APPLICABLE CODES

1 2018 NORTH CAROLINA STATE BUILDING CODE BUILDING CODE
2 2018 NORTH CAROLINA STATE BUILDING CODE . RESIDENTIAL CODE
3. 2021 SOUTH CAROLINA BUILDING CODE
4 2021 SOUTH CAROLINA RESIDENTIAL CODE
5. 2018 INTERNATIONAL BUILDING CODE W/ GEORGIA AMMENDMENTS
6 2018 INTERNATIONAL RESIDENTIAL CODE W/ GEORGIA AMMENDMENTS
7. 2021 VIRGINIA CONSTRUCTION CODE
8 2021 VIRGINIA RESIDENTIAL CODE
9 2012 INTERNATIONAL BUILDING CODE
10 2018 INTERNATIONAL RESIDENTIAL CODE
11 2018 INTERNATIONAL BUILDING CODE

APPLICABLE STANDARDS

1 ASCE 7-16 MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
2. ASCE 7-22 MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
3. AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
4 ACI 318-14· BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
5 ACI 318-19 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
5 TMS 402-16 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES
6 AWS D1 1. STRUCTURAL WELDING

DESIGN LOADS

1 DEAD LOAD = 1 5 PSF
2 ROOF LIVE LOAD = 12 PSF
3 GROUND SNOW LOAD = 35 PSF
4 WIND LOAD
A RISK CATEGORY = II
B WIND EXPOSURE CATEGORY = C
C. ULTIMATE WIND SPEED = 110 MPH TO 140 MPH
NOMINAL WIND SPEED = 85 MPH TO 108 MPH

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 INTERNATIONAL 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 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 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 140 MPH
10 MAXIMUM RAFTER SPACING IS 5'-0" FOR WIND SPEEDS BETWEEN 110 MPH AND 140 MPH
11 WIND FORCES GOVERN OVER SEISMIC FORCES SEISMIC PARAMETERS ANALYZED ARE
SOIL SITE CLASS = D
RISK CATEGORY I/II/III
R = 3 25 Ie = 1 0 Sds = 0 36 g V = CsW Sdi = 0 186 g

DRAWING INDEX

41

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

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)

Craig E Gunderson, P E #048404
CA CERT #P-2016
DATE 08/15/2024

Craig E Gunderson, P E #36740
CA CERT #6921
DATE 08/15/2024

Craig E Gunderson, P E #PE032329
CA CERT. #PEF007324
DATE 08/15/2024

Craig E Gunderson, P E. #402065359
CA CERT #407008475
DATE 08/15/2024

Craig E Gunderson, P E #123141
CA CERT #9631
DATE 08/15/2024

Craig E Gunderson, P E #26306
CA CERT #C06970-00
DATE 08/15/2024

GUNDERSON ENGINEERING LLC (NC, SC)
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www.FLeng.com
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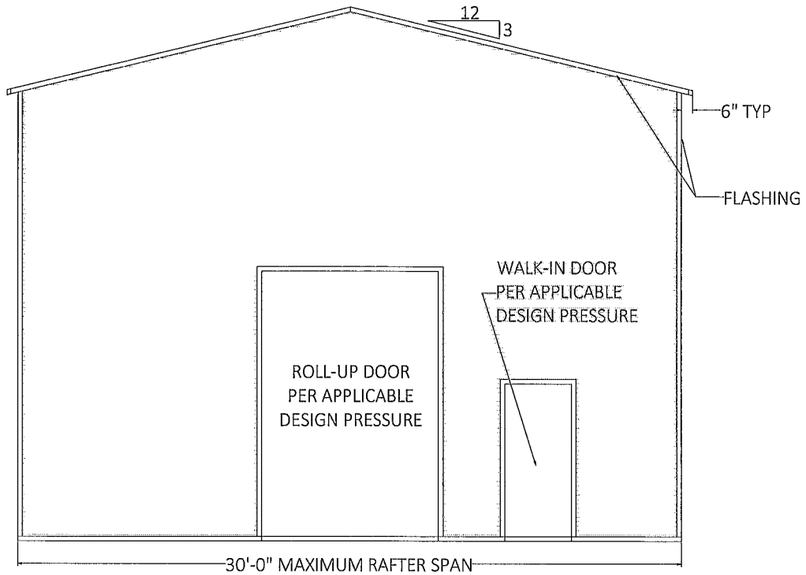
GUNDERSON ENGINEERING LLC
LIGHTNING ENGINEERING LLC
PROJECT NO. 2417309

CONTRACTOR.
TRIAD CARPORTS AND METAL STRUCTURES INC
1961 EOA HWY 64
LEXINGTON NC 27292

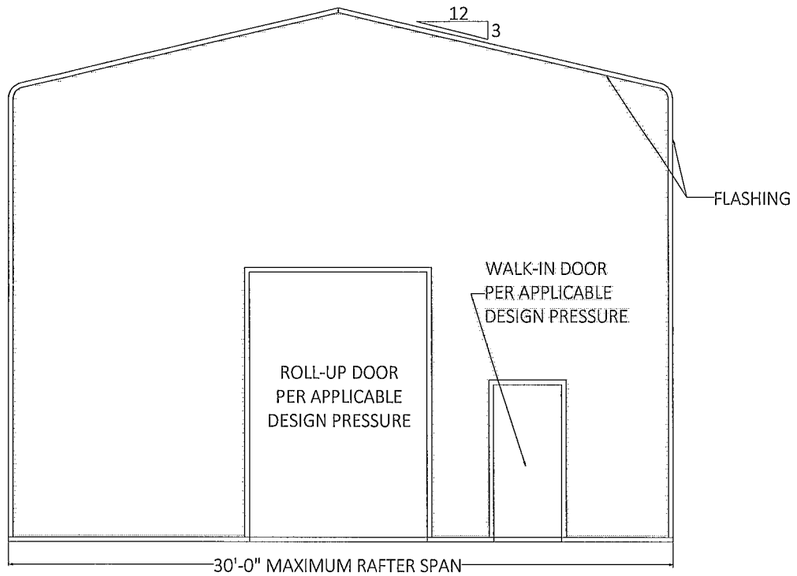
PROJECT ADDRESS
30' WIDE ENCLOSED GENERIC SETUP

DESIGN DATE	08/15/2024	
REVISION 1	DATE	
REVISION 2	DATE	PAGE 1 OF 13
DRAWN BY	JS	
SCALE	NTS	

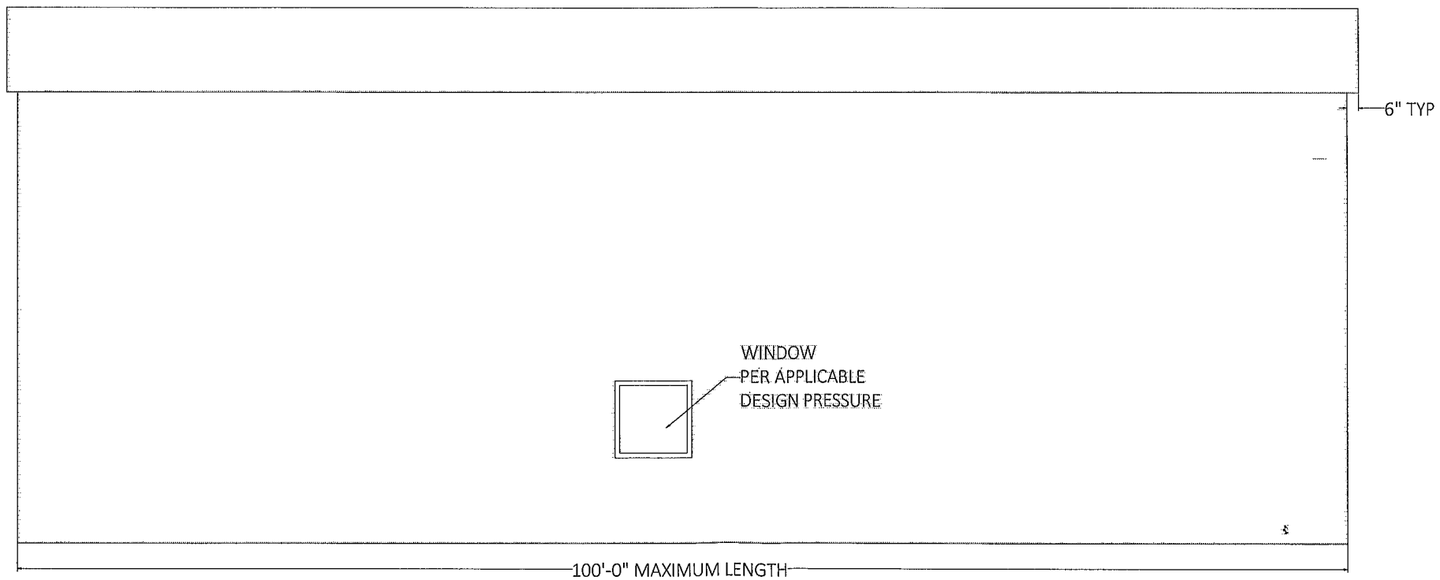
ENCLOSED METAL BUILDING DESIGN
MAXIMUM 30'-0" WIDE X 100'-0" LONG X 20'-0" HIGH (EAVE)
BOX EAVE FRAME / BOW EAVE FRAME



TYPICAL END ELEVATION - BOX EAVE



TYPICAL END ELEVATION - BOW EAVE



TYPICAL SIDE ELEVATION - HORIZONTAL ROOF

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LIGHTNING ENGINEERING LLC

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LEXINGTON NC 27292

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30' WIDE ENCLOSED
GENERIC SETUP

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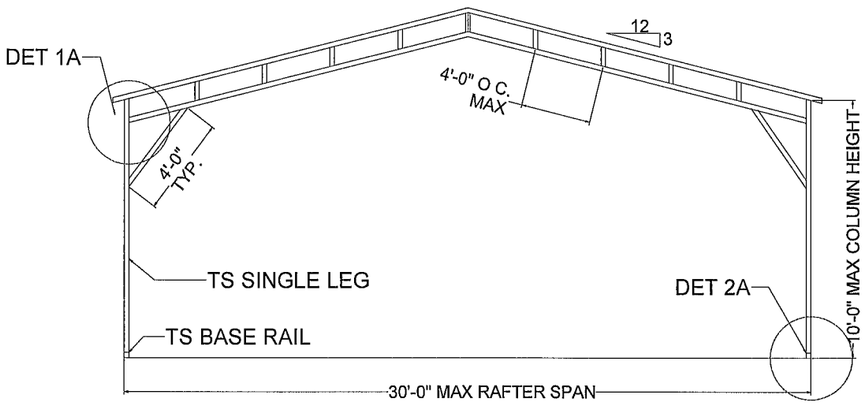
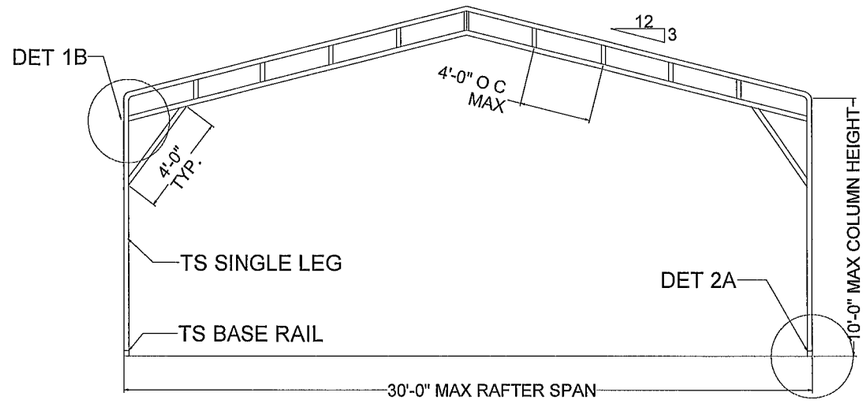
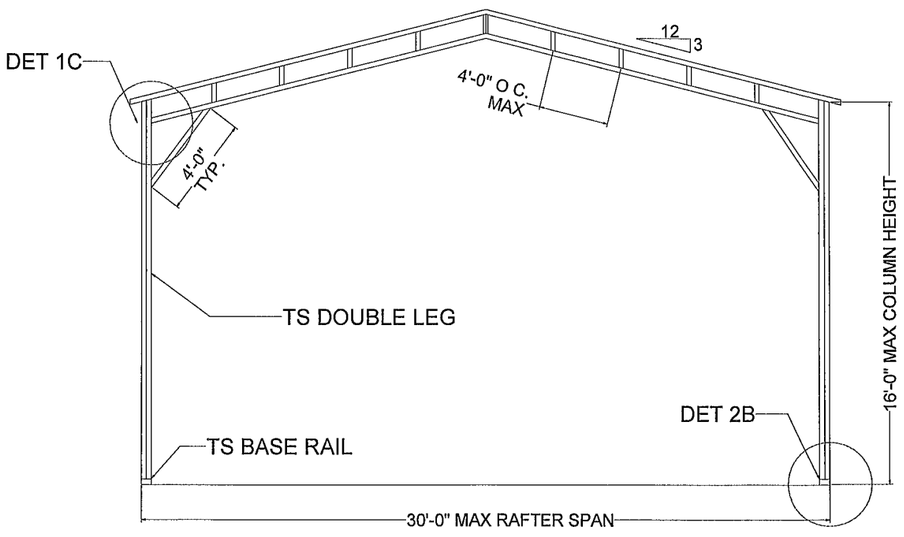
REVISION 2	DATE
DRAWN BY	JS
SCALE	NTS

MEMBER LEGEND:
1. TS COLUMN = 2.5X2.5X14 GA U.N.O.
2. TS DOUBLE COLUMN = (2)2.5X2.5X14 GA U.N.O.
3. TRUSS MEMBERS = 2.5X2.5X14 GA U.N.O.
4. KNEE-BRACE = 2.5"X2"X18GA CHANNEL
5. PURLIN = 1.125"X18GA HAT CHANNEL
6. END WALL COLUMNS = 2.5"X2.5"X14GA TS
7. MAX RAFTER SPACING = 5'-0" O.C.

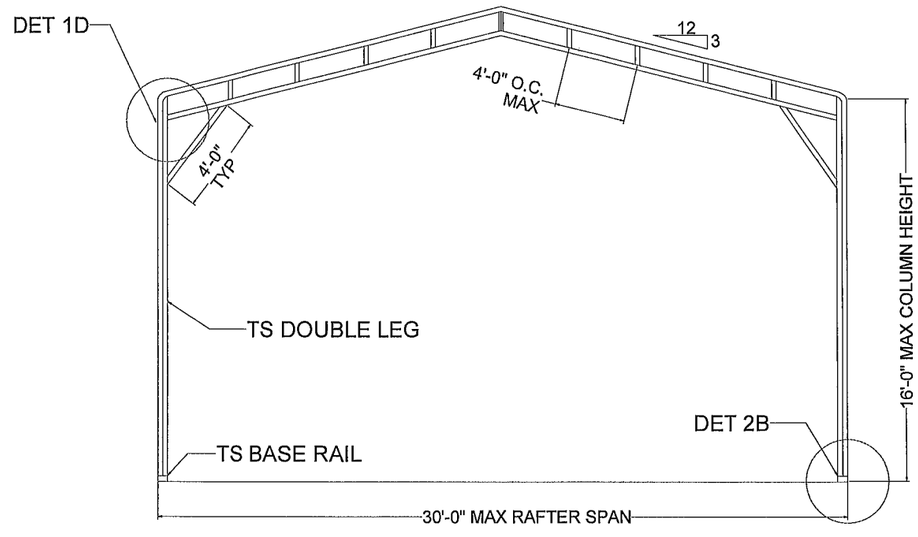
TRUSS LAYOUT FOR MAXIMUM LENGTH OF 50'-0"







TRUSS LAYOUT- BOX EAVE



TRUSS LAYOUT- BOW EAVE

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LIGHTNING ENGINEERING LLC

GUNDERSON ENGINEERING LLC

PROJECT NO. 2417309

CONTRACTOR
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1961 EOA HWY 64
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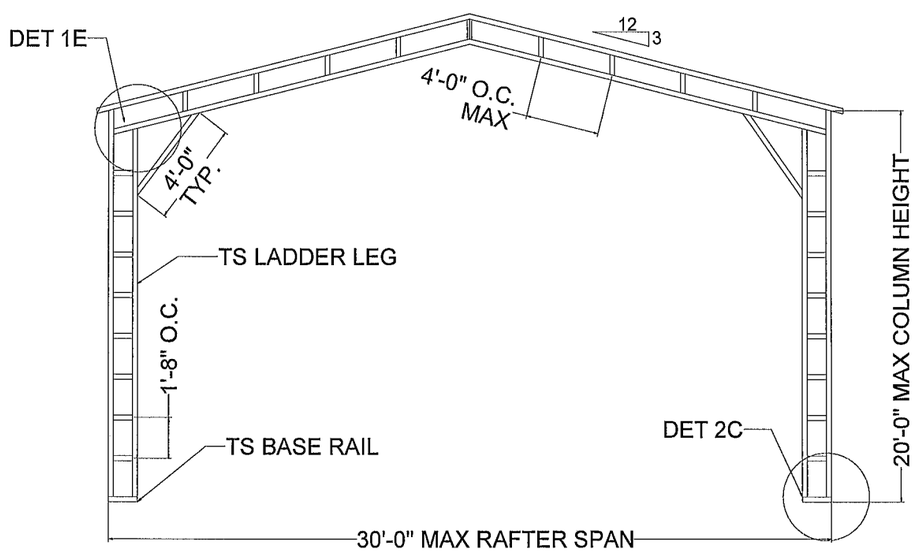
PROJECT ADDRESS
30' WIDE ENCLOSED GENERIC SETUP

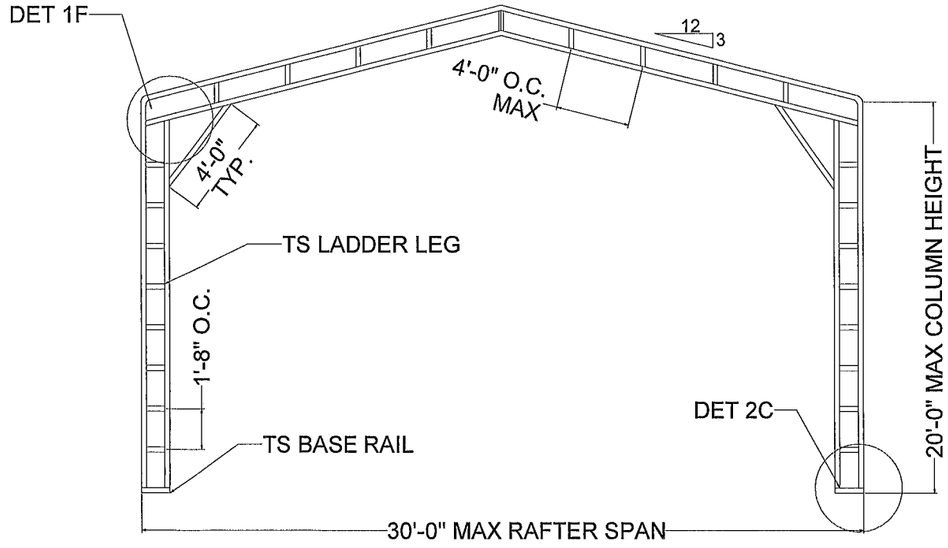
DESIGN DATE	08/15/2024
REVISION 1	DATE
REVISION 2	DATE
DRAWN BY	JS
SCALE	NTS

MEMBER LEGEND:
1. TS LACED COLUMN = 2.5X2.5X14 GA U.N.O.
2. TRUSS MEMBERS = 2.5X2.5X14 GA U.N.O.
3. KNEE-BRACE = 2.5"X2"X18GA CHANNEL
4. PURLIN = 1.125"X18GA HAT CHANNEL
5. END WALL COLUMNS = (2) 2.5"X2.5"X14GA TS
6. MAX RAFTER SPACING = 5'-0" O.C.

TRUSS LAYOUT FOR MAXIMUM LENGTH FROM 51'-0" TO 100'-0"



TRUSS LAYOUT- BOX EAVE



TRUSS LAYOUT- BOW EAVE

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GUNDERSON ENGINEERING LLC
LIGHTNING ENGINEERING LLC

PROJECT NO. 241730

CONTRACTOR.
TRIAD CARPORTS AND METAL STRUCTURES INC
1961 EOA HWY 64
LEXINGTON NC 27292

PROJECT ADDRESS.
30' WIDE ENCLOSED GENERIC SETUP

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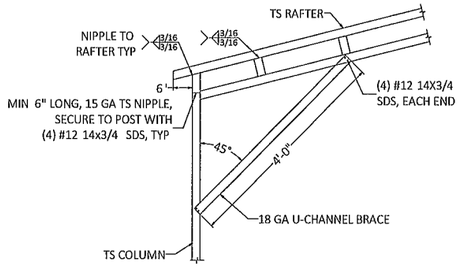
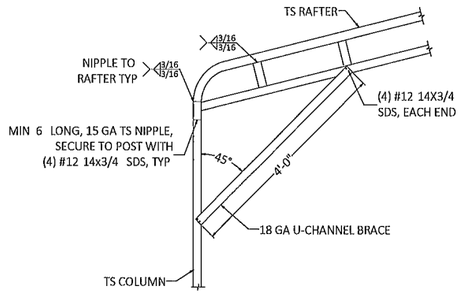
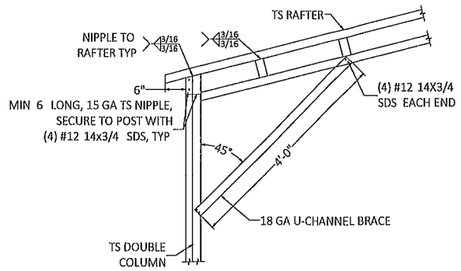
REVISION 1	DATE
REVISION 2	DATE
DRAWN BY	JS
SCALE	NTS



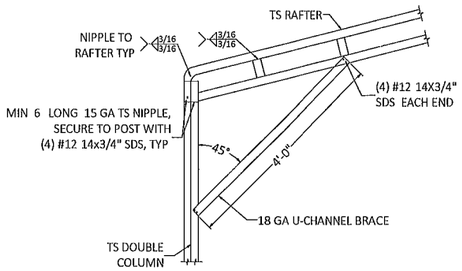
DETAIL 1A
BOX EAVE RAFTER/CORNER POST CONNECTION



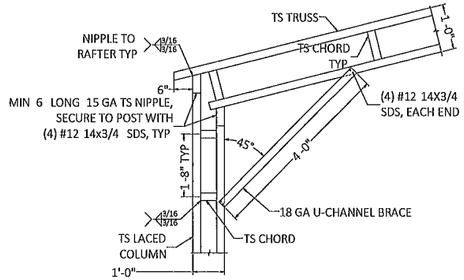
DETAIL 1B
BOX EAVE RAFTER/CORNER POST CONNECTION



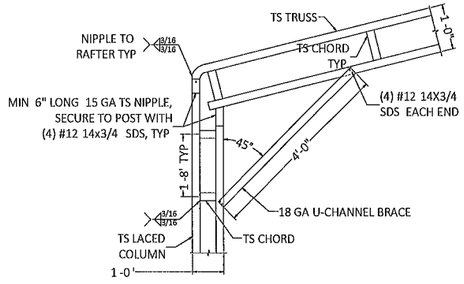
DETAIL 1C
BOX EAVE RAFTER/CORNER POST CONNECTION



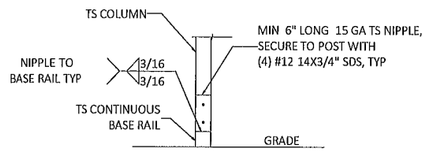
DETAIL 1D
BOX EAVE RAFTER/CORNER POST CONNECTION



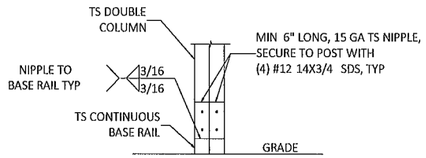
DETAIL 1E
BOX EAVE RAFTER/CORNER POST CONNECTION



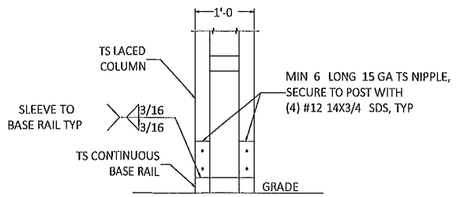
DETAIL 1F
BOX EAVE RAFTER/CORNER POST CONNECTION



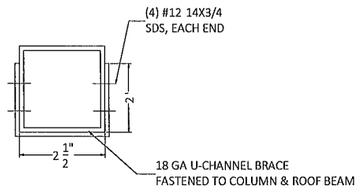
DETAIL 2A
POST/BASE RAIL CONNECTION



DETAIL 2B
POST/BASE RAIL CONNECTION



DETAIL 2C
POST/BASE RAIL CONNECTION



DETAIL 3
BRACE SECTION

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CONCRETE.

1 CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.

2 ALL OPEN AREAS OF CONCRETE OUTSIDE OF THE PROPOSED STRUCTURE SHALL BE DESIGNED TO SLOPE AWAY FROM THE STRUCTURE.

3 WHERE CONCRETE SPECIFICATIONS ARE REQUIRED, BY ONE OR MORE REGULATORY AGENCY, THE FOLLOWING SPECIFICATIONS ARE APPLICABLE

a CONCRETE SHALL CONFORM TO ASTM C94 FOR THE FOLLOWING COMPONENTS

i PORTLAND CEMENT TYPE 1 ASTM C 150

ii AGGREGATES - LARGE AGGREGATE 3/4 MAX. ASTM C 33

III AIR ENTRAINING +/ 1 % ASTM C 260

iv WATER REDUCING AGENT ASTM C 494

v CLEAN POTABLE WATER

vi OTHER ADMIXTURES NOT PERMITTED

b CONCRETE SLUMP AT DISCHARGE CHUTE NOT LESS THAN 3" OR MORE THAN 5" WATER ADDED AFTER BATCHING IS NOT PERMITTED.

c. PREPARE & PLACE CONCRETE PER AMERICAN CONCRETE INSTITUTE MANUAL OF STANDARD PRACTICE, PART 1, 2, & 3 INCLUDING HOT WEATHER RECOMMENDATIONS.

d MOIST CURE OR POLYETHYLENE CURING PERMITTED.

e PRIOR TO PLACING CONCRETE, TREAT THE ENTIRE SUBSURFACE AREA FOR TERMITES IN COMPLIANCE WITH THE BUILDING CODE (FOR RISK CATEGORY II, III, & IV STRUCTURES ONLY)

f CONCRETE SLAB SHALL BE PLACED OVER A POLYETHYLENE VAPOR BARRIER (SLAB ONLY)

REINFORCING STEEL.

1 THE REINFORCING STEEL SHALL BE ASTM A615 GRADE 60. THE SLAB REINFORCEMENT SHALL BE WELDED WIRE FABRIC MEETING ASTM A185 OR FIBERGLASS FIBER REINFORCEMENT

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

a IT IS BENT COLD,

b REINFRCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT;

c THE DIAMETER OF THE BEND MEASURED ON THE INSIDE OF THE BAR, IS NOT LESS THAN SIX-BAR DIAMETERS

3 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.

FROST PROTECTION.

1. FOUNDATION SHALL BE PROTECTED AGAINST FROST USING RIGID FOAM INSULATION (EPS OR EQUIVALENT) FOR NO FROST PROTECTION OPTION COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH BASED ON FROST LINE DEPTH

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 MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS ALLUVIAL FILL USE MINIMUM (2) 4" HELICES WITH MINIMUM 30' EMBEDMENT @ EVERY POST(LEG)

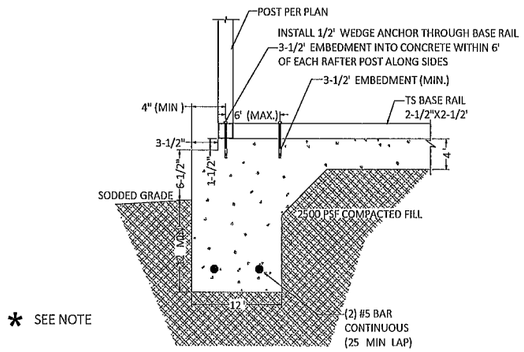
2 THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8.5 KIPS

HP 9 BARBED DRIVE ANCHOR NOTES.

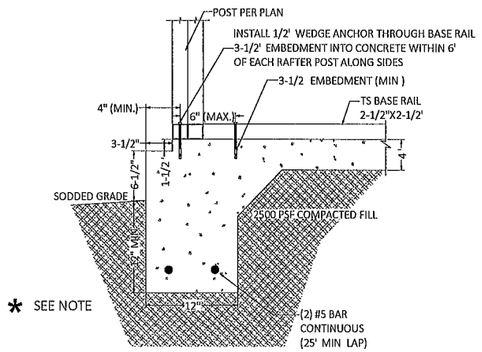
1 ANCHOR TO BE 3/4 DIA (A529 GRADE 50) WITH 30" MIN EMBEDMENT & (4) MIN BARBS AS SHOWN IN DETAIL 3C.

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,MEDIUM TO VERY LOOSE DENSE SANDS, FIRM TO STIFF CLAYS AND SILTS, ALLUVIAL FILL USE MINIMUM (2) 3/8 DIA RODS WITH MINIMUM 30' EMBEDMENT @ EVERY POST(LEG)

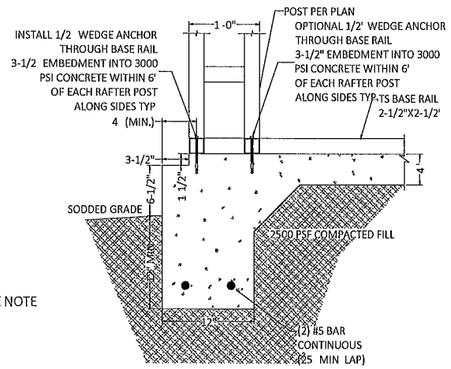
3 THE UPLIFT/BEARING CAPACITY OF EACH ANCHOR MUST BE EQUAL TO OR GREATER THAN 8 5 KIPS.



DETAIL 4A-I
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

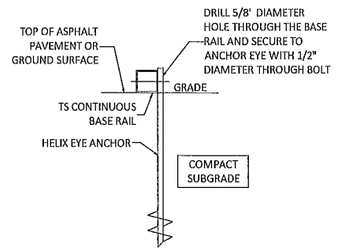


DETAIL 4A-II
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

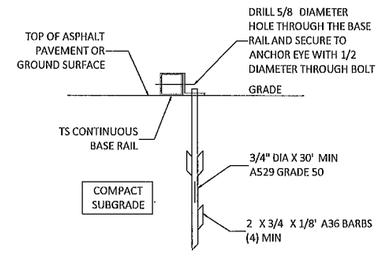


DETAIL 4A-III
CONCRETE MONOLITHIC SLAB BASE RAIL ANCHORAGE

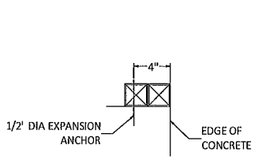
* = COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH BASED ON FROST LINE DEPTH



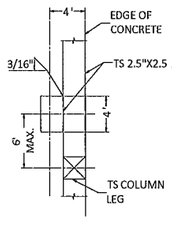
DETAIL 3B
GROUND BASE HELIX ANCHORAGE



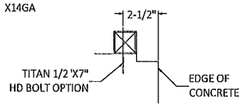
DETAIL 3C
ASPHALT BASE ANCHORAGE
(HP 9 BARBED DRIVE ANCHOR)



SECTION
(OPTION-1)



TOP VIEW
(OPTION 1)



SECTION
(OPTION 2)

TYPICAL ANCHOR DETAIL WHEN BASE RAIL IS NEAR EDGE OF CONCRETE

BASE RAIL ANCHORAGE OPTION

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GUNDERSON ENGINEERING LLC

PROJECT NO. 2417309

CONTRACTOR.
TRIAD CARPORTS AND METAL STRUCTURES INC
1961 EOA HWY 64
LEXINGTON NC 27292

PROJECT ADDRESS
30' WIDE ENCLOSED GENERIC SETUP

DESIGN DATE	08/15/2024
REVISION 1	DATE
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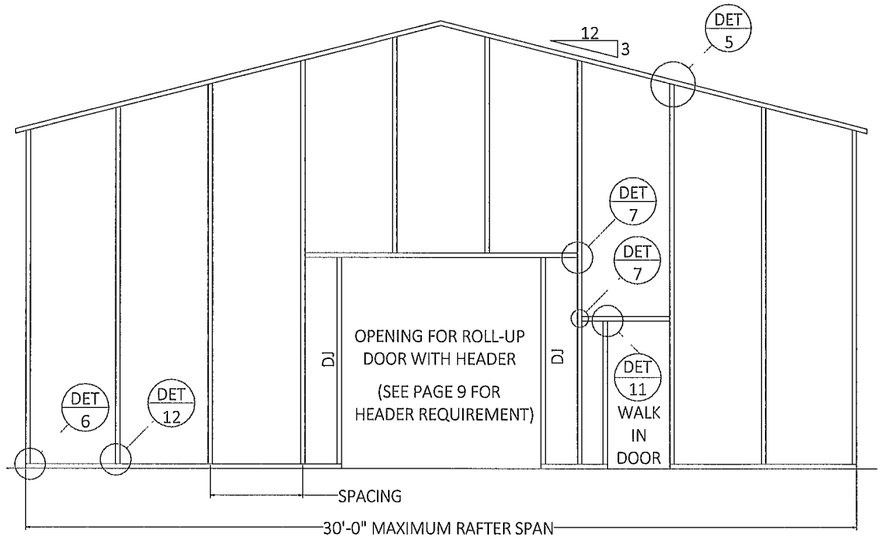
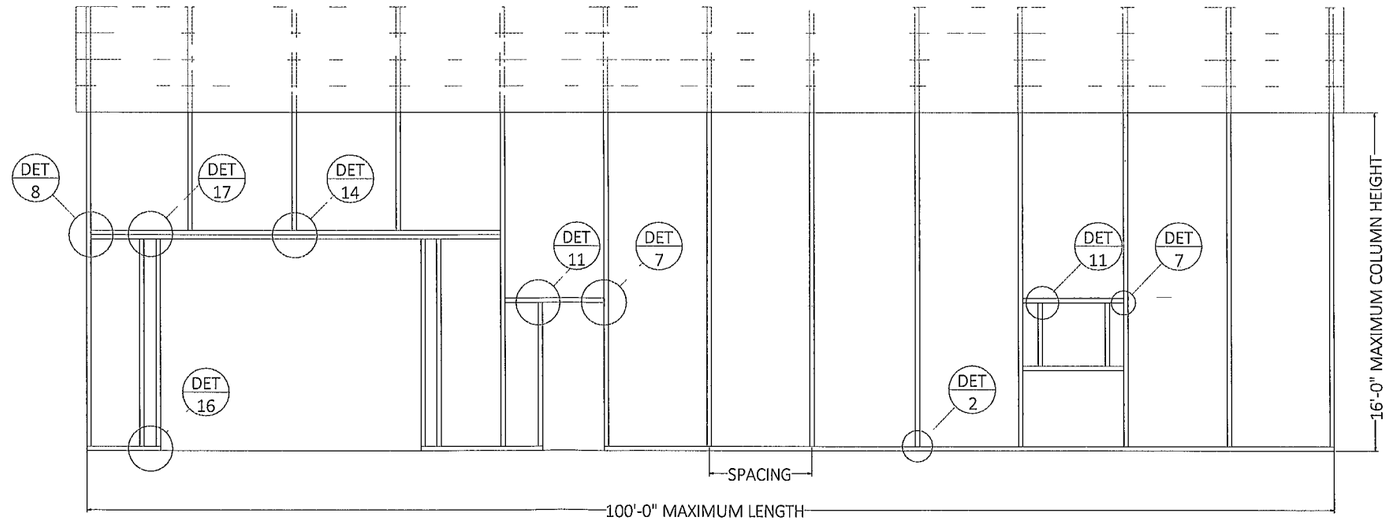
DRAWN BY	JS
SCALE	NTS



TYPICAL BOX EAVE RAFTER END WALL FRAMING SECTION

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

(SEE PG-11 FOR HEADER DETAILS)



TYPICAL BOX EAVE RAFTER SIDE WALL FRAMING SECTION

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

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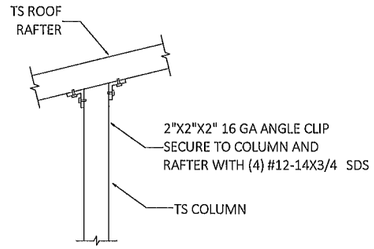
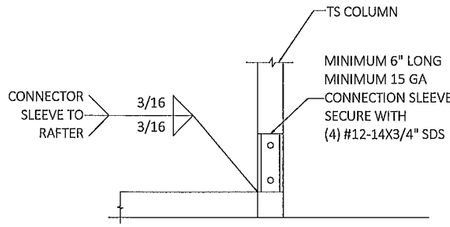
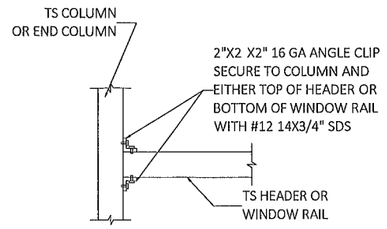
CONNECTION DETAILS



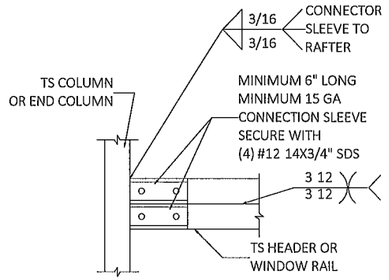
DETAIL 5
END COLUMN/RAFTER CONNECTION



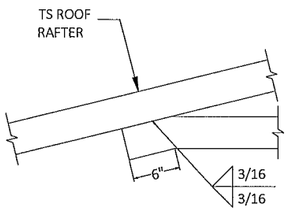
DETAIL 6
END POST/BASE RAIL CONNECTION



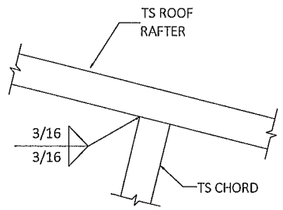
DETAIL 7
HEADER TO COLUMN CONNECTION



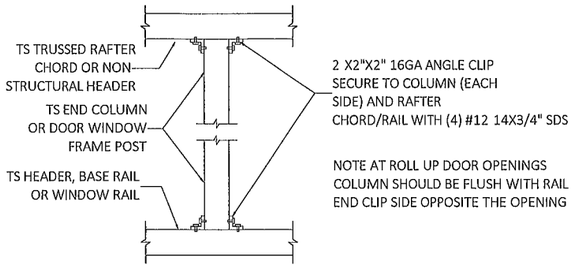
DETAIL 8
DOUBLE HEADER TO COLUMN CONNECTION



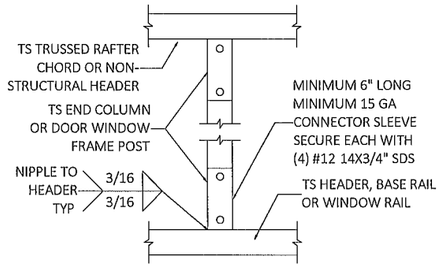
DETAIL 9
COLLAR TIE CONNECTION



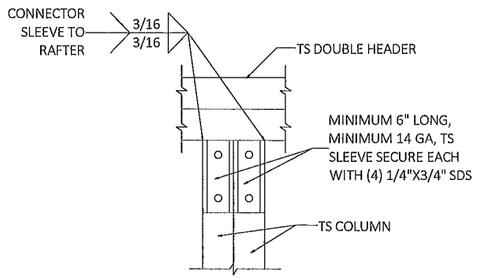
DETAIL 10
RAFTER TO CHORD CONNECTION



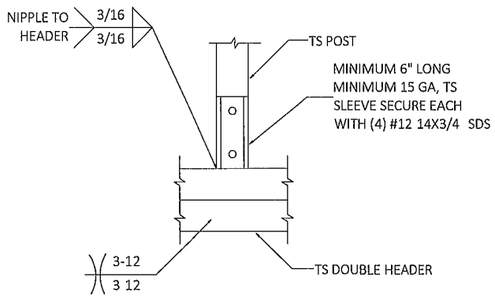
DETAIL 11
POST TO HEADER, BASE RAIL OR WINDOW RAIL CONNECTION
(OPTION-1)



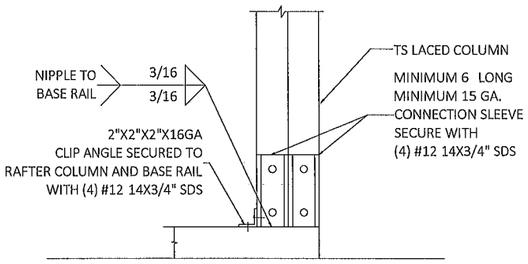
DETAIL 12
POST TO HEADER, BASE RAIL CONNECTION
(OPTION-2)



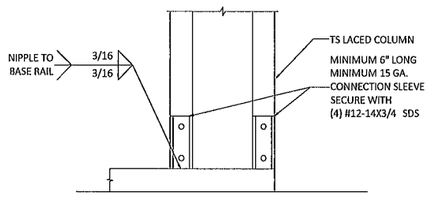
DETAIL 13
DOUBLE HEADER TO COLUMN CONNECTION



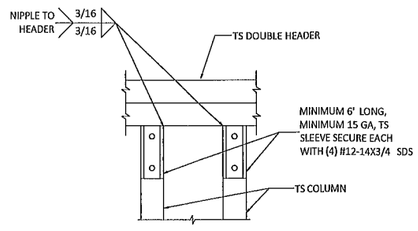
DETAIL 14
POST/DOUBLE HEADER CONNECTION



DETAIL 15
POST/BASE RAIL CONNECTION



DETAIL 16
POST/BASE RAIL CONNECTION



DETAIL 17
POST/BASE RAIL CONNECTION

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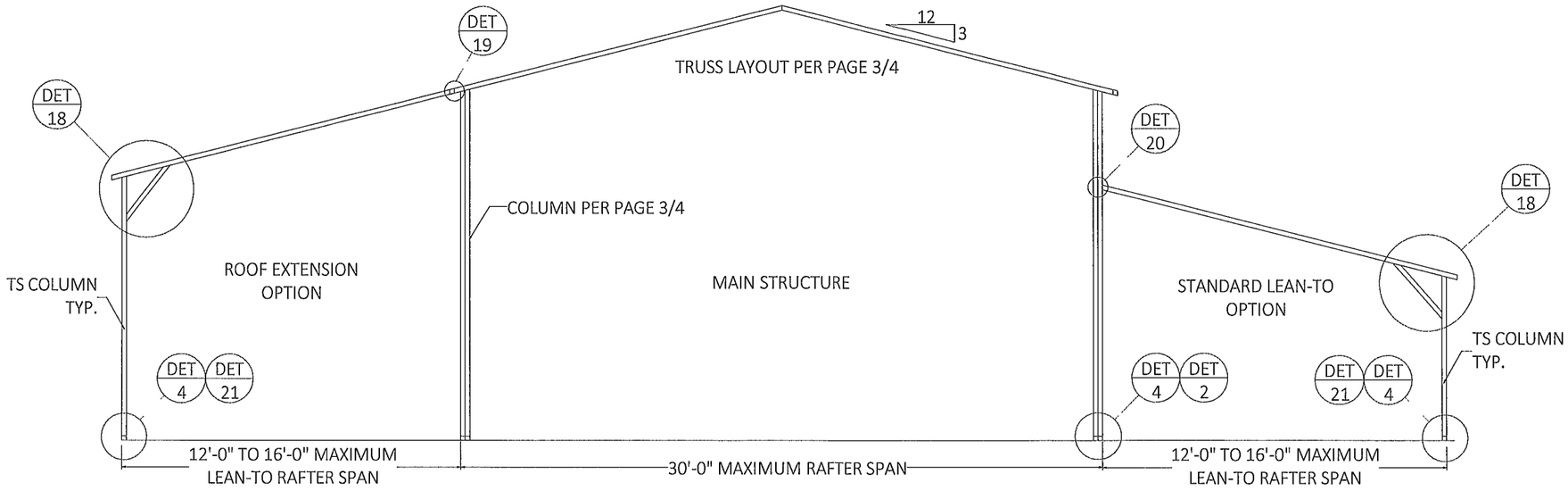
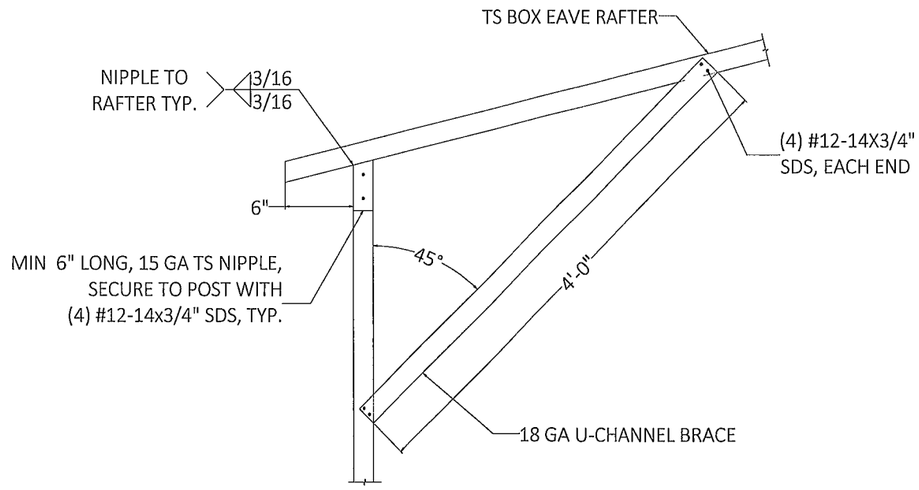


TYPICAL BOX EAVE RAFTER LEAN-TO OPTIONS FRAMING SECTION



DETAIL 18

LEAN-TO RAFTER/CORNER POST CONNECTION

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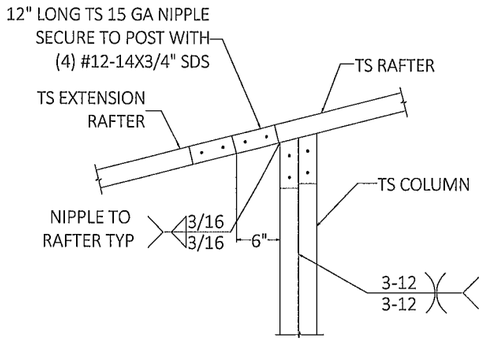
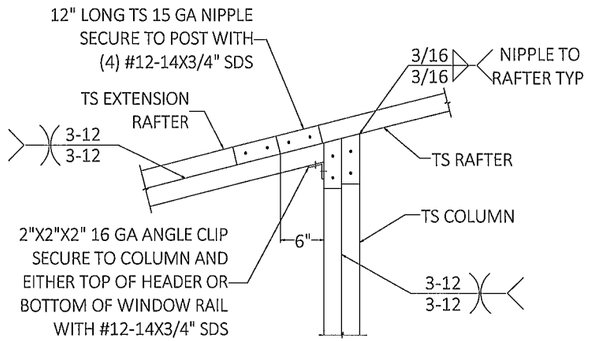
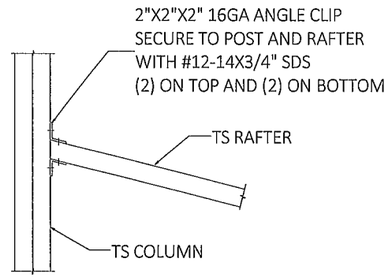


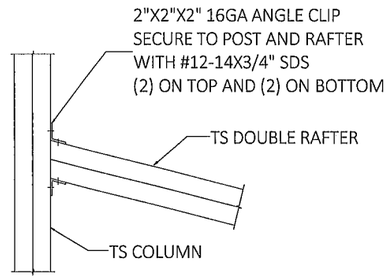
DETAIL 19A
SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"



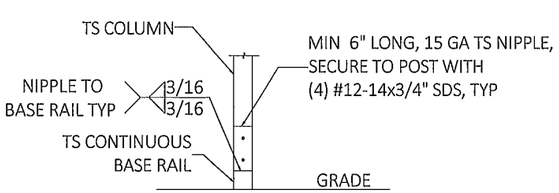
DETAIL 19B
SIDE EXTENSION RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"



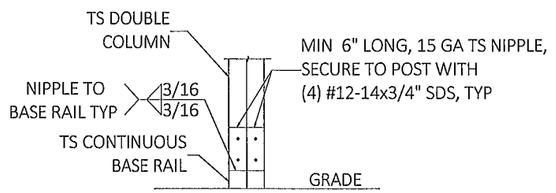
DETAIL 20A
LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS LESS THAN 12'-0"



DETAIL 20B
LEAN TO RAFTER/COLUMN CONNECTION
FOR RAFTER SPANS BETWEEN 12'-0" AND 16'-0"



DETAIL 21A
LEAN-TO POST CONNECTION



DETAIL 21B
LEAN-TO DOUBLE POST CONNECTION

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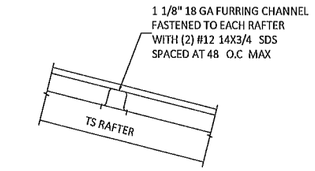
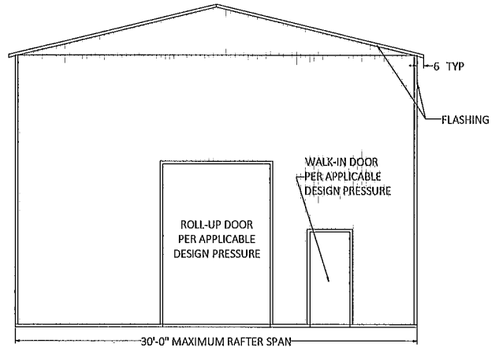
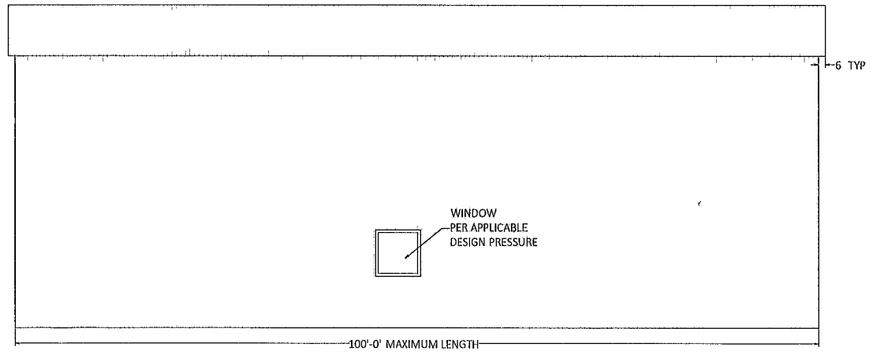


PANEL ATTACHMENT
(ALTERNATE FOR VERTICAL ROOF PANELS)

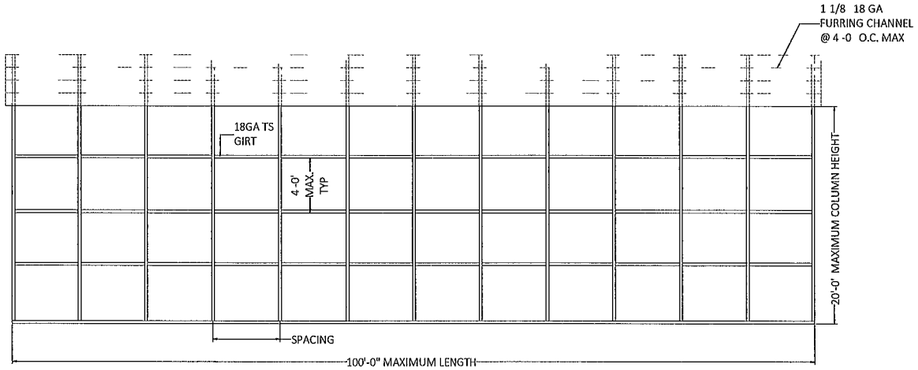


TYPICAL END ELEVATION VERICAL ROOF/SIDING



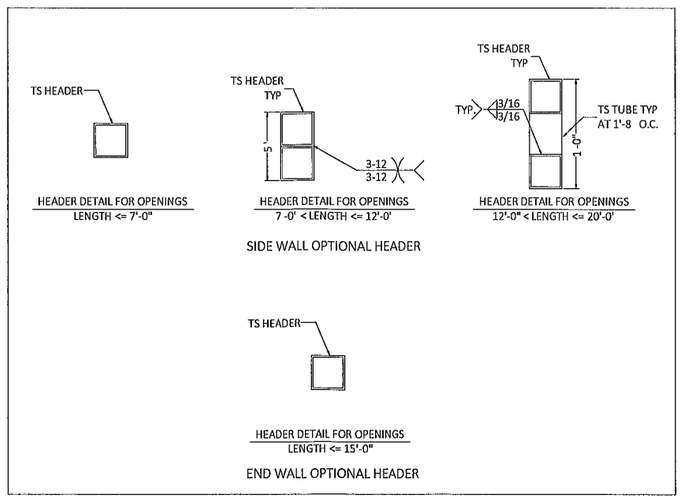
TYPICAL SIDE ELEVATION - VERTICAL ROOF/SIDING

BOX EAVE FRAME RAFTER ENCLOSED BUILDING



TYPICAL RAFTER/POST SIDE FRAME SECTION

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



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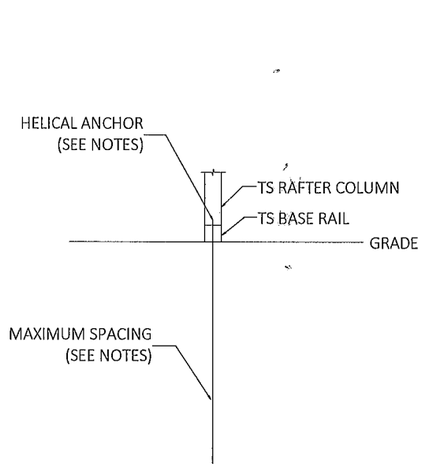
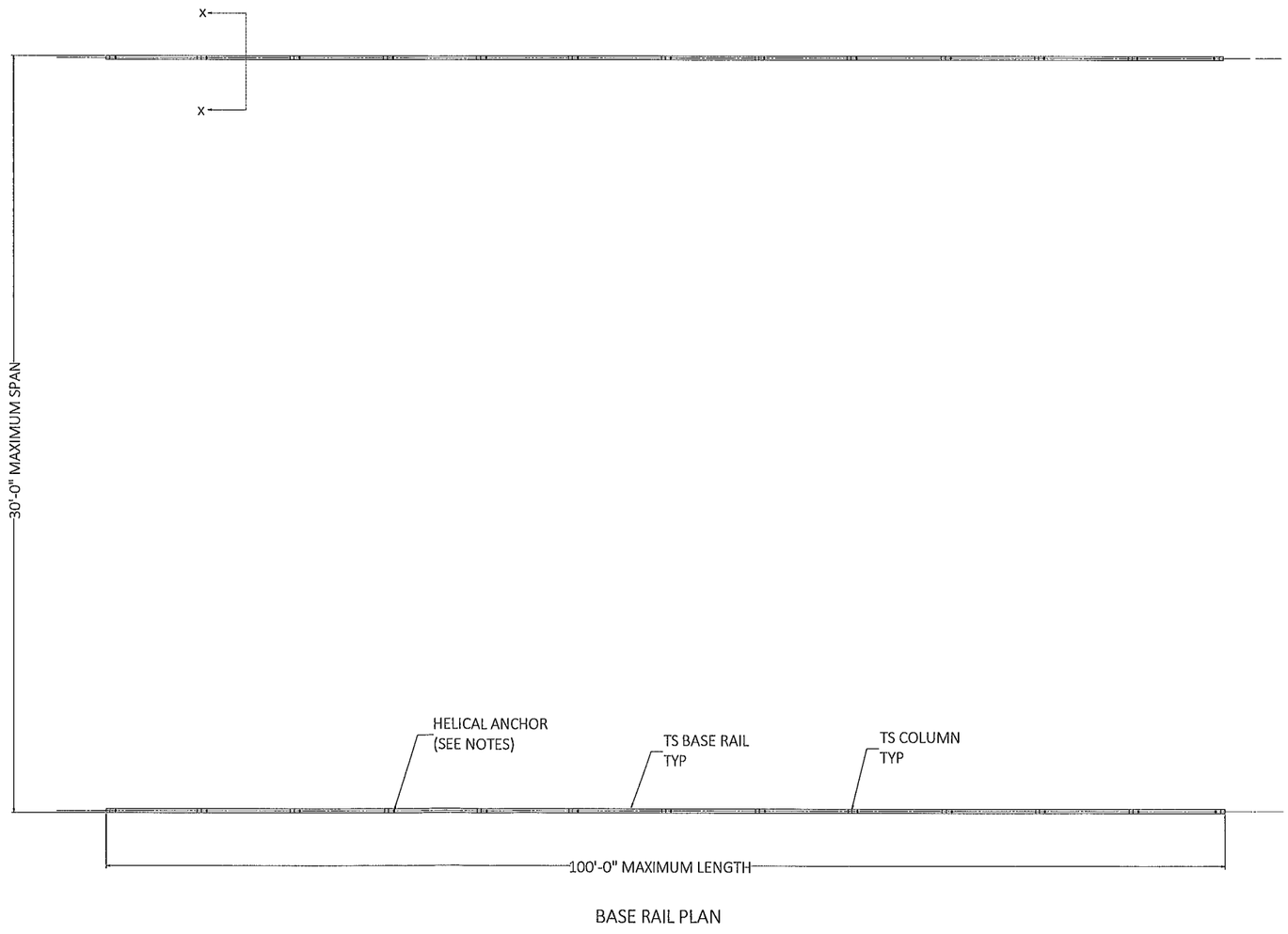
HELIX ANCHOR NOTES

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

GUNDERSON ENGINEERING LLC (NC, SC)
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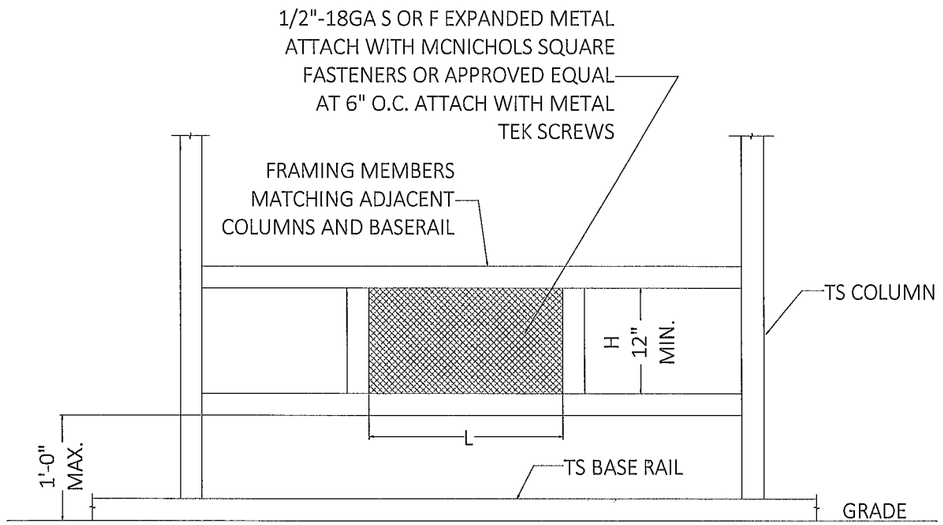
FLOOD VENTS PROVISION IN FLOOD HAZARD AREAS (FLOOD ZONE A/V):

1. THE STRUCTURE SHALL BE CONSTRUCTED SUCH THAT THE FINISHED FLOOR IS ABOVE DESIGN FLOOD ELEVATION (DFE = BASE FLOOD ELEVATION + 1' FREEBOARD). IF THE CONSTRUCTION IS BELOW DFE, FLOOD VENTS SHALL BE INSTALLED PER 2018 NORTH CAROLINA STATE BUILDING CODE: RESIDENTIAL CODE,SECTION R322.2.2.
2. CONTRACTOR TO VERIFY ELEVATIONS IN THE FIELD.

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.



TYPICAL FLOOD VENT DETAIL

FLOOD SOLUTIONS STATIC FLOOD VENTS FL #17588-R1				
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	$18\frac{1}{2}$" X $10\frac{1}{2}$"	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 $14\frac{1}{2}$"	$14\frac{1}{2}$" X 12"	129	106.7
FS-1608-HEX	$18\frac{1}{2}$" X $10\frac{1}{2}$"	16 X 8	110	91.4

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