#### **GENERAL NOTES**

- 1. DESIGN IS FOR MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT FULLY OPEN STRUCTURES.
- 2. APPLICABLE CODES, REGULATIONS, & STANDARDS:
- A. 2023 FLORIDA BUILDING CODE (8TH EDITION)
- B. 2024 INTERNATIONAL BUILDING CODE
- C. ASCE 7-22: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
- D. AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
- E. ACI 318-19: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- F. TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- G. AWS D1.1: STRUCTURAL WELDING
- 2. RISK CATEGORY: I
- 3. EXPOSURE CATEGORY: C

LOW ULTIMATE WIND SPEED 105 TO 150 MPH (NOMINAL WIND SPEED 81 TO 116 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEFT. HIGH ULTIMATE WIND SPEED 151 TO 180 MPH (NOMINAL WIND SPEED 117 TO 139 MPH):

MAXIMUM RAFTER/POST AND END POST SPACING = 4.0 FEET.

- 4. DEAD LOAD = 10 PSF
- 5. LIVE LOAD = 10 PSF
- 6. 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).
- 7. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND MUST BE USED FOR HIGH WIND
- 8. FASTENERS CONSIST OF #12-14 x 3/4" 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
- 9. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" OR FND = 6" (MAX )
- 10. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE

SOIL SITE CLASS = D RISK CATEGORY I/II/III

R = 3.25Sds = 0.087 g V = CsW

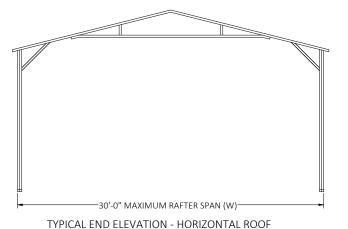
Sdi = 0.084 g

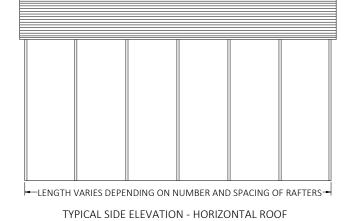
- 11. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES.
- 12. GROUND ANCHOR (SOIL NAILS) CONSIST OF #5 REBAR W/ WELDED NUT X 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (< 108 MPH NOMINAL) WIND SPEEDS ONLY. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USE IN LINSUITABLE SOILS
- 13. MIN. LAP REQUIREMENT FOR REBAR IN FOOTER IS 25".
- 14. SOIL TO BE COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT, IN ACCORDANCE WITH ASTM D1557-93
- 15. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE FBC.
- 16. A LANDING OF MIN. 36" WIDTH IN THE DIRECTION OF TRAVEL SHALL BE PROVIDED AT THE EXTERIOR DOORS. SLOPE OF LANDING NOT TO EXCEED 1/4"-1'. LANDING LEVEL NOT TO BE LOWER THAN 1-1/2" (FOR EGRESS DOORS) & 7-3/4" (FOR OTHER EXTERIOR DOORS) BELOW THE TOP OF THRESHOLD.

## DRAWING INDEX

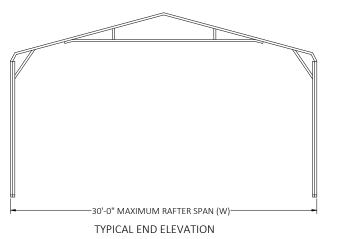
PAGE NO.	DESCRIPTION		
1	NOTES AND SPECIFICATIONS		
2	BOX EAVE FRAME RAFTER OPEN BUILDING		
3	BOW EAVE FRAME RAFTER OPEN BUILDING		
4	BASE RAIL AND FOUNDATION ANCHORAGE		
5	END WALL FRAMING OPTION		
6	BOX/BOW EAVE ROOF/SIDING OPTION		
7	BOX/BOW EAVE RAFTER LEAN-TO OPTIONS		
8	VENT AND CMU STEM WALL DETAIL		
9	OPTIONAL CONCRETE STRIP FOOTING		

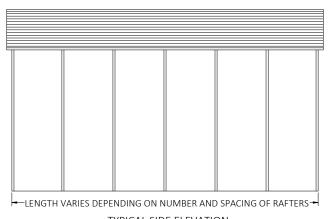
# OPEN METAL BUILDING DESIGN MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT **BOX/BOW EAVE FRAME**





BOX EAVE FRAME RAFTER OPEN BUILDING





TYPICAL SIDE ELEVATION

## BOW FRAME RAFTER OPEN BUILDING

PRODUCT CATEGORY	SUB CATEGORY	MANUFACTURER	APPROVAL No. & DATE
STRUCTURAL	ROOF DECK	CAPITAL METAL SUPPLY, INC.	FL20147.2-R3
COMPONENTS		29 GA. CAPITAL RIB ROOF PANEL	12/13/2023
STRUCTURAL	STRUCTURAL	CAPITAL METAL SUPPLY, INC.	FL20148.2-R3
COMPONENTS	WALL	29 GA. CAPITAL RIB WALL PANEL	12/13/2023

DIGITAL CERTIFICATION NOTES: 1. THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SHALL REMAIN IN DIGITAL FORMAT, SHALL BE VERIFIED BY ELECTRONIC MEANS & PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED. 2. THIS DOCUMENT HAS BEEN CREATED BY FLORIDA ENGINEERING LLC FOR TUBULAR BUILDING SYSTEMS ONLY, IT SHALL NOT BE REPRODUCED IN WHOLE OR PART WITHOUT THE WRITTEN CONSENT OF FLORIDA ENGINEERING LLC AND TUBULAR BUILDING SYSTEMS. 3. ALTERATIONS, ADDITIONS OR OTHER MARKINGS TO THIS DOCUMENT ARE NOT PERMITTED AND INVALIDATE FLORIDA ENGINEERING LLC'S CERTIFICATION. 4 THESE PLANS ARE GENERIC AND DO NOT PROVIDE INFORMATION FOR A SITE-SPECIFIC PROJECT WHERE THE SITE CONDITIONS DEVIATE FROM WHAT HAS BEEN CALLED

OUT ON THESE PLANS 5. CONTRACTOR MUST NOT DEVIATE FROM THE CONDITIONS DETAILED ON THESE PLANS. 6. CONSTRUCTION SAFETY AT THE SITE IS THE

CONTRACTOR'S RESPONSIBILITY.

Digitally signed by Walker ZORION Date: 2024.01.16 10:24:38-05'00

101 ENGINEERING RIDA

TAMIAMI TRAIL, UNI CHARLOTTE, FLORIDA (941) 391-5980 FLEng.com Orders@FLEng . CHARLOTTE, F (941) 391-{ FLEng.cc ORT 161

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NO.

**PROJECT** 





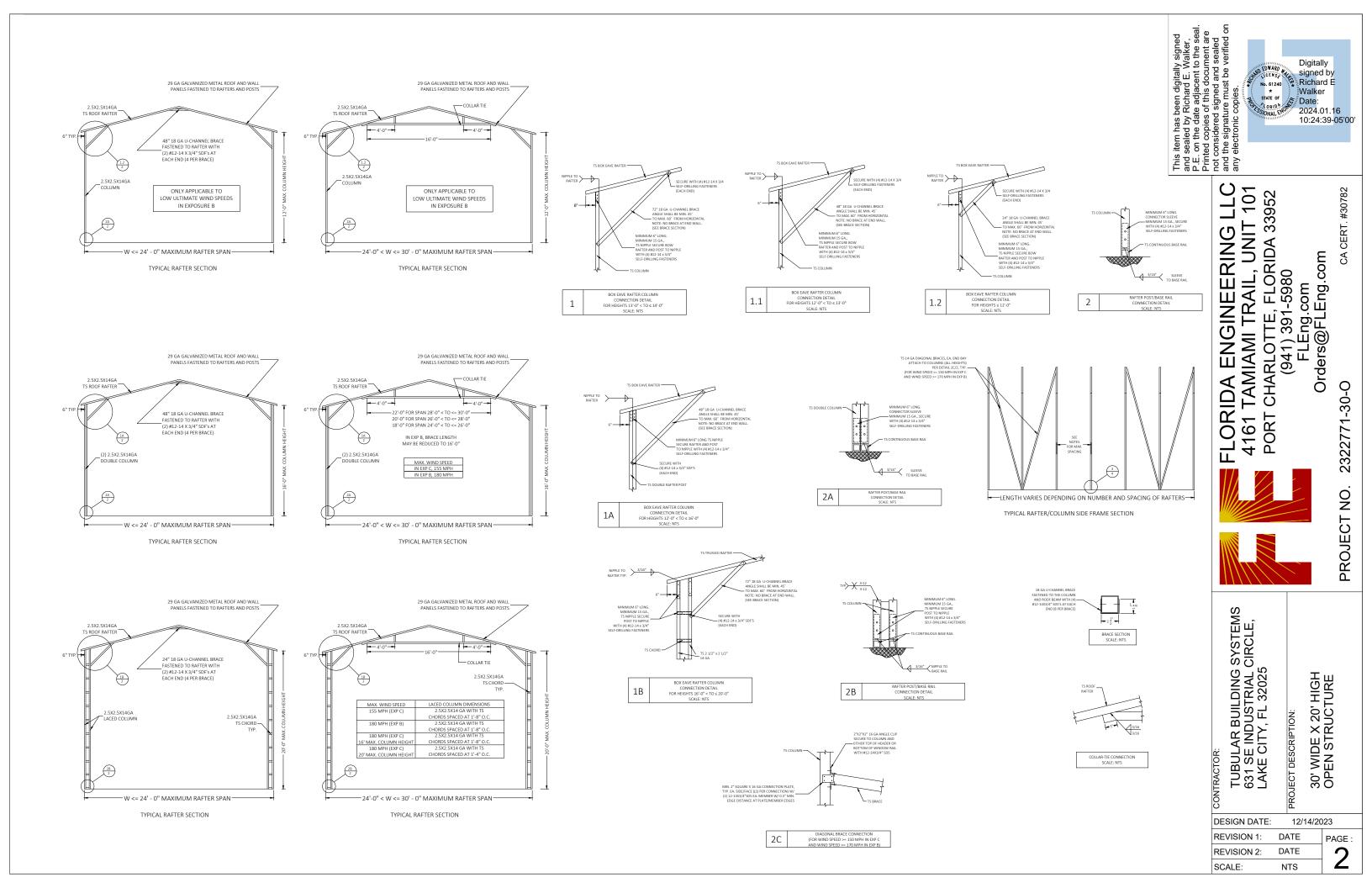
TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

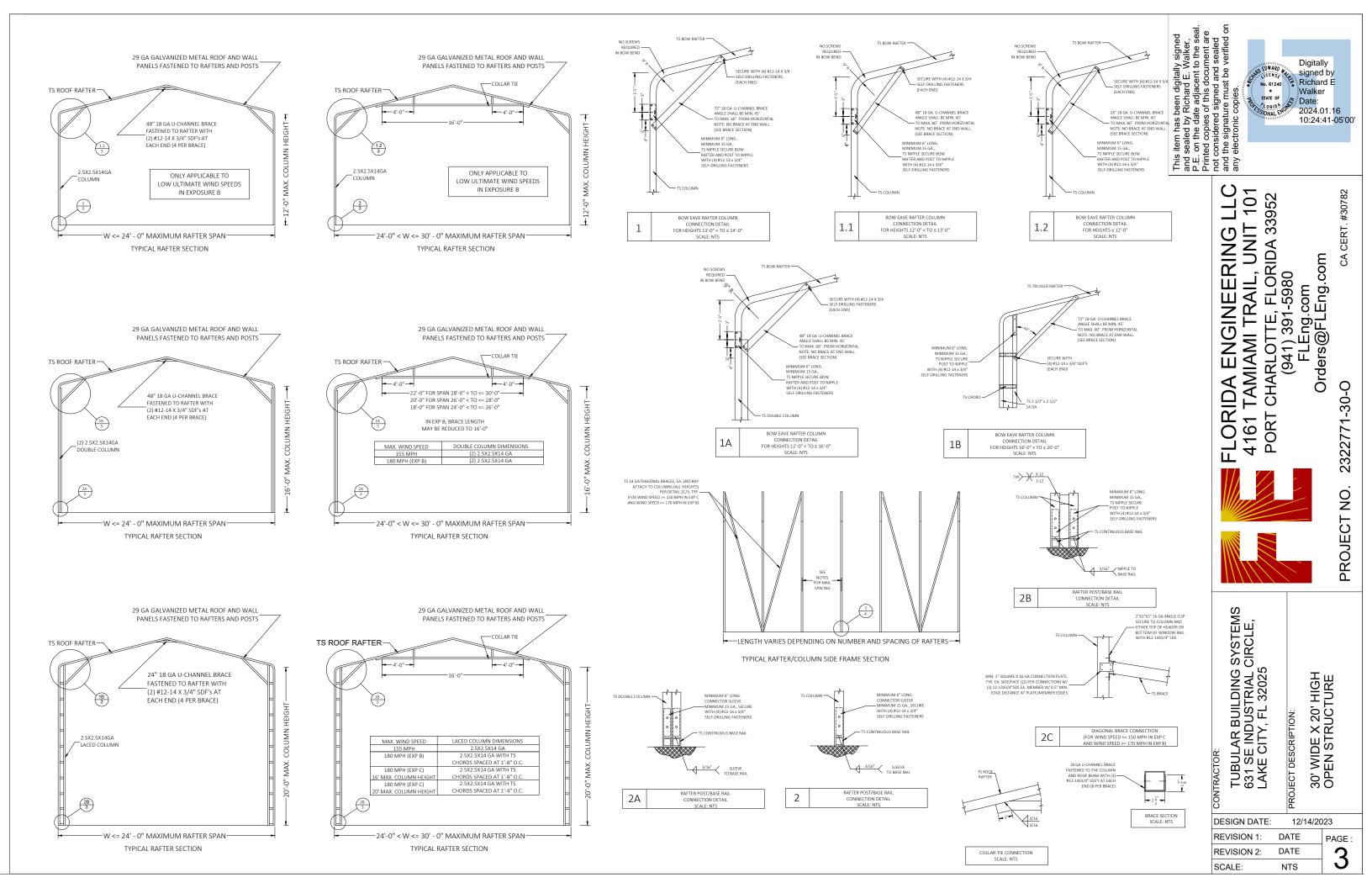
PROJECT DESCRIPTION

DESIGN DATE: 12/14/2023 PAGE

REVISION 1: DATE **REVISION 2:** DATE SCALE: NTS

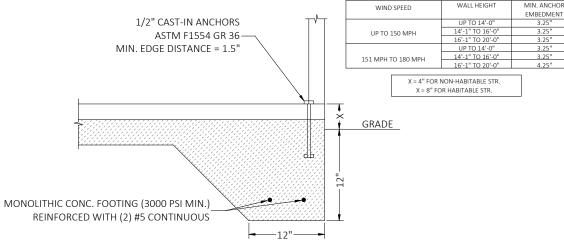
30' WIDE X 20' HIGH OPEN STRUCTURE





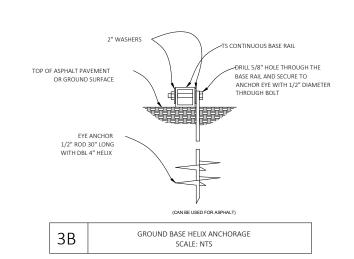
### BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED

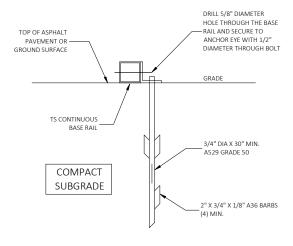
# ANCHOR EDGE INSTALL 1/2" x 6 3/4" EXPANSION ANCHOR DISTANCE = 4" THROUGH BASE RAIL WITHIN 6" OF EACH POST X = 4" FOR NON-HABITABLE STR. X = 8" FOR HABITABLE STR. VARIES-MONOLITHIC CONC. FOOTING (3000 PSI MIN.) REINFORCED WITH (2) #5 CONTINUOUS CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE 3A1



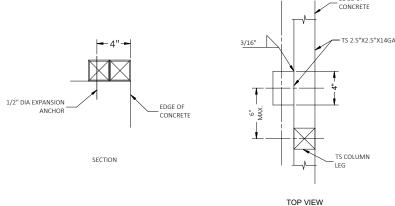
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

SCALE: NTS





ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR) 3C SCALE: NTS



TYPICAL ANCHOR DETAIL WHEN BASE 3D RAIL IS NEAR EDGE OF CONCRETE SCALE: NTS

Digitally signed by No. 61240 Richard E Walker ORION 2024 C 2024.01.16 10:24:41-05'00



**PORT** 161

2322771-30-O

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**PROJECT** 



TUBULAR BUILDING SYSTEM: 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

30' WIDE X 20' HIGH OPEN STRUCTURE PROJECT DESCRIPTION

DESIGN DATE: 12/14/2023

REVISION 1: DATE **REVISION 2:** DATE

PAGE SCALE: NTS

# GENERAL NOTES

#### CONCRETE:

- 1. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT
- 2. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE FBC.
- 3. MINIMUM SOIL BEARING CAPACITY OF COMPACTED GRADE= 2000 PSF

#### COVERAGE OF THE REINFORCED STEEL:

FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3 INCHES WHERE THE CONCRETE IS POURED AGAINST AND TEMPORARY IN CONTACT WITH THE EARTH OR UNPROTECTED FROM THE EARTH OR WEATHER, OTHERWISE 1-1/2 INCHES.

#### 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 FIELD OR SHOP AS LONG AS:

### 1. IT IS BENT COLD:

- 2. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT; 3. THE DIAMETER OF THE BEND, MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN
- 4. MINIMUM REQUIRED LAP LENGTH SHALL NOT BE LESS THAN 57-BAR DIAMETERS

# HELIX ANCHOR NOTES

- 1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT
- 2. FOR CORAL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT.
- 3. FOR MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS USE MINIMUM (2) 4" HELICES WITH MINIMUM 30 INCH EMBEDMENT
- 4. FOR LOOSE TO MEDIUM DENSE COARSE 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

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TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

DESIGN DATE: REVISION 1:

**REVISION 2:** SCALE:

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PROJECT NO.

30' WIDE X 20' HIGH OPEN STRUCTURE

12/14/2023

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PROJECT DESCRIPTION:

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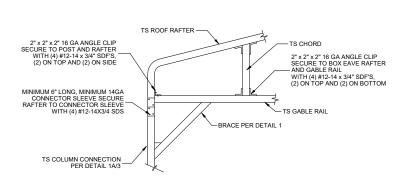
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BOW RAFTER GABLE END OPTION

TYPICAL BOX EAVE RAFTER

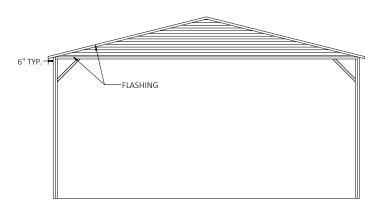
END WALL FRAMING SECTION SEE NOTES FOR MAX. SPACING VARIES WITH LEG HEIGHT

TYPICAL BOW EAVE RAFTER END WALL OPENINGS FRAMING SECTION

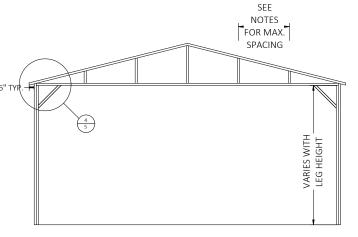


BOW EAVE RAFTER GABLE RAIL TO RAFTER POST CONNECTION DETAIL SCALE: NTS 4A

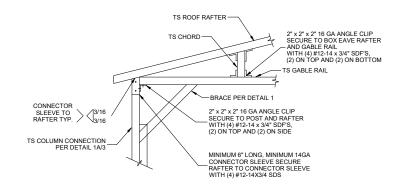
BOX EAVE RAFTER GABLE END OPTION



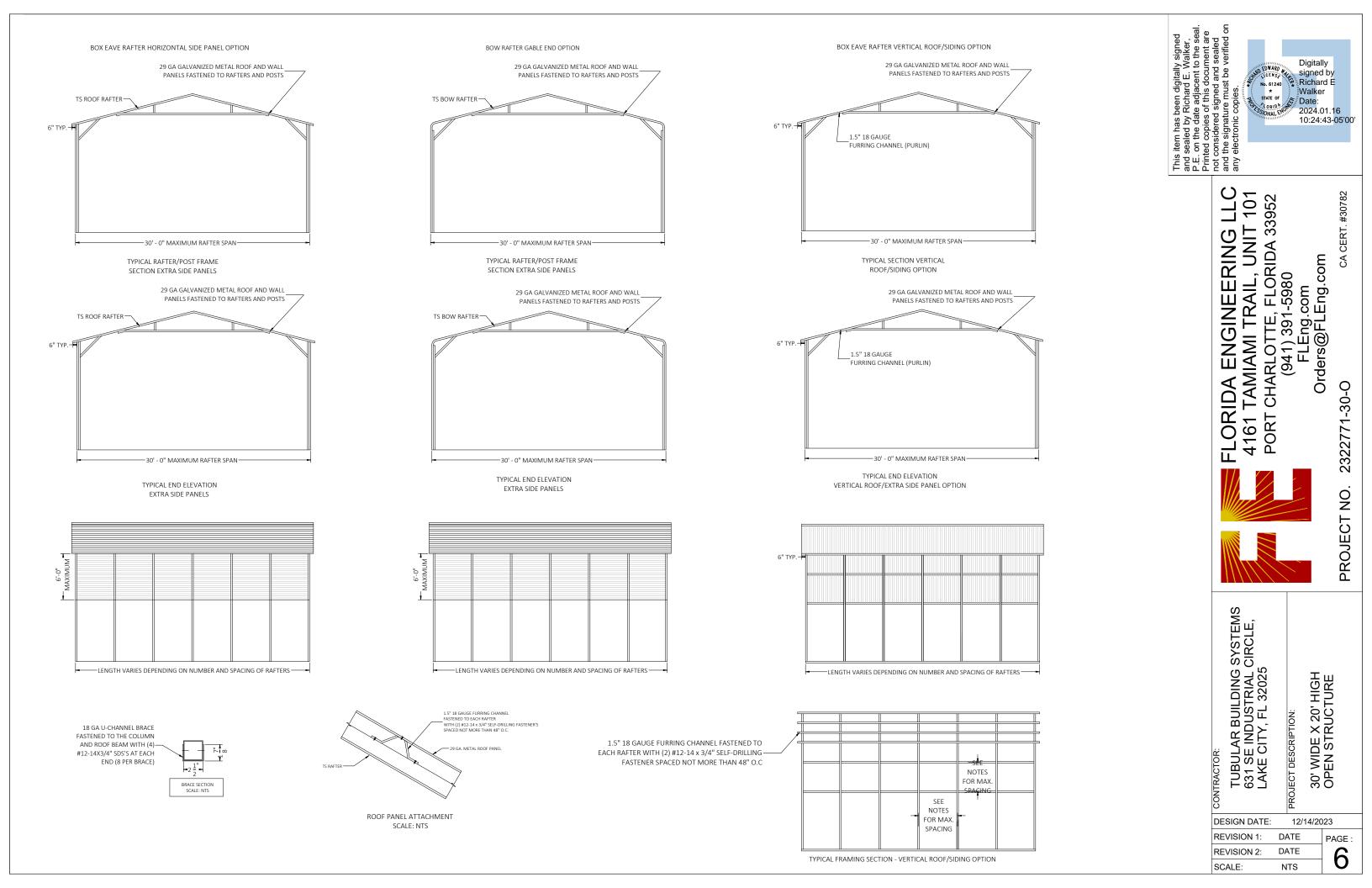
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION



TYPICAL BOX EAVE RAFTER END WALL OPENINGS FRAMING SECTION



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



6C

FOR EXTENSION RAFTER SPANS 16-0°-CW-C-24-0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.2/2.
FOR EXTENSION RAFTER SPANS 16-0°-CW-C-24-0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.1/2.
FOR EXTENSION RAFTER SPANS 19-0°-CW-C-24-0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.1/2.
SCALE: NIS.
SCALE: NIS.

5C

This item has been digitally signe and sealed by Richard E. Walker, P.E. on the date adjacent to the seal of this document a not considered signed and sealed and the signature must be verified any electronic copies. Digitally SIGNATU SIGNACU SIGNAC No. 61240

STATE OF Date:
2024
10:7 2024.01.16 10:24:44-05'00'

CA CERT. #30782

2322771-30-O

PROJECT NO.

101 PORT CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com Orders@FLEng.com TAMIAMI TRAIL, UNIT ENGINEERING < LORID/

4161 Ш







TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025 CONTRACTOR

2" x 2" x 2" 16 GA ANGLE CLIP SECURE TO POST AND

7C

FOR EXTENSION RAFTER SPANS 16"0"<="V2"4"0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.2/3.
FOR EXTENSION RAFTER SPANS 18"0"<-"V2"4"0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.1/3.
FOR EXTENSION RAFTER SPANS 19"0"<-"V2"4"0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 1.1/3.
SCALE: NTS.
SCALE: NTS.

30' WIDE X 20' HIGH OPEN STRUCTURE PROJECT DESCRIPTION

PAGE:

12/14/2023 DATE DATE

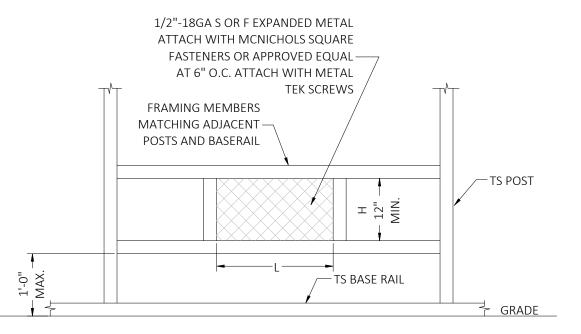
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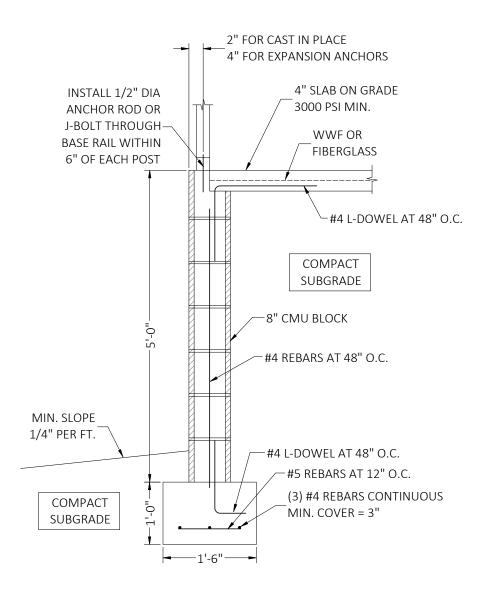
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PROJECT NO.



TYPICAL FLOOD VENT DETAIL

- 1. MINIMUM VENT SPACE REQUIRED = 1 SQ. IN. OF FREE OPEN VENT AREA PER SQ. FT. OF BUILDING AREA.
- 2. PROVIDE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES OF EACH ENCLOSED BUILDING.
- 3. APPLY A 1.3 FACTOR WHEN CALCULATING TOTAL OPEN AREA WHEN USING 1/2"-18GA S OR F EXPANDED METAL.
- 4. TOTAL OPEN AREA OF VENT = L X H (MIN. 12").
- 5. FLOOD VENT DETAIL COMPLIES WITH FEMA/NFIP.
- 6. PREFABRICATED FLOOD VENTS MEETING THE REQUIREMENTS OF FEMA/NFIP MAY BE USED.



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

4161 TAMIAMI TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
FLEng.com
Orders@FLEng.com FLORIDA ENGINEERING LLC



TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

30' WIDE X 20' HIGH OPEN STRUCTURE PROJECT DESCRIPTION

12/14/2023 DESIGN DATE:

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### **GENERAL NOTES**

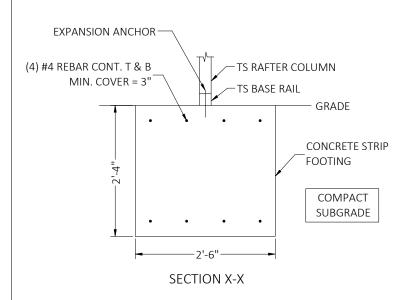
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

### CONCRETE

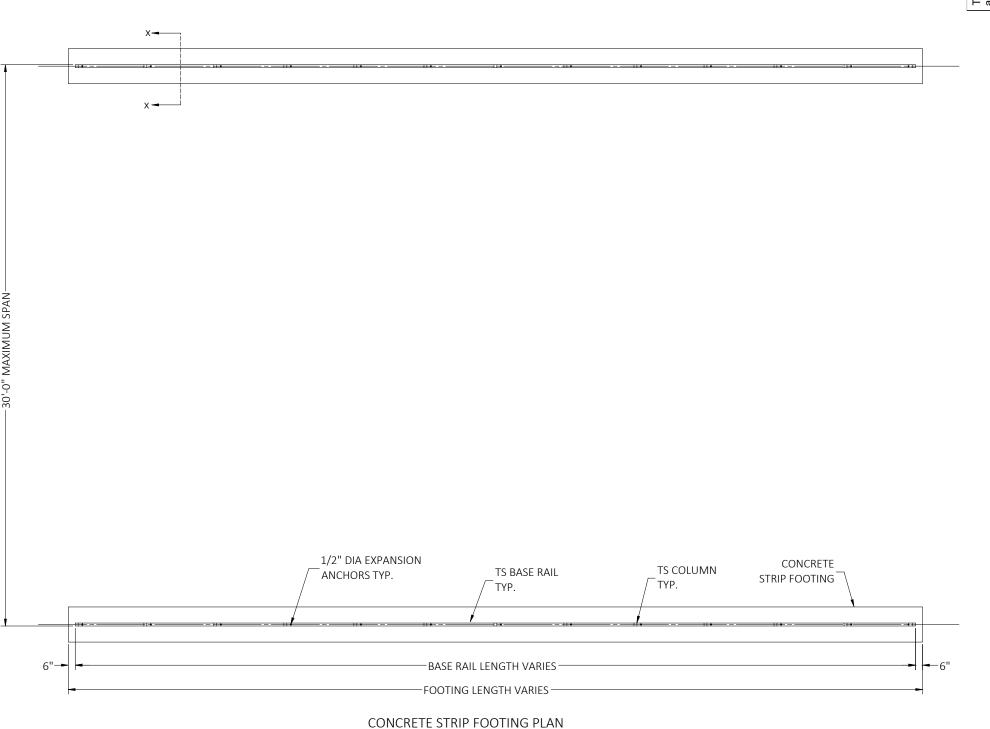
MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

### REINFORCING STEEL

- 1. TURNDOWN REINFORCING STEEL = ASTM A615 GRADE 60
- 2. SLAB REINFORCEMENT = WELDED WIRE FABRIC PER ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT
- 3. REINFORCING STEEL COVER = 3" WHERE CASE AGAINST AND PERMENENTLY EXPOSED TO SOIL OR WATER, 1.5" EVERYWHERE ELSE.
- 4. REINFORCEMENT IS BENT COLD.
- 5. MINIMUM INSIDE DIAMETER OF BEND = (6) BAR DIAMETERS
- 6. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT.







Digitally No. 61240 signed by Richard E STATE OF Date: 2024.01.16 10:24:46-05'00'

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> PORT CHARLOTTE, FLORIDA 33952
> (941) 391-5980
> FLEng.com
> Orders@FLEng.com **ENGINEERING LLC** 101 FLORIDA

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PROJECT NO.



TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

30' WIDE X 20' HIGH OPEN STRUCTURE PROJECT DESCRIPTION:

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