



**STRUCTURAL DESIGN
ENCLOSED BUILDING**

**MAXIMUM 30'- 0" WIDE X 16'- 0" HEIGHT-
BOX EAVE FRAME AND BOW FRAME**

27 April 2023

Revision 1

M&A Project No. 22337S

Prepared for:

NC Steel Buildings, Inc.

P.O. Box 6604

Mount Airy, NC 27030

Prepared by:

Moore and Associates Engineering and Consulting, Inc.

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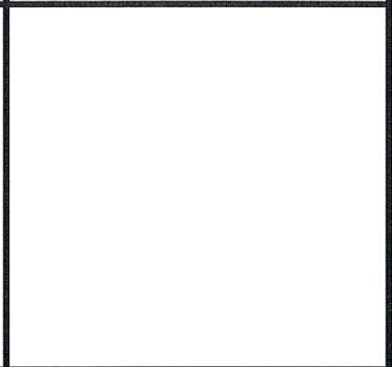
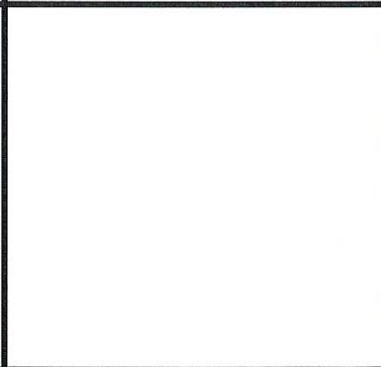
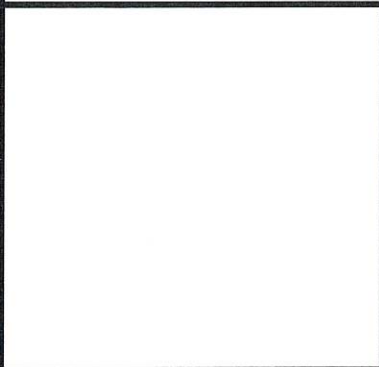
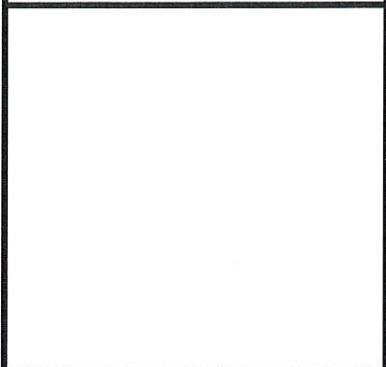
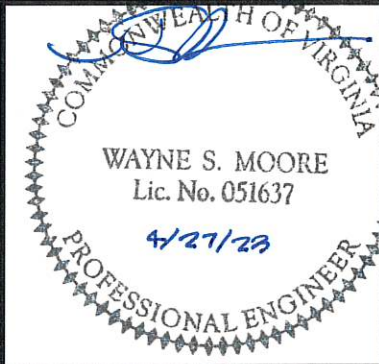
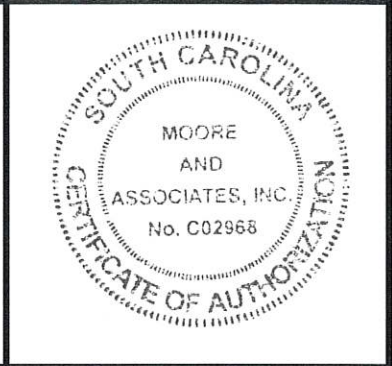
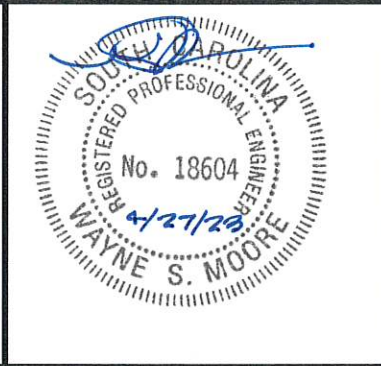
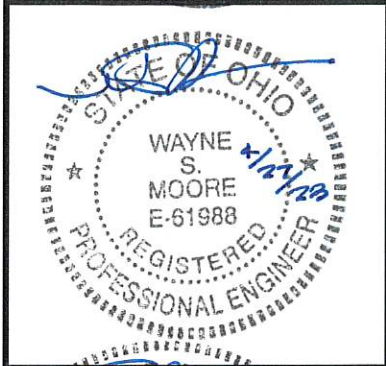
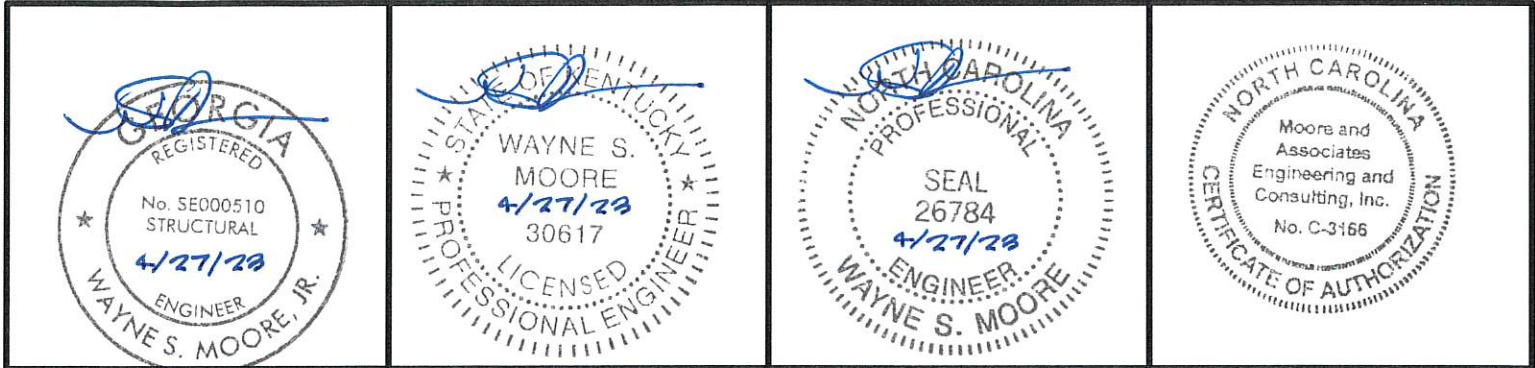
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Plans Expiration Date: 27 April 2024

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DRAWN BY: JG
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NC STEEL BUILDINGS, INC.
P.O. BOX 6604
MOUNT AIRY, NC 27030
30'-0"x16'-0" ENCLOSED STRUCTURE

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PROJECT MGR: VSM
CLIENT: NC STEEL BUILDINGS

DATE: 4-27-23
SHT. 1

SCALE: NTS
DWG. NO: SK-3

JOB NO: 22337S
REV: 1

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INSTALLATION NOTES AND SPECIFICATIONS

1. DESIGN IS FOR MAXIMUM 30'-0" WIDE x 16'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
2. DESIGN WAS DONE IN ACCORDANCE WITH ALL THE APPLICABLE BUILDING CODES LISTED ON SHEET 3A.
3. DESIGN LOADS ARE AS FOLLOWS:
 - A) ROOF DEAD LOADS:
 - SELF-WEIGHT = 1.5 PSF
 - MEP = 0 PSF
 - COLLATERAL = 0 PSF
 - B) ROOF LIVE LOAD = 12 PSF
 - C) FLOOR LIVE LOAD = 100 PSF (4" CONCRETE SLAB/FOOTING)
 - D) GROUND SNOW LOAD = 35 PSF WITH WELDED RAFTER TIE ($W \leq 30'-0"$)
= 20 PSF WITH U-CHANNEL PEAK BRACE ($W \leq 16'-0"$)

NOTE: UNBALANCED LOADING DUE TO SNOW DRIFT/SLIDING FROM AN ADJACENT TALLER STRUCTURE HAS NOT BEEN EVALUATED. DROP-DOWN LEAN-TO'S (THOSE CAUSING A HEIGHT DIFFERENTIAL FROM THE MAIN STRUCTURE) SHALL BE LIMITED TO GROUND SNOW LOADS ≤ 15 PSF.
4. 3-SECOND GUST ULTIMATE WIND SPEED (V_{ULT}) = ≤ 140 MPH (NOMINAL WIND SPEED) = ≤ 108 MPH.
5. MAXIMUM RAFTER/COLUMN AND END COLUMN SPACING = 5.0 FEET, 4.0 FEET FOR GROUND SNOW LOADS > 30 PSF (UNLESS NOTED OTHERWISE).
6. END WALL COLUMNS (POSTS) ARE EQUIVALENT TO SIDE WALL COLUMNS IN SIZE AND SPACING (UNLESS NOTED OTHERWISE).
7. RISK CATEGORY I (NOT FOR HUMAN OCCUPANCY).
8. WIND EXPOSURE CATEGORY B.
9. STRUCTURAL ANALYSIS/DESIGN IS BASED ON 2 1/2"x2 1/2"-14 GA. TUBE STEEL (TS) MEETING THE REQUIREMENTS OF ASTM A653 GRADE 50 WITH MINIMUM YIELD STRENGTH (F_y) OF 54 KSI AND GALVANIZING MEETING THE MINIMUM REQUIREMENTS OF G60.
10. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2"x2 1/2"-14 GAUGE TS FRAMING MEMBERS (UNLESS NOTED OTHERWISE).
11. CONNECTOR SLEEVES ARE MINIMUM 6' LONG, TS 2 1/4"x2 1/4"-14 GAUGE FOR 2 1/2"x2 1/2"-14 GAUGE FRAMING MEMBERS (UNLESS NOTED OTHERWISE).
12. AVERAGE PANEL FASTENER SPACING ON-CENTERS = 9" INCHES.
13. FASTENERS CONSIST OF #12-14x3/4" SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 22 FEET OR LESS, AND ROOF SLOPES OF 14" (3:12 PITCH) OR LESS SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF LAP JOINT SEALANT.
14. ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH COLUMN (LEG).
15. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36" LONG AND MAY BE USED IN SUITABLE SOIL CONDITIONS. OPTIONAL HELIX ANCHORS MUST BE USED IN UNSUITABLE SOIL CONDITIONS. COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING FROST DEPTH (LENGTH) OF ANCHORS.
16. CONTRACTOR TO PROVIDE ADEQUATE BRACING FOR STRUCTURE SO THAT IT WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURE AND FOUNDATIONS ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND, THEREFORE, REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION.
17. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
 - SOIL SITE CLASS = D
 - RISK CATEGORY I
 - $R = 3.25$ $I_E = 1.0$
 - $S_{DS} = 2.625 g$ $V = C_S W$
 - $S_{D1} = 2.13 g$
18. IF MORE THAN 50% OF COLUMNS (LEGS) ARE REMOVED IN ANY LONGITUDINAL (SIDE) WALLS OF A BUILDING, THE ENGINEER IS TO BE NOTIFIED TO DETERMINE WHETHER PORTAL FRAMES OR OTHER LONGITUDINAL STABILITY ELEMENTS WILL BE REQUIRED.
19. **THIS MASTER DESIGN IS A GENERIC MASTER DESIGN PRIMARILY INTENDED FOR PLANT FABRICATION AND ERECTION AKIN TO SHOP DRAWINGS. THE MASTER DESIGN IS NOT PRIMARILY INTENDED FOR CONSTRUCTION PERMIT. WHEN APPLYING FOR BUILDING PERMIT, THE CERTIFIED BUILDING OFFICIAL MUST BE CONSULTED TO VERIFY WHETHER THE USE OF THE MASTER DESIGN IS ADEQUATE OR IF A SITE-SPECIFIC DESIGN IS REQUIRED FOR BUILDING PERMIT. ANY VARIATION FROM THE ANALYSIS/DESIGN PARAMETERS OF THE MASTER DESIGN REQUIRES THE DEVELOPMENT OF A SITE-SPECIFIC DESIGN.**
20. ANALYSIS/DESIGN OF THIS STRUCTURE WAS BASED ON THE LOADS, BUILDING CODE, AND STRUCTURAL GEOMETRY NOTED HEREIN. NO CHANGES SHALL BE MADE TO THE STRUCTURE WITHOUT EXPRESS WRITTEN PERMISSION FROM THE DESIGN ENGINEER. ANY CHANGES IN THE USE OR GEOMETRY OF THE STRUCTURE IN ANY MANNER IS A VIOLATION OF THE BUILDING CODE AND NEGATES ANY LIABILITY ON THE PART OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

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MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JG	NC STEEL BUILDINGS, INC. P.O. BOX 6604 MOUNT AIRY, NC 27030 30'-0"x16'-0" ENCLOSED STRUCTURE		
	CHECKED BY: PDH	PROJECT MGR: WSH	DATE: 4-27-23	SCALE: NTS
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	BUILDINGS	DWG. NO: SK-3		

LIST OF APPLICABLE BUILDING CODES

2018 INTERNATIONAL BUILDING CODE (IBC 2018)

2015 INTERNATIONAL BUILDING CODE (IBC 2015)

2012 INTERNATIONAL BUILDING CODE (IBC 2012)

GEORGIA STATE MINIMUM STANDARD BUILDING CODE
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

2018 KENTUCKY BUILDING CODE
(ADOPTS THE IBC 2015 WITH AMENDMENTS)

2018 NORTH CAROLINA BUILDING CODE
(ADOPTS THE IBC 2015 WITH AMENDMENTS)

OHIO BUILDING CODE 2017
(ADOPTS THE IBC 2015 WITH AMENDMENTS)

BUILDING CODE 2018 OF PENNSYLVANIA
(ADOPTS THE IBC 2018 WITH AMENDMENTS)
PHILADELPHIA BUILDING CODE
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

2021 SOUTH CAROLINA BUILDING CODE
(ADOPTS THE IBC 2021 WITH AMENDMENTS)

BUILDING CODE 2012 OF TENNESSEE
(ADOPTS THE IBC 2012 WITH AMENDMENTS)
BUILDING CODE OF THE CITY OF KNOXVILLE
(ADOPTS THE IBC 2018 WITH AMENDMENTS)
BUILDING CODE 2018 OF NASHVILLE AND DAVIDSON
COUNTY (ADOPTS THE IBC 2018 WITH AMENDMENTS)

2018 VIRGINIA CONSTRUCTION CODE
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

BUILDING CODE 2018 OF WEST VIRGINIA
(ADOPTS THE IBC 2018 WITH AMENDMENTS)

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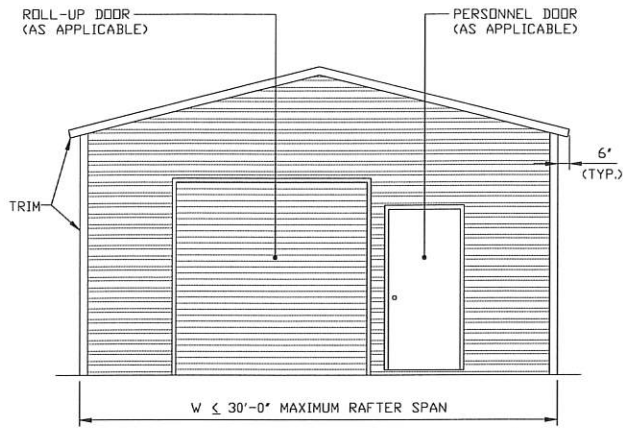
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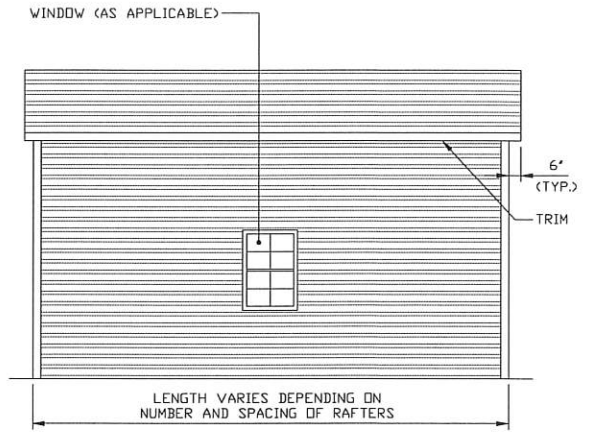
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BOX EAVE FRAME RAFTER STRUCTURE

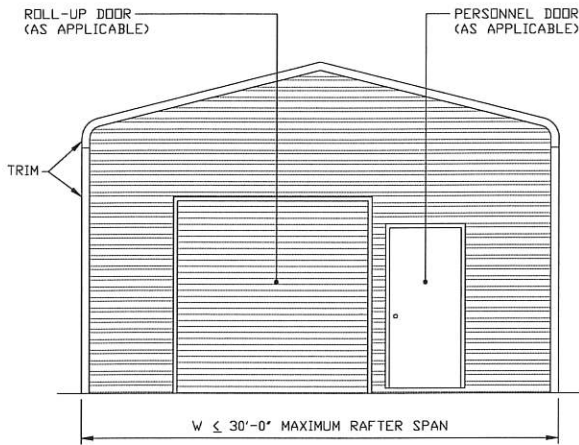


TYPICAL END ELEVATION
SCALE: NTS

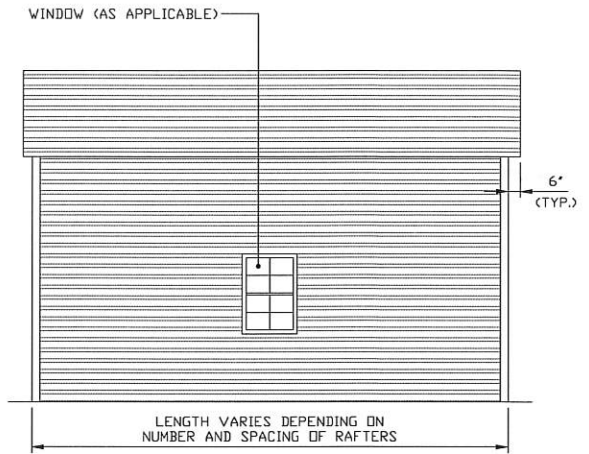


TYPICAL SIDE ELEVATION
SCALE: NTS

BOW EAVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION
SCALE: NTS



TYPICAL SIDE ELEVATION
SCALE: NTS

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SHT. 4

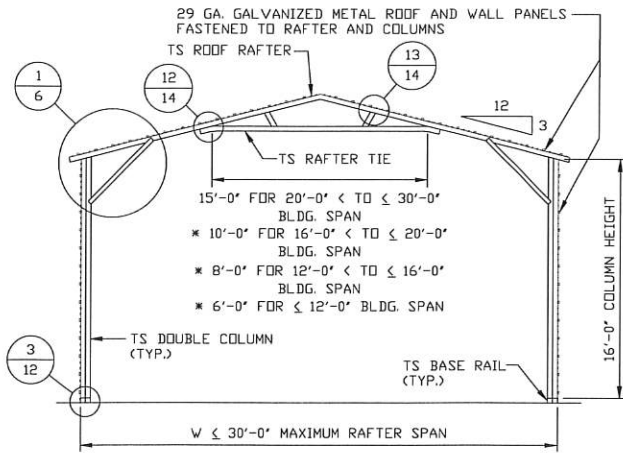
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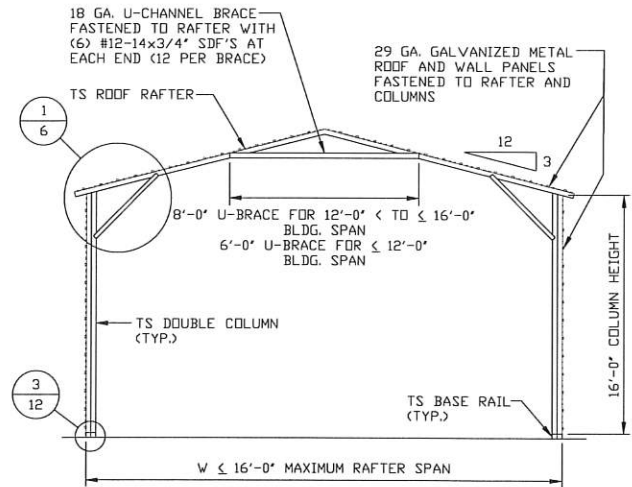
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TYPICAL INTERIOR RAFTER/COLUMN FRAMING SECTION

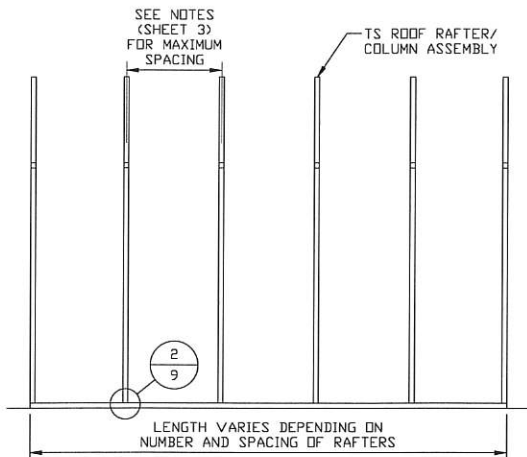
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* NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.



TYPICAL INTERIOR RAFTER/COLUMN FRAMING SECTION

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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

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SHT. 5

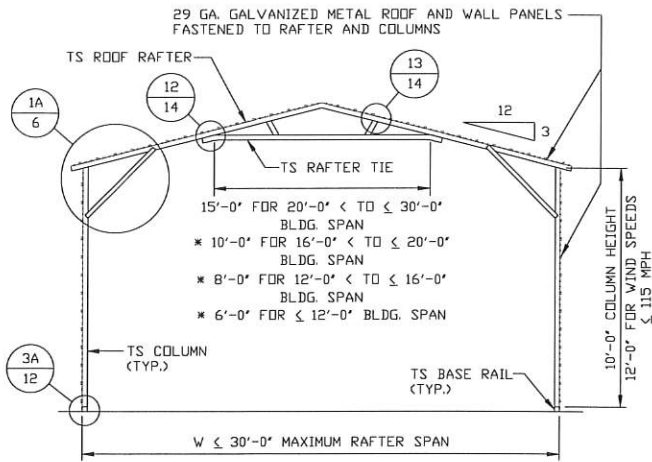
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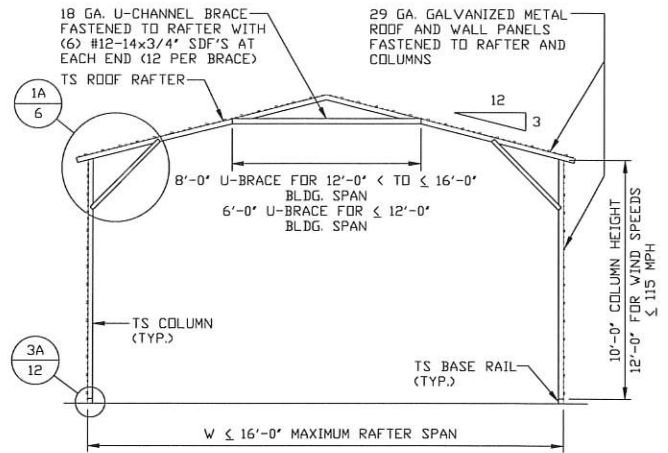
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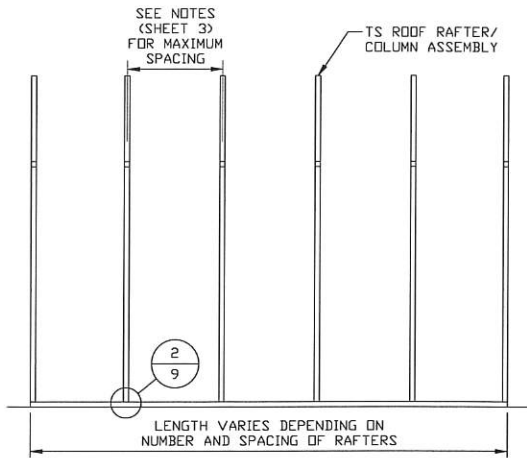
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

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SHT. 5A

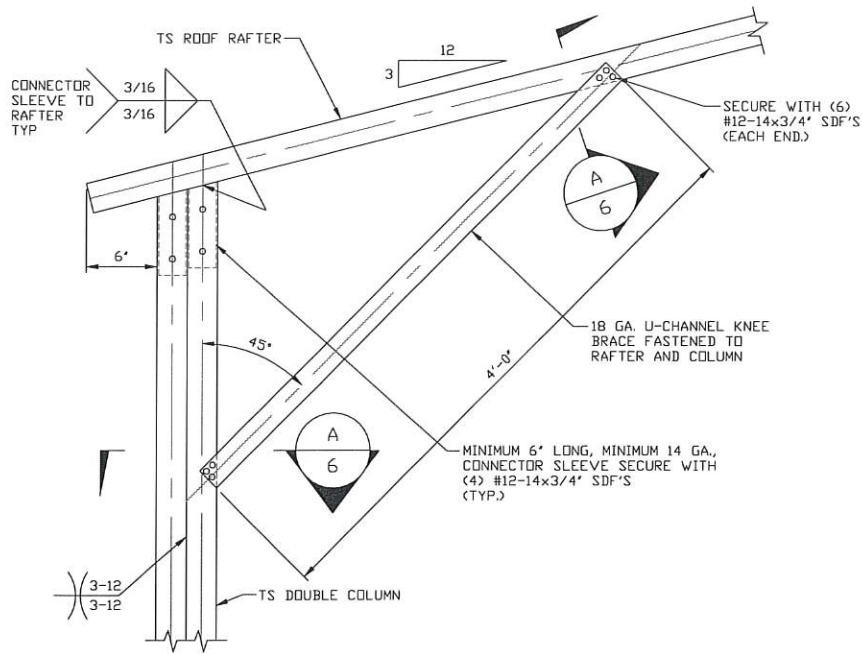
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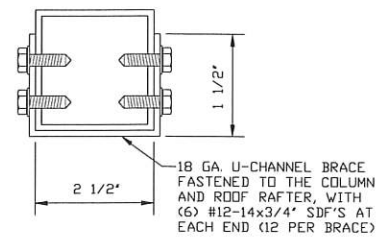
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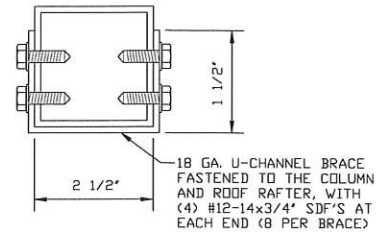


1 BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 10'-0" < TO ≤ 16'-0"

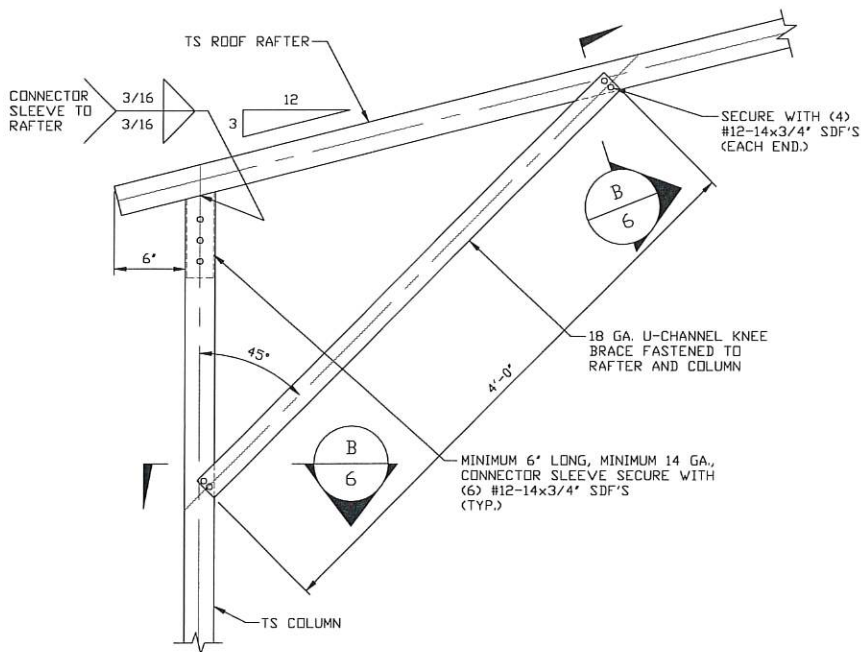
SCALE: NTS



A BRACE SECTION
SCALE: NTS
NOTE: DOUBLE COLUMN NOT SHOWN FOR CLARITY.



B BRACE SECTION
SCALE: NTS



1A BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS ≤ 10'-0"

SCALE: NTS
NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0" FOR WIND SPEEDS ≤ 115 MPH.

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SHT. 6

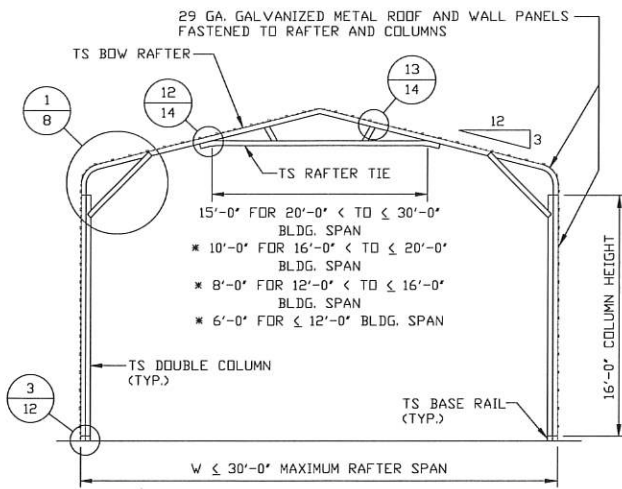
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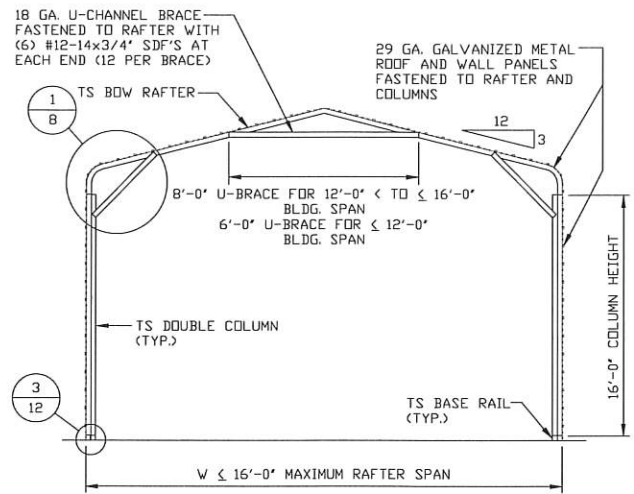
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TYPICAL INTERIOR RAFTER/COLUMN FRAMING SECTION

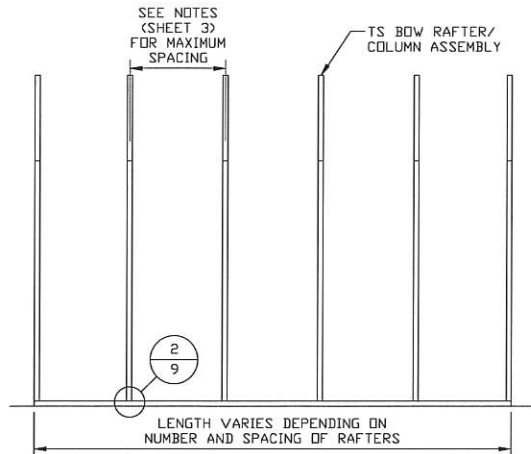
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* NOTE: VERTICAL STRUTS NOT REQUIRED FOR THESE TIE LENGTHS.



TYPICAL INTERIOR RAFTER/COLUMN FRAMING SECTION

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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

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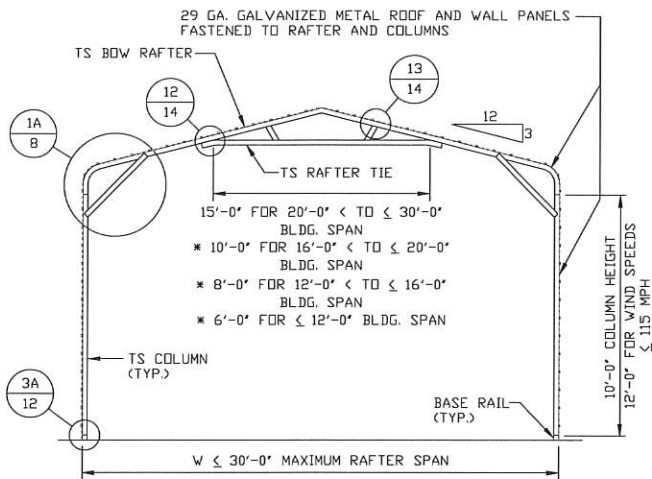
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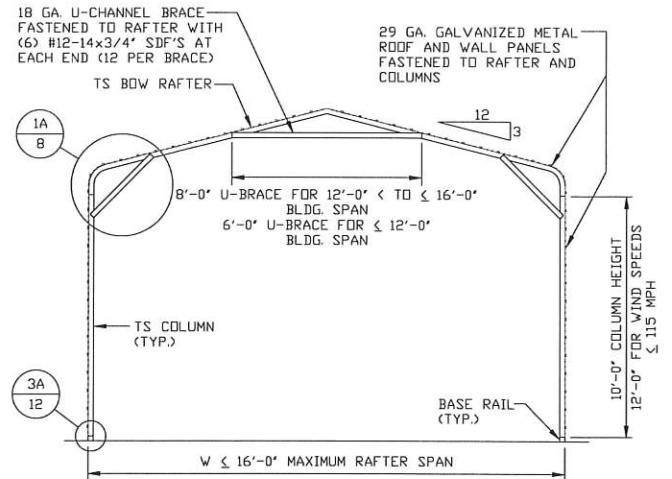
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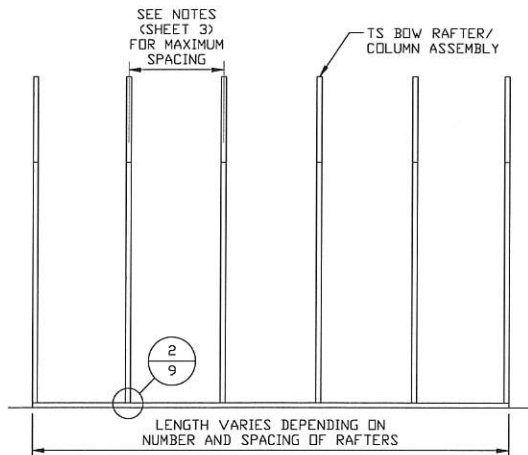
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

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TYPICAL INTERIOR RAFTER/COLUMN FRAMING SECTION

SCALE: NTS

Validity Notice
Plans Expiration Date:
27 April 2024

**MOORE AND ASSOCIATES
 ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: NC STEEL BUILDINGS

NC STEEL BUILDINGS, INC.
 P.O. BOX 6604
 MOUNT AIRY, NC 27030
 30'-0" x 16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 7A

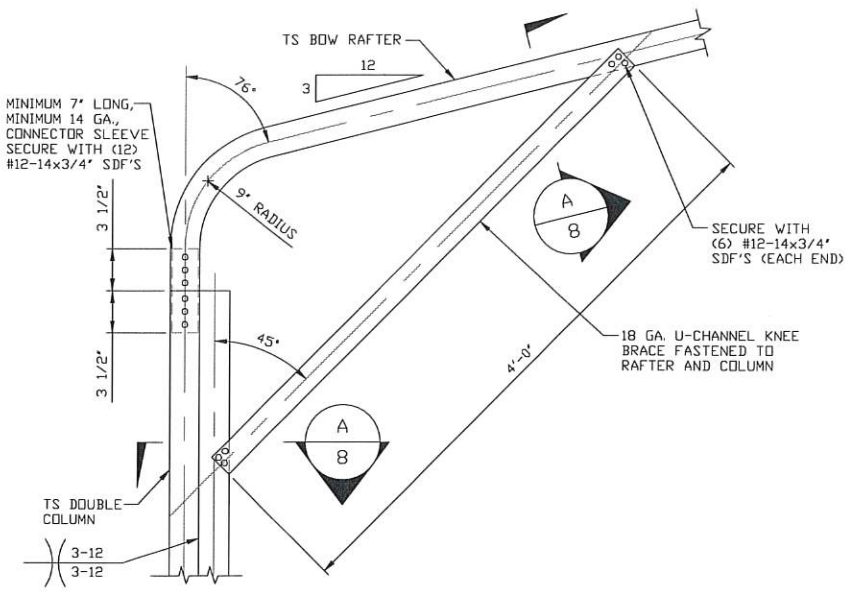
SCALE: NTS

DWG. NO: SK-3

JOB NO: 22337S

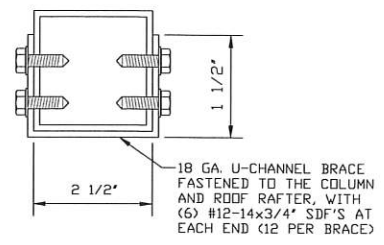
REV: 1

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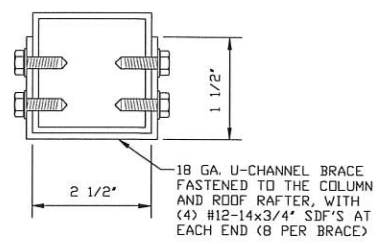


1 BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 10'-0" < TO ≤ 16'-0"

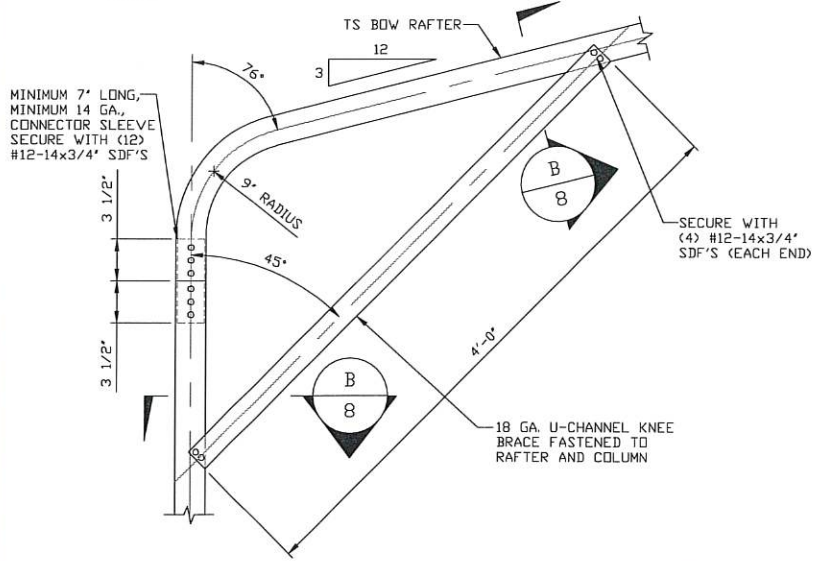
SCALE: NTS



A BRACE SECTION
SCALE: NTS
NOTE: DOUBLE COLUMN NOT SHOWN FOR CLARITY.



B BRACE SECTION
SCALE: NTS



1A BOW EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS ≤ 10'-0"

SCALE: NTS
NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0" FOR WIND SPEEDS ≤ 115 MPH

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Plans Expiration Date:

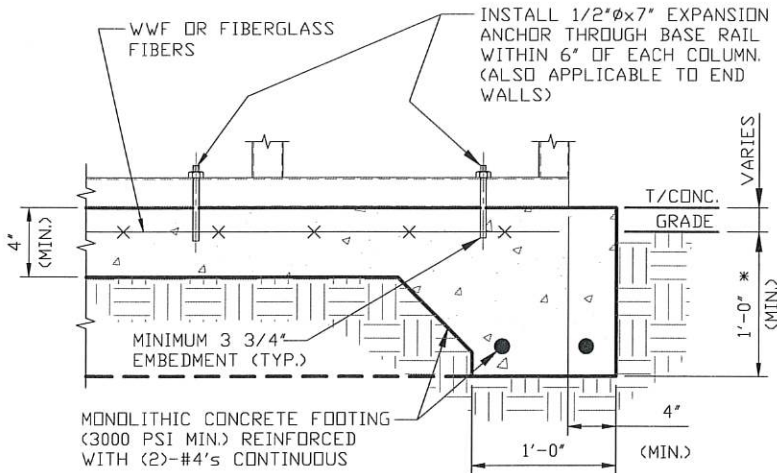
27 April 2024

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

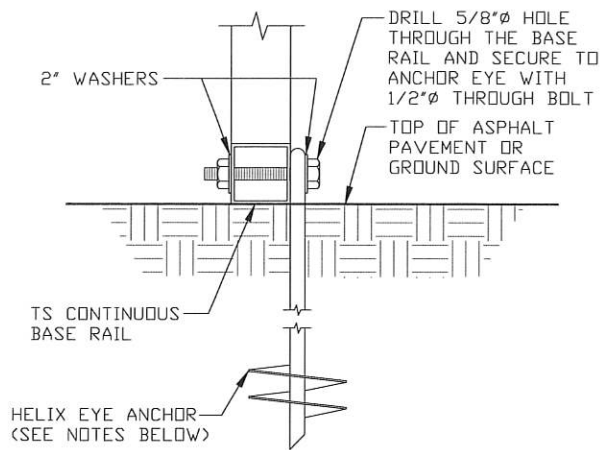
DRAWN BY: JG	NC STEEL BUILDINGS, INC. P.O. BOX 6604 MOUNT AIRY, NC 27030 30'-0" x 16'-0" ENCLOSED STRUCTURE		
CHECKED BY: PDH			
PROJECT MGR: WSM	DATE: 4-27-23	SCALE: NTS	JOB NO: 22337S
CLIENT: NC STEEL BUILDINGS	SHT. 8	DWG. NO: SK-3	REV: 1

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BASE RAIL ANCHORAGE OPTIONS



**2 CONCRETE MONOLITHIC SLAB
BASE RAIL ANCHORAGE**
SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4".
* COORDINATE WITH LOCAL BUILDING CODE
AND/OR BUILDING OFFICIAL REGARDING
REQUIRED FOOTING DEPTH.



2A GROUND BASE HELIX ANCHORAGE
SCALE: NTS (CAN BE USED FOR ASPHALT)
* COORDINATE WITH LOCAL BUILDING CODE
AND/OR BUILDING OFFICIAL REGARDING
REQUIRED ANCHORAGE DEPTH.

GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN BASED ON MINIMUM SOIL BEARING CAPACITY OF 1,500 PSF.

CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI 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 OR 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 MAY BE BENT IN THE SHOP OR 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.

HELIX ANCHOR NOTES:

1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT
2. FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT.
3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT OR SINGLE 6" HELIX WITH MINIMUM 50" EMBEDMENT.
4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
5. FOR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

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**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: WSH

CLIENT: NC STEEL BUILDINGS

NC STEEL BUILDINGS, INC.
P.O. BOX 6604
MOUNT AIRY, NC 27030
30'-0" x 16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 9

SCALE: NTS

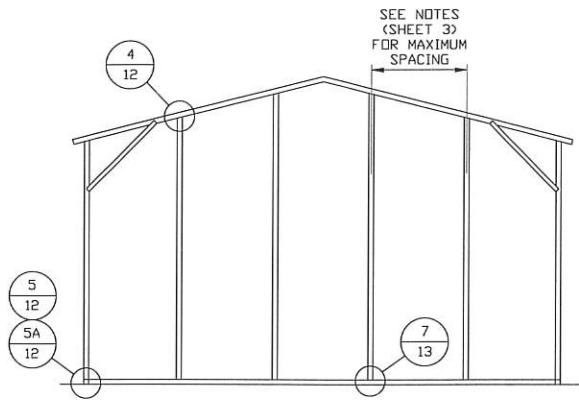
DWG. NO: SK-3

JOB NO: 22337S

REV: 1

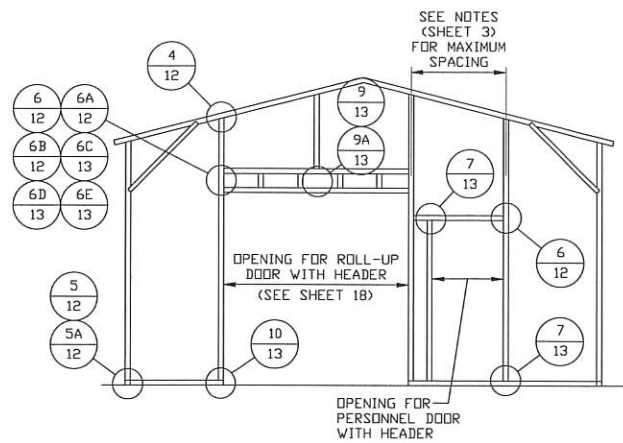
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



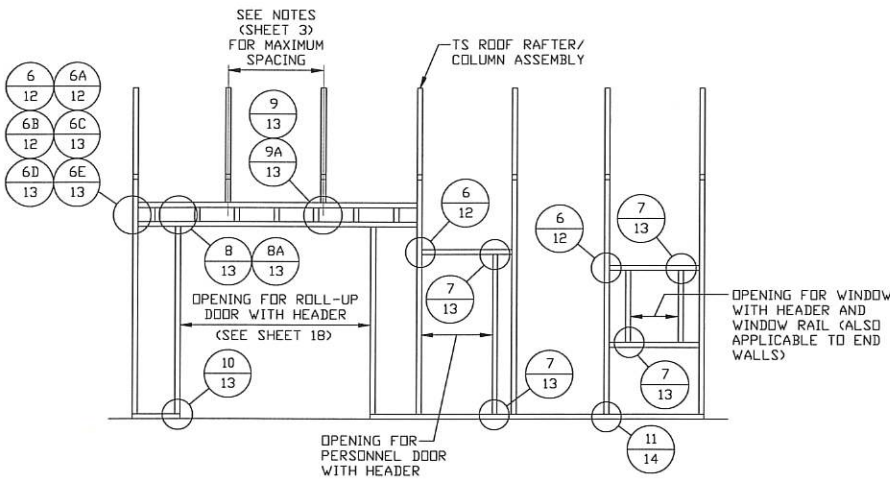
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



**TYPICAL BOX EAVE RAFTER END
WALL OPENINGS FRAMING SECTION**

SCALE: NTS



**TYPICAL BOX EAVE RAFTER
SIDE WALL OPENINGS FRAMING SECTION**

SCALE: NTS

Validity Notice

Plans Expiration Date:

27 April 2024

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: WSM

**CLIENT: NC STEEL
BUILDINGS**

NC STEEL BUILDINGS, INC.

P.O. BOX 6604

MOUNT AIRY, NC 27030

30'-0" x 16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 10

SCALE: NTS

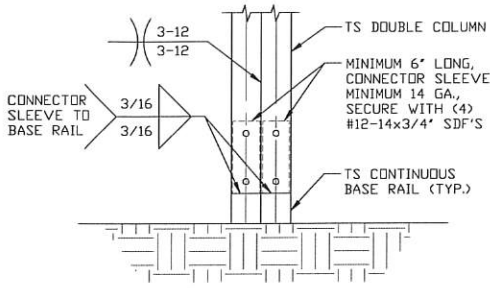
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JOB NO: 22337S

REV: 1

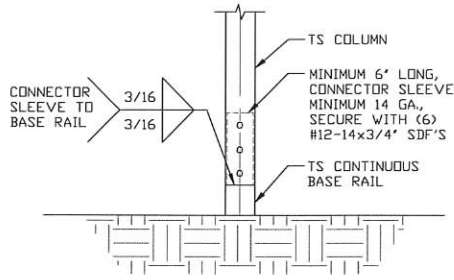
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CONNECTION DETAILS



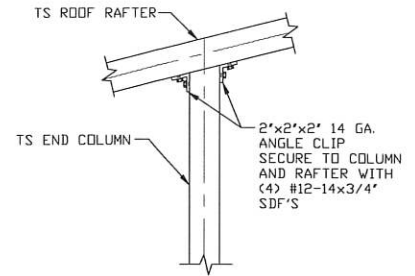
3 RAFTER COLUMN/
BASE RAIL
CONNECTION DETAIL

SCALE: NTS



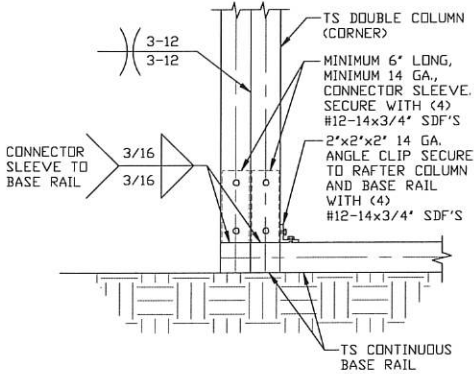
3A RAFTER COLUMN/
BASE RAIL
CONNECTION DETAIL

SCALE: NTS



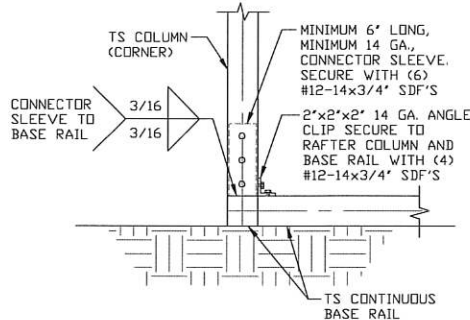
4 END COLUMN/RAFTER
CONNECTION DETAIL

SCALE: NTS



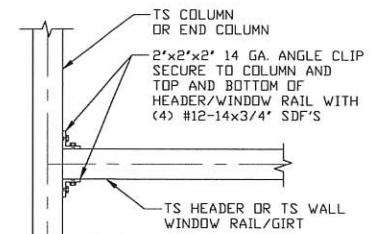
5 END COLUMN/BASE RAIL
CONNECTION DETAIL

SCALE: NTS



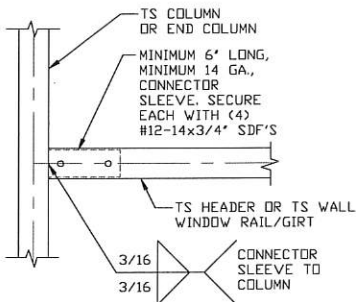
5A END COLUMN/BASE RAIL
CONNECTION DETAIL

SCALE: NTS



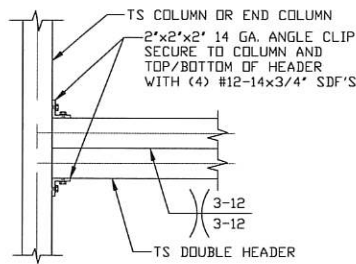
6 HEADER OR WINDOW
RAIL/TS WALL GIRT
TO COLUMN
CONNECTION DETAIL

SCALE: NTS



6A HEADER OR WINDOW
RAIL/TS WALL GIRT
TO COLUMN
CONNECTION DETAIL

SCALE: NTS



6B DOUBLE HEADER/COLUMN
CONNECTION DETAIL

SCALE: NTS

Validity Notice

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**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: WSM

**CLIENT: NC STEEL
BUILDINGS**

NC STEEL BUILDINGS, INC.

P.O. BOX 6604

MOUNT AIRY, NC 27030

30'-0" x 16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 12

SCALE: NTS

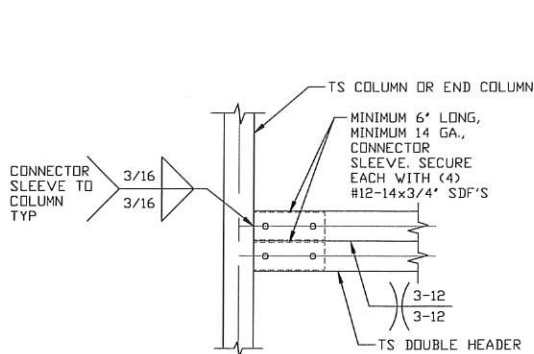
DWG. NO: SK-3

JOB NO: 22337S

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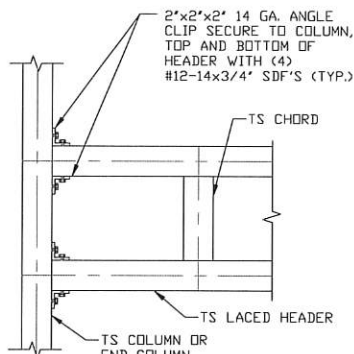
CONNECTION DETAILS



**DOUBLE HEADER/
COLUMN
CONNECTION DETAIL**

6C

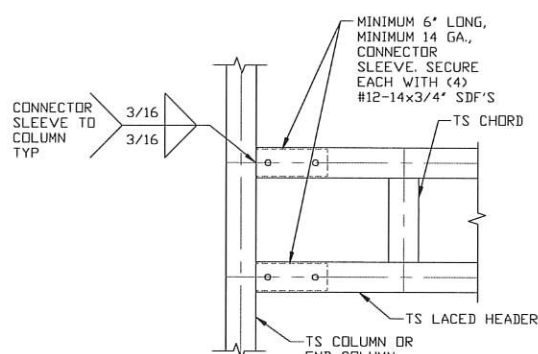
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**LACED HEADER/
COLUMN
CONNECTION DETAIL**

6D

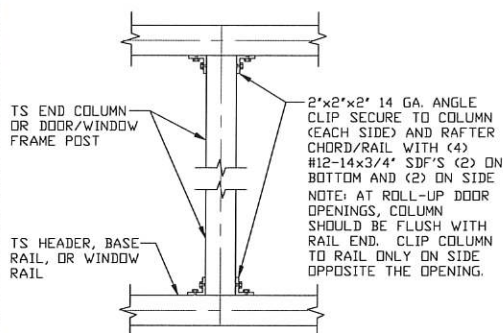
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**LACED HEADER/
COLUMN
CONNECTION DETAIL**

6E

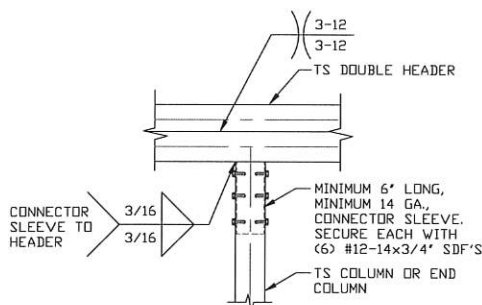
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**COLUMN TO HEADER
CONNECTION DETAIL**

7

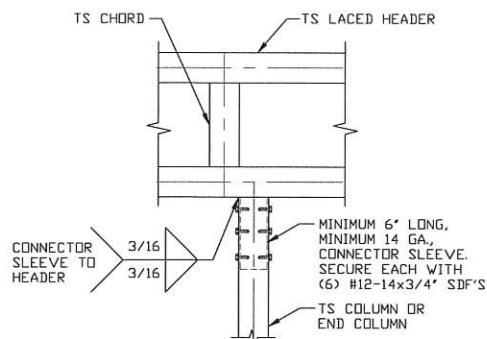
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**DOUBLE HEADER/COLUMN
CONNECTION DETAIL**

8

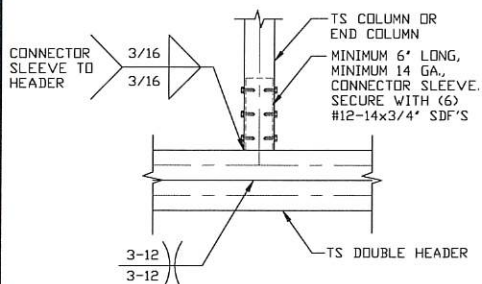
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**LACED HEADER/COLUMN
CONNECTION DETAIL**

8A

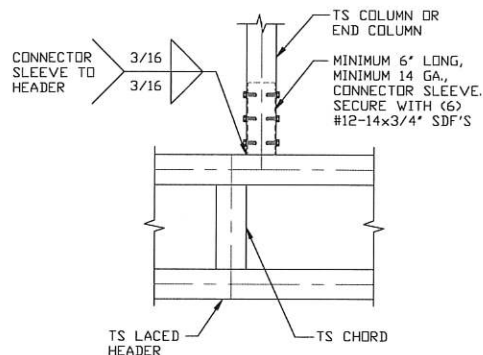
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**COLUMN/DOUBLE HEADER
CONNECTION DETAIL**

9

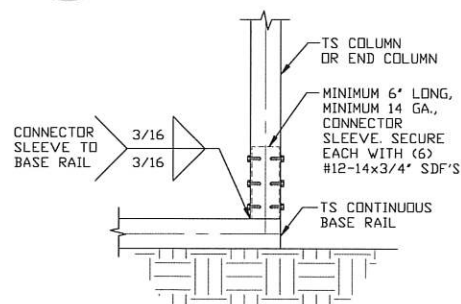
SCALE: NTS



**COLUMN/LACED HEADER
CONNECTION DETAIL**

9A

SCALE: NTS



**COLUMN/BASE RAIL
CONNECTION DETAIL**

10

SCALE: NTS

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**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: VSM

**CLIENT: NC STEEL
BUILDINGS**

NC STEEL BUILDINGS, INC.
P.O. BOX 6604
MOUNT AIRY, NC 27030
30'-0"x16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 13

SCALE: NTS

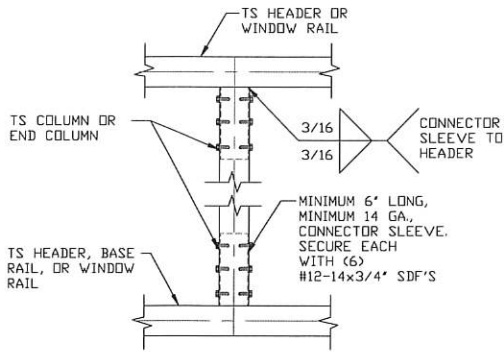
DWG. NO: SK-3

JOB NO: 22337S

REV: 1

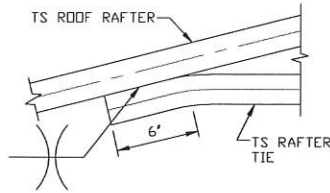
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CONNECTION DETAILS



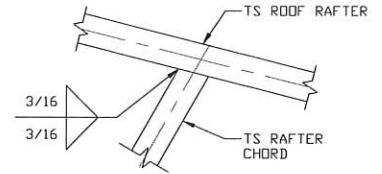
11 COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL

SCALE: NTS



12 TS RAFTER TIE CONNECTION DETAIL

SCALE: NTS



13 RAFTER TO CHORD CONNECTION DETAIL

SCALE: NTS

Validity Notice

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NC STEEL BUILDINGS, INC.

P.O. BOX 6604

MOUNT AIRY, NC 27030

30'-0" x 16'-0" ENCLOSED STRUCTURE

DATE: 4-27-23

SHT. 14

SCALE: NTS

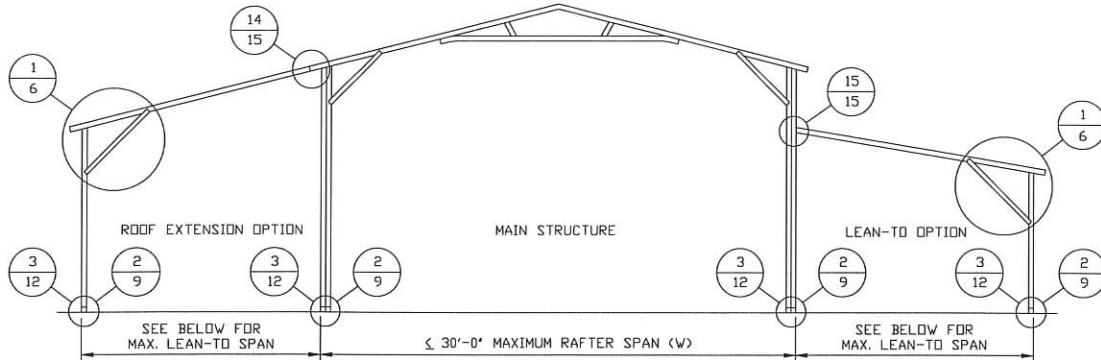
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JOB NO: 22337S

REV: 1

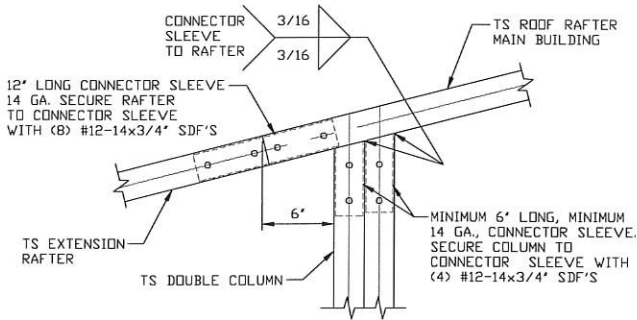
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BOX EAVE RAFTER LEAN-TO OPTIONS



TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

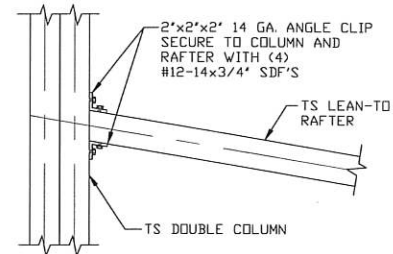
SCALE: NTS
 REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



SIDE EXTENSION RAFTER/ COLUMN DETAIL FOR RAFTER SPANS ≤ 12'-0"

SCALE: NTS

14



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 12'-0"

SCALE: NTS

15

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PROJECT MGR: WSM

**CLIENT: NC STEEL
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NC STEEL BUILDINGS, INC.
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30'-0"x16'-0" ENCLOSED STRUCTURE

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SHT. 15

SCALE: NTS

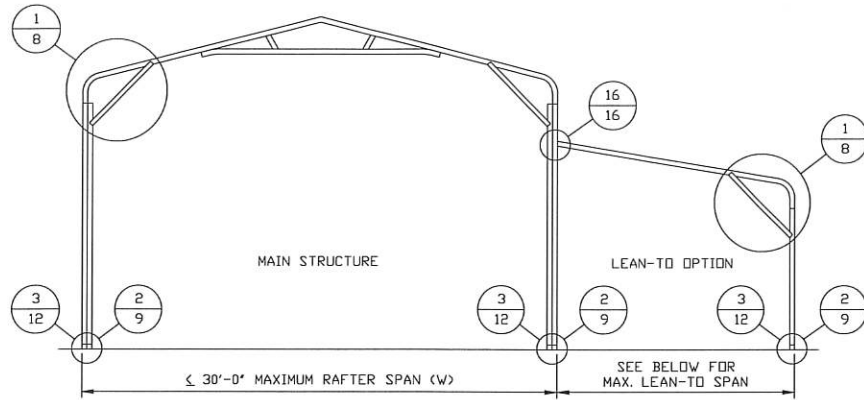
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JOB NO: 22337S

REV: 1

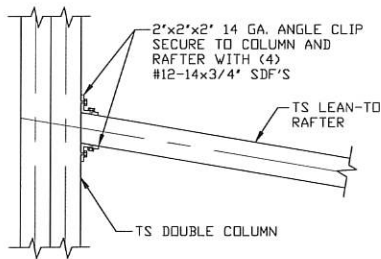
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BOW EAVE RAFTER LEAN-TO OPTIONS



TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS
 REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 12'-0''$

16

SCALE: NTS

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SHT. 16

SCALE: NTS

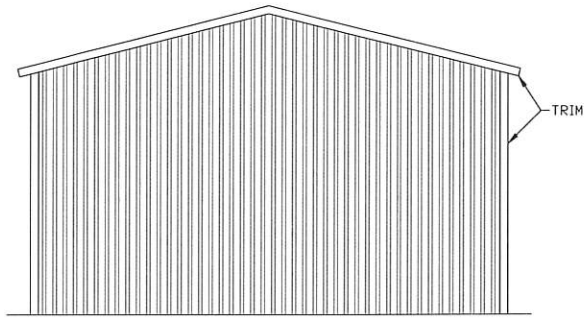
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JOB NO: 22337S

REV: 1

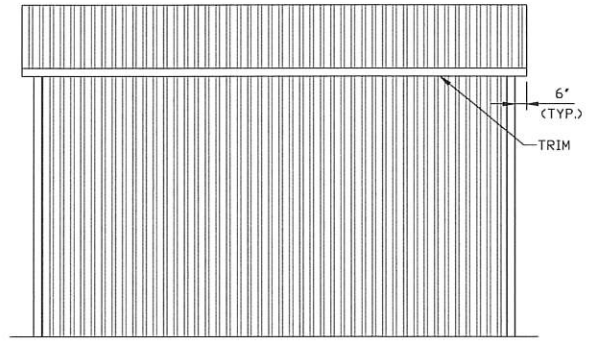
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BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



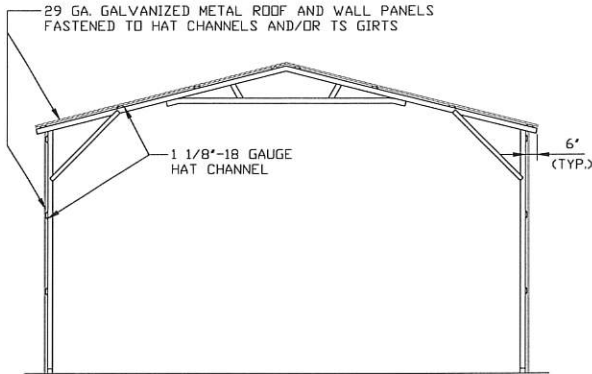
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



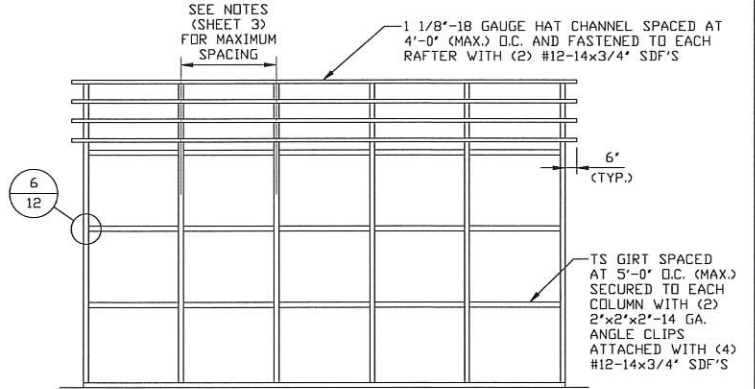
**TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



**TYPICAL SECTION VERTICAL
ROOF/SIDING OPTION**

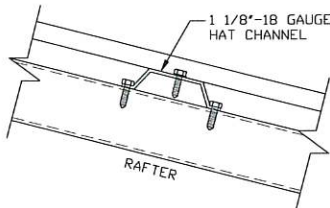
SCALE: NTS



**TYPICAL FRAMING SECTION
VERTICAL ROOF/SIDING OPTION**

SCALE: NTS

NOTE: HAT CHANNELS MAY ALSO BE USED FOR WALL GIRTS AND ARE SPACED AT 5'-0" D.C. (MAX.) SECURED TO EACH COLUMN WITH (2) #12-14 x 3/4" SDF'S



PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF AND WALL PANELS)
SCALE: NTS

Validity Notice

Plans Expiration Date:

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ENGINEERING AND CONSULTING, INC.**

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CHECKED BY: PDH

PROJECT MGR: WSM

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DATE: 4-27-23

SHT. 17

SCALE: NTS

DVG. NO: SK-3

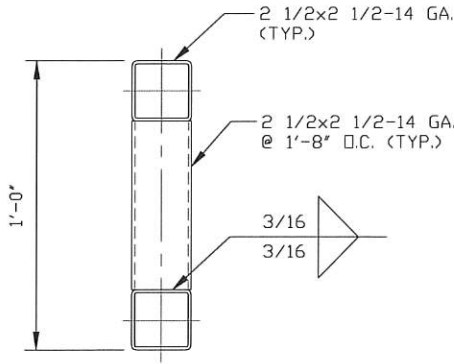
JOB NO: 22337S

REV: 1

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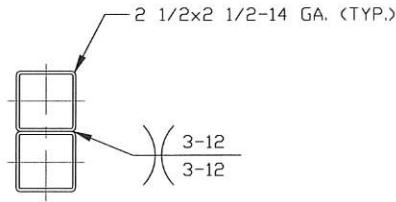
SIDE WALL HEADER OPTIONS

NOTE: HEADER DESIGN DOES NOT TAKE IN TO ACCOUNT ADDITIONAL ROOF LOADING FROM ATTACHED LEAN-TO STRUCTURES.



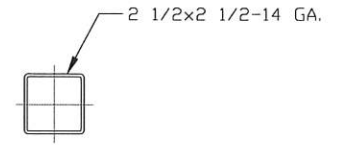
**HEADER DETAIL FOR SPANS
10'-0" < TO <= 16'-0"**

SCALE: NTS



**HEADER DETAIL FOR
SPANS 6'-0" < TO <= 10'-0"**

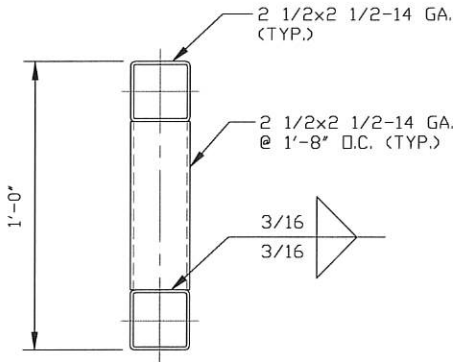
SCALE: NTS



**HEADER DETAIL FOR
SPANS <= 6'-0"**

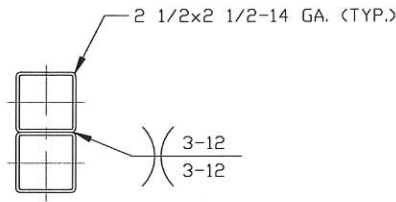
SCALE: NTS

END WALL HEADER OPTIONS



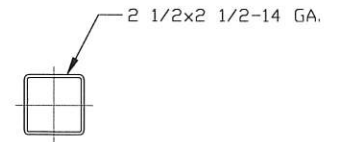
**HEADER DETAIL FOR
SPANS 15'-0" < TO <= 16'-0"**

SCALE: NTS



**HEADER DETAIL FOR SPANS
8'-0" < TO <= 15'-0"**

SCALE: NTS



**HEADER DETAIL FOR
SPANS <= 8'-0"**

SCALE: NTS

Validity Notice

Plans Expiration Date:

27 April 2024

**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.**

DRAWN BY: JG

CHECKED BY: PDH

PROJECT MGR: WSM

**CLIENT: NC STEEL
BUILDINGS**

**NC STEEL BUILDINGS, INC.
P.O. BOX 6604**

**MOUNT AIRY, NC 27030
30'-0"x16'-0" ENCLOSED STRUCTURE**

DATE: 4-27-23

SHT. 18

SCALE: NTS

DWG. NO: SK-3

JOB NO: 22337S

REV: 1

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