

GENERAL NOTES

A. GENERAL

- THIS STRUCTURE WAS DESIGNED IN ACCORDANCE WITH STATE OF OHIO BUILDING CODE (O.B.C.), 2017 EDITION.
- ALL CONSTRUCTION SHALL CONFORM TO THE OHIO BUILDING CODE AND TO OSHA STANDARDS, WORK STRUCTURAL DRAWINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL CONSTRUCTION METHODS AND FOR SAFETY CONDITIONS AT THE SITE.
- TEMPORARY BRACING OF THE STRUCTURE, TRUSSES, COLUMNS, BEAMS, WALLS, ETC. DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. TEMPORARY BRACING OF THE STRUCTURE SHALL REMAIN IN PLACE UNTIL ALL LATERAL FORCE RESISTING ELEMENTS ARE INSTALLED (INCLUDING WALL AND ROOF SHEATHING). CONTRACTOR SHALL DESIGN AND COORDINATE LOCATIONS OF TEMPORARY BRACING WITH OTHER CONTRACTORS.
- FOUNDATION CONTRACTOR SHALL COORDINATE AND SCHEDULE WORK WITH MECHANICAL AND ELECTRICAL CONTRACTORS REGARDING ITEMS CONCEALED BY OR EMBEDDED IN FOUNDATIONS, WALLS OR FLOOR SLABS.

DESIGN LOAD INFORMATION:

DEAD LOAD

1. ROOF = 10 PSF TOP CHORD & 5 PSF BOTTOM CHORD

FLOOR LIVE LOAD

1. STORAGE = 250 PSF

ROOF LIVE LOADS

1. LIVE LOAD (ROOF TRUSSES) = 20 PSF

ROOF SNOW LOAD

- GROUND SNOW LOAD (P_g) = 20.00 PSF
- FLAT ROOF SNOW LOAD (P_f) = 20.00 PSF
- SNOW EXPOSURE FACTOR (C_e) = 0.9
- SNOW LOAD IMPORTANCE FACTOR (I) = 1.0
- THERMAL FACTOR, C_t = 1.0

WIND LOAD

- ULTIMATE DESIGN WIND SPEED, V_{ult} (3 SECOND GUST) = 115 MPH
- NOMINAL DESIGN WIND SPEED, V_{nd} = 81.3 MPH
- WIND IMPORTANCE FACTOR (I_w) = 1.0, OCCUPANCY CATEGORY = I
- WIND EXPOSURE = B
- INTERNAL PRESSURE COEFFICIENT = ± 0.18

EARTHQUAKE DESIGN DATA

- SEISMIC USE GROUP = II
- SEISMIC IMPORTANCE FACTOR (I_E) = 1.00
- MAPPED SPECTRAL RESPONSE ACCELERATIONS, $S_s=13.8\%$, $S_1=5.6\%$
- SITE CLASS = D
- SPECTRAL RESPONSE COEFFICIENTS, $S_{ds}=0.15$, $S_{d1}=0.09$
- SEISMIC DESIGN CATEGORY = B
- BASIC SEISMIC-FORCE-RESISTING SYSTEM: -INVERTED PENDULUM
- DESIGN BASE SHEAR = 5k
- SEISMIC RESPONSE COEFFICIENT (C_d) = 0.076
- RESPONSE MODIFICATION FACTOR (R) = 2.0
- $V = (S_{ds})(W)(I_E)/R$ (SIMPLIFIED ANALYSIS PROCEDURE)

B. FOUNDATIONS

- ALL DRILLED PIER FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL WITH AN END BEARING CAPACITY OF 38 KIPS. FOOTINGS SHALL BE POURED THE SAME DAY THEY ARE EXCAVATED.
- COMPACT BACKFILL OVER FOOTINGS AND BENEATH SLABS ON GRADE TO AT LEAST 98% OF ITS STANDARD PROCTOR MAXIMUM DRY DENSITY PER ASTM D-698 $\pm 2.0\%$ MOISTURE CONTENT. ALL FILL SHALL BE TESTED FOR IN-PLACE DENSITY TO ASSURE THAT THE COMPACTION RECOMMENDATIONS ARE ATTAINED.
- FOOTING ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE AND SHALL BE FIELD ADJUSTED IF REQUIRED.
- FOR SITE PREPARATION, EARTHWORK CONSTRUCTION, AND FOUNDATION RECOMMENDATIONS, SEE THE SUBSURFACE EXPLORATION & FOUNDATION EVALUATION REPORT PREPARED BY WERTZ GEOTECHNICAL ENGINEERING, INC. DATED APRIL 07, 2024. ALL GEOTECHNICAL WORK SHALL BE CONDUCTED IN COMPLIANCE WITH THE REQUIREMENTS FOUND IN THIS REPORT.
- A SOILS TESTING LABORATORY SHALL BE RETAINED BY THE OWNER TO PROVIDE CONSTRUCTION REVIEW TO INSURE CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS DURING THE EXCAVATION, BACKFILL, AND FOUNDATION PHASES OF THE PROJECT. IT SHALL BE THE RESPONSIBILITY OF THE SOILS TESTING LABORATORY TO: DETERMINE TOPSOIL AND EXCAVATION STRIPPING DEPTH; INSPECT ALL SUBSOIL EXPOSED DURING STRIPPING, SITE GRADING, AND EXCAVATION OPERATIONS; APPROVE FILL MATERIALS, PERFORM DENSITY TESTS OF FILLS TO INSURE PLACEMENT PER SPECIFICATION REQUIREMENTS; INSPECT FOUNDATION BEARING SURFACES.

C. CONCRETE AND REINFORCING STEEL

- ALL CONCRETE SHALL CONFORM TO THE FOLLOWING REFERENCED STANDARDS:
ACI 318-14: BUILDING CODE REQUIREMENT FOR REINFORCED CONCRETE.
ACI 315: DETAILS AND DETAILING OF CONCRETE REINFORCEMENT.
ACI 305: RECOMMENDED PRACTICES FOR HOT WEATHER CONCRETING.
ACI 308: RECOMMENDED PRACTICES FOR COLD WEATHER CONCRETING.
- CAST-IN-PLACE CONCRETE FOR WOOD POLES SHALL BE 3000 PSI (W/C RATIO = 0.50) AT 28 DAYS.
- ALL CAST-IN-PLACE EXTERIOR SLAB CONCRETE AND ALL EXTERIOR CONCRETE NOT OTHERWISE IDENTIFIED SHALL BE 4000 PSI (W/C RATIO = 0.50) AT 28 DAYS WITH AIR ENTRAINMENT (8% $\pm 1\%$).
- REINFORCING STEEL SHALL BE DEFORMED BARS CONFORMING TO ASTM A-615 GRADE-60.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185. ONLY FLAT SHEETS SHALL BE USED.
- ALL WELDED WIRE FABRIC SPLICES SHALL BE NOT LESS THAN (2) SPACINGS OF CROSS WIRES OR 6", WHICHEVER IS GREATER.
- PROVIDE A 3/4"x45" CHAMFER ON ALL EXPOSED EDGES OF CONCRETE.
- A CURING COMPOUND IS TO BE APPLIED TO THE CONCRETE AFTER FINISHING.

D. WOOD FRAMING

- QUALITY AND CONSTRUCTION OF WOOD FRAMING MEMBERS AND THEIR FASTENERS FOR LOAD SUPPORTING PURPOSES NOT OTHERWISE INDICATED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE OHIO BUILDING CODE.
- ALL WOOD SHALL CONFORM TO THE NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION, NDS (2018 EDITION) AND THE 2017 OHIO BUILDING CODE CHAPTER 23.
- STUDS (SPF, NO.1/NO.2, OR DOUGLAS FIR), DESIGN VALUES SHALL EQUAL OR EXCEED THE FOLLOWING:
.a. F_b : 875 P.S.I.
.b. F_v : 135 P.S.I.
.c. E : 1,400,000 P.S.I.
- TIMBER POLES (SOUTHERN PINE (GROUP B PER ANSI O5.1-2022 DESIGN VALUES) SHALL EQUAL OR EXCEED THE FOLLOWING:
.a. FIBER STRENGTH OF 8000 PSI
.b. E : 2,380,000 P.S.I.
ADDITIONALLY, THEY SHALL BE TREATED W/DCOI 0.15 PCF PER CURRENT AWPA SPECIFICATIONS
- NAILING OF ALL FRAMING MEMBERS SHALL MEET THE RECOMMENDED NAILING SCHEDULE (TABLE 2304.10.1) CONTAINED IN THE OBC, CHAPTER 23.
- ERECTION PLANS FOR ALL TRUSSES SHALL BE SUBMITTED FOR REVIEW WITH SHOP DRAWINGS PRIOR TO FABRICATION. ERECTION PLANS SHALL INCLUDE HOW AND WHERE THE PERMANENT BRIDGING WILL BE INSTALLED. SHOP DRAWINGS SHALL BE SEALED BY A PROFESSIONAL ENGINEER OF OHIO REGISTRATION. TEMPORARY AND PERMANENT BRIDGING AND BRACING OF WOOD ROOF AND FLOOR TRUSSES SHALL BE IN ACCORDANCE WITH THE TRUSS INSTITUTE, INC. TEMPORARY BRIDGING SHALL BE FURNISHED AS REQUIRED TO MAINTAIN TRUSS STABILITY, SPACING AND TO PREVENT BUCKLING DURING ERECTION. LIVE LOAD DEFLECTION FOR ROOF TRUSSES IS LIMITED TO $L/360$ AND TOTAL LOAD DEFLECTION $L/240$.
- PRE-ENGINEERED WOOD TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE'S NATIONAL DESIGN STANDARD FOR METAL-PLATE CONNECTED WOOD TRUSS CONSTRUCTION (ANSI/TPI-1 LATEST EDITION). TRUSSES SHALL BE DESIGNED AND MANUFACTURED BY AN AUTHORIZED MEMBER OF THE WOOD TRUSS COUNCIL OF AMERICA (WTCA). TRUSS DESIGN SHALL CONFORM TO SPECIFIED CODES, ALLOWABLE STRESS INCREASES, DEFLECTION LIMITATIONS, AND OTHER APPLICABLE CRITERIA OF THE GOVERNING CODE.
- OVERHANG MUST BE DESIGNED FOR A MIN. ULTIMATE WIND LOAD OF 15 PSF.
- NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED OR APPROVED.
- BOLTS HOLES SHALL BE $\frac{1}{8}"$ MAXIMUM LARGER THAN THE BOLT SIZE. RE-TIGHTEN ALL NUTS PRIOR TO CLOSING IN.
- $2 \times 2\frac{3}{4}"$ PLATE WASHERS SHALL BE USED UNDER BOLT HEADS AND NUTS AGAINST WOOD.
- SERVICE CONDITION - DRY WITH MOISTURE CONTENT AT OR BELOW 19% IN SERVICE.
- CONTRACTOR SHALL COORDINATE TRUSS LAYOUT FOR OPENINGS AND PENETRATIONS REQUIRED BY OTHER TRADES INCLUDING FOR PLUMBING, HVAC, ELECTRICAL, ROOF ACCESS HATCHES, CHASES, ETC.

E. STRUCTURAL STEEL

- STRUCTURAL STEEL HAS BEEN DESIGNED IN ACCORDANCE WITH ANSI/AISC 360-10 (AMERICAN INSTITUTE OF STEEL CONSTRUCTION), SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.
- ALL W SHAPES SHALL CONFORM TO ASTM A-992 ($F_y=50$ KSI) SPECIFICATIONS. ALL OTHER STRUCTURAL STEEL SHAPES AND PLATE SHALL CONFORM TO MINIMUM ASTM A-36 SPECIFICATIONS.
- ALL BOLTS SHALL CONFORM TO A325N SPECIFICATIONS WITH THREADS IN SHEAR PLANE UNLESS NOTED OTHERWISE
- WELDING SHALL CONFORM TO ASW "STRUCTURAL WELDING CODE", E70XX ELECTRODES.

F. SUBMITTALS

- THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS:

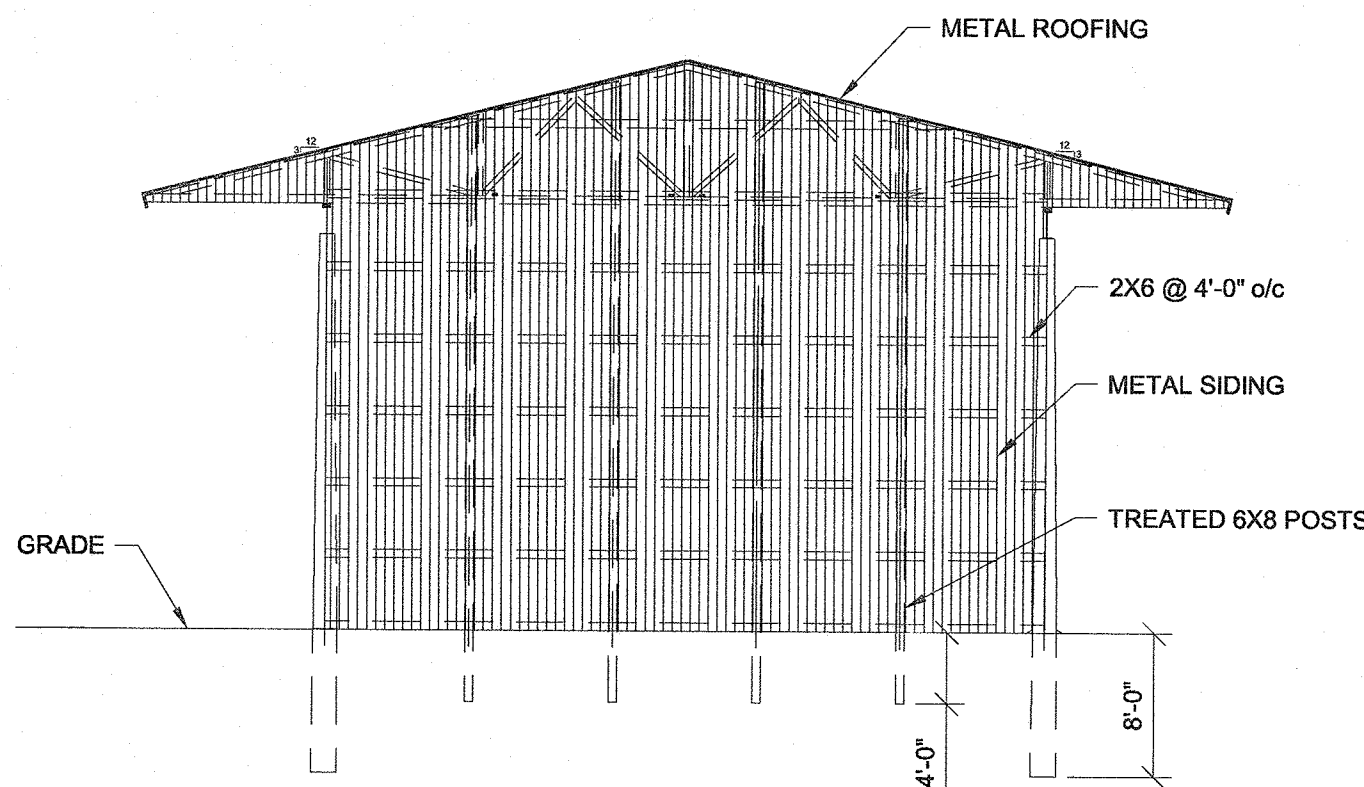
STEEL SHOP DRAWINGS
ROOF TRUSSES (*) (#)

ITEMS MARKED (*) SHALL HAVE SHOP DRAWINGS SEALED BY A REGISTERED ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED. ITEMS MARKED (#) SHALL BE SUBMITTED TO ENGINEER FOR OWNER'S RECORD ONLY AND WILL NOT HAVE ENGINEER'S SHOP DRAWINGS STAMP. ITEMS MARKED (*) SHALL HAVE CALCULATIONS PREPARED BY A REGISTERED ENGINEER.
- ALL SHOP DRAWINGS MUST BE REVIEWED AND SEALED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL.
- CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES (E.G. PDFS) OF ALL SHOP DRAWINGS SPECIFIED TO BE RETURNED BY THE ENGINEER.
- THE OMISSION FROM THE SHOP DRAWINGS OF ANY MATERIAL REQUIRED BY THE CONTRACT DOCUMENTS TO BE FURNISHED SHALL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING AND INSTALLING SUCH MATERIALS, REGARDLESS OF WHETHER THE SHOP DRAWINGS HAVE BEEN REVIEWED AND APPROVED.
- SUBMIT TWO COPIES OF MANUFACTURER'S LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

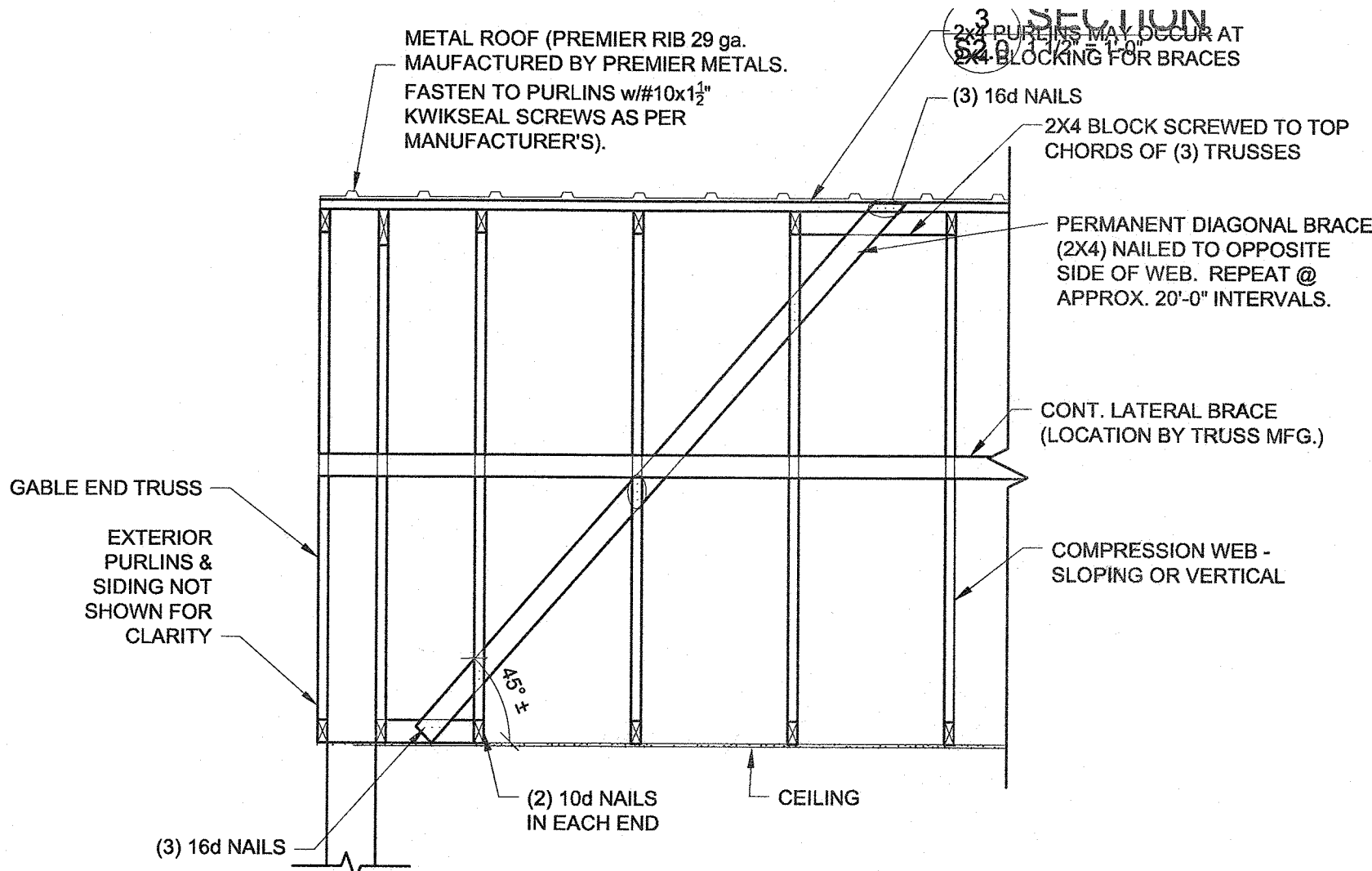
CODE SUMMARY

BUILDING USE GROUP = S-1
ALLOWABLE AREA = 12,000 S.F.
ACTUAL AREA = 11,800 S.F.
CONSTRUCTION TYPE = 5B

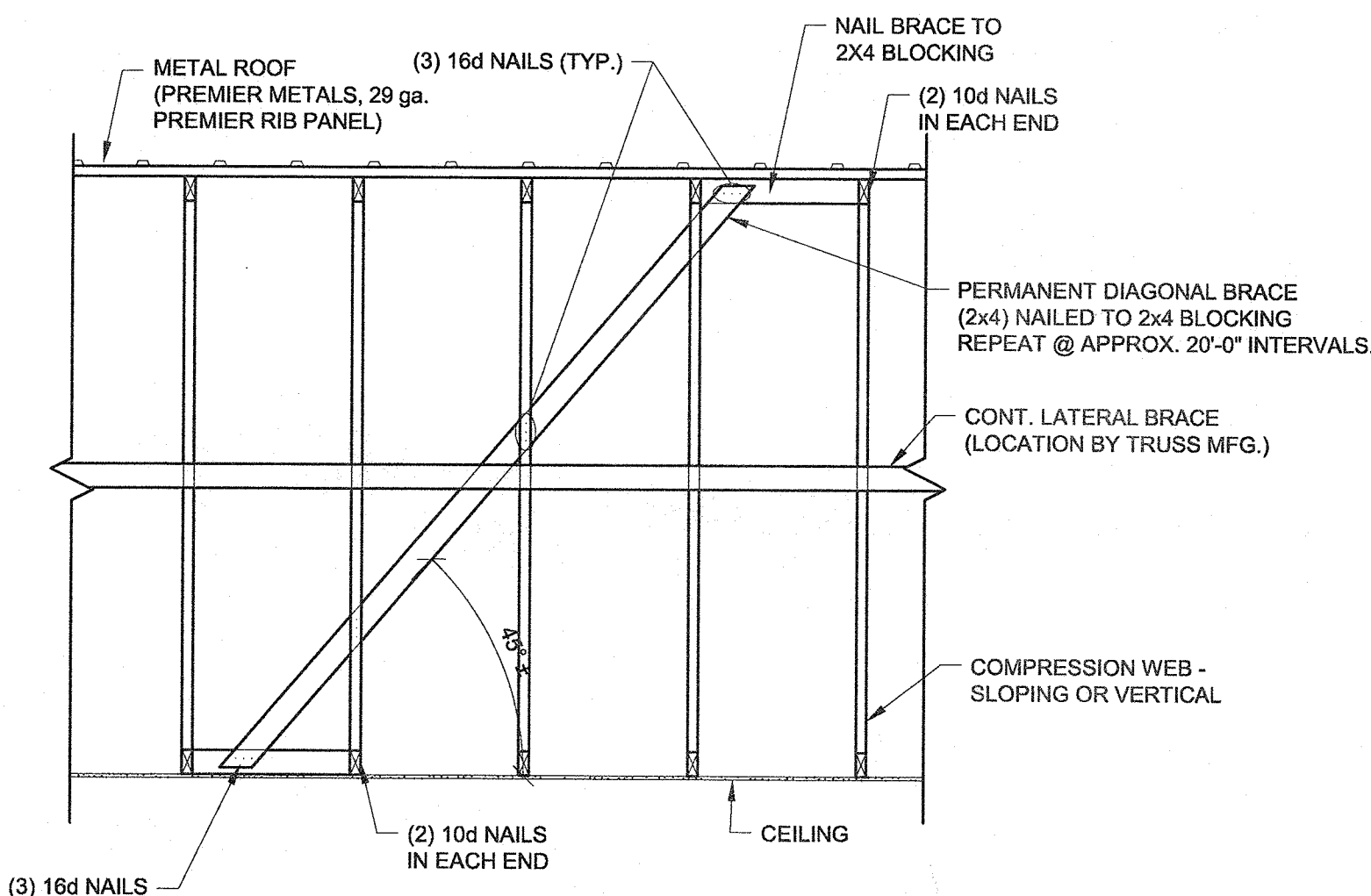
NO RESTROOMS OR PLUMBING IS INCLUDED WITH THIS PROJECT.



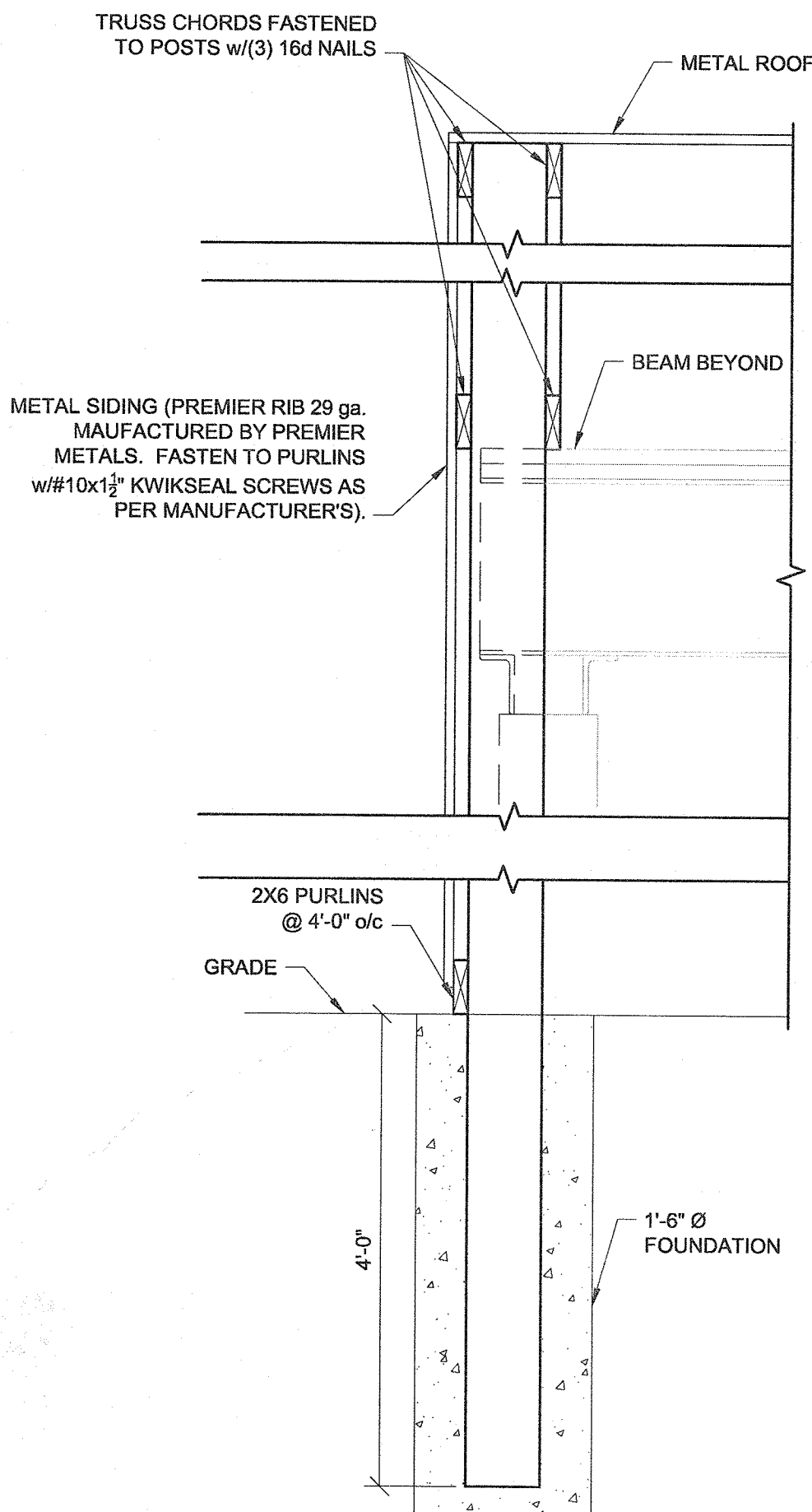
1 END ELEVATION
S0.0 3/32" = 1'-0"



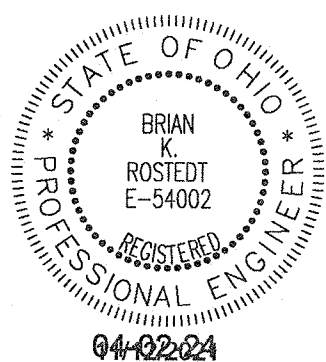
2 END TRUSS DIAGONAL BRACING DETAIL
S0.0 1/2" = 1'-0"



3 DIAGONAL TRUSS BRACING DETAIL
S0.0 1/2" = 1'-0"



4 END WALL SECTION
S0.0 3/4" = 1'-0"



PRINTS ISSUED		TTR Engineers 450 GRANT STREET, SUITE 130 AKRON, OH 44311 (330)733-8332 www.ttr-engineers.com		
DATE	USE			
03-12-24	FOR REVIEW			
04-02-24	FOR PERMIT			
		CLIENT: GRAVES LUMBER		
		STORAGE SHED 1315 S. CLEVELAND MASSILLON RD COPLEY, OHIO 44321		
		GENERAL NOTES/DETAILS		
		DESIGNED: JG	CHECKED: BKR	DWG. NO. S0.0
		DRAWN: KLG	JOB #: 240254	