GENERAL NOTES

- 1. DESIGN IS FOR MAXIMUM 40'-0" WIDE X 20'-0" EAVE HEIGHT FULLY ENCLOSED 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. FXPOSURE 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 FFFT. 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 SPEEDS.
- 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"
- 10. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:

SOIL SITE CLASS = D RISK CATEGORY I/II/III R = 3.25

Sds = 0.087 g V = CsW

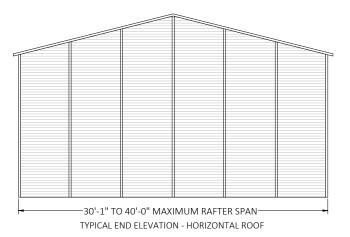
Sdi = 0.084 g

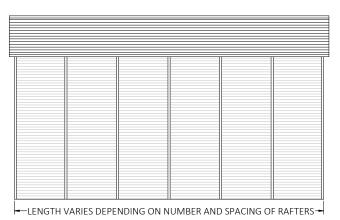
- 11. GROUND ANCHORS SHALL BE INSTALLED THROUGH BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES.
- 12. GROUND ANCHOR (SOIL NAILS) CONSIST OF #5 REBAR W/ WELDED NUT X 30" LONG IN SUITABLE SOIL CONDITIONS MAY BE USED FOR LOW (< 108 MPH NOMINAL) WIND SPEEDS ONLY. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USE IN UNSUITABLE SOILS AS NOTED.
- 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 EBC.
- 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 ENCLOSED BUILDING		
3	BASE RAIL AND FOUNDATION ANCHORAGE		
4	BOX EAVE VERTICAL ROOF/SIDING OPTION		
5	BOX EAVE RAFTER LEAN-TO OPTIONS		
6	BOX EAVE RAFTER END WALL, SIDE WALL AND OPENING FRAMING		
7	VENT AND CMU STEM WALL DETAIL		
8	OPTIONAL CONCRETE STRIP FOOTING		

ENCLOSED METAL BUILDING DESIGN MAXIMUM 40'-0" WIDE X 20'-0" EAVE HEIGHT **BOX EAVE FRAME**





TYPICAL SIDE ELEVATION - HORIZONTAL ROOF

BOX EAVE FRAME RAFTER ENCLOSED BUILDING

PRODUCT CATEGORY	SUB CATEGORY	MANUFACTURER	APPROVAL No. & DATE
STRUCTURAL COMPONENTS	ROOF DECK	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB ROOF PANEL	FL20147.2-R3 12/13/2023
STRUCTURAL COMPONENTS	STRUCTURAL WALL	CAPITAL METAL SUPPLY, INC. 29 GA. CAPITAL RIB WALL PANEL	FL20148.2-R3 12/13/2023
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 3652	FL14425.1-R6 12/15/21
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 750	FL21450.10-R11 10/17/23
EXTERIOR DOORS	ROLL-UP	JANUS INTERNATIONAL GROUP, LLC. SERIES 3100	FL12765.4-R6 10/12/20
EXTERIOR DOORS	SWINGING	ELIXIR DOOR AND METAL COMPANY SERIES 407	FL17996.5-R3 12/26/23
WINDOWS	SINGLE HUNG	KINRO, INC 9750 SH	FL993.5-R19 11/01/23
WINDOWS	VERTICAL SLIDING	KINRO, INC 18000-R VS	FL993.8-R19 11/01/23

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is item has been digitally sig d sealed by Richard E. Walk E. on the date adjacent to the inted copies of this documen t considered signed and seal d the signature must be verif y electronic copies.

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101 33952 LNO FLORIDA ENGINEERING TAMIAMI TRAIL,

T CHARLOTTE, FLORIDA 3 (941) 391-5980 FLEng.com Orders@FLEng.com

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CA CERT. #30782

2322771-40-

ROJECT NO.

161



PROJECT DESCRIPTION

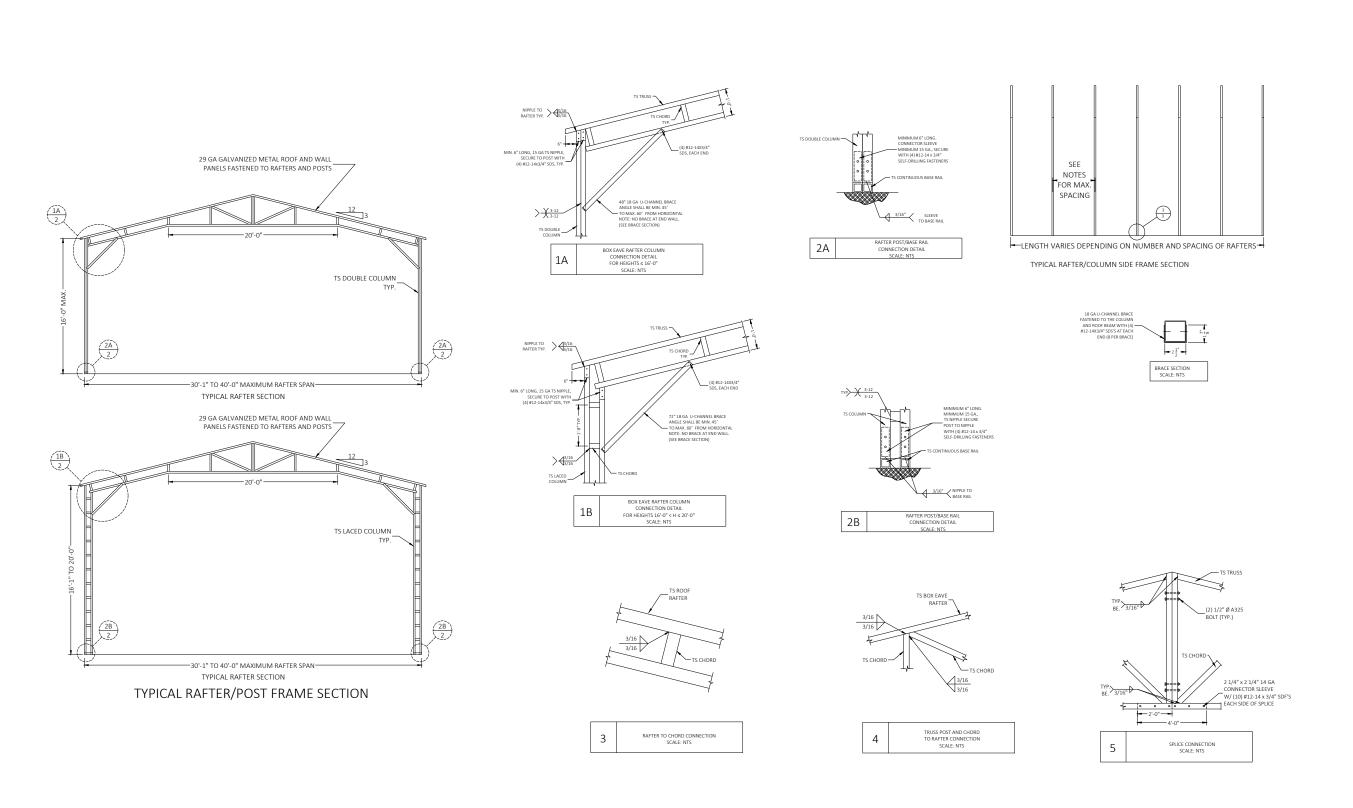
TUBULAR BUILDING SYSTEMS 631 SE INDUSTRIAL CIRCLE, LAKE CITY, FL 32025

DESIGN DATE: 12/14/2023

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PAGE

40' WIDE X 20' HIGH ENCLOSED STRUCTURE





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PROJECT NO.

PAGE : 2









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

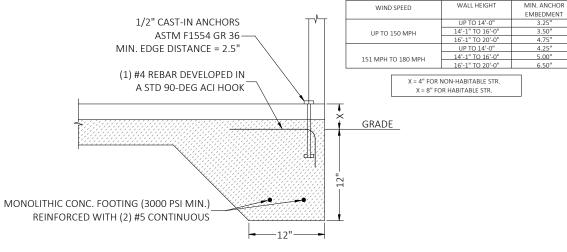
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CONTRACTOR DESIGN DATE: REVISION 1:

12/14/2023 DATE **REVISION 2:** DATE SCALE: NTS

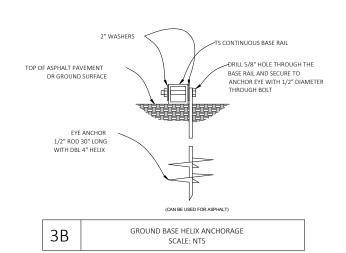
BASE RAIL ANCHORAGE OPTIONS FOR LOW AND HIGH WIND SPEED

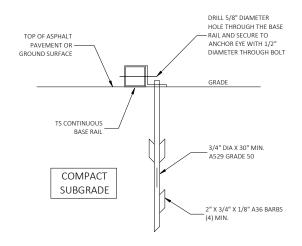
ANCHOR EDGE INSTALL 1/2" x 6 3/4" EXPANSION ANCHOR DISTANCE = 4" THROUGH BASE RAIL WITHIN 6" OF EACH POST X = 4" FOR NON-HABITABLE STR. X = 8" FOR HABITABLE STR. VARIES-MONOLITHIC CONC. FOOTING (3000 PSI MIN.) REINFORCED WITH (2) #5 CONTINUOUS CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE 3A1



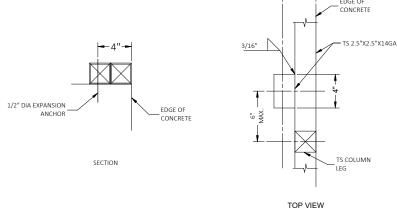
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

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

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

40' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION

DESIGN DATE: 12/14/2023

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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

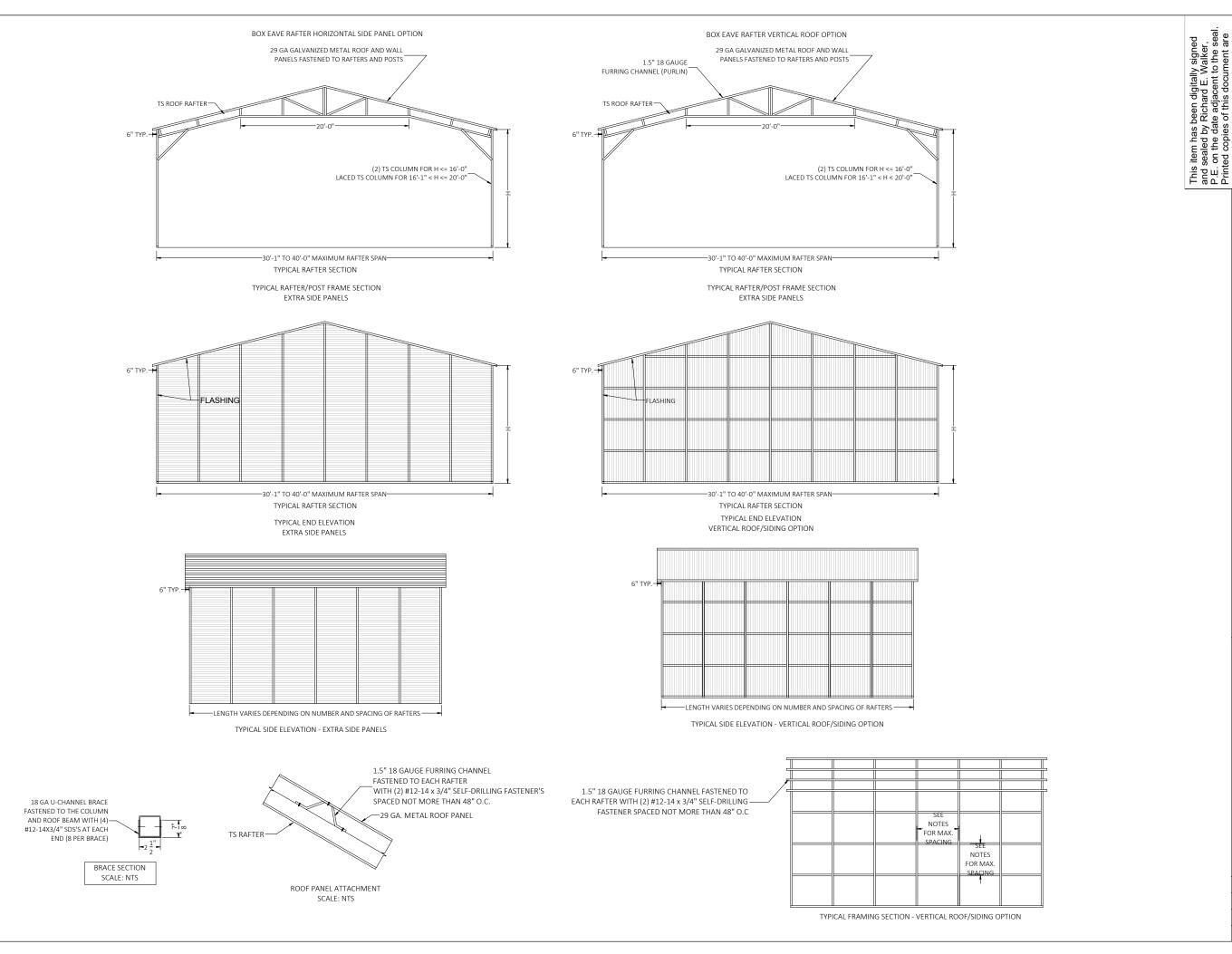
REINFORCEMENT MAY BE BENT IN THE FIELD OR SHOP AS LONG AS:

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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2322771-40-E PROJECT NO.

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

40' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION

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RAFTER WITH #12-14 X 3/4" SDF'S (2) ON RAFTER, (2) ON POST

LEAN-TO RAFTER TO RAFTER TO RAFTER COLUMN CONNECTION DETAIL
FOR LEAN-TO RAFTER SPANS 16'-0'<W'<=24'-0", IF THE KINEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 7A/5.
FOR LEAN-TO RAFTER SPANS 18'-0"<W'<=24'-0", IF THE KINEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 7C/5.
SCALE: NTS

SCALE: NTS

6C

SIDE EXTENSION RAFTER SPANS 16-0"
SIDE EXTENSION RAFTER/COLUMN DETAIL
FOR EXTENSION RAFTER SPANS 16-0"
"CW"<-24'-0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 78/5.
FOR EXTENSION RAFTER SPANS 19'-0"
"CW"<-24'-0", IF THE KNEE BRACE ON THE OTHER END OF THE RAFTER IS PER DETAIL 78/5.
SCALE: NTS

5C

Signed by Richard E Walker STATE OF Date: 2024. 2024.01.16 10:25:03-05'00' CA CERT. #30782

2322771-40-E PROJECT NO.

DESIGN DATE:

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WITH (4) #12-14 x 3/4" SELF-DRILLING FASTENE

BOX EAVE RAFTER COLUMN CONNECTION DETAIL 72" BRACE SCALE: NTS

7C

40' WIDE X 20' HIGH ENCLOSED STRUCTURE

12/14/2023

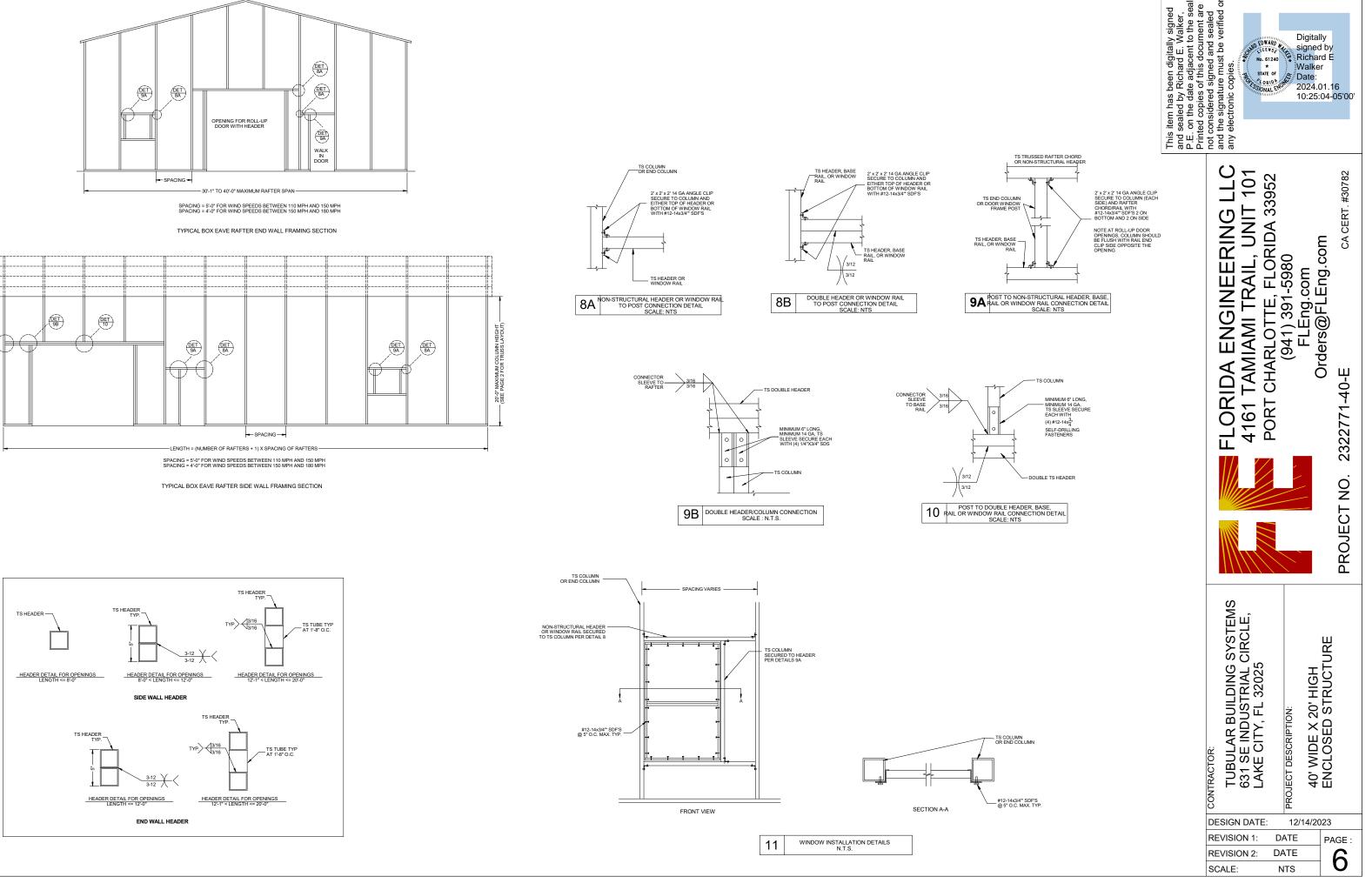
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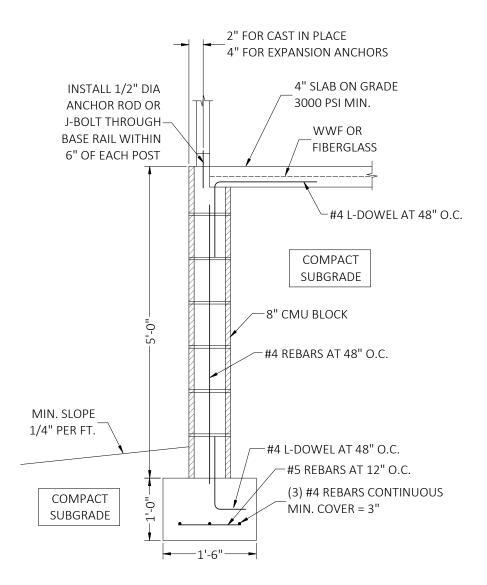
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NTS



TYPICAL FLOOD VENT DETAIL

- 1. MINIMUM VENT SPACE REQUIRED = 1 SQ. IN. OF 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

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No. 81

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

40' WIDE X 20' HIGH ENCLOSED STRUCTURE PROJECT DESCRIPTION

DESIGN DATE:

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12/14/2023

GENERAL NOTES

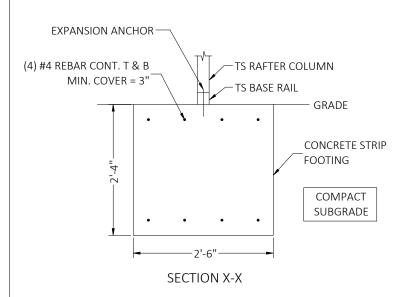
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

CONCRETE

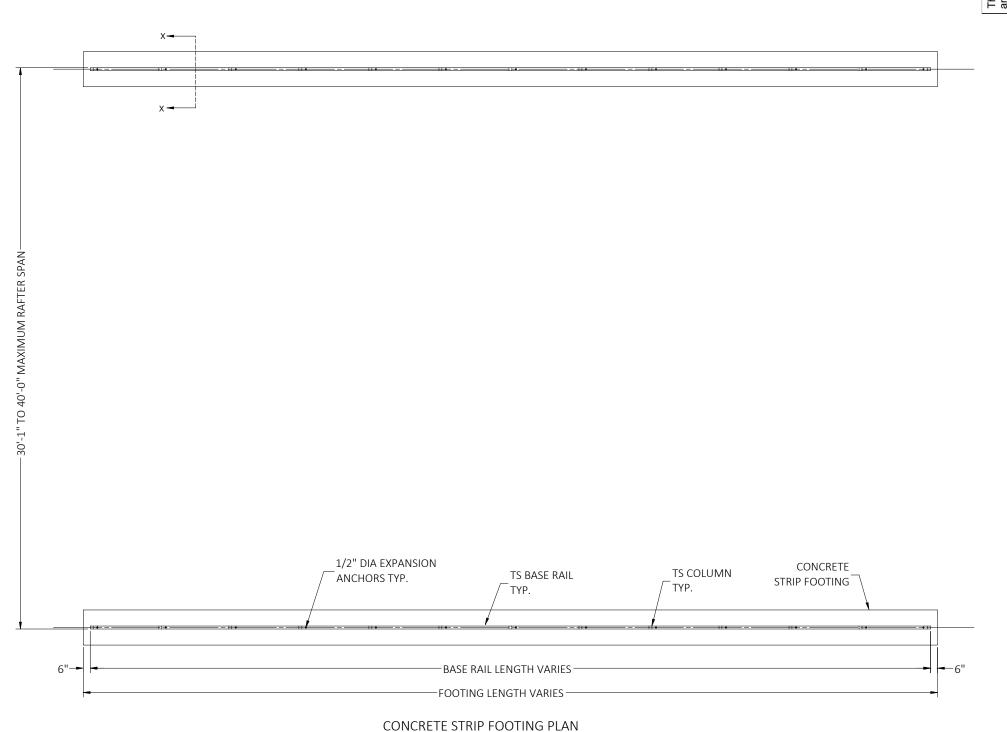
MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

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.







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40' WIDE X 20' HIGH ENCLOSED STRUCTURE

2322771-40-E

PROJECT NO.

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

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