

APPLICABLE CODES, REGULATIONS, & STANDARDS

- A. 2018 NORTH CAROLINA STATE BUILDING CODE
B. ASCE/SEI 7-16: MINIMUM DESIGN LOADS ON BUILDINGS AND OTHER STRUCTURES
C. ACI 318-14: BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
D. AISC STEEL CONSTRUCTION MANUAL (15TH EDITION)
E. AWS D1.1: STRUCTURAL WELDING

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 APPROVED 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. ALL FASTENERS SHALL BE ZINC COATED HARDWARE.

4. 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).

5. WIND FORCES GOVERN OVER SEISMIC FORCES.

DESIGN DATA	
DESIGN CRITERIA : RISK CATEGORY : OCCUPANCY CLASSIFICATION : CONSTRUCTION TYPE : DEFLECTION LIMIT = ULTIMATE DESIGN WIND SPEED (MPH) VULT = NOMINAL DESIGN WIND SPEED (MPH) VASD = EXPOSURE CATEGORY : MEAN BUILDING HEIGHT (FT) = MINIMUM BUILDING PLAN DIMENSION (FT) = END ZONE DIMENSION (FT) a = ROOF STYLE : ROOF PITCH (IN 12) : OCCUPANCY CLASSIFICATION : DEAD LOAD (DUE TO SELF-WEIGHT) = ROOF LIVE LOAD = GROUND SNOW LOAD =	ASCE/SEI 7 II R3 II-B L/240 120 93 C 11.97 30.00 3.00 GABLE 3 PARTIALLY OPEN 5 PSF 12 PSF 15 PSF
ADJUSTED C & C WIND PRESSURES (ASD) (PSF)	
EFFECTIVE WIND AREA FOR ROOF (SQ. FT) : ZONE 1' (POSITIVE) = ZONE 1' (NEGATIVE) = ZONE 1' (OVERHANG) = ZONE 1 (POSITIVE) = ZONE 1 (NEGATIVE) = ZONE 1 (OVERHANG) = ZONE 2 (POSITIVE) = ZONE 2 (NEGATIVE) = ZONE 2 (OVERHANG) = ZONE 3 (POSITIVE) = ZONE 3 (NEGATIVE) = ZONE 3 (OVERHANG) =	75.00 NA NA NA 9.3 -20.7 -34.2 9.3 -27.8 -41.4 9.3 -35.3 -48.8
EFFECTIVE WIND AREA FOR WALLS (SQ. FT) : ZONE 4 (POSITIVE) = ZONE 4 (NEGATIVE) = ZONE 5 (POSITIVE) = ZONE 5 (NEGATIVE) =	50.47 16.9 -18.5 16.9 -21.3
CONTRACTOR TO PROVIDE BUILDING CODE APPROVED PRODUCTS TO MEET OR EXCEED THE DESIGN PRESSURES AS TABULATED.	

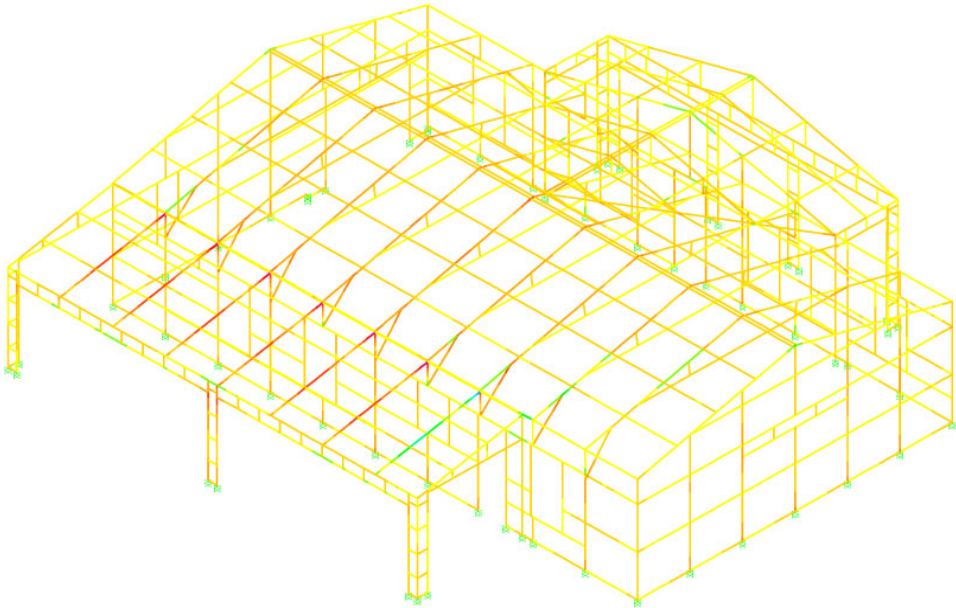
ADJUSTED C & C WIND PRESSURES (ASD) (PSF) FOR OPENINGS	
SWING DOOR	
EFFECTIVE WIND AREA (SQ. FT) = ZONE 4 (POSITIVE) = ZONE 4 (NEGATIVE) = ZONE 5 (POSITIVE) = ZONE 5 (NEGATIVE) =	21.33 18.0 -19.6 18.0 -23.5
WINDOW	
EFFECTIVE WIND AREA (SQ. FT) = ZONE 4 (POSITIVE) = ZONE 4 (NEGATIVE) = ZONE 5 (POSITIVE) = ZONE 5 (NEGATIVE) =	4.00 18.9 -20.5 18.9 -25.3
THE ENGINEERING ON THESE PLANS IS SITE SPECIFIC FOR (1) STRUCTURE ONLY AT THE PROVIDED ADDRESS(ES).	

SHEET NO.	DRAWING INDEX
S/01	GENERAL NOTES
S/02	PLAN/ ELEVATIONS
S/03	FOUNDATION PLAN
S/04	DETAILS

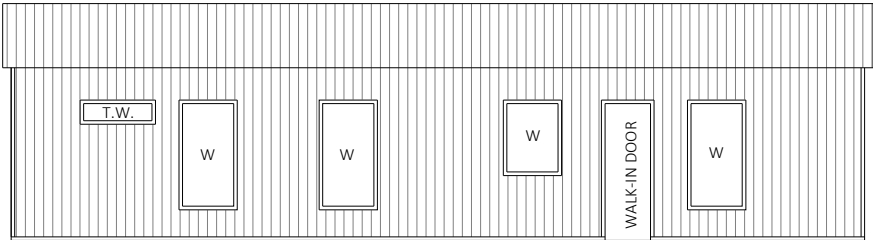
PROPOSED METAL BUILDING FOUNDATION & SHELL STRUCTURAL DESIGN ONLY. ALL OTHER REQUIRED PERMITS TO BUILD OUT TO A HABITABLE LIVING SPACE ARE TO BE BY OTHERS/ PER SEPERATE CERTIFICATE. INCLUDING BUT NOT LIMITED TO, ELECTRICAL, PLUMBING, ENERGY CALCS., ETC. FOR MORE INFORMATION VISIT: <https://gundersonengineering.com/order> OR SCAN QR CODE.



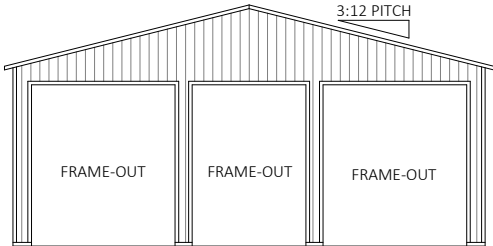
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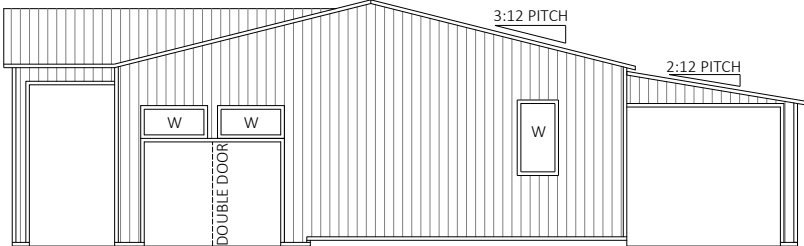
3-D FINITE ELEMENT ANALYSIS PERFORMED
STRUCTURE COMPLIES



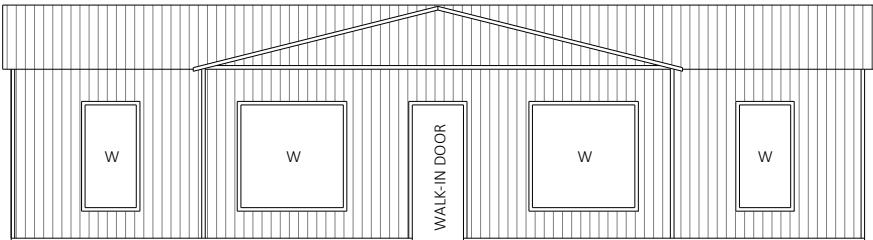
VIEW @ "D-D"



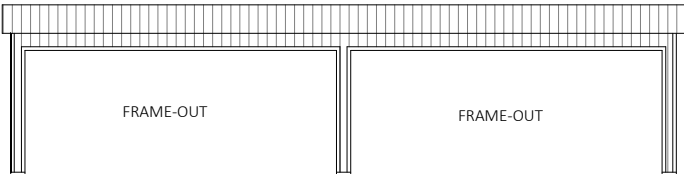
FRONT ELEVATION



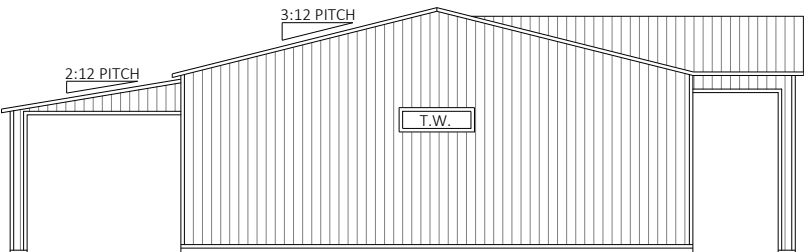
RIGHT SIDE ELEVATION



VIEW @ "C-C"

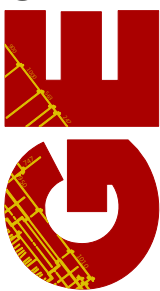


REAR ELEVATION



LEFT SIDE ELEVATION

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PORT CHARLOTTE, FLORIDA 33952
(941) 391-5980
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PROJECT NO. 2520283

CA CERT. #P-2016

CONTRACTOR:
LONGHORN STEEL STRUCTURES
109 BUCKEYE LANE
PILOT MOUNTAIN, NC 27041

PROJECT ADDRESS:

PEARSON
PID #0506130145 JASMINE RD
FUQUAY VARINA, NC, 27526

DESIGN DATE: 08/06/2025

REVISION 1: DATE

REVISION 2: DATE

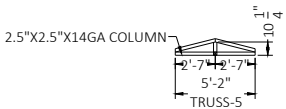
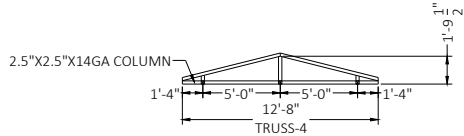
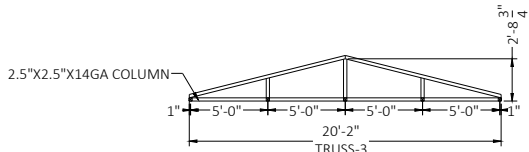
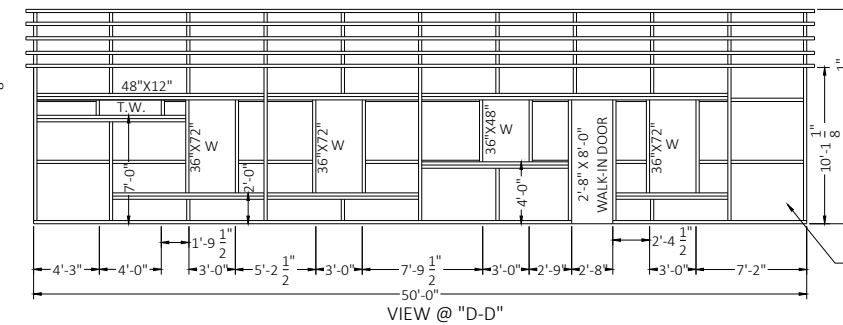
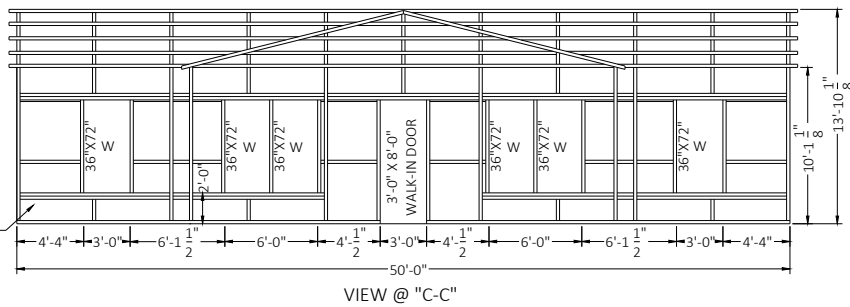
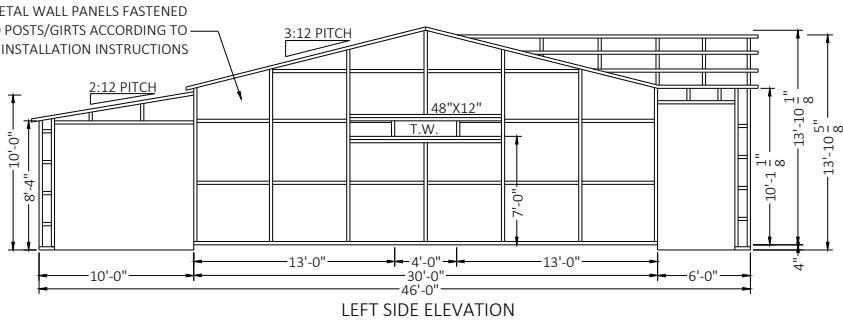
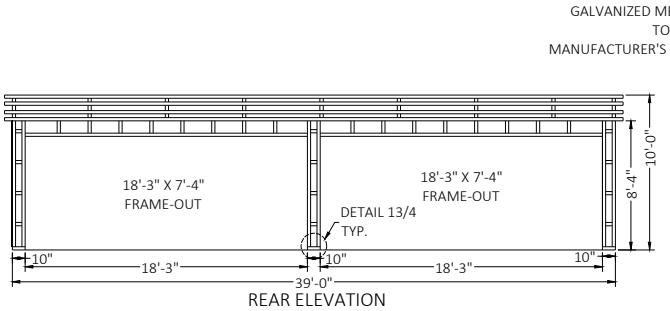
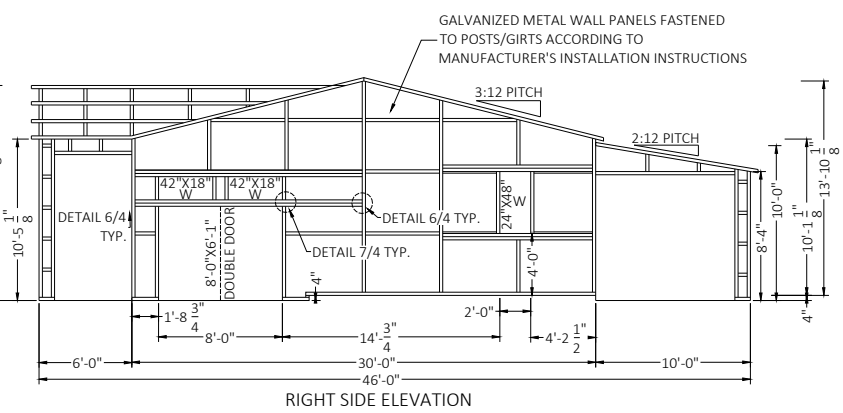
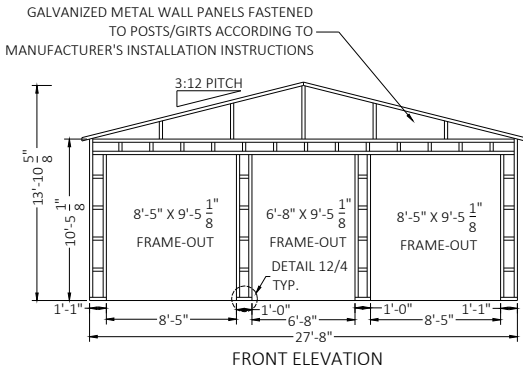
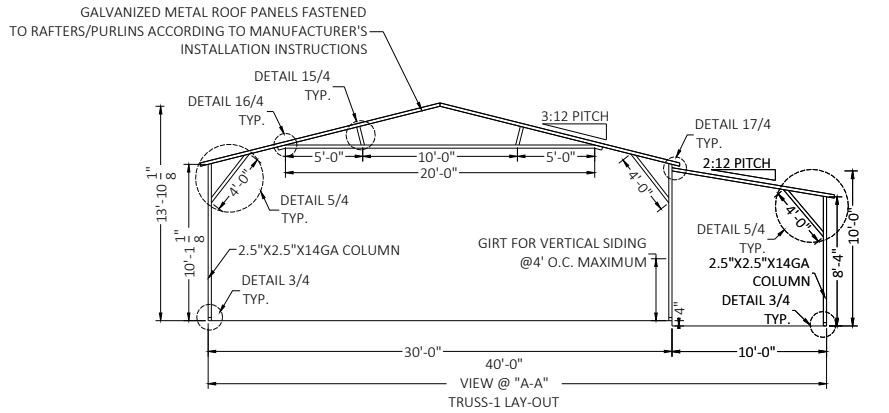
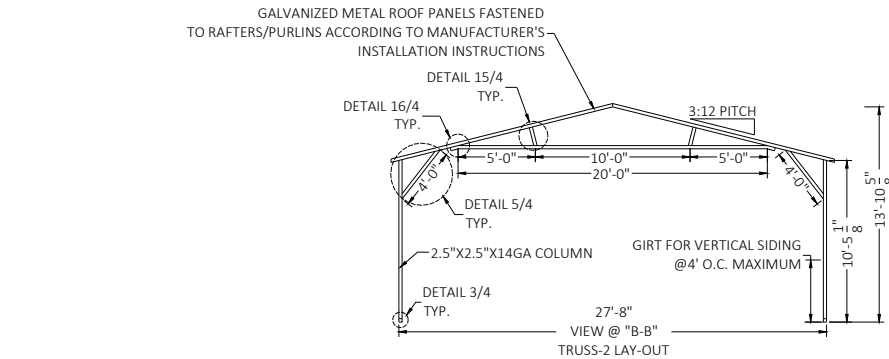
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01

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SCOPE OF WORK:

PROPOSED METAL BUILDING FOUNDATION & EXTERNAL SHELL STRUCTURAL DESIGN ONLY. ALL OTHER REQUIRED PERMITS TO BUILD OUT TO A HABITABLE LIVING SPACE ARE TO BE BY OTHERS, INCLUDING BUT NOT LIMITED TO, ELECTRICAL, PLUMBING, ENERGY CALCULATIONS, ETC.

FRAMING NOTES:

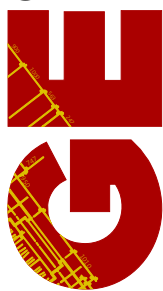
1. ALL FRAME MEMBERS ARE 2.5"x2.5"x14 GA TS U.N.O.
2. MAX. RAFTER SPACING = 5'-0"
3. MAX. PURLIN SPACING = 4'-0"
4. PURLIN = 1.5" X 18GA HAT CHANNEL
5. KNEE BRACE = 2.5"x2"x18GA CHANNEL
6. R1 = 2.5"x2.5"x14GA LEAN-TO RAFTER
7. GIRT = 1.5" X 18GA HAT CHANNEL

- = 2.5"x2.5"x14GA COLUMN
■ = (2) 2.5"x2.5"x14GA COLUMN

SIDE GIRT NOTE:

CUT PURLINS AS NECESSARY FOR WINDOW AND DOOR OPENINGS. ROLL-UP AND SWINGING DOORS REQUIRE A SECTION OF PURLIN ACROSS THE TOP OF OPENING. WINDOWS REQUIRE A SECTION OF PURLIN TOP AND BOTTOM.

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4161 TAMiami TRAIL, UNIT 101
PORT CHARLOTTE, FLORIDA 33952
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CONTRACTOR:
LONGHORN STEEL STRUCTURES
109 BUCKEYE LANE
PILOT MOUNTAIN, NC 27041

PROJECT ADDRESS:

PEARSON
PID #0506130145 JASMINE RD
FUQUAY VARINA, NC, 27526

DESIGN DATE: 08/06/2025

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PROJECT NO. 2520283

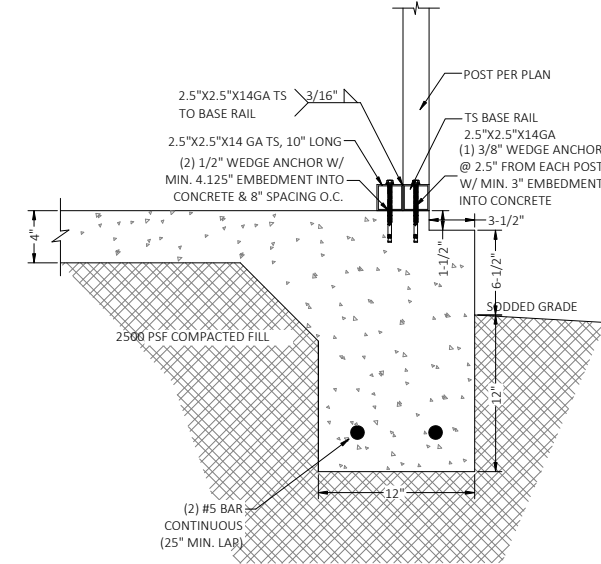
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GENERAL NOTES

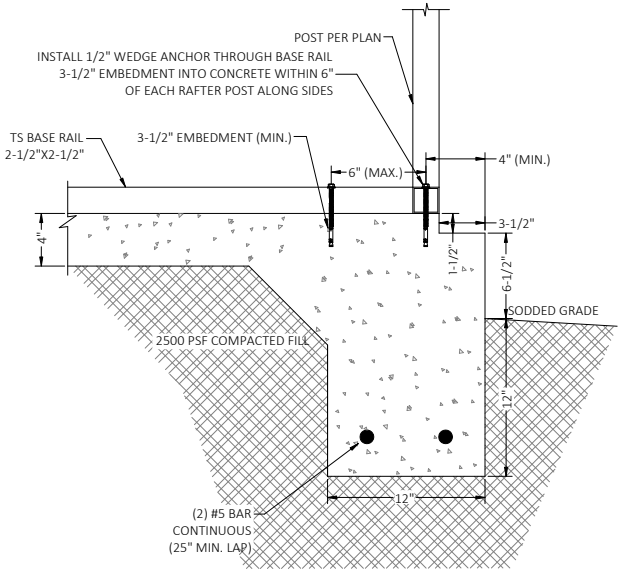
- CONCRETE:
1. CONCRETE SHALL HAVE A MINIMUM SPECIFIED COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
 2. CONCRETE MONOLITHIC SLAB DESIGN IS BASED ON A MINIMUM SOIL BEARING CAPACITY OF 2500 PSF.
 3. ALL OPEN AREAS OF CONCRETE OUTSIDE OF THE PROPOSED STRUCTURE SHALL BE DESIGNED TO SLOPE AWAY FROM THE STRUCTURE.
 4. 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 MIN. 6 MIL 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.

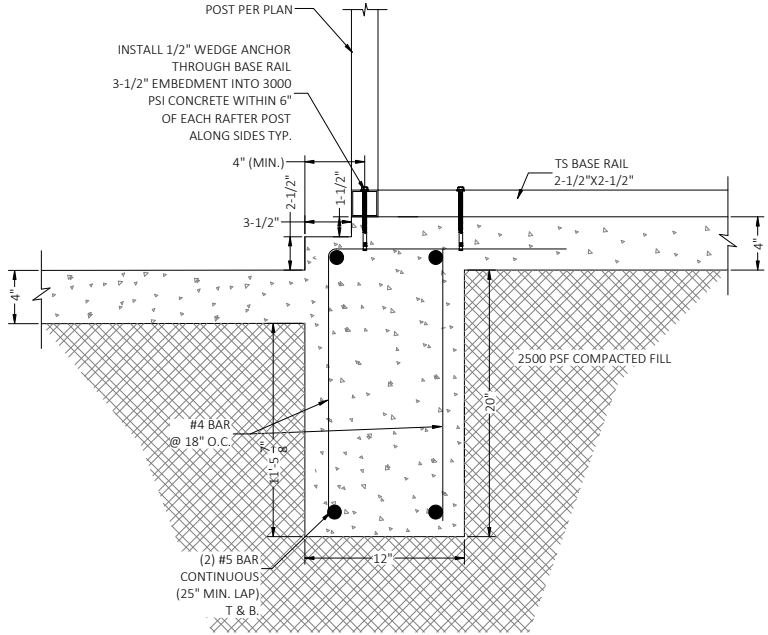
- FROST PROTECTION:
1. FOUNDATION SHALL BE PROTECTED AGAINST FROST USING RIGID FOAM INSULATION (EPS OR EQUIVALENT). FOR NO FROST PROTECTION OPTION, COORDINATE WITH LOCAL BUILDING CODE AND/OR BUILDING OFFICIAL REGARDING REQUIRED FOOTING DEPTH BASED ON FROST LINE DEPTH.



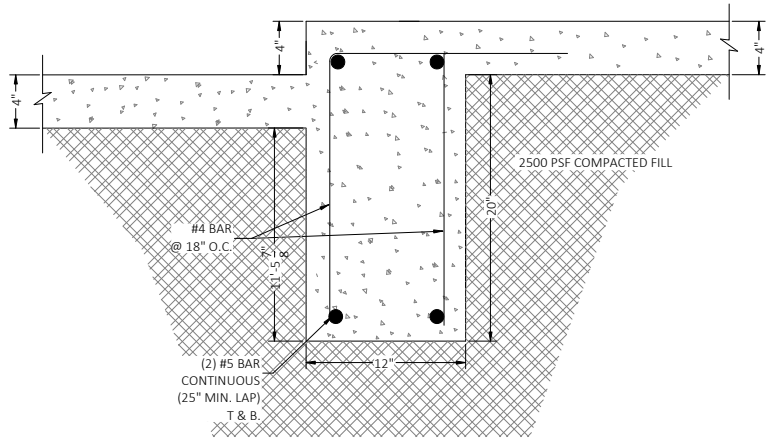
1E 12"X20" MONO. FOOTER BASE RAIL ANCHORAGE
SCALE: NTS



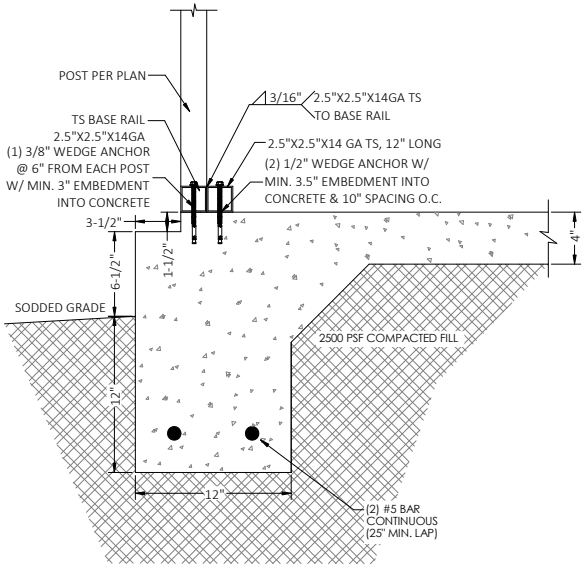
1A 12"X20" MONO. FOOTER BASE RAIL ANCHORAGE
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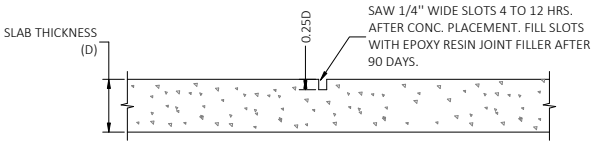
1B 12"X24" MONO. FOOTER BASE RAIL ANCHORAGE
SCALE: NTS



1C 12"X24" MONO. FOOTER BASE RAIL ANCHORAGE
SCALE: NTS



1D 12"X20" MONO. FOOTER BASE RAIL ANCHORAGE
SCALE: NTS



1F CONTROL JOINT DETAIL
SCALE: NTS

- = 2.5"X2.5"X14GA COLUMN
■ = (2) 2.5"X2.5"X14GA COLUMN

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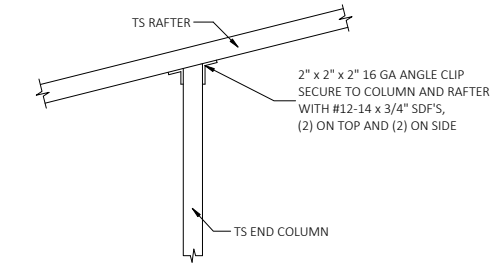
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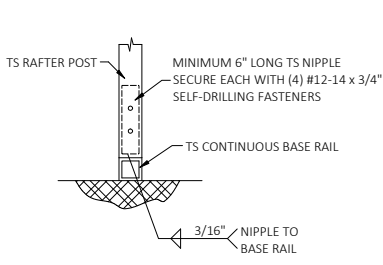
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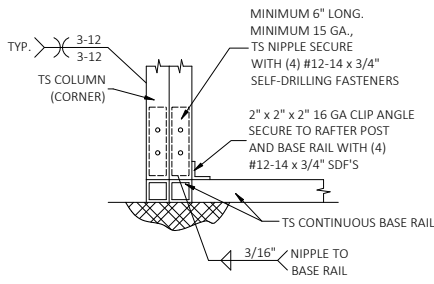
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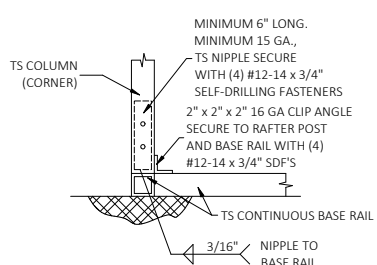
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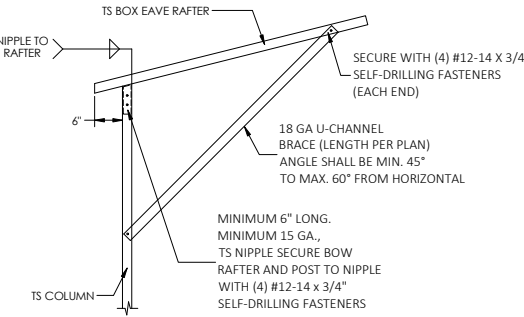
3 RAFTER POST/BASE RAIL CONNECTION DETAIL SCALE: NTS



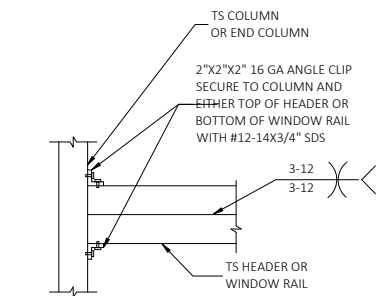
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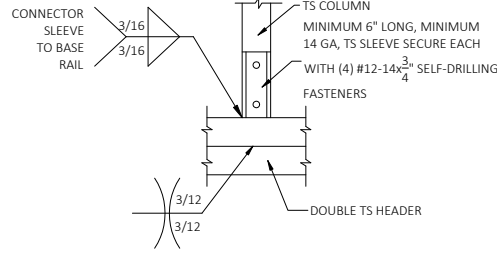
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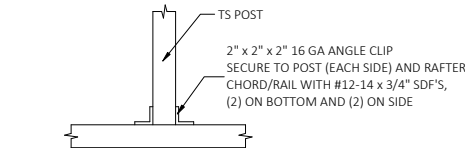
5 BOX EAVE RAFTER/CORNER POST CONNECTION DETAIL SCALE: NTS



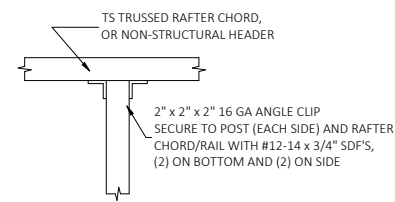
6 DOUBLE HEADER TO COLUMN CONNECTION DETAIL SCALE: NTS



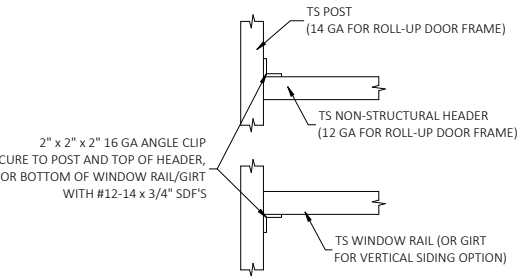
7 COLUMN/DOUBLE HEADER CONNECTION DETAIL SCALE: NTS



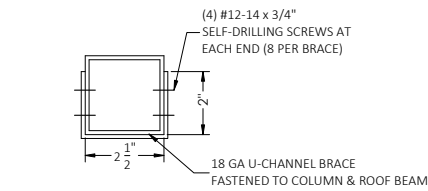
8 POST TO NON-STRUCTURAL HEADER, BASE, RAIL OR WINDOW RAIL CONNECTION DETAIL SCALE: NTS



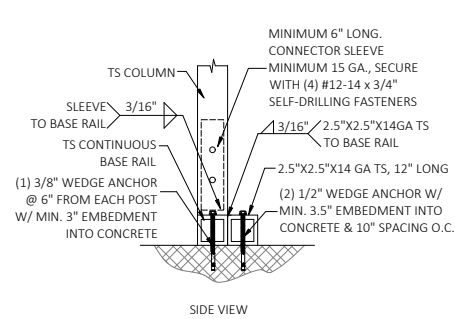
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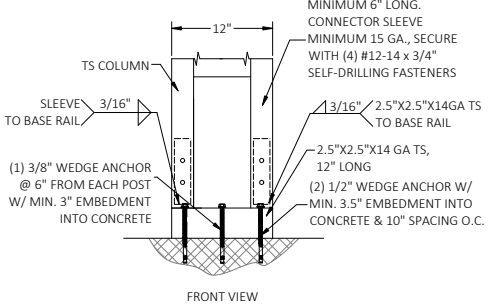
10 NON-STRUCTURAL HEADER OR WINDOW RAIL TO POST CONNECTION DETAIL SCALE: NTS



11 BRACE SECTION SCALE: NTS

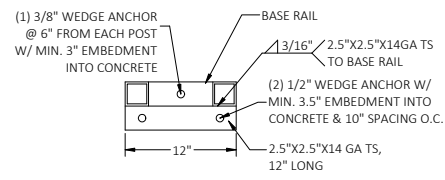


SIDE VIEW

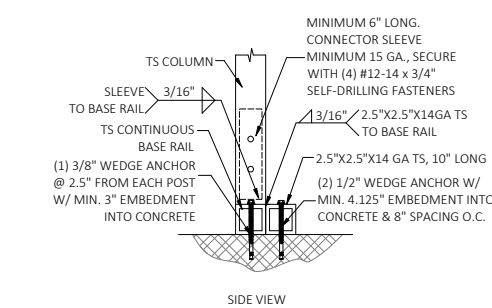


FRONT VIEW

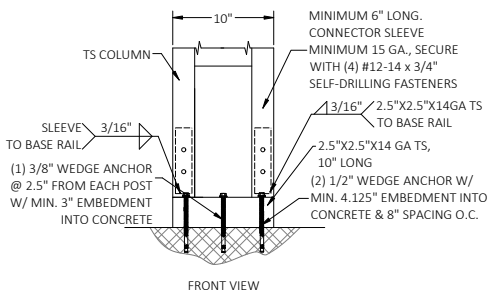
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PLAN VIEW

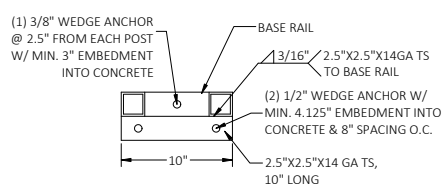


SIDE VIEW



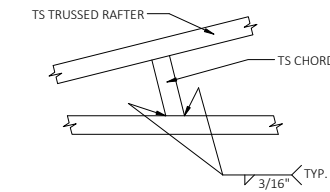
FRONT VIEW

13 POST/BASE RAIL CONNECTION DETAIL SCALE: NTS

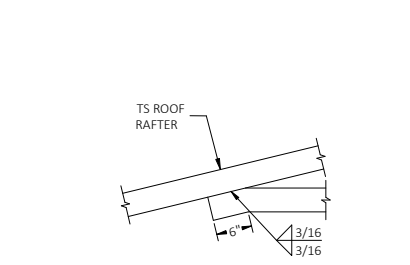


PLAN VIEW

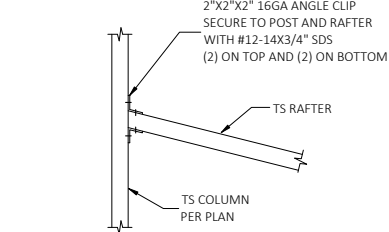
14 PANEL ATTACHMENT (ALTERNATE FOR VERTICAL ROOF PANELS) SCALE: NTS



15 CHORD/RAFTER CONNECTION DETAIL SCALE: NTS



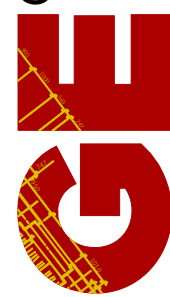
16 COLLAR TIE CONNECTION DETAIL SCALE: NTS



17 LEAN TO RAFTER/COLUMN CONNECTION SCALE: NTS

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



CONTRACTOR:
LONGHORN STEEL STRUCTURES
109 BUCKEYE LANE
PILOT MOUNTAIN, NC 27041

PROJECT ADDRESS:
PEARSON
PID #0506130145 JASMINE RD
FUQUAY VARINA, NC, 27526

DESIGN DATE: 08/06/2025

REVISION 1: DATE

REVISION 2: DATE

DRAWN BY: SH

SCALE: NTS

SHEET:

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