



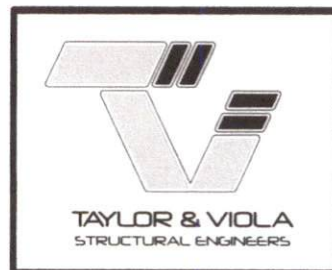
ENCLOSED GABLE END BUILDING

MAXIMUM 30'-0" WIDE X 16'-0" EAVE HEIGHT WITH BOX FRAME / (UP TO) 145 M.P.H. WIND ZONE - 35 P.S.F. SNOW LOAD

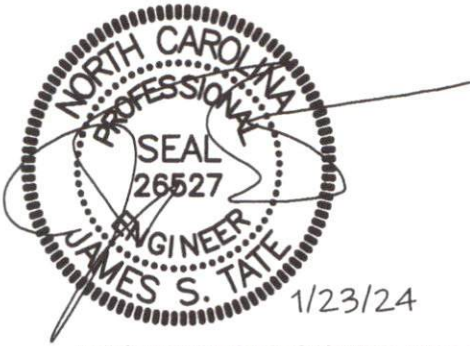
FOR:

NC CARPORTS & GARAGE
116 EAST MARKET STREET
ELKIN, NORTH CAROLINA
TELE: 336-368-0668

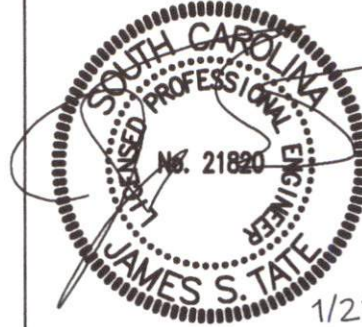
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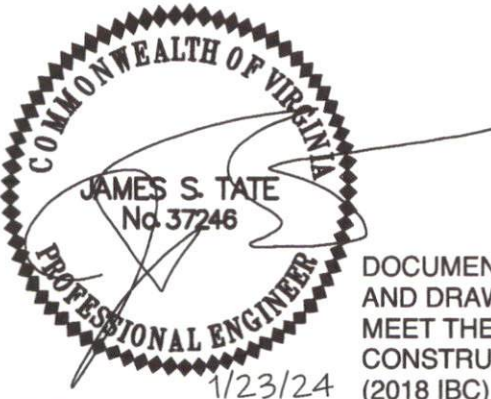
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DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 NC BUILDING CODE (2015 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2021 SC BUILDING CODE (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 VA CONSTRUCTION CODE (2018 IBC)



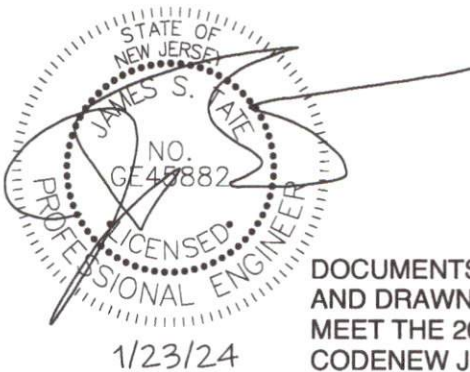
DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2012 IBC

1/23/24

DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC

1/23/24

DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2020 BUILDING CODE OF NEW YORK STATE (2018 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2021 BUILDING CODENEW JERSEY EDITION (2021 IBC)



DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



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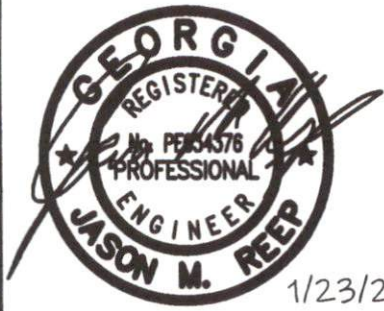
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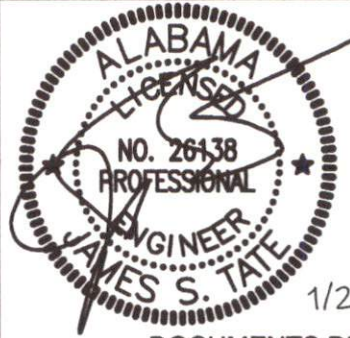
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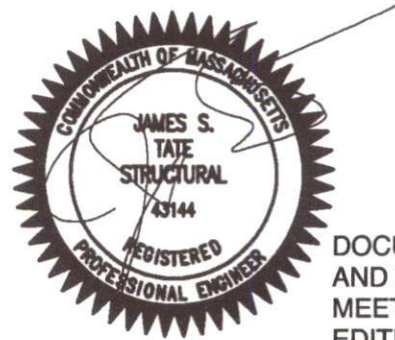
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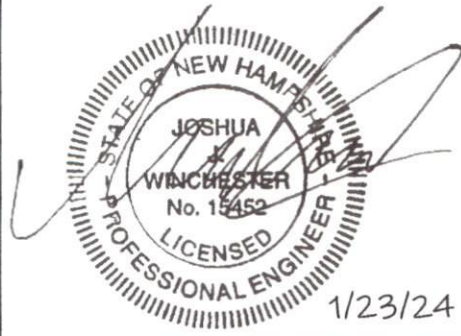
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DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



1/23/24

DOCUMENTS DESIGNED AND DRAWN TO MEET THE NINTH EDITION OF THE MA STATE BUILDING CODE



1/23/24

DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 IBC



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DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2017 IBC



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DOCUMENTS DESIGNED AND DRAWN TO MEET THE 2018 KENTUCKY BUILDING CODE (2015 IBC)



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S1A	P.E. SEALS SHEET
S2	DRAWING INDEX
S3	GENERAL NOTES AND SPECIFICATIONS
S4	SIDE AND END ELEVATIONS
S5	TYPICAL RAFTER / COLUMN FRAME SECTIONS
S5A	TYPICAL RAFTER / COLUMN FRAME SECTIONS
S5B	TYPICAL RAFTER / COLUMN FRAME AND SIDE FRAMING SECTION
S6	COLUMN CONNECTION DETAILS (LACED COLUMN)
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S9	TYPICAL END WALL OPENINGS FRAMING SECTIONS
S9A	TYPICAL SIDE WALL OPENINGS FRAMING SECTIONS
S10	CONNECTION DETAILS
S11	CONNECTION DETAILS
S12	CONNECTION DETAILS
S13	CONNECTION DETAILS
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S15	LEAN-TO OPTIONS
S15A	LEAN-TO CONNECTION DETAILS
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S16	VERTICAL ROOF / SIDING OPTION END AND SIDE ELEVATION
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S16B	VERTICAL ROOF / SIDING OPTION SIDE SECTION
S17	SIDE WALL HEADER OPTIONS
S17A	END WALL HEADER OPTIONS



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DESIGN LOADS:

IMPORTANCE FACTORS	WIND	(1w)	1.00
	SNOW	(1s)	1.00
	SEISMIC	(1e)	1.00

DEAD LOADS	ROOF	13	P.S.F.
	ROOF COLLATERAL	0	P.S.F.

LIVE LOADS	ROOF	20	P.S.F.
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GROUND SNOW LOAD: 35 P.S.F. * DRIFT LOAD HAS NOT BEEN CALCULATED

WIND LOAD:	BASIC WIND SPEED	V 145	M.P.H. (ASCE 7-16)
	EXPOSURE CATEGORY	B	

SEISMIC DESIGN CATEGORY A B C D

PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:

OCCUPANCY CATEGORY I *NOT FOR SLEEPING QUARTERS

SPECTRAL RESPONSE ACCELERATION Sa 20.5 %g S1 8.8 %g

SITE CLASSIFICATION D FIELD TEST PRESUMPTIVE HISTORICAL DATA

BASIC STRUCTURAL SYSTEM (CHECK ONE)

<input type="checkbox"/>	BEARING WALL	<input type="checkbox"/>	DUAL W/ SPECTRAL MOMENT FRAME
<input checked="" type="checkbox"/>	BUILDING FRAME	<input type="checkbox"/>	DUAL W/ INTERMEDIATE R/C OR SPECIAL STEEL
<input type="checkbox"/>	MOMENT FRAME	<input type="checkbox"/>	INVERTED PENDULUM

ANALYSIS PROCEDURE SIMPLIFIED EQUIVALENT LATERAL FORCE MODAL

LATERAL DESIGN CONTROL? EARTHQUAKE WIND

SOIL BEARING CAPACITIES:

PRESUMPTIVE BEARING CAPACITIES: 2,000 P.S.F.

GENERAL NOTES:

1. MAX FRAME SPACING SHALL BE 60"oc UNLESS NOTED OTHERWISE.
2. MAX. END-WALL COLUMN SPACING SHALL BE 60"oc UNLESS NOTED OTHERWISE.
3. TUBE MATERIAL SHALL BE 2-1/2" x 2-1/2" x 14ga. 50 K.S.I. MIN. UNLESS NOTED OTHERWISE.
4. ALL FASTENERS SHALL BE (2) #12 SELF TAPPING AT 9"o.c. UNLESS NOTED OTHERWISE.
5. 2,000 P.S.F. ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.
6. THESE DRAWINGS ARE NOT APPLICABLE TO PARTIALLY OPEN / ENCLOSED OR OPEN BUILDINGS.
7. IF FRAME SPACING IS AT 48"oc (SIDE & END WALLS) - GROUND SNOW LOAD CAN INCREASE TO 43.5 P.S.F. (EXCLUDING DRIFT).



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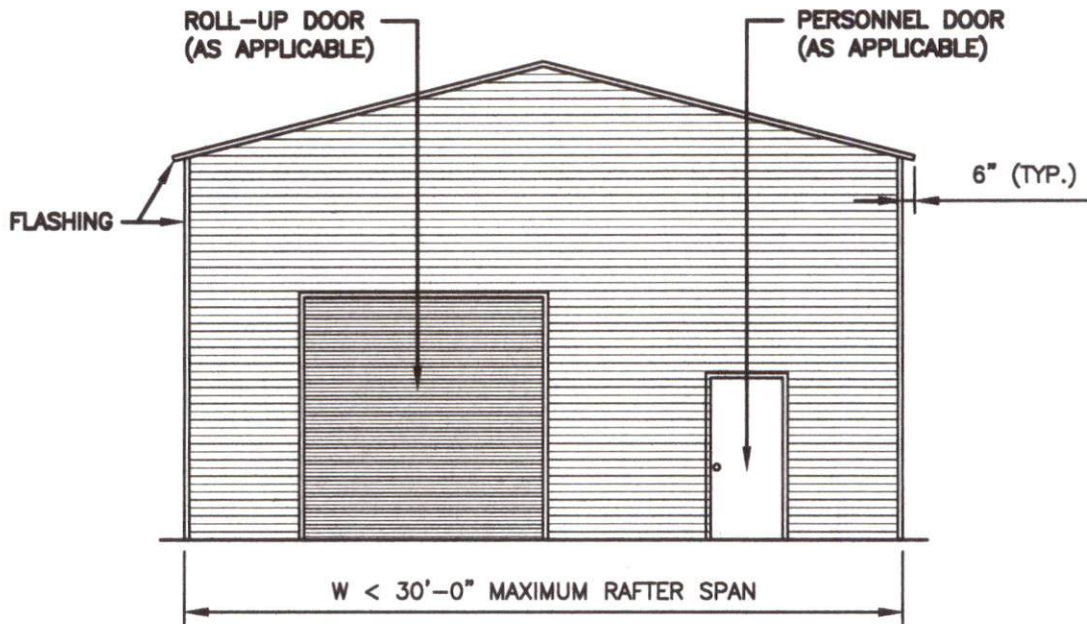
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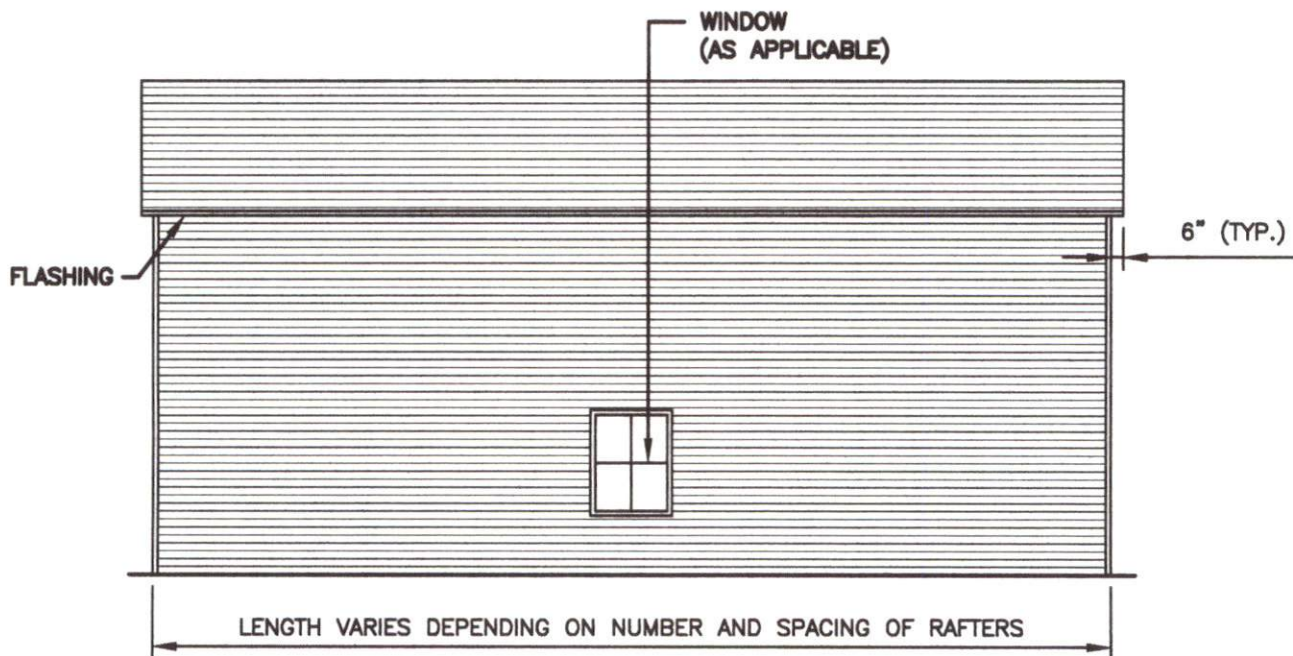
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BOX EVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION



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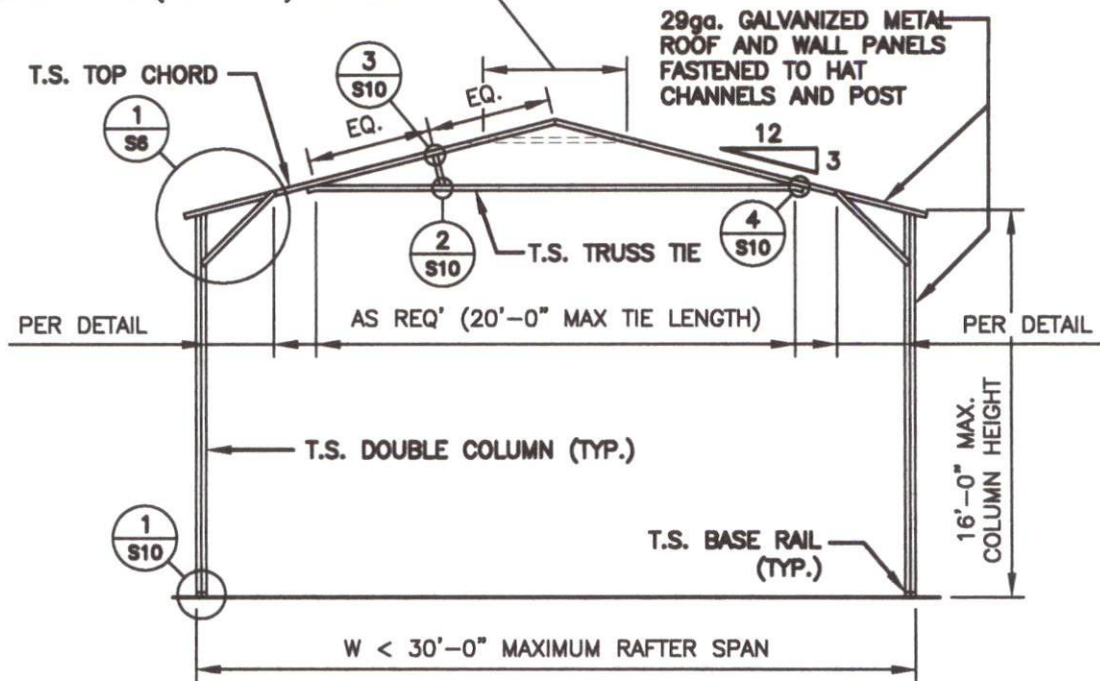
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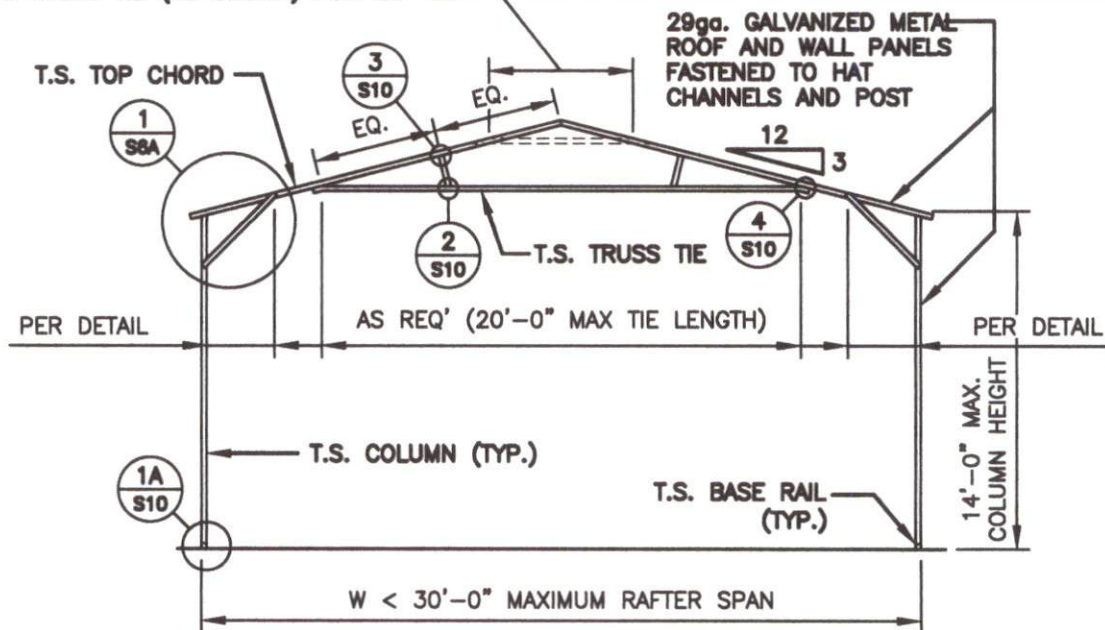
'U' BRACE TRUSS TIE - NOTE:
 6'-0" BRACE FOR 21'-24' BUILDING WIDTH
 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'



TYPICAL RAFTER / COLUMN FRAME SECTION

'U' BRACE TRUSS TIE - NOTE:
 6'-0" BRACE FOR 21'-24' BUILDING WIDTH
 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'

NOTE:
 H.S.S. 2-1/2"x2-1/2"x14ga. OR 2-1/4"x2-1/4"x14ga.
 MATERIAL MAY BE USED FOR TRUSS METAL.



TYPICAL RAFTER / COLUMN FRAME SECTION



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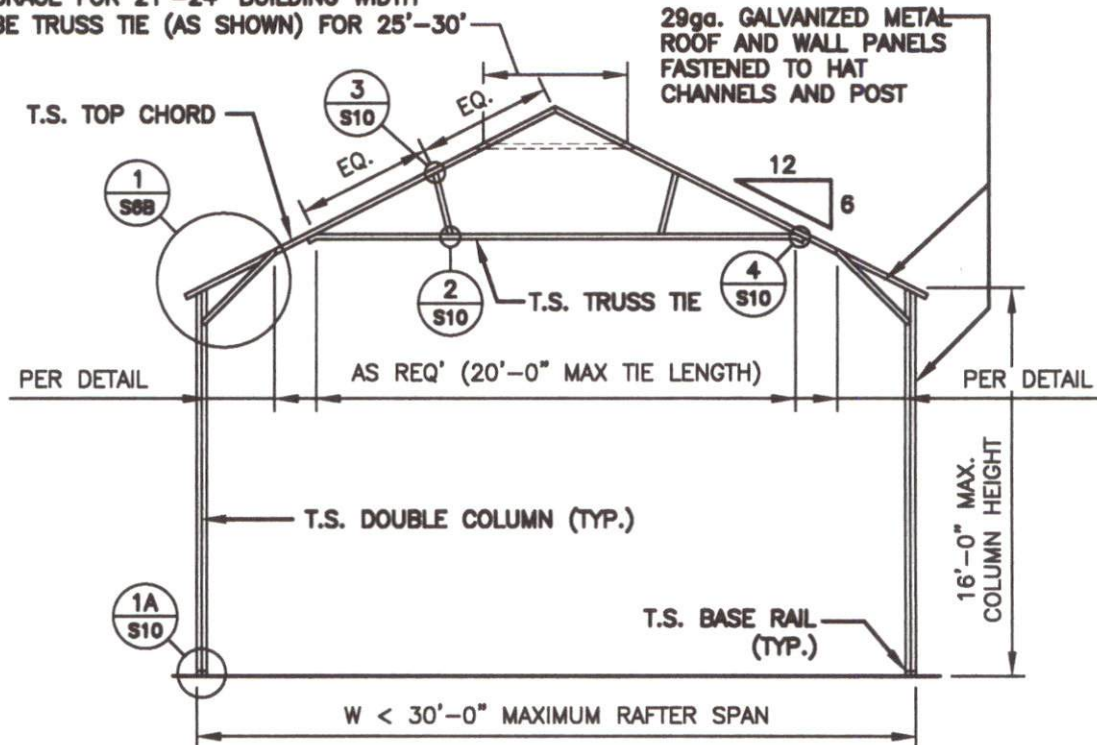
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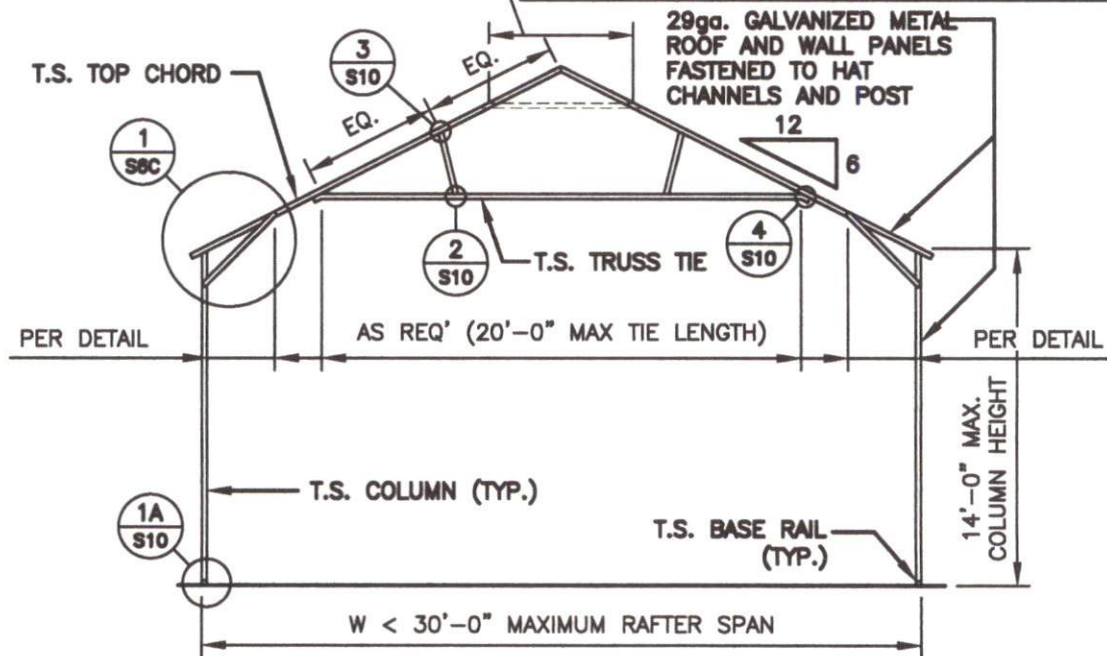
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NOTE:
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 MATERIAL MAY BE USED FOR TRUSS METAL.



TYPICAL RAFTER / COLUMN FRAME SECTION



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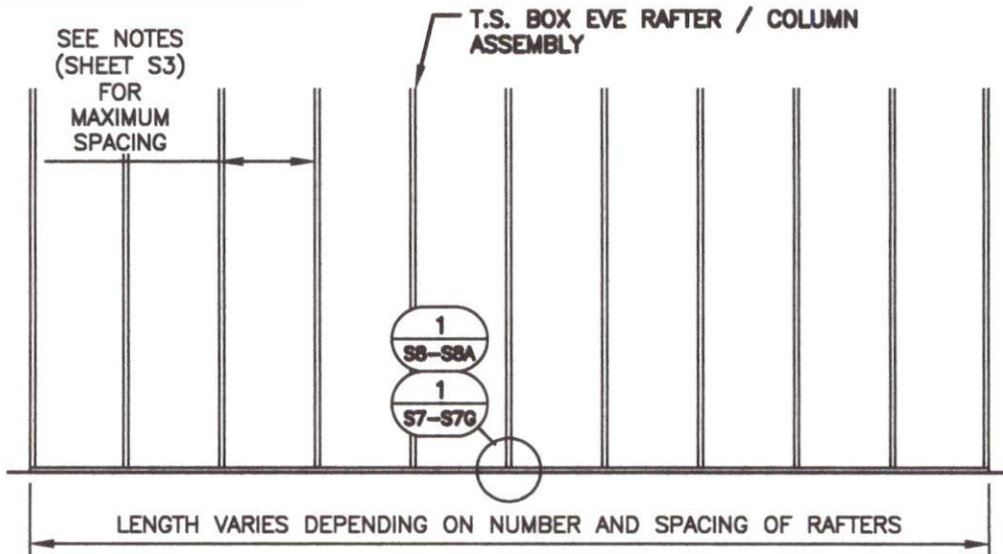
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NOTE:
H.S.S. 2-1/2"x2-1/2"x14ga. OR
2-1/4"x2-1/4"x14ga. MATERIAL
MAY BE USED FOR TRUSS METAL.



TYPICAL RAFTER / COLUMN SIDE FRAME SECTION



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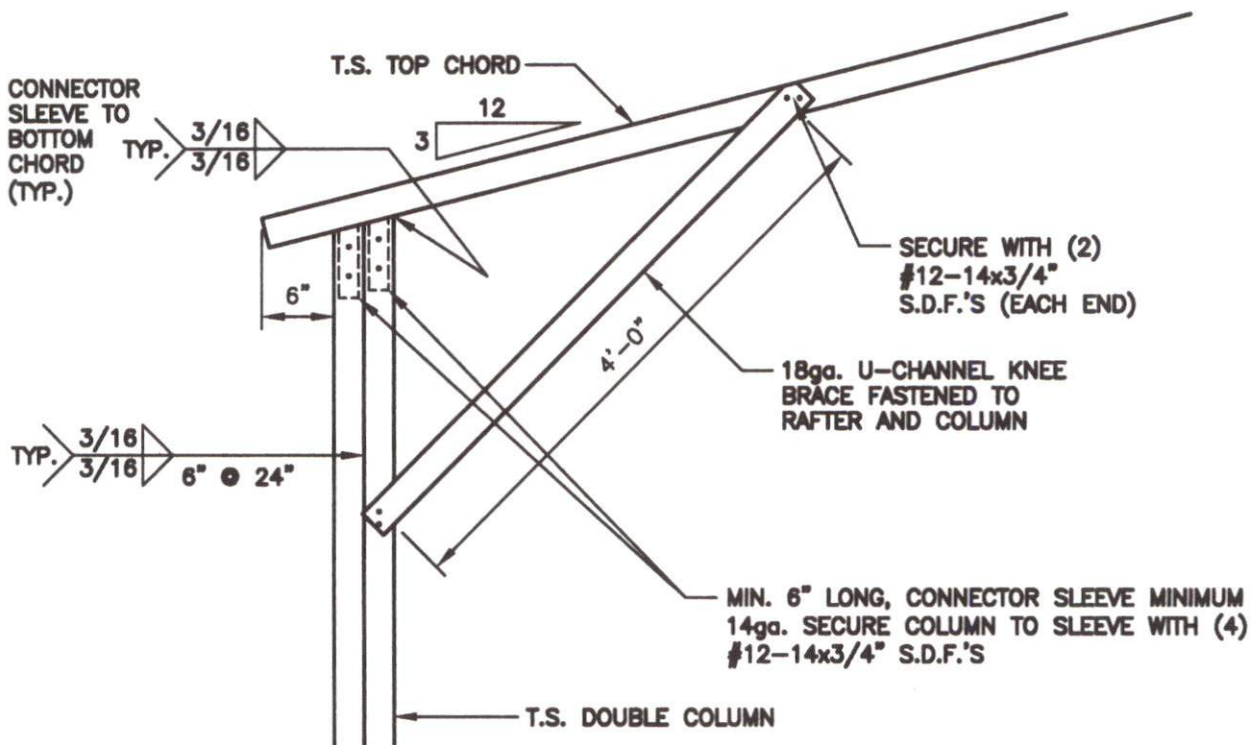
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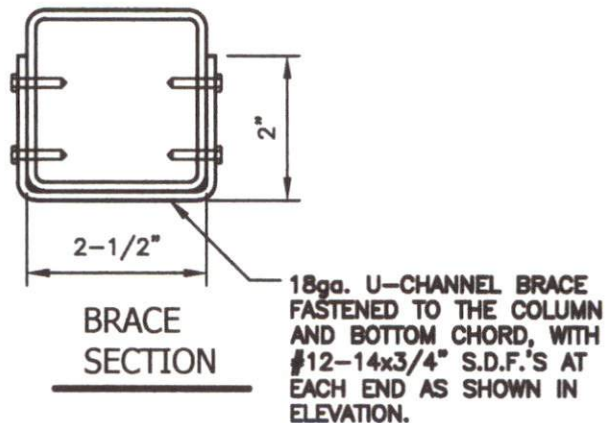
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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHT.S. 14'-1" < TO

S6 scale: 3/16" = 1'-0"



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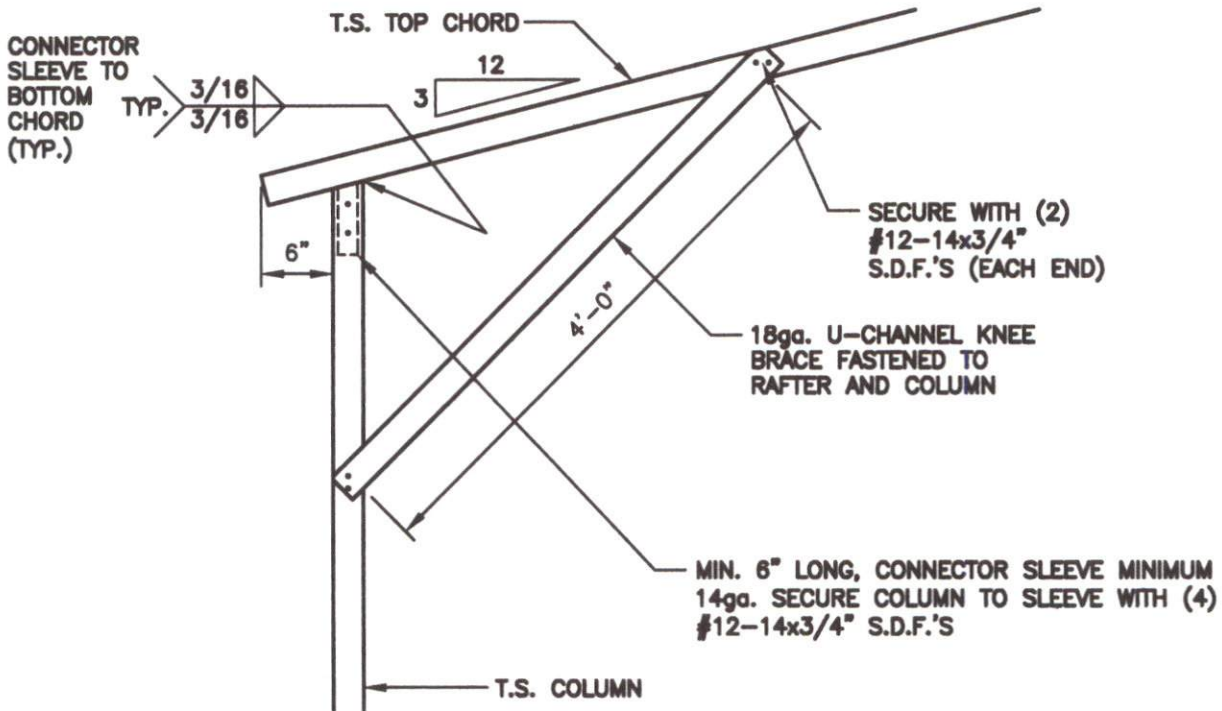
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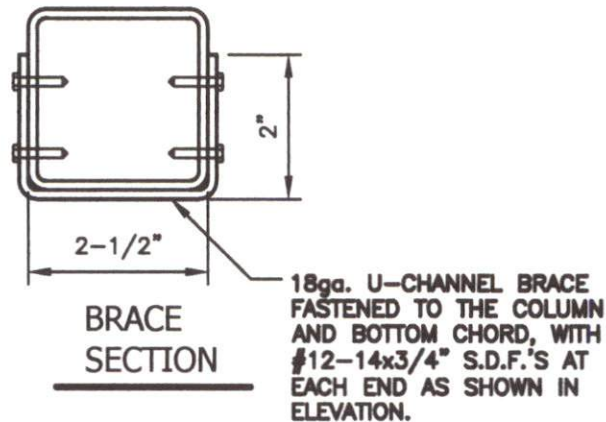
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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHT.S. < 14'-0"

S&A SCALE: 3/4" = 1'-0"



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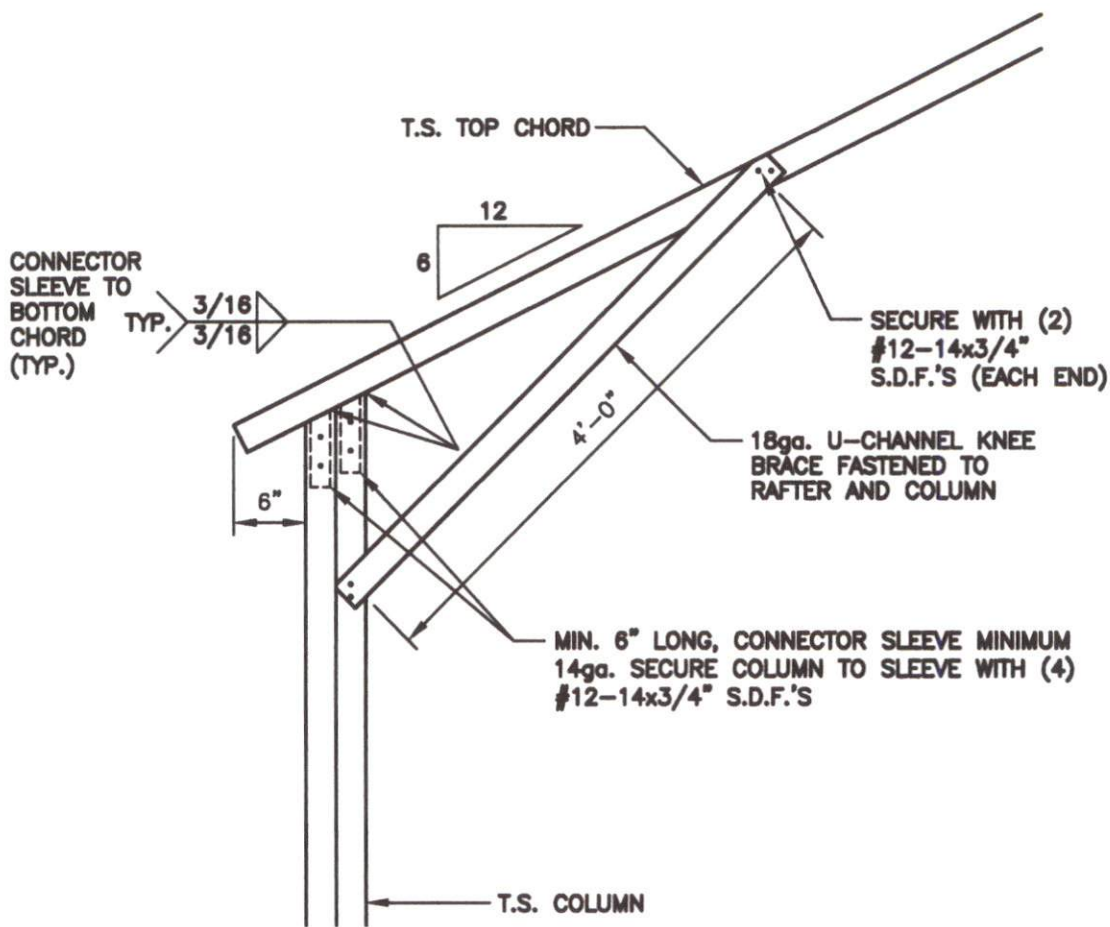
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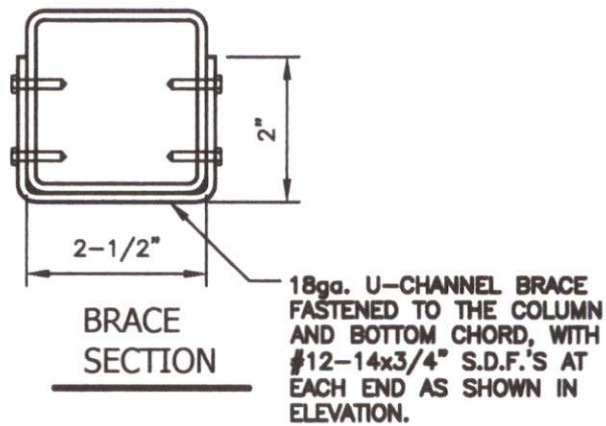
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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHT.S. 14'-1" < TO
 S6C SCALE: 3/4" = 1'-0"



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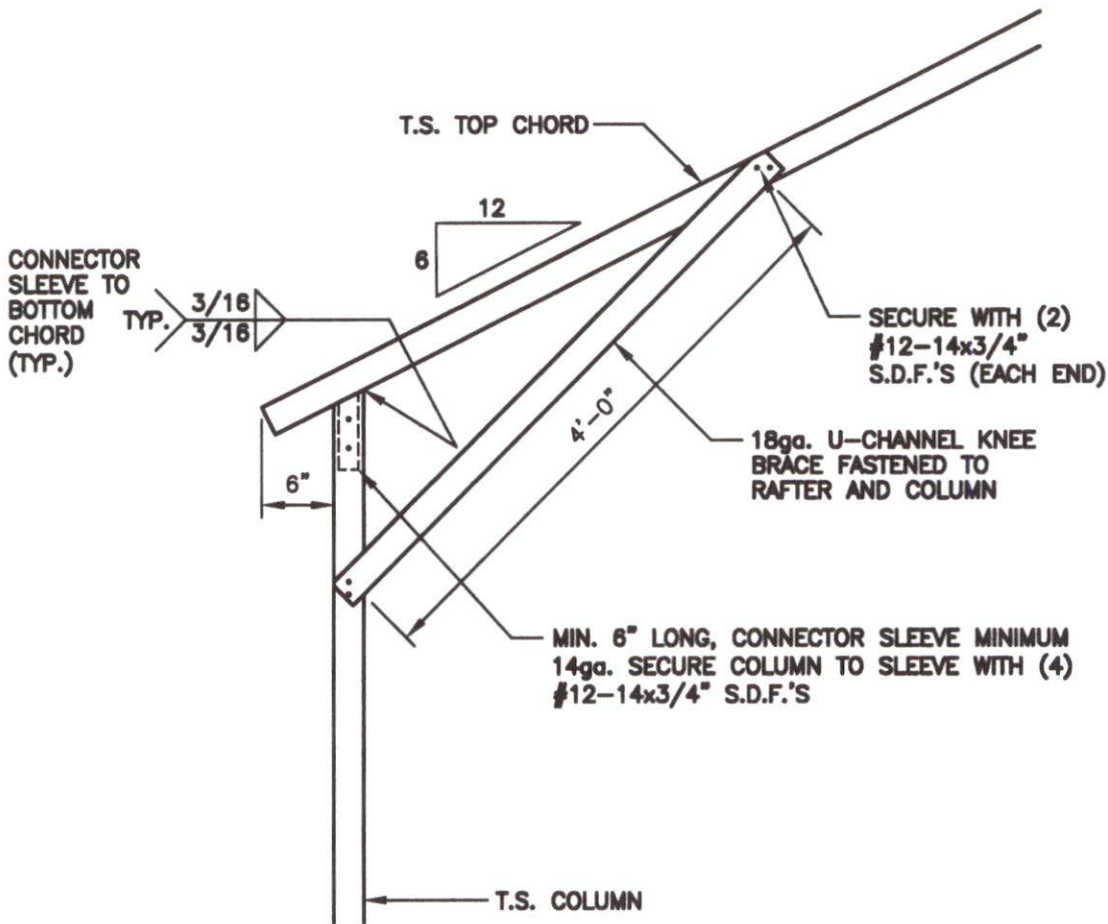
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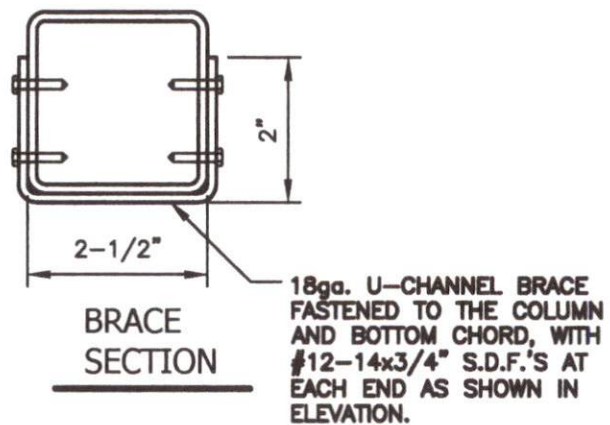
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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHT.S. < 14'-0"
S6C SCALE: 3/4" = 1'-0"



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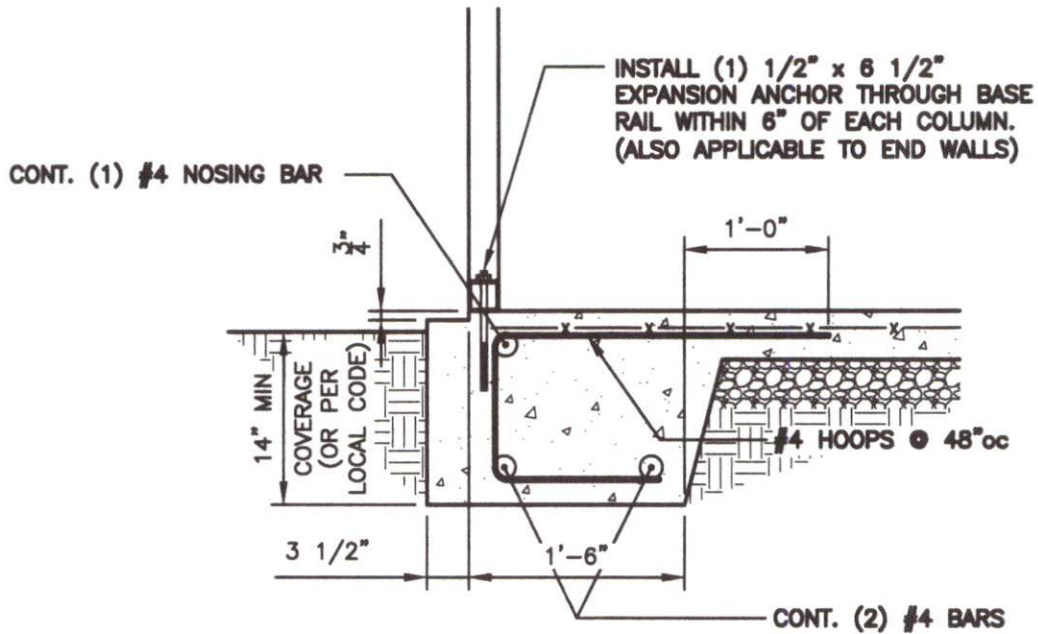
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CONCRETE BASE RAIL ANCHORAGE



1 BASE RAIL ANCHORAGE DETAIL

SCALE: 3/4" = 1'-0"

GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.

COVER OVER REINFORCING STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3" IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH AND WEATHER AND 1-1/2" ELSEWHERE.

REINFORCING STEEL:

THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

REINFORCEMENT MAT BE BENT IN THE SHOP OF THE FIELD PROVIDED:

1. REINFORCEMENT IS BENT COLD.
2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.



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P.O. Box 2616 Hickory, North Carolina
Tel: 828-328-6331 Fax: 828-322-1801



GENERAL NOTES:

ALL CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 2,000 P.S.F.

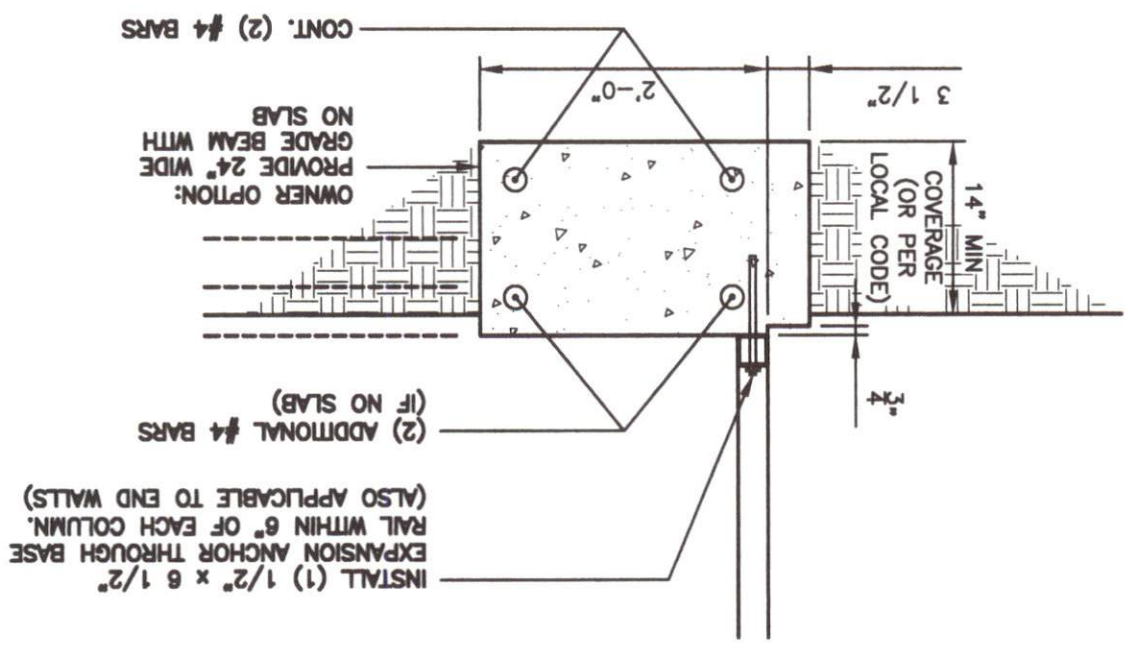
CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 P.S.I. AT 28 DAYS.

COVER OVER REINFORCING STEEL:
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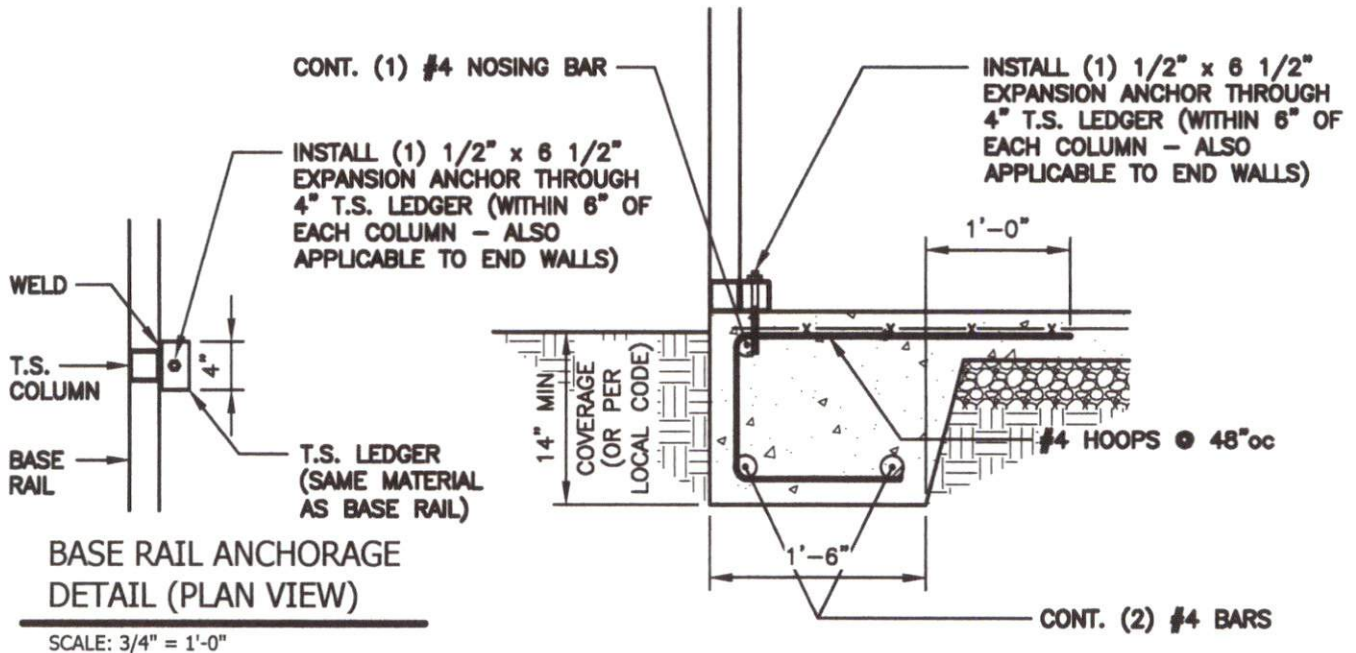
REINFORCEMENT MAY BE BENT IN THE SHOP OF THE FIELD PROVIDED:
1. REINFORCEMENT IS BENT COLD.
2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
3. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.

1 (S7A) SCALE: 3/4" = 1'-0"
BASE RAIL ANCHORAGE DETAIL



CONCRETE BASE RAIL ANCHORAGE (NO SLAB)

CONCRETE BASE RAIL ANCHORAGE



BASE RAIL ANCHORAGE DETAIL

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**NC CARPORTS
& GARAGES**

115 EAST MARKET STREET
ELKIN, NORTH CAROLINA 28621
TELE: 336-368-0668

DRAWN BY:
BKS

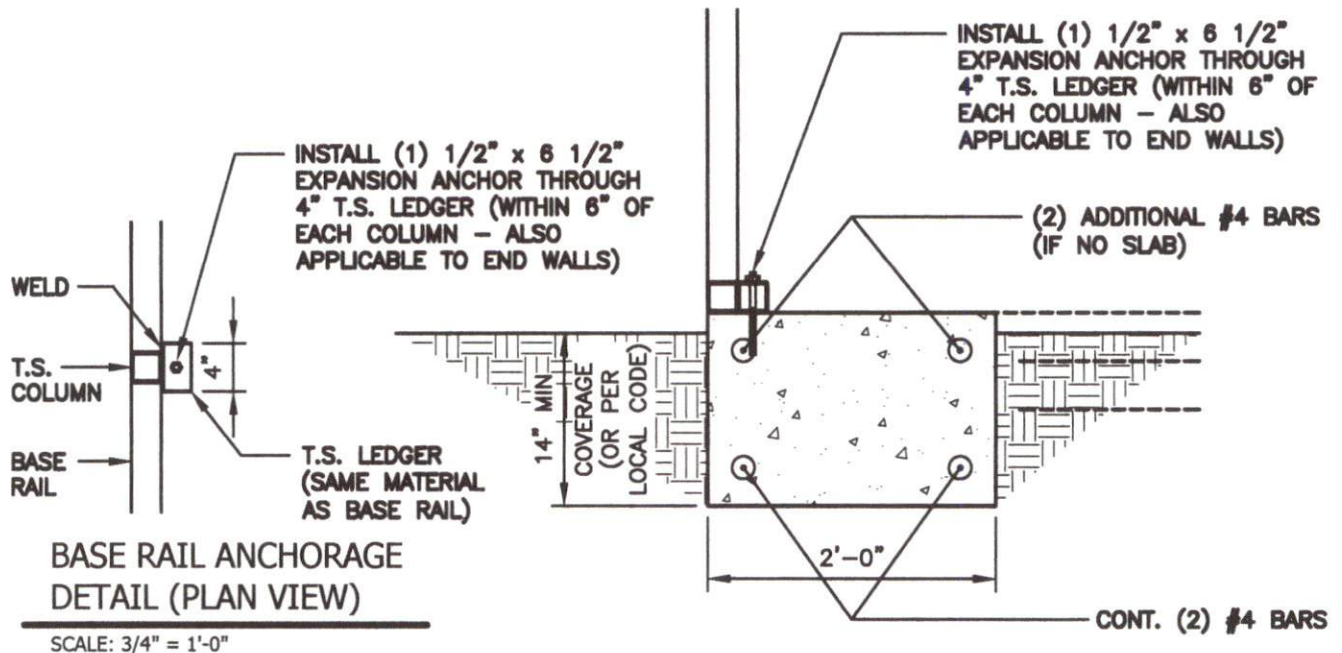
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NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDAR YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

CONCRETE BASE RAIL ANCHORAGE (NO SLAB)



BASE RAIL ANCHORAGE DETAIL

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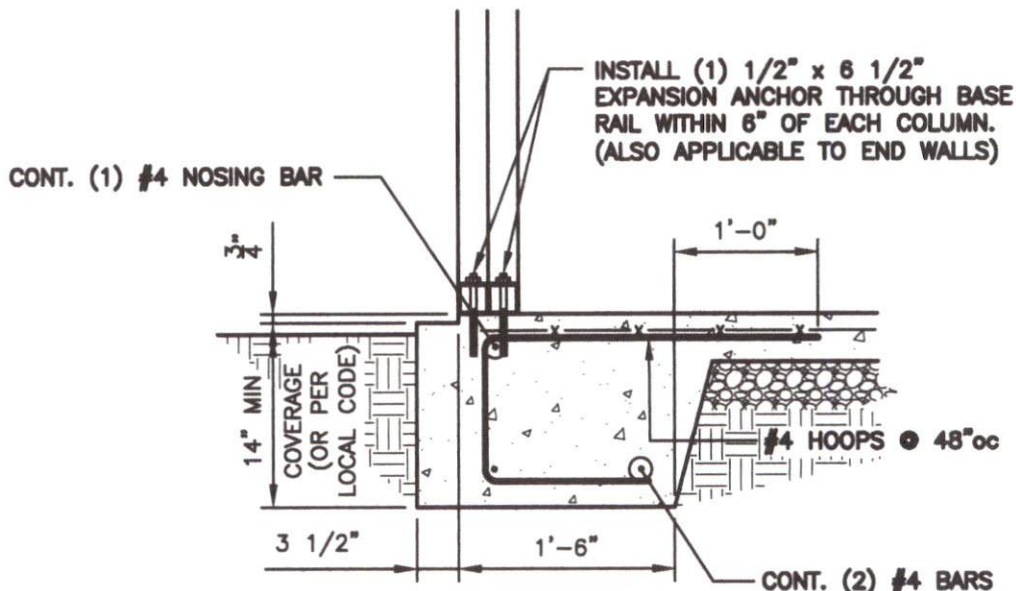
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CONCRETE BASE RAIL ANCHORAGE



1 BASE RAIL ANCHORAGE DETAIL

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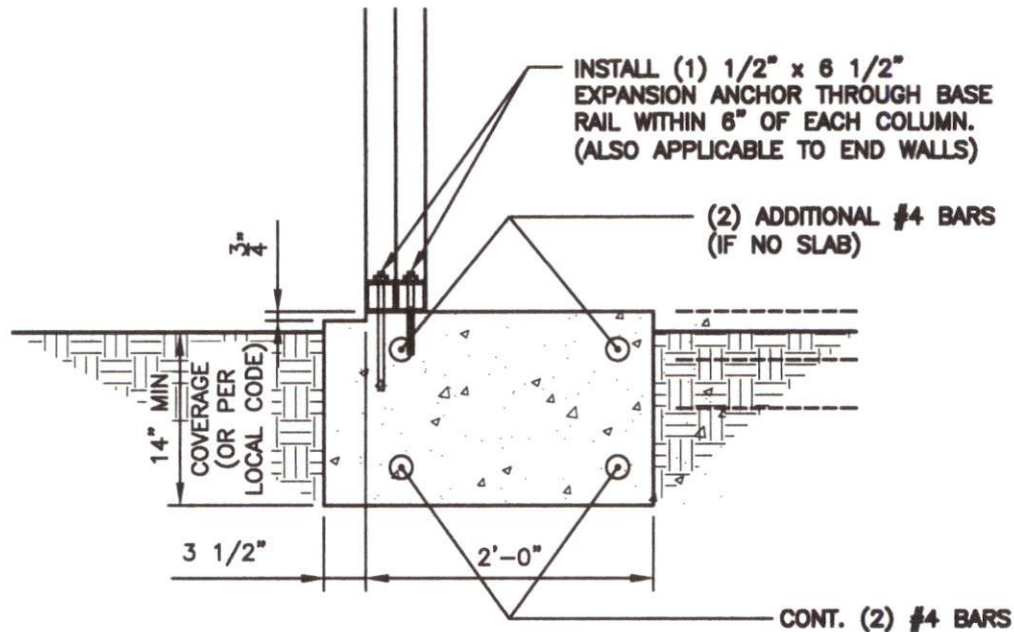
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CONCRETE BASE RAIL ANCHORAGE (NO SLAB)



BASE RAIL ANCHORAGE DETAIL

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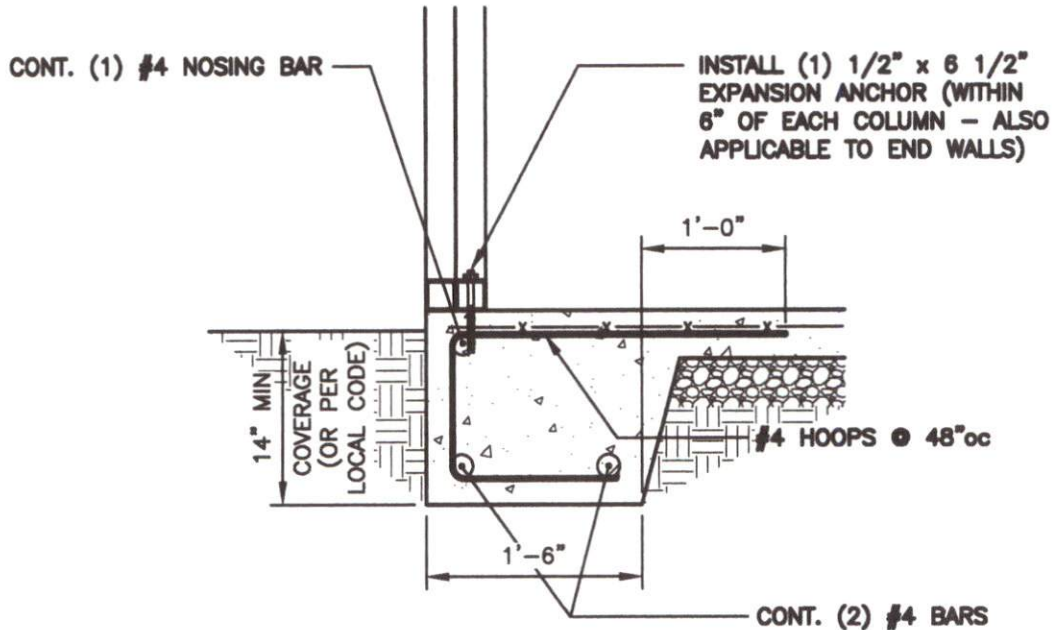
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CONCRETE BASE RAIL ANCHORAGE



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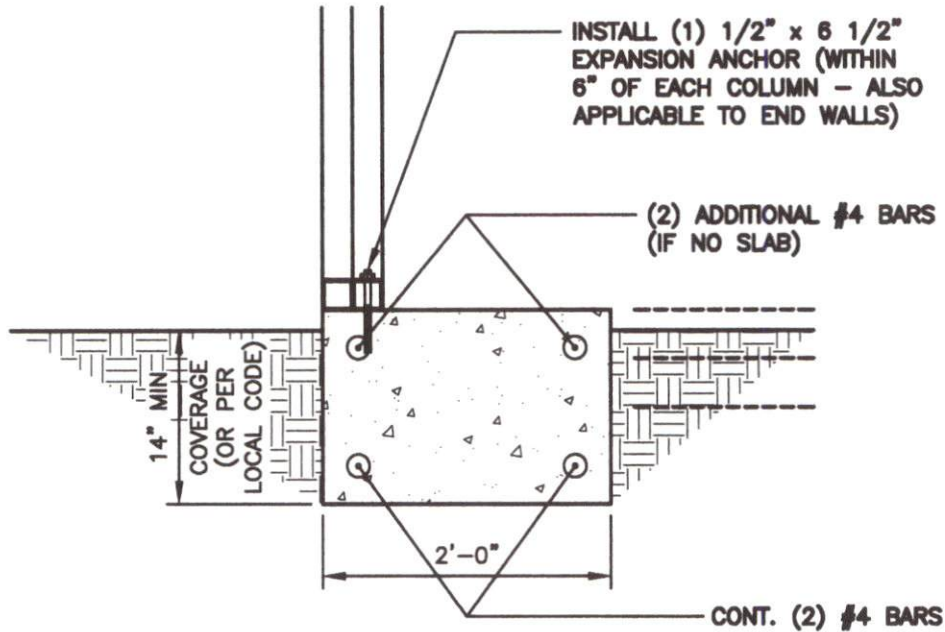
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CONCRETE BASE RAIL ANCHORAGE (NO SLAB)



BASE RAIL ANCHORAGE DETAIL

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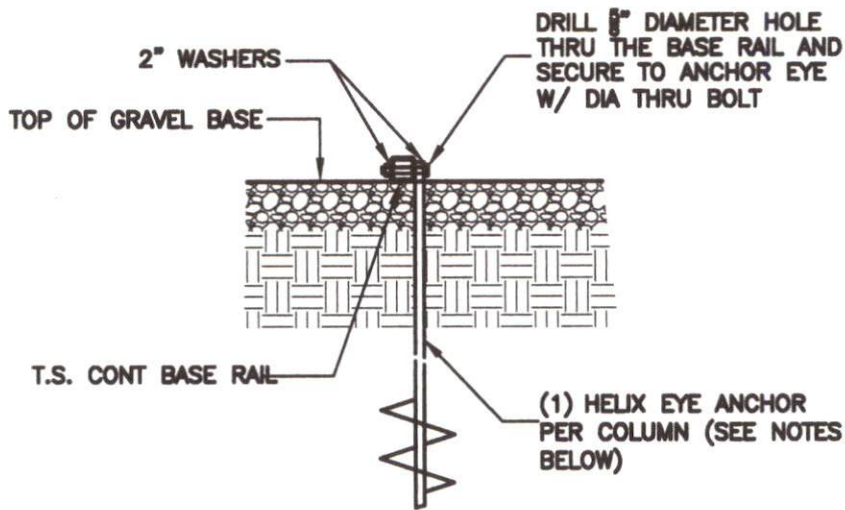
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SOIL NAIL BASE RAIL ANCHORAGE



1
S8

BASE RAIL ANCHORAGE DETAIL
 SCALE: 3/4" = 1'-0"

HELIX EMBEDMENT INFORMATION:

FOR VERY DENSE OR CEMENTED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILT.S. AND CLAYS, USE MIN. (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR CORAL, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR MED DENSE COARSE SANDS, SANDY GRAVEL, VERY STIFF SILT.S., AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILT.S., USE MIN (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILT.S. AND ALLUVIAL FILL, USE MIN (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT - ONE EACH END BASE RAIL AND 20'-0"oc MAX. WITH #4 REBAR AT 5'-0"oc BETWEEN.

NOTE:

IN ALL CASES, IF FROST DEPTH EXCEEDS STATED DEPTH, ANCHOR SHOULD EXTEND A MIN. OF 12" BELOW FROST LINE.



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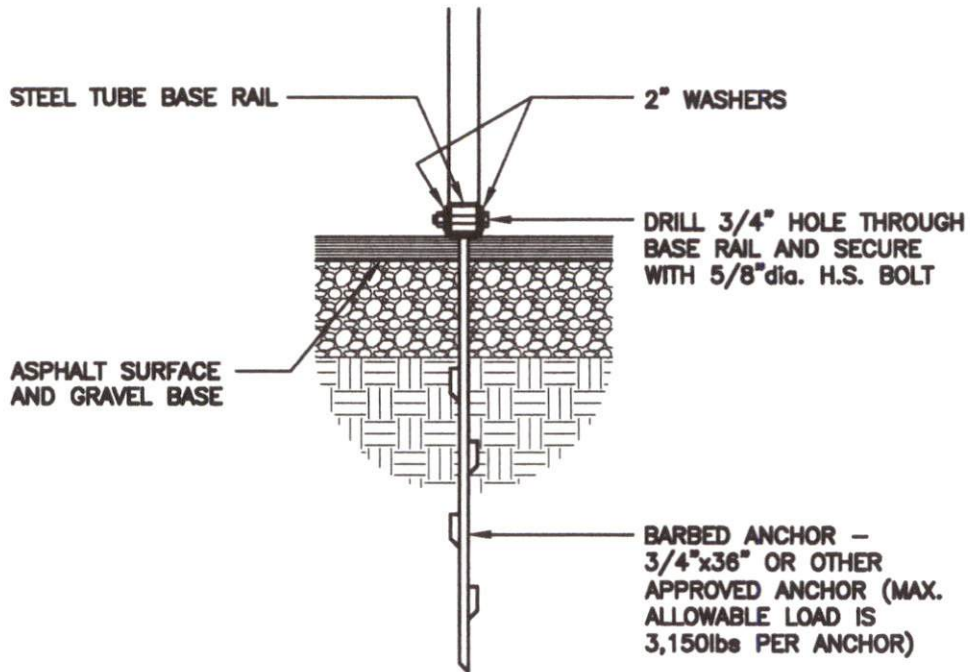
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S8

ASPHALT ANCHOR BASE RAIL ANCHORAGE



1 ASPHALT / BASE RAIL ANCHORAGE DETAIL

SCALE: 3/4" = 1'-0"



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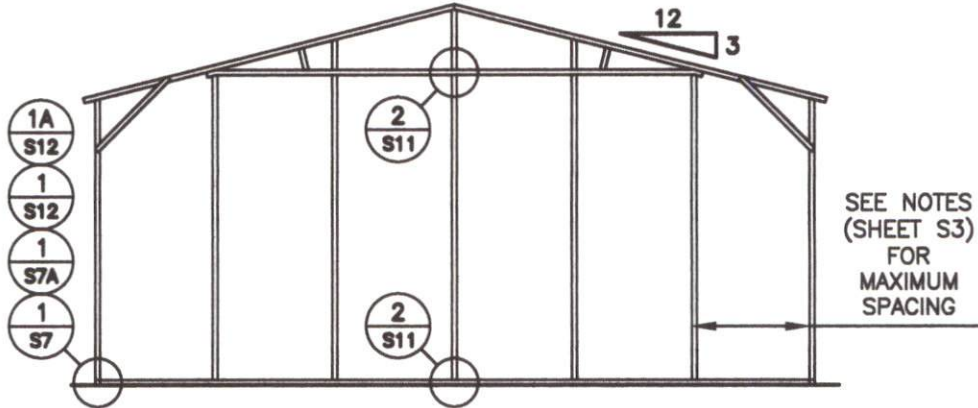
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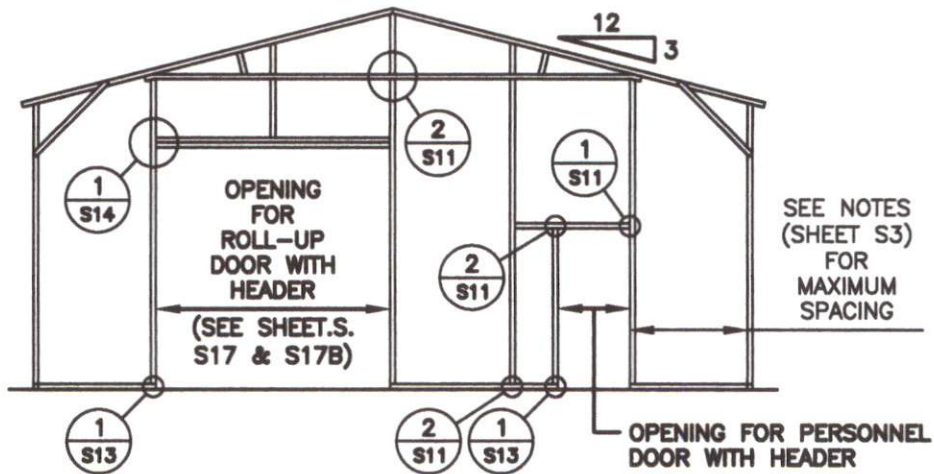
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BOX EVE RAFTER END WALL OPENINGS



TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION

NOTE:
 ROLL UP DOORS SHALL
 HAVE ONE JAMB EACH
 SIDE + ONE FRAME
 COLUMN BETWEEN OR SITE
 SPECIFIC SHALL BE REQ'D.



TYPICAL BOX EVE RAFTER END WALL OPENINGS FRAMING SECTION



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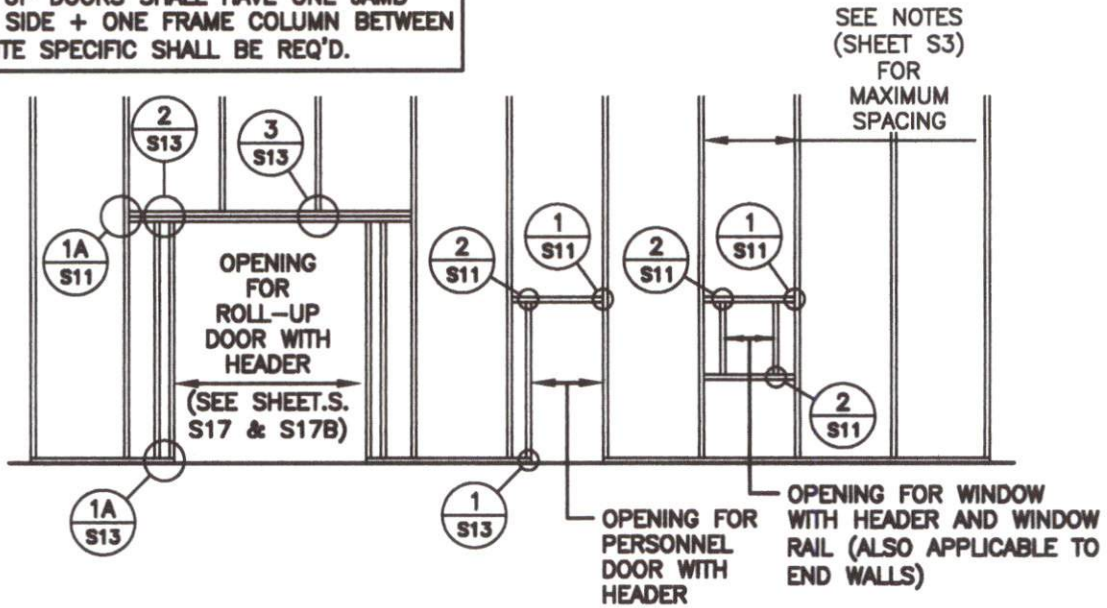
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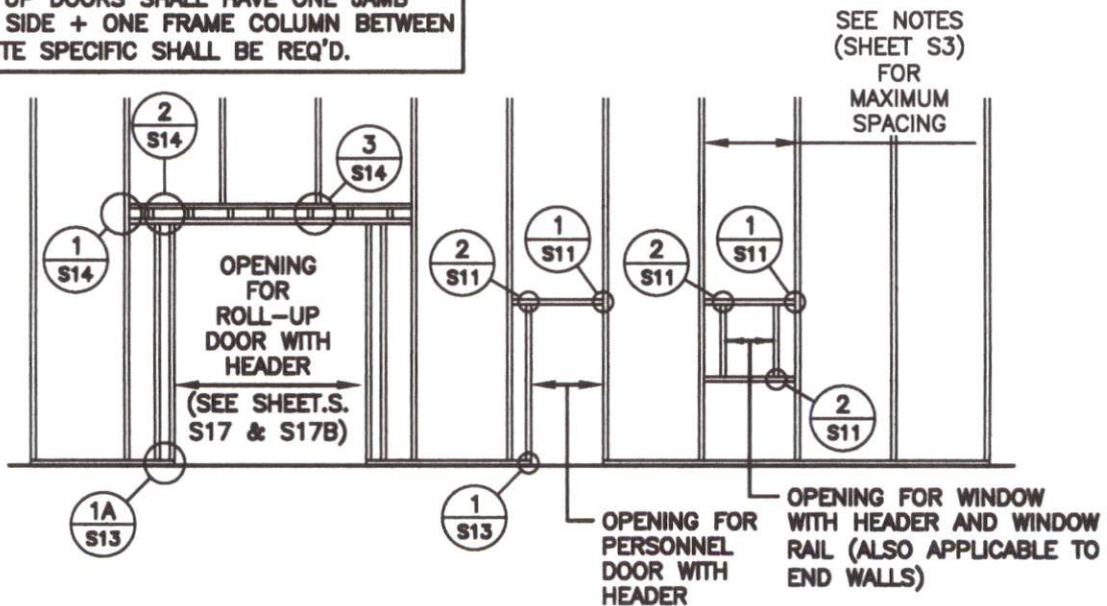
BOX EVE RAFTER END WALL AND SIDE WALL OPENINGS

NOTE:
ROLL UP DOORS SHALL HAVE ONE JAMB EACH SIDE + ONE FRAME COLUMN BETWEEN OR SITE SPECIFIC SHALL BE REQ'D.



TYPICAL END WALL OPENING FRAMING SECTION

NOTE:
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TYPICAL SIDE WALL OPENING FRAMING SECTION



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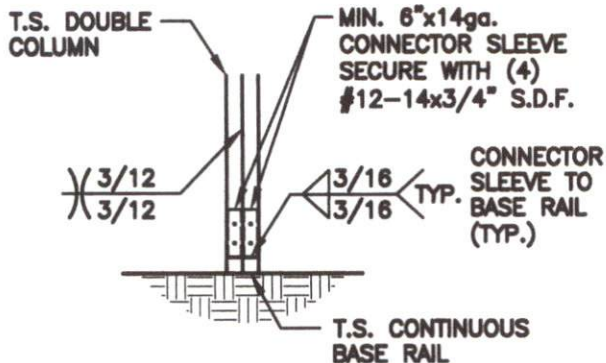
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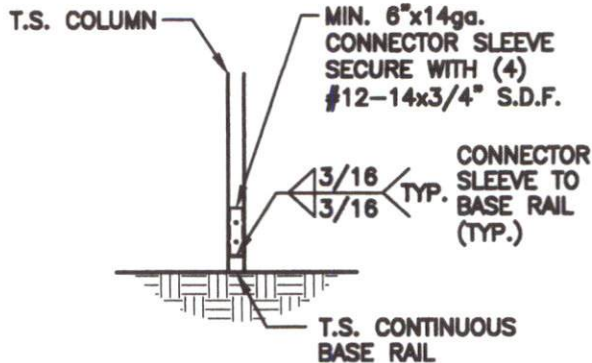
CONNECTION DETAILS



1
S10

**POST / BASE RAIL
CONNECTION DETAIL**

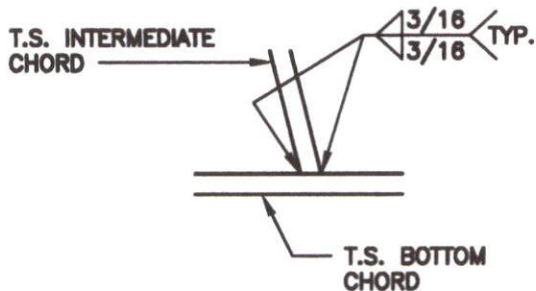
SCALE: 1/2" = 1'-0"



1A
S10

**POST / BASE RAIL
CONNECTION DETAIL**

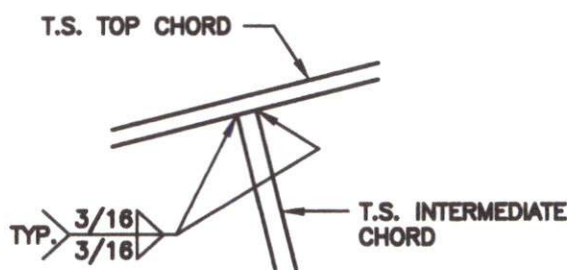
SCALE: 1/2" = 1'-0"



2
S10

**INTERMEDIATE CHORD
TO BOTTOM CHORD
CONNECTION DETAIL**

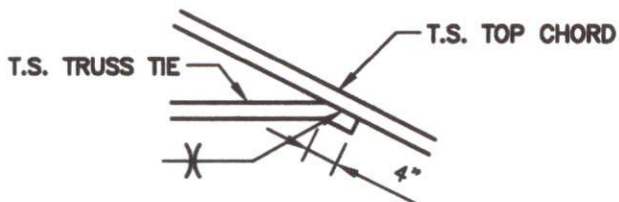
SCALE: 1/2" = 1'-0"



3
S10

**INTERMEDIATE CHORD TO TOP
CHORD CONNECTION DETAIL**

SCALE: 1/2" = 1'-0"



4
S10

**TRUSS TIE
CONNECTION DETAIL**

SCALE: 1/2" = 1'-0"



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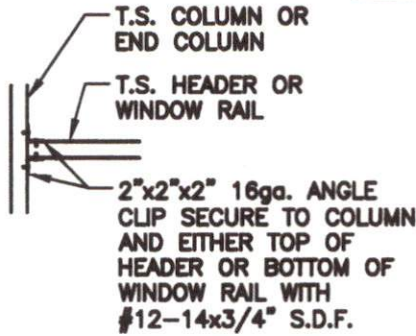
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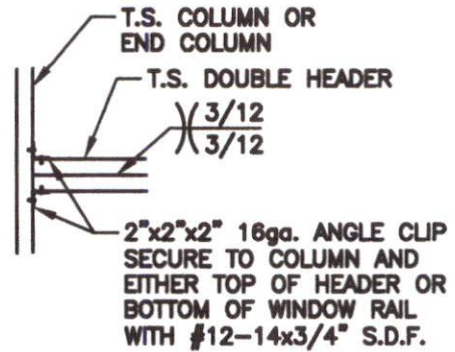
CONNECTION DETAILS



COLUMN OR WINDOW
RAIL / WALL GIRT TO POST
CONNECTION DETAIL

1
S11

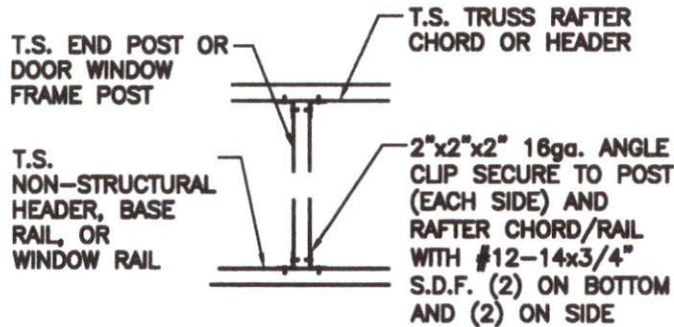
SCALE: 1/2" = 1'-0"



COLUMN / DOUBLE HEADER
CONNECTION DETAIL

1A
S11

SCALE: 1/2" = 1'-0"



DOOR OR WINDOW HEADER
RAIL TO POST CONNECTION
DETAIL

2
S11

SCALE: 1/2" = 1'-0"



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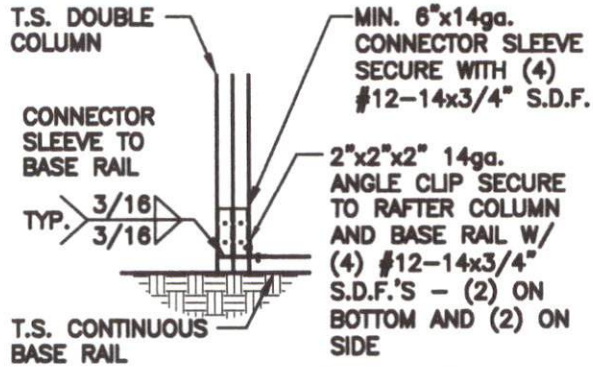
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S11

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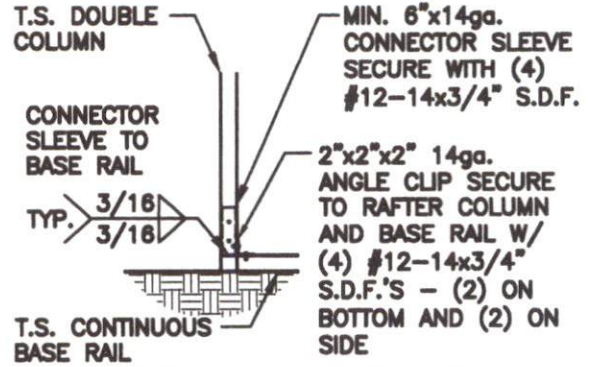
CONNECTION DETAILS



END COLUMN / BASE RAIL
CONNECTION DETAIL

1
S12

SCALE: 1/2" = 1'-0"



END COLUMN / BASE RAIL
CONNECTION DETAIL

1A
S12

SCALE: 1/2" = 1'-0"



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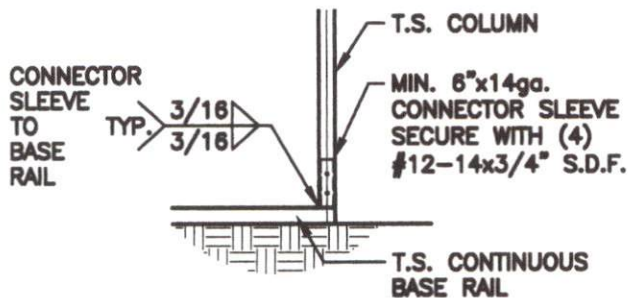
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S12

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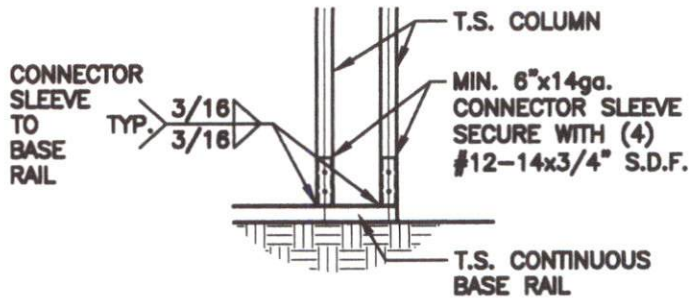
CONNECTION DETAILS



1
COLUMN / BASE RAIL
CONNECTION DETAIL

S13

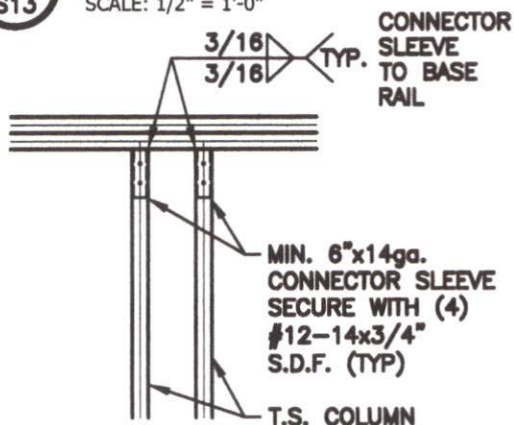
SCALE: 1/2" = 1'-0"



1A
COLUMN / BASE RAIL
CONNECTION DETAIL

S13

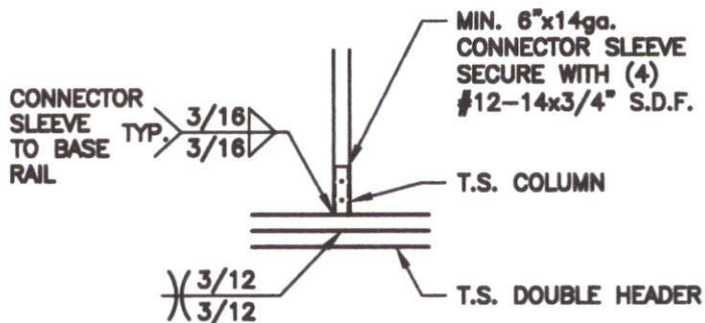
SCALE: 1/2" = 1'-0"



2
DOUBLE HEADER / COLUMN
CONNECTION DETAIL

S13

SCALE: 1/2" = 1'-0"



3
COLUMN / DOUBLE HEADER
CONNECTION DETAIL

S13

SCALE: 1/2" = 1'-0"



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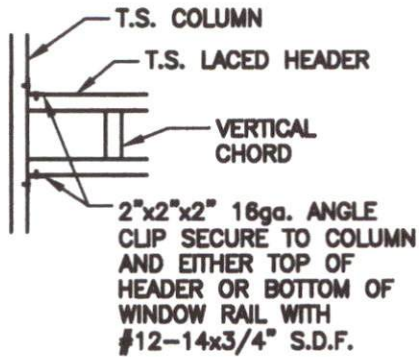
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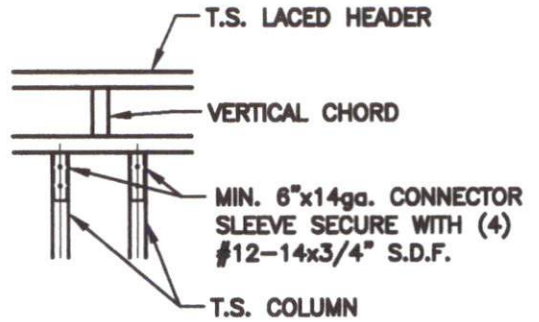
CONNECTION DETAILS



1
COLUMN / LACED HEADER
CONNECTION DETAIL

1
S14

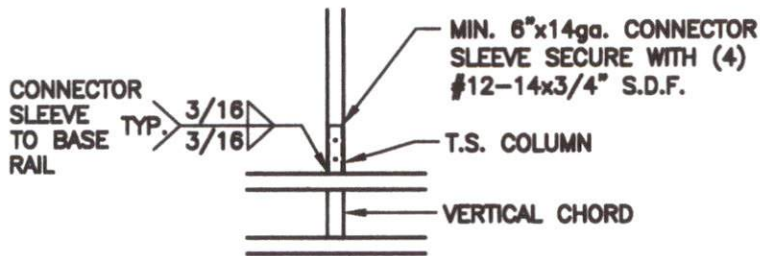
SCALE: 1/2" = 1'-0"



2
LACED HEADER / COLUMN
CONNECTION DETAIL

2
S14

SCALE: 1/2" = 1'-0"



3
COLUMN / LACED HEADER
CONNECTION DETAIL

3
S14

SCALE: 1/2" = 1'-0"



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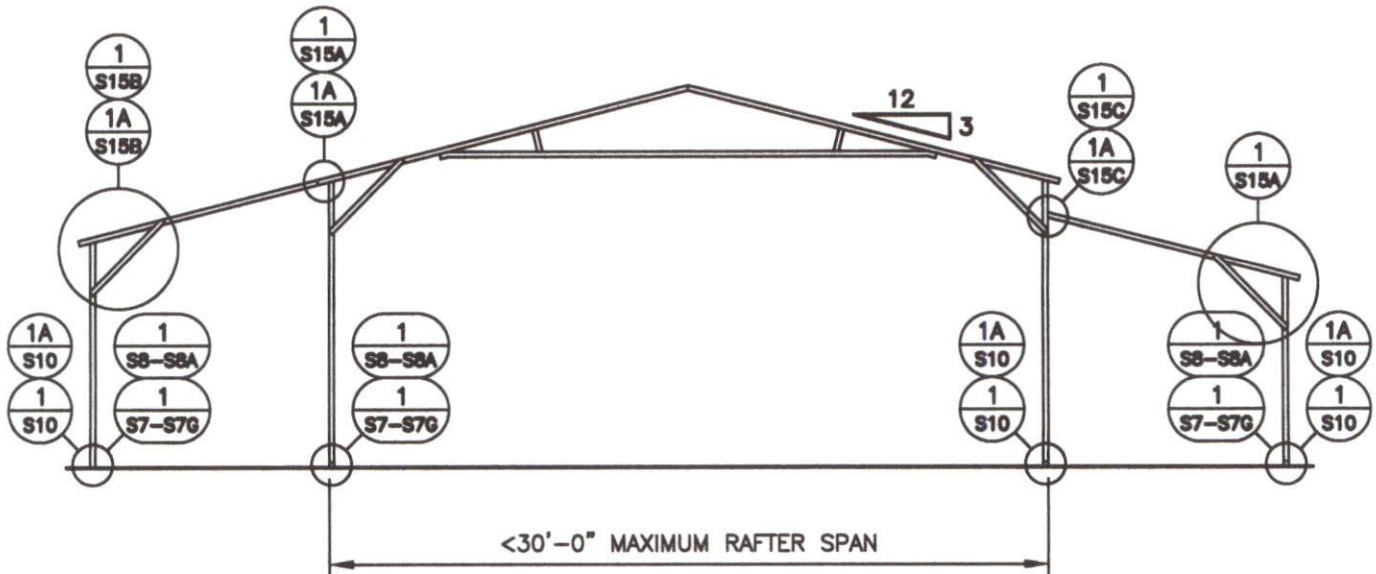
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BOX EVE RAFTER LEAN-TO OPTIONS



TYPICAL LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

MAXIMUM WIDTH OF SINGLE MEMBER ROOF EXTENSION AND LEAN-TO OPTION IS 12'-0"
 MAXIMUM WIDTH OF DOUBLE MEMBER ROOF EXTENSION AND LEAN-TO IS 15'-0"
 12'-0" MAX. LEAN-TO HEIGHT WITH SINGLE COLUMN
 16'-0" MAX. LEAN-TO HEIGHT WITH DOUBLE COLUMN



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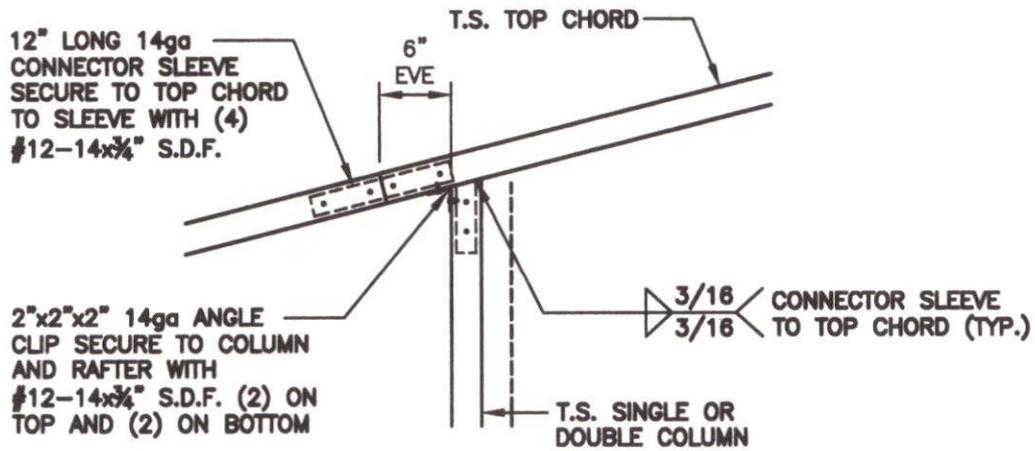
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S15

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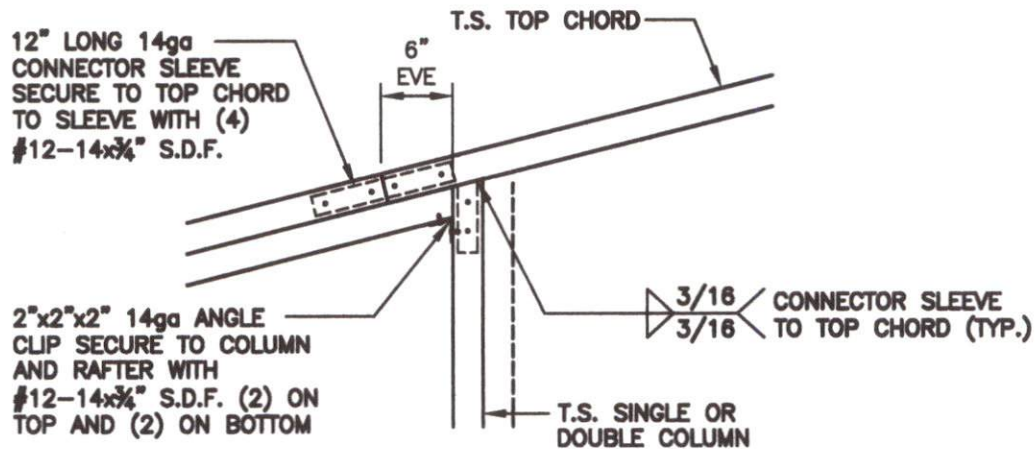
LEAN-TO CONNECTION DETAILS



ROOF EXTENSION RAFTER / CORNER POST
DETAIL FOR WIDTHS < 12'-0"

1
S15A

SCALE: 3/4" = 1'-0"



ROOF EXTENSION RAFTER / CORNER POST
DETAIL FOR WIDTHS < 15'-0"

1A
S15A

SCALE: 3/4" = 1'-0"



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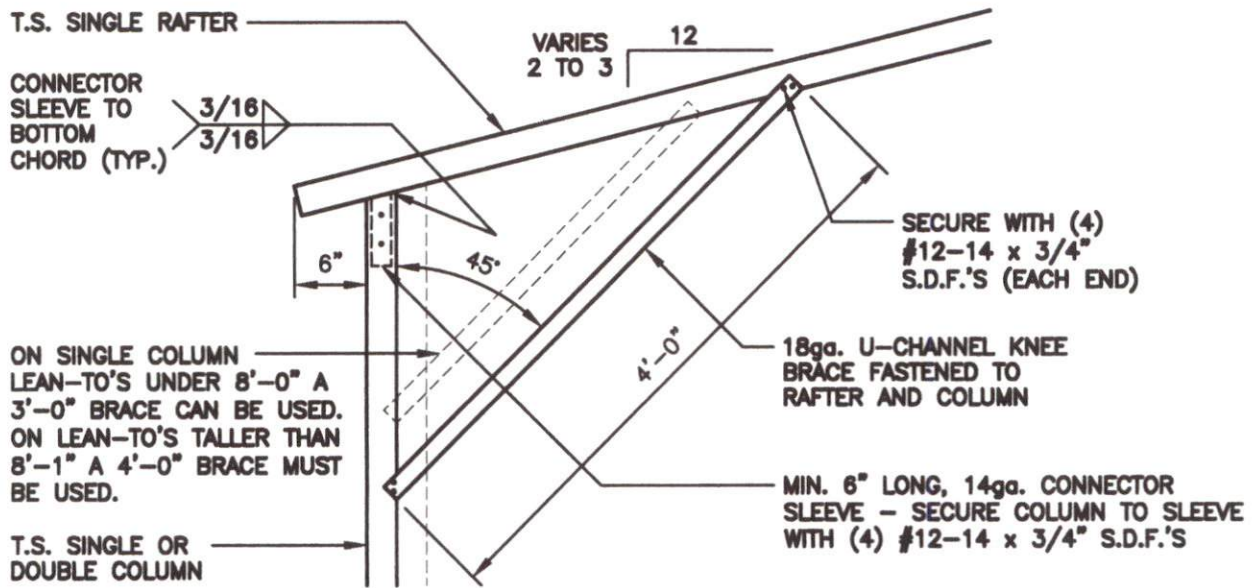
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SHEET NO:
S15A

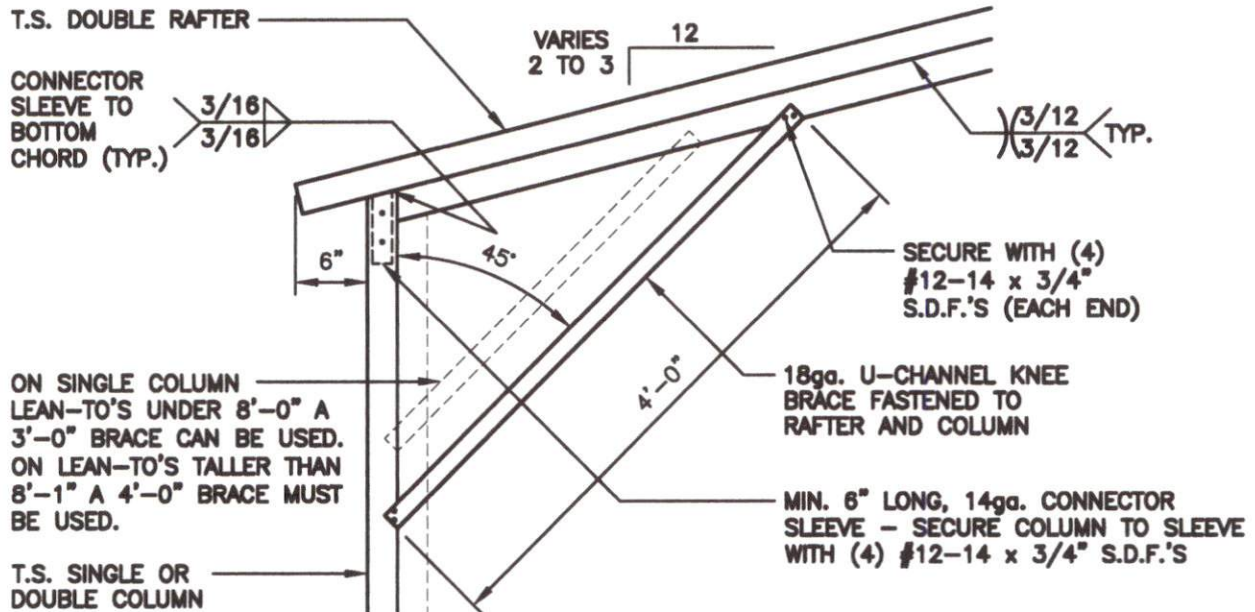
LEAN-TO CONNECTION DETAILS - SINGLE COLUMN



LEAN-TO SINGLE RAFTER / SINGLE COLUMN CONNECTION DETAIL

1
S15B

SCALE: 3/4" = 1'-0"



LEAN-TO DOUBLE RAFTER / SINGLE COLUMN CONNECTION DETAIL

1A
S15B

SCALE: 3/4" = 1'-0"



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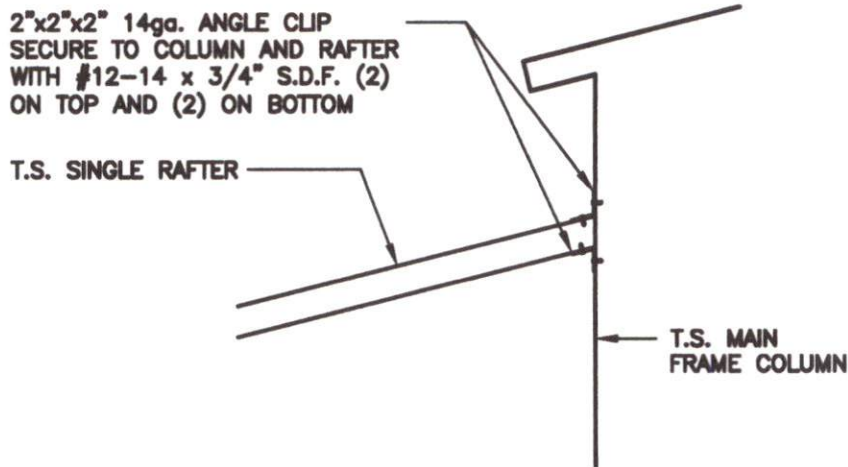
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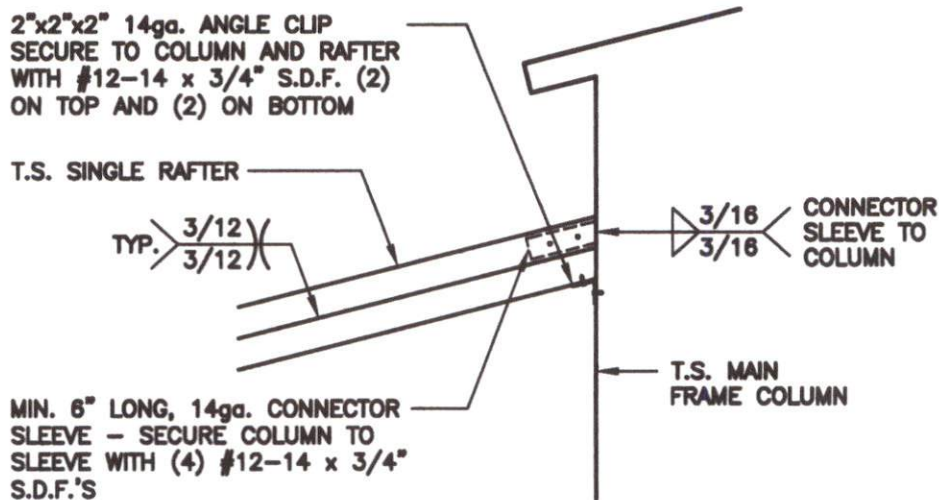
LEAN-TO / MAIN FRAME CONNECTION DETAILS



LEAN-TO SINGLE RAFTER / BUILDING FRAME CONNECTION DETAIL

1
S15C

SCALE: 3/4" = 1'-0"



LEAN-TO DOUBLE RAFTER / BUILDING FRAME CONNECTION DETAIL

1A
S15C

SCALE: 3/4" = 1'-0"



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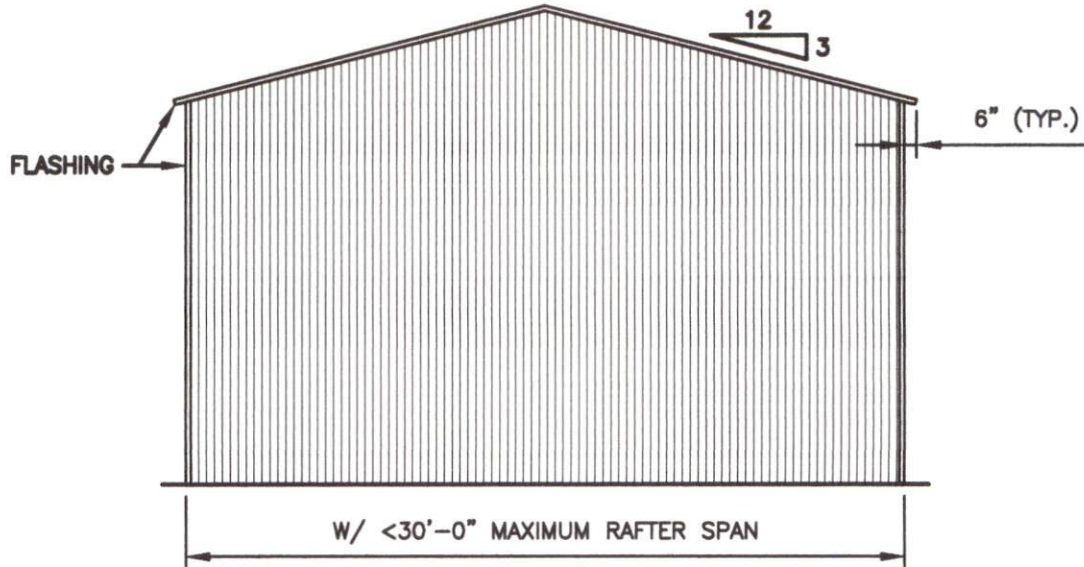
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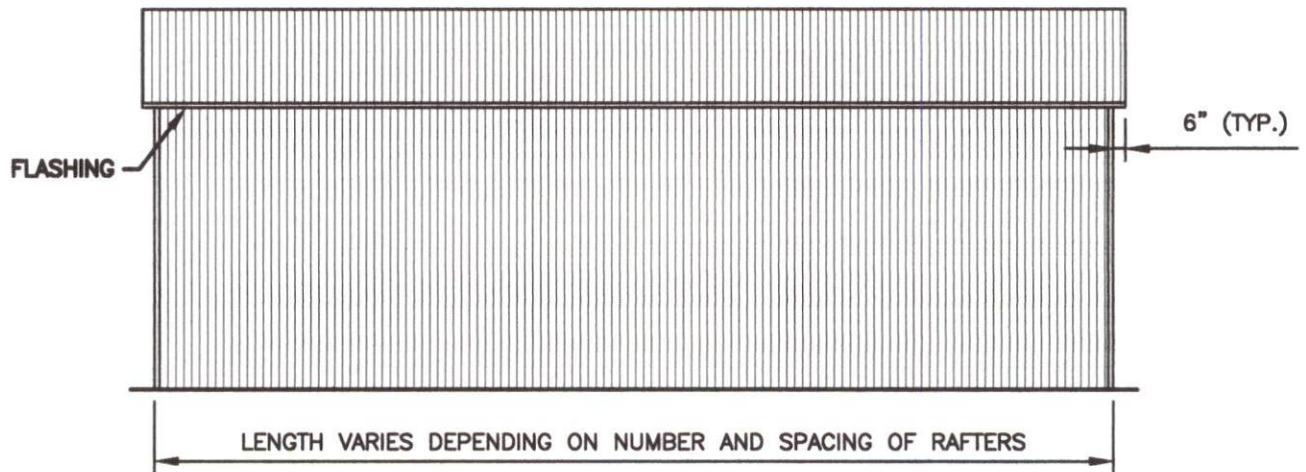
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VERTICAL ROOF / SIDING OPTION



TYPICAL END ELEVATION - VERTICAL ROOF / SIDING



TYPICAL SIDE ELEVATION - VERTICAL ROOF / SIDING



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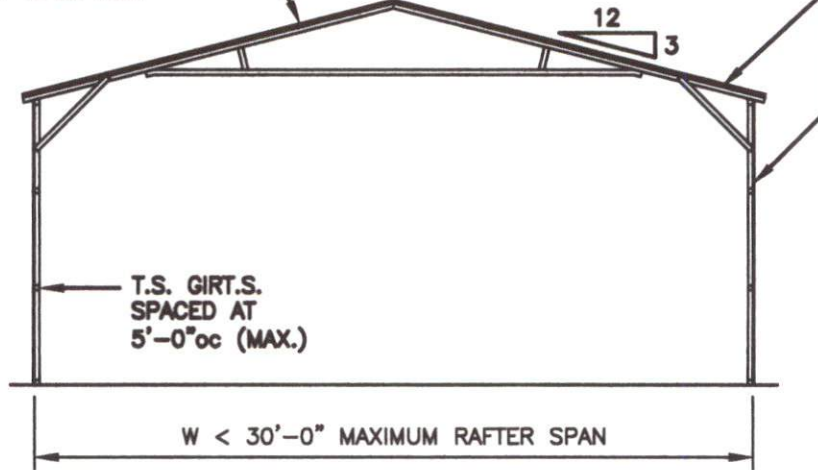
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VERTICAL ROOF / SIDING OPTION

1.125"-18ga. HAT CHANNELS
FASTENED TO EACH RAFTER
WITH (2) #12-14x3/4" S.D.F.
SPACED AT 4'-0"oc MAX.

29ga. GALVANIZED METAL
ROOF AND WALL PANELS
FASTENED TO HAT
CHANNELS AND GIRT.S.



TYPICAL SECTION VERTICAL ROOF / SIDING OPTION

NOTE:
H.S.S. 2-1/2"x2-1/2"x14ga. OR
2-1/4"x2-1/4"x14ga. MATERIAL
MAY BE USED FOR TRUSS METAL.



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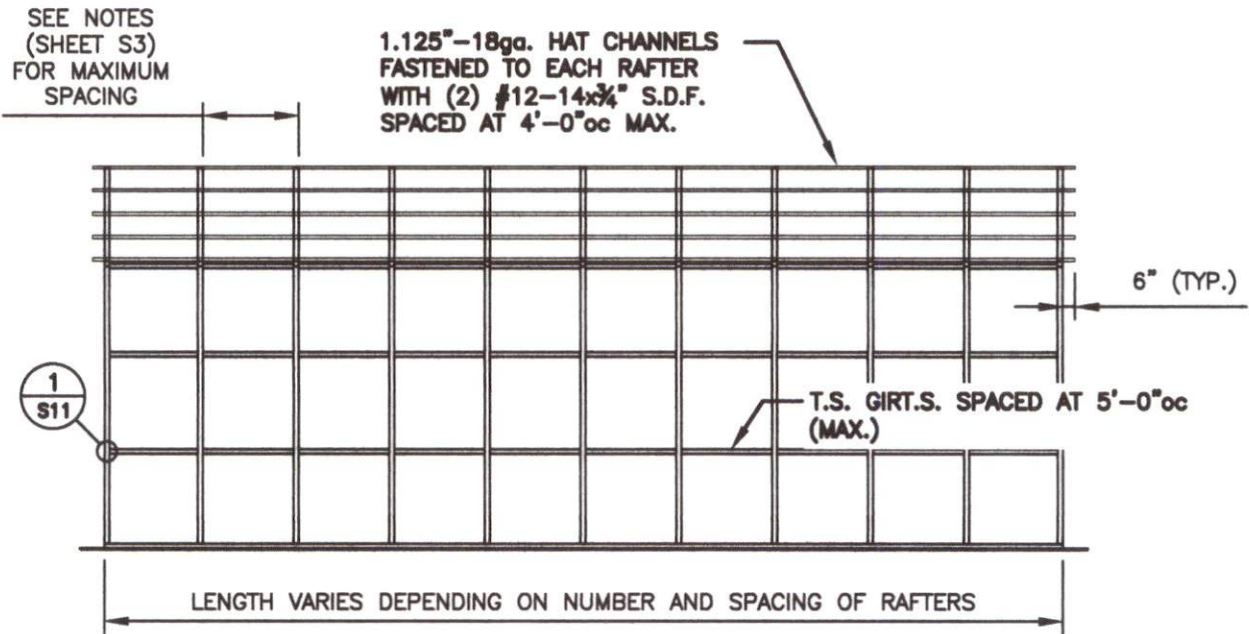
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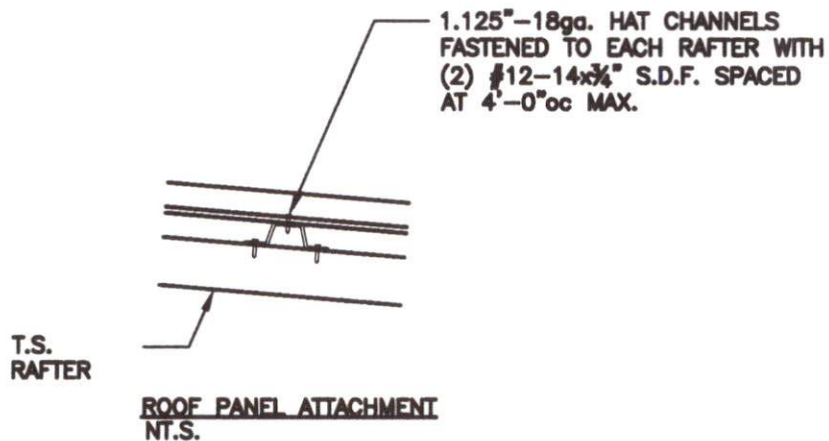
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S16A

VERTICAL ROOF / SIDING OPTION



TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION



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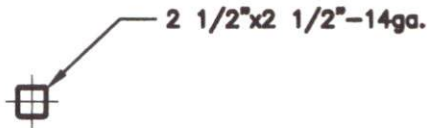
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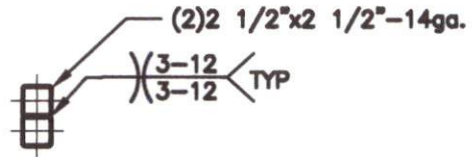
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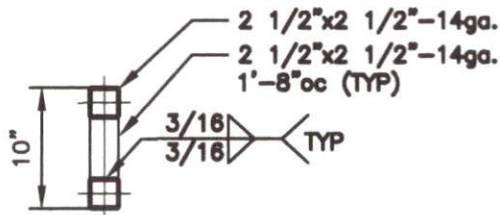
SIDE WALL HEADER OPTIONS



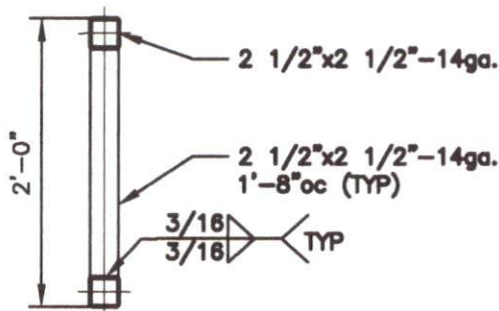
**HEADER DETAIL FOR DOOR
OPENINGS < 4'-0"**
NT.S.



**HEADER DETAIL FOR DOOR
OPENINGS 4'-1" < TO < 12'-0"**
NT.S.



**LACED HEADER DETAIL FOR DOOR
OPENINGS 12'-1" < TO < 15'-0"**
NT.S.



**LACED HEADER DETAIL FOR DOOR
OPENINGS 15'-1" < TO < 20'-0"**



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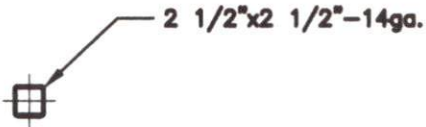
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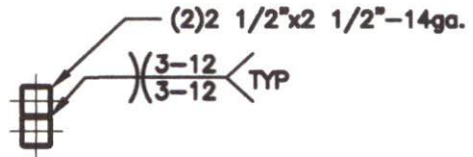
DATE:
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SHEET NO:
S17

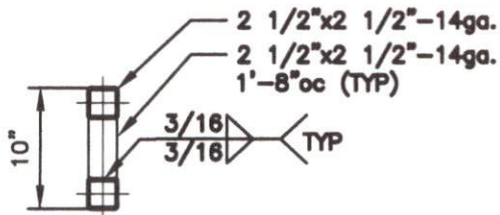
END WALL HEADER OPTIONS



**HEADER DETAIL FOR DOOR
OPENINGS < 7'-0"**
NT.S.



**HEADER DETAIL FOR DOOR
OPENINGS 7'-1" < TO < 16'-0"**
NT.S.



**LACED HEADER DETAIL FOR DOOR
OPENINGS 16'-1" < TO < 20'-0"**
NT.S.



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