20'x28' Rectangle PVC Pavilion

Drawing Index

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 psf
   - B. Floor n/a psf
   - C. Other n/a psf
3. Live Loads:
   - A. Roof (See also note #4) 30 psf
   - B. Floor n/a psf
   - C. Other n/a psf
4. Snow Loads:
   - A. Ground Snow (Pg) 45 psf
   - B. Flat Roof Snow (Pf) 38 psf
   - C. Snow Exposure Factor (Ce) 1.0
   - D. Snow Load Importance Factor (I) 1.0
   - E. Unbalanced Snow
     - i. Windward Roof 0 psf
     - ii. Leeward Roof 45 psf
5. Wind Load
   - A. Basic Wind Speed (V) 140 mph
   - B. Wind Load Importance Factor (I) 1.0
   - C. Wind Exposure Category C
   - D. Enclosure Category Open
   - E. Components and Cladding: +72 psf/-94 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 1.0
   - C. Seismic Use Group 1
   - D. Occupancy Importance Factor, I 1.0
   - E. Site Class D
   - F. Basic Structural System
     Cantilevered Column: Timber Frame
   - G. Response Modification Factor (R) 1.5
   - H. Deflection Amplification Factor (Cd) 1.5

ABBREVIATIONS:

@	at	mil.	millimeter
bm.	beam	min.	minimum
conc.	concrete	nts	not to scale
cont.	continuous	o/c	on center
dia.	diameter	pcf	pounds per cubic foot
exist.	existing	pl.	plywood
flr.	floor	psf	pounds per square foot
ft.	foot/feet	psi	pounds per square inch
ga.	gauge	req'd.	required
hdw.	hardware	s.s	stainless steel
hdr.	header	stl.	steel
jst.	joist	thk.	thick
ksi	kips per square inch	trd.	treated
lbs.	pounds	typ.	typical
max.	maximum	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, and other primary structural members shall be Dense Select Structural Southern Pine, unless specified otherwise.
   - C. Lumber used for secondary framing shall be #1 Southern Yellow Pine (SYP) or better.
   - D. Post frame headers shall be two-span continuous beams with all multiple ply headers overlapping so that the butt joints for each ply do not occur at the same post.
   - 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 0.6 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.

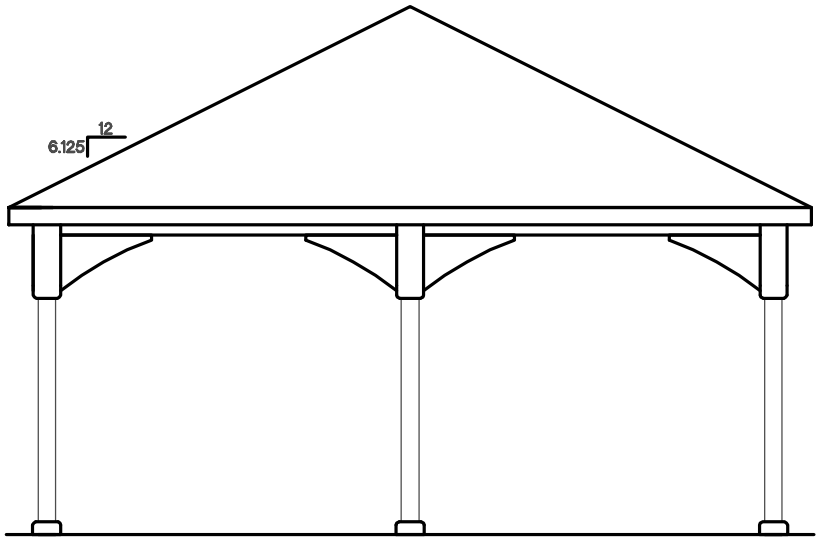
Polyvinyl Chloride Compound (PVC)

1. General Requirements
   - A. PVC sleeve material used to wrap wood members to be supplied according to Certainteed corporation specifications or equivalent.
   - B. PVC sleeve material to be 0.160" thick for posts, and 0.105" thick for other structural members

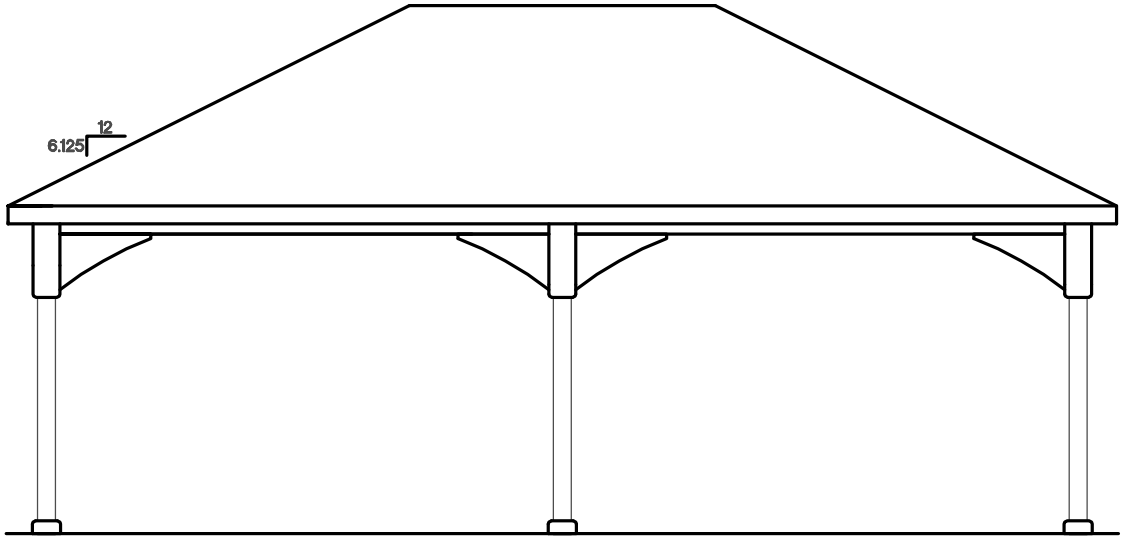
Design Reaction Chart	
Max. Moment in column	4005 lb-ft.
Max. uplift at column base	2700 lb
Max. downward force at column base	5325 lb
Max. shear at column base	525 lb

TTE DRAWING NUMBER: E269-10

PROJECT: STANDARD PLANS FOR 20'x28' RECTANGLE PVC PAVILION

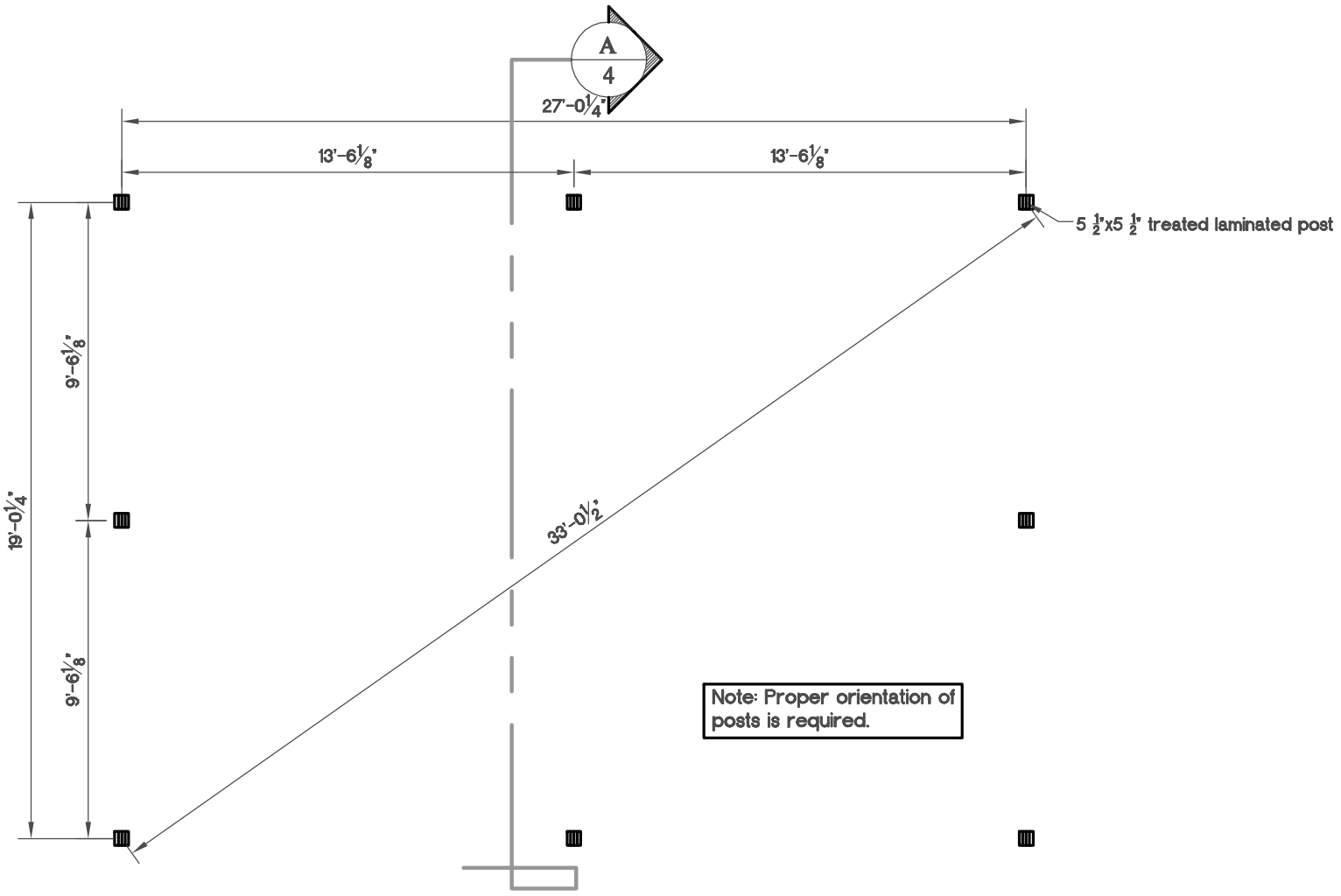


End Elevation NTS



Side Elevation NTS

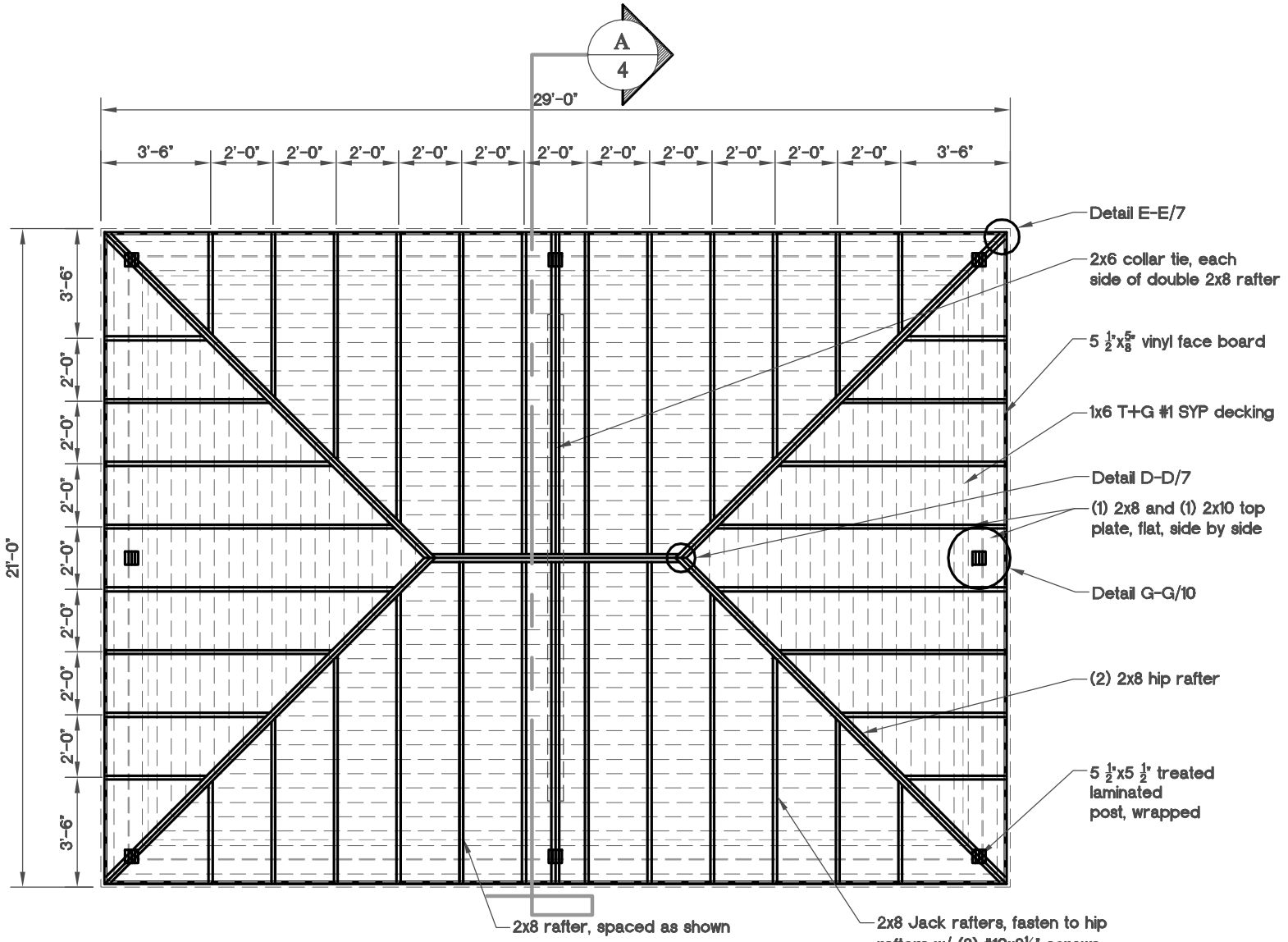
PROJECT: STANDARD PLANS FOR 20'x28' RECTANGLE PVC PAVILION



Post Layout Plan

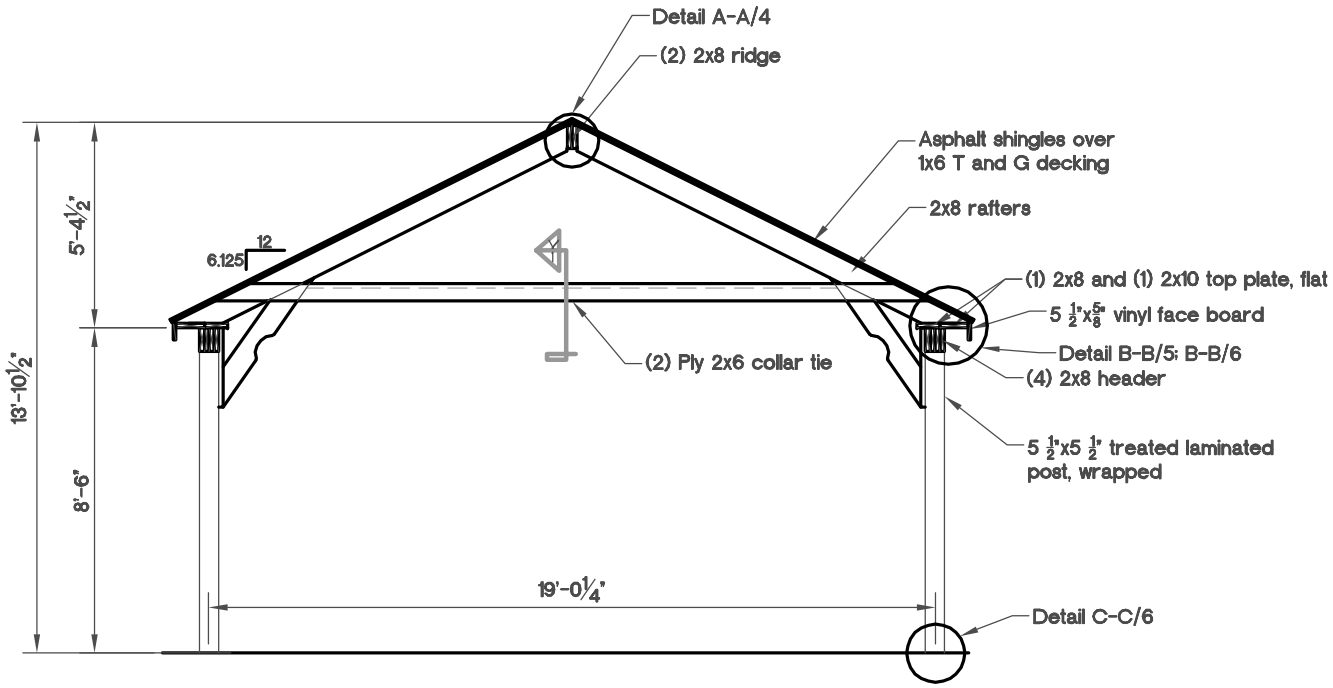
NTS

PROJECT: STANDARD PLANS FOR 20'x28' RECTANGLE PVC PAVILION



Roof Framing Plan

NTS



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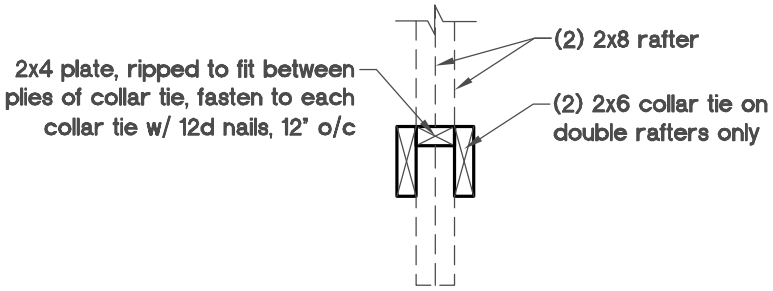
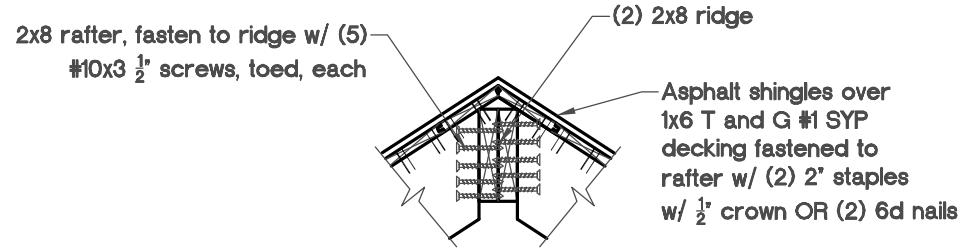
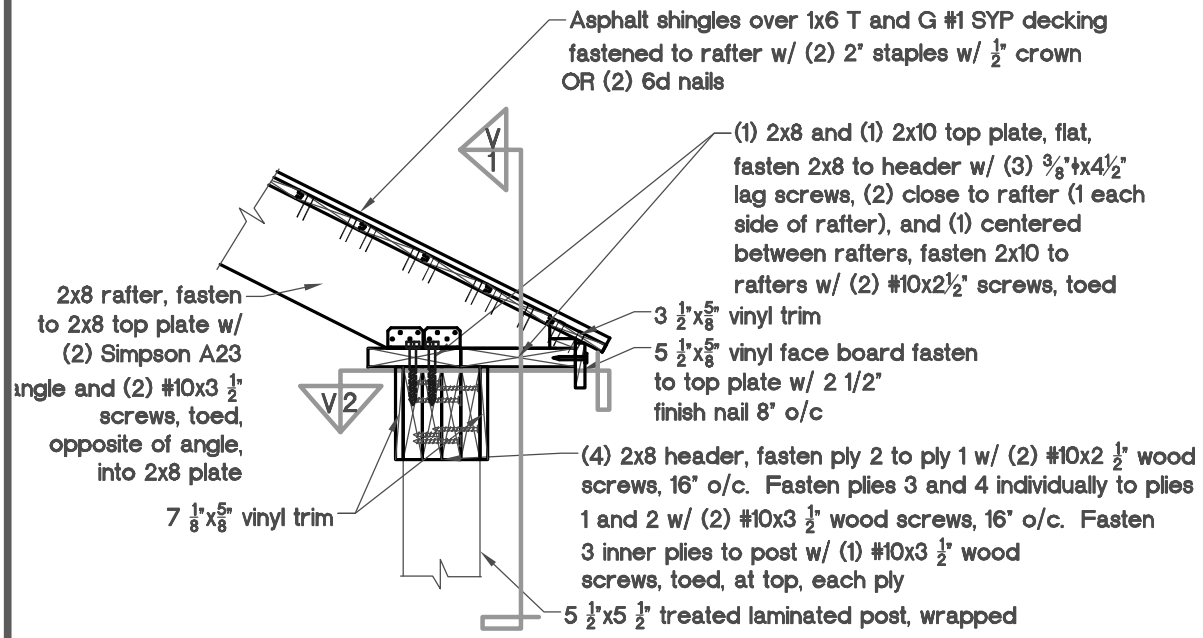


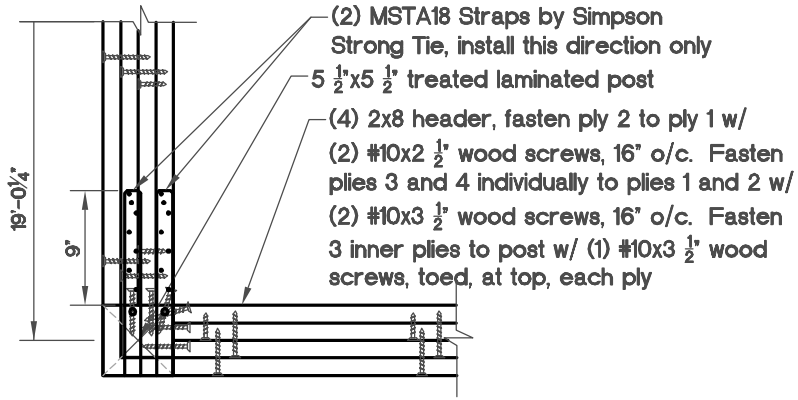
View 1 Cross Section A/4 NTS



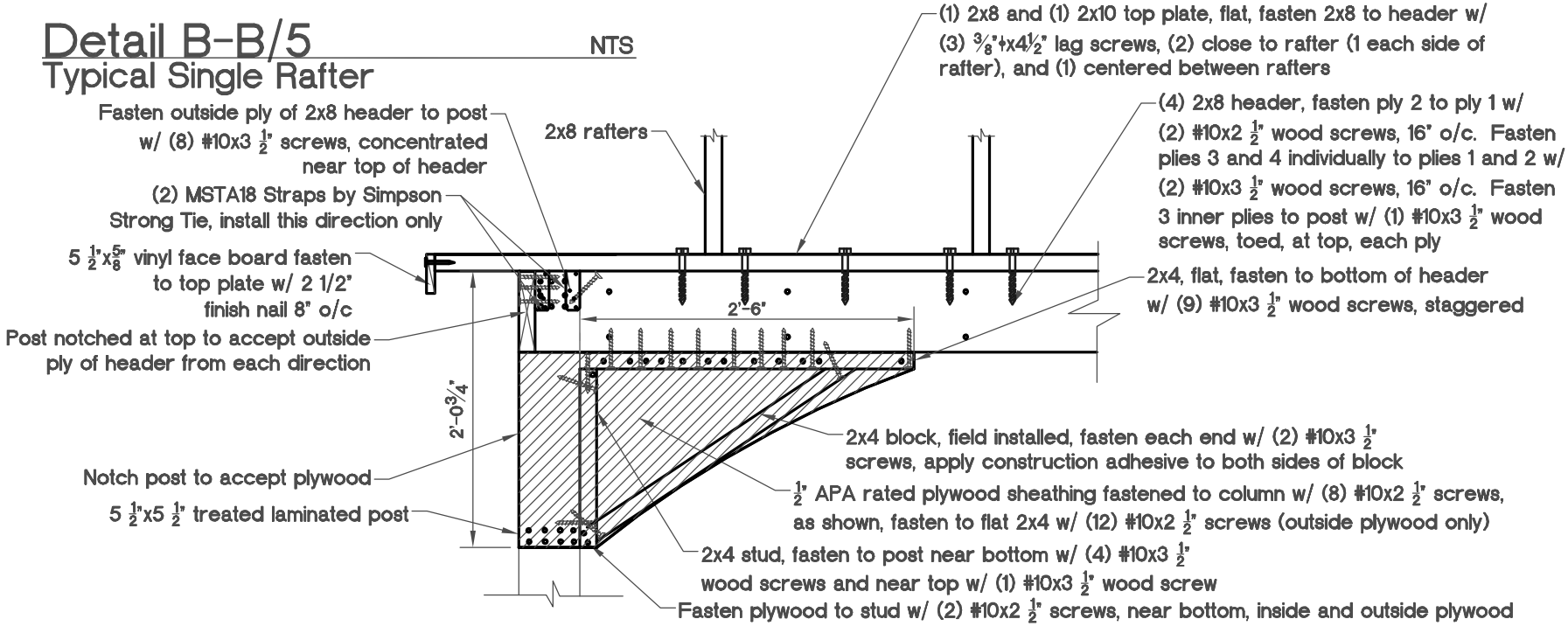
Detail A-A/4 NTS
Typical Single Rafter



Detail B-B/5
Typical Single Rafter
NTS



View 2 Detail B-B/5
NTS



View 1 Detail B-B/5
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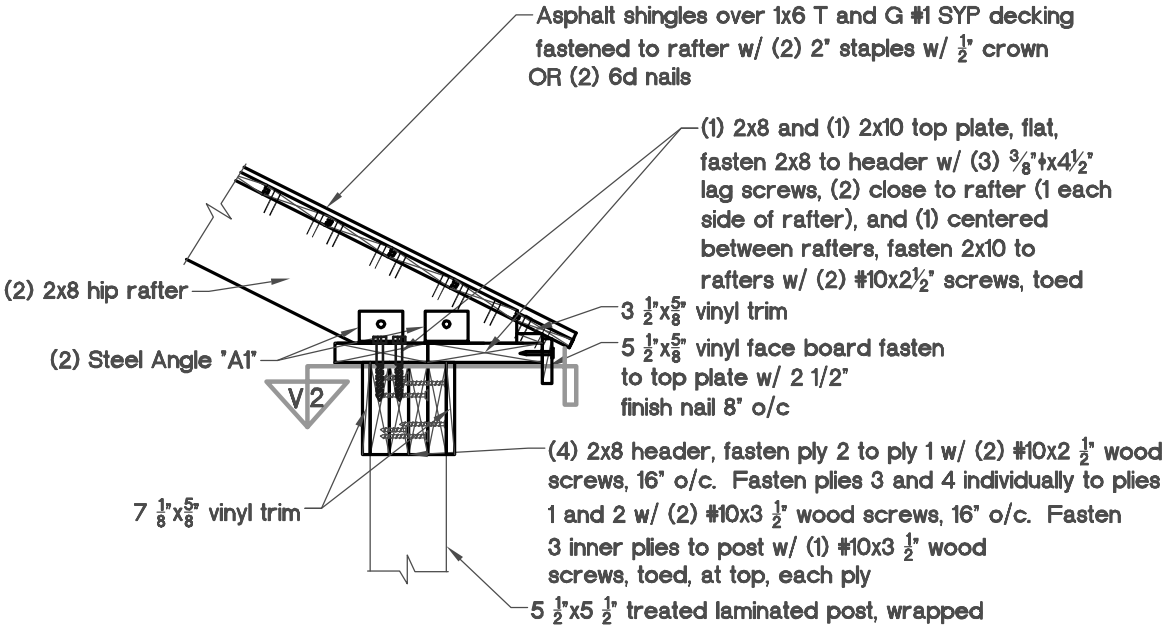
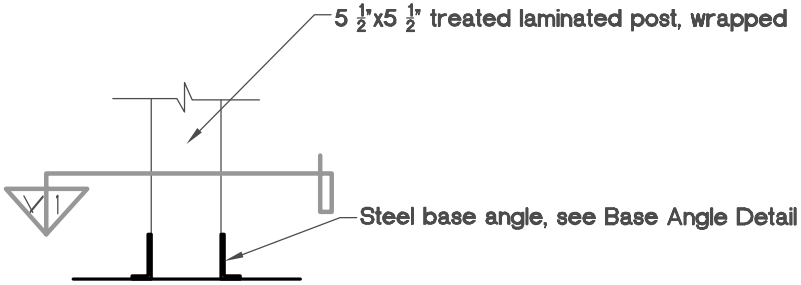


Detail B-B/6

NTS

Hip Rafter Connection



Detail C-C/6

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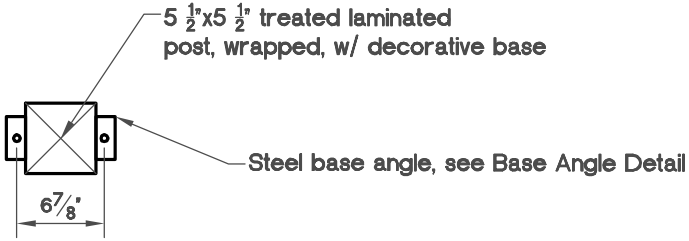

View 1 Detail C-C/6

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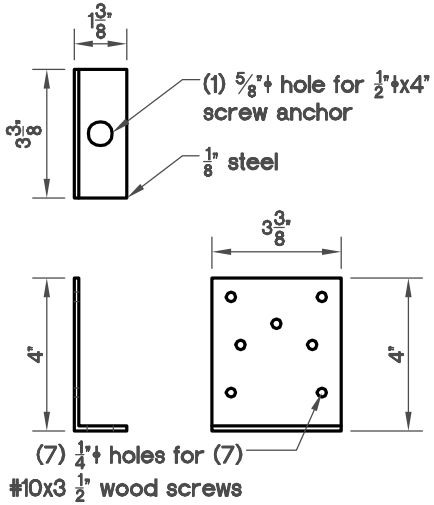
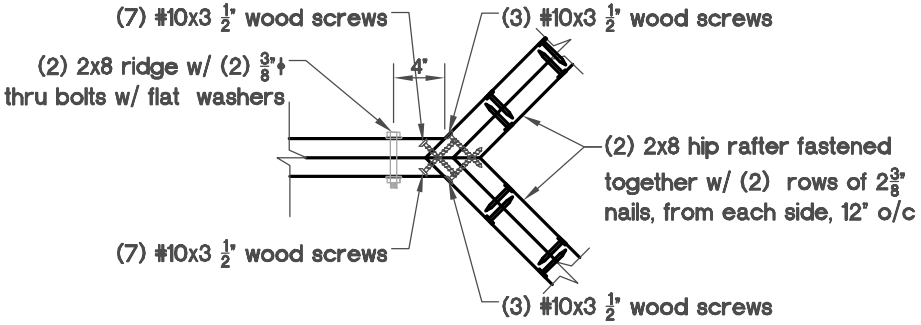
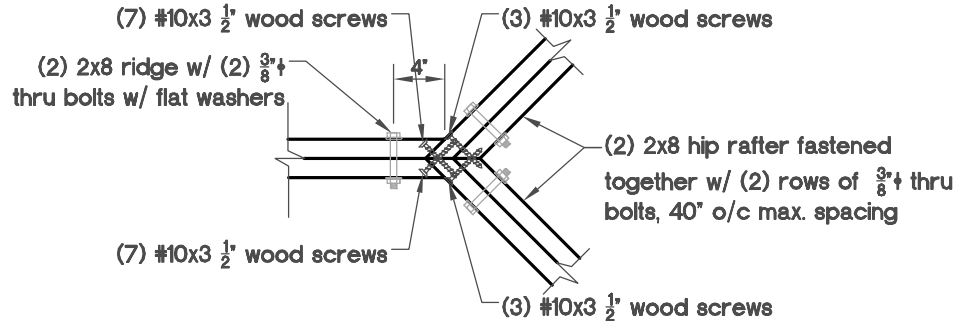


Base Angle Detail

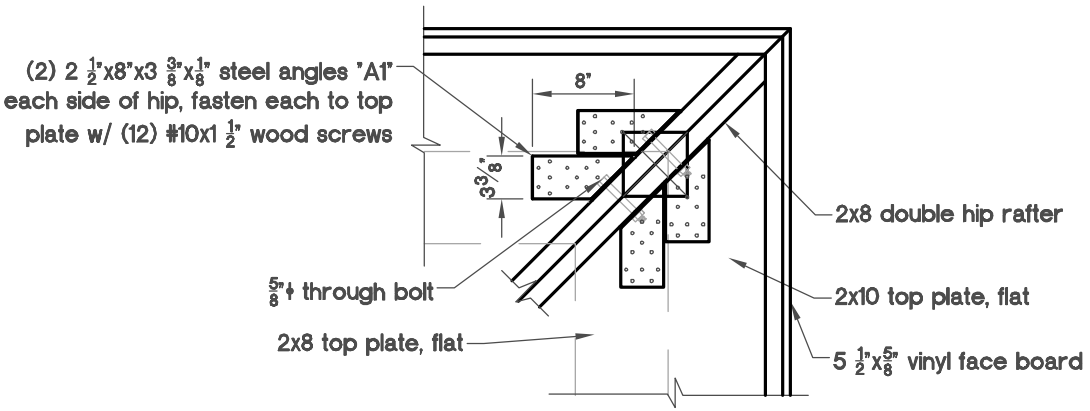
NTS



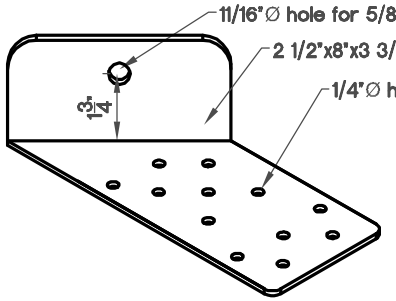
Detail D-D/7
Option 1 NTS



Detail D-D/7
Option 2 NTS



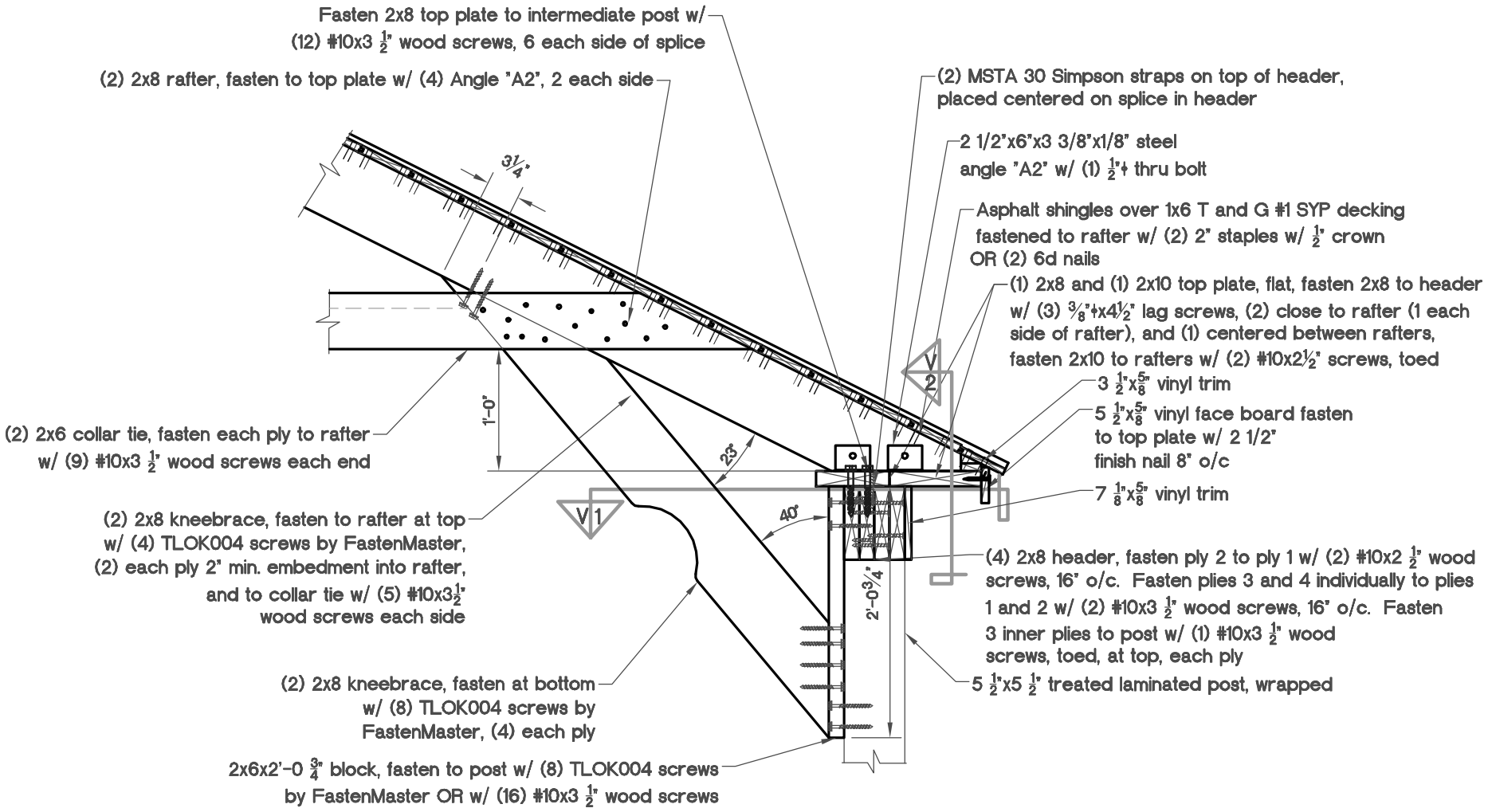
Detail E-E/7
NTS



Note:
Use flat washers under bolt head and nut (1.25" O.D. min.)

Angle "A1"
NTS

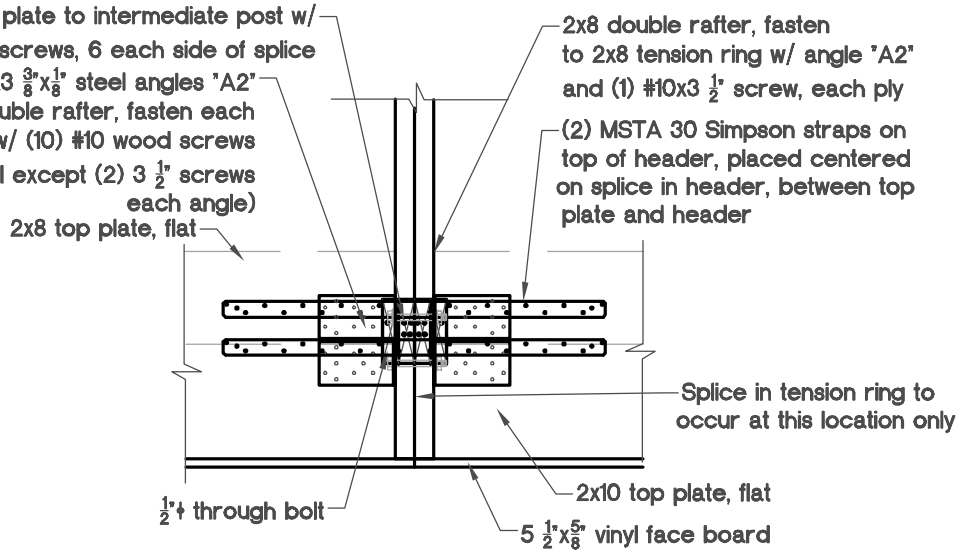
PROJECT: STANDARD PLANS FOR 20'x28' RECTANGLE PVC PAVILION



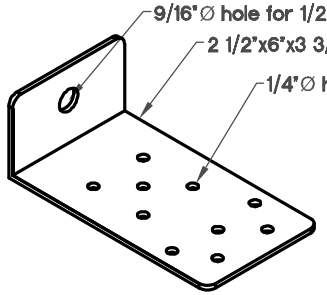
Detail F-F/8

NTS

Center Double Rafter

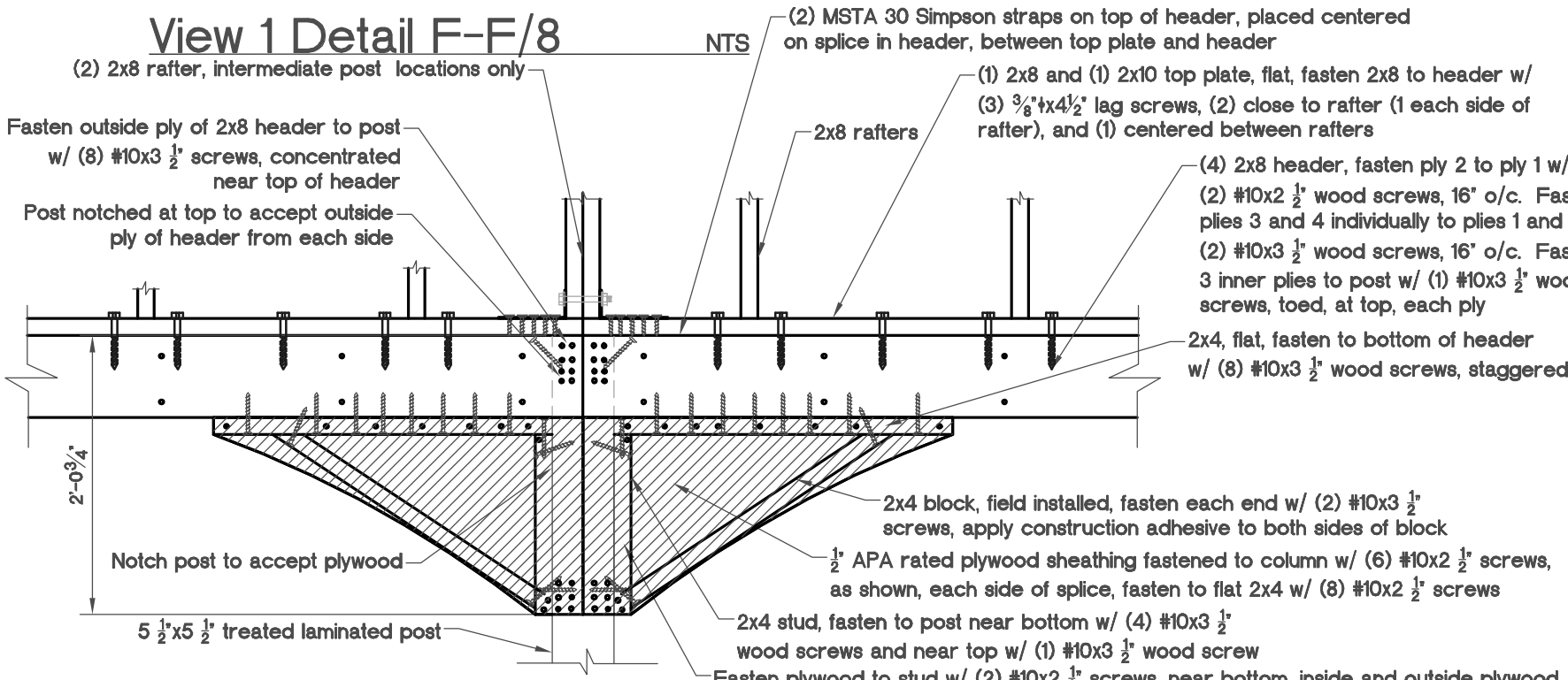


View 1 Detail F-F/8 NTS

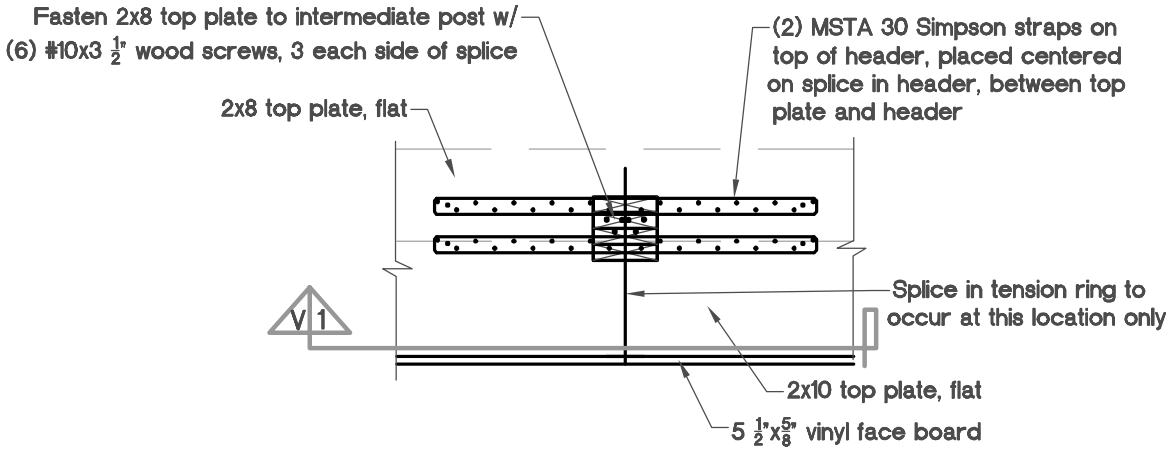


Note:
Use flat washers under bolt head and nut (1.25" O.D. min.)

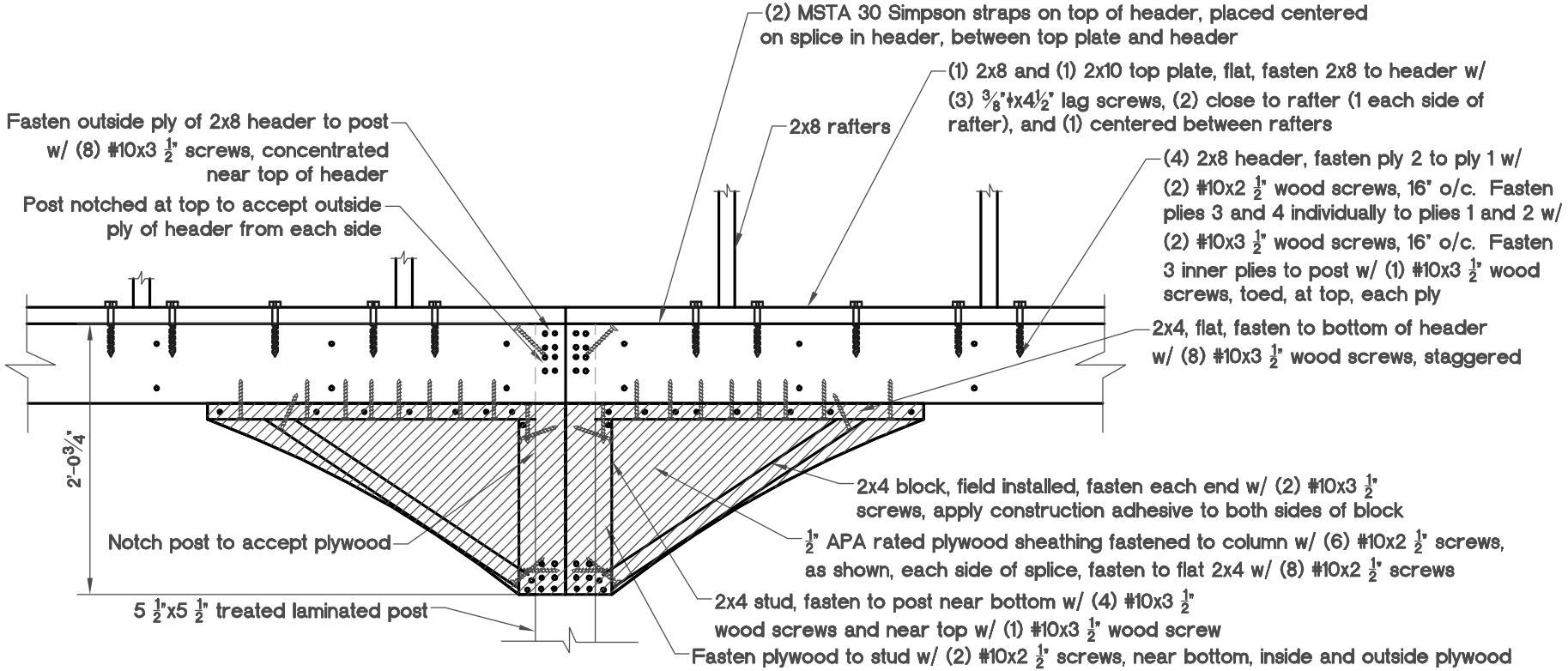
Angle "A2" NTS



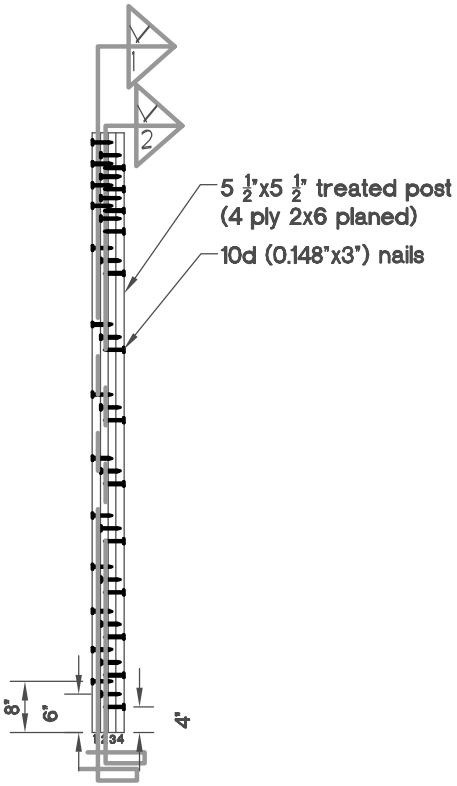
View 2 Detail F-F/8 NTS



Detail G-G/10 NTS

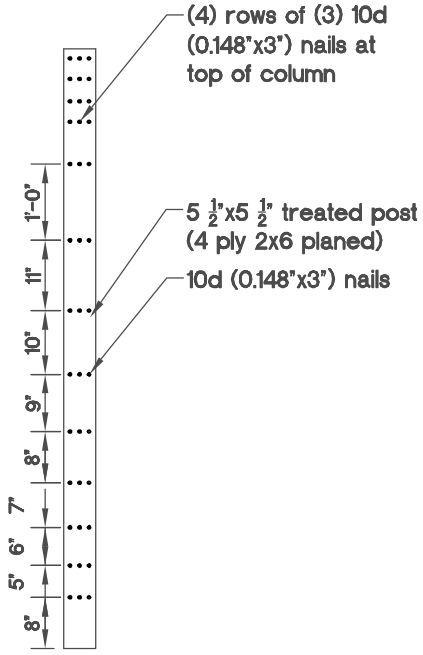


View 1 Detail G-G/10 NTS



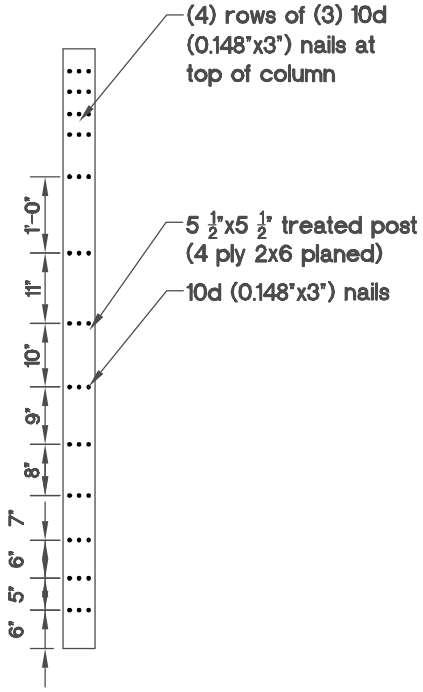
Nail-Laminated Post
NTS

Nailing Detail



View 1
NTS

Nailing Detail for Ply 2 to Ply 3



View 2
NTS

Nailing Detail for Ply 1 to Ply 2