

APPLICABLE CODES AND STANDARDS

- 2020 FLORIDA BUILDING CODE (7TH EDITION)
- 2018 INTERNATIONAL BUILDING CODE
- ASCE 7-16: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
- AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
- ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
- TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
- AWS D1.1: STRUCTURAL WELDING

DESIGN LOADS

- DEAD LOAD = 15 PSF
 - LIVE LOAD = 20 PSF
 - WIND LOAD (SEE TABLE 1)
 - RISK CATEGORY = II
 - WIND EXPOSURE CATEGORY = C
 - ULTIMATE WIND SPEED = 120 MPH
- NOMINAL WIND SPEED = 93 MPH

INSTALLATION NOTES AND SPECIFICATIONS

- END WALL COLUMNS (POST) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING U.N.O.
- SPECIFICATIONS APPLICABLE TO 29 GA METAL PANELS FASTENED DIRECTLY TO 2.5”X2.5”X14 GA TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS. 29 GA METAL PANELS SHALL BE FASTENED DIRECTLY TO 18 GA HAT CHANNELS U.N.O.
- AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9” AND END = 6” MAX.
- FASTENERS CONSIST OF #12-14X3/4” SELF-DRILLING SCREWS (SDS), USE CONTROL SEAL WASHER WITH EXTERIOR FASTENERS. SPECIFICATIONS APPLICABLE ONLY FOR MEAN ROOF HEIGHT OF 20’-0” OR LESS, AND ROOF SLOPES OF 18° (4:12 PITCH) OR LESS. SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
- ANCHORS SHALL BE INSTALLED THROUGH THE BASE RAIL WITHIN 6” OF EACH RAFTER COLUMN ALONG SIDES AND ENDS.
- STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBARS WITH WELDED NUT X 30” LONG AND MAY BE USED IN SUITABLE SOILS. OPTIONAL ANCHORAGE MAY BE USED IN SUITABLE SOILS AND MUST BE USED IN UNSUITABLE SOILS AS NOTED. SOIL NAILS MAY BE USED FOR WIND SPEEDS LESS THAN OR EQUAL TO 145 MPH.
- RAFTER SPACING IS 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH AND 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH.

DRAWING INDEX

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10	BOX EAVE RAFTER VERTICAL ROOF/SIDING OPTION
11	OPTIONAL CONCRETE STRIP FOOTING
12	OPTIONAL HELICAL ANCHORING DETAIL

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

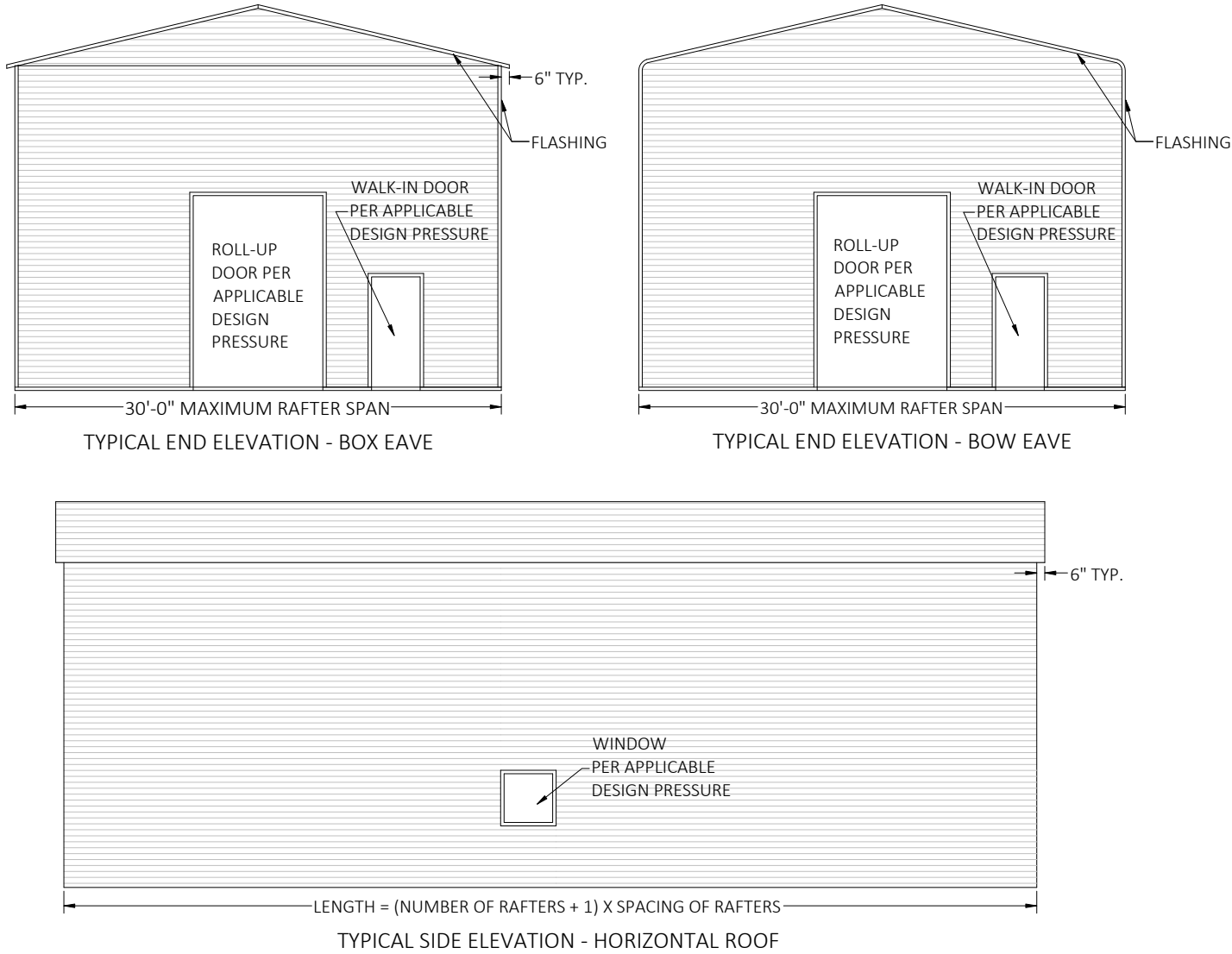


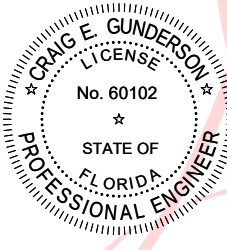
TABLE 1

MEMBER	PRODUCT APPROVAL NUMBER	WIND DESIGN PRESSURES
ROOF PANELS	FL39466	+12.1 PSF / -40.2 PSF
WALL PANELS	FL39594	+16.8 PSF / -21.3 PSF
GARAGE DOOR	CTP	+16.8 PSF / -21.3 PSF
WALK-IN DOOR	CTP	+16.8 PSF / -21.3 PSF

CTP = CONTRACTOR TO PROVIDE 2020 FBC APPROVED PRODUCTS THAT MEET OR EXCEED DESIGN PRESSURES AS TABULATED.

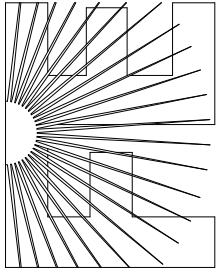
DESIGN WIND PRESSURES	120 MPH
ZONE 1	+12.1 PSF / -21.2 PSF
ZONE 2	+12.1 PSF / -34.5 PSF
ZONE 3	+12.1 PSF / -40.2 PSF
ZONE 4	+16.8 PSF / -18.4 PSF
ZONE 5	+16.8 PSF / -21.3 PSF

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www.flengineeringllc.com



CA CERT. #30782

PROJECT NO. 2217228

CONTRACTOR:
ELITE METAL
MANUFACTURING

PROJECT ADDRESS:
12'-30' WIDE PLANS
10121 88TH TRACE,
LIVE OAK FL 32060

DESIGN DATE: 06/24/2022

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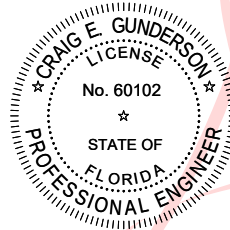
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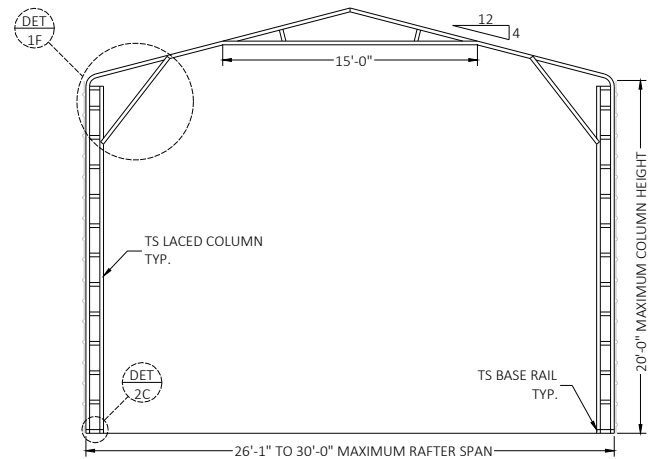
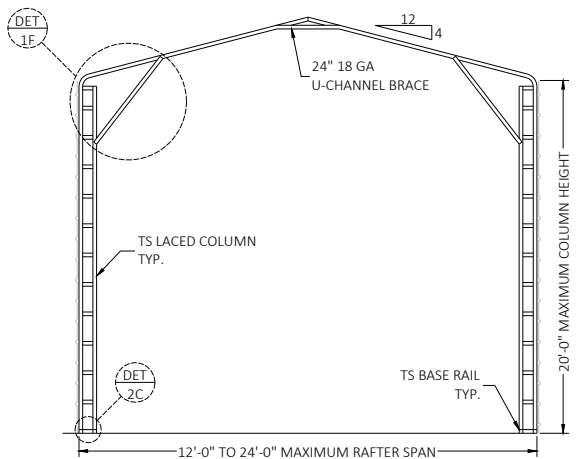
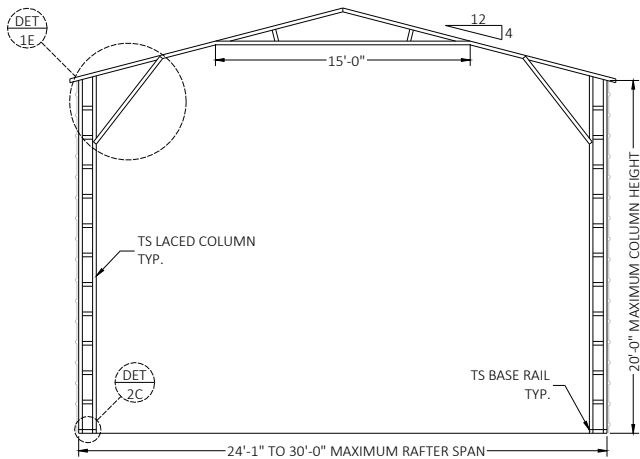
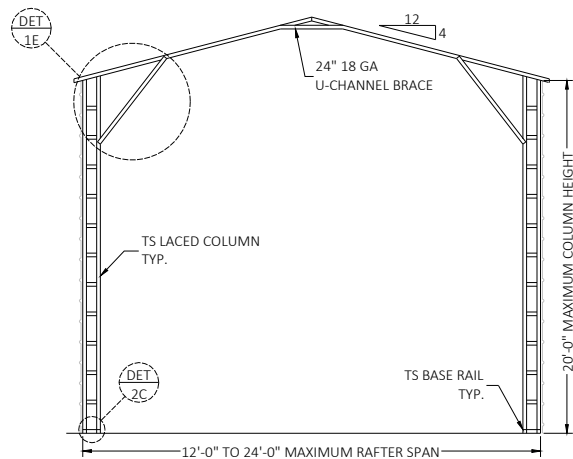
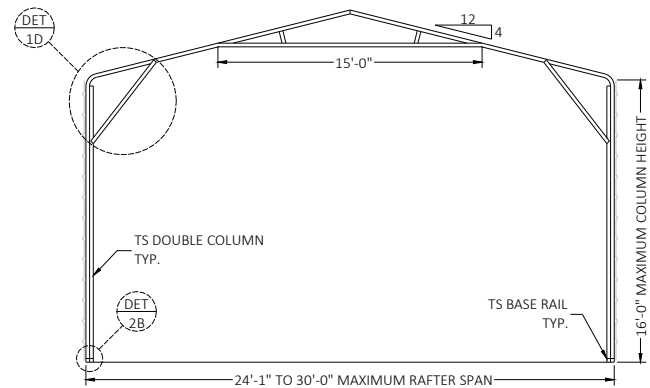
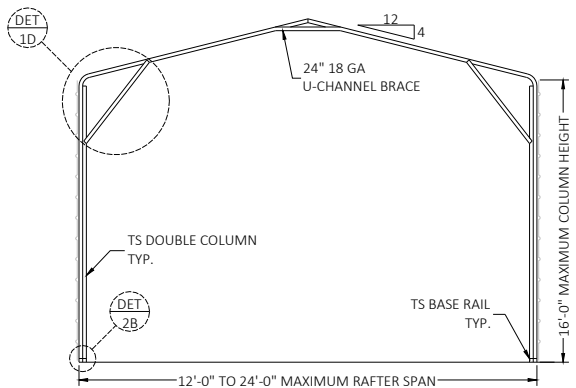
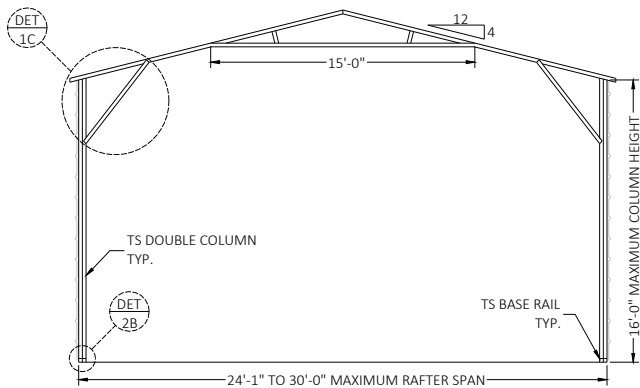
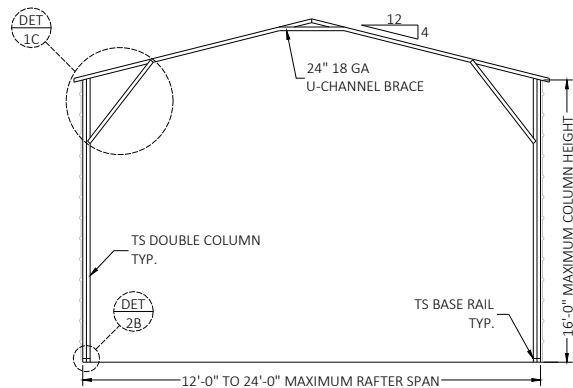
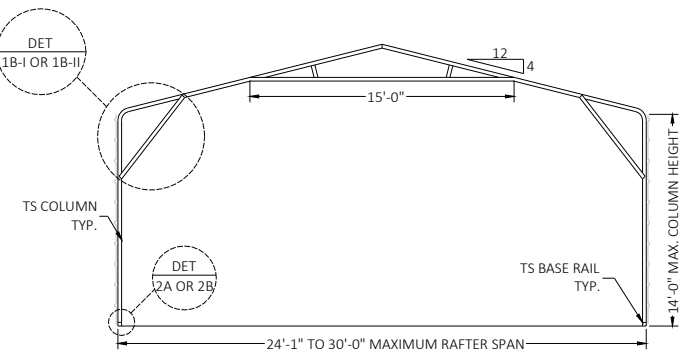
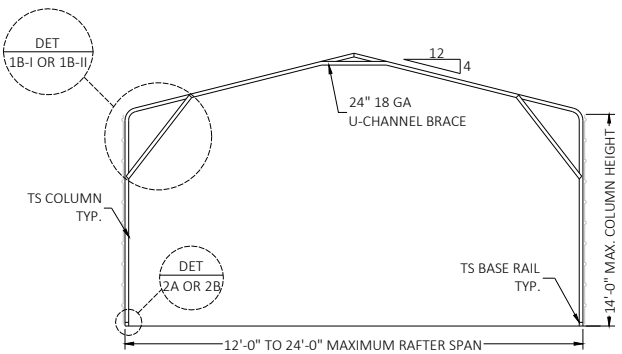
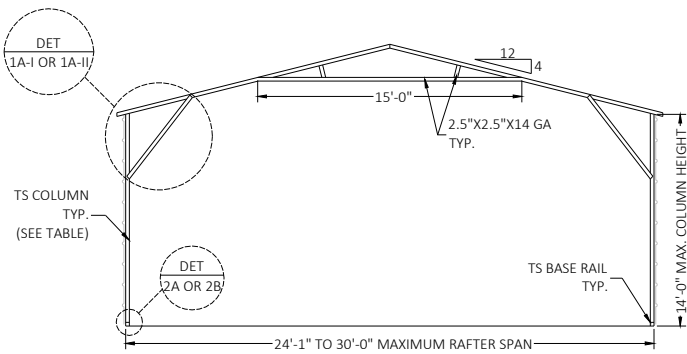
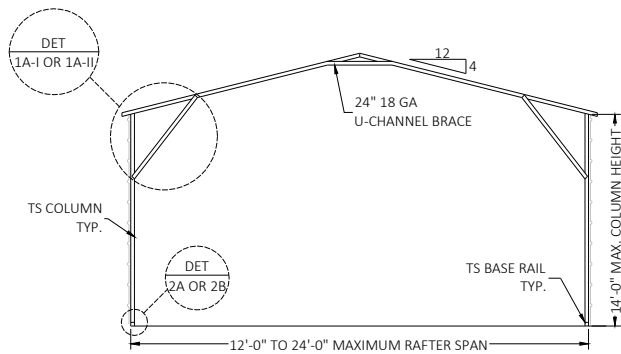
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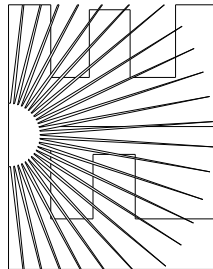
FOR 14'-0" MAX. POST HEIGHT	
BUILDING LENGTH	POST DIMENSIONS
$\leq 56'-0"$	ALL POSTS 2.5X2.5X14 GA
56'-1" TO 60'-0"	(2) CENTRAL POSTS 2.5X2.5X14 GA OR (4) CENTRAL POSTS 2.5X2.5X12 GA REST 2.5X2.5X14 GA



BOX EAVE FRAME

BOW EAVE FRAME

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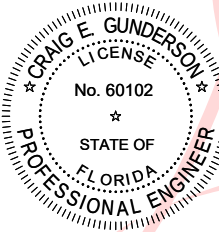
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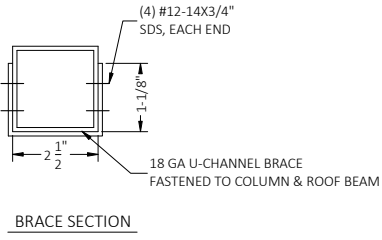
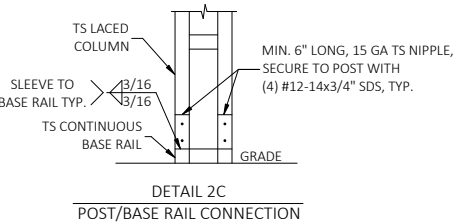
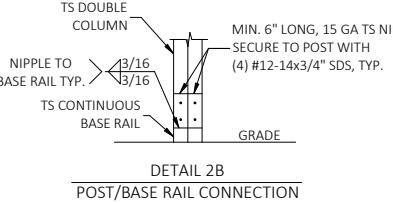
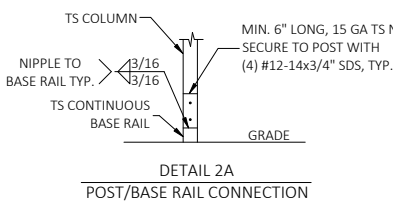
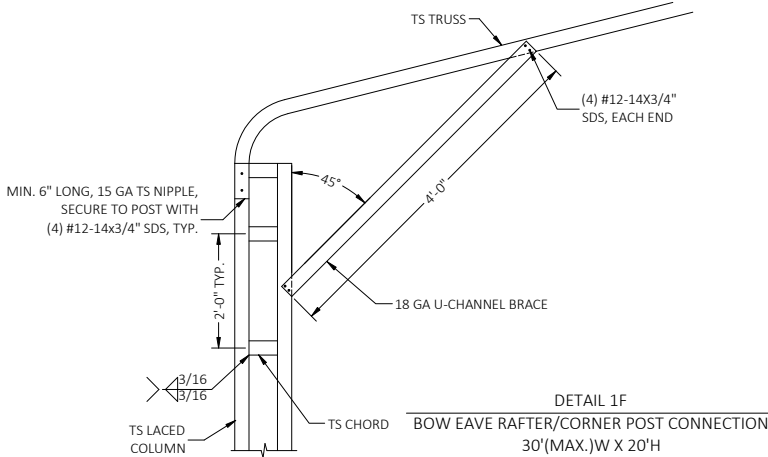
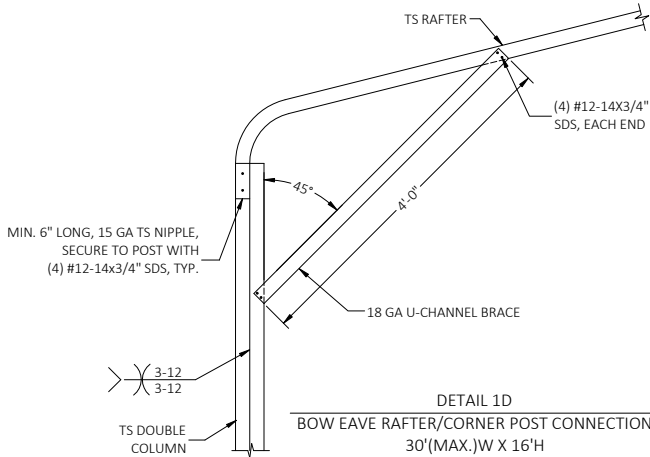
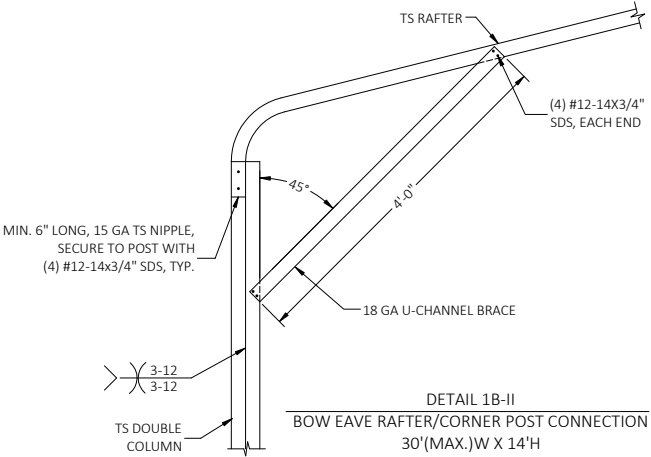
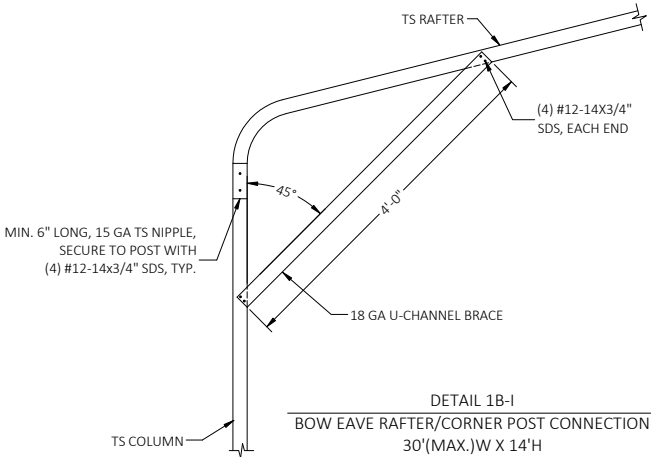
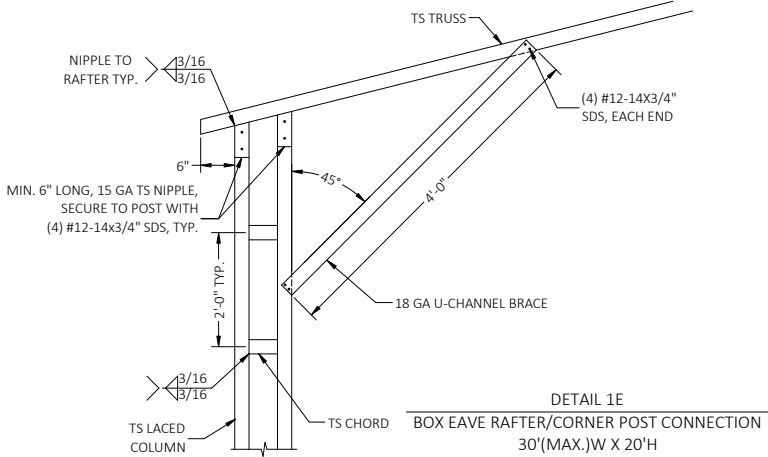
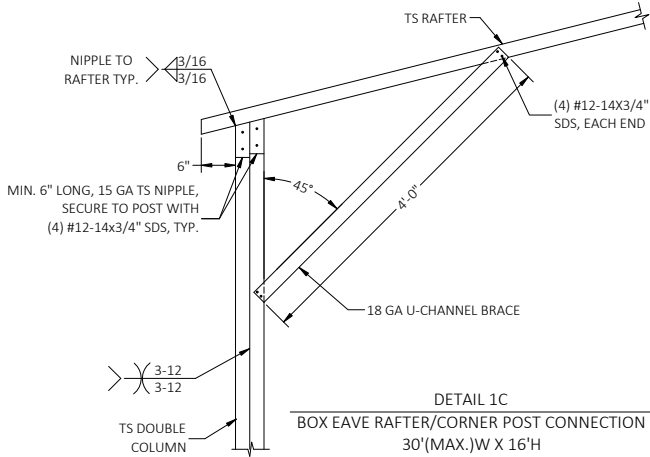
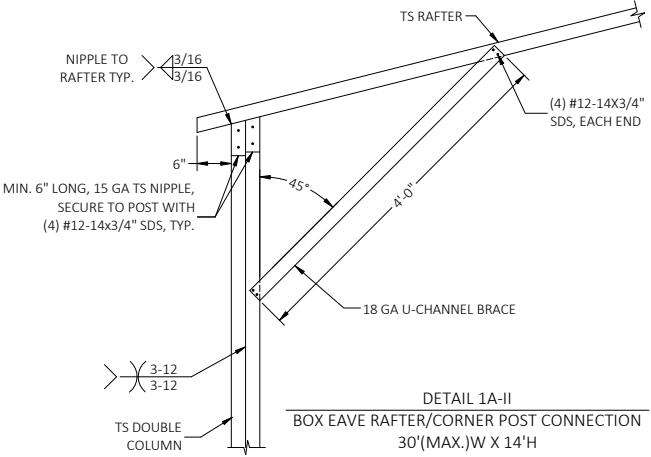
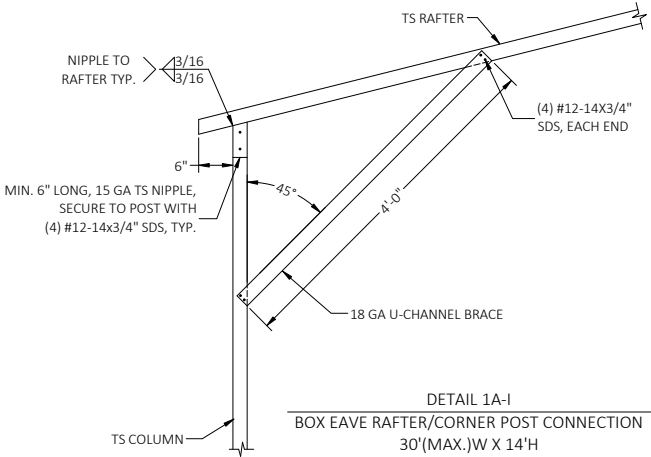
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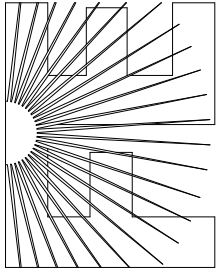
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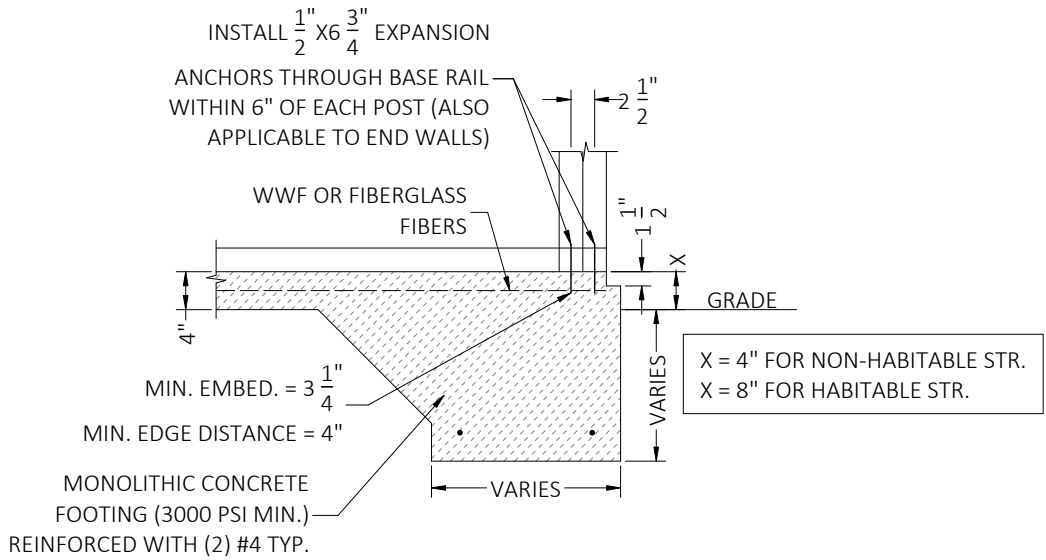
CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 1500 PSF.

MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

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.

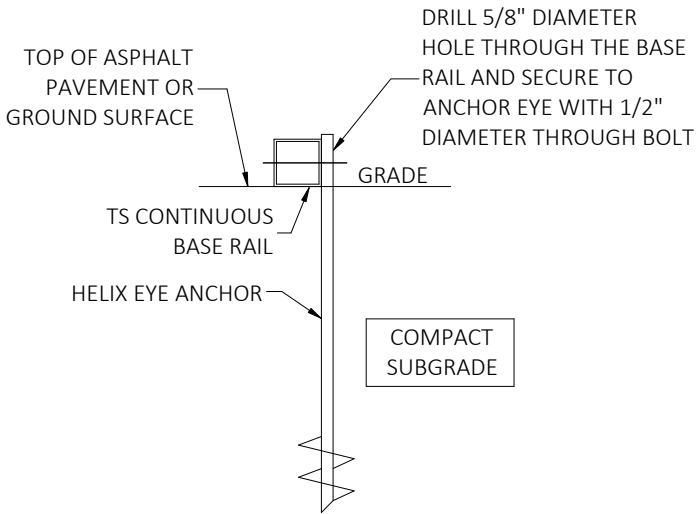
1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT.
2. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.
3. FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

MONOLITHIC FOOTER SIZE	
110 C - 140 C	8"X8" - (2) #4
ABOVE 140 C	12"X12" - (2) #4



DETAIL 3A

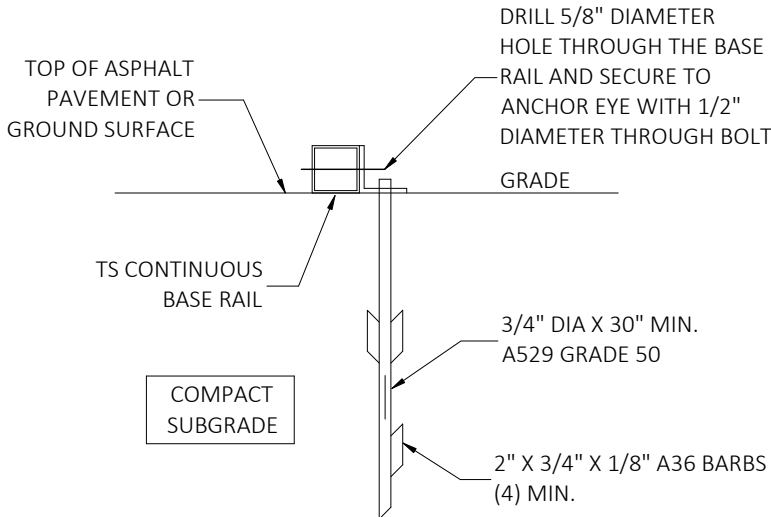
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE



DETAIL 3B

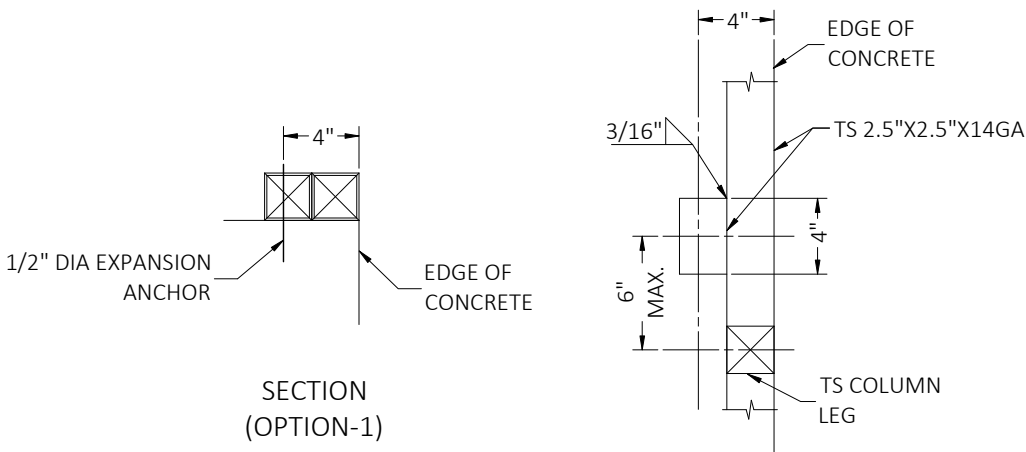
GROUND BASE HELIX ANCHORAGE

BASE RAIL ANCHORAGE OPTIONS



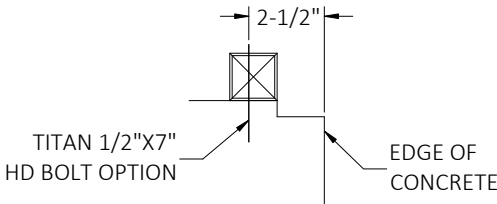
DETAIL 3C

ASPHALT BASE ANCHORAGE
(HP 9 BARBED DRIVE ANCHOR)



TOP VIEW
(OPTION-1)

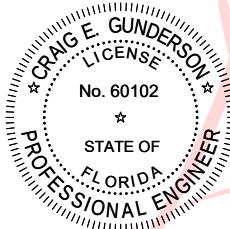
TYPICAL ANCHOR DETAIL WHEN BASE
RAIL IS NEAR EDGE OF CONCRETE



SECTION
(OPTION-2)

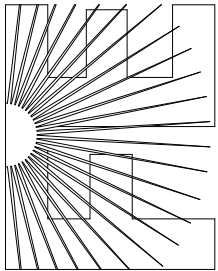
BASE RAIL ANCHORAGE OPTION

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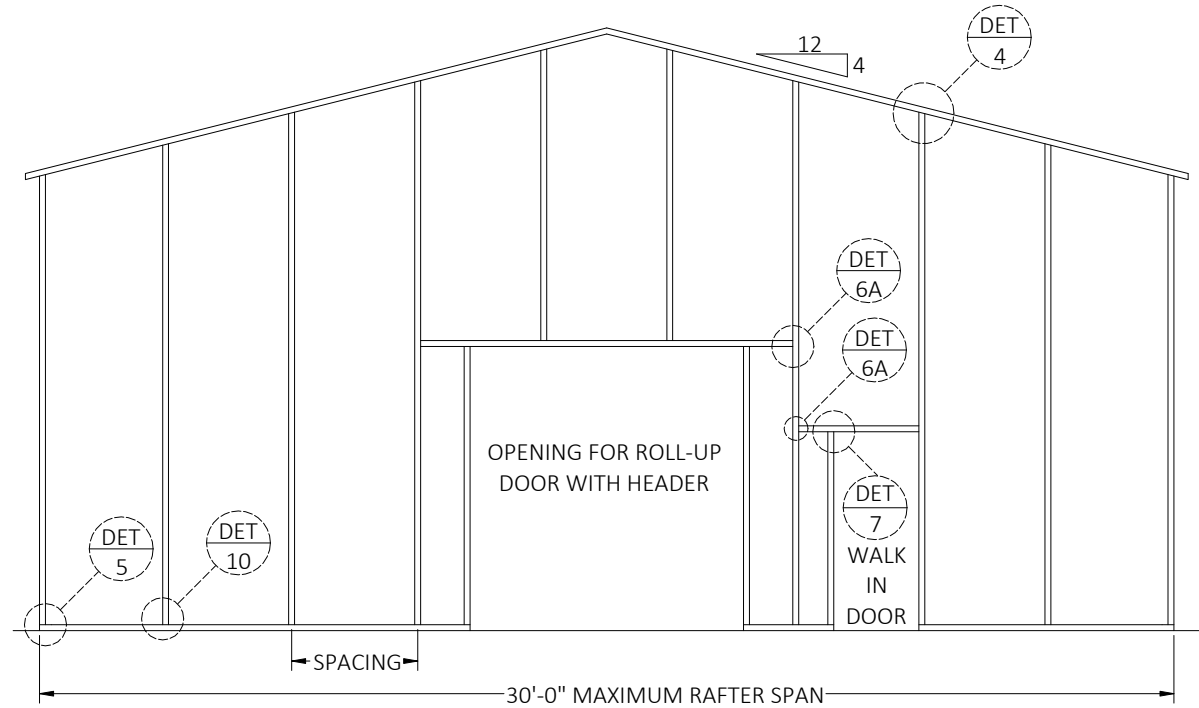
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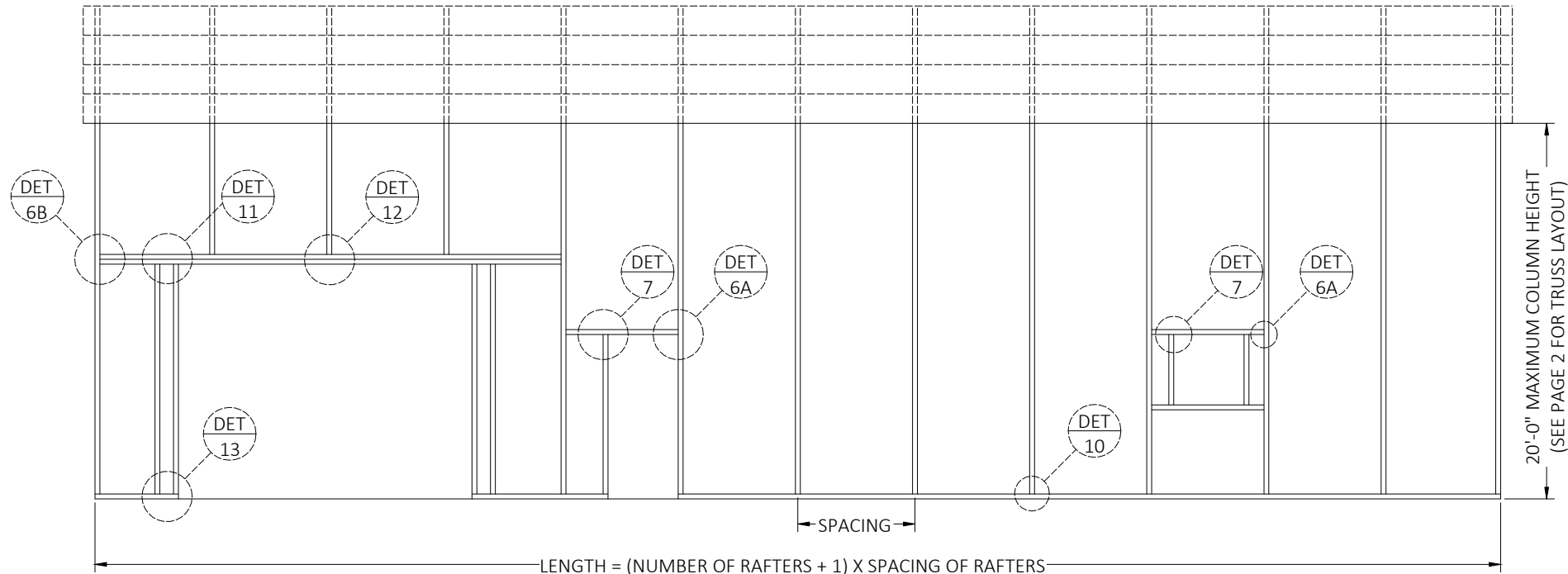
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SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH
SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH

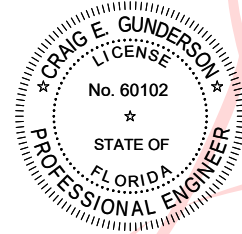
TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION



SPACING = 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH
SPACING = 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 180 MPH

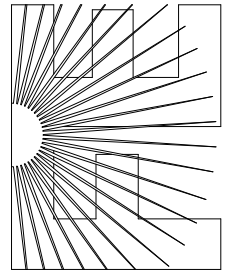
TYPICAL BOX EAVE RAFTER SIDE WALL FRAMING SECTION

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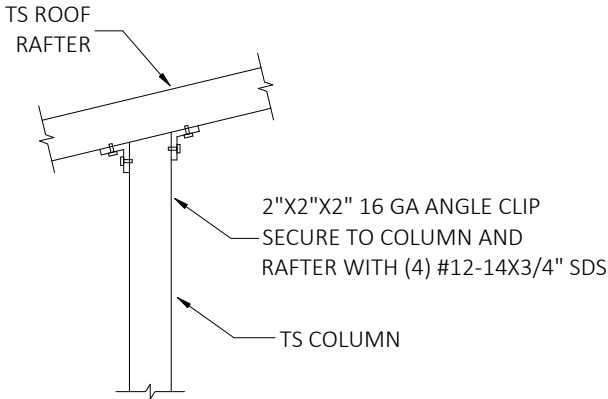
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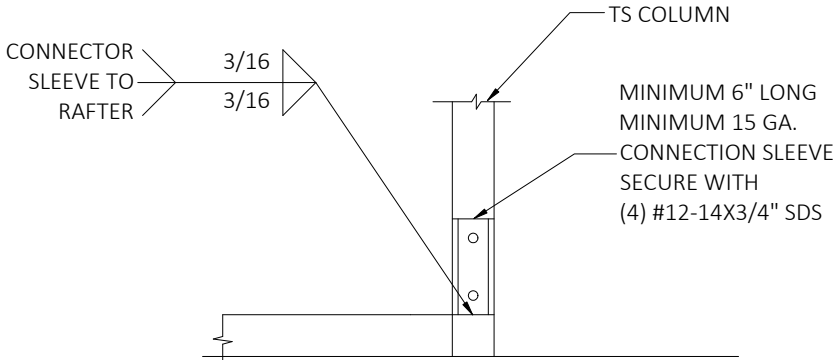
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CONNECTION DETAILS

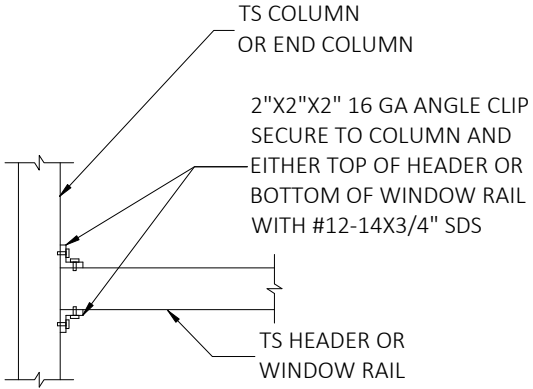


DETAIL 4

END COLUMN/RAFTER CONNECTION

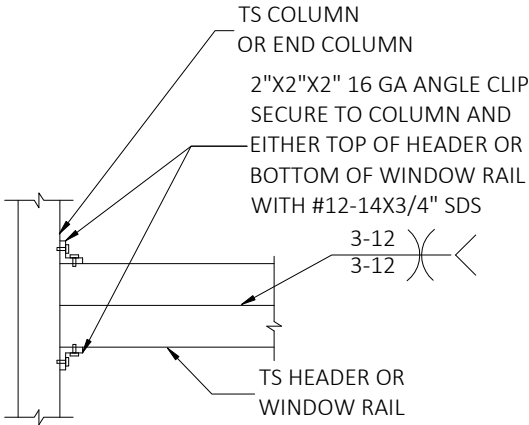


DETAIL 5
END POST/BASE RAIL CONNECTION



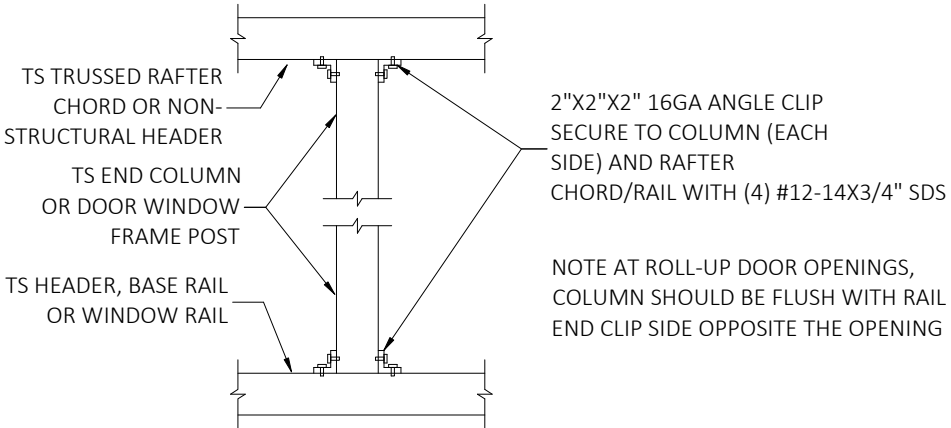
DETAIL 6A

HEADER TO COLUMN CONNECTION



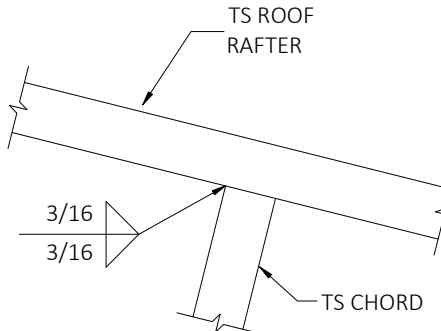
DETAIL 6B

DOUBLE HEADER TO COLUMN CONNECTION



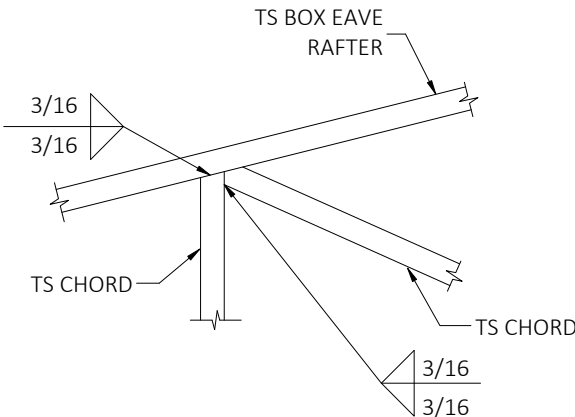
DETAIL 7

POST TO HEADER, BASE RAIL OR WINDOW RAIL CONNECTION



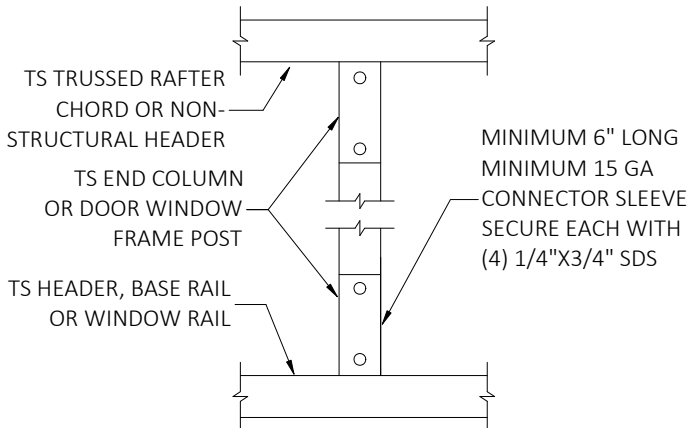
DETAIL 8

RAFTER TO CHORD CONNECTION



DETAIL 9

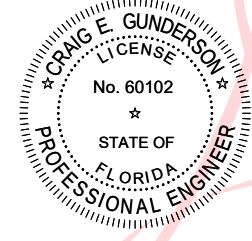
TRUSS POST AND CHORD TO RAFTER CONNECTION



DETAIL 10

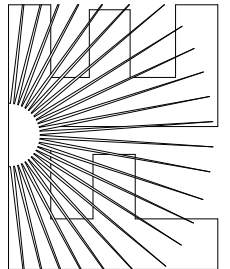
POST TO HEADER, BASE RAIL CONNECTION

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FLORIDA ENGINEERING LLC
4161 TAMiami TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
www.flengineeringllc.com



CA CERT. #30782

PROJECT NO. 2217228

CONTRACTOR:
ELITE METAL
MANUFACTURING

PROJECT ADDRESS:

12'-30' WIDE PLANS
10121 88TH TRACE,
LIVE OAK FL 32060

DESIGN DATE: 06/24/2022

REVISION 1:	DATE
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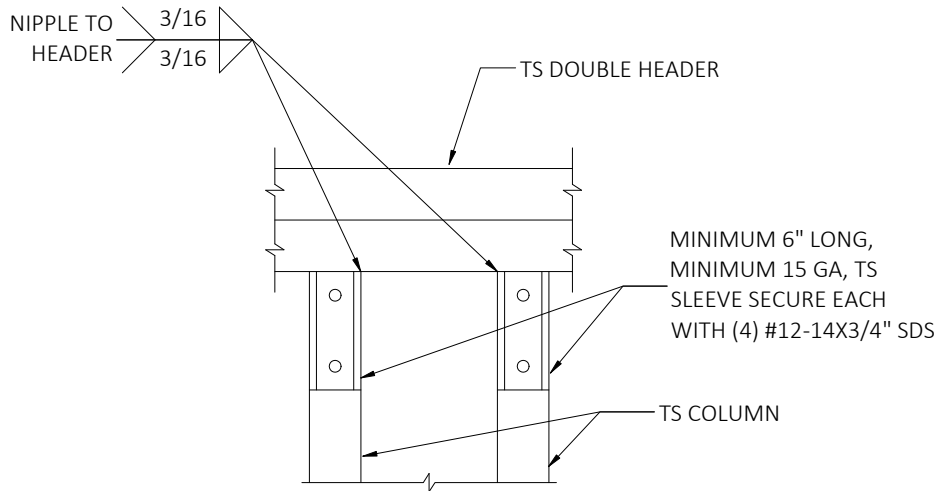
REVISION 2:	DATE	PAG
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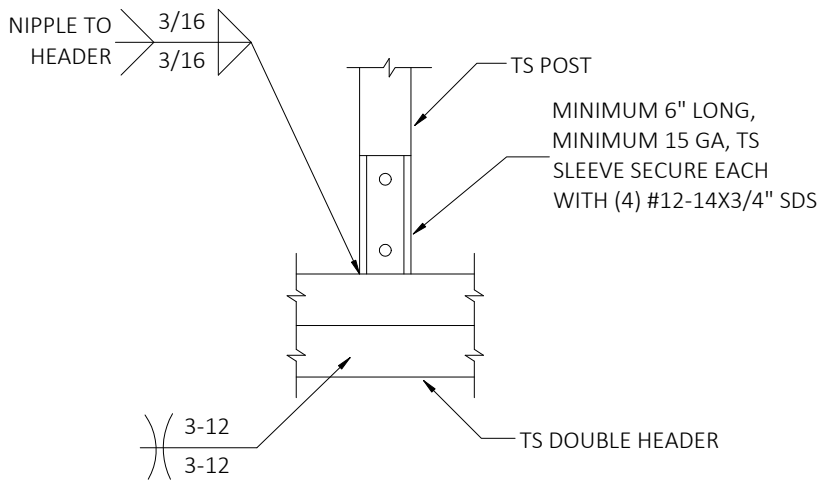
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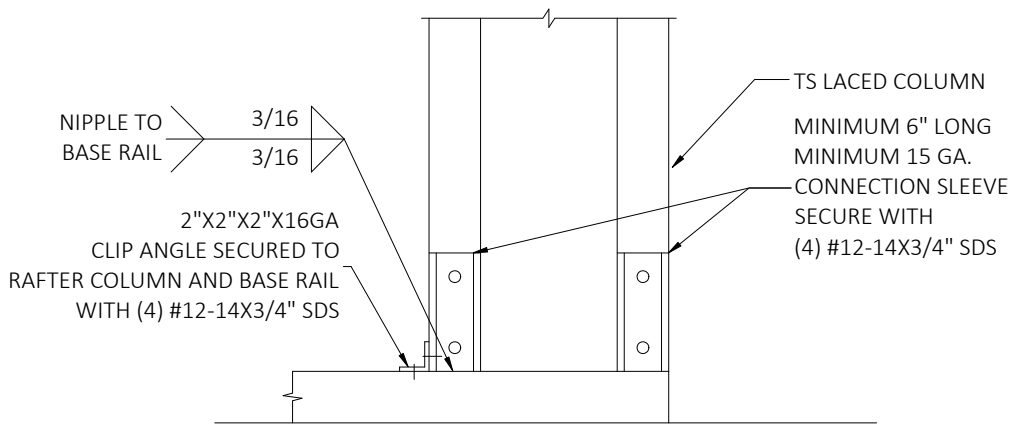
CONNECTION DETAILS



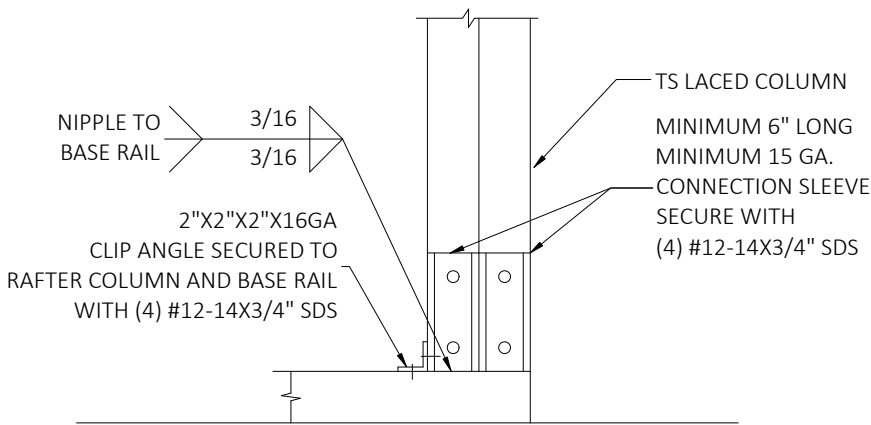
DETAIL 11
DOUBLE HEADER TO POST CONNECTION



DETAIL 12
POST/DOUBLE HEADER CONNECTION

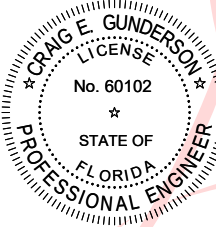


DETAIL 13A
POST/BASE RAIL CONNECTION



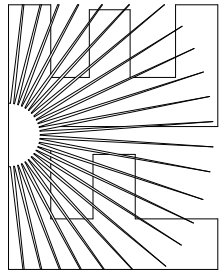
DETAIL 13B
POST/BASE RAIL CONNECTION

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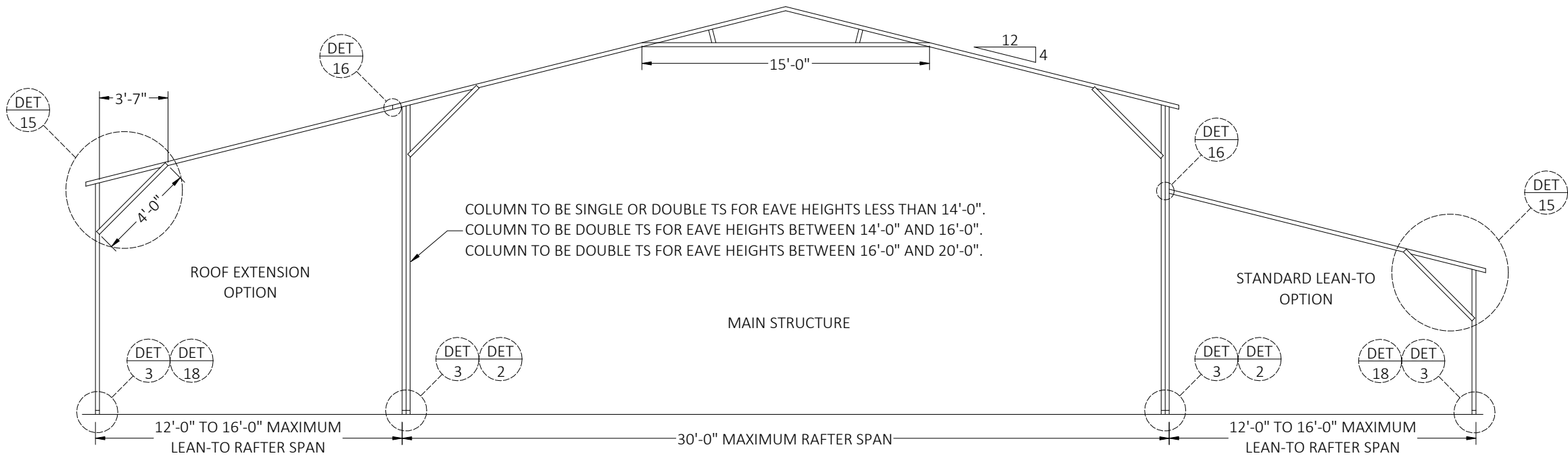
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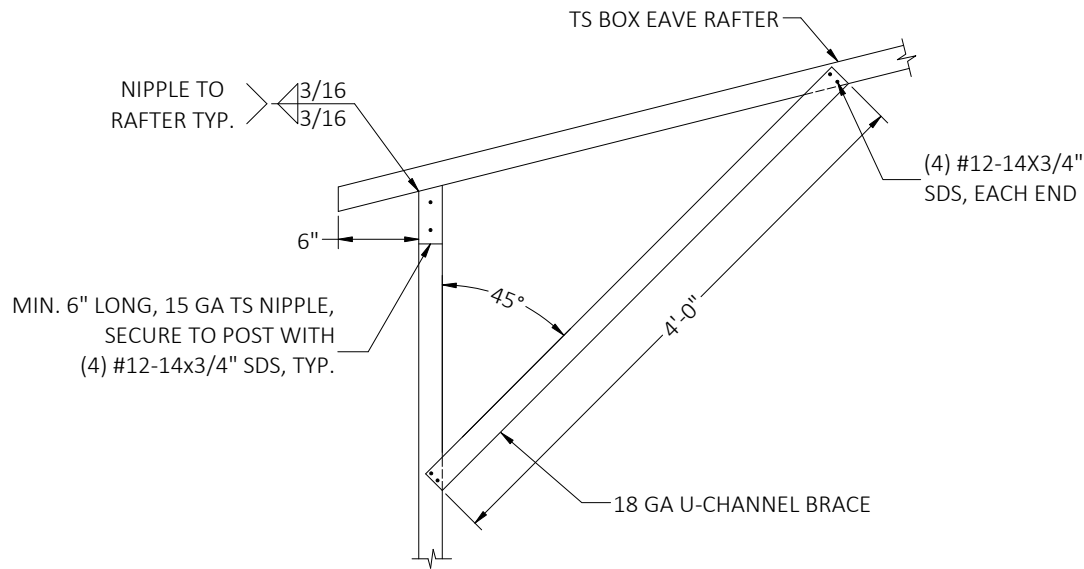
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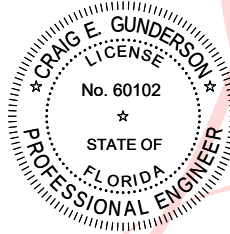


TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION



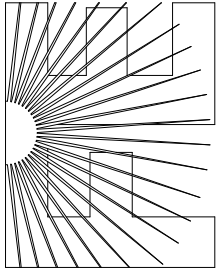
DETAIL 15
LEAN-TO RAFTER/CORNER POST CONNECTION

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LIVE OAK FL 32060

DESIGN DATE: 06/24/2022

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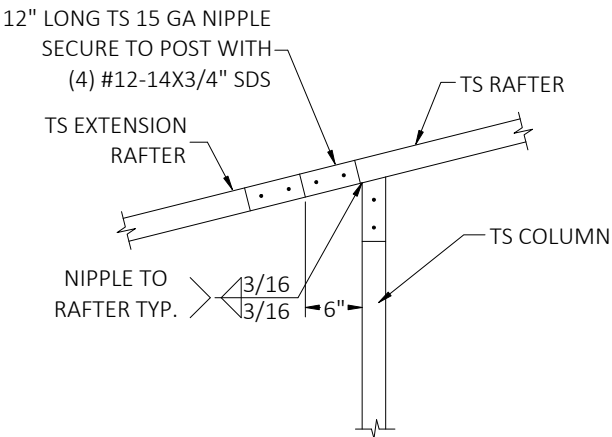
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SCALE: NTS

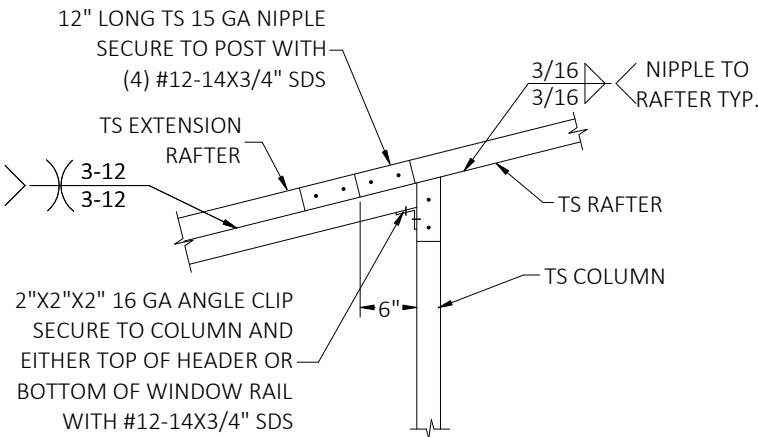
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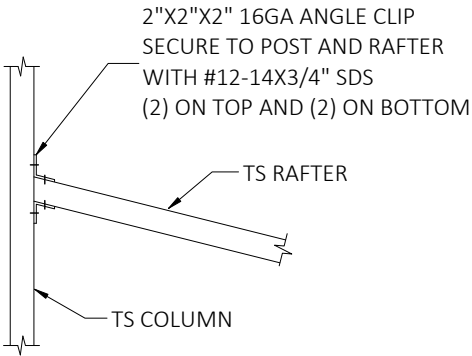
CONNECTION DETAILS



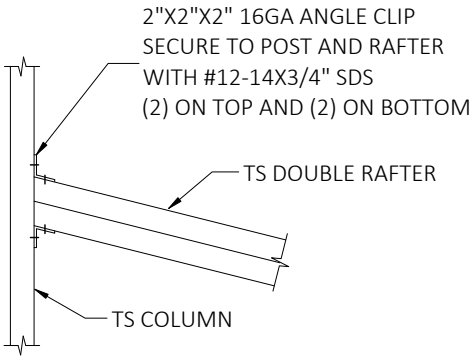
DETAIL 16A
SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"



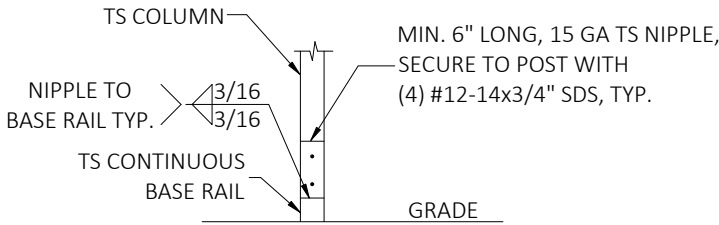
DETAIL 16B
SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"



DETAIL 17A
LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"

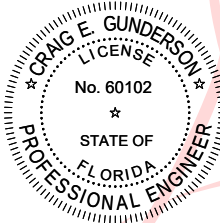


DETAIL 17B
LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"



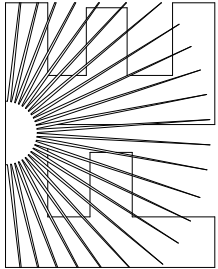
DETAIL 18
LEAN-TO POST CONNECTION

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CA CERT. #30782

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PROJECT ADDRESS:
12'-30' WIDE PLANS
10121 88TH TRACE,
LIVE OAK FL 32060

DESIGN DATE: 06/24/2022

REVISION 1: DATE

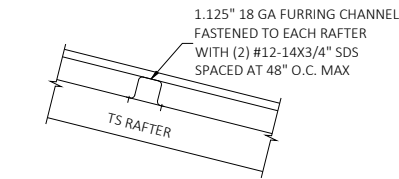
REVISION 2: DATE

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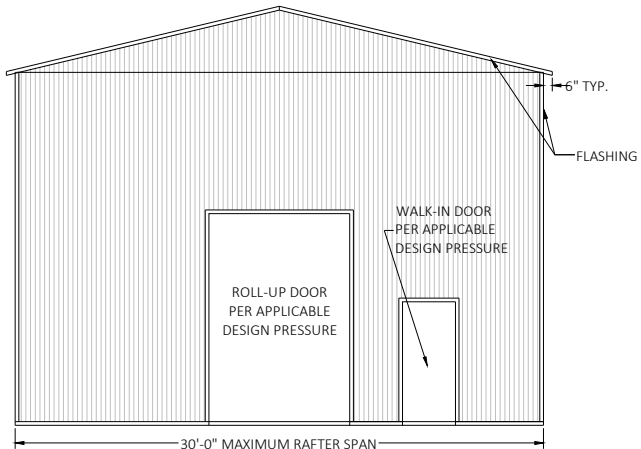
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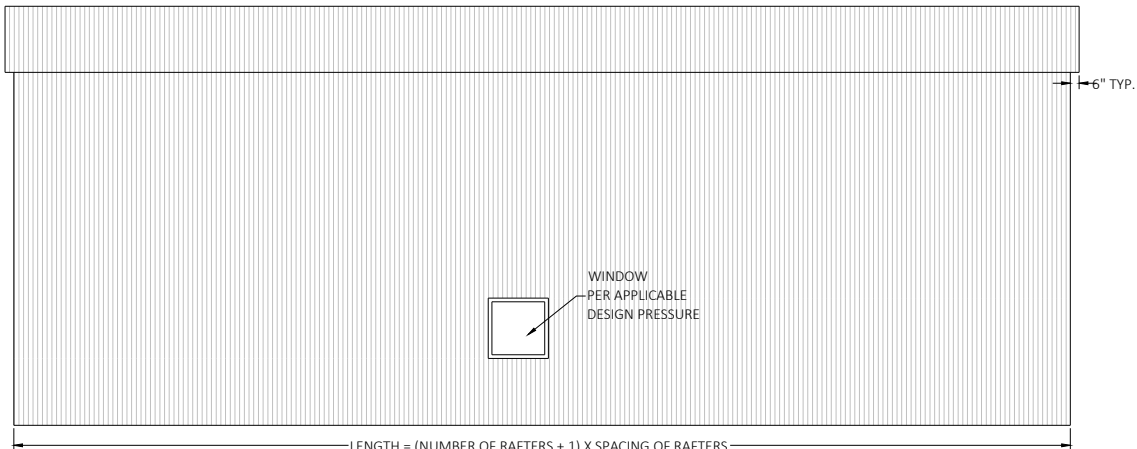
9



PANEL ATTACHMENT
(ALTERNATE FOR VERTICAL ROOF PANELS)

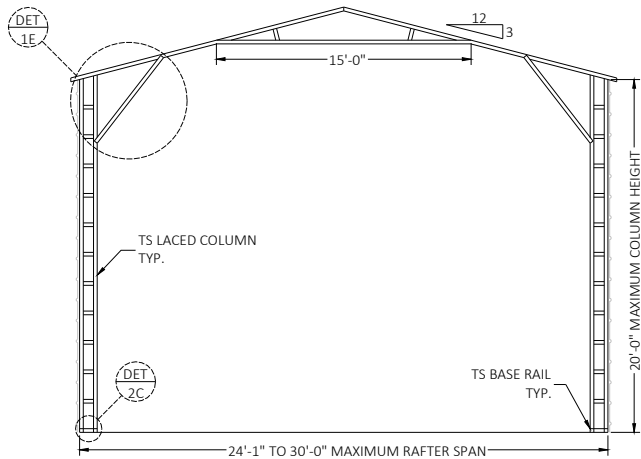
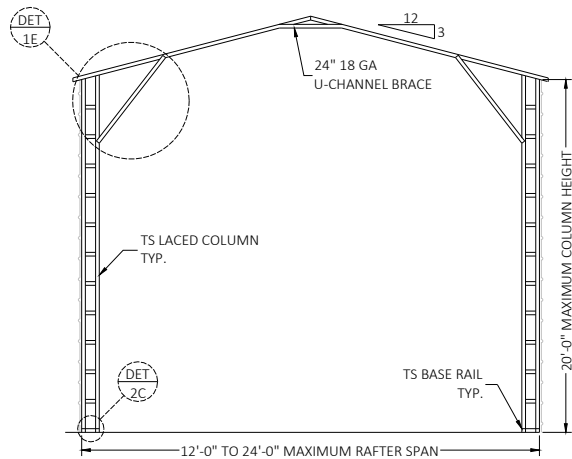
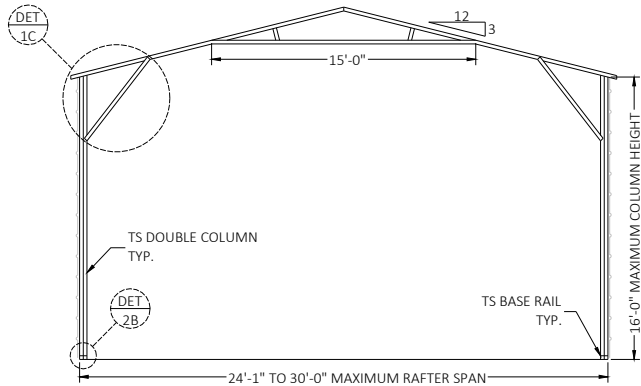
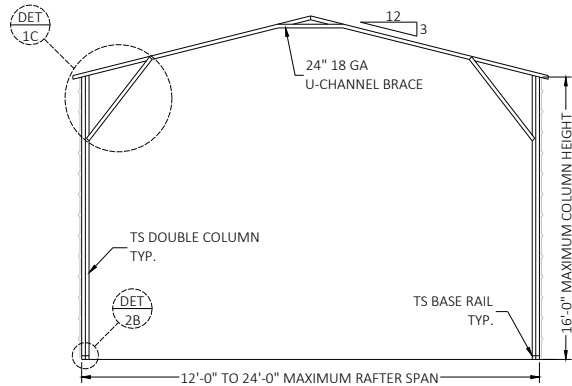
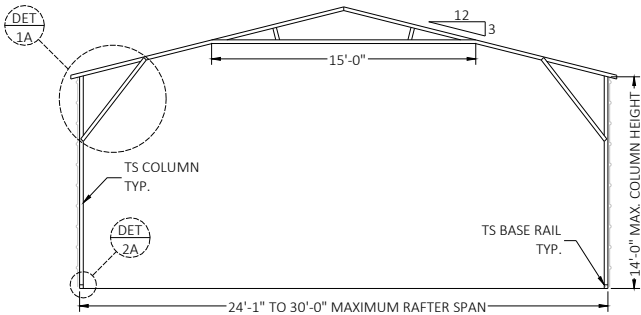
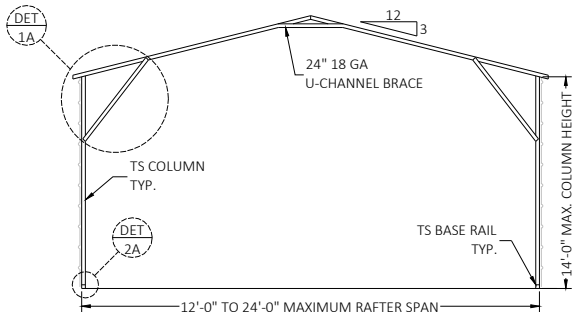


TYPICAL END ELEVATION - VERICAL ROOF/SIDING

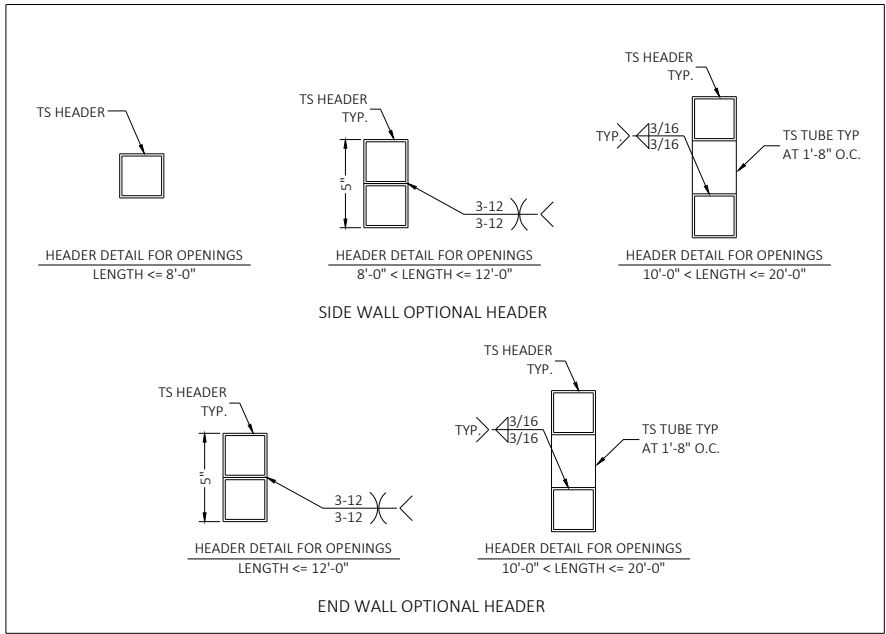
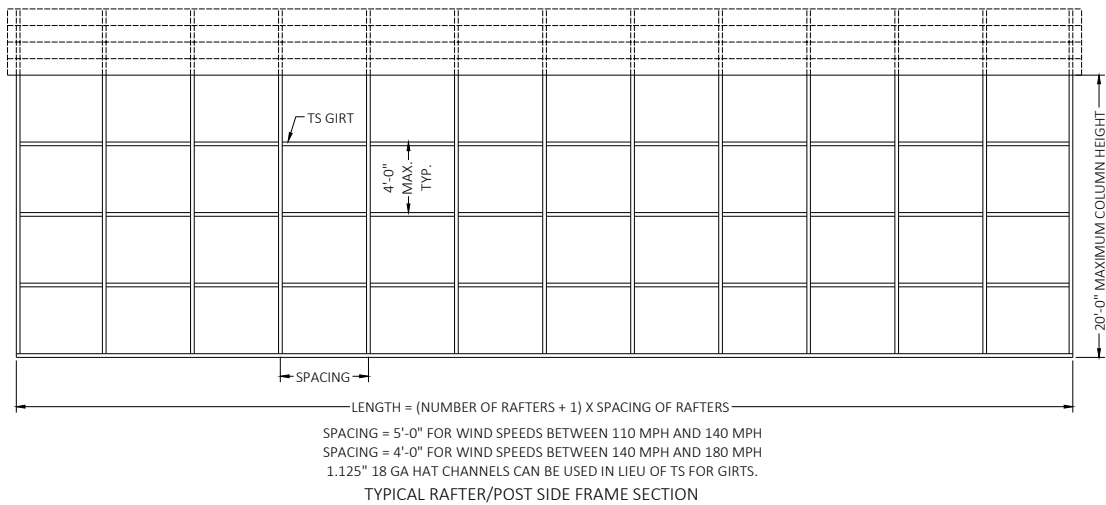


TYPICAL SIDE ELEVATION - VERTICAL ROOF/SIDING

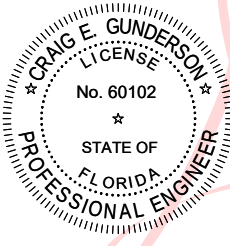
BOX EAVE FRAME RAFTER ENCLOSED BUILDING



BOX EAVE FRAME

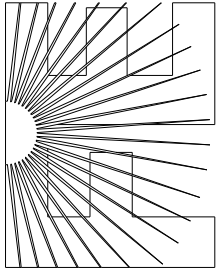


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CA CERT. #30782

PROJECT NO. 2217228

CONTRACTOR:
ELITE METAL
MANUFACTURING

PROJECT ADDRESS:
12'-30' WIDE PLANS
10121 88TH TRACE,
LIVE OAK FL 32060

DESIGN DATE: 06/24/2022

REVISION 1: DATE

REVISION 2: DATE PAGE :

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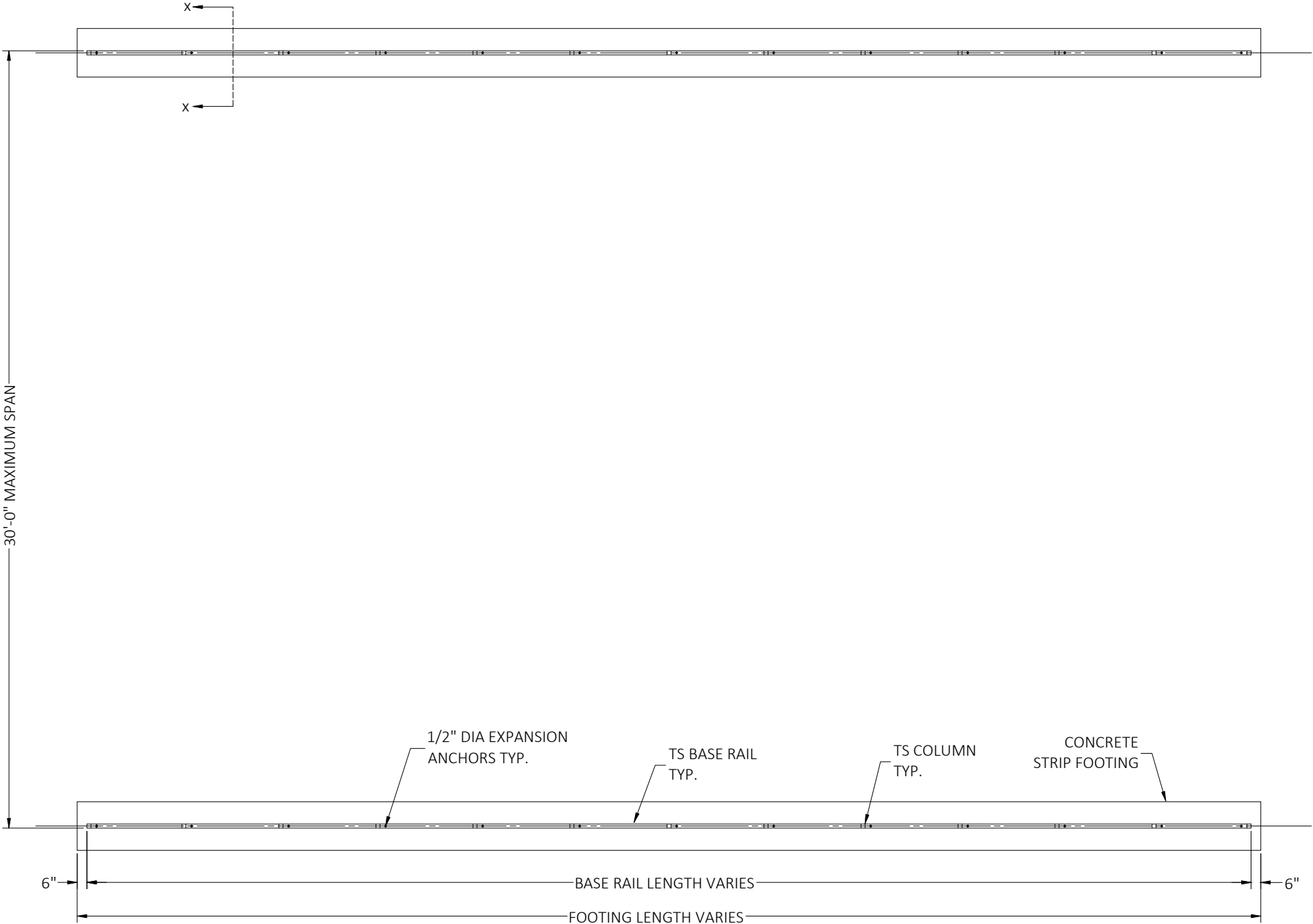
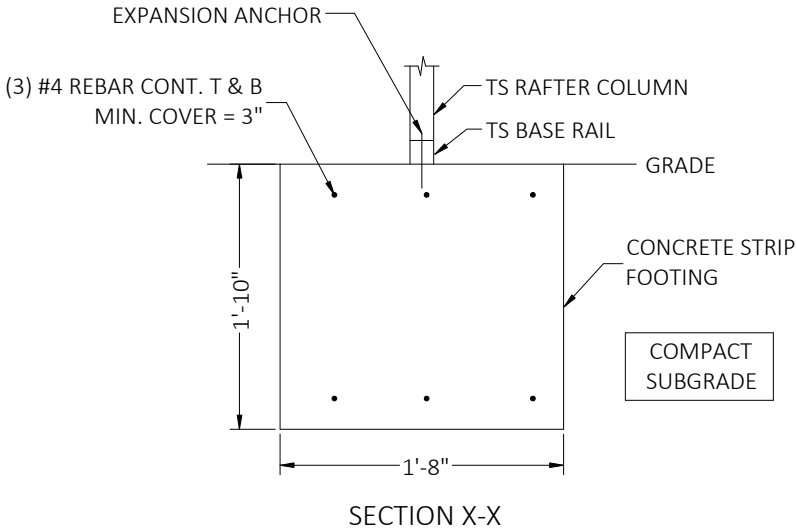
SCALE: NTS

10

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

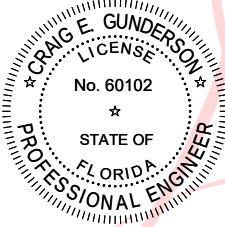
CONCRETE
MINIMUM 28-DAY SPECIFIED COMPRESSIVE STRENGTH = 3000 PSI

- 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 PERMENTLY 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.



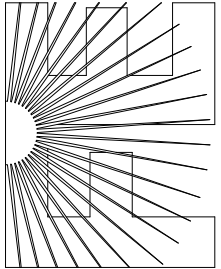
OPTIONAL CONCRETE STRIP FOOTING

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PAGE :

11

HELIX ANCHOR NOTES

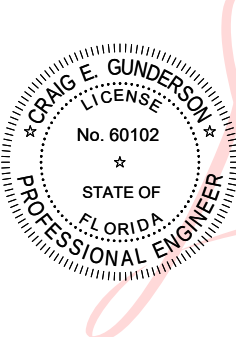
1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT.

2. FOR LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 6" HELICES WITH MINIMUM 50" EMBEDMENT.

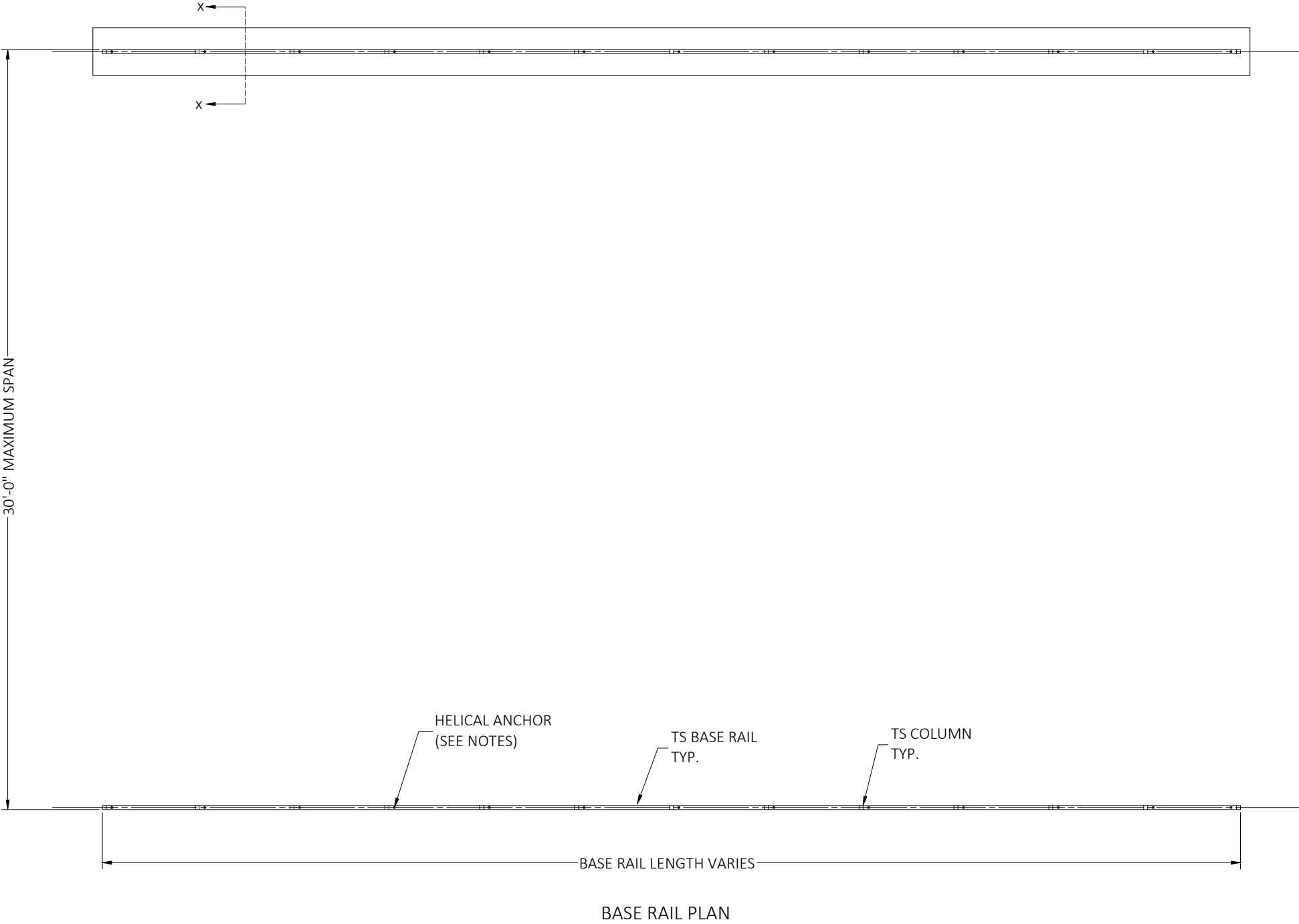
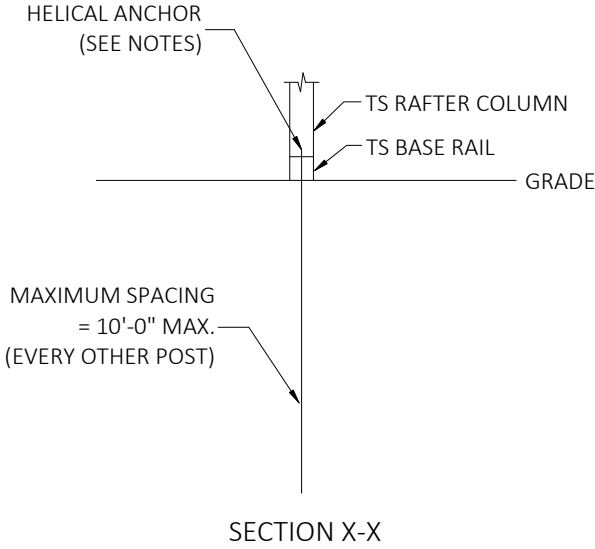
3. FOR VERY LOOSE TO MEDIUM DENSE SANDS, FIRM TO STIFFER CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 8" HELICES WITH MINIMUM 60" EMBEDMENT.

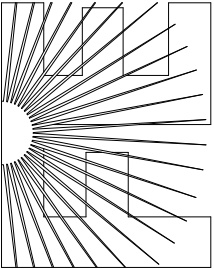
OPTIONAL HELICAL ANCHORING DETAIL

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	DESIGN DATE:	06/24/2022
REVISION 1:		DATE
REVISION 2:	DATE	PAGE : 12
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