APPLICABLE CODES

1. 2023 FLORIDA BUILDING CODE

APPLICABLE STANDARDS

1. ASCE 7-22: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
2. AISC STEEL CONSTRUCTION MANUAL (17TH EDITION)
3. ACI 318-19: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
4. TMS 402-16: BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
5. AWS D1.1: STRUCTURAL WELDING

DESIGN LOADS

1. DEAD LOAD = 1.5 PSF
2. ROOF LIVE LOAD = 12 PSF
3. GROUND SNOW LOAD = 0 PSF
4. WIND LOAD

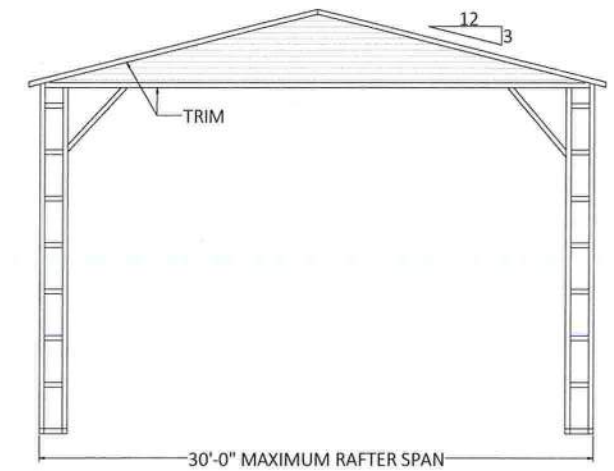
A. RISK CATEGORY = II
B. WIND EXPOSURE CATEGORY = C
C. ULTIMATE WIND SPEED = 110 MPH TO 170 MPH
NOMINAL WIND SPEED = 85 MPH TO 132 MPH

DRAWING INDEX

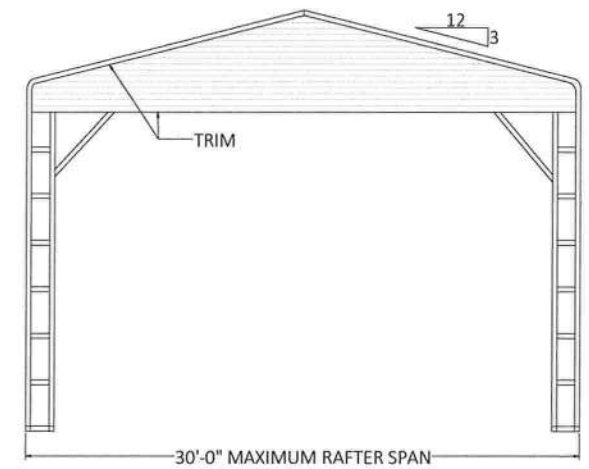
INSTALLATION NOTES AND SPECIFICATIONS

1. THESE PLANS BELONG EXCLUSIVELY TO THE STRUCTURE, INCLUDING MAIN WIND FORCE RESISTING SYSTEM (MWFRS), COMPONENTS AND CLADDING (C&C), AND BASE RAIL ANCHORAGE. OTHER DESIGN ISSUES, INCLUDING BUT NOT LIMITED TO PROPERTY SET-BACKS, ELECTRICAL, PLUMBING, INGRESS/EGRESS, FINISH FLOOR SLOPES AND ELEVATIONS, OR OTHER LOCAL ZONING REQUIREMENTS ARE THE LIABILITY OF OTHERS.
2. THESE STRUCTURES ARE ENGINEERED AS CAPABLE OF SUPPORTING DEAD LOAD OF THE STRUCTURE AND LIVE AND WIND LOADS. UPGRADES NOT SPECIFICALLY ADDRESSED HEREIN, SUCH AS WINDOWS, DOORS, OR ANOTHER COMPONENT NOT LISTED IN THE BUILDING CODE APROVED PRODUCT LIST, AND NOT PROVIDED AND INSTALLED BY THE CONTRACTOR, WHICH CAUSE ADDITIONAL LOADS ON THE STRUCTURE SHALL BE AT THE OWNER'S RISK. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR FAILURE OR STRUCTURAL DAMAGE DUE TO THE EXTRA LOAD.
3. ALL STEEL TUBING SHALL BE 50 KSI GALVANIZED STEEL WITH MINIMUM YIELD STRENGTH OF 54 KSI. ALL FASTENERS SHALL BE ZINC COATED HARDWARE.
4. END WALL COLUMNS (POST) AND SIDE WALL COLUMNS ARE EQUIVALENT IN SIZE AND SPACING U.N.O.
5. SPECIFICATIONS APPLICABLE TO 29 GA METAL PANELS FASTENED DIRECTLY TO 2.5"X2.5"X14 GA/2.5"X2.5"X12GA TUBE STEEL (TS) FRAMING MEMBERS FOR VERTICAL PANELS. 29 GA METAL PANELS SHALL BE FASTENED DIRECTLY TO 18 GA HAT CHANNELS U.N.O.
6. AVERAGE FASTENER SPACING ON-CENTERS ALONG RAFTERS OR PURLINS, AND POSTS, INTERIOR = 9" AND END = 6" MAX.
7. 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 14° (3:12 PITCH) OR LESS. SPACING REQUIREMENTS FOR OTHER ROOF HEIGHTS AND/OR SLOPES MAY VARY.
8. ANCHORS SHALL BE INSTALLED THROUGH THE BASE RAIL WITHIN 6" OF EACH RAFTER COLUMN ALONG SIDES AND ENDS.
9. STANDARD GROUND ANCHORS (SOIL NAILS) CONSIST OF #4 REBARS WITH WELDED NUT X 36" 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.
10. RAFTER SPACING IS 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH AND 4'-0" FOR WIND SPEEDS BETWEEN 140 MPH AND 170 MPH.
11. WIND FORCES GOVERN OVER SEISMIC FORCES. SEISMIC PARAMETERS ANALYZED ARE:
SOIL SITE CLASS = D
RISK CATEGORY II
R = 3.25 Ie = 1.0 Sds = 0.075 g V = CsW Sd1 = 0.051 g

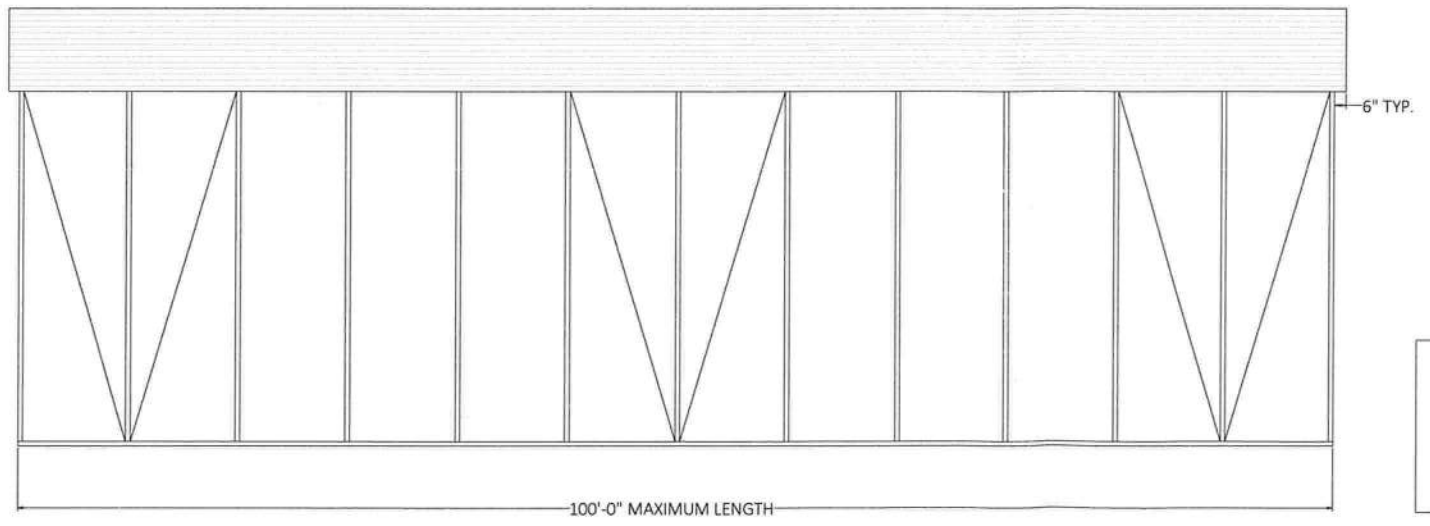
FULLY OPEN METAL BUILDING DESIGN
MAXIMUM 30'-0" WIDE X 100'-0" LONG X 20'-0" HIGH (EAVE)
BOX EAVE FRAME / BOW EAVE FRAME



TYPICAL END ELEVATION - BOX EAVE



TYPICAL END ELEVATION - BOW EAVE



TYPICAL SIDE ELEVATION - HORIZONTAL ROOF

GENERIC PLANS ARE NOT VALID WITHOUT A RAISED SEAL & BLUE INK SIGNATURE.

THE ENGINEERING ON THESE PLANS IS SITE SPECIFIC FOR (1) STRUCTURE ONLY AT THE PROVIDED ADDRESS(ES).

Columbia County Building Department
Reviewed for
File Copy
Code Compliance
Plans Examiner

Richard E. Walker, P.E. #61240
DATE: 03/27/2024

FLORIDA ENGINEERING LLC
4161 TAMIAMI TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
FLEng.com
Orders@FLEng.com
LICENSE #30782

PROJECT NO. 2408180

CONTRACTOR:
BEST METAL BUILDINGS LLC
484 NW TURNER AVE
LAKE CITY FL 32055

PROJECT ADDRESS:
GENERIC PLANS
30' WIDE FULLY OPEN

DESIGN DATE:	03/26/2024	
REVISION 1:	DATE	
REVISION 2:	DATE	SHEET:
DRAWN BY:	JS	1 OF 11
SCALE:	NTS	

46578

MEMBER LEGEND:
1. TS COLUMN = 2.5X2.5X14 GA U.N.O.
2. TS DOUBLE COLUMN = (2)2.5X2.5X14 GA U.N.O.
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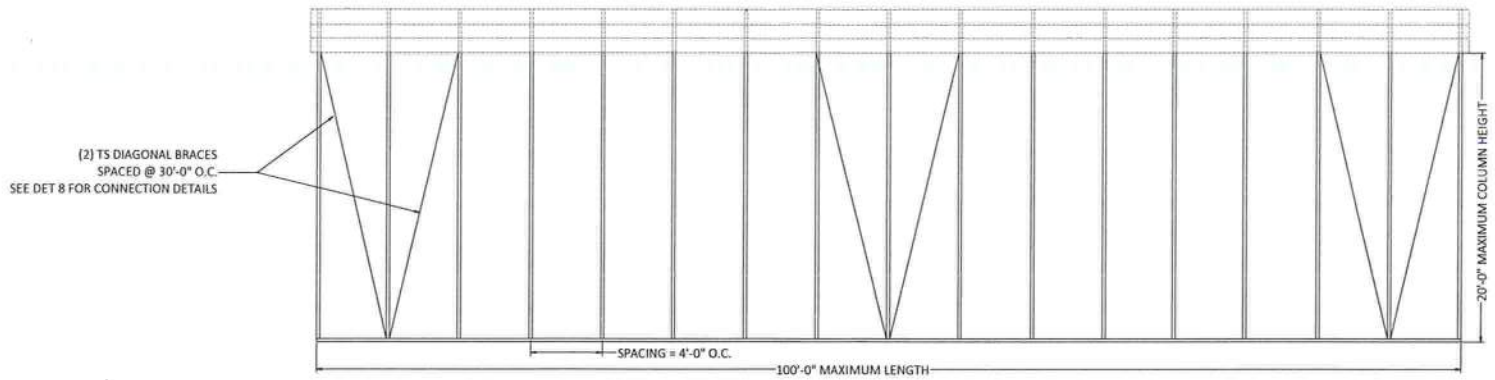
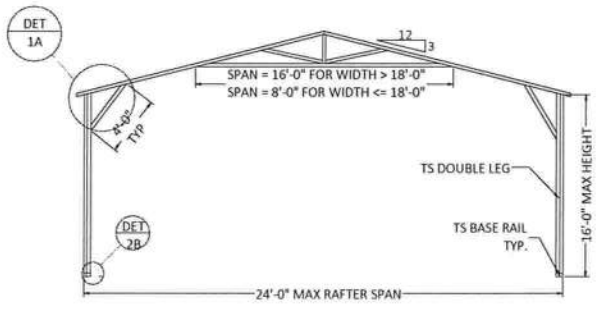
4. KNEE-BRACE = 2.5"X2"X18GA CHANNEL
5. PURLIN = 1.125"X18GA HAT CHANNEL
6. TS BRACE = 2.5"X2.5"X14GA TUBE



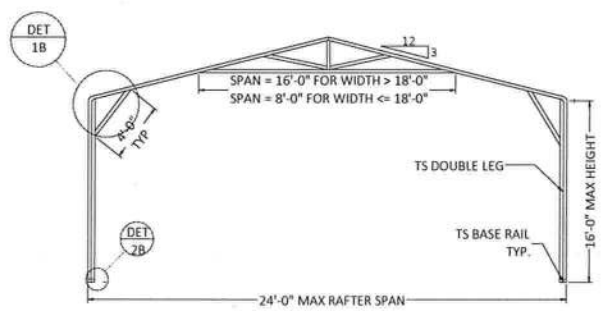
SIDE WALL BRACING

FOR WIND SPEED UPTO 150 MPH (EXPOSURE B)
FOR WIND SPEED UPTO 120 MPH(EXPOSURE C)

TRUSS LAYOUT- BOX EAVE



TRUSS LAYOUT- BOW EAVE



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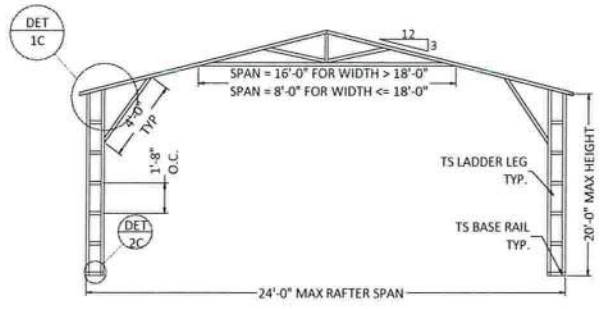

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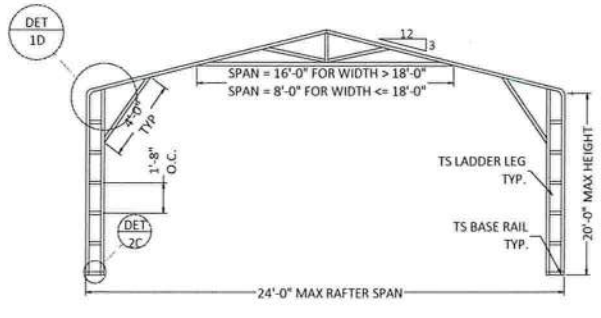

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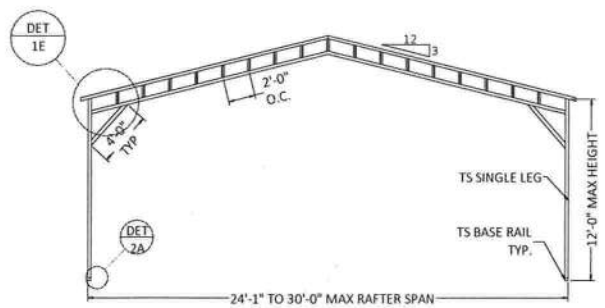

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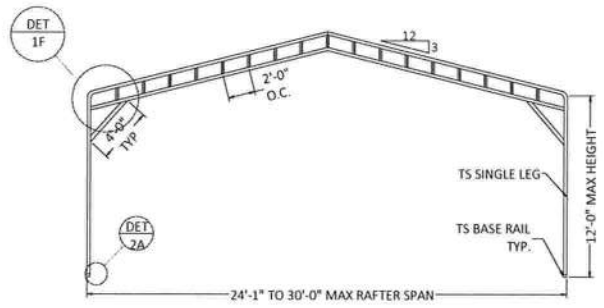

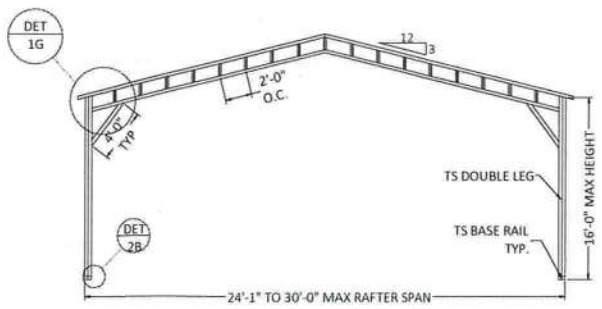

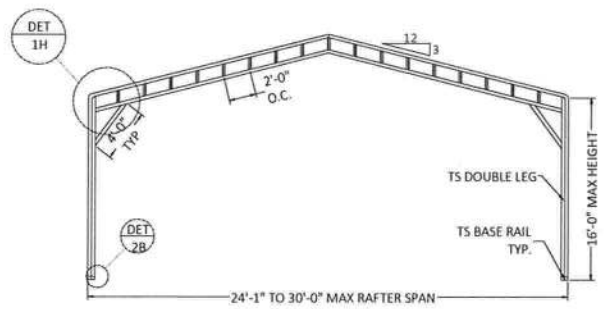

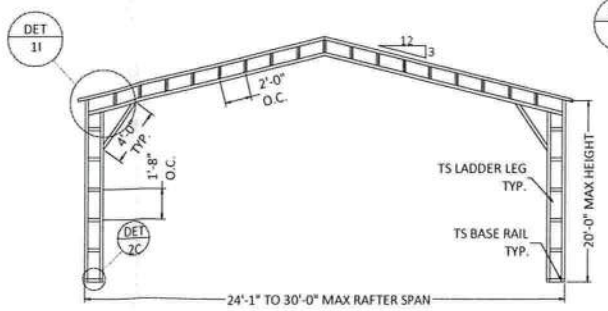

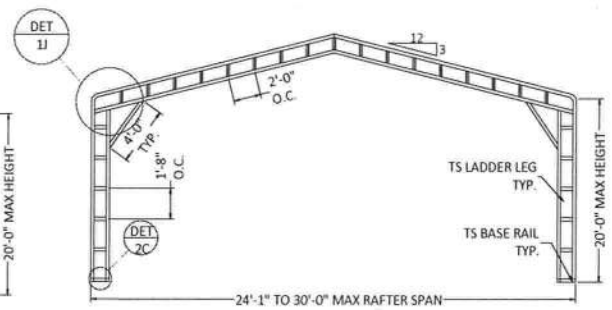

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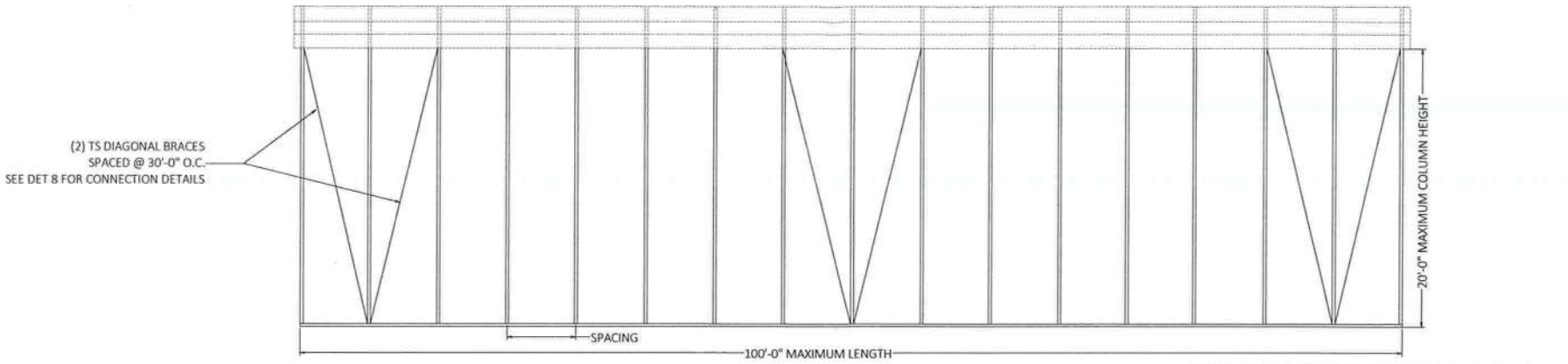

SIDE WALL BRACING

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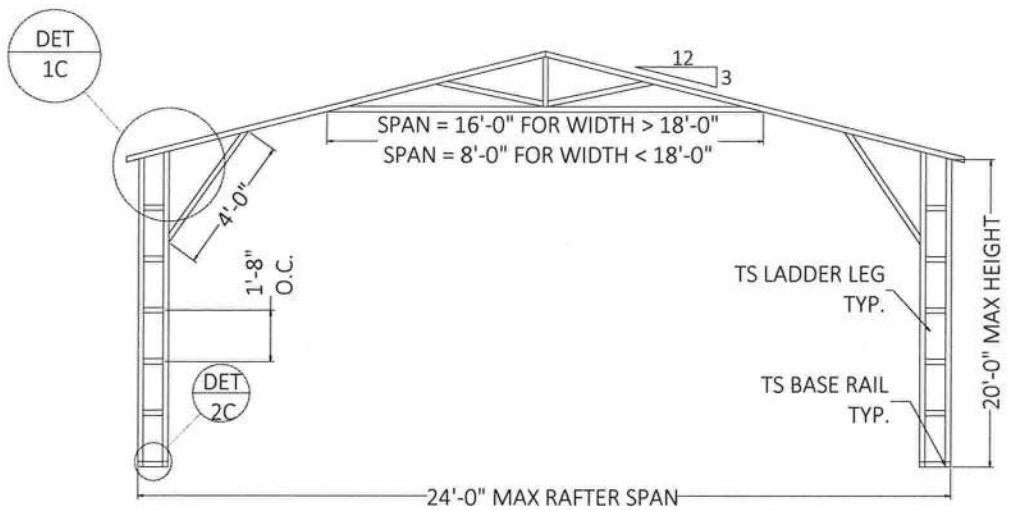

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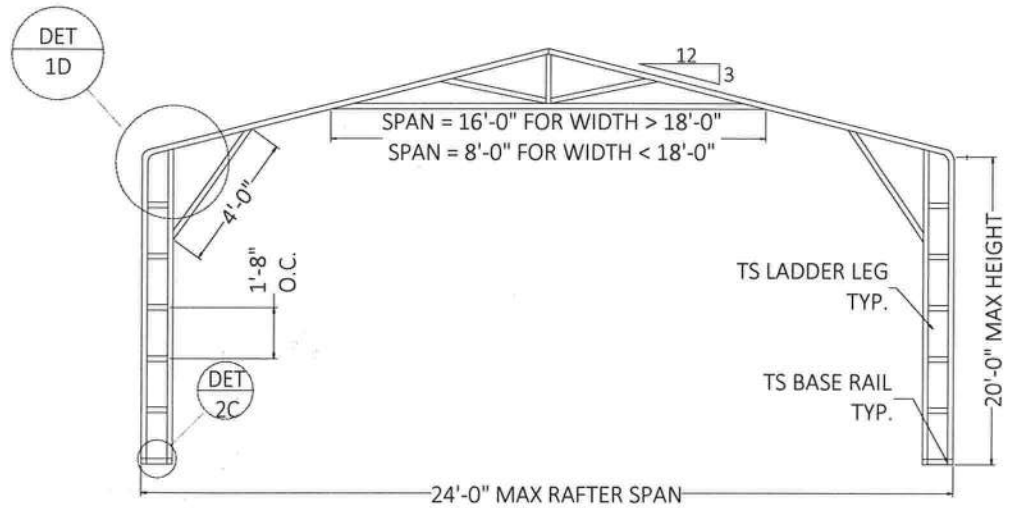

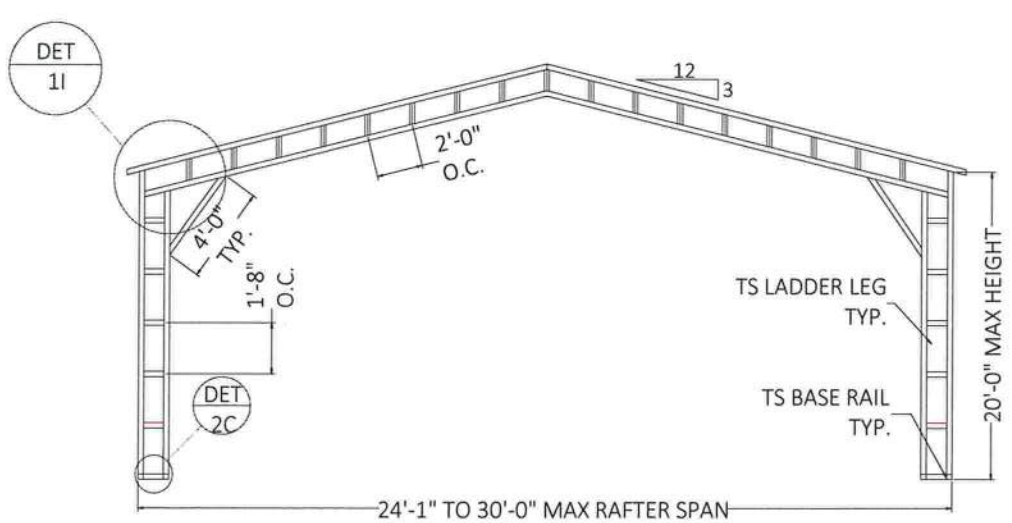

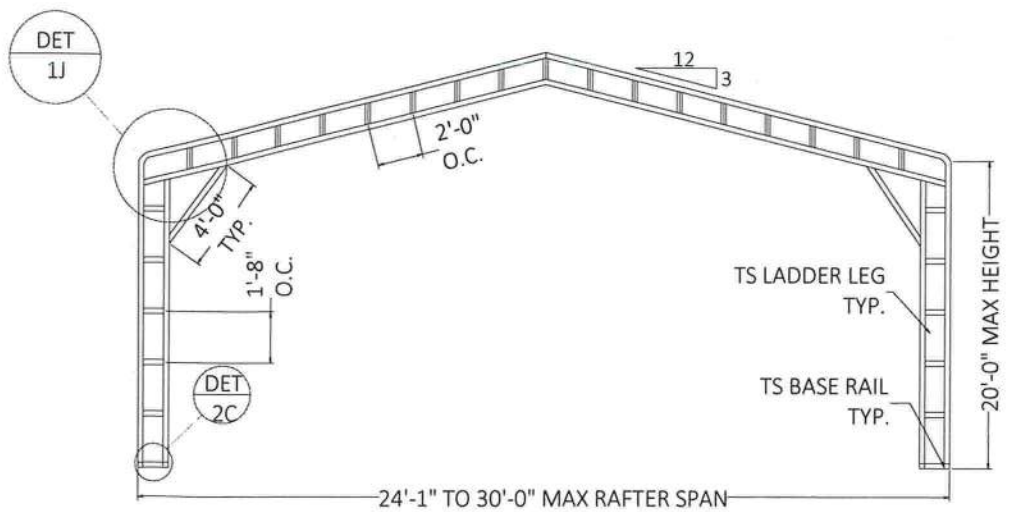

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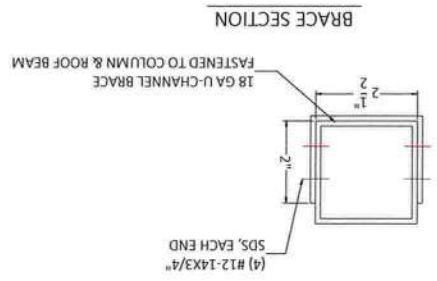

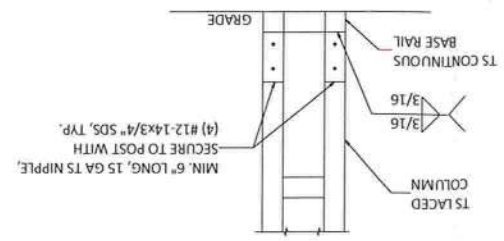

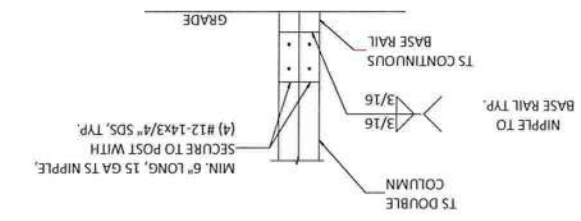

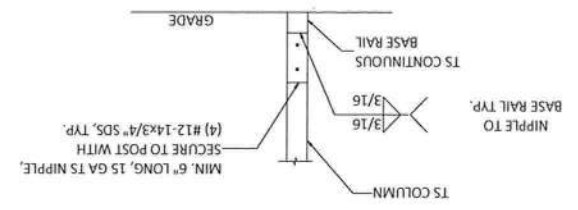

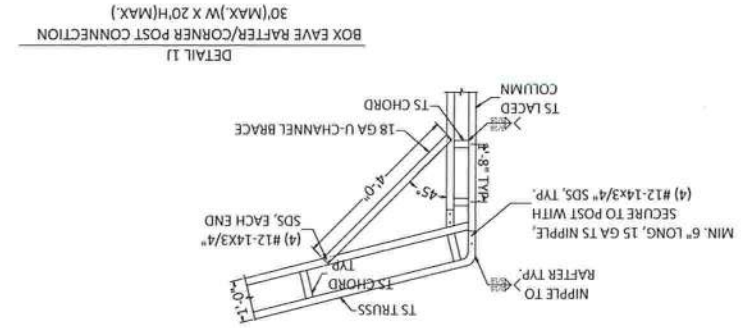

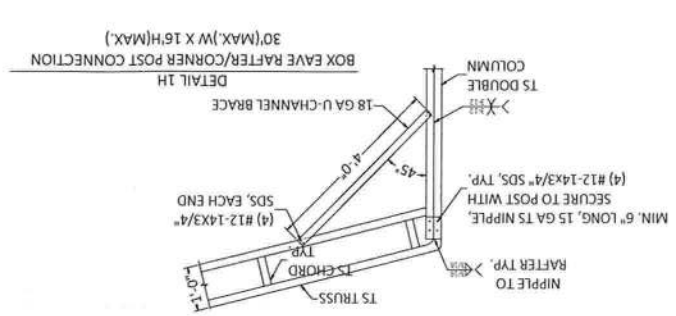

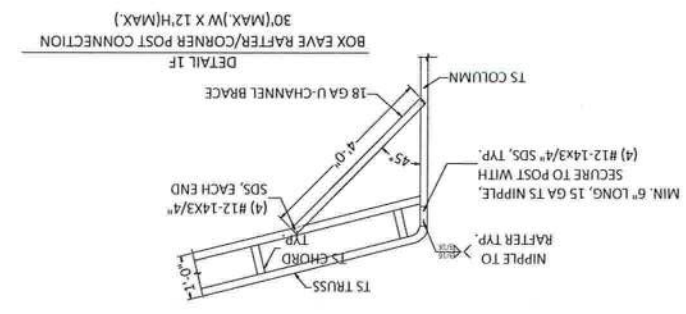

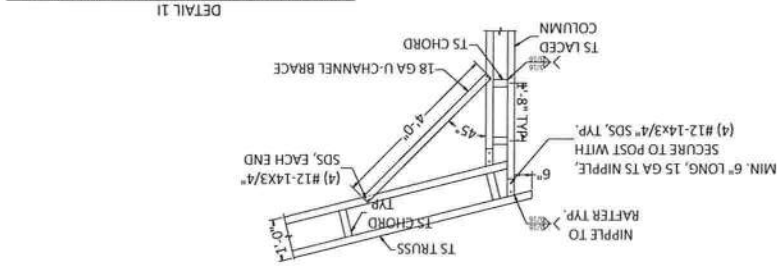

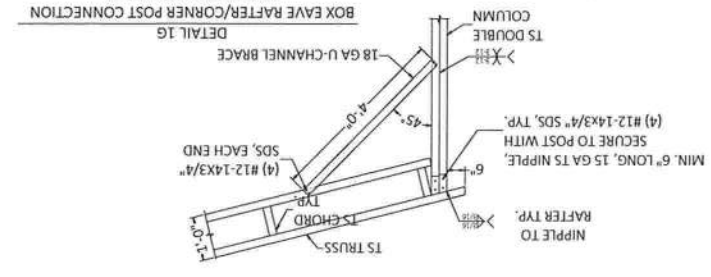

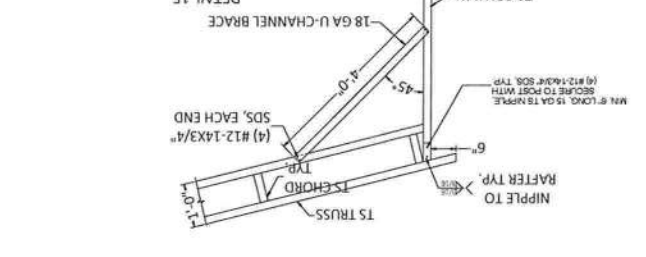

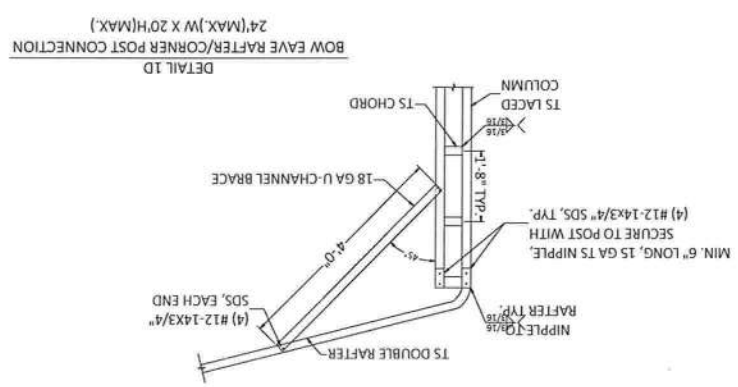

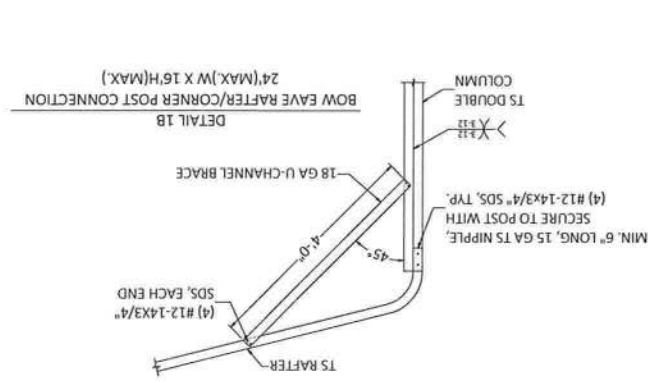

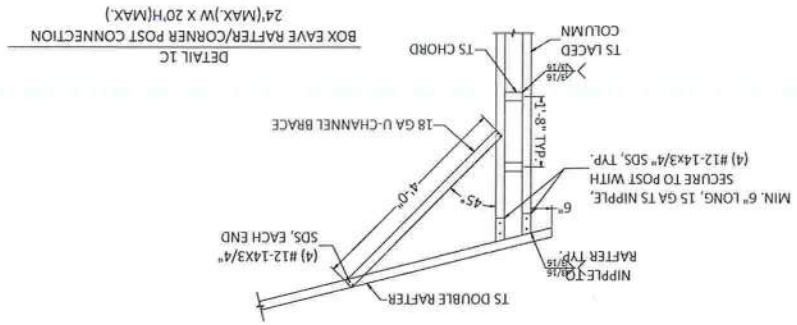

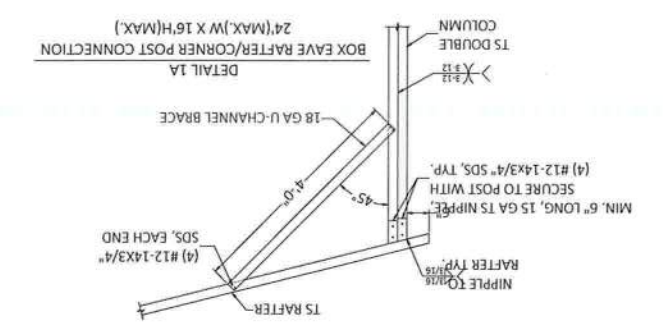

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GENERAL NOTES

CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2500 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.

HELIX ANCHOR NOTES

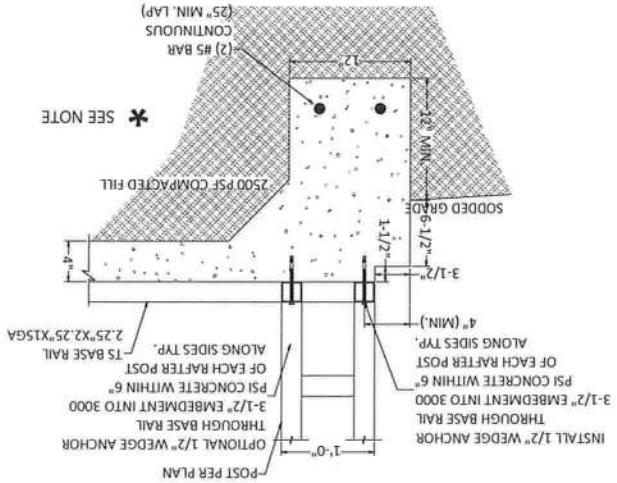
1. FOR VERY DENSE AND/OR CEMENTED SANDS, COARSE GRAVEL AND COBBLES, CALICHE, PRELOADED SILTS AND CLAYS, CORALS, MEDIUM DENSE COARSE SANDS, SANDY GRAVELS, VERY STIFF SILTS AND CLAYS, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 10'.
2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 5' OR EVERY POST (LEG).
3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.

HP 9 BARBED DRIVE ANCHOR NOTES

1. ANCHOR TO BE 3/4" DIA (A529 GRADE 50) WITH 30" MIN. EMBEDMENT & (4) MIN. BARBS AS SHOWN IN DETAIL 3C.
2. 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, MAXIMUM SPACING TO BE 10'.
2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, MAX. SPACING TO BE 5' OR EVERY POST (LEG).
3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.

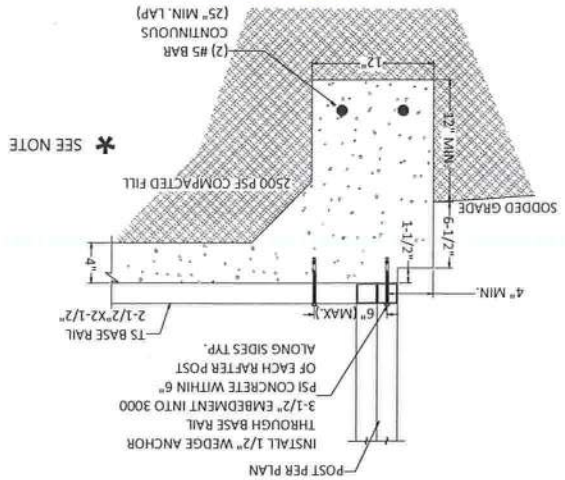
DETAIL 3A-I

CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE



DETAIL 3A-II

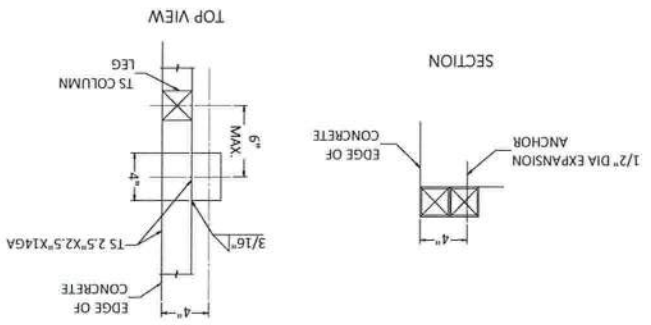
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE



* = COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH BASED ON FROST LINE DEPTH.

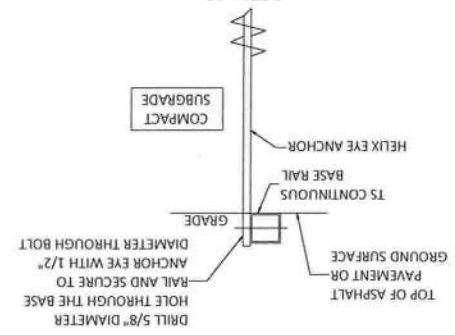
TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

BASE RAIL ANCHORAGE OPTION



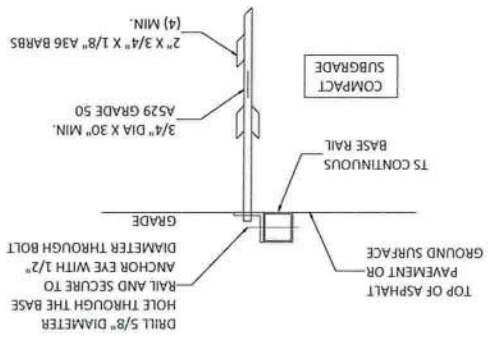
DETAIL 3B

GROUND BASE HELIX ANCHORAGE



DETAIL 3C

ASPHALT BASE ANCHORAGE (HP 9 BARBED DRIVE ANCHOR)



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LICENSE #30782

PROJECT NO. 240818O

Richard E. Walker, P.E. #61240

DATE: 03/27/2024

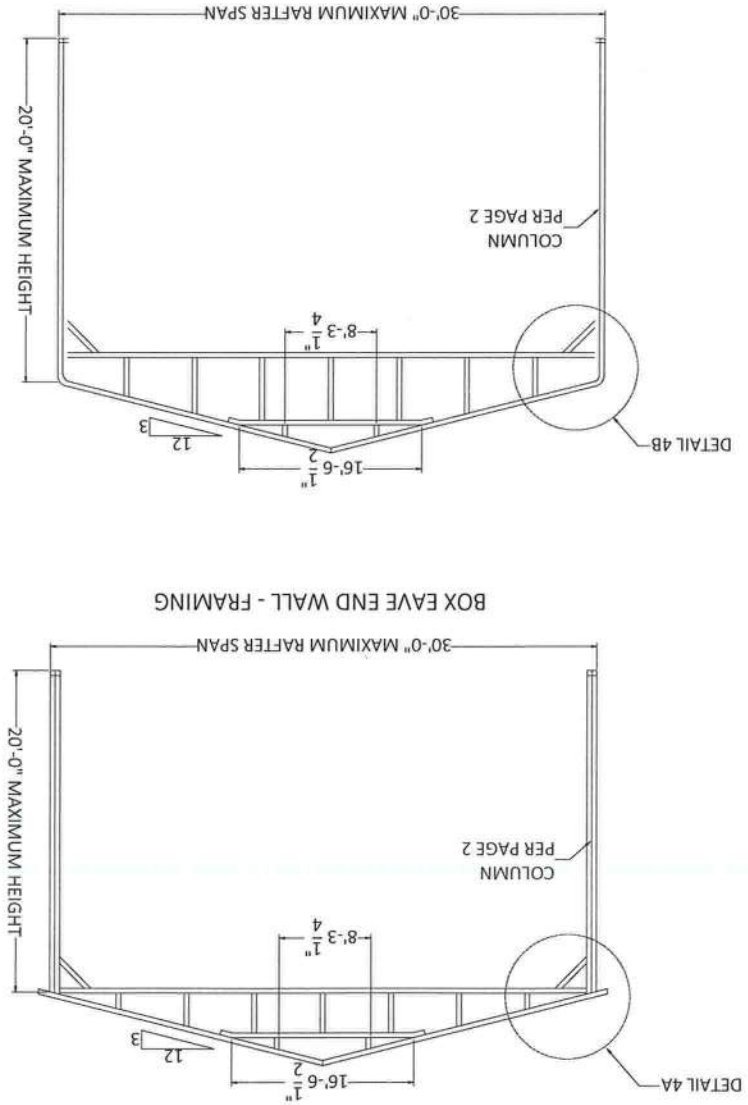
CONTRACTOR:
BEST METAL BUILDINGS LLC
484 NW TURNER AVE
LAKE CITY FL 32055

PROJECT ADDRESS:
GENERIC PLANS
30' WIDE FULLY OPEN

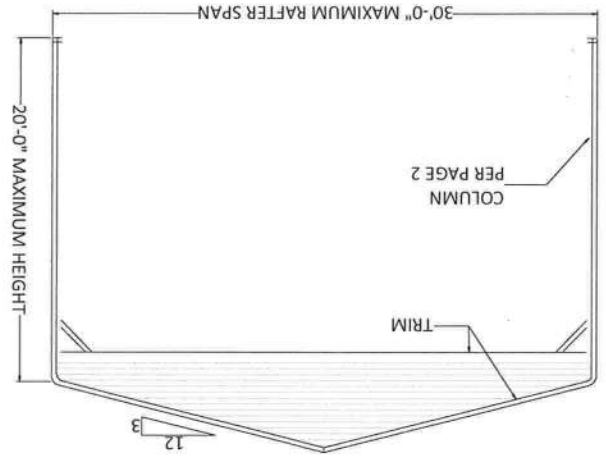
DESIGN DATE:	03/26/2024
REVISION 1:	DATE
REVISION 2:	DATE
DRAWN BY:	JS
SCALE:	NTS

SHEET: 5 OF 11

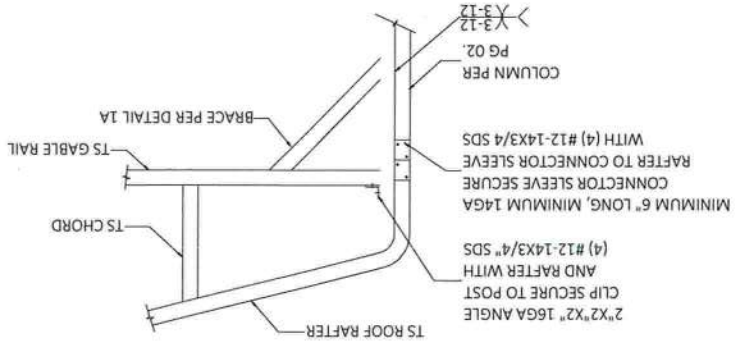
BOW EAVE END WALL - FRAMING



BOW EAVE END WALL - ELEVATION

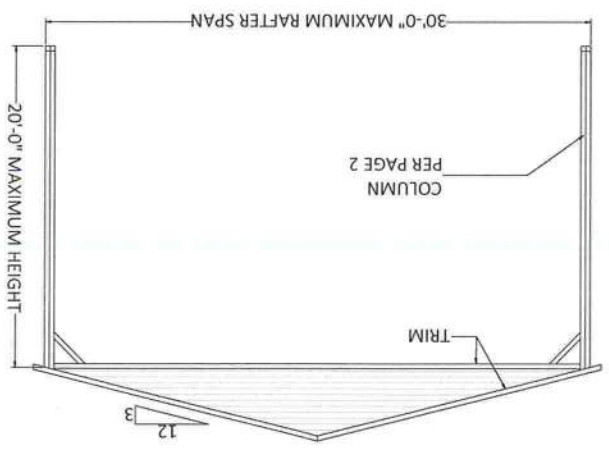


DETAIL 4B
OPTIONAL BOW EAVE RAFTER GABLE RAIL TO DOUBLE COLUMN CONNECTION DETAIL FOR END WALL

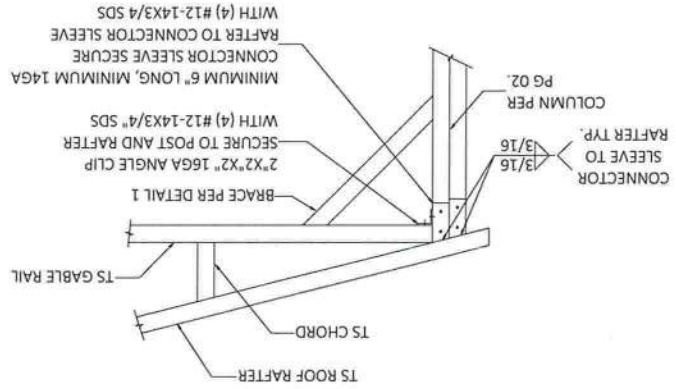


BOX EAVE END WALL - FRAMING

BOX EAVE END WALL - ELEVATION



DETAIL 4A
OPTIONAL BOX EAVE RAFTER GABLE RAIL TO DOUBLE COLUMN CONNECTION DETAIL FOR END WALL



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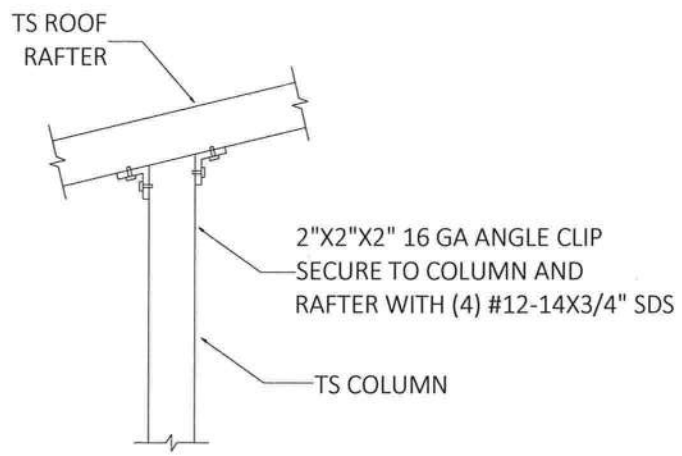
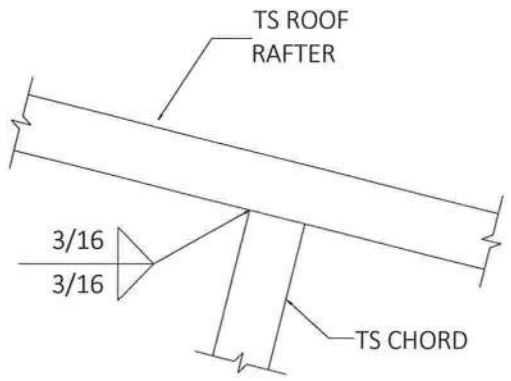
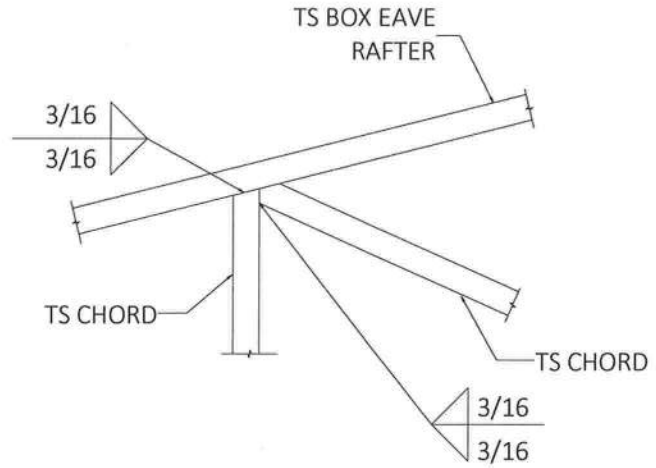
CONNECTION DETAILS



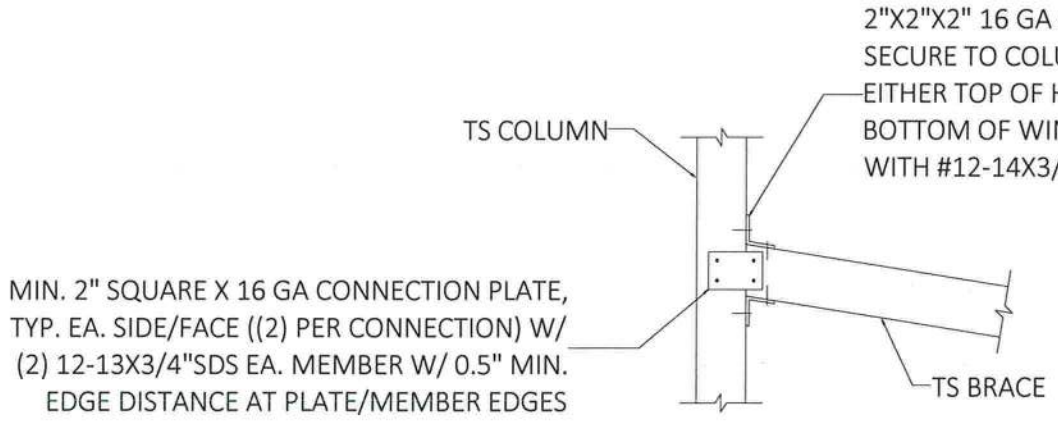
DETAIL 5
END COLUMN/RAFTER CONNECTION



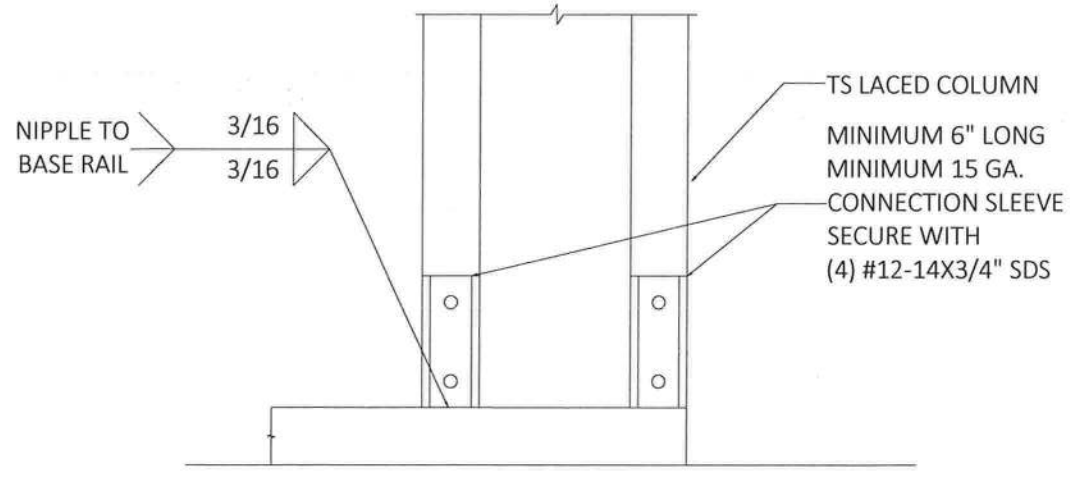
DETAIL 6
RAFTER TO CHORD CONNECTION



DETAIL 7
TRUSS POST AND CHORD TO RAFTER CONNECTION



DETAIL 8
DIAGONAL BRACE CONNECTION



DETAIL 9
END POST/BASE RAIL CONNECTION

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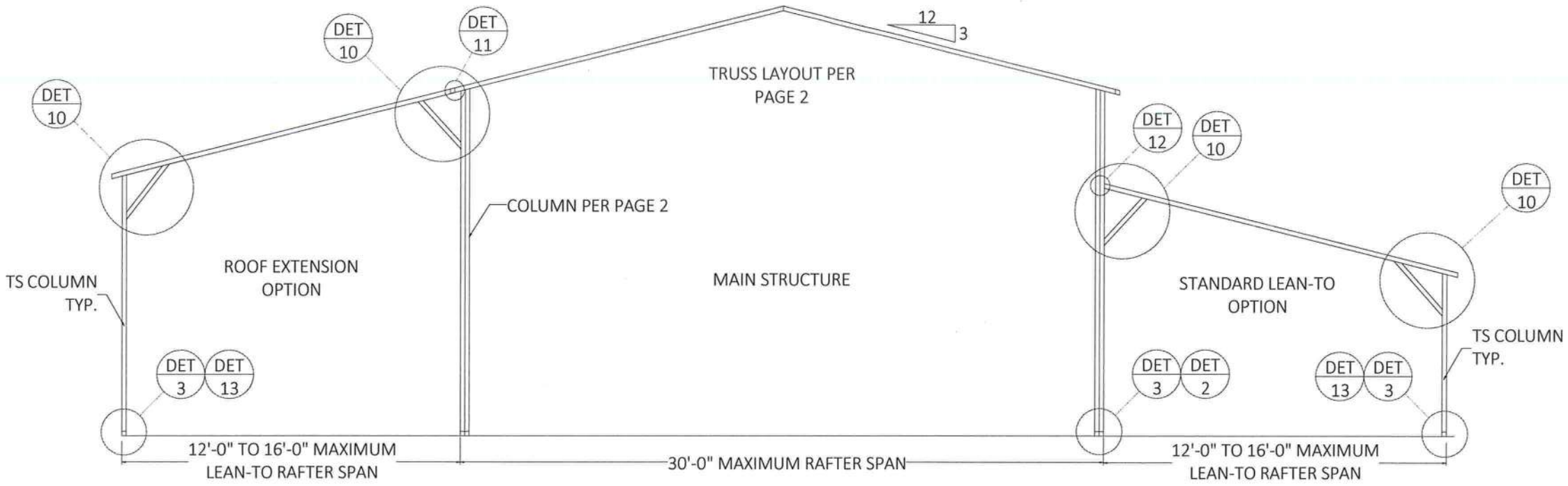
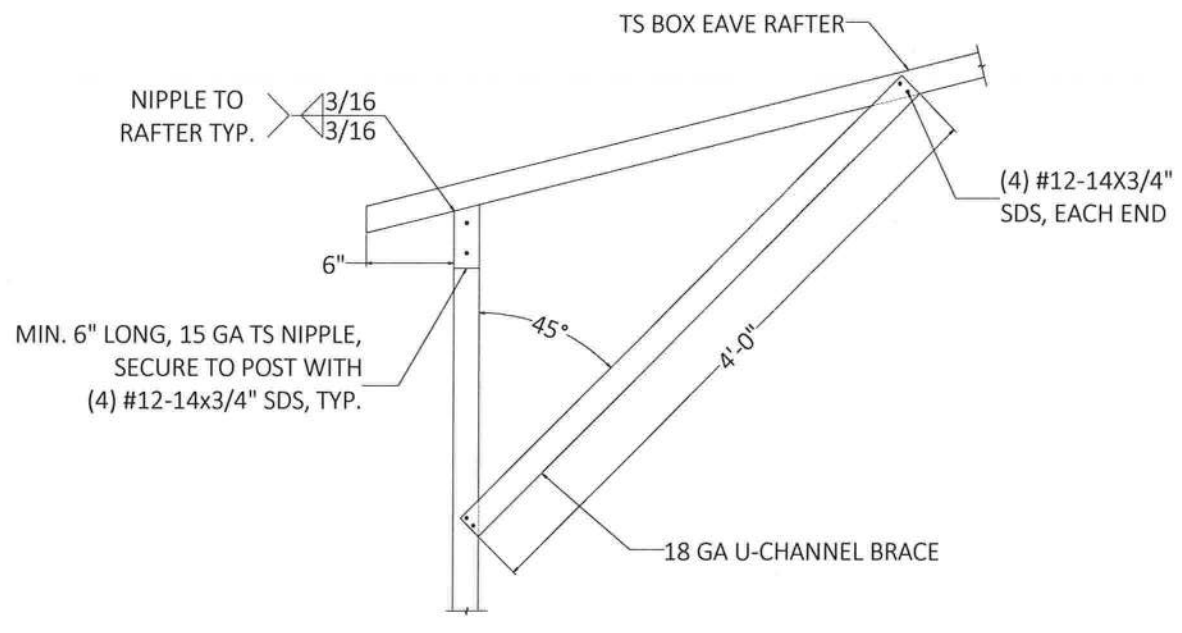
DRAWN BY:	JS	7 OF 11
SCALE:	NTS	



TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION



DETAIL 10
LEAN-TO RAFTER/CORNER POST CONNECTION

Richard E. Walker, P.E. #61240
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SCALE:	NTS

SHEET: 8 OF 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 EVERY 10'.
2. FOR MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL, USE MINIMUM (2) 4" HELICES WITH MINIMUM 30" EMBEDMENT EVERY 5' OR EVERY POST (LEG).
3. THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS.

OPTIONAL HELICAL ANCHORING ON GRADE DETAIL

SECTION X-X

BASE RAIL PLAN

Richard E. Walker, P.E. #61240
DATE: 03/27/2024

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