

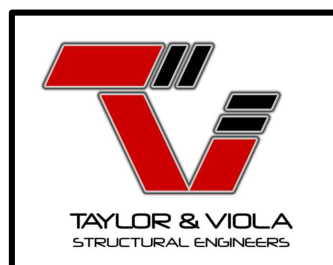
### ENCLOSED GABLE END BUILDING

MAXIMUM 30'-0" WIDE X 16'-0" EAVE HEIGHT WITH BOX FRAME / (UP TO) 145 M.P.H. WIND ZONE - 43.5 P.S.F. SNOW LOAD

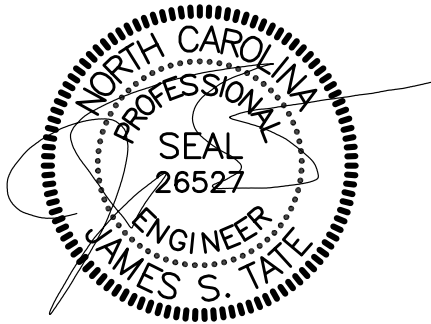
FOR:

ULTIMATE CHOICE STRUCTURES, LLC  
159 SUMMERFIELD LANE  
MT. AIRY, NORTH CAROLIN 27030

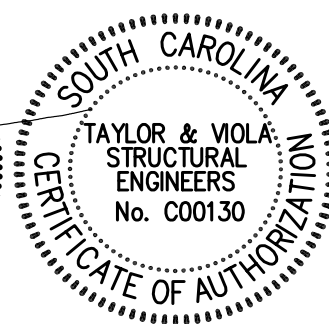
ISSUE DATE: JULY 12, 2023



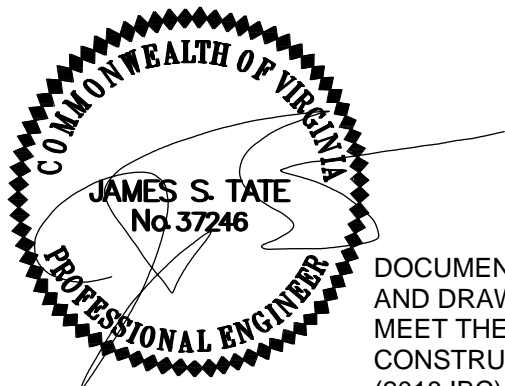
NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDAR YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.



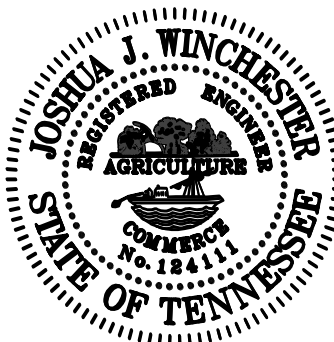
DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 NC BUILDING CODE (2015 IBC)



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)



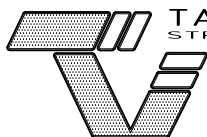
DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2012 IBC



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



DOCUMENTS DESIGNED AND DRAWN TO  
MEET THE 2018 IBC



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STRUCTURAL ENGINEERS

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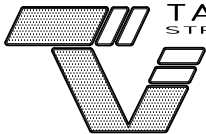
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BKS

PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S1**

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U L T I M A T E   C H O I C E  
S T R U C T U R E S ,   L L C

159 SUMMERFIELD LANE  
MOUNT AIRY, NORTH CAROLINA 27030

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**BKS**

**PROJECT NO:**  
**23-527**

**DATE:**  
**2023.07.12**

**SHEET NO:**  
**S1**

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# SHEET INDEX

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S0	SEALED COVER SHEET
S1	P.E. SEALS SHEET
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 SECTIONS (6:12)
S5C	TYPICAL RAFTER / COLUMN FRAME SECTIONS (6:12)
S5D	TYPICAL RAFTER / COLUMN FRAME SIDE FRAME SECTION
S6	BOX EAVE / POST CONNECTION
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S6C	BOX EAVE / POST CONNECTION (3')
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S7	BASE RAIL ANCHORAGE
S7A	BASE RAIL ANCHORAGE (NO SLAB)
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S12	CONNECTION DETAILS
S13	CONNECTION DETAILS
S14	CONNECTION DETAILS
S15	LEAN-TO OPTIONS
S15A	LEAN-TO CONNECTION DETAILS
S15B	LEAN-TO CONNECTION DETAILS
S15C	LEAN-TO CONNECTION DETAILS
S15D	LEAN-TO CONNECTION DETAILS (TRUSS)
S15E	LEAN-TO CONNECTION DETAILS (TRUSS)
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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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**23-527**

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**SHEET NO:**  
**S2**

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

DESIGN LOADS:

IMPORTANCE FACTORS	WIND	(1w)	<u>1.00</u>	
	SNOW	(1s)	<u>1.00</u>	
	SEISMIC	(1e)	<u>1.00</u>	
DEAD LOADS	ROOF		<u>13</u>	P.S.F.
	ROOF COLLATERAL		<u>0</u>	P.S.F.
LIVE LOADS	ROOF		<u>20</u>	P.S.F.
GROUND SNOW LOAD:			<u>43.5</u>	P.S.F. * DRIFT LOAD HAS NOT BEEN CALCULATED
WIND LOAD:	BASIC WIND SPEED	<u>V 145</u>		M.P.H. (ASCE 7-16)
	EXPOSURE CATEGORY	<u>B</u>		

SEISMIC DESIGN CATEGORY A

COMPLIANCE WITH SECTION 1616.4? ☒ NO ☐ YES

SEISMIC DESIGN CATEGORY C

PROVIDE THE FOLLOWING SEISMIC DESIGN PARAMETERS:

OCCUPANCY CATEGORY I

SPECTRAL RESPONSE ACCELERATION Ss 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 ☒ EQUIVALANT LATERAL FORCE ☐ MODAL

LATERAL DESIGN CONTROL? ☒ EARTHQUAKE (UP TO 145 M.P.H.) ☒ WIND (UP TO 145 M.P.H.)

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 14 GA. 50 KSI MIN. UNLESS NOTED OTHERWISE.
4. ALL FASTENERS SHALL BE (2) #12 SELF TAPPING AT 9"o.c. UNLESS NOTED OTHERWISE.
5. 2,000 PSF ASSUMED BEARING CAPACITY UNLESS NOTED OTHERWISE.
6. ALLOWABLE GROUND SNOW LOAD CAN BE 43.5 WITH MAXIMUM FRAME SPACING AT 48"oc.



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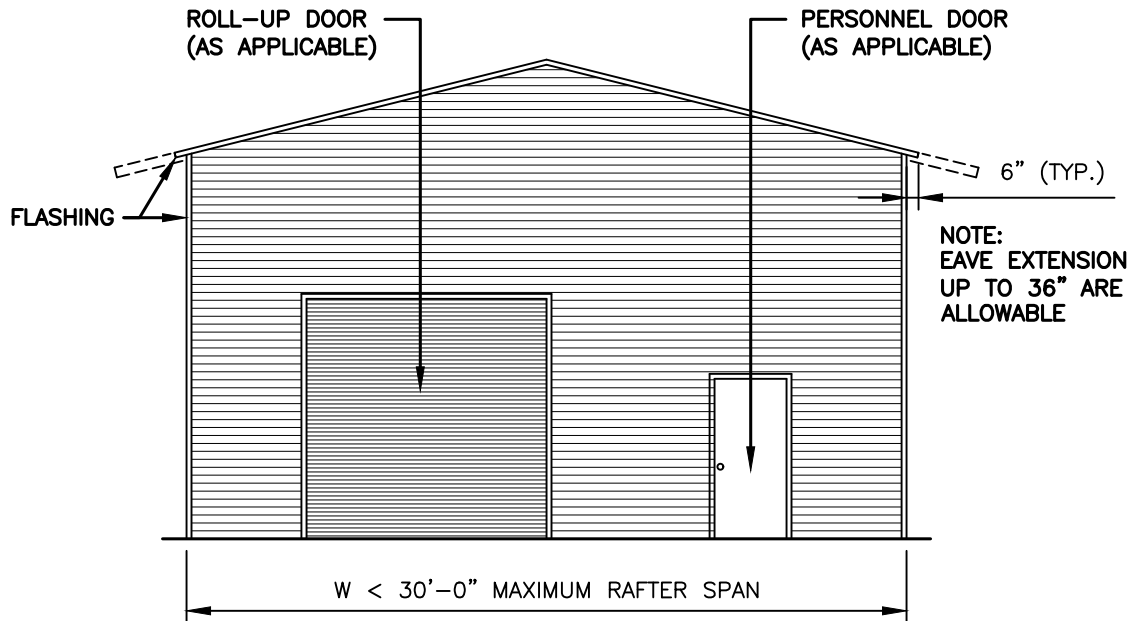
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23-527

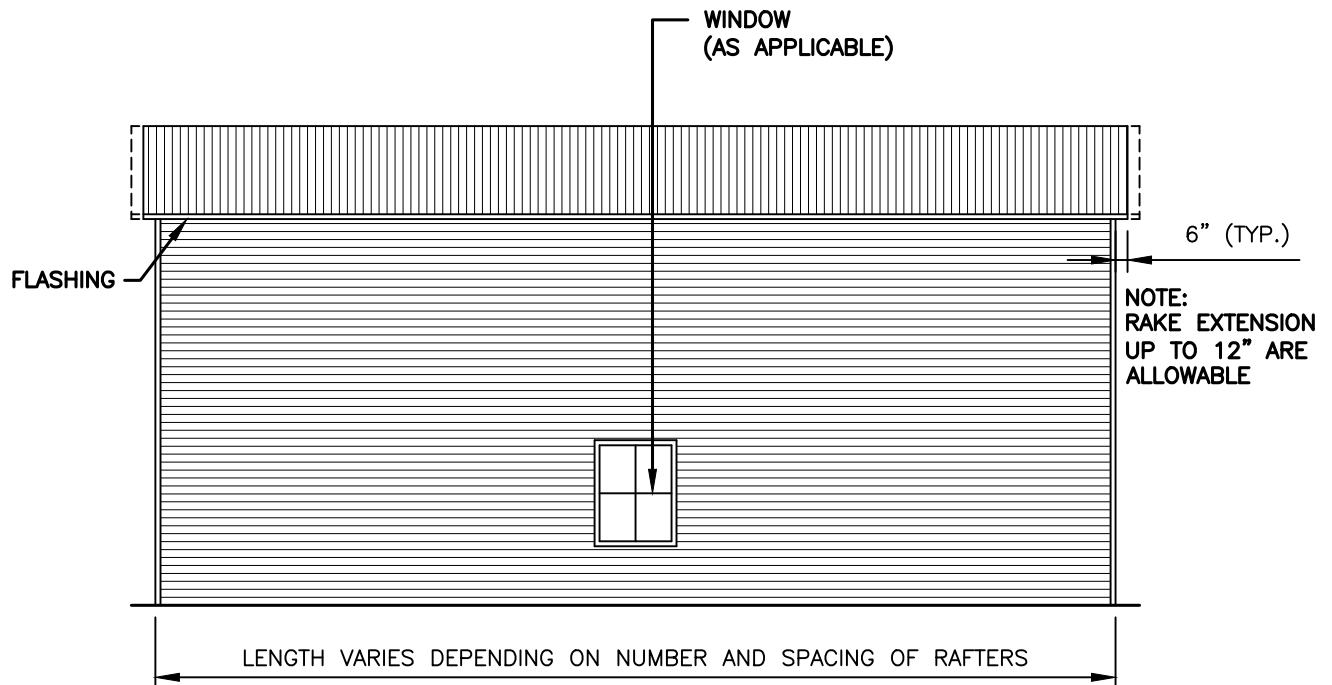
DATE:  
2023.07.12

SHEET NO:  
**S3**

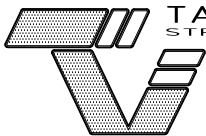
## BOX EVE FRAME RAFTER STURCTURE



TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION



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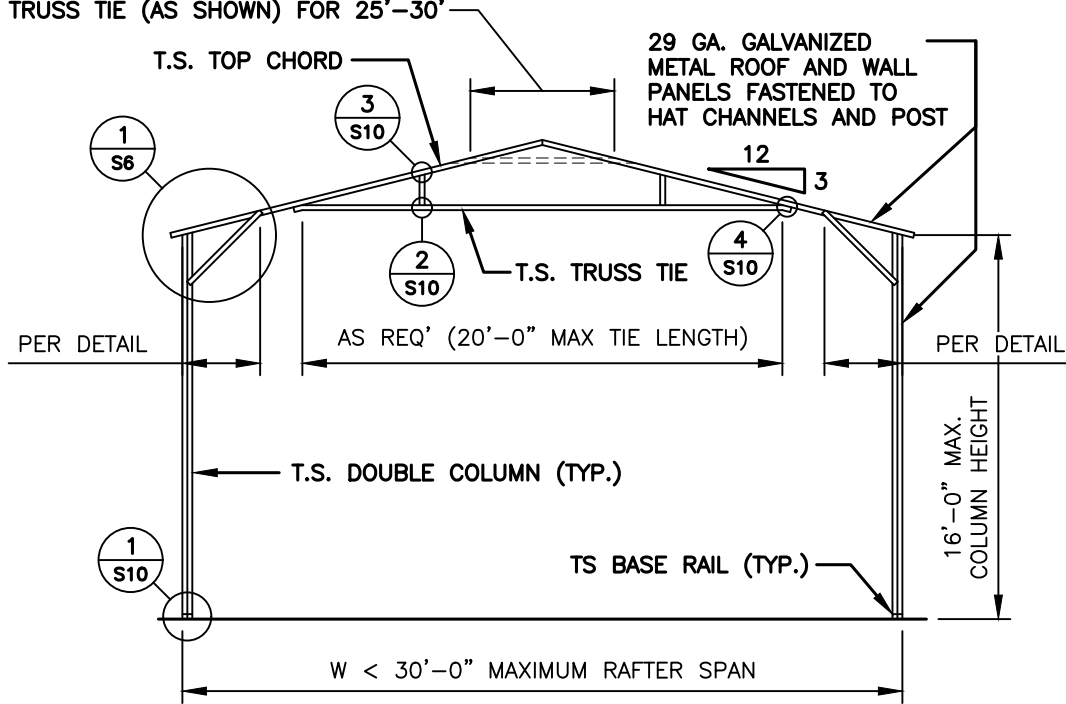
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**S4**

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

**'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**

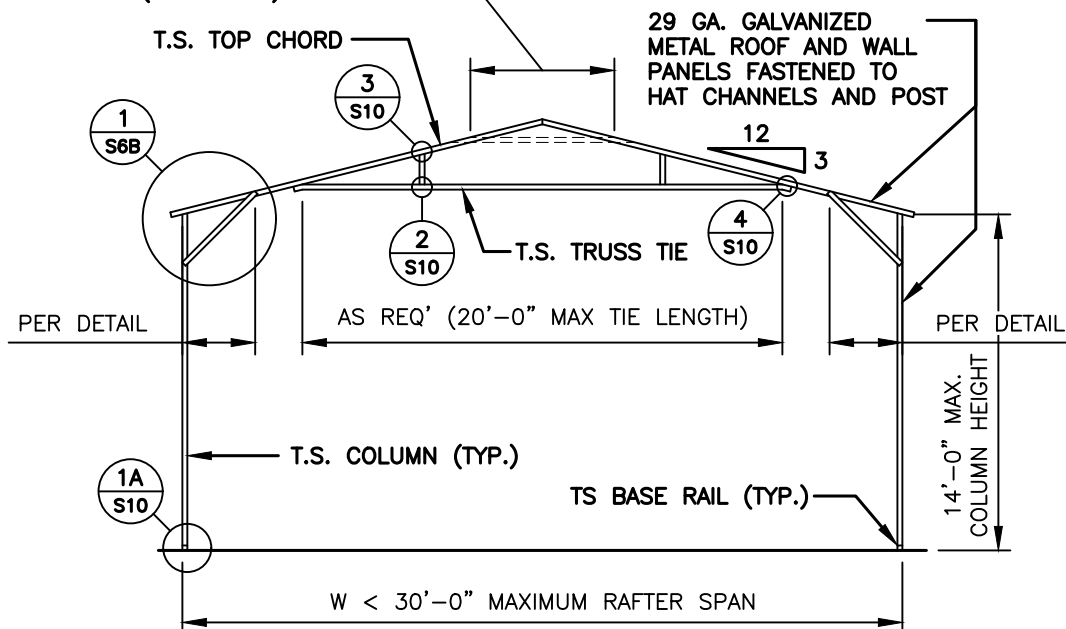
**'U' BRACE TRUSS TIE - NOTE:**

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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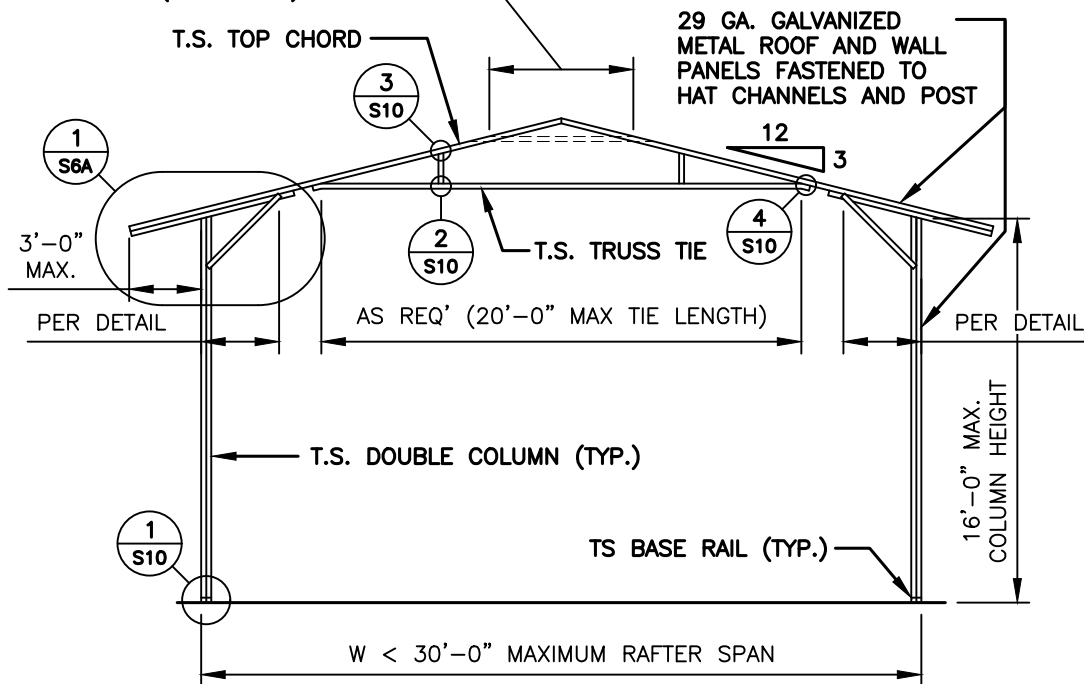
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**23-527**

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**2023.07.12**

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**S5**

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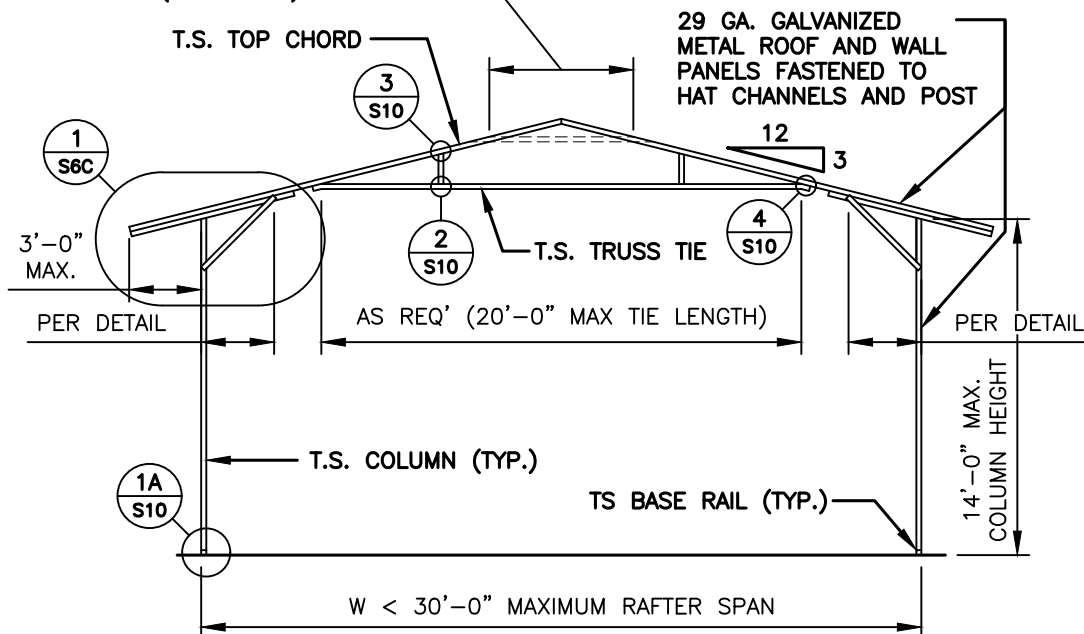
'U' BRACE TRUSS TIE - NOTE:  
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 20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'



**TYPICAL RAFTER / COLUMN FRAME SECTION**

'U' BRACE TRUSS TIE - NOTE:  
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 MATERIAL MAY BE USED FOR TRUSS METAL.



**TYPICAL RAFTER / COLUMN FRAME SECTION**



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**DRAWN BY:**  
**BKS**

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**23-527**

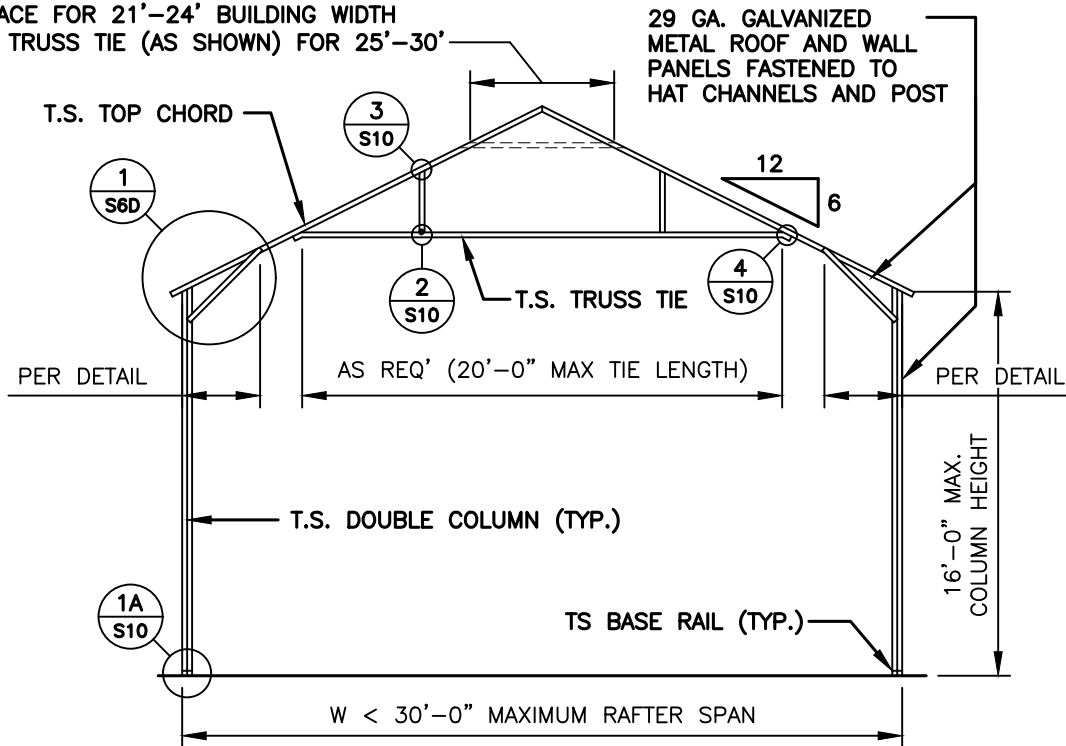
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**2023.07.12**

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



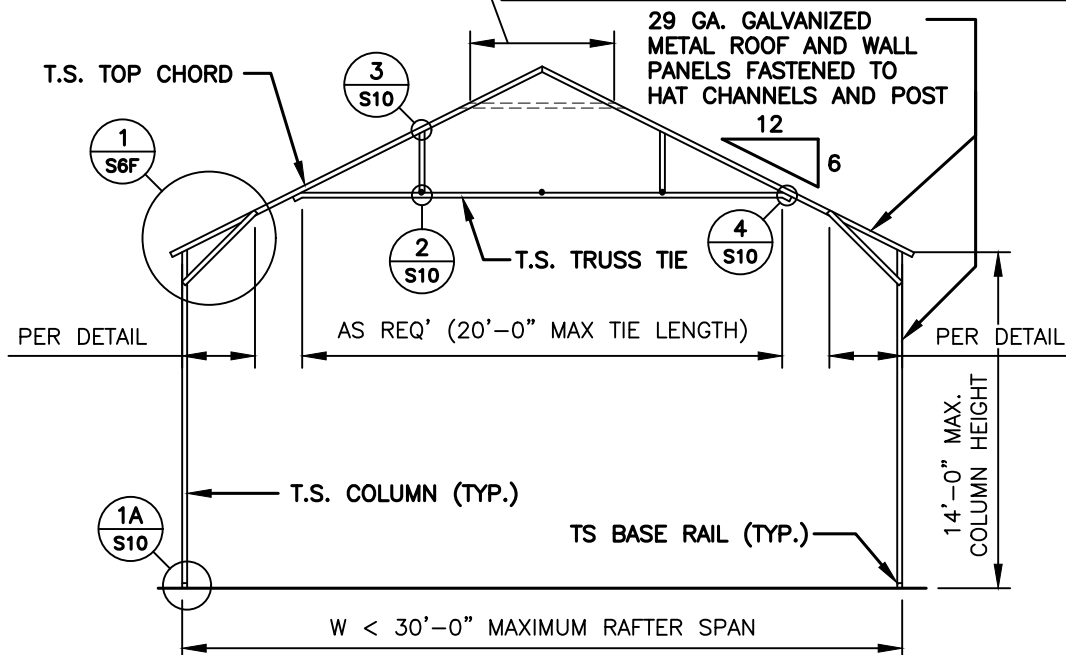
'U' BRACE TRUSS TIE - NOTE:  
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20' TUBE TRUSS TIE (AS SHOWN) FOR 25'-30'



**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:  
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MATERIAL MAY BE USED FOR TRUSS METAL.



**TYPICAL RAFTER / COLUMN FRAME SECTION**



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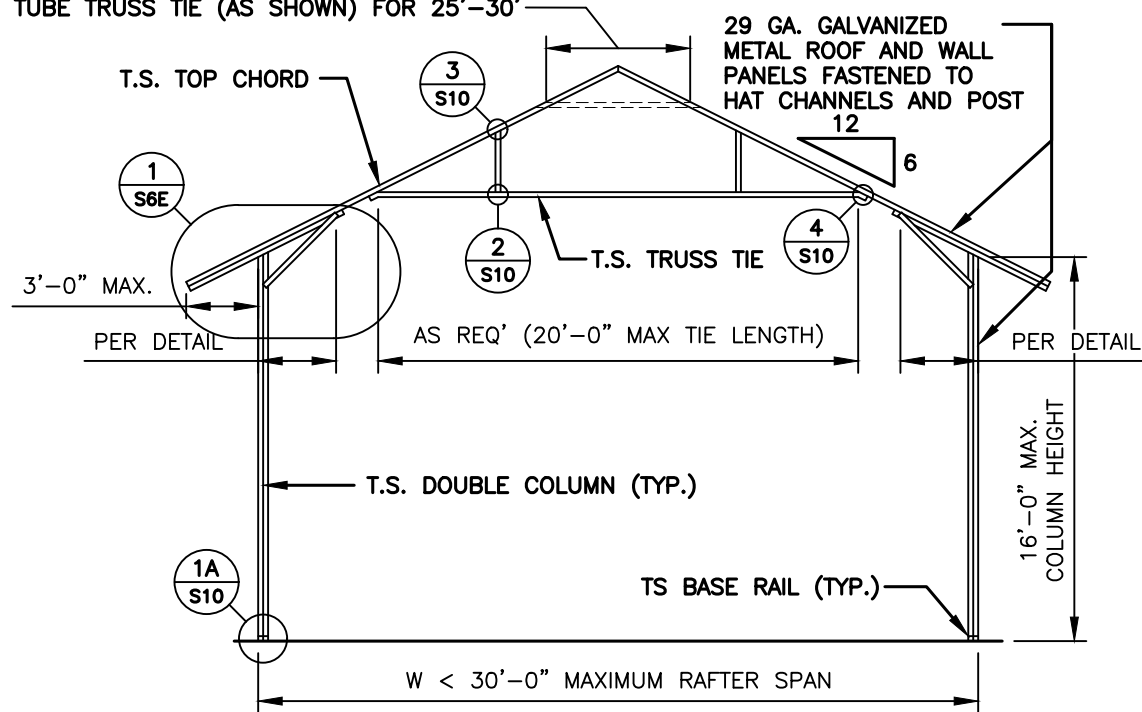
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**23-527**

**DATE:**  
**2023.07.12**

**SHEET NO:**  
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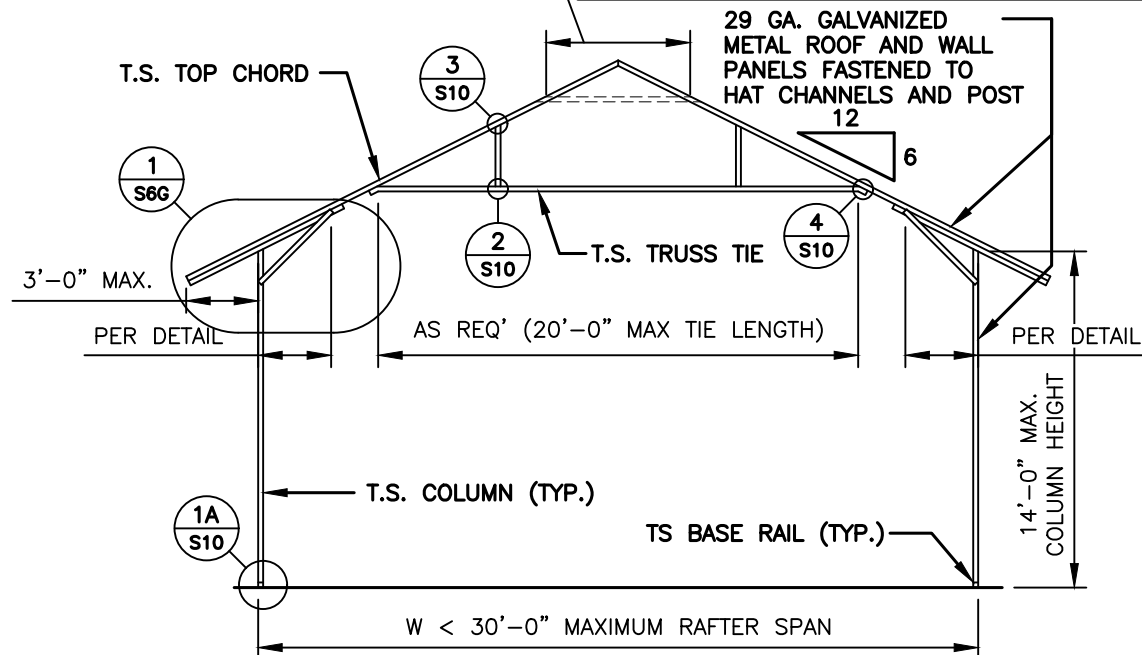
'U' BRACE TRUSS TIE - NOTE:  
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**TYPICAL RAFTER / COLUMN FRAME SECTION**

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**TYPICAL RAFTER / COLUMN FRAME SECTION**



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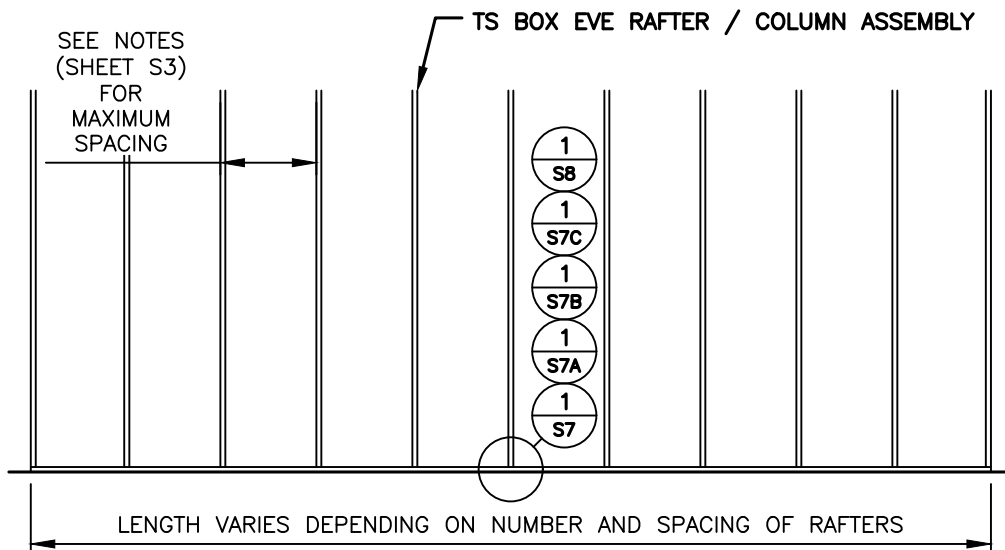
PROJECT NO:  
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DATE:  
 2023.07.12

SHEET NO:  
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2-1/4"x2-1/4"x14ga. MATERIAL  
MAY BE USED FOR TRUSS METAL.



TYPICAL RAFTER / COLUMN SIDE FRAME SECTION

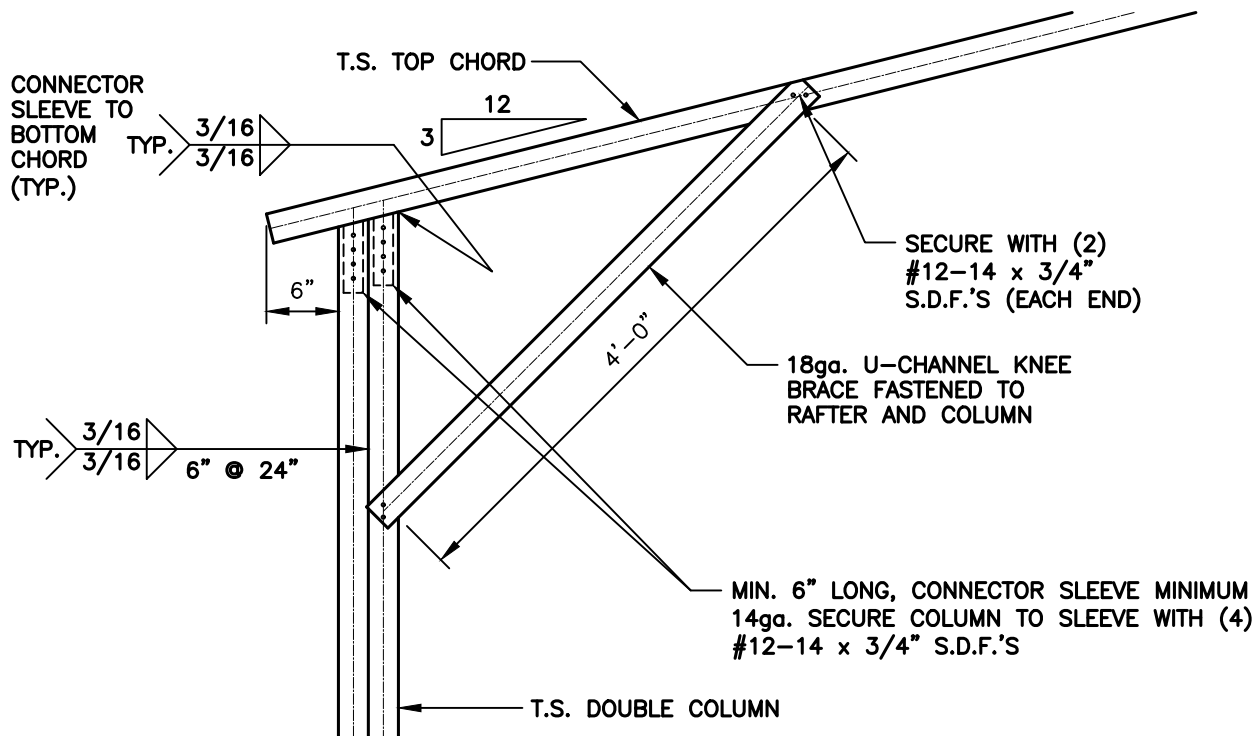


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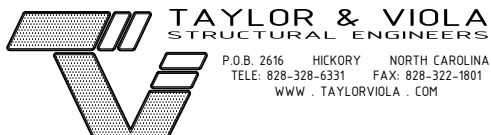
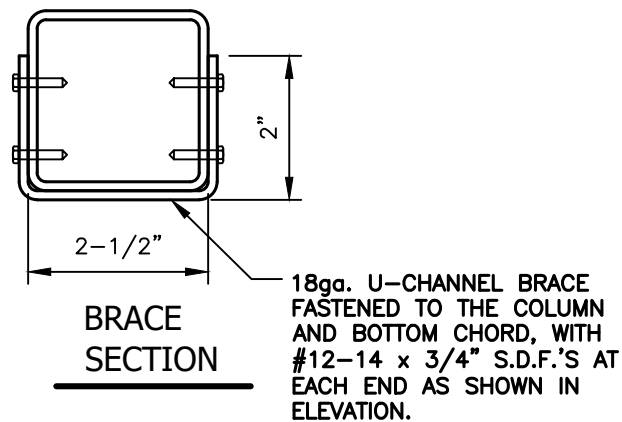
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DATE: 2023.07.12	SHEET NO: <b>S5D</b>

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1 BOX EAVE / POST CONNECTION DETAIL FOR HEIGHTS 14'-1" < TO <16'-0"

S6 SCALE: 3/4" = 1'-0"



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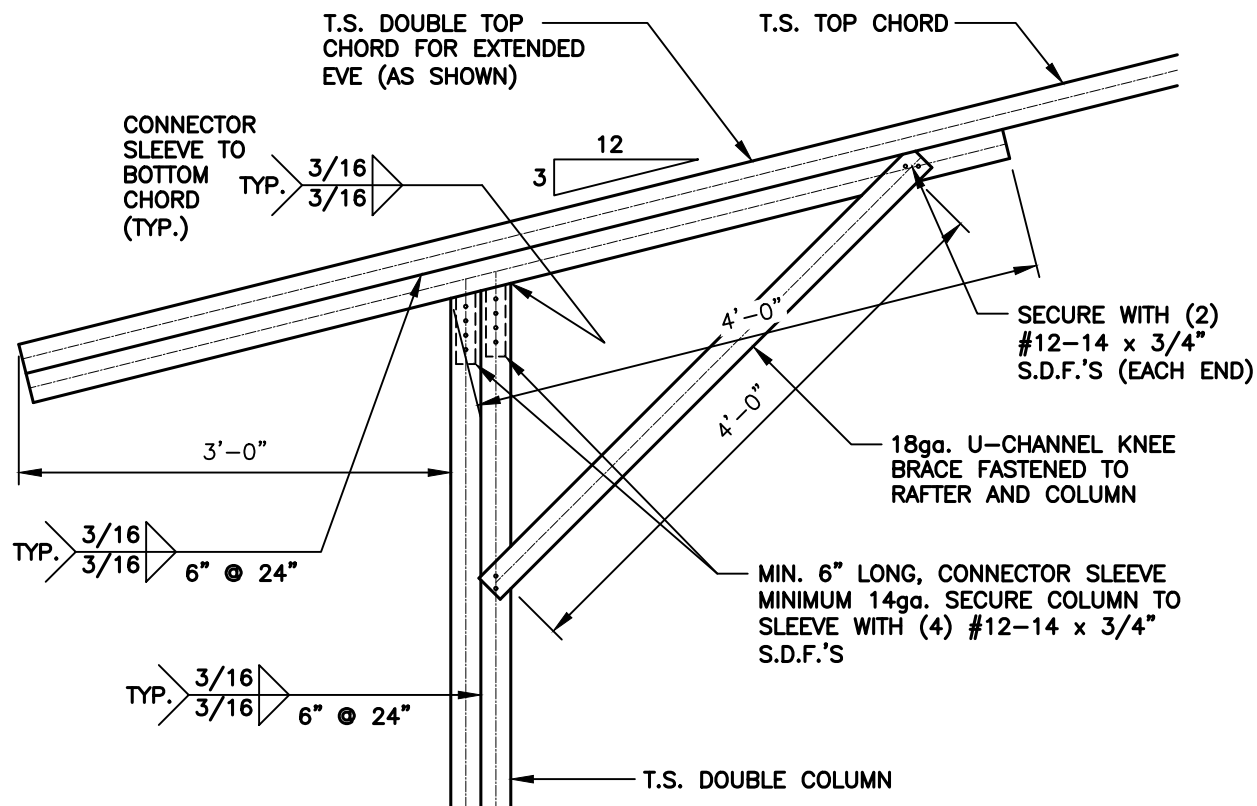
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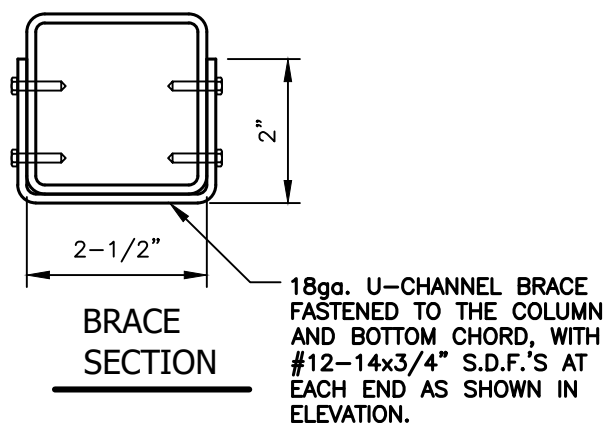
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**S6**

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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS 14'-1" < TO <16'-0"

S6A SCALE: 3/4" = 1'-0"



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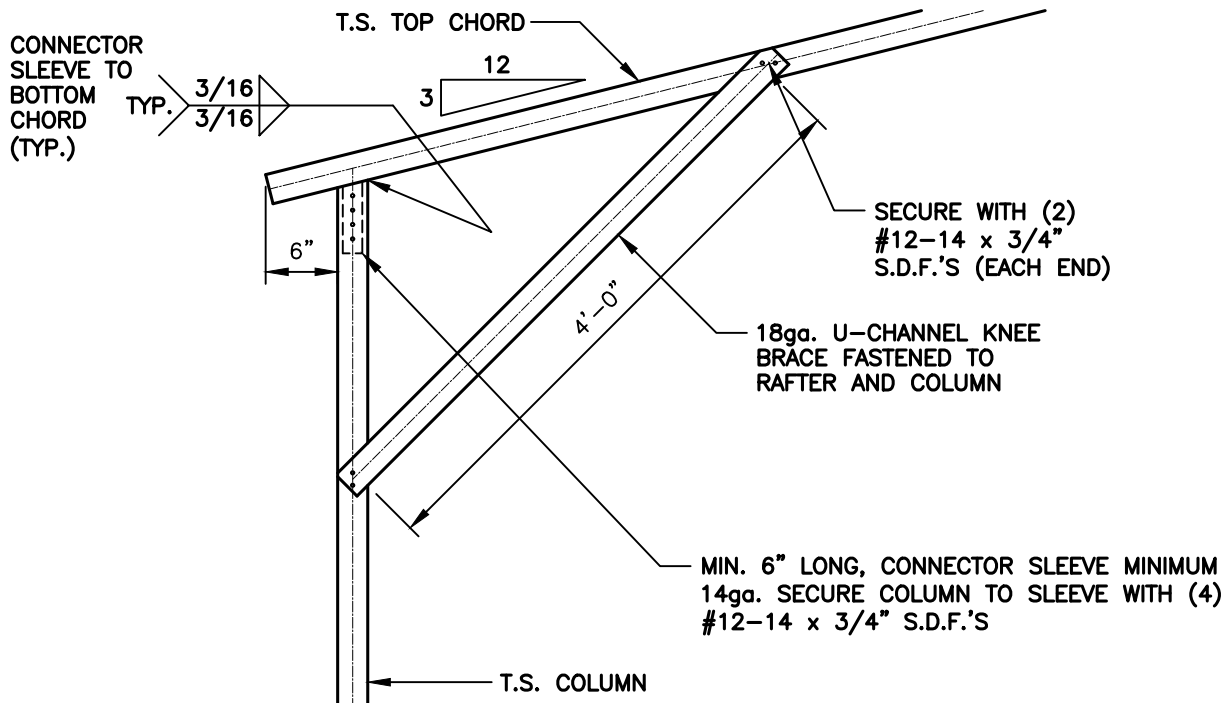
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**PROJECT NO:**  
**23-527**

**DATE:**  
**2023.07.12**

**SHEET NO:**  
**S6A**

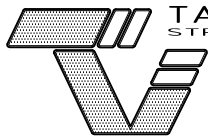
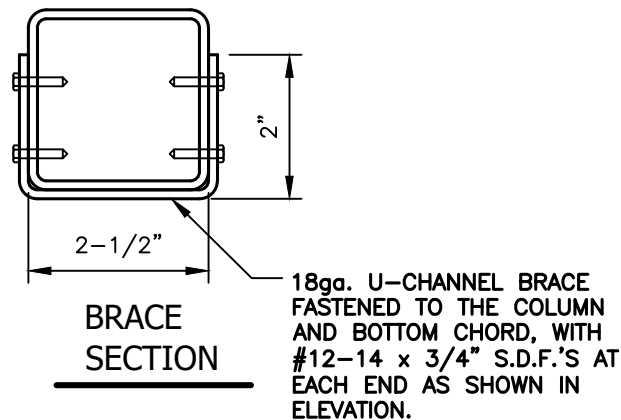
NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDAR YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.



1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS < 14'-0"

S6B

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



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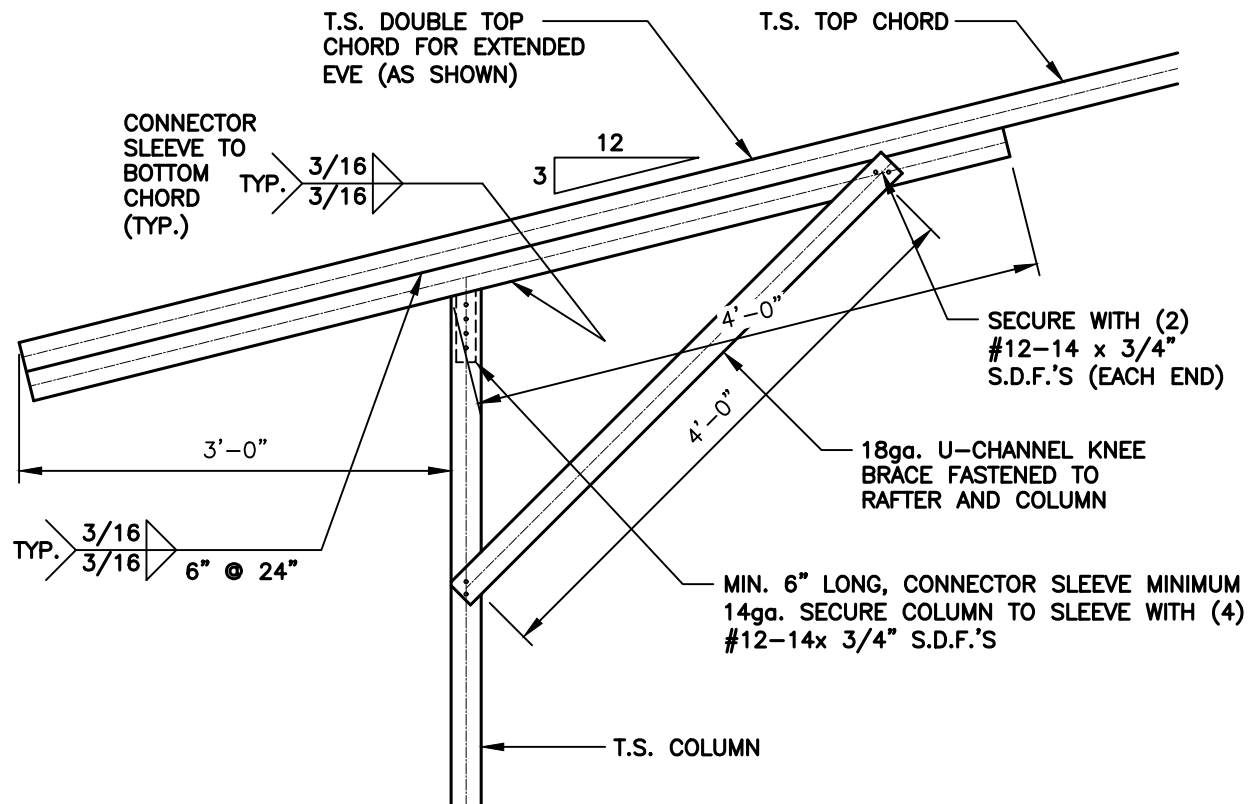
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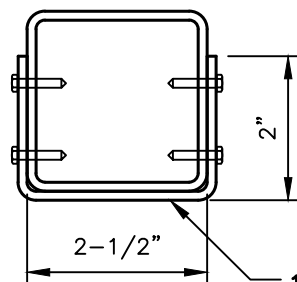
SHEET NO:  
**S6B**

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1 BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS < 14'-0"

S6C SCALE: 3/4" = 1'-0"



BRACE SECTION

18ga. U-CHANNEL BRACE FASTENED TO THE COLUMN AND BOTTOM CHORD, WITH #12-14 x 3/4" S.D.F.'S AT EACH END AS SHOWN IN ELEVATION.



ULTIMATE CHOICE  
STRUCTURES, LLC

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SHEET NO:  
**S6C**

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CONNECTOR  
SLEEVE TO  
BOTTOM  
CHORD  
(TYP.)

TYP.  $\frac{3}{16}$   
 $\frac{3}{16}$

T.S. TOP CHORD

12

6

SECURE WITH (2)  
#12-14 x  $\frac{3}{4}$ "  
S.D.F.'S (EACH END)

18ga. U-CHANNEL KNEE  
BRACE FASTENED TO  
RAFTER AND COLUMN

MIN. 6" LONG, CONNECTOR SLEEVE MINIMUM  
14ga. SECURE COLUMN TO SLEEVE WITH (4)  
#12-14 x  $\frac{3}{4}$ " S.D.F.'S

T.S. COLUMN

6"

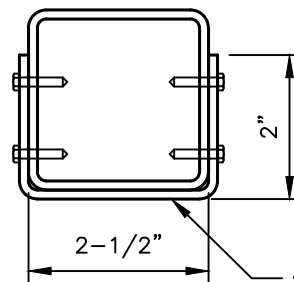
4'-0"

1

BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS 14'-1" < TO <16'-0"

S6D

SCALE:  $\frac{3}{4}$ " = 1'-0"



BRACE  
SECTION

18ga. U-CHANNEL BRACE  
FASTENED TO THE COLUMN  
AND BOTTOM CHORD, WITH  
#12-14 x  $\frac{3}{4}$ " S.D.F.'S AT  
EACH END AS SHOWN IN  
ELEVATION.



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ULTIMATE CHOICE  
STRUCTURES, LLC

159 SUMMERFIELD LANE  
MOUNT AIRY, NORTH CAROLINA 27030

DRAWN BY:  
BKS

PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
S6D

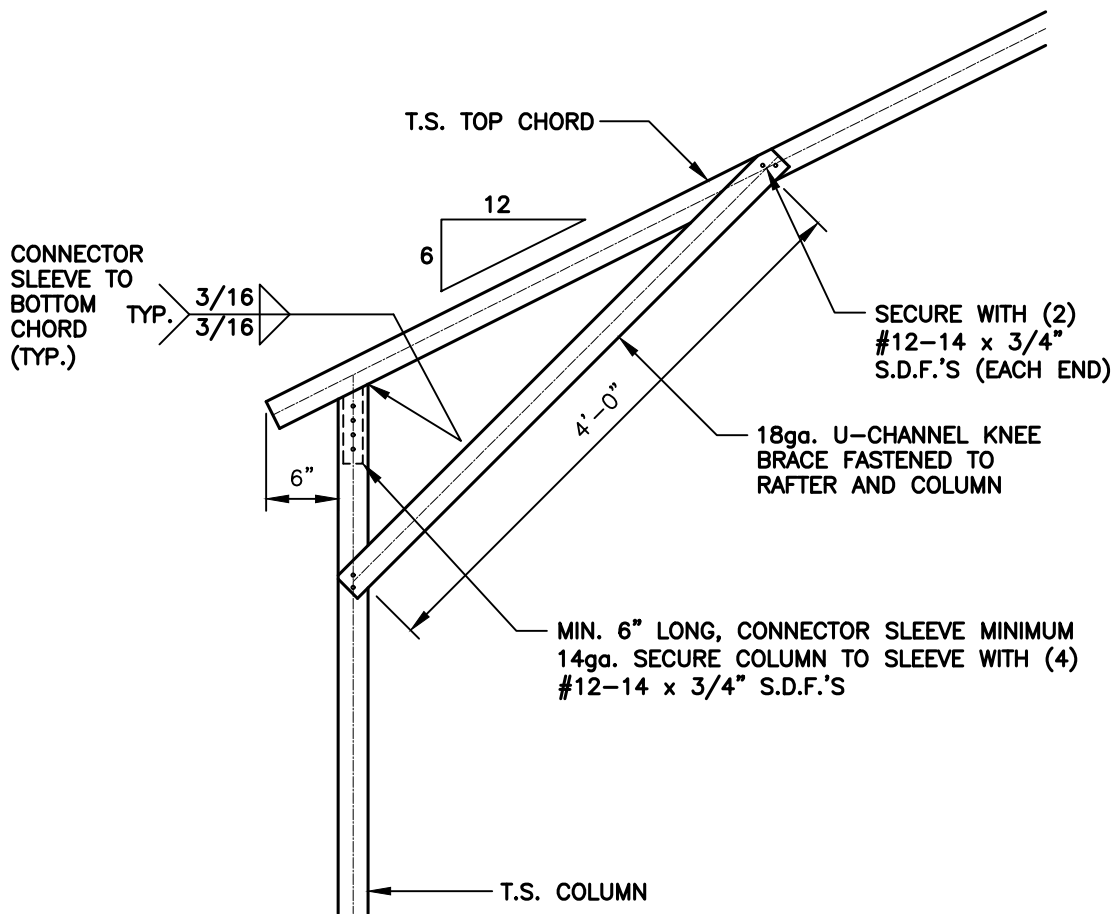
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**S6E**

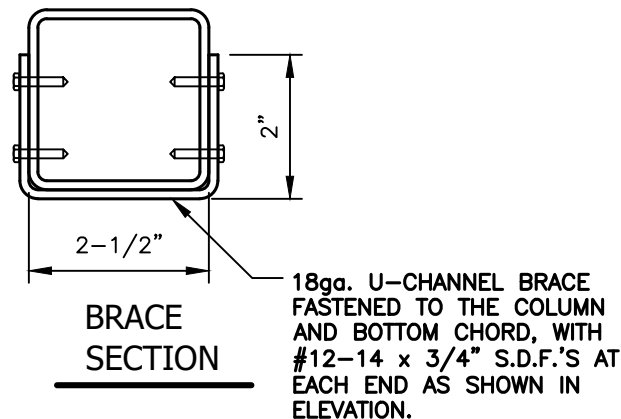
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**1** BOX EAVE / CORNER POST CONNECTION DETAIL FOR HEIGHTS < 14'-0"

S6F

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



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**2023.07.12**

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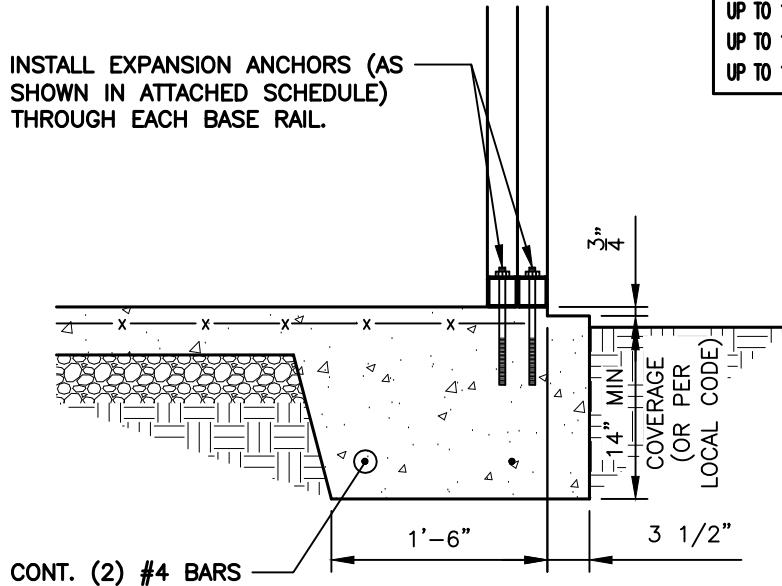


**SHEET NO:**  
**S6G**

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## CONCRETE BASE RAIL ANCHORAGE

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 115 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 125 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 135 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR
UP TO 145 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR



### 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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MOUNT AIRY, NORTH CAROLINA 27030

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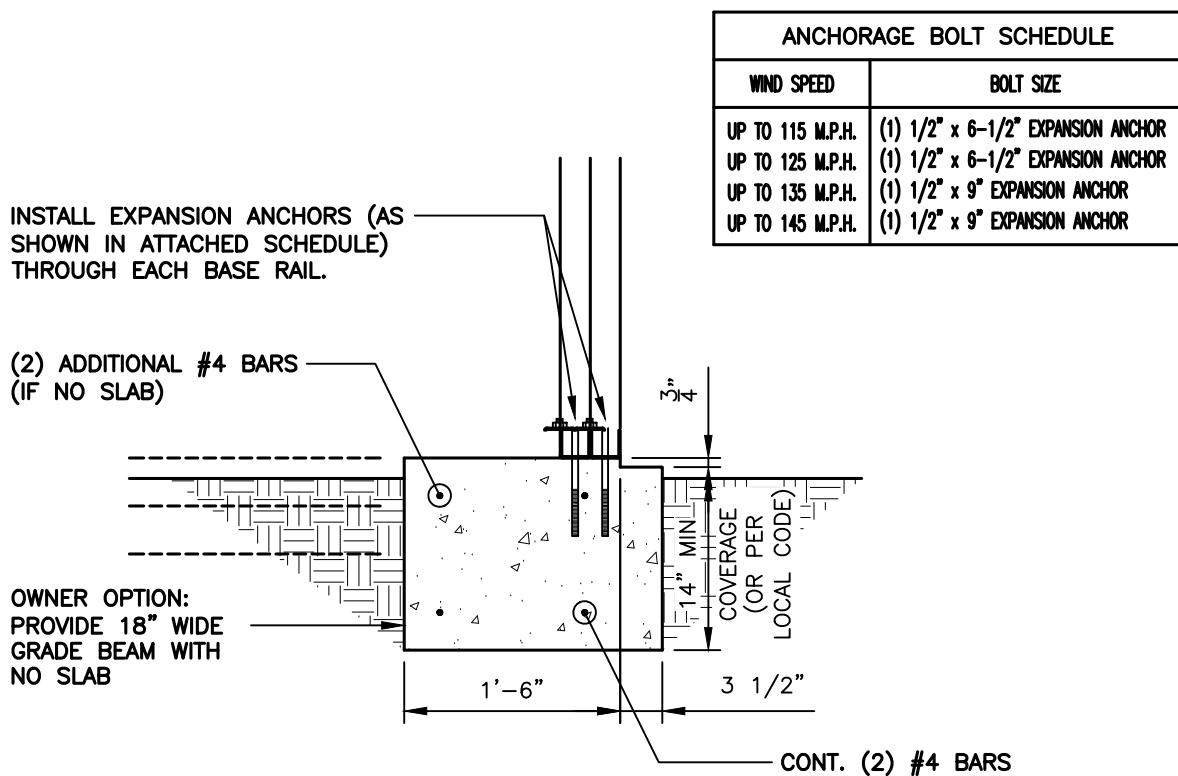
PROJECT NO:  
23-527

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2023.07.12

SHEET NO:  
**S7**

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## CONCRETE BASE RAIL ANCHORAGE (NO SLAB)



### 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:

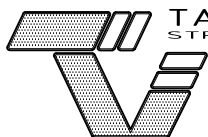
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#### REINFORCING STEEL:

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#### 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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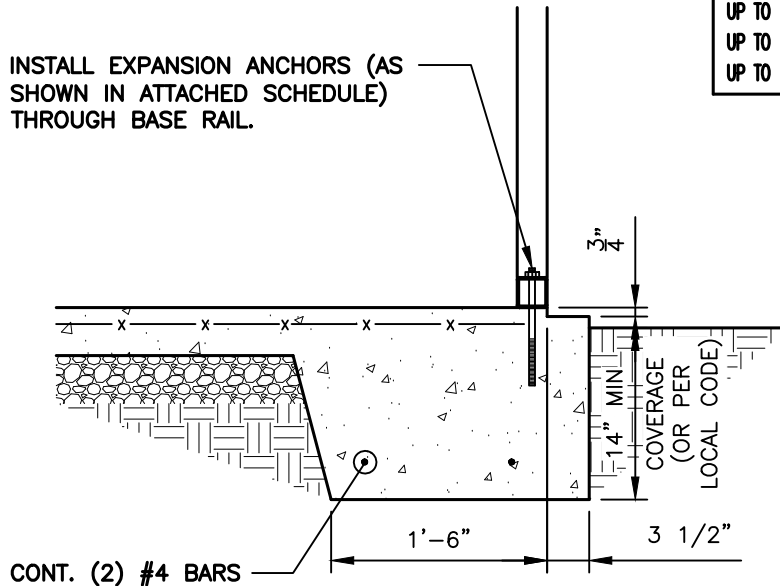
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2023.07.12

**SHEET NO:**  
**S7A**

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

## CONCRETE BASE RAIL ANCHORAGE

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 115 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 125 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 135 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR
UP TO 145 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR



### 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.

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1. REINFORCEMENT IS BENT COLD.
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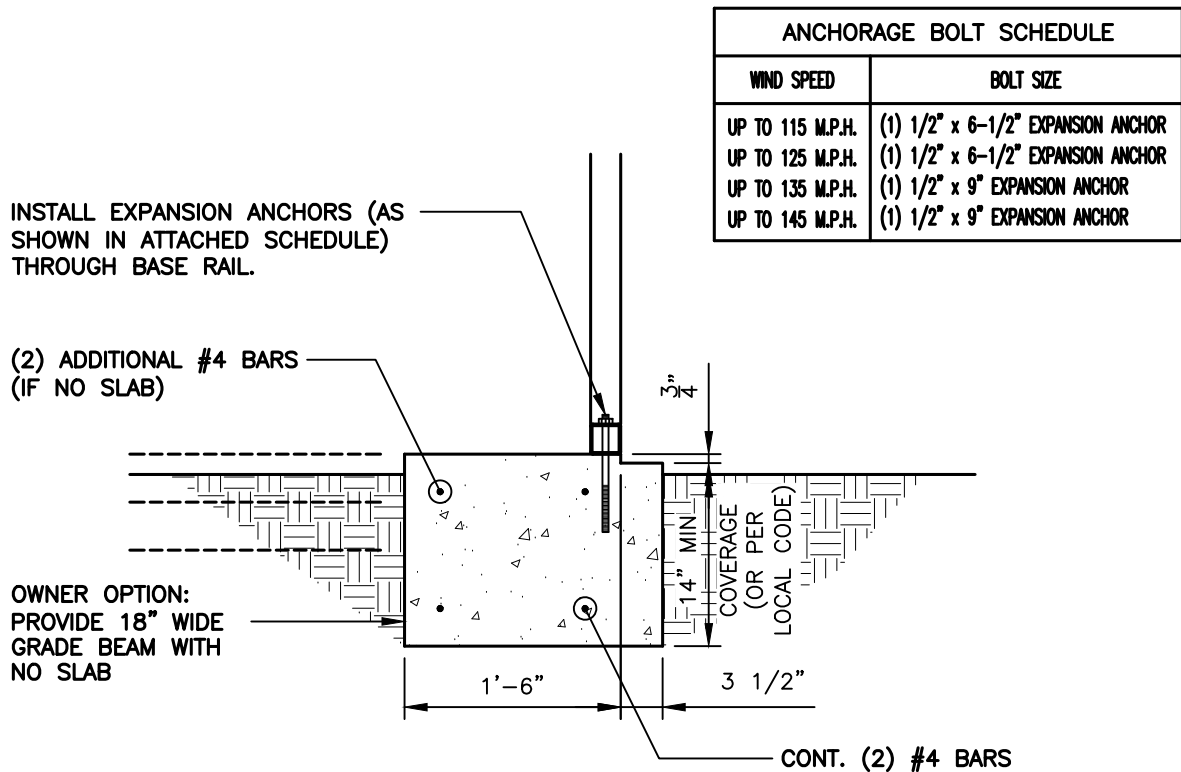
PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S7B**

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## CONCRETE BASE RAIL ANCHORAGE (NO SLAB)



### 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:

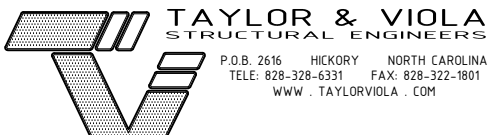
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#### REINFORCING STEEL:

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

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2. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
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MOUNT AIRY, NORTH CAROLINA 27030

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**S7C**

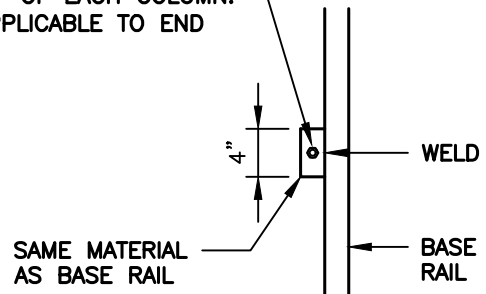
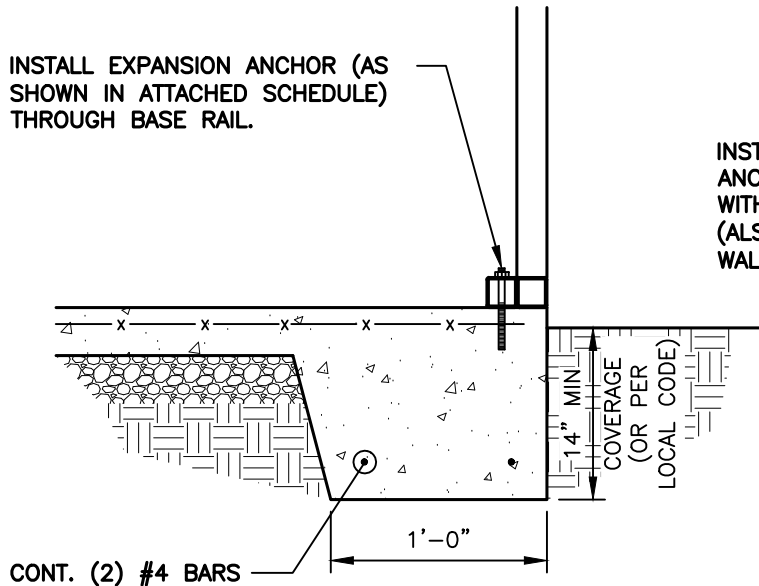
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## CONCRETE BASE RAIL ANCHORAGE

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 115 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 125 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 135 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR
UP TO 145 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR

INSTALL EXPANSION ANCHOR (AS SHOWN IN ATTACHED SCHEDULE) THROUGH BASE RAIL.

INSTALL (1) EXPANSION ANCHOR THROUGH BASE RAIL WITHIN 6" OF EACH COLUMN. (ALSO APPLICABLE TO END WALLS)



**BASE RAIL ANCHORAGE  
DETAIL (PLAN VIEW)**

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



### 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:

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#### COVER OVER REINFORCING STEEL:

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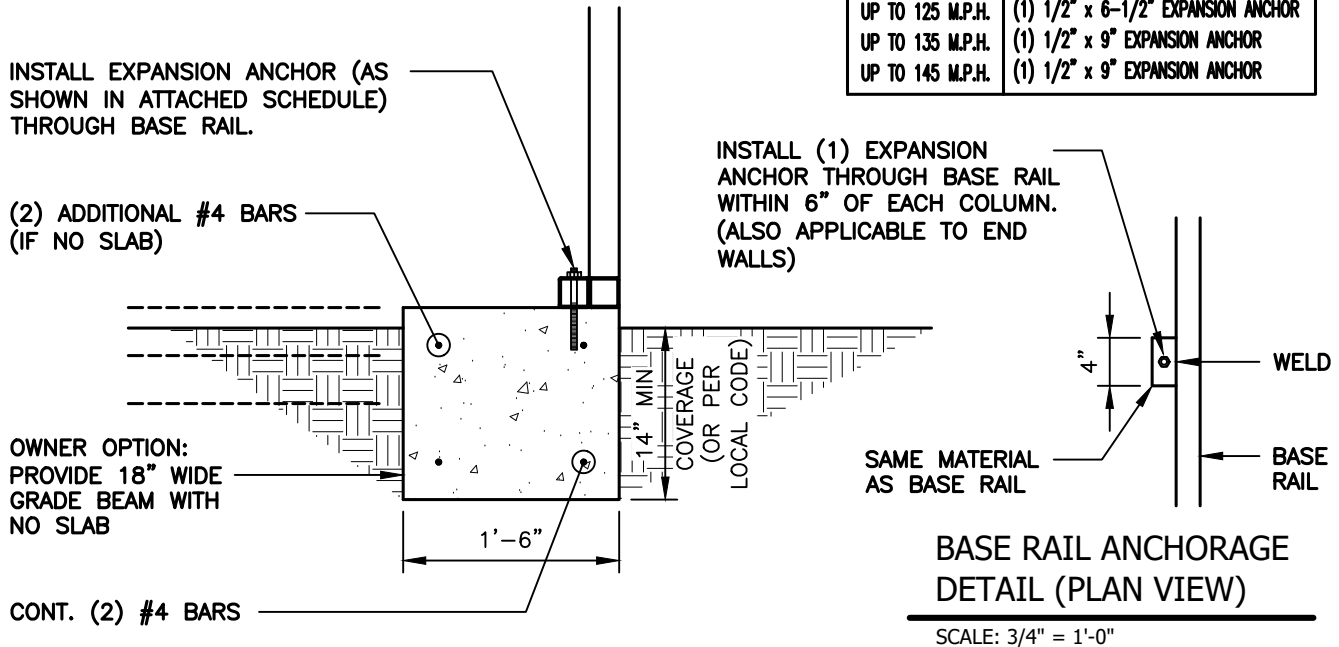
**SHEET NO:**  
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## CONCRETE BASE RAIL ANCHORAGE (NO SLAB)

ANCHORAGE BOLT SCHEDULE	
WIND SPEED	BOLT SIZE
UP TO 115 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 125 M.P.H.	(1) 1/2" x 6-1/2" EXPANSION ANCHOR
UP TO 135 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR
UP TO 145 M.P.H.	(1) 1/2" x 9" EXPANSION ANCHOR



### BASE RAIL ANCHORAGE DETAIL

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

#### GENERAL NOTES:

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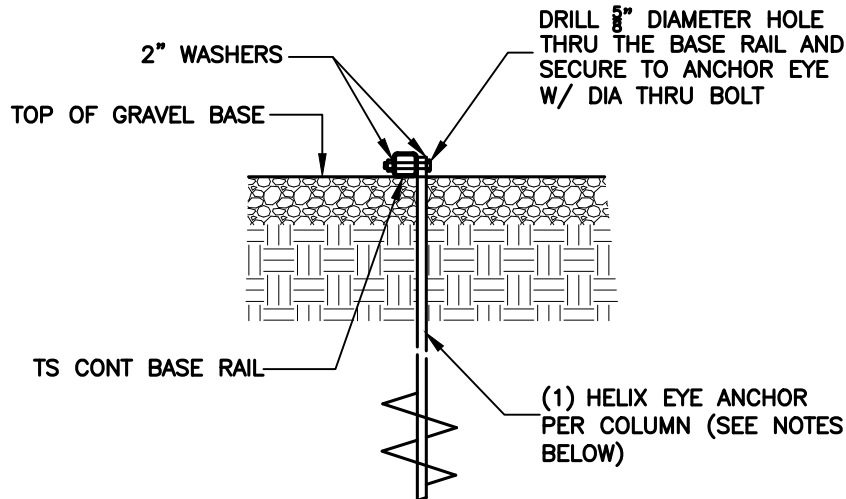
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## SOIL NAIL BASE RAIL ANCHORAGE



### BASE RAIL ANCHORAGE DETAIL

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

#### HELIX EMBEDMENT INFORMATION:

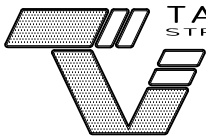
FOR VERY DENSE OR CEMENTED SANDS, COARSE GRAVEL, COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MIN (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH 50" EMBEDMENT, ONE EACH END BASE RAIL, PROVIDE #4 REBAR AT 5'-0"oc BETWEEN.

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

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

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

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



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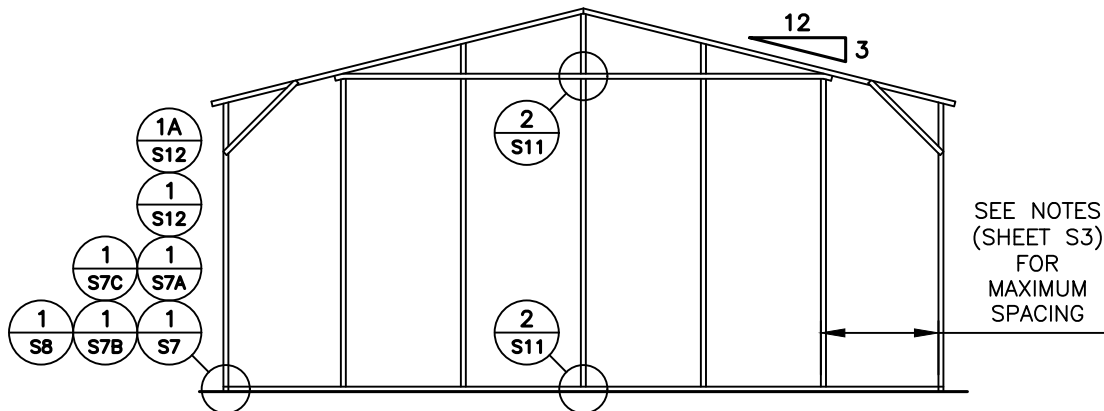
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2023.07.12

PROJECT NO:  
23-527

SHEET NO:  
S8

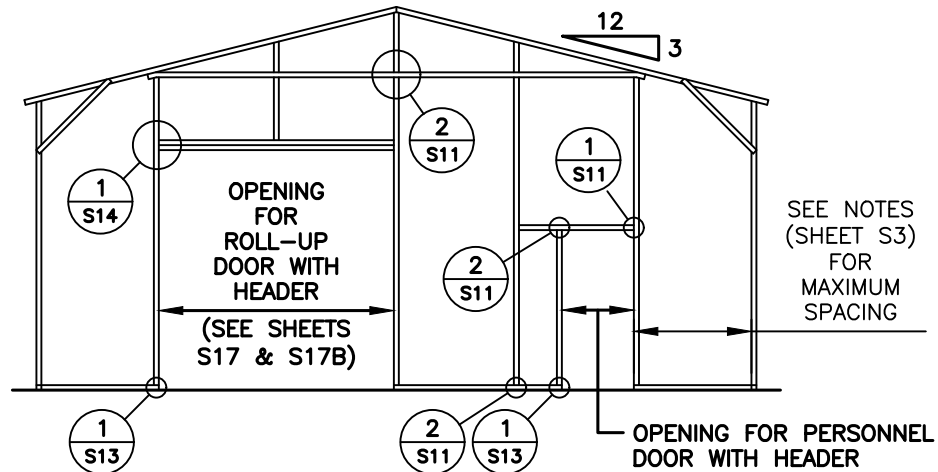
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## BOX EVE RAFTER END WALL OPENINGS

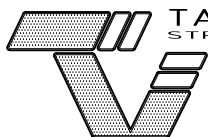


TYPICAL BOX EVE RAFTER / END WALL COLUMN FRAME SECTION

**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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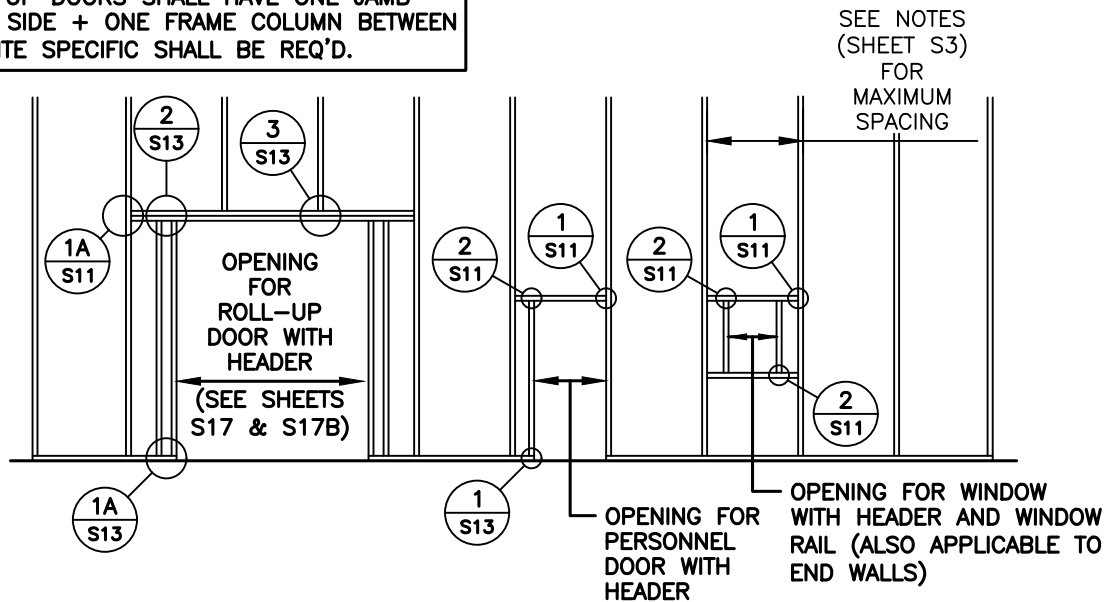
**DATE:**  
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**SHEET NO:**  
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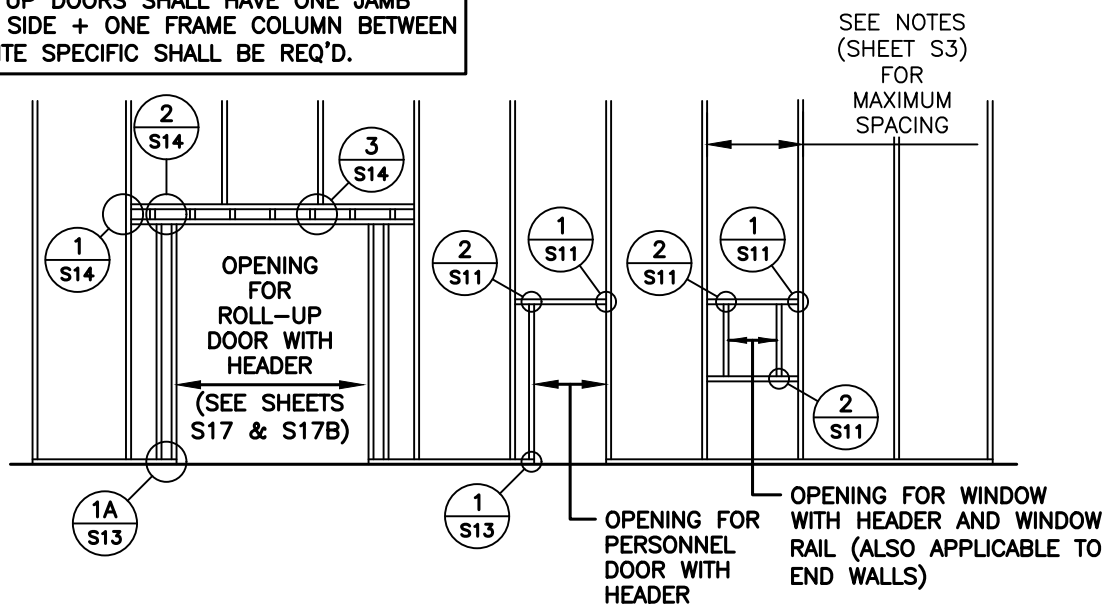
## BOX EVE RAFTER END WALL AND SIDE WALL OPENINGS

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



### TYPICAL SIDE WALL OPENING FRAMING SECTION



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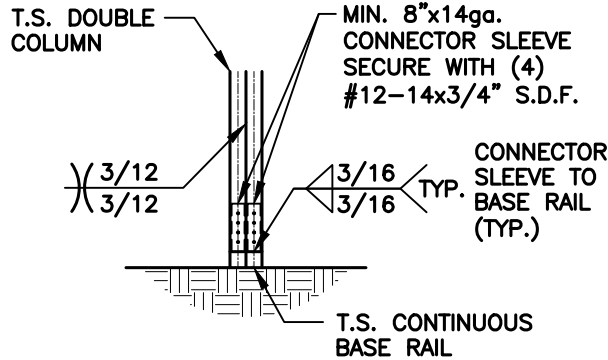
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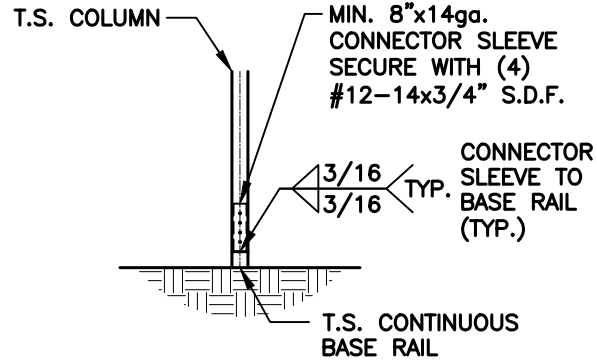
## CONNECTION DETAILS



**POST / BASE RAIL  
CONNECTION DETAIL**

**1**  
**S10**

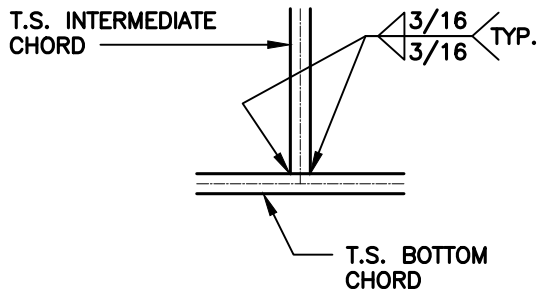
SCALE: 1/2" = 1'-0"



**POST / BASE RAIL  
CONNECTION DETAIL**

**1A**  
**S10**

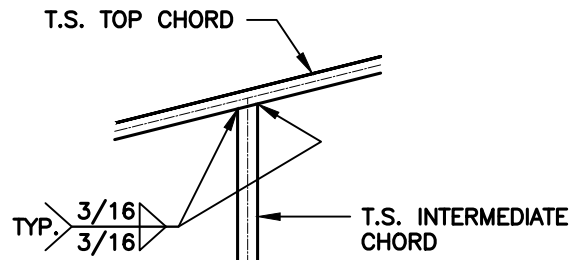
SCALE: 1/2" = 1'-0"



**INTERMEDIATE CHORD  
TO BOTTOM CHORD  
CONNECTION DETAIL**

**2**  
**S10**

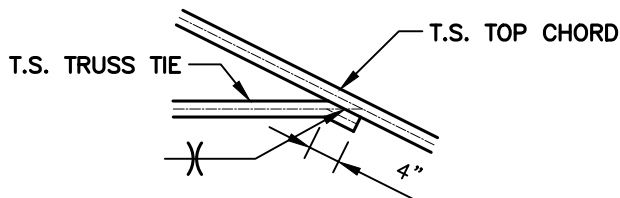
SCALE: 1/2" = 1'-0"



**INTERMEDIATE CHORD TO TOP  
CHORD CONNECTION DETAIL**

**3**  
**S10**

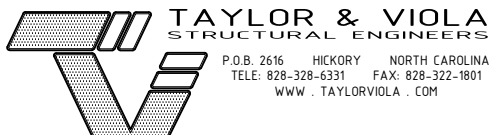
SCALE: 1/2" = 1'-0"



**TRUSS TIE  
CONNECTION DETAIL**

**4**  
**S10**

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



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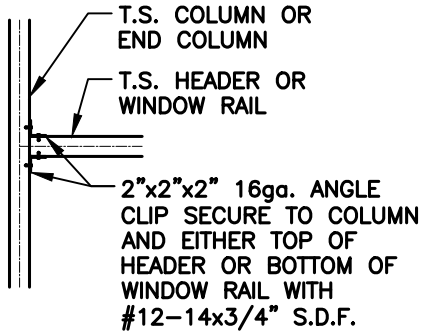
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**2023.07.12**

**SHEET NO:**  
**S10**

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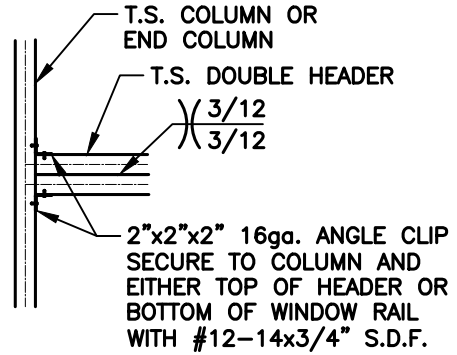
## CONNECTION DETAILS



COLUMN OR WINDOW  
RAIL / WALL GIRT TO POST  
CONNECTION DETAIL

1  
S11

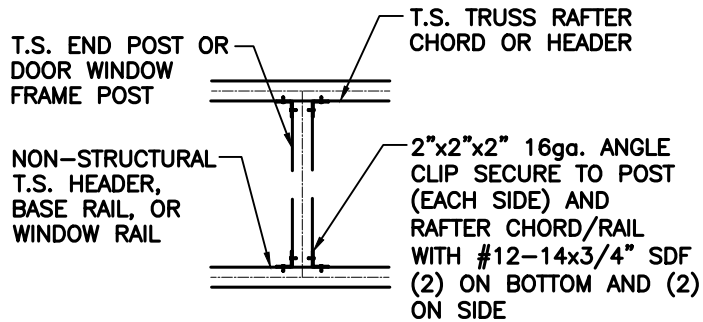
SCALE: 1/2" = 1'-0"



COLUMN / DOUBLE HEADER  
CONNECTION DETAIL

1A  
S11

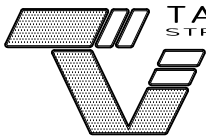
SCALE: 1/2" = 1'-0"



DOOR OR WINDOW HEADER  
RAIL TO POST CONNECTION  
DETAIL

2  
S11

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



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ULTIMATE CHOICE  
STRUCTURES, LLC

159 SUMMERFIELD LANE  
MOUNT AIRY, NORTH CAROLINA 27030

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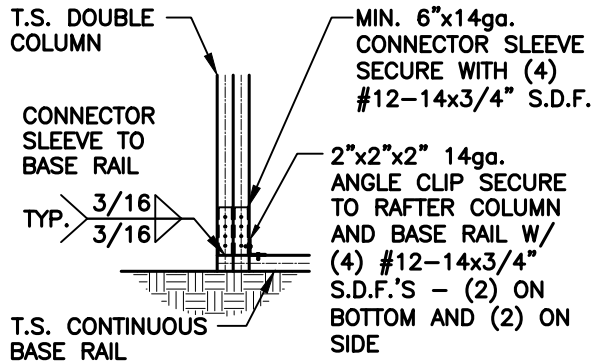
PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S11**

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

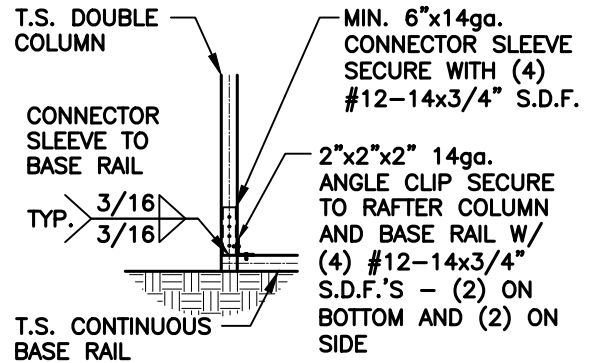
## CONNECTION DETAILS



**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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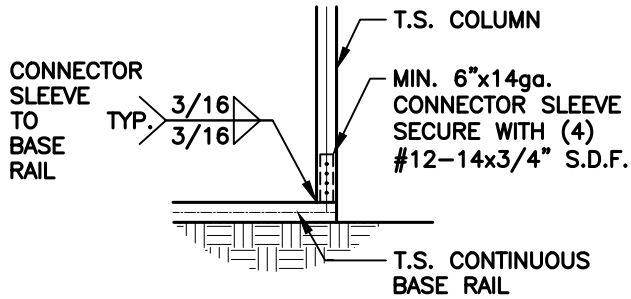
**PROJECT NO:**  
23-527

**DATE:**  
2023.07.12

**SHEET NO:**  
**S12**

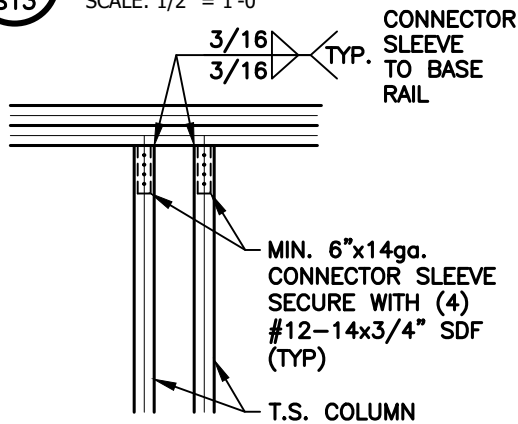
NOTE: THESE DRAWINGS ARE VALID FOR (1) CALENDAR YEAR AFTER THE ISSUE DATE LISTED ON THIS SHEET.

## CONNECTION DETAILS



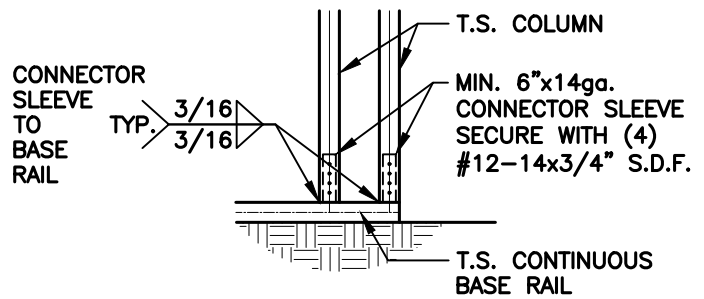
**1**  
**COLUMN / BASE RAIL CONNECTION DETAIL**

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



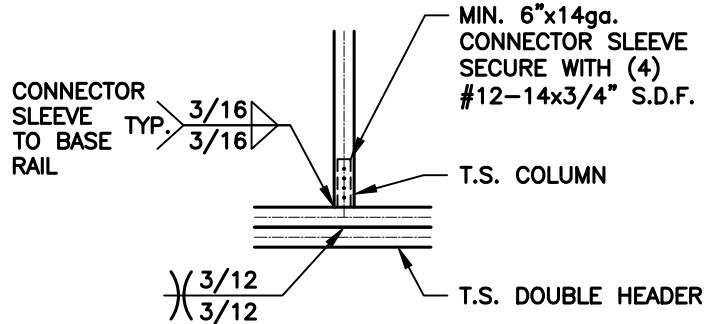
**2**  
**DOUBLE HEADER / COLUMN CONNECTION DETAIL**

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



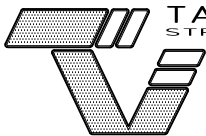
**1A**  
**COLUMN / BASE RAIL CONNECTION DETAIL**

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



**3**  
**COLUMN / DOUBLE HEADER CONNECTION DETAIL**

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



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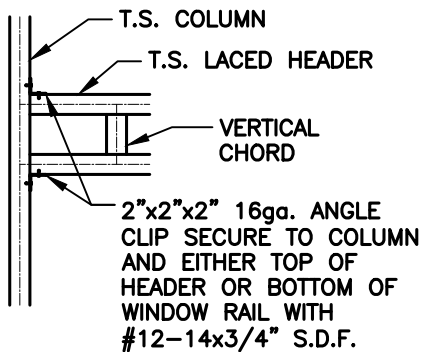
**DATE:**  
**2023.07.12**

**SHEET NO:**  
**S13**

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



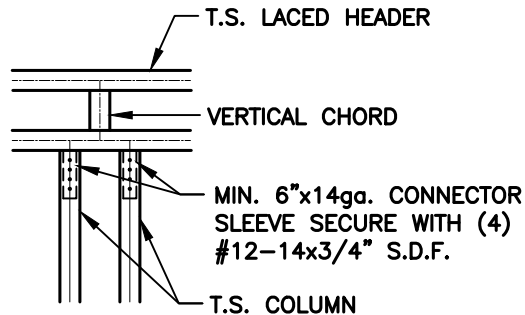
## CONNECTION DETAILS



COLUMN / LACED HEADER  
CONNECTION DETAIL

1  
S14

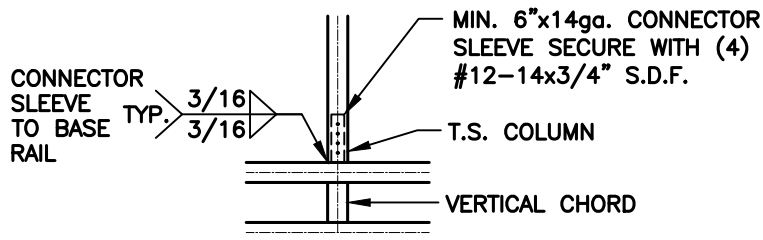
SCALE: 1/2" = 1'-0"



LACED HEADER / COLUMN  
CONNECTION DETAIL

2  
S14

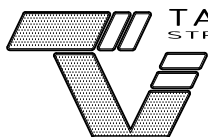
SCALE: 1/2" = 1'-0"



COLUMN / LACED HEADER  
CONNECTION DETAIL

3  
S14

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



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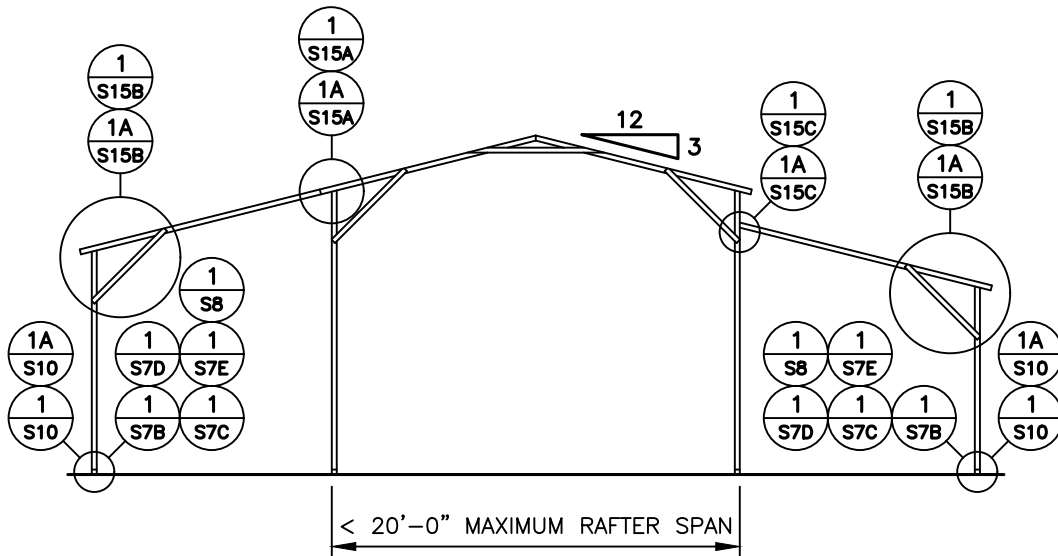
**PROJECT NO:**  
23-527

**DATE:**  
2023.07.12

**SHEET NO:**  
**S14**

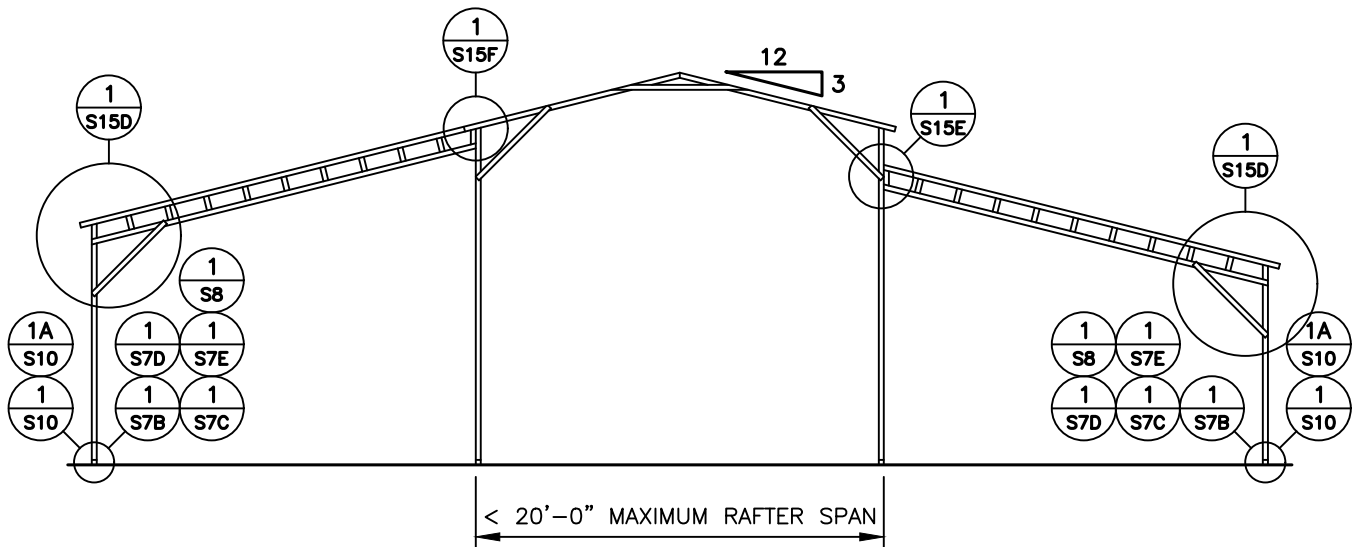
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## BOX EVE RAFTER LEAN-TO OPTIONS



### 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



### (15'-1" - 20'-0" MAX.) LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

MAXIMUM WIDTH OF 12" LADDER TRUSS ROOF EXTENSION AND LEAN-TO OPTION IS 20'-0"  
 12'-0" MAX. LEAN-TO HEIGHT WITH SINGLE COLUMN



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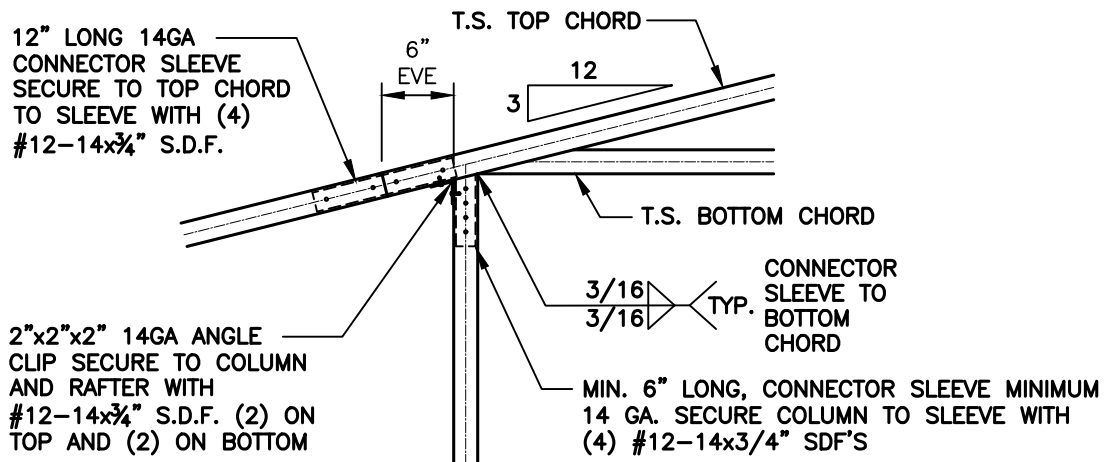
**PROJECT NO:**  
**23-527**

**DATE:**  
**2023.07.12**

**SHEET NO:**  
**S15**

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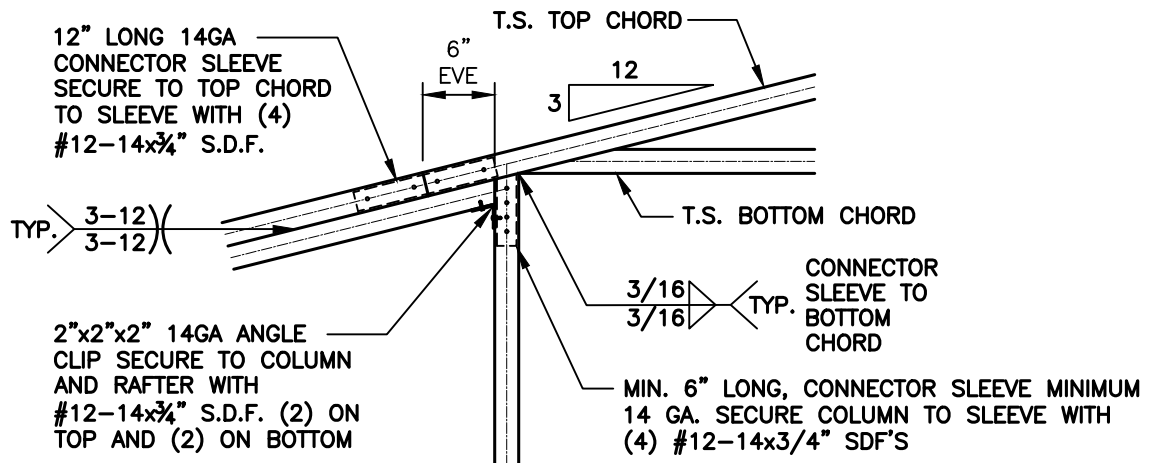
## LEAN-TO CONNECTION DETAILS



### 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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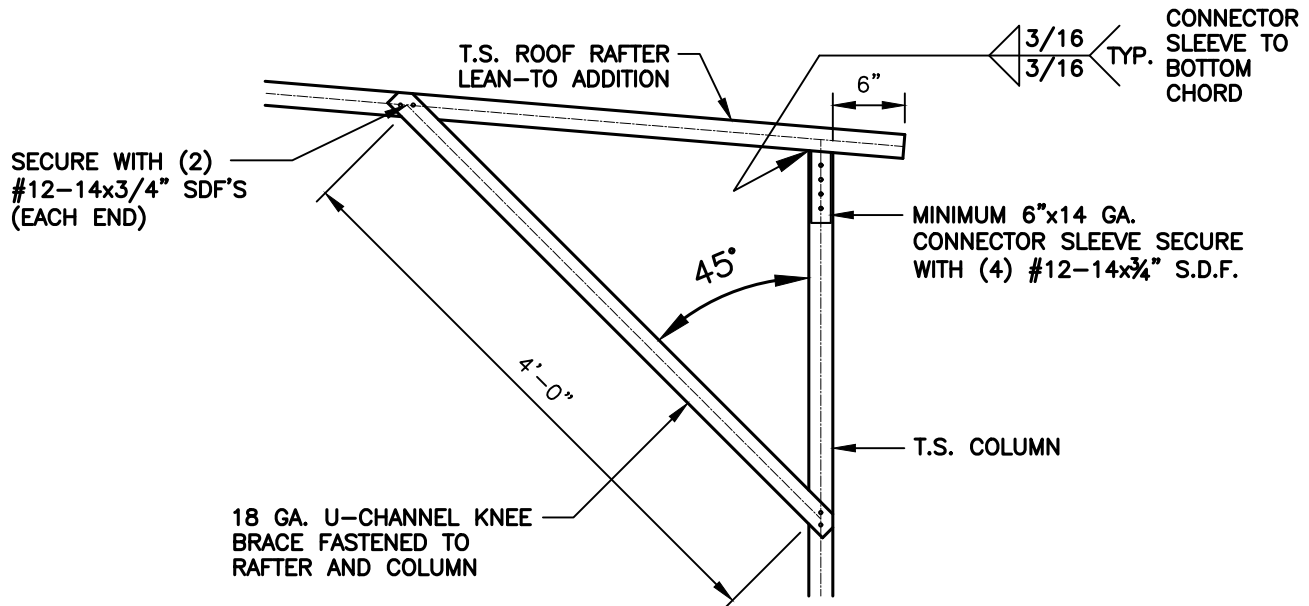
**PROJECT NO:**  
23-527

**DATE:**  
2023.07.12

**SHEET NO:**  
**S15A**

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

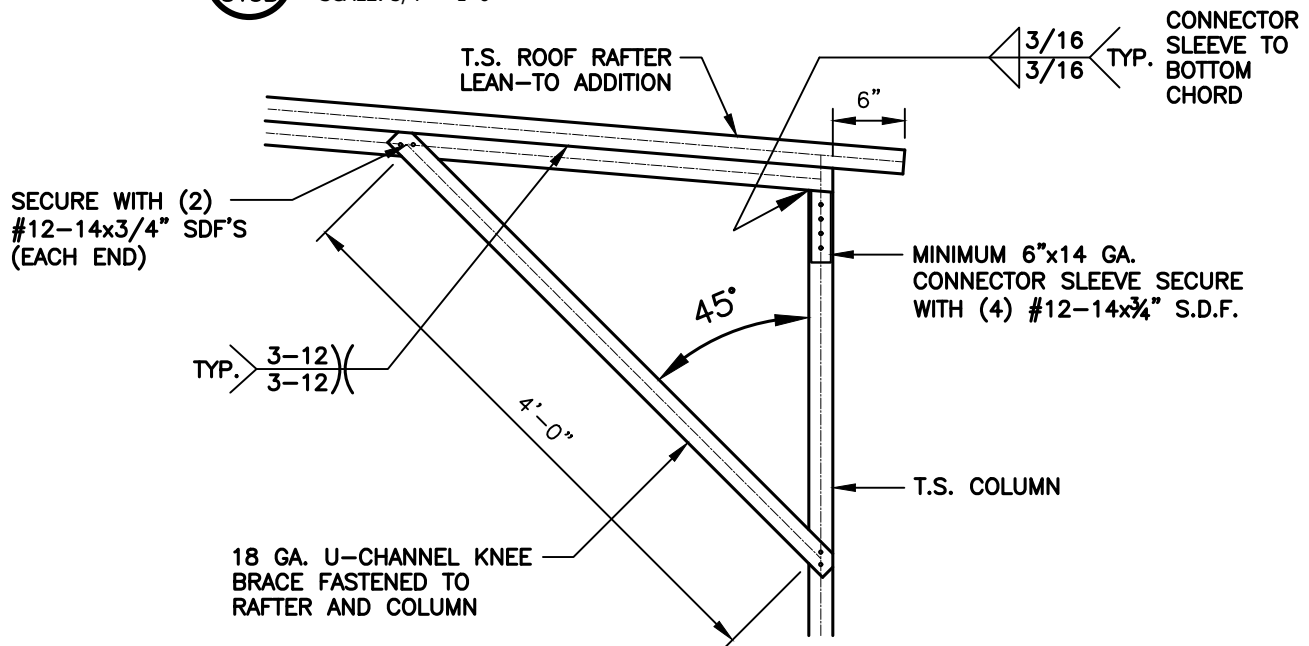
## LEAN-TO CONNECTION DETAILS



### BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <12'-0"

1  
S15B

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



### BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR LEAN-TO RAFTER SPAN <15'-0"

1A  
S15B

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



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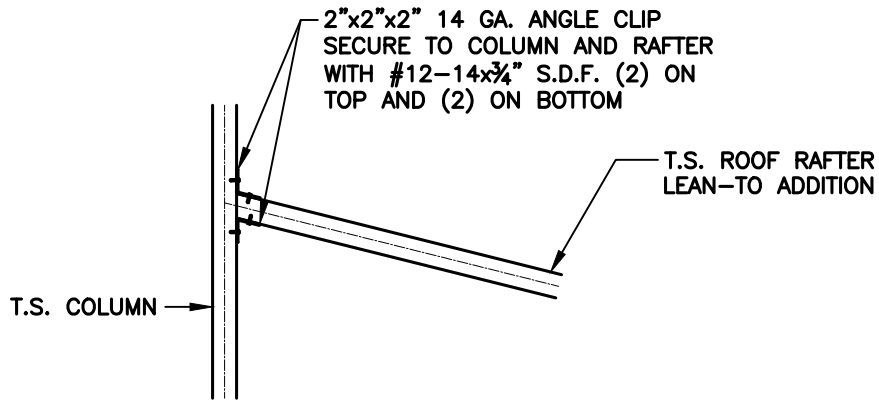
PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S15B**

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

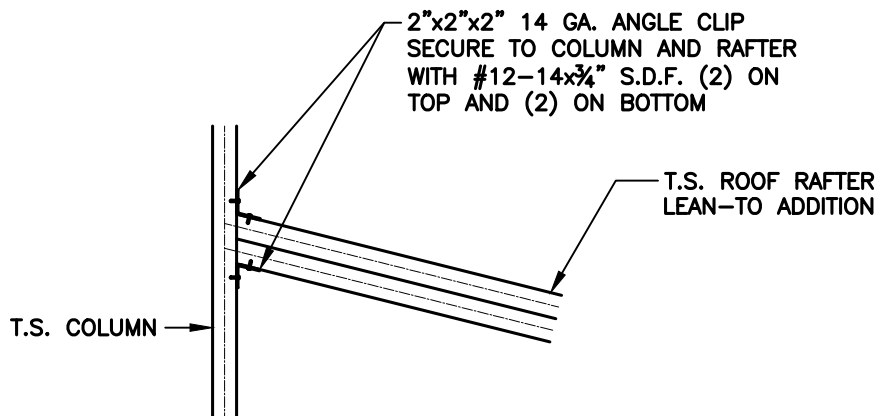
## LEAN-TO CONNECTION DETAILS



1  
S15C

LEAN-TO RAFTER TO RAFTER POST  
CONNECTION DETAIL FOR WIDTHS < 12'-0"

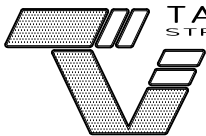
SCALE: 3/4" = 1'-0"



1A  
S15C

LEAN-TO RAFTER TO RAFTER POST  
CONNECTION DETAIL FOR WIDTHS < 15'-0"

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



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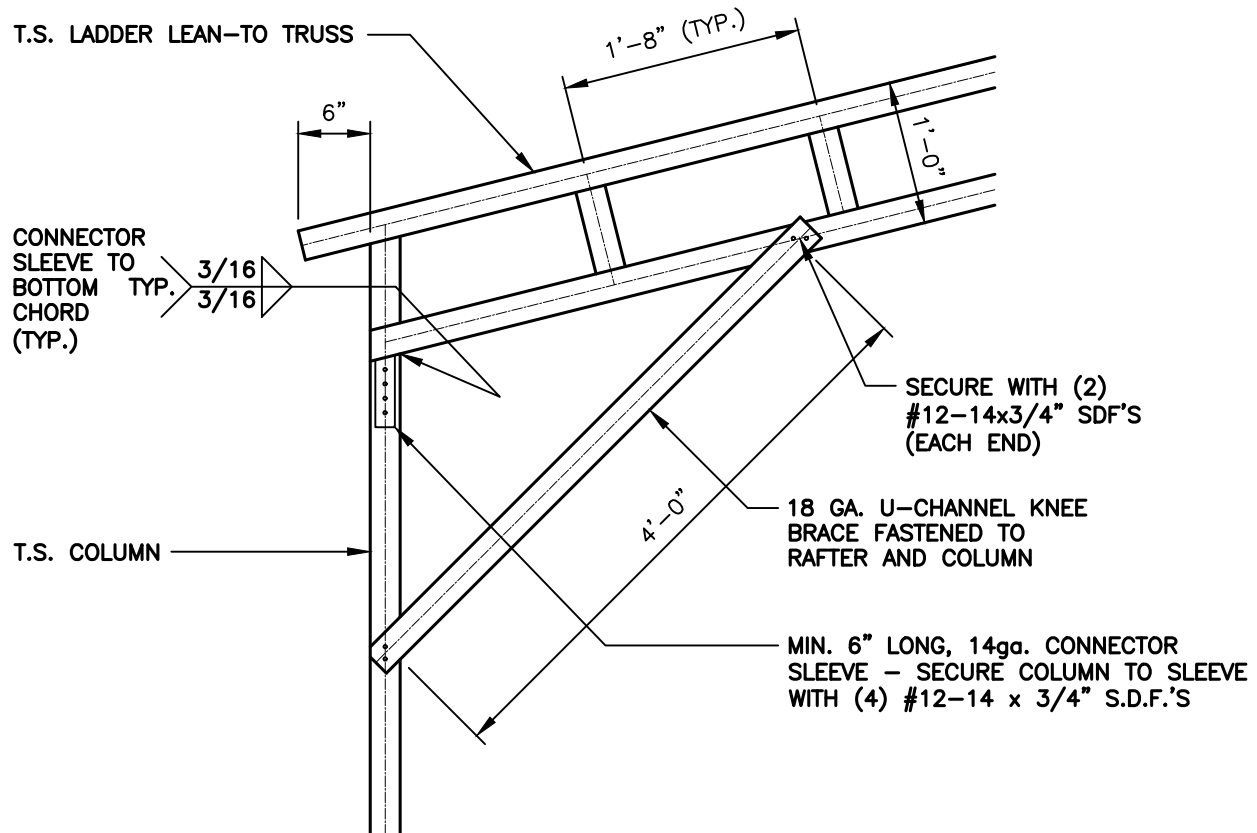
PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S15C**

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

(15'-1 - 20'-0" MAX.) LEAN-TO CONNECTION DETAILS



## LEAN-TO LADDER TRUSS TO RAFTER / POST CONNECTION DETAIL FOR WIDTHS <15'-1" - 20'-0"



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



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U L T I M A T E   C H O I C E  
S T R U C T U R E S ,   L L C

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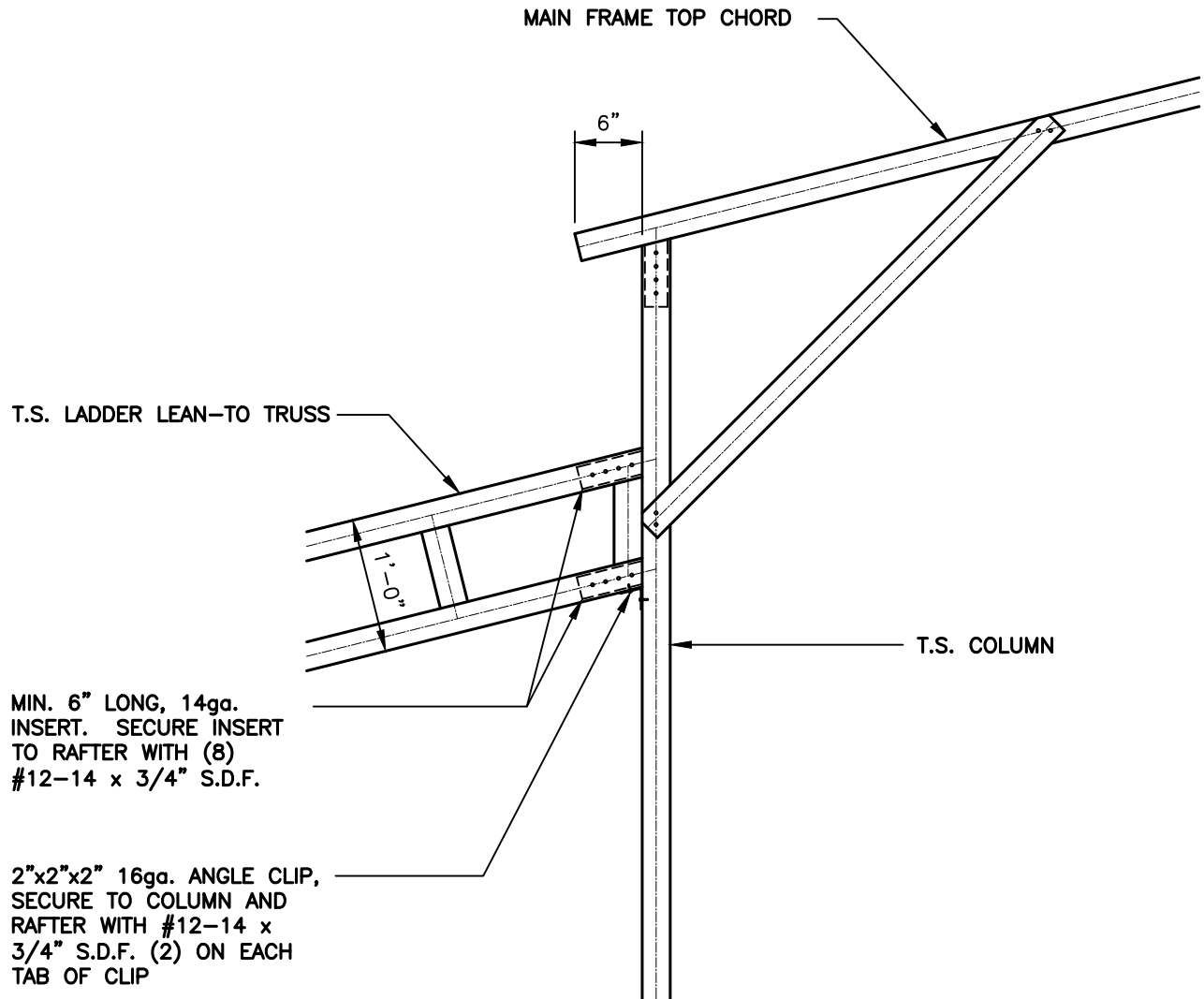
PROJECT NO:  
23-527

DATE:  
2023.07.12

**SHEET NO:**  
**S15D**

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

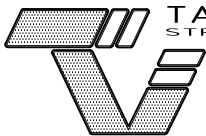
(15'-1" - 20'-0" MAX.) LEAN-TO CONNECTION DETAILS



LEAN-TO LADDER TRUSS TO RAFTER / POST  
CONNECTION DETAIL FOR WIDTHS < 15'-1" - 20'-0"

1  
S15E

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



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PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S15E**

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

(15'-1" - 20'-0" MAX.) LEAN-TO CONNECTION DETAILS

MIN. 12" LONG, 14ga.  
INSERT. SECURE INSERT  
TO RAFTER WITH (16)  
#12-14 x 3/4" S.D.F.

T.S. LADDER LEAN-TO TRUSS

MAIN FRAME TOP CHORD

6"

1'-0"

MIN. 6" LONG, 14ga.  
INSERT. SECURE INSERT  
TO RAFTER WITH (8)  
#12-14 x 3/4" S.D.F.

2"x2"x2" 16ga. ANGLE CLIP,  
SECURE TO COLUMN AND  
RAFTER WITH #12-14 x  
3/4" S.D.F. (2) ON EACH  
TAB OF CLIP

T.S. COLUMN

LEAN-TO LADDER TRUSS TO RAFTER / POST  
CONNECTION DETAIL FOR WIDTHS < 15'-1" - 20'-0"

1

S15F

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



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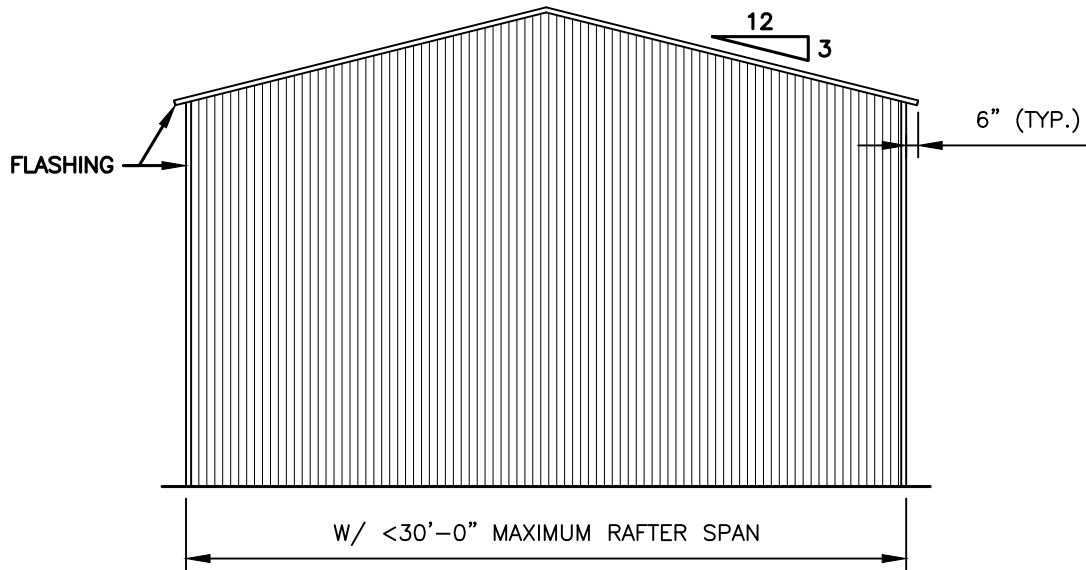
DATE:  
2023.07.12

SHEET NO:  
**S15F**

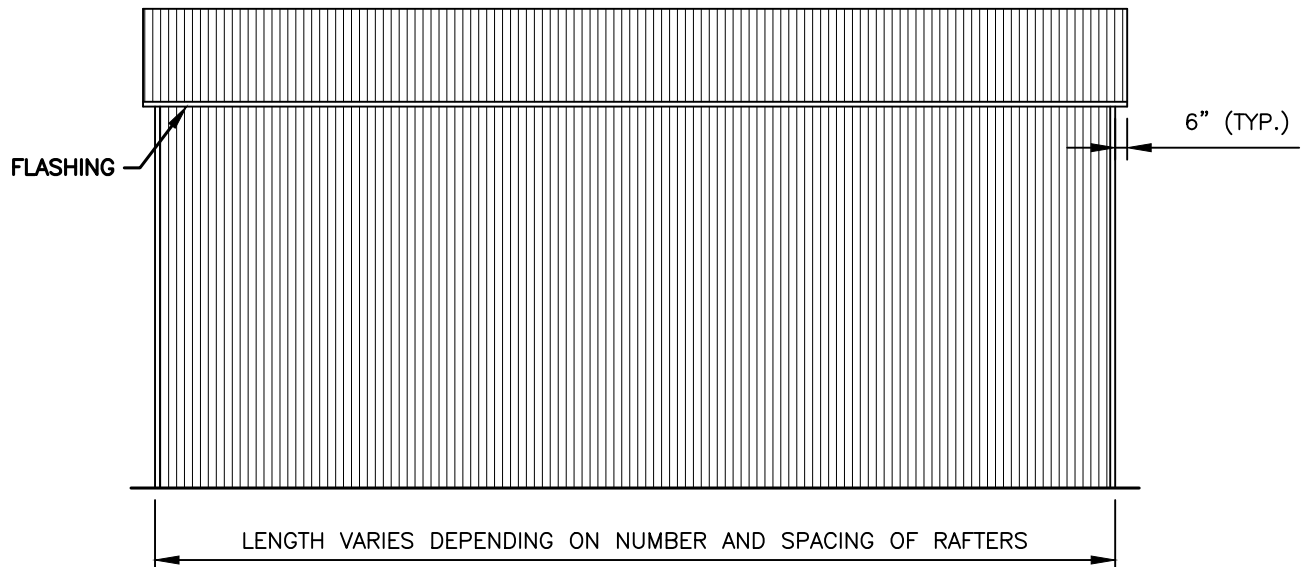
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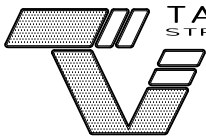
## VERTICAL ROOF / SIDING OPTION



TYPICAL END ELEVATION - VERTICAL ROOF / SIDING



TYPICAL SIDE ELEVATION - VERTICAL ROOF / SIDING



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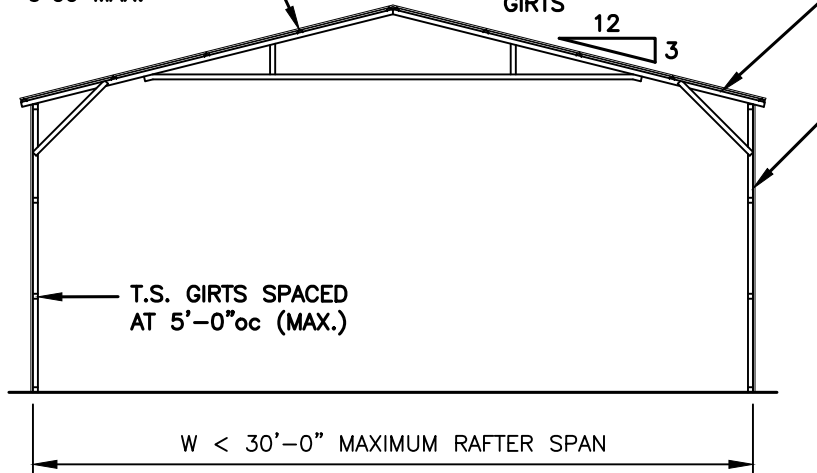
SHEET NO:  
**S16**

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## VERTICAL ROOF / SIDING OPTION

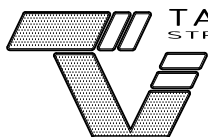
1.125"-18 GA. HAT CHANNELS  
FASTENED TO EACH RAFTER  
WITH (2) #12-14x $\frac{3}{4}$ " S.D.F.  
SPACED AT 4'-0"oc MAX.

29 GA. GALVANIZED  
METAL ROOF AND WALL  
PANELS FASTENED TO  
HAT CHANNELS AND  
GIRTS



## 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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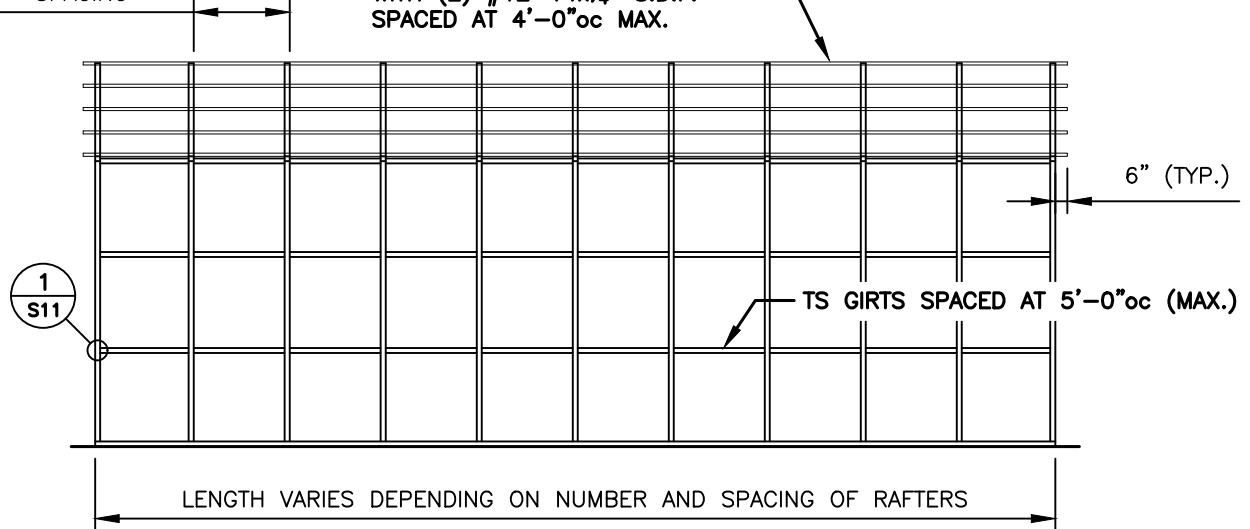
SHEET NO:  
**S16A**

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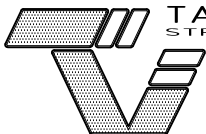
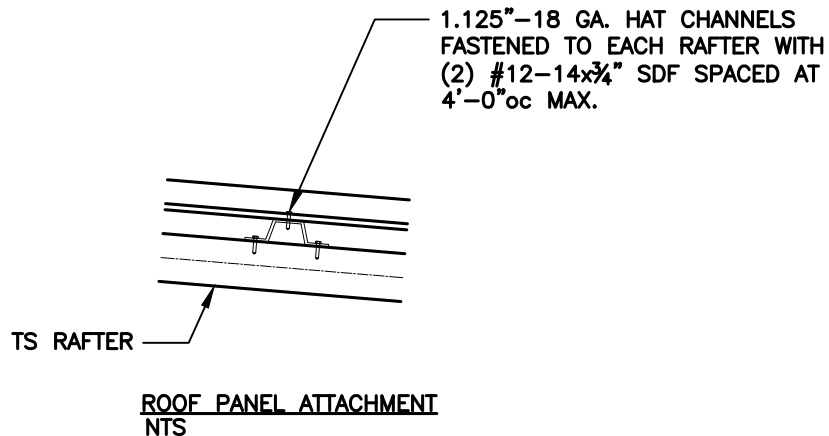
## VERTICAL ROOF / SIDING OPTION

SEE NOTES  
(SHEET S3)  
FOR MAXIMUM  
SPACING

1.125"-18 GA. HAT CHANNELS  
FASTENED TO EACH RAFTER  
WITH (2) #12-14x $\frac{3}{4}$ " S.D.F.  
SPACED AT 4'-0"oc MAX.



TYPICAL SIDE FRAMING SECTION VERTICAL ROOF / SIDING OPTION



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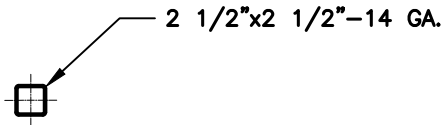
PROJECT NO:  
23-527

DATE:  
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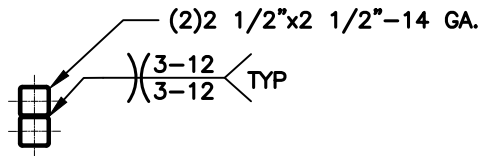
SHEET NO:  
**S168**

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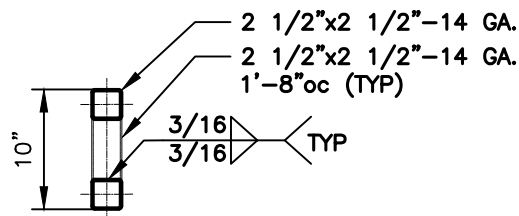
## SIDE WALL HEADER OPTIONS



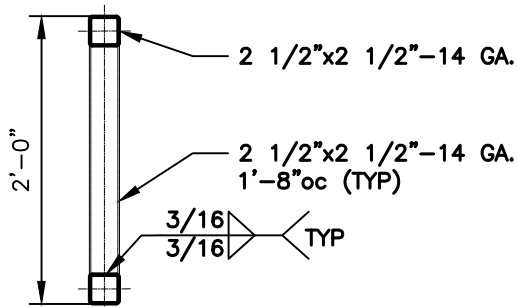
HEADER DETAIL FOR DOOR  
OPENINGS < 4'-0"  
 NTS



HEADER DETAIL FOR DOOR  
OPENINGS 4'-1" < TO < 12'-0"  
 NTS



LACED HEADER DETAIL FOR DOOR  
OPENINGS 12'-1" < TO < 15'-0"  
 NTS



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

### GENERAL NOTE:

PROVIDE DOUBLE WYTHE HEADER  
 ON DOUBLE COLUMNS AND LACED  
 COLUMNS



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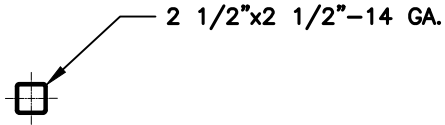
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DATE:  
 2023.07.12

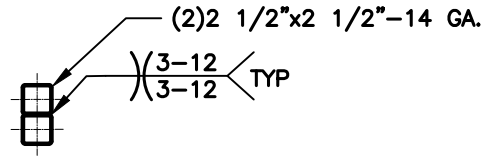
SHEET NO:  
**S17**

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

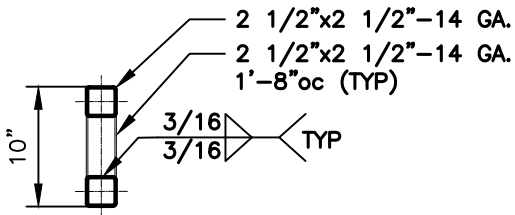
## END WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR  
OPENINGS < 7'-0"  
NTS



HEADER DETAIL FOR DOOR  
OPENINGS 7'-1" < TO < 16'-0"  
NTS



LACED HEADER DETAIL FOR DOOR  
OPENINGS 16'-1" < TO < 20'-0"  
NTS

### GENERAL NOTE:

PROVIDE DOUBLE WYTHE HEADER  
ON DOUBLE COLUMNS AND LACED  
COLUMNS



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DRAWN BY:  
BKS

PROJECT NO:  
23-527

DATE:  
2023.07.12

SHEET NO:  
**S17A**

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