

STRUCTURAL DESIGN

FULLY OPEN BUILDING EXPOSURE B

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

8 January 2021 Revision 6 M&A Project No. 16022S/17300S/18028S/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: 2021.01.12 15:43:29 -05'00'







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INSTALLATION NOTES AND SPECIFICATIONS

- 1. DESIGN IS FOR A MAXIMUM 30'-0" WIDE x 20'-0" EAVE HEIGHT FULLY OPEN STRUCTURES.
- 2. DESIGN WAS DONE IN ACCORDANCE WITH THE 2020 FLORIDA BUILDING CODE (FBC) 7TH EDITION, 2012 INTERNATIONAL BUILDING CODE (IBC), 2015 IBC, 2018 IBC.
- 3. DESIGN LOADS ARE AS FOLLOWS: = 1.5 PSF

A) DEAD LOAD

12 PSF

B) LIVE LDAD

- 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. 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 B.
- 9. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2' × 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 ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" OR END = 6", (MAX.)
- 11. FASTENERS CONSIST OF #12-14x3/4' SELF-DRILLING FASTENER (SDF), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS.

 SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20 FEET OR LESS, AND ROOF SLOPES OF 14' (3:12 PITCH) OR LESS

 SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY. ROOF SLOPES LESS THAN 3:12 REQUIRE USE OF JOINT SEALANT.
- 12. ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6' OF EACH RAFTER COLUMN ALONG SIDES.
- 13. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBAR W/WELDED NUT x 30' LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (≤ 108 MPH NOMINAL) WIND SPEEDS ONLY. 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 DEPTH PROTECTION.
- 14, WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SDIL SITE CLASS = D RISK CATEGORY I

R= 3.25

 $I_{\epsilon} = 1.0$

S_{DS}≈ 1.522 9 g ess.o =_{id}2 V= CSM

No 57170

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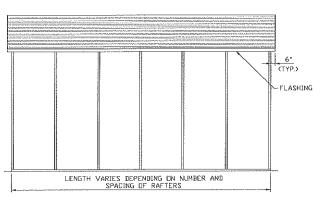
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BOX EAVE FRAME RAFTER ENCLOSED BUILDING 12 3 MAXIMUM RAFTER SPAN (W)

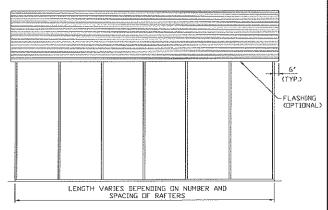
TYPICAL END ELEVATION-HORIZONTAL ROOF
SCALE: NTS

BOW FRAME RAFTER ENCLOSED BUILDING

TYPICAL END ELEVATION



TYPICAL SIDE ELEVATION-HORIZONTAL ROOF
SCALE: NTS



TYPICAL SIDE ELEVATION SCALE: NTS



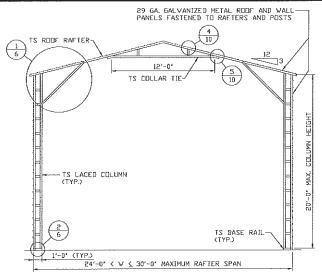
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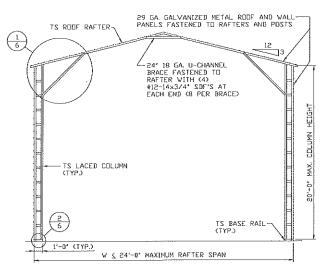
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SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

SEE NOTES
(SHEET 3)
FOR MAXIMUM
SPACING

LENGTH VARIES DEPENDING ON NUMBER AND
SPACING OF RAPTERS

TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

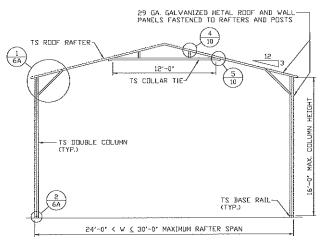


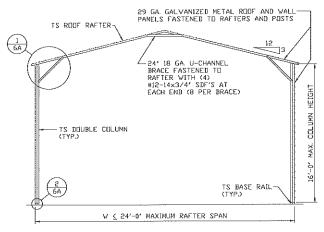
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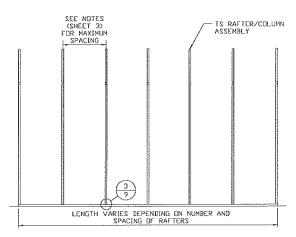
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PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	17300	\$/18028\$/20352\$
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TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

SCALE: NTS



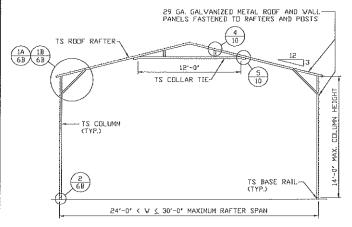
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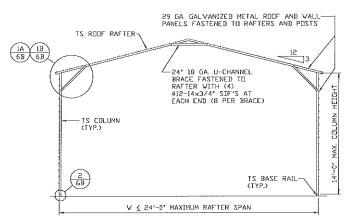
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SCALE

SEE NOTES
(SHEET 3)
FOR MAXIMUM
SPACING

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LENGTH VARIES DEPENDING ON NUMBER AND
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TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS

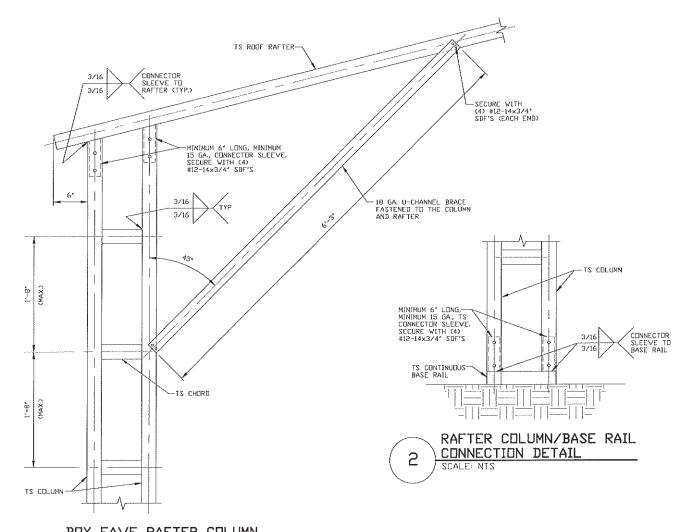


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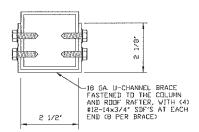
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BOX EAVE RAFTER COLUMN
CONNECTION DETAIL

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



BRACE SECTION SCALE: NTS



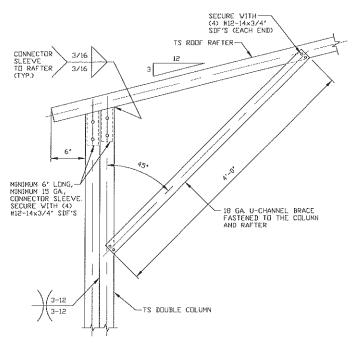
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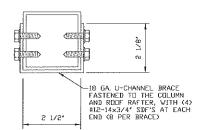
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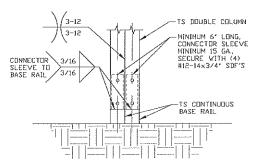
BOX EAVE RAFTER COLUMN CONNECTION DETAIL

FOR HEIGHTS 14'-0" < TO < 16'-0"

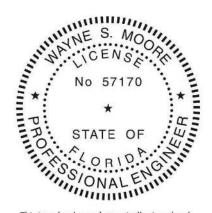
SCALE: NTS



BRACE SECTION
SCALE: NTS



RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



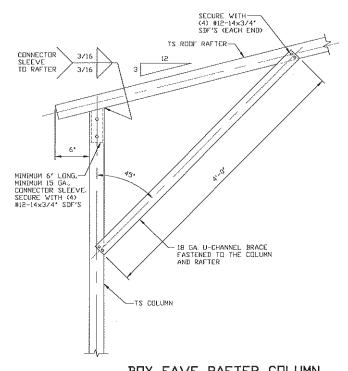
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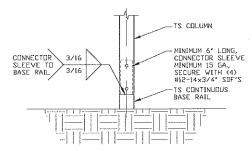
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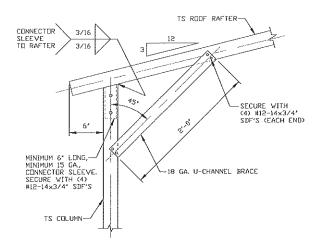
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BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < TO < 14'-0" 1A SCALE: NTS



RAFTER COLUMN/BASE RAIL CONNECTION DETAIL SCALE: NTS



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

₹ 7.8 **(333)** œ -18 GA. U-CHANNEL BRACE FASTENED TO THE COLUMN AND ROOF RAFTER, WITH (4) #12-14x3/4' SDF'S AT EACH END (8 PER BRACE)

BRACE SECTION

5 1/5,

SCALE: NTS

1B

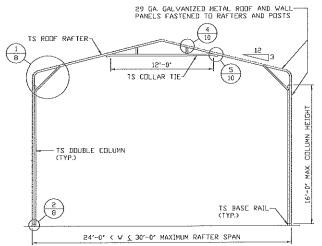


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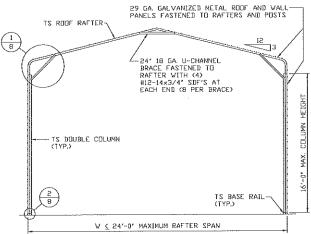
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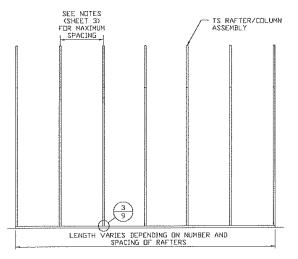
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TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

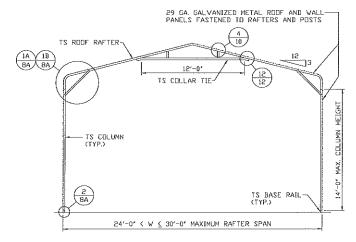


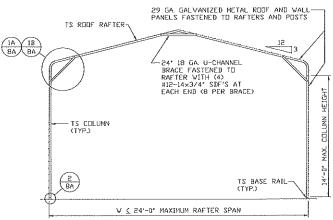
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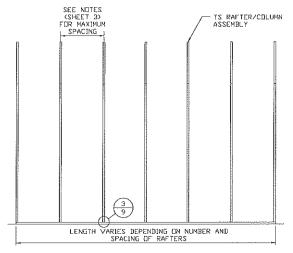
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SCALE: NTS

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION

SCALE: NTS



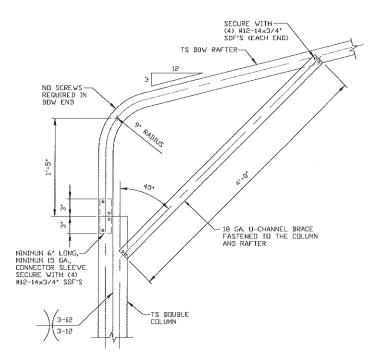
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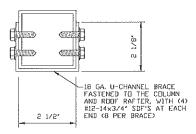
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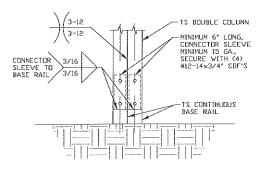
		TUBULAR BUILDING SYSTEMS					
	DRAWN BYI JG	631 SE INDUSTRIAL CIRCLE					
		LAKE CITY, FLORIDA 32025					
•	CHECKED BY: PDH	30'-0"x20'-0'	' FULLY OPEN S	TRU	CUTRE EXP. B		
					NO: 16022S/		
	PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	17300	2/180285/203525		
	CLIENT: TBS	SHT. 7A	DWG. NO: SK-1		REV.1 6		



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



BRACE SECTION
SCALE: NTS



RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE NTS

2



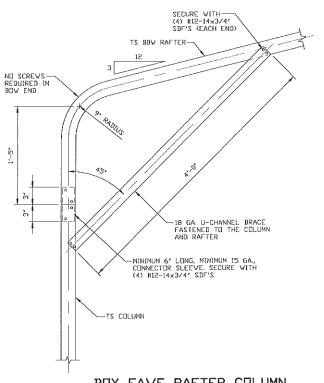
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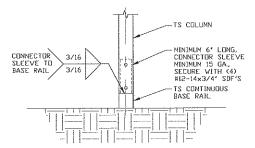
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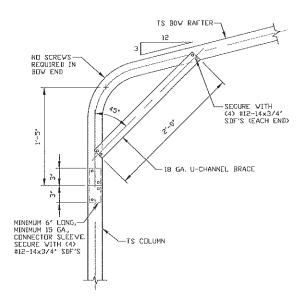
		TUB	ULAR BUILDING	SY:	STEMS			
	DRAWN BY: JG	63.	631 SE INDUSTRIAL CIRCLE					
		LA	KE CITY, FLORI	DA 3	32025			
	CHECKED BY: PDH	30'-0"x20'-0"	FULLY OPEN ST	TRU	CUTRE EXP. B			
_	PROJECT MGR: VSM	DATE: 1-0-01			VD: 160225/ S/18028S/20352S			
	PRESECT MORE WOM	DATE: 1-8-21	2CHEEL MI2 II	1/300	2\100E92\E03JE2			
	CLIENT: TBS	знт. в	DWG. N⊡ SK-1		REV. 6			



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 12'-0" < TO < 14'-0" 1Α SCALE: NTS

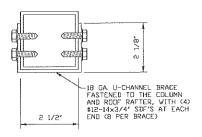


RAFTER COLUMN/BASE RAIL CONNECTION DETAIL 2 SCALE: NTS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS < 12'-0" 1B

SCALE: NTS



BRACE SECTION

SCALE: NTS



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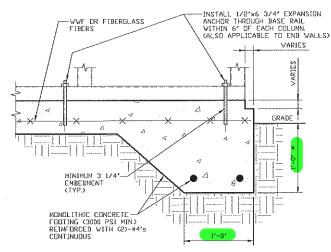
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	TUBULAR BUILDING SYSTEMS					
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE					
	L/	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0" FULLY OPEN STRUCUTRE EXP. B					
				VO: 16022S/		
PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	17300	S/18028S/20352S		
CLIENT, TRS	SHT. 8A	DWG, ND: SK-1		REV.: 6		

BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED





CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE

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

GENERAL NOTES

NOTE: CONCRETE MONOLITHIC 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 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 I 1/2 INCHES ELSEWHERE.

REINFORCING STEEL:

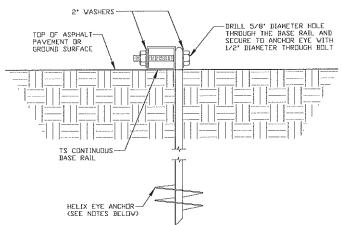
THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT.

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 LODSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 6' HELICES WITH MINIMUM 50
- 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

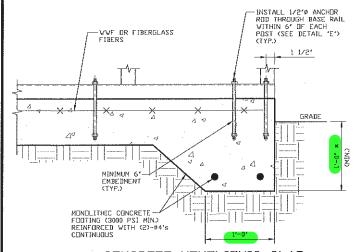
(CAN BE USED FOR ASPHALT) * COURDINATE WITH LOCAL CODES/ORD.
REGARDING MINIMUM FROST DEPTH REQ.



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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" FULLY OPEN STRUCUTRE EXP. B		
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OPTIONAL FOUNDATION ANCHORAGE FOR LOW & HIGH WIND SPEED



30

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHURAGE

SCALE: NTS 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 OF 1,500 PSF.

CONCRETE:

CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.

COVER OVER REINFORCING STEEL:

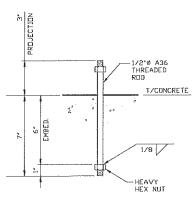
FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318:
3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND I 1/2 INCHES ELSEWHERE.

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.



ANCHOR ROD THROUGH BASE RAIL DETAIL

SCALE: NTS

3D



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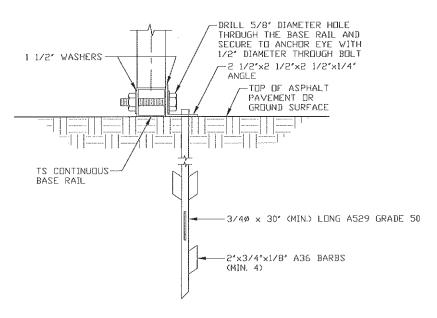
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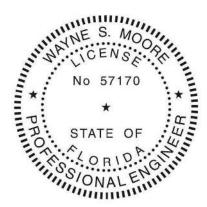
	TUBULAR BUILDING SYSTEMS						
DRAWN BY: JG	63	631 SE INDUSTRIAL CIRCLE					
		LAKE CITY, FLORIDA 32025					
CHECKED BY: PDH	30'-0"x20'-0" FULLY OPEN STRUCUTRE EXP.						
 PREJECT MGR: VSM	DATE: 1-8-21			16022S/ 18028S/20352S			
		DVG. NO: SK-1	RE				

BASE RAIL ANCHORAGE OPTION



ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

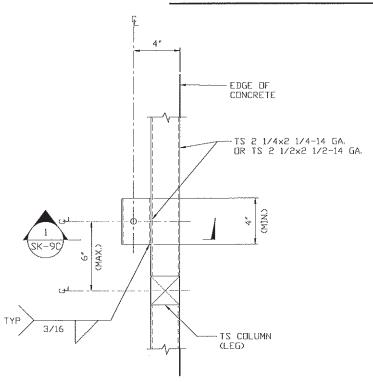
SCALE: NTS
(CAN BE USED FOR ASPHALT)
* COURDINATE WITH LOCAL CODES/ORD,
REGARDING MINIMUM FROST DEPTH REQ.

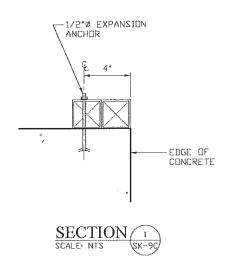


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MOORE AND ASSOCIATES	DRAWN BY: JG		BULAR BUILDIN I SE INDUSTRIA	
ENGRIEEDING AND CONGULTING INC			AKE CITY, FLOI	
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH	30'-0"x20'-0	" FULLY OPEN;	STRUCUTRE EXP. B
				JOB NO 16022S/
	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	173005/180285/203525
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BASE RAIL ANCHORAGE OPTIONS





TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

SCALE: NTS



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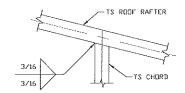
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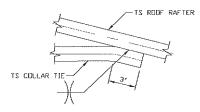
DRAWN BY: JG		ULAR BUILDIN I SE INDUSTRIA	
CHECKED BY: PDH		KE CITY, FLOR FULLY OPEN S	IDA 32025 TRUCUTRE EXP. B
PROJECT MGR: VSM	DATE: 1-8-21		JDB NO 16022\$/ 17300\$/18028\$/20352\$
CLIENT: TBS	SHT. 9C	DWG. NO: SK-1	REV.1 6

CONNECTION DETAILS



RAFTER TO CHORD CONNECTION DETAIL

SCALE: NTS



5 COLLAR TIE CONNECTION DETAIL



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DRAWN BY: JG	63	631 SE INDUSTRIAL CIRCLE					
	LAKE CITY, FLORIDA 32025						
CHECKED BY: PDH	30'-0"x20'-0" FULLY OPEN STRUCUTRE EX						
 PREIJECT MGR: VSM	DATE: 1_0_91		JDB ND 160225/				
PRUJECT MURT WAM	DATE: 1-8-21	SCALE: NTS	17300\$/18028\$/20352\$				
CLIENT: TBS	SHT. 10	DWG. NO: SK-1	REV.1 6				

BOX EAVE RAFTER LEAN-TO OPTIONS 6 $\left(\frac{7}{11A}\right)$ STANDARD ROOF EXTENSION MAIN STRUCTURE LEAN-TO OPTION OPTION £ 9

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

SCALE: NTS

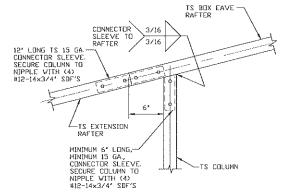
MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 16'-0' < TO \(\) 20'-0'.

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' < TO \(\) 16'-0'.

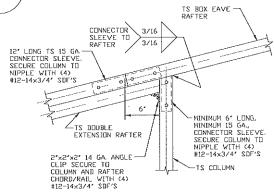
MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

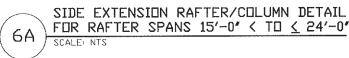
EAVE HEIGHTS 10'-0' < TO < 13'-0'.
MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR

EAVE HEIGHTS < 10'-0".
KNEE BRACE MUST BE 4'-0" (5'-0" FOR HIGH WIND).



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS < 15'-0" 6 SCALE: NTS



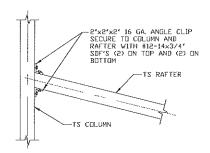




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MOORE AND ASSOCIATES	DRAWN BY: JG	63	BULAR BUILDII 1 SE INDUSTRI AKE CITY, FLO	AL CIRCLE
ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH			STRUCUTRE EXP. B
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BOX EAVE RAFTER LEAN-TO OPTIONS



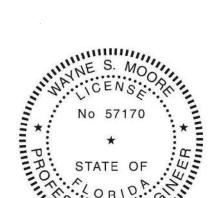
LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 15'-0"

TS COLUMN

LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS $15'-0'' < TO \le 24'-0''$

SCALE: NTS

7A



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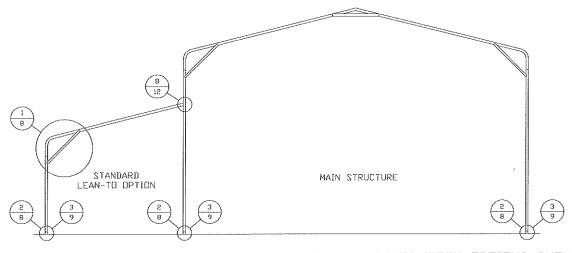
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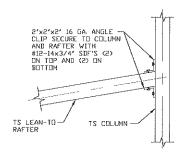
		TUB	ULAR BUILDIN	G SY	STEMS
	DRAWN BY: JG	63	I SE INDUSTRIA	L CE	RCLE
,		LA	KE CITY, FLOR	IDA :	32025
· •	CHECKED BY: PDH	30'-0"x20'-0'	' FULLY OPEN S	TRU	CUTRE EXP. B
				JDB	ND: 16022S/
	PROJECT MGR: VSM	DATE: 1-8-21	SCALE: NTS	17300	2/180285/203525
	CI IENT, TUC	SHT. 11A	DWG. NO: SK-1		REV.1 6

BOW RAFTER LEAN-TO OPTIONS



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

SCALE: NTS MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' < TO \leq 16'-0''. MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 10'-0'' < TO \leq 13'-0''. MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS \leq 10'-0''. KNEE BRACE MUST BE 4'-0' <5'-0" FOR HIGH WIND).

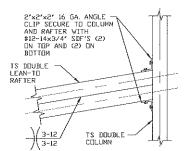


LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS ≤ 15'-0"

SCALE: NTS

8

88



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS 15'-0" < TO ≤ 24'-0"

SCALE: NTS



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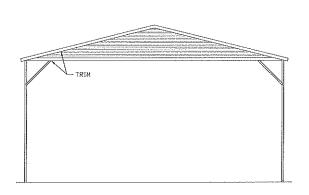
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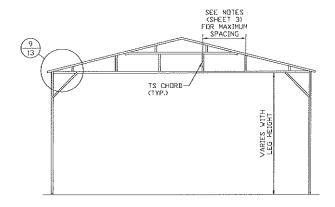
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	TUBULAR BUILDING SYSTEMS				
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				
***************************************	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0" FULLY ÓPEN STRUCUTRE EXP. B				
PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		NO: 16022S/ S/18028S/20352S	
FIGUREST TREET, WATE	Dille I O LI	OUNCE INTO	27000		
CLIENT, TRS	SHT. 12	DWG. ND: SK-1		REV. 6	

BOX EAVE RAFTER GABLE END OPTION



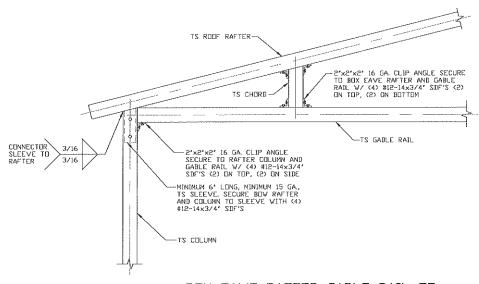


TYPICAL BOX EAVE RAFTER GABLE END ELEVATION

SCALE: NTS

TYPICAL BOX EAVE RAFTER GABLE END FRAMING SECTION

SCALE: NTS



9 BOX EAVE RAFTER GABLE RAIL TO RAFTER COLUMN CONNECTION DETAIL
SCALE: NTS

NOTE: KNEE BRACE NOT SHOWN FOR CLARITY.



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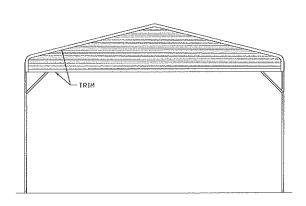
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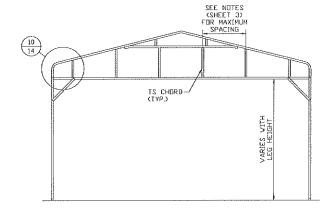
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		TUB	ULAR BUILDIN	lG SY	STEMS
	DRAWN BY: JG	63	I SE INDUSTRIA	AL CII	RCLE
4		L.A	KE CITY, FLOI	uda :	32025
	CHECKED BY: PDH	30'-0"x20'-0'	' FULLY OPEN :	STRU	CUTRE EXP. B
				JDB I	ND: 16022S/
	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	17300	\$/18028\$/20352\$
	CI TENTI TRE	SHT. 13	DWG. NO: SK-1		REV.1 6

BOW RAFTER GABLE END OPTION





TYPICAL BOW EAVE RAFTER

TYPICAL BOW EAVE RAFTER END WALL FRAMING SECTION

GABLE END FRAMING SECTION
SCALE: NTS

SCALE: NTS

2'x2'x2' 16 GA. CLIP ANGLE
SCOURE TO BOW RAFTER AND
GABLE RAIL W/ (4) #12-14x3/4'
SDF'S, (2) UN TOP, (2) UN BOTTOM

2'x2'x2' 16 GA. CLIP
ANGLE SECURE TO RAFTER
CDLUNN AND GABLE RAIL
W/(4) #12-14x3/4' SDF'S,
TOP AND BOTTOM

TS CHORD

TS CHORD

TS GABLE RAIL
TS SLEEVE, SECURE BOW RAFTER
AND COLUMN TO SLEEVE WITH (4)
#12-14x3/4' SDF'S

TS COLUMN

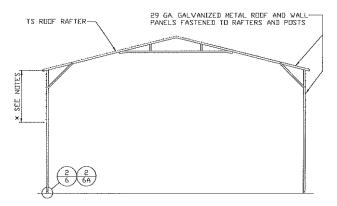
BOW RAFTER GABLE RAIL
TO GABLE END ELEVATION
SCALE: NTS
NOTE: KNEE BRACE NOT SHOWN FOR CLARITY.



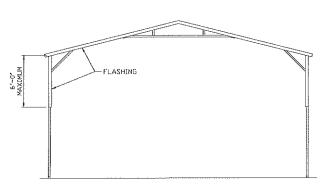
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MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JG	. 63 L	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025 30'-0"x20'-0" FULLY OPEN STRUCUTRE EXP. B			
,		DATE: 1-8-21 SHT: 14	SCALE: NTS DWG: ND: SK-1	JUB NO: 16022S/ 17300S/18028S/20352S REV.: 6		

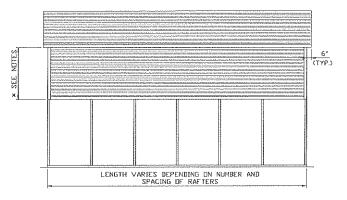
BOX EAVE RAFTER EXTRA SIDE PANEL OPTION



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

NOTES:

* 20'-0" PANEL FOR EAVE HEIGHT 14'-0" < TO < 20'-0" * 0'-0" PANEL FOR EAVE HEIGHT $\le 14'$ -0"

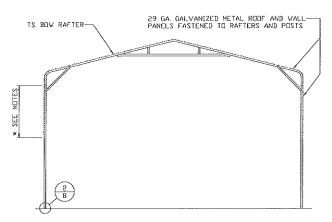


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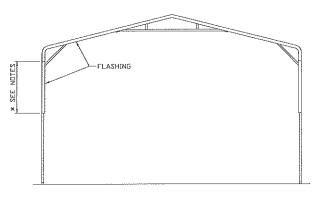
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	TUBULAR BUILDING SYSTEMS				
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				
	L/	KE CITY, FLOR	.IDA 32025		
CHECKED BY: PDH	30'-0"x20'-0'	' FULLY OPEN S	TRUCUTRE EXP. B		
 PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JDB ND: 16022\$/ 17300\$/18028\$/20352\$		
CLIENTI TRS	SHT. 15	DWG, NO: SK-1	REV₁ 6		

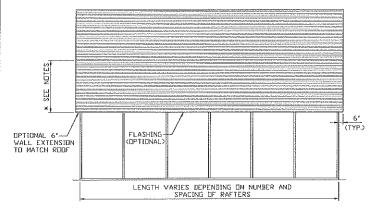
BOW RAFTER EXTRA SIDE PANEL OPTION



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

* 20'-0' PANEL FOR EAVE HEIGHT 14'-0' < TO < 20'-0' * 0'-0' PANEL FOR EAVE HEIGHT ≤ 14'-0'



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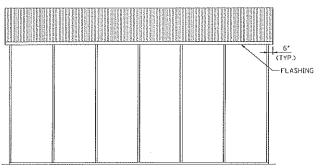
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	TUBULAR BUILDING SYSTEMS				
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE				
	LAKE CITY, FLORIDA 32025				
CHECKED BY: PDH	30'-0"x20'-0'	CUTRE EXP. B			
 PREJECT MGR: WSM	DATE: 1-8-21			NO: 16022S/ IS/18028S/20352S	
CLIENT: TBS	SHT. 16	DWG. NO: SK-1		REV.: 6	

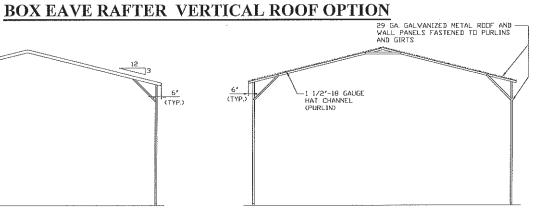
6° (TYP.) FLASHING

TYPICAL END ELEVATION VERTICAL ROOF/SIDING OPTION SCALE: NTS

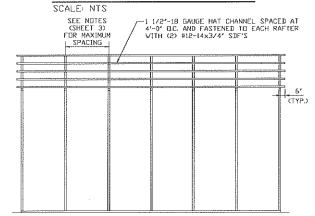


TYPICAL SIDE ELEVATION VERTICAL ROOF/SIDING OPTION

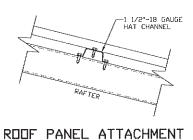
SCALE: NTS



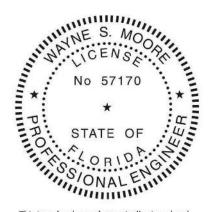
TYPICAL SECTION VERTICAL ROOF/SIDING OPTION



TYPICAL FRAMING SECTION VERTICAL ROOF/SIDING OPTION SCALE: NTS



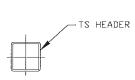
(ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS



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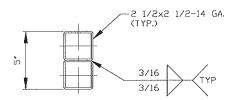
MOORE AND ASSOCIATES ENGINEERING AND CONSULTING, INC.	DRAWN BY: JG	. 63 L	BULAR BUILDIN 1 SE INDUSTRIA AKE CITY, FLOI	AL CIRCLE
Endine Education Consolitio, inc.	CHECKED BY PUH	30 °0 X20 °0	FULLI OPEN	SIKUCUIKE EAF, B
THIS DOCUMENT IS THE PROPERTY OF HOURE AND ASSOCIATES ENGINEERING AND	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JDB ND: 16022\$/ 1730\$/18028\$/20352\$
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SIDE WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 10'-0"

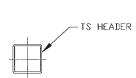
SCALE: NTS



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

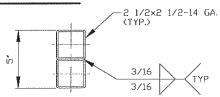
SCALE: NTS

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



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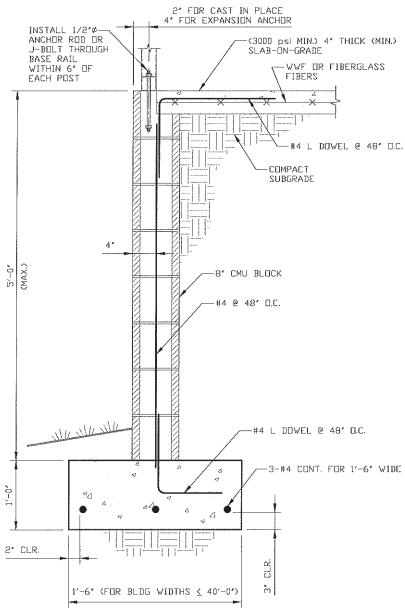
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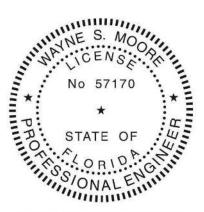
DRAWN BYI JG	TUBULAR BUILDING SYSTE JG 631 SE INDUSTRIAL CIRCI			
		KE CITY, FLORI		
CHECKED BY: PDH	30'-0"x20'-0'	' FULLY ÓPEN S'	rruc	CUTRE EXP. B
 PROJECT MGR: WSM	DATE: 1-8-21			(D: 16022\$/ \$/18028\$/20352\$
CLIENT: TBS	SHT. 18	DWG. NO: SK-1		REV.: 6

STAND -ALONE STEM WALL DETAIL



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

SCALE: NTS

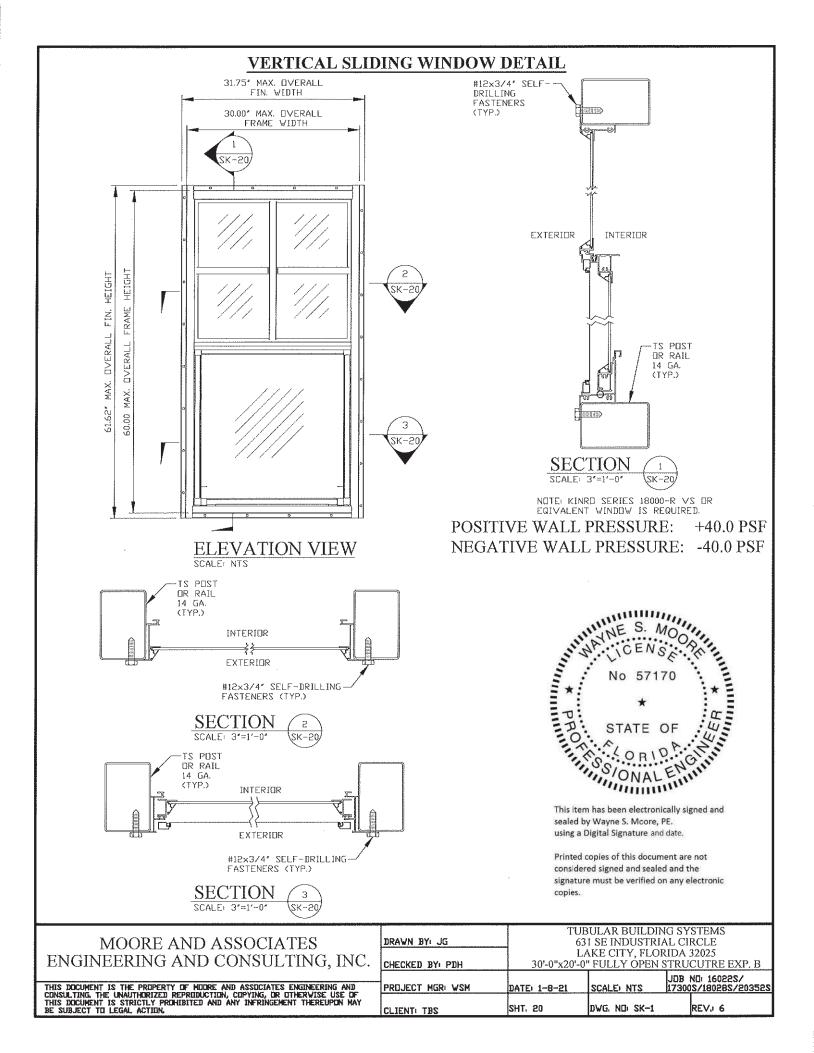


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	TUBULAR BUILDING SYSTEMS			
DRAWN BY: JG	631 SE INDUSTRIAL CIRCLE			
	LAKE CITY, FLORIDA 32025			
CHECKED BY: PDH	30'-0"x20'-0" FULLY OPEN STRUCUTRE EXP. B			
 PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		ND: 16022S/ S/18028S/20352S
CLIENT: TBS	SHT. 19	DWG, NO: SK-1		REV.: 6



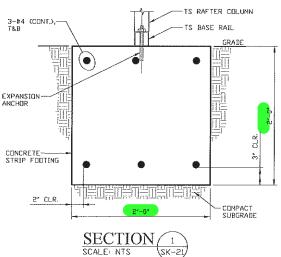
OPTIONAL CONCRETE STRIP FOOTING G FOOTING AND BASE RAIL 30'-0' MAXIMUM š LENGTH VARIES FOOTING LENGTH VARIES 1/2'ø EXPANSION ANCHOR (TYP.) RAIL 1 BASE TS BASE RAIL TS RAFTER COLUMN CONCRETE STRIP FDOTING CONCRETE STRIP FOOTING PLAN TS RAFTER COLUMN 3-#4 (CONT.), T&B TS BASE RAIL



- 2. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3,000 PSI AT 28 DAYS.
- 3. FÜR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACT-318: 3' IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH OR EXPOSED TO THE EARTH OR WEATHER, AND 1 1/2" ELSEWHERE.
- 4. THE STRIP FOOTING REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
- 5. REINFORCEMENT MAY BE BENT IN THE SHOP OR IN THE FIELD PROVIDED:

 - A) REINFORCEMENT IS BENT COLD.

 B) 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



* COORDINATE WITH LOCAL CODES/ORD.

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DRAWN BYI JG		ULAR BUILDIN 1 SE INDUSTRIA	0 0 1 0 1 1 1 1 1 1 1
CHECKED BY: PDH		AKE CITY, FLOR ' FULLY OPEN S	IDA 32025 TRUCUTRE EXP. B
PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JDB ND: 16022S/ 17300S/18028S/20352S
CLIENT: TBS	SHT. 21	DWG, ND: SK-1	REV₁ 6