GENERAL NOTES

- 1. DESIGN IS FOR MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT FULLY ENCLOSED STRUCTURES
- 2. APPLICABLE CODES, REGULATIONS, & STANDARDS:

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
- 3. RISK CATEGORY:
- 4. FXPOSURE CATEGORY: C.
- 5. LOW ULTIMATE WIND SPEED 105 TO 150 MPH (NOMINAL WIND SPEED 81 TO 116 MPH): MAXIMUM RAFTER/POST AND END POST SPACING = 5.0 FEET.

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.

- 6. DEAD LOAD = 5 PSF
- 7. ROOF LIVE LOAD = 12 PSF
- 8. SPECIFICATIONS APPLICABLE TO 29/26 GAUGE METAL PANELS FASTENED DIRECTLY TO 2 1/2" x 2 1/2" - 14 GAUGE TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS, 29/26 GAUGE METAL PANELS SHALL BE FASTENED TO 18 GAUGE HAT CHANNELS (UNLESS OTHERWISE NOTED).
- 9. OPTIONAL BASE RAIL ANCHORAGE MAY BE USED FOR LOW AND MUST BE USED FOR HIGH WIND
- 10. 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
- 11. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" OR END = 6", (MAX.). THIS CONNECTION PATTERN SHALL BE SUPERCEDED BY THE PANEL MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- 12. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SOIL SITE CLASS = D R = 3.25 le = 1.0 Sds = 0.087 g V = CsW

Sdi = 0.084 g

- 13. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES
- 14. 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 UNSUITABLE SOILS AS NOTED.
- 15 MIN LAP REQUIREMENT FOR REBAR IN FOOTER IS 25"
- 16. SOIL TO BE COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY, AT OPTIMUM MOISTURE CONTENT,
- 17. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE EBC.
- 18. 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.
- 19. CONTRACTOR TO PROVIDE APPROVED PRODUCTS THAT MEET OR EXCEED WIND DESIGN PRESSURES.
- 20. CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS:

CONTRACTOR TO VERIFY THAT THE FINISHED FLOOR ELEVATION FOR THE PROPOSED STRUCTURE IS AT OR ABOVE THE GREATER OF THE FOLLOWING ELEVATIONS:

I) BFE (BASE FLOOD ELEVATION) + 2'-0"

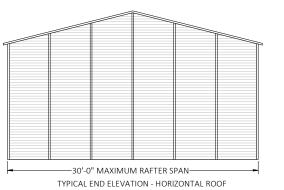
II) DFE (DESIGN FLOOD ELEVATION)

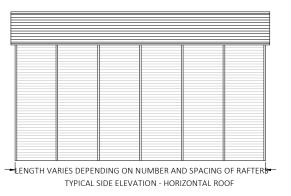
III) THE MINIMUM ELEVATION MANDATED BY THE BUILDING CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

DRAWING INDEX

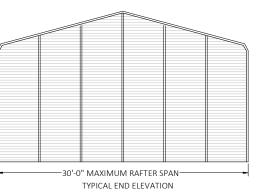
	DIAWING INDLA						
	PAGE NO.	DESCRIPTION					
	1	NOTES AND SPECIFICATIONS					
	2	BOX EAVE FRAME RAFTER ENCLOSED BUILDING					
	3	BOW EAVE FRAME RAFTER ENCLOSED BUILDING					
	4	BASE RAIL AND FOUNDATION ANCHORAGE					
	5	BOX/BOW EAVE VERTICAL ROOF/SIDING OPTION					
	6	BOX/BOW EAVE RAFTER LEAN-TO OPTIONS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

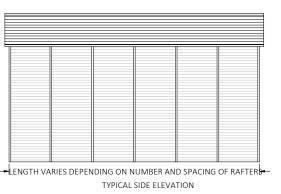
ENCLOSED METAL BUILDING DESIGN MAXIMUM 30'-0" WIDE X 20'-0" EAVE HEIGHT BOX/BOW EAVE FRAME





BOX EAVE FRAME RAFTER ENCLOSED BUILDING





BOW FRAME RAFTER ENCLOSEDBUILDING

APPROVED

By troy crews at 7:30 am, May 02, 2025

FLORIDA ENGINEERING LLC PROJECT NO. 2504211-30-E SIGNED AND SEALED DATED 03/27/2025 REVISES AND SUPERSEDES FLORIDA ENGINEERING LLC PROJECT NO. 2322771-30-E SIGNED AND SEALED DATED 03/04/2024.

1. THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND

DIGITAL CERTIFICATION NOTES:

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 ELORIDA 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 SAFFTY AT THE SITE IS THE CONTRACTOR'S RESPONSIBILITY

EDWARD WARD ICENSE ALE Digitally signed by Richard E Walker Date: SIAL ORIDA STATE OF 2025.03.27 13:07:41-04'00'

101 CHARLOTTE, FLORIDA 33952 (941) 391-5980 FLEng.com ENGINEERING TAMIAMI TRAIL, FLORIDA 161

FLEng.com Orders@FLEng.com

2504211-30-E

o.

PROJECT



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

30' WIDE X 20' HIGH ENCLOSED STRUCTURE

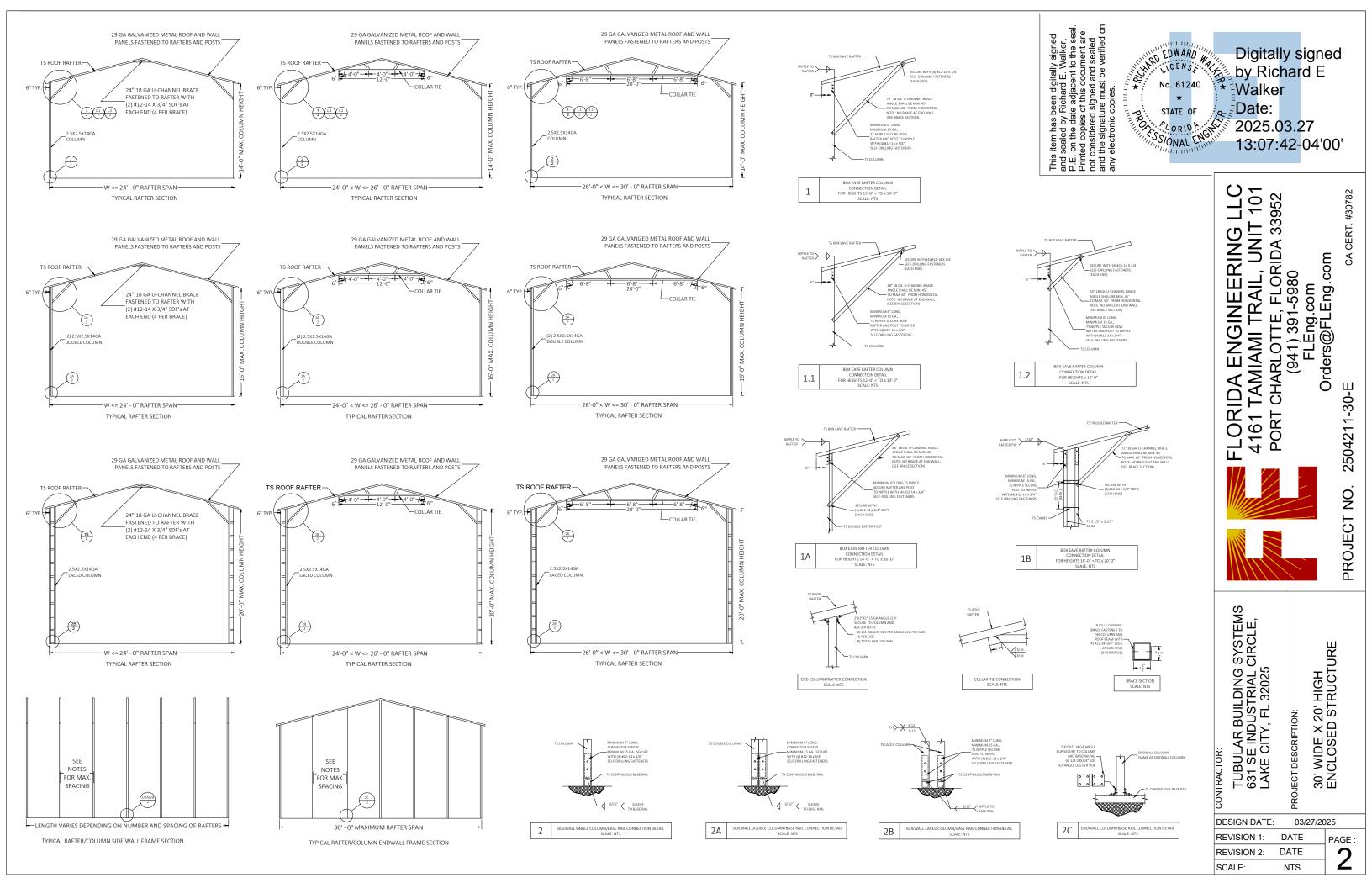
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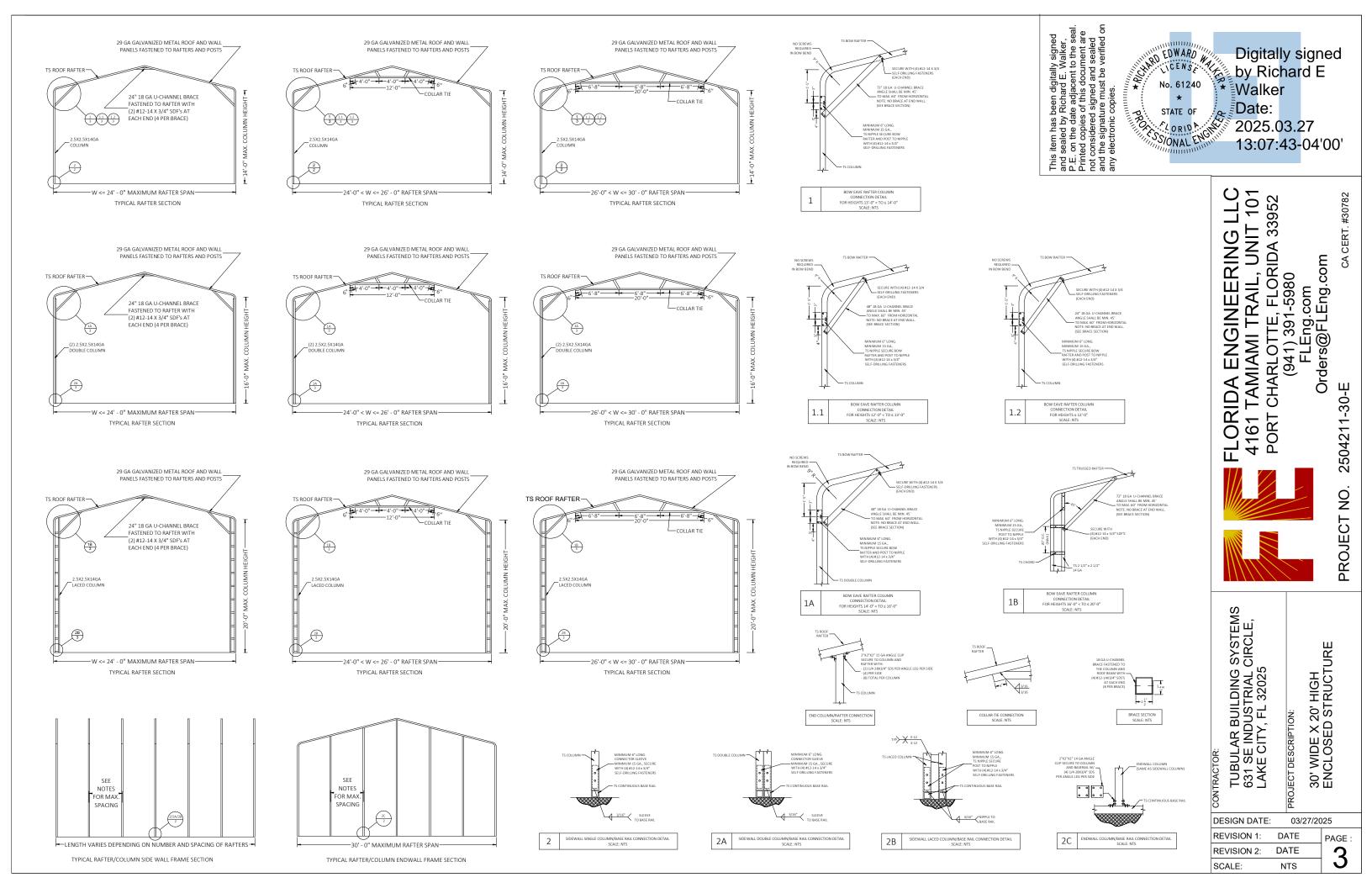
CONTRACTOR

DESIGN DATE: 03/27/2025

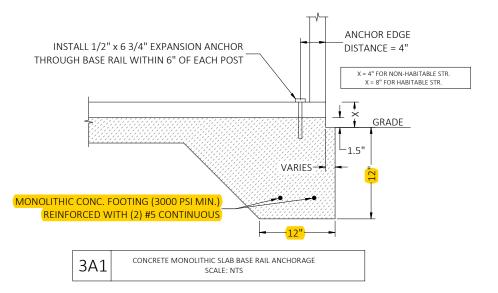
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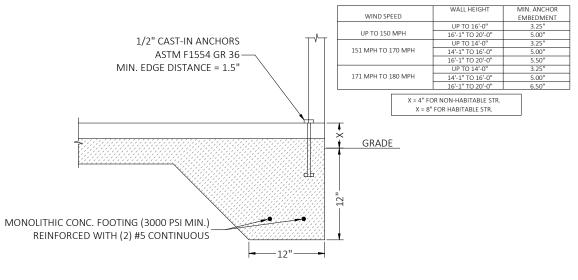
NTS





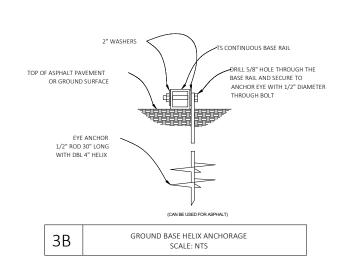
BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED



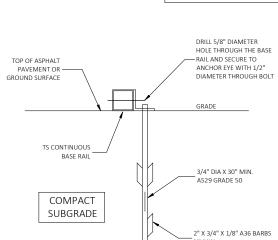


CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

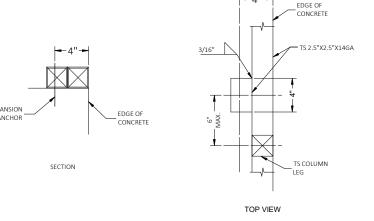
SCALE: NTS



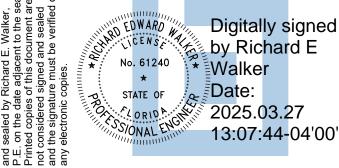
3A2



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



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







2504211-30-E

o.

PROJECT

SYSTEMS CIRCLE,

30' WIDE X 20' HIGH ENCLOSED STRUCTURE

TUBULAR BUILDING S 631 SE INDUSTRIAL C LAKE CITY, FL 32025 PROJECT DESCRIPTION

DESIGN DATE: 03/27/2025

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

PAGE

THE TURNDOWN REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS REINFORCEMENT MAY BE BENT IN THE FIELD OR SHOP AS LONG AS: 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

GENERAL NOTES

COMPLIANCE WITH THE FBC

COVERAGE OF THE REINFORCED STEEL:

CONCRETE

28 DAYS.

1-1/2 INCHES.

REINFORCING STEEL:

FIRER REINFORCEMENT

1. IT IS BENT COLD:

- 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

1. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT

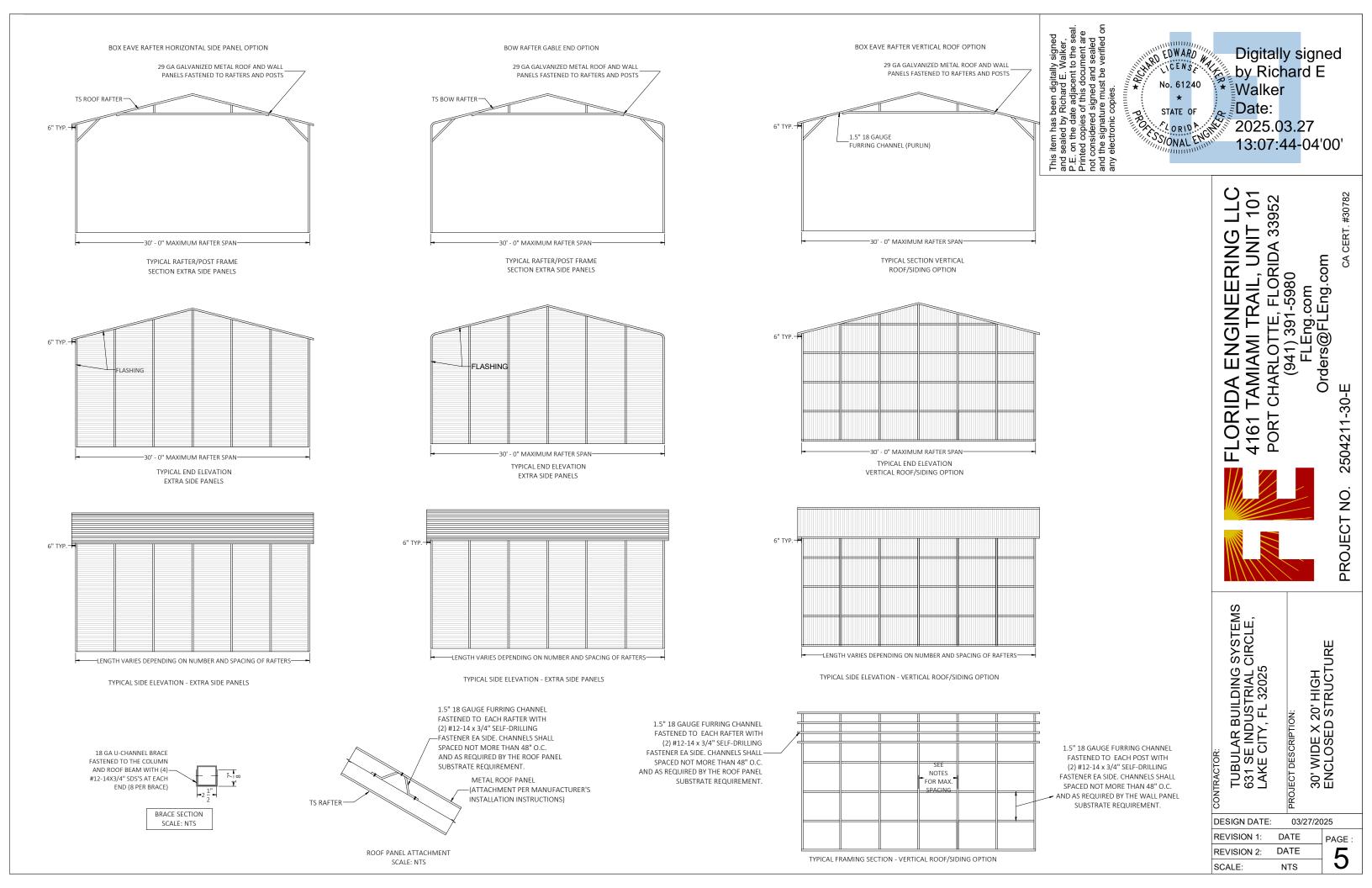
2. PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN

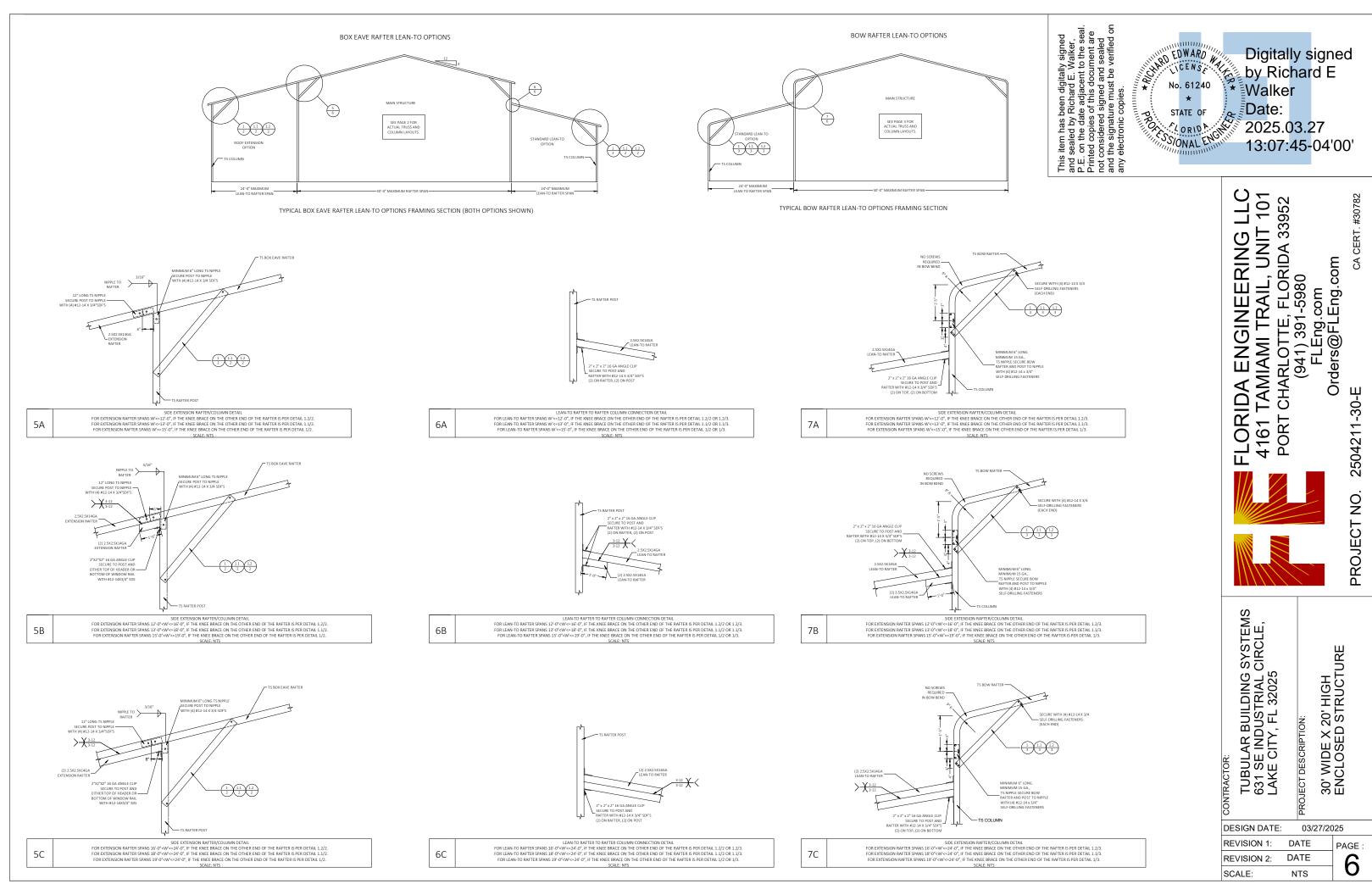
FOR FOUNDATIONS, MINIMUM CONCRETE COVER OVER REINFORCING BARS SHALL BE PER ACI-318: 3 INCHES WHERE THE CONCRETE IS POURED AGAINST AND TEMPORARY IN

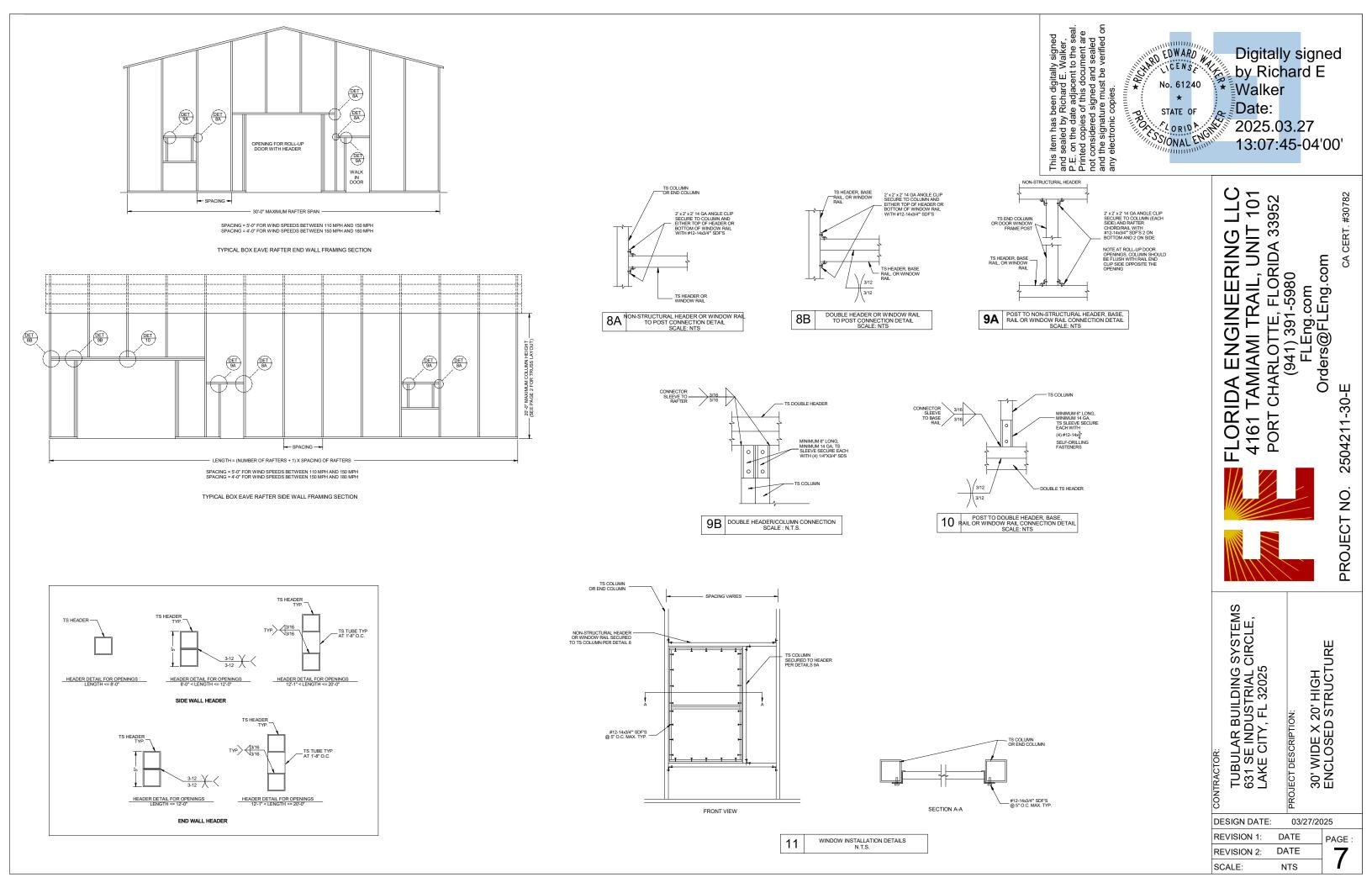
CONTACT WITH THE EARTH OR UNPROTECTED FROM THE EARTH OR WEATHER, OTHERWISE

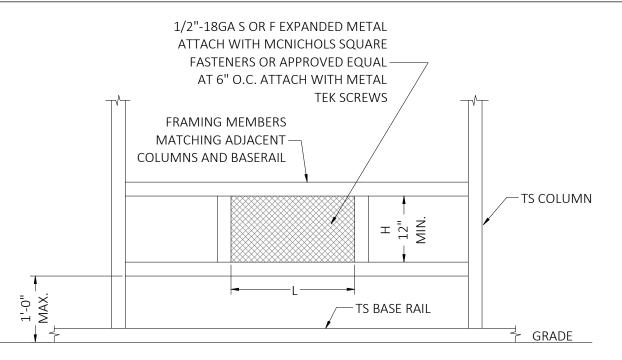
3. MINIMUM SOIL BEARING CAPACITY OF COMPACTED GRADE= 2000 PSF

- 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









TYPICAL FLOOD VENT DETAIL

CONSTRUCTION IN SPECIAL FLOOD HAZARD AREAS:

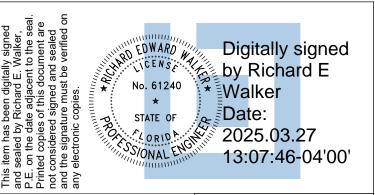
CONTRACTOR TO VERIFY THAT THE FINISHED FLOOR ELEVATION FOR THE PROPOSED STRUCTURE IS AT OR ABOVE THE GREATER OF THE FOLLOWING ELEVATIONS:

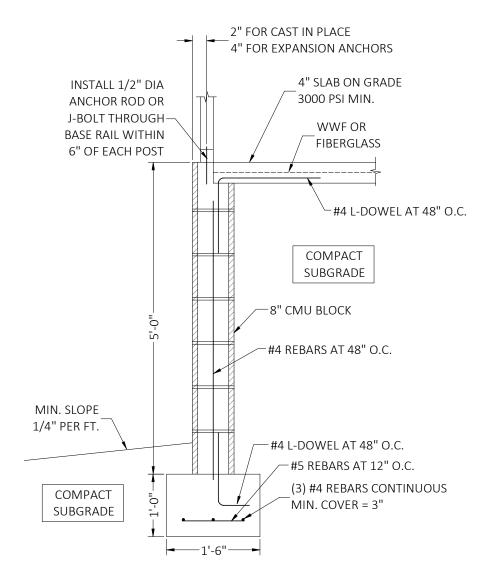
- I) BFE (BASE FLOOD ELEVATION) + 2'-0"
- II) DFE (DESIGN FLOOD ELEVATION)
- III) THE MINIMUM ELEVATION MANDATED BY THE BUILDING CODES ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

FLOOD VENT INSTALLATION NOTES:

- 1. MINIMUM VENT SPACE REQUIRED = 1 SQ. IN. OF OPEN VENT AREA PER SQ. FT. OF ENCLOSED AREA.
- 2. PROVIDE A MINIMUM OF TWO OPENINGS ON DIFFERENT SIDES OF EACH ENCLOSED AREA.
- 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 INSTALLED.

	FLOOD SOLUTION	FL #17588.1-R4		
VENT MODEL	VENT SIZE (WIDHT x HEIGHT) (in.)	ROUGH OPENING SIZE (Width x Height) (in.)	ENCLSOED AREA COVERAGE (sq. ft.)	NET FREE AREA (sq. in.)
FS-1608	18 1 X 10 1 2	16 X 8	97	80.7
FS-1616	$18\frac{1}{2}$ X $18\frac{1}{2}$	16 X 16	191	158.2
FS-1412	$17\frac{1}{2}$ " X $14\frac{1}{2}$ "	14 1/2 X 12"	129	106.7
FS-1608-HEX	$18\frac{1}{2}$ " X $10\frac{1}{2}$ "	16 X 8	110	91.4





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

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



2504211-30-E

PROJECT NO.

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

PROJECT DESCRIPTION:

30' WIDE X 20' HIGH
ENCLOSED STRUCTURE

DESIGN DATE: 03/27/2025

REVISION 1: DATE
REVISION 2: DATE
SCALE: NTS

PAGE - 8

GENERAL NOTES

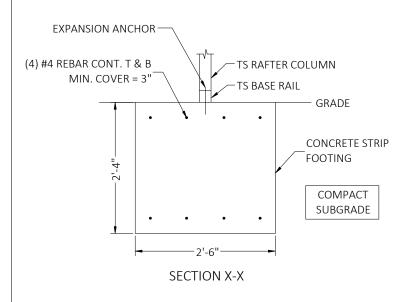
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

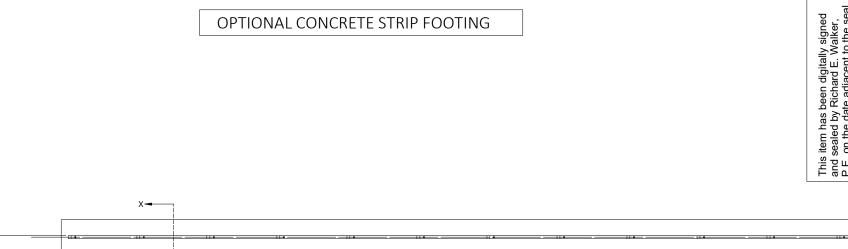
CONCRETE

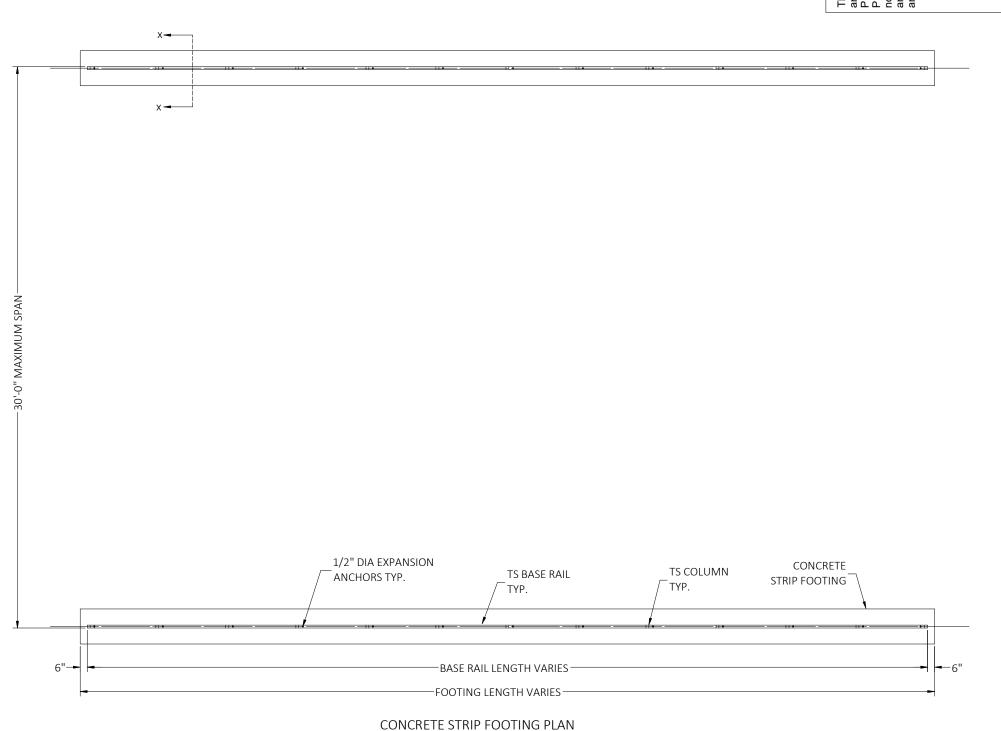
MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

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.







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

Digitally
by Richa
No. 61240

Walker

STATE OF STATE OF CORID A CHANGE

Digitally signed by Richard E

13:07:46-04'00'

Date:

2025.03.27

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

30' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION

2504211-30-E

PROJECT NO.

DESIGN DATE:

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

PAGE

03/27/2025