



STRUCTURAL DESIGN

ENCLOSED BUILDING

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

12 June 2020

Revision 6

M&A Project No. 17232S/18070S/18094S/19050S/20127S

Prepared for:

**Steel Building Garages
1804 River Street
Wilkesboro, NC 28697**

Prepared by:

Moore and Associates Engineering and Consulting, Inc.

**1009 East Avenue
North Augusta, SC 29841**

**401 S. Main Street, Suite 200
Mount Airy, NC 27030**



**MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING**

<p align="center">MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.</p>	<p>DRAWN BY: LT</p>	<p align="center">STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'-0"x16'-0" ENCLOSED BUILDING</p>	
	<p>CHECKED BY: PDH</p>	<p>PROJECT MGR: WSM</p>	<p>DATE: 6-12-20</p>
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DRAWING INDEX

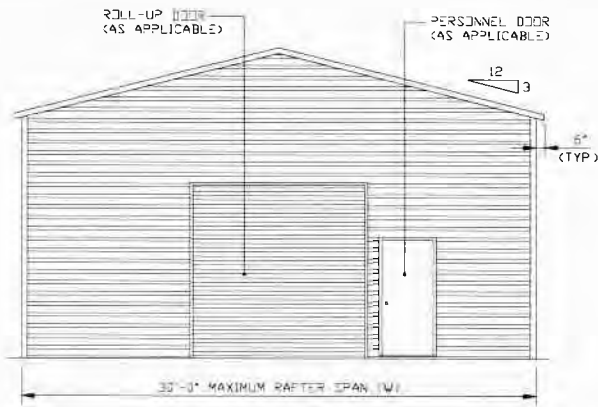
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MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: LT	STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'-0" x 16'-0" ENCLOSED BUILDING			
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	CLIENT: SBG	SHT. 2	DWG. NO: SK-3	REV: 6	

INSTALLATION NOTES AND SPECIFICATIONS

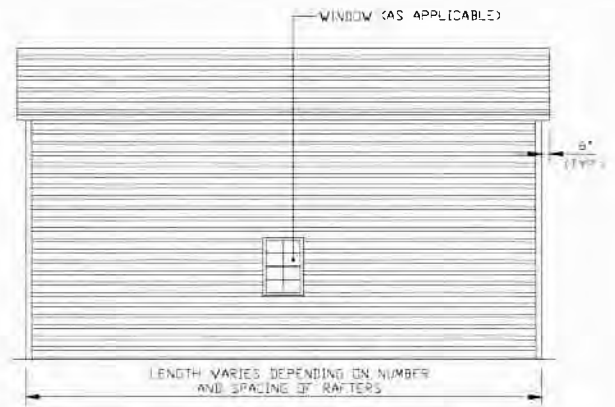
- 1 DESIGN IS FOR MAXIMUM 30'-0" WIDE x 16'-0" EAVE HEIGHT ENCLOSED STRUCTURES
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE, 2006 INTERNATIONAL BUILDING CODE (IBC), 2009 IBC, 2012 IBC, 2015 IBC AND 2018 IBC
- 3 DESIGN LOADS ARE AS FOLLOWS:
 - A) DEAD LOAD = 15 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 35 PSF (MAXIMUM 45 PSF AT 4'-0" OC RAFTER/POST SPACING)
 - = 35 PSF < TO ≤ 45 PSF WITH TS COLLAR TIE (W < 24'-0")
 - = 30 PSF WITH U-CHANNEL PEAK BRACE (W < 24'-0")
 - (UNBALANCED SNOW LOADS DUE TO DRIFTING HAVE NOT BEEN EVALUATED)
- 4 3-SECOND GUST ULTIMATE WIND SPEED (V_{ULT}) = 105 TO 150 MPH (NOMINAL WIND SPEED = 81 TO 116 MPH)
- 5 MAXIMUM RAFTER/POST AND END POST SPACING = 50 FEET (UNLESS NOTED OTHERWISE)
- 6 END WALL COLUMNS/POSTS ARE EQUIVALENT TO SIDE WALL COLUMNS/POSTS IN SIZE AND SPACING UNLESS NOTED OTHERWISE
- 7 RISK CATEGORY I
- 8 WIND EXPOSURE CATEGORY B
- 9 SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2" x 3" - 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS (UNLESS NOTED OTHERWISE)
- 10 AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR HAT CHANNELS, AND COLUMNS (INTERIOR OR END) = 10" OC (MAX)
- 11 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 20 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
- 12 ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES
- 13 GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 30" LONG AND MAY ONLY BE USED IN CONJUNCTION WITH OTHER (OPTIONAL) ANCHOR DEVICES AND ONLY IN SUITABLE SOILS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED. SOIL NAILS MAY ONLY BE USED FOR WIND SPEEDS < 145 MPH. COORDINATE WITH LOCAL CODES/ORDINANCES REGARDING MINIMUM LENGTH FOR FROST DEPTH PROTECTION
- 14 WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
 - SOIL SITE CLASS = D
 - RISK CATEGORY I
 - R = 3.25 $I_E = 1.0$
 - $S_{DS} = 2.039 g$ $V = C_s W$
 - $S_{D1} = 1.258 g$
- 15 APPLY LAP SEALANT TO METAL ROOF PANELS FOR 1:12 ROOF SLOPE

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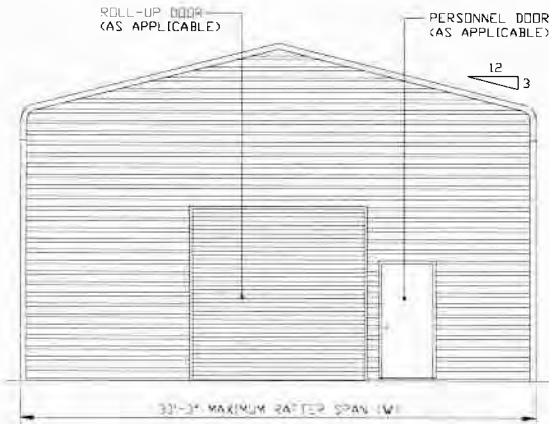
TYPICAL END ELEVATION

SCALE: NTS



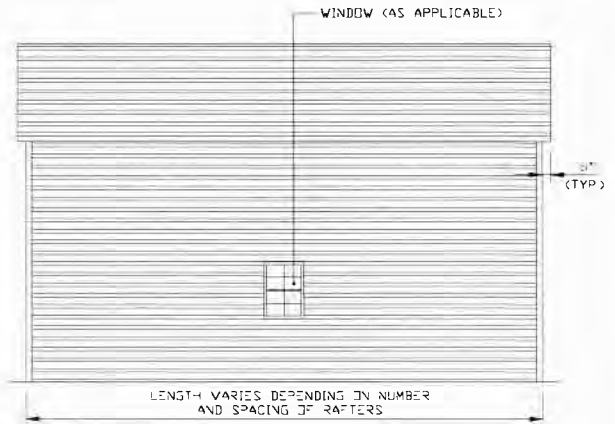
TYPICAL SIDE ELEVATION

SCALE: NTS



TYPICAL END ELEVATION

SCALE: NTS



TYPICAL SIDE ELEVATION

SCALE: NTS

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SHT. 4

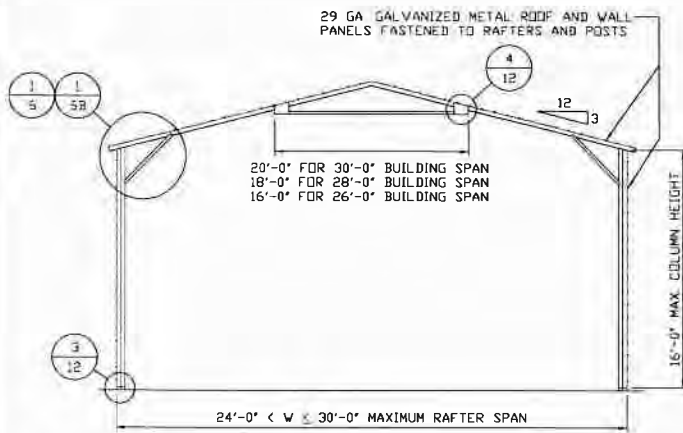
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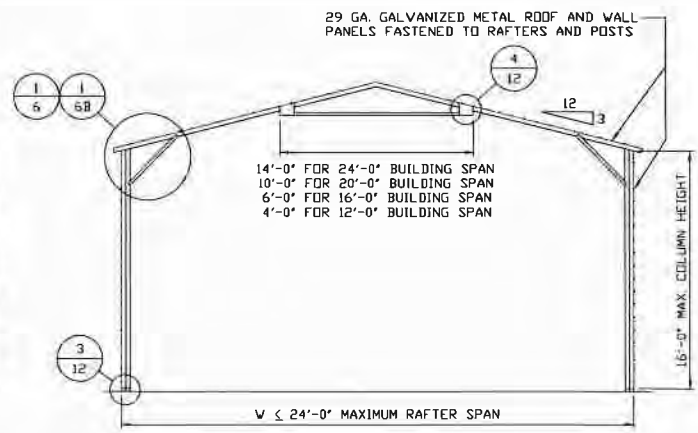
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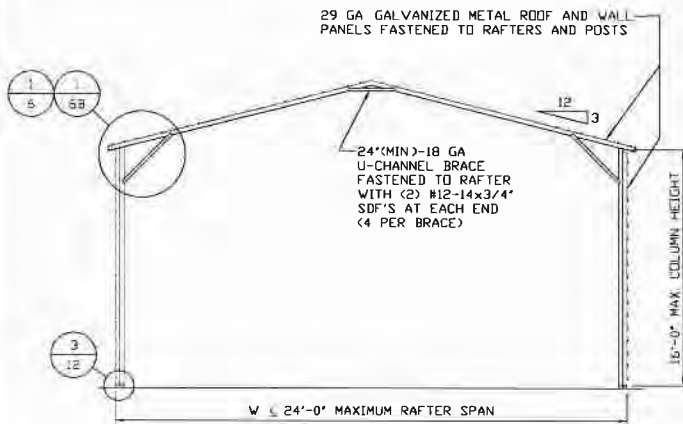
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



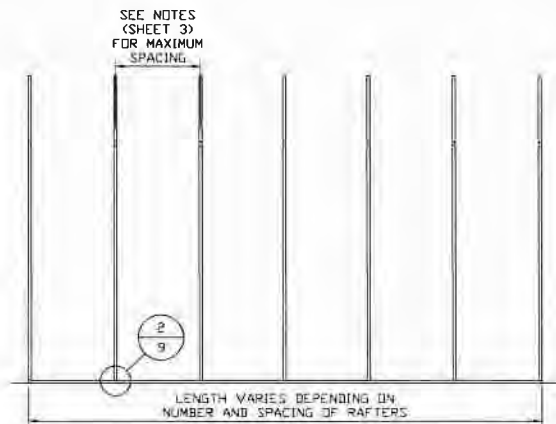
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

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30'-0" x 16'-0" ENCLOSED BUILDING**

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SHT. 5

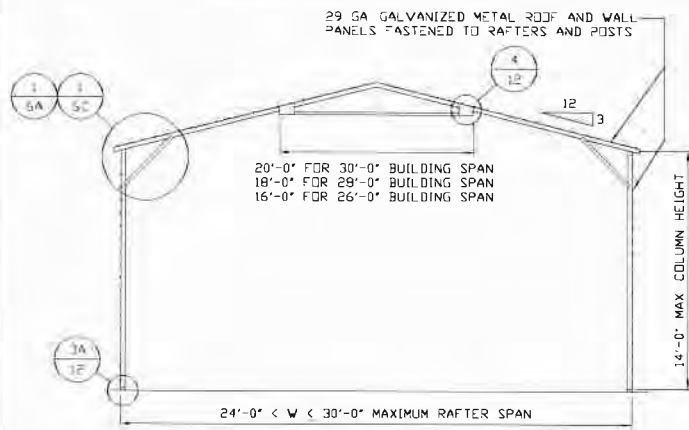
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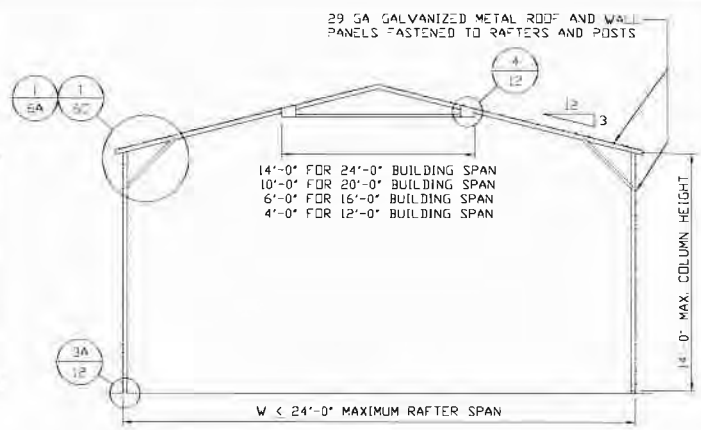
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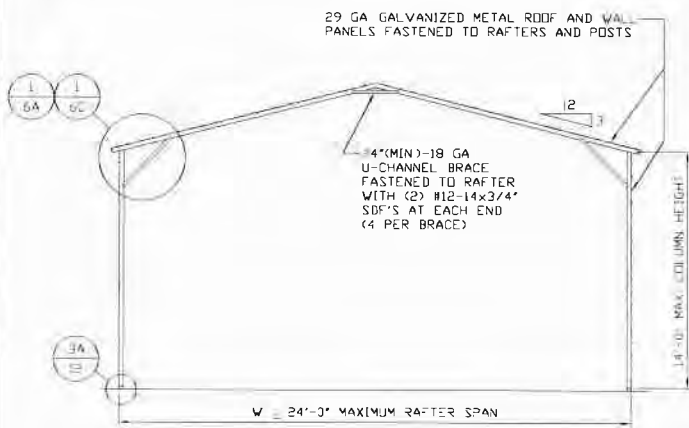
TYPICAL RAFTER/COLUMN END FRAME SECTION

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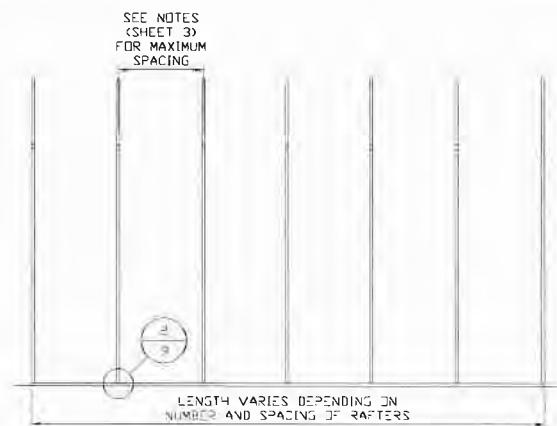
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

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STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

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SHT. 5A

SCALE: NTS

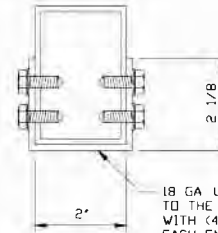
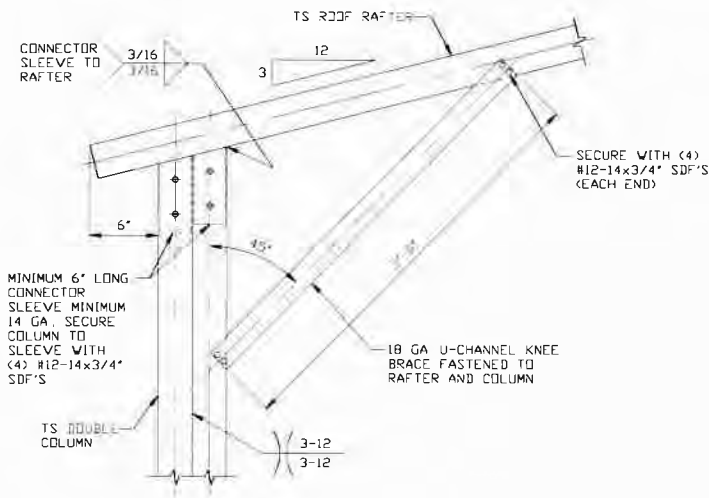
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COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



BRACE SECTION

SCALE: NTS

**BOX EAVE RAFTER COLUMN
CONNECTION DETAIL
HEIGHTS 14'-0" < TO ≤ 16'-0"**

1

SCALE: NTS

NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS < 26'-0"

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STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 6

SCALE: NTS

DWG. NO: SK-3

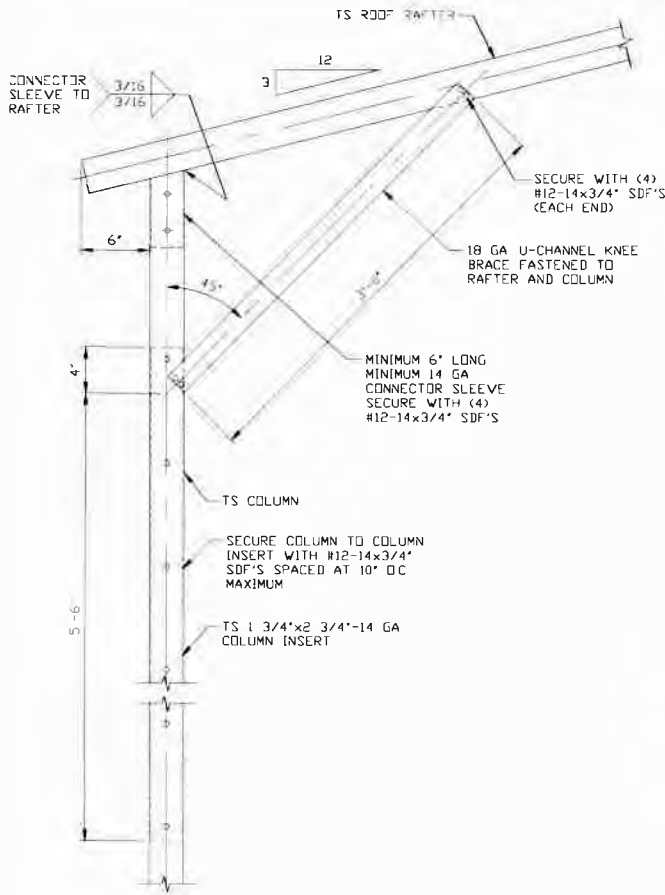
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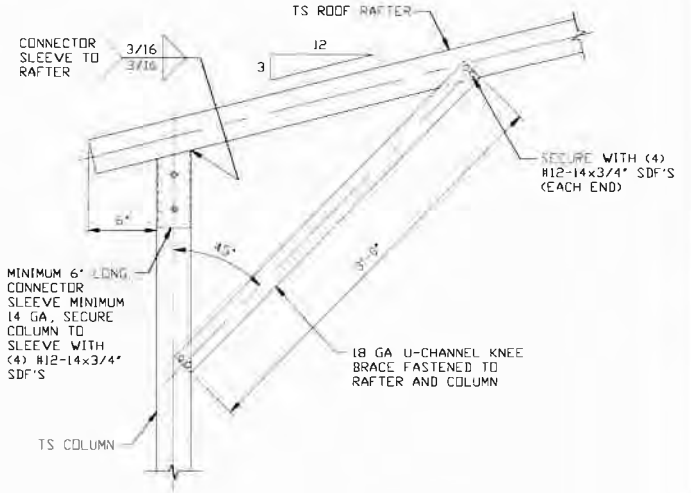
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COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



BOX EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS 10'-0" < TO ≤ 14'-0"
 SCALE: NTS

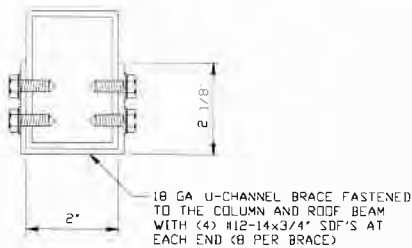
1A



BOX EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS ≤ 10'-0"
 SCALE: NTS

1B

NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS ≤ 26'-0"



BRACE SECTION
 SCALE: NTS

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STEEL BUILDING GARAGES
 1804 RIVER STREET
 WILKESBORO, NC 28697
 30'-0" x 16'-0" ENCLOSED BUILDING

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SHT. 6A

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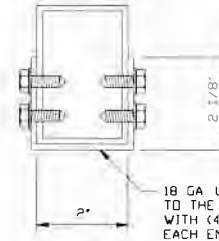
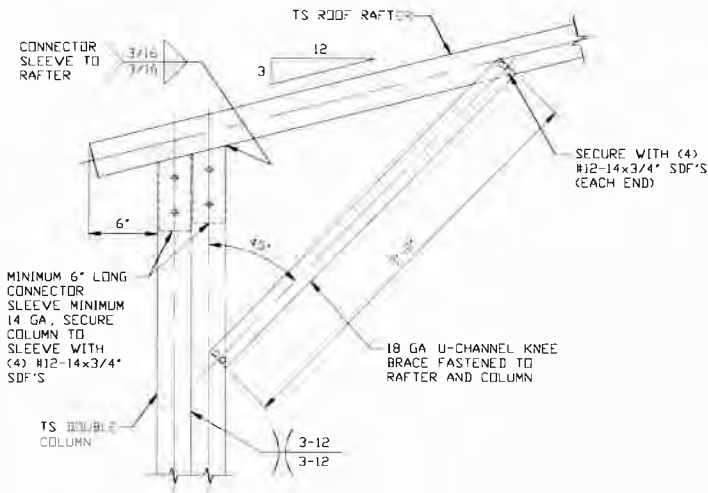
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COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH



BRACE SECTION
SCALE: NTS

BOX EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS 14'-0" < TO \leq 16'-0"

1C

SCALE: NTS

NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS $\leq 26'-0"$

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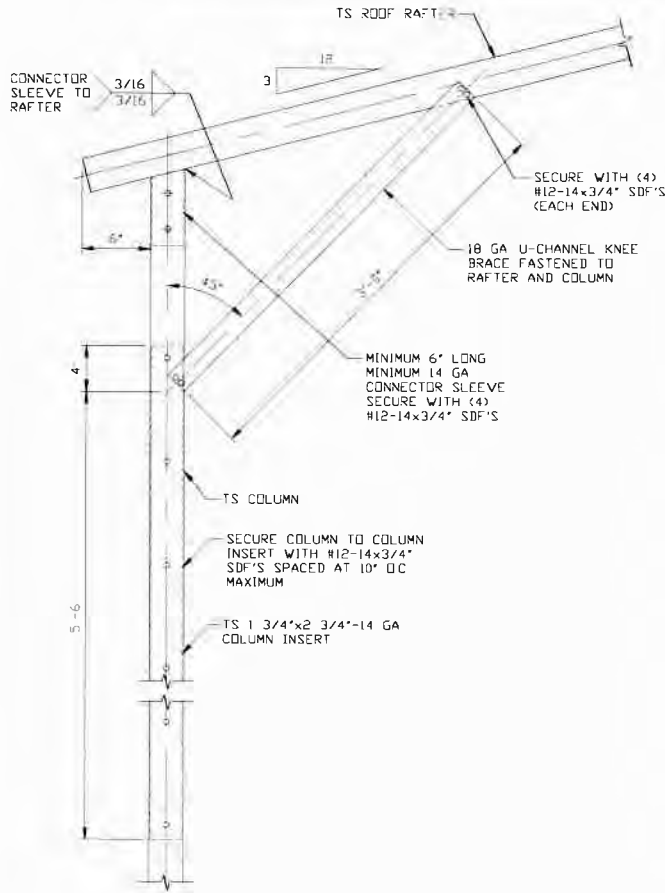
SHT. 6B

DWG. NO: SK-3

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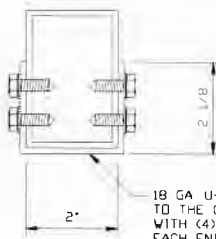
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COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH



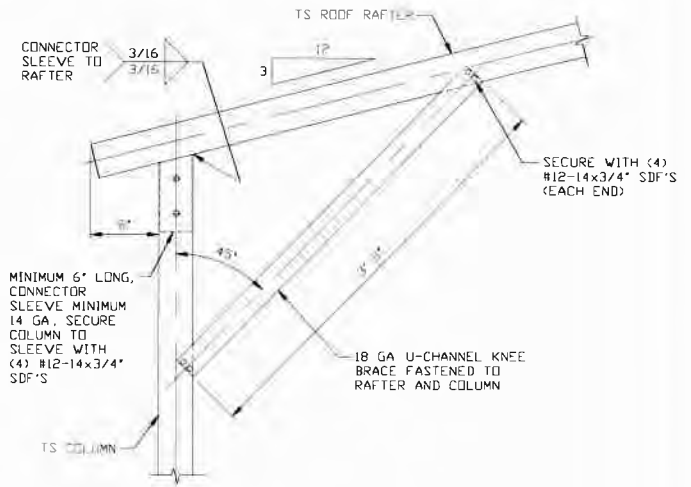
1D BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 13'-0" < TO \leq 14'-0"

SCALE: NTS



BRACE SECTION

SCALE: NTS



1E

BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS $\leq 13'-0''$

SCALE: NTS

NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS $\leq 26'-0''$

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STEEL BUILDING GARAGES

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WILKESBORO, NC 28697

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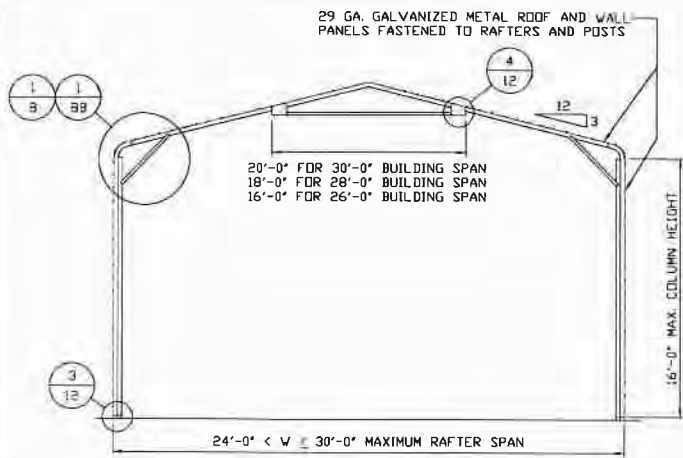
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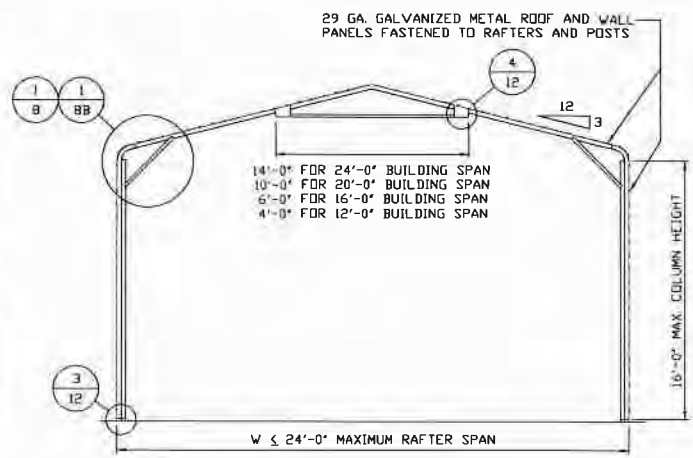
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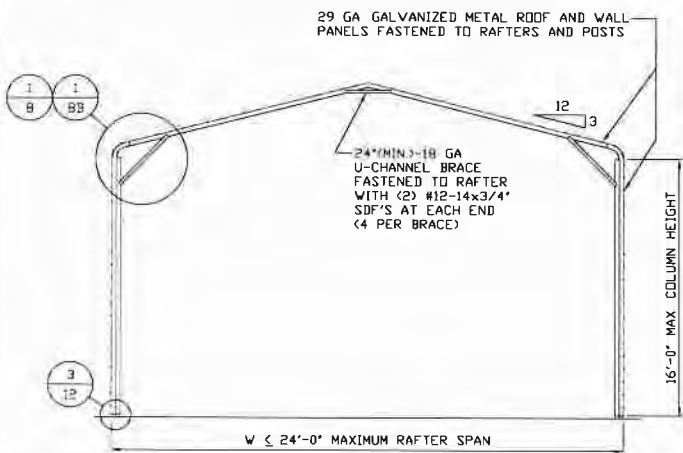
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



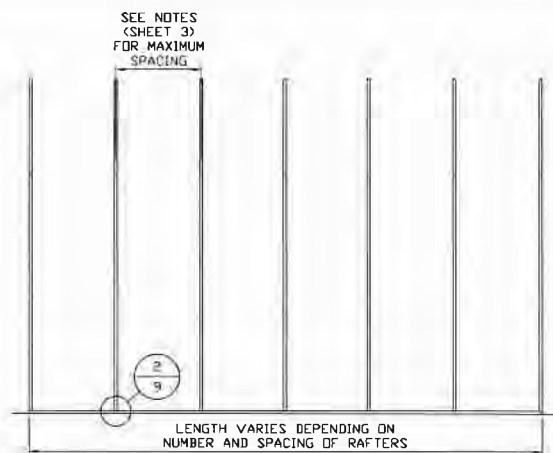
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

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**STEEL BUILDING GARAGES
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SHT. 7

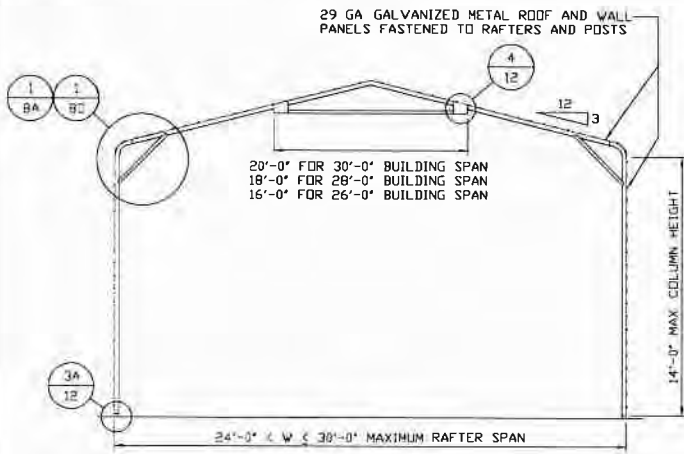
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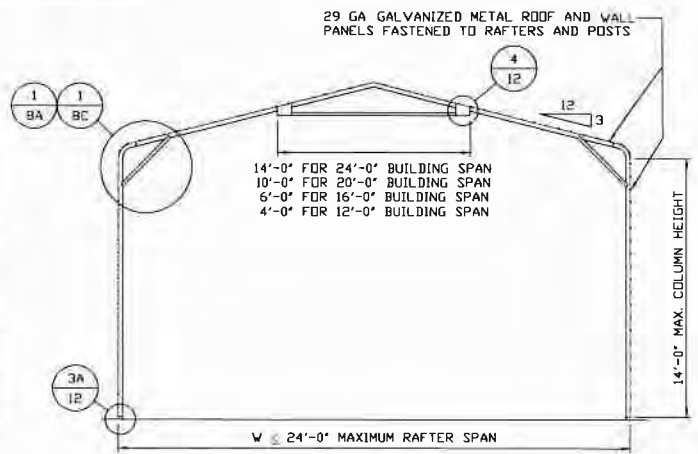
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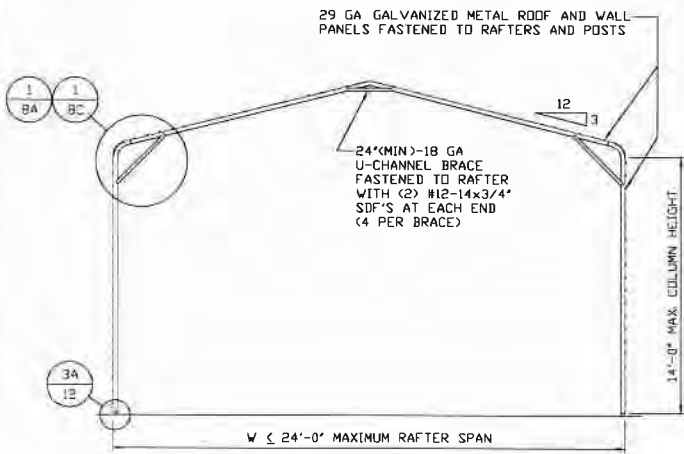
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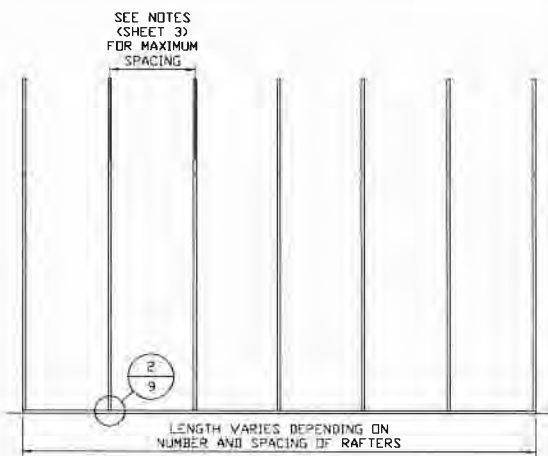
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TYPICAL RAFTER/COLUMN END FRAME SECTION
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TYPICAL RAFTER/COLUMN END FRAME SECTION
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
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SHT. 7A

SCALE: NTS

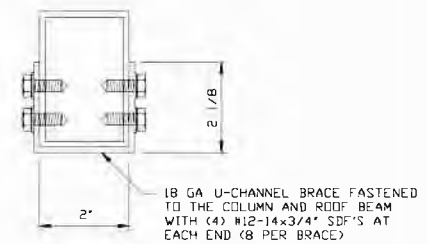
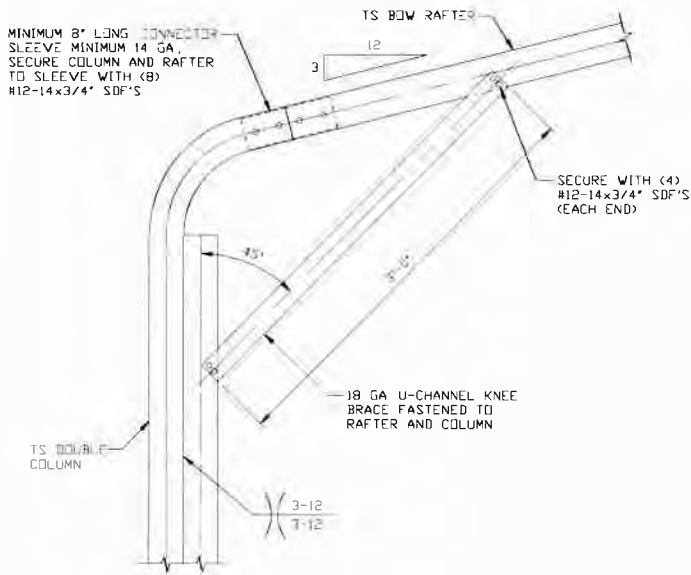
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

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COLUMN CONNECTION DETAILS FOR WIND SPEEDS $105 < TO \leq 150$ MPH



BRACE SECTION
SCALE: NTS

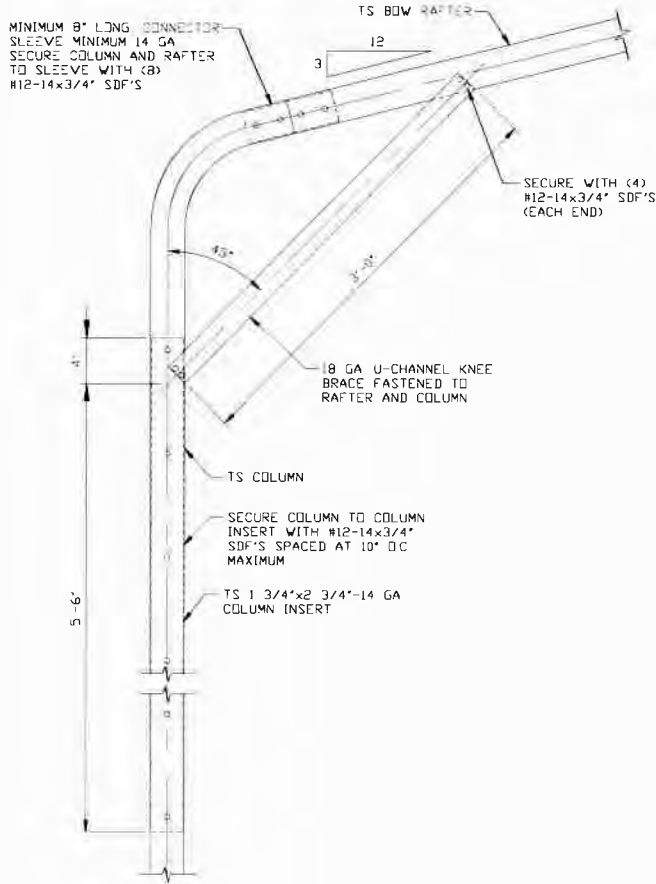
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**BOW EAVE RAFTER COLUMN
CONNECTION DETAIL
HEIGHTS 14'-0" < TO ≤ 16'-0"**

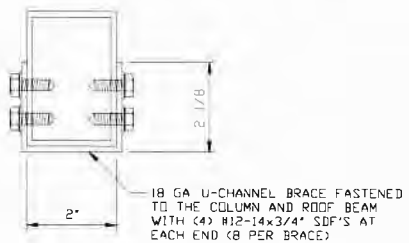
SCALE: NTS
NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS < 26'-0"

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: LT	STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'-0" x 16'-0" ENCLOSED BUILDING		
	CHECKED BY: PDH			
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	CLIENT: SBG	SHT. 8	DWG. NO: SK-3	REV: 6

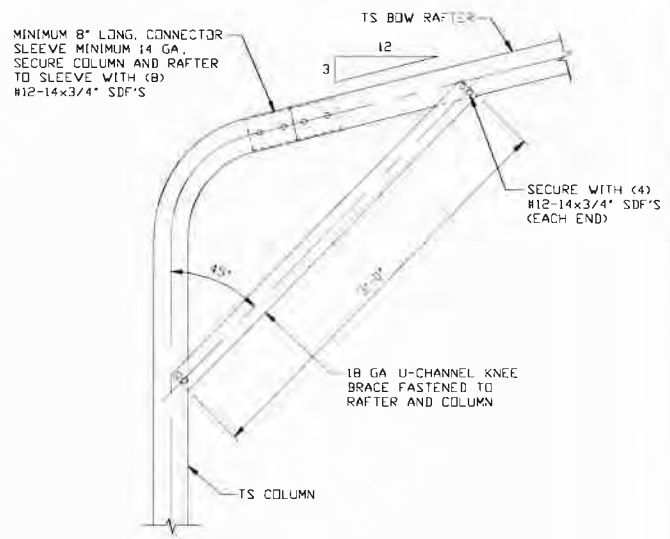
COLUMN CONNECTION DETAILS FOR WIND SPEEDS $105 < TO \leq 150$ MPH



1A BOW EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS $10'-0" < TO \leq 14'-0"$
SCALE: NTS



BRACE SECTION
SCALE: NTS

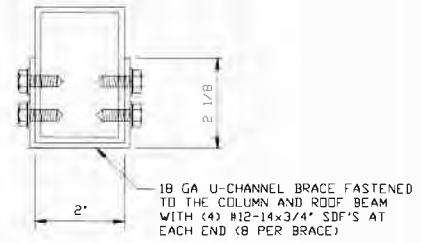
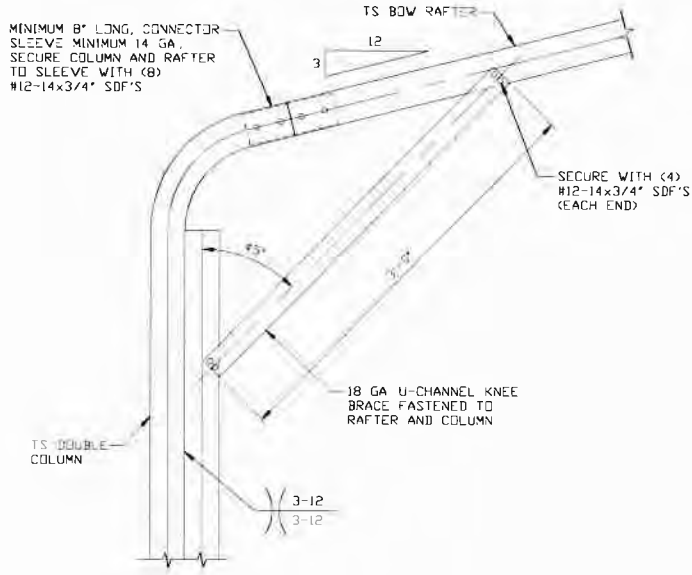


1B BOW EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS $\leq 10'-0"$
SCALE: NTS
NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS $< 26'-0"$

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	CHECKED BY: PDH				
PROJECT MGR: WSM	DATE: 6-12-20	SCALE: NTS	JOB NO: 17232S/18070S/ 18094S/19050S/20127S		
CLIENT: SBG	SHT. 8A	DWG. NO: SK-3	REV: 6		

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COLUMN CONNECTION DETAILS FOR WIND SPEEDS \leq 105 MPH



BRACE SECTION

SCALE: NTS

BOW EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 14'-0" < TO \leq 16'-0"

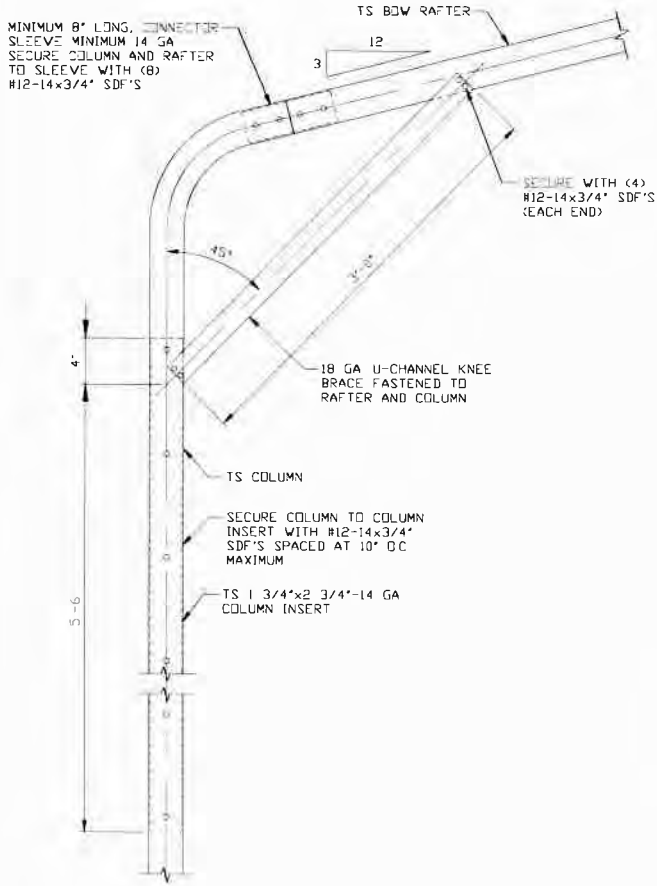
SCALE: NTS

NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS < 26'-0"

1C

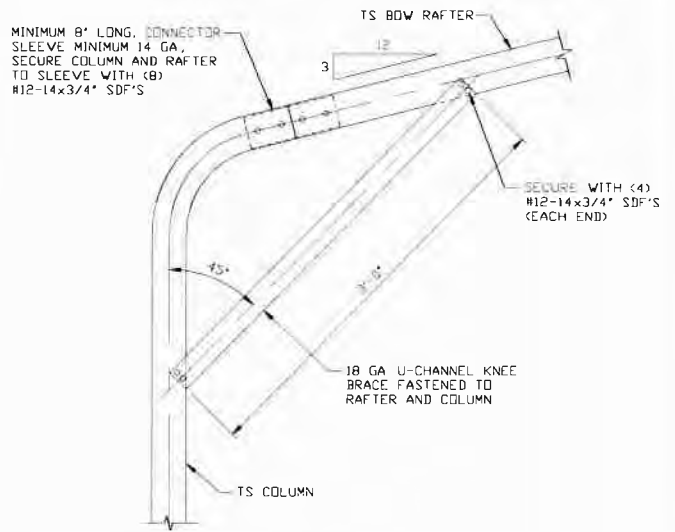
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: LT	STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'-0" x 16'-0" ENCLOSED BUILDING		
	CHECKED BY: PDH			
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	CLIENT: SBG	SHT. 08	DWG. NO: SK-3	REV: 6

COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH



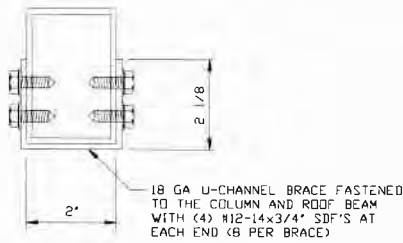
1D BOW EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 13'-0" < TO \leq 14'-0"

SCALE: NTS



1E BOW EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS $\leq 13'-0"$

SCALE: NTS
NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS $\leq 25'-0"$



BRACE SECTION

SCALE: NTS

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

DRAWN BY: LT

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PROJECT MGR: WSH

CLIENT: SBG

STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0"x16'-0" ENCLOSED BUILDING

DATE: 6-12-20

SCALE: NTS

JOB NO: 17232S/18070S/
18094S/19050S/20127S

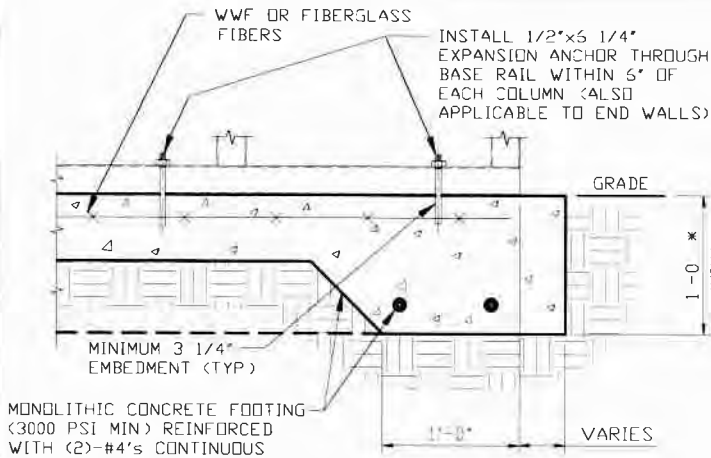
SHT. 8C

DWG. NO: SK-3

REV: 6

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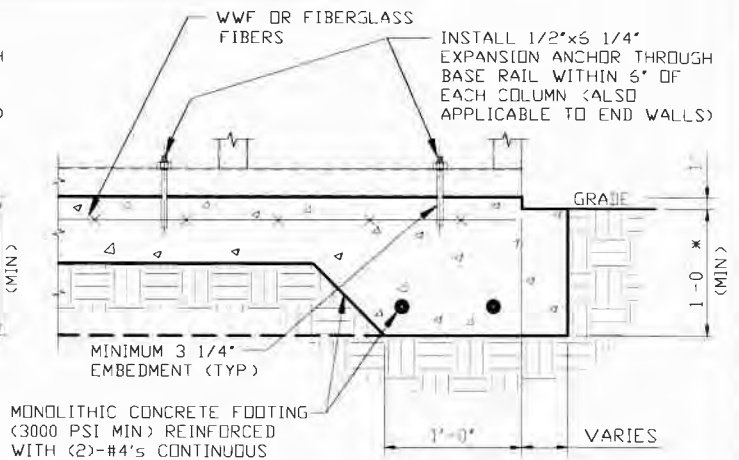
BASE RAIL ANCHORAGE OPTIONS



2

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS
 NOTE: MIN ANCHOR EDGE DISTANCE IS 4"
 * COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH



2A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE WITH NOTCH

SCALE: NTS
 NOTE: MIN ANCHOR EDGE DISTANCE IS 4"
 * COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING 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:

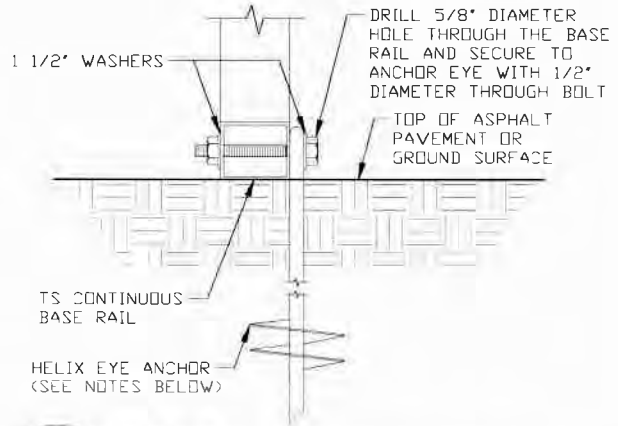
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT

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, PRELDADED 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



2B

GROUND BASE HELIX ANCHORAGE

SCALE: NTS (CAN BE USED FOR ASPHALT)
 * COORDINATE WITH LOCAL CODES/ORD REGARDING MIN FROST DEPTH (LENGTH)

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

**STEEL BUILDING GARAGES
 1804 RIVER STREET
 WILKESBORO, NC 28697
 30'-0" x 16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SHT. 9

SCALE: NTS

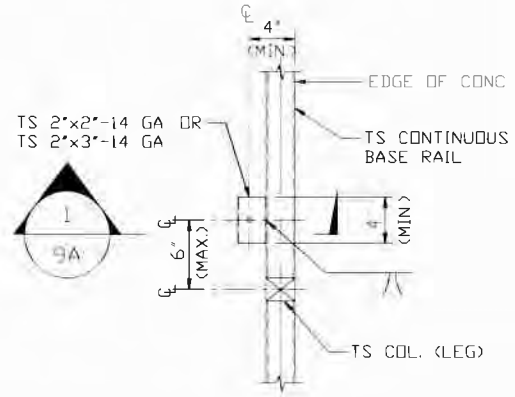
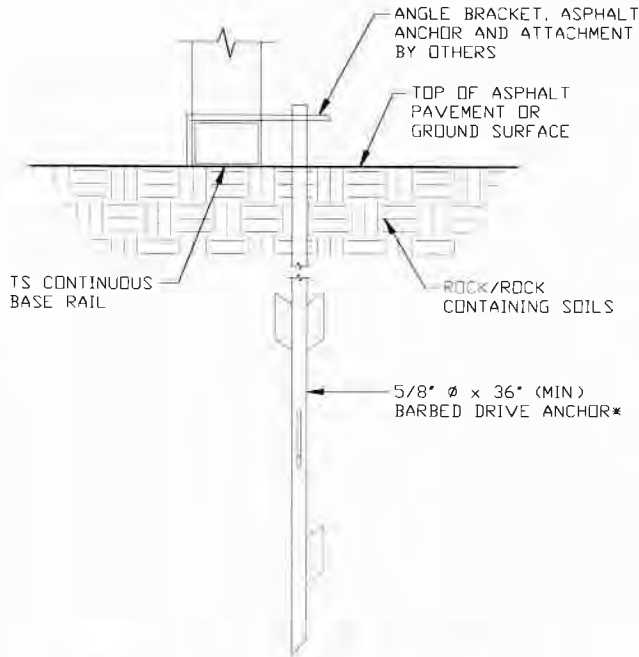
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
 18094S/19050S/20127S**

REV: 6

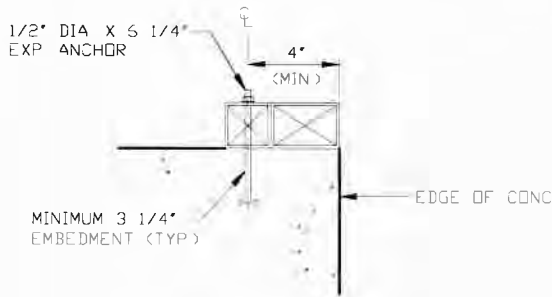
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BASE RAIL ANCHORAGE OPTIONS



TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE
SCALE: NTS

2C BARBED DRIVE ANCHORAGE
SCALE: NTS
* COORDINATE WITH LOCAL CODES/ORD REGARDING MIN FROST DEPTH (LENGTH)



1 SECTION
SCALE: NTS

**MOORE AND ASSOCIATES
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**STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0" x 16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SHT. 9A

SCALE: NTS

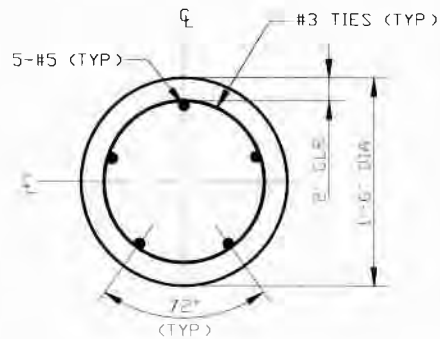
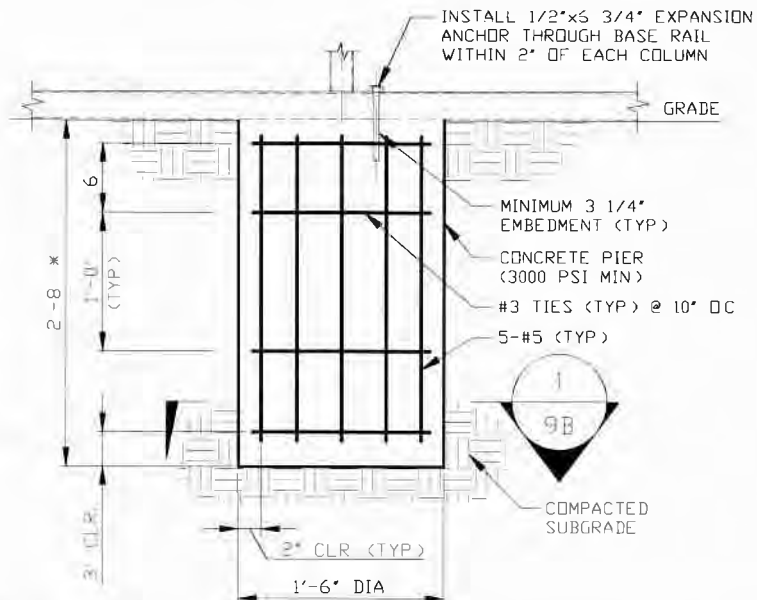
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BASE RAIL ANCHORAGE OPTIONS



1 SECTION
SCALE: NTS

2E

DRILLED CONCRETE PIER BASE RAIL ANCHORAGE

SCALE: NTS
 (NOTE: MIN ANCHOR EDGE DISTANCE IS 4")
 * COORDINATE WITH LOCAL BUILDING CODE
 AND/OR BUILDING OFFICIAL REGARDING
 REQUIRED FOOTING DEPTH

**MOORE AND ASSOCIATES
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**STEEL BUILDING GARAGES
 1804 RIVER STREET
 WILKESBORO, NC 28697
 30'-0" x 16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SCALE: NTS

DWG. NO: SK-3

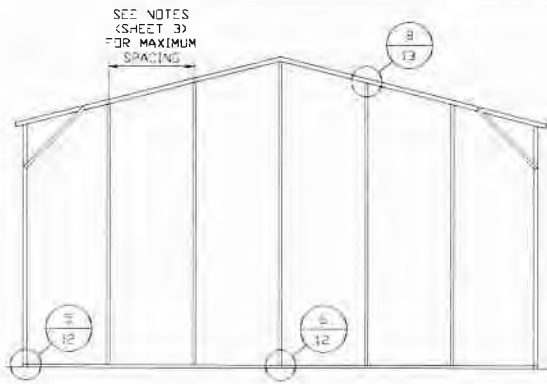
**JOB NO: 17232S/18070S/
 18094S/19050S/20127S**

SHT. 9B

REV: 6

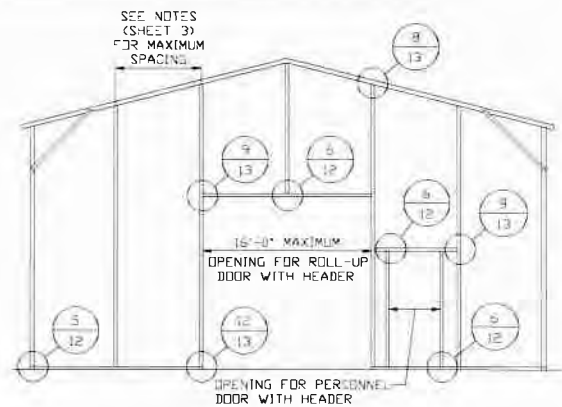
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



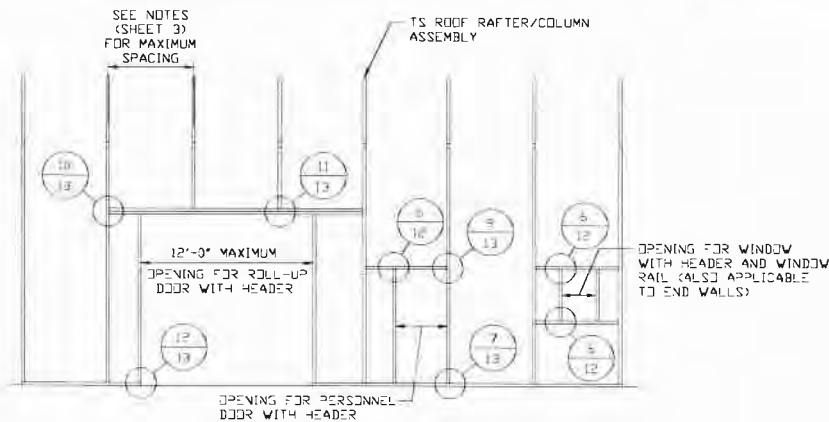
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



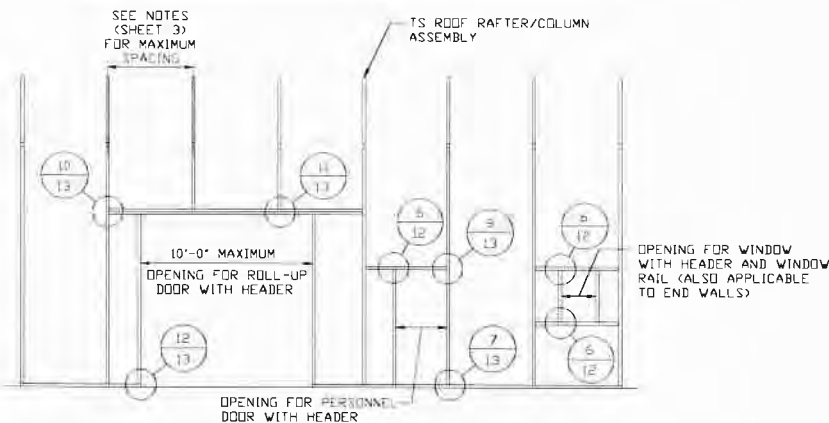
**TYPICAL BOX EAVE RAFTER END
WALL OPENING FRAMING SECTION**

SCALE: NTS



**TYPICAL BOX EAVE RAFTER SIDE
WALL OPENINGS FRAMING SECTION
FOR GROUND SNOW LOADS ≤ 35 PSF**

SCALE: NTS



**TYPICAL BOX EAVE RAFTER SIDE
WALL OPENINGS FRAMING SECTION FOR GROUND
SNOW LOADS 35 PSF < TO ≤ 45 PSF**

SCALE: NTS

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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 10

SCALE: NTS

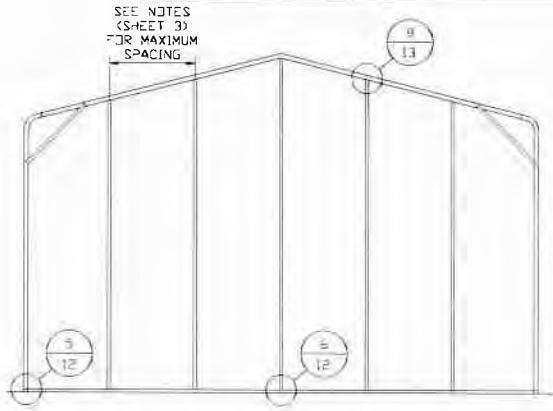
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**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

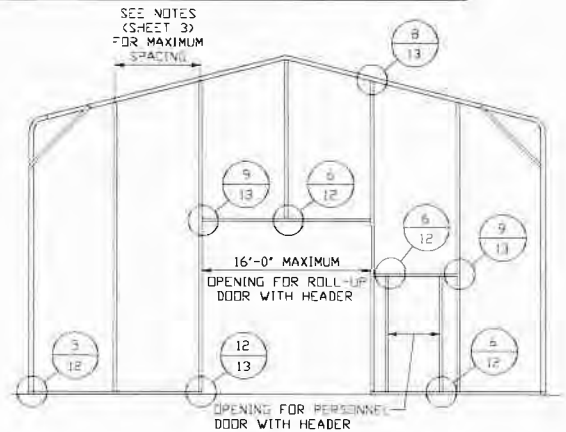
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BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



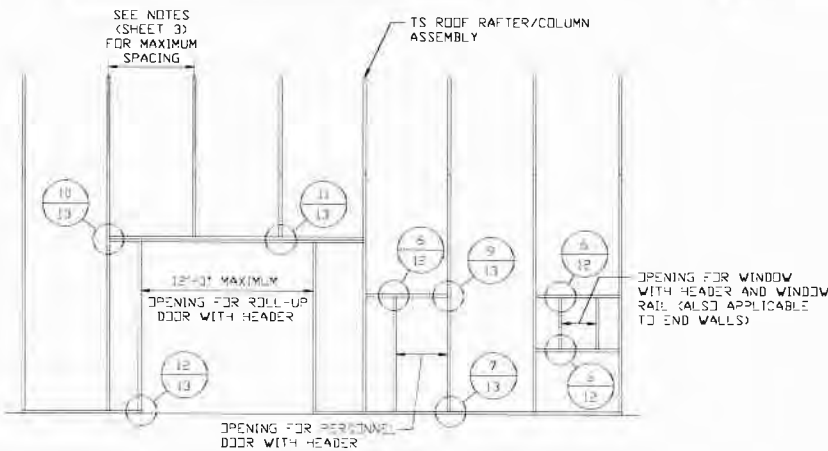
**TYPICAL BOW EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



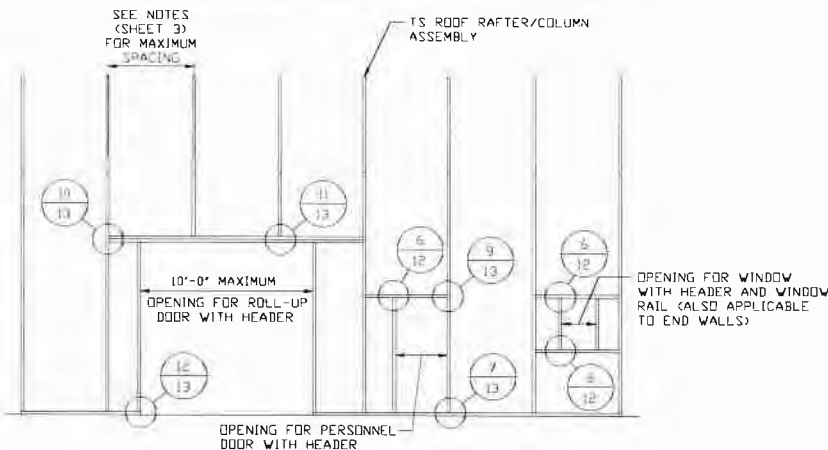
**TYPICAL BOW EAVE RAFTER END
WALL OPENING FRAMING SECTION**

SCALE: NTS



**TYPICAL BOW EAVE RAFTER SIDE
WALL OPENINGS FRAMING SECTION
FOR GROUND SNOW LOADS \leq 35 PSF**

SCALE: NTS



**TYPICAL BOW EAVE RAFTER SIDE WALL
OPENINGS FRAMING SECTION FOR GROUND
SNOW LOADS 35 PSF < TO \leq 45 PSF**

SCALE: NTS

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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 11

SCALE: NTS

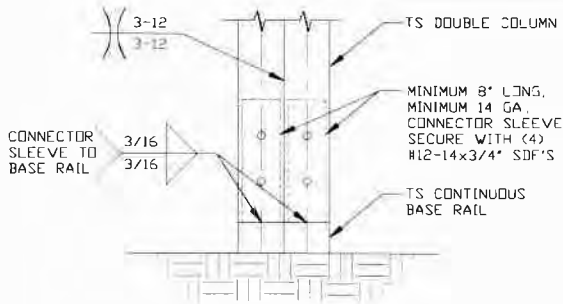
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**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

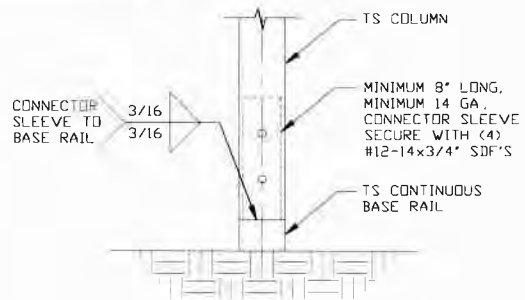
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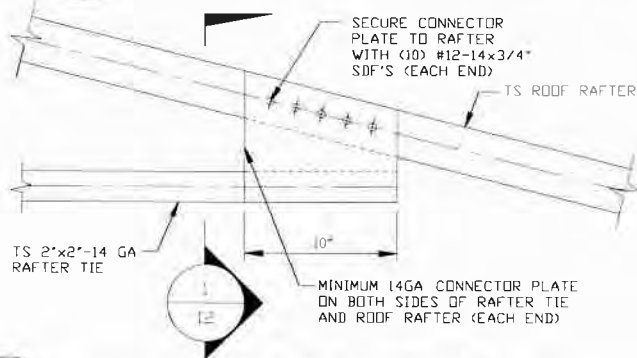
CONNECTION DETAILS



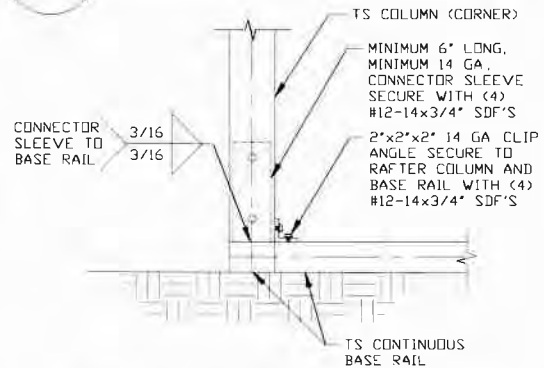
3 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



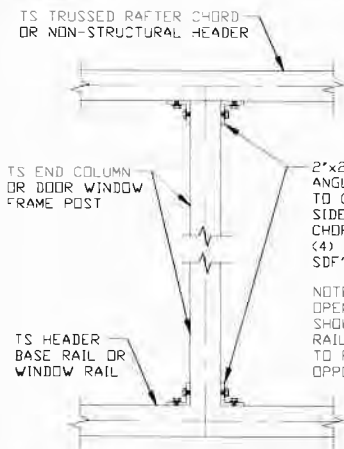
3A RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



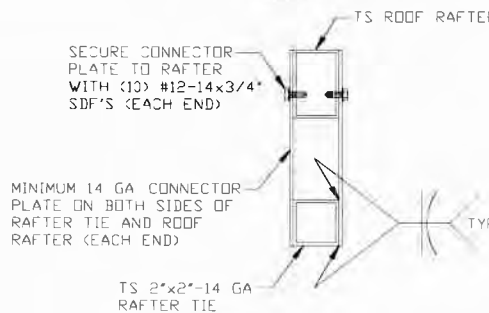
4 ROOF RAFTER TIE CONNECTION DETAIL
SCALE: NTS



5 END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



6 COLUMN TO WINDOW RAIL CONNECTION DETAIL
SCALE: NTS



1 SECTION
SCALE: NTS

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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 12

SCALE: NTS

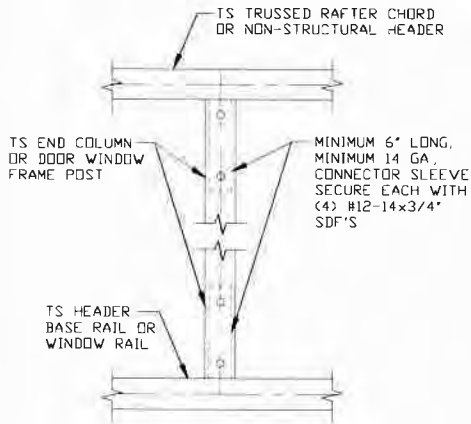
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JOB NO: 17232S/18070S/
18094S/19050S/20127S

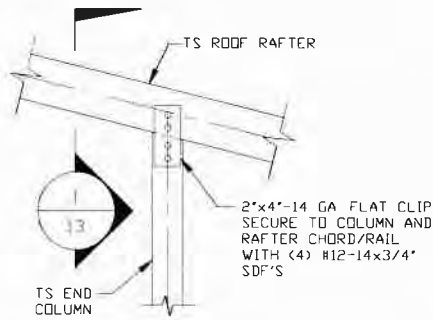
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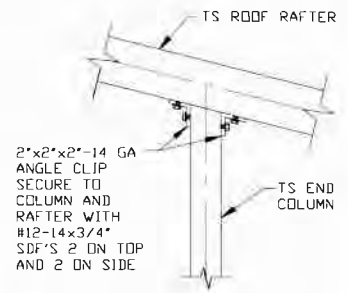
CONNECTION DETAILS



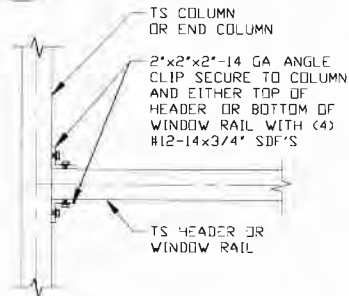
7 COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL
SCALE: NTS



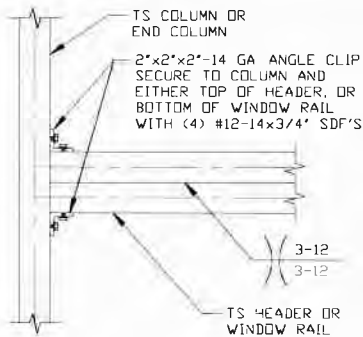
8 RAFTER TO POST CONNECTION DETAIL
SCALE: NTS



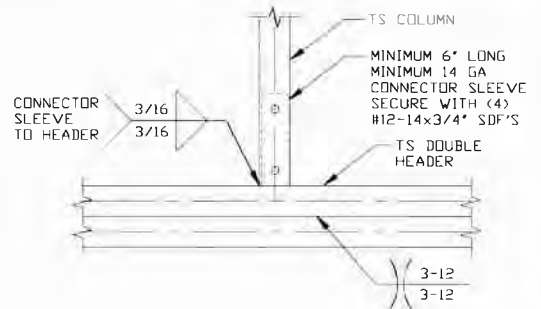
8A RAFTER TO POST CONNECTION DETAIL
SCALE: NTS



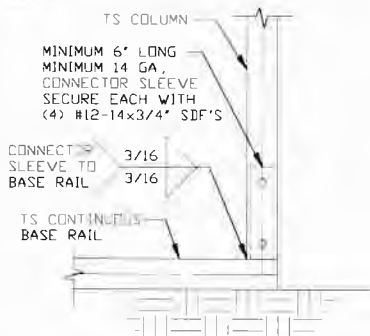
9 COLUMN OR WINDOW RAIL/WALL GIRT TO POST CONNECTION DETAIL
SCALE: NTS



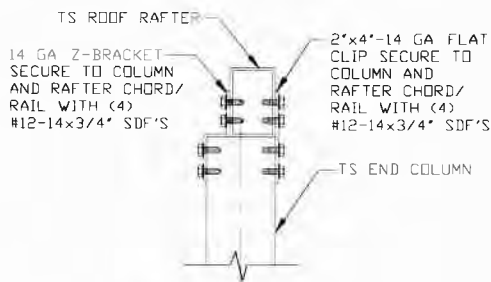
10 DOUBLE HEADER TO COLUMN CONNECTION DETAIL
SCALE: NTS



11 COLUMN TO DOUBLE HEADER CONNECTION DETAIL
SCALE: NTS



12 COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



1 SECTION
SCALE: NTS

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

**STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0"X16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SHT. 13

SCALE: NTS

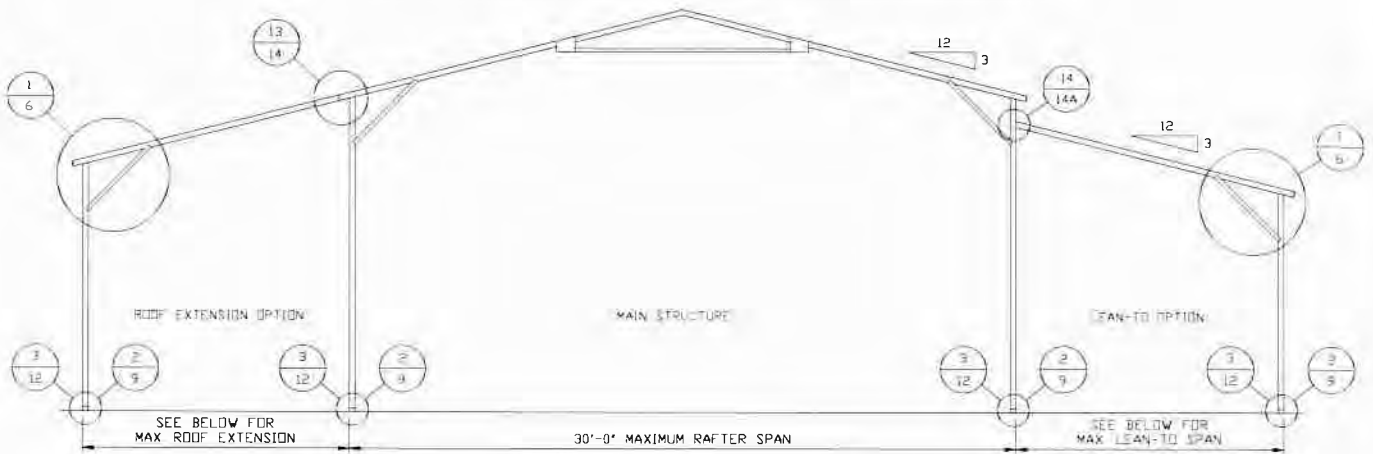
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

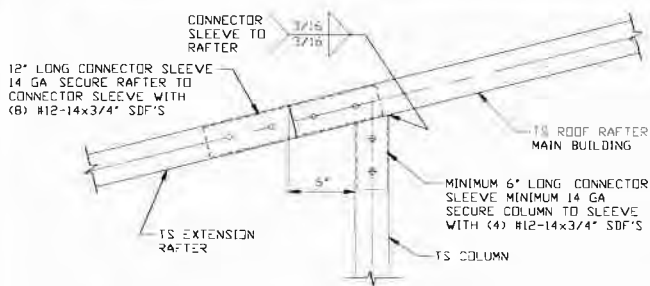
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BOX EAVE RAFTER LEAN-TO OPTIONS



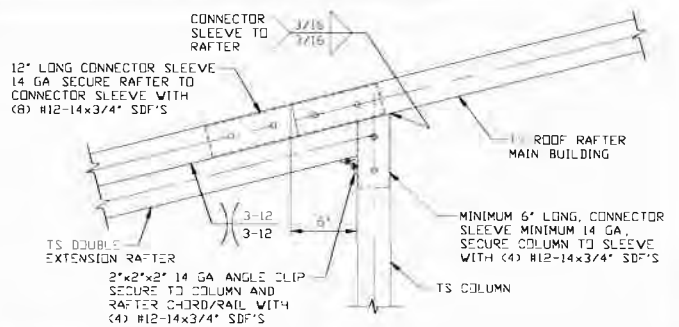
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS



13 SIDE EXTENSION RAFTER/COLUMN
DETAIL FOR RAFTER SPANS $\leq 12'-0''$

SCALE: NTS



13A SIDE EXTENSION RAFTER/COLUMN
DETAIL FOR RAFTER SPANS $12'-0'' < \text{TO} \leq 15'-0''$

SCALE: NTS

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

30'-0"x16'-0" ENCLOSED BUILDING

DATE: 6-12-20

SHT. 14

SCALE: NTS

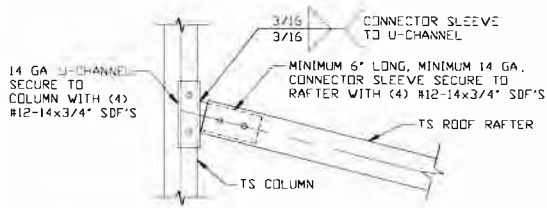
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

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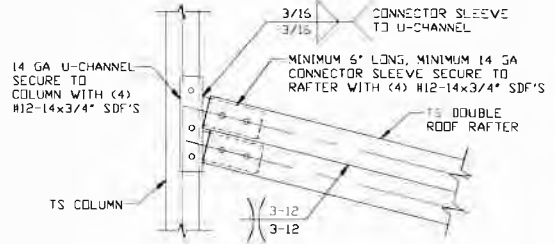
BOX EAVE RAFTER LEAN-TO OPTIONS



14

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

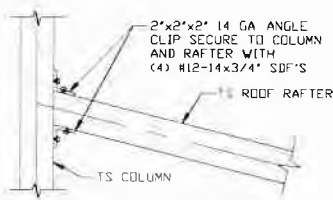
SCALE: NTS



14A

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $12'-0'' < \text{TO} \leq 15'-0''$

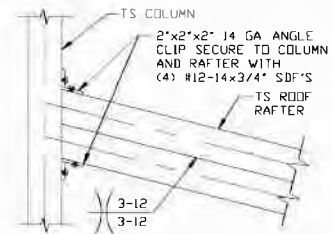
SCALE: NTS



14B

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

SCALE: NTS



14C

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $12'-0'' < \text{TO} \leq 15'-0''$

SCALE: NTS

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0"x16'-0" ENCLOSED BUILDING

DATE: 6-12-20

SCALE: NTS

JOB NO: 17232S/18070S/
18094S/19050S/20127S

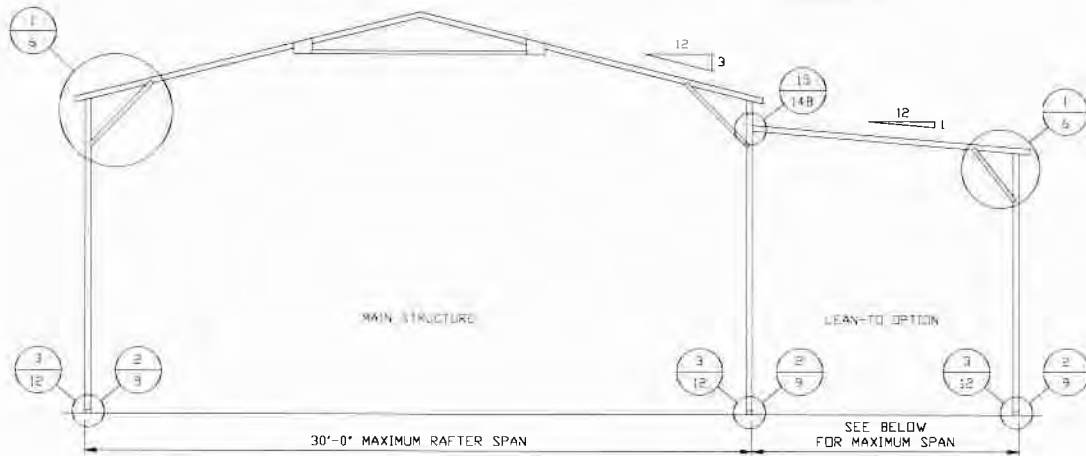
SHT. 14A

DWG. NO: SK-3

REV: 6

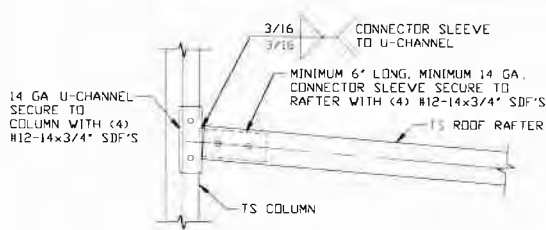
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BOX EAVE RAFTER LEAN-TO OPTIONS



TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION

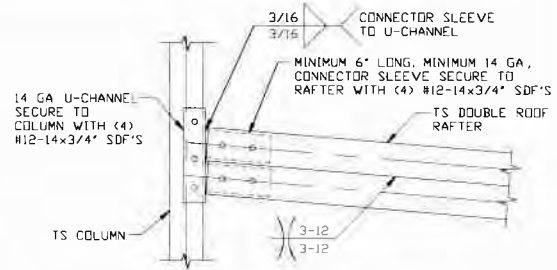
SCALE: NTS



15

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 11'-0''$

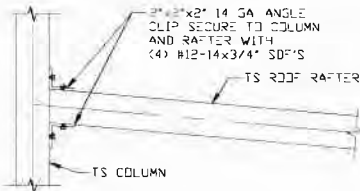
SCALE: NTS



15A

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $11'-0'' < TO \leq 15'-0''$

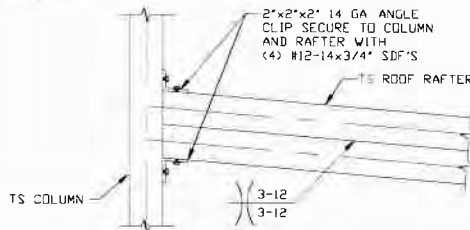
SCALE: NTS



15B

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 11'-0''$

SCALE: NTS



15C

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $11'-0'' < TO \leq 15'-0''$

SCALE: NTS

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

**STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0"X16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SHT. 14B

SCALE: NTS

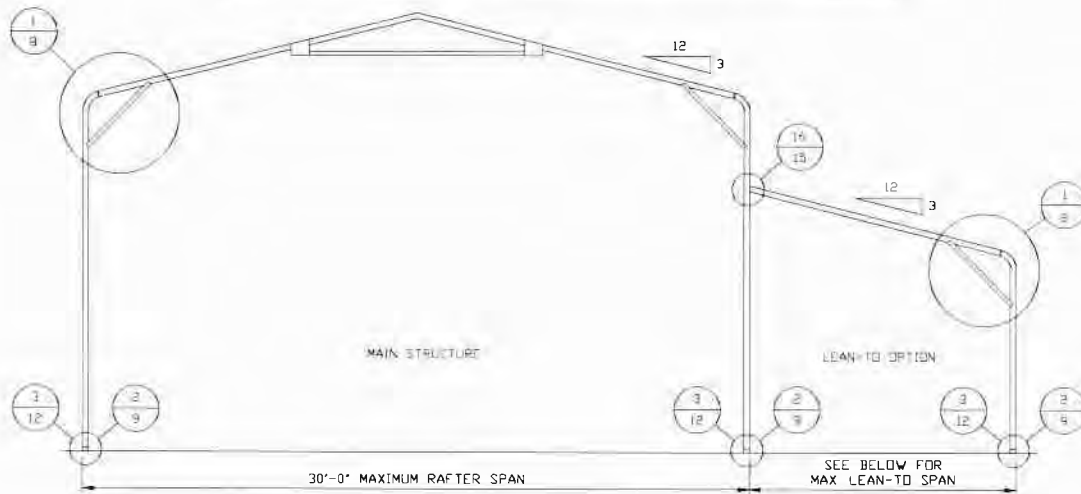
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

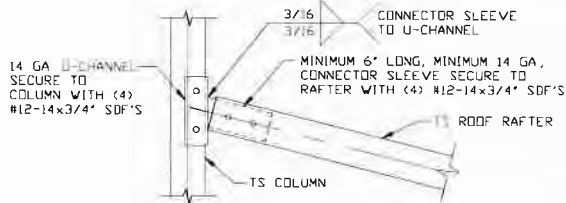
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BOW EAVE RAFTER LEAN-TO OPTIONS



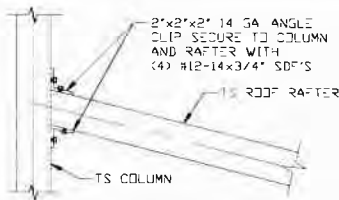
TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS



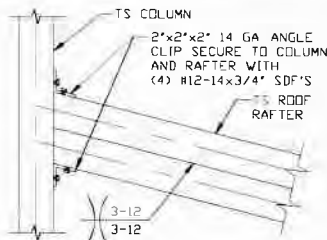
16 LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 12'-0"$

SCALE: NTS



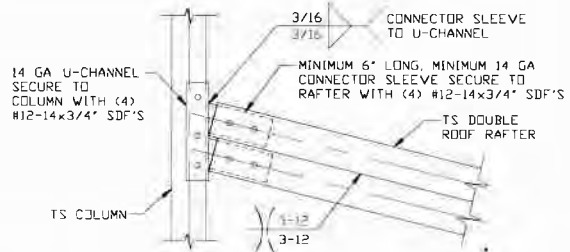
16B LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 12'-0"$

SCALE: NTS



16C LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $12'-0" < TO \leq 15'-0"$

SCALE: NTS



16A LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $12'-0" < TO \leq 15'-0"$

SCALE: NTS

**MOORE AND ASSOCIATES
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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

30'-0"x16'-0" ENCLOSED BUILDING

DATE: 6-12-20

SHT. 15

SCALE: NTS

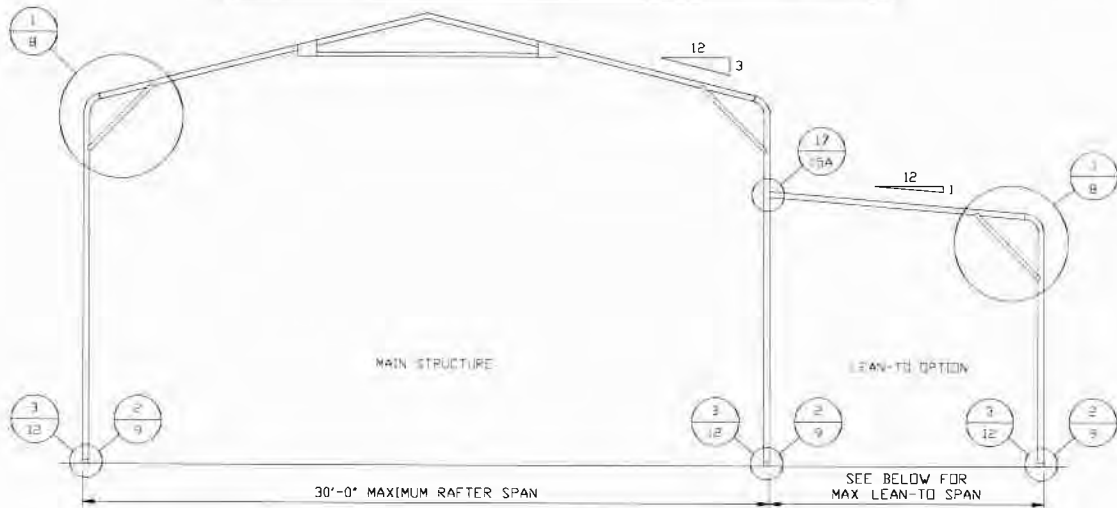
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

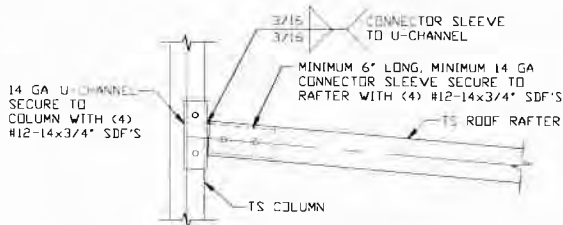
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BOW EAVE RAFTER LEAN-TO OPTIONS



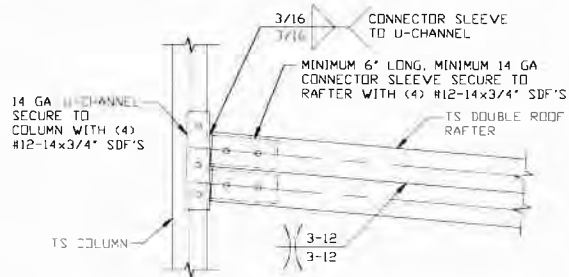
TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS



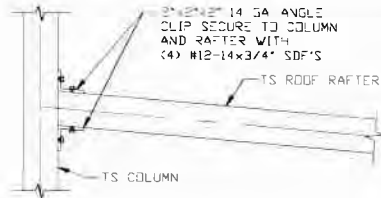
17 LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 11'-0''$

SCALE: NTS



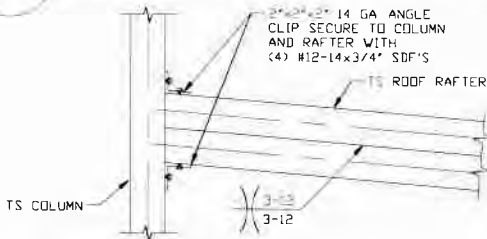
17A LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $11'-0'' < \text{TO} \leq 15'-0''$

SCALE: NTS



17B LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $\leq 11'-0''$

SCALE: NTS



17C LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $11'-0'' < \text{TO} \leq 15'-0''$

SCALE: NTS

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

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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

30'-0"x16'-0" ENCLOSED BUILDING

DATE: 6-12-20

SHT. 15A

SCALE: NTS

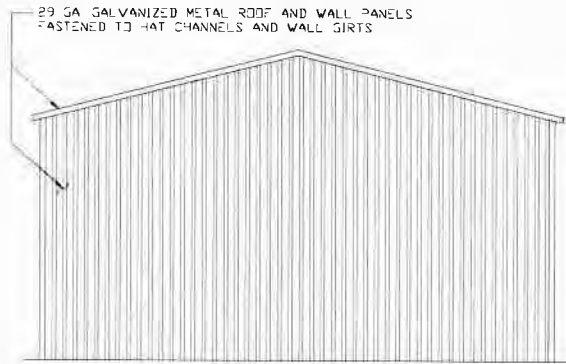
DVG. NO.: SK-3

JOB NO.: 17232S/18070S/
18094S/19050S/20127S

REV.: 6

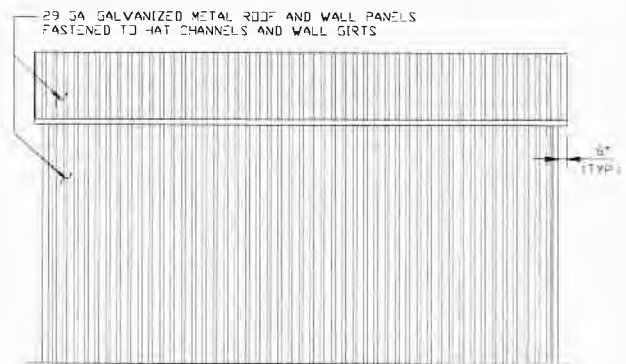
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BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



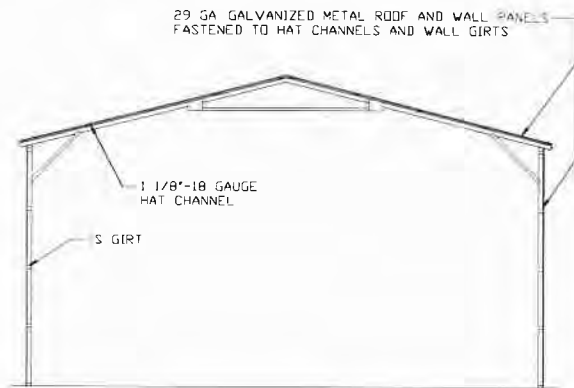
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



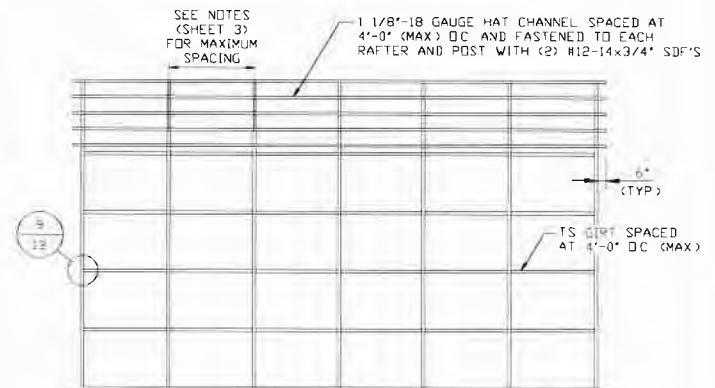
**TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING**

SCALE: NTS



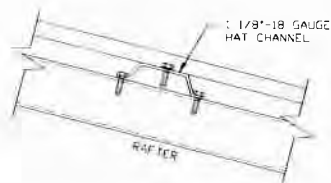
**TYPICAL SECTION
VERTICAL ROOF OPTION**

SCALE: NTS



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

SCALE: NTS



ROOF PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS)

SCALE: NTS

**MOORE AND ASSOCIATES
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PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 16

SCALE: NTS

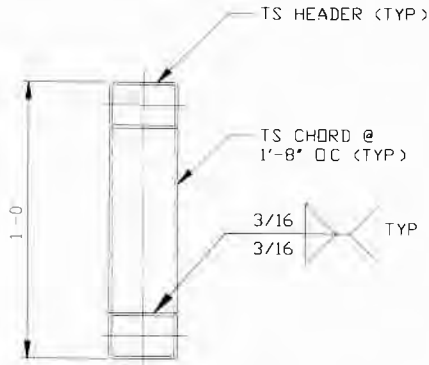
DWG. NO: SK-3

JOB NO: 17232S/18070S/
18094S/19050S/20127S

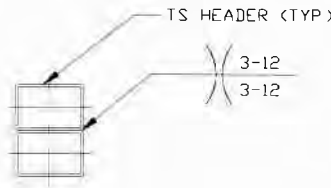
REV: 6

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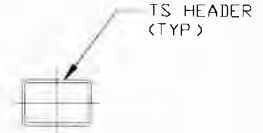
SIDE WALL HEADER OPTIONS 35 < TO ≤ 45 PSF



HEADER DETAIL FOR SPANS 9'-0" < TO ≤ 16'-0"
SCALE: NTS

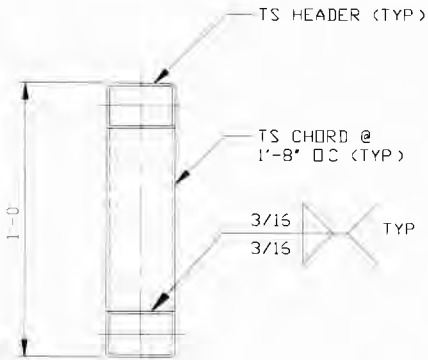


HEADER DETAIL FOR SPANS 6'-0" < TO ≤ 9'-0"
SCALE: NTS

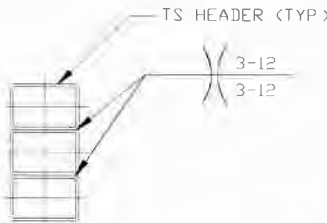


HEADER DETAIL FOR SPANS ≤ 6'-0"
SCALE: NTS

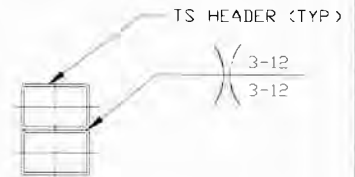
SIDE WALL HEADER OPTIONS ≤ 35 PSF



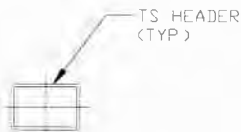
HEADER DETAIL FOR SPANS 15'-0" < TO ≤ 16'-0"
SCALE: NTS



HEADER DETAIL FOR SPANS 11'-0" < TO ≤ 15'-0"
SCALE: NTS



HEADER DETAIL FOR SPANS 7'-0" < TO ≤ 11'-0"
SCALE: NTS



HEADER DETAIL FOR SPANS ≤ 7'-0"
SCALE: NTS

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

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

**STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'-0"x16'-0" ENCLOSED BUILDING**

DATE: 6-12-20

SHT. 17

SCALE: NTS

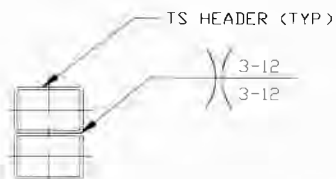
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S/20127S**

REV: 6

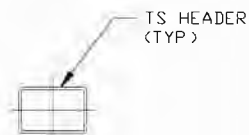
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END WALL HEADER OPTIONS



**HEADER DETAIL FOR
SPANS 13'-0" < TO ≤ 16'-0"**

SCALE: NTS



**HEADER DETAIL
FOR SPANS ≤ 13'-0"**

SCALE: NTS

**MOORE AND ASSOCIATES
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CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBG

STEEL BUILDING GARAGES

1804 RIVER STREET

WILKESBORO, NC 28697

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

DATE: 6-12-20

SHT. 18

SCALE: NTS

DWG. NO: SK-3

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