detail H-H/7

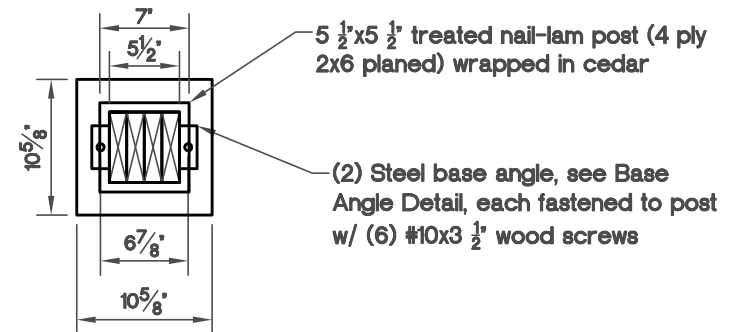
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(2) 2x6 collar tie (see roof framing plan for quantity and location) fasten each to rafter w/ (14) 0.120"x3" nails OR (10) #10x3 1/2" wood screws

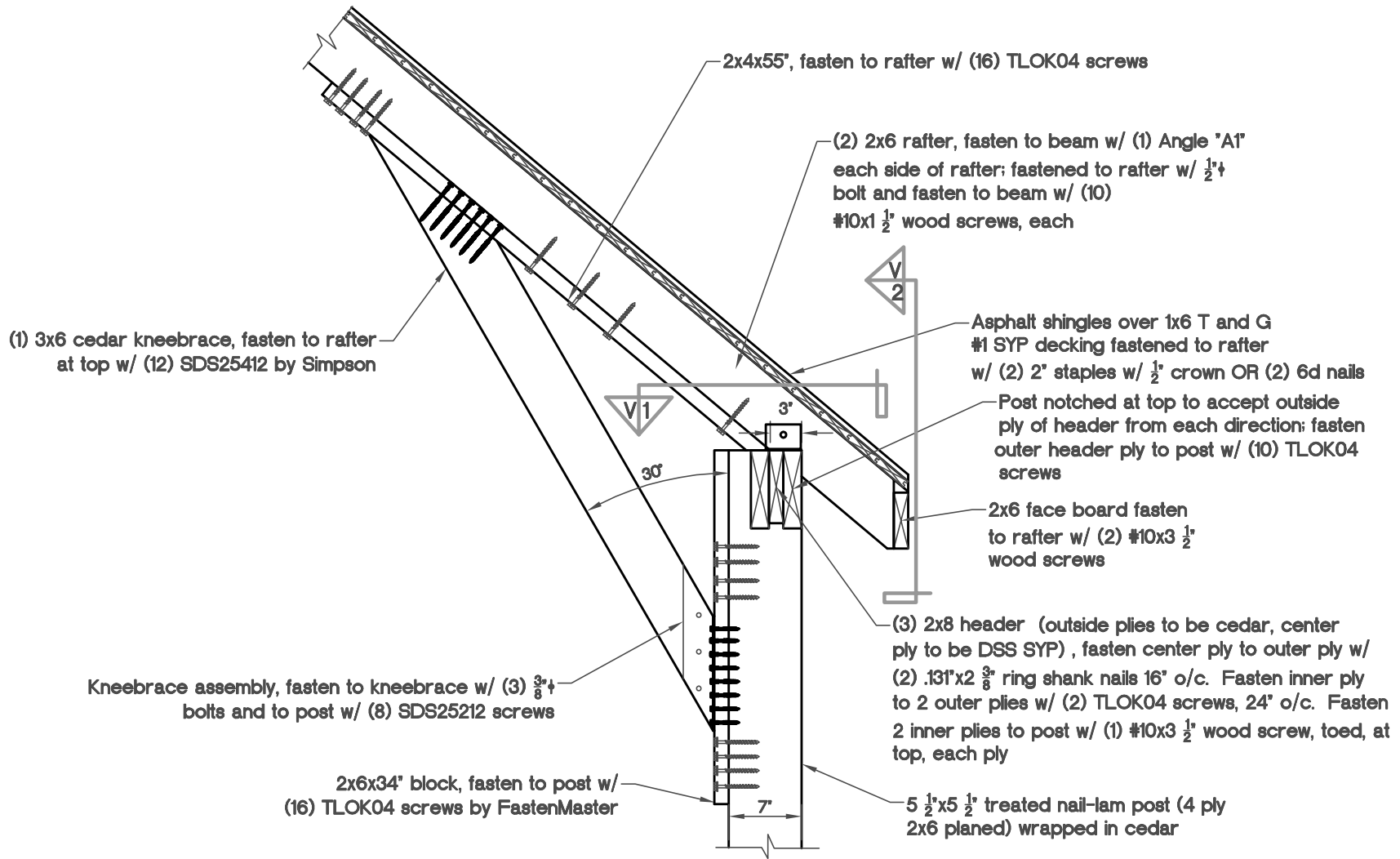
Detail G-G/7
Center Double Collar

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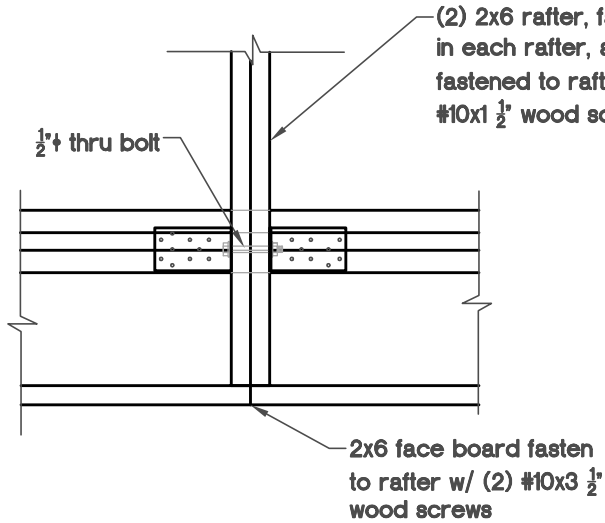
View 1 Detail H-H/7

NTS



Detail J-J/8
Center Double Rafter

NTS



(2) 2x6 rafter, fasten to beam w/ (2) TLOK06 screws, one in each rafter, and (1) Angle "A1" each side of rafter: fastened to rafter w/ $\frac{1}{2}$ " bolt and fasten to beam w/ (10) #10x1 $\frac{1}{2}$ " wood screws, each

$\frac{1}{2}$ " thru bolt

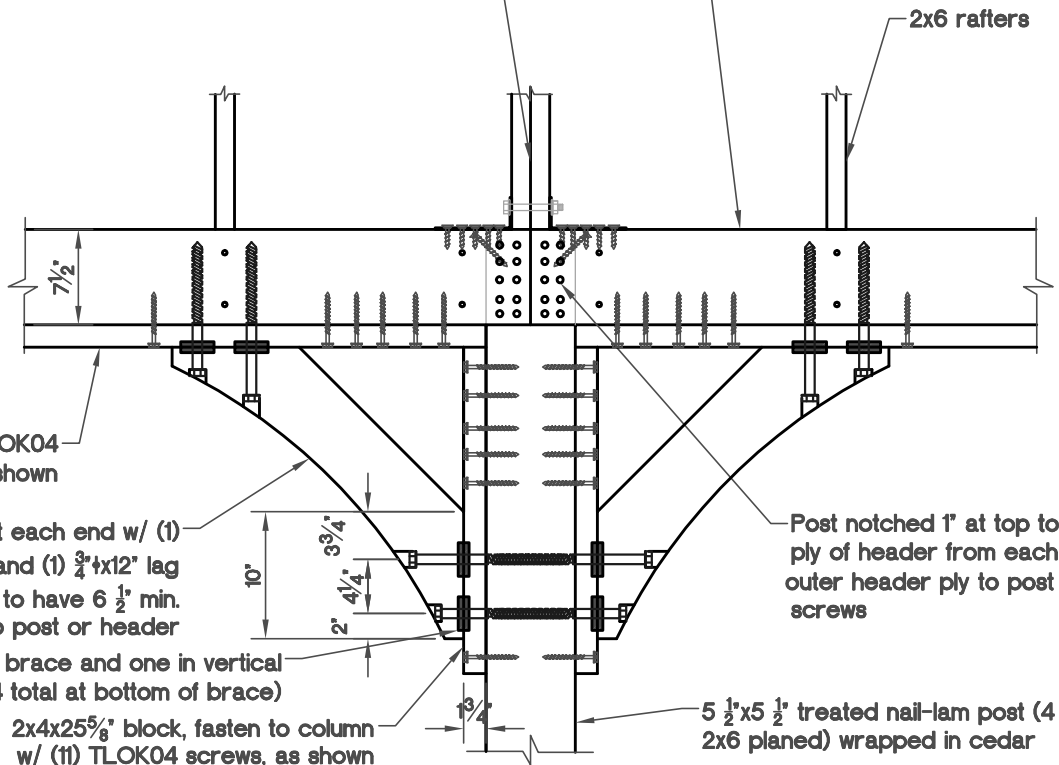
2x6 face board fasten to rafter w/ (2) #10x3 $\frac{1}{2}$ " wood screws

View 1 Detail J-J/8

NTS

(3) 2x8 header (outside plies to be cedar, center ply to be DSS SYP), fasten center ply to outer ply w/ (2) .131"x2 $\frac{3}{8}$ " ring shank nails 16" o/c. Fasten inner ply to 2 outer plies w/ (2) TLOK04 screws, 24" o/c. Fasten 2 inner plies to post w/ (1) #10x3 $\frac{1}{2}$ " wood screw, toed, at top, each ply

(2) 2x6 rafter, fasten to beam w/ (1) Angle "A1" each side of rafter: fastened to rafter w/ $\frac{1}{2}$ " bolt and fasten to beam w/ (10) #10x1 $\frac{1}{2}$ " wood screws, each



2x4, fasten to beam w/ (11) TLOK04 screws near brace as shown

3 $\frac{1}{2}$ "x8 cedar brace, fasten to 2x4 at each end w/ (1) $\frac{3}{4}$ "x10" lag screw w/ flat washer and (1) $\frac{3}{4}$ "x12" lag screw w/ flat washer, all lags to have 6 $\frac{1}{2}$ " min. depth penetration into post or header

(2) 2 $\frac{5}{8}$ "x.42" deep shear plates, one in brace and one in vertical block (4 total at top of brace and 4 total at bottom of brace)

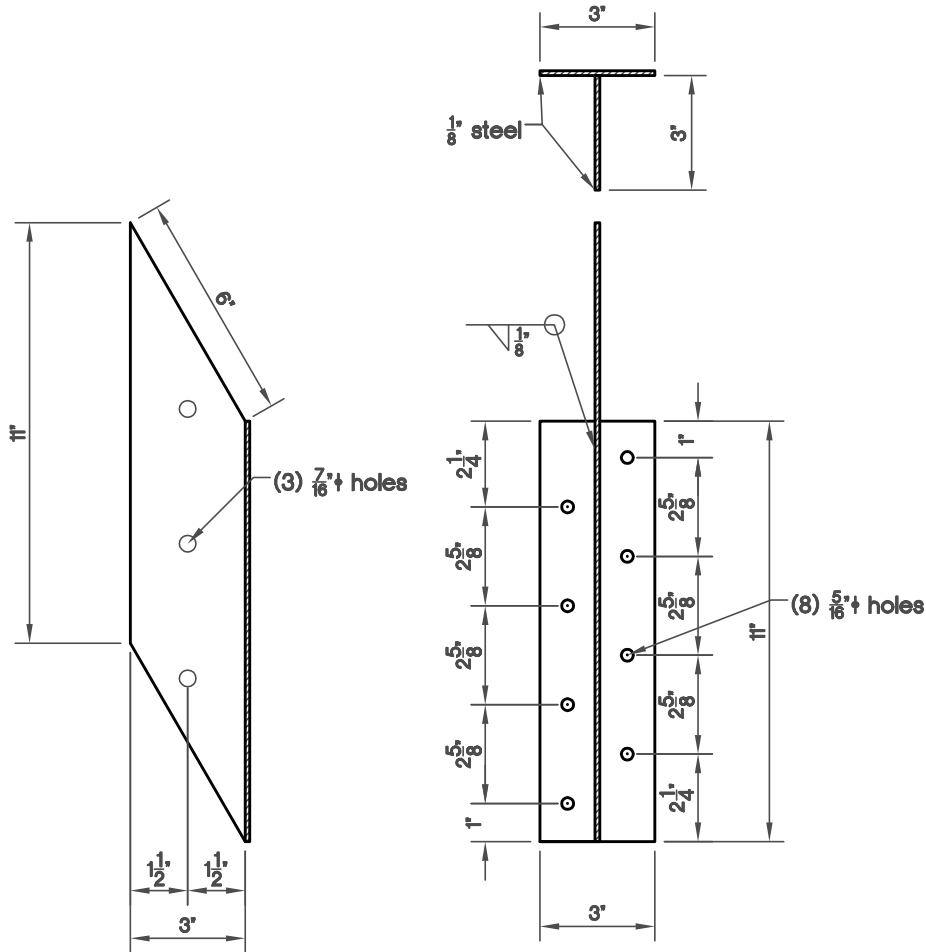
2x4x25 $\frac{5}{8}$ " block, fasten to column w/ (11) TLOK04 screws, as shown

Post notched 1" at top to accept outside ply of header from each direction; fasten outer header ply to post w/ (10) TLOK04 screws

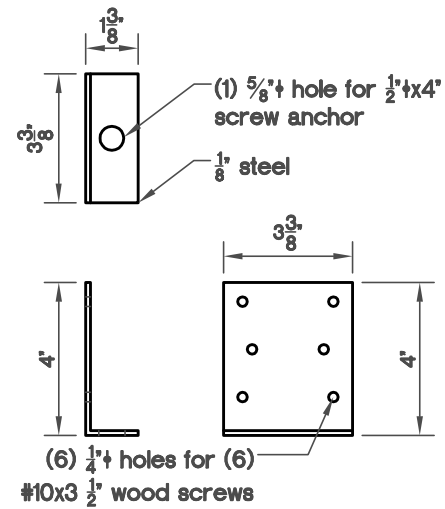
5 $\frac{1}{2}$ "x5 $\frac{1}{2}$ " treated nail-lam post (4 ply 2x6 planed) wrapped in cedar

View 2 Detail J-J/8

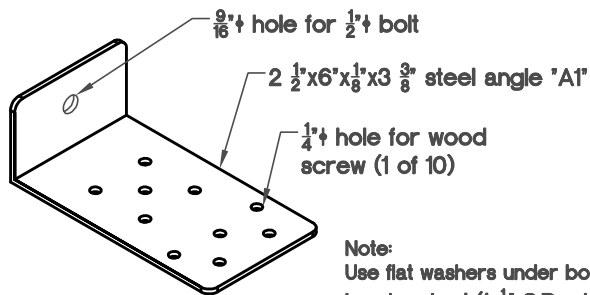
NTS



"Kneebrace" Assembly NTS

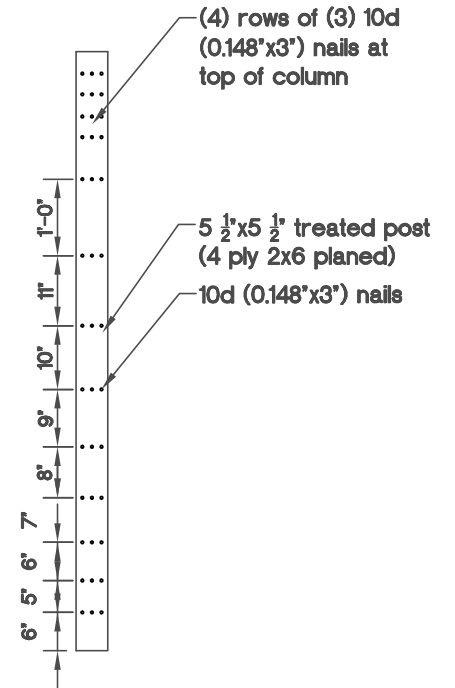
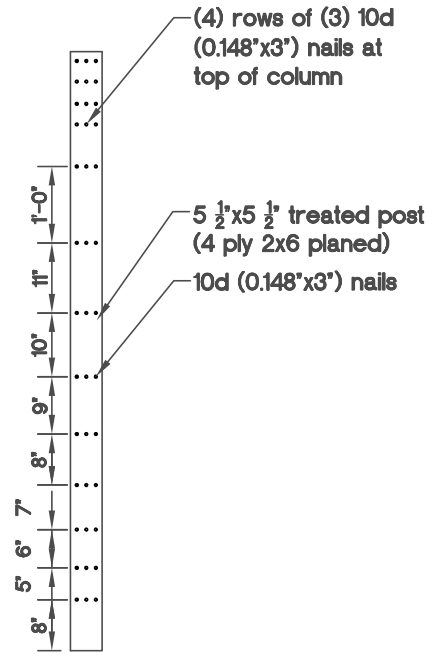
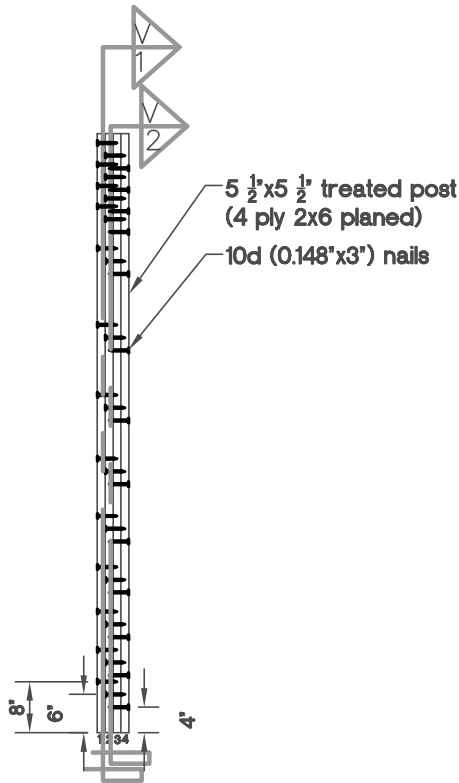


Base Angle Detail NTS



Note:
Use flat washers under bolt head and nut (1 1/8" O.D. min.)

Angle "A1" NTS



Nail-Laminated Post
Nailing Detail

NTS

View 1

Nailing Detail for Ply 2 to Ply 3

NTS

View 2

Nailing Detail for Ply 1 to Ply 2

NTS