



Steel Buildings & Structures Inc.

800 Piedmont Triad West Drive
P.O. Box 1287
Mount Airy, NC 27030
Phone: 877-272-8276
Email: sbspermitting@sbsihq.com

Enclosed are the certified plans for the building that you have purchased. Please be aware that some pages in the packet may not pertain to your building, as these are **generic** drawings and not site specific. Please do not remove any pages from this packet, as some counties will consider them as being tampered with and may not accept them. If at any time you have any questions or if you need any help during the permitting process, please feel free to contact us at 877-272-8276 and ask to speak with the Permitting & Engineering Department.

Thank you for choosing Steel Buildings and Structures, Inc.

Lexi Valentine
Permitting & Engineering Dept
Phone: 877-272-8276 ext. 142
Direct/Text: 336-515-9627



STRUCTURAL DESIGN ENCLOSED BUILDING

**MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT-
BOX EAVE FRAME AND BOW FRAME**

14 February 2020

Revision 8

M&A Project No. 16062S/16155S/16207S/17155S/17200S/18068S/18156S/18290S/20019S

Prepared for:

Steel Buildings and Structures, Inc.

P.O. Box 1287

Mt. Airy, NC 27030

Prepared by:

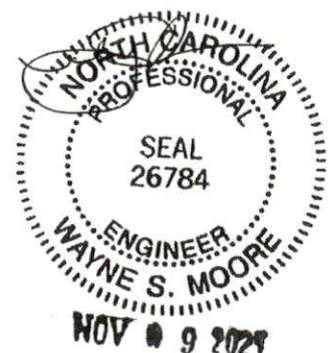
**Moore and Associates Engineering
and Consulting, Inc.**

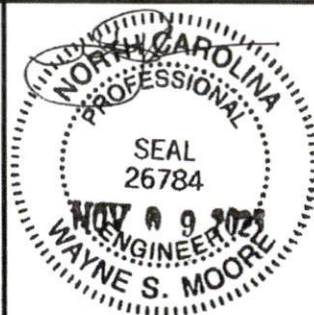
1009 East Avenue

North Augusta, SC 29841

401 S. Main St., Suite 200

Mt. Airy, NC 27030





MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: LT	STEEL BUILDINGS AND STRUCTURES, INC. P.O. BOX 1287, MOUNT AIRY, NC 27030 30'-0"x20'-0" ENCLOSED STRUCTURE		
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	CLIENT: SBSI	SHT. 1	DWG. NO: SK-3	REV: 8



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	CLIENT: SBSI	SHT. 1A	DWG. NO: SK-3	REV: 8

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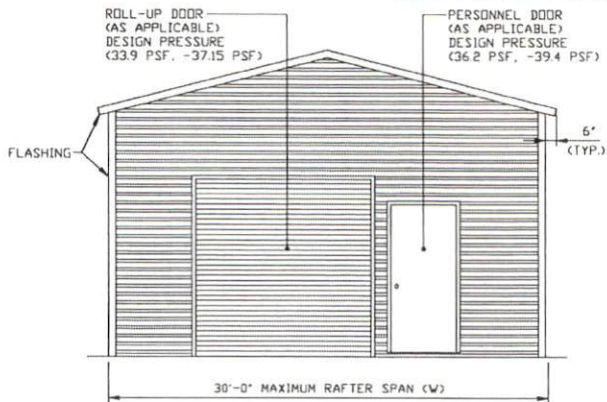
INSTALLATION NOTES AND SPECIFICATIONS

1. DESIGN IS FOR MAXIMUM 30'-0" WIDE x 20'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE (FBC) 6TH EDITION, 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 = 1.5 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 30 PSF ($\leq 26'-0"$), 35 PSF ($26'-0" < W \leq 30'-0"$)
 NOTE: (UNBALANCED SNOW LOADS DUE TO DRIFTING HAVE NOT BEEN EVALUATED).
4. 3-SECOND GUST ULTIMATE WIND SPEED (V_{ULT}) = 105 TO 145 MPH (NOMINAL WIND SPEED = 82 TO 112 MPH).
5. MAXIMUM RAFTER/COLUMN AND END COLUMN SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).
6. END WALL COLUMNS (POSTS) ARE EQUIVALENT TO SIDE WALL 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 1/2" x 2 1/2" - 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) = 8 INCHES.
11. FASTENERS CONSIST OF 1/4"x3/4" 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. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH COLUMN.
13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36" LONG AND MAY BE USED IN SUITABLE SOILS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
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. WINDOW AND DOOR DESIGN PRESSURES ARE APPLICABLE TO THE STATE OF FLORIDA ONLY.



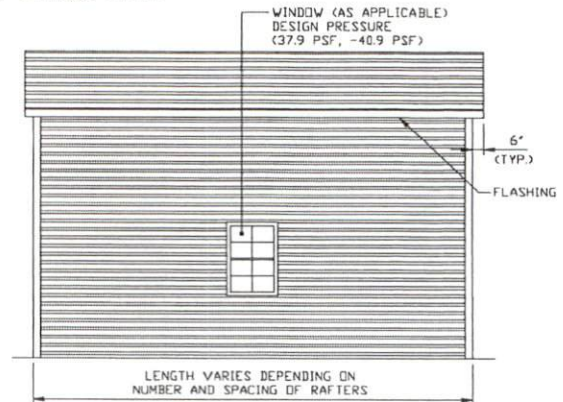
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			REV: 8

BOX EAVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION

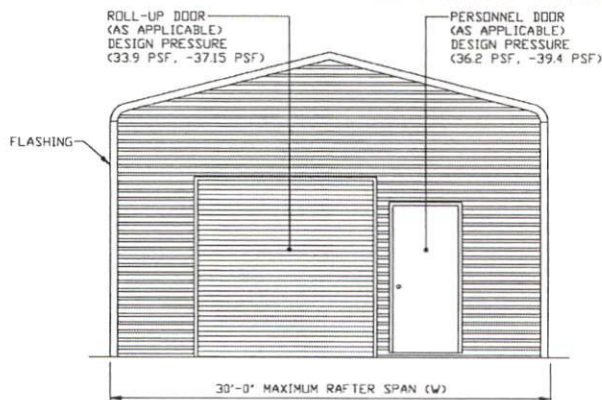
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TYPICAL SIDE ELEVATION

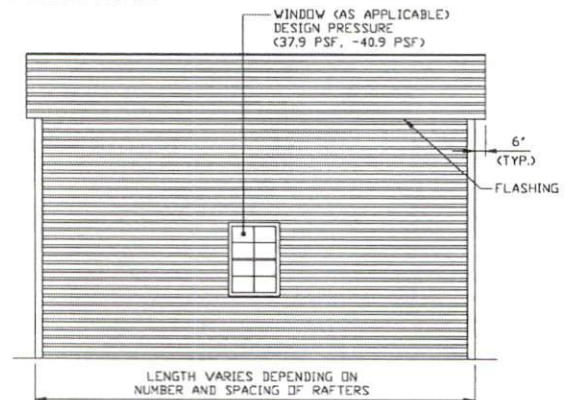
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BOX EAVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION

SCALE: NTS



TYPICAL SIDE ELEVATION

SCALE: NTS



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SHT. 4

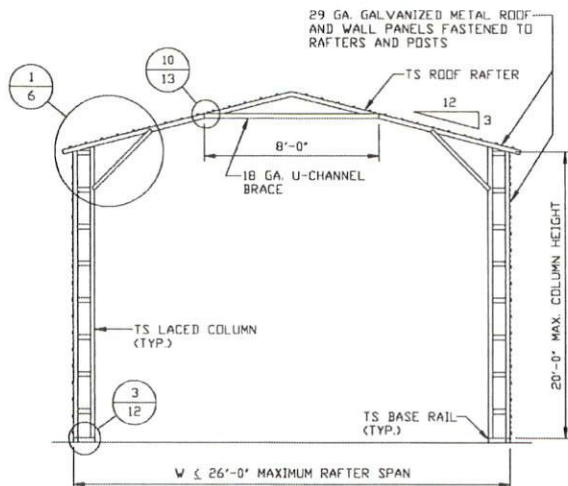
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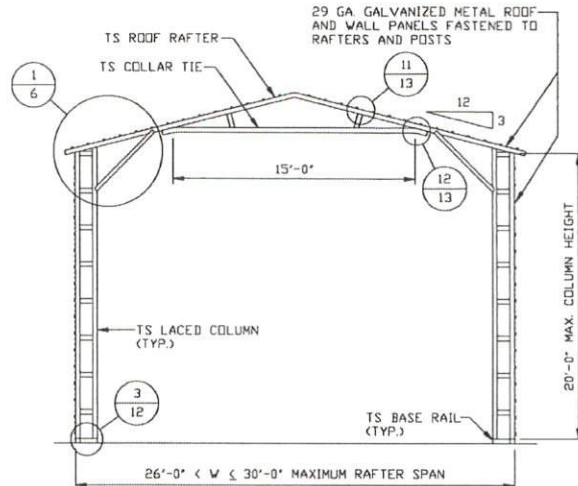
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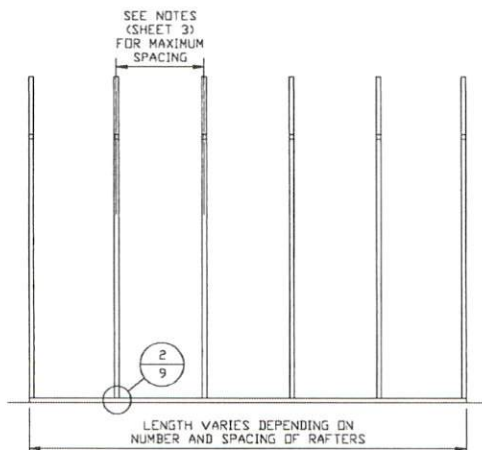
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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SHT. 5

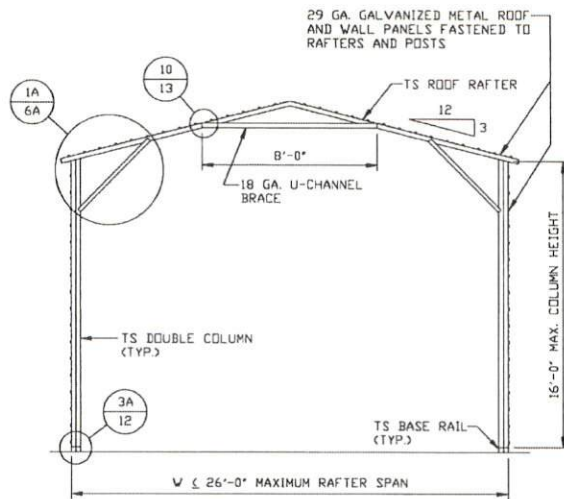
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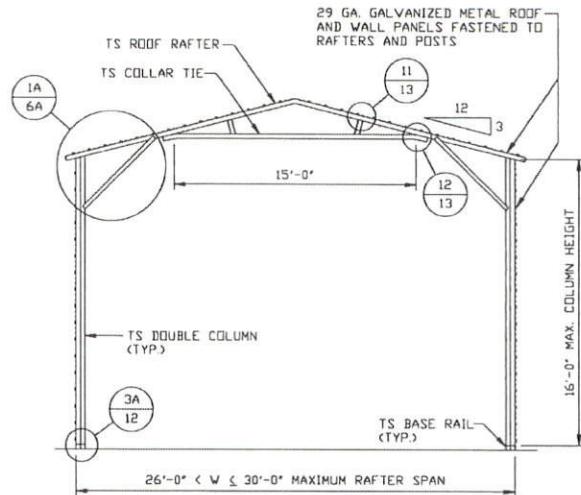
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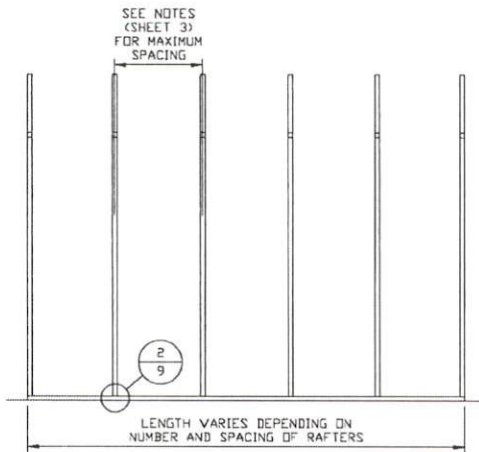
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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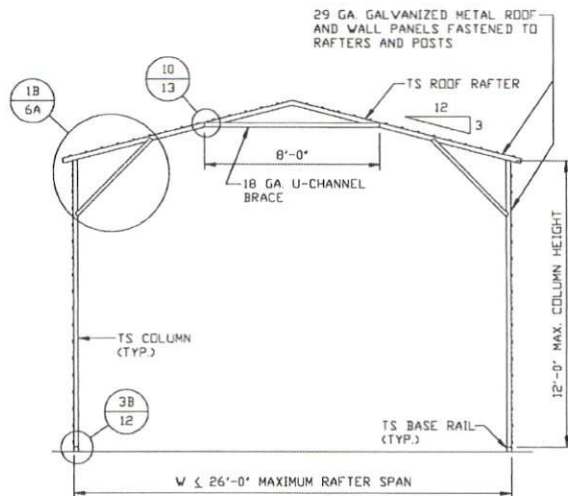
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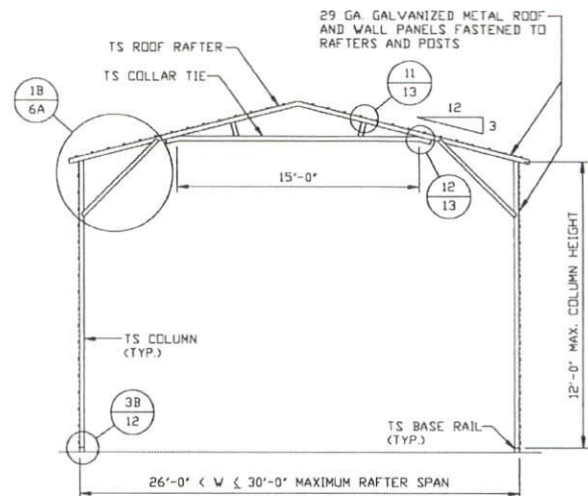
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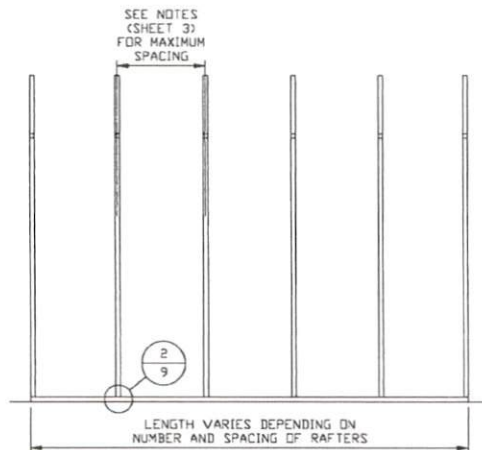
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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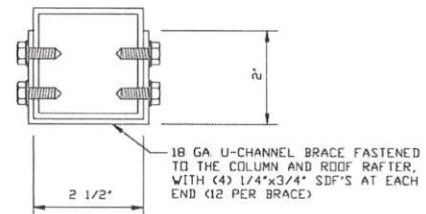
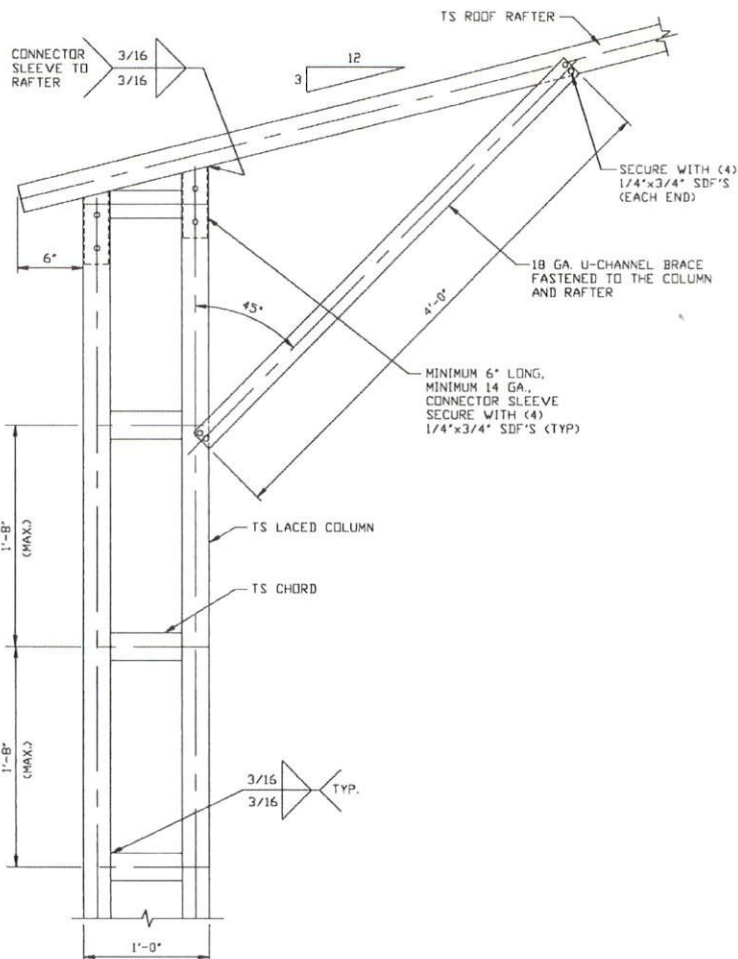
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BRACE SECTION
SCALE: NTS

**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 16'-0" < TO ≤ 20'-0"**
SCALE: NTS



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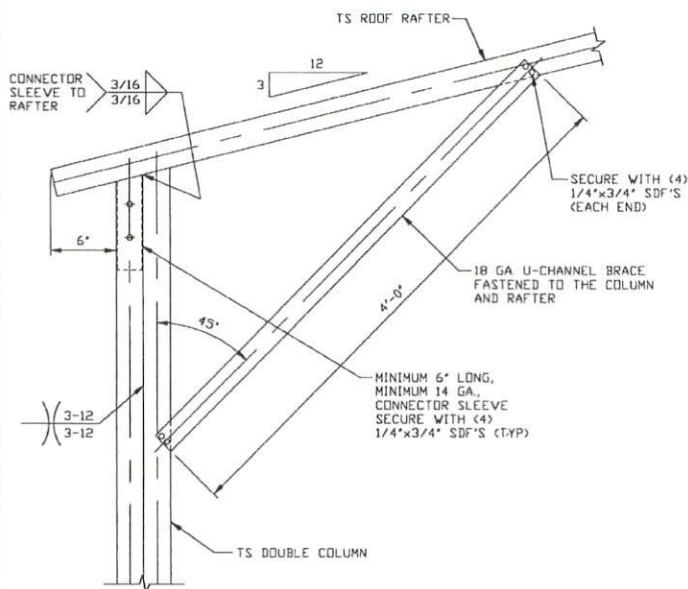
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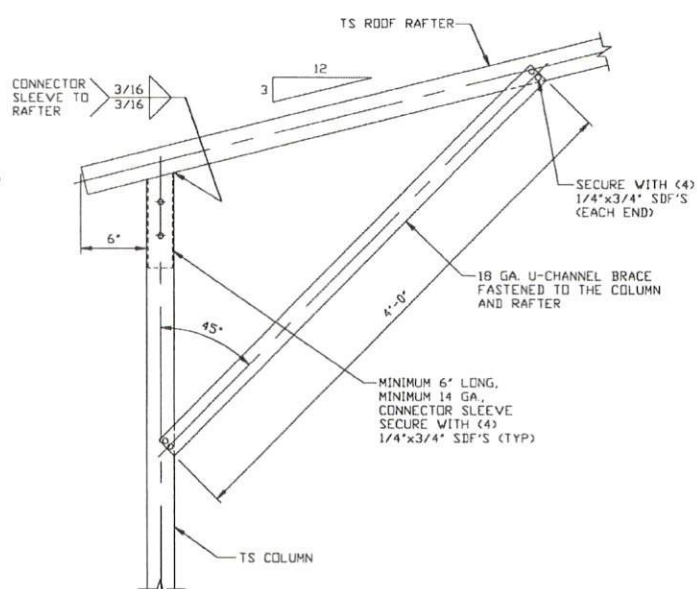
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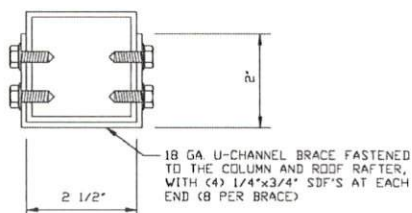
**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 16'-0"**
SCALE: NTS

1A



**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS ≤ 12'-0"**
SCALE: NTS

1B



BRACE SECTION
SCALE: NTS



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SHT. 6A

SCALE: NTS

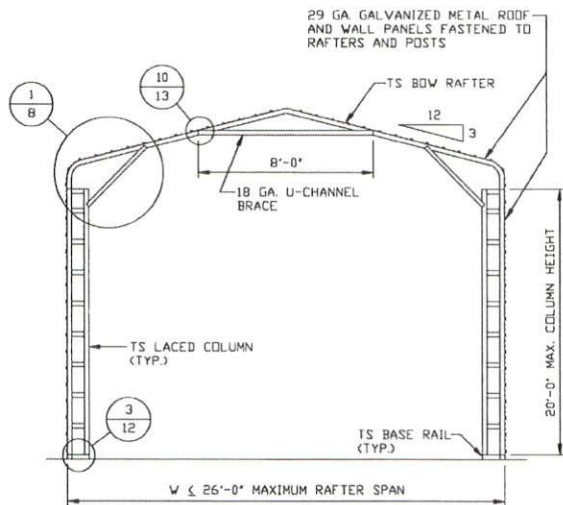
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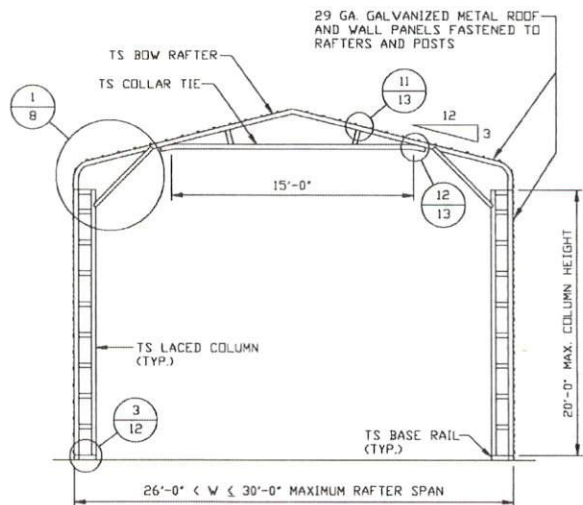
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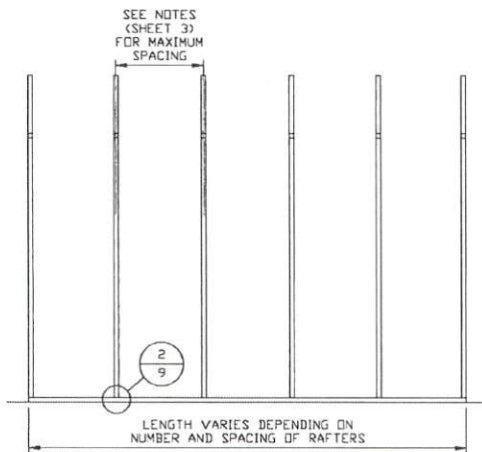
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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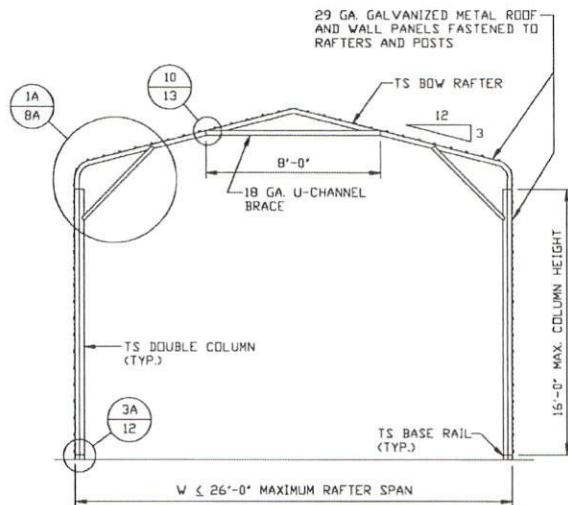
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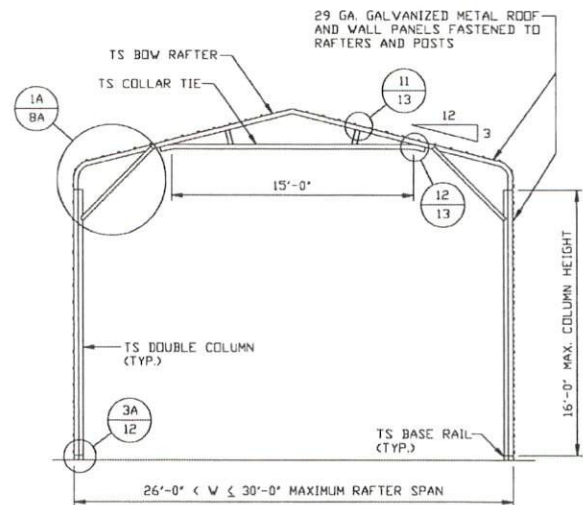
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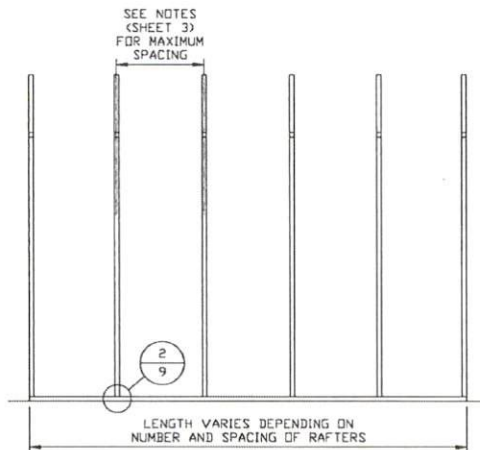
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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SHT. 7A

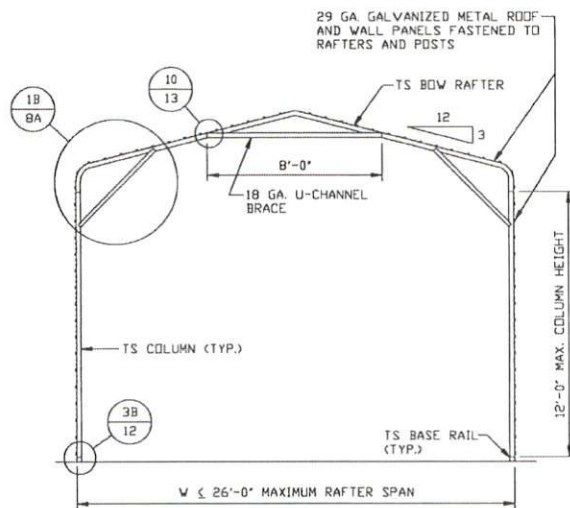
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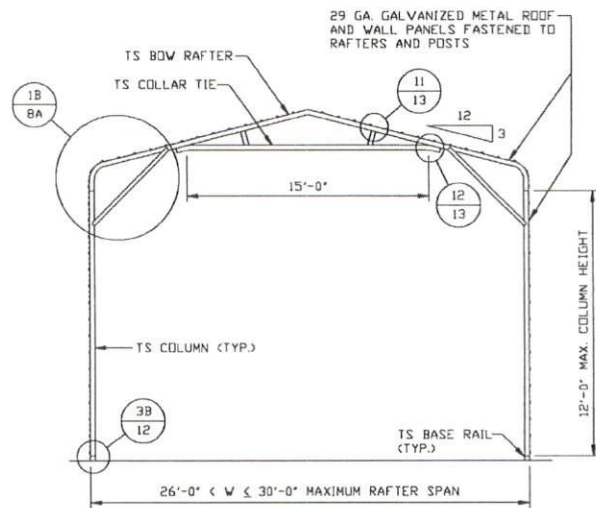
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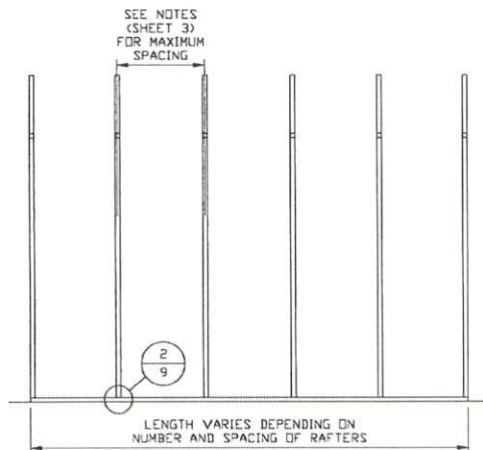
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TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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ENGINEERING AND CONSULTING, INC.**

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0"X20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 7B

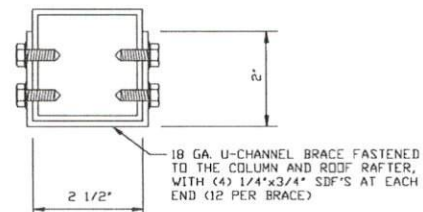
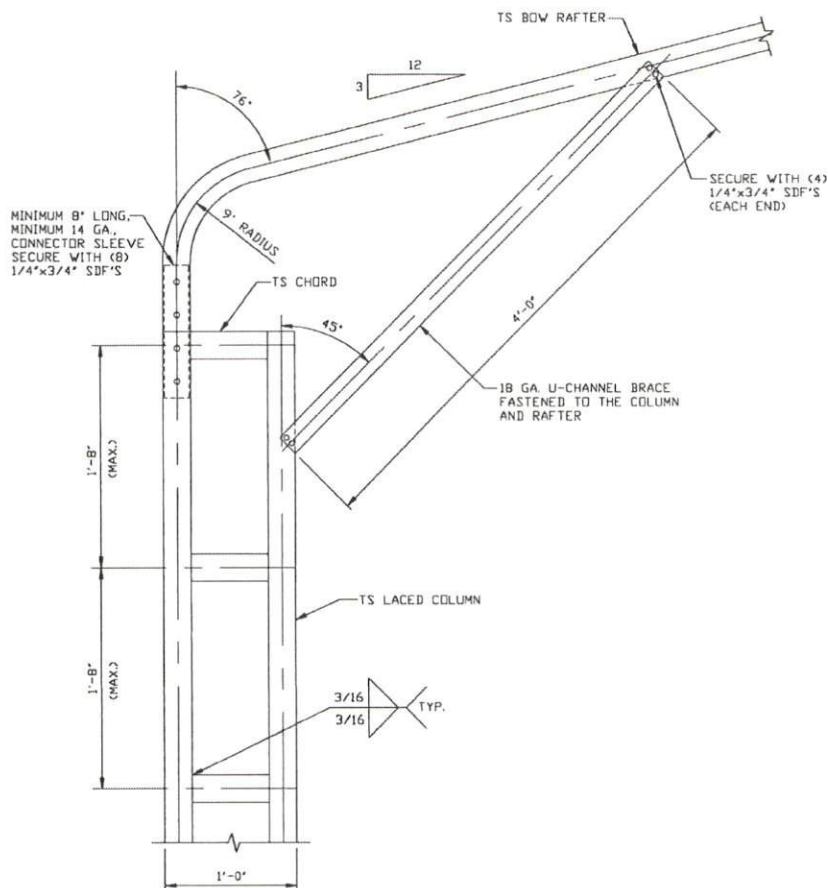
SCALE: NTS

DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

REV: 8

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BRACE SECTION
SCALE: NTS

**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 16'-0" < TO ≤ 20'-0"**
SCALE: NTS

1



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ENGINEERING AND CONSULTING, INC.**

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBST

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 8

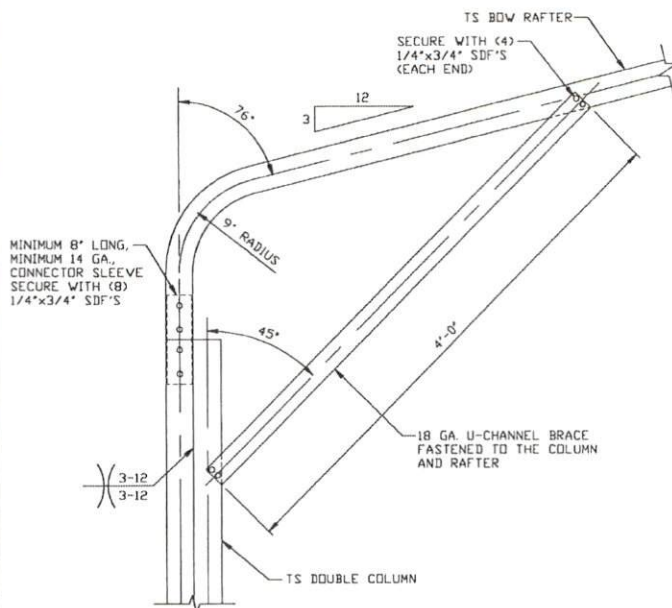
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DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

REV: 8

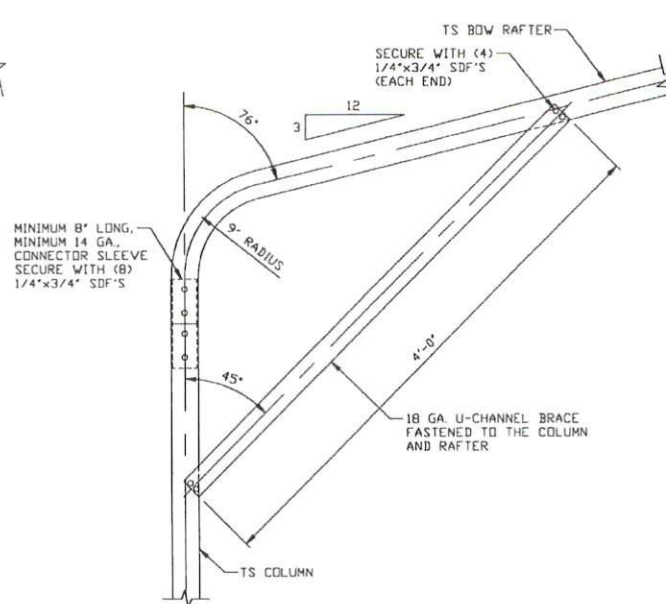
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**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 16'-0"**

1A

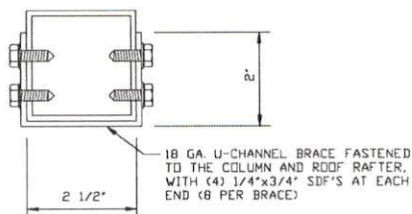
SCALE: NTS



**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS ≤ 12'-0"**

1B

SCALE: NTS



BRACE SECTION

SCALE: NTS



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ENGINEERING AND CONSULTING, INC.**

DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSH

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 8A

SCALE: NTS

DWG. NO: SK-3

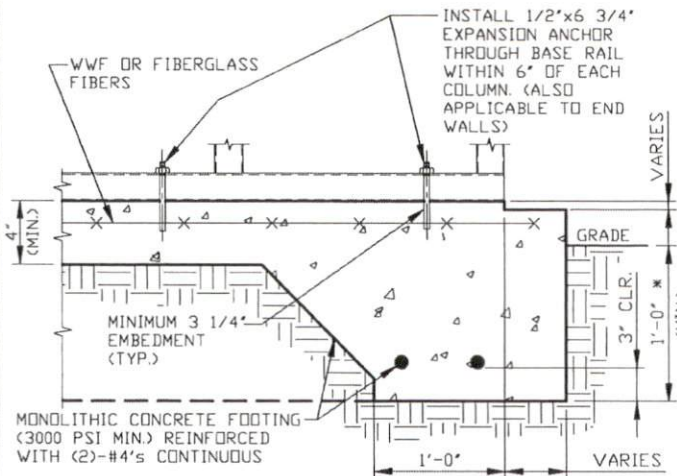
JOB NO: 18068S

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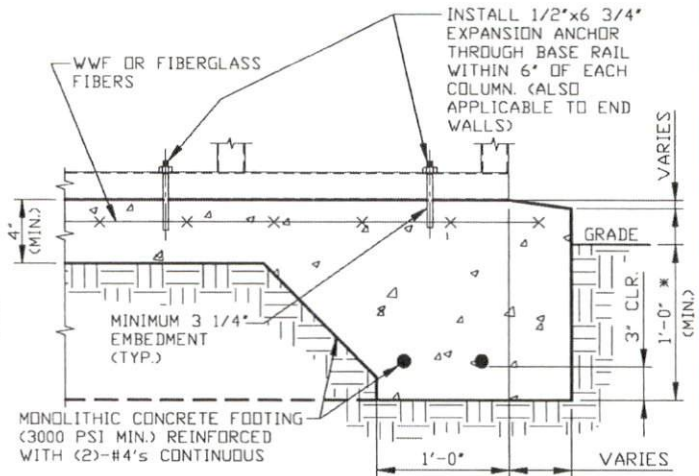
BASE RAIL ANCHORAGE OPTIONS



2

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4".
* COORDINATE WITH LOCAL CODES/ORD.



2A

CONCRETE SLAB BASE RAIL ANCHORAGE

SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4".
* COORDINATE WITH LOCAL CODES/ORD.

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:

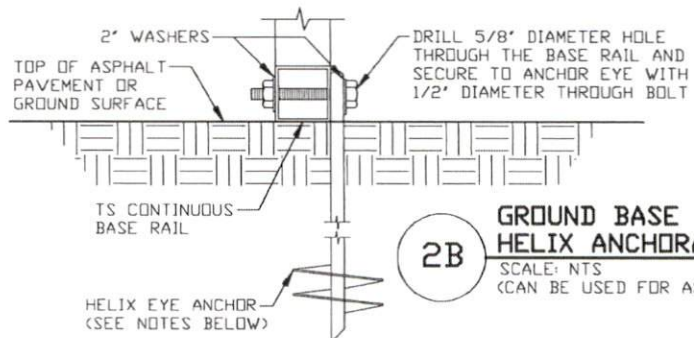
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

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.



2B

GROUND BASE HELIX ANCHORAGE

SCALE: NTS
(CAN BE USED FOR ASPHALT)

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DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 9

SCALE: NTS

DWG. NO: SK-3

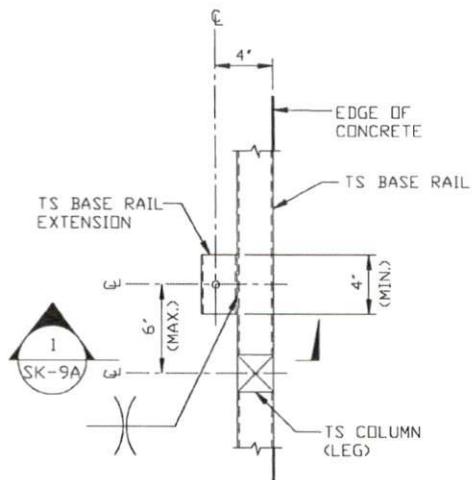
JOB NO: 18068S
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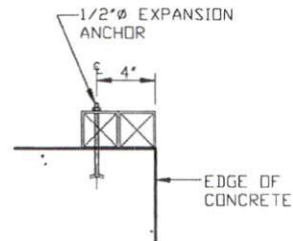


ADDITIONAL BASE RAIL ANCHORAGE OPTION

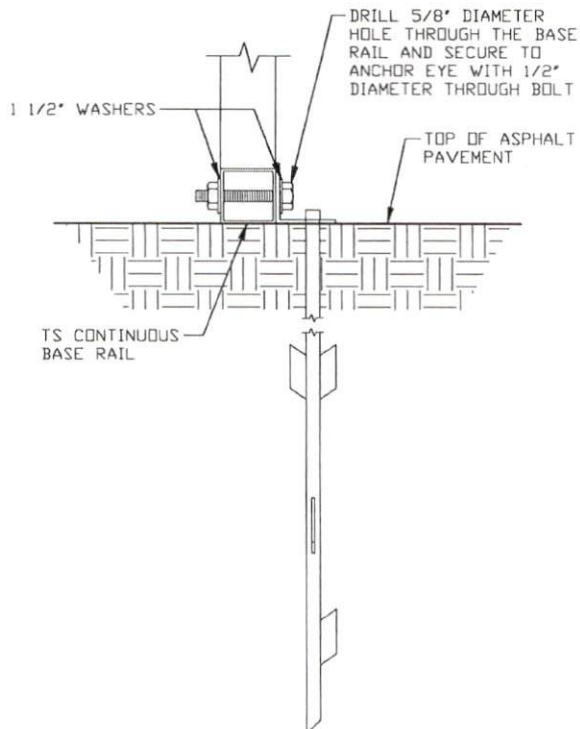


TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



SECTION 1
SCALE: NTS



2C

ASPHALT BASE ANCHORAGE

SCALE: NTS



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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 9A

SCALE: NTS

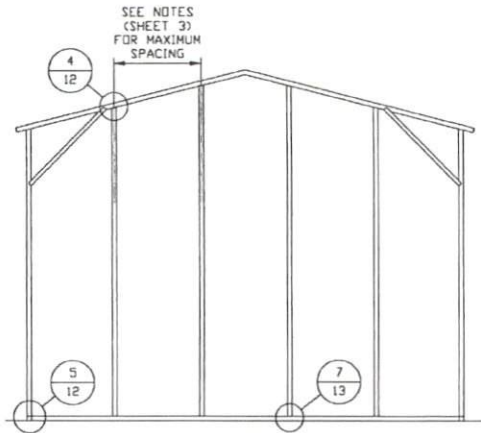
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JOB NO: 18068S
18156S/18290S/20019S

REV: 8

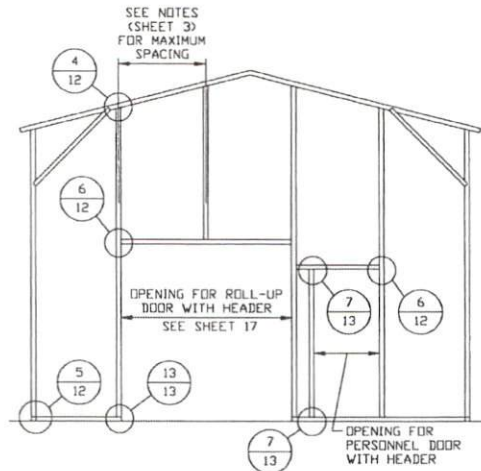
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



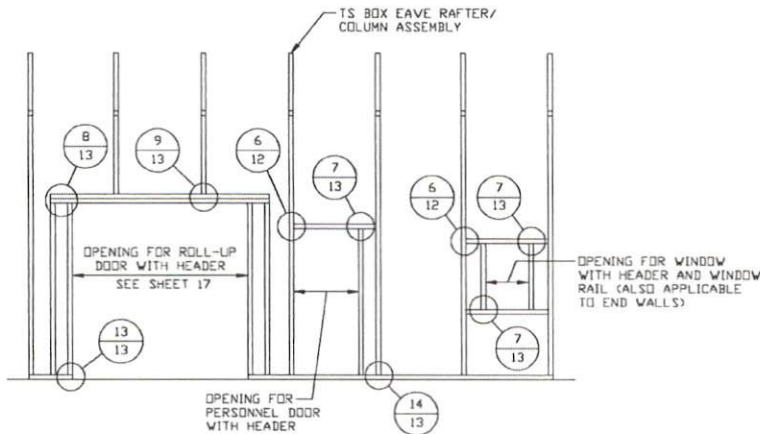
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS



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PROJECT MGR: WSM

CLIENT: SBST

STEEL BUILDINGS AND STRUCTURES, INC.
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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 10

SCALE: NTS

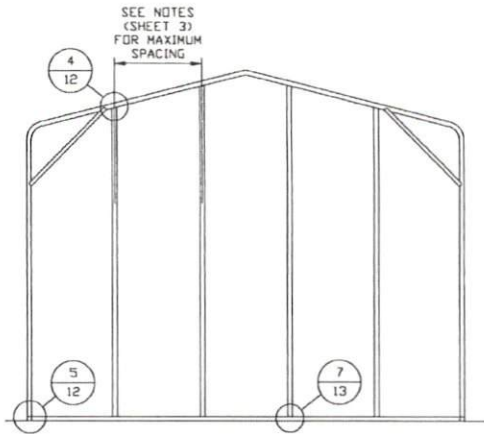
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JOB NO: 18068S
18156S/18290S/20019S

REV: 8

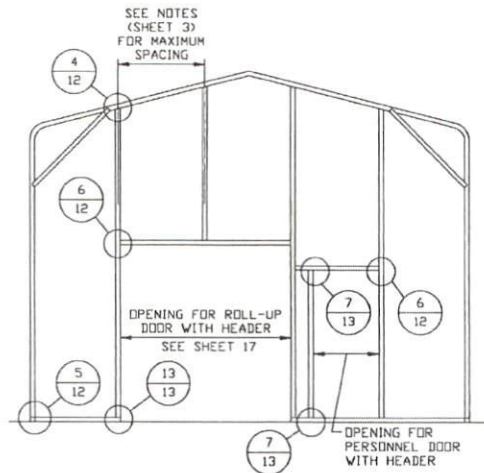
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BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



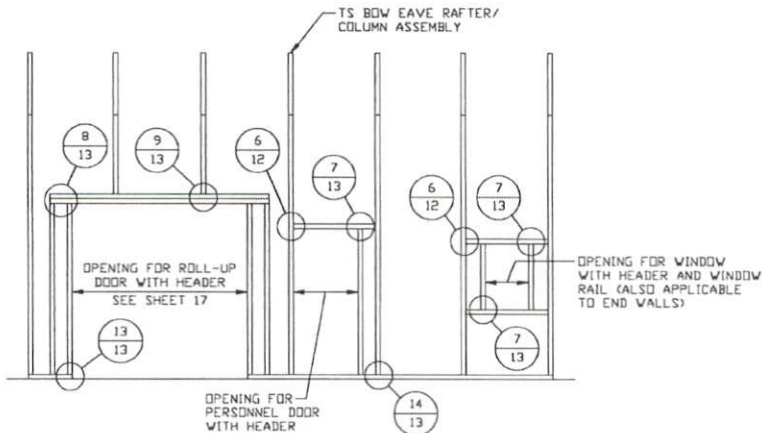
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS



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STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 11

SCALE: NTS

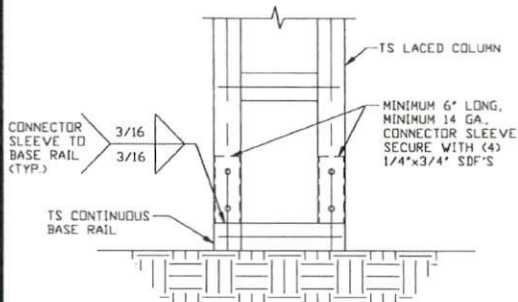
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**JOB NO: 18068S
18156S/18290S/20019S**

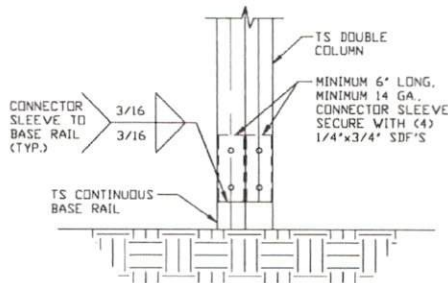
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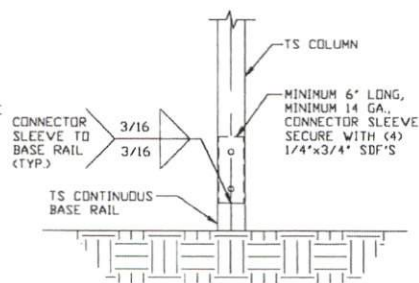
CONNECTION DETAILS



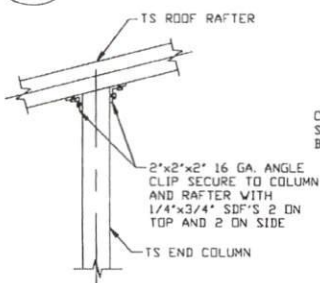
3 POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



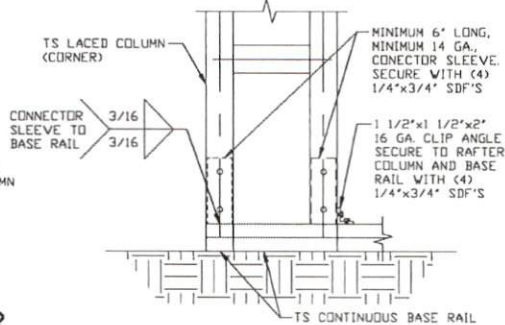
3A POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



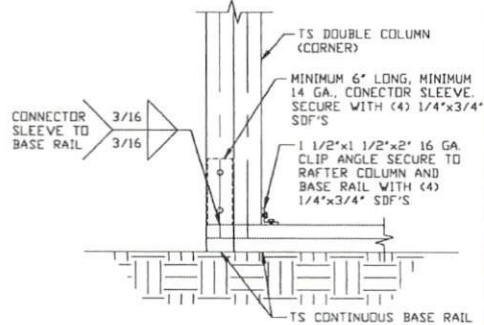
3B POST/BASE RAIL CONNECTION DETAIL
SCALE: NTS



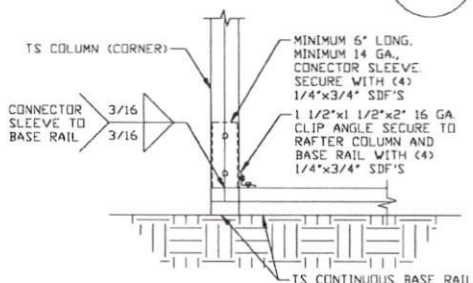
4 END COLUMN/RAFTER CONNECTION DETAIL
SCALE: NTS



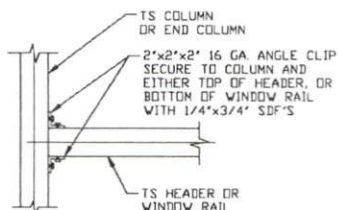
5 END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



5A END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



5B END COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



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



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STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
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SHT. 12

SCALE: NTS

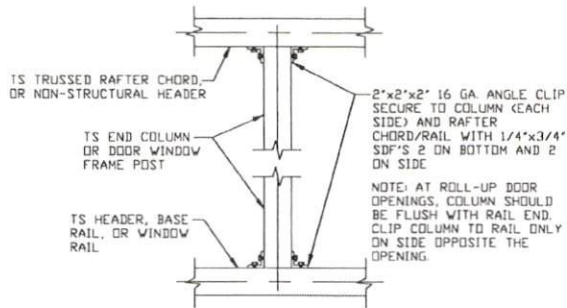
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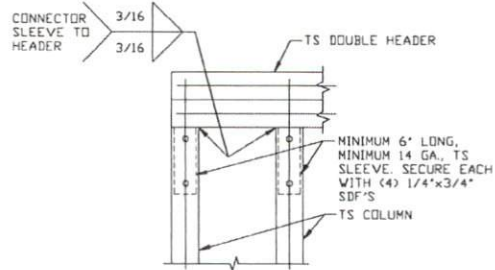
CONNECTION DETAILS



7

COLUMN TO HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL

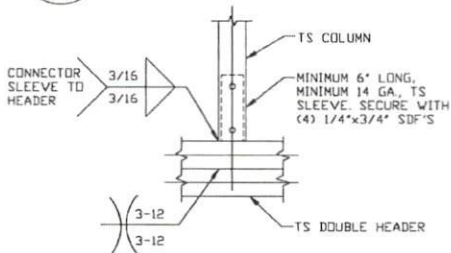
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8

DOUBLE HEADER/COLUMN CONNECTION DETAIL

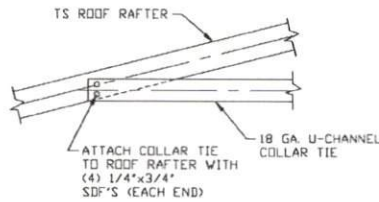
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9

COLUMN/DOUBLE HEADER CONNECTION DETAIL

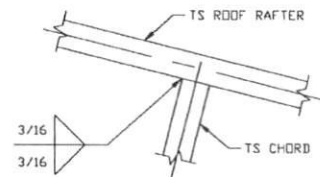
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10

COLLAR TIE CONNECTION DETAIL

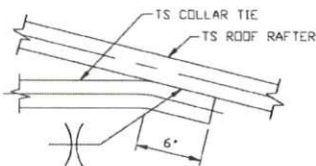
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11

RAFTER TO CHORD CONNECTION DETAIL

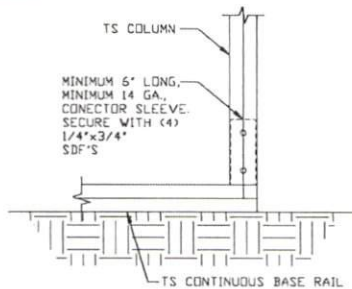
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12

COLLAR TIE CONNECTION DETAIL

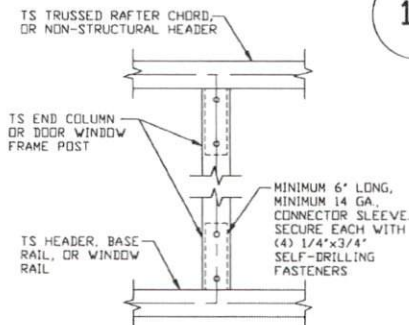
SCALE: NTS



13

COLUMN/BASE RAIL CONNECTION DETAIL

SCALE: NTS



14

COLUMN TO HEADER OR BASE RAIL CONNECTION DETAIL

SCALE: NTS



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STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 13

SCALE: NTS

DWG. NO: SK-3

JOB NO: 18068S
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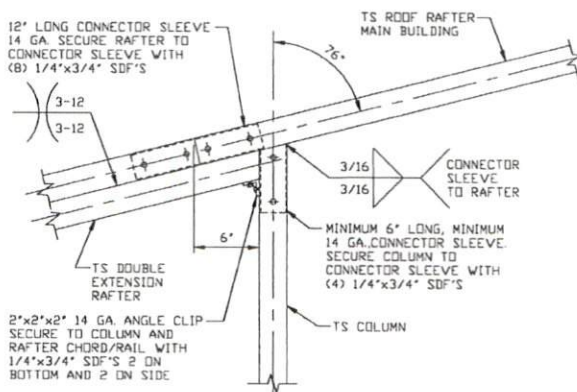
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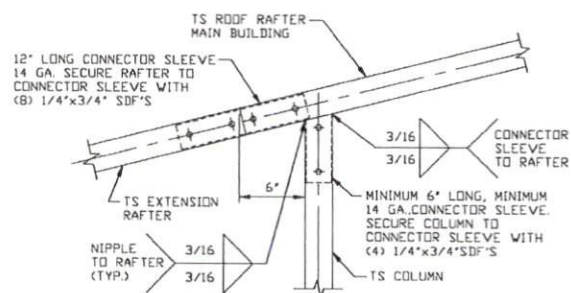
MAXIMUM WIDTH OF DOUBLE MEMBER RAFTER ROOF EXTENSION LEAN-TO IS 16'-0"

FOR SHARED COLUMN HEIGHTS REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



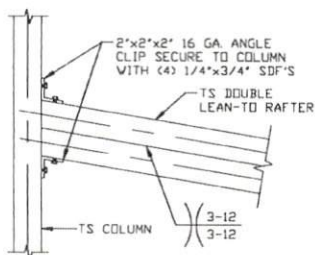
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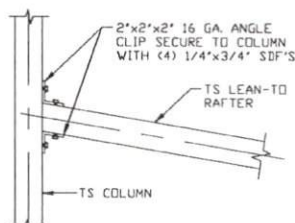
14A

SCALE: NTS



15

SCALE: NTS



15A

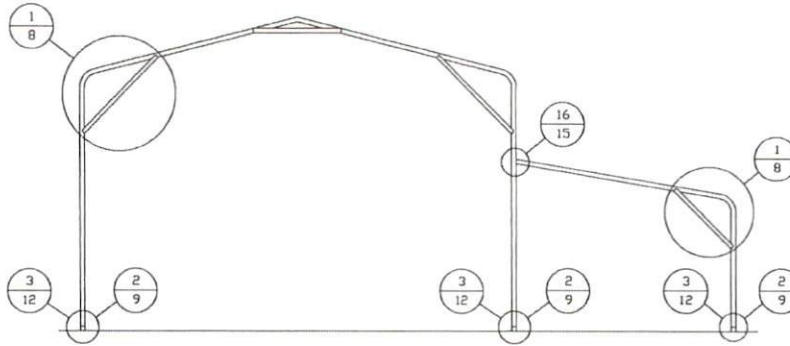
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REV. 8

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BOW EAVE RAFTER LEAN-TO OPTIONS



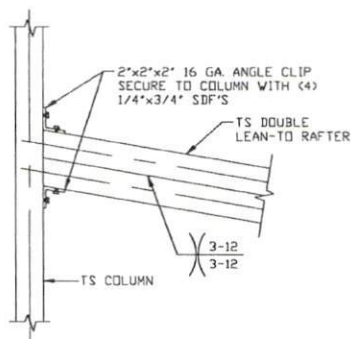
TYPICAL BOW EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION

SCALE: NTS

MAXIMUM WIDTH OF SINGLE MEMBER (RAFTER) ROOF EXTENSION LEAN-TO IS 12'-0".

MAXIMUM WIDTH OF DOUBLE MEMBER RAFTER ROOF EXTENSION LEAN-TO IS 16'-0".

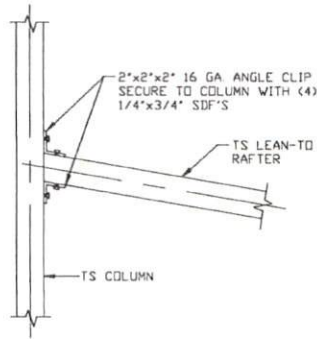
FOR SHARED COLUMN HEIGHTS REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



**LEAN-TO RAFTER TO
RAFTER POST CONNECTION
DETAIL FOR WIDTHS
12'-0" < TO ≤ 16'-0"**

16

SCALE: NTS



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

16A

SCALE: NTS



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30'-0"x20'-0" ENCLOSED STRUCTURE

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SHT. 15

SCALE: NTS

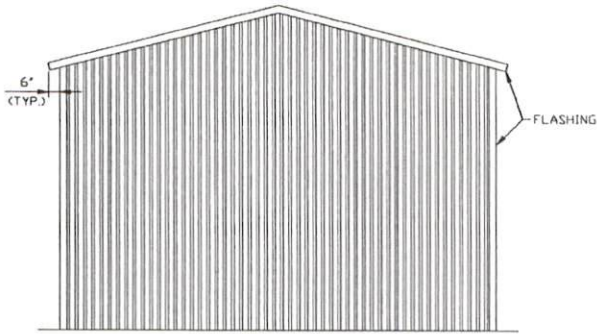
DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

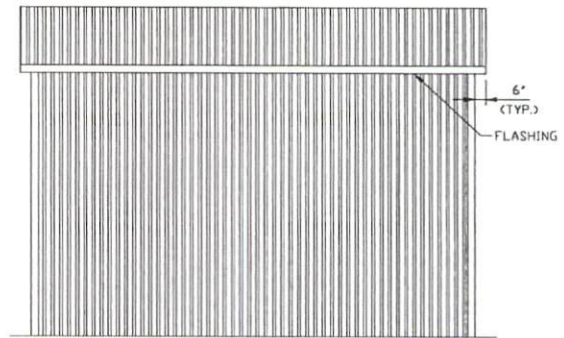
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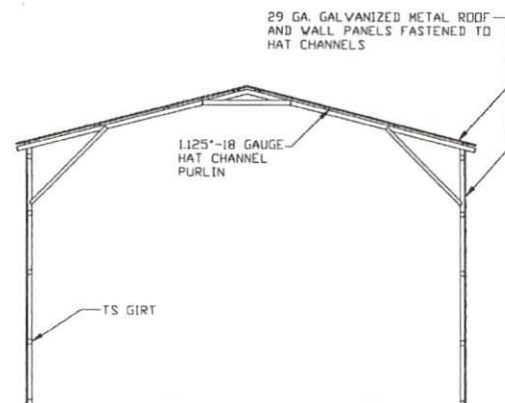
BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



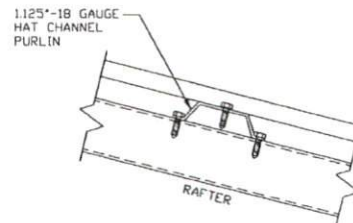
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING**
SCALE: NTS



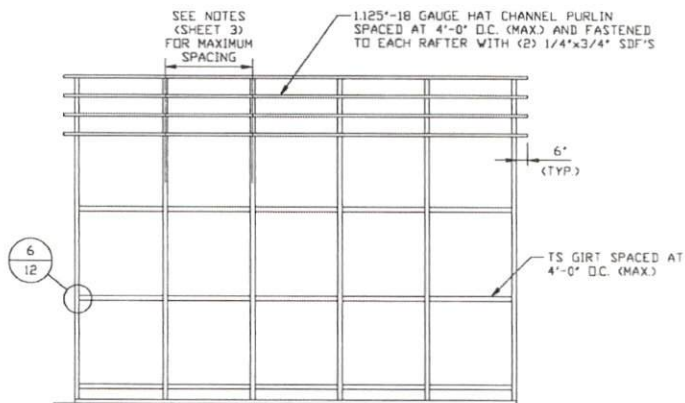
**TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING**
SCALE: NTS



**TYPICAL SECTION
VERTICAL ROOF/SIDING OPTION**
SCALE: NTS



PANEL ATTACHMENT
(ALTERNATE FOR VERTICAL ROOF PANELS)
SCALE: NTS



**TYPICAL FRAMING SECTION
VERTICAL ROOF/SIDING OPTION**
SCALE: NTS



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CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SCALE: NTS

DWG. NO: SK-3

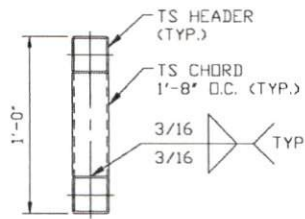
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181563/182905/200195**

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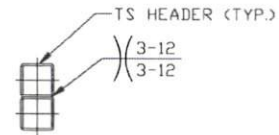
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REV: 8

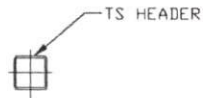
SIDE WALL HEADER OPTIONS



**LACED HEADER DETAIL FOR DOOR
OPENINGS 12'-0" < LENGTH < 20'-0"**
SCALE: NTS

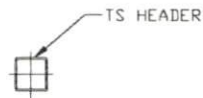


**DOUBLE HEADER DETAIL FOR DOOR
OPENINGS 7'-0" < LENGTH < 12'-0"**
SCALE: NTS



**SINGLE HEADER DETAIL FOR
DOOR OPENINGS LENGTH < 7'-0"**
SCALE: NTS

END WALL HEADER OPTIONS



**SINGLE HEADER DETAIL FOR
DOOR OPENINGS LENGTH < 12'-0"**
SCALE: NTS



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P.O. BOX 1287,
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DATE: 2-14-20

SCALE: NTS

SHT. 17

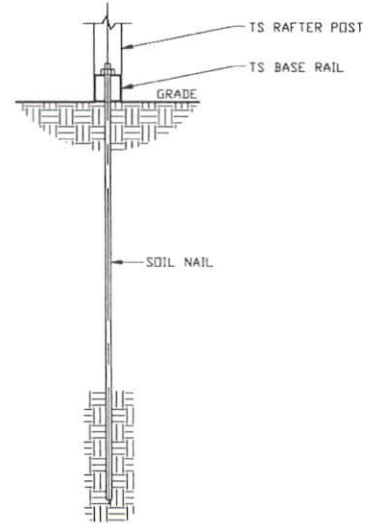
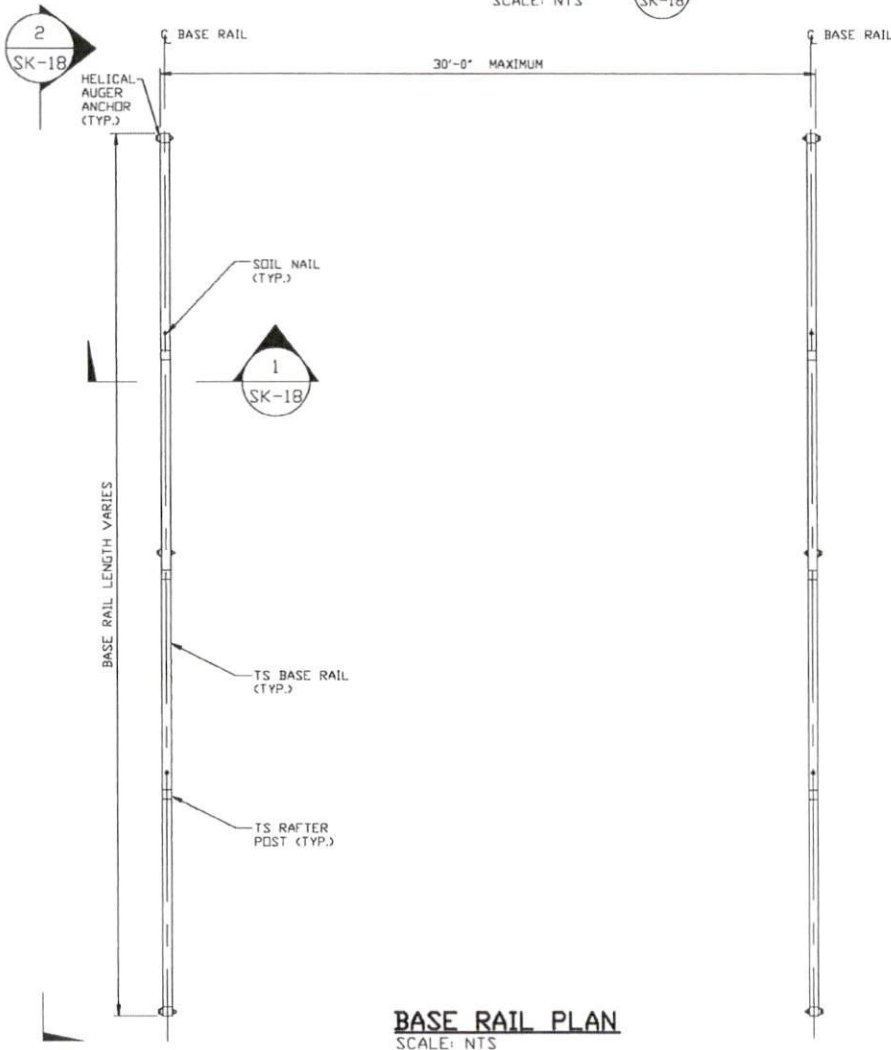
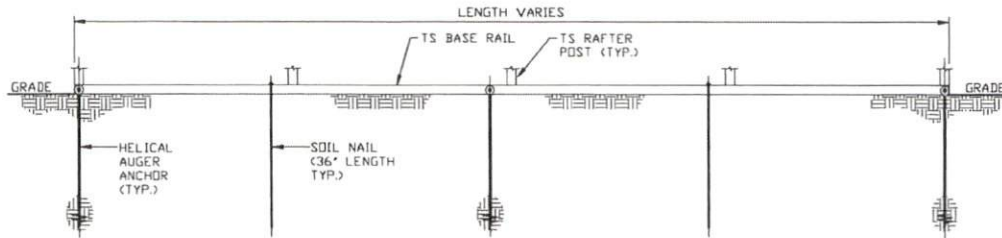
DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

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OPTIONAL BASE RAIL ON GRADE APPLICATION



BASE RAIL PLAN
SCALE: NTS

HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIES	10'-0" (EVERY OTHER POST)



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SHT. 18

SCALE: NTS

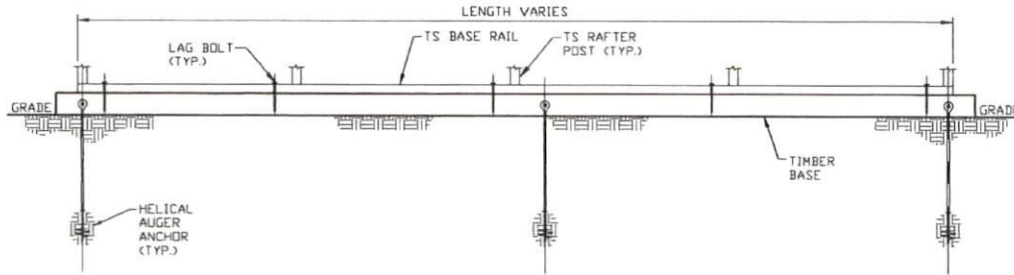
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JOB NO: 18068S
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REV: 8

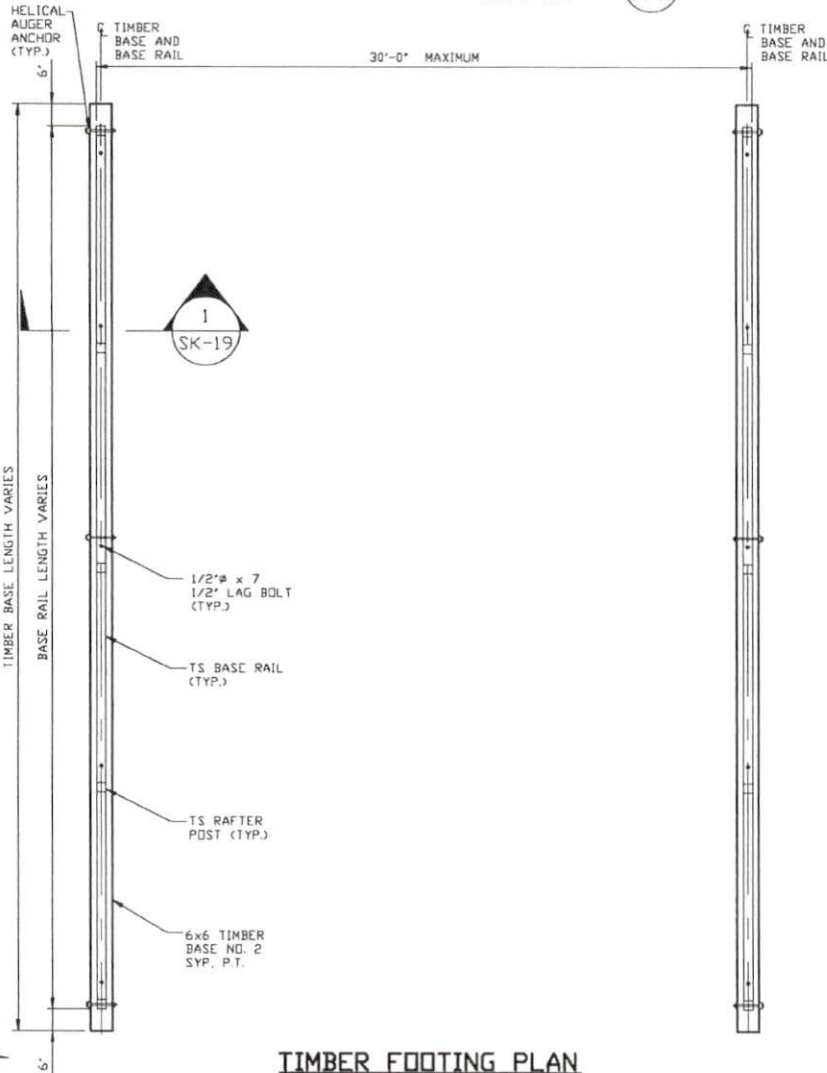
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OPTIONAL BASE RAIL ON TIMBER BEAM

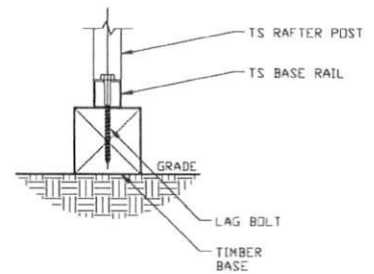


SECTION 2
SCALE: NTS

2
SK-19



TIMBER FOOTING PLAN
SCALE: NTS



SECTION 1
SCALE: NTS

HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIES	10'-0" (EVERY OTHER POST)



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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 19

SCALE: NTS

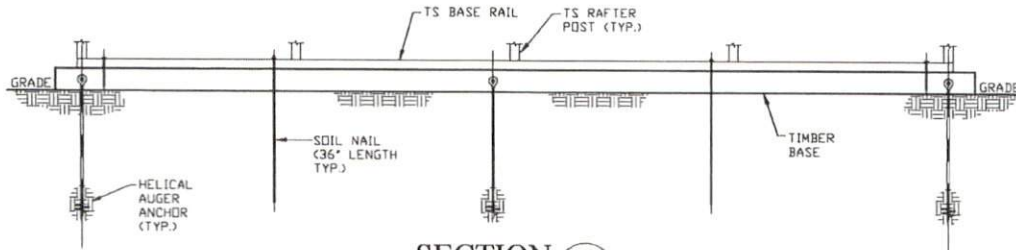
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JOB NO: 18068S
18156S/18290S/20019S

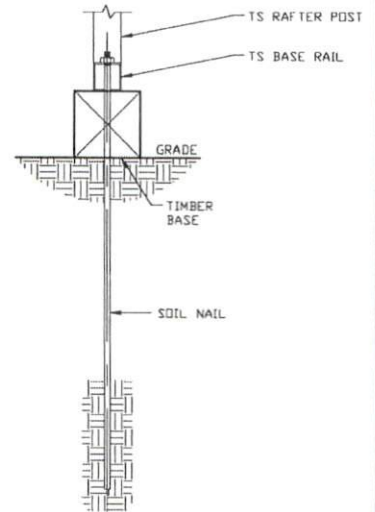
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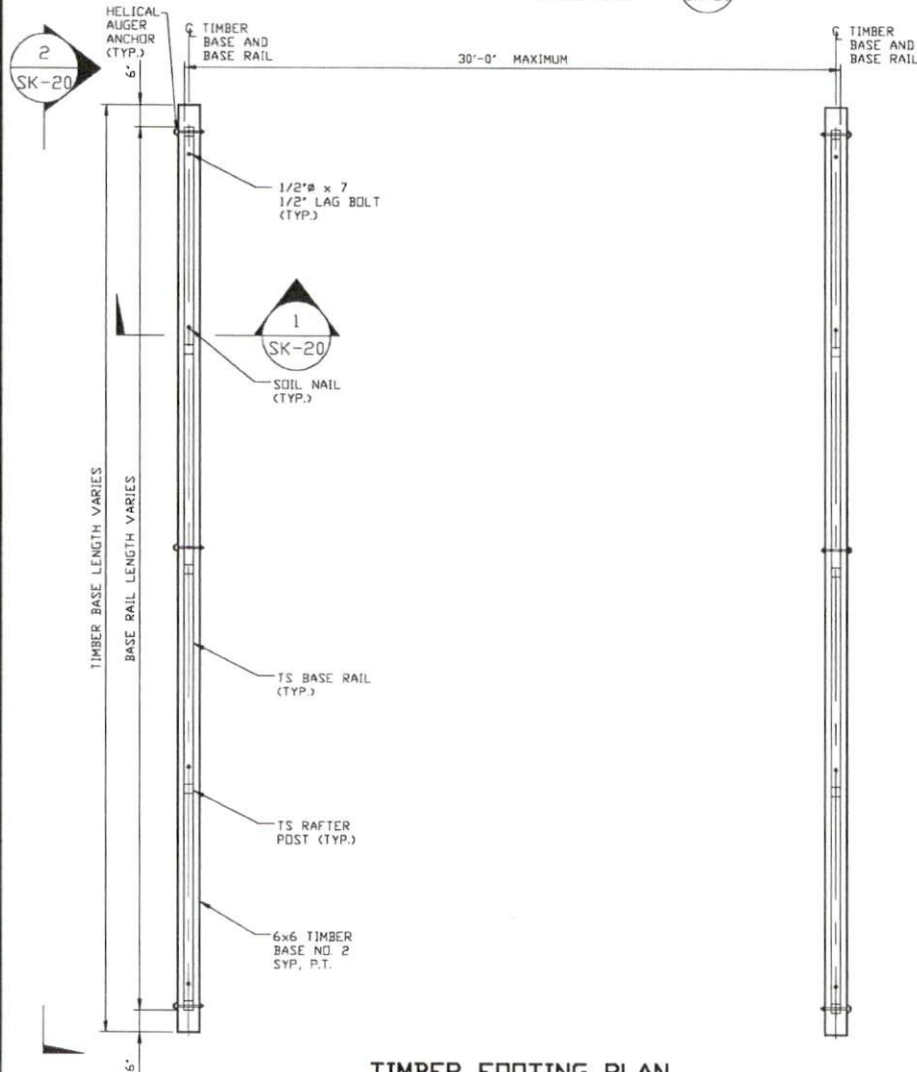
OPTIONAL BASE RAIL ON TIMBER BEAM WITH SOIL NAIL



SECTION 2
SCALE: NTS



SECTION 1
SCALE: NTS



TIMBER FOOTING PLAN
SCALE: NTS

HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIES	10'-0" (EVERY OTHER POST)



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30'-0"x20'-0" ENCLOSED STRUCTURE

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SHT. 20

SCALE: NTS

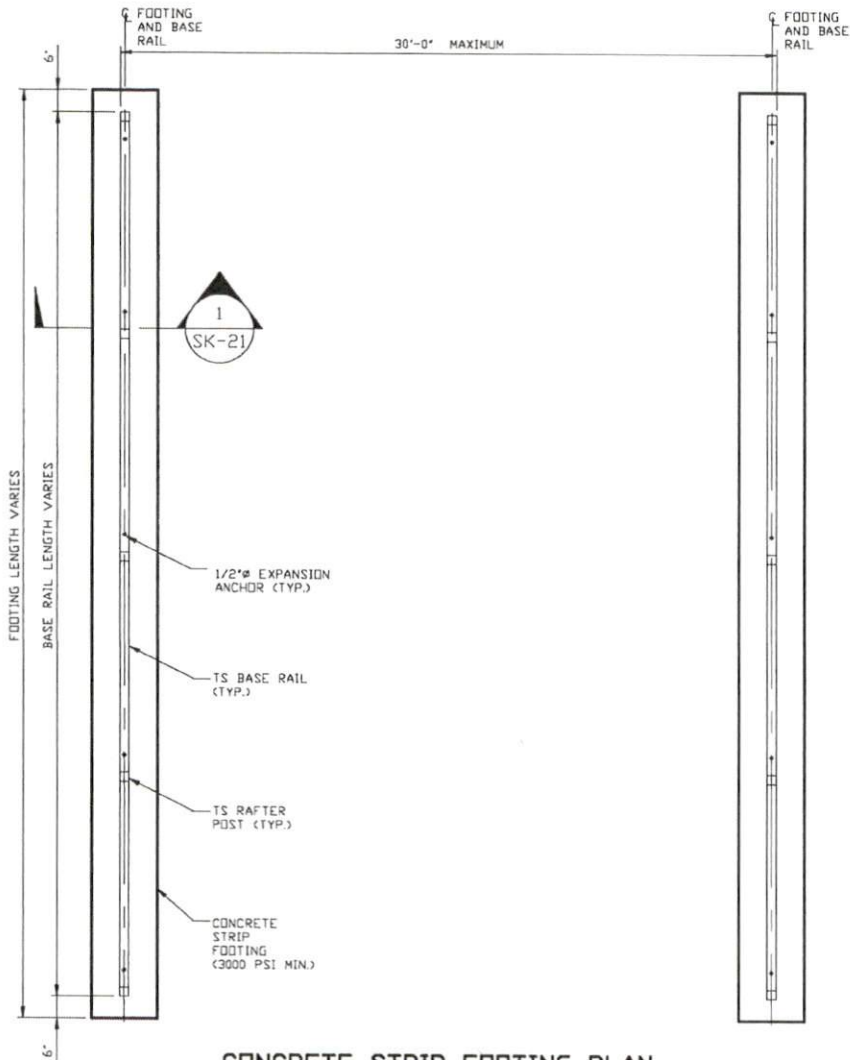
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JOB NO: 18068S
18156S/18290S/20019S

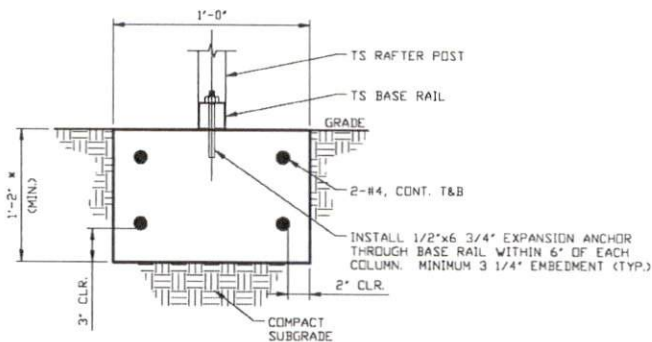
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OPTIONAL CONCRETE STRIP FOOTING



CONCRETE STRIP FOOTING PLAN
SCALE: NTS



SECTION 1
SCALE: NTS
1-SK-21

* COORDINATE WITH LOCAL CODES/ORD.



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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 21

SCALE: NTS

DWG. NO: SK-3

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STRUCTURAL DESIGN ENCLOSED BUILDING

**MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT-
BOX EAVE FRAME AND BOW FRAME**

14 February 2020

Revision 8

M&A Project No. 16062S/16155S/16207S/17155S/17200S/18068S/18156S/18290S/20019S

Prepared for:

Steel Buildings and Structures, Inc.

P.O. Box 1287

Mt. Airy, NC 27030

Prepared by:

**Moore and Associates Engineering
and Consulting, Inc.**

1009 East Avenue

North Augusta, SC 29841

401 S. Main St., Suite 200

Mt. Airy, NC 27030





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	CLIENT: SBSI	SHT. 1	DWG. NO: SK-3	REV: 8



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	CLIENT: SBSI	SHT. 1A	DWG. NO: SK-3	REV: 8

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SHEET 1	PE SEAL COVER SHEET (1 OF 2)
SHEET 1A	PE SEAL COVER SHEET (2 OF 2)
SHEET 2	DRAWING INDEX
SHEET 3	INSTALLATION NOTES AND SPECIFICATIONS
SHEET 4	TYPICAL SIDE AND END ELEVATIONS
SHEET 5	TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOX EAVE STRUCTURE)
SHEET 5A	TYPICAL RAFTER/COLUMN FRAME AND SIDE FRAMING SECTION (BOX EAVE STRUCTURE)
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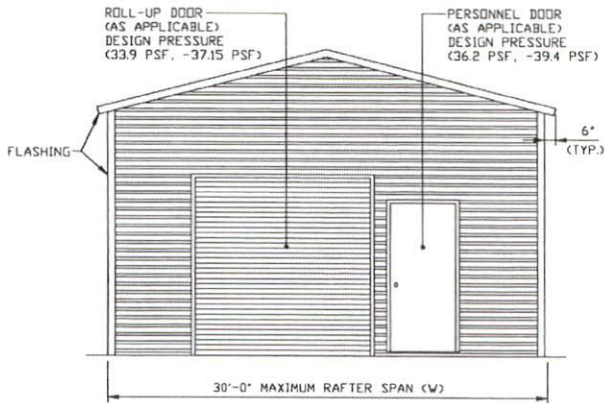
INSTALLATION NOTES AND SPECIFICATIONS

1. DESIGN IS FOR MAXIMUM 30'-0" WIDE x 20'-0" EAVE HEIGHT ENCLOSED STRUCTURES.
2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE (FBC) 6TH EDITION, 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 = 1.5 PSF
 - B) LIVE LOAD = 12 PSF
 - C) GROUND SNOW LOAD = 30 PSF ($\leq 26'-0"$), 35 PSF ($26'-0" < W \leq 30'-0"$)
 NOTE: (UNBALANCED SNOW LOADS DUE TO DRIFTING HAVE NOT BEEN EVALUATED).
4. 3-SECOND GUST ULTIMATE WIND SPEED (V_{ULT}) = 105 TO 145 MPH (NOMINAL WIND SPEED = 82 TO 112 MPH).
5. MAXIMUM RAFTER/COLUMN AND END COLUMN SPACING = 5.0 FEET (UNLESS NOTED OTHERWISE).
6. END WALL COLUMNS (POSTS) ARE EQUIVALENT TO SIDE WALL 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 1/2" x 2 1/2" - 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) = 8 INCHES.
11. FASTENERS CONSIST OF 1/4"x3/4" 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. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH COLUMN.
13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 36" LONG AND MAY BE USED IN SUITABLE SOILS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
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. WINDOW AND DOOR DESIGN PRESSURES ARE APPLICABLE TO THE STATE OF FLORIDA ONLY.



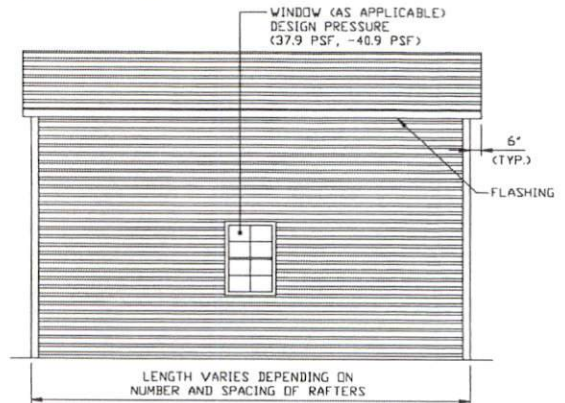
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	CLIENT: SBSI	SHT. 3	DWG. NO: SK-3	REV: 8

BOX EAVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION

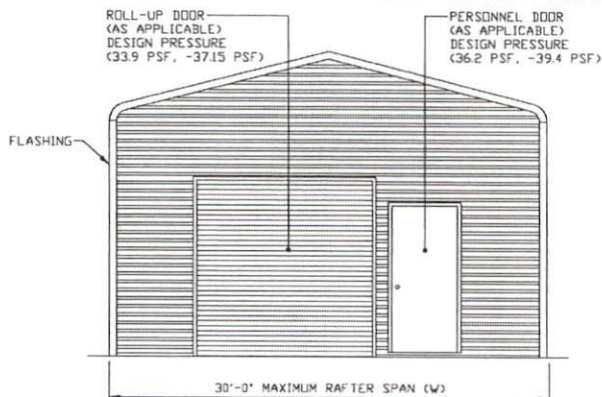
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TYPICAL SIDE ELEVATION

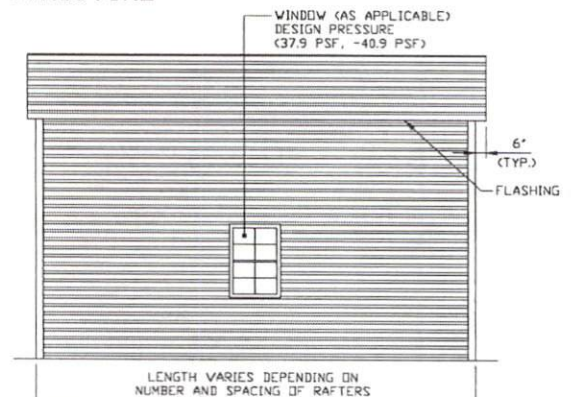
SCALE: NTS

BOW EAVE FRAME RAFTER STRUCTURE



TYPICAL END ELEVATION

SCALE: NTS



TYPICAL SIDE ELEVATION

SCALE: NTS



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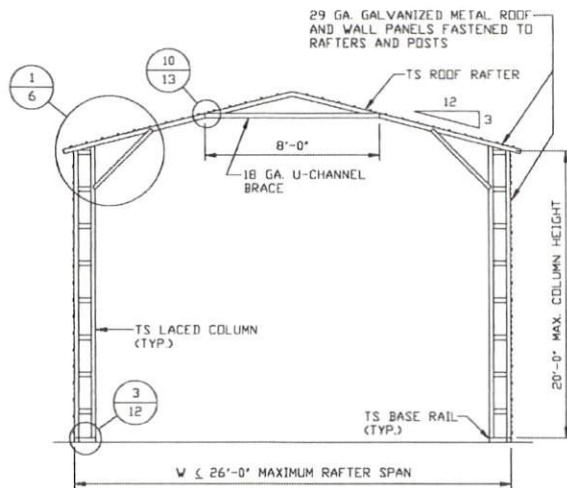
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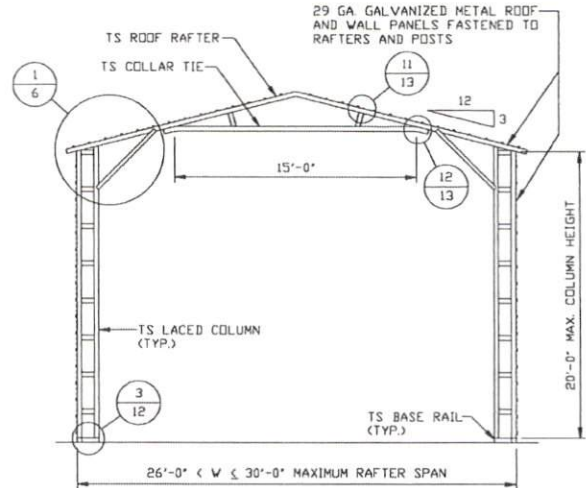
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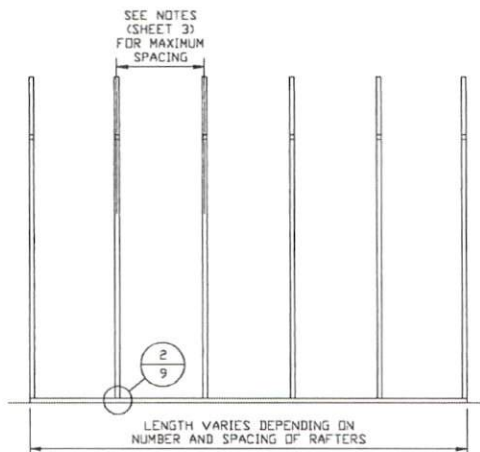
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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SHT. 5

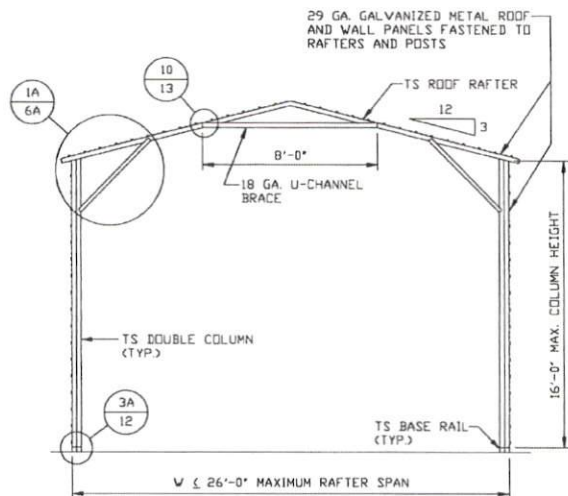
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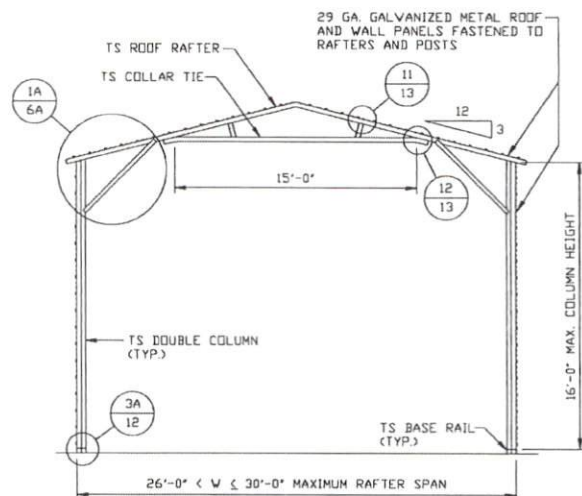
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18156S/18290S/20019S

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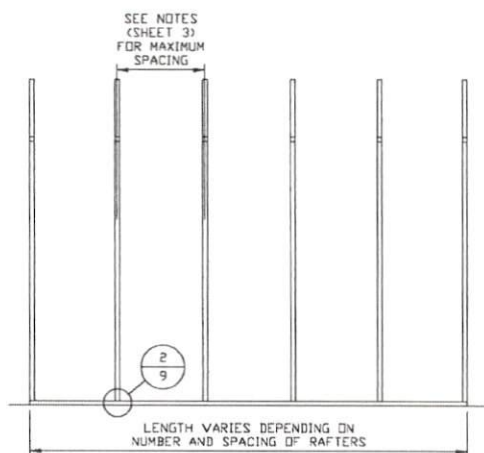
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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DATE: 2-14-20

SHT. 5A

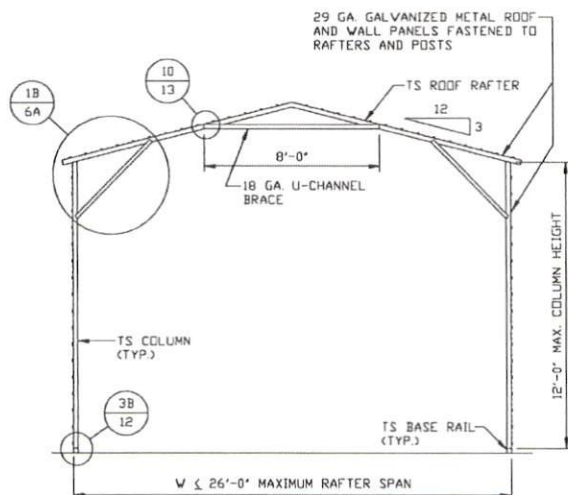
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DWG. NO: SK-3

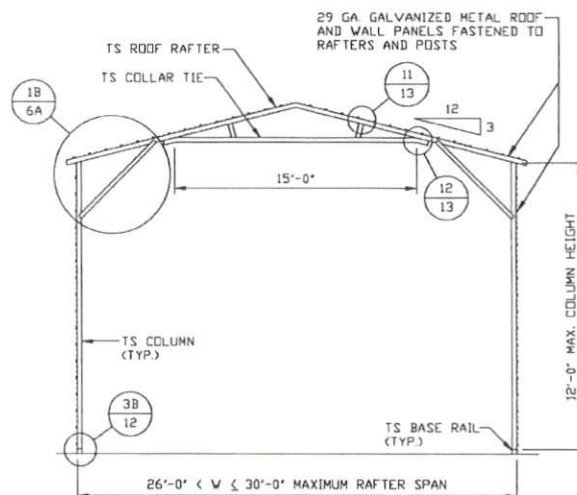
JOB NO: 18068S
18156S/18290S/20019S

REV: 8

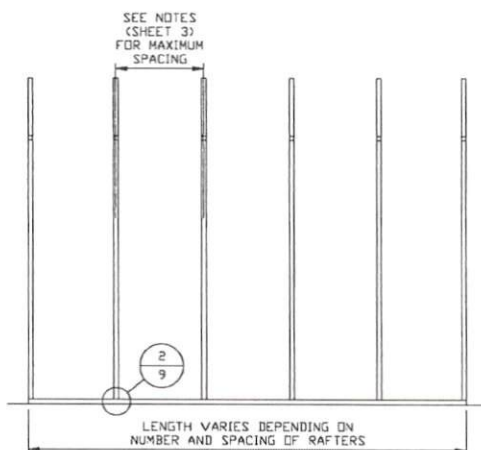
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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DRAWN BY: LT

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

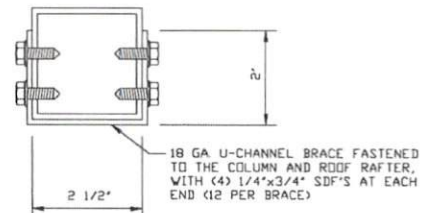
SHT. 5B

SCALE: NTS

DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

REV: 8



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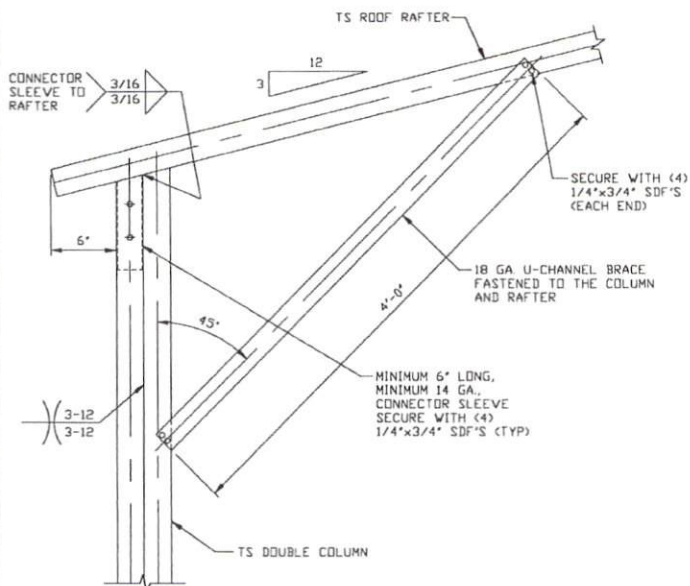
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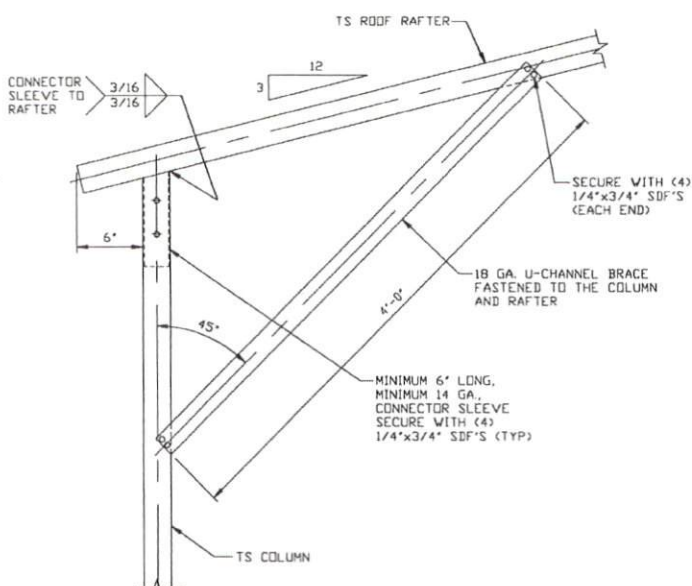


REV. 8

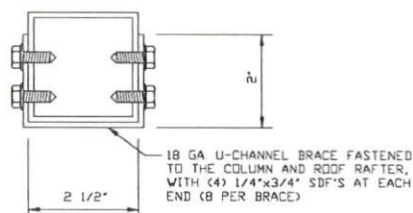
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**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 16'-0"**
SCALE: NTS



**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS ≤ 12'-0"**
SCALE: NTS



BRACE SECTION
SCALE: NTS



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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 6A

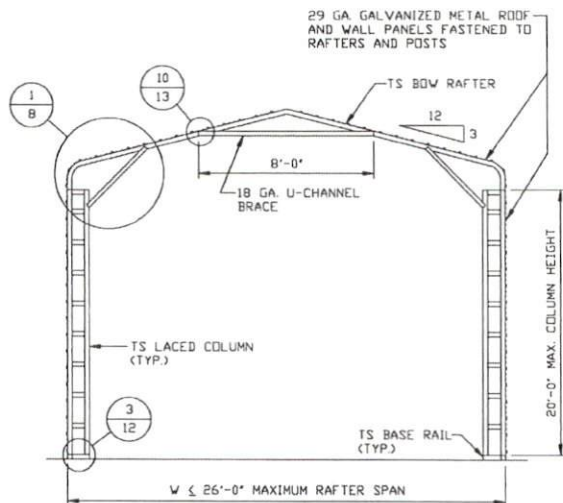
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DWG. NO: SK-3

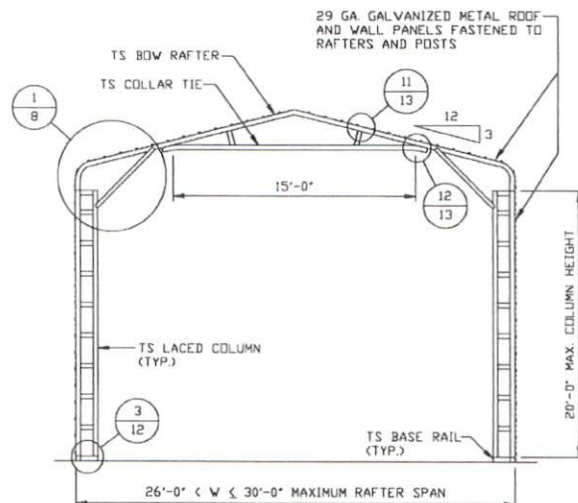
JOB NO: 18068S
18156S/18290S/20019S

REV: 8

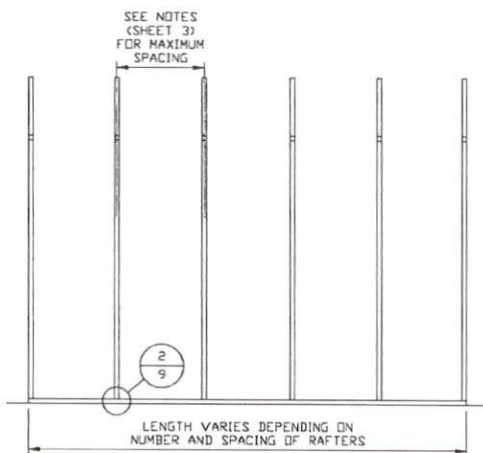
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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30'-0" X 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 7

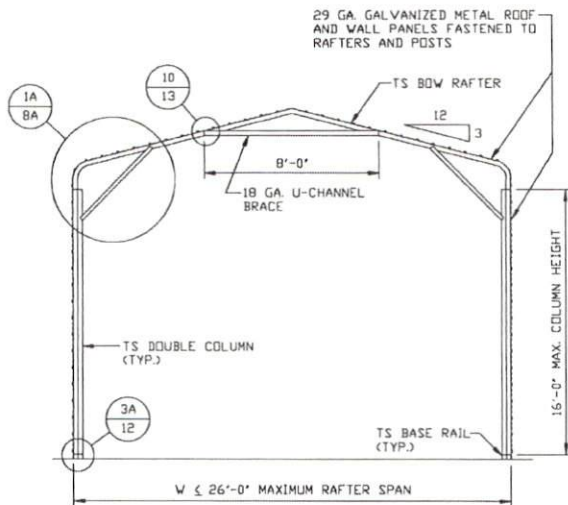
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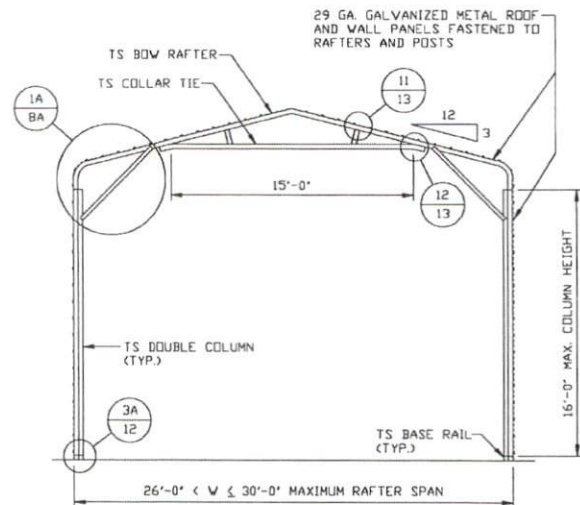
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18156S/18290S/20019S

REV: 8

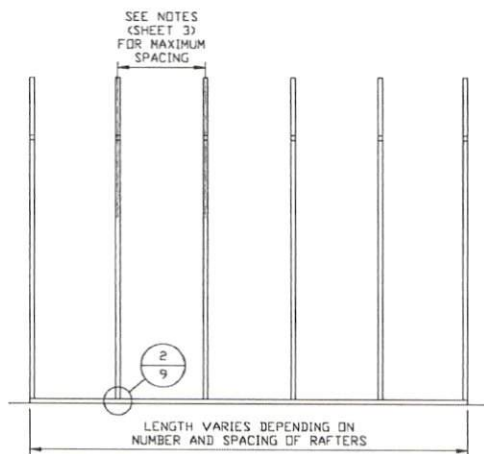
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 7A

SCALE: NTS

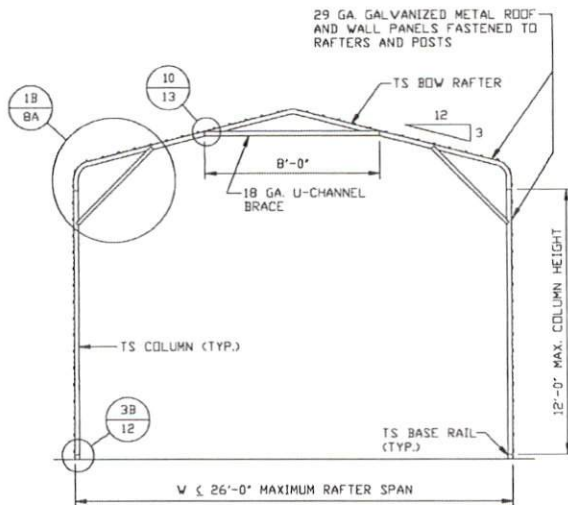
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JOB NO: 18068S

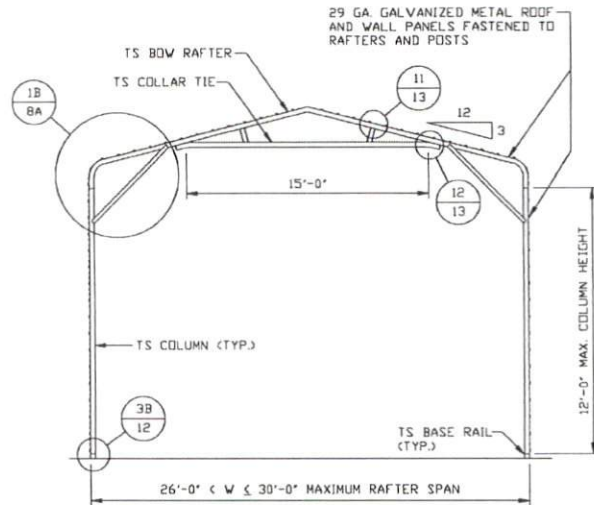
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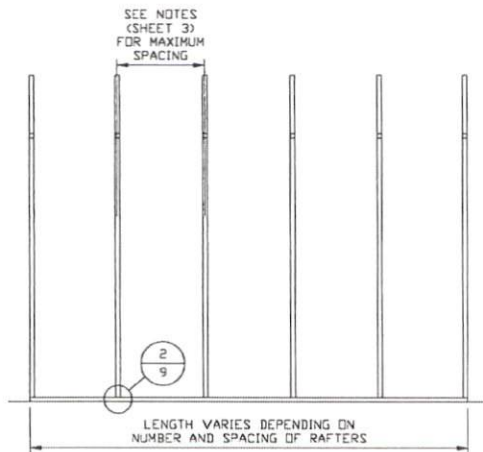
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TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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SHT. 7B

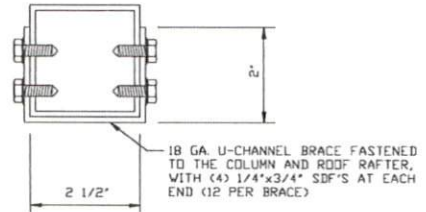
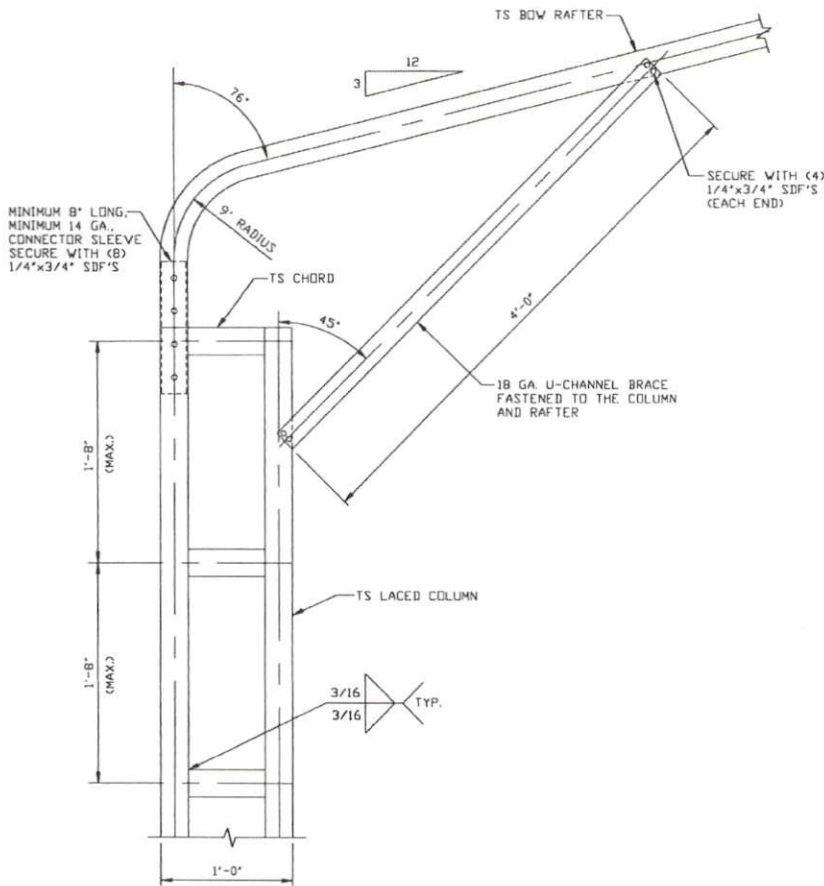
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JOB NO: 18068S
18156S/18290S/20019S

REV: 8

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BRACE SECTION
SCALE: NTS

1
BOX EAVE RAFTER/CORNER POST CONNECTION DETAIL
FOR HEIGHTS 16'-0" < TO ≤ 20'-0"
SCALE: NTS



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30'-0" x 20'-0" ENCLOSED STRUCTURE

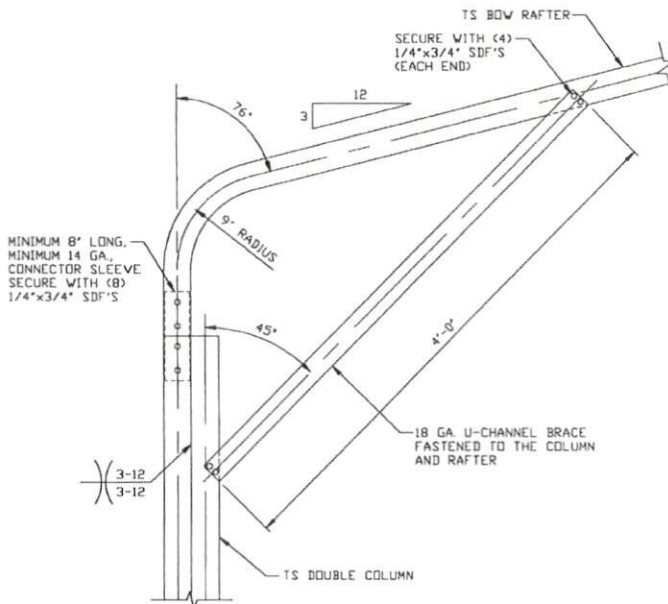
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PROJECT MGR: VSM
CLIENT: SBSI

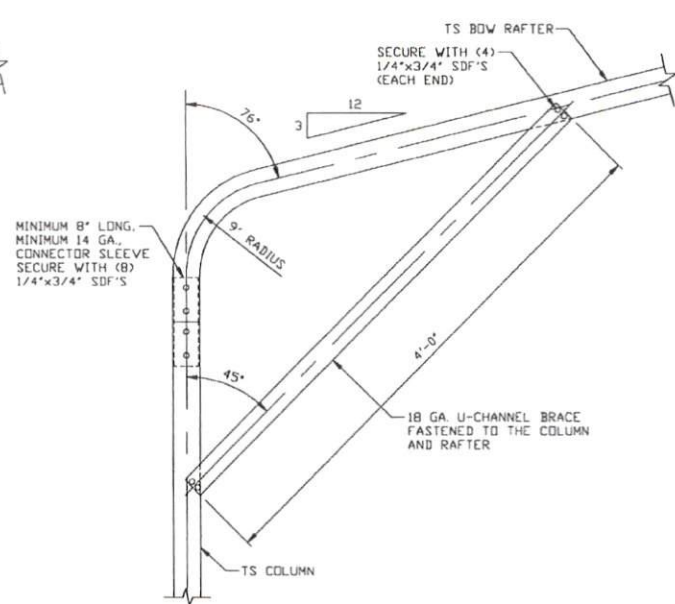
DATE: 2-14-20
SHT. 8

SCALE: NTS
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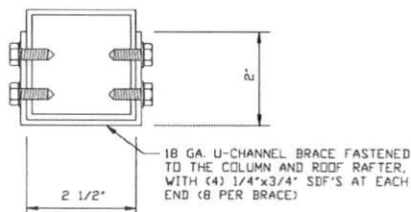
JOB NO: 18068S
18156S/18290S/20019S
REV: 8



**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 16'-0"**
SCALE: NTS



**BOX EAVE RAFTER/CORNER POST
CONNECTION DETAIL
FOR HEIGHTS ≤ 12'-0"**
SCALE: NTS



BRACE SECTION
SCALE: NTS



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PROJECT MGR: WSH

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 8A

SCALE: NTS

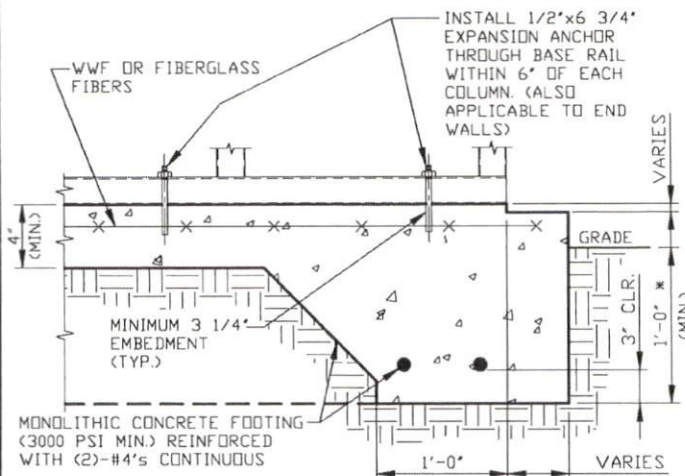
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JOB NO: 18068S
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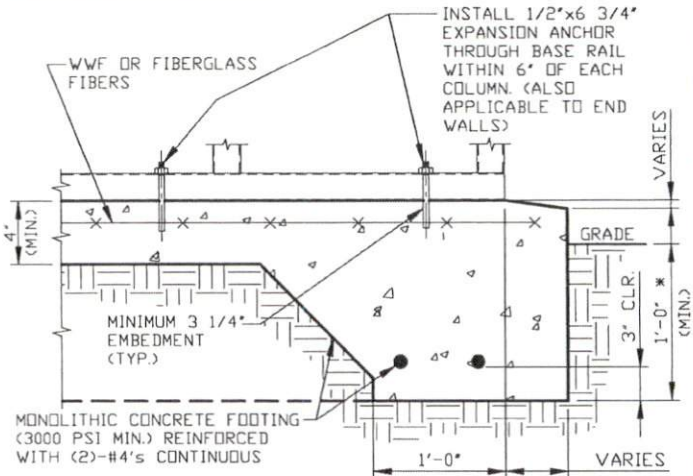
BASE RAIL ANCHORAGE OPTIONS



2

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4".
* COORDINATE WITH LOCAL CODES/ORD.



2A

CONCRETE SLAB BASE RAIL ANCHORAGE

SCALE: NTS
MINIMUM ANCHOR EDGE DISTANCE IS 4".
* COORDINATE WITH LOCAL CODES/ORD.

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:

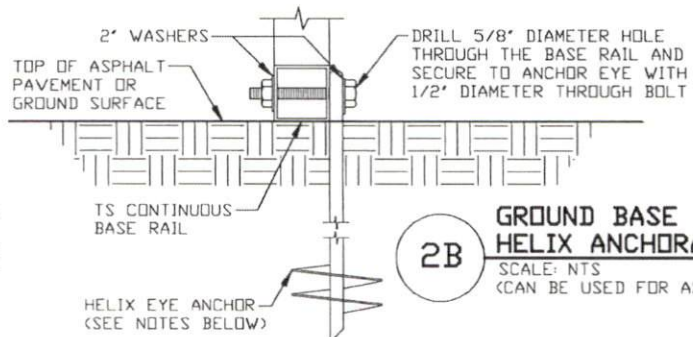
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

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.



2B

GROUND BASE HELIX ANCHORAGE

SCALE: NTS
(CAN BE USED FOR ASPHALT)



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CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 9

SCALE: NTS

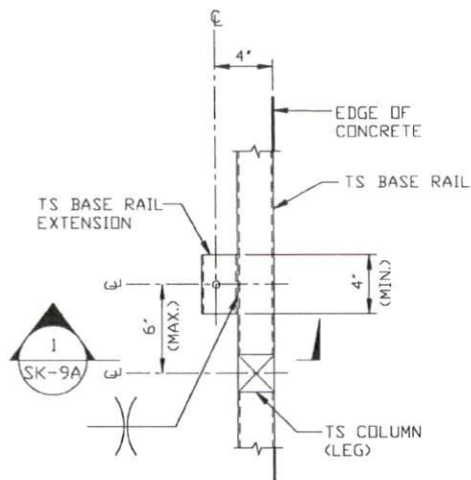
DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

REV: 8

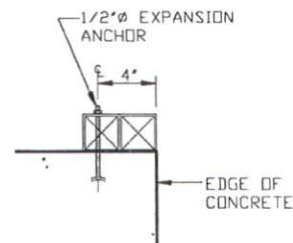
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ADDITIONAL BASE RAIL ANCHORAGE OPTION

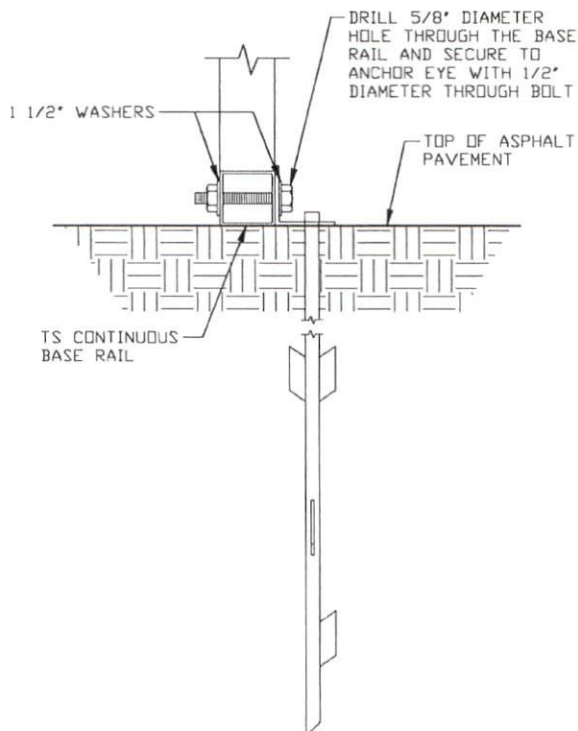


TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



SECTION 1
SCALE: NTS



2C

ASPHALT BASE ANCHORAGE

SCALE: NTS



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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 9A

SCALE: NTS

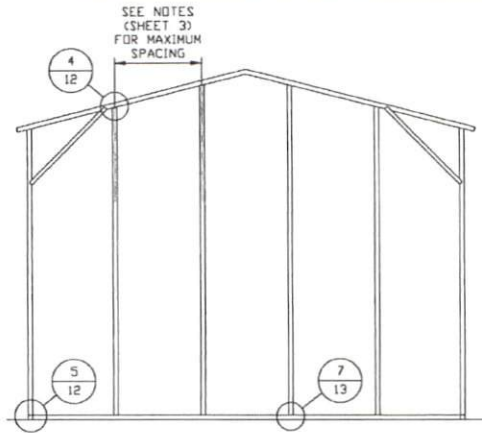
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JOB NO: 18068S
18156S/18290S/20019S

REV: 8

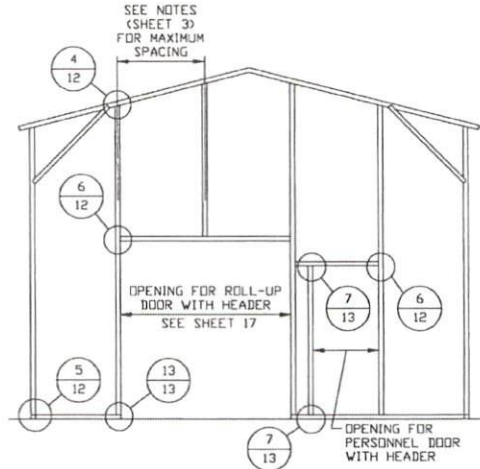
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



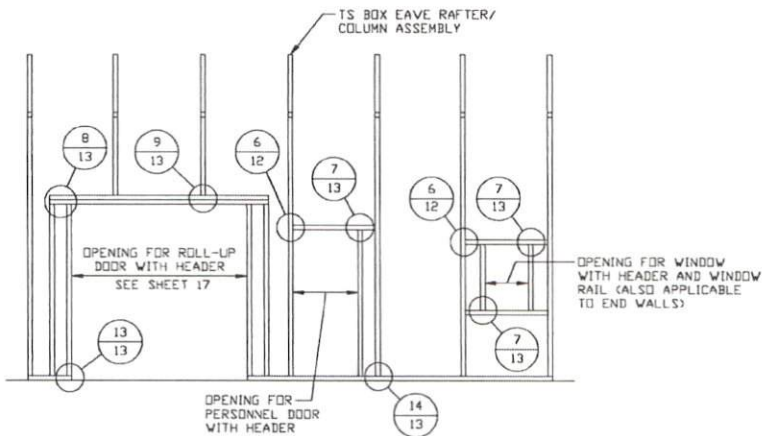
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS



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STEEL BUILDINGS AND STRUCTURES, INC.

P.O. BOX 1287,
MOUNT AIRY, NC 27030

30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 10

SCALE: NTS

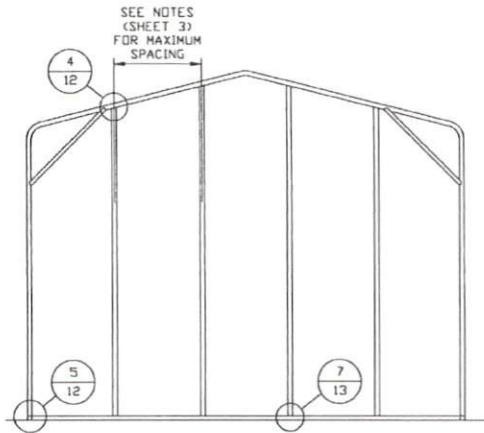
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**JOB NO: 18068S
18156S/18290S/20019S**

REV: 8

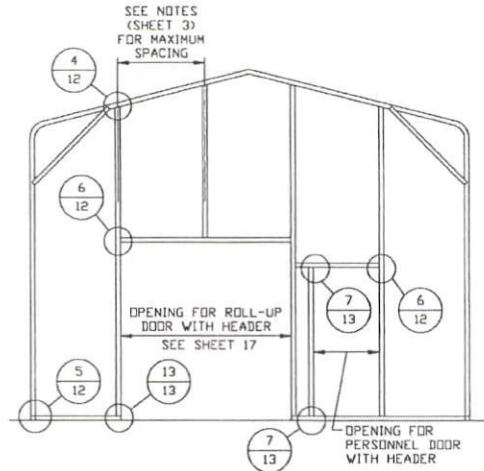
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BOW EAVE RAFTER END WALL AND SIDE WALL OPENINGS



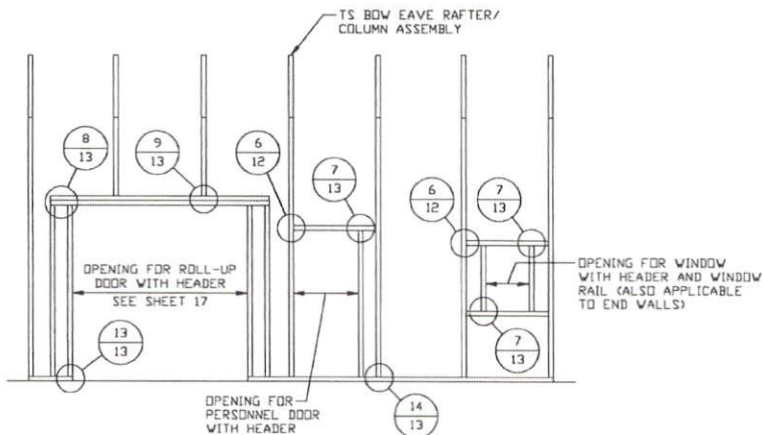
**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS



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CLIENT: SBSI

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P.O. BOX 1287,
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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 11

SCALE: NTS

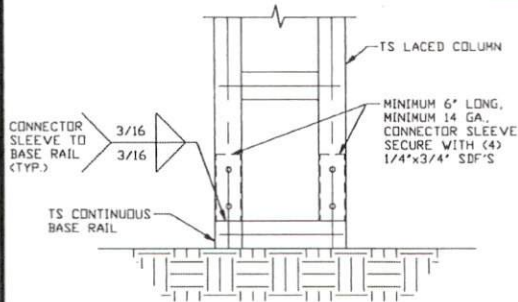
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**JOB NO: 18068S
18156S/18290S/20019S**

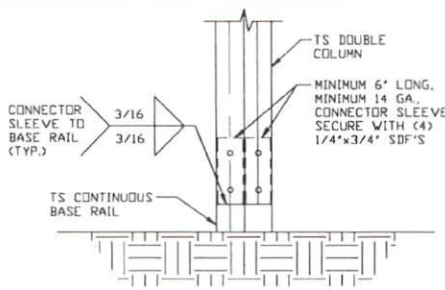
REV: 8

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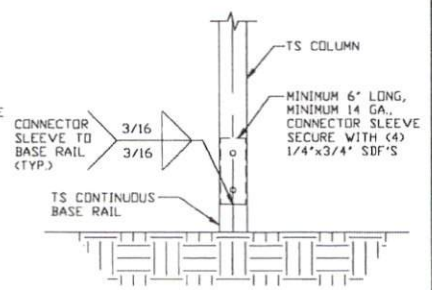
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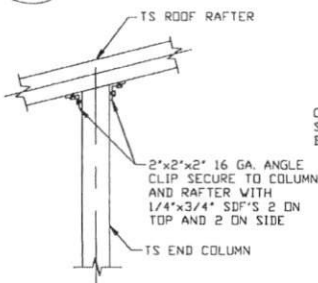
3 POST/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



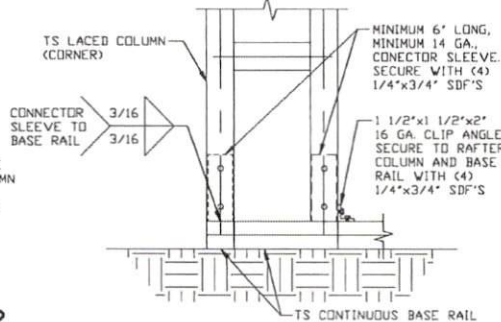
3A POST/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



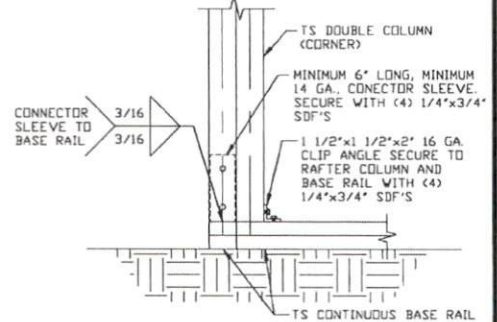
3B POST/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



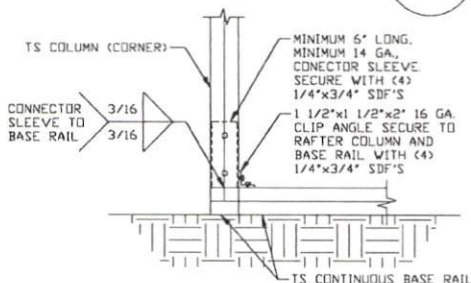
4 END COLUMN/RAFTER
CONNECTION DETAIL
SCALE: NTS



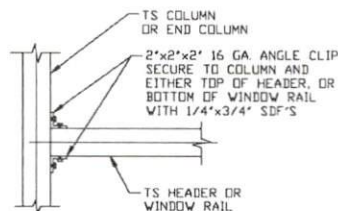
5 END COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



5A END COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



5B END COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



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



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

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CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 12

SCALE: NTS

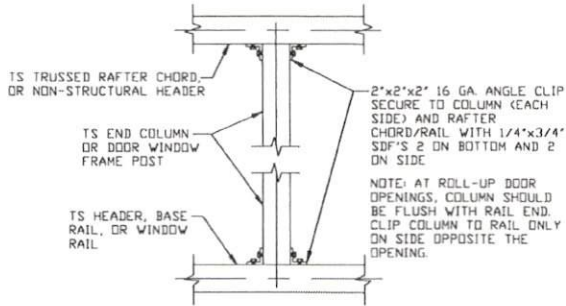
DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

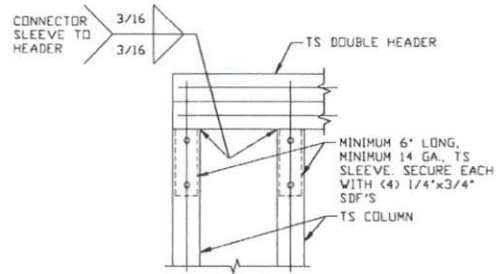
REV: 8

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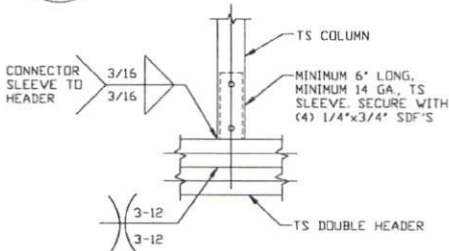
CONNECTION DETAILS



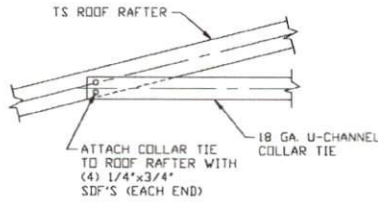
7 COLUMN TO HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL
SCALE: NTS



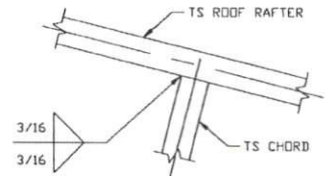
8 DOUBLE HEADER/COLUMN CONNECTION DETAIL
SCALE: NTS



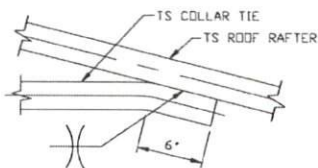
9 COLUMN/DOUBLE HEADER CONNECTION DETAIL
SCALE: NTS



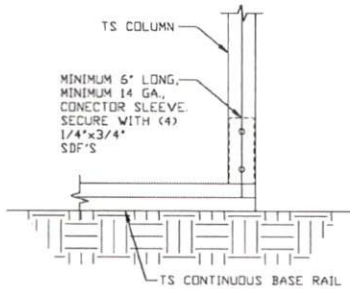
10 COLLAR TIE CONNECTION DETAIL
SCALE: NTS



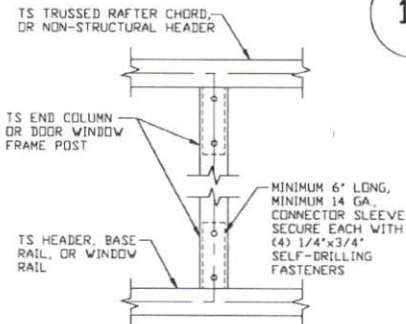
11 RAFTER TO CHORD CONNECTION DETAIL
SCALE: NTS



12 COLLAR TIE CONNECTION DETAIL
SCALE: NTS



13 COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS



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



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CLIENT: SBST

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 13

SCALE: NTS

DWG. NO: SK-3

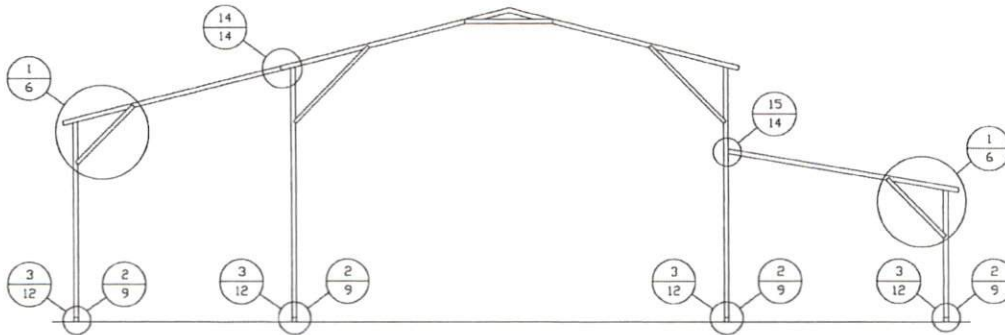
JOB NO: 18068S

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BOX EAVE RAFTER LEAN-TO OPTIONS



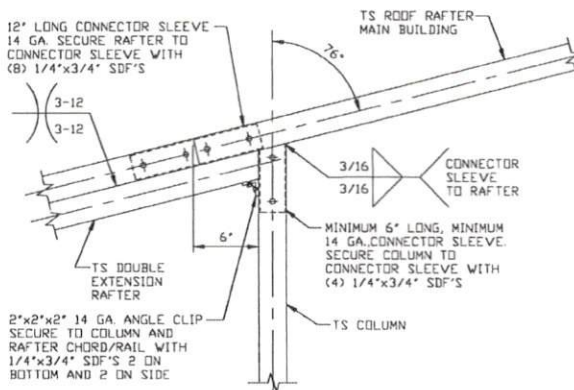
TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION (BOTH OPTIONS SHOWN)

SCALE: NTS

MAXIMUM WIDTH OF SINGLE MEMBER (RAFTER) ROOF EXTENSION LEAN-TO IS 12'-0".

MAXIMUM WIDTH OF DOUBLE MEMBER RAFTER ROOF EXTENSION LEAN-TO IS 16'-0".

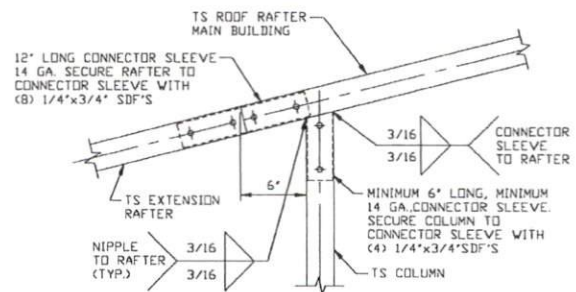
FOR SHARED COLUMN HEIGHTS REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



14

SIDE EXTENSION RAFTER/ COLUMN DETAIL FOR RAFTER SPANS 12'-0' < TO < 16'-0'

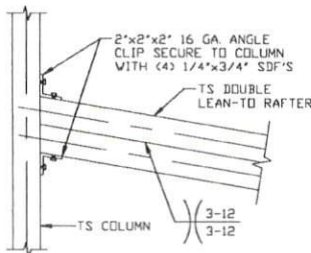
SCALE: NTS



14A

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

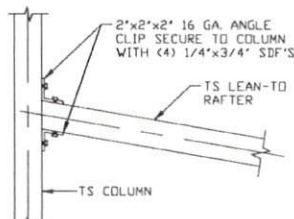
SCALE: NTS



15

LEAN-TO RAFTER TO RAFTER POST CONNECTION DETAIL FOR WIDTHS 12'-0' < TO < 16'-0'

SCALE: NTS



15A

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

SCALE: NTS



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PROJECT MGR: WSM

CLIENT: SBSI

STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 14

SCALE: NTS

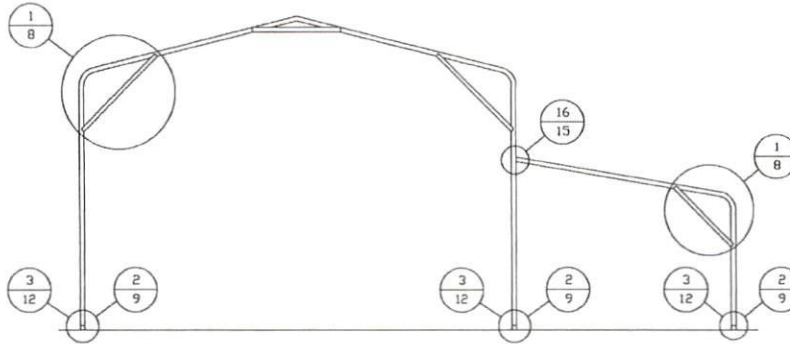
DWG. NO: SK-3

JOB NO: 18068S
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BOW EAVE RAFTER LEAN-TO OPTIONS



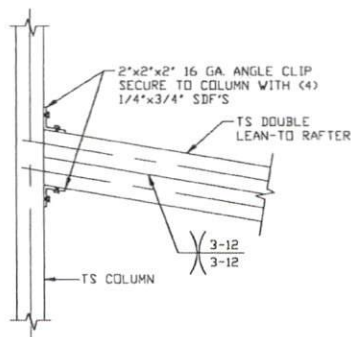
TYPICAL BOW EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION

SCALE: NTS

MAXIMUM WIDTH OF SINGLE MEMBER (RAFTER) ROOF EXTENSION LEAN-TO IS 12'-0".

MAXIMUM WIDTH OF DOUBLE MEMBER RAFTER ROOF EXTENSION LEAN-TO IS 16'-0".

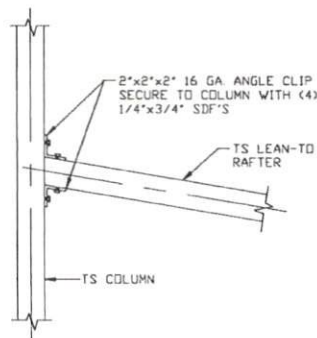
FOR SHARED COLUMN HEIGHTS REFERENCE RAFTER COLUMN CONNECTION DETAILS FOR APPROPRIATE COLUMN HEIGHT AND TUBING SPECIFICATIONS.



**LEAN-TO RAFTER TO
RAFTER POST CONNECTION
DETAIL FOR WIDTHS
12'-0' < TO ≤ 16'-0'**

SCALE: NTS

16



**LEAN-TO RAFTER
TO RAFTER POST
CONNECTION DETAIL
FOR WIDTHS ≤ 12'-0'**

SCALE: NTS

16A



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P.O. BOX 1287,
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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 15

SCALE: NTS

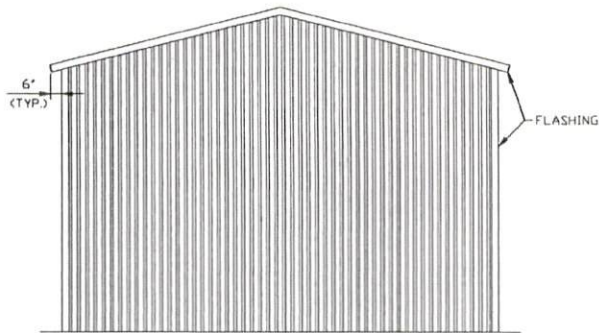
DWG. NO: SK-3

JOB NO: 18068S
18156S/18290S/20019S

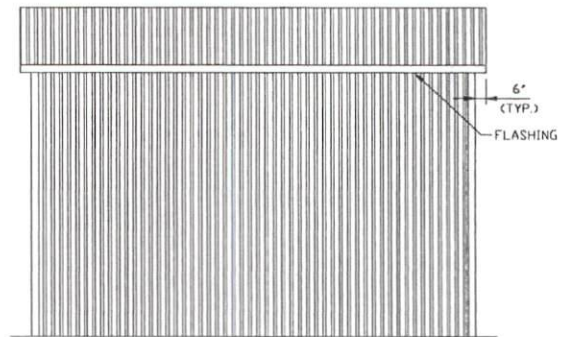
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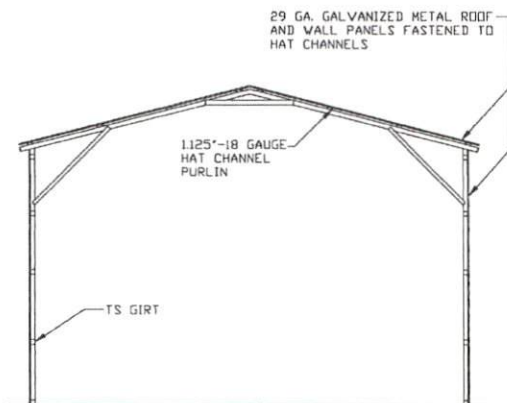
BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



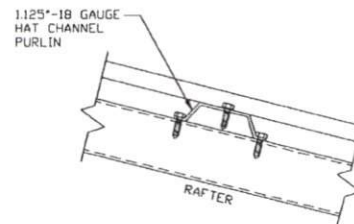
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING**
SCALE: NTS



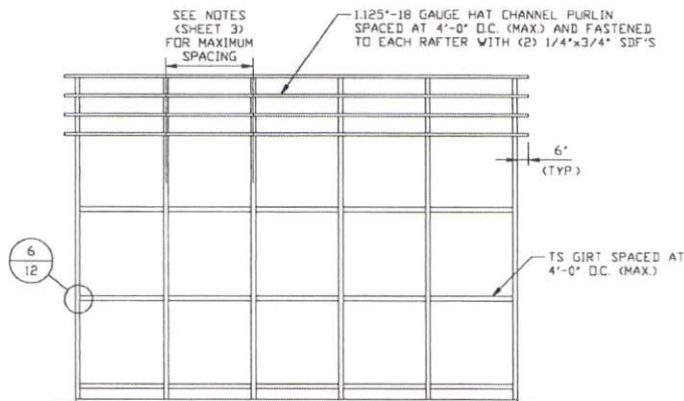
**TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING**
SCALE: NTS



**TYPICAL SECTION
VERTICAL ROOF/SIDING OPTION**
SCALE: NTS



PANEL ATTACHMENT
(ALTERNATE FOR VERTICAL ROOF PANELS)
SCALE: NTS



**TYPICAL FRAMING SECTION
VERTICAL ROOF/SIDING OPTION**
SCALE: NTS



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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 16

SCALE: NTS

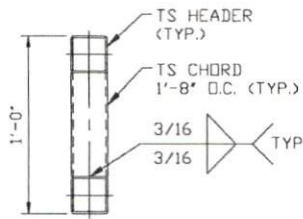
DWG. NO: SK-3

**JOB NO: 18068S
18156S/18290S/20019S**

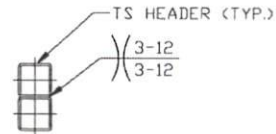
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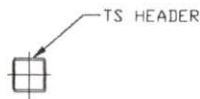
SIDE WALL HEADER OPTIONS



**LACED HEADER DETAIL FOR DOOR
OPENINGS 12'-0" < LENGTH < 20'-0"**
SCALE: NTS

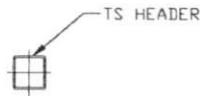


**DOUBLE HEADER DETAIL FOR DOOR
OPENINGS 7'-0" < LENGTH < 12'-0"**
SCALE: NTS



**SINGLE HEADER DETAIL FOR
DOOR OPENINGS LENGTH < 7'-0"**
SCALE: NTS

END WALL HEADER OPTIONS



**SINGLE HEADER DETAIL FOR
DOOR OPENINGS LENGTH < 12'-0"**
SCALE: NTS



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STEEL BUILDINGS AND STRUCTURES, INC.
P.O. BOX 1287,
MOUNT AIRY, NC 27030
30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SCALE: NTS

DWG. NO: SK-3

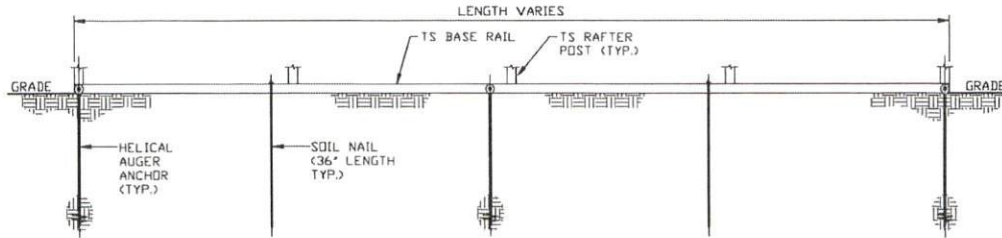
JOB NO: 18068S
18156S/18290S/20019S

SHT. 17

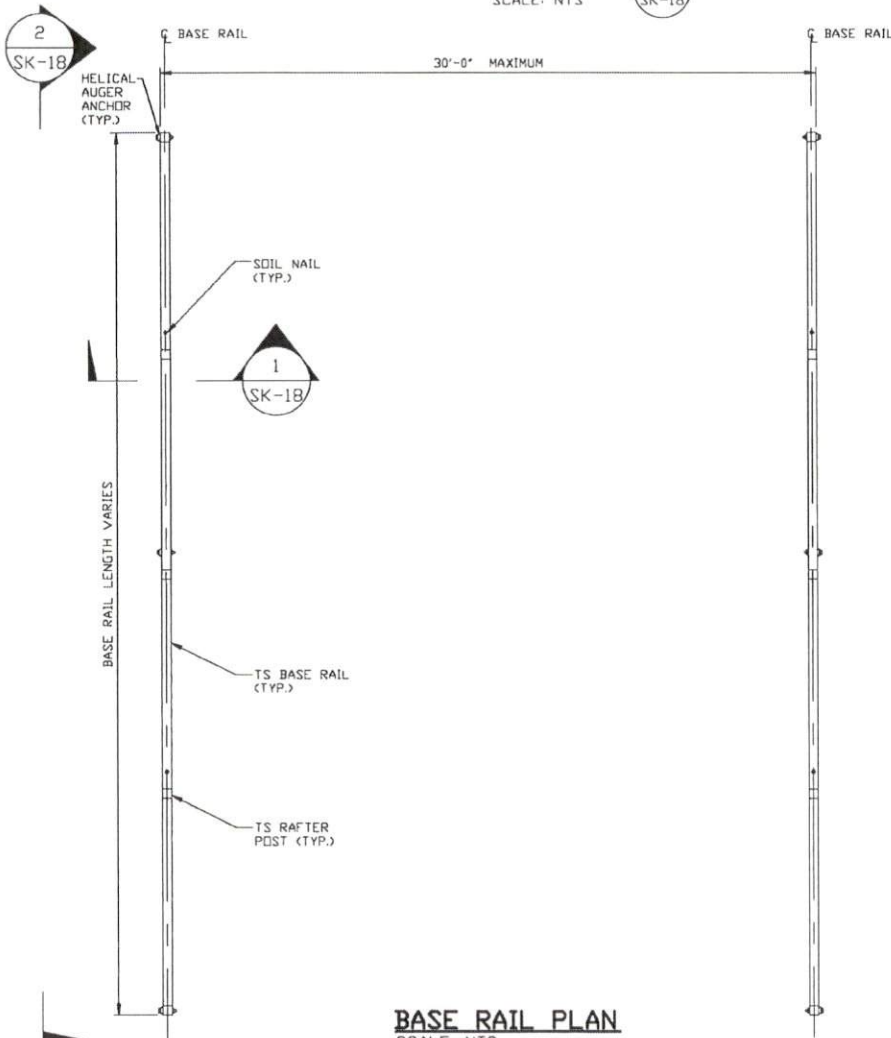
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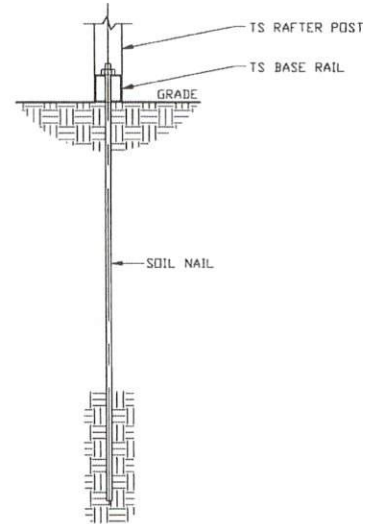
OPTIONAL BASE RAIL ON GRADE APPLICATION



SECTION 2
SCALE: NTS
SK-18



BASE RAIL PLAN
SCALE: NTS



SECTION 1
SCALE: NTS
SK-18

HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIES	10'-0" (EVERY OTHER POST)



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P.O. BOX 1287,
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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 18

SCALE: NTS

DWG. NO: SK-3

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Diagram illustrating the cross-section of a timber base structure. The structure consists of a horizontal timber base supported by helical auger anchors. A TS base rail is mounted on top of the base, with TS rafter posts supporting it. LAG bolts are used to secure the rail to the base. The length of the base varies. The diagram is labeled with 'GRADE' at the ends, 'LAG BOLT (TYP.)', 'TS BASE RAIL', 'TS RAFTER POST (TYP.)', 'TIMBER BASE', and 'HELICAL AUGER ANCHOR (TYP.)'. A dimension line at the top indicates 'LENGTH VARIES'.

HELICAL
AUGER
ANCHOR
(TYP.)

AUGER ANCHOR (TYP.)

TIMBER BASE AND BASE RAIL

30'-0" MAXIMUM

6'-0"

1

SK-19

TIMBER BASE LENGTH VARIES

BASE RAIL LENGTH VARIES

1/2" x 7 1/2" LAG BOLT (TYP.)

TS BASE RAIL (TYP.)

TS RAFTER POST (TYP.)

6x6 TIMBER BASE NO. 2 SYP, P.T.

TIMBER BASE AND BASE RAIL

6'-0"

TIMBER FOOTING PLAN

TIMBER FOOTING PLAN
SCALE: NTS

Diagram illustrating the assembly of a timber base. The components shown are:

- TS RAFTER POST
- TS BASE RAIL
- LAG BOLT
- TIMBER BASE
- GRADE

SECTION 1
SCALE: NTS SK-19



HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIABLE	10'-0" (EVERY OTHER POST)

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DATE: 2-14-20

SHT. 19

SCALE: NTS

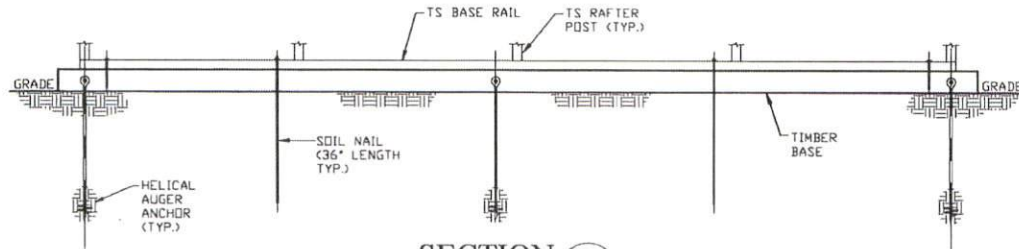
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JOB NO: 18068S
18156S/18290S/20019S

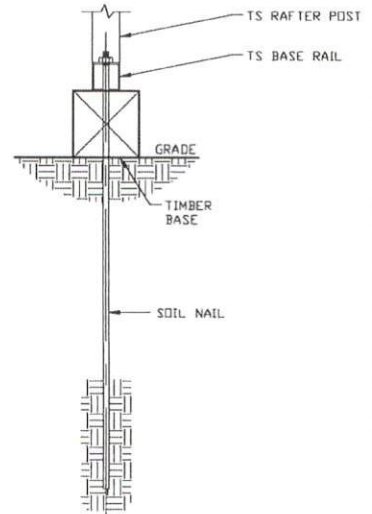
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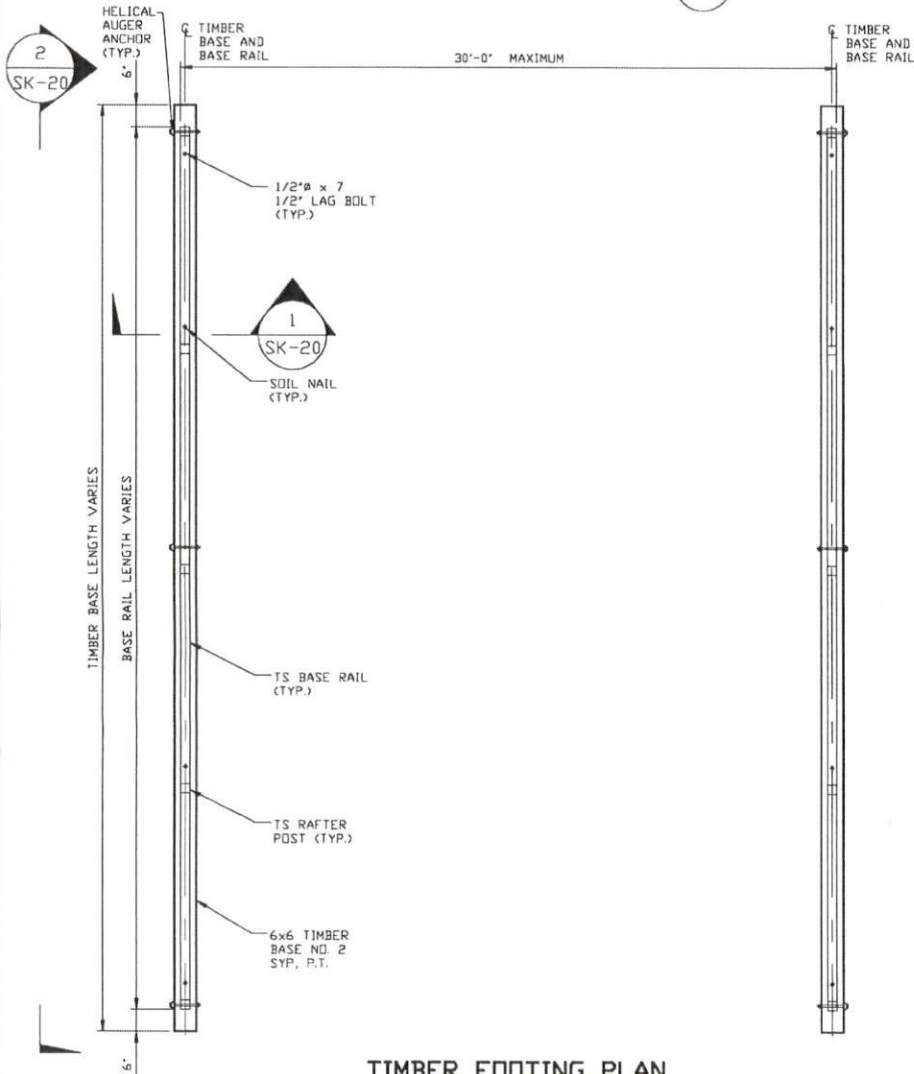
OPTIONAL BASE RAIL ON TIMBER BEAM WITH SOIL NAIL



SECTION 2
SCALE: NTS



SECTION 1
SCALE: NTS



TIMBER FOOTING PLAN
SCALE: NTS

HELIX ANCHOR	
SIDE LENGTH	MAXIMUM SPACING
VARIES	10'-0" (EVERY OTHER POST)



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30'-0" x 20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 20

SCALE: NTS

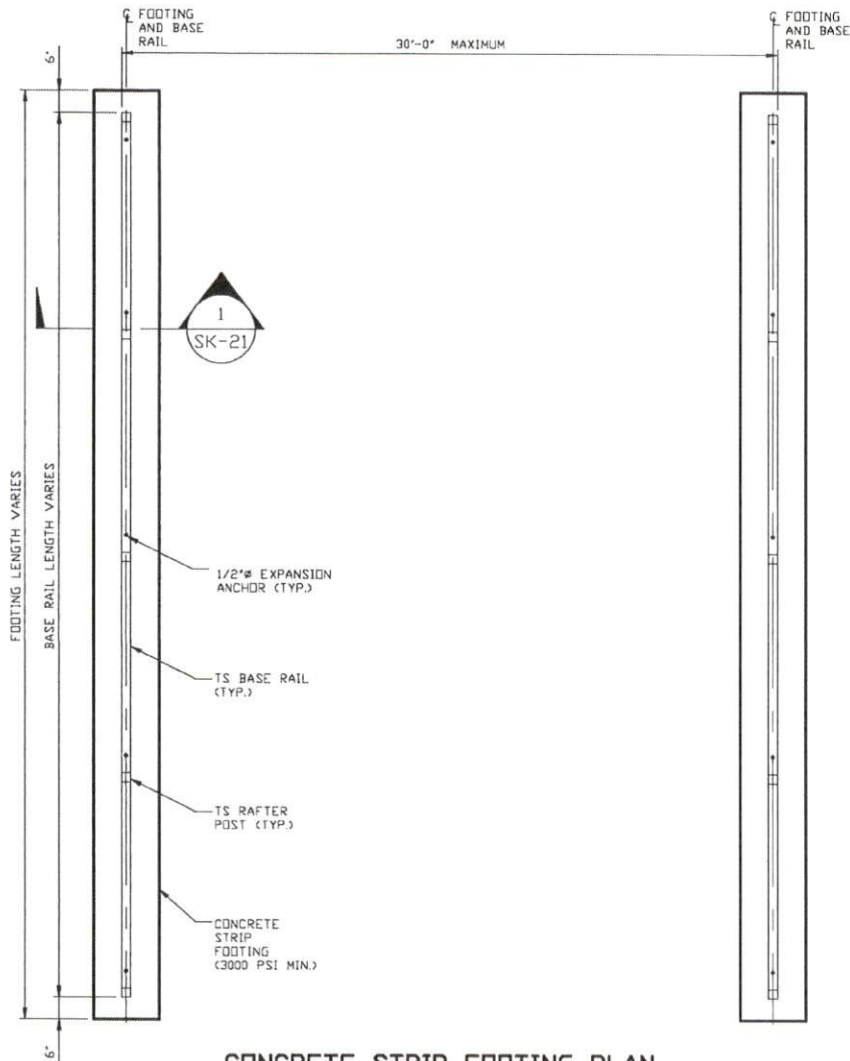
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JOB NO: 18068S
18156S/18290S/20019S

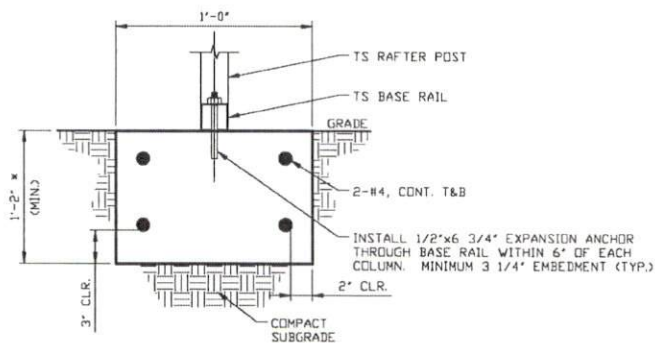
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OPTIONAL CONCRETE STRIP FOOTING



CONCRETE STRIP FOOTING PLAN
SCALE: NTS



SECTION 1
SCALE: NTS

* COORDINATE WITH LOCAL CODES/ORD.



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P.O. BOX 1287,
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30'-0"x20'-0" ENCLOSED STRUCTURE

DATE: 2-14-20

SHT. 21

SCALE: NTS

DWG. NO: SK-3

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