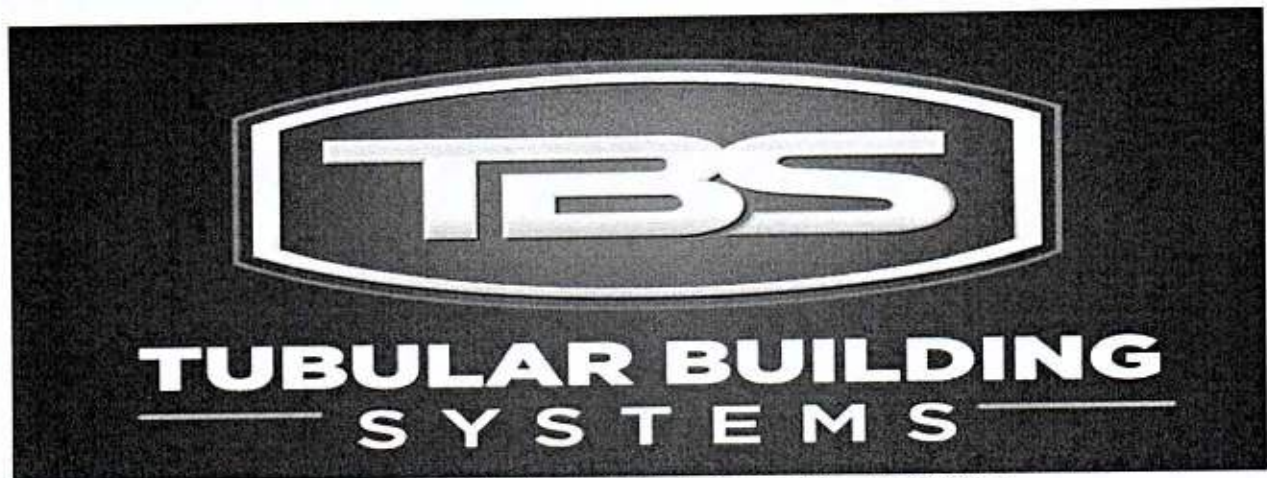




631 SE Industrial Circle Lake City, FL 32025
Phone: 386.961.0006 Fax: 386.961.0008

Dear Customer –

To help us in our efforts of getting your building up in a timely manner we would appreciate you giving our office a call @ 386-961-0006 as soon as your concrete is complete (if applicable) and the required permits have been obtained.

We look forward to working with you and are here if you have any questions during the permitting process.

Thank you,

Tubular Building Systems



Florida Product Approval Codes

Roof Deck:

Capital Metal Supply Inc. Ag Panel: 20147.1

EXP 07/20/2020

Wall Panel:

Capital Metal Supply Inc. Ag Panel: 20148.1

EXP 07/20/2020

If you have any questions or concern, please contact Donald Little at 386-961-0006 or at tubularbuildingsystems@gmail.com.

Outside measurement of foundation
Equals Basic Building Dimension
plus Seven (7) inches

40'7"

Basic Building
Dimension
to outside of Base Rail

40'

BUILDING SLAB

Basic Building
Dimension
to outside of Base Rail

20'

Outside measurement of foundation
Equals Basic Building Dimension
plus Seven (7) inches

20'7"

See Corner
Detail Sheet 3

Building
Base Rail

3-1/2" wide x 1-1/2" high Notch
in Concrete outside
of basic building
dimensions



TUBULAR BUILDING
SYSTEMS

TYPICAL BUILDING

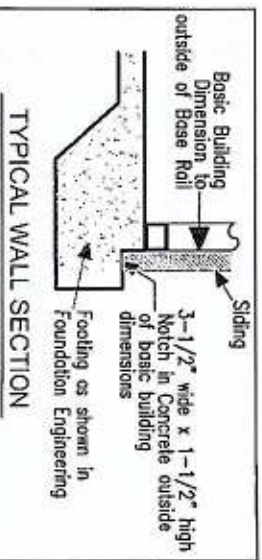
FOUNDATION MEASUREMENTS

IMPORTANT - NOTES

Record Measurements
in these spaces provided

All basic building dimensions
are to the outside of the
frame Base Rail and DO NOT
INCLUDE the 3-1/2" x 1-1/2"
notch in the concrete footing

See Sheet 3 of 3
for Detail of Building
corner configuration

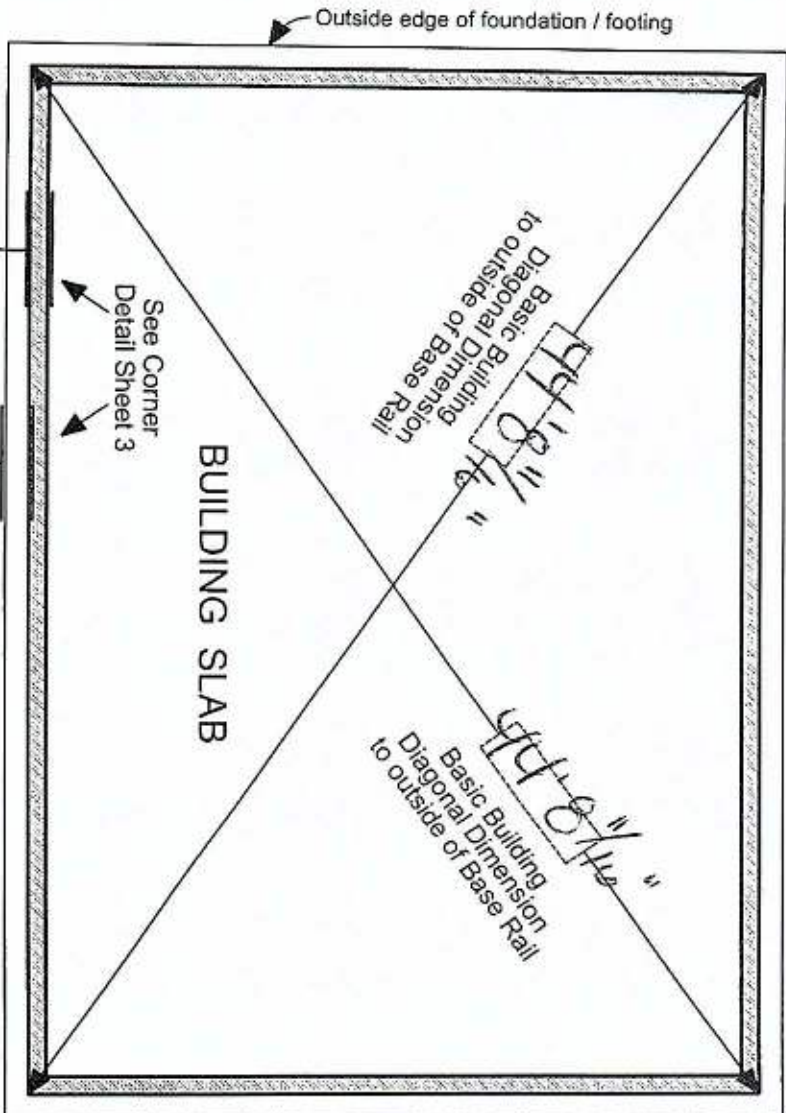


IMPORTANT - NOTES

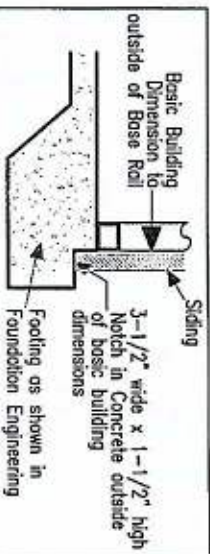
Record Measurements
in these spaces provided

All basic building diagonal dimensions
are to the outside corner of the
frame Base Rail and DO NOT
INCLUDE the 3-1/2" x 1-1/2"
notch in the concrete footing

See Sheet 3 of 3
for Detail of Building
corner configuration



3-1/2" wide x 1-1/2" high Notch
in Concrete outside
of basic building
dimensions

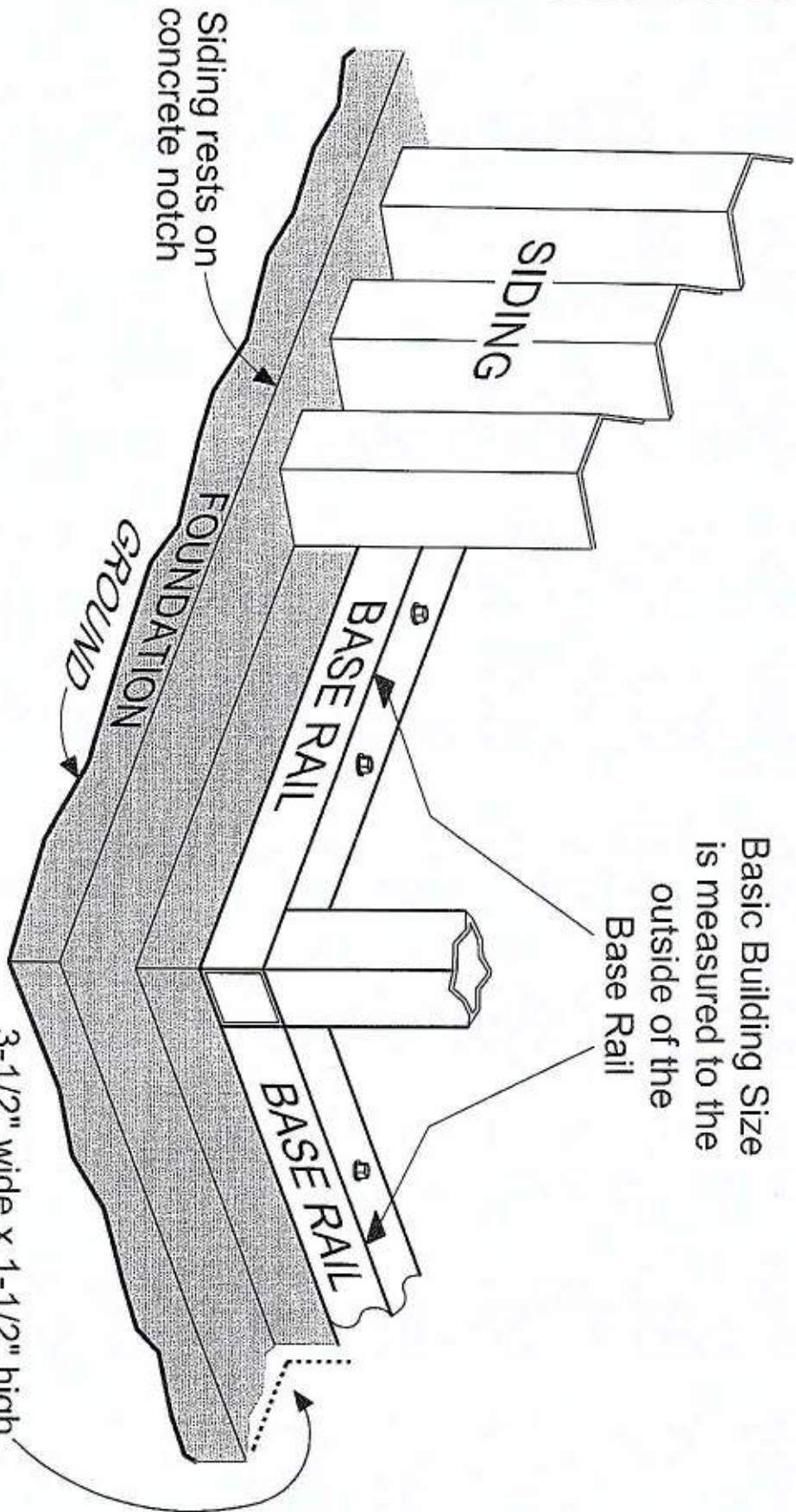


TYPICAL WALL SECTION

TYPICAL BUILDING

FOUNDATION MEASUREMENTS DIAGONALS





TYPICAL BUILDING

CORNER DETAIL



STRUCTURAL DESIGN

FULLY OPEN CARPORT BUILDING **EXPOSURE B**

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

20 February 2018

Revision 5

M&A Project No. 16022S/17300S/18028S

Prepared for:

Tubular Building Systems, LLC
631 SE Industrial Circle
Lake City, Florida 32025

Prepared by:

Moore and Associates Engineering and Consulting, Inc.
1009 East Avenue
North Augusta, SC 29841

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



MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING





MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JRS		TUBULAR BUILDING SYSTEMS 30'-0"x20'-0" FULLY OPEN CARPORT EXP. B PE SEAL COVER SHEET	
	CHECKED BY: PDH			
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	PROJECT MGR: WSM	DATE: 2-20-18	SCALE: NTS	JOB NO: 16022S/17300S/18028S
	CLIENT: TBS	SHT. 1	DWG. NO: SK-1	REV: 5

DRAWING INDEX

SHEET 1	PE SEAL COVER SHEET
SHEET 2	DRAWING INDEX
SHEET 3	INSTALLATION NOTES AND SPECIFICATIONS
SHEET 4	TYPICAL SIDE AND END ELEVATIONS
SHEET 5	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOX EAVE RAFTER)
SHEET 6A	TYPICAL RAFTER COLUMN CONNECTION DETAILS (LACED COLUMN)
SHEET 6B	TYPICAL RAFTER COLUMN CONNECTION DETAILS (DOUBLE COLUMN)
SHEET 6C	TYPICAL RAFTER COLUMN CONNECTION DETAILS (SINGLE COLUMN)
SHEET 7	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOW RAFTER)
SHEET 8A	TYPICAL RAFTER COLUMN CONNECTION DETAILS (DOUBLE COLUMN)
SHEET 8B	TYPICAL RAFTER COLUMN CONNECTION DETAILS (SINGLE COLUMN)
SHEET 9A	BASE RAIL ANCHORAGE OPTIONS
SHEET 9B	OPTIONAL FOUNDATION ANCHORAGE
SHEET 10	BOX EAVE RAFTER GABLE END OPTION
SHEET 11	BOW RAFTER GABLE END OPTION
SHEET 12	BOX EAVE RAFTER EXTRA SIDE PANEL OPTION
SHEET 13	BOW RAFTER EXTRA SIDE PANEL OPTION
SHEET 14	BOX EAVE RAFTER VERTICAL ROOF OPTION
SHEET 15	LEAN-TO OPTIONS (BOX EAVE RAFTER)
SHEET 16	LEAN-TO OPTIONS (BOW RAFTER)



MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: VSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 2

SCALE: NTS

DWG. NO: SK-1

JOB NO:
16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

INSTALLATION NOTES AND SPECIFICATIONS

1. DESIGN IS FOR A MAXIMUM 30'-0" WIDE x 20'-0" EAVE HEIGHT FULLY OPEN CARPORT.
2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2017 FLORIDA BUILDING CODE (FBC) 6TH EDITION, 2012 INTERNATIONAL BUILDING CODE (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 = 10 PSF
4. LOW ULTIMATE WIND SPEED 105 TO 140 MPH (NOMINAL WIND SPEED 81 TO 108 MPH) MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEET.
5. HIGH ULTIMATE WIND SPEED 141 TO 170 MPH (NOMINAL WIND SPEED 109 TO 132 MPH) MAXIMUM RAFTER/POST AND END POST SPACING = 4.0 FEET.
6. LOW HAZARD RISK CATEGORY I.
7. WIND EXPOSURE CATEGORY B.
8. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2" x 2 1/2" - 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS. FOR VERTICAL PANELS, 29 GAUGE METAL PANELS SHALL BE FASTENED TO 18 GAUGE HAT CHANNELS (UNLESS OTHERWISE NOTED).
9. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9' OR END = 6', (MAX.)
10. 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.
11. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6' OF EACH RAFTER COLUMN ALONG SIDES.
12. GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/ WELDED NUT x 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (< 108 MPH NOMINAL) WIND SPEEDS ONLY. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED.
13. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND MUST BE USED FOR HIGH WIND SPEEDS.
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} = 1.522 V = C_sW
 S_{DI} = 0.839



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 3

SCALE: NTS

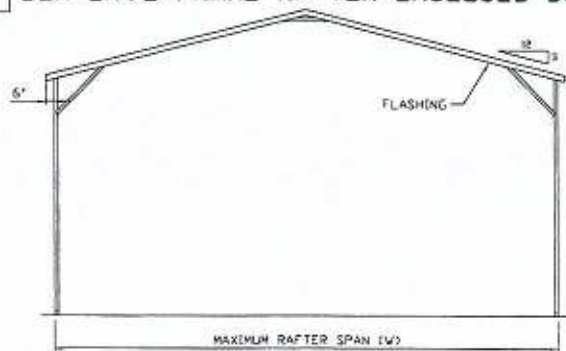
DWG. NO: SK-1

**JOB NO:
16022S/17300S/18028S**

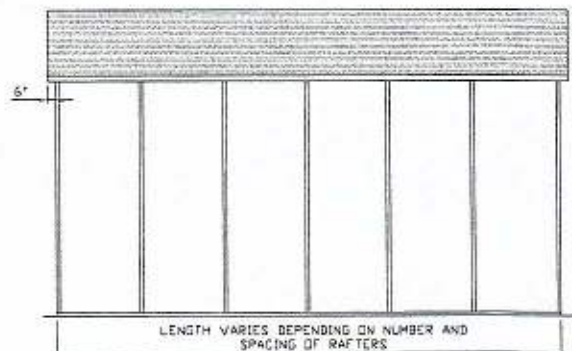
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

☐ BOX EAVE FRAME RAFTER ENCLOSED BUILDING

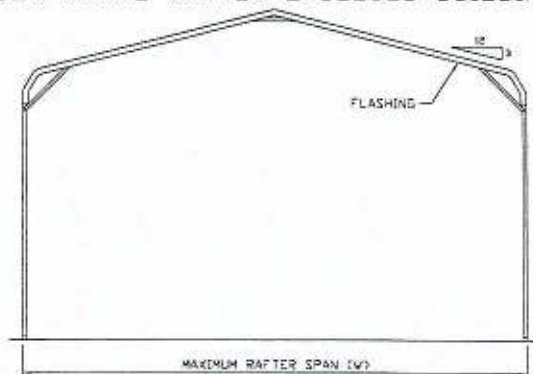


TYPICAL END ELEVATION-HORIZONTAL ROOF
SCALE: NTS

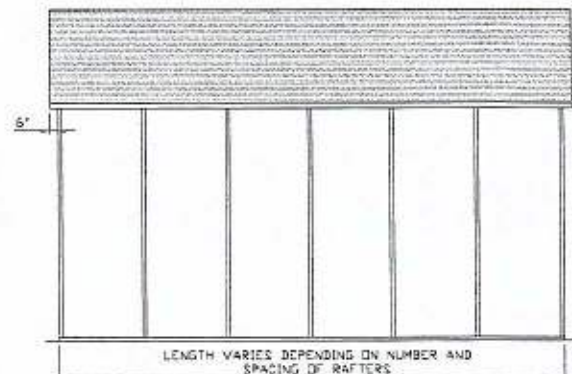


TYPICAL SIDE ELEVATION-HORIZONTAL ROOF
SCALE: NTS

☐ BOW FRAME RAFTER ENCLOSED BUILDING



TYPICAL END ELEVATION
SCALE: NTS



TYPICAL SIDE ELEVATION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0" x 20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 4

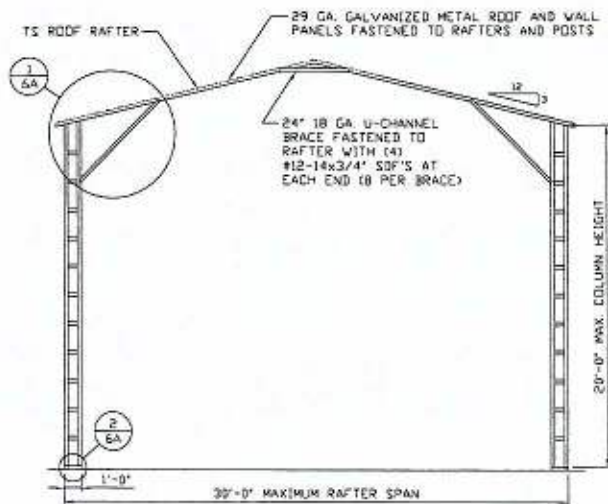
SCALE: NTS

DWG. NO: SK-1

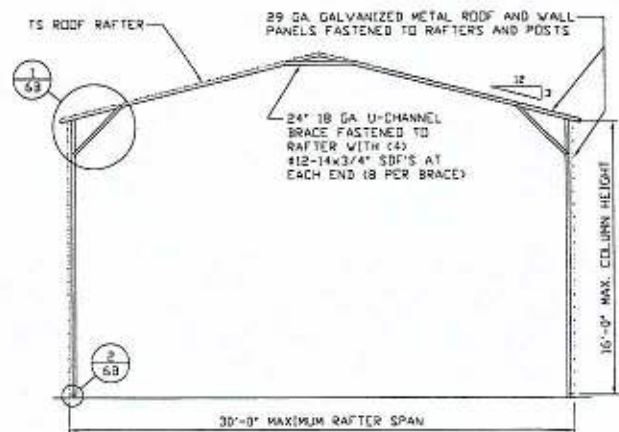
JOB NO:
16022S/17300S/18028S

REV: 5

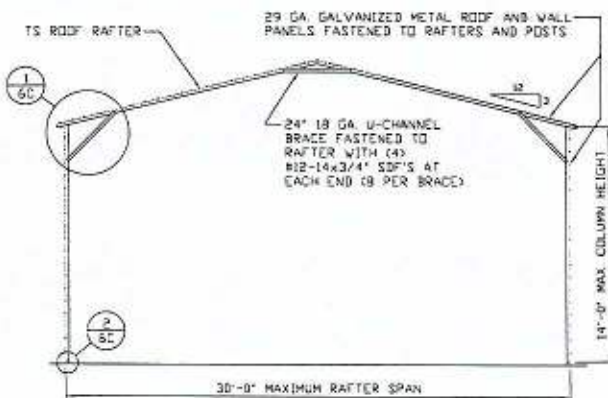
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



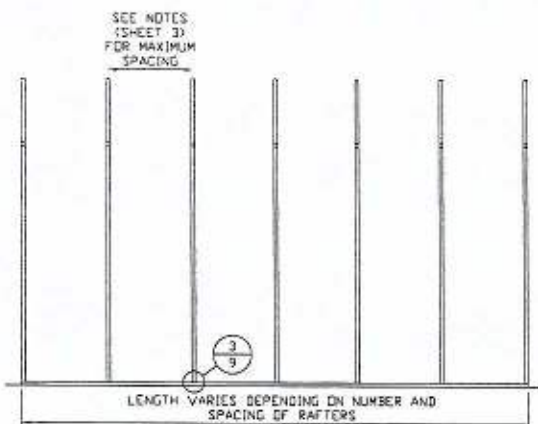
TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"X20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 5

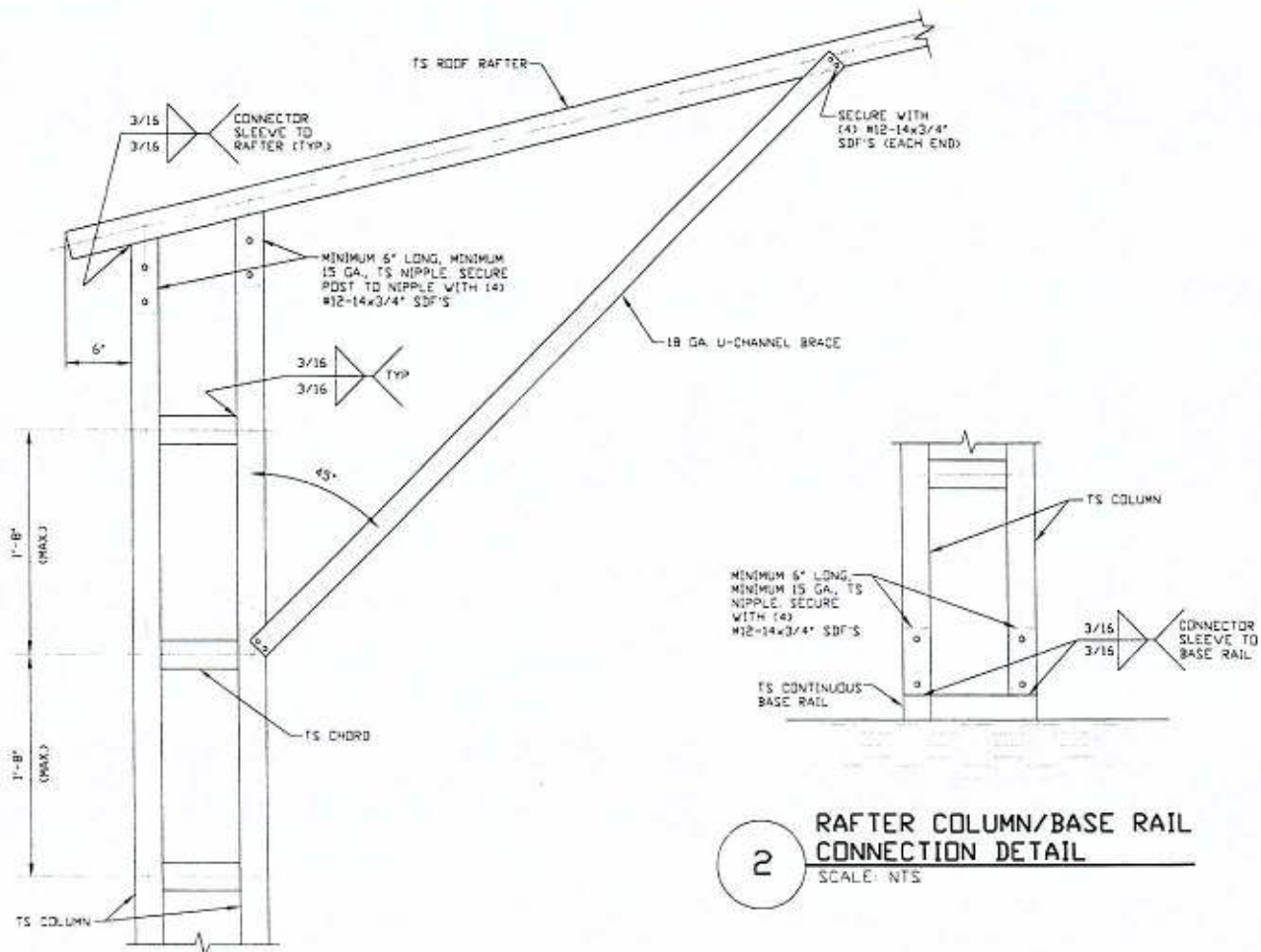
SCALE: NTS

DWG. NO: SK-1

**JOB NO:
16022S/17300S/18028S**

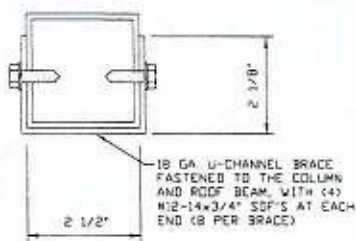
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS

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



BRACE SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 6A

SCALE: NTS

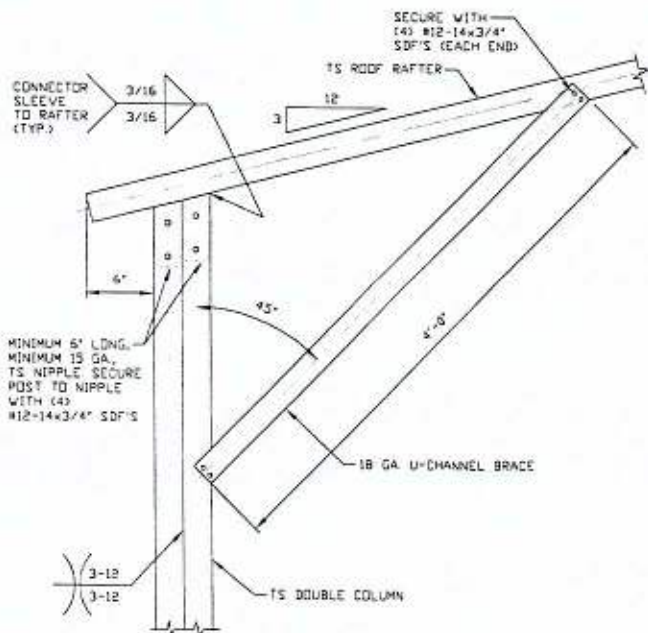
DWG. NO: SK-1

JOB NO:

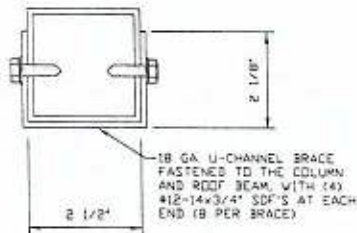
16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



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



**2
RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL**
SCALE: NTS

BRACE SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 6B

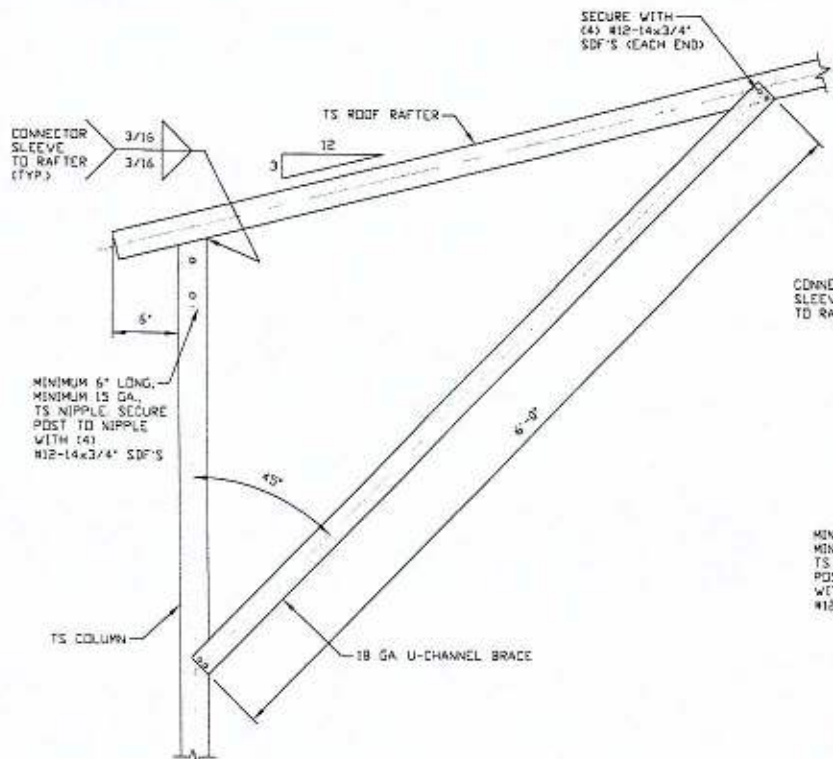
SCALE: NTS

DWG. NO: SK-1

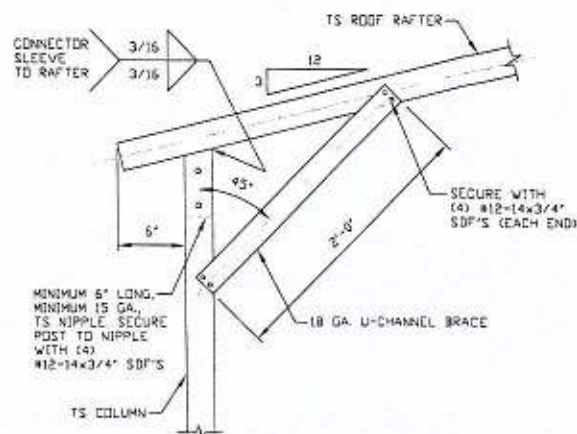
JOB NO:
16022S/17300S/18028S

REV: 5

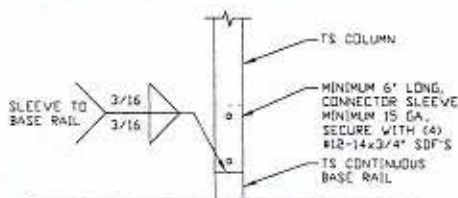
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



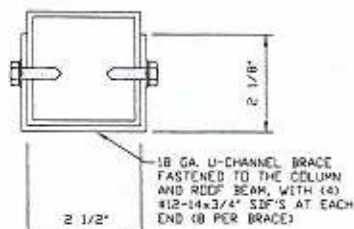
**BOX EAVE RAFTER COLUMN
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 14'-0"**
SCALE: NTS



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



**2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL**
SCALE: NTS



BRACE SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDM

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 6C

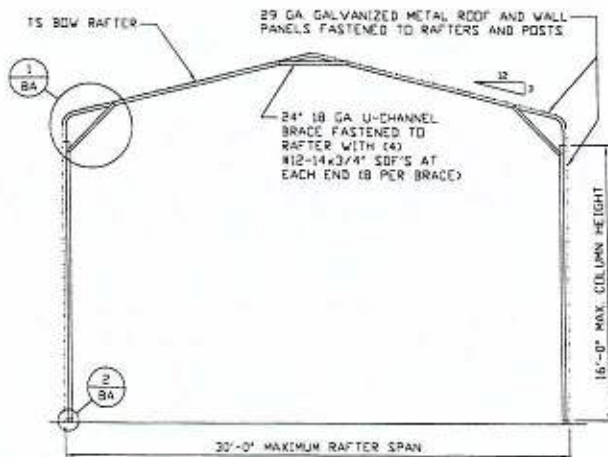
SCALE: NTS

DWG. NO: SK-1

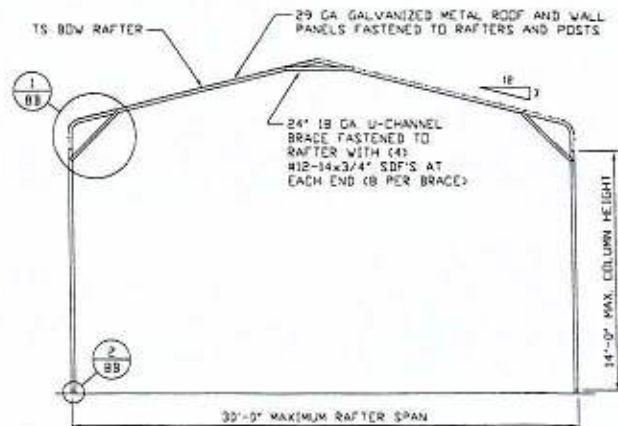
JOB NO:
16022S/17300S/18028S

REV: 5

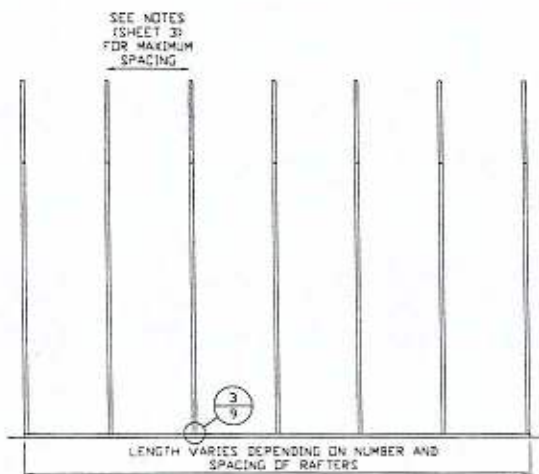
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0" x 20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 7

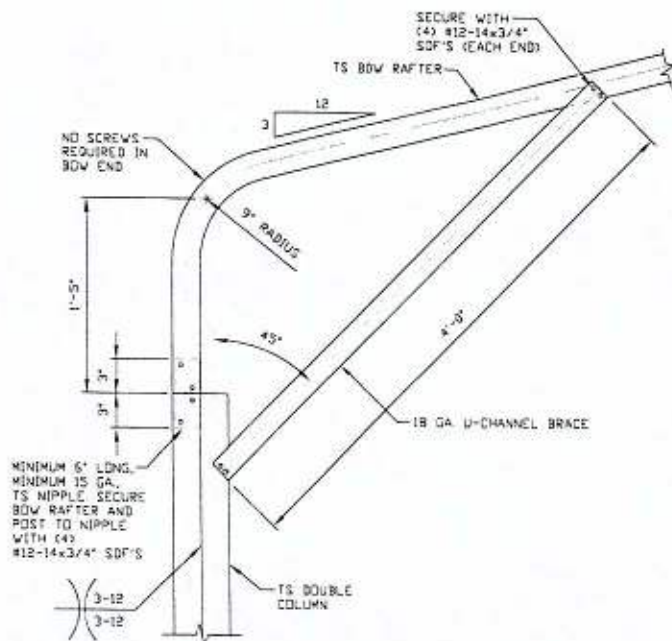
SCALE: NTS

DWG. NO: SK-1

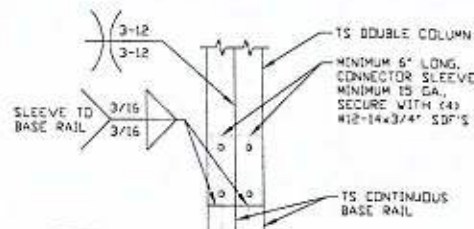
JOB NO:
16022S/17300S/18028S

REV: 5

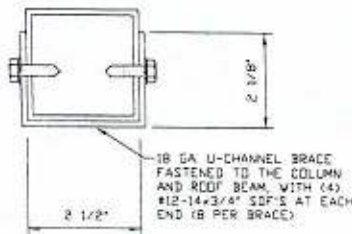
THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



1 BOX EAVE RAFTER COLUMN
CONNECTION DETAIL
FOR HEIGHTS 14'-0" < TO ≤ 16'-0"
SCALE: NTS



2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



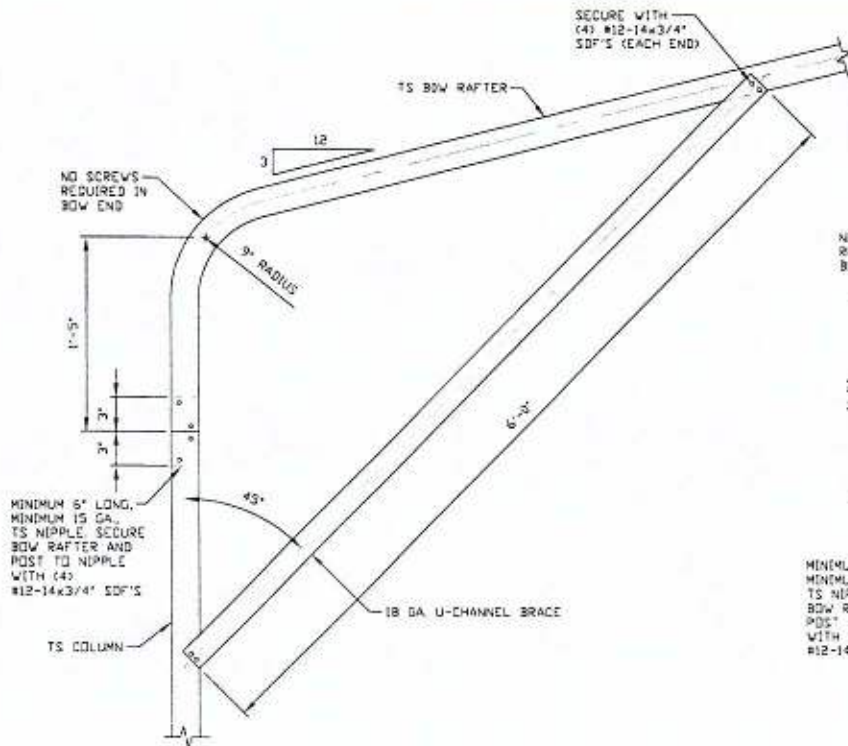
BRACE SECTION
SCALE: NTS



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

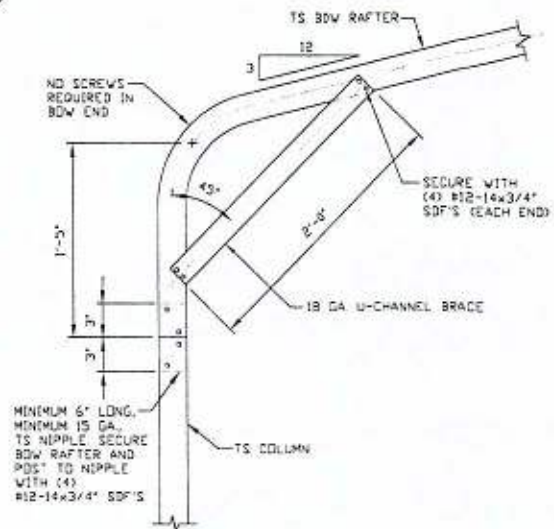
DRAWN BY: JRS	TUBULAR BUILDING SYSTEMS 30'-0"x20'-0" FULLY OPEN CARPORT EXP. B		
CHECKED BY: PDH			
PROJECT MGR: VSM	DATE: 2-20-18	SCALE: NTS	JOB NO: 16022S/17300S/18028S
CLIENT: TBS	SHT. 8A	DWG. NO: SK-1	REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.



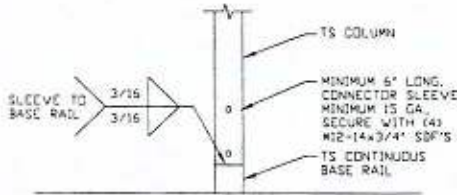
1A

**BOX EAVE RAFTER COLUMN
CONNECTION DETAIL
FOR HEIGHTS 12'-0" < TO ≤ 14'-0"**
SCALE: NTS



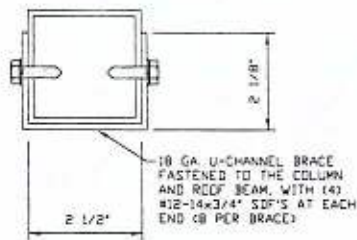
1B

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



2

**RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL**
SCALE: NTS



BRACE SECTION
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"X20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 8B

SCALE: NTS

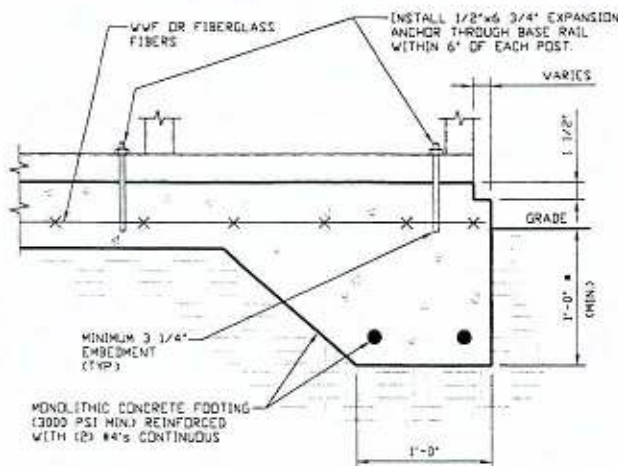
DWG. NO: SK-1

JOB NO:
16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED



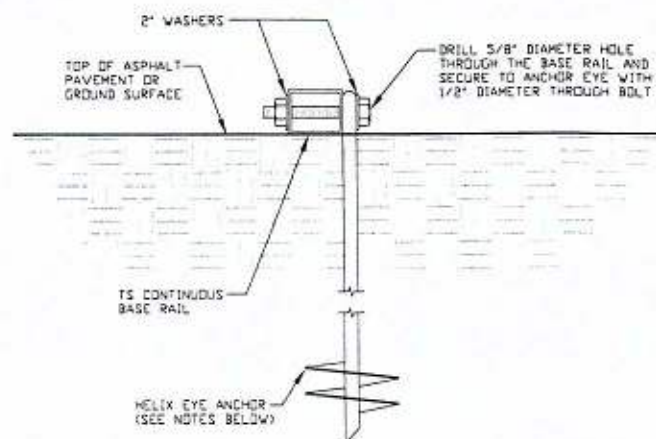
3A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

MINIMUM ANCHOR EDGE DISTANCE IS 4"

* COORDINATE WITH LOCAL CODES/ORD.



3B

GROUND BASE HELIX ANCHORAGE

SCALE: NTS (CAN BE USED FOR ASPHALT)

GENERAL NOTES

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 INCHES 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 INCHES 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 INCH EMBEDMENT.
2. FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT.
3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT.
4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 6" HELICES WITH MINIMUM 50 INCH 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 INCH EMBEDMENT.



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 9A

SCALE: NTS

DWG. NO: SK-1

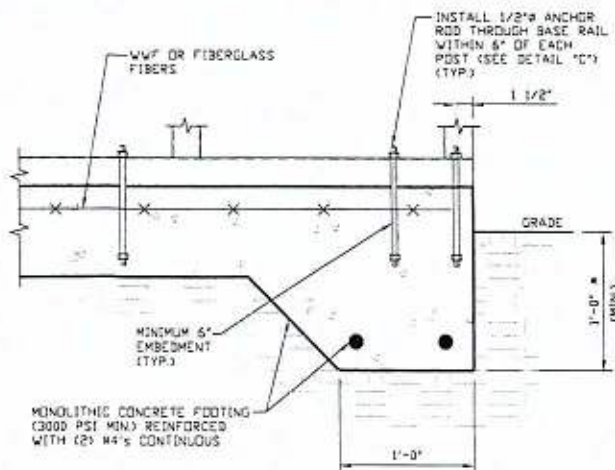
JOB NO:

16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

OPTIONAL FOUNDATION ANCHORAGE FOR LOW & HIGH WIND SPEED

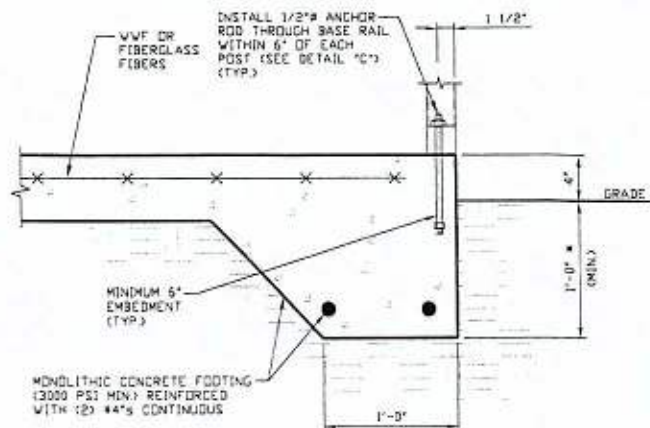


3A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

(MINIMUM ANCHOR EDGE DISTANCE IS 1 1/2")
* COORDINATE WITH LOCAL CODES/ORD.



3B

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS

(MINIMUM ANCHOR EDGE DISTANCE IS 1 1/2")
* COORDINATE WITH LOCAL CODES/ORD.

GENERAL NOTES

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:

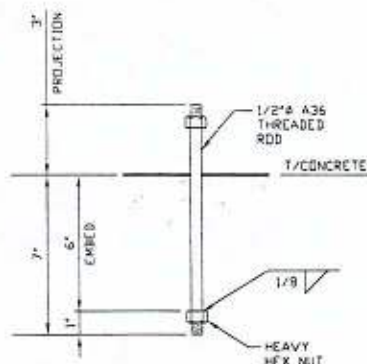
3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2 INCHES ELSEWHERE.

REINFORCING STEEL:

THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE SO 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.



3C

ANCHOR ROD THROUGH BASE RAIL DETAIL

SCALE: NTS



MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 9B

SCALE: NTS

DWG. NO: SK-1

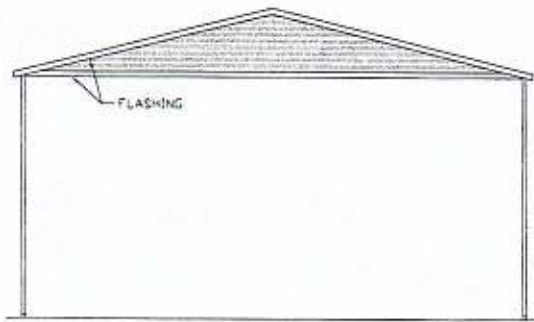
JOB NO:

16022S/17300S/18028S

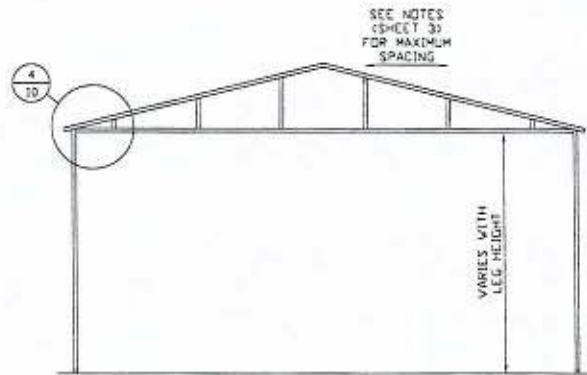
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

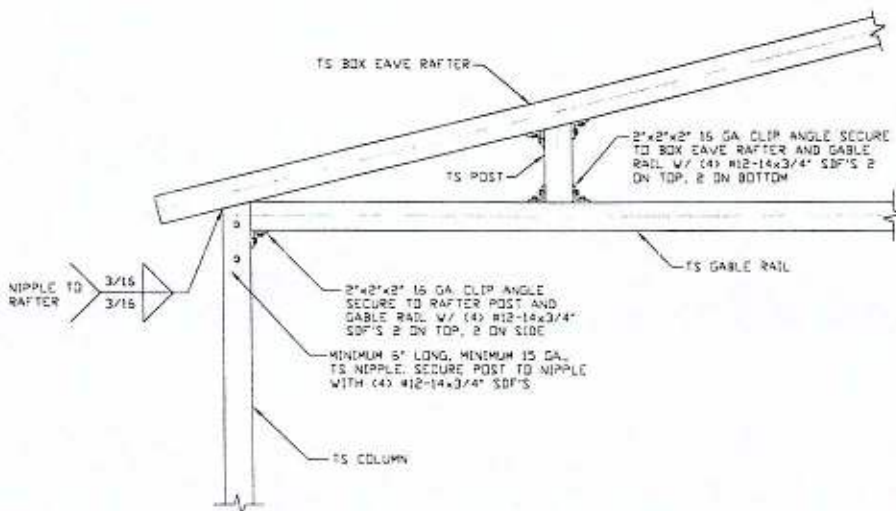
BOX EAVE RAFTER GABLE END OPTION



**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**
SCALE: NTS



**TYPICAL BOX EAVE RAFTER END
WALL OPENINGS FRAMING SECTION**
SCALE: NTS



4

**BOX EAVE RAFTER GABLE RAIL TO
RAFTER POST CONNECTION DETAIL**
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"X20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 10

SCALE: NTS

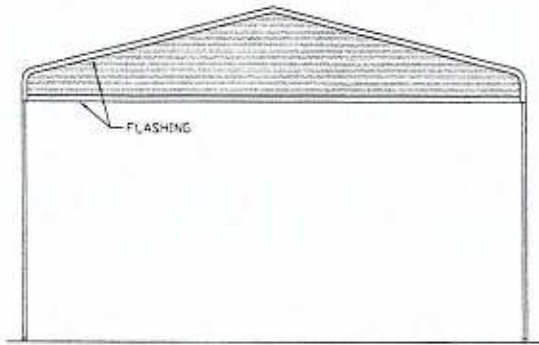
DWG. NO: SK-1

**JOB NO:
16022S/17300S/18028S**

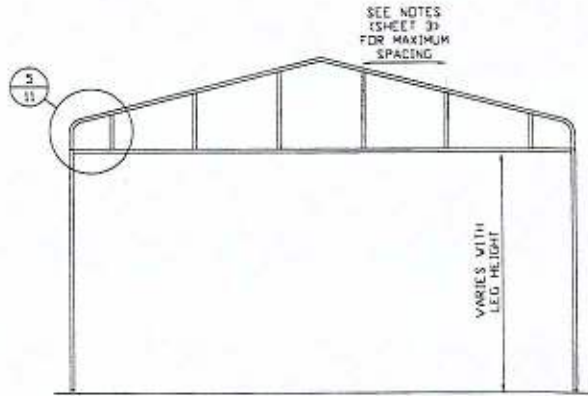
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

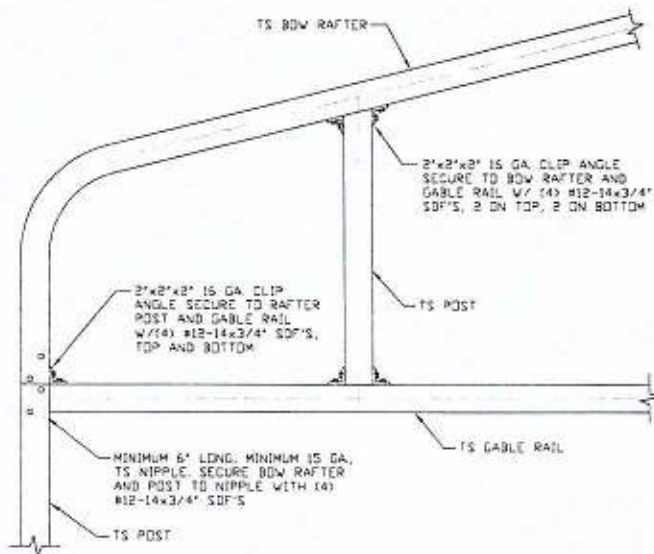
BOW RAFTER GABLE END OPTION



**TYPICAL BOX EAVE RAFTER
END WALL FRAMING SECTION**
SCALE: NTS



**TYPICAL BOX EAVE RAFTER END
WALL OPENINGS FRAMING SECTION**
SCALE: NTS



**5 BOW RAFTER GABLE RAIL TO
RAFTER/POST CONNECTION DETAIL**
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 11

SCALE: NTS

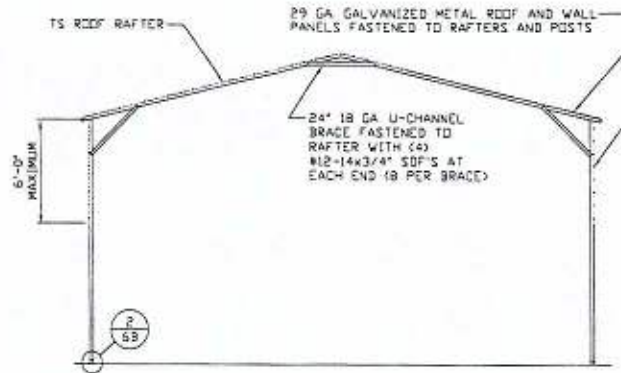
DWG. NO: SK-1

JOB NO:
16022S/17300S/18028S

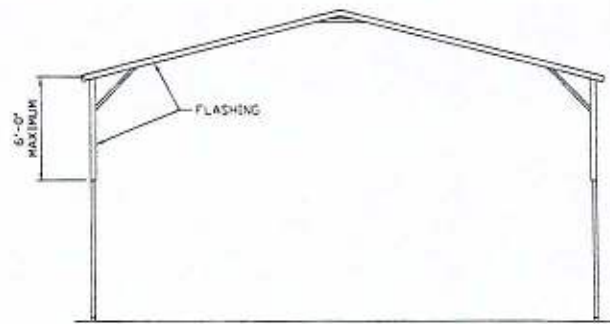
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

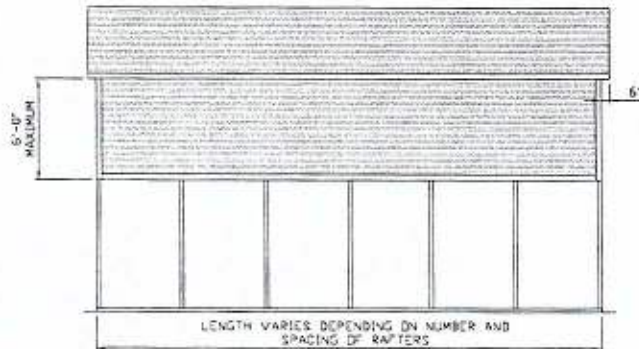
BOX EAVE RAFTER EXTRA SIDE PANEL OPTION



**TYPICAL RAFTER/POST FRAME
SECTION EXTRA SIDE PANELS**
SCALE: NTS



**TYPICAL END ELEVATION
EXTRA SIDE PANELS**
SCALE: NTS



**TYPICAL SIDE ELEVATION
EXTRA SIDE PANELS**
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 12

SCALE: NTS

DWG. NO: SK-1

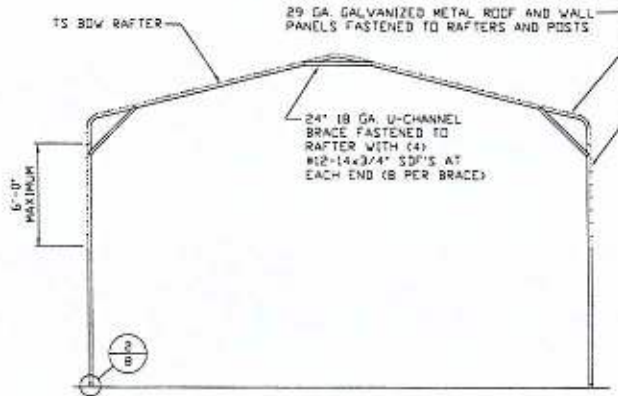
JOB NO:

160225/17300S/18028S

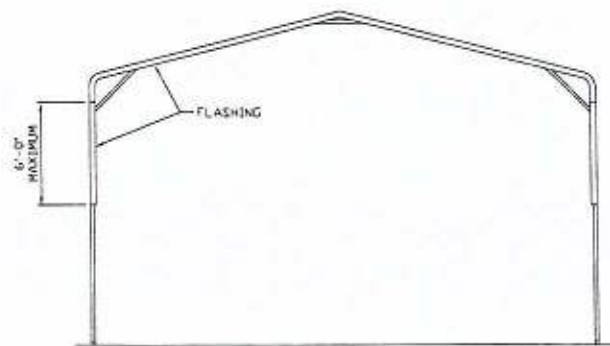
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

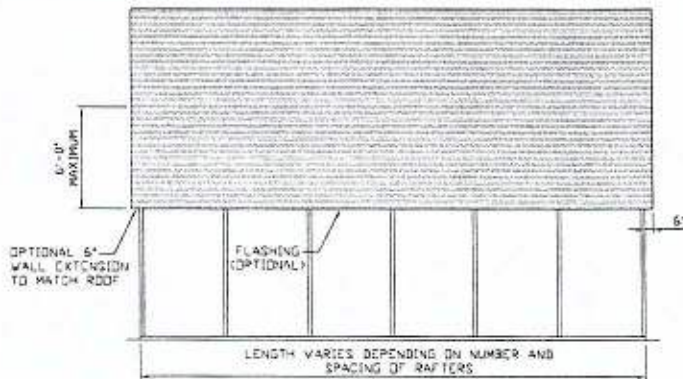
BOW RAFTER EXTRA SIDE PANEL OPTION



**TYPICAL RAFTER/POST FRAME
SECTION EXTRA SIDE PANELS**
SCALE: NTS



**TYPICAL END ELEVATION
EXTRA SIDE PANELS**
SCALE: NTS



**TYPICAL SIDE ELEVATION
EXTRA SIDE PANELS**
SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"X20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 13

SCALE: NTS

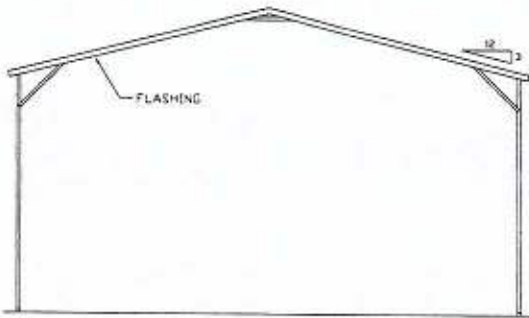
DWG. NO: SK-1

**JOB NO:
16022S/17300S/18028S**

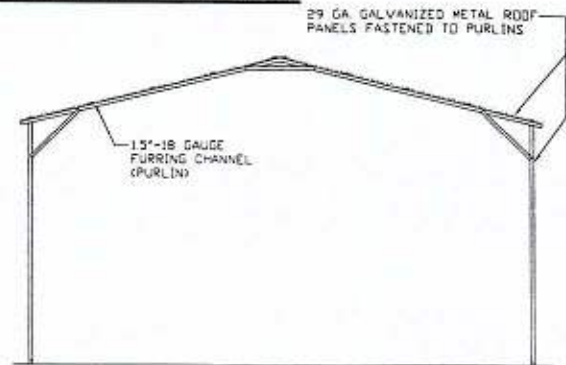
REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

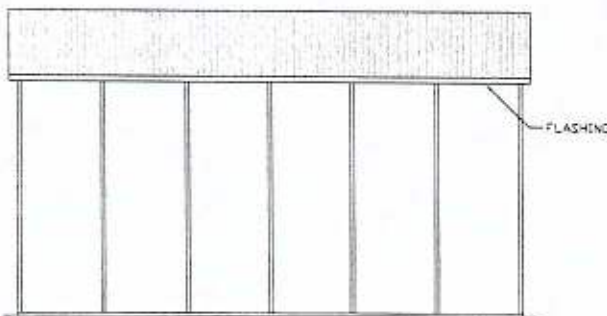
BOX EAVE RAFTER VERTICAL ROOF OPTION



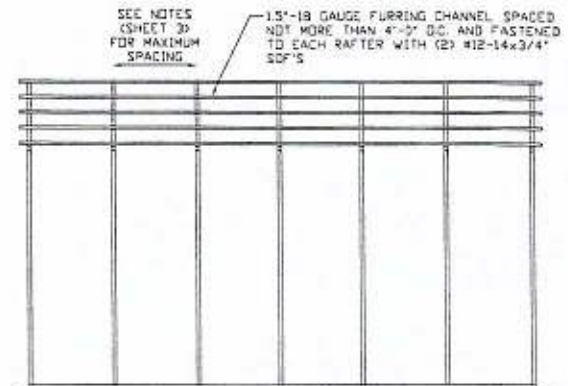
**TYPICAL END ELEVATION
VERTICAL ROOF/SIDING OPTION**
SCALE: NTS



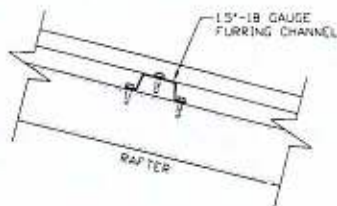
**TYPICAL SECTION VERTICAL
ROOF/SIDING OPTION**
SCALE: NTS



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



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



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



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 14

SCALE: NTS

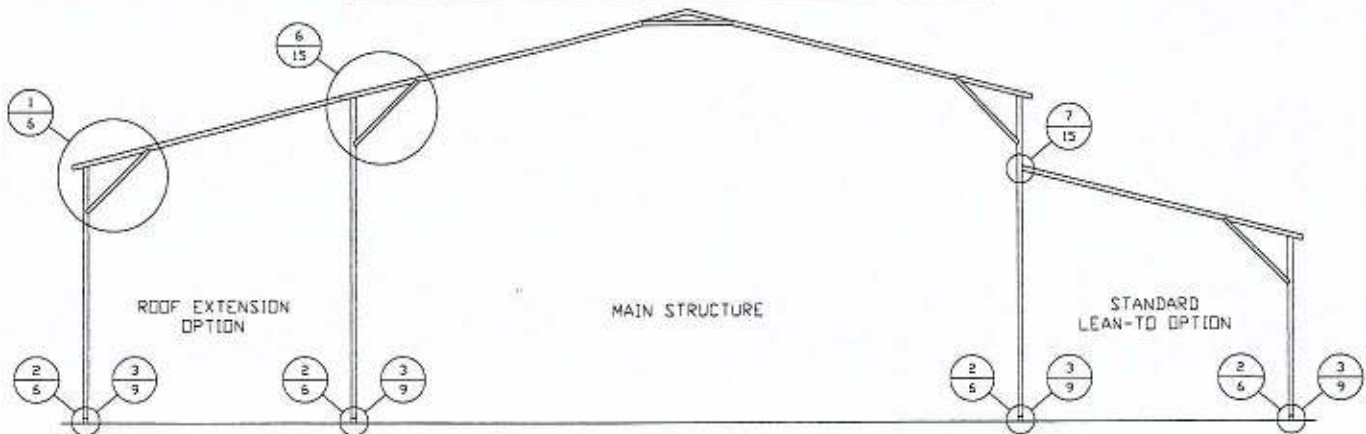
DWG. NO: SK-1

JOB NO:
16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

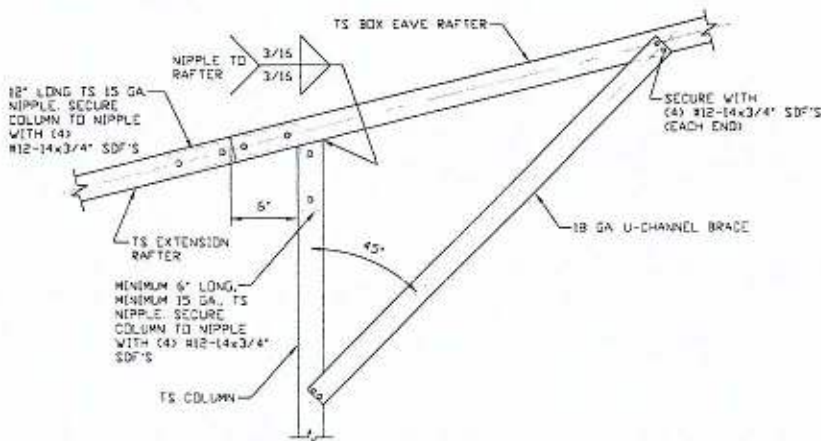
BOX EAVE RAFTER LEAN-TO OPTIONS



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

SCALE: NTS

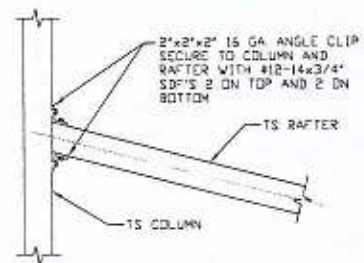
MAXIMUM WIDTH OF SINGLE MEMBER RAFTER LEAN-TO IS 16'-0".



6

SIDE EXTENSION RAFTER/COLUMN DETAIL

SCALE: NTS



7

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL

SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDH

PROJECT MGR: WSM

CLIENT: TBS

**TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B**

DATE: 2-20-18

SHT. 15

SCALE: NTS

DWG. NO: SK-1

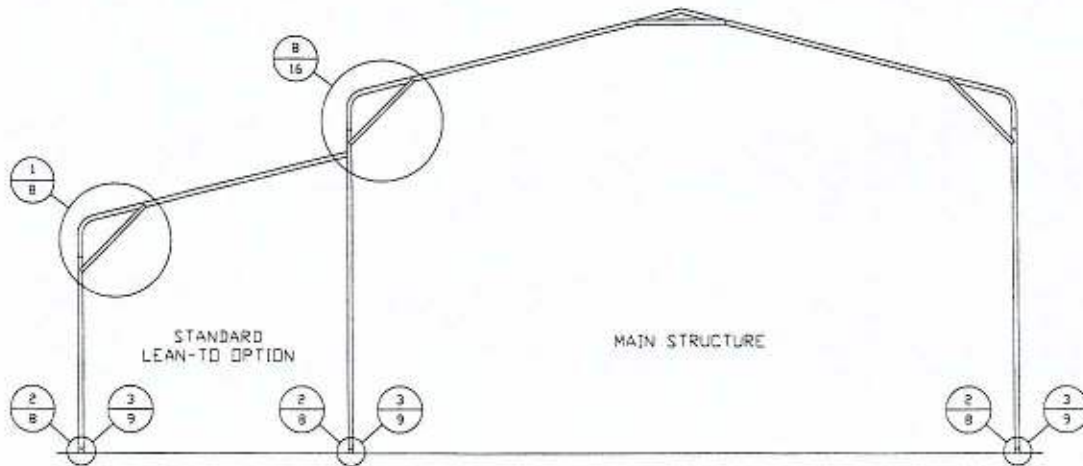
JOB NO:

16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

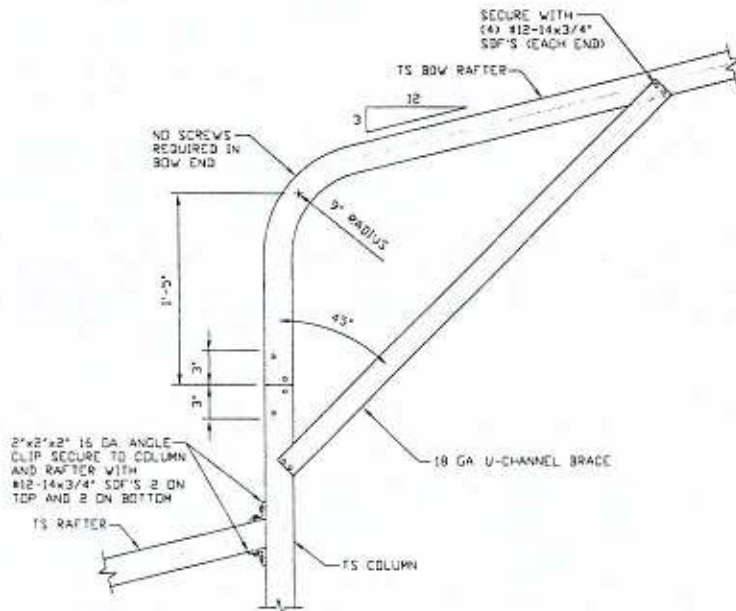
BOW RAFTER LEAN-TO OPTIONS



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

SCALE: NTS

MAXIMUM WIDTH OF SINGLE MEMBER RAFTER LEAN-TO IS 15'-0"



8

SIDE EXTENSION RAFTER/COLUMN DETAIL

SCALE: NTS



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

DRAWN BY: JRS

CHECKED BY: PDM

PROJECT MGR: WSM

CLIENT: TBS

TUBULAR BUILDING SYSTEMS
30'-0"x20'-0" FULLY OPEN CARPORT EXP. B

DATE: 2-20-18

SHT. 16

SCALE: NTS

DWG. NO: SK-1

JOB NO:
16022S/17300S/18028S

REV: 5

THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.