

### STRUCTURAL DESIGN

# ENCLOSED BUILDING EXPOSURE C

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

25 January 2021 Revision 5 M&A Project No. 16022S/17300S/20352S

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

Digitally signed by Wayne S Moore Date: 2021.01.25 10:50:16 -05'00'







This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

	v					
				Humman * PAC	NO 57170  * STATE O	TY A SOLUTION STATES OF SOLUTION
	20 27			sealed using a Printed conside	m has been electronica by Wayne S. Mcore, PE. Digital Signature and da copies of this document ered signed and sealed a tre must be verified on a	illy signed and ate.  Int are not and the
MOORE AND A ENGINEERING AND C THIS DOCUMENT IS THE PROPERTY OF MOUNE A CONSULTING THE UNMUTHORIZED REPRODUCTION THIS DOCUMENT IS STRUCTLY PROPERTY HOS DOCUMENT IS STRUCTLY PROPERTY BE SUBJECT TO LEGAL ACTION.	CONSULTING, INC.	CHEC	(N BY: JG KED BY: PDH ECT MGR: VSM	30'-0"x20'-0 P DATE: 1-25-21	JLAR BUILDING S " ENCLOSED BUI E SEAL COVER SI SCALE: NTS DVG. ND: SK-3	LDING EXP. C

## 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 5A	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOX EAVE RAFTER)
SHEET 5B	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOX EAVE RAFTER)
SHEET 6	TYPICAL RAFTER COLUMN CONNECTION DETAILS (LACED COLUMN)
SHEET 6A	TYPICAL RAFTER COLUMN CONNECTION DETAILS (DOUBLE COLUMN)
SHEET 6B	TYPICAL RAFTER COLUMN CONNECTION DETAILS (SINGLE COLUMN)
SHEET 7	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOW RAFTER)
SHEET 7A	TYPICAL RAFTER COLUMN END AND SIDE FRAMING SECTIONS (BOW RAFTER)
SHEET 8	TYPICAL RAFTER COLUMN CONNECTION DETAILS (DOUBLE COLUMN)
SHEET 8A	TYPICAL RAFTER COLUMN CONNECTION DETAILS (SINGLE COLUMN)
SHEET 9	BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED
SHEET 9A	OPTIONAL FOUNDATION ANCHORAGE FOR LOW AND HIGH WIND SPEED
SHEET 9B	BASE RAIL ANCHORAGE OPTION
SHEET 9C	BASE RAIL ANCHORAGE OPTIONS
SHEET 10	BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS
SHEET 11	BOW RAFTER END WALL AND SIDE WALL OPENINGS
SHEET 12	CONNECTION DETAILS
SHEET 13	CONNECTION DETAILS
SHEET 14	BOX EAVE RAFTER LEAN-TO OPTIONS
SHEET 14A	BOX EAVE RAFTER LEAN-TO OPTIONS
SHEET 15	BUW RAFTER LEAN-TO OPTIONS
SHEET 15A	BOW RAFTER LEAN-TO OPTIONS
SHEET 16	VERTICAL ROOF/SIDING OPTION  OPTIONAL DOOR HEADER  OPTIONAL DOOR HEADER
SHEET 17	OPTIONAL DOOR HEADER
SHEET 18	FLOOD VENT DETAIL S No 57170
SHEET 19	STAND-ALONE STEM WALL DETAIL * * *
SHEET 20	FLOOD VENT DETAIL  STAND-ALONE STEM WALL DETAIL  VERTICAL SLIDING WINDOW DETAIL  No 57170  *  *  *  *  *  *  *  *  *  *  *  *  *
SHEET 21	BOW RAFTER LEAN-TO OPTIONS  VERTICAL ROOF/SIDING OPTION  OPTIONAL DOOR HEADER  FLOOD VENT DETAIL  STAND-ALONE STEM WALL DETAIL  VERTICAL SLIDING WINDOW DETAIL  STRIP FOOTING OPTION  NO 57170  **  **  **  **  **  **  **  **  **



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	DRAWN BY: JG	63	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025		
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		0" ENCLOSED BUILDING EXP. C		
I CLINGUE INC. THE UNWEITHERIZED REPRODUCTION, CARPAING, THE TITLE PLATER THE THE	PROJECT NGRI VSM	DATE: 1-25-21	SCALE: NTS	JOB NO 16022S/ 17300S/20352S	
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: TBS	SHT. 2	DVG. NO: SK-3	REV. 5	

### INSTALLATION NOTES AND SPECIFICATIONS

- 1. DESIGN IS FOR A MAXIMUM 30'-0' WIDE x 20'-0' EAVE HEIGHT ENCLOSED STRUCTURES.
- 2 DESIGN WAS DONE IN ACCORDANCE WITH THE 2020 FLURIDA BUILDING CODE (FBC) 7TH EDITION, 2012 INTERNATIONAL BUILDING CODE (IBC). 2015 IBC, AND 2018 IBC
- 3. DESIGN LOADS ARE AS FOLLOWS:

A) DEAD LOAD

= 1.5 PSF

B) LIVE LUAD

= 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 = 50 FEET
- 5 HIGH ULTIMATE WIND SPEED 141 TO 170 MPH (NOMINAL WIND SPEED 109 TO 132 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 40 FEET
- 6. END WALL COLUMNS (POSTS) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING (UNLESS NOTED OTHERWISE)
- 7 RISK CATEGORY I
- 8. WIND EXPOSURE CATEGORY C.
- 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. FOR VERTICAL PANELS, 29 GAUGE METAL PANELS SHALL BE FASTENED TO 18 GAUGE HAT CHANNELS (UNLESS OTHERWISE NOTED)
- 10. AVERAGE FASTENER SPACING DN-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9° OR END = 6°, (MAX.)
- 11 FASTENERS CONSIST OF #12-14×3/4\* SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS
  SPECIFICATIONS APPLICABLE UNLY 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 JOINT SEALANT
- 12. STANDARD 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 × 30' LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (< 108 MPH NOMINAL) WIND SPEEDS DNLY OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED COORDINATE WITH LOCAL CODES/ORDINANCES REGARDING MINIMUM LENGTH FOR FROST
- 14. WIND FURCES GOVERN OVER SEISMIC FORCES, SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I

R= 3.25

p = 2039 q

Spt= 1258 g

IE= 10 V= CsW



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

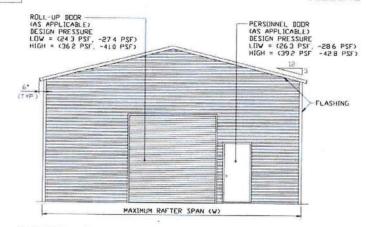
TUDULAD DITH DING CVCTCMC

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROMIBITED AND ANY INFRINCEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.
---

DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JUB NO 160225/ 173005/203525		
CLIENT: TBS	SHT. 3	DVG. NO SK-3	REV. 5		

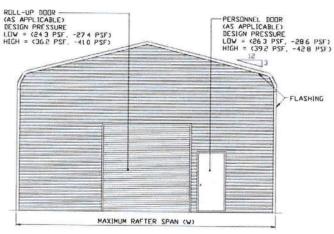
### BOX EAVE FRAME RAFTER ENCLOSED BUILDING



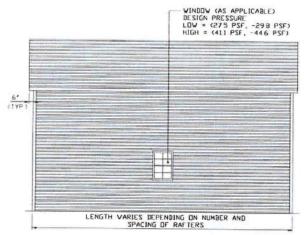
### TYPICAL END ELEVATION

SCALE: NTS

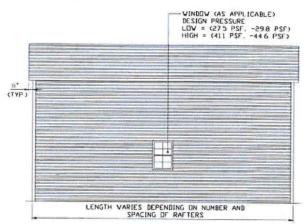
### BOW FRAME RAFTER ENCLOSED BUILDING



### TYPICAL END ELEVATION

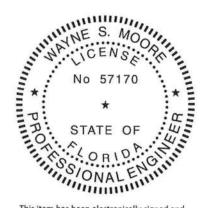


### TYPICAL SIDE ELEVATION



### TYPICAL SIDE ELEVATION

SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

DWG. NO SK-3

REV. 5

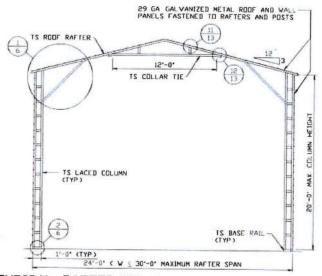
## MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

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

DRAWN BY: JG CHECKED BY: PDH	I SE INDUSTRI AKE CITY, FLO	LAR BUILDING SYSTEMS SE INDUSTRIAL CIRCLE SE CITY, FLORIDA 32025 'ENCLOSED BUILDING EXP. C		
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JOB NO 16022\$/ 17300\$/20352\$	

SHT. 4

CLIENT: TBS



TYPICAL RAFTER/COLUMN END FRAME SECTION

TS ROOF RAFTER

29 GA (ALVANIZED METAL ROOF AND VALL
PANELS FASTENED TO RAFTERS AND POSTS

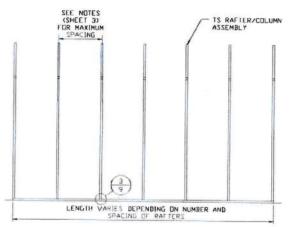
24' 18 GA U-CHANNEL
BRACE FASTENED TO
RAFTER VITH (4)
R12-14x3/4' SDF'S AT
EACH END (8 PER BRACE)

TS LACED COLUMN
(TYP)

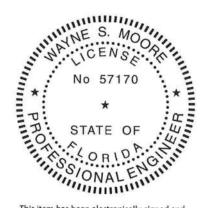
TS BASE RAIL
(TYP)

V 
24'-0' MAXINUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS



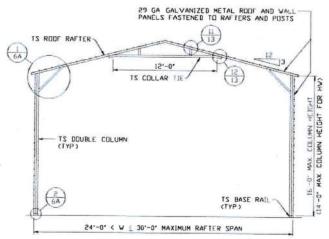
TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	II C
THIS DOCUMENT IS THE PROPERTY OF MOURE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF DOCUMENT IS STRUCTLY PROMOTED AND ANY DIFFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	P

CLIENT: TBS	SHT. 5	DVG. ND: SK-3		REV. 5	
PROJECT NGR: WSM	DATE: 1-25-21	SCALE: NTS		NO: 16022S/ 00S/20352S	
CHECKED BY: PDH		AKE CITY, FLOR -0" ENCLOSED E			
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				



TYPICAL RAFTER/COLUMN END FRAME SECTION

TS ROOF RAFTER

PANELS FASTENED TO RAFTERS AND POSTS

24' 18 GA U-CHANNEL
BRACE FASTENED TO
RAFTER VITH (4)
HI2-14x3/4' SDF'S AT
EACH END (8 PER BRACE)

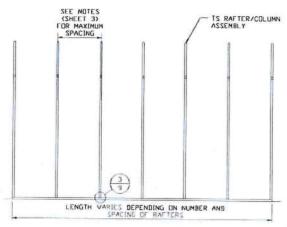
TS BOUBLE COLUMN

(TYP)

TS BASE RAIL

V ( 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION

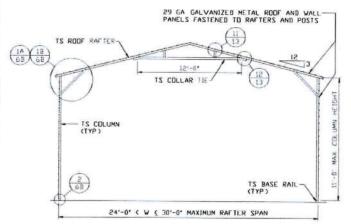


TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION
SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

ENGINEERING AND CONSULTING, INC.  THIS DOCUMENT IS THE PROPERTY OF HOUSE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYDIA, OR OTHERWISE USE OF	PROJECT MGR: WSM	30'-0"x20'	SCALE NTS	JUILDING EXP. C JUB NO 16022S/ 17300S/20352S
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: TBS	SHT. 5A	DVG. ND: SK-3	REV. 5



TYPICAL RAFTER/COLUMN END FRAME SECTION

29 GA GALVANIZED METAL RUGF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS

15 ROUF RAFTER

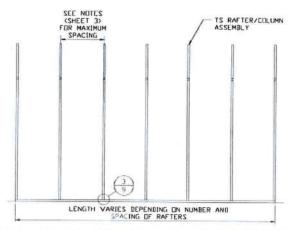
24' IB GA U-CHANNEL
BRACE FASTENED TO
RAFTER VITH (4)
NI2-14-3/4' SDF'S AT
EACH END (8 PER BRACE)

15 COLUMN
(TYP)

TS BASE RAIL
(TYP)

V ( 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION



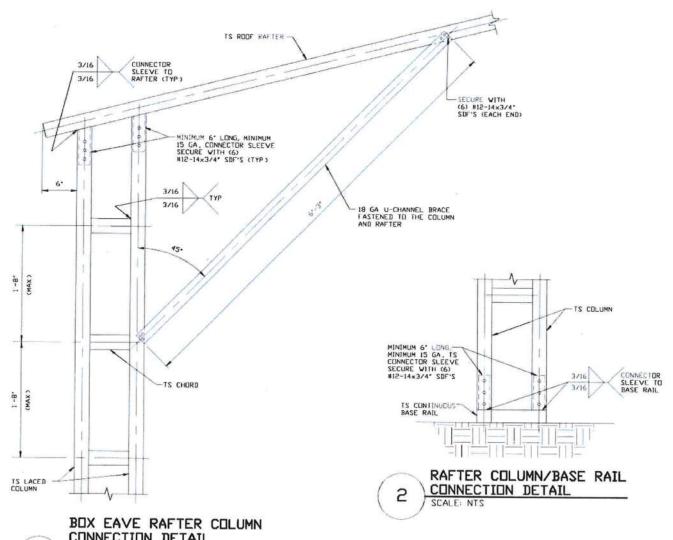
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.
THE PROPERTY TO THE COMPANY OF MARKET AND ACCOUNTS OF MARKET.

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

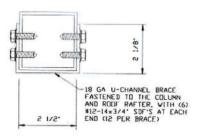
	IND NO 1603367
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C
DRAWN BYI JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE

PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS	JUB ND 16022S/ 17300S/20352S	
CLIENT: TBS	SHT. 5B	DVG. ND: SK-3	REV. 5	



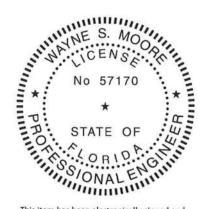
CONNECTION DETAIL
FOR HEIGHTS 16'-0' < TO < 20'-0"

SCALE: NTS
NOTE: USE (4) TEK SCREWS AT EACH END FOR LOW WIND



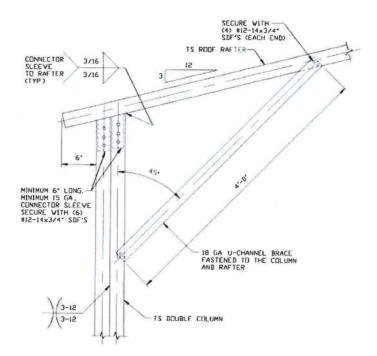
BRACE SECTION
SCALE: NTS

1



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JG	63	ULAR BUILDING I SE INDUSTRIA KE CITY, FLOR	L CIRCLE
	CHECKED BY: PDH			BUILDING EXP. C
	PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JUB ND: 16022S/ 17300S/20352S
THIS DUCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY	CLIENT: TBS	SHT. 6	DVG. ND: SK-3	REV. 5

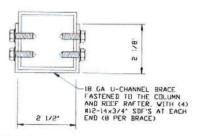


BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 11'-0" < TO < 16'-0"

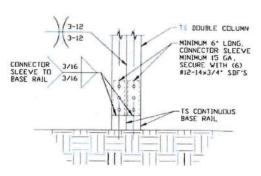
SCALE: NTS

1

NDTE: COLUMN HEIGHTS 11'-0' < TO < 14'-0' FOR HIGH WIND



BRACE SECTION
SCALE: NTS



RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



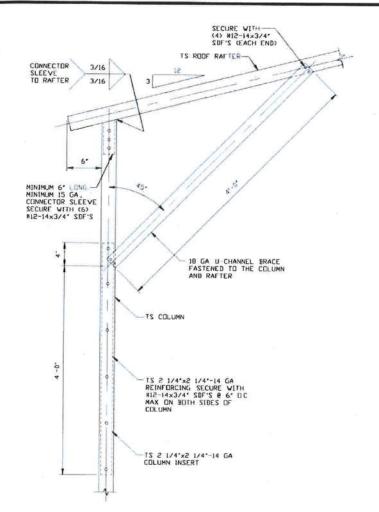
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING	AND
COMMENTAL THE INTERPORTED PROPERTY OF THE PROP	ALCH .
CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE	. 0
THIS DOCUMENT IS STRUCTLY PROMIBITED AND ANY INFRINGEMENT THEREUPIN	MAY
BE SUBJECT TO LEGAL ACTION.	

DRAWN BY: JG		BULAR BUILDIN I SE INDUSTRIA	
CHECKED BY: PBH		AKE CITY, FLOR -0" ENCLOSED F	
PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS	9 ND: 16022S/ 90S/20352S
CLIENT: TBS	SHT. 6A	DVG. NO SK-3	REV. 5



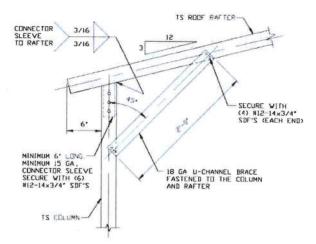
BOX EAVE RAFTER COLUMN CONNECTION DETAIL

FOR HEIGHTS 8'-0' < TO < 11'-0'

CUNNECTUR 3/16
SLEEVE TO BASE RAIL 3/16

CUNNECTUR SLEEVE MINIMUM 6' LONG, CONNECTOR SLEEVE MINIMUM 15 GA, SECURE VITH (6) 412-14x3/4' SDF'S
TS CONTINUOUS BASE RAIL

2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL

FOR HEIGHTS & 8'-0'

SCALE: NTS

FASTENED ID THE COLUMN
AND ROUF RAFTER, WITH (4)
BIZ-14-37-4' SDF'S AT EACH
END (8 PER BRACE)

BRACE SECTION



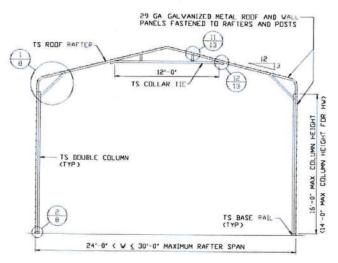
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

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

DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE				
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JOB NO 16022S/ 17300S/20352S		
CLIENT: TBS	SHT. 6B	DWG. NO: SK-3	REV. 5		



### TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

TS ROOF PAFTER

29 GA GALVANIZED NETAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS

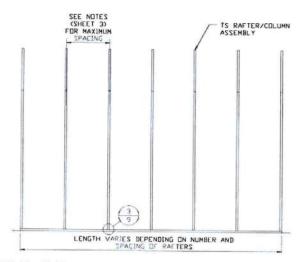
24' 18 GA U-CHANNEL
BRACE FASTENED TO
RAFTER VITH (4)
MI2-14x3/4' SID''S AT
EACH END (8 PER BRACE)

15 DOUBLE COLUMN
(TYP)

TS BASE RAIL
(TYP)

V ( 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

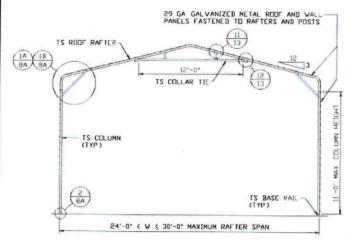


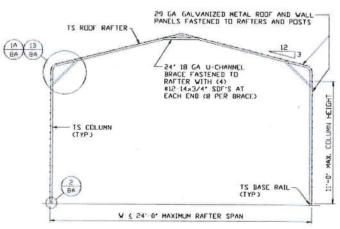
TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

CKED BY: PDH		CE CITY, FLORID. "ENCLOSED BUI	
		SCALE: NTS	7300S/20352S REV.: 5
JE	ECT MGR: WSM	KED BY: PDH 30'-0"x20'-0  ECT MGR: WSM DATE: 1-25-21	KED BY: PDH         30'-0"x20'-0" ENCLOSED BUIL           ECT MGR: WSN         DATE: 1-25-21         SCALE: NTS         1

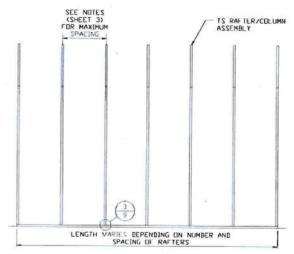




### TYPICAL RAFTER/COLUMN END FRAME SECTION

TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

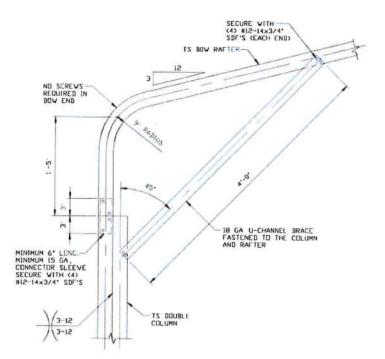


This item has been electronically signed and sealed by Wayne S. Mcore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.

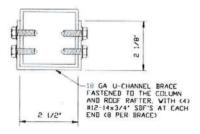
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERD	G AND
CONSULTING, THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE	ILSE DE
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUR BE SUBJECT TO LEGAL ACTION.	YAN MO

DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH			BUILDING EXP. C		
PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS	JDB ND 16022S/ 17300S/20352S		
CLIENT: TRS	SHT. 7A	DVG. ND: SK-3	REV. 5		



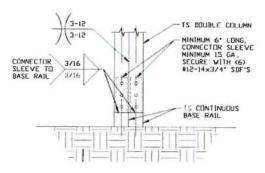
BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 11'-0" < TO < 16'-0"

SCALE: NTS NDTE: COLUMN HEIGHTS 11'-0' < TO < 14'-0' FOR HIGH WIND



BRACE SECTION

1



2 CONNECTION DETAIL



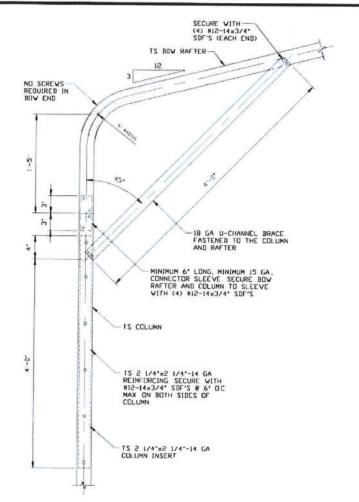
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

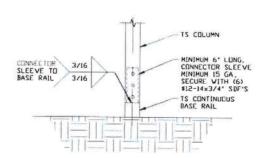
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIA	TES EMCINEEDING AND
CONSULTING. THE UNAUTHORIZED REPRIDUCTION, COPYING,	US CHARGERAND INC.
THIS DECIMENT IS STORED & DOSESTOTED AND AND SHEETING	THE THE WATER OF THE
BE OF THE PARTY OF	SEAST INSTANTIN MAY
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINC BE SUBJECT TO LEGAL ACTION	DIR UTHERVISE USE OF DEPENT THEREUPON MAY

DRAWN BY: JG		BULAR BUILDIN			
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS		ND: 160225/ 005/203525	
CLIENT: TBS	SHT. 8	DVG. NO SK-3		REV. 5	

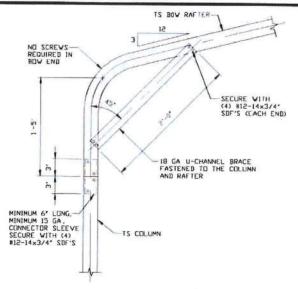


BOX EAVE RAFTER COLUMN CONNECTION DETAIL
FOR HEIGHTS 8'-0" < TO < 11'-0"



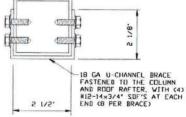
1A

2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE NTS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS & 8'-0'

1B



BRACE SECTION

No 57170

\*

STATE OF

ORIOR

ONALEM

THE STATE OF THE ST

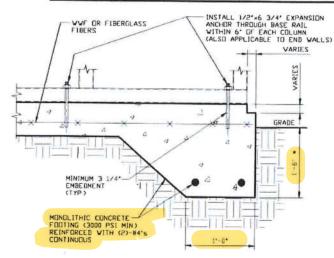
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AN	n
CUNSULTING, THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE	<b>X</b>
THIS DUCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THERE IPON I	AY
BE SUBJECT TO LEGAL ACTION	

DRAWN BY: JG		BULAR BUILDIN 1 SE INDUSTRIA	
CHECKED BY: PDH		AKE CITY, FLOR -0" ENCLOSED I	
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	8 ND: 160225/ 005/203525
CLIENT: TBS	SHT. 8A	DVG. ND SK-3	REV. 5

### BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED





#### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE

MINIMUM ANCHUR EDGE DISTANCE IS 4" \* COORDINATE WITH LOCAL CODES/ORD. REGARDING MINIMUM FROST DEPTH REQ

### GENERAL NOTES

NOTE: CONCRETE MONDLITHIC SLAB DESIGN 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 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:

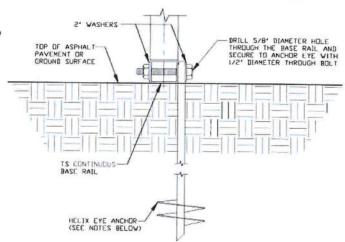
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT

### REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED

- 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:

- I 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 EMBE DMENT
- 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 LODSE 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



3B

#### GROUND BASE HELIX ANCHORAGE

(CAN BE USED FOR ASPHALT) \* COORDINATE WITH LOCAL CODES/ORD REGARDING MINIMUM FROST DEPTH REQ.



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

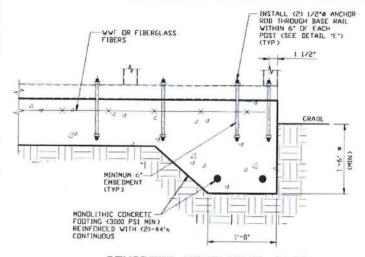
DRAWN BY: JG

TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C

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

CHECKED BY: PDH JOB NO 160225/ PROJECT MGRI WSM SCALE: NTS DATE: 1-25-21 SHT. 9 DWG. NO SK-3 CLIENT: TBS REV. 5

### OPTIONAL FOUNDATION ANCHORAGE FOR LOW AND HIGH WIND SPEED



3С

#### CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE

MINIMUM ANCHOR EDGE DISTANCE IS 1 1/2" \* COORDINATE WITH LOCAL CODES/ORD REGARDING MINIMUM FROST DEPTH REQ.

### GENERAL NOTES

NOTE: CONCRETE MONOLITHIC SLAB DESIGN ON MINIMUM SOIL BEARING CAPACITY DF 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 FOR FOUNDATIONS, MINIMUM CONCRETE COVER GIVER 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

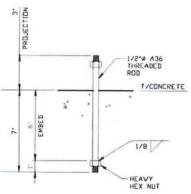
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60 THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT

### REINFORCEMENT MAY BE BENT IN THE SHOP OR THE FIELD PROVIDED

REINFORCEMENT IS BENT COLD.

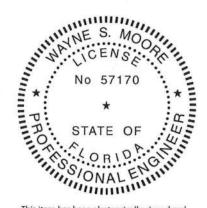
THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS.
REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT

BE FIELD BENT



ANCHOR ROD THROUGH BASE RAIL DETAIL

3DSCALE: NTS

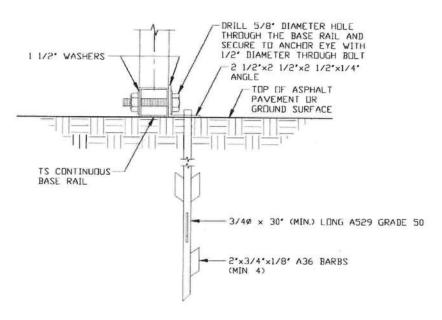


This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic

TUBULAR BUILDING SYSTEMS MOORE AND ASSOCIATES DRAWN BYI JG 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C ENGINEERING AND CONSULTING, INC. CHECKED BY PDH JOB NO 160225/ THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. PROJECT MGR: WSM SCALE: NTS DATE: 1-25-21 173005/203525 CLIENT: TBS SHT. 9A DWG. NO: SK-3 REV. 5

### BASE RAIL ANCHORAGE OPTION



ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

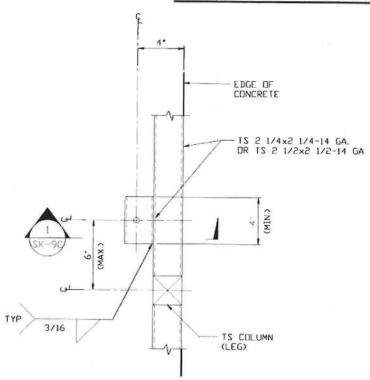
SCALE: NTS
(CAN BE USED FOR ASPHALT)
\* COORDINATE WITH LOCAL CODES/ORD
REGARDING MINIMUM FROST DEPTH REQ.

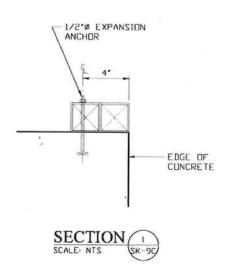


This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	DRAWN BY: JG	63	BULAR BUILDING 1 SE INDUSTRIA	L CIRCLE
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		AKE CITY. FLOR -0" ENCLOSED B	BUILDING EXP. C
THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF	PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JOB NO 160225/ 173005/203525
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: TBS	SHT. 9B	DVG. NO SK-3	REV. 5

### **BASE RAIL ANCHORAGE OPTIONS**





TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



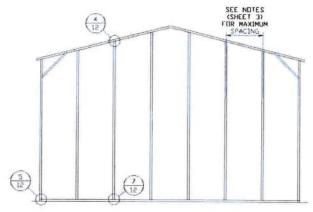
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF HOUSE AND ASSOCIATES ENGINE CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERVI	SE THE DE
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEY BE SUBJECT TO LEGAL ACTION.	SEUPON MAY

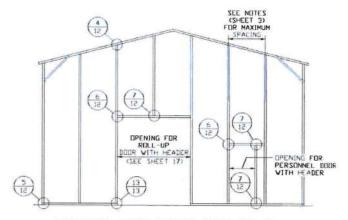
	DRAVN BY: JG CHECKED BY: PDH	63 L	BULAR BUILDIN I SE INDUSTRIA AKE CITY, FLOR -0" ENCLOSED I	L CIRCLE	
_	PROJECT NGR: VSM	DATE: 1-25-21	SCALE: NTS	JOB NO 16022S/ 17300S/20352S	
	CLIENT: TBS	SHT. 9C	DVG. ND: SK-3	REV. 5	

### **BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS**



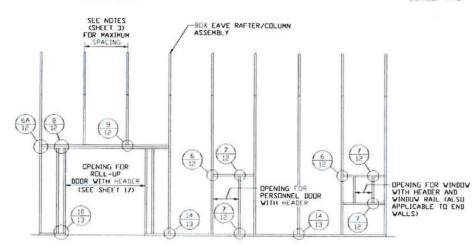
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS



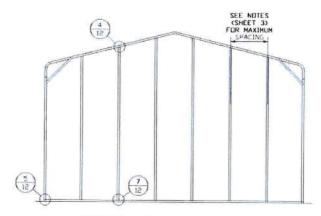
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCI	ATES ENGINEERING AND
CONSULTING. THE UNAUTHERIZED REPRODUCTION, COPYING,	OR OTHERVISE USE OF
THIS DOCUMENT IS STRUCTLY PROHIBITED AND ANY INFRIDE SUBJECT TO LEGAL ACTION.	NGEMENT THEREUPON MAY

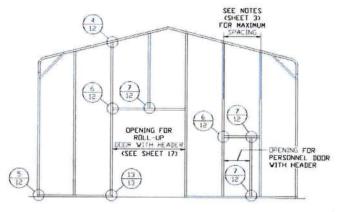
DRAWN BY: JG	63	BULAR BUILDIN 1 SE INDUSTRI AKE CITY, FLOI	AL CIR	RCLE
CHECKED BY: PDH		-0" ENCLÓSED		
PROJECT MGRI VSM	DATE: 1-25-21	SCALE: NTS		ND: 160225/ 005/203525
CLIENT: TBS	SHT. 10	DVG. ND: SK-3		REV. 5

### **BOW RAFTER END WALL AND SIDE WALL OPENINGS**



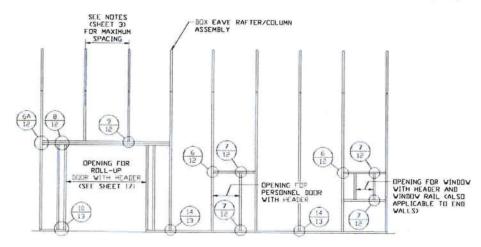
## TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SCALE: NTS



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

SCALE: NTS



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

SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

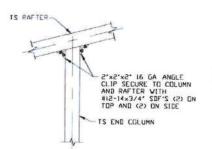
MOORE AND ASSOCIATES
ENGINEERING AND CONSULTING, INC.
15)

THIS DOCUMENT IS THE PROPERTY OF HOORE AND ASSOCIA	ATES ENGINEERING AND
CONSULTING, THE UNAUTHORIZED REPRODUCTION, COPYING,	OR OTHERVISE USE OF
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY DIFRID	CEMENT THEREUPON MAY

	ITTO NO. 140000 /
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C
DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE

PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JUB ND: 16022S/ 17300S/20352S
CLIENT: TBS	SHT. 11	DVG. NO SK-3	REV. 5

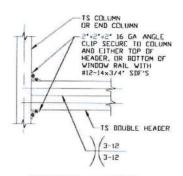
### CONNECTION DETAILS



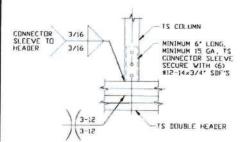
### END COLUMN/RAFTER CONNECTION DETAIL

4

6A



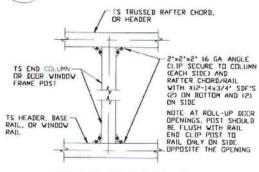
#### DOUBLE HEADER TO COLUMN CONNECTION DETAIL SCALE: NTS



COLUMN/DOUBLE HEADER CONNECTION DETAIL 9 SCALE: NTS

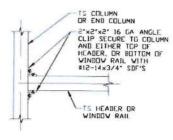
### TS COLUMN (CORNER) MINIMUM 6' LONG, MINIMUM 15 GA, TS CONNECTOR SLEEVE SECURE WITH (6) #12-14x3/4' SDF'S 2'.2'x2' 16 GA CLIP ANGLE SECURE TO RAFTER COLUMN AND BASE RAIL W/(4) HIZ-14x3/4' SDF'S CONNECTOR SLEEVE TO BASE RAIL 3/16 3/16 TS CONTINUOUS BASE RAIL

#### END COLUMN/BASE RAIL CONNECTION DETAIL 5 SCALE NTS

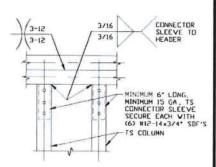


COLUMN TO HEADER, BASE RAIL, OR WINDOW RAIL CONNECTION DETAIL SCALE: NTS

7



HEADER OR WINDOW RAIL TO COLUMN CONNECTION DETAIL 6



DOUBLE HEADER/COLUMN CONNECTION DETAIL 8 SCALE: NTS



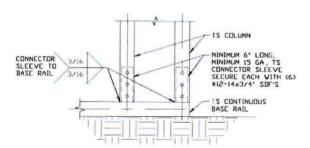
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

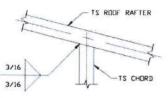
MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC	١.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND
CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF
THUS DUCLIMENT IS STRUCTLY PROHIBITED AND ANY INFRINGEMENT THERELIPON MAY
BE SUBJECT TO LEGAL ACTION

DRAWN BY: JG	63	BULAR BUILDIN I SE INDUSTRIA	L CIR	RCLE		
CHECKED BY: PDH		LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS		ND 160225/ 005/203525		
CLIENT: TBS	SHT. 12	DWG. NO SK-3		REV.i 5		

### **CONNECTION DETAILS**



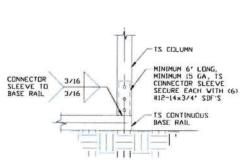


TS RDDF RAFTER

10 COLUMN/BASE RAIL
CONNECTION DETAIL

11 RAFTER TO CHORD CONNECTION DETAIL
SCALE: NTS

12 COLLAR TIE CONNECTION DETAIL



COLUMN/BASE RAIL CONNECTION DETAIL SCALE: NTS

13

TS TRUSSED RAFTER CHORD, OR HEADER

TS END COLUMN
OR DOOR VINDOV
FRAME POST

TS TRUSSED RAFTER
CHORD, OR HEADER
MINIMUM 6' LONG,
MINIMUM 15 GA, TS
CUNNECTOR
SLEEVE SECURE
EACH VITH (6)
#12-14x3/4' SDF'S

RAIL, OR VINDOV

COLUMN TO HEADER, BASE RAIL CONNECTION DETAIL

14 SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MOURE AND ASSICIATES ENGINEERING AND CORSULTING. THE UNMITHIREZED REPRODUCTION, COPYING, OR OTHERWISE USE OF THIS BOOLMENT IS STRICTLY PRODUITED AND ANY INFRINCEMENT THEREUPION MAY BE SUBJECT TO LEGAL ACTION.

### **BOX EAVE RAFTER LEAN-TO OPTIONS** 6 ROOF EXTENSION MAIN STRUCTURE STANDARD OPTION LEAN-TO OPTION 9

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

SCALE: NTS

MAIN BUILDING COLUMNS WITH LEAN-TO DR RODF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR

EAVE HEIGHTS 16'-0' (14'-0' FOR HIGH WIND) < TO < 20'-0'

MAIN BUILDING COLUMNS WITH LEAN-TO DR RODF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR

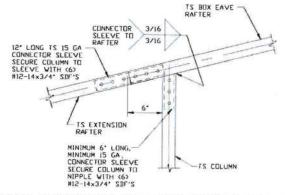
EAVE HEIGHTS 11'-0' < TO < 16'-0' (14'-0' FOR HIGH WIND)

MAIN BUILDING COLUMNS WITH LEAN-TO DR RODF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

EAVE HEIGHTS 8'-0' < TO < 11'-0' (WITH 4'-4' INSERT)

MAIN BUILDING COLUMNS WITH LEAN-TO OR RODF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

EAVE HEIGHTS (8'-0') EAVE HEIGHTS ( 8'-0' KNEE BRACES MUST BE 4'-0' (5'-0' FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED.



#### SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS ≤ 14'-0" SCALE: NTS

SLEEVE TO RAFTER 3/16 3/16

15

TS BOX EAVE HIS-14×3/4° SDE'S CONNECTOR SLEEVE SLEEVE WITH (6) 18° LONG TS 15 GA MINIMUM 6' LONG, MINIMUM 15 GA, CONNECTOR SLEEVE SECURE COLUMN TO NIPPLE WITH (6) #12-14x3/4' SDF'S TS DOUBLE EXTENSION RAFTER 2'x2'x2' 14 GA ANGLE CLIP SECURE TO COLUMN AND RAFTER CHORD/RAIL WITH (4) H12-14x3/4' SDF'S TS COLUMN

SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS 14'-0" < TO < 22'-0" 15A

SCALE: NTS NOTE: MAX LEAN-TO SPAN IS 21'-0' FOR HIGH WIND This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

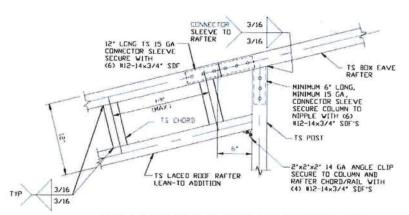
TUBULAR BUILDING SYSTEMS

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

DRAWN BY: JG	700,000,000	631 SE INDUSTRIAL CIRCLE				
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C					
PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS		ND: 16022\$/ 00\$/20352\$		
CLIENT: TBS	SHT. 14	DVG. NO SK-3		REV. 5		

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

### **BOX EAVE RAFTER LEAN-TO OPTIONS**



SIDE EXTENSION RAFTER/COLUMN DETAIL

FOR RAFTER SPANS 22'-0" < TO < 24'-0"

2'x2'x2' 16 GA ANGLE CLIP
SECURE TO COLUMN AND
RAFTER WITH MI2-14x3/4'
SBF'S (2) ON TOP AND (2) ON
BOTTOM
TS RAFTER

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 14'-0'

16

TS COLUMN

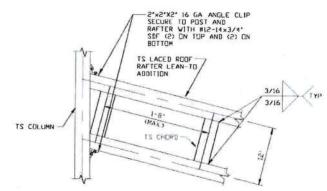
2'x2'x2' 14 GA ANGLE CLIP
SECURE 10 COLUMN AND
RAFTER WITH 812-14x3/4'
SDF (2) ON TOP AND (2) ON
TS DOUBLE RAFTER

15 COLUMN

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 14'-0" < TO ≤ 22'-0"

16A

SCALE NTS
NOTE: MAX LEAN-TO SPAN IS 21'-0' FOR HIGH WIND



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 22'-0" < TO \( 24'-0")

SCALE: NTS

16B

This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

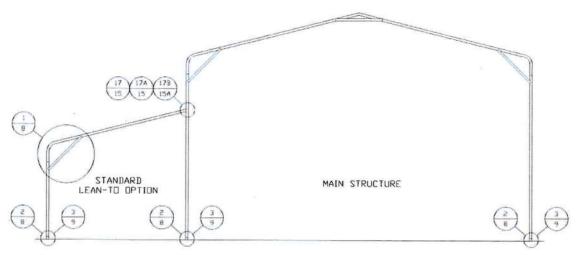
THREE AD DUE DING OVEREN

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

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

	DRAWN BY: JG		631 SE INDUSTRIAL CIRCLE				
	CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C					
_	PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS		B ND: 160225/ 8005/203525		
	CLIENT: TRS	SHT. 14A	DVG. NO: SK-3		DEV. 5		

### **BOW RAFTER LEAN-TO OPTIONS**



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

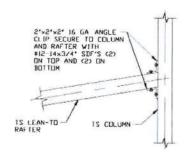
SCALE: NTS

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS II'-O' (II'-O' < TO < 16'-O' (< 14'-O' FOR HIGH WIND)

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 8'-O' < TO < 11'-O' (WITH 4'-4' INSERT)

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

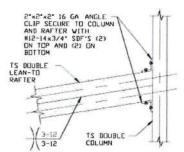
KNEE BRACES MUST BE 4'-0' (5'-0' FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED.



#### LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 14'-0'

'

SCALE: NTS



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 14'-0' < TO ≤ 22'-0'

17A

SCALE: NTS NOTE: MAX LEAN-TO SPAN IS 21'-C' FOR HIGH WIND

This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

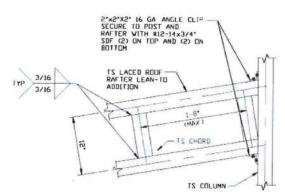
Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

## MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND	_
CONSULTING THE UNMUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF	
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINCEMENT THEREUPIN MAY	,
BE SUBJECT TO LEGAL ACTION.	

DRAWN BY: JG	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE				
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS		ND: 16022S/ 00S/20352S	
CLIENT: TBS	SHT. 15	DVG. NO SK-3		REV. 5	

### **BOW RAFTER LEAN-TO OPTIONS**



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 22'-0" < TO \( 24'-0"

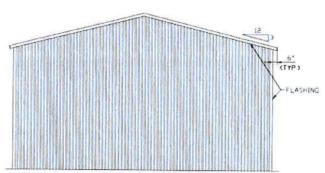
17B) SCALE NTS



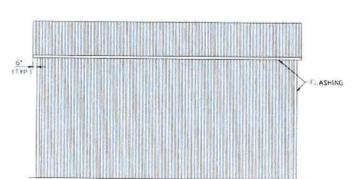
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

THIS DOCUMENT IS STRUCTLY PROHUBITED AND ANY INFRINGENENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.	CLIENT: TBS	SHT. 15A	DAC' NO 2K-3	REV. 5
THIS DOCUMENT IS THE PROPERTY OF MODINE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHERWISE USE OF	PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JUB NO 16022S/ 17300S/20352S
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		KE CITY, FLOR 0" ENCLOSED B	IDA 32025 UILDING EXP. C
MOORE AND ASSOCIATES	DRAWN BY: JG	63	ULAR BUILDING SE INDUSTRIA	L CIRCLE

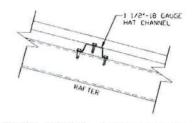
### **BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION**



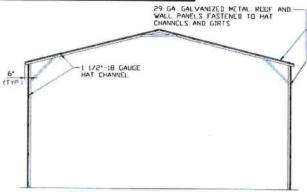
TYPICAL END ELEVATION VERTICAL ROOF/SIDING OPTION



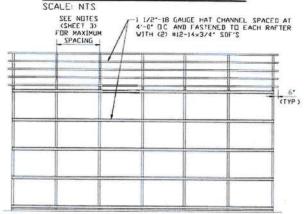
TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING OPTION
SCALE NTS



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

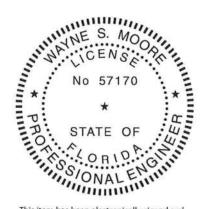


### TYPICAL SECTION VERTICAL ROOF/SIDING OPTION



### TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION

SCALE: NTS NOTE: TS WALL GIRTS CAN BE USED AS AN OPTION IN PLACE OF HAT CHANNELS TS GIRTS MUST BE SPACE AT 4'-0' (MAX) UC



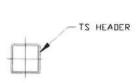
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

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

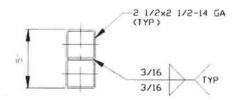
DRAWN BY: JG		TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE			
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C				
PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS		ID: 160225/ 5/203525	
CLIENT: TBS	SHT. 16	DWG. NO SK-3	R	EV. 5	

### SIDE WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 10'-0"

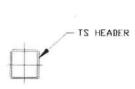
SCALE: NTS



HEADER DETAIL FOR DOOR OPENINGS 10'-0" < LENGTH ≤ 15'-0"

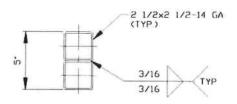
SCALE: NTS

### **END WALL HEADER OPTIONS**



HEADER DETAIL FOR DOOR OPENINGS ≤ 12'-0"

SCALE: NTS



HEADER DETAIL FOR DOOR OPENINGS 12'-0" < LENGTH ≤ 15'-0"

SCALE: NTS



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, INC.	

THIS DOCUMENT IS THE PROPERTY OF MOURE AND ASSICIATES ENGINEERING AND CONSULTING. THE UNMUTHORIZED REPRODUCTION, COPYING, OR OTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHOBITED AND ANY INFRINCEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION.

DRAWN BY: JG		BULAR BUILDIN 1 SE INDUSTRIA		-	
CHECKED BY: PDH	LAKE CITY, FLORIDA				
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS	JUB NO 16022\$/ 17300\$/20352\$		
CLIENT: TBS	SHT. 17	DVG. ND SK-3	REV. 5		

### FLOOD VENT DETAIL FRAME OPENING FOR FLOOD VENT WITH TS 2 1/2"x2 1/2" MEMBERS (MATCH ADJACENT RAFTER POSTS AND BASERAIL) 1/2"-18S DR F EXPANDED METAL, ATTACH W/ McNICHOLS SQUARE FASTENERS OR APPROVED EQUAL AT 6" D.C. ATTACH W/ METAL TEK SCREWS. TS POST (MIN I MAX TS BASE 1'-0' RAIL GRADE GRADE d

TYPICAL FLOOD VENT DETAIL

I MINIMUM VENT SPACE REQUIRED = 1 SQ INCH OF OPEN VENT AREA PER SQ FOOT OF BUILDING AREA

SCALE: NTS

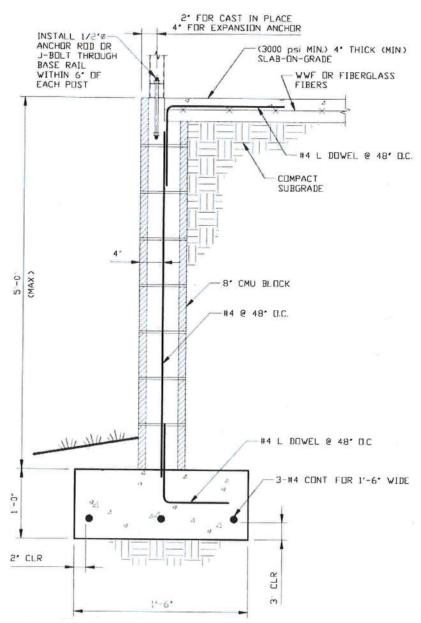
- 2 THERE SHALL BE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES FOR EACH ENCLOSED BUILDING.
- 3. APPLY 1.3 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING 1/2'-18GA S OR F EXPANDED METAL.
- 4. TOTAL OPEN AREA OF VENT = LxH(MIN. 12").
- 5. FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP.
- PREFABRICATED FLOOD VENTS MEETING THE REQUIREMENTS OF FEMA/NFIP MAY BE USED.



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	DRAWN BY: JG	63	ULAR BUILDIN I SE INDUSTRIA KE CITY, FLOR	AL CIRCLE	
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH		30'-0"x20'-0" ENCLOSED BUILDING EXP. C		
	PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS	JUB NO 160225/ 173005/203525	
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION	CLIENT: TBS	SHT. 18	DVG. NO: SK-3	REV. 5	

### STAND -ALONE STEM WALL DETAIL



STAND-ALONE CONCRETE MASONRY UNIT (CMU) FOUNDATION STEM WALL DETAIL

SCALE: NTS

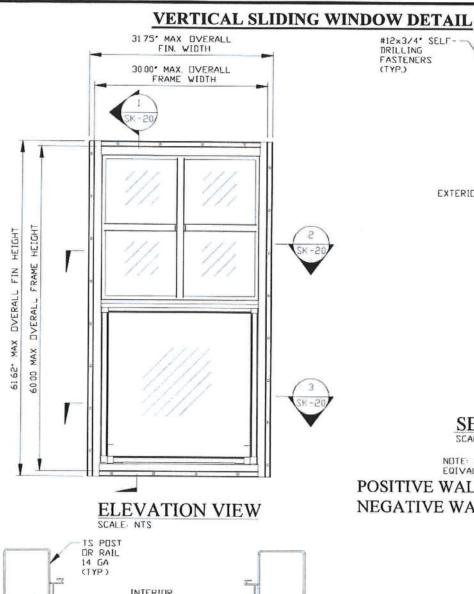


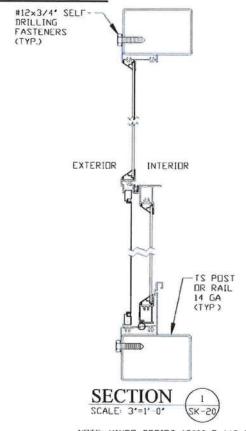
This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

MOORE AND ASSOCIATES	
ENGINEERING AND CONSULTING, IN	C.

THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING, THE UNAUTHORIZED REPRODUCTION, COPYING, OR OTHER	VISE USE DE
THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT TO BE SUBJECT TO LEGAL ACTION.	EREUPON HAY

DRAWN BY: JG		BULAR BUILDIN I SE INDUSTRIA			
CHECKED BY: PDH	L/	AKE CITY, FLOR -0" ENCLOSED E	IDA 3	2025	
PROJECT MGR: WSM	DATE: 1-25-21	SCALE: NTS		ND 16022S/	
CLIENT: TBS	SHT. 19	DVG. ND: SK-3		REV. 5	

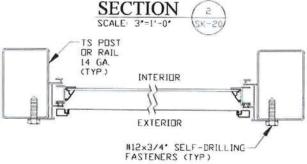




NOTE: KINRO SERIES 18000-R VS OR EQIVALENT WINDOW IS REQUIRED

POSITIVE WALL PRESSURE: +40.0 PSF NEGATIVE WALL PRESSURE: -40.0 PSF





SECTION 3 SCALE: 3'=1'-0' (5k-20)



This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

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

DRAWN BY: JG	to. Se mossitarie circee				
CHECKED BY: PDH		AKE CITY, FLOR -0" ENCLOSED E			
PROJECT NGR: VSM	DATE: 1-25-21	SCALE: NTS		ND: 160225/ 005/203525	
CLIENT: TBS	SHT. 20	DVG. NO SK-3		REV. 5	

# OPTIONAL CONCRETE STRIP FOOTING FOOTING AND BASE RAIL AND BASE 30'-0' MAXIMUM ENGTH RATE BASS TS BASE RAIL TS RAFTER COLUMN CONCRETE FOOTING CONCRETE STRIP FOOTING PLAN SCALE: NTS

#### 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 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.
- REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT

TS RAFTER COLUMN 3-#4 (CONT), ( EXPANSION ANCHOR S. CIR SUECRADE SECTION/ SK-51

\* COORDINATE WITH LOCAL CODES/ORD

This item has been electronically signed and sealed by Wayne S. Moore, PE. using a Digital Signature and date.

Printed copies of this document are not considered signed and sealed and the signature must be verified on any electronic copies.

MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.

THIS DOCUMENT IS THE PROPERTY OF MOURE 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.

CLIENT: TBS	SHT. 21	DVG. NO: SK-3		REV. 5
PROJECT MGR: VSM	DATE: 1-25-21	SCALE: NTS		ND 16022S/ 00S/20352S
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. C			
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE			



### **Florida Product Approval Codes**

Roll-Up Doors:

10Wide Janus International Corporation Model 750: 21450.10 12/31/21

Walk-In Door:

Elixir Door & Metal Company blank (no window): 17996.5 8/26/25

Window:

Kinro 993.7 10/19/21

Roof Deck:

Capital Metal Supply Inc. Ag Panel: 20147.2 3/4/25

Wall Panel:

Capital Metal Supply Inc. Ag Panel: 20148.2 3/4/25

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

SYSTEMS Outside edge of foundation / footing Building Base Rail See Corner Detail Sheet 3 FOUNDATION MEASUREMENTS Outside measurement of foundation Equals Basic Building Dimension TYPICAL BUILDING Basic Building
Dimension
to outside of Base Rail 3-1/2" wide x 1-1/2" high Notch in Concrete outside of basic building dimensions plus Seven (7) inches Basic Building Dimension to outside of Base Rail Basic Building Dimension to-outside of Base Rail Outside measurement of foundation Equals Basic Building Dimension TYPICAL WALL SECTION plus Seven (7) inches 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" IMPORTANT - NOTES otch in the concrete footi SHEET 1 of 3 See Sheet 3 of 3 for Detail of Building corner configuration Record Measurements in these spaces provided Footing as shown in Foundation Engineering 3-1/2" wide x 1-1/2" high Notch in Concrete outside of basic building

Outside edge of foundation / footing See Corner Detail Sheet 3 **BUILDING SLAB** Coulside of Base Pair

All basic building diagonal dimensions

Record Measurements in these spaces provided

IMPORTANT - NOTES

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

11

for Detail of Building corner configuration

See Sheet 3 of 3

FOUNDATION MEASUREMENTS TYPICAL BUILDING

DIAGONALS

TUBULAR BUILDING

Base Rail Building

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

Basic Building Dimension to-outside of Base Rail TYPICAL WALL SECTION 3-1/2" wide x 1-1/2" high
Notch in Concrete outside
of basic building
dimensions Footing as shown in Foundation Engineering Siding

SHEET 2 of 3

