

STRUCTURAL DESIGN

ENCLOSED BUILDING EXPOSURE B

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

8 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: 2021.01.12 15:42:01 -05'00'





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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 FLORIDA BUILDING CODE (FBC) 7TH EDITION, 2012 INTERNATIONAL BUILDING CODE (IBC), 2015 IBC, AND 2018 IBC.
- 3. DESIGN LUADS ARE AS FULLUWS: = 1.5 PSF A) DEAD LOAD = 12 PSF B) LIVE LOAD
 - = 10 PSF C) GROUND SNOW LOAD
- 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 DTHERWISE).
- 7. RISK CATEGORY I.
- 8. WIND EXPOSURE CATEGORY B.
- 9. SPECIFICATIONS APPLICABLE TO 29 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2' x 2 1/2' 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS, 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.)
- II. 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. 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) VIND 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

IE= 1.0

Sps= 1.522 g

V= CsW $S_{D1} = 0.839 g$

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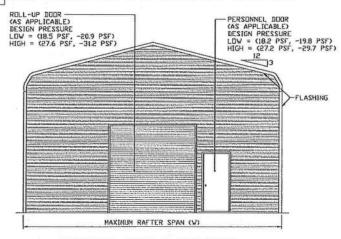
	DRAWN BYI JG	63	BULAR BUILDIN 31 SE INDUSTRIA	AL CIF	CLE		
	CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP.					
-	PREJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		002\203522 005\203525		
	CLIENTI TBS	sнт. з	DWG. NO SK-3		REV. 5		

BOX EAVE FRAME RAFTER ENCLOSED BUILDING ROLL-UP DOUR (AS APPLICABLE) DESTION PRESSURE LOV = (18.5 PSF, -20.9 PSF) HIGH = (27.6 PSF, -31.2 PSF) ACTIVE (17.5) MAXIRUM RAFTER SPAN (V)

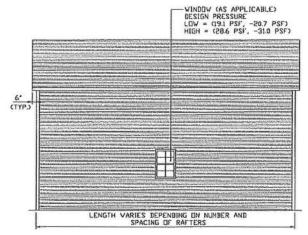
TYPICAL END ELEVATION

SCALE: NTS

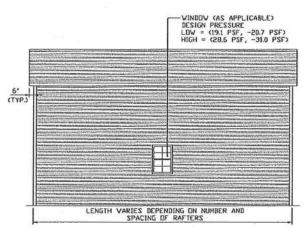
BOW FRAME RAFTER ENCLOSED BUILDING



TYPICAL END ELEVATION SCALE: NTS



TYPICAL SIDE ELEVATION
SCALE: NTS



TYPICAL SIDE ELEVATION

SCALE: NTS



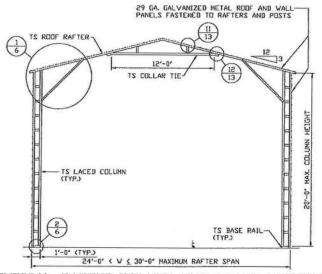
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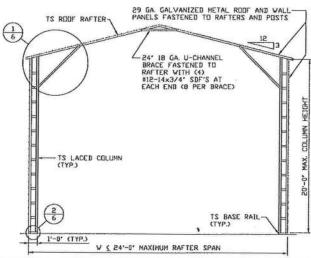
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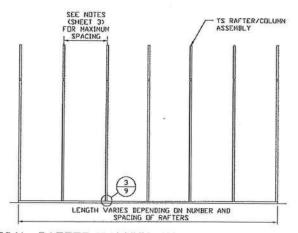
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CHECKED BY PDH		AKE CITY, FLOI '-0" ENCLOSED				
PROJECT MGR: WSM	DATE: 1-8-21	SCALE) NTS	JOB NO 16022S/ 17300S/20352S			
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TYPICAL RAFTER/COLUMN END FRAME SECTION



TYPICAL RAFTER/COLUMN END FRAME SECTION

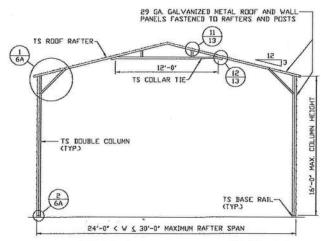


TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



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TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

29 GA. GALVANIZED METAL ROOF AND WALL
PANELS FASTENED TO RAFTERS AND POSTS

24' 18 GA. U-CHANNEL
BRACE FASTENED TO
RAFTER WITH (4)
H12-14x3/4' SDF'S AT
EACH END (8 PER BRACE)

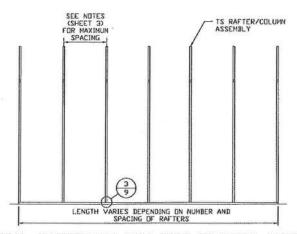
TS DOUBLE COLUMN

(TYP.)

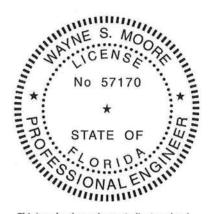
TS BASE RAIL
(TYP.)

Y & 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

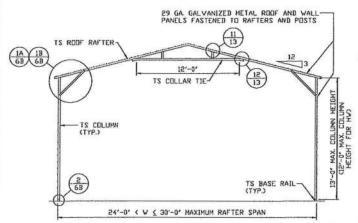


TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS

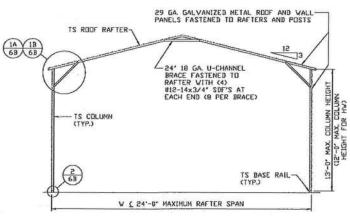


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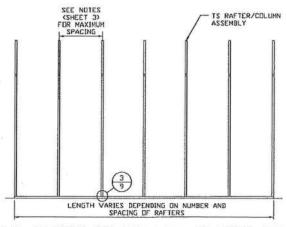
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TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

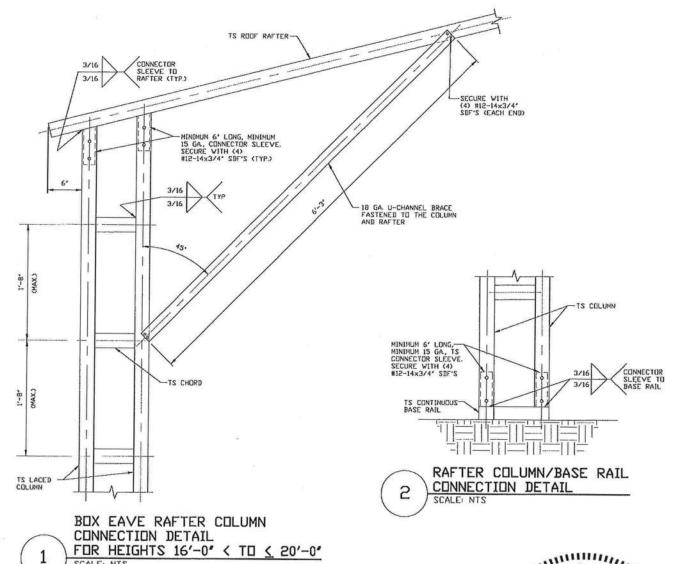


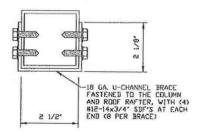
TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



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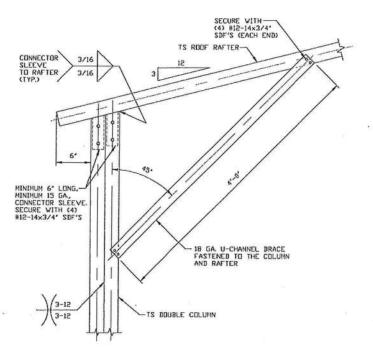
BRACE SECTION SCALE: NTS

SCALE: NTS



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BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 13'-0" < TO ≤ 16'-0"

SCALE: NTS

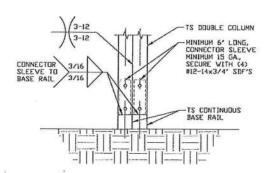
NDTE: COLUMN HEIGHTS 12'-0" < TO ≤ 16'-0" FOR HIGH WIND.

18 GA. U-CHANNEL BRACE
FASTENED TO THE COLUMN
AND RODE RAFTER, WITH (4)
B12-143/34' SDF'S AT EACH
END (8 PER BRACE)

BRACE SECTION

SCALE: NTS

1



2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE: NTS

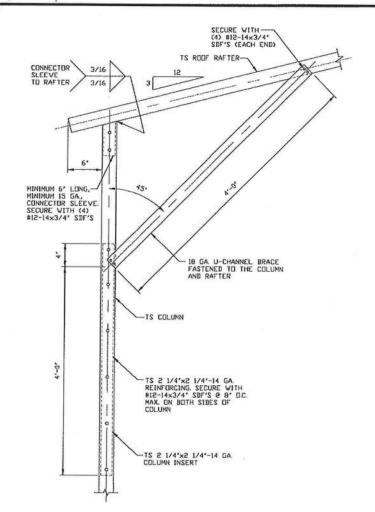
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PROJECT MGR: WSM	JECT MGR: WSM DATE: 1-8-21		SCALE: NTS JD1			
CLIENT: TBS	SHT. 6A	DWG. NO: SK-3		REV. 5		

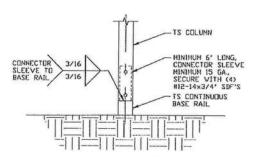


BOX EAVE RAFTER COLUMN CONNECTION DETAIL

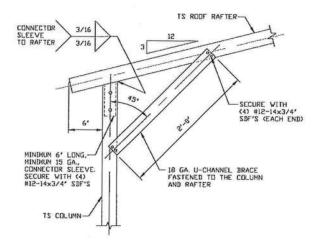
1A

FOR HEIGHTS 10'-0" < TO < 13'-0"

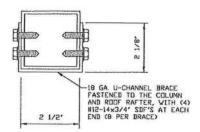
SCALE: NTS NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0" FOR HIGH WIND.



2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL
SCALE, NTS



BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS & 10'-0'



BRACE SECTION SCALE: NTS



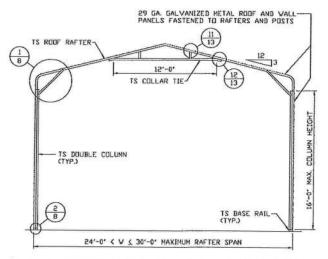
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TYPICAL RAFTER/COLUMN END FRAME SECTION
SCALE: NTS

29 GA. GALVANIZED METAL ROOF AND VALL
PANELS FASTENED TO RAFTERS AND POSTS

18

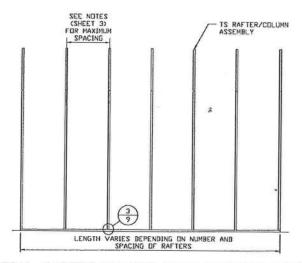
24' 18 GA. U-CHANNEL
BRACE FASTENED TO
RAFTER VITH (4)
H12-14×3/4' SDF'S AT
EACH END (8 PER BRACE)

15 BDUBLE COLUMN
(TYP.)

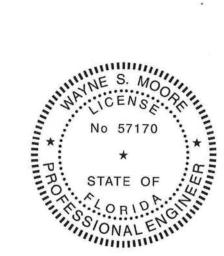
15 BASE RAIL
(TYP.)

V & 24'-0' MAXIMUM RAFTER SPAN

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS

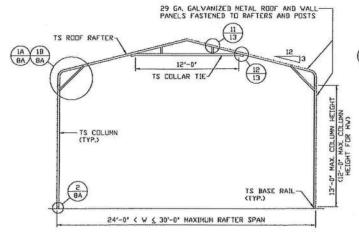


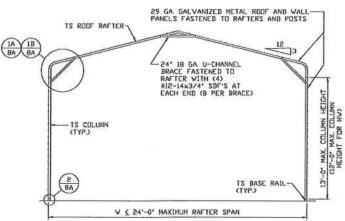
TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS



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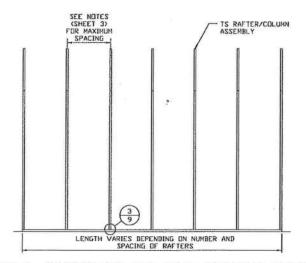
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TYPICAL RAFTER/COLUMN END FRAME SECTION

TYPICAL RAFTER/COLUMN END FRAME SECTION SCALE: NTS



TYPICAL RAFTER/COLUMN SIDE FRAMING SECTION SCALE: NTS

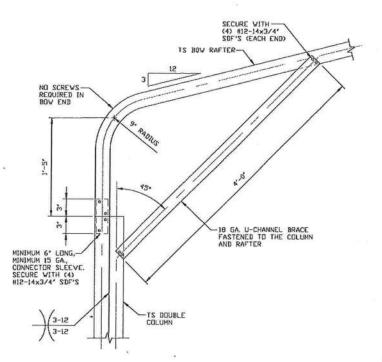


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	CLIENT: TBS	SHT. 7A	DWG. NO SK-3		REV. 5			



3-12

3-12

TS DOUBLE COLUMN

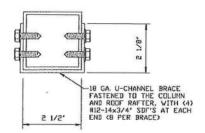
MINIMUM 6' LEING,
CONNECTOR SLEEVE
MINIMUM 15 GA,
SECURE VITH (4)
BASE RAIL

3/16

TS CONTINUOUS
BASE RAIL

BOX EAVE RAFTER COLUMN CONNECTION DETAIL FOR HEIGHTS 13'-0" < TO ≤ 16'-0"

SCALE: NTS NDTE: COLUMN HEIGHTS 12'-0' < TO < 16'-0' FOR HIGH WIND. 2 RAFTER COLUMN/BASE RAIL CONNECTION DETAIL SCALE: NTS



BRACE SECTION

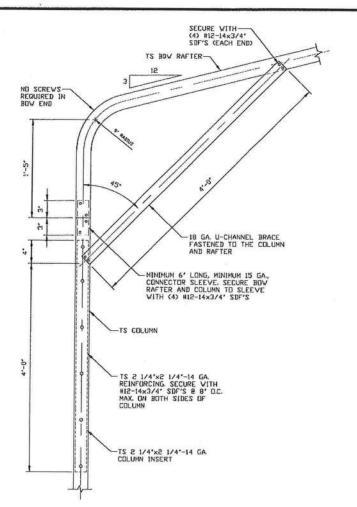
1



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TUBULAR BUILDING SYSTEMS MOORE AND ASSOCIATES DRAWN BYI JG 631 SE INDUSTRIAL CIRCLE LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B ENGINEERING AND CONSULTING, INC. CHECKED BY PDH JOB NO: 160225/ 173005/203525 THIS DOCUMENT IS THE PROPERTY OF MODRE AND ASSOCIATES ENGINEERING AND CONSULTING. THE UNAUTHORIZED REPRODUCTION, COPYING, OR DTHERVISE USE OF THIS DOCUMENT IS STRICTLY PROHIBITED AND ANY INFRINGEMENT THEREUPON MAY BE SUBJECT TO LEGAL ACTION. PROJECT MGRI WSM DATE: 1-8-21 SCALE: NTS SHT. B DWG. NO SK-3 REV. 5 CLIENT: TBS



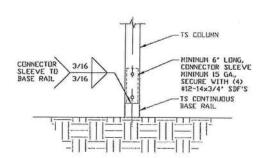
BOX EAVE RAFTER COLUMN CONNECTION DETAIL

FOR HEIGHTS 10'-0" < TO ≤ 13'-0"

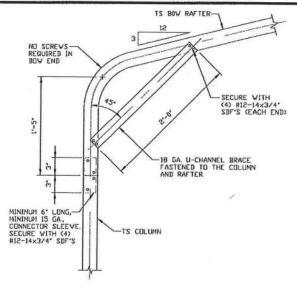
SCALE: NTS

1A

NOTE: MAXIMUM COLUMN HEIGHT IS 12'-0' FOR HIGH WIND.



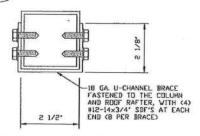
2 RAFTER COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS



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

SCALE: NTS

1B



BRACE SECTION
SCALE: NTS



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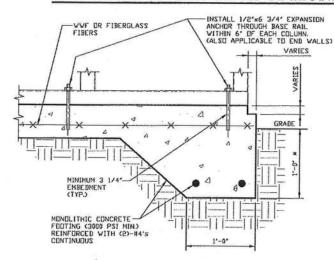
	DRAWN BY: JG	63	TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE					
	CHECKED BY: PDH		LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B					
_	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		9 NO: 16022S/ 100S/20352S			
	CLIENT: TBS	SHT. BA	DWG. ND: SK-3		REV. 5			

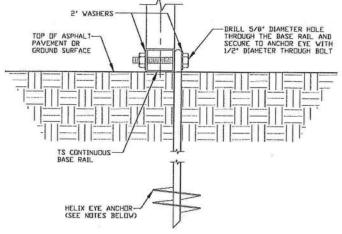
BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED

3B

SCALE: NTS

(CAN BE USED FOR ASPHALT)





GROUND BASE HELIX ANCHORAGE

* COORDINATE WITH LOCAL CODES/ORD. REGARDING MINIMUM FROST DEPTH REQ.

3A

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

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 BARS SHALL BE PER ACI-318: 3 INCHES IN FOUNDATIONS WHERE THE CONCRETE IS CAST AGAINST AND PERMANENTLY IN CONTACT WITH THE EARTH DR EXPOSED TO THE EARTH DR 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 DR 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.

HELIX ANCHOR NOTES

- 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.
- FOR MEDIUM DENSE CDARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS, AND CLAYS USE MINIMUM (2) 4' HELICES WITH MINIMUM 30 INCH EMBEDMENT.
- 4. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 6' HELICES WITH MINIMUM 50 INCH EMBEDMENT.
- FUR VERY LOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL USE MINIMUM (2) 8' HELICES WITH MINIMUM 60 INCH EMBEDMENT.



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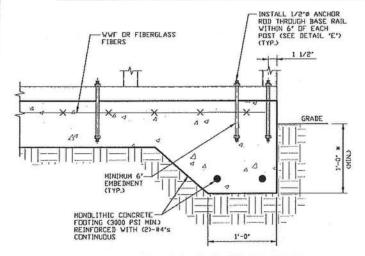
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OPTIONAL FOUNDATION ANCHORAGE FOR LOW AND HIGH WIND SPEED



30

CONCRETE MONOLITHIC SLAB ANCHURAGE BASE RAIL

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 1 1/2 INCHES ELSEWHERE.

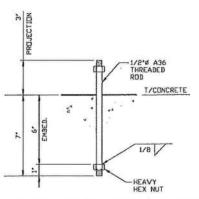
REINFORCING STEEL

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

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

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

BE FIELD BENT.



ANCHOR ROD THROUGH BASE RAIL DETAIL 3D

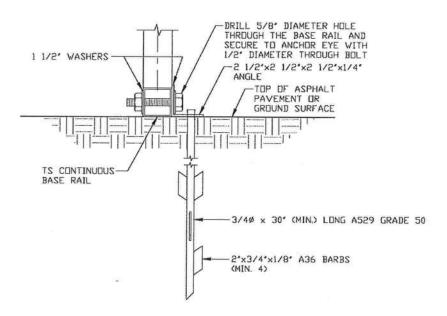
SCALE: NTS



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BASE RAIL ANCHORAGE OPTION



RE ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)

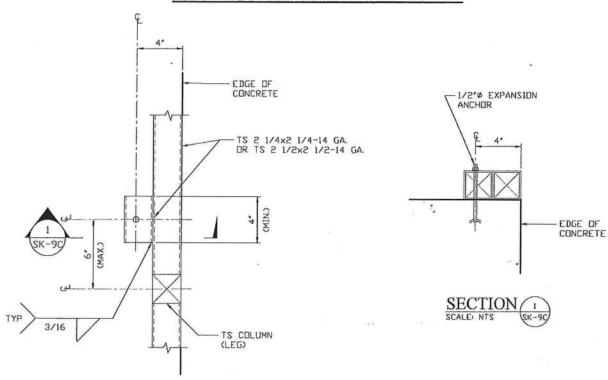
SCALE: NTS
(CAN BE USED FOR ASPHALT)
* COURDINATE WITH LOCAL CODES/ORD.
REGARDING MINIMUM FROST DEPTH REQ.



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	CHECKED BY: PDH		AKE CITY, FLOR '-0" ENCLOSED B	IDA 32025 UILDING EXP. B		
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BASE RAIL ANCHORAGE OPTIONS



TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

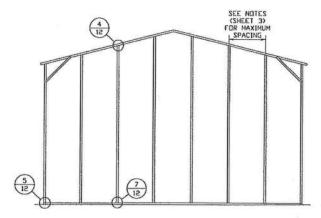
SCALE: NTS



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	CHECKED BY: PDH		30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
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BOX EAVE RAFTER END WALL AND SIDE WALL OPENINGS



TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

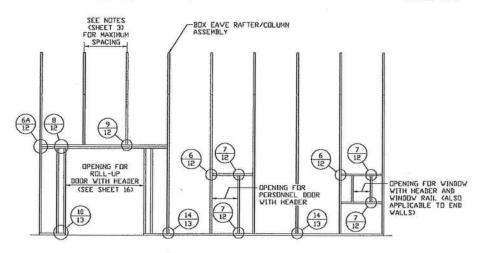
SEE NOTES
(SHEET 3)
FOR MAXIMUM
SPACING

DPENING FOR
ROLL-UP
DOOR VITH HEADER
(SEE SHEET 16)

13
13
13
13
12
12
12
13

TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

SCALE: NTS



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CHECKED BY: PDH	

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

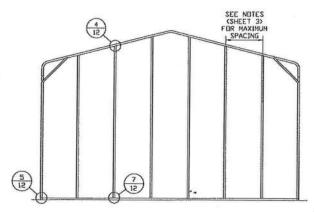
RUJECT	MGR: WSM	MSM	DATE: 1-8-21	Ŀ
				Г

SCALE: NTS JUB NO: 160225/ 173005/203525

CLIENT: TBS SHT. 10 BWG. ND: SK-3

REV. 5

BOW RAFTER END WALL AND SIDE WALL OPENINGS

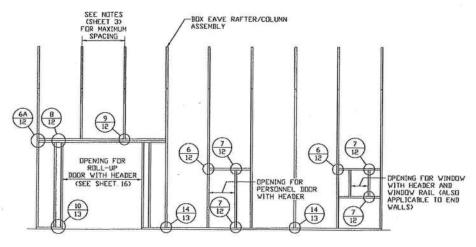


TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

SEE NOTES
(SHEET 3)
FOR MAXIMUM
SPACING (6) (12) 7 7 12 (6) 12) OPENING FOR ROLL-UP DOOR WITH HEADER (SEE SHEET 16) DPENING FOR PERSONNEL DOOR WITH HEADER (5) (13)

TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION

SCALE: NTS



TYPICAL BOX EAVE RAFTER SIDE WALL OPENINGS FRAMING SECTION

SCALE: NTS

SCALE: NTS



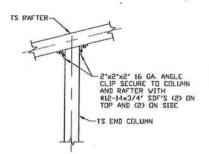
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	MOORE AND ASSOCIATES	DRAWN BY: JG	
	ENGINEERING AND CONSULTING, INC.	CHECKED BY: PDH	30'-0"
200	THIS DOCUMENT IS THE PROPERTY OF MOORE AND ASSOCIATES ENGINEERING AND	PROJECT MGR: WSM	DATE: 1-8-2

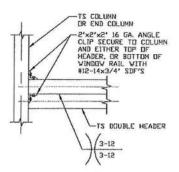
TUBULAR BUILDING SYSTEMS
631 SE INDUSTRIAL CIRCLE
LAKE CITY, FLORIDA 32025
30'-0"x20'-0" ENCLÓSED BUILDING EXP. B

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				Mineral Internation	

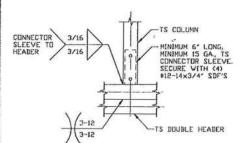
CONNECTION DETAILS



END COLUMN/RAFTER CONNECTION DETAIL SCALE NTS

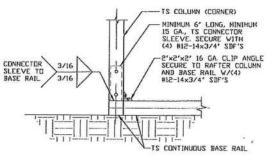


DOUBLE HEADER TO COLUMN CONNECTION DETAIL SCALE: NTS



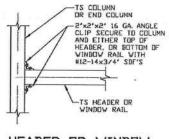
6A

9 COLUMN/DOUBLE HEADER
CONNECTION DETAIL
SCALE: NTS



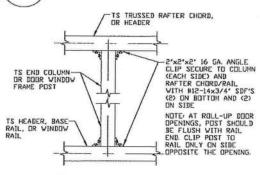
5 END COLUMN/BASE RAIL CONNECTION DETAIL

SCALE: NTS

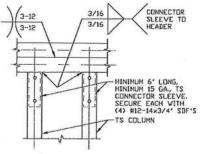


HEADER OR WINDOW RAIL TO COLUMN CONNECTION DETAIL SCALE NTS

6



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



8 DOUBLE HEADER/COLUMN SCALE: NTS

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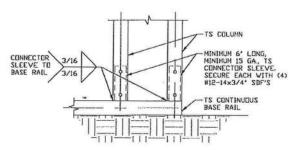


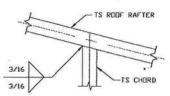
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CLIENT: TBS	SHT, 12	DWG, NO SK-3		REV. 5		
PROJECT MGR: WSM	DATE: 1-8-21	SCALE) NTS	SCALE: NTS JOB NO: 1600 17300S/2035			
CHECKED BY: PDH		LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
DRAWN BY: JG	63	BULAR BUILDIN 31 SE INDUSTRI	AL CIR	CLE		

CONNECTION DETAILS



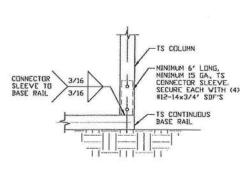


TS COLLAR TIE

10 COLUMN/BASE RAIL
CONNECTION DETAIL
SCALE: NTS

RAFTER TO CHORD CONNECTION DETAIL
SCALE NTS

12 COLLAR TIE CONNECTION DETAIL
SCALE: NTS



13 COLUMN/BASE RAIL CONNECTION DETAIL SCALE, NTS

TS TRUSSED RAFTER
CHORD, DR HEADER

TS END COLUMN
UR DOOR VINDOV
FRAME POST

TS HEADER, BASE
RAIL, UR VINDOV
RAIL

COLUMN TO HEADER, BASE RAIL CONNECTION DETAIL

14 SCALE: NTS



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CLIENT: TBS	SHT. 13	DMC' NO 2K-3		REV. 5				
PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		B ND: 160225/ 9005/203525				
CHECKED BY: PDH	LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B							
DRAWN BY: JG	63	631 SE INDUSTRIAL CIRCLE						

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

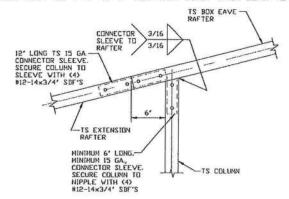
SCALE: NTS

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE LACED COLUMNS FOR EAVE HEIGHTS 16'-0' < TO \$\(20'\text{-0'}\).

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' (12'\text{-0'}\) FOR HIGH WIND) < TO \$\(16'\text{-0'}\).

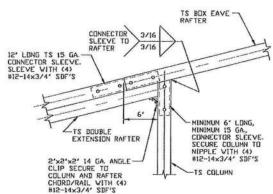
MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS 10'\text{-0'}\) < TO \$\(13'\text{-0'}\) GR HIGH WIND) < VITH 4'\text{-4'}\) INSERT).

MAIN BUILDING COLUMNS WITH LEAN-TO DR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS (10'\text{-0'}\) < TO \$\(13'\text{-0'}\) GR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE SINGLE COLUMNS FOR EAVE HEIGHTS \$\(10'\text{-0'}\) (5'\text{-0'}\) FOR HIGH WIND) WHEN LEAN-TO'S ARE ADDED.



SIDE EXTENSION RAFTER/COLUMN DETAIL FOR RAFTER SPANS < 15'-0'

SCALE: NTS



SIDE EXTENSION RAFTER/COLUMN DETAIL

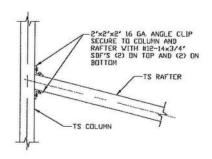
FOR RAFTER SPANS 15'-0" < TO < 24'-0"

SCALE: NTS

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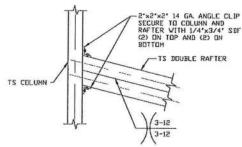
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	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JUB ND: 160 173005/203	
	CLIENT: TBS	SHT. 14	DWG. NO: SK-3	REV. 5	j

BOX EAVE RAFTER LEAN-TO OPTIONS



LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS \(\) 15'-0'

16 SCALE NTS



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

SCALE: NTS

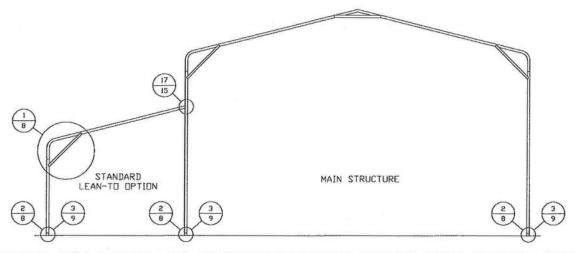
16A



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	CHECKED BY: PDH		30'-0"x20'-0" ENCLOSED BUILDING EXP. B			
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BOW RAFTER LEAN-TO OPTIONS



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

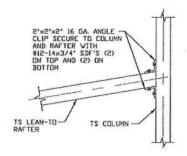
SCALE: NTS

MAIN BUILDING COLUMNS WITH LEAN-TO OR ROOF EXTENSION ATTACHED ARE REQUIRED TO BE DOUBLE COLUMNS FOR EAVE HEIGHTS 13'-0' (12'-0' FOR HIGH WIND) < 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' (12'-0' FOR HIGH WIND) (WITH 4'-4' INSERT).

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

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

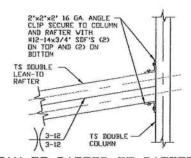


LEAN-TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL FOR RAFTER SPANS & 15'-0"

SCALE: NTS

17

17A



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

SCALE: NTS

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DWG. NO SK-3

REV. 5

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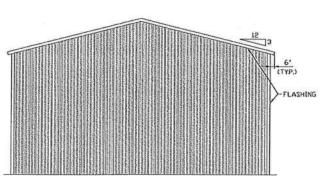
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ENCLOSED BUILDING EXP. B

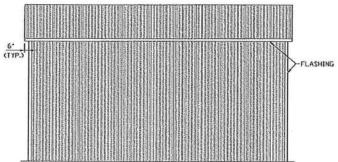
SHT, 15

CLIENT: TBS

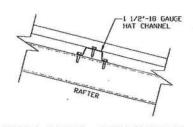
BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION



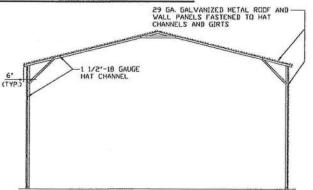
TYPICAL END ELEVATION VERTICAL ROOF/SIDING OPTION



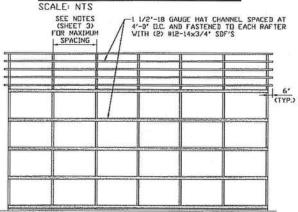
TYPICAL SIDE ELEVATION
VERTICAL ROOF/SIDING OPTION
SCALE: NTS



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 SPACD AT 4'-0' (MAX.) C.C.



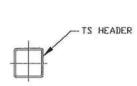
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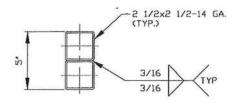
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_	PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS	JDE	3 ND 16022S/ 00S/20352S		
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SIDE WALL HEADER OPTIONS



HEADER DETAIL FOR DOOR OPENINGS ≤ 10'-0"

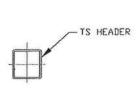
SCALE: NTS



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

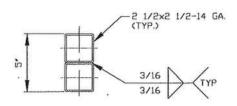
SCALE: NTS

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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PROJECT MGR: WSM	DATE: 1-8-21	SCALE: NTS		3 ND: 16022S/ :00S/20352S		
CHECKED BY: PDH		LAKE CITY, FLORIDA 32025 30'-0"x20'-0" ENCLOSED BUILDING EXP. B				
DRAWN BY: JG	63	BULAR BUILDIN 11 SE INDUSTRIA	AL CIR	CLE		

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, POST (MIN I MAX. GRADE TS BASE 1'-0" BOVE RAIL GRADE

TYPICAL FLOOD VENT DETAIL

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

SCALE: NTS

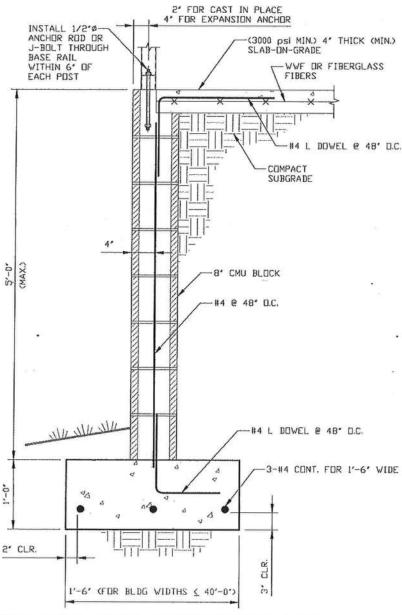
- 2. THERE SHALL BE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES FOR EACH ENCLOSED BUILDING.
- 3. APPLY 1.3 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING $1/2^{\prime\prime}{\rm -18GA}$ S OR F EXPANDED METAL.
- 4. TOTAL OPEN AREA OF VENT = LxH(MIN. 12").
- 5. FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP.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



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STAND -ALONE STEM WALL DETAIL



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

SCALE: NTS



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TUBLIL AD BUILDING SYSTEMS

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DRAWN BY: JG	63	631 SE INDUSTRIAL CIRCLE				

