



STRUCTURAL DESIGN

ENCLOSED BUILDING

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

3 April 2019

Revision 5

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

Prepared for:

Steel Building Garages

1804 River Street

Wilkesboro, NC 28697

Prepared by:

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1009 East Avenue

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Mount Airy, NC 27030



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ENGINEERING AND CONSULTING**

<p>MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.</p>		<p>DRAWN BY: AT</p>	<p>STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'x16' ENCLOSED BUILDING</p>			
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		<p>CLIENT: ES</p>	<p>SHT. 1</p>	<p>DWG. NO: SK-3</p>	<p>REV: 5</p>	

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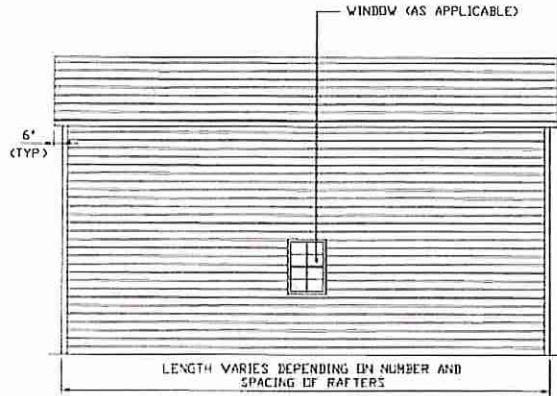
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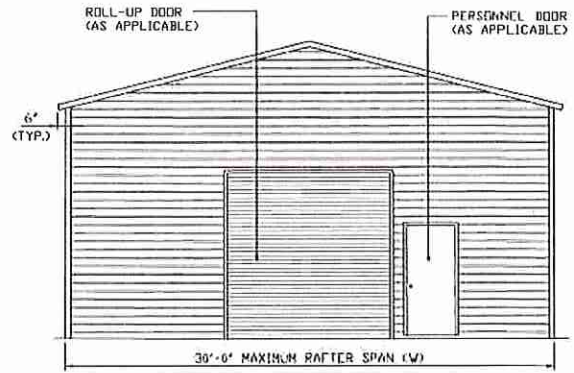
INSTALLATION NOTES AND SPECIFICATIONS

1. DESIGN IS FOR MAXIMUM 30'-0" WIDE x 16'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2018 NORTH CAROLINA BUILDING CODE, 2006 INTERNATIONAL BUILDING CODE (IBC), 2009 IBC, 2012 IBC AND 2015 IBC.
3. DESIGN LOADS ARE AS FOLLOWS:
 - A) DEAD LOAD = 1.5 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 35 PSF (MAXIMUM 45 PSF AT 4'-0" O.C. RAFTER/POST SPACING.)
= 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 = 5.0 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' O.C. (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.
12. ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6' OF EACH RAFTER COLUMN ALONG SIDES.
13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 30' LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR WIND SPEEDS ≤ 145 MPH OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AND WIND SPEEDS > 145 MPH.
14. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
 - SOIL SITE CLASS = D
 - RISK CATEGORY I/II/III
 - R = 3.25 $I_e = 1.0$
 - $S_{DS} = 2.039$ $V = C_s W$
 - $S_{D1} = 1.258$
15. APPLY LAP SEALANT TO METAL ROOF PANELS FOR 1:12 ROOF SLOPES.

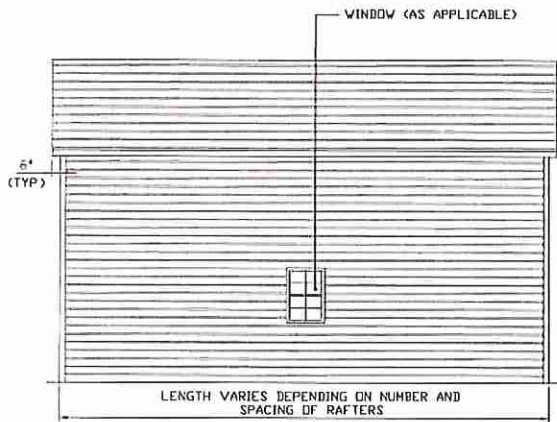
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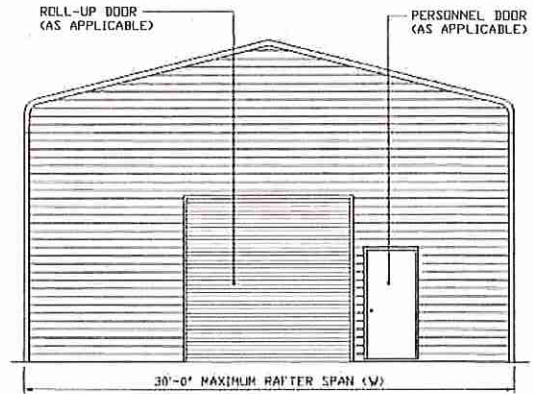
TYPICAL SIDE ELEVATION
SCALE: NTS



TYPICAL END ELEVATION
SCALE: NTS



TYPICAL SIDE ELEVATION
SCALE: NTS



TYPICAL END ELEVATION
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SHT. 3A

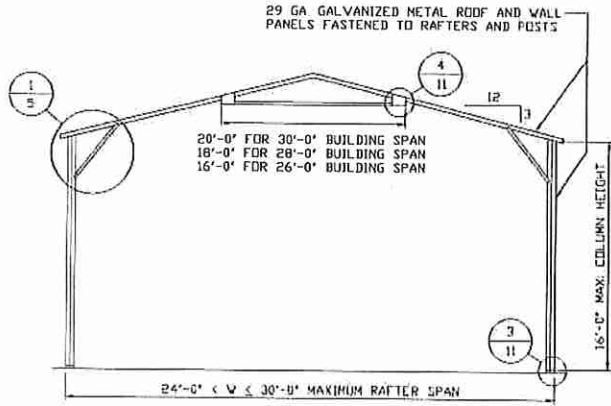
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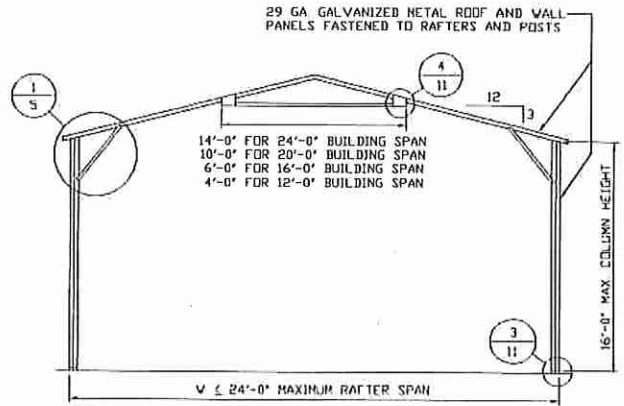
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REV: 5

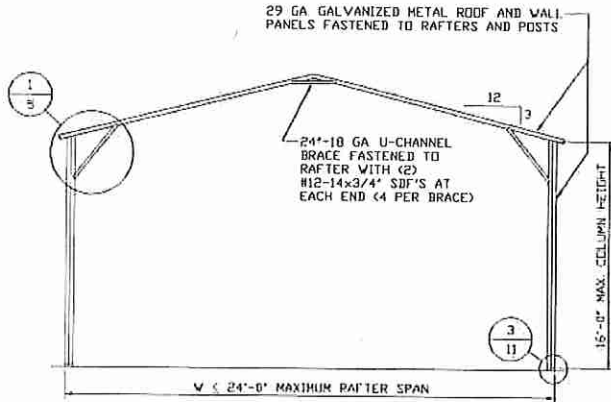
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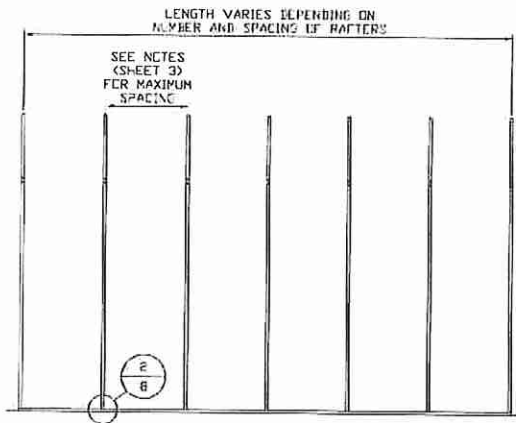
TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



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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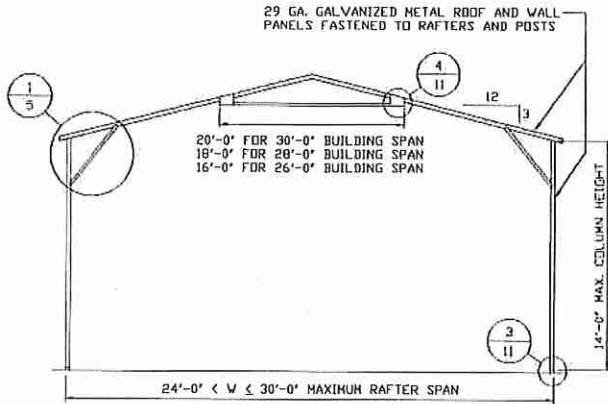
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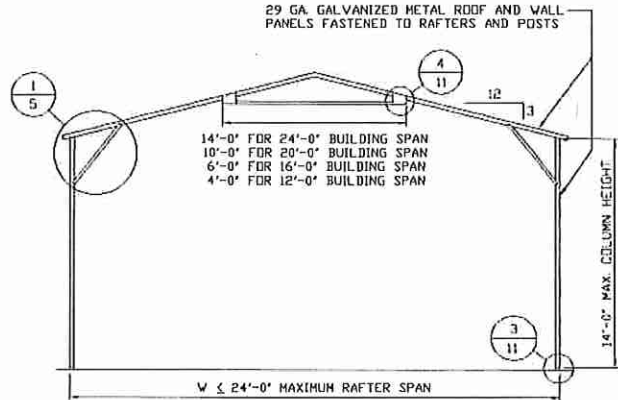
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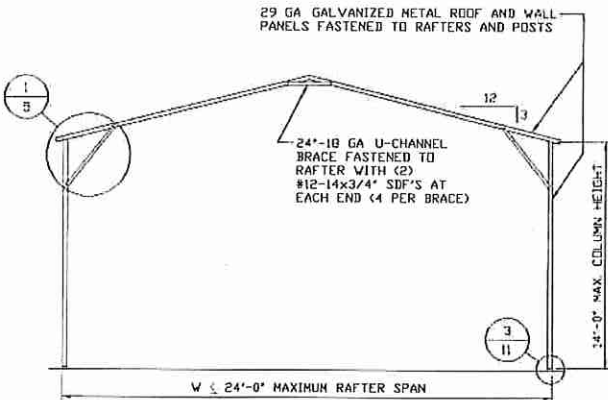
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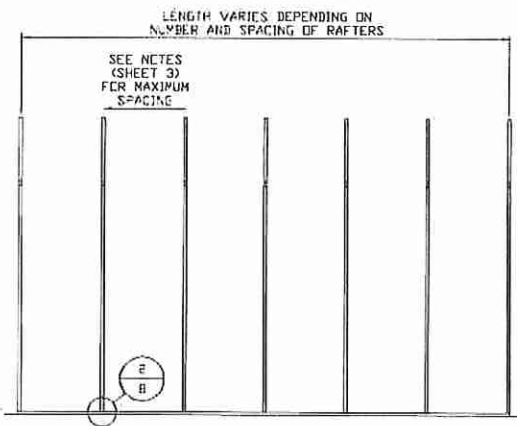
TYPICAL RAFTER/COLUMN END FRAME SECTION
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TYPICAL RAFTER/COLUMN END FRAME SECTION
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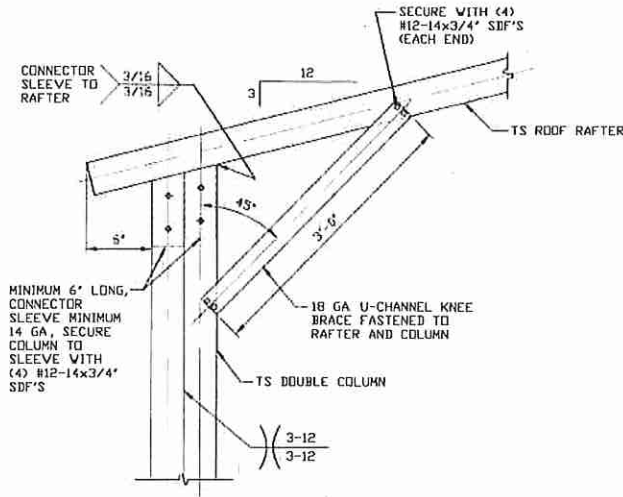
TYPICAL RAFTER/COLUMN END FRAME SECTION
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
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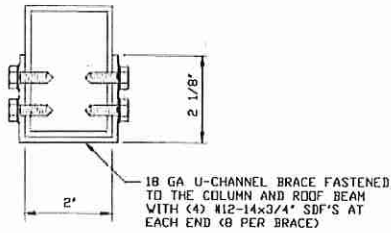
COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



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

1A

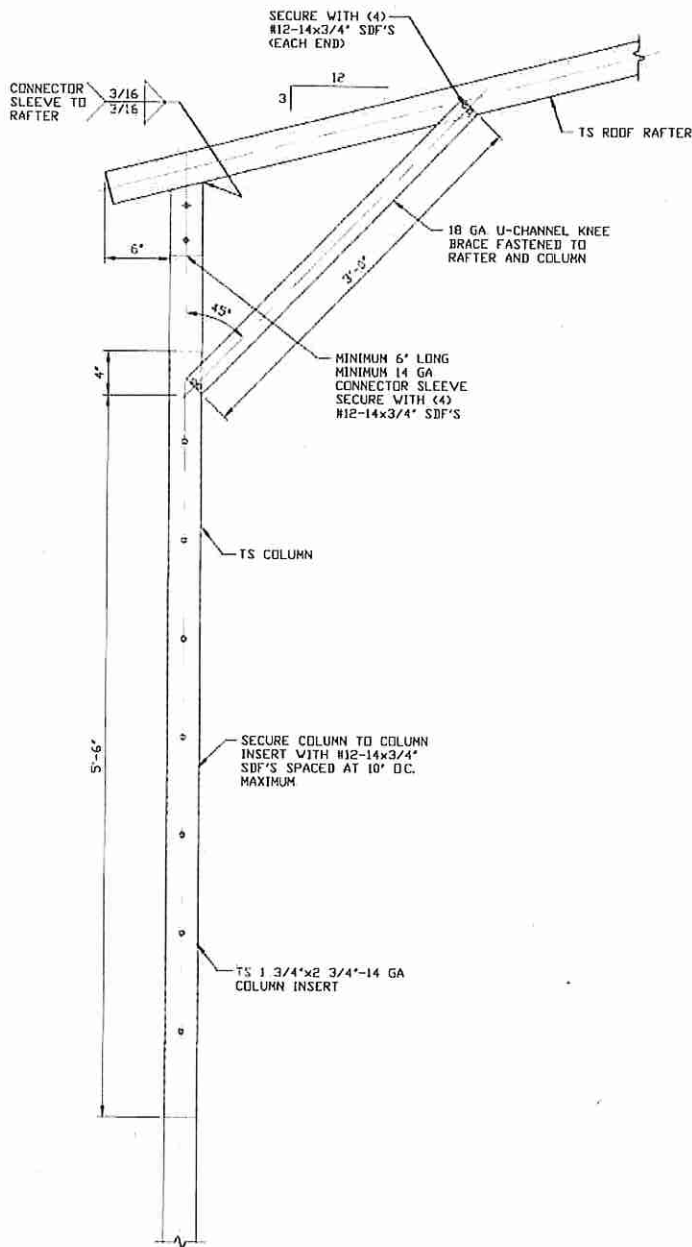
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NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS ≤ 26'-0"



BRACE SECTION
SCALE: NTS

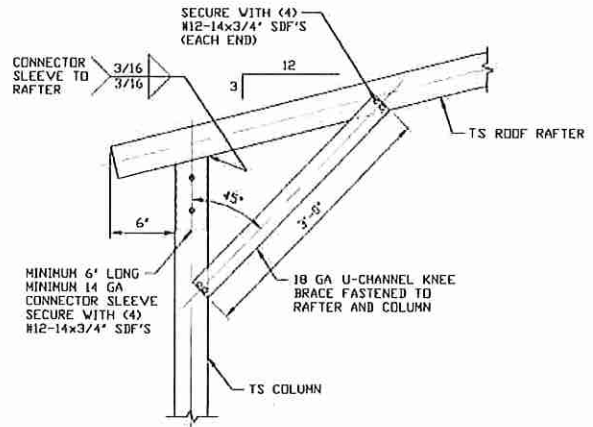
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COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



1B

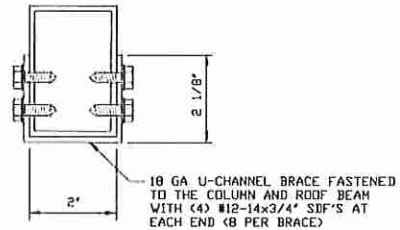
BOX EAVE RAFTER COLUMN CONNECTION DETAIL
 HEIGHTS 10'-0" < TO ≤ 14'-0"
 SCALE: NTS



1C

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

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



BRACE SECTION
 SCALE: NTS

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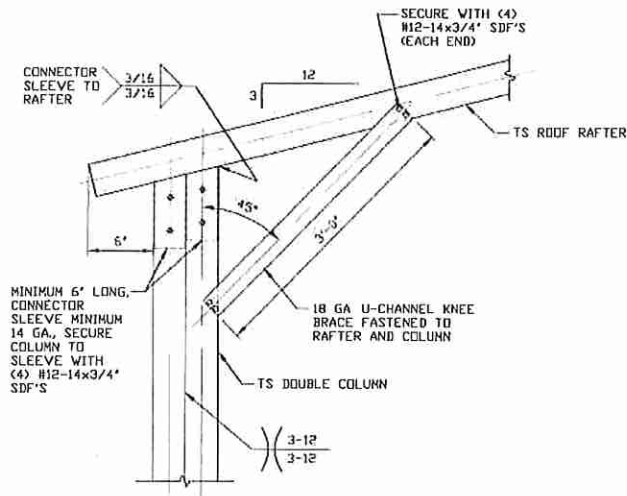
SHT. 5B

DWG. NO: SK-3

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COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH

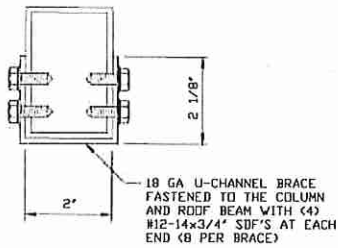


BOX EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 14'-0" < TO \leq 16'-0"

1A

SCALE: NTS

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



BRACE SECTION

SCALE: NTS

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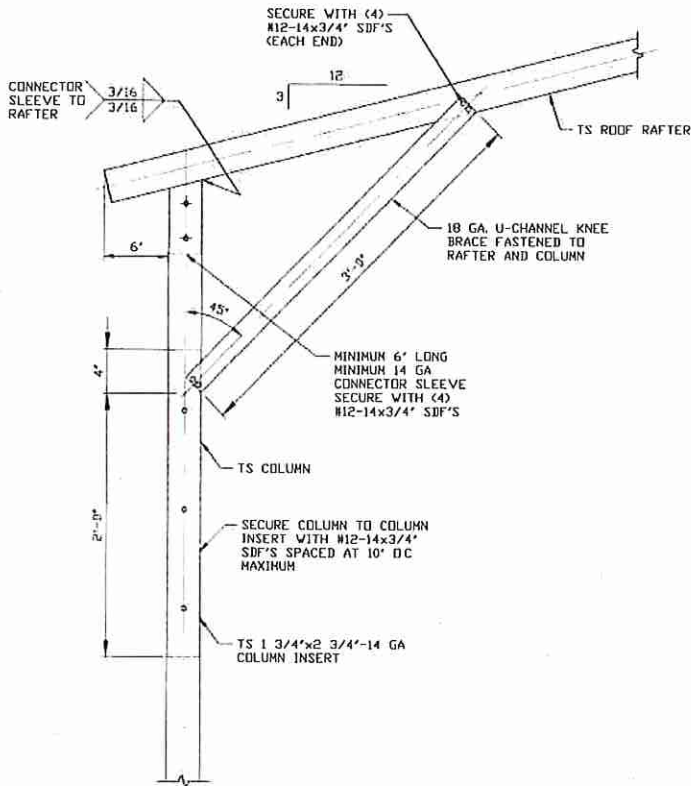
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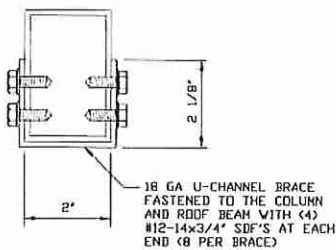
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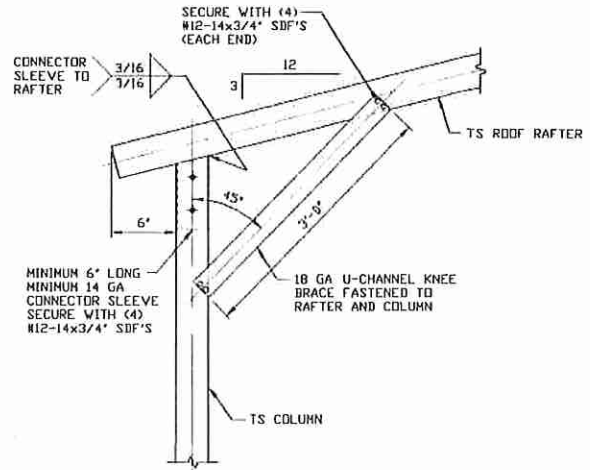
COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH



1B
BOX EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS 13'-0" < TO \leq 14'-0"
 SCALE: NTS



BRACE SECTION
 SCALE: NTS



1C
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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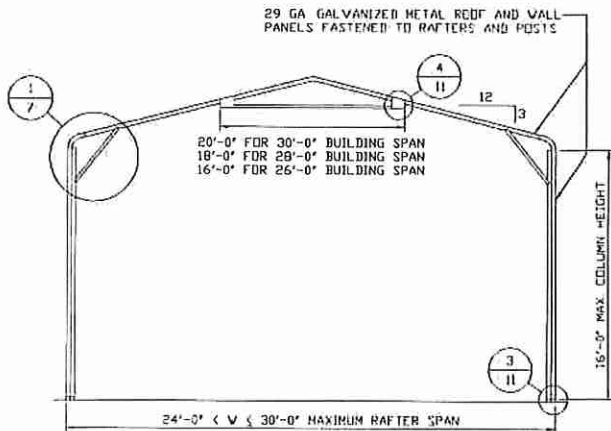
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DATE: 4-3-19
SHT. 5D

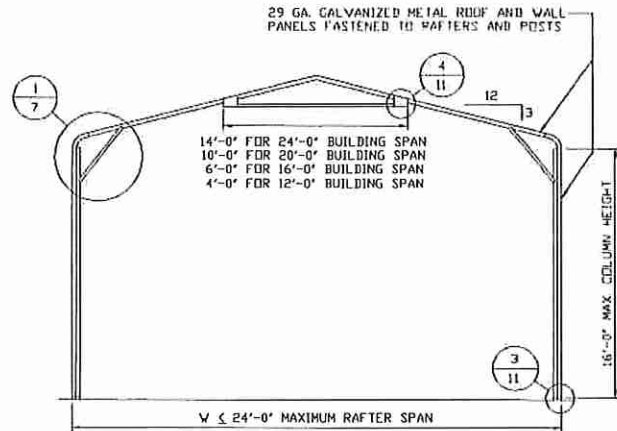
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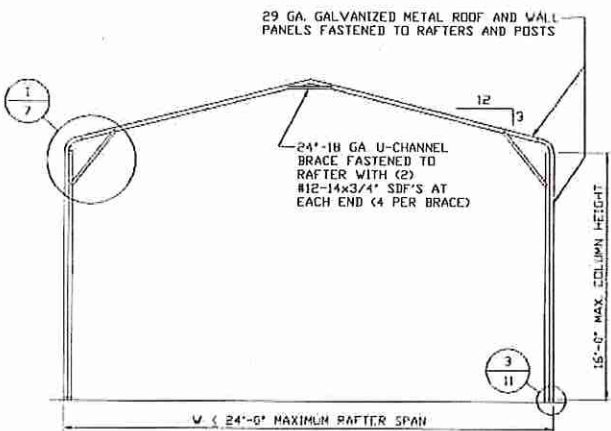
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



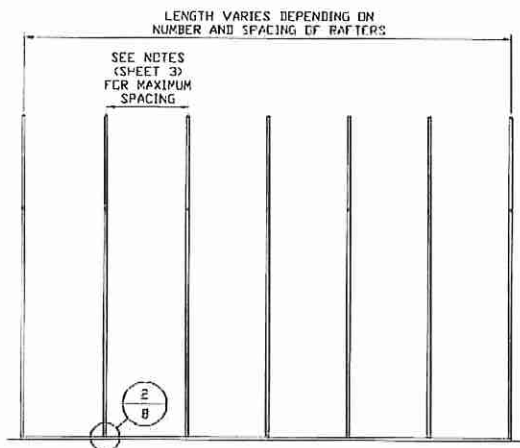
TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

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SHT. 6

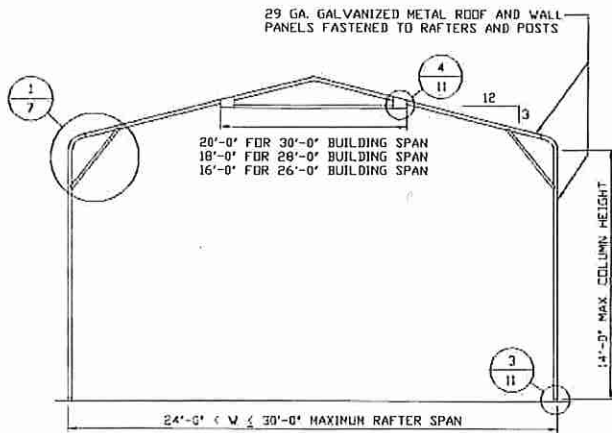
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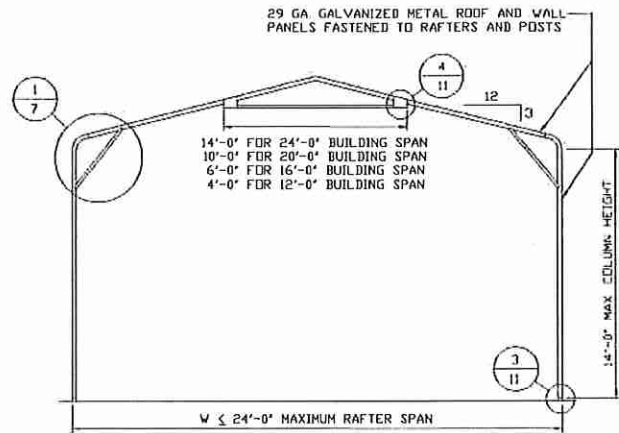
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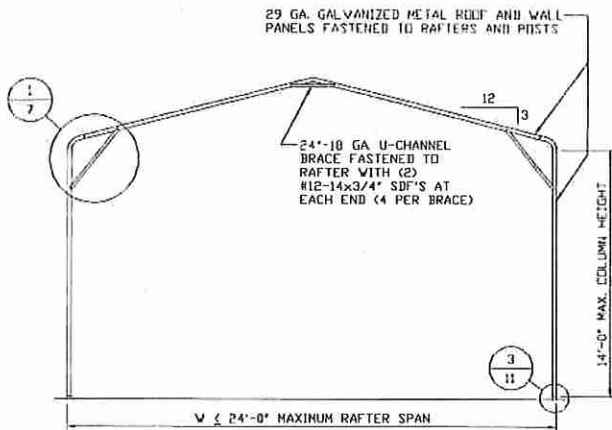
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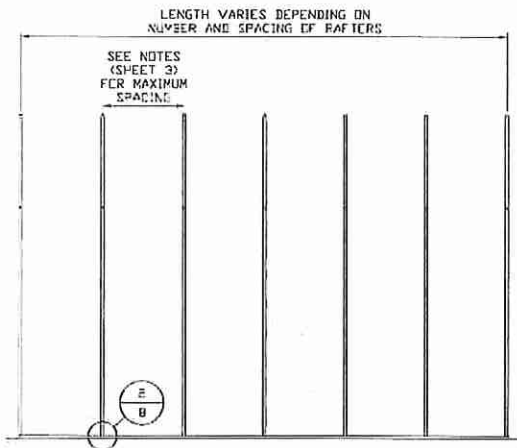
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
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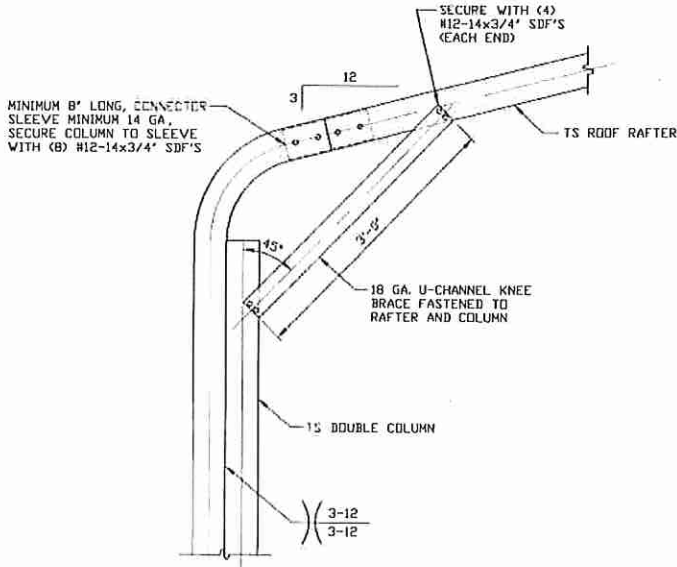
PROJECT MGR: VSM
CLIENT: ES

DATE: 4-3-19
SHT. 6A

SCALE: NTS
DWG. NO: SK-3

**JOB NO: 17232S/18070S/
18094S/19050S**
REV: 5

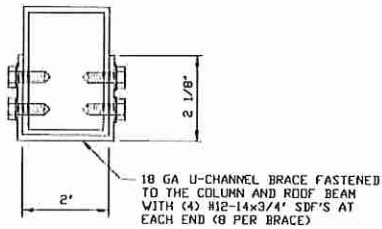
COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



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

1A

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



BRACE SECTION
SCALE: NTS

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CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: ES

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

DATE: 4-3-19

SCALE: NTS

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

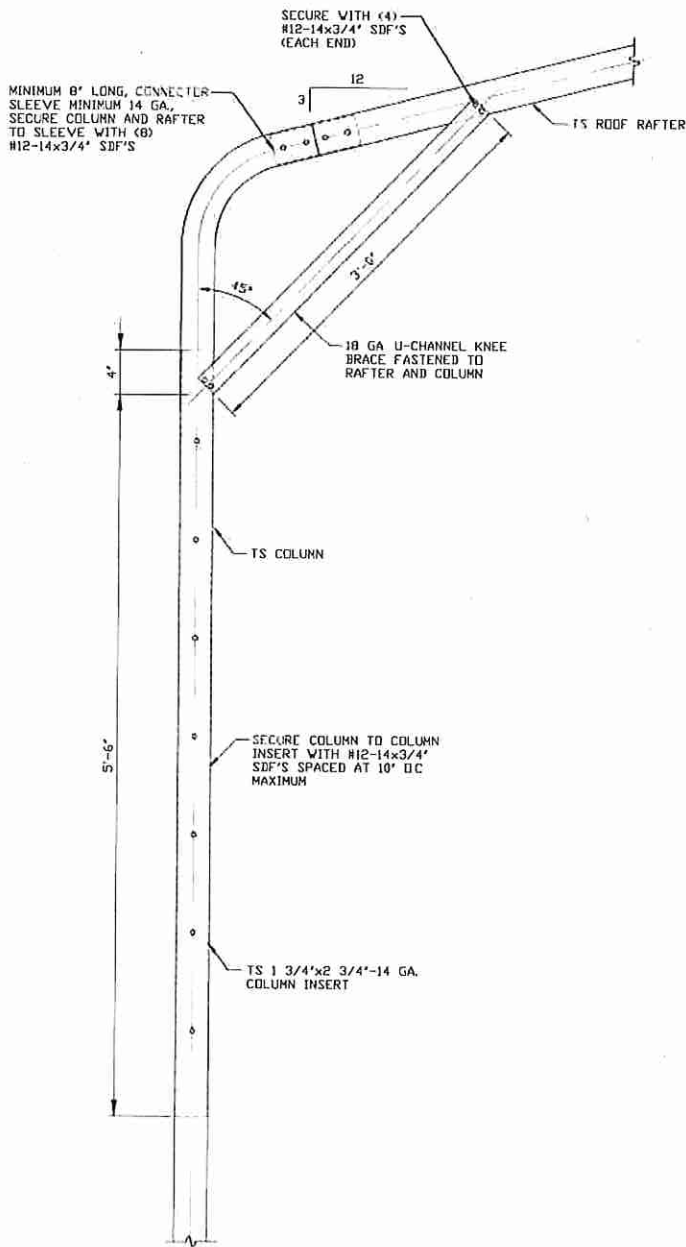
SHT. 7A

DWG. NO SK-3

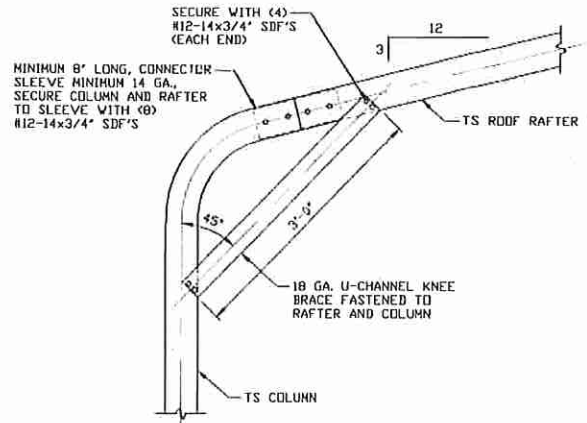
REV. 5

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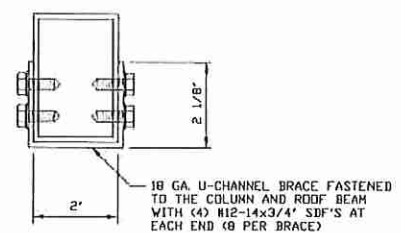
COLUMN CONNECTION DETAILS FOR WIND SPEEDS 105 < TO ≤ 150 MPH



1B BOW EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS 10'-0" < TO ≤ 14'-0"
SCALE: NTS



1C BOW EAVE RAFTER COLUMN CONNECTION DETAIL
HEIGHTS ≤ 10'-0"
SCALE: NTS
NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS ≤ 26'-0"



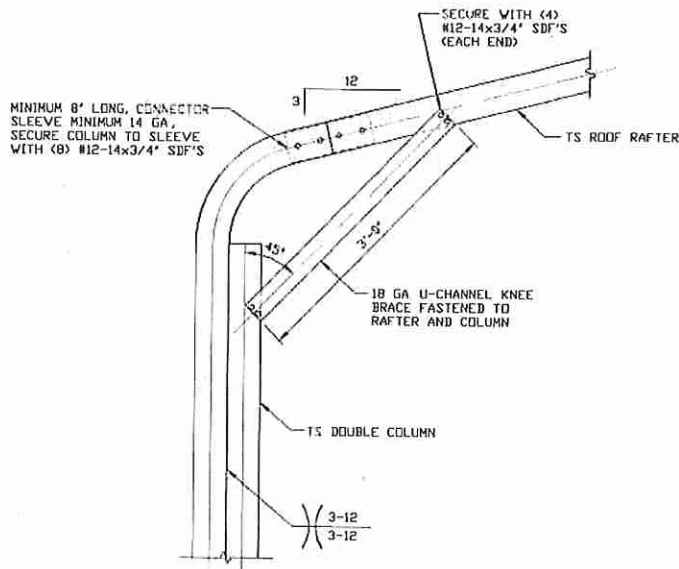
BRACE SECTION
SCALE: NTS

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DRAWN BY: AT		STEEL BUILDING GARAGES 1804 RIVER STREET WILKESBORO, NC 28697 30'x16' ENCLOSED BUILDING		
CHECKED BY: PDH				
PROJECT MGR: WSM	DATE: 4-3-19	SCALE: NTS	JOB NO: 1723ES/18070S/ 18094S/19050S	
CLIENT: ES	SHT. 7B	DWG. NO SK-3	REV. 5	

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COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH

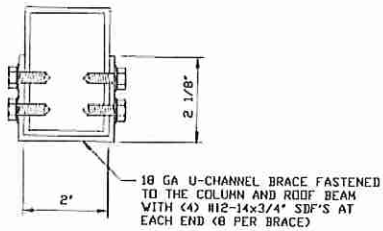


BOW EAVE RAFTER COLUMN CONNECTION DETAIL HEIGHTS 14'-0" < TO ≤ 16'-0"

1A

SCALE: NTS

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'x16' ENCLOSED BUILDING**

DATE: 4-3-19

SCALE: NTS

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

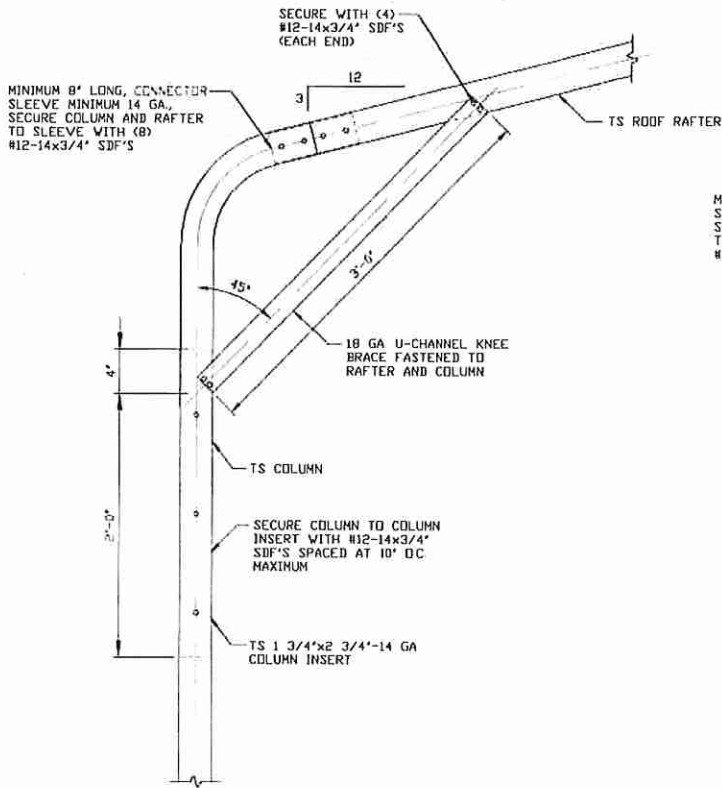
SHT. 7C

DWG. NO: SK-3

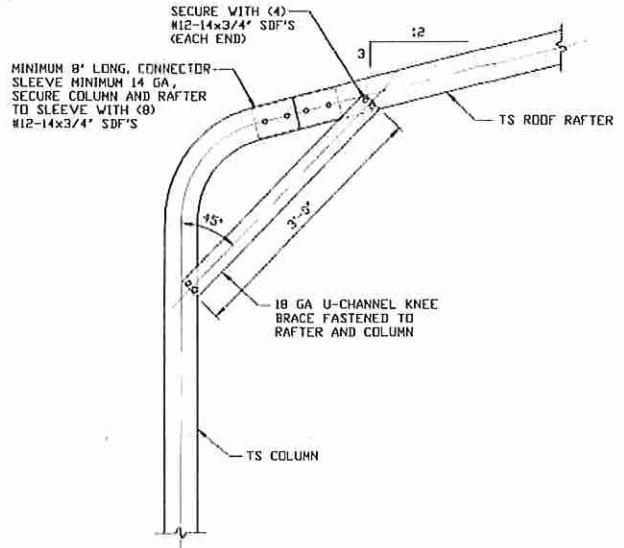
REV. 5

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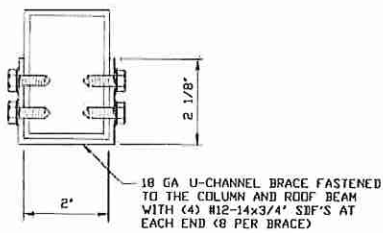
COLUMN CONNECTION DETAILS FOR WIND SPEEDS ≤ 105 MPH



1B
BOW EAVE RAFTER COLUMN CONNECTION DETAIL
 HEIGHTS 13'-0" < TO $\leq 14'-0''$
 SCALE: NTS



1C
BOW EAVE RAFTER COLUMN CONNECTION DETAIL
 HEIGHTS $\leq 13'-0''$
 SCALE: NTS
 NOTE: 2'-0" KNEE BRACE MAY BE USED FOR BUILDING WIDTHS $\leq 26'-0''$



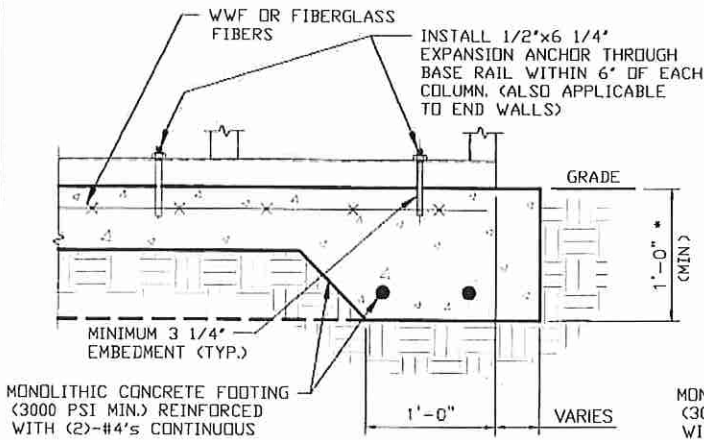
BRACE SECTION
 SCALE: NTS

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CHECKED BY: PDH			
PROJECT MGR: WSM	DATE: 4-3-19	SCALE: NTS	JOB NO: 17232S/18070S/ 18094S/19050S
CLIENT: ES	SHT. 7D	DWG. NO: SK-3	REV: 5

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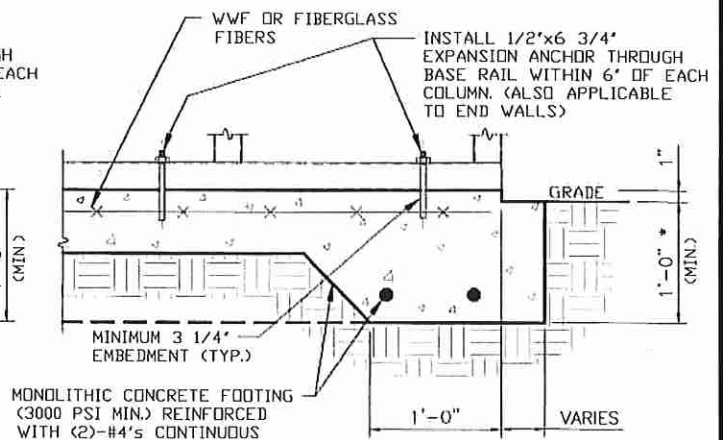
BASE RAIL ANCHORAGE OPTIONS



2A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS
NOTE: MIN. ANCHOR EDGE DISTANCE IS 4"
* COORDINATE WITH LOCAL CODES/ORDINANCES.



2B

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE WITH NOTCH

SCALE: NTS
NOTE: MIN. ANCHOR EDGE DISTANCE IS 4"
* COORDINATE WITH LOCAL CODES/ORDINANCES.

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 LOOSE 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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STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'x16' ENCLOSED BUILDING

DATE: 4-3-19

SCALE: NTS

DWG. NO: SK-3

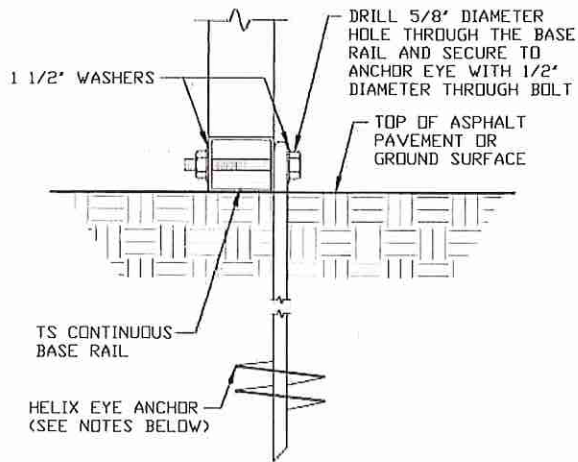
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18094S/19050S

SHT. 8

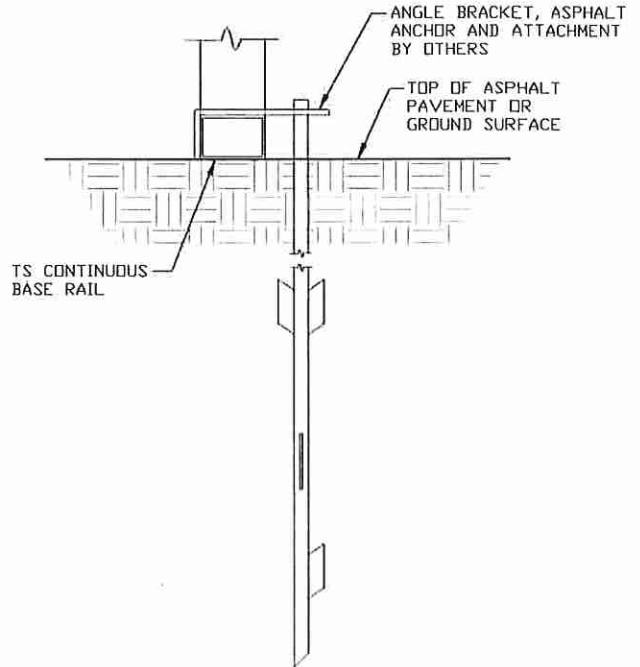
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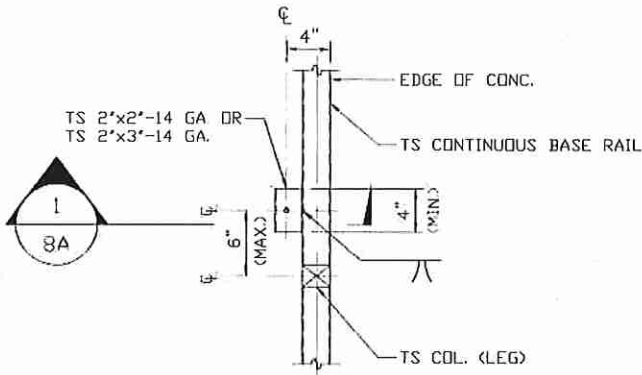
BASE RAIL ANCHORAGE OPTIONS



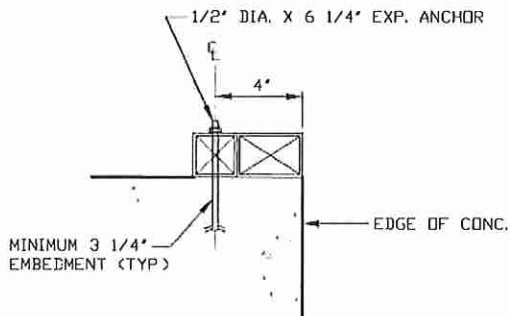
2C GROUND BASE HELIX ANCHORAGE
SCALE: NTS (CAN BE USED FOR ASPHALT)



2D ASPHALT BASE ANCHORAGE
SCALE: NTS



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



1 SECTION
SCALE: NTS

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

DATE: 4-3-19

SCALE: NTS

SHT. 8A

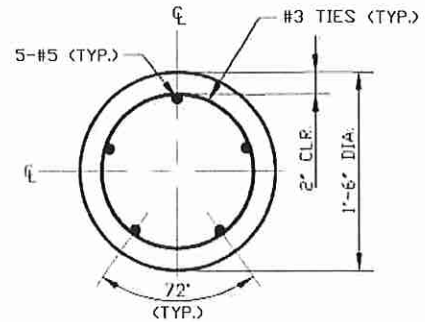
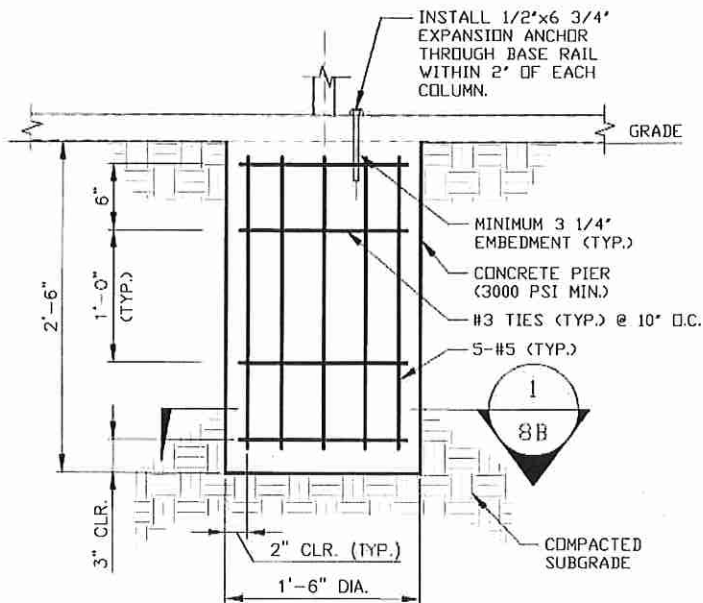
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JOB NO: 17232S/18070S/
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BASE RAIL ANCHORAGE OPTIONS



1 SECTION
SCALE: NTS

2E DRILLED CONCRETE PIER BASE RAIL ANCHORAGE
SCALE: NTS
(NOTE: MIN. ANCHOR EDGE DISTANCE IS 4')

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

DATE: 4-3-19

SCALE: NTS

DWG. NO: SK-3

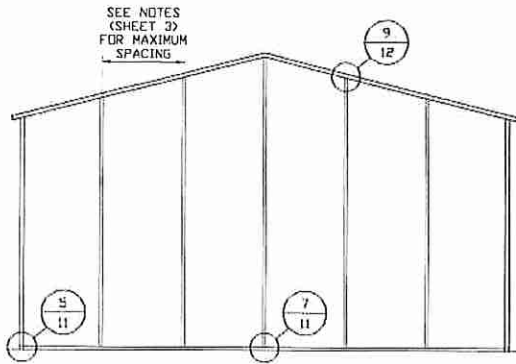
JOB NO: 17832S/18070S/
18094S/19050S

SHT. 8B

REV: 5

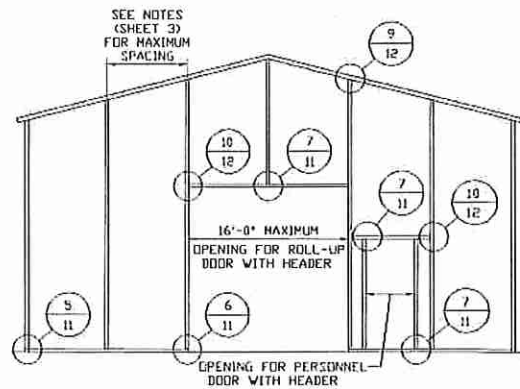
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



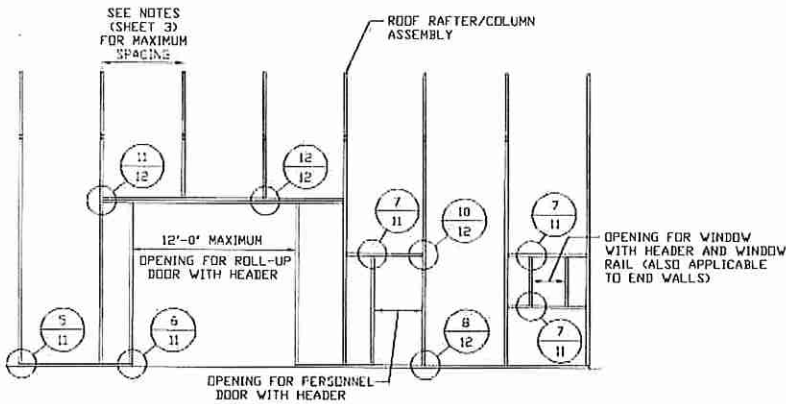
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



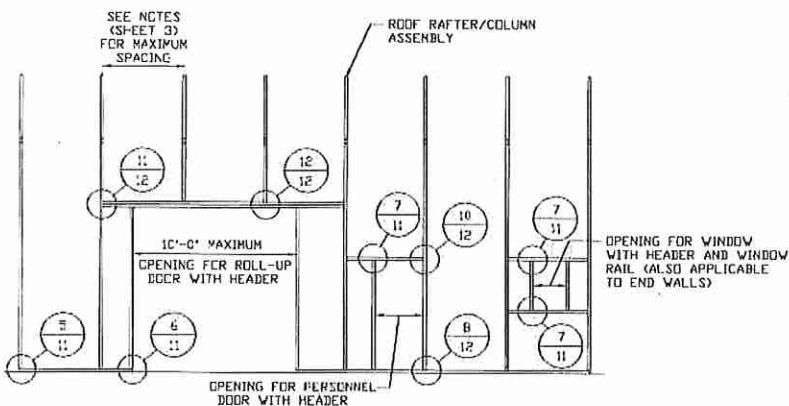
**TYPICAL BOX EAVE RAFTER END
WALL OPENING FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS

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

DATE: 4-3-19

SCALE: NTS

SHT. 9

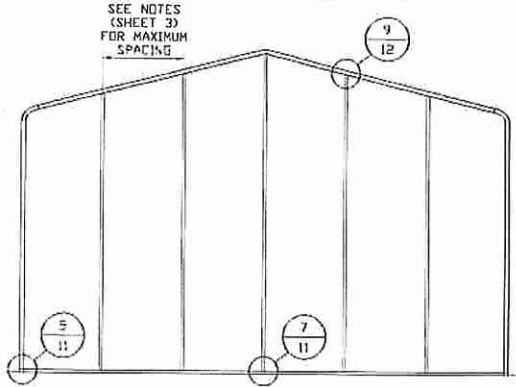
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JOB NO.: 17E32S/18070S/
18094S/19050S

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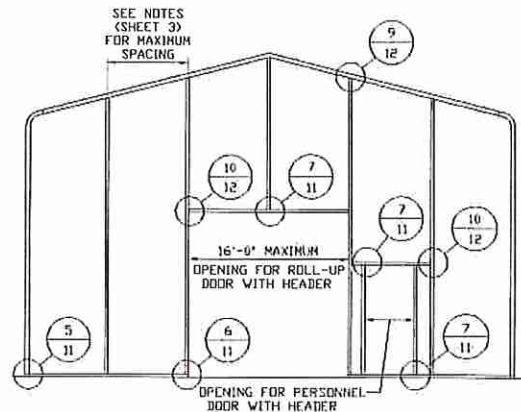
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BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



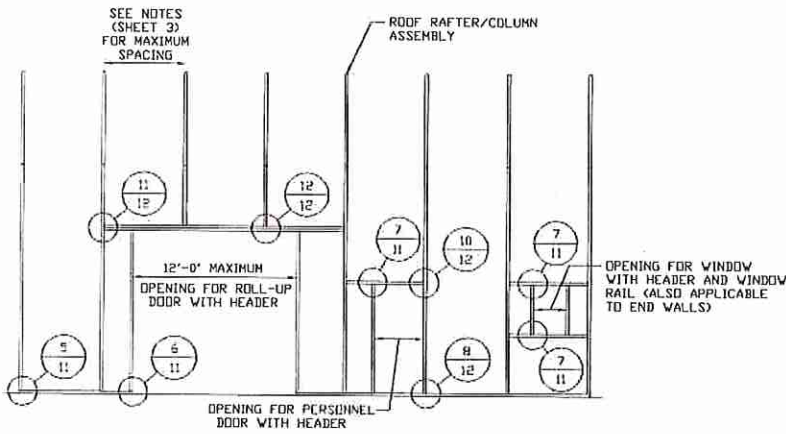
**TYPICAL BOW EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



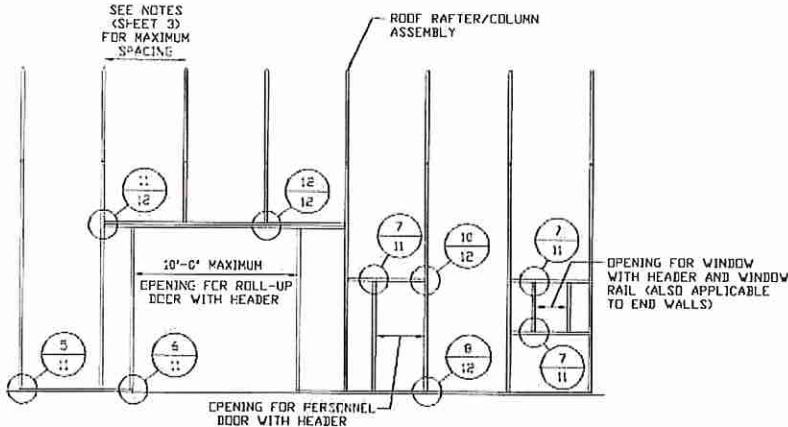
**TYPICAL BOW EAVE RAFTER END
WALL OPENING FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS

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**STEEL BUILDING GARAGES
1804 RIVER STREET
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30'x16' ENCLOSED BUILDING**

DATE: 4-3-19

SCALE: NTS

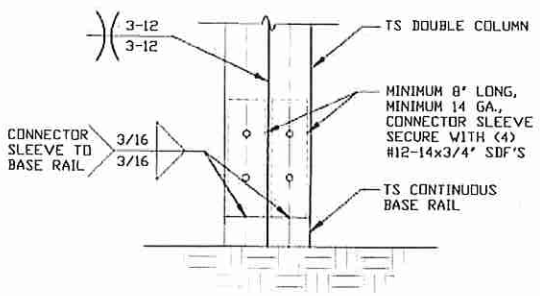
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18094S/19050S**

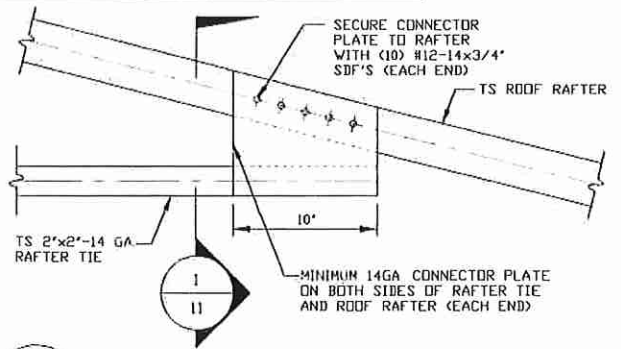
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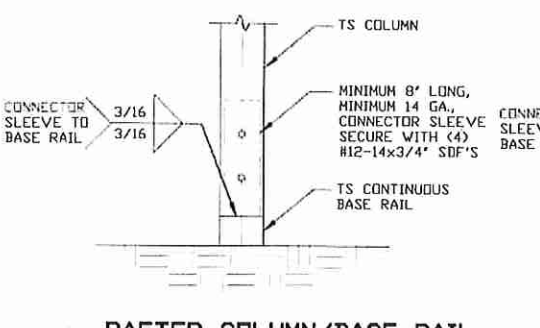
BOX AND BOW EAVE RAFTER WALL OPENING DETAILS



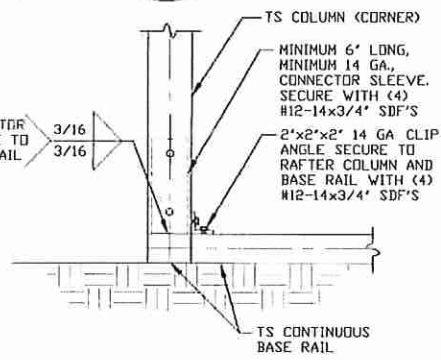
3A RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



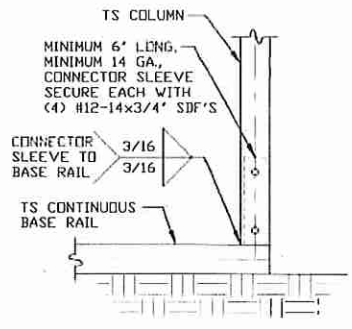
4 ROOF RAFTER TIE CONNECTION DETAIL
SCALE: NTS



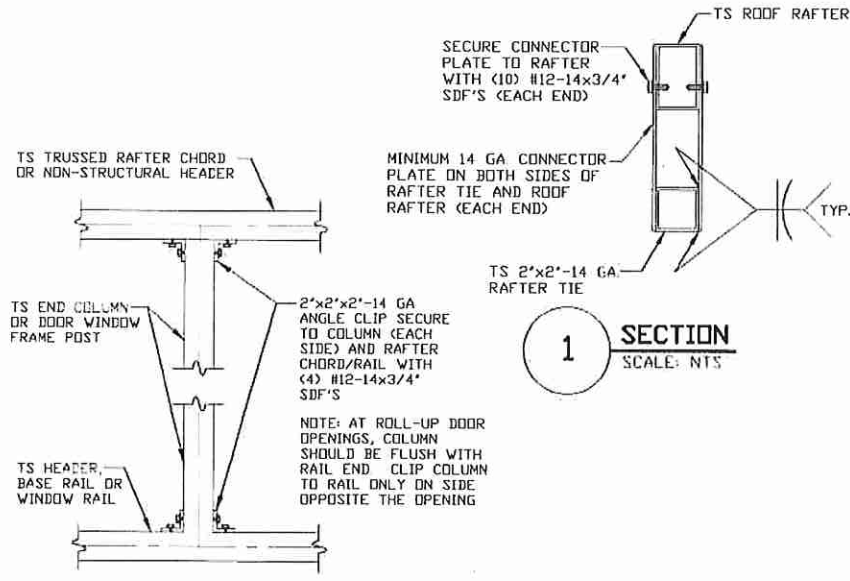
3B RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



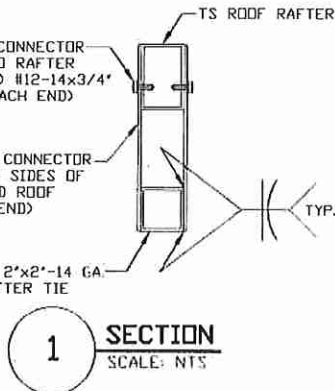
5 END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



6 COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



7 COLUMN TO WINDOW RAIL CONNECTION DETAIL
SCALE: NTS



1 SECTION
SCALE: NTS

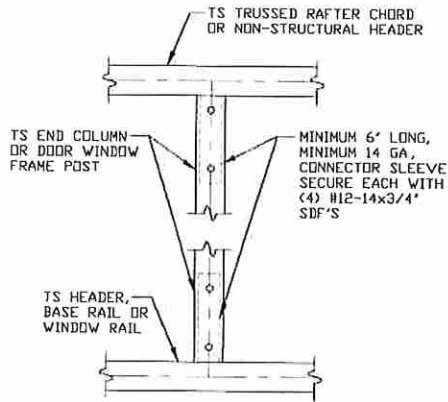
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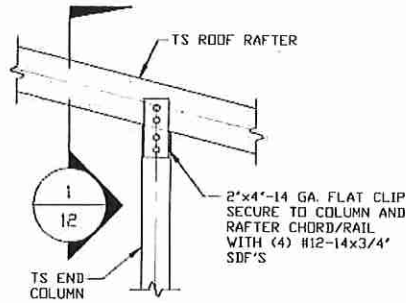
STEEL BUILDING GARAGES
1804 RIVER STREET
WILKESBORO, NC 28697
30'x16' ENCLOSED BUILDING
DATE: 4-3-19
SHT. 11
SCALE: NTS
DWG. NO: SK-3
JOB NO: 17232S/18070S/
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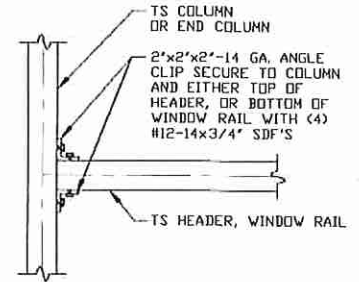
BOX AND BOW EAVE RAFTER WALL OPENING DETAILS



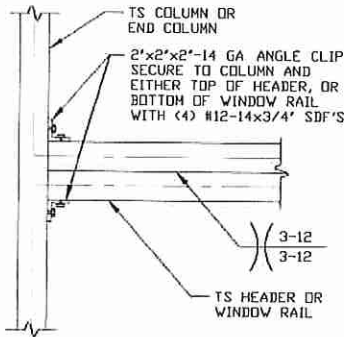
8 COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL
SCALE: NTS



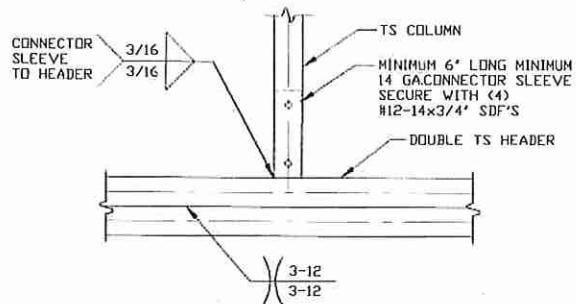
9 RAFTER TO POST CONNECTION DETAIL
SCALE: NTS



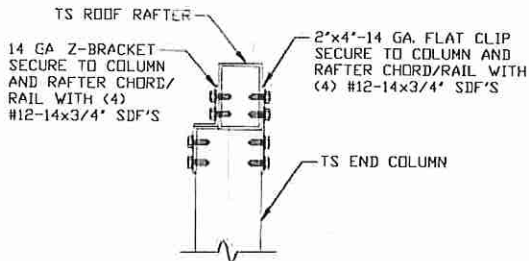
10 COLUMN OR WINDOW RAIL TO POST CONNECTION DETAIL
SCALE: NTS



11 HEADER TO COLUMN CONNECTION DETAIL
SCALE: NTS



12 COLUMN TO HEADER CONNECTION DETAIL
SCALE: NTS



1 SECTION
SCALE: NTS

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

DATE: 4-3-19

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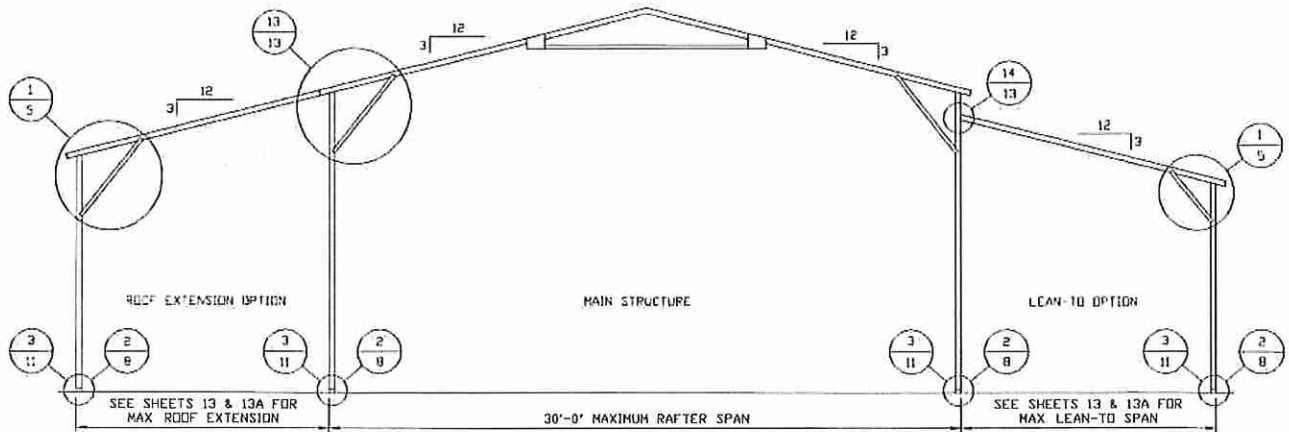
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JOB NO: 17232S/18070S/
18094S/19050S

REV: 5

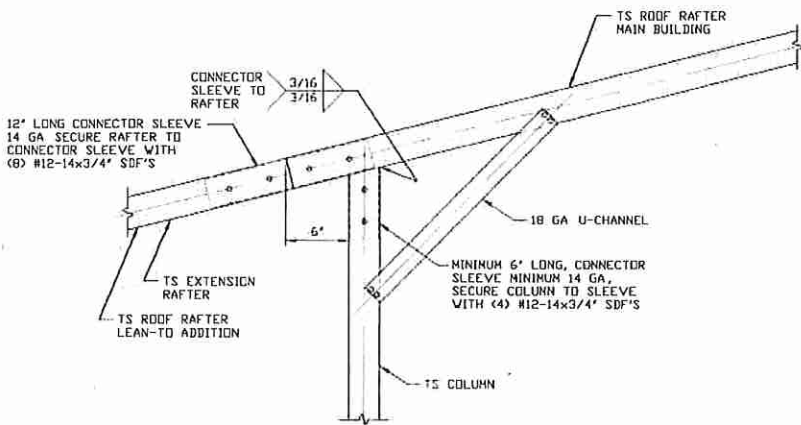
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BOX EAVE RAFTER LEAN-TO OPTIONS



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

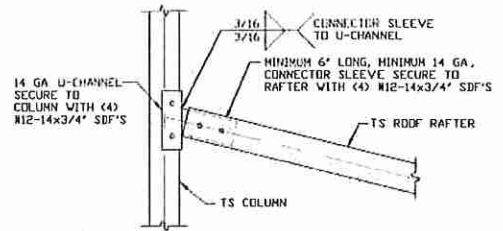
SCALE: NTS



13A

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

SCALE: NTS



14A

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

SCALE: NTS

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ENGINEERING AND CONSULTING, INC.**

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: VSM

CLIENT: ES

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

DATE: 4-3-19

SCALE: NTS

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

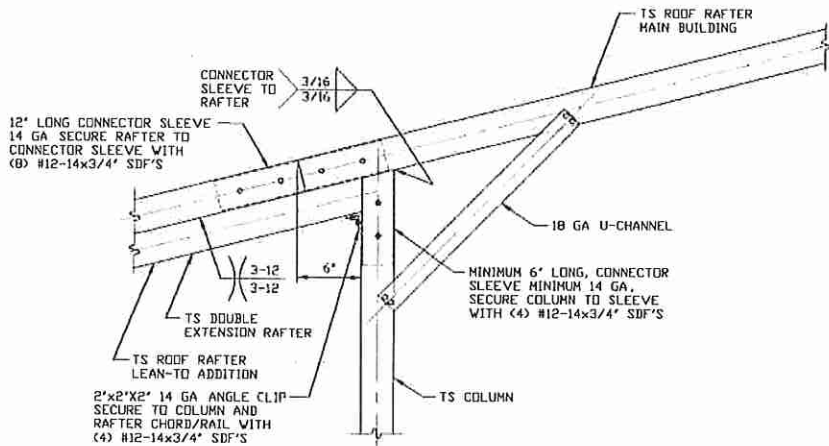
SHT. 13

DWG. NO: SK-3

REV: 5

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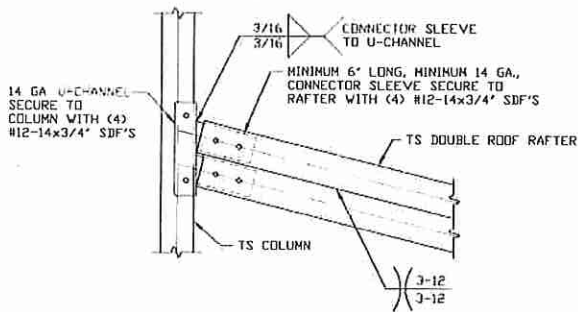
BOX EAVE RAFTER LEAN-TO OPTIONS



13B

**SIDE EXTENSION RAFTER/COLUMN DETAIL
FOR RAFTER SPANS 12'-0" < TO ≤ 15'-0"**

SCALE: NTS



14B

**LEAN-TO RAFTER TO RAFTER COLUMN
CONNECTION DETAIL FOR RAFTER
SPANS 12'-0" < TO ≤ 15'-0"**

SCALE: NTS

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

DRAWN BY: AT

CHECKED BY: PDH

PROJECT MGR: WSH

CLIENT: ES

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

DATE: 4-3-19

SCALE: NTS

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

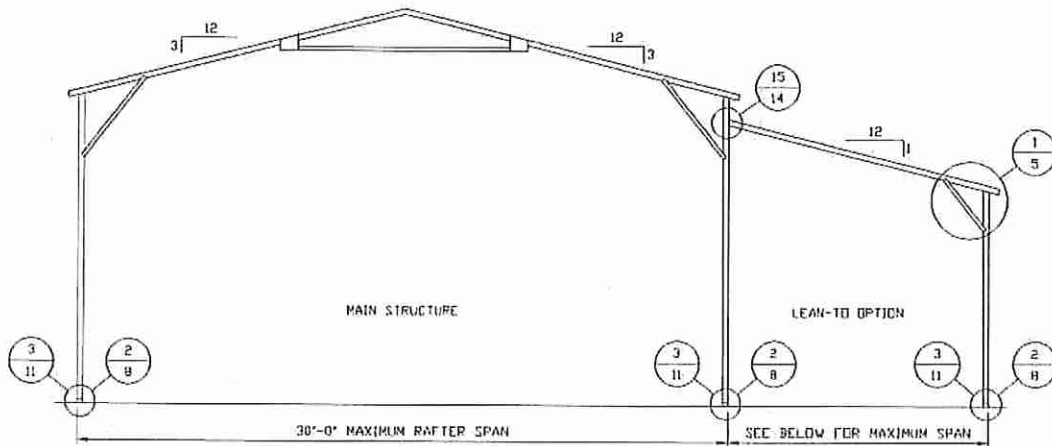
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DWG. NO: SK-3

REV: 5

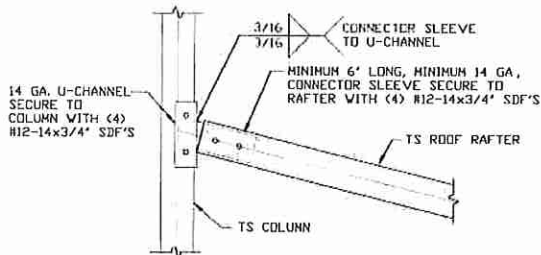
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BOX EAVE RAFTER LEAN-TO OPTIONS



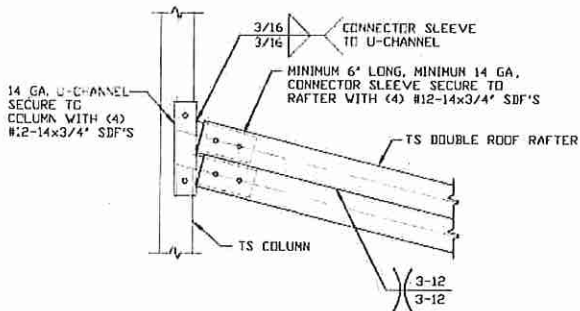
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS

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

DATE: 4-3-19

SHT. 14

SCALE: NTS

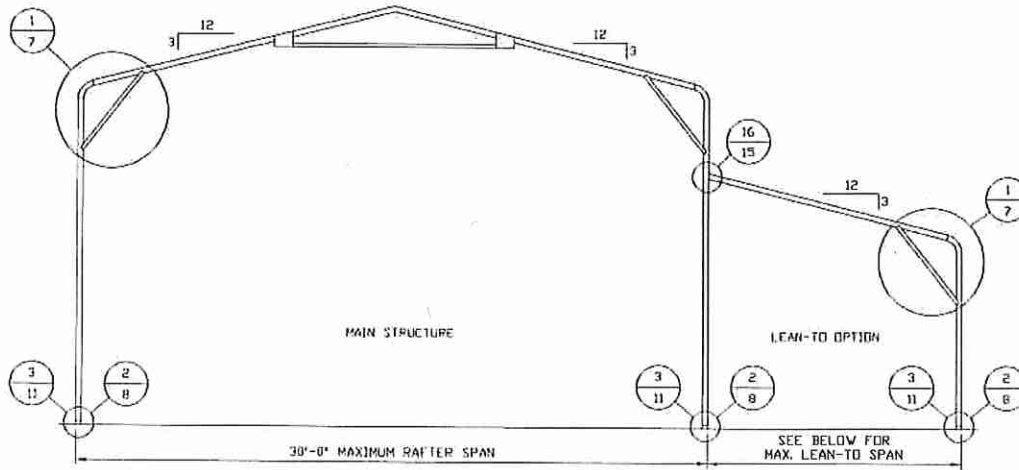
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**JOB NO: 17232S/18070S/
18094S/19050S**

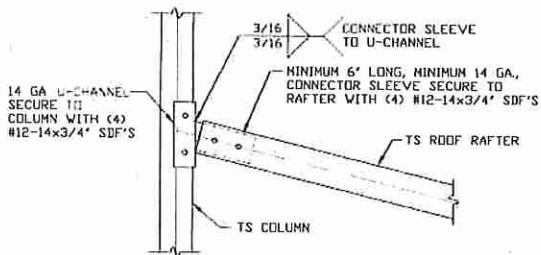
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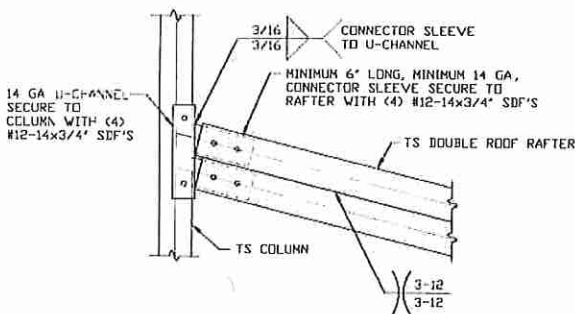
BOW EAVE RAFTER LEAN-TO OPTIONS



TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION
SCALE: NTS



16A 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 $12'-0" < \text{TO} \leq 15'-0"$
SCALE: NTS

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CLIENT: ES

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

DATE: 4-3-19

SHT. 15

SCALE: NTS

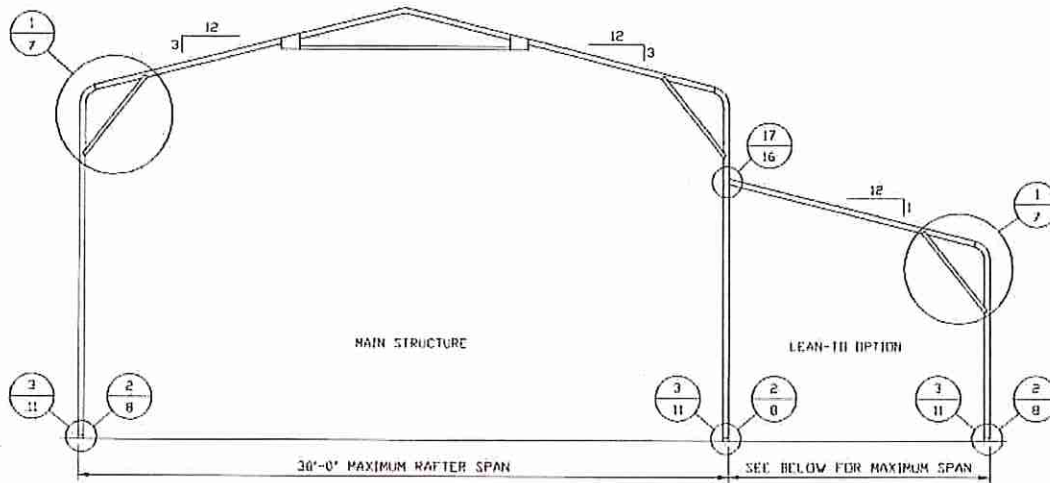
DWG. NO: SK-3

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

REV: 5

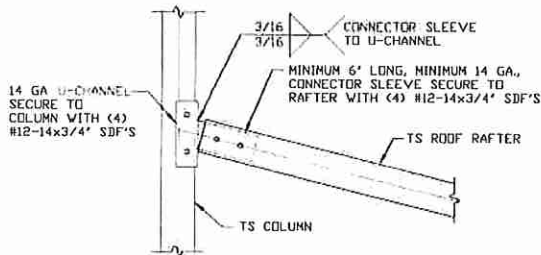
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BOW EAVE RAFTER LEAN-TO OPTIONS



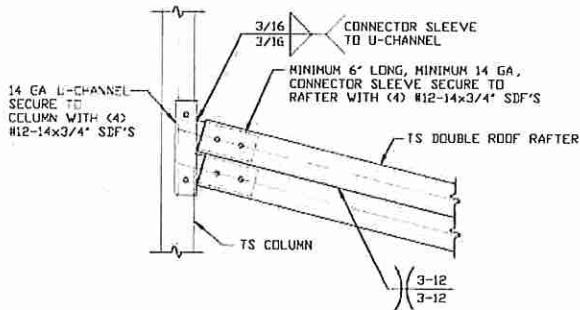
TYPICAL BOW RAFTER LEAN-TO OPTION FRAMING SECTION

SCALE: NTS



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

SCALE: NTS



17B LEAN-TO RAFTER TO RAFTER
COLUMN CONNECTION DETAIL FOR
RAFTER SPANS $11'-0" < TO \leq 15'-0"$

SCALE: NTS

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

DATE: 4-3-19

SCALE: NTS

DWG. NO: SK-3

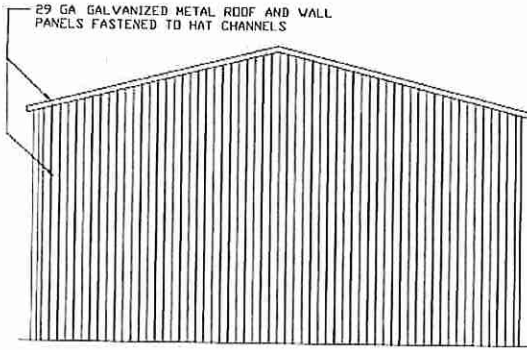
JOB NO: 17232S/18070S/
18094S/19050S

SHT. 16

REV: 5

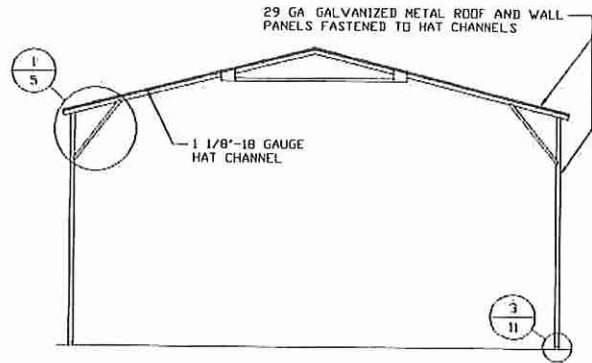
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BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



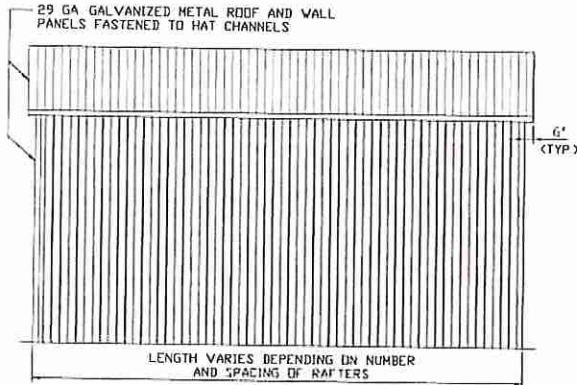
TYPICAL END ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



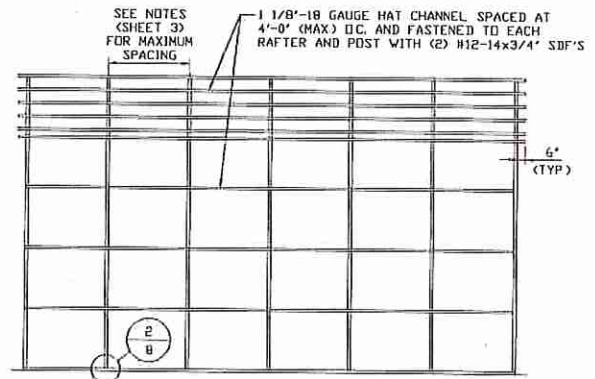
TYPICAL SECTION VERTICAL ROOF OPTION

SCALE: NTS



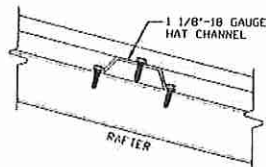
TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING

SCALE: NTS



TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS



PANEL ATTACHMENT

(ALTERNATE FOR VERTICAL ROOF PANELS)
SCALE: NTS

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

DATE: 4-3-19

SHT. 17

SCALE: NTS

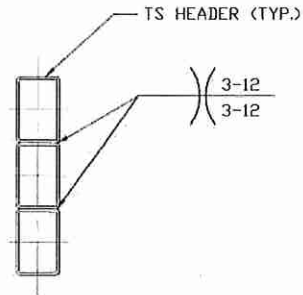
DWG. NO SK-3

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

REV: 5

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HEADER OPTION



**HEADER DETAIL FOR
SPANS 10'-0" < TO ≤ 16'-0"**
SCALE: NTS

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30'x16' ENCLOSED BUILDING**

DATE: 4-3-19

SCALE: NTS

SHT. 18

DWG. NO: SK-3

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