

DESIGN CRITERIA

- 1. APPLICABLE CODES:
 - A. 2020 FLORIDA STATE BUILDING CODE (2020 INTERNATIONAL BUILDING CODE)
 - B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE 7-16)
 - C. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-08)
 - D. STEEL CONSTRUCTION MANUAL, 14TH EDITION (AISC 325-11)
 - E. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-11)
 - F. AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (D1.1-04)

- 2. LIVE LOAD:
 - A. ROOF LOAD: 20 PSF
 - B. HEATER LOAD: 350 LB POINT LOAD
 - C. DRY SPRINKLER: 5 PSF

- 3. DEAD LOAD:
 - A. ROOF LOAD: 5 PSF

- 4. OCCUPANCY CATEGORY: II

- 5. SNOW LOAD:
 - A. GROUND SNOW LOAD: 0 PSF
 - B. IMPORTANCE FACTOR: 1.0
 - C. SNOW EXPOSURE FACTOR: 0.90
 - D. THERMAL FACTOR: 1.00

- 6. WIND LOAD:
 - A. BASIC DESIGN WIND VELOCITY: 120 MPH
 - B. INTERNAL PRESSURE COEFFICIENTS: +/- 0.18

- 7. SEISMIC LOAD:
 - A. DESIGN METHOD - EQUIVALENT LATERAL FORCE PROCEDURE
 - B. Ss - 0.086g
 - C. S1 - 0.051g
 - D. Sds - 0.092g
 - E. Sd1 - 0.081g
 - F. IMPORTANCE FACTOR: 1.0
 - G. SITE CLASS: D
 - H. BUILDING USE: C
 - I. SEISMIC RESPONSE COEFFICIENT: 0.090
 - J. SEISMIC FORCE RESISTING SYSTEM - ORDINARY STEEL FRAME
 - K. RESPONSE MODIFICATION COEFFICIENT: 3.5
 - L. DEFLECTION AMPLIFICATION FACTOR: 3.5

- 8. FUTURE LOADS:
 - A. UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISION MADE FOR FUTURE FLOOR, ROOF, OR OTHER LOADS.

SLAB-ON-GRADE (IND)

- A. CONCRETE SLABS TO BE 3000 PSI.
- B. CONCRETE SLAB CONTROL JOINTS SHALL BE CUT INTO THE SLAB AT A DEPTH OF 1/3 TIMES THE THICKNESS OF THE SLAB FIBER FOR FIBER REINFORCED SLABS, 1/4 TIMES THE THICKNESS OF THE SLAB FOR ALL OTHER SLABS USING CONVENTIONAL WET-CUT SAW, AND 1/5 TIMES THE THICKNESS OF THE SLAB FOR ALL OTHER SLABS USING EARLY-ENTRY DRY-CUT SAW. SLAB SHALL BE SAWCUT WITHIN 4 HOURS OF CONCRETE PLACEMENT USING EARLY-ENTRY DRY-CUT SAW OR WITHIN 12 HOURS USING WET-CUT SAW. MAXIMUM SPACING OF INTERIOR SLAB CONTROL JOINTS. UNLESS NOTED OTHERWISE, SHALL BE 15'-0" (MAX.) IN EACH DIRECTION. CONSTRUCTION OF CONTROL JOINTS SHALL BE SUCH THAT THE AREA CONTAINED HAS A MAXIMUM RATIO OF LONG SIDE TO SHORT SIDE OF 1.5 TO 1.0 OR AS SHOWN ON THE CONSTRUCTION DRAWINGS.

- C. SLAB CONSTRUCTION JOINTS SHALL BE USED IN PLACE OF CONTROL JOINTS WHERE NEEDED TO INTERRUPT A CONTINUOUS POUR. SLAB CONSTRUCTION JOINTS SHALL BE DOWELED.

- D. PLACEMENT OF WELDED WIRE REINFORCEMENT IN SLAB, WHERE SPECIFIED, SHALL BE AT A CONSISTENT DEPTH OF 1 1/2" FROM T/SLAB. WELDED WIRE REINFORCEMENT SHALL BE PROPERLY CHAIRED ABOVE GRADE.

- E. REFER TO ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DOCUMENTS FOR SLAB FINISHES, SLAB DEPRESSIONS, THICKENED SLABS (IN ADDITION TO THICKENED SLABS NOTED ON STRUCTURAL DRAWINGS), ELEVATIONS, AND ENCASED OR EMBEDDED ITEMS.

- F. PLUMBING AND ELECTRICAL CONDUITS SHALL BE PLACED BELOW THE SLAB AND NOT WITHIN THE SLAB. VERTICAL PENETRATIONS ARE ALLOWED.

- G. COLUMN BOX-OUTS SHALL BE USED TO ISOLATE AN ADEQUATE AREA AROUND COLUMN BASE PLATES TO PROVIDE FOR COLUMN PLACEMENT AND LEVELING. BOX-OUTS ARE TO BE CLEAN AND FREE OF DEBRIS TO TOP OF FOOTING PRIOR TO FILLING WITH CONCRETE.

CONCRETE NOTES:

- MATERIALS:
 - 1. THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE SHALL BE 3000 PSI AT 28 DAYS UNLESS OTHERWISE SPECIFIED.
 - 2. REINFORCING BARS SHALL BE DEFORMED STEEL AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60, UNLESS OTHERWISE SPECIFIED.
 - 3. PORTLAND CEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C150 TYPE II. PORTLAND CEMENT SHALL BE USED IN THE MANUFACTURE OF ALL CONCRETE, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS OR APPROVED BY THE ENGINEER. CONCRETE MIX DESIGN SHALL BE APPROVED BY THE DESIGN ENGINEER.

- 4. AGGREGATE, BOTH COARSE AND FINE, USED IN THE MANUFACTURE OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS OF ASTM C33. THE MAXIMUM COARSE AGGREGATE SIZE SHALL BE 1-1/2 INCHES.

- 5. ANCHOR BOLTS TO BE ASTM F1554 GR 55. ALL BOLTS TO BE HEADED.

- 6. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE SPLICED BY LAPPING THE ENDS IN CONFORMANCE WITH ACI 318

CONCRETE PLACEMENT AND FINISHING

- 1. CONTRACTOR SHALL COORDINATE CONCRETE WORK WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR AND ITEMS EMBEDDED IN CONCRETE, BEFORE THE CONCRETE IS PLACED.

- 2. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION BEGINNING. ALL INTERFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO WORK COMMENCING.

- 3. CONCRETE SHALL NOT BE PLACED BEFORE FORMWORK HAS BEEN COMPLETED; SNOW, ICE, DEBRIS, AND WATER HAVE BEEN REMOVED; REINFORCEMENT HAS BEEN SECURED IN PLACE; EXPANSION JOINT MATERIAL, ANCHORS, MOISTURE BARRIERS, WATERSTOPS AND OTHER EMBEDDED ITEMS HAVE BEEN POSITIONED; AND THE ENTIRE PREPARATION HAS BEEN INSPECTED AND APPROVED.

- 4. CONCRETE SHALL NOT BE PLACED:
 - A. ON FROZEN SUBGRADE OR ON ONE THAT CONTAINS FROZEN MATERIAL
 - B. IN STANDING WATER ON SUBGRADE OR IN EXCAVATIONS.
 - C. ON SOILS THAT HAVE BEEN DISTURBED BY RAINFALL OR SEEPAGE. IF THE BEARING SOIL HAS BEEN SOFTENED BY SURFACE WATER INTRUSION DURING EXPOSURE, THE UNSUITABLE SOILS SHALL BE REMOVED AND REPLACED.

- 5. CONCRETE PLACED IN COLD WEATHER SHALL CONFORM TO ACI 306.1

- 6. CONCRETE PLACED IN HOT WEATHER SHALL CONFORM TO ACI 305

- 7. CONCRETE COVERAGE SHALL BE AS FOLLOWS:
 - A. FORMED SURFACES FOR STRUCTURES NOT EXPOSED TO EARTH: 2 INCHES
 - B. UNFORMED SURFACES EXPOSED TO EARTH: 3 INCHES.

REINFORCEMENT NOTES:

- 1. WELDING OF REINFORCING STEEL SHALL NOT BE PERFORMED UNLESS APPROVED BY THE DESIGN ENGINEER.
- 2. ALL BACKFILL AROUND THE FOUNDATION SHALL BE PERFORMED IN 6" LIFTS AND THOROUGHLY COMPACTED TO 95% PROCTER.
- 3. ALL EXPOSED CORNERS AND EDGES OF CONCRETE ABOVE GROUND SHALL BE CHAMFERED 3/4" AT 45 DEGREES, UNLESS OTHERWISE SPECIFIED ON THE DRAWINGS.
- 4. ANY DISCREPANCIES, INTERFERENCES OR NONCONSTRUCTIBILITY FOUND BY THE CONTRACTOR SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
- 5. EMBEDMENT PLACEMENT TOLERANCES:
 - A. BEARING PLATE INSERTS: PLUS OR MINUS 1/8 INCH.

FINISHES:

BUILDING FLOOR SLABS: MACHINE TROWLED Ff=35 & F2=25 (LOCAL MIN. Ff=20 & Fi=15) FOUNDATION AND SURFACE TO BE GROUTED: ROUGH EXPOSED WALLS AND SLAB EDGES: POINT AND RUB SMOOTH WALKS AND RAMPS: LIGHT BROOM

FOUNDATION:

- 1. FOUNDATION DESIGN IS BASED ON AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 PSF.
- 2. THE SUBGRADE AND UNDERFLOOR FILL SHALL BE PREPARED TO A POINT THAT EXTENDS 3'-0" MINIMUM BEYOND THE LIMITS OF THE FOUNDATION.
- 3. MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS: COMPACT ALL FILL UNDER BUILDING TO 95% MAXIMUM DRY DENSITY, AND TOP 12" OF SUBGRADE TO 98% AS DETERMINED BY ASTM D698. PLACE IN LAYERS OF 8" MAXIMUM LOOSE THICKNESS. VERIFY FIELD DENSITY, ASTM D1556, WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LAYER. SEE SPECIFICATIONS FOR OTHER TESTING REQUIREMENTS.
- 4. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.
- 5. ALL BASEPLATES SHALL BE GROUTED
- 6. GROUT TO BE NON SHRINK FIVE STAR GROUT OR APPROVED EQUIVALENT
- 7. ALL ANCHOR BOLTS TO BE ASTM F1554 GR. 55.

STRUCTURAL STEEL NOTES:

MATERIALS AND CONSTRUCTION
ALL MATERIALS SHALL BE AS INDICATED BELOW UNLESS NOTED OTHERWISE ON DESIGN DRAWINGS.

- 1. STRUCTURAL STEEL EXPOSED CARBON STEEL SHALL BE FINISHED TO OWNER'S SPECIFICATION.
 - A. HSS SHAPES: ASTM A500, GRADE B (Fy= 46 KSI)
 - B. OTHER ROLLED SHAPES AND PLATES: ASTM A992 (Fy= 50 KSI MIN.)

- 2. BOLTS, NUTS, WASHERS, AND ROD (UNO)
 - A. STRUCTURAL BOLTS: ASTM A325; ALL NUTS, BOLTS, AND WASHERS TO BE GALVANIZED
 - B. THREADED ROD: ASTM A193 GRADE B7 (FU= 125KSI)
 - C. NUTS: ASTM A563 HEAVY HEX GRADE DH
 - D. WASHERS: ASTM F436
 - E. ALL BOLTED CONNECTIONS SHALL HAVE DIRECT TENSION, INDICATING WASHER BY APPLIED BOLTING OR APPROVED EQUIVALENT.

- 3. GRATING
 - A. ALL STEEL GRATING SHALL BE WELDED TYPE W-19-4 STEEL GRATING WITH 1 1/4" X 1 8" BEARING BARS AS MANUFACTURED BY GRATING PACIFIC INC. OR APPROVED EQUAL.
 - B. ALL STEEL GRATING SHALL BE HOT DIPPED GALVANIZED
 - C. ALL GRATING SHALL BE FULLY BANDED.

- 4. WELDING ELECTRODES
 - A. UTILIZE E70XX ELECTRODES IN ACCORDANCE WITH AWS D1.1
 - B. ALL FILLET WELDS SHALL BE 1/4" OR THE MAXIMUM ALLOWABLE SIZE FOR THE MEMBERS BEING JOINED UNLESS NOTED OTHERWISE. ALL GROOVE WELDS SHALL BE COMPLETE JOINT PENETRATION WELDS UNLESS NOTED OTHERWISE.

- 5. UNLESS SPECIFICALLY NOTED ALL STRUCTURAL CONNECTIONS SHALL BE DESIGNED AS BEARING TYPE CONNECTIONS ABLE TO SUPPORT 1/2 THE ALLOWABLE LOAD OF THE BEAM. ALL SHOP DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION

- 6. SHOP PAINT TO BE FABRICATORS STANDARD RUST INHIBITIVE GRAY PRIMER AT AN AVERAGE OF 2 MILS DFT. FOR STRUCTURAL SHAPES PROVIDE SP 3 POWER TOOL CLEAN SURFACE PREPARATION

- 7. ALL STRUCTURAL SHAPES SHALL HAVE 5 MIL OF SHERWIN WILLIAMS ACROLON 218 HS LIGHT GRAY OR APPROVED EQUAL.

- 8. ALL DECKING FOR ROOF TO BE VULCRAFT 1.5 B 22

STRUCTURAL STABILITY

- 1. THE ERECTOR IS RESPONSIBLE FOR THE STABILITY OF THE STRUCTURES DURING ERECTION. THE ERECTED STEEL SHALL BE ADEQUATELY BRACED TO RESIST DEAD, ERECTION, CONSTRUCTION, AND WIND LOADS UNTIL IT IS PERMANENTLY CONNECTED AND IS SELF-SUPPORTING.

- 2. TEMPORARY SUPPORT OF STRUCTURAL STEEL FRAMES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 7.9 OF THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES.

- 3. THE BRACING SHOWN ON THE DRAWINGS HAS BEEN DESIGNED TO PROVIDE A STABLE STRUCTURE UPON THE COMPLETION OF ERECTION. AS EACH LEVEL IS ERECTED, THE PERMANENT BRACING SHOWN ON THE ENGINEER'S DRAWINGS IN CONJUNCTION WITH THE FRAMING AT THAT LEVEL SHALL BE INSTALLED TO IMPROVE THE STABILITY OF THE PARTIALLY ERECTED STRUCTURE.

- 4. THE ERECTOR SHALL DESIGN AND INSTALL ALL ADDITIONAL TEMPORARY BRACING OR GUYING REQUIRED TO MEET LOADING IMPOSED DURING ERECTION, CONSISTENT WITH THE ERECTION SEQUENCE USED, OR REQUIRED AT THE END OF ANY WORK PERIOD TO ENSURE SAFE AND STABLE CONDITIONS. ADDITIONAL TEMPORARY BRACING OF THIS NATURE PROVIDED BY THE ERECTOR SHALL BE REVIEWED WITH THE ENGINEER. HOWEVER, THE ENGINEER'S REVIEW SHALL NOT RELIEVE THE ERECTOR FROM FULL RESPONSIBILITY FOR THE STABILITY OF THE STRUCTURE DURING ERECTION.

- 5. TEMPORARY STEEL BRACING AND ALIGNMENT CABLES INSTALLED PRIOR TO PERMANENT BRACING MAY BE REMOVED AFTER MAIN MEMBERS AND BRACING HAVE BEEN PERMANENTLY BOLTED. CARE SHOULD BE TAKEN IN WELDING COLUMNS TO BASEPLATES TO PREVENT DISTORTION OF THE PLATES.

- 6. THE STRUCTURE SHALL BE PLUMBED, LEVELED, AND BRACED BEFORE FINAL BOLTED OR WELDED CONNECTIONS ARE MADE.

FIELD CONNECTIONS AND ALIGNMENT

- 7. MAKE ALL FIELD CONNECTIONS AS DETAILED AND SPECIFIED ON THE FABRICATOR'S SHOP AND ERECTION DRAWINGS.

- 8. THE PROCEDURE TO BE FOLLOWED WHEN TIGHTENING HIGH-STRENGTH BOLTS AND THE CRITERIA FOR INSPECTING THE BOLTED CONNECTIONS THROUGHOUT THE STRUCTURE SHALL BE AS SPECIFIED HEREIN UNDER 3.8.3, BOLTING PROCEDURE AND 3.8.4, INSPECTION OF HIGH-STRENGTH BOLTED CONNECTIONS.

- 9. BOLTS OR NUTS WHOSE THREADS HAVE BEEN VISIBLY DISTORTED SHALL NOT BE USED. ASTM A490 BOLTS AND GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED. BOLTS WITH CORROSION PITTED THREADS SHALL NOT BE USED. MEASURES SHALL BE TAKEN TO PROTECT ALL BOLTS FROM CORROSION DURING ERECTION.

- 10. ATTACHMENTS TO CONCRETE SHALL BE MADE IN THE MANNER SHOWN ON THE DRAWINGS. WHERE DRILLED-IN ANCHORS ARE INDICATED ON THE DRAWINGS, ANCHORS SUCH AS KWIK-BOLTS MANUFACTURED BY HILTI FASTENING SYSTEMS, INC., OR APPROVED EQUAL, SHALL BE USED. THE DRILLED-IN ANCHORS SHALL BE INSTALLED AS PER THE MANUFACTURER'S INSTRUCTIONS.

INSTALLATION

- 11. WHERE STRUCTURAL JOINTS ARE MADE USING HIGH-STRENGTH BOLT ASSEMBLIES, THE MATERIALS, METHODS OF INSTALLATION, TENSION CONTROL, TYPES OF WRENCHES TO BE USED, AND INSPECTION METHODS SHALL CONFORM TO THE AISC SPECIFICATION AND SECTION 8 OF THE RCSC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

BOLTING PROCEDURE

- 12. STEEL, PRIOR TO BOLTING, SHALL BE INSPECTED TO SEE THAT THE SURFACES ARE IN CLOSE CONTACT AND THAT THE AREAS ARE FREE FROM BURRS.

- 13. WELDING OF OR TO HIGH-STRENGTH BOLTS IS PROHIBITED.

- 14. ALL JOINT SURFACES, INCLUDING THOSE ADJACENT TO THE BOLT HEADS, NUTS OR WASHERS, SHALL BE INSPECTED PRIOR TO BOLTING TO SEE THAT THE FAYING SURFACES ARE IN CLOSE CONTACT AND ARE FREE FROM BURRS, DIRT AND OTHER FOREIGN MATERIALS THAT WOULD PREVENT SOLID SEATING OF PARTS.

- 15. WHEN CONNECTIONS REQUIRE NEW HOLES IN EXISTING STEEL, THE HOLES SHALL BE DRILLED OR PUNCHED AND REAMED AND THE DIAMETER OF OF THE BOLT.

- 16. HIGH-STRENGTH BOLTS SHALL NEVER BE DRIVEN INTO THE HOLES. IF BOLTS DO NOT ENTER EASILY, HOLES SHALL BE ALIGNED BY FURTHER DRIFTING OR MODERATE REAMING. ANY BURRS SHALL BE REMOVED.

- 17. ALL EQUIPMENT USED FOR TIGHTENING BOLTS MUST BE IN GOOD CONDITION. FOR TIGHTENING 7/8 INCH OR SMALLER BOLTS, THE AIR PRESSURE AT THE POWER WRENCH, WHEN IT IS IN OPERATION, SHALL BE A MINIMUM OF 90 PSIG AND THE REQUIRED TIGHTENING OF BOLTS SHALL BE ACHIEVED IN APPROXIMATELY 10 SECONDS. FOR LARGER BOLTS, THE AIR PRESSURE SHALL BE AS RECOMMENDED FOR THE POWER WRENCHES USED, AND IT SHALL BE DEMONSTRATED THAT THE AIR PRESSURE IS ADEQUATE FOR SATISFACTORY TENSIONING OF BOLTS.

- 18. ALL BOLTS IN ANY CONNECTION SHALL BE INSTALLED WITH ALL NUTS ON THE SAME SIDE UNLESS INTERFERENCES WILL NOT PERMIT. FIELD CONNECTIONS IN OTHER THAN A VERTICAL PLANE SHALL BE INSTALLED WITH NUTS ON THE LOWER SIDE, EXCEPT FOR CONNECTIONS OF HORIZONTAL PLATFORM BRACING NOT SUBJECT TO STRESS REVERSAL OR WHERE SPACE RESTRICTIONS MAKE THIS IMPOSSIBLE.

- 19. IF USED, DIRECT TENSION INDICATION (DTI) WASHERS SHALL CONFORM TO ASTM F959 AND SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S PUBLISHED SPECIFICATIONS.

- 20. WHEN IMPACT WRENCHES ARE USED, WRENCHES OF ADEQUATE CAPACITY AND SUFFICIENT AIR SUPPLY SHALL BE PROVIDED TO PERFORM THE REQUIRED TIGHTENING OF EACH BOLT.

- 21. ALL BOLTS SHALL BE 7/8-INCH DIAMETER, A325 HIGH-STRENGTH BOLTS UNLESS OTHERWISE NOTED ON THE SHOP DRAWINGS, E REACTION DRAWINGS, ENGINEERING DESIGN DRAWINGS, OR ANY OTHER CONTRACT DOCUMENT.

- 22. MECHANICALLY GALVANIZED BOLTS AND NUTS SHALL NOT BE INTERMIXED WITH HOT DIP GALVANIZED NUTS AND BOLTS.

- 23. WHERE A307 BOLT ASSEMBLIES ARE USED FOR CONNECTING APPURTENANCES (I.E.: HANDRAIL ASSEMBLIES, PIPE SUPPORTS, GATES, ETC.) TO STRUCTURAL STEEL MEMBERS, THE BOLTS SHALL BE FULLY TIGHTENED.

- 24. A490 BOLTS AND GALVANIZED A325 BOLTS SHALL NOT BE REUSED AFTER HAVING BEEN FULLY TIGHTENED, NOR SHALL THEY BE USED AS FIT-UP BOLTS.

- 25. COLOR CODE, DIE PUNCH, OR OTHERWISE MARK THE ENDS OF TORQUED BOLTS INDICATING THAT THE BOLTS HAVE BEEN PROPERLY TENSIONED AND ARE READY FOR INSPECTION.

- 26. BOLTS WHICH ARE TO BE TIGHTENED ONLY TO A SNUG-TIGHT CONDITION WILL BE CLEARLY INDICATED ON THE DRAWINGS.

- 27. BOLTS TO BE TIGHTENED BY THE TURN-OF-THE-NUT METHOD SHALL ALL BE FIRST BROUGHT TO SNUG TIGHT CONDITION, IN A GIVEN CONNECTION, PROCEEDING FROM THE MOST RIGID PART OF THE CONNECTION TO THE FREE EDGE. AFTER ALL THE BOLTS ARE BROUGHT TO A SNUG TIGHT CONDITION, THE BOLTS SHALL BE TIGHTENED FURTHER IN A SIMILAR MANNER BY THE AMOUNT OF ROTATION SPECIFIED IN TABLE 5 OF THE RCSC SPECIFICATION. BOLTS WITH A METRIC THREAD AND/OR DIAMETER MAY NOT BE TIGHTENED BY THE TURN-OF-THE-NUT METHOD.

- 28. SIMILARLY, BOLTS TO BE TIGHTENED BY THE USE OF DTI WASHERS SHALL ALL BE BROUGHT TO A SNUG TIGHT CONDITION IN A GIVEN CONNECTION. FINAL TIGHTENING OF BOLTS SHALL FOLLOW THE INSTRUCTIONS OF THE MANUFACTURER OF THE DTI WASHERS. SPECIAL ATTENTION SHALL BE GIVEN TO PROPER INSTALLATION OF FLAT HARDENED WASHERS WHEN DIRECT DTI WASHERS ARE USED WITH BOLTS INSTALLED IN SLOTTED OR OVERSIZED HOLES AND ALSO WHEN THEY ARE USED UNDER THE TURNED ELEMENTS OF THE BOLTS.

TRACTOR SUPPLY CO.
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5359 WEST US HIGHWAY 90
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MERCHNEY GREENHOUSES
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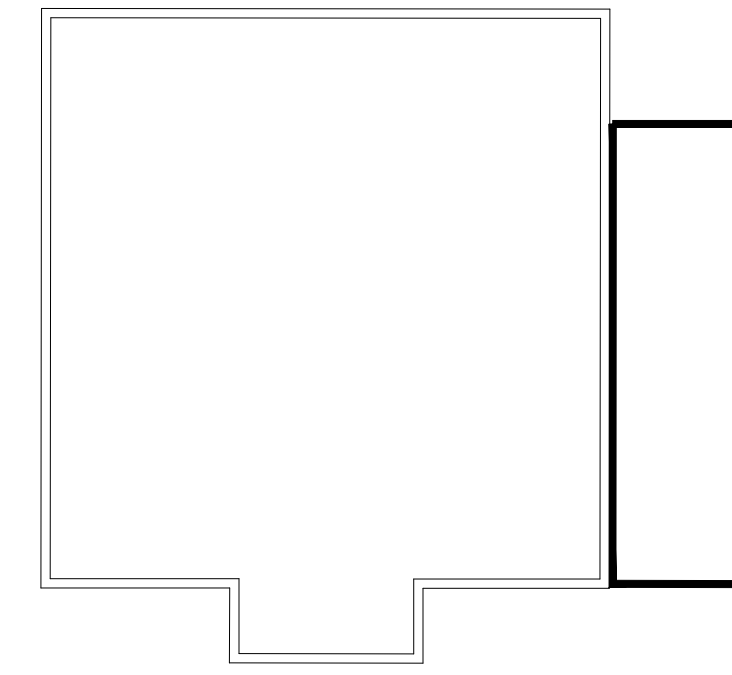
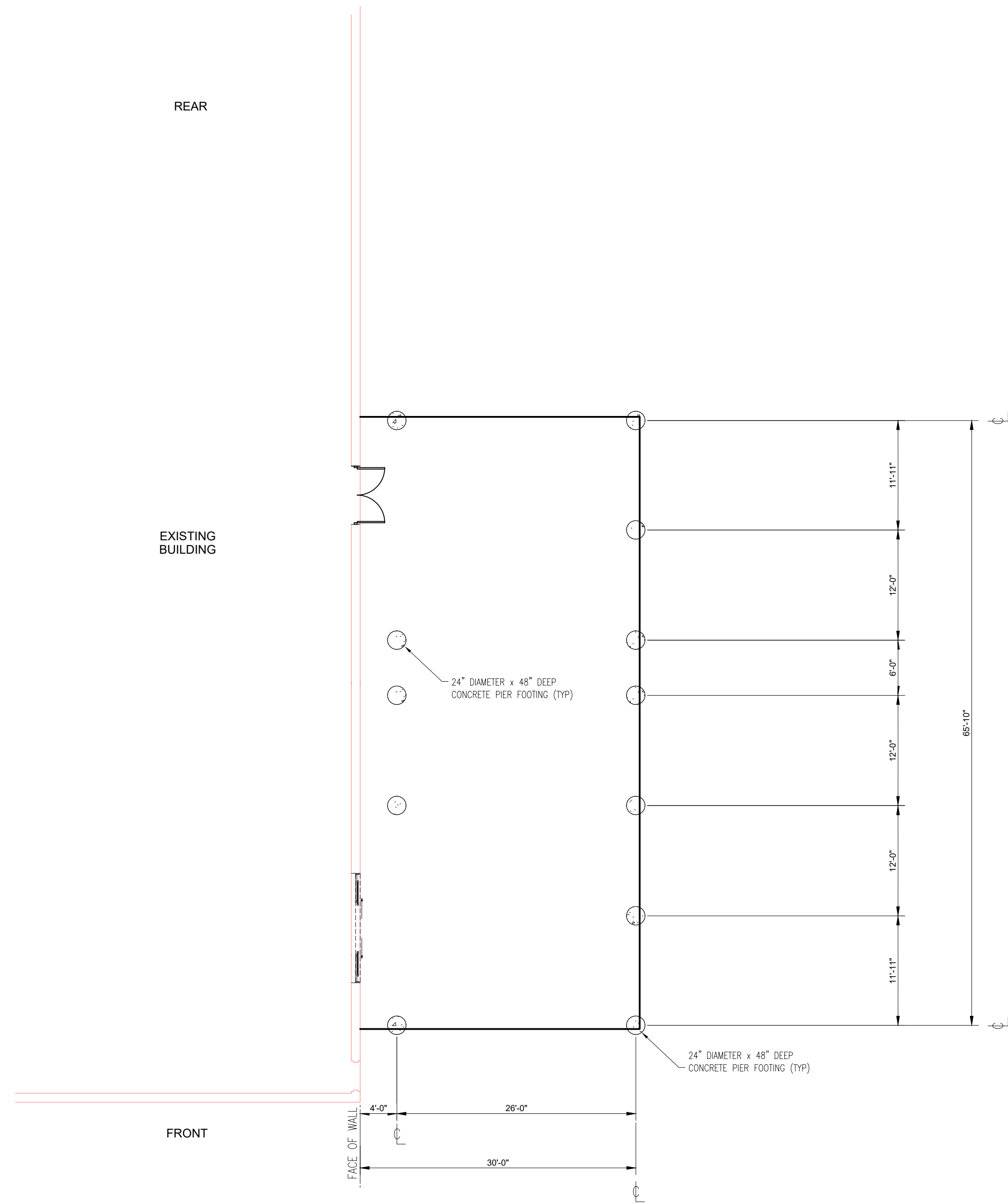
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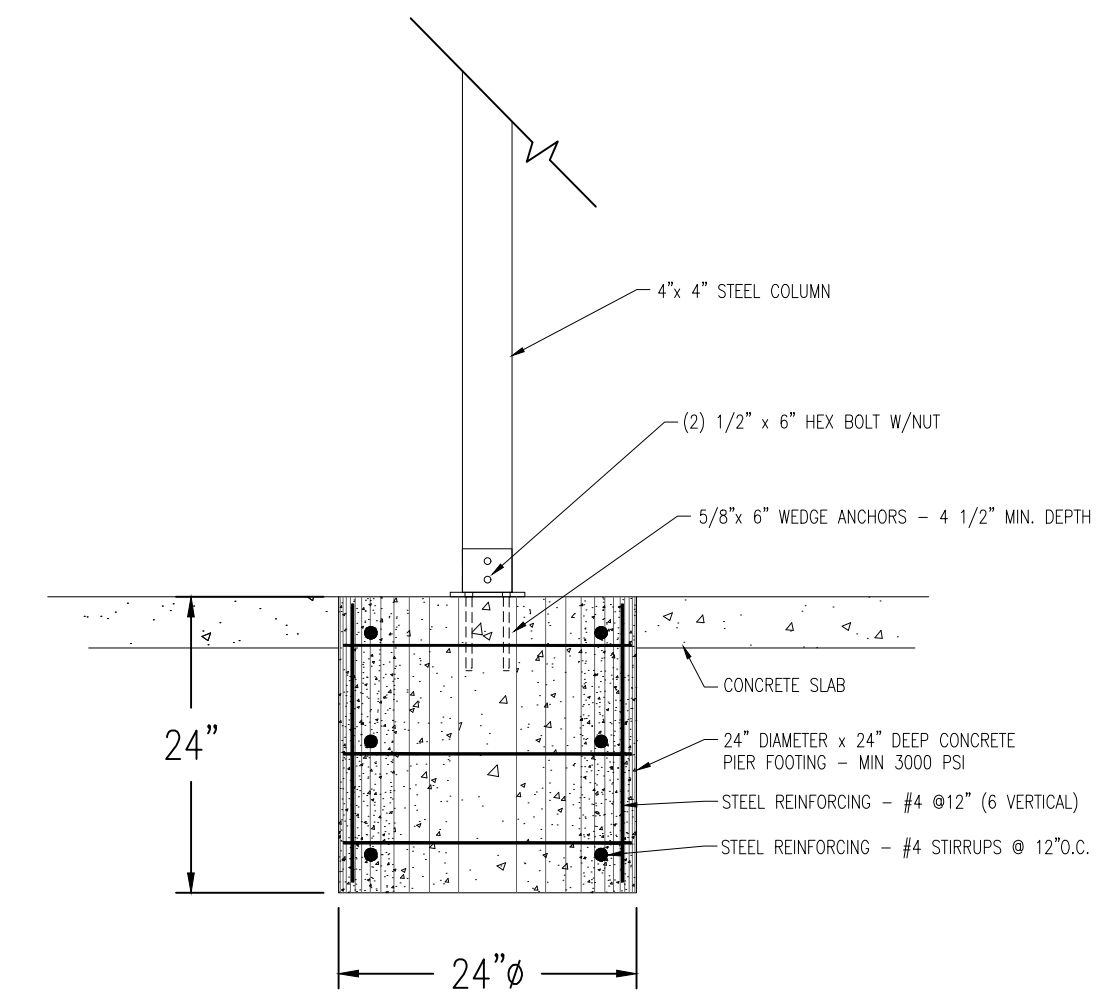
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The document is signed and sealed by Alexander F. Zuendt.
This document shall have the signature and seal verified and printed upon the first date.
Date: 2021.06.28 21:53:39-04:00

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Date: 2021.06.28	S0.01
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△ KEY PLAN
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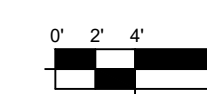


① S1.01 24" DEEP PIER / FOOTING

CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS

DO NOT SCALE DRAWINGS

① S1.01 FOUNDATION PLAN
1/8"=1'-0"



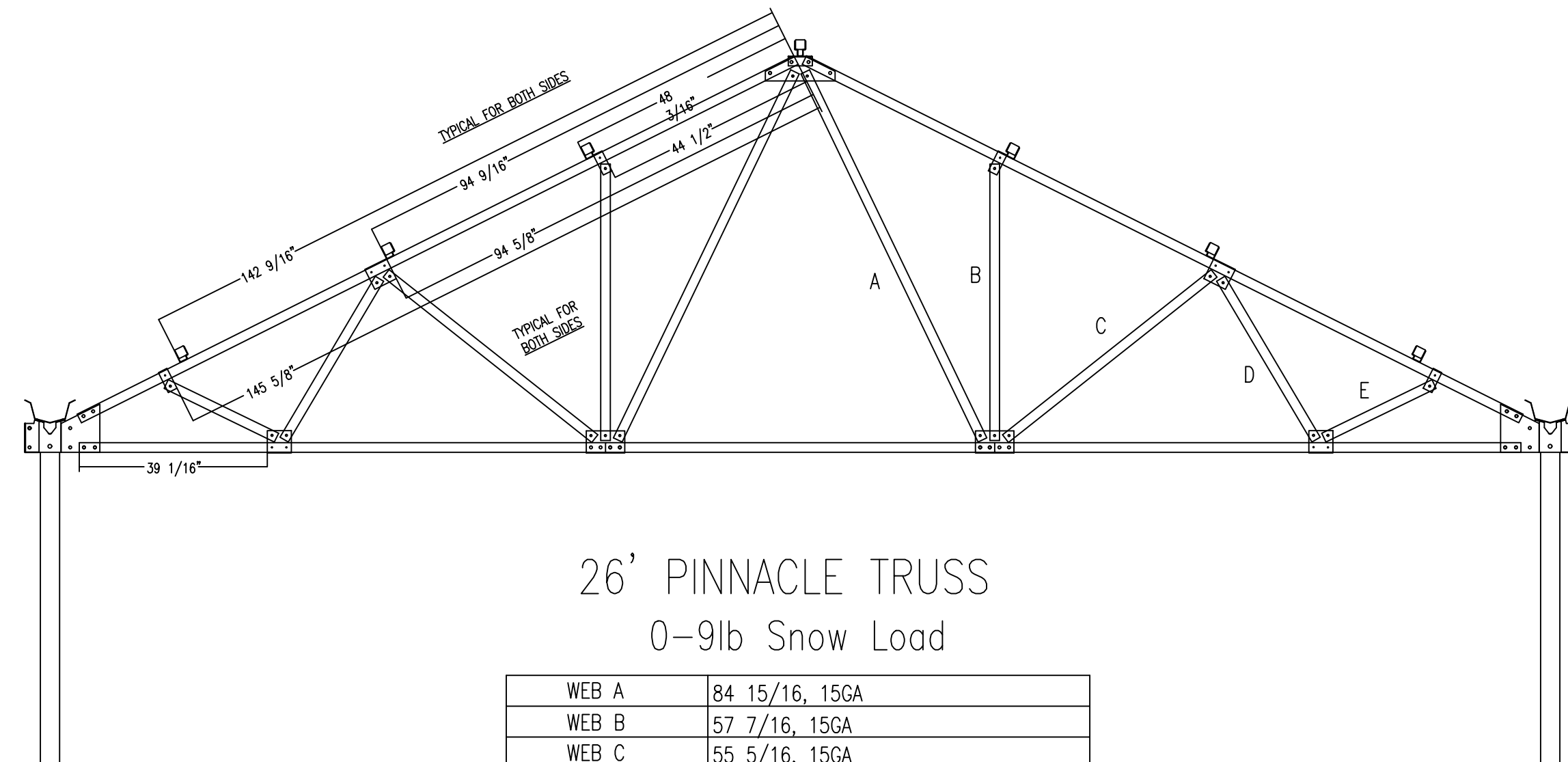
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MERCHINEY GREENHOUSES
STRUCTURES + EQUIPMENT + COVERINGS
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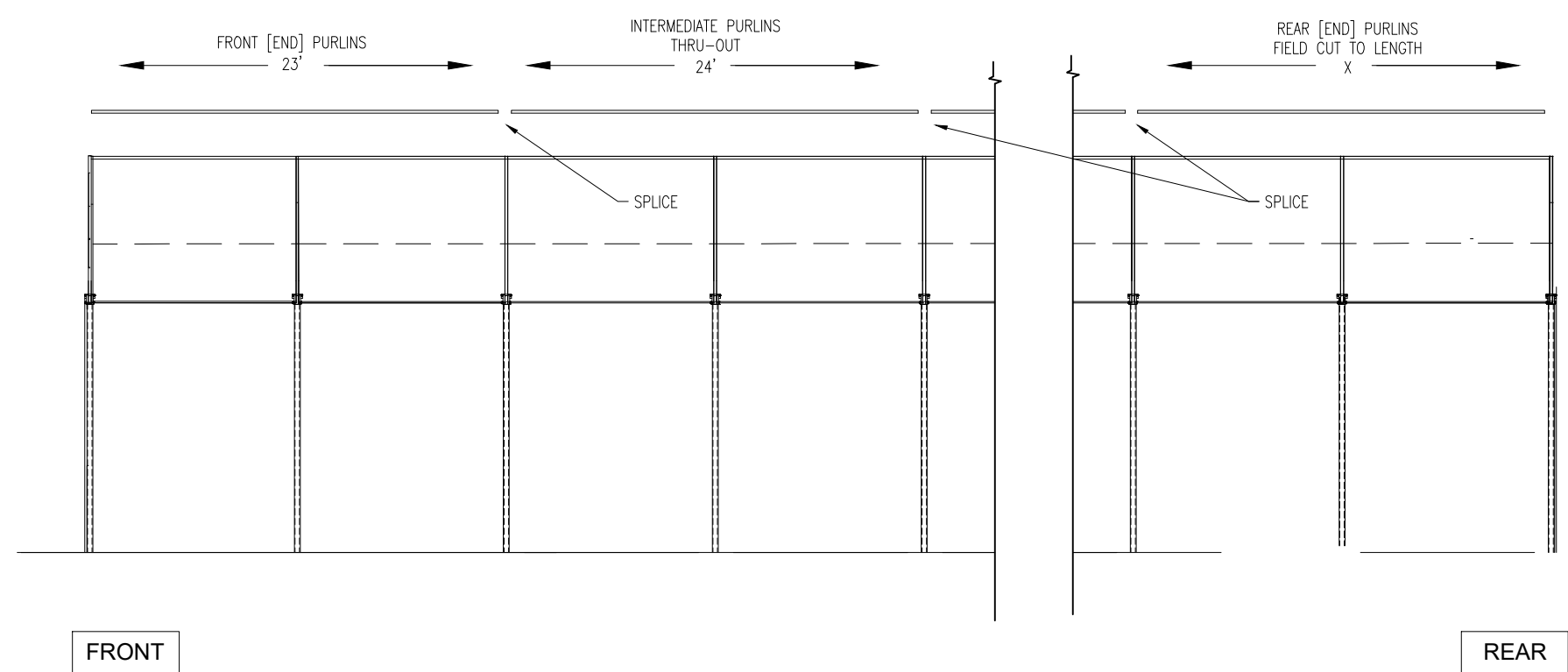
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This document is signed and sealed by Alexander F. Zuendt.
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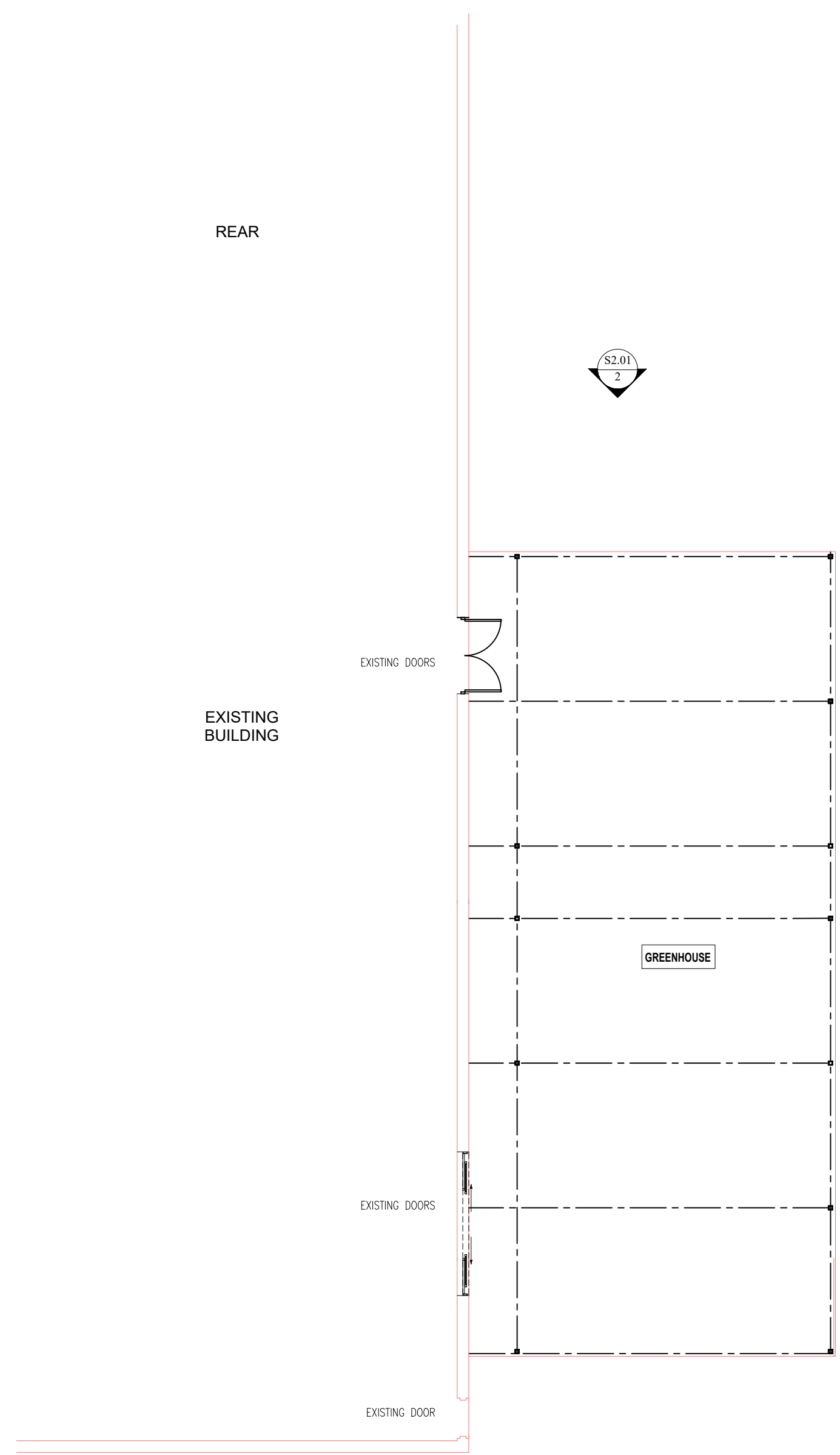


WEB A	84 15/16, 15GA
WEB B	57 7/16, 15GA
WEB C	55 5/16, 15GA
WEB D	38 7/8, 15GA
WEB E	25 1/2, 15GA
UPPER CHORD	SAME DIMENSION, 166 5/8, 15GA
E. LOWER CHORD	109 3/8, 15GA
I. LOWER CHORD	80 15/16, 15GA
PURLINS	7 RUNS, 15GA, 48 SPACE
COLUMNS	12GA

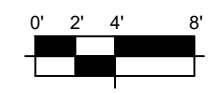
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A (TYP.) PURLIN LENGTH SEQUENCE - GREENHOUSE ONLY
S3.01



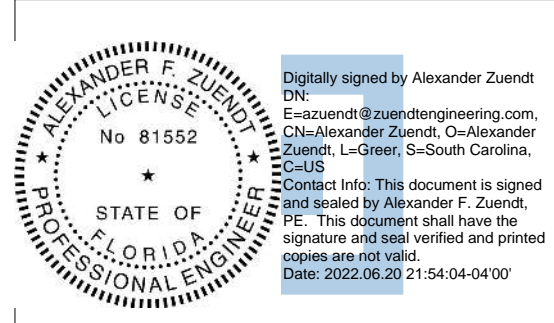
1 EQUIPMENT PLAN
S1.03 1/8"=1'-0"



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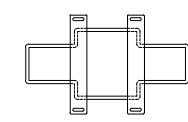
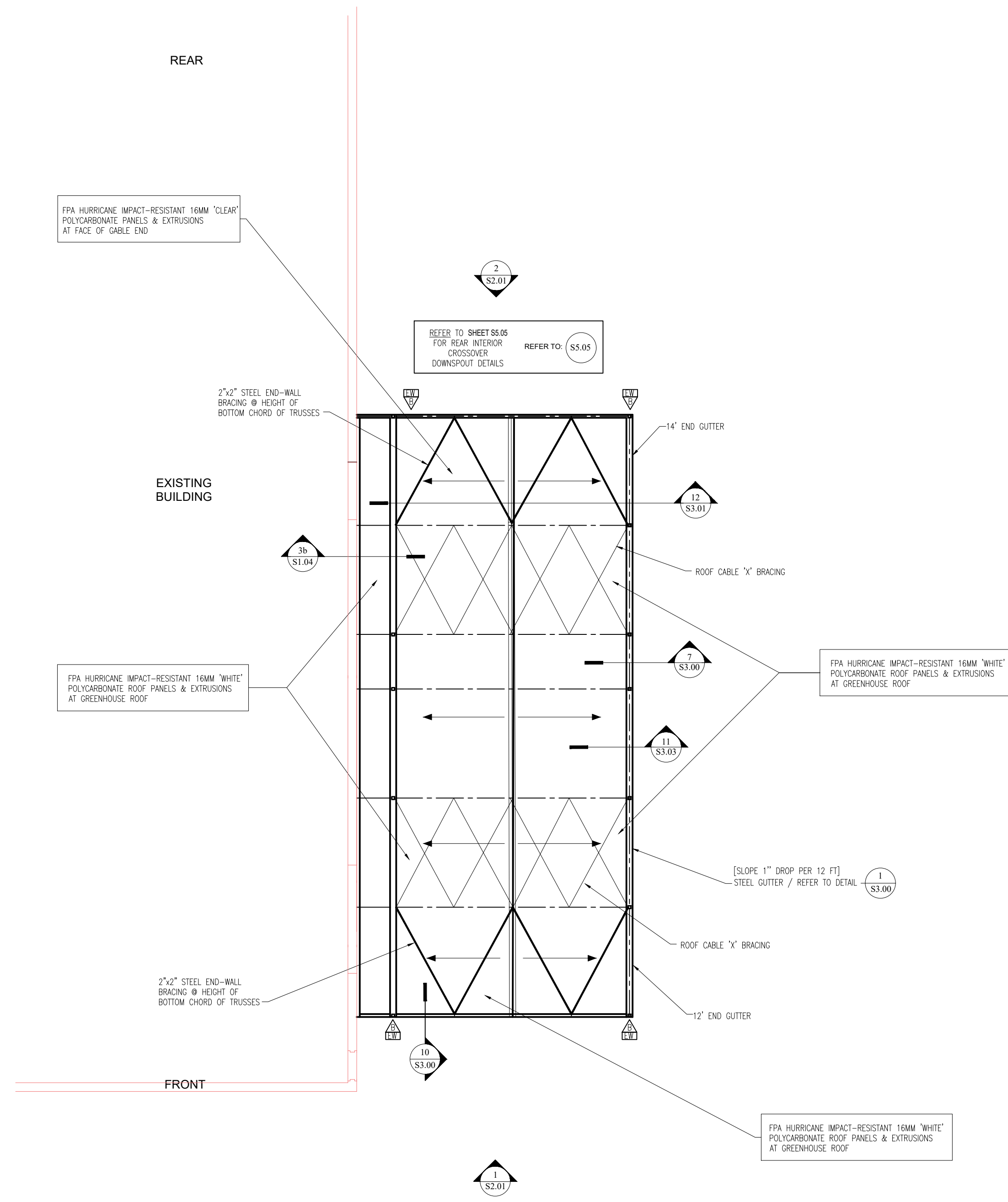


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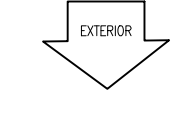
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5359 WEST US HIGHWAY 90
FL 32055



TRUSS CONNECTION WELDMENT

NOTE:
THE FLAT SIDE OF ALL END TRUSS FLAT END-WELDMENTS [EW] ARE TO FACE THE EXTERIOR OF THE STRUCTURE / PROPERTY.

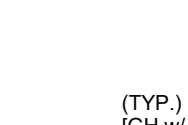
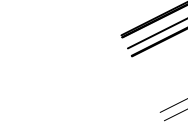
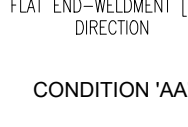
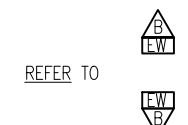


END TRUSS CONNECTION FLAT END-WELDMENT [EW]

NOTE:
THE FLAT SIDE OF ALL END WELDMENTS [EW] ARE TO FACE THE EXTERIOR OF THE STRUCTURE / PROPERTY.

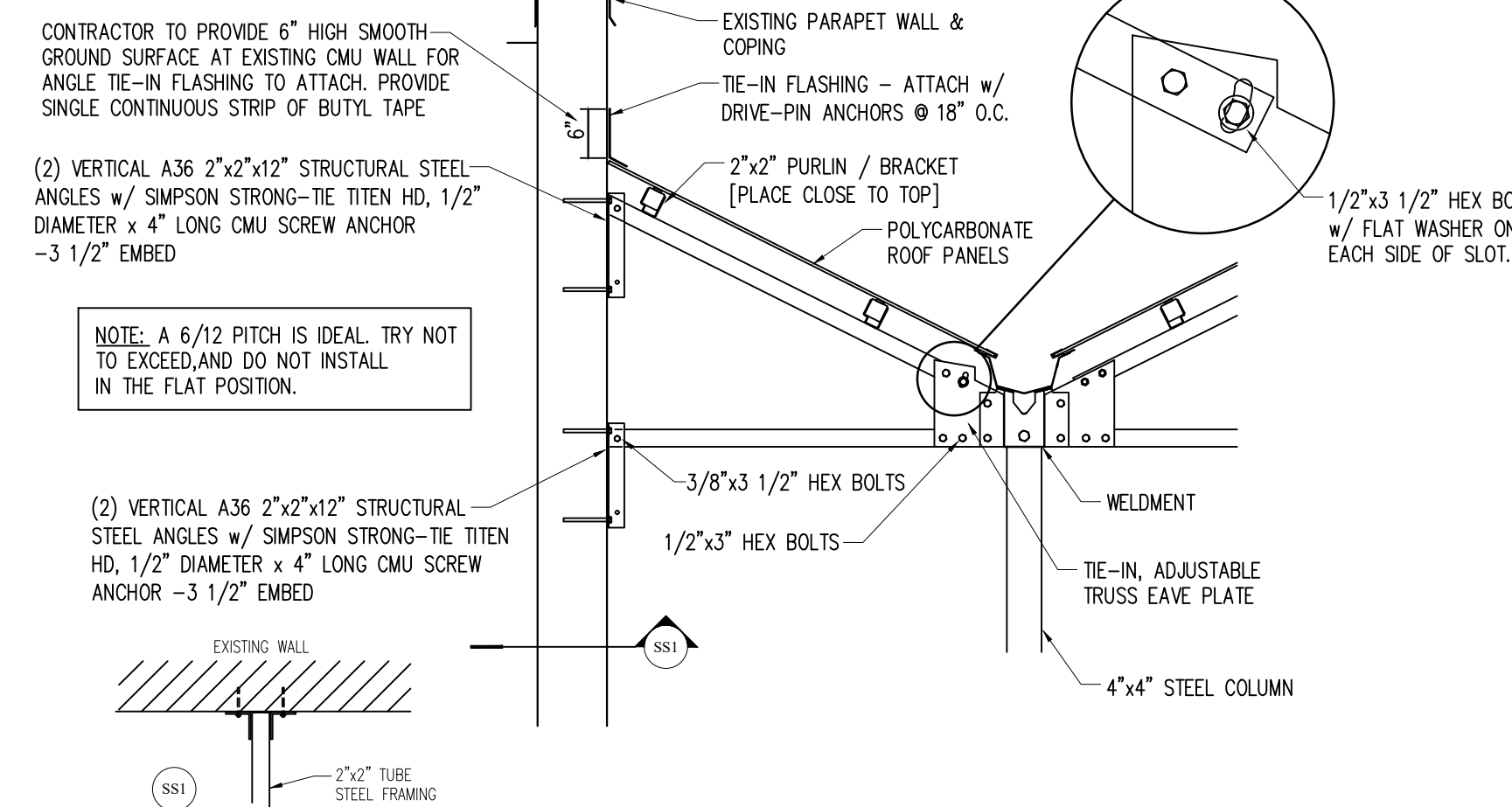
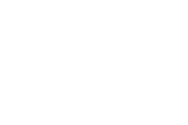
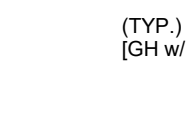
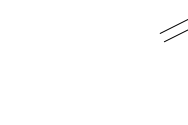
REFER TO ON PLAN

NOTE:
THE HEAD END OF ALL BOLTS [B] ARE TO FACE THE FRONT EXTERIOR OF THE STRUCTURE / PROPERTY. THE NUT END OF ALL BOLTS [B] IS TO FACE THE REAR OF THE STRUCTURE / PROPERTY. ALL BOLTS [B] TO BE CONSISTENTLY INSTALLED IN THIS DIRECTION WITH THE EXCEPTION OF THE END TRUSSES AT THE REAR OF THE STRUCTURE. END TRUSS AT REAR OF DRIVE-THRU CANOPY, & REAR OF FRACING CABLES - WHERE THE DIRECTION IS TO BE REVERSED (HEADS OF BOLTS [B] FACING TO THE REAR)

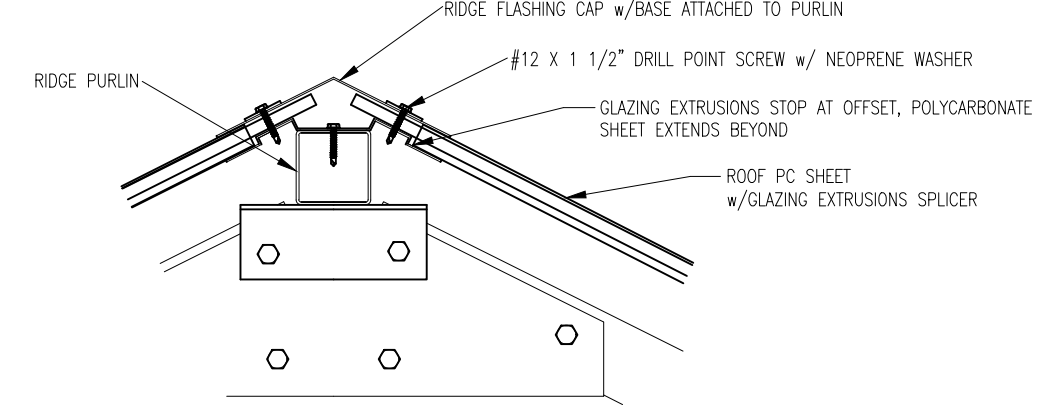


WELDMENT ORIENTATION

REFER TO ON PLAN



4'-0" SECTION / SIDEWALL TIE-IN TO EXISTING WALL



(TYP.) POLYCARBONATE RIDGE CAP [GH W/ NO RIDGE VENT ASSEMBLY]

DETAIL

AT GREENHOUSE ROOF

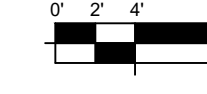
NOTE:
POLYCARBONATE SHEETS ARE SHIPPED WITH A PROTECTIVE COVERING LAYER ON EACH SIDE.

THESE MUST BE PEELED / REMOVED PRIOR TO INSTALLATION.

BEFORE REMOVING THIS PROTECTIVE LAYER - CONTRACTOR MUST MARK THE SIDE WHICH BEARS PRINTED LABEL - AS THIS SIDE MUST FACE OUTWARD WHEN INSTALLED.

ROOF PLAN

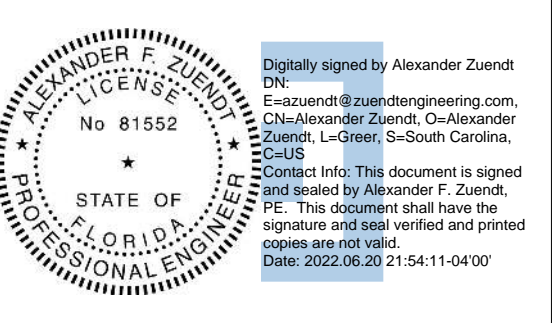
1/8"=1'-0"



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LAKE CITY FL
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FL 32055

MERCINNEY GREENHOUSES
STRUCTURES + EQUIPMENT + COVERINGS
Merchnney, LLC
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Liberty, SC 29657
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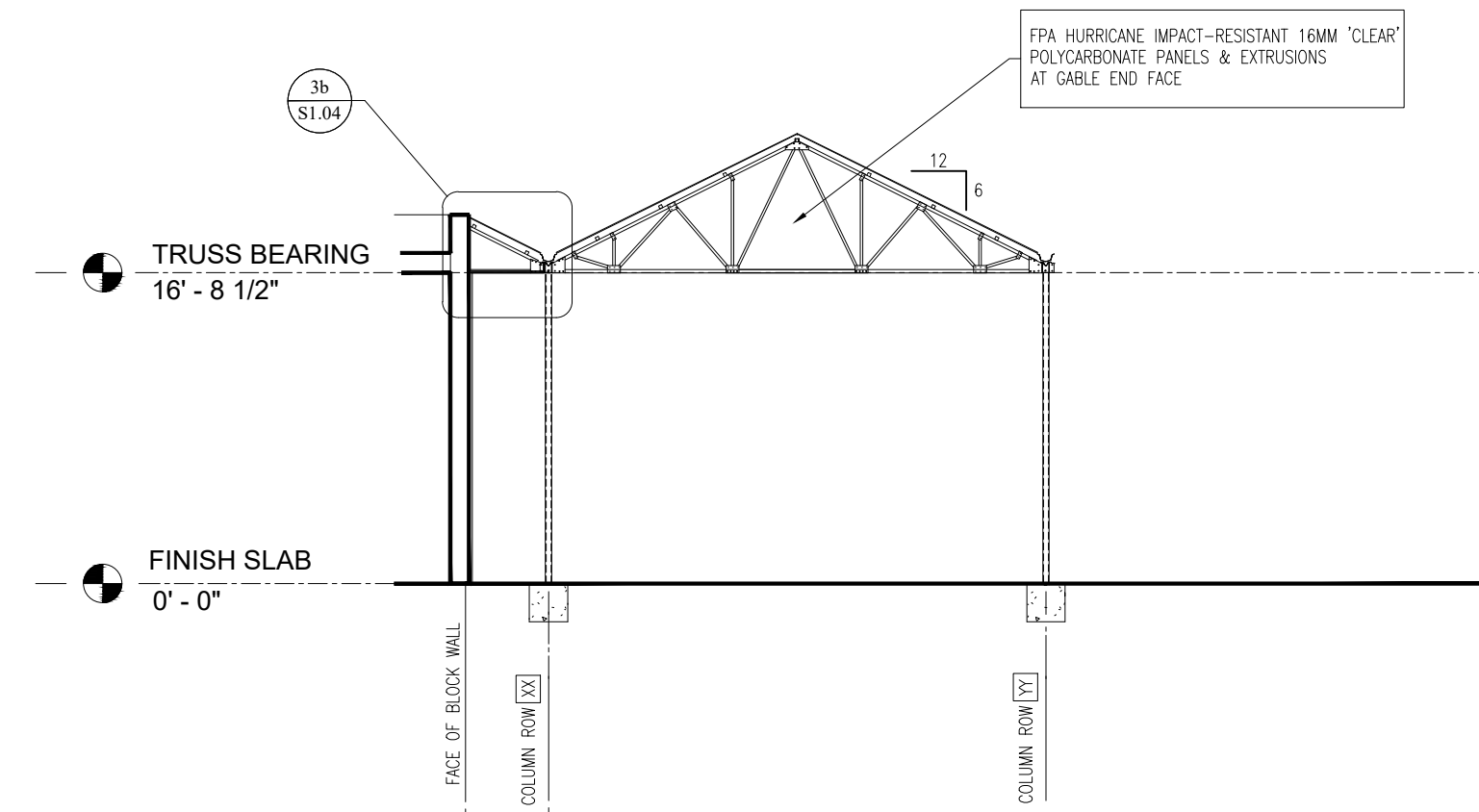
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Drawn By:	RGS	Sheet
Date:	2022.06.13	S1.04
Revised:		
Scale:	AS NOTED	

NOTE:

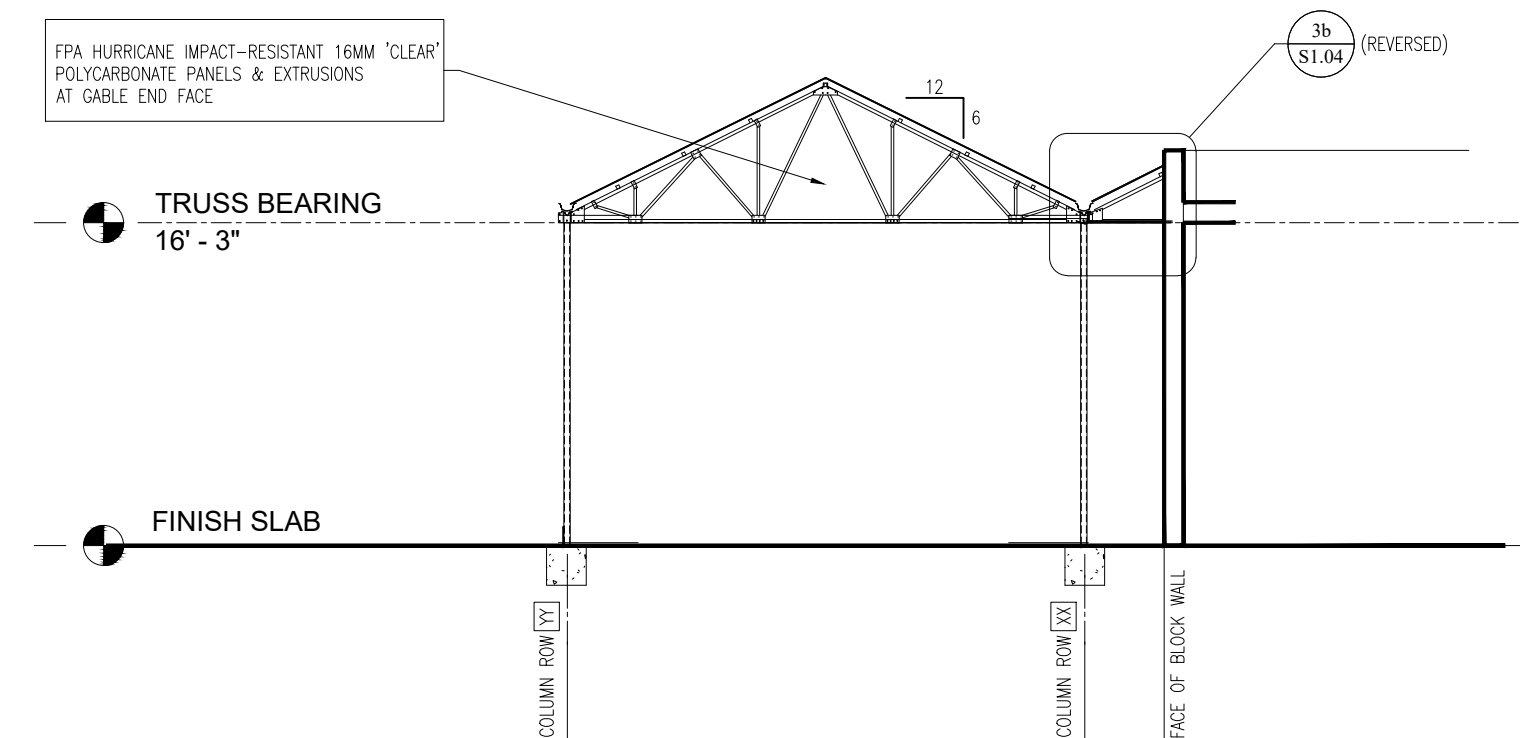
POLYCARBONATE SHEETS ARE SHIPPED WITH A PROTECTIVE COVERING LAYER ON EACH SIDE.

THESE MUST BE PEELED / REMOVED PRIOR TO INSTALLATION.

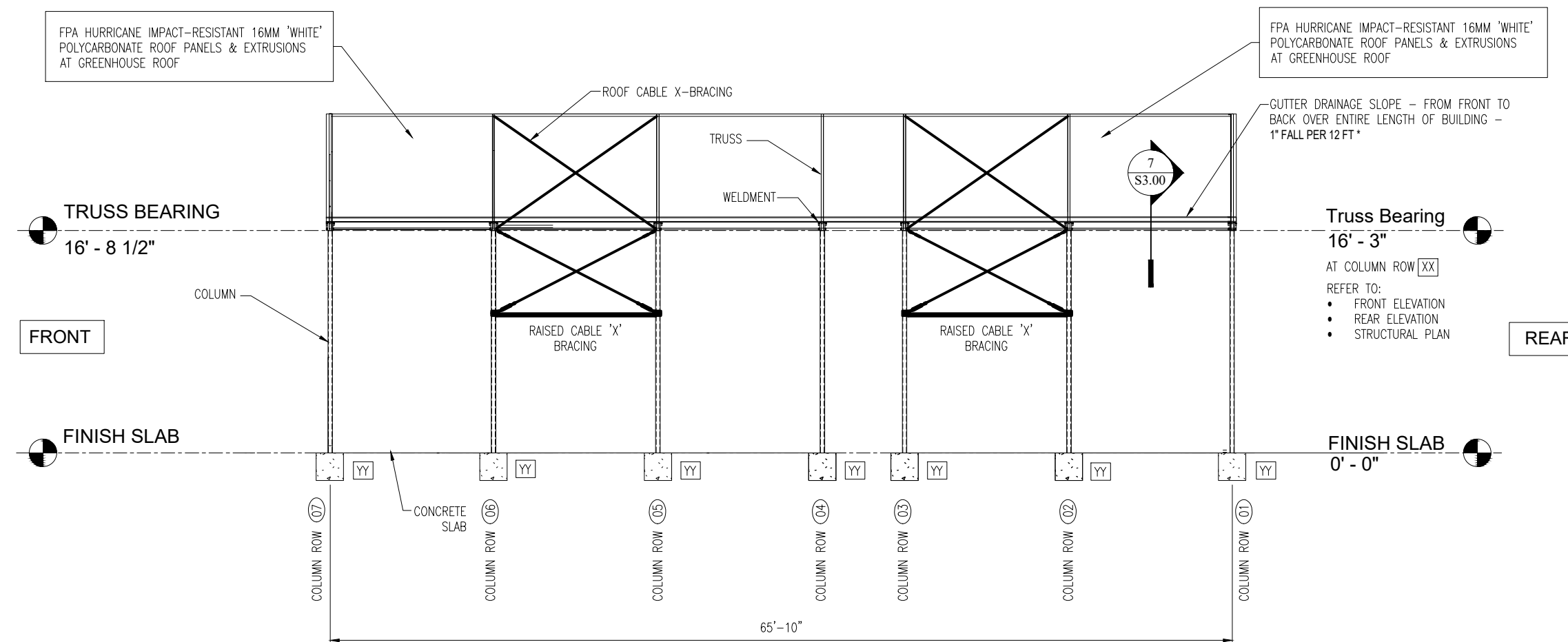
BEFORE REMOVING THIS PROTECTIVE LAYER - CONTRACTOR MUST MARK THE SIDE WHICH BEARS PRINTED LABEL - AS THIS SIDE MUST FACE OUTWARD WHEN INSTALLED.



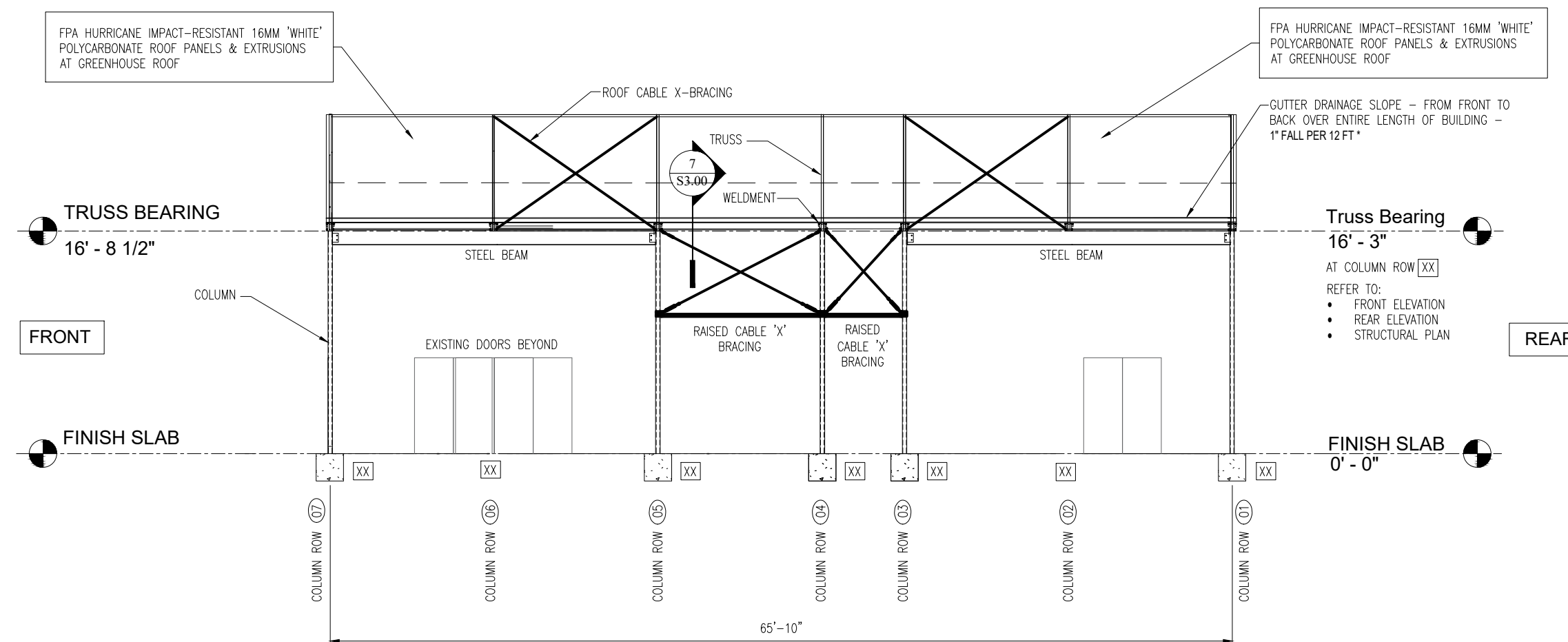
ELEVATION / FRONT GABLE END VIEW
S2.01 1/8"=1'-0"



ELEVATION / REAR GABLE END VIEW
S2.01 1/8"=1'-0"



EXTERIOR ELEVATION / SIDE VIEW 'YY'
S2.01 1/8"=1'-0"



BUILDING SECTION 'XX'
S2.01 1/8"=1'-0"

NOTE:
GUTTER DRAINAGE SLOPE - FROM FRONT OF STRUCTURE (HIGH END) TO REAR (LOW END) OVER ENTIRE LENGTH OF BUILDING - 1/4" FALL PER 12 FT.
(TYP) REAR TRUSS BEARING HEIGHT (LOW END) IS 18'-3" PER 15C MINIMUM INTERIOR CLEARANCE HEIGHT.
CONTRACTOR TO FIELD COORDINATE & VERIFY ACTUAL FRONT TRUSS BEARING HEIGHT.

NOTE:
TRUSS BEARING HEIGHT AT COLUMN XX-01 IS THE LEVEL (LOW POINT) OF THE BOTTOM CHORDS OF ALL TRUSSES. THIS LEVEL IS CONSISTENT - FROM COLUMN ROW XX TO YY AND FROM COLUMN ROW 01 TO FRONT END.
COLUMN HEIGHTS (STARTING AT COLUMN XX-01) FROM COLUMN ROW XX TO YY AND FROM COLUMN ROW 01 TO FRONT END ARE TO BE FIELD VERIFIED AND FIELD COORDINATED AS PER SLOPE OF GRADE AT SITE OF PROJECT.
THE ABOVE NOTE APPLIES TO ALL COLUMNS (ZK-ZZ) AT DRIVE-THRU CANOPY & FACADE BAYS.

COLUMNS ARE SHIPPED TO SITE IN UNIFORM LENGTH - CONTRACTOR TO FIELD CUT TO REQUIRED LENGTH / HEIGHT PER DRAWINGS.

NOTE:
REFER TO STRUCTURAL PLAN SHEET S1.02 FOR LOCATION OF FULL HEIGHT CABLE 'X' BRACING AND RAISED CABLE 'X' BRACING.

MERCINNEY GREENHOUSES
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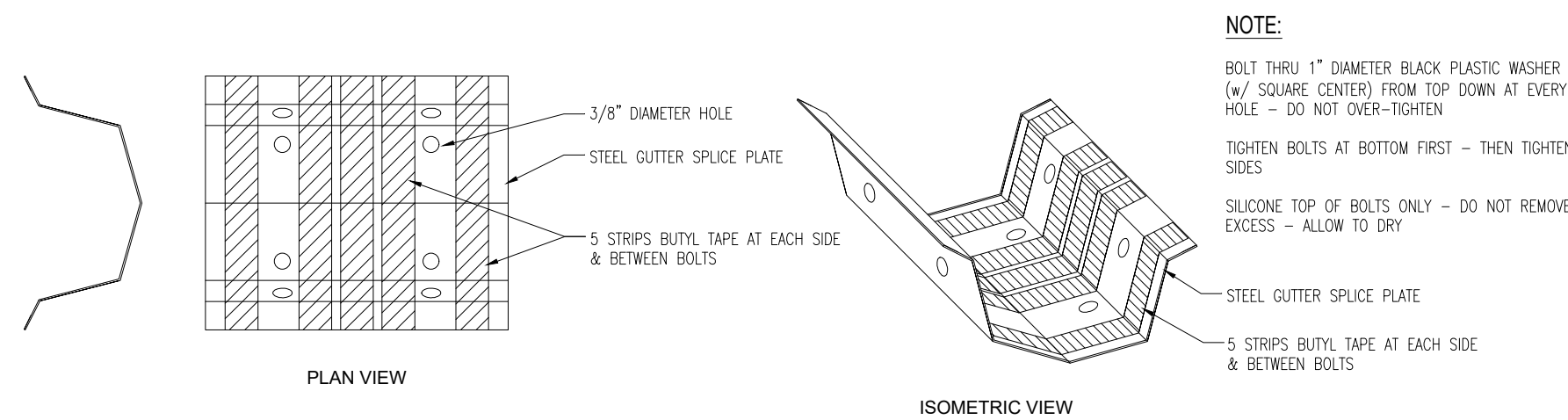
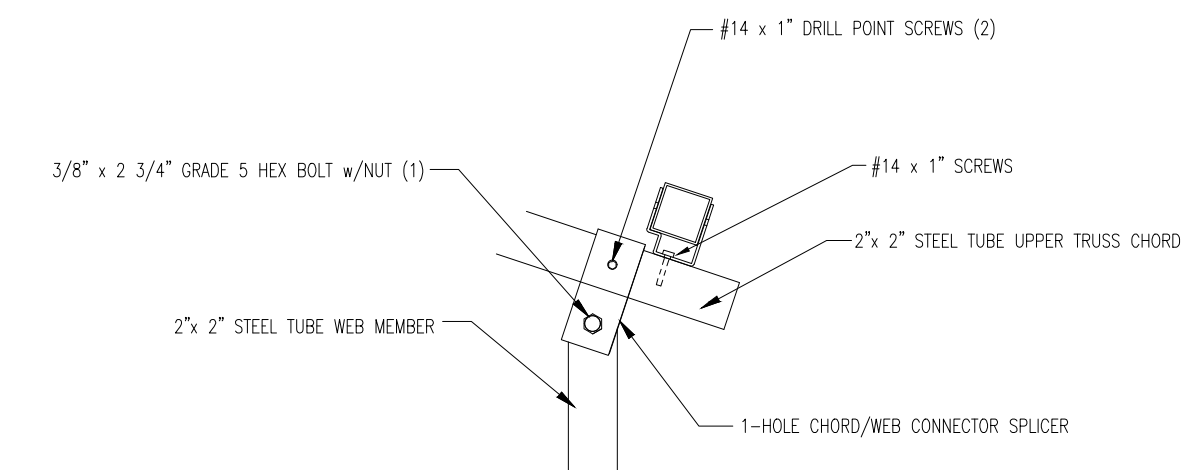
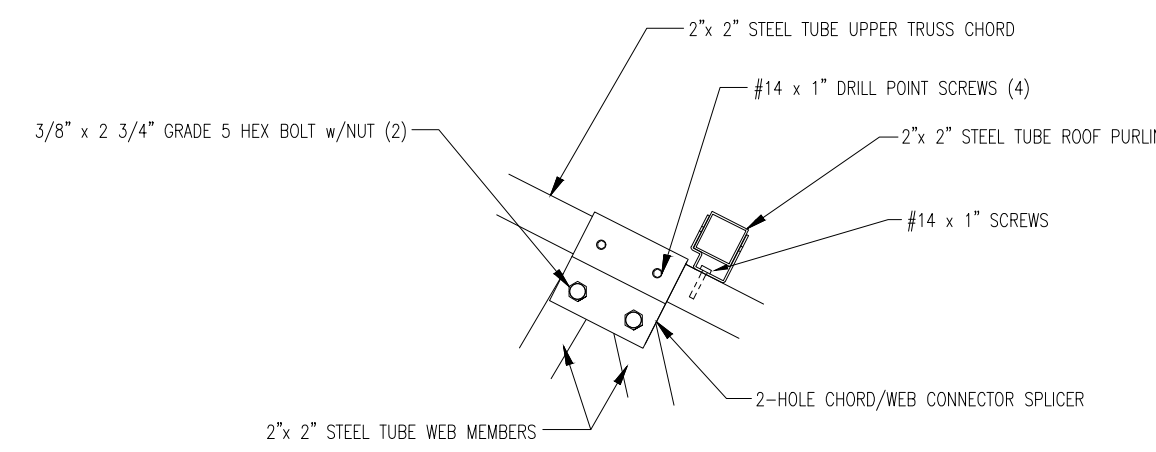
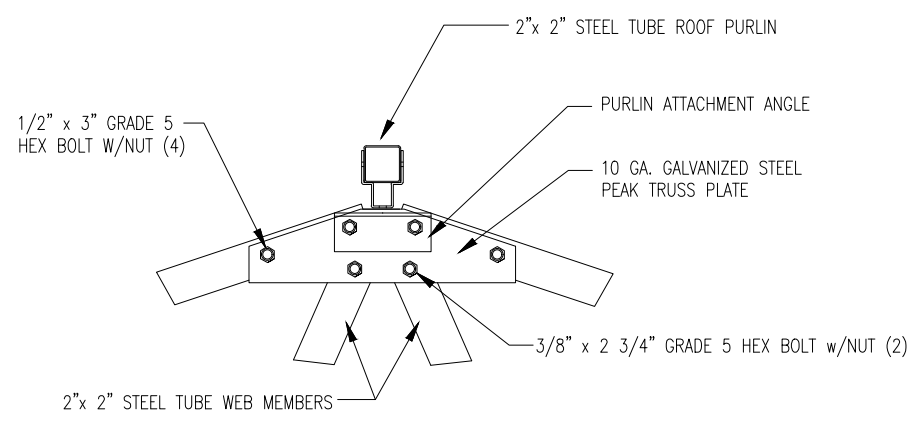
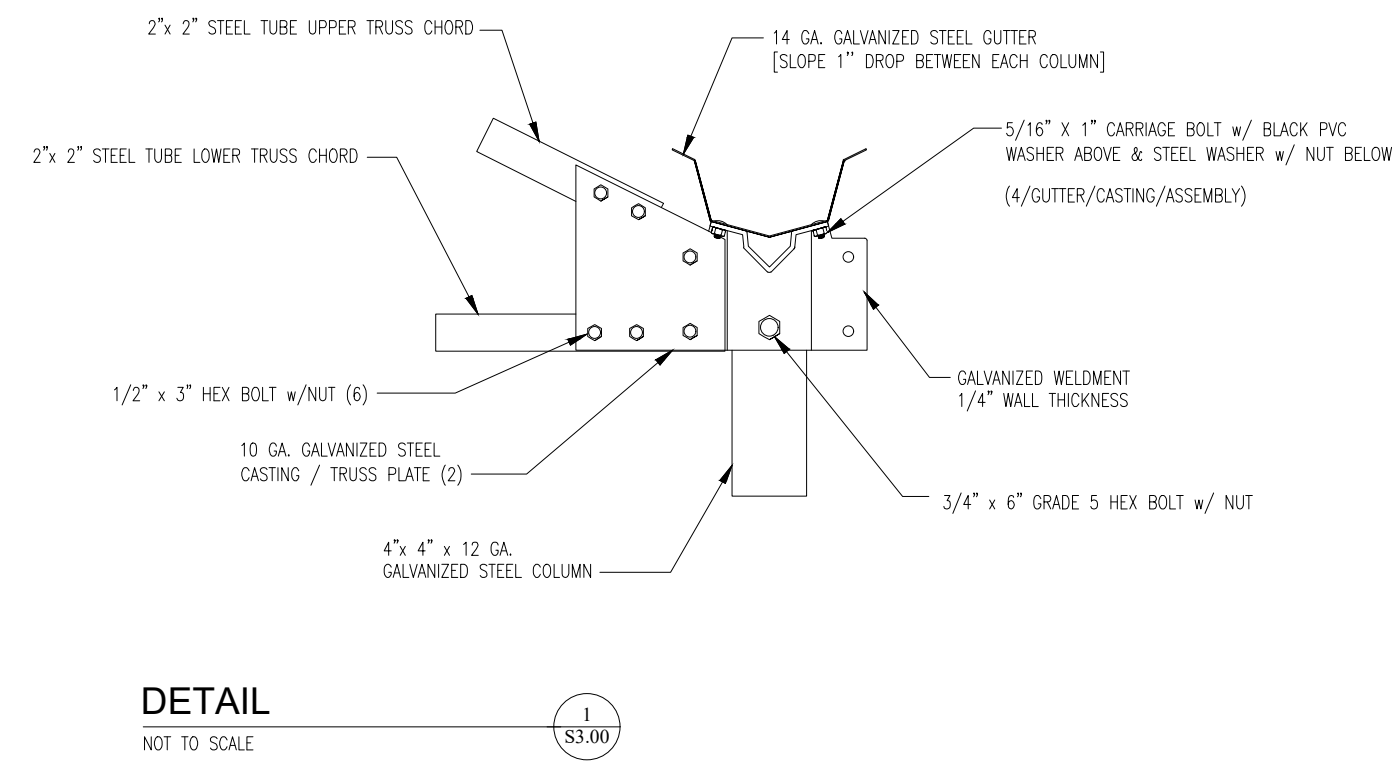
P.O. Box 26177, Greenville, SC 29616 P: (864) 990-2995 F: (864) 990-2803

Digitally signed by Alexander Zuendt
DN: cn=Alexander Zuendt, o=Zuendt Engineering, ou=Zuendt Engineering, email=alexander@zuendt-engineering.com, c=US
No. 81552
STATE OF FLORIDA
PROFESSIONAL ENGINEER

The signatory shall have the signature and seal verified and printed upon the drawing.
Date: 2022.06.20 21:54:18-04:00

Drawing Title: ELEVATIONS	
Drawn By: RGS	Sheet: S2.01
Date: 2022.06.13	
Revised:	
Scale: 1/8" = 1'-0"	





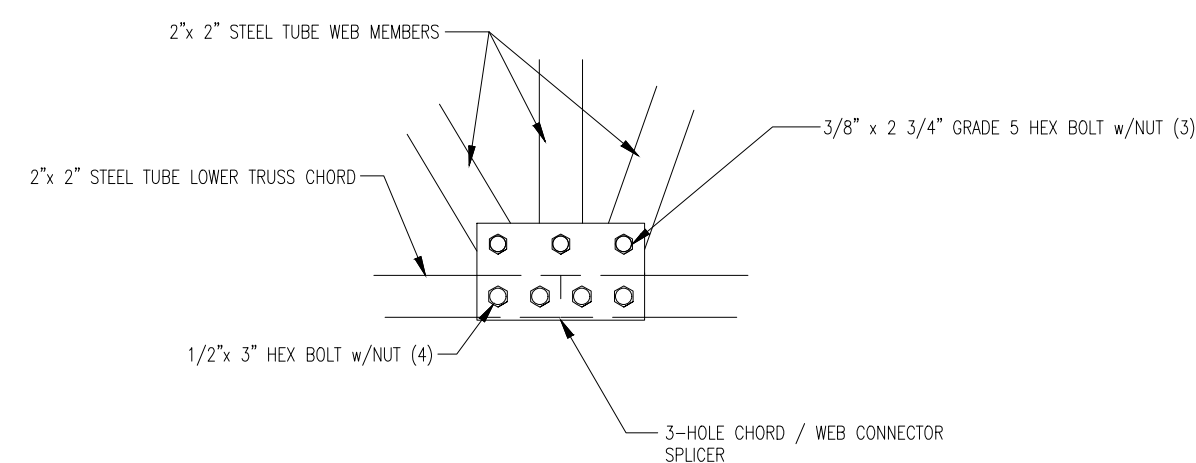
NOTE:
 BOLT THRU 1\"/>

GUTTER SPLICE PLATE
 NOT TO SCALE

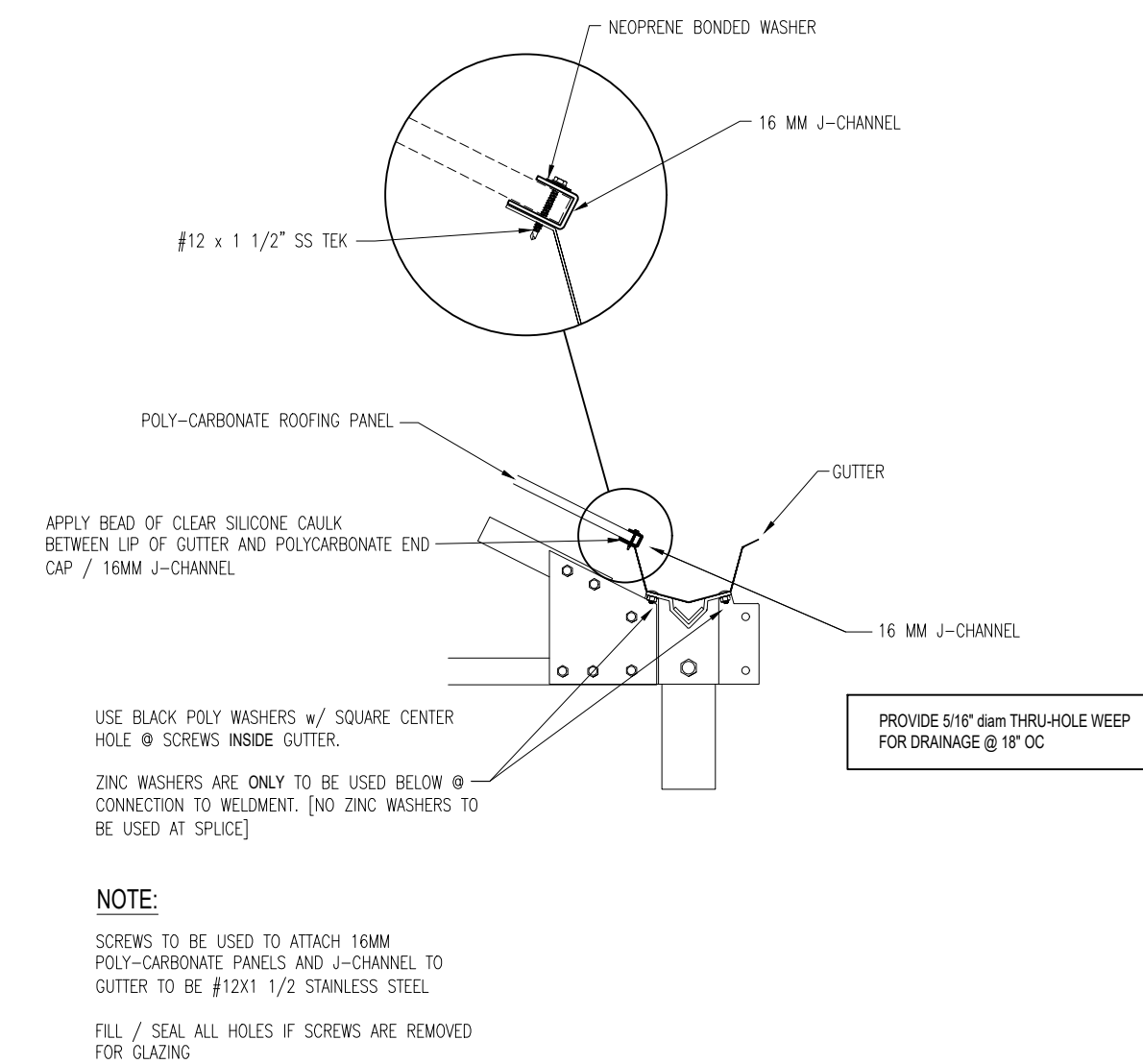
DETAIL
 NOT TO SCALE

DETAIL
 NOT TO SCALE

DETAIL
 NOT TO SCALE



DETAIL
 NOT TO SCALE



APPLY BEAD OF CLEAR SILICONE CAULK BETWEEN LIP OF GUTTER AND POLYCARBONATE END CAP / 16MM J-CHANNEL.

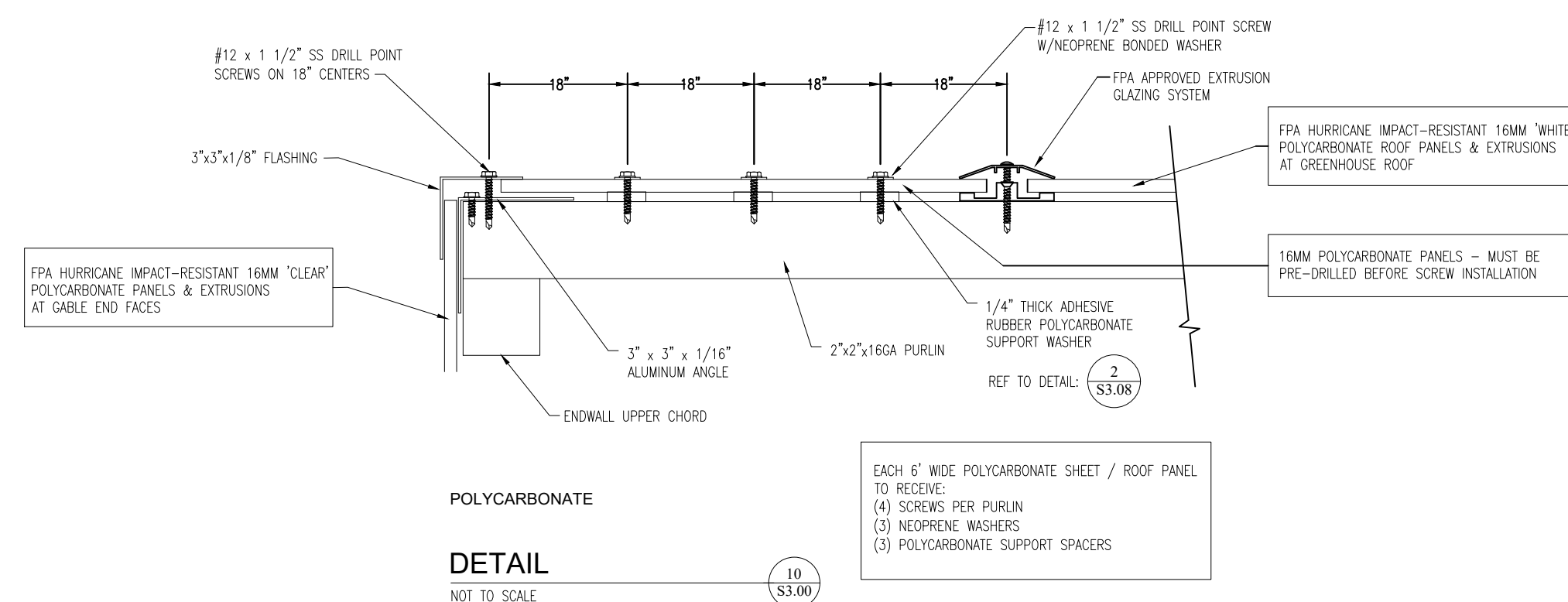
USE BLACK POLY WASHERS w/ SQUARE CENTER HOLE @ SCREWS INSIDE GUTTER.

ZINC WASHERS ARE ONLY TO BE USED BELOW @ CONNECTION TO WELDMENT. [NO ZINC WASHERS TO BE USED AT SPLICE]

NOTE:
 SCREWS TO BE USED TO ATTACH 16MM POLY-CARBONATE PANELS AND J-CHANNEL TO GUTTER TO BE #12X1 1/2 STAINLESS STEEL.

FILL / SEAL ALL HOLES IF SCREWS ARE REMOVED FOR GLAZING.

DETAIL
 NOT TO SCALE



EACH 4\"/>

DETAIL
 NOT TO SCALE

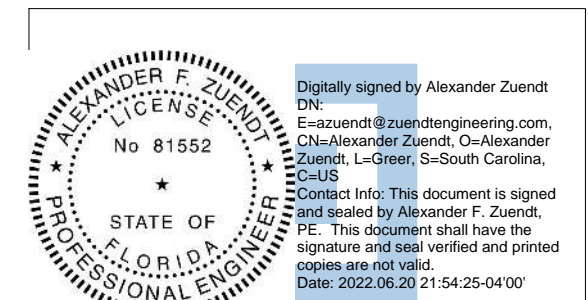
TRACTOR SUPPLY CO.
 LAKE CITY FL
 5359 WEST US HIGHWAY 90
 FL 32055

MERCINNEY GREENHOUSES
 STRUCTURES + EQUIPMENT + COVERINGS

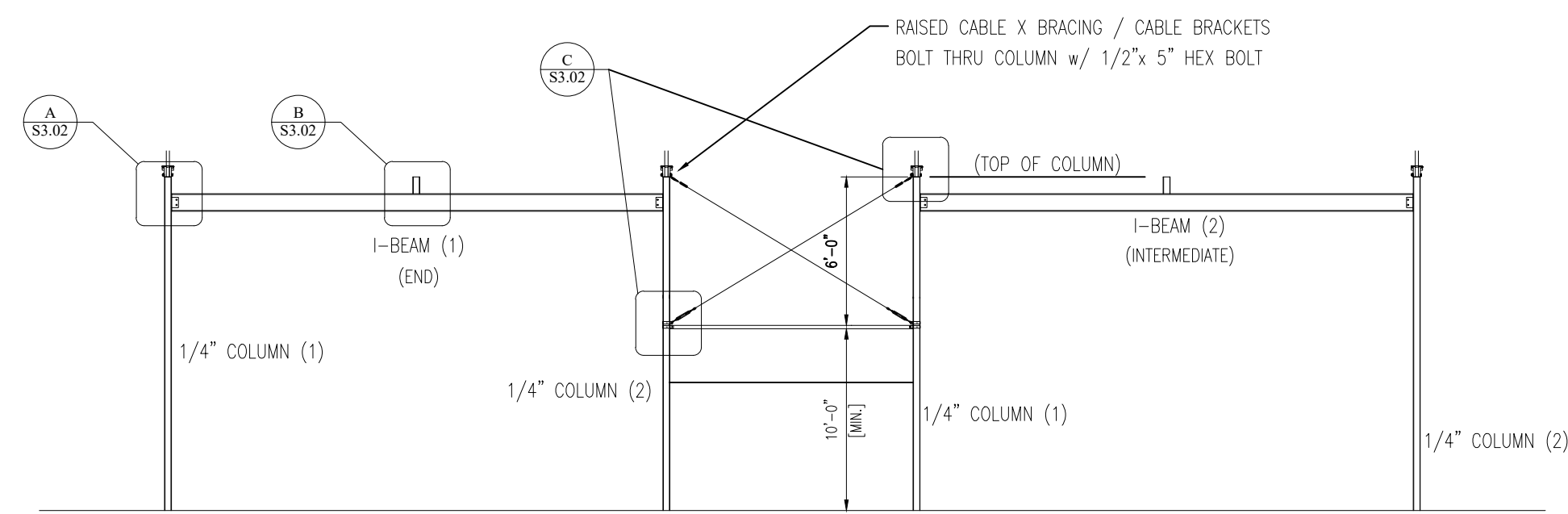
Merchnney, LLC
 7711 Liberty Highway
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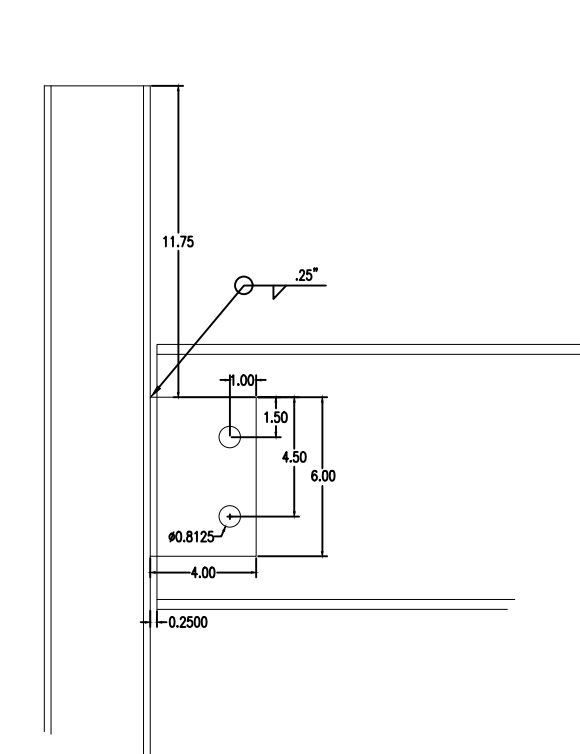
P.O. Box 26177, Greenville, SC 29616 P:(864) 990-2995 F:(864) 990-2803



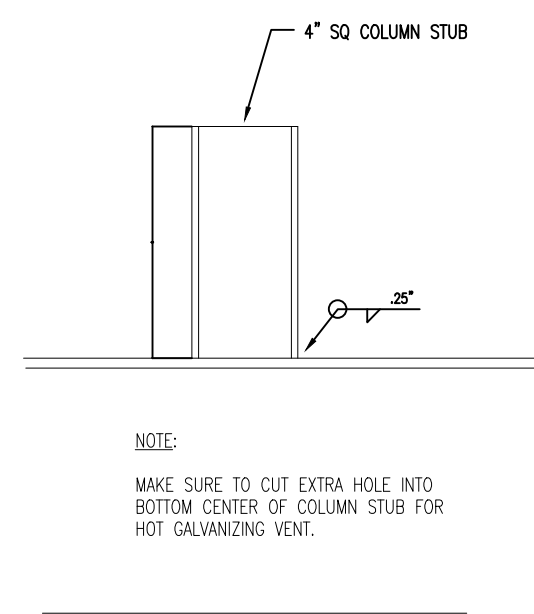
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Drawn By: RGS	Sheet
Date: 2022.06.13	S3.00
Revised:	
Scale: AS NOTED	



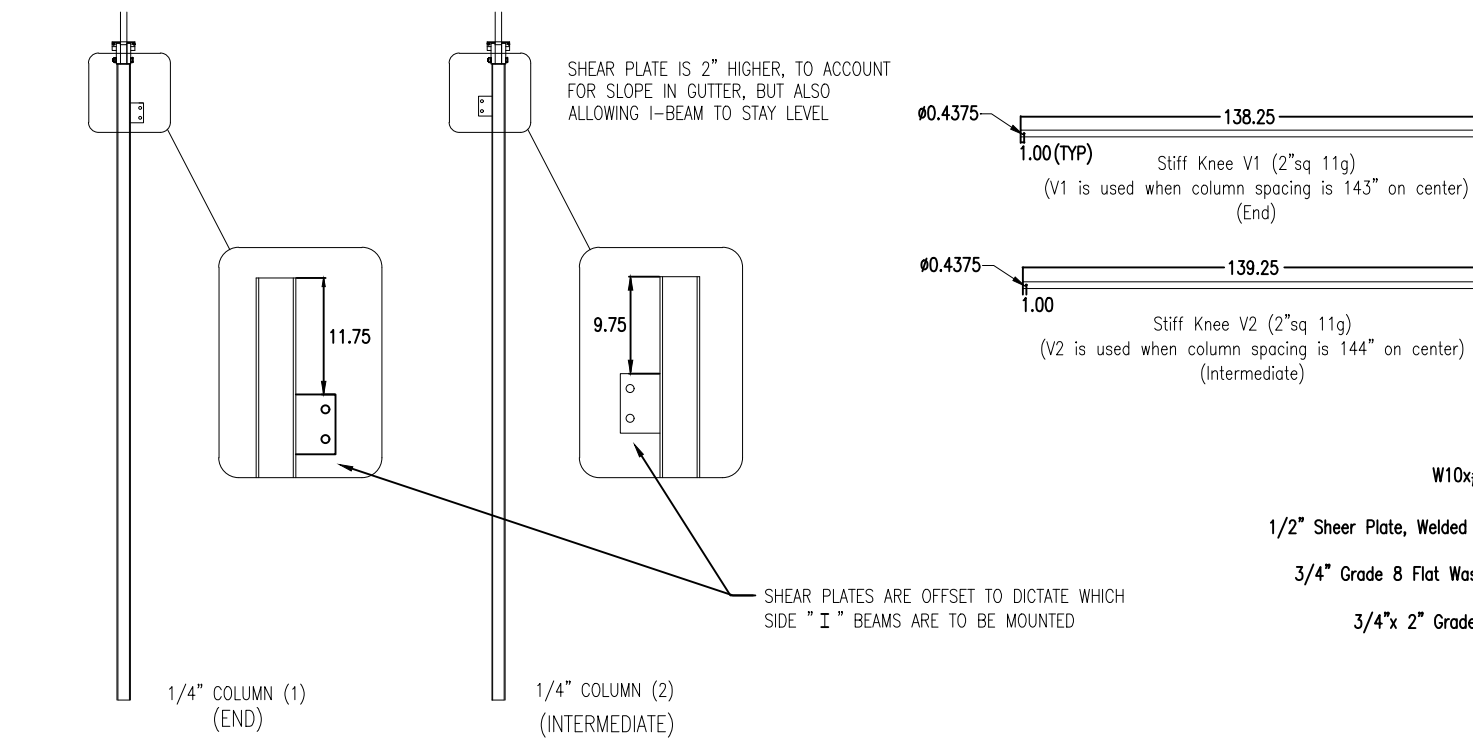
DETAIL
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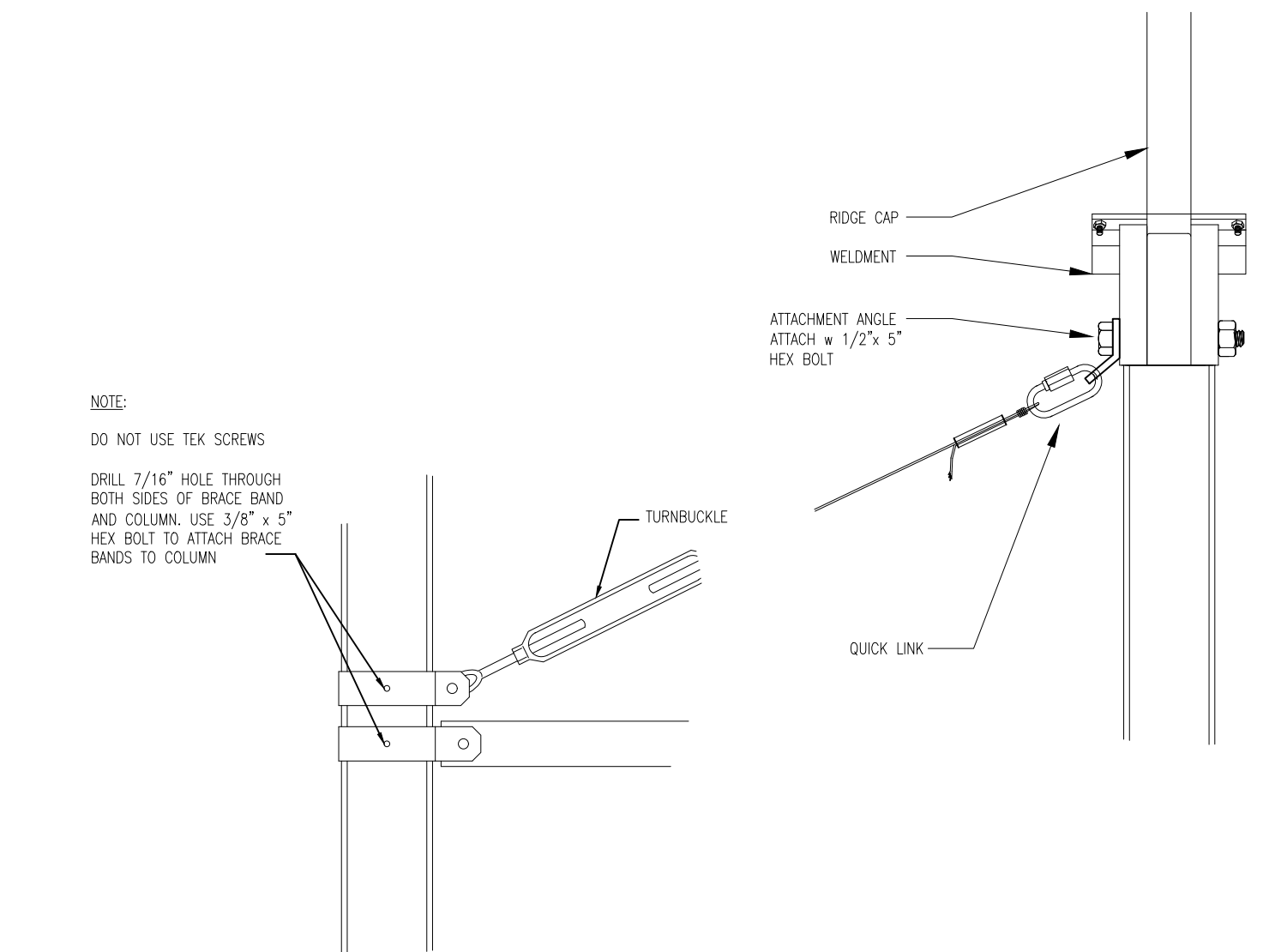
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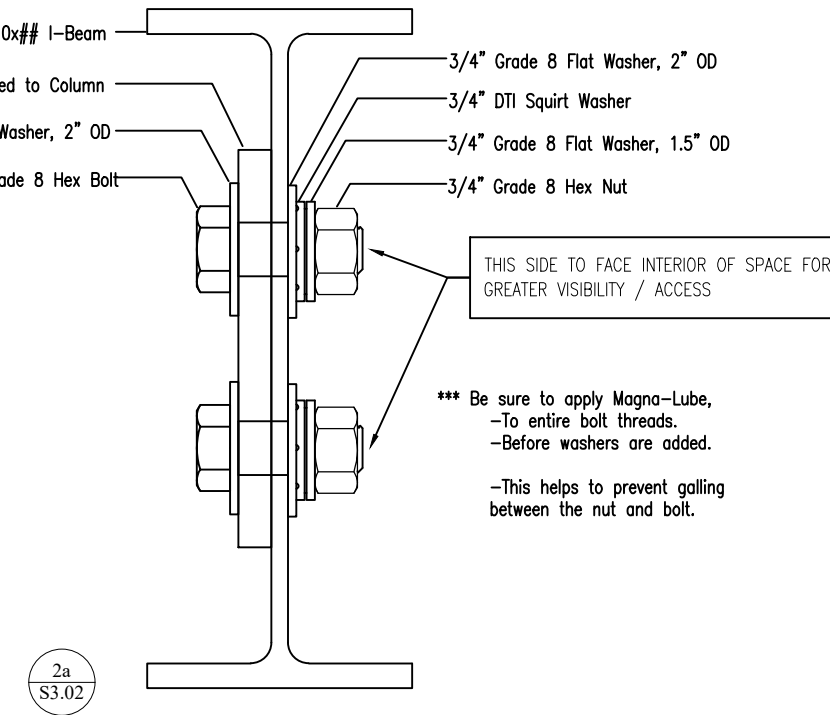
DETAIL
NOT TO SCALE



DETAIL
NOT TO SCALE

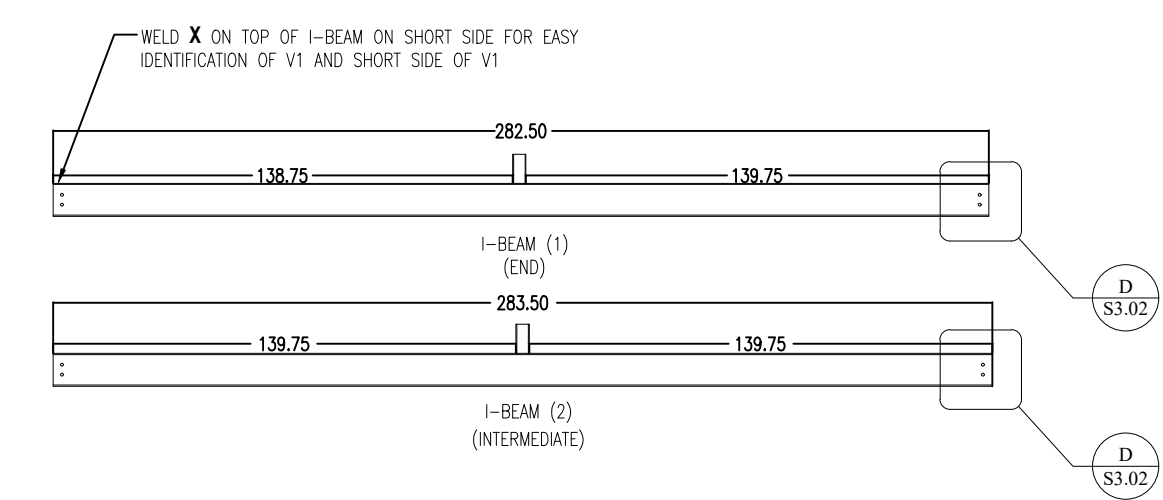


DETAIL
NOT TO SCALE

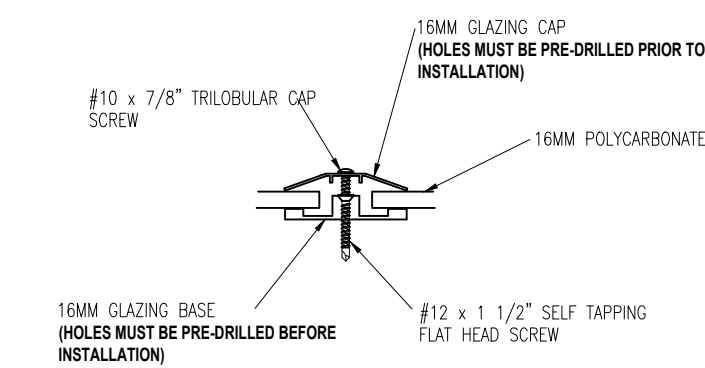


2a
S3.02

NOTE:
REFER TO STRUCTURAL PLAN SHEET S1.02 FOR
LOCATION OF STEEL COLUMNS & STEEL BEAMS

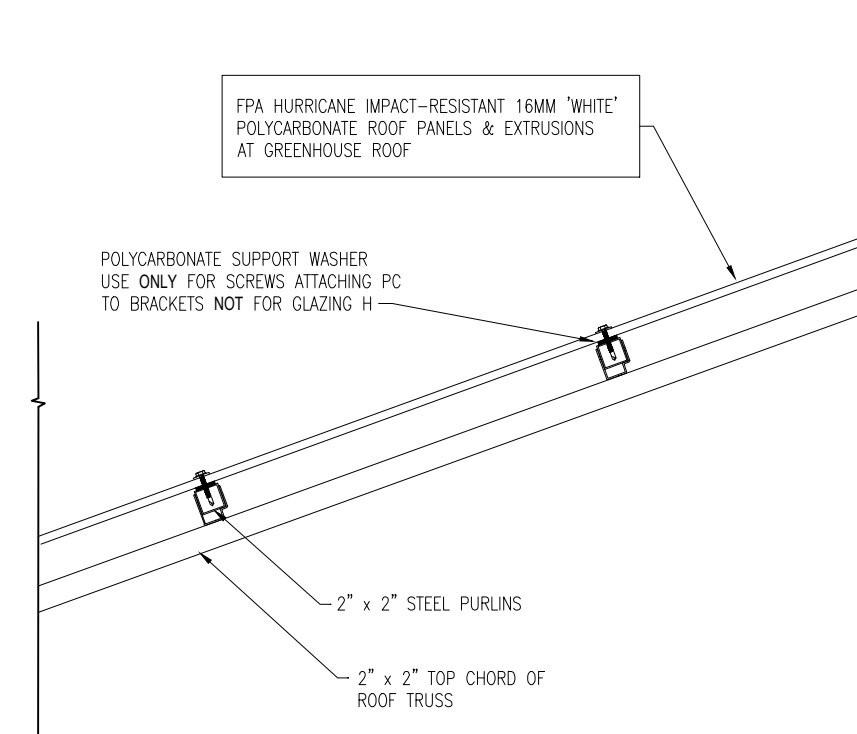


DETAIL
NOT TO SCALE



***POLYCARBONATE SHEETS AND EXTRUSIONS MUST BE PRE-DRILLED PRIOR TO SCREW INSTALLATION.

DETAIL
NOT TO SCALE



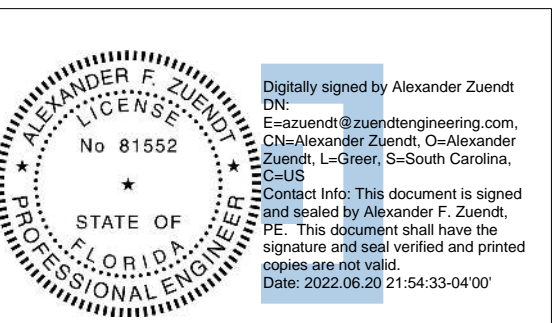
ROOF SECTION
GREENHOUSE

DETAIL
NOT TO SCALE

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FL 32055

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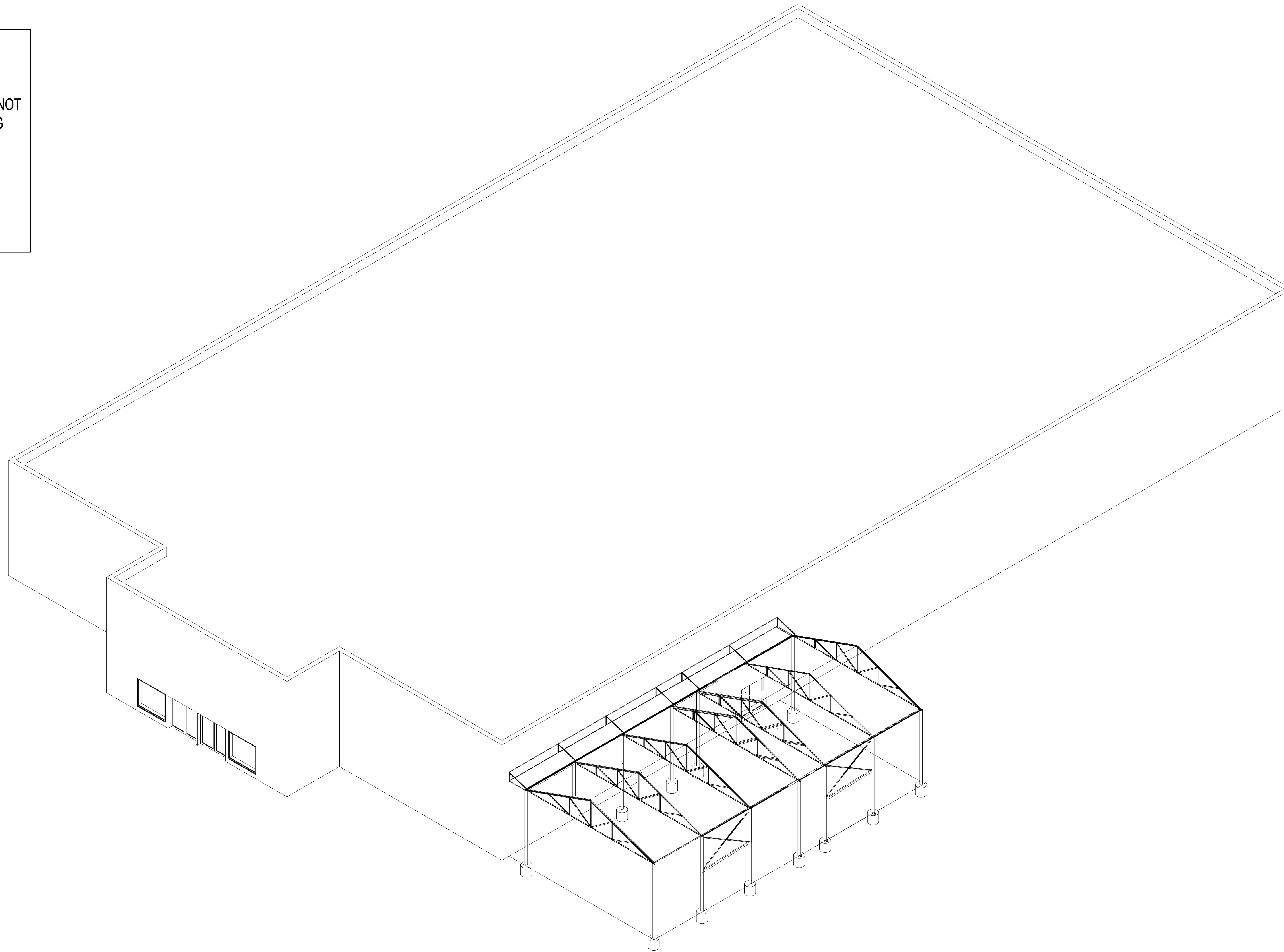
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Drawn By: RGS	Sheet
Date: 2022.06.13	S3.02
Revised:	
Scale: AS NOTED	

NOTE: SHEET S3.01 DOES NOT APPLY TO THIS PROJECT AND HAS BEEN REMOVED FROM THE SET

NOTE:

3D ISOMETRIC MODEL IS PROVIDED AS A CONCEPTUAL REFERENCE ONLY AND MAY NOT ACCURATELY DEPICT ALL ACTUAL BUILDING CONDITIONS, COMPONENTS, SYSTEMS OR DESIGN DETAILS.

REFER TO PLANS & ELEVATIONS FOR SITE SPECIFIC DIMENSIONS, SIZES & DETAILS.



3D ISOMETRIC

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LAKE CITY FL
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FL 32055



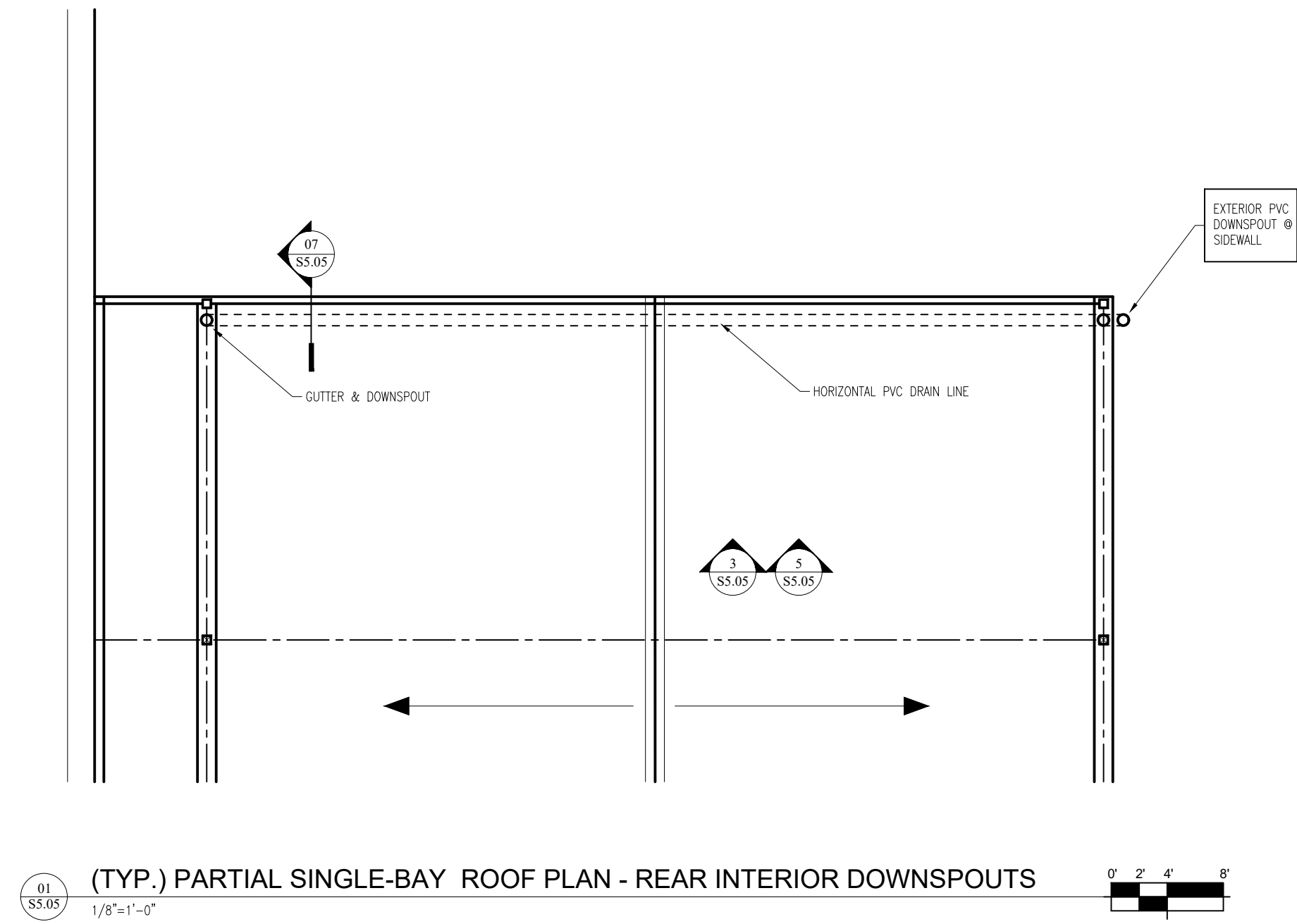
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7711 Liberty Highway
Liberty, SC 29657
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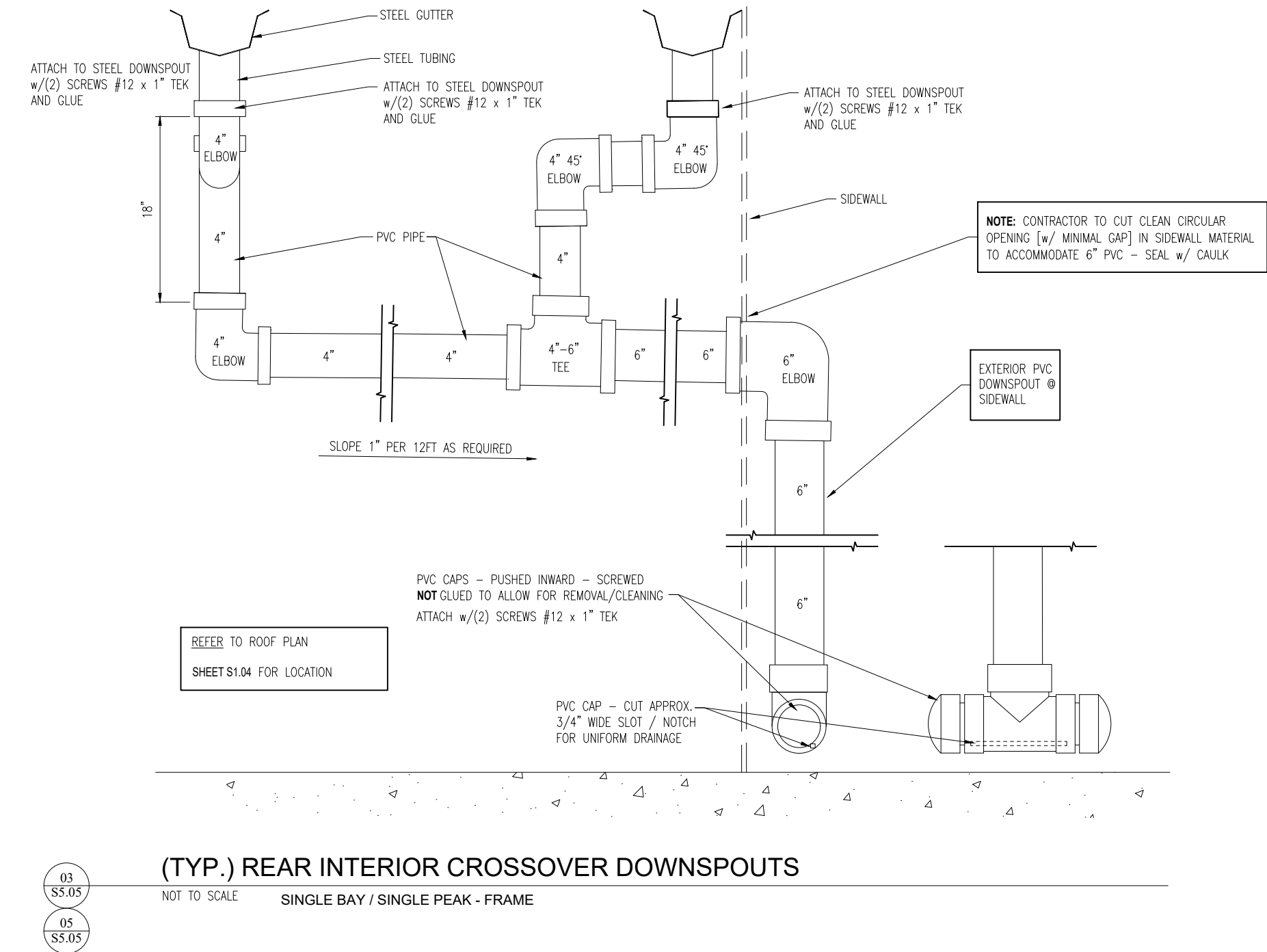
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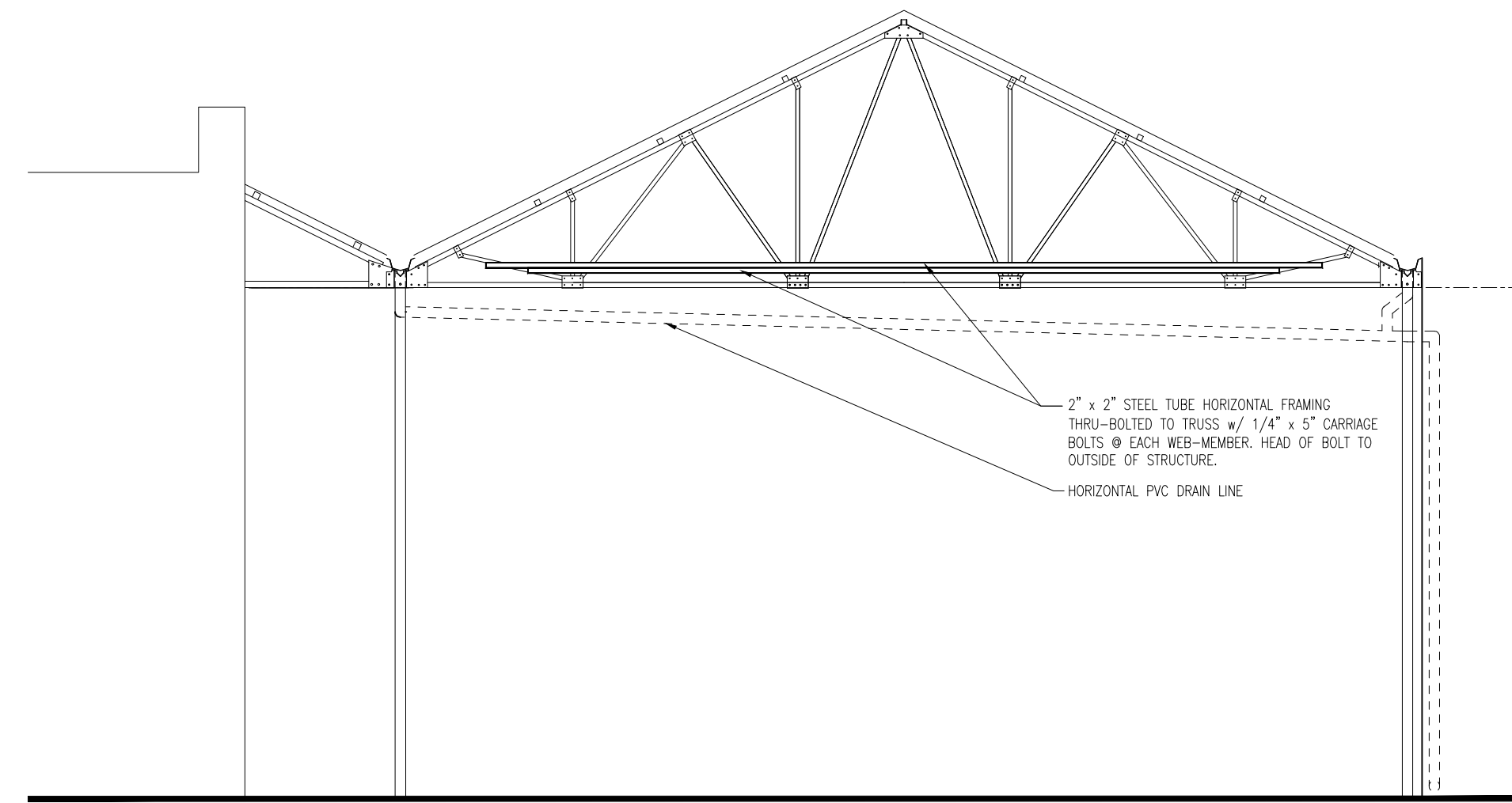
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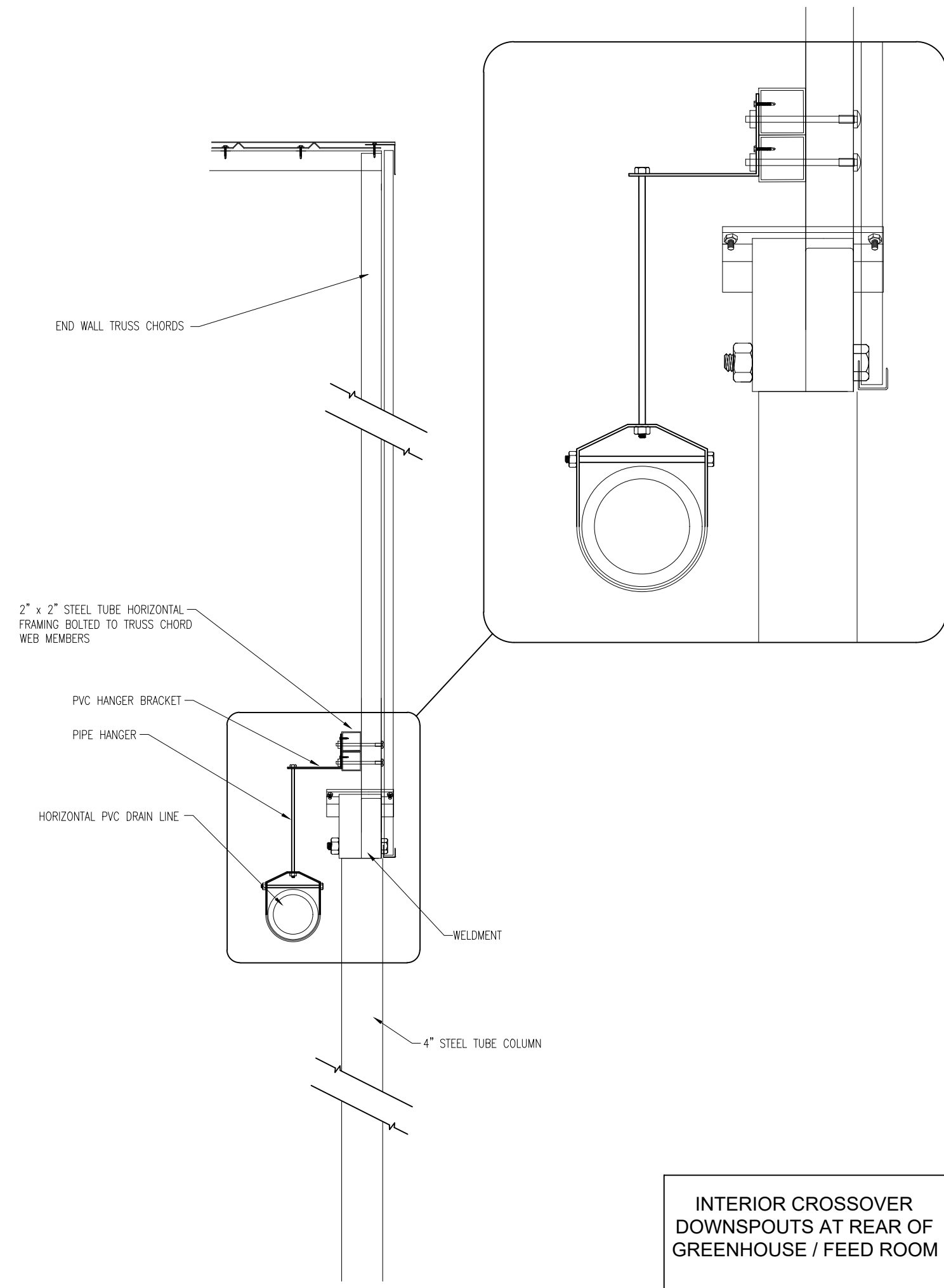
01
S5.05
(TYP.) PARTIAL SINGLE-BAY ROOF PLAN - REAR INTERIOR DOWNSPOUTS
1/8"=1'-0"



03
S5.05
(TYP.) REAR INTERIOR CROSSOVER DOWNSPOUTS
NOT TO SCALE
SINGLE BAY / SINGLE PEAK - FRAME



05
S5.05
(TYP.) SINGLE BAY REAR FRAMING / HORIZONTAL DRAIN LINE



07
S5.05
(TYP.) DETAIL - PVC MOUNTING BRACKET
NOT TO SCALE

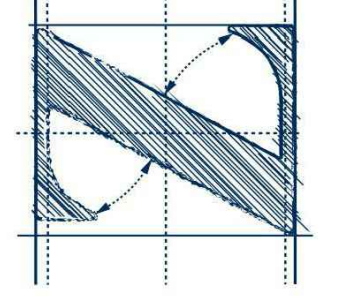
INTERIOR CROSSOVER
DOWNSPOUTS AT REAR OF
GREENHOUSE / FEED ROOM

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LAKE CITY FL
5359 WEST US HIGHWAY 90
FL 32055

MERCHINEY GREENHOUSES
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Digitally signed by Alexander Zuendt
DN: cn=Alexander Zuendt, o=Alexander Zuendt Engineering, ou=South Carolina, email=azuendt@zuendtengineering.com, c=US
This document is signed and sealed by Alexander F. Zuendt.
The signature and seal have the same legal effect as a handwritten signature and seal.
Date: 2022.06.20 21:54:51-04:00

Drawing Title: REAR INTERIOR CROSSOVER DOWNSPOUTS	
Drawn By: RGS	Sheet
Date: 2022.06.13	S5.05
Revised:	
Scale: AS NOTED	