

# STRUCTURAL ABBREVIATIONS

ABBREV	ABBREVIATION	LB	POUND
ACI	AMERICAN CONCRETE INSTITUTE	LGTH	LENGTH
ADD	ADDITIONAL	LVL	LIVE LOAD
ADDD	ADDITIONAL	LLH	LONG LEG HORIZONTAL
AFF	ABOVE FINISHED FLOOR	LLV	LONG LEG VERTICAL
ASCC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LONG	LONGITUDINAL
ASIS	AMERICAN IRON AND STEEL INSTITUTE	LP	LOW POINT
ALT	ALTERNATE/ALTERNATIVE	LSL	LAMINATED STRAND LUMBER
ALUM	ALUMINUM	LWT	LIGHT WEIGHT
ARCH	ARCHITECTURE/ARCHITECTURAL	LVL	LAMINATED VENEER LUMBER
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS		
AWG	AMERICAN WELDING SOCIETY	MATL	MATERIAL
B	BOTTOM OF	MAX	MAXIMUM
BCX	BOTTOM CHORD EXTENSION	MB	MASONRY BEAM
BLDG	BUILDING	MC	MISCELLANEOUS CHANNEL/MASONRY COLUMN
BLK	BLOCK	MECH	MECHANICAL
BM	BEAM	MET	METAL
BOT	BOTTOM	MFR	MANUFACTURE/MANUFACTURER
BP	BASE PLATE/BEARING PLATE	MID	MIDDLE
BRG	BEARING	MIN	MINIMUM
BTWN	BETWEEN	MISC	MISCELLANEOUS
		MO	MILES PER HOUR
		MPH	MILES PER HOUR
C	CHANNEL		
CB	CONCRETE BEAM	NGVD	NATIONAL GEODETIC VERTICAL DATUM
CC	CONCRETE COLUMN	NIC	NOT IN CONTRACT
CCF	CUBIC FEET (FOOT)	NO	NUMBER
CIP	CAST IN PLACE	NS	NEAR SIDE
CJ	CONTRACTION JOINT	NTS	NOT TO SCALE
CL	CENTERLINE		
CLR	CLEAR/CLEARANCE	OC	ON CENTERS
CM	CONCRETE MASONRY	OD	OUTSIDE DIAMETER
CMU	CONCRETE MASONRY UNIT	OF	OUTSIDE FACE
CO	COMPANY	OPNG	OPENING
COL	COLUMN	OPP	OPPOSITE
CONC	CONCRETE	OSB	ORIENTED STRAND BOARD
CONT	CONTINUOUS		
CONN	CONNECTION	PIC	PRECAST CONCRETE/PILE CAP
COORD	COORDINATE	PIT	POST TENSIONED
CS	CONSTRUCTION JOINT	PAR	PARALLEL
CTR	CENTER	PCB	PRECAST CONCRETE COLUMN
CTRD	CENTERED	PCF	POUNDS PER CUBIC FEET
CY	CUBIC YARD	PEMB	PRE-ENGINEERED METAL BUILDING
DEPT	DEPARTMENT	PEN	PENETRATION
DET	DETAIL	P.J.	PANEL JOINT CENTERLINE
DIA	DIAMETER	PL	PLATE
DIAG	DIAGONAL	PLF	POUNDS PER LINEAR FOOT
DIM	DIMENSION	PLMG	PLYWOOD
DIST	DISTANCE	PLY	PLYWOOD
DL	DEAD LOAD	PREFAB	PREFABRICATED
DN	DOWN	PSF	POUNDS PER SQUARE FOOT
DWG	DRAWING	PSI	POUNDS PER SQUARE INCH
		PSL	PARALLEL STRAND LUMBER
		PT	PRESSURE TREATED
EA	EACH	REIN	REINFORCED WITH
EE	EACH END	RD	ROOF DRAIN
EF	EACH FACE	REF	REFERENCE
EHPA	EMERGENCY HURRICANE PROTECTION AREA	REIN	REINFORCING
ELEC	ELECTRIC/ELECTRICAL	REQD	REQUIRED
ELEV	ELEVATION	REV	REVISION
ENGR	ENGINEER	RTU	ROOF TOP UNIT
EOD	EDGE OF DECK	SB	SOFFIT BEAM
EOR	ENGINEER OF RECORD	SCHED	SCHEDULE
EQ SP	EQUAL SPACED	S.F.	SQUARE FEET
ES	EACH SIDE	S.F.	STYPP FOUNDATION
EW	EACH WAY	SYD	SYMPH
EXIST	EXISTING	SIM	SIMILAR
EXP	EXPANSION	SPC	SPACE/SPACES
EXT	EXTERIOR	SPTS	SPECIFICATIONS
		SQ	SQUARE
		SS	STAINLESS STEEL
F	FOUNDATION	STD	STANDARD
FD	FLOOR DRAIN	STIFF	STIFFENER
FDN	FOUNDATION	STRUC	STRUCTURAL
FF	FINISHED FLOOR	STL	STEEL
FIN	FINISH	STRUC	STRUCTURAL
FIN GR	FINISH GRADE	SYM	SYMMETRICAL
FLR	FLOOR		
FS	FAR SIDE	T	TOP OF
FT	FEET/FOOT	TB	TIE BEAM
FTG	FOOTING	T&B	TOP AND BOTTOM
		TCX	TOP CHORD EXTENSION
		TDS	TURN DOWN SLAB
GA	GAGE/GAUGE	TE	THICKENED EDGE
GALV	GALVANIZED	TEMP	TEMPERATURE
GB	GRADE BEAM	TENS	TENSION
GC	GENERAL CONTRACTOR	THD	THREAD/THREADED
GEN	GENERAL	THK	THICK
GL	GRID LINE	TOL	TOLERANCE
GS	GALVANIZED STEEL	TRANS	TRANSVERSE
		TS	TUBE STEEL
HD	HOT DIPPED	T.S.	THICKENED SLAB
HDG	HOT DIPPED GALVANIZED	TWF	THICKENED WALL FOUNDATION
HORIZ	HORIZONTAL	TYP	TYPICAL
HP	HIGH POINT		
HSA	HEADED STUD ANCHOR	UNO	UNLESS NOTED OTHERWISE
HSS	HOLLOW STRUCTURAL SECTION	VERT	VERTICAL
HT	HEIGHT	VIF	VERIFY IN FIELD
		VOL	VOLUME
I	MOMENT OF INERTIA		
ID	INSIDE DIAMETER	W	WITH
IF	INSIDE FACE	W/O	WITHOUT
INT	INTERIOR	W	WITH
		WO	WITHOUT
		W/F	WALL FOUNDATION
JST	JOIST	WP	WATERPROOF
JT	JOINT	W/P	WORKING POINT
		WS	WELDED STUD
K	KIP (1000 LB)	WT	WEIGHTS/STRUCTURAL TEE SECTION
KLF	KIPS PER LINEAL FOOT	WWF	WELDED WIRE FABRIC
KSI	KIPS PER SQUARE INCH		
KWY	KEYWAY	@	AT DESIGNATION
		#	PLUS OR REBAR SIZE NUMBER
		+/-	PLUS OR MINUS
		L	ANGLE
		C.L.	CENTER LINE
		AND	AND
		Sx	SECTION MODULUS
		&	MOMENT OF INERTIA
		ix	MOMENT OF INERTIA

# STRUCTURAL SYMBOLS AND LEGEND

DETAIL NUMBER SECTION / DETAIL MARK

SHEET NUMBER PLAN / DETAIL MARK

ELEVATION MARK

RECESS OR STEP IN SLAB

SLOPE SLOPED SURFACE

PITCHED ROOF

PLAN NOTE

MOMENT CONNECTION

JOIST BEARING ELEVATION

STEP FOUNDATION STEP HEIGHT

STEP FOUNDATION

W24x55 [56] c=2" COMPOSITE BEAM DESIGNATION

W36x194 (90) c=1" COMPOSITE STEEL GIRDER DESIGNATION

SPOT ELEVATION, TYPICALLY TOP OF ITEM TAGGED (T/WALL, T/FOUNDATION, ETC)

PANEL TYPE SEE SCHEDULE WALL TYPE DESIGNATION TAG

INTERSECTING BEAM, TYP.

WALL TYPES

LOAD BEARING MASONRY WALL

NON-LOAD BEARING MASONRY WALL

NOTE: SYMBOLS AND LEGEND SHOWN ARE GENERIC AND DO NOT NECESSARILY INDICATE ACTUAL OCCURRENCES IN THESE DRAWINGS.

STRUCTURAL SHEET INDEX	
SHEET #	SHEET TITLE
S0.1	STRUCTURAL LEGEND, GENERAL NOTES, & SHEET INDEX
S0.2	STRUCTURAL NOTES
S0.3	STRUCTURAL NOTES
S1.3	COMPONENTS AND CLADDING WIND LOAD DIAGRAM
S2.1	FOUNDATION PLAN
S2.2	SLAB PLAN
S2.3	SECOND FLOOR / LOW ROOF FRAMING PLAN
S2.4	HIGH ROOF FRAMING PLAN
S4.1	STRUCTURAL ELEVATIONS / SECTIONS
S4.2	STRUCTURAL SECTIONS
S4.3	STRUCTURAL SECTIONS
S5.01	STRUCTURAL DETAILS
S5.02	STRUCTURAL DETAILS
S5.11	STRUCTURAL DETAILS
S5.21	STRUCTURAL DETAILS
S5.31	STRUCTURAL DETAILS
S5.41	STRUCTURAL DETAILS

## 010000 GENERAL NOTES

- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
- DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
- NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.
- DO NOT SCALE DRAWINGS.
- THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE DOWNS.
- DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
- THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN THE SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
- THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES. FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.
- PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TLC ENGINEERING SOLUTIONS, INC. IS SOLELY FOR THE PURPOSE OF DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.
- ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFE SPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
- STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED STEEL FRAMING, OR OTHER SYSTEMS SHOWN IN ARCHITECTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
- IN THE PROFESSIONAL OPINION OF TLC ENGINEERING SOLUTIONS, INC. THE STRUCTURAL CONTRACT DOCUMENTS FOR THIS PROJECT HAVE BEEN PREPARED IN ACCORDANCE WITH THE DESIGN CRITERIA AS SET FORTH IN THE FLORIDA BUILDING CODE (FBC) 7th EDITION (2020).
- NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION EXCEPT AS SHOWN ON CONTRACT DOCUMENTS.
- ELEVATIONS INDICATED ARE RELATIVE TO FIRST FLOOR ELEVATION OF 75'-0" (NGVD) PER CIVIL DRAWINGS. CONFIRM FINAL ELEVATION WITH CIVIL DRAWINGS.
- THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.
- IN THE EVENT THAT THE STRUCTURAL CONTRACTS DRAWINGS AND SPECIFICATIONS CONFLICT ON INFORMATION, THE STRUCTURAL CONTRACT DRAWINGS SHALL SUPERSEDE THE SPECIFICATIONS.

## 010001 BUILDING MOVEMENTS

- THE BUILDING MOVEMENT SPECIFIED HEREIN IS ANTICIPATED TO OCCUR AND SHOULD BE CONSIDERED BY THE CONTRACTOR IN THE PERFORMANCE OF THE WORK.
- THE FOLLOWING PROVISION FOR SUPERIMPOSED LOAD DEFLECTIONS SHALL BE MADE IN THE DESIGN, FABRICATION, AND INSTALLATION OF ALL PARTITIONS, GLASS WALLS, AND OTHER ELEMENTS SUPPORTED BY AND ATTACHED TO THE STRUCTURE.
    - TYPICAL FLOOR MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
    - TYPICAL ROOF MEMBERS - SPAN/360 BUT NOT LESS THAN 3/8"
- STORY DRIFT: LATERAL FRAME DEFLECTION OF H/300 IN THE PLANE OF THE WALL OF ONE FLOOR RELATIVE TO AN ADJACENT FLOOR SHALL BE TAKEN INTO ACCOUNT IN THE DESIGN, FABRICATION AND INSTALLATION OF THE BUILDING CLADDING.

## 010002 DESIGN LOADS

- THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 7th EDITION (2020), AND AS SUPPLEMENTED BY LOCAL AMENDMENTS.
- THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED.
 

A. DEAD LOADS:	
ROOF STRUCTURE	15 PSF
M/E/P LOADS	5 PSF
CEILING	5 PSF
8" CMU LOAD BEARING PARTITIONS	61 PSF
12" CMU LOAD BEARING PARTITIONS	103 PSF
B. LIVE LOADS:	
ROOF	20 PSF
FLOOR (OFFICE)	50 PSF
FLOOR (LIGHT STORAGE)	125 PSF
FLOOR (RESIDENTIAL)	40 PSF
FLOOR (APPARATUS BAY)	250 PSF
STAIRS AND EXITS	100 PSF
GUARDRAILS/HANDRAILS	50 PLF (UNIFORM) 200 LBS (CONCENTRATED)
C. WIND LOADS: PER FLORIDA BUILDING CODE, SECTION 1609. SEE SHEET S1.3 FOR COMPONENTS AND CLADDING PRESSURES. ULTIMATE DESIGN WIND SPEED, Vu1t NOMINAL DESIGN WIND SPEED, Vn5d RISK CATEGORY EXPOSURE	
	147 MPH (3 SEC. GUST) 114 MPH (3 SEC. GUST) IV B
D. SEISMIC LOADS: PER ASCE 7-16 SPECTRAL RESPONSE ACCELERATION, SHORT DURATION (Sa) SPECTRAL RESPONSE ACCELERATION, 1.0 SECOND DURATION (S1) SITE CLASSIFICATION SEISMIC USE GROUP SEISMIC DESIGN CATEGORY SEISMIC IMPORTANCE FACTOR LATERAL LOAD RESISTING SYSTEM TYPE	
	0.065 0.035 D III A 1.5 ORDINARY REINFORCED MASONRY SHEAR WALLS

## 013100 REQUEST FOR INTERPRETATION

- RFI SHALL ORIGINATE WITH CONTRACTOR AND SHALL BE SUBMITTED IN THE FORM SPECIFIED WITHIN CONTRACT DOCUMENTS. RFI SHALL BE SUBMITTED IN A PROMPT MANNER AS TO AVOID DELAYS IN CONTRACTOR'S WORK.
- RFI SHALL BE SUBMITTED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS AND SHALL BE FORWARDED TO THE ENGINEER VIA THE ARCHITECT OR DIRECTLY TO THE ENGINEER BY THE CONTRACTOR WHEN APPROVED BY THE ARCHITECT.
- ENGINEER SHALL TAKE UP TO 5 BUSINESS DAYS TO REVIEW AND RETURN RFI'S. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL RFI'S WITHIN A REASONABLE TIME FRAME.
- RFI RESPONSES ARE NOT INTENDED TO AUTHORIZE ANY INCREASE IN CONSTRUCTION COST, SCHEDULE OR TIME EXTENSIONS, OR CONSTRUCTION IN CONFLICT WITH ANY APPLICABLE CODES OR SPECIFIED DESIGN STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGN TEAM IMMEDIATELY OF ANY PERCEIVED SCOPE, SCHEDULE, OR COST IMPACTS OR ADJUSTMENTS. IF CONTRACTOR REQUESTS ANY ADDITIONAL COST, INCREASE IN SCHEDULE OR ADJUSTMENT IN SCOPE, THE CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL APPROVED IN WRITING BY THE CONSTRUCTION ADMINISTRATOR.

## 013301 SHOP DRAWING REVIEW

- SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN ON THE CONTRACT DOCUMENTS. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS.
- SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. NON-CONFORMING DRAWING SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
- THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.
- CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEERS' CURRENT HOURLY RATES.

## 013302 SHOP DRAWINGS FOR SPECIALTY ENGINEERED PRODUCTS

- THE FOLLOWING SYSTEMS AND COMPONENTS AS A MINIMUM REQUIRE FABRICATION AND ERECTION DRAWINGS PREPARED BY A DELEGATED ENGINEER.
  - PREFABRICATED STEEL STAIRS
  - PRE-ENGINEERED WOOD ROOF TRUSS SYSTEMS
- SUBMITTALS SHALL CLEARLY IDENTIFY THE SPECIFIC PROJECT AND APPLICABLE CODES, LIST THE DESIGN CRITERIA, AND SHOW ALL DETAILS AND DRAWINGS NECESSARY FOR PROPER FABRICATION AND INSTALLATION. SHOP DRAWINGS AND CALCULATIONS SHALL IDENTIFY SPECIFIC PRODUCT UTILIZED. GENERAL PRODUCTS WILL NOT BE ACCEPTED.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE PREPARED UNDER THE DIRECT SUPERVISION AND CONTROL OF THE DELEGATED ENGINEER.
- SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA. COMPUTER PRINTOUTS ARE AN ACCEPTABLE SUBSTITUTE FOR MANUAL COMPUTATIONS PROVIDED THEY ARE ACCOMPANIED BY SUFFICIENT DESCRIPTIVE INFORMATION TO PERMIT THEIR PROPER EVALUATION. SUCH DESCRIPTIVE INFORMATION SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA AS AN INDICATION THAT HE/SHE HAS ACCEPTED RESPONSIBILITY FOR THE RESULTS. THE STRUCTURAL ENGINEER WILL RETAIN ONE SIGNED AND SEALED SET FOR THEIR RECORDS.
- DRAWINGS PREPARED SOLELY TO SERVE AS A GUIDE FOR FABRICATION AND INSTALLATION (SUCH AS REINFORCED STEEL SHOP DRAWINGS OR STRUCTURAL STEEL ERECTION DRAWINGS) AND REQUIRING NO ENGINEERING, DO NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
- CATALOG INFORMATION ON STANDARD PRODUCTS DOES NOT REQUIRE THE SEAL OF A DELEGATED ENGINEER.
  - THAT THE SPECIFIED STRUCTURAL SUBMITTALS HAVE BEEN FURNISHED.
  - THAT THE STRUCTURAL SUBMITTALS HAVE BEEN SIGNED AND SEALED BY THE DELEGATED ENGINEER.
  - THAT THE DELEGATED ENGINEER HAS UNDERSTOOD THE DESIGN INTENT AND HAS USED THE SPECIFIED STRUCTURAL CRITERIA. NO DETAILED CHECK OF CALCULATIONS WILL BE MADE.
  - THAT THE CONFIGURATION SET FORTH IN THE STRUCTURAL SUBMITTALS IS CONSISTENT WITH THE CONTRACT DOCUMENTS. NO DETAILED CHECK OF DIMENSIONS OR QUANTITIES WILL BE MADE.
- SUBMITTALS NOT MEETING THE ABOVE CRITERIA WILL NOT BE REVIEWED AND WILL BE RETURNED.

## 013303 SUBMITTALS

- ALL SHOP DRAWINGS MUST BE REVIEWED AND STAMPED APPROVED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL.
- THE GENERAL CONTRACTOR SHALL SUBMIT FOR ENGINEER REVIEW SHOP DRAWINGS FOR THE FOLLOWING ITEMS:
  - ITEMS MARKED (D) SHALL HAVE SHOP DRAWINGS SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.
  - ITEMS MARKED (E) SHALL BE SUBMITTED FOR ENGINEERS RECORD ONLY.
  - STRUCTURAL STEEL
  - REINFORCING STEEL
  - PREFABRICATED METAL PAN STAIRS (D)
  - COMPOSITE METAL DECK
  - CONCRETE MIX DESIGNS
  - PRE-ENGINEERED WOOD ROOF TRUSS SYSTEMS (D)
  - MECHANICAL ANCHORS (#)
  - CHEMICAL (ADHESIVE) ANCHORS (E)
- MANUFACTURER'S LITERATURE. SUBMIT TWO COPIES OF MANUFACTURER'S LITERATURE FOR ALL MATERIALS AND PRODUCTS USED IN CONSTRUCTION ON THE PROJECT.

DATE	
DESCRIPTION	
NO.	
GARY C. KRUEGER FL LICENSE NO. 40788	
John P. Adams, AIA Jerome Bankovich, Jr., AIA, LEED Ethan J. Hine, AIA Aiah, LEED, NCARB Jennifer Zaffuto, AIA, LEED, NCARB 800 NORTH HIGHLAND AVE. • ORLANDO, FL • 407.203.6707 • F. 407.493.0550	

100% CD Submittal - Bid Set

**LAKE COUNTY**  
FIRE STATION NO. 71  
STRUCTURAL LEGEND, GENERAL NOTES, & SHEET INDEX  
3366T CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

20073A

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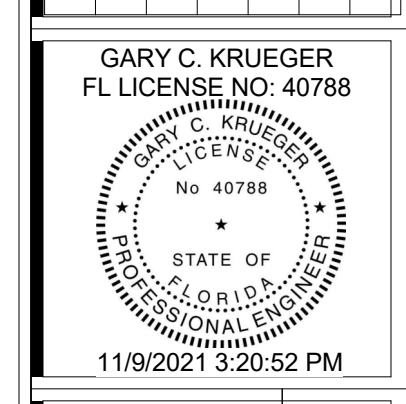


061753 WOOD TRUSSES																			
1.	PRE-ENGINEERED, PRE-FABRICATED WOOD TRUSSES AND THEIR CONNECTIONS TO EACH OTHER SHALL BE DESIGNED BY A STRUCTURAL ENGINEER REGISTERED IN THE STATE OF FLORIDA.																		
2.	NO WANES, SKIPS, KNOTS OR OTHER DEFECTS SHALL OCCUR IN THE PLATE CONTACT AREA OR SCARFED AREA OF WEB MEMBERS. PLATES SHALL BE CENTERED WITH EACH SIDE OF TRUSS.																		
3.	NUMBER OF PANELS AND DIRECTION OF WEB MEMBERS TO SUIT CONDITIONS OR SIMPLE SPAN TRUSS REQUIREMENTS. SEE STRUCTURAL AND ARCHITECTURAL DRAWINGS FOR ANY SPECIAL CONDITIONS, LOCATIONS OF PANEL JOINTS.																		
A.	DETAILER NOTE THAT ALL WOOD MEMBER SIZES SHOWN ARE NOMINAL, U.N.O.																		
B.	DESIGN OF METAL PLATE CONNECTED ROOF TRUSSES TO COMPLY WITH NFPA'S NATIONAL DESIGN SPECIFICATION FOR THE DESIGN OF LUMBER AND ITS FASTENINGS: <ol style="list-style-type: none"> <li>ANSI/TPI 1-2014 - NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION.</li> <li>FLORIDA ADMINISTRATIVE CODE 61G15.</li> </ol>																		
4.	ALTERNATE TRUSS LAYOUTS ARE ACCEPTABLE ONLY AS A CHANGE ORDER, WHICH WILL INCLUDE ENGINEERING CHARGES FOR REDESIGN OF THE STRUCTURE BY THE ENGINEER OF RECORD.																		
5.	TRUSS DESIGN LOADS ARE AS FOLLOWS: <p>A. SLOPED ROOF TRUSSES, 4:12 OR GREATER SLOPE</p> <p>TOP CHORD:</p> <table border="1"> <tr> <td>LIVE LOAD</td> <td>20 PSF</td> </tr> <tr> <td>DEAD LOAD</td> <td>10 PSF</td> </tr> </table> <p>BOTTOM CHORD:</p> <table border="1"> <tr> <td>LIVE LOAD</td> <td>10 PSF</td> </tr> <tr> <td>DEAD LOAD</td> <td>10 PSF</td> </tr> <tr> <td>UPLIFT</td> <td>PER PLAN</td> </tr> </table> <p>LOAD DURATION FACTOR:</p> <table border="1"> <tr> <td>DEAD LOAD</td> <td>0.90</td> </tr> <tr> <td>DEAD LOAD + FLOOR LIVE LOAD</td> <td>1.00</td> </tr> <tr> <td>DEAD LOAD + ROOF LIVE LOAD</td> <td>1.25</td> </tr> <tr> <td>DEAD LOAD + WIND LOAD</td> <td>1.33</td> </tr> </table> <p>B. MECHANICAL UNITS AND OTHER SUPERIMPOSED LOADS AS SHOWN ON THE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.</p> <p>C. INDIVIDUAL TRUSSES ARE TO BE DESIGNED FOR SPECIFIC FRAMING CONDITIONS AND CONCENTRATED LOADS RESULTING FROM EQUIPMENT WEIGHTS AND OTHER LOADS AS INDICATED ON THE MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.</p>	LIVE LOAD	20 PSF	DEAD LOAD	10 PSF	LIVE LOAD	10 PSF	DEAD LOAD	10 PSF	UPLIFT	PER PLAN	DEAD LOAD	0.90	DEAD LOAD + FLOOR LIVE LOAD	1.00	DEAD LOAD + ROOF LIVE LOAD	1.25	DEAD LOAD + WIND LOAD	1.33
LIVE LOAD	20 PSF																		
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DEAD LOAD + ROOF LIVE LOAD	1.25																		
DEAD LOAD + WIND LOAD	1.33																		
6.	SUBMIT SHOP DRAWINGS AND CALCULATIONS SIGNED AND SEALED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTOR TYPES UTILIZED WITHIN TRUSSES, AS WELL AS CONNECTORS UTILIZED IN OTHER CONNECTIONS AND ATTACHMENTS BETWEEN TRUSSES OR COMPONENTS SUPPLIED AS PART OF THE ENGINEERED TRUSS SYSTEM.																		
7.	AN ERECTION DRAWING SHALL BE INCLUDED, IDENTIFYING TRUSS SYSTEM COMPONENTS, AS WELL AS PERMANENT BRACING REQUIRED FOR TRUSS DESIGN.																		
8.	HANDLING, ERECTION AND BRACING OF WOOD TRUSSES SHALL BE IN ACCORDANCE WITH BCSI 01-03 BUILDING COMPONENT SAFETY SUMMARY SHEETS. TEMPORARY BRACING DESIGN SHALL BE PER BCSI 01-03 OR DSB-89 (TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES) AS REQUIRED. COMMENTARY AND RECOMMENDATIONS BY THE TRUSS PLATE INSTITUTE.																		
9.	WHERE ROOF PLYWOOD IS NOT PERMANENTLY ATTACHED TO TOP CHORD OF TRUSS, PROVIDE CONTINUOUS 2x4 @ 2'-0" O.C. PERPENDICULAR TO TOP CHORD.																		
10.	DELEGATED DESIGN COMPONENTS, TRUSS SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.																		
11.	PLYWOOD FLOOR, WALL AND ROOF SHEATHING ARE DESIGNED AS DIAPHRAGMS AND SHALL COMPLY WITH APPLICABLE PROVISIONS OF CHAPTER 23 OF THE 7TH EDITION (2020) FLORIDA BUILDING CODE.																		
12.	TRUSS PROFILES SHOWN IN PLANS, ELEVATIONS, OR DETAILS ARE SHOWN SCHEMATICALLY UNLESS A SPECIFIC PROFILE IS NOTED IN PLAN. TRUSS MANUFACTURER IS RESPONSIBLE FOR PROVIDING TRUSS PROFILES AND MEMBER SIZES REQUIRED TO SUPPORT SPECIFIC LOADS. TRUSSES SHOWN IN DETAIL ARE SHOWN SCHEMATICALLY FOR GENERAL INFORMATION AND SHALL NOT BE INTERPRETED AS THE INTENDED PROFILE UNLESS SPECIFICALLY NOTED.																		
13.	DEFLECTIONS OF WOOD TRUSSES SHALL BE LIMITED TO L/360 FOR LIVE LOADS, AND L/240 FOR COMBINED DEAD AND LIVE LOADS.																		
14.	DESIGN DOCUMENTS INCLUDE A SYSTEM OF CUSTOM ENGINEERED TRUSS COMPONENTS AND CONNECTIONS IN ACCORDANCE WITH ANSI/TPI 1-2012 AND ALL APPLICABLE STANDARDS OF TRUSS PLATE INSTITUTE, INCLUDING, BUT NOT LIMITED TO, ANSI/TPI 1-2014 - NATIONAL DESIGN STANDARD FOR METAL PLATE CONNECTED WOOD TRUSS CONSTRUCTION, BCSI 01-03 BUILDING COMPONENT SAFETY SUMMARY SHEETS AND DSB-89 TEMPORARY BRACING OF METAL PLATE CONNECTED WOOD TRUSSES AND THE DEPARTMENT OF PROFESSIONAL REGULATIONS GUIDELINES (FLORIDA ADMINISTRATIVE CODE 61G15).																		
15.	THE ENTIRE SYSTEM, INCLUDING ALL TRUSSES, CONNECTORS BETWEEN TRUSSES, BRIDGING, TEMPORARY BRACING FOR ERECTION, ANCHORAGE, AND EMBEDMENTS SHALL BE DESIGNED BY A SPECIALTY ENGINEER (PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA). THE REVIEW OF ALL STRUCTURAL SUBMITTALS BY THE STRUCTURAL ENGINEER OF RECORD SHALL BE TO ENSURE THAT HIS INTENT HAS BEEN UNDERSTOOD AND THAT THE SPECIFIED CRITERIA HAVE BEEN USED. A COPY OF ALL STRUCTURAL SUBMITTALS WILL BE RETAINED FOR RECORD KEEPING PURPOSES ONLY. TRUSS CALCULATIONS, COMPONENT DRAWINGS, CONNECTOR CALCULATIONS AND ERECTION PLANS SHALL BE SIGNED AND SEALED BY TRUSS SYSTEM DELEGATED SPECIALTY ENGINEER AND SUBMITTED TO LOCAL BUILDING OFFICIAL FOR APPROVAL. DESIGN TRUSSES FOR LOADS SHOWN ON PLANS.																		
16.	IN THE ABSENCE OF LOADS, USE APPLICABLE LOCAL CODE FOR LIVE LOAD AND ACTUAL WEIGHT OF BUILDING MATERIALS FOR DEAD LOAD. USE PATTERNED AND PARTIAL SPAN LIVE LOADS WHERE REQUIRED TO PRODUCE MAXIMUM FORCE IN ANY TRUSS MEMBER. APPLY NET WIND UPLIFT ON ROOFS WHEN APPLICABLE. TRUSS TOP CHORDS SHALL BE GROUP II SPECIES LUMBER. EXPOSED TO VIEW TRUSSES SHALL BE OF SELECT STRUCTURAL GRADE. ALL OTHER GRADE AND SPECIES SELECTION IS AT THE DISCRETION OF THE SUPPLIER. COORDINATE ALL TRUSS DETAILS WITH ARCHITECTURAL DRAWINGS. FOR CONCEALED TO VIEW TRUSSES, WEB CONFIGURATIONS WHERE SHOWN ARE SUGGESTIONS AND MAY BE MODIFIED BY THE SUPPLIER FOR ECONOMY. PROVIDE SIMPSON 'TSS' PLATE, TAR IMPREGNATED FELT PAPER OR OTHER SUITABLE VAPOR BARRIER BETWEEN TRUSSES AND CONCRETE OR MASONRY BEARING SURFACES. PROVIDE G90 GALVANIZED HURRICANE ANCHORS DESIGNED FOR NET WIND UPLIFT AT ALL BEARINGS.																		
17.	GENERAL CONTRACTOR TO COORDINATE HORIZONTAL AND VERTICAL CHASSES, ATTIC AND ACCESS REQUIREMENTS INCLUDING SIZE AND LOCATION WITH MECHANICAL, ARCHITECTURAL AND ELECTRICAL DRAWINGS.																		

061754 WOOD FRAMING CONNECTORS	
1.	CONNECTORS EXPOSED TO WET CONDITIONS SHALL BE GALVANIZED.
2.	CONNECTORS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE GALVANIZED.
3.	WHEN EXPOSED TO WET CONDITIONS OR IN CONTACT WITH PRESSURE TREATED LUMBER, NAILS AND SCREWS USED WITH FRAMING CONNECTORS SHALL BE GALVANIZED OR STAINLESS STEEL, TO MATCH FINISH OF CONNECTOR.
4.	CONNECTOR MODEL NUMBERS SHOWN ARE STRONG-TIE CONNECTORS AS MANUFACTURED BY SIMPSON STRONG-TIE CO. EQUIVALENT USP CONNECTORS ARE ACCEPTABLE SUBSTITUTIONS.
5.	OTHER SUBSTITUTIONS ARE ACCEPTABLE WITH THE APPROVAL OF THE STRUCTURAL ENGINEER.
6.	UNLESS SHOWN OTHERWISE, INSTALL SIZE AND NUMBER OF FASTENERS SHOWN IN LATEST SIMPSON CATALOG. WHERE MULTIPLE FASTENING PATTERNS ARE SHOWN, INSTALL THE NUMBER OF FASTENERS FOR MAXIMUM CAPACITY.

312002 FOUNDATIONS - W/ SOIL REPORTS			
1.	SEE THE FOLLOWING GEOTECHNICAL REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION INSTALLATION SHALL COMPLY WITH:		
	REPORT NO.	5511-21-032	
	PREPARED BY:	TIERRA, INC	
	TITLED:	GEOTECHNICAL SERVICES REPORT LAKE COUNTY FIRE STATION NO.71	
	DATED:	JUNE 30, 2021	
2.	FOLLOW THE RECOMMENDATIONS LISTED IN THE GEOTECHNICAL REPORT FOR SITE PREPARATION WORK. AT A MINIMUM, SITE PREPARATION WORK SHALL INCLUDE:		
A.	STRIPPING AND GRUBBING OF THE BUILDING FOOTPRINT PLUS A MARGIN OF 5 FEET AROUND THE BUILDING, REMOVING ALL ORGANIC MATERIALS.		
B.	PROOF ROLLING THE BUILDING SITE TO LOCATE ANY UNFORESEEN SOFT AREAS. ANY SOFT AREAS SHALL BE EXCAVATED AND REPLACED WITH CLEAN FILL. A DENSITY OF AT LEAST 95% FOR A DEPTH OF 2 FEET IS REQUIRED UNDER THE BUILDING FOOTPRINT.		
C.	ALL FILL SHALL BE CLEAN SAND AND FREE OF ORGANIC MATERIALS. COMPACT FILL IN 12 INCH LUNCOMPACTED THICKNESS LIFTS TO A MINIMUM OF 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY VALUE.		
D.	EXCAVATIONS FOR FOUNDATIONS SHALL BE COMPACTED TO 95% FOR A DEPTH OF AT LEAST 1 FOOT BELOW THE BOTTOM OF THE FOUNDATION.		
E.	DEWATERING MAY BE REQUIRED TO ACHIEVE THE REQUIRED COMPACTION VALUES, AND IF USED, SHOULD DRAW DOWN THE WATER LEVEL TO AT LEAST 2 FEET BELOW THE BOTTOM OF THE EXCAVATION.		
3.	SLABS ON GRADE SHALL BE PLACED OVER A 15 MIL, CLASS "A" VAPOR RETARDER, VAPOR RETARDER SHALL BE LAPPED A MINIMUM OF 6" OR AS RECOMMENDED BY THE MANUFACTURER (WHICHEVER IS GREATER) AND TAPED AT ALL JOINTS. ALL PUNCTURES IN THE VAPOR RETARDER SHALL BE REPAIRED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. ALL PENETRATIONS THROUGH THE VAPOR RETARDER (COLLINGS, PLUMBING, CONDUITS, ETC) SHALL BE SEALED PER MANUFACTURER'S WRITTEN INSTRUCTIONS. VAPOR RETARDER SHALL BE CONTINUOUS UNDER WALL FOUNDATIONS OR SEALED TO EXTERIOR WALLS PER MANUFACTURER'S WRITTEN INSTRUCTIONS.		
4.	FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 3,000 PSF.		
5.	CANTILEVERED RETAINING WALL AND RESTRAINED FOUNDATION WALL DESIGN IS BASED ON THE FOLLOWING SOIL PROPERTIES:		
	LATERAL BEARING PRESSURE	200 PSF/FT	
	COEFFICIENT OF FRICTION	0.25	

DATE	DESCRIPTION	NO.



John P. Adams, AIA  
 Jerome Bankovich, Jr., AIA, LEED  
 Ethan J. Hine, AIA  
 Jennifer Zaffuto, AIA, LEED, NCARB

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LAKE COUNTY  
 FIRE STATION NO.71  
 STRUCTURAL NOTES

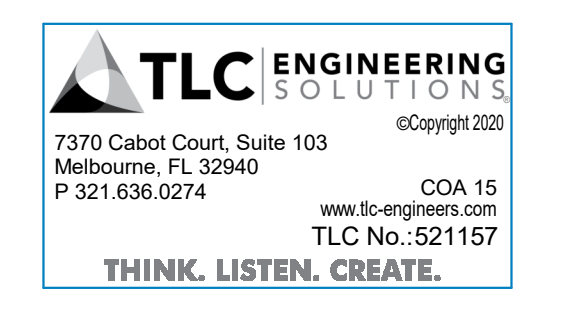
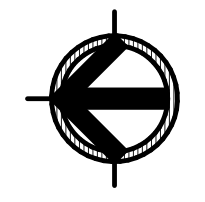
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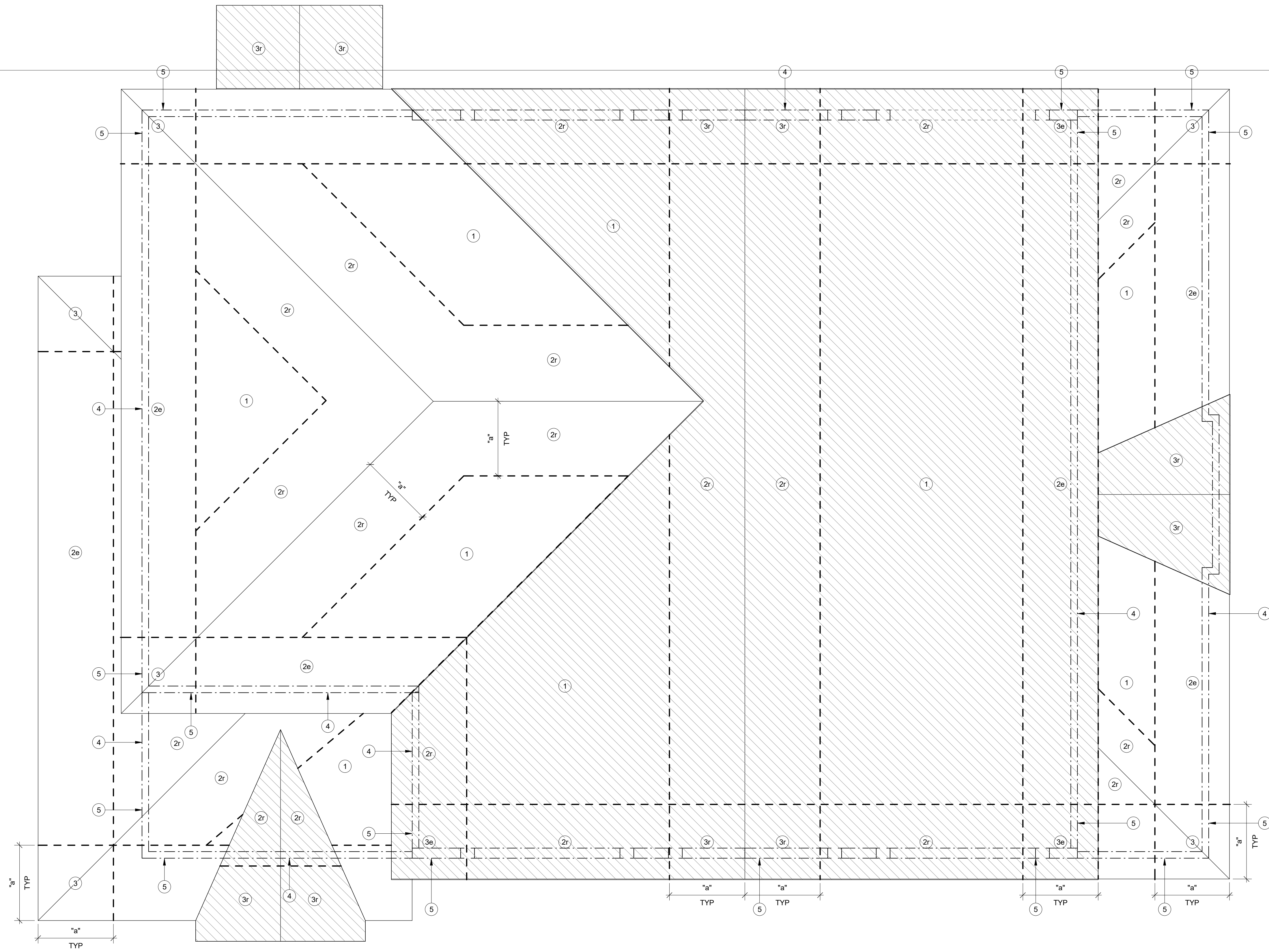
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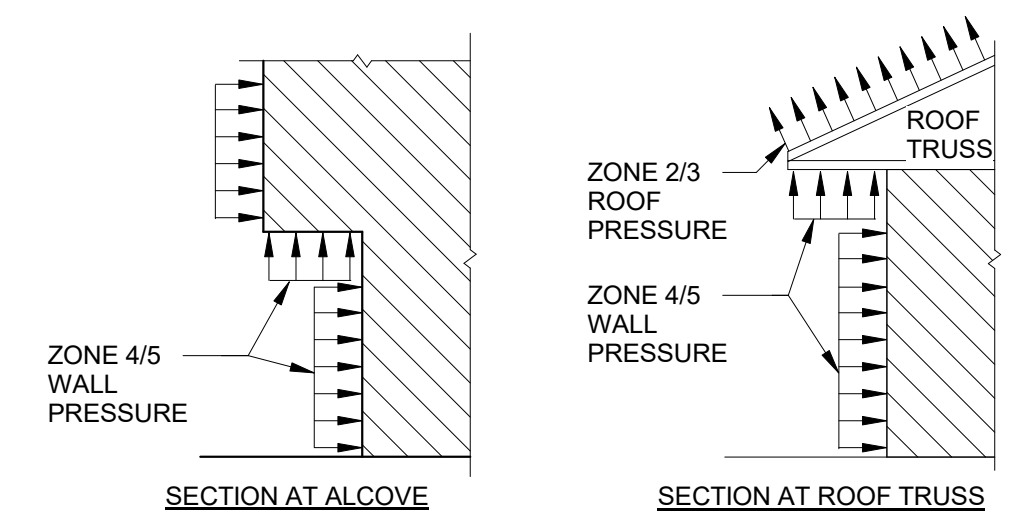




1 WIND LOAD DIAGRAM  
3/16" = 1'-0"

ULTIMATE C&C WIND PRESSURES (ASCE 7-16)																
ROOF	a (FT)	Vult (MPH)	Vasd (MPH)	A (SF)	ZONE (1) (PSF)	ZONE (2e) (PSF)	ZONE (2r) (PSF)	ZONE (2n) (PSF)	ZONE (3) (PSF)	ZONE (3e) (PSF)	ZONE (3r) (PSF)	ZONE (4) (PSF)	ZONE (5) (PSF)	ZONE (2H) (PSF)	ZONE (3H) (PSF)	
HIP ROOF	7'-3"	147	114		<10	+29.0 -48.8	+29.0 -65.2	+29.0 -85.0	N/A	+29.0 -65.2	N/A	N/A	+38.9 -42.2	+38.9 -52.0	+29.0 -75.8	+29.0 -95.5
					20	+25.0 -48.8	+25.0 -59.9	+25.0 -76.6	N/A	+25.0 -59.9	N/A	N/A	+37.1 -40.4	+37.1 -48.5	+25.0 -74.2	+25.0 -85.6
					50	+19.8 -43.1	+19.8 -52.9	+19.8 -65.5	N/A	+19.8 -52.9	N/A	N/A	+34.8 -38.1	+34.8 -43.9	+19.8 -72.2	+19.8 -82.5
					100+	+16.0 -38.9	+16.0 -47.5	+16.0 -57.1	N/A	+16.0 -47.5	N/A	N/A	+33.1 -36.3	+33.1 -40.4	+16.0 -70.7	+16.0 -82.6
GABLE ROOF	7'-3"	147	114		<10	+23.6 -71.8	+23.6 -71.8	+23.6 -104.8	+23.6 -104.8	N/A	+23.6 -104.8	+23.6 -124.5	+38.9 -42.2	+38.9 -52.0	+23.6 -115.3	+23.6 -154.8
					20	+21.2 -71.8	+21.2 -71.8	+21.2 -90.6	+21.2 -90.6	N/A	+21.2 -90.6	+37.1 -40.4	+37.1 -48.5	+21.2 -104.7	+21.2 -131.0	
					50	+18.2 -43.7	+18.2 -43.7	+18.2 -71.8	+18.2 -71.8	N/A	+18.2 -71.8	+34.8 -38.1	+34.8 -43.9	+18.2 -90.6	+18.2 -99.6	
					100+	+16.0 -22.4	+16.0 -22.4	+16.0 -57.6	+16.0 -57.6	N/A	+16.0 -57.6	+33.1 -36.3	+33.1 -40.4	+16.0 -80.0	+16.0 -85.8	

- ULTIMATE C&C WIND PRESSURE PLAN NOTES:**
- PRESSURES SHOWN ABOVE ARE ULTIMATE COMPONENTS AND CLADDING PRESSURES, GIVEN PRESSURES MAYBE CONVERTED TO NOMINAL USING A 0.6 MULTIPLIER FACTOR. NO FURTHER REDUCTION IS ALLOWED.  
A - INDICATES TRIBUTARY AREA IN S.F.  
a - INDICATES END ZONE WIDTH IN FT.  
Vult - INDICATES ULTIMATE DESIGN WIND SPEED IN MPH  
Vasd - INDICATES NOMINAL DESIGN WIND SPEED IN MPH
  - GROSS PRESSURES ARE FOR JOISTS, WINDOWS, DOORS, VENEER, LIGHT GAGE METAL FRAMING, METAL DECK ATTACHMENTS, ROOFING, ROOFING ACCESSORIES AND OTHER BUILDING COMPONENTS AND CLADDING.
  - GROSS PRESSURES SHALL BE LINEARLY INTERPOLATED FOR (A) NOT SHOWN IN TABLE.
  - POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATE PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.
  - ROOF AND ZONES 1 THRU 3
  - WALL ZONES 4 AND 5
  - OVERHANG ZONES 2H AND 3H APPLY ONLY TO ROOF OVERHANGS WHERE THE COMPONENT OR CLADDING RECEIVES PRESSURE SIMULTANEOUSLY ON BOTH SIDES UPWARD SUCTION ON TOP AND UPWARD PRESSURE ON BOTTOM, SUCH AS AT OPEN SOFFITS, AND IS CONTINUOUS WITH FIELD OF ROOF.
  - NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING THE SELFWEIGHT (DEAD LOAD) OF THE MATERIALS. HOWEVER, THE MAXIMUM REDUCTION OF WIND UPLIFT PRESSURES SHALL BE LIMITED TO THE SELF WEIGHT OF THE ROOF SYSTEM PLUS 5 PSF FOR SUPERIMPOSED DEAD LOADS.
  - INTERNAL PRESSURE COEFFICIENT FOR ENCLOSED BUILDING EQUALS +0.18 AND -0.18
  - AT ALCOVES AND CANOPIES, THE TOTAL UPLIFT PRESSURE ON THE ALCOVE SOFFIT OR CANOPY SHALL EQUAL THE WALL PRESSURE IN THAT AREA.



DATE

DESCRIPTION

NO.

GARY C. KRUEGER  
FL LICENSE NO. 40788

John P. Adams, AIA  
Jerome Bankovich, Jr., AIA, LEED  
Ethan J. Hine, AIA  
Jennifer Zaffuto, AIA, LEED, NCARB

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**KTH ARCHITECTS**

LAKE COUNTY  
FIRE STATION NO. 71  
COMPONENTS AND CLADDING WIND LOAD DIAGRAM

33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

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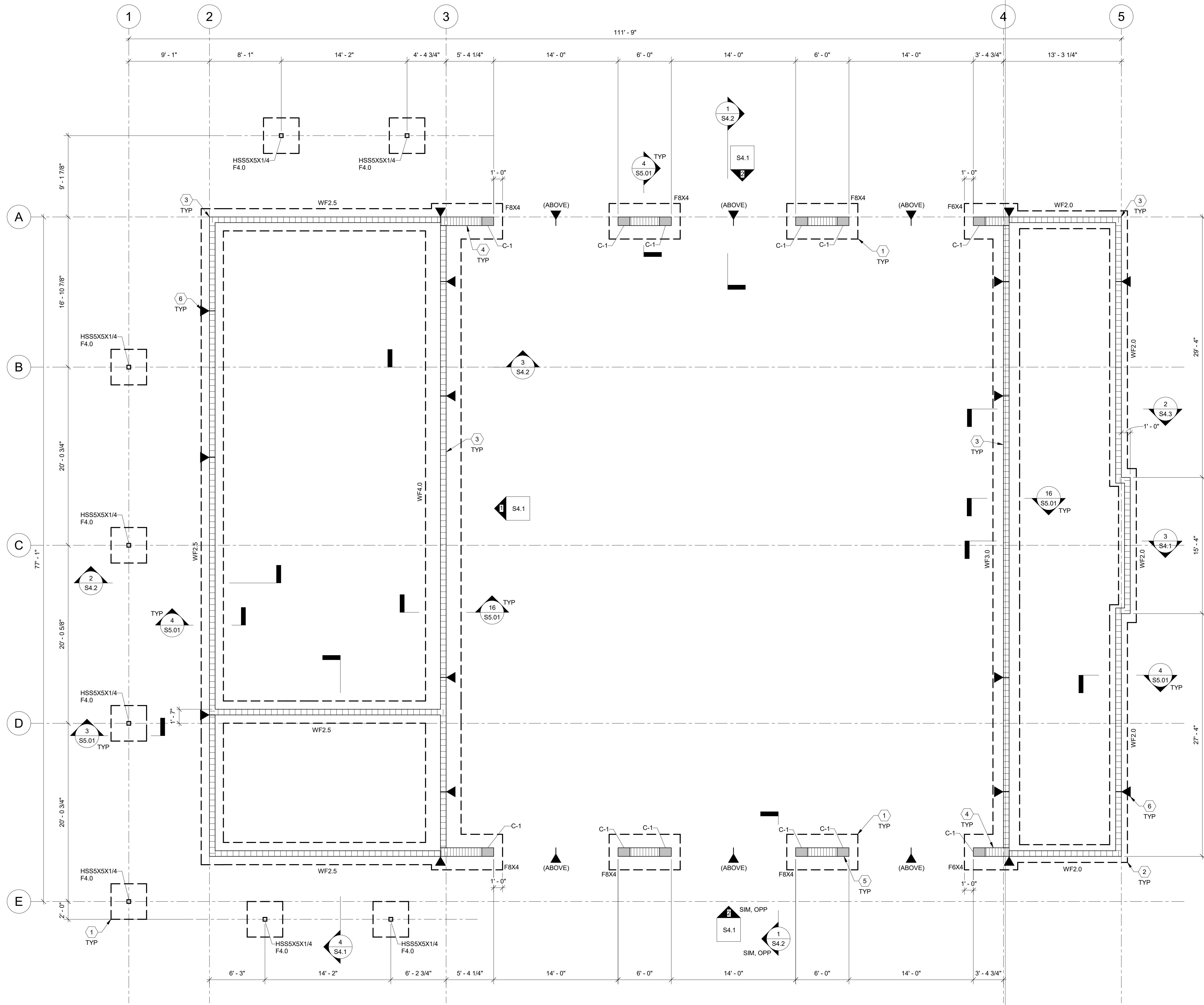
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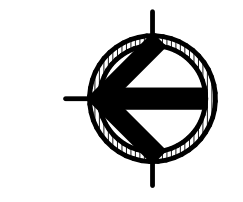
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- FOUNDATION PLAN NOTES**
- 1 F#.# INDICATES ISOLATED SPREAD FOUNDATION. REFER TO SCHEDULE FOR SIZE & REINFORCING.
  - 2 WF#.# INDICATES CONTINUOUS WALL FOUNDATION. REFER TO SCHEDULE FOR SIZE & REINFORCING.
  - 3 [Symbol] INDICATES 8" LOAD-BEARING CMU WALL REINFORCED W/ #5 @ 24" O.C., AND AT CORNERS, INTERSECTIONS, & TERMINATIONS IN GROUT FILLED CELLS.
  - 4 [Symbol] INDICATES 12" LOAD-BEARING CMU WALL REINFORCED W/ #5 @ 16" O.C. IN GROUT FILLED CELLS.
  - 5 C-# INDICATES CIP CONCRETE TIE COLUMN. REFER TO SCHEDULE FOR SIZE & REINFORCING.
  - 6 [Symbol] INDICATES MASONRY CONTROL JOINT PER 7 / SS.11 COORDINATE LOCATIONS W/ ARCH ELEVATIONS & STUCCO CONTROL JOINTS.

STRUCTURAL ELEVATIONS  
 \* / FOUNDATION: EL. 73'-8" U.N.O.



1 FOUNDATION PLAN  
 3/16" = 1'-0"



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**LAKE COUNTY**  
 FIRE STATION NO. 71  
 FOUNDATION PLAN

NOVEMBER 10, 2021

**S2.1**

NO.	DESCRIPTION	DATE

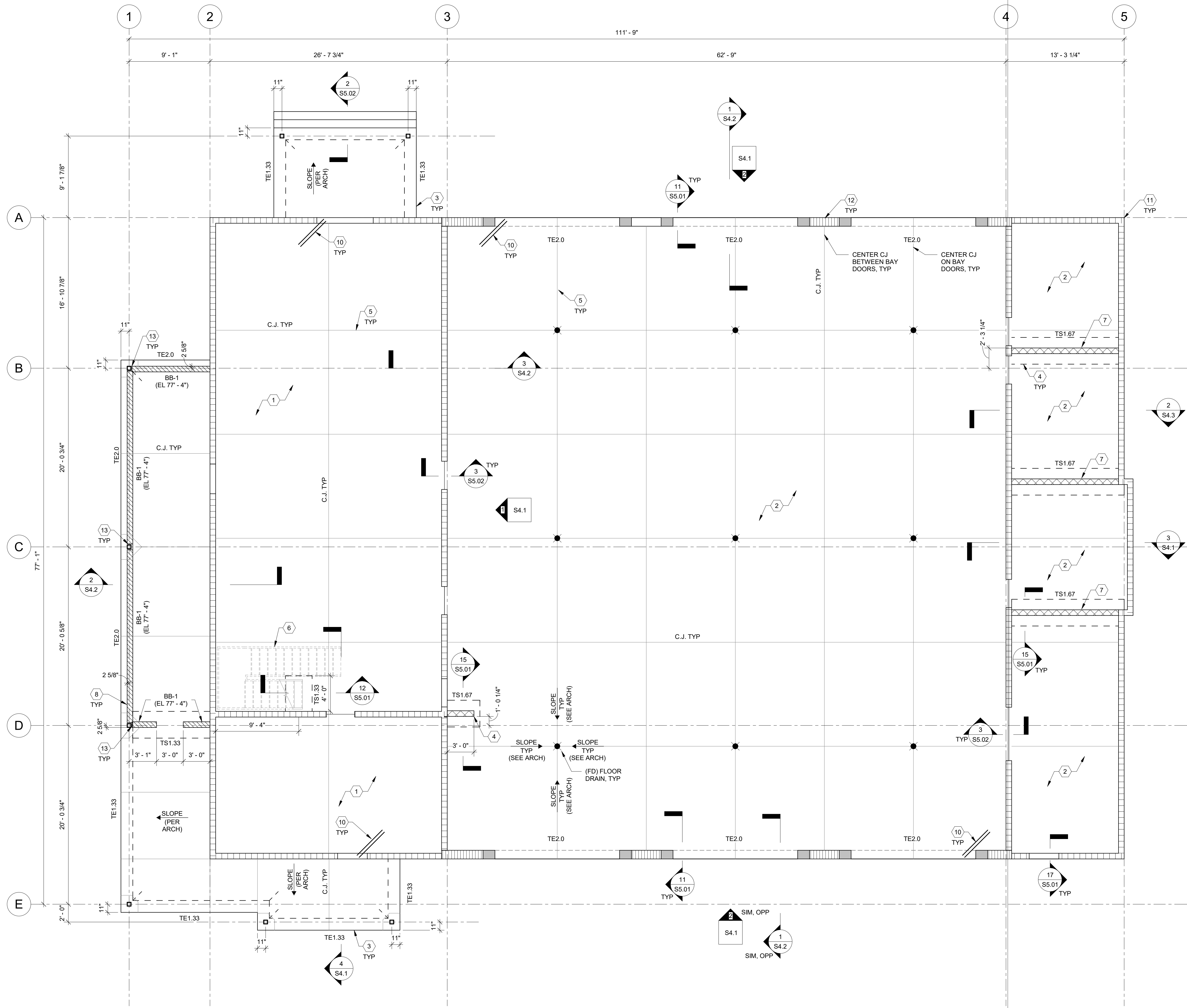
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33661 CR 473, LEESBURG, FL 34788



1 FIRST FLOOR - SLAB PLAN  
3/16" = 1'-0"

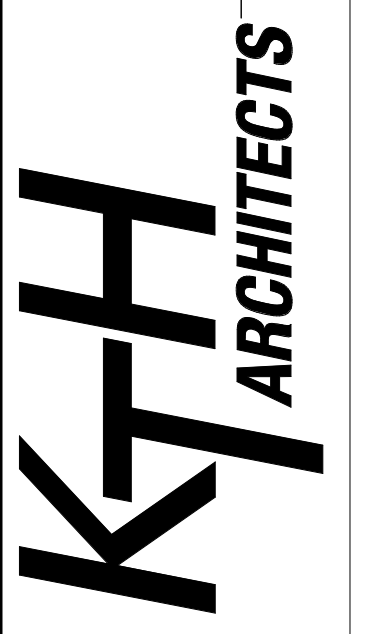
- SLAB PLAN KEYNOTES**
- 4" CONC. SLAB-ON-GRADE ON COMPACTED TERMITE TREATED SUB-GRADE ON 15 MIL CLASS-A VAPOR BARRIER. REINFORCE W/ #4 @ 14.0X14.0 WWF (FLAT SHEETS) AT SLAB MID-DEPTH.
  - 6" CONC. SLAB-ON-GRADE ON COMPACTED TERMITE TREATED SUB-GRADE ON 15 MIL CLASS-A VAPOR BARRIER. REINFORCE W/ #4 @ 12" O.C. EA WAY 2' BELOW TOP OF SLAB.
  - TE-# INDICATES THICKENED SLAB EDGE. REFER TO TYPICAL DETAIL 11 / S5.01
  - TS-# INDICATES THICKENED SLAB FOUNDATION. REFER TO TYPICAL DETAIL 11 / S5.01
  - C.J. INDICATES SAW-CUT CRACK CONTROL JOINT IN SLAB-ON-GRADE. REFER TO DETAIL 9 / S5.01
  - PRE-ENGINEERED METAL PAN STAIR PER DELEGATED SPECIALTY ENGINEER. REFER TO ARCH DWGS FOR STAIR INFORMATION.
  - INDICATES 8" NON-LOAD-BEARING CMU WALL REINFORCED W/ #5 @ 48" O.C. AND AT CORNERS, INTERSECTIONS, & TERMINATIONS IN GROUT FILLED CELLS.
  - INDICATES 8" CMU KNEE WALL REINFORCED W/ #5 @ 48" O.C. AND AT CORNERS, INTERSECTIONS, & TERMINATIONS IN GROUT-FILLED CELLS.
  - BB-# INDICATES CMU BOND BEAM. REFER TO SCHEDULE FOR SIZE AND REINFORCING.
  - RE-ENTRANT CORNER REINFORCING SEE 10/S5.01
  - INDICATES 8" LOAD-BEARING CMU WALL. SEE FOUNDATION PLAN FOR REINFORCEMENT.
  - INDICATES 12" LOAD-BEARING CMU WALL. SEE FOUNDATION PLAN FOR REINFORCEMENT.
  - 12" ISOLATION MATERIAL AT KNEE WALL-TO-HSS INTERFACE

**STRUCTURAL ELEVATIONS**  
 T/ SLAB, EL. 75'-0", UNO  
 T/ CMU KNEE WALL: EL. 77'-4"

NO.	DESCRIPTION	DATE

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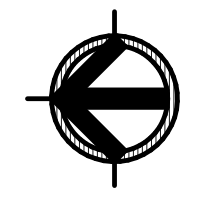
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20073A

LAKE COUNTY  
 FIRE STATION NO. 71  
 SLAB PLAN  
 33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021



**TLC ENGINEERING**  
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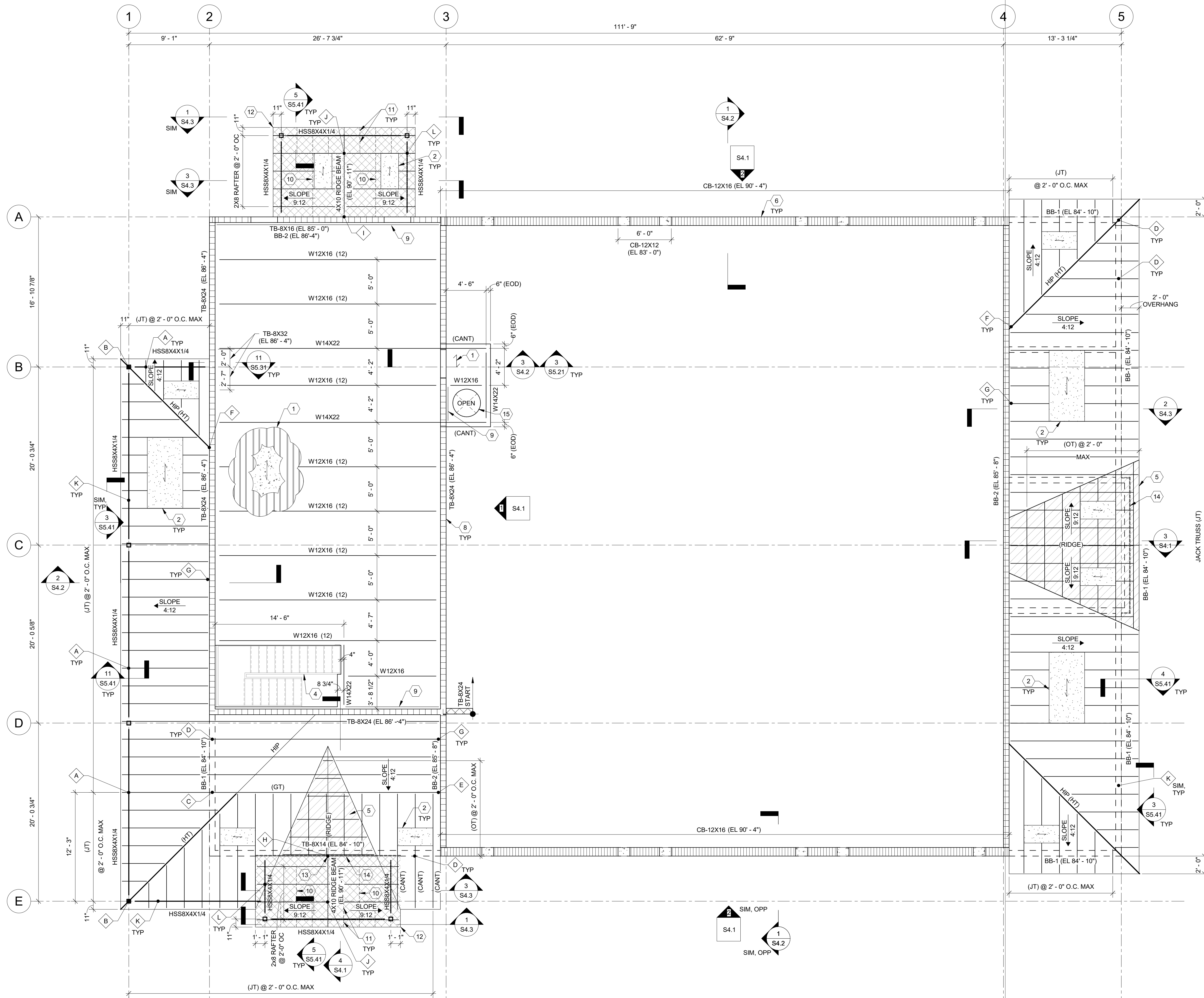
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S2.2

WOOD CONNECTOR SCHEDULE						
MARK	DESIGNATION	UPLIFT (LBS)	F1 (LBS) LATERAL	F2 (LBS) LATERAL	FASTENING	LOCATION, UNO
A	(1) MTS16 FL 13872	1000			(6) #10 TEK SCREWS TO STEEL (8) 10d NAILS TO TRUSS	GIRDER TRUSS, JACK TRUSS, OR COMMON TRUSS BEARING ON STEEL
B	(2) MTS16 FL 13872	2000			(14) 10d NAILS AT EACH STRAP	HIP TRUSS BEARING ON STEEL
C	(1) HGT-2 FL 10456	10980			(2) 3/4" X 6" TITEN HD SCREW ANCHOR TO CONC (16) 10d NAILS TO TRUSS	GIRDER TRUSS BEARING ON TOP OF CMU/CONC
D	(1) METAL-16 FL 11473	1810	415	1100	(14) 10d X 1 1/2"	HIP TRUSS OR JACK TRUSS BEARING ON TOP OF CMU/CONC
E	(1) HU214-2 FL 10531	2015			(24) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (12) 10d NAILS TO TRUSS	GIRDER TRUSS CMU SIDE BEARING
F	(1) LGUM210-2X FL 13904	1605			(8) 3/8" X 4" TITEN HD SCREWS TO CONC/CMU (8) 1/4" X 2 1/2" SDS SCREWS TO TRUSS	HIP TRUSS OR JACK TRUSS BEARING ON TOP OF CMU/CONC
	(2) RBC FL 10446	700			(3) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (6) 10d X 1 1/2" TO TRUSS	HIP TRUSS CMU SIDE BEARING

WOOD CONNECTOR SCHEDULE (CONTINUED)						
MARK	DESIGNATION	UPLIFT (LBS)	F1 (LBS) LATERAL	F2 (LBS) LATERAL	FASTENING	LOCATION, UNO
G	(1) HU212 FL 10531	1135			(10) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (8) 10d X 1 1/2" TO TRUSS	JACK TRUSS CMU SIDE BEARING
H	(1) HU48 FL 10531	1550			(10) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (6) 10d X 1 1/2" TO TRUSS	4X RIDGE BEAM TO TRUSS TOP CHORD
I	(1) HU48 FL 10531	1135			(14) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (8) 10d X 3" TO TRUSS	4X RIDGE BEAM TO FACE OF CMU
J	(1) KR26Z FL 10447	880			(4) 16d TO RIDGE BEAM (5) 16d TO RAFTER	2X RAFTER TO 4X RIDGE BEAM
K	(1) HGAM10KTA FL 11473	850	1005	1105	(5) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU OR (4) 1/4" X 1 1/2" SDS SCREWS TO NAILER ON HSS (8) 1/4" X 1 1/2" SDS SCREWS TO BLOCKING	HEEL BLOCKING, SEE DETAIL 3 / S5.41
L	(1) H105 FL 10446	550	660	215	(8) #10 TEK SCREWS TO STEEL (8) 8d X 1 1/2" NAILS TO TRUSS	RAFTER BEARING ON STEEL

NOTE: TRUSS-TO-TRUSS CONNECTORS PER DELEGATED TRUSS ENGINEER.



SECOND FLOOR / LOW ROOF FRAMING PLAN KEYNOTES

- 2 1/2" NW CONCRETE OVER 1 1/2" 203A G90 VL COMPOSITE METAL DECK REINFORCED W/ 6X6 W2.1XW2.1 (FLAT SHEETS)
- 5/8" APA STRUCTURAL 1 ROOF SHEATHING EXPOSURE 1, SPAN 40/20, 48"X96" SQUARE EDGE, SEE 2 / S5.41 FOR ATTACHMENT DETAIL.
- PRE-ENGINEERED WOOD ROOF TRUSS PER DELEGATED SPECIALTY ENGINEER.
- PRE-ENGINEERED METAL PAN STAIR PER DELEGATED SPECIALTY ENGINEER. REFER TO ARCH DWGS FOR STAIR INFORMATION.
- INDICATES OVERBUILT TRUSS AREA.
- CB-# INDICATES CAST-IN-PLACE CONCRETE BEAM. SEE SCHEDULE FOR SIZE AND REINFORCING.
- BB-# INDICATES CMU BOND BEAM. SEE SCHEDULE FOR SIZE & REINFORCING.
- TB-# INDICATES CONCRETE TIE BEAM. SEE SCHEDULE FOR SIZE & REINFORCING.
- CONTINUOUS L4X3X1/4 (LVV) DECK SUPPORT ANGLE. REFER TO DETAIL 6 / S5.31.
- 2X8 BLOCKING AT VAULTED CEILING RAFTER MID-POINT. FASTEN TO RAFTER W/ (3) 8d TOENAILS EA END.
- 2X8 OUTLOOKER AT 2'-0" OC MAX. SEE 5 / S5.41.
- INDICATES VAULTED CEILING AT COVERED ENTRY. REFER TO SECTIONS AND ARCH DWGS.
- RIDGE BEAM REACTION AT OVERBUILT TRUSS: DEAD LOAD: 250 LB  
LIVE ROOF LOAD: 450 LB  
WIND UPLIFT (ULT): 1600 LB
- 1/2" APA RATED PLYWOOD WALL SHEATHING, 32/16 SPAN, EXPOSURE 1, SQUARE EDGES. REFER TO S0.2 SECTION 061000 FOR FASTENING INFORMATION.
- APPROXIMATE LOCATION OF FIRE POLE OPENING. PROVIDE 14 GA RADIIUSED STOP PER 7 / S5.31 COORDINATE SIZE AND LOCATION OF OPENING WITH MANUFACTURER AND ARCH DWGS.

STRUCTURAL ELEVATIONS

- T/STEEL (WIDE FLANGE): EL. 86'-0" U.N.O.
- T/STEEL (HSS): EL. 84'-8 1/2" U.N.O.
- T/SLAB: EL. 86'-4"
- LOW ROOF TRUSS BEARING: EL. 84'-10"

FRAMING PLAN GENERAL NOTES

- (GT), (HT), (JT), and (OT) INDICATE GIRDER TRUSS, COMMON TRUSS, HIP TRUSS, JACK TRUSS, AND OVER-BUILT TRUSS, RESPECTIVELY. SEE 1 / S5.41 FOR TYPICAL TRUSS PROFILES.
- FIRE POLE BASIS OF DESIGN: MCINTIRE BRASS WORKS MODEL 20

1 SECOND FLOOR / LOW ROOF - FRAMING PLAN  
3/16" = 1'-0"

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DESCRIPTION: \_\_\_\_\_  
NO.: \_\_\_\_\_

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FL LICENSE NO. 40788

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100% CD Submittal - Bid Set

LAKE COUNTY  
FIRE STATION NO. 71  
SECOND FLOOR / LOW ROOF FRAMING PLAN

33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

20073A

**S2.3**

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WOOD CONNECTOR SCHEDULE						
MARK	DESIGNATION	UPLIFT (LBS)	F1 (LBS) LATERAL	F2 (LBS) LATERAL	FASTENING	LOCATION, UNO
A	(1) HGT-2 FL 10456 (1) METAL 16 FL 11473	10980			(2) 3/4" X 6" TITEN HD SCREW ANCHOR TO CONC (16) 10d NAILS TO TRUSS	GIRDER TRUSS BEARING ON TOP OF CMU/CONC
B		1810	415	1100	(14) 10d X 1 1/2"	HIP TRUSS, COMMON TRUSS, JACK TRUSS, OR GABLE OUTRIGGER BEARING ON TOP OF CMU/CONC
C	(1) HU214-2 FL 10531	2015			(24) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (12) 10d NAILS TO TRUSS	GIRDER TRUSS CMU SIDE BEARING
D	(1) HU212 FL 10531	1135			(10) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (5) 10d X 1 1/2" TO TRUSS	COMMON TRUSS OR JACK TRUSS CMU SIDE BEARING
E	(1) LUS26 FL 10531	1165			(4) 10d TO TRUSS (4) 10d TO OUTRIGGER	GABLE OUTRIGGER TO GIRDER TRUSS TOP CHORD
F	(1) HGAM10KTA FL 11473	550	1005	1105	(5) 1/4" X 2 3/4" TITEN 2 SCREWS TO CONC/CMU (4) 1/4" X 1 1/2" SDS SCREWS TO BLOCKING	HEEL BLOCKING, SEE DETAIL 3 / S5.41

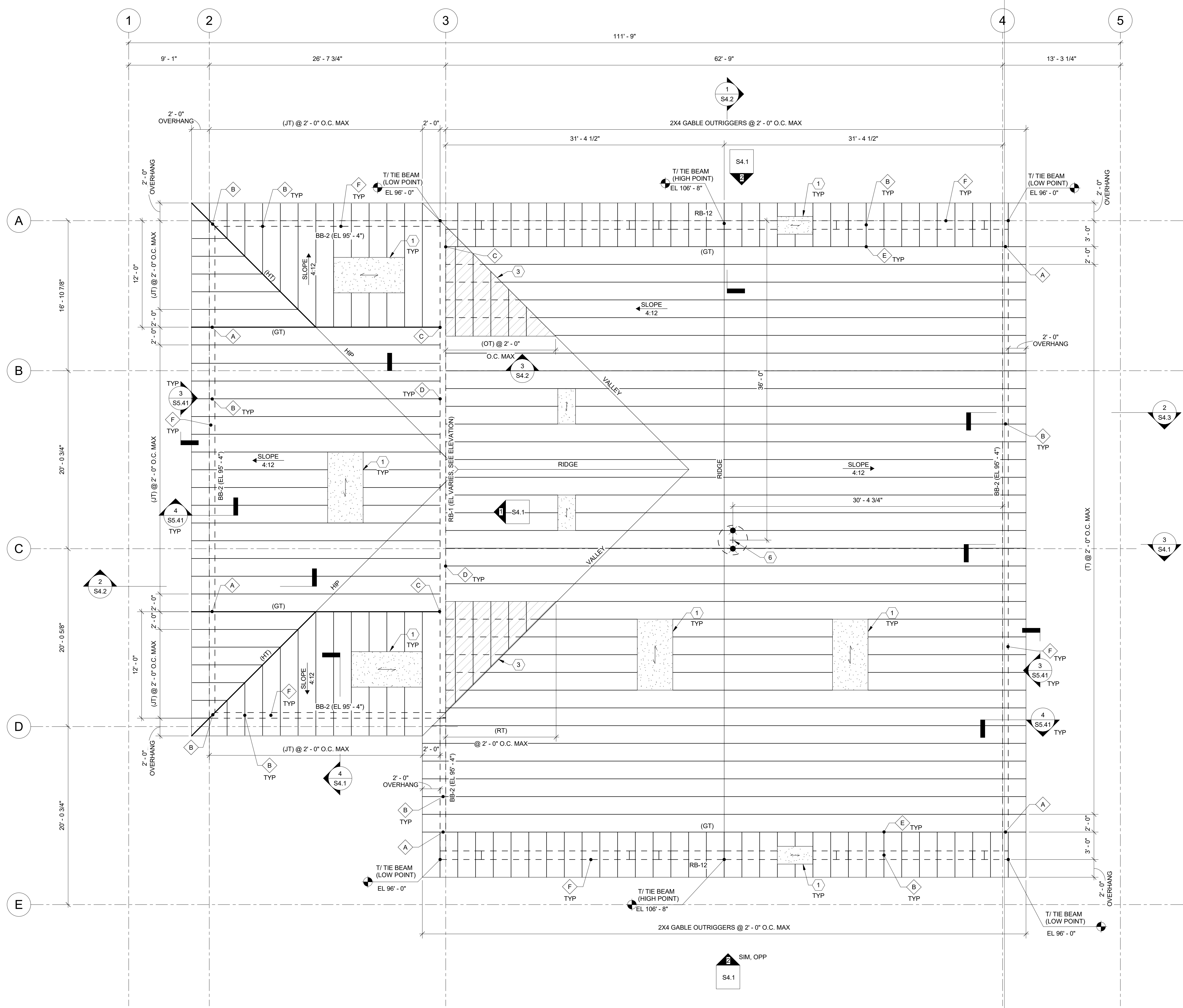
NOTE: TRUSS-TO-TRUSS CONNECTORS PER DELEGATED TRUSS ENGINEER.

- HIGH ROOF - FRAMING PLAN NOTES**
- 5/8" APA STRUCTURAL 1 ROOF SHEATHING EXPOSURE 1, SPAN 40/20, 48"X96" SQUARE EDGE, SEE 2 / S5.41 FOR ATTACHMENT DETAIL.
  - PRE-ENGINEERED WOOD ROOF TRUSS PER DELEGATED SPECIALTY ENGINEER
  - INDICATES OVER-BUILT TRUSS AREA
  - BB-# INDICATES CMU BOND BEAM, SEE SCHEDULE FOR SIZE AND REINFORCING.
  - RB-# INDICATES RAKED CONC. TIE BEAM, SEE SCHEDULE FOR SIZE AND REINFORCING.
  - 24"-0" CEILING FAN MOUNTING POINT, ROOF TRUSSES SHALL BE DESIGNED FOR A 500 LB LIVE POINT LOAD AT THE LOCATIONS INDICATED WITH REFERENCE TO ARCH AND ELECTRICAL DWGS FOR FAN INFORMATION.

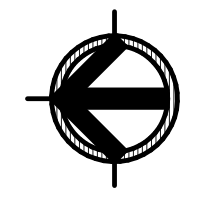
**STRUCTURAL ELEVATIONS**

- 7 WALL: EL. 95'-4", U.N.O.
- HIGH ROOF TRUSS BEARING: EL. 95'-4", U.N.O.

- FRAMING PLAN GENERAL NOTES**
- (GT), (T), (HT), (JT) AND (OT); INDICATE GIRDER TRUSS, COMMON TRUSS, HIP TRUSS, JACK TRUSS, AND OVER-BUILT TRUSS, RESPECTIVELY, SEE 1 / S5.41 FOR TYPICAL TRUSS PROFILES.
  - APPARATUS BAY CEILING FAN BASIS OF DESIGN: BIG ASS FAN: 24" DIAMETER BASIC 6



1 HIGH ROOF - FRAMING PLAN  
3/16" = 1'-0"



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**LAKE COUNTY**  
FIRE STATION NO. 71  
HIGH ROOF FRAMING PLAN  
33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

**S2.4**

GARY C. KRUEGER  
FL LICENSE NO. 40788  
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John P. Adams, AIA  
Jerome Bankovich, Jr., AIA, LEED  
Ethan J. Hine, AIA  
Jennifer Zaffuto, AIA, LEED, NCARB  
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FL LICENSE NO. 40788

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**KTH ARCHITECTS**

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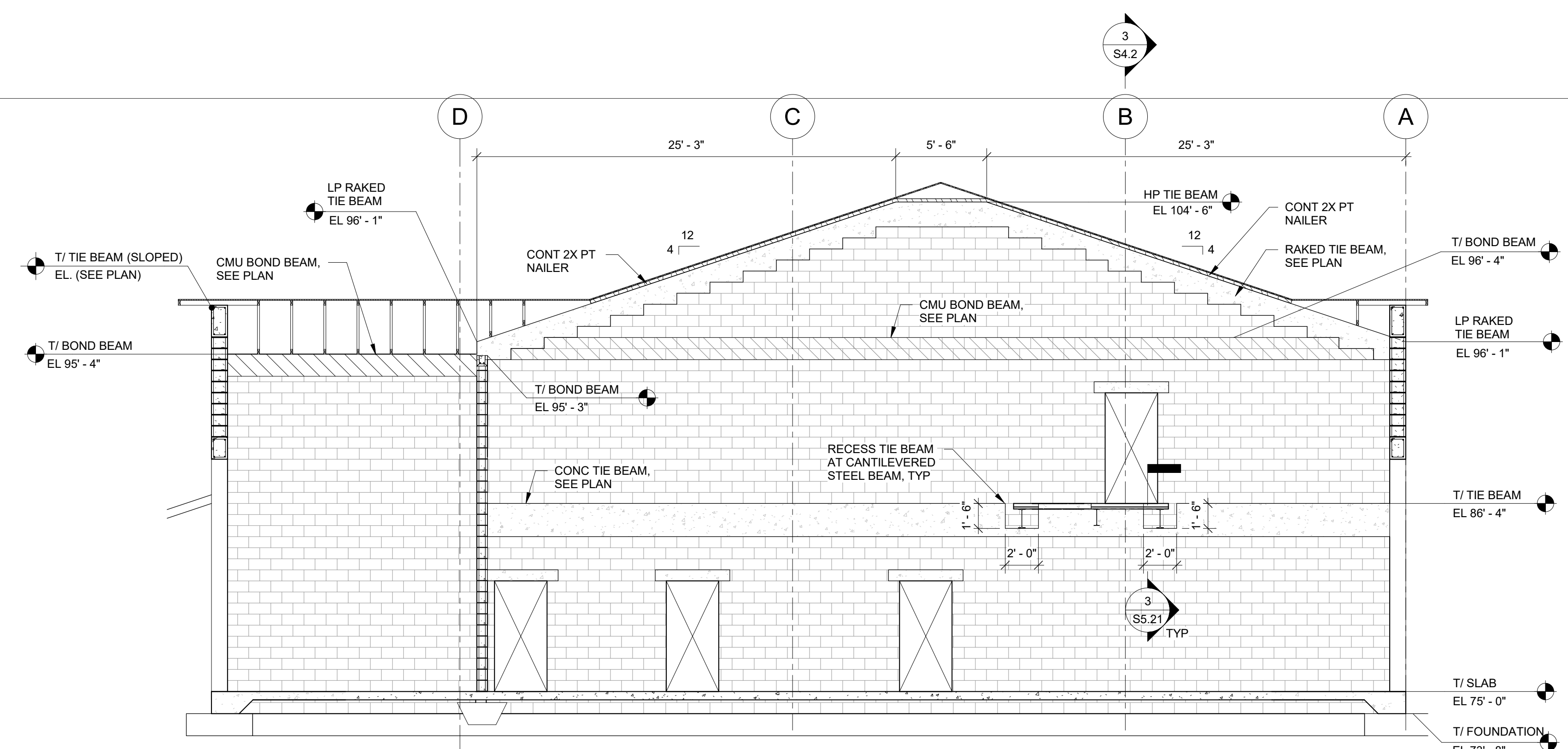
LAKE COUNTY  
FIRE STATION NO. 71  
STRUCTURAL ELEVATIONS / SECTIONS

33661 CR 473, LEESBURG, FL 34788

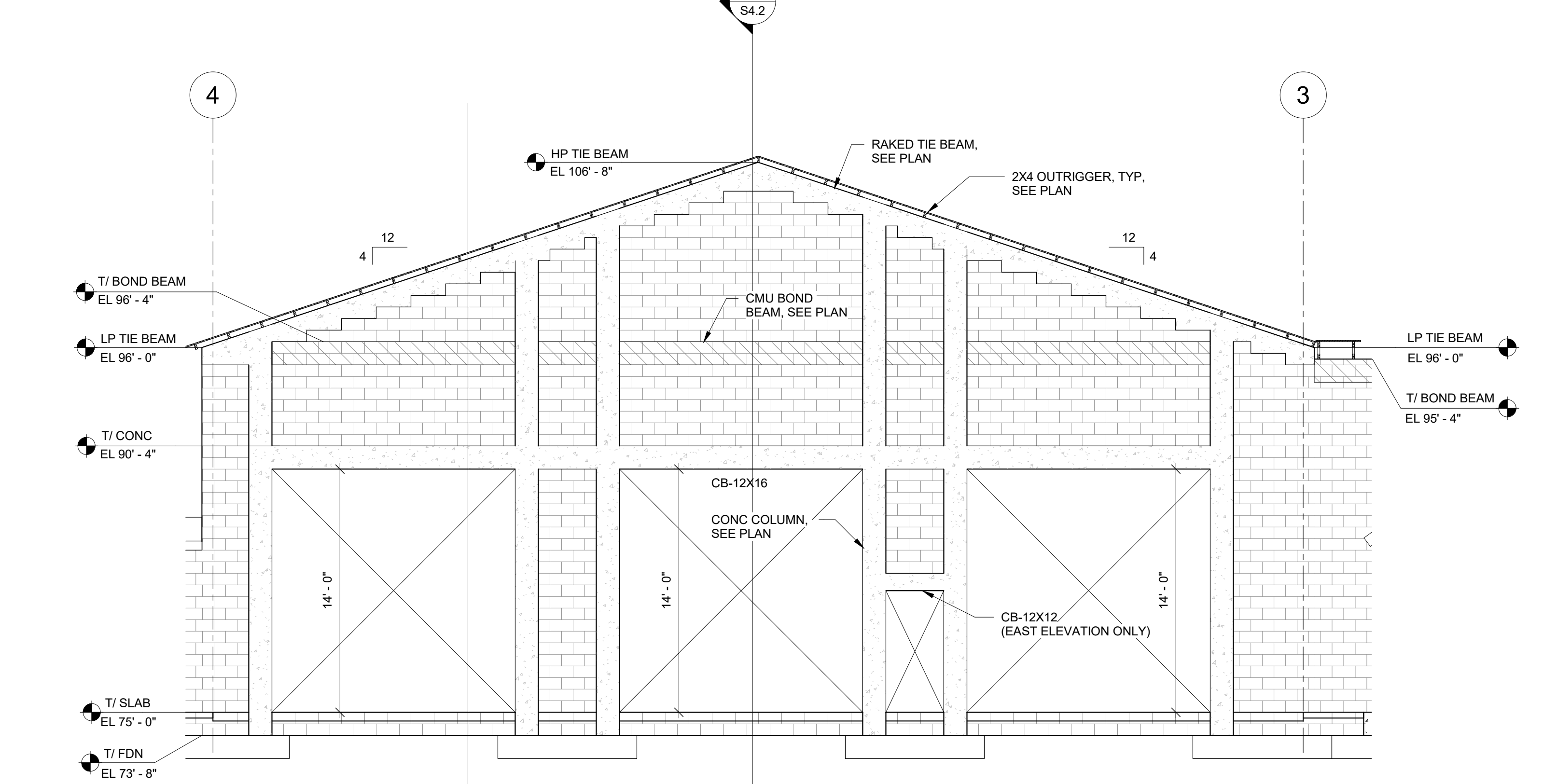
NOVEMBER 10, 2021

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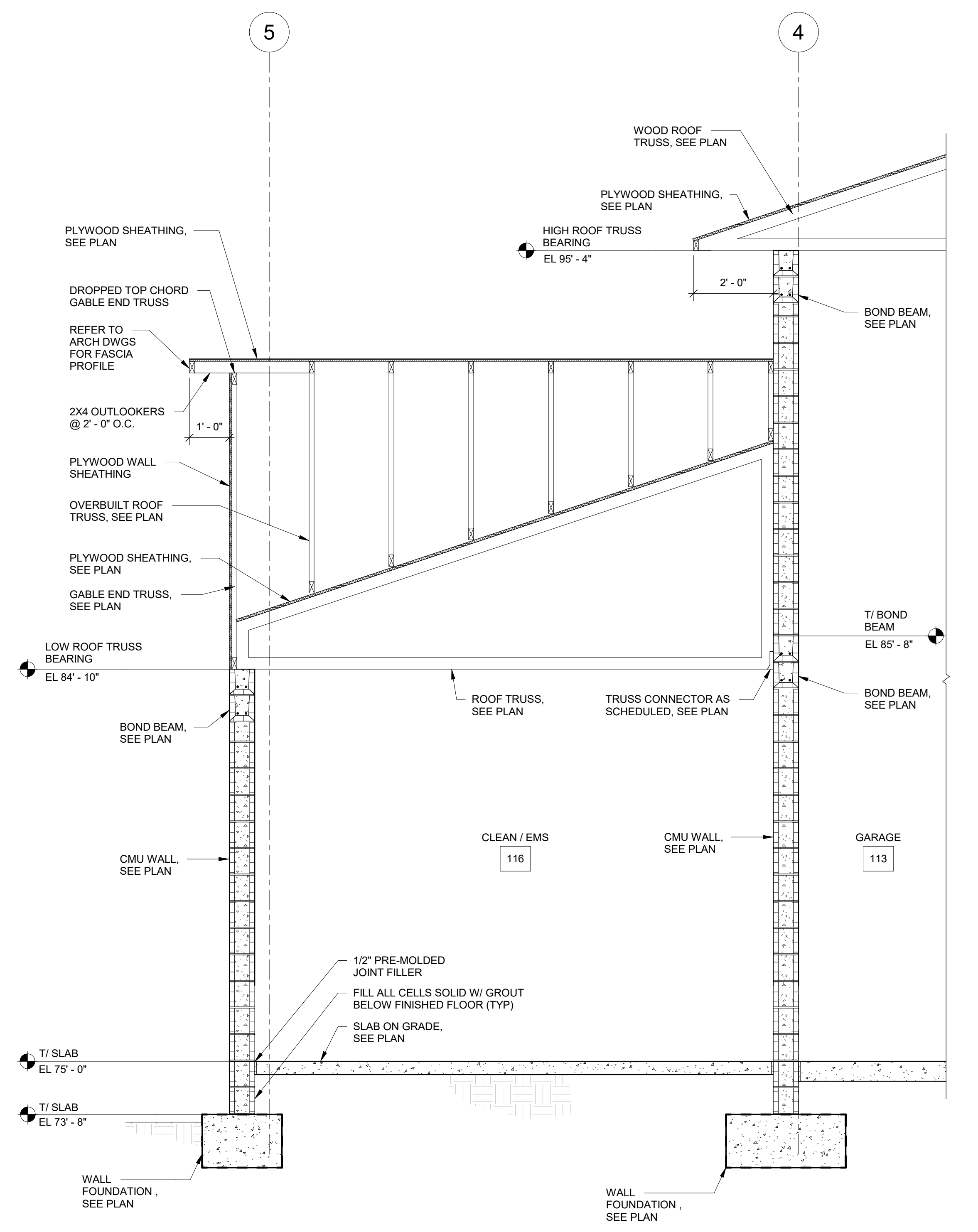
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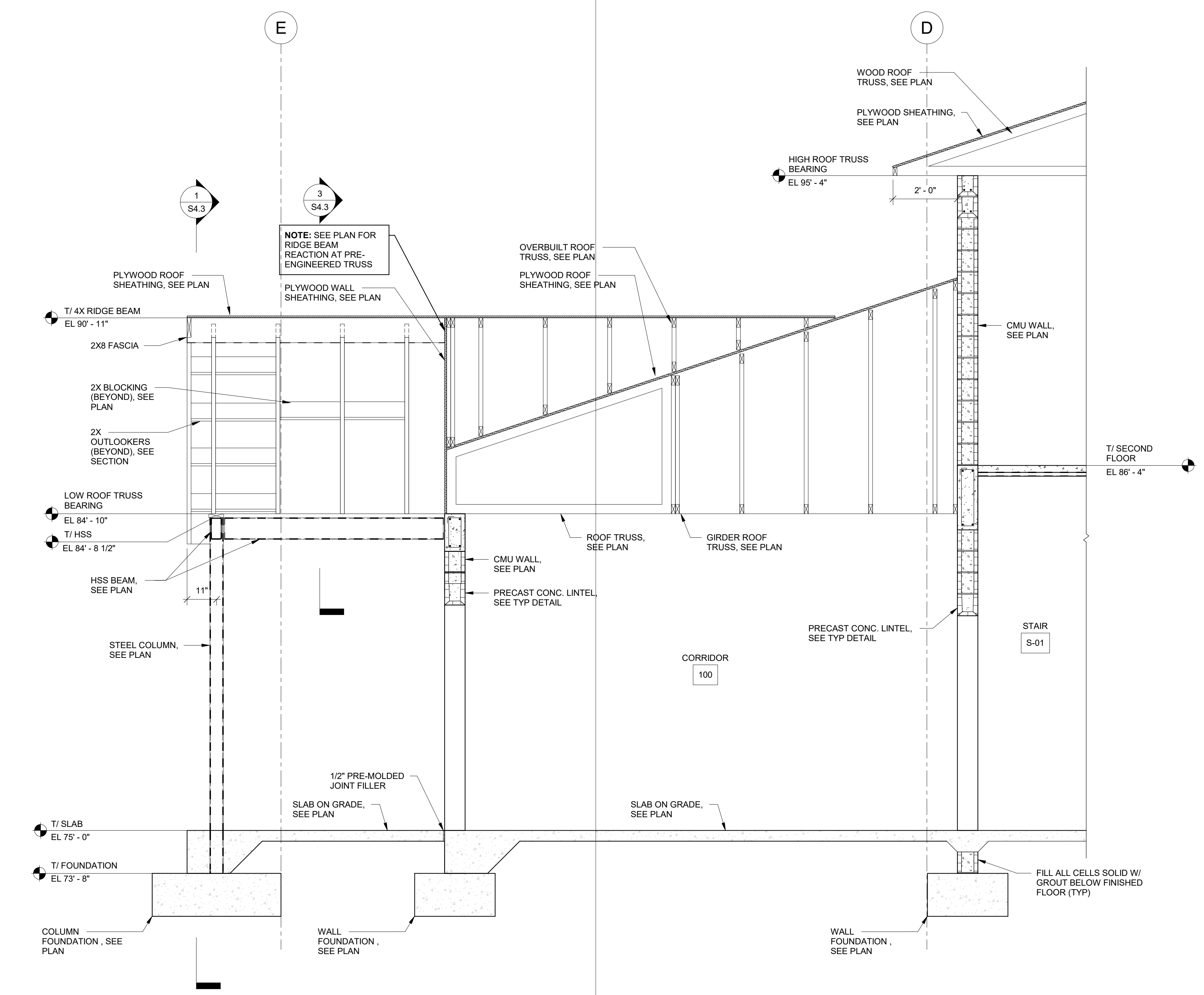
1 ELEVATION - APPARATUS BAY NORTH WALL  
3/16" = 1'-0"



2 ELEVATION - APPARATUS BAY EAST WALL (WEST WALL SIM, OPP)  
3/16" = 1'-0"



3 WALL SECTION  
1/2" = 1'-0"

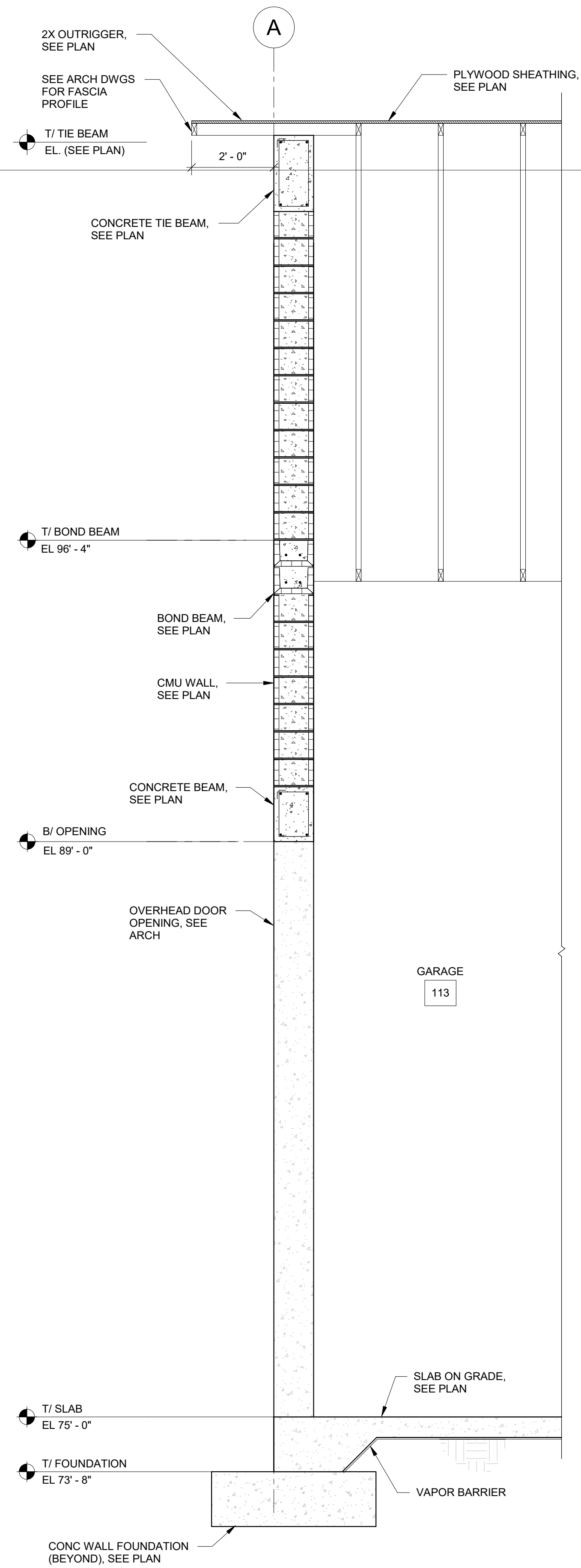


4 WALL SECTION  
1/2" = 1'-0"

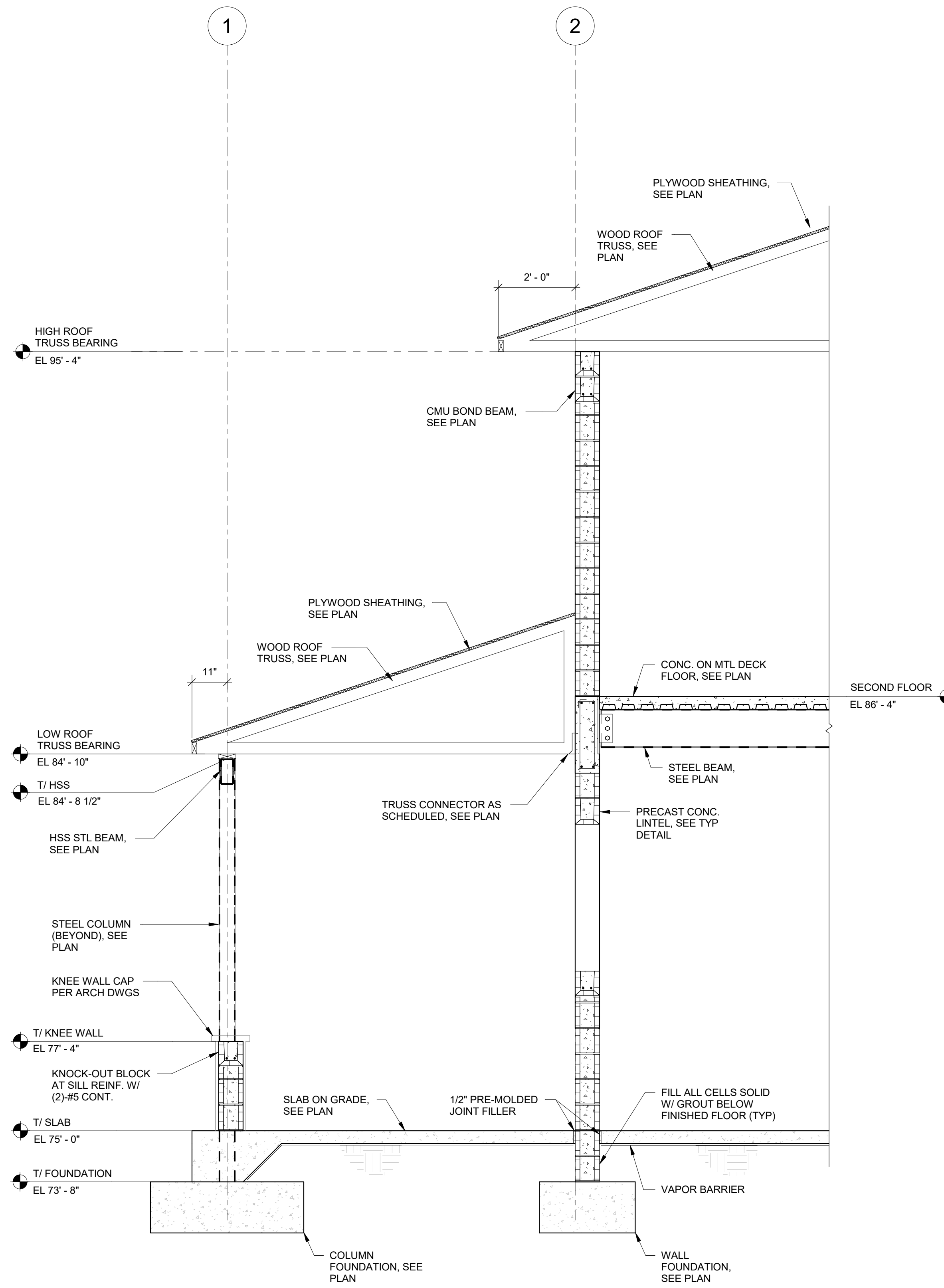
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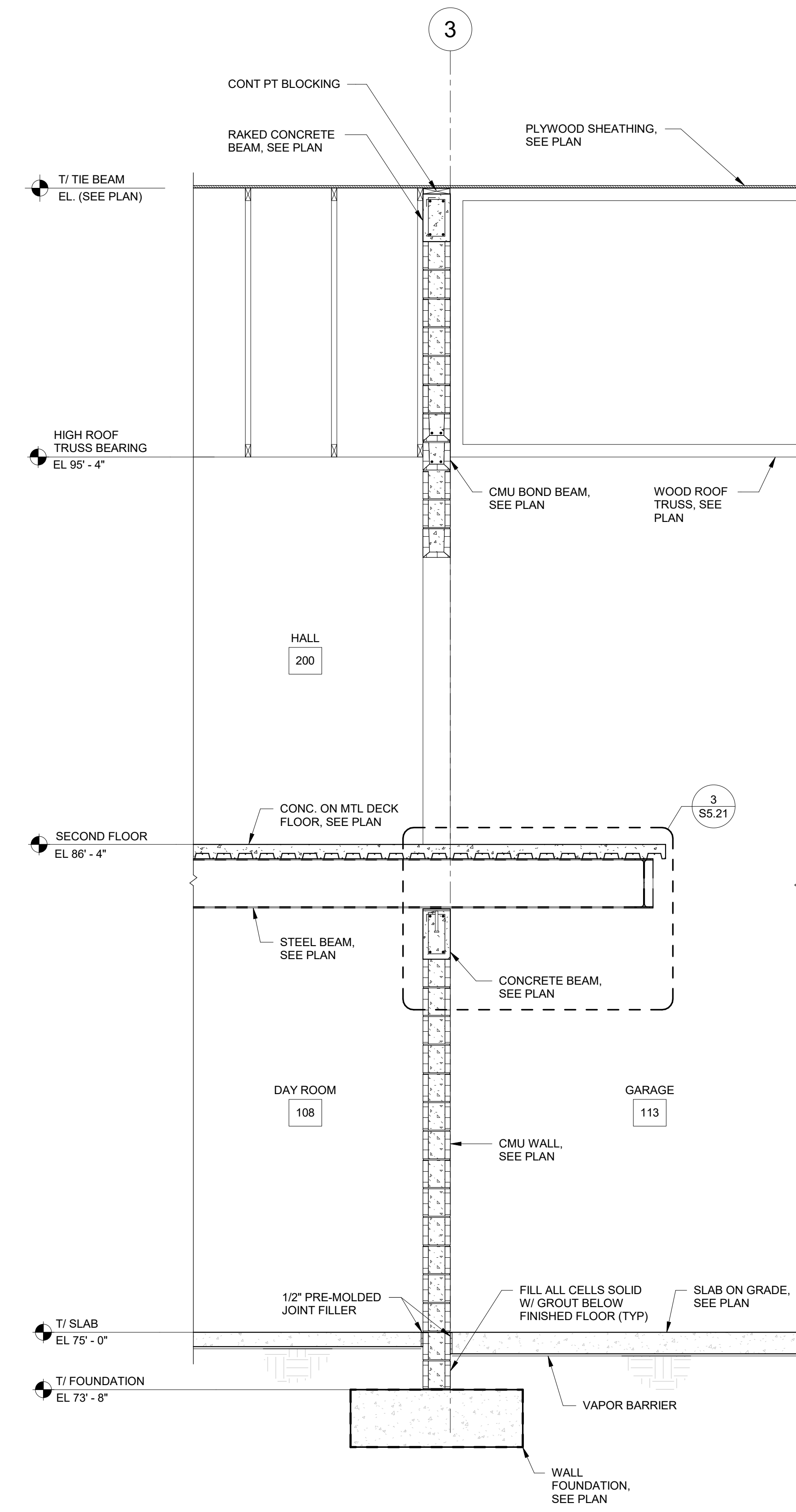
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1 WALL SECTION  
1/2" = 1'-0"

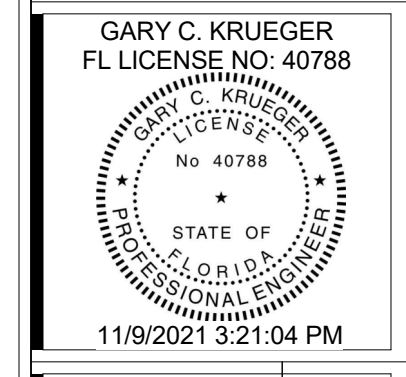


2 WALL SECTION  
1/2" = 1'-0"



3 WALL SECTION  
1/2" = 1'-0"

NO.	DESCRIPTION	DATE



John P. Adams, AIA  
 Jerome Bankovich, Jr., AIA, LEED  
 Ethan J. Hine, AIA  
 Jennifer Zaffuto, AIA, LEED, NCARB

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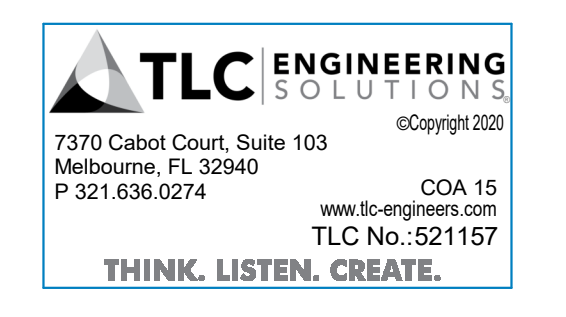


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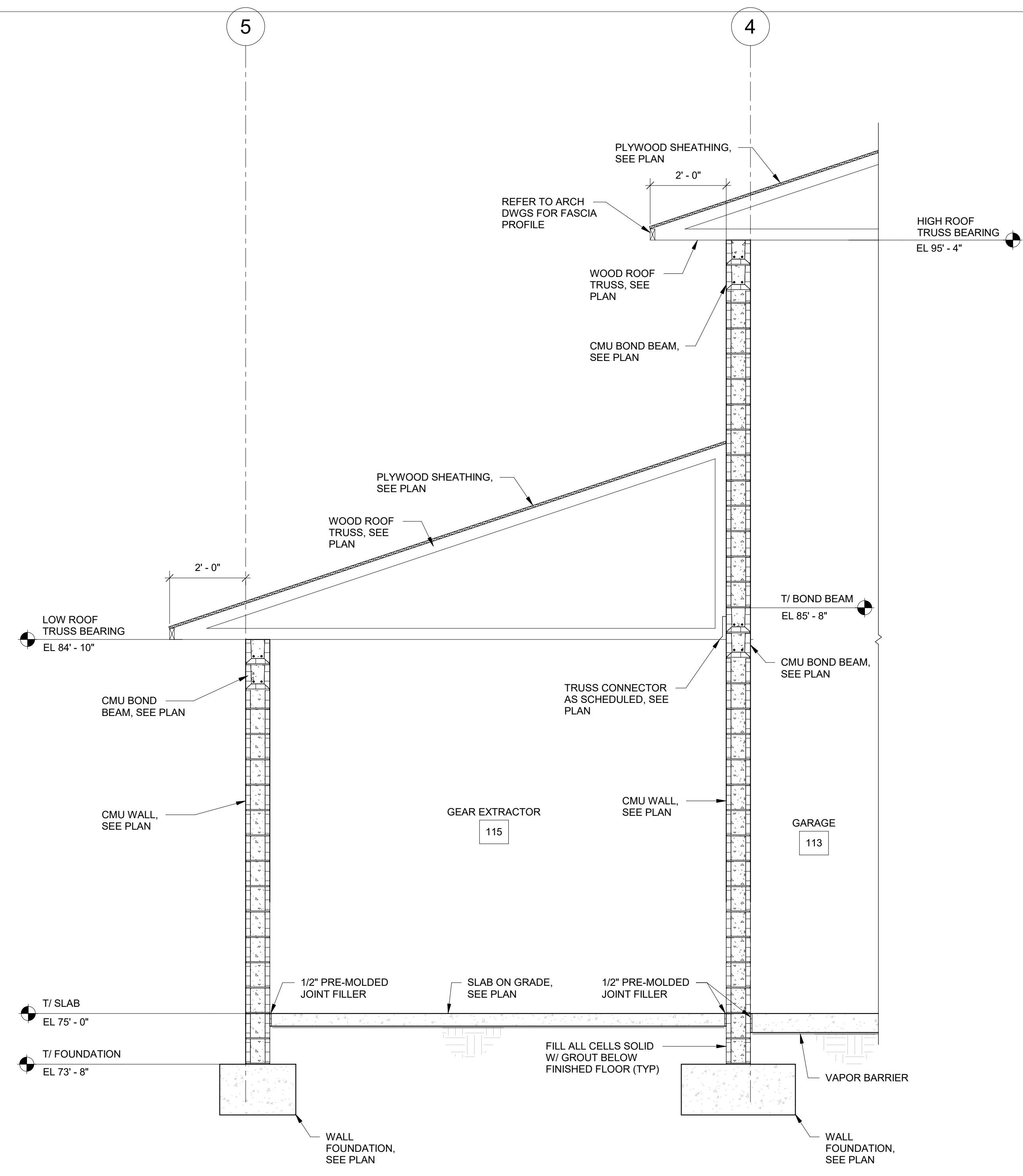
LAKE COUNTY  
 FIRE STATION NO. 71  
 STRUCTURAL SECTIONS

NOVEMBER 10, 2021

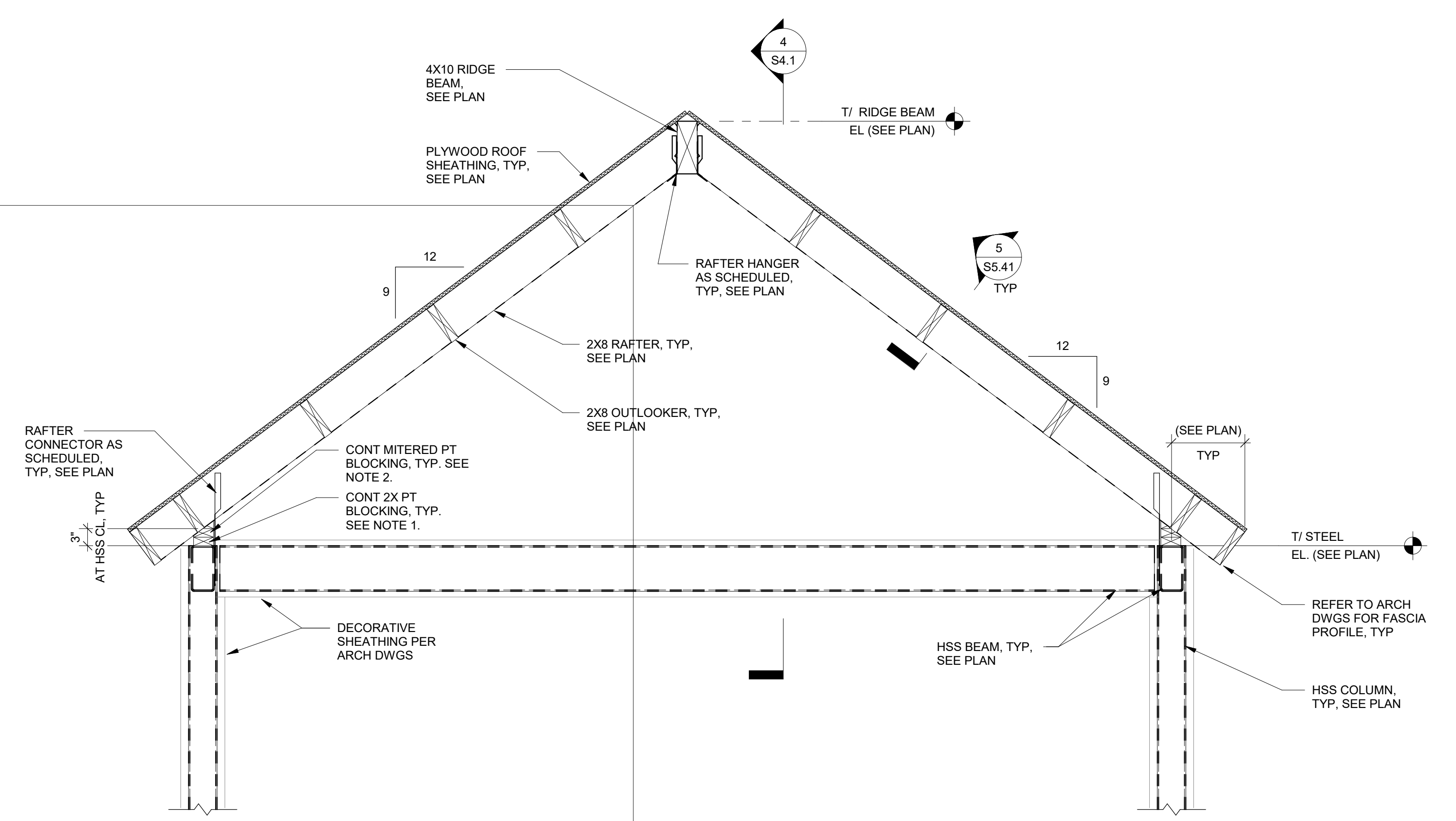
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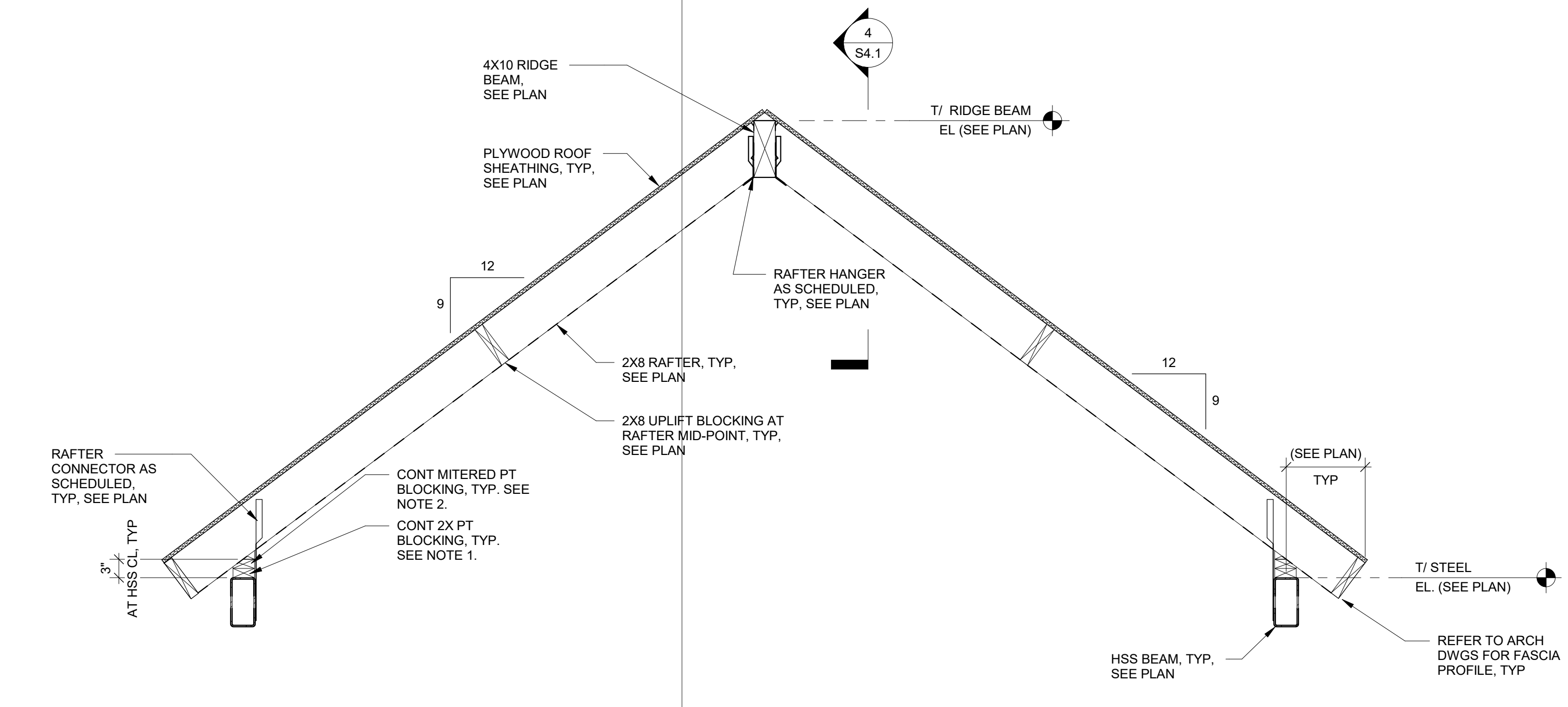
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2 WALL SECTION  
1/2" = 1'-0"



1 SECTION AT COVERED ENTRY  
3/4" = 1'-0"



3 SECTION AT COVERED ENTRY  
3/4" = 1'-0"

DATE	DESCRIPTION	NO.

GARY C. KRUEGER  
FL LICENSE NO. 40788  
Professional Engineer  
State of Florida  
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John P. Adams, AIA  
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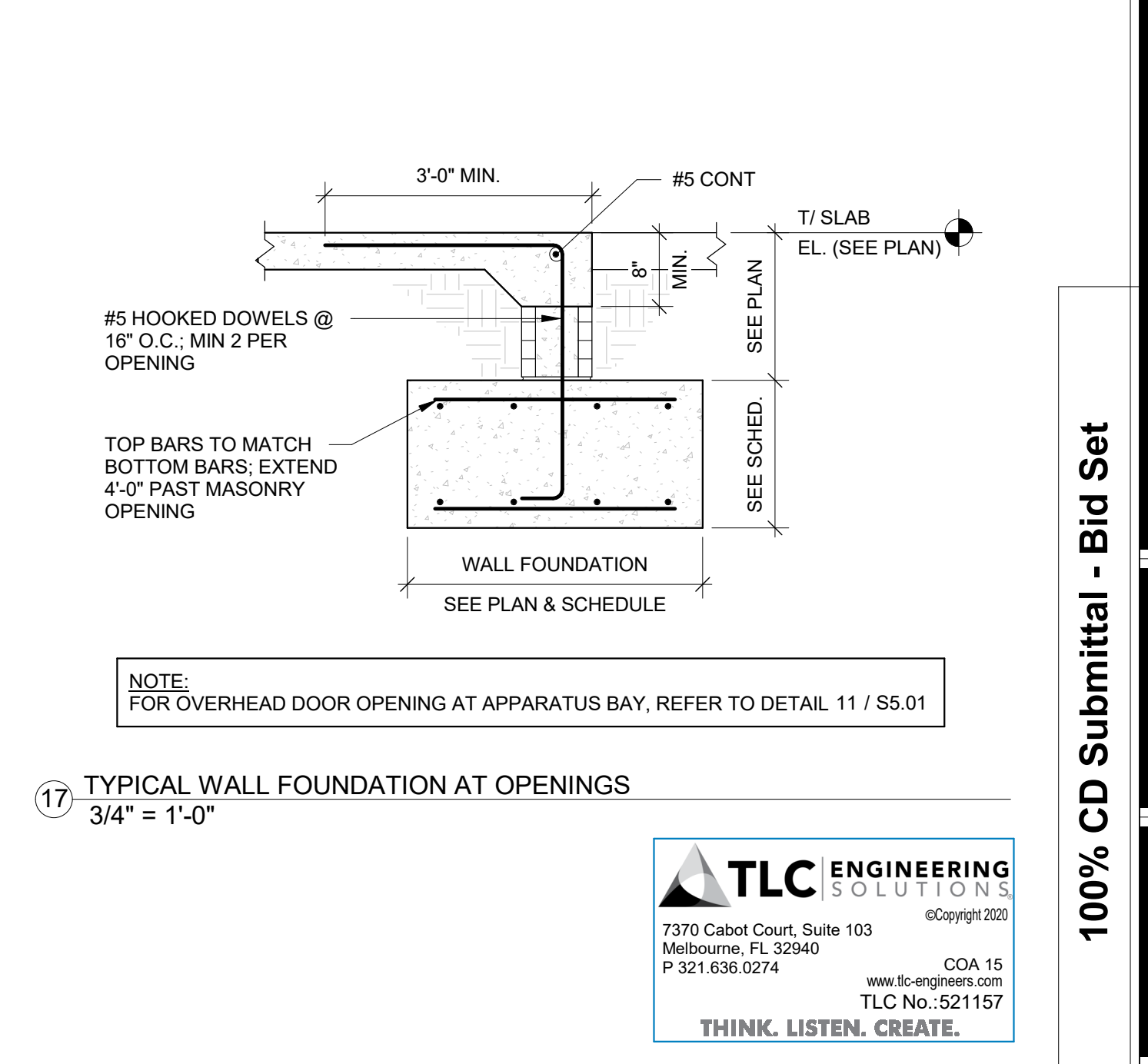
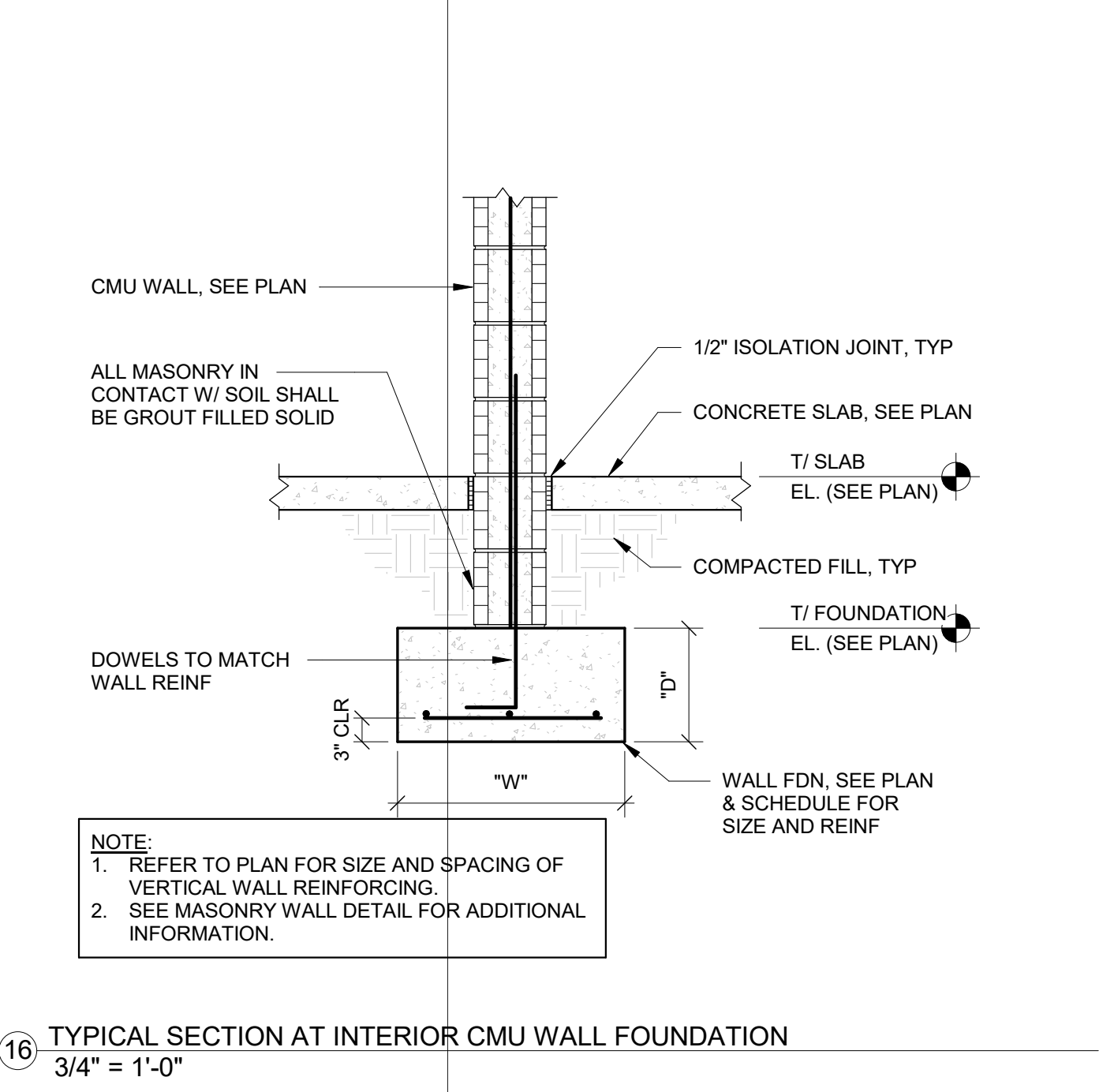
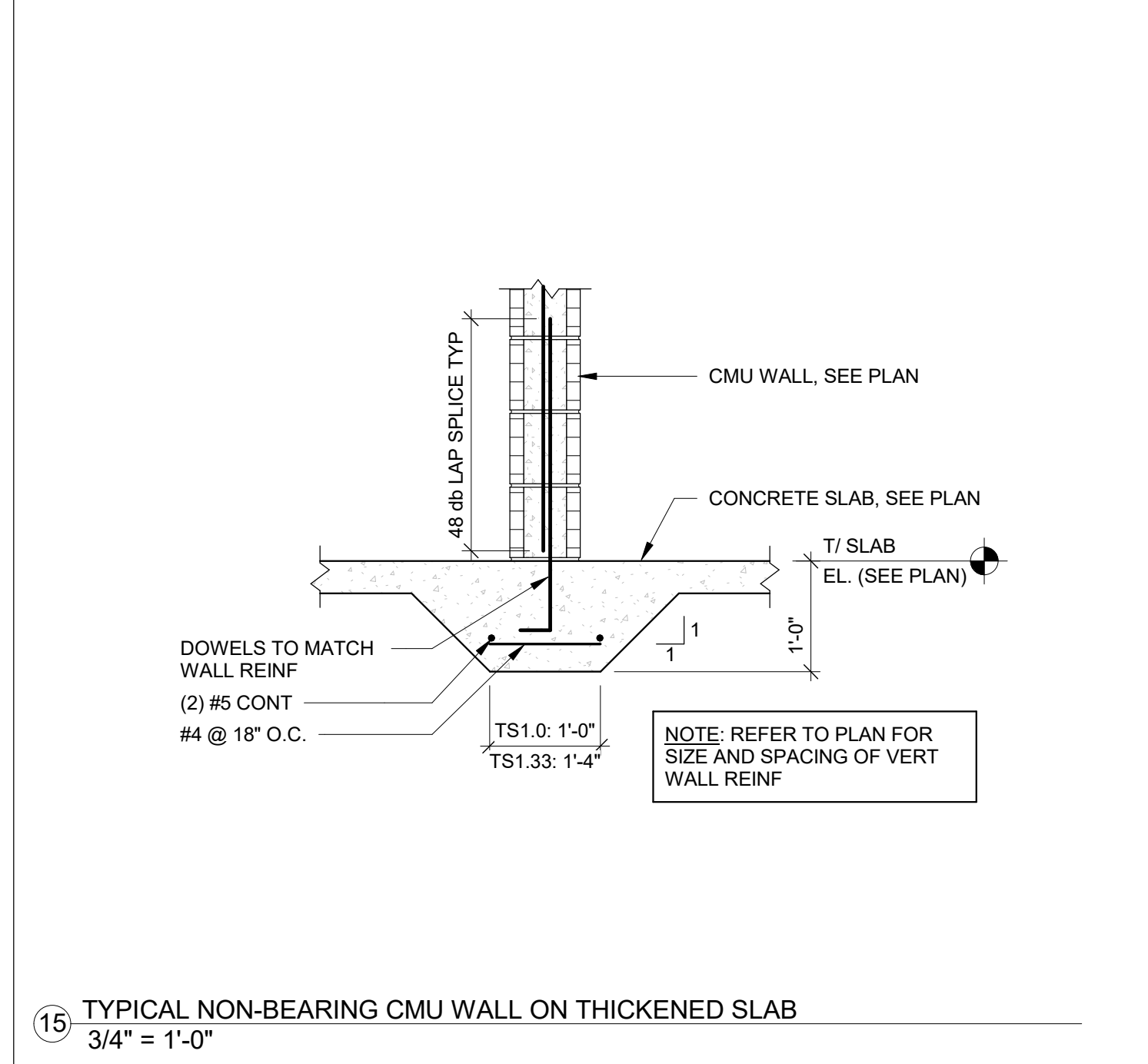
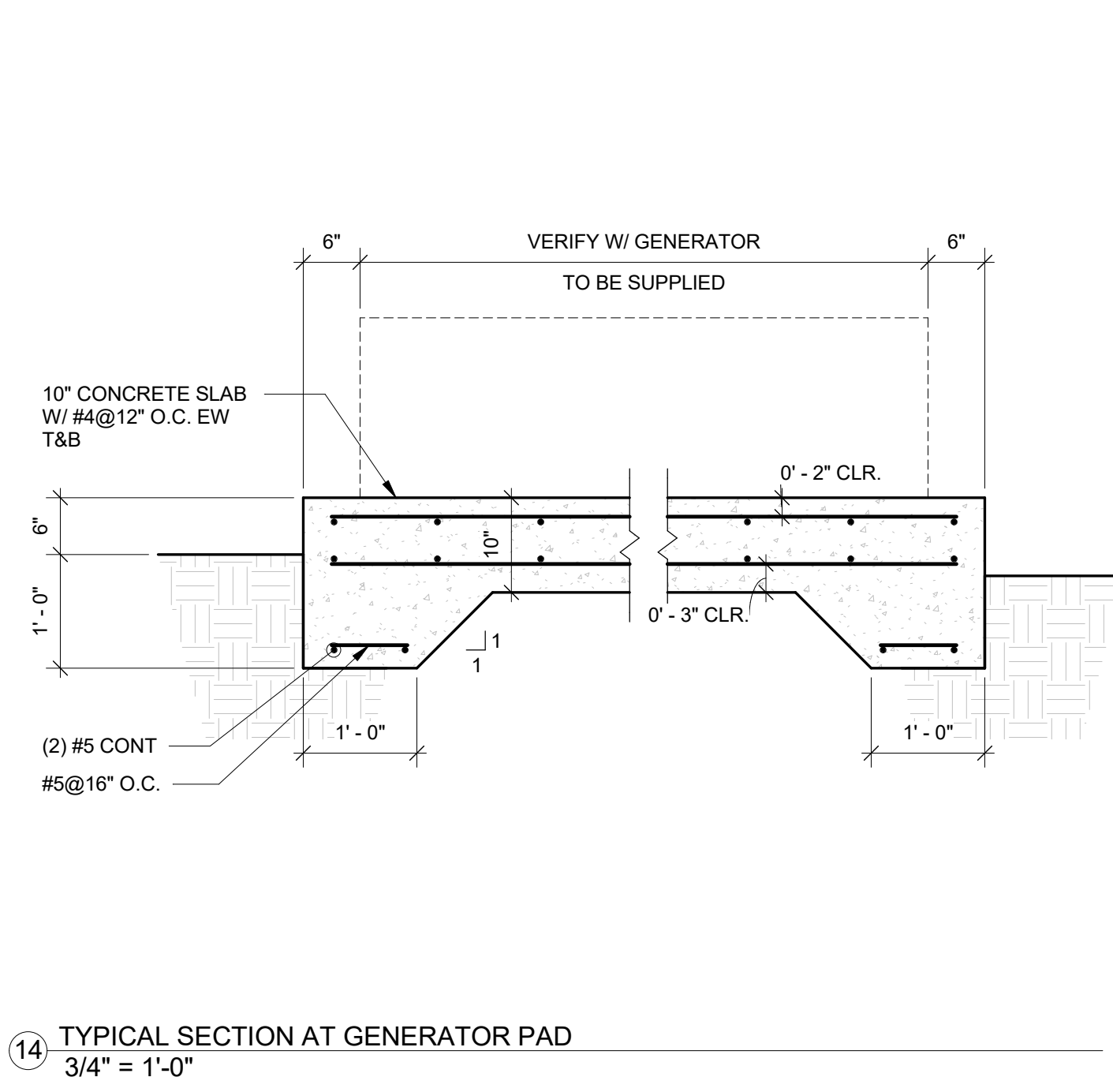
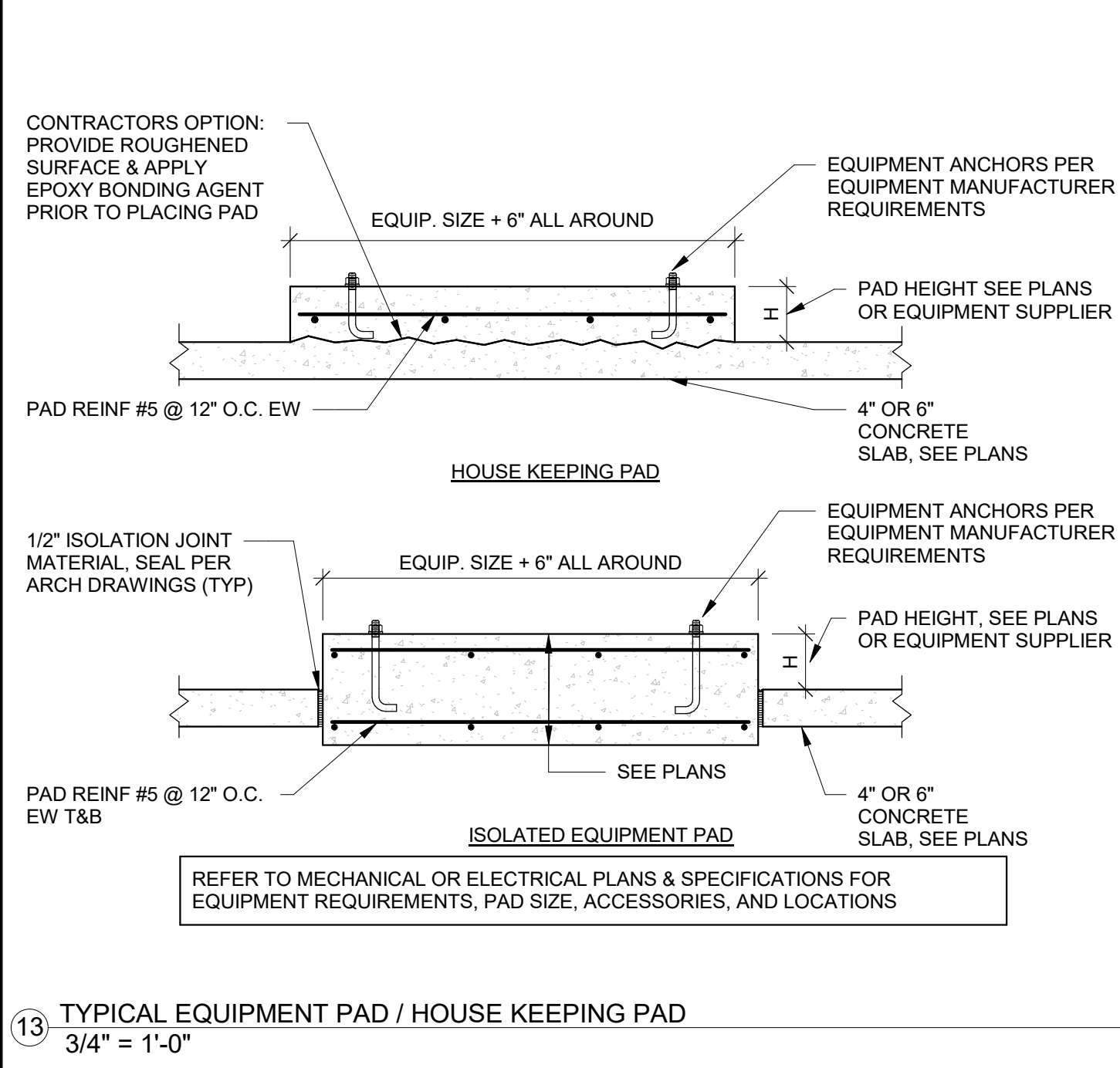
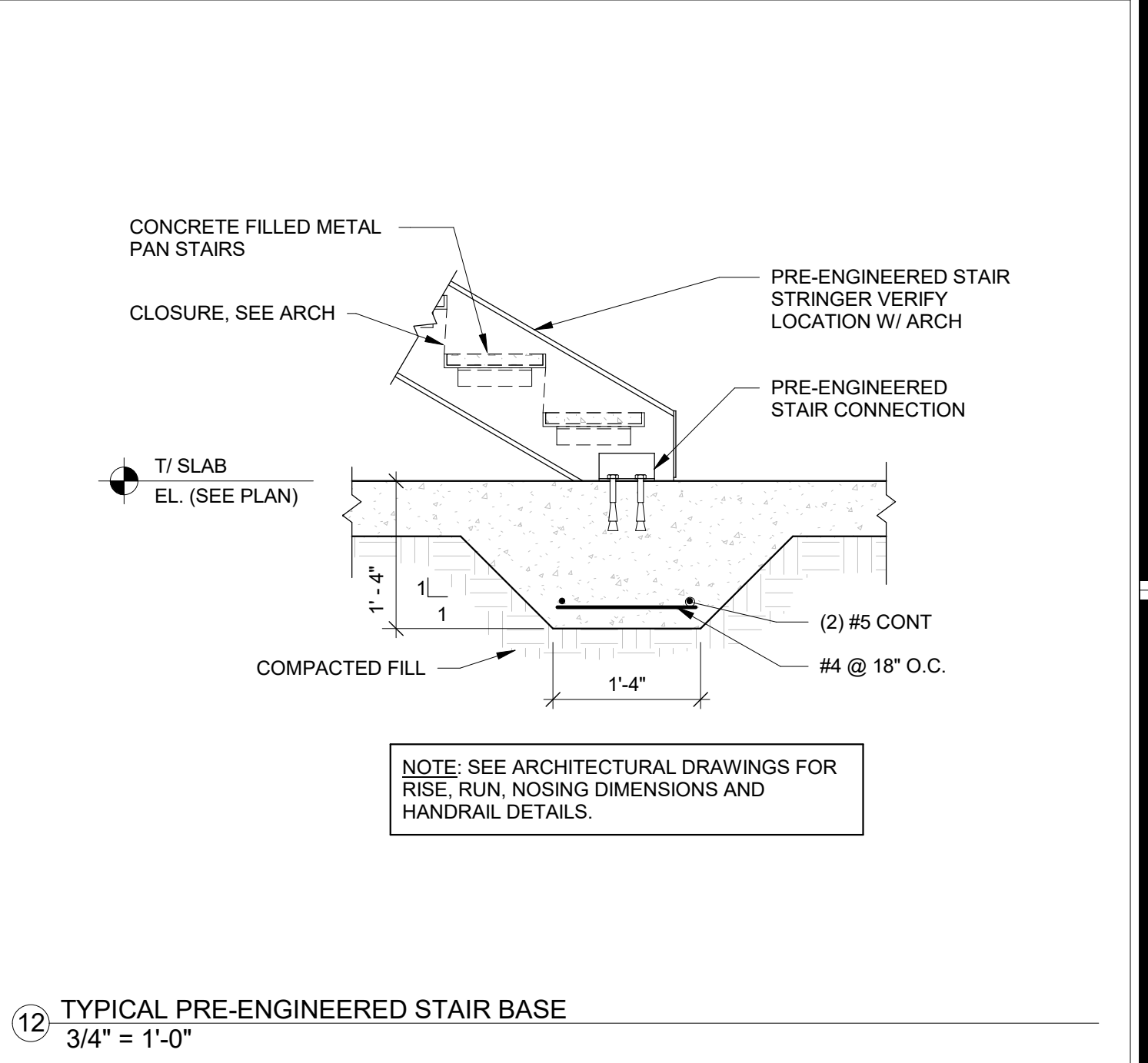
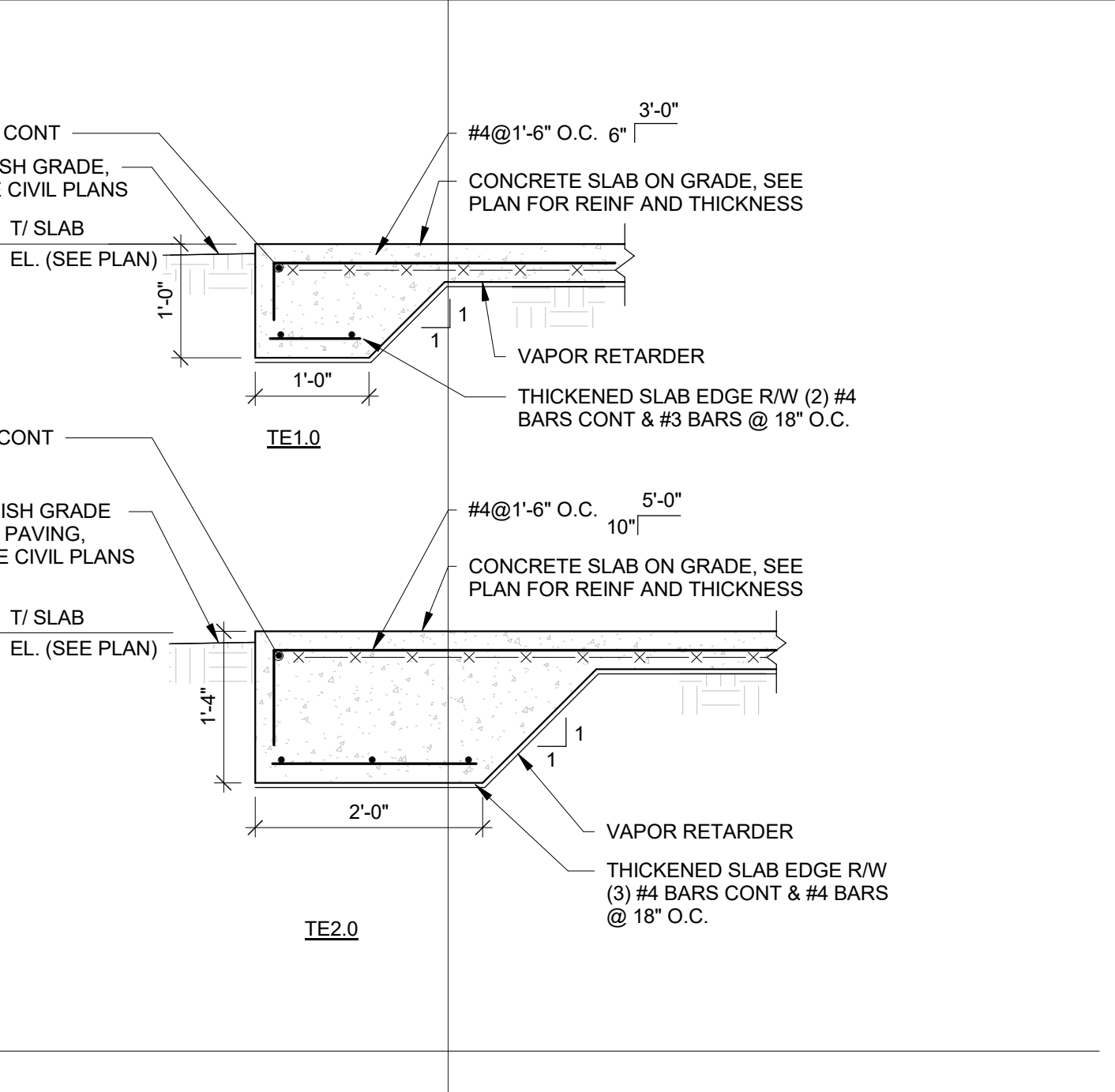
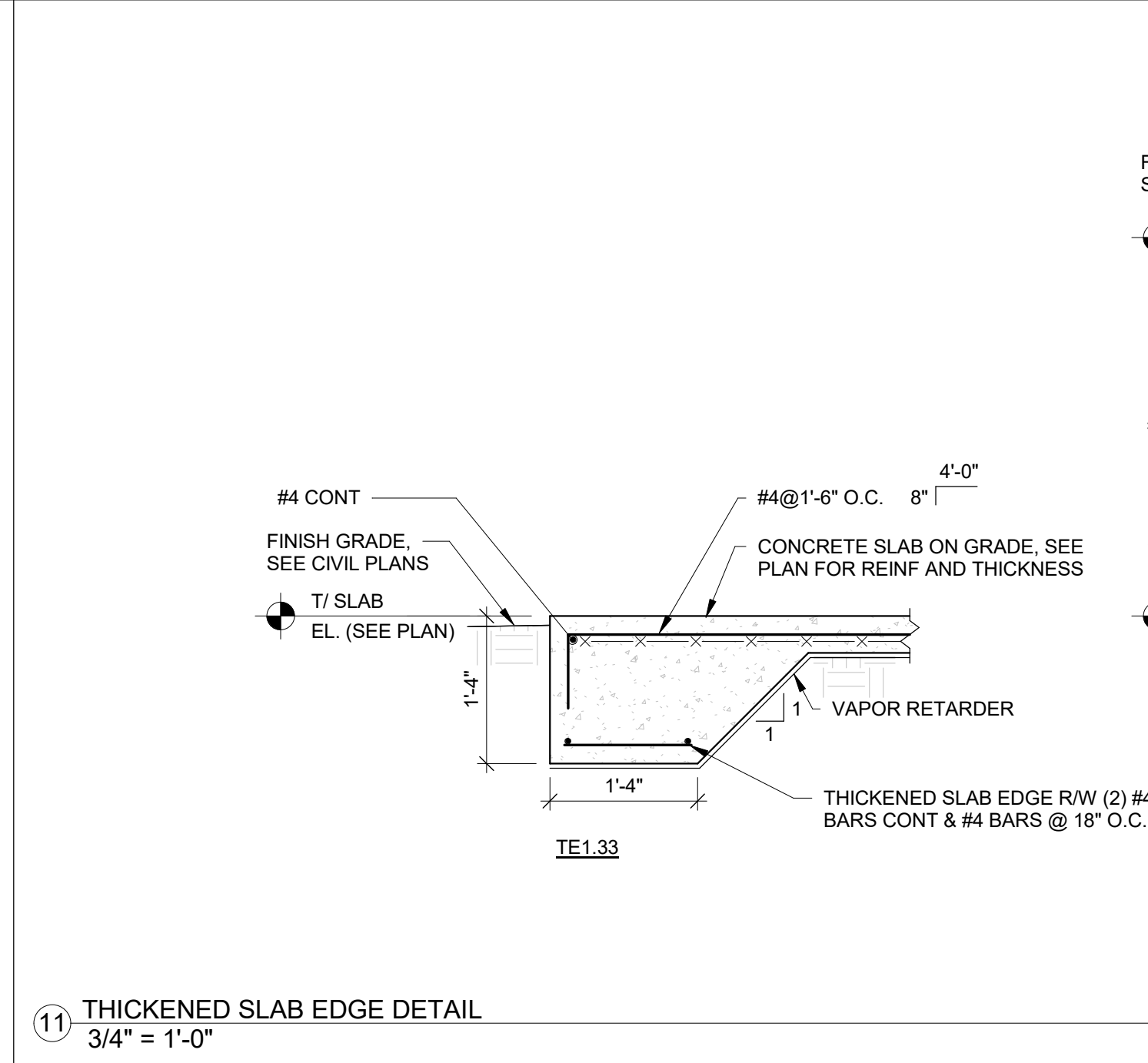
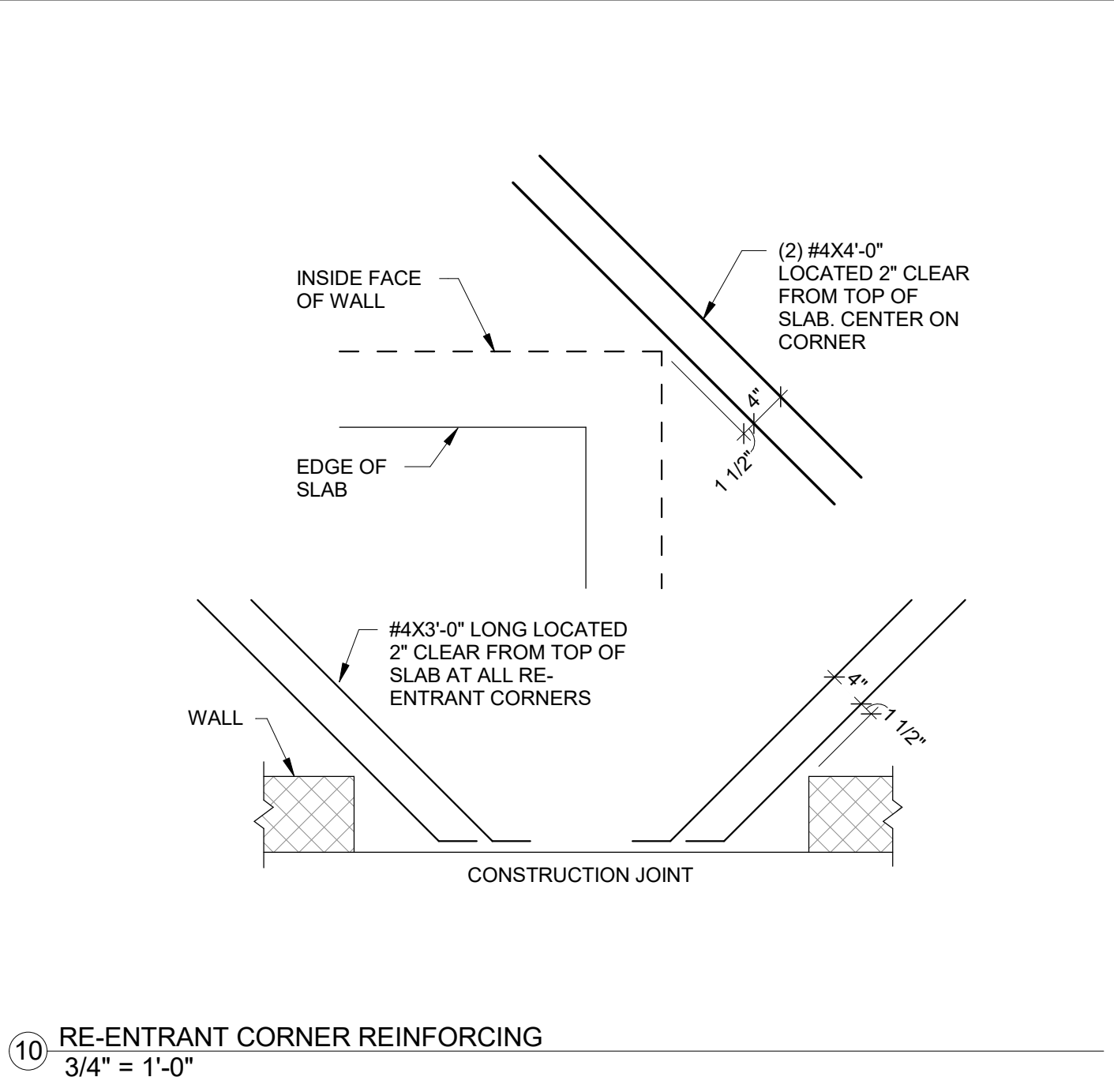
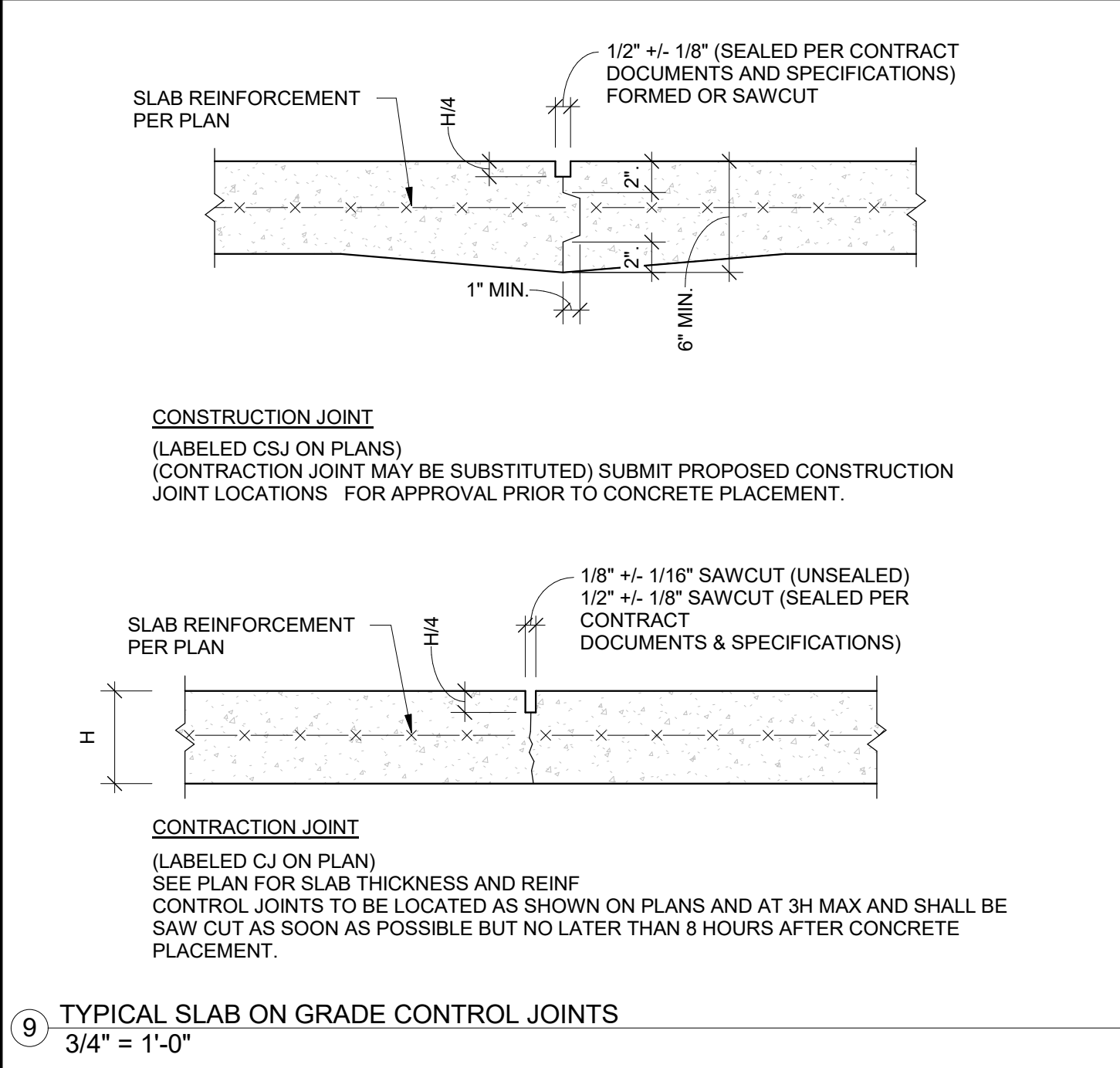
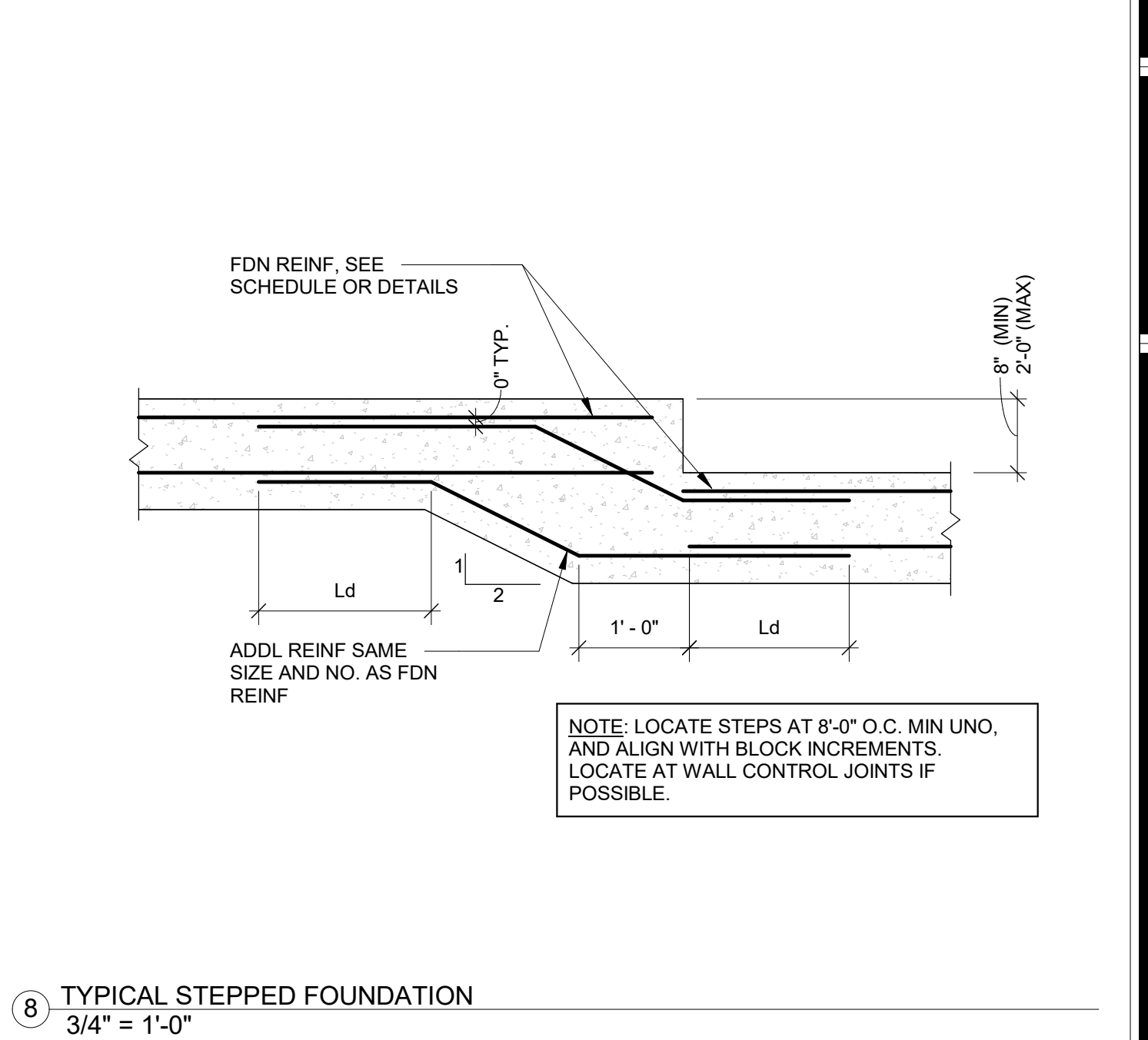
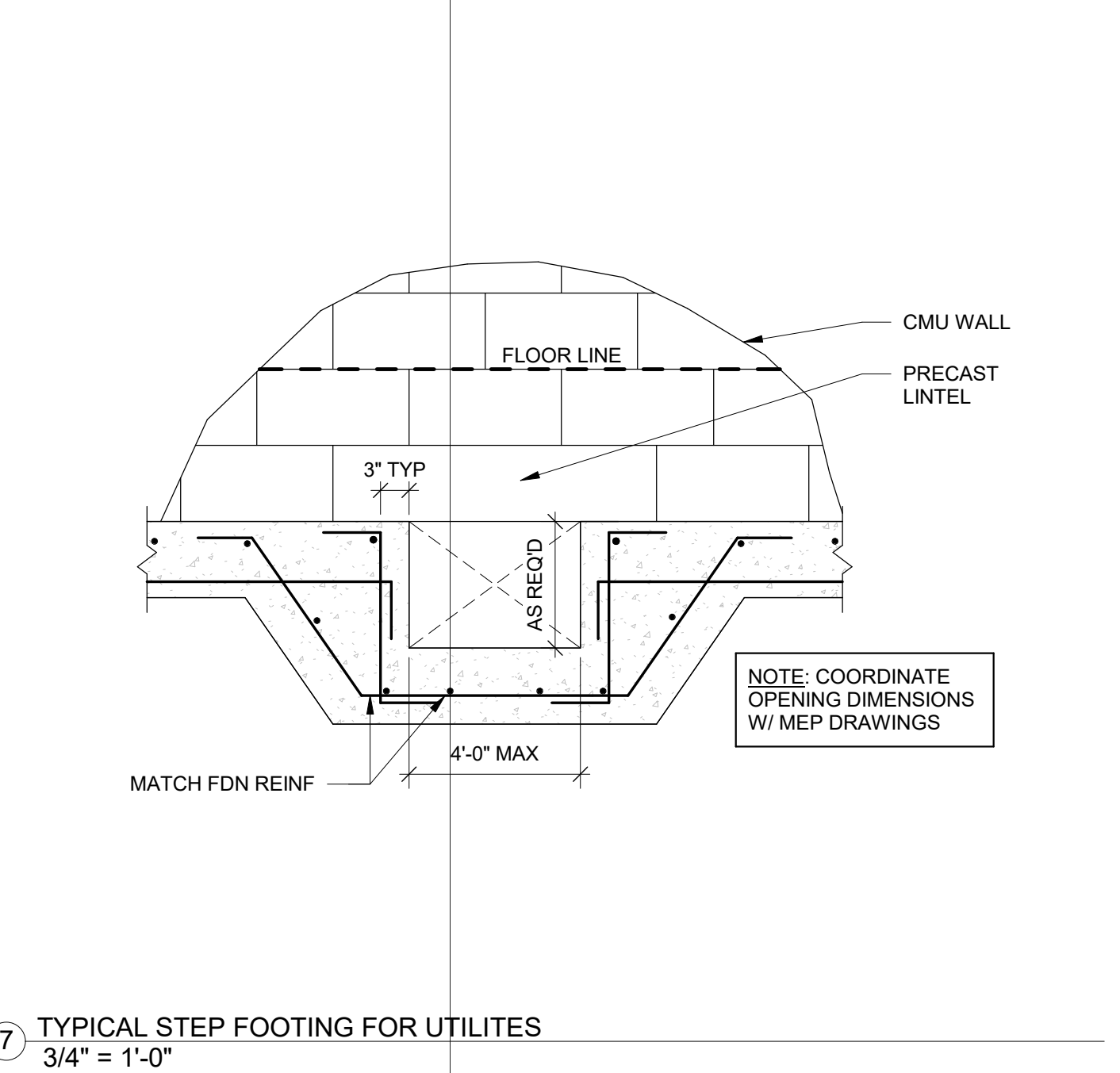
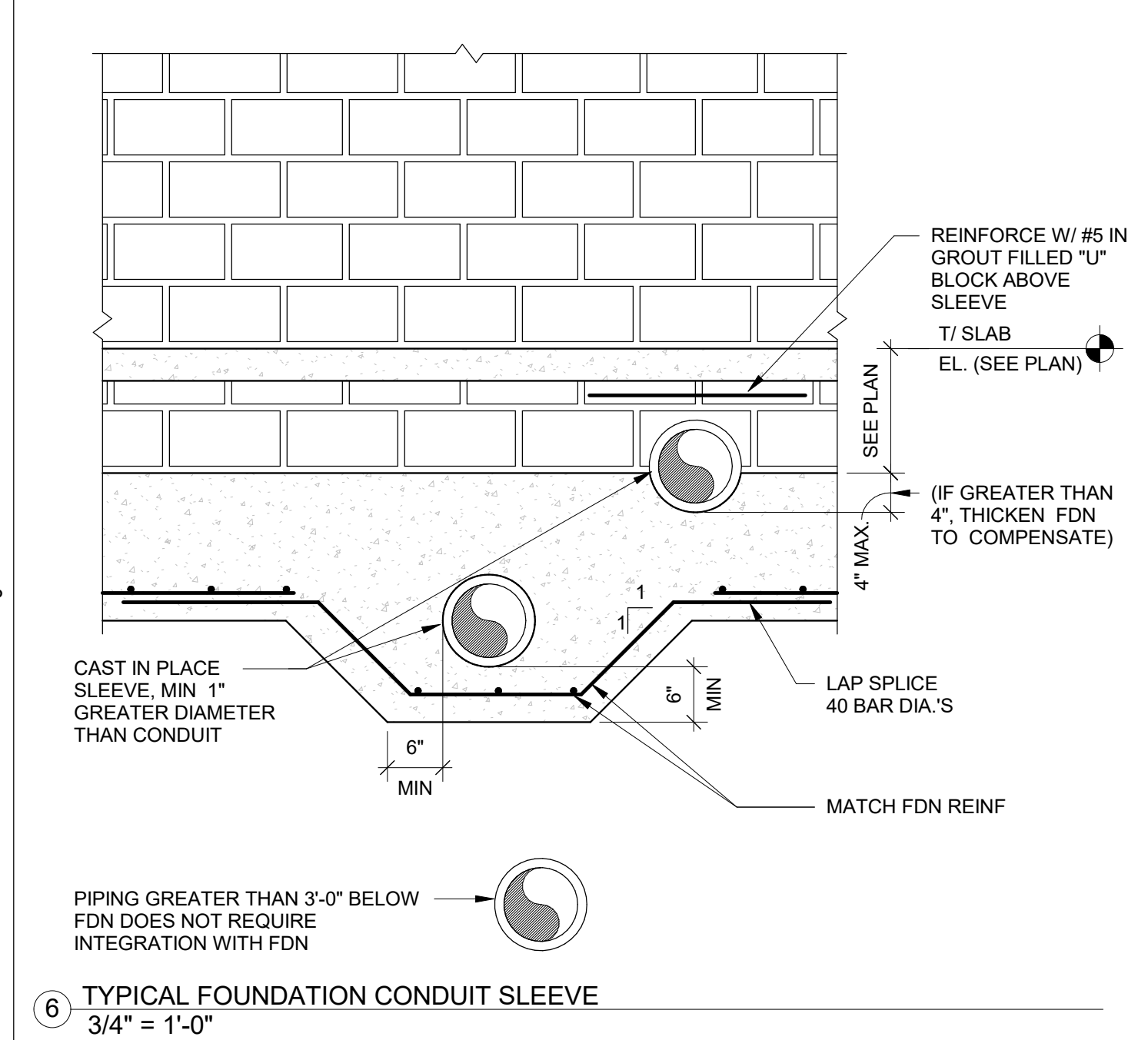
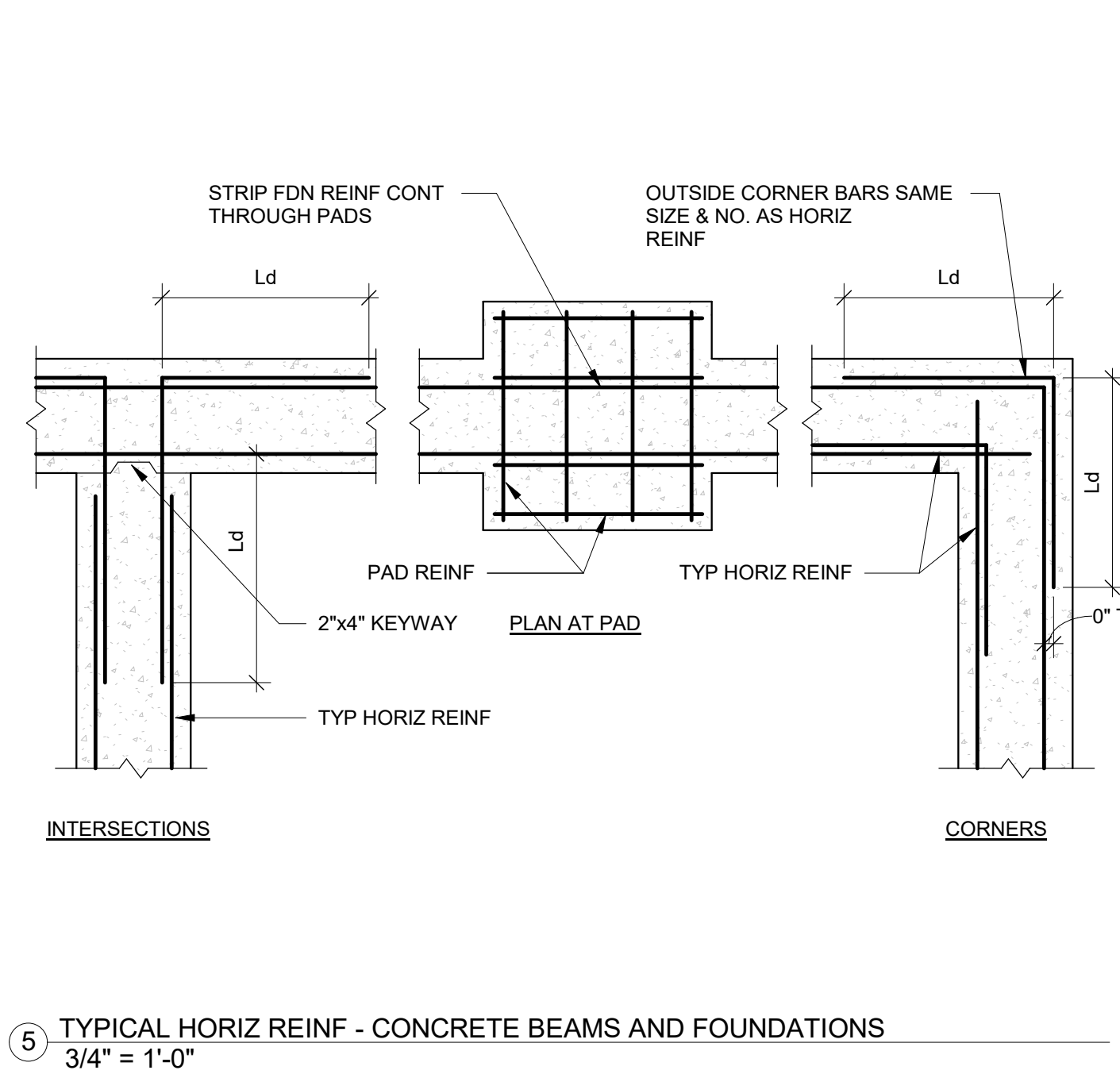
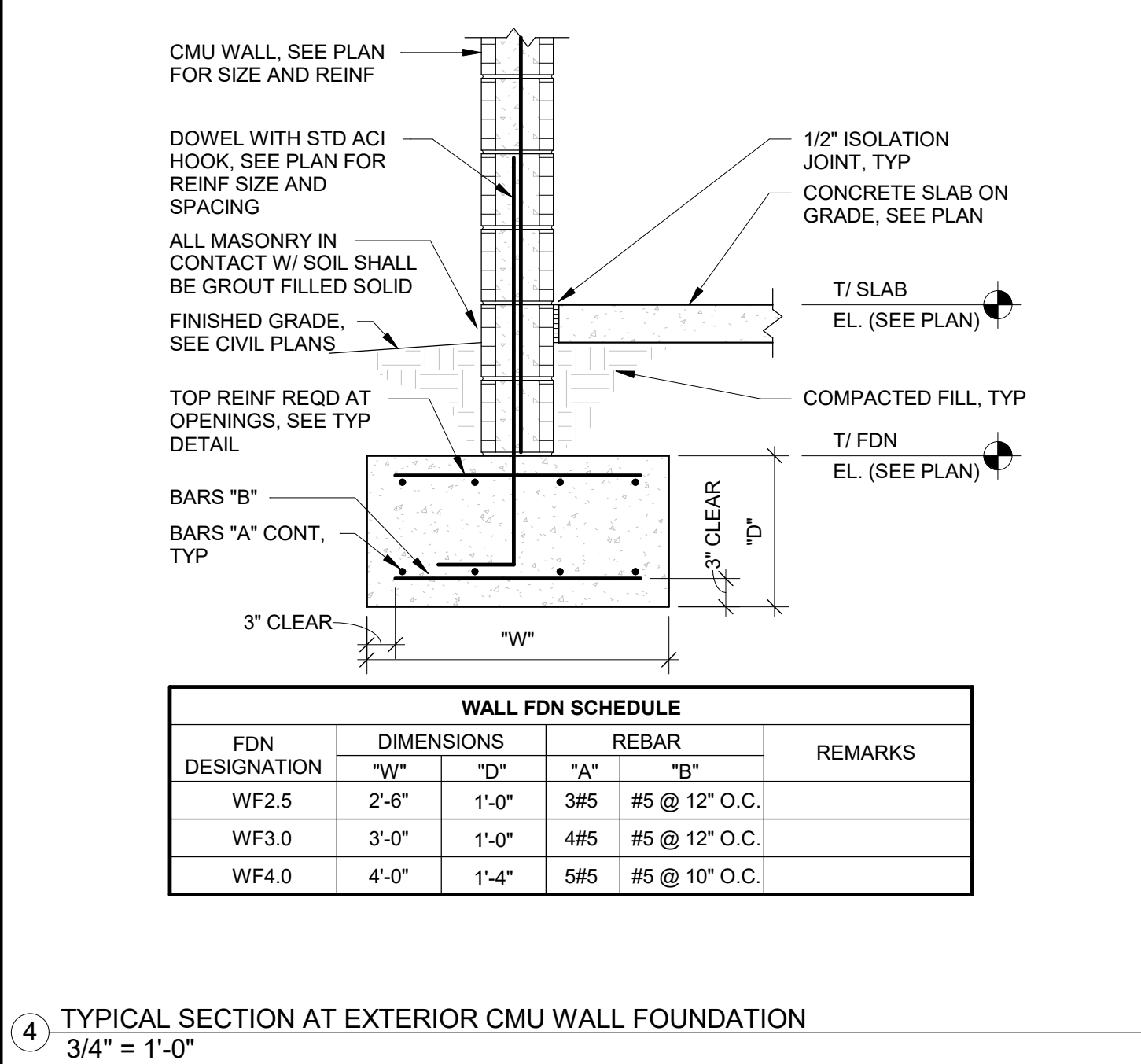
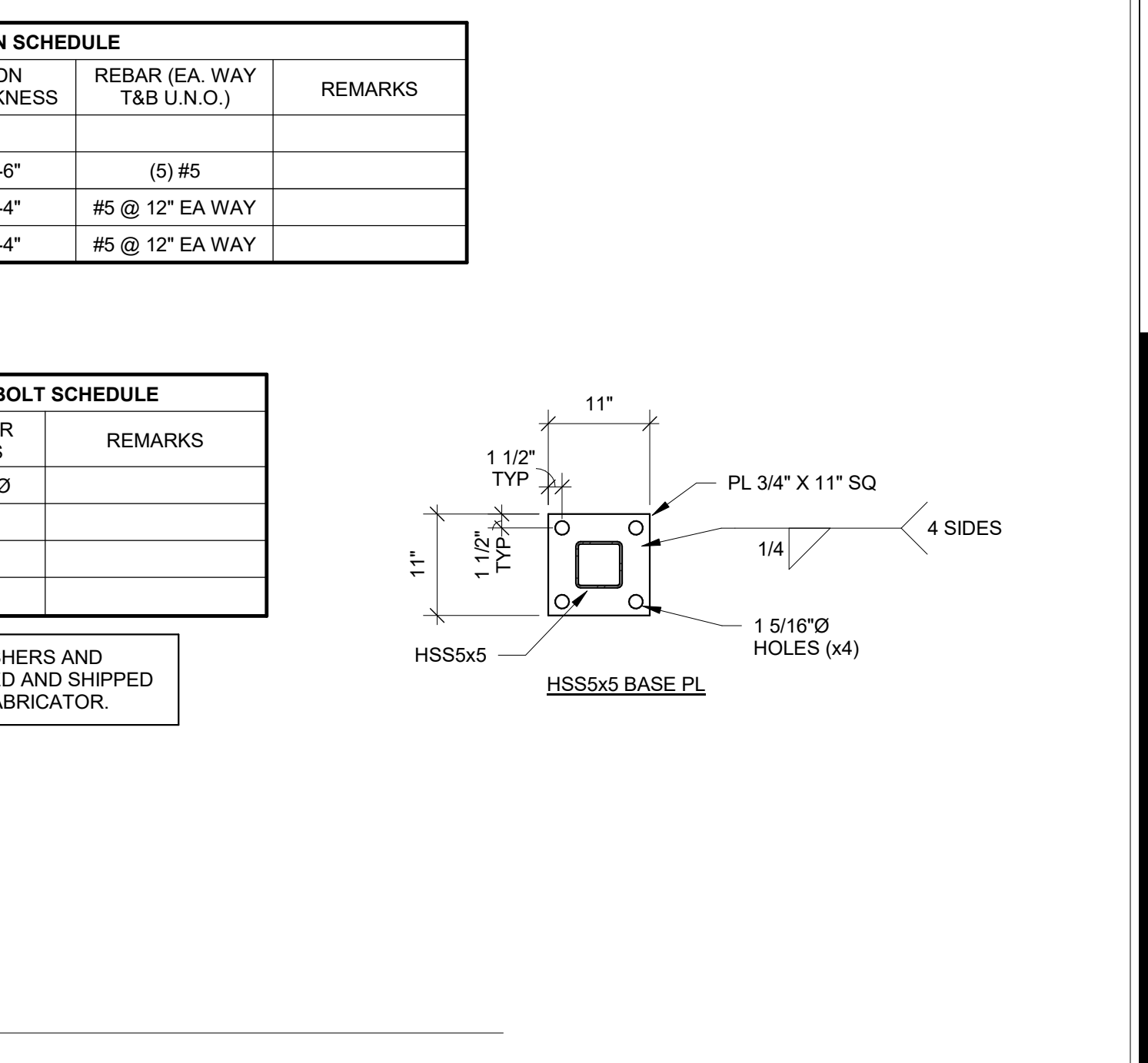
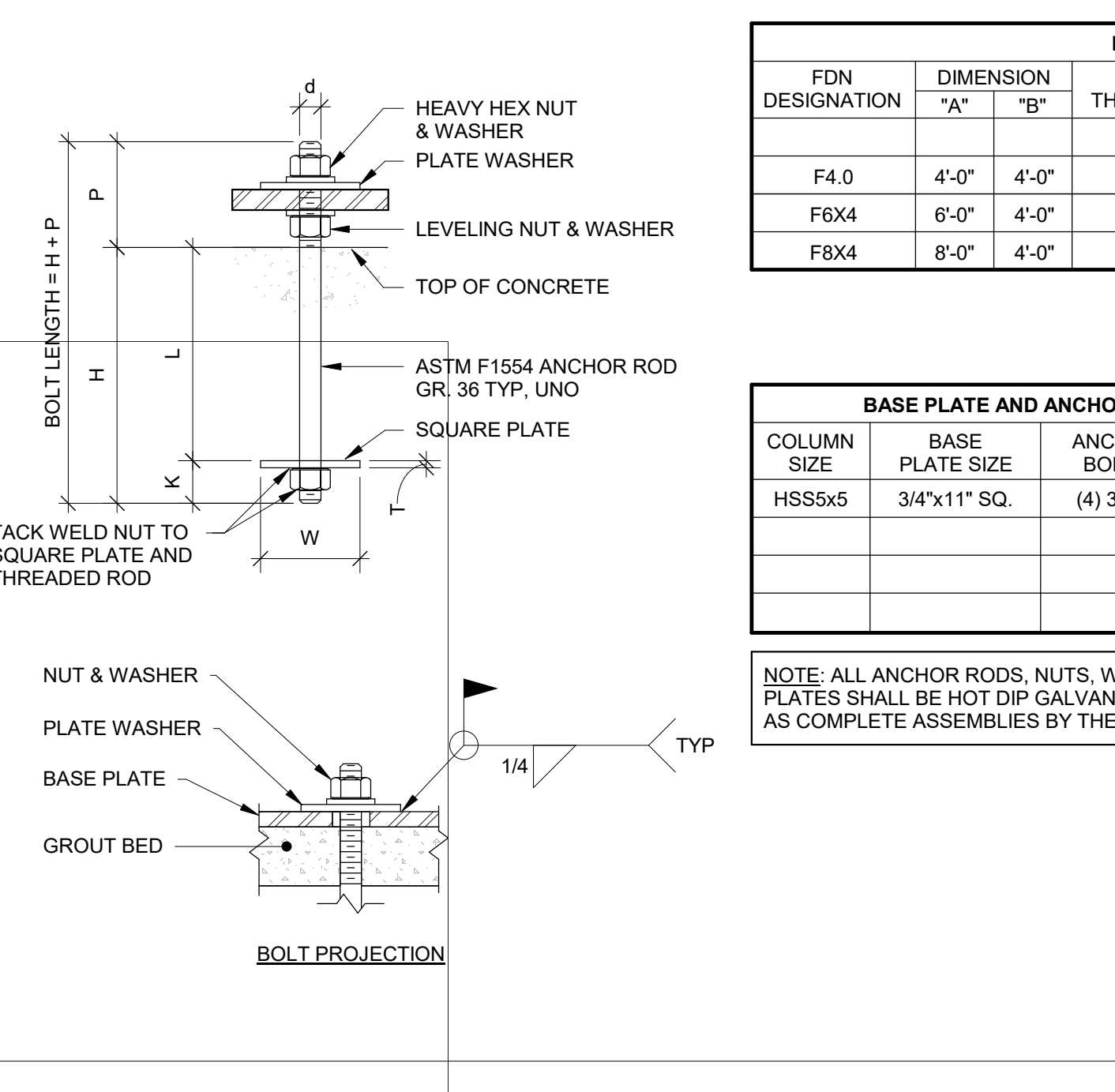
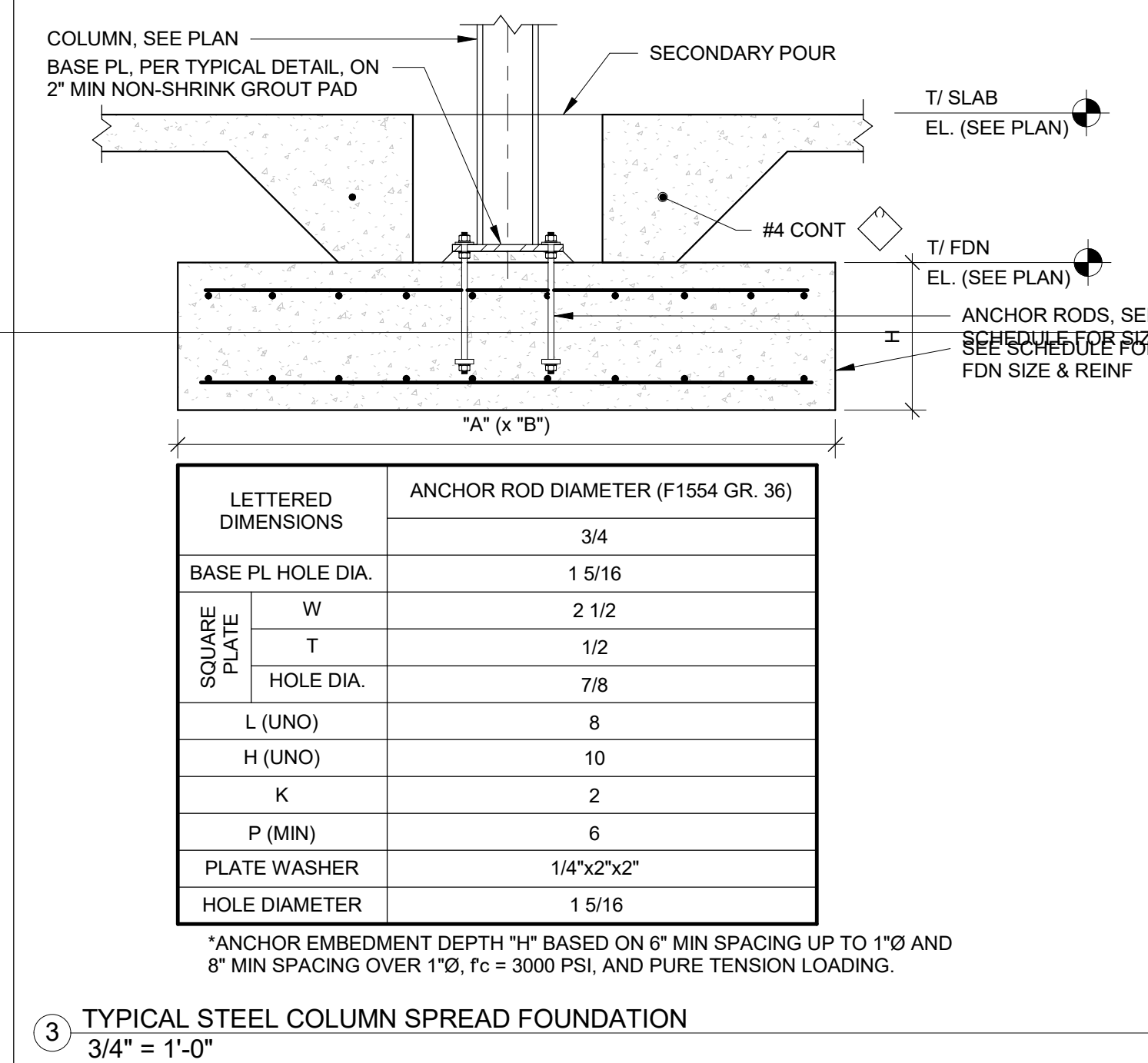
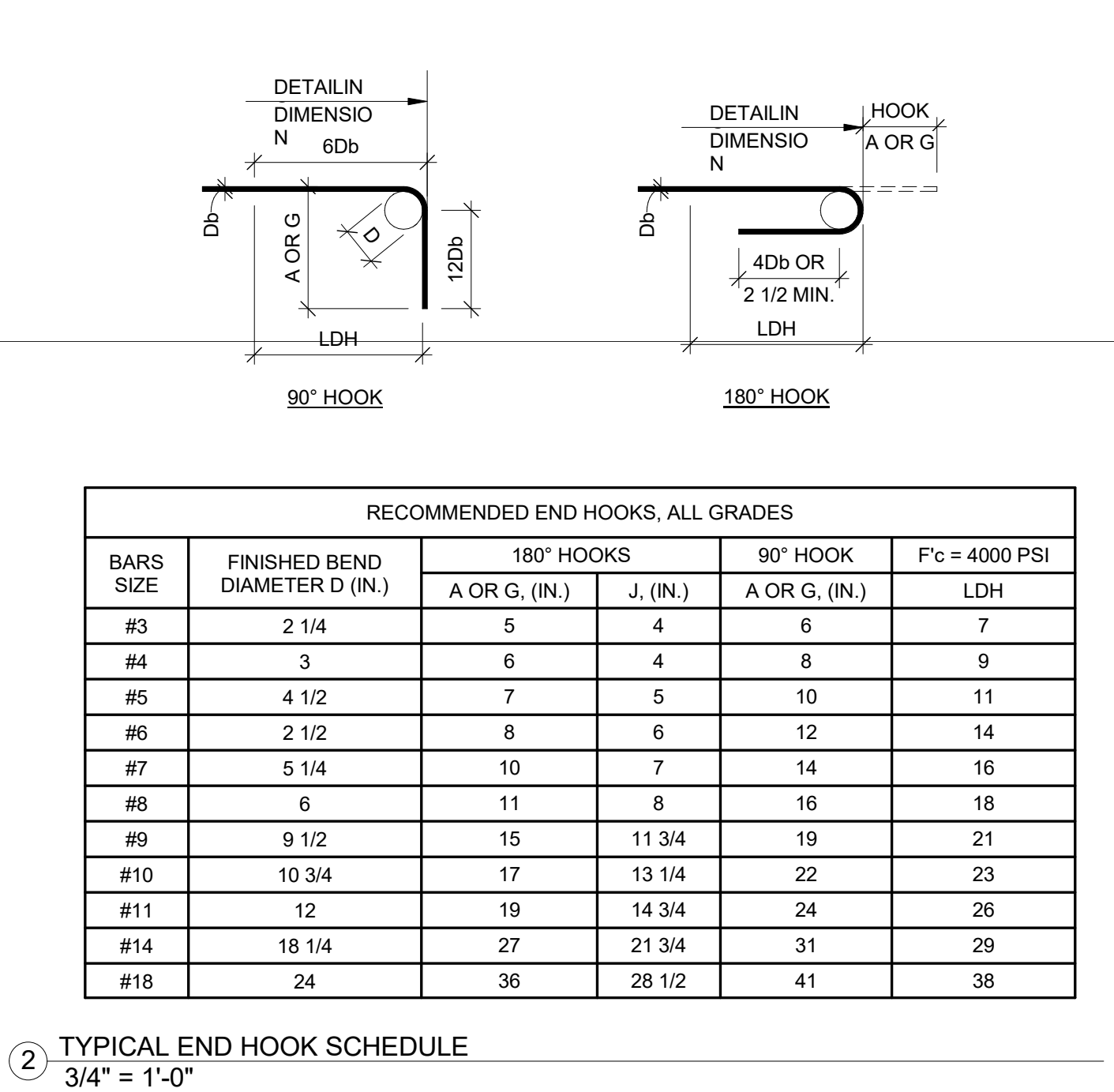
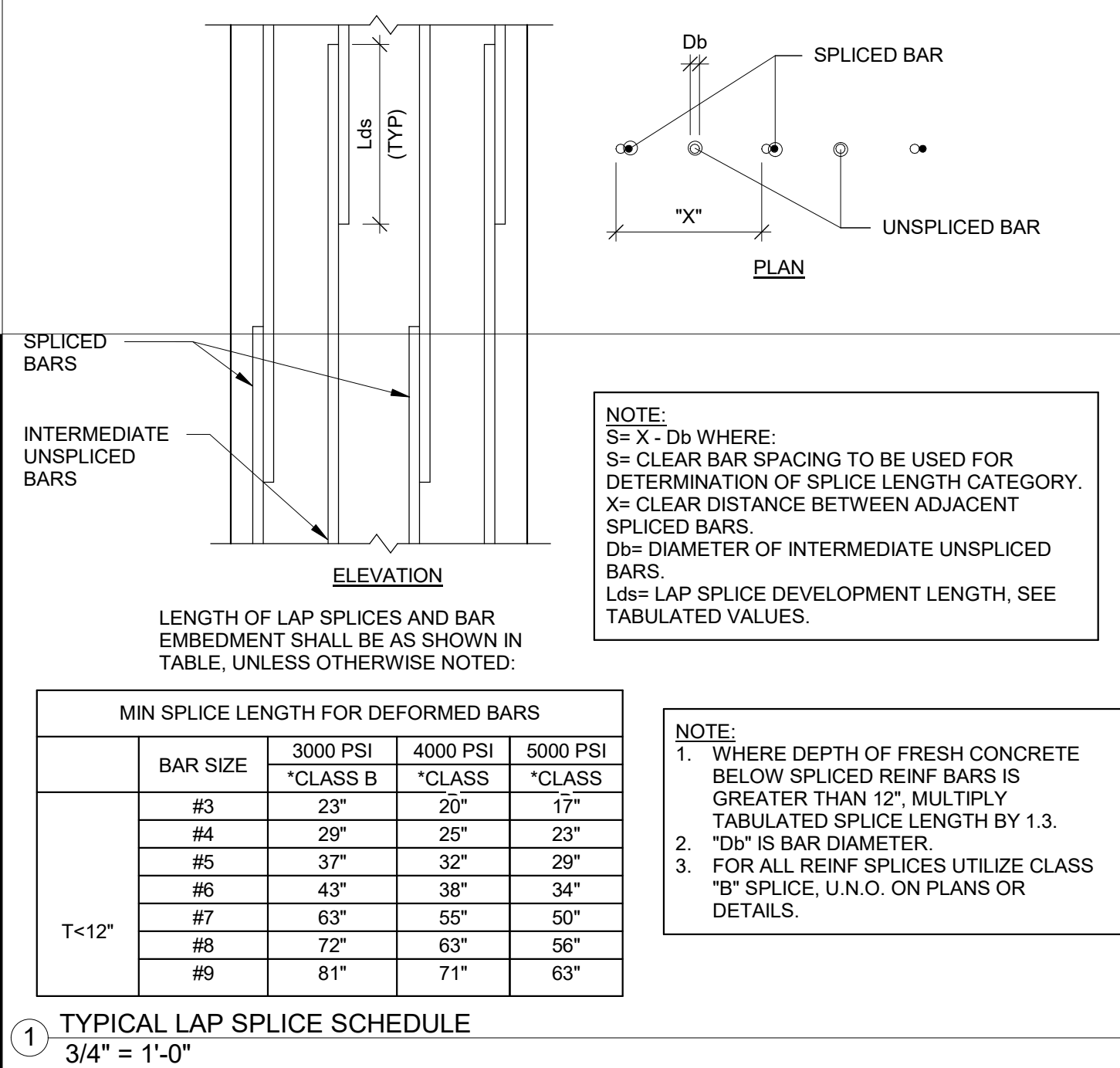
**KTH ARCHITECTS**

LAKE COUNTY  
FIRE STATION NO. 71  
STRUCTURAL SECTIONS  
33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

S4.3

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DATE

DESCRIPTION

NO.

GARY C. KRUEGER  
FL LICENSE NO. 40788

11/9/2021 3:21:10 PM

John P. Adams, AIA  
Jerome Bankovich, Jr., AIA, LEED  
Ethan J. Hine, AIA  
Jennifer Zaffuto, AIA, LEED, NCARB

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**KTH ARCHITECTS**

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**LAKE COUNTY FIRE STATION NO. 71 STRUCTURAL DETAILS**

33661 CR 473, LEESBURG, FL 34788

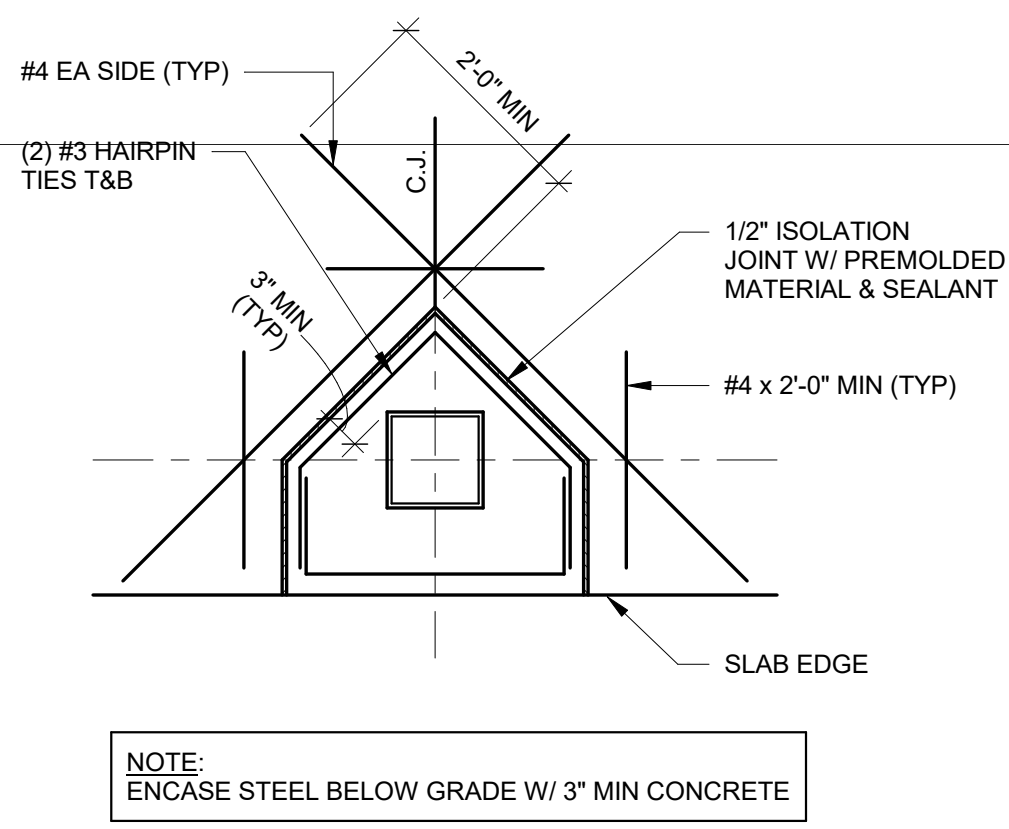
NOVEMBER 10, 2021

**S5.01**

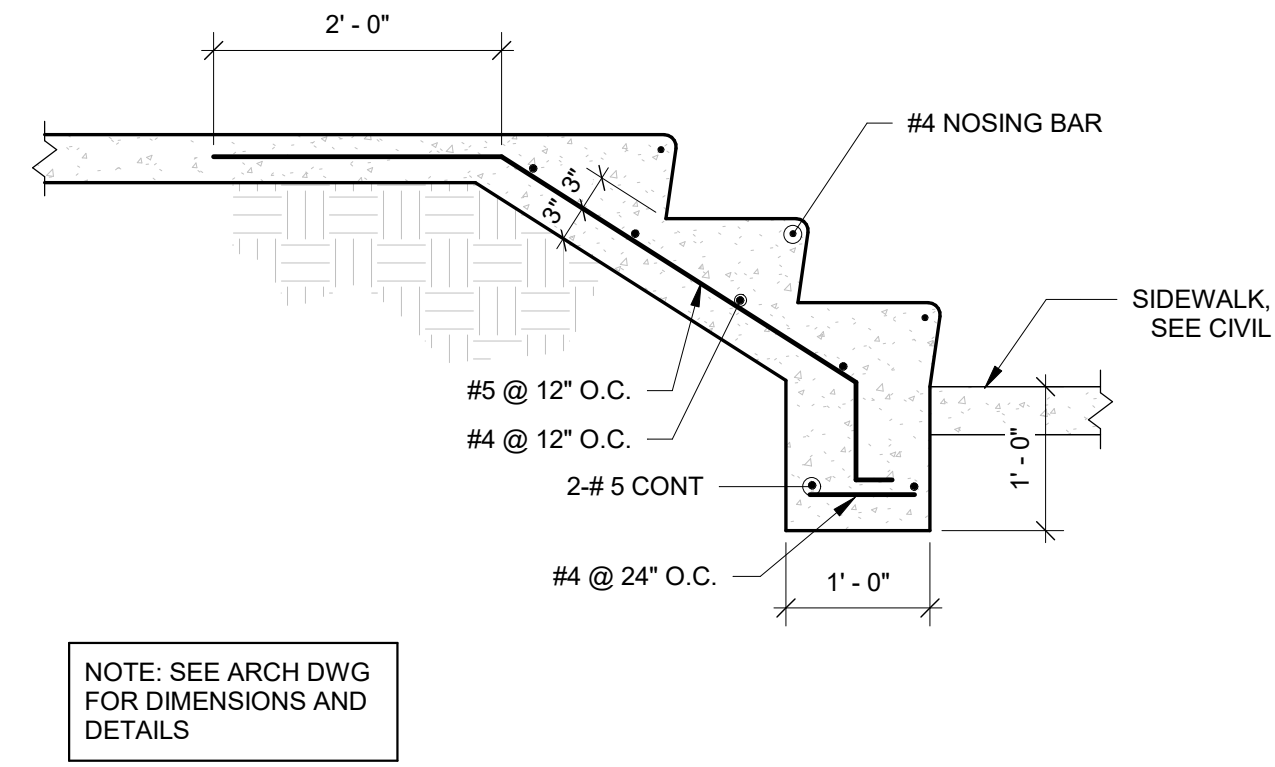
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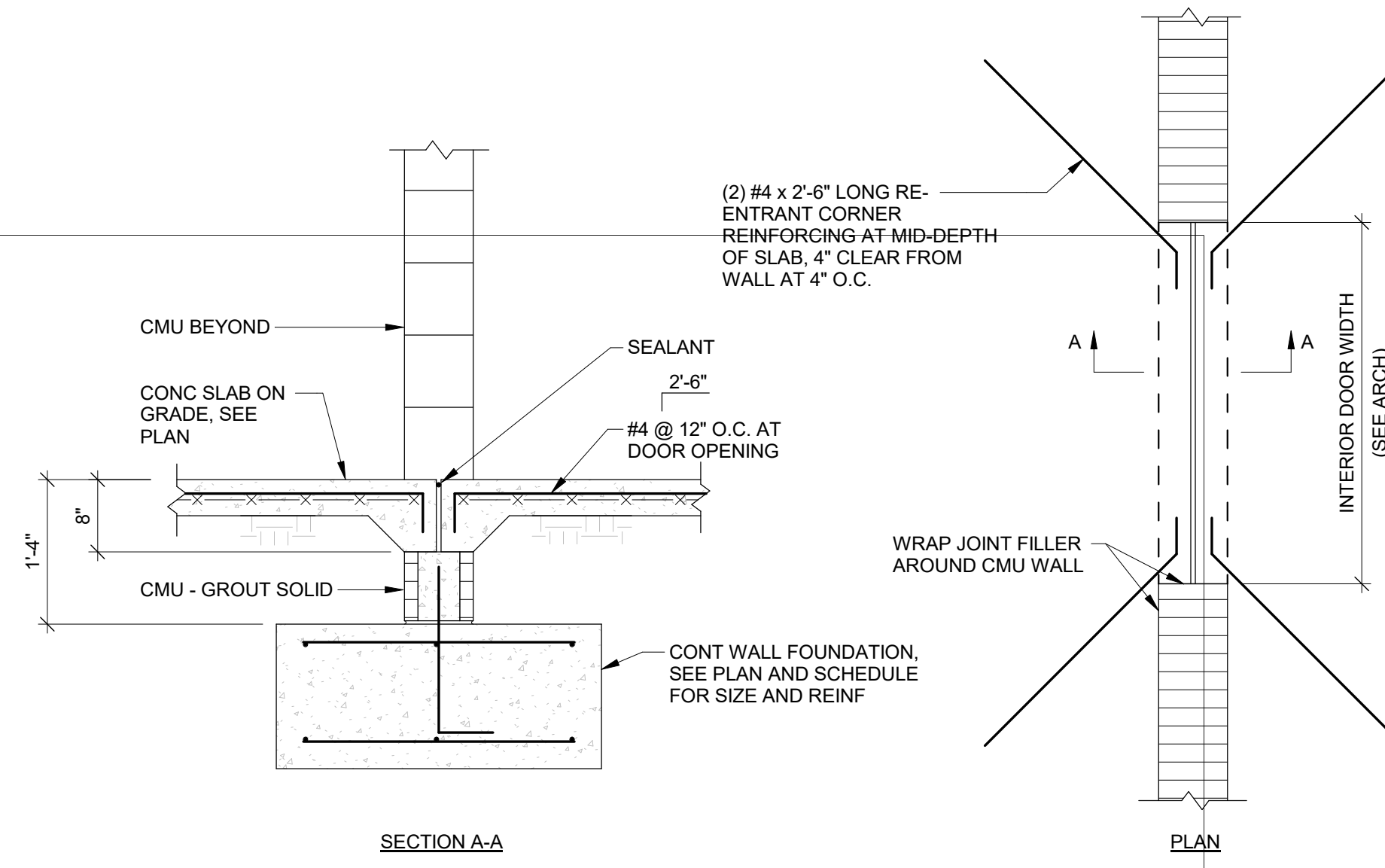
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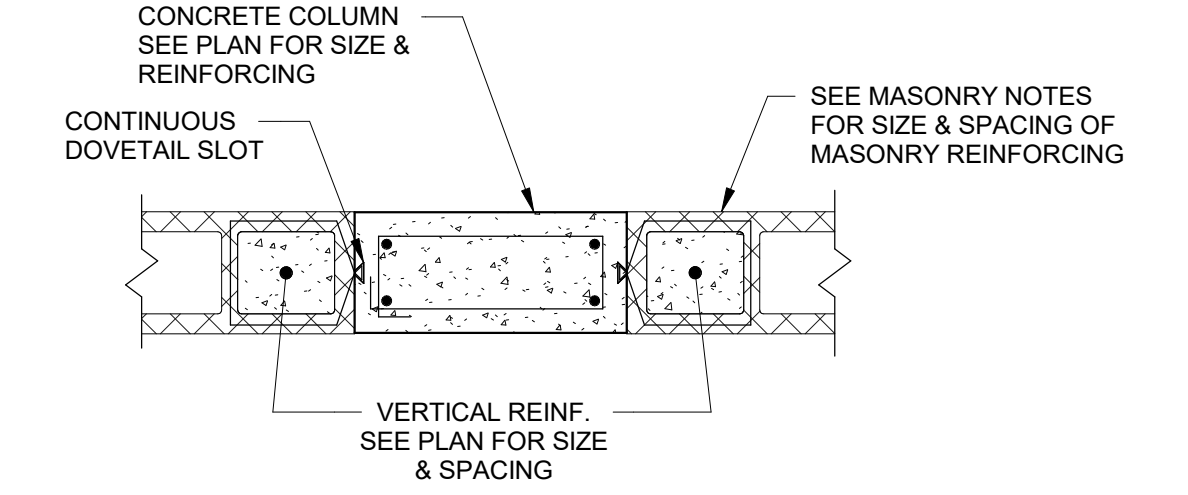
1 TYPICAL ISOLATION JOINT AT EXTERIOR COLUMN  
 3/4" = 1'-0"



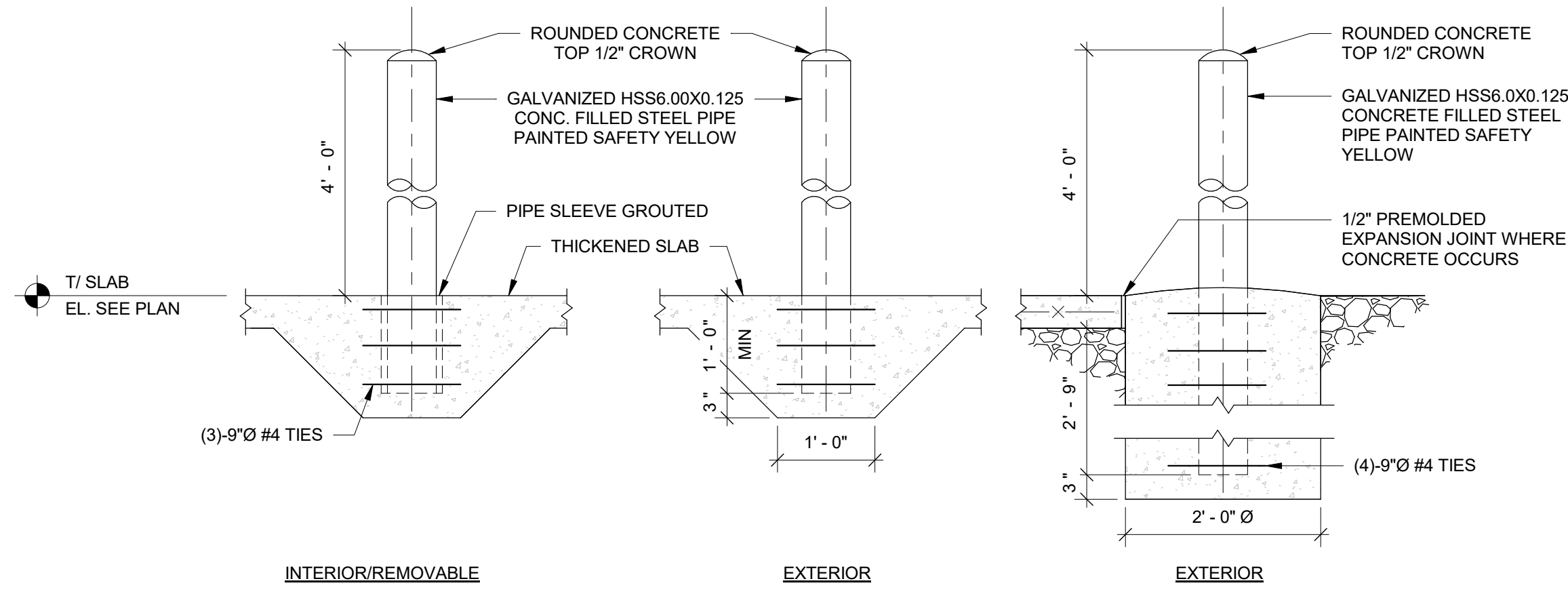
2 TYPICAL SECTION AT CONCRETE STAIR  
 3/4" = 1'-0"



3 TYPICAL CONTROL JOINT AT INTERIOR OPENING  
 3/4" = 1'-0"



4 CONCRETE COLUMN TO MASONRY CONNECTION  
 1" = 1'-0"



5 TYPICAL BOLLARD DETAIL  
 1" = 1'-0"

DATE	DESCRIPTION	NO.

GARY C. KRUEGER  
 FL LICENSE NO. 40788  
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John P. Adams, AIA  
 Jerome Bankovich, Jr., AIA, LEED  
 Ethan J. Hine, AIA  
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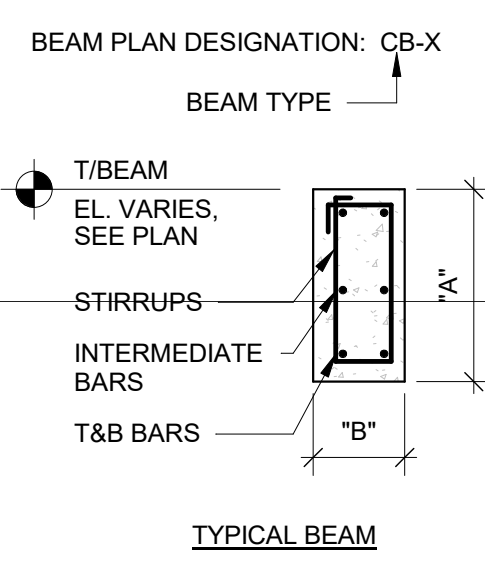
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 FIRE STATION NO. 71  
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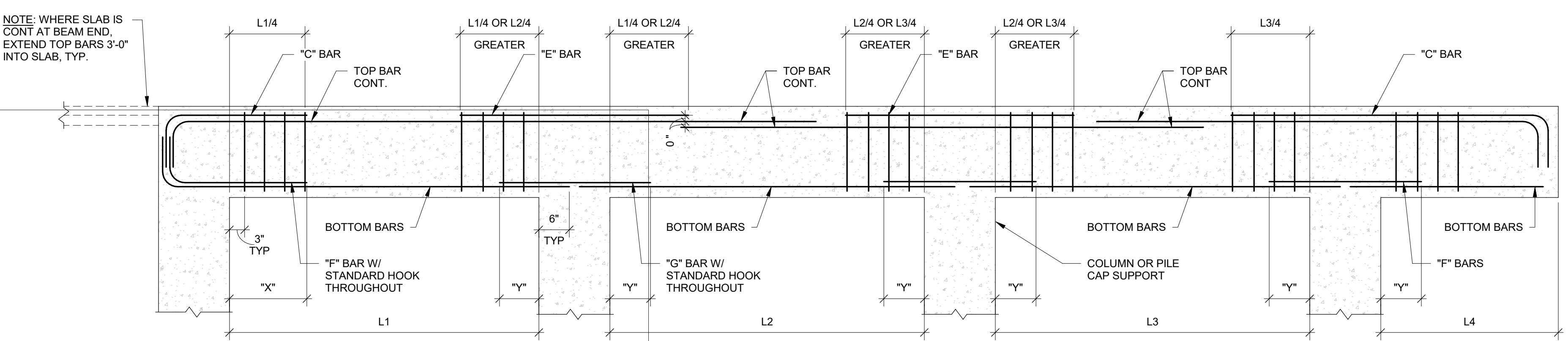
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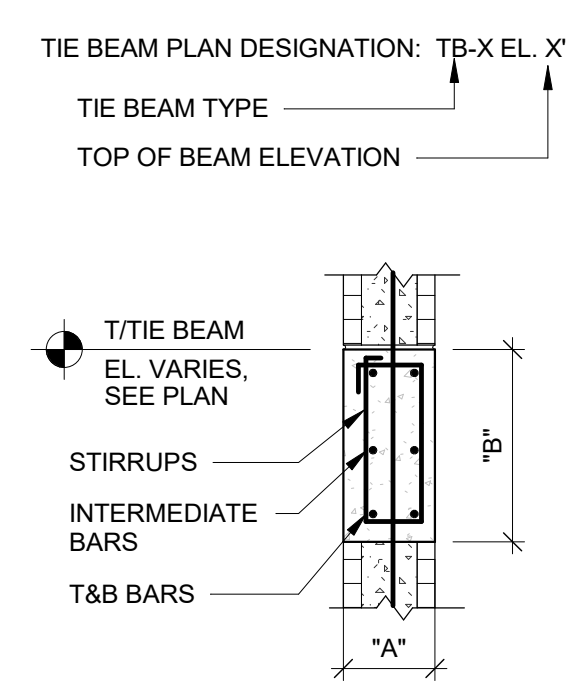
BEAM DESIGNATION	SIZE		REINFORCING				STIRRUPS		"F" BARS	"X" BARS	"G" BARS	"Y" BARS	NOTES
	"A"	"B"	TOP BARS	BOT BARS	"C" BARS	"E" BARS	SPACING EACH END U.N.O.	SPACING INTERMED					
CB-12X12	12"	12"	(2) #5	(2) #5	-	-	#3 @ 12"	#3 @ 6"	-	-	-	-	
CB-12X16	12"	16"	(2) #5	(2) #5	-	-	#3 @ 12"	#3 @ 6"	-	-	-	-	

NOTES:  
 "F" - REVERSAL BARS - OVER COLUMN HEADS AT DISCONTINUOUS ENDS  
 "G" - REVERSAL BARS - OVER COLUMN HEADS AT INTERIOR SUPPORTS  
 "C" - TOP BARS AT DISCONTINUOUS ENDS  
 "E" - TOP BARS AT INTERIOR SUPPORTS  
 "TOP BARS" - EXTEND TO 1/2 POINT OF ADJACENT SPAN U.N.O. AND LAP SPLICE PER SPLICE SCHEDULE IN STRUCTURAL NOTES



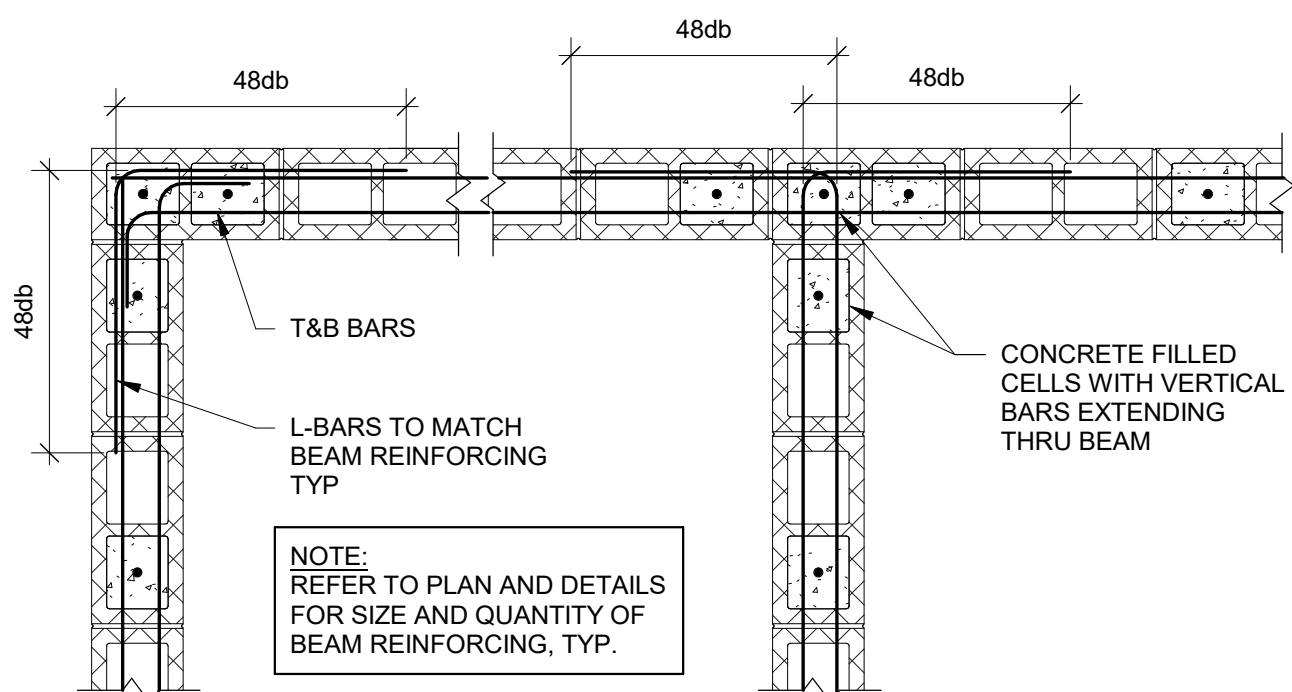
NOTE: WHERE SLAB IS CONT AT BEAM END, EXTEND TOP BARS 3'-0" INTO SLAB, TYP.

1 TYPICAL CAST IN PLACE CONCRETE BEAM DIAGRAM AND SCHEDULE  
 3/4" = 1'-0"

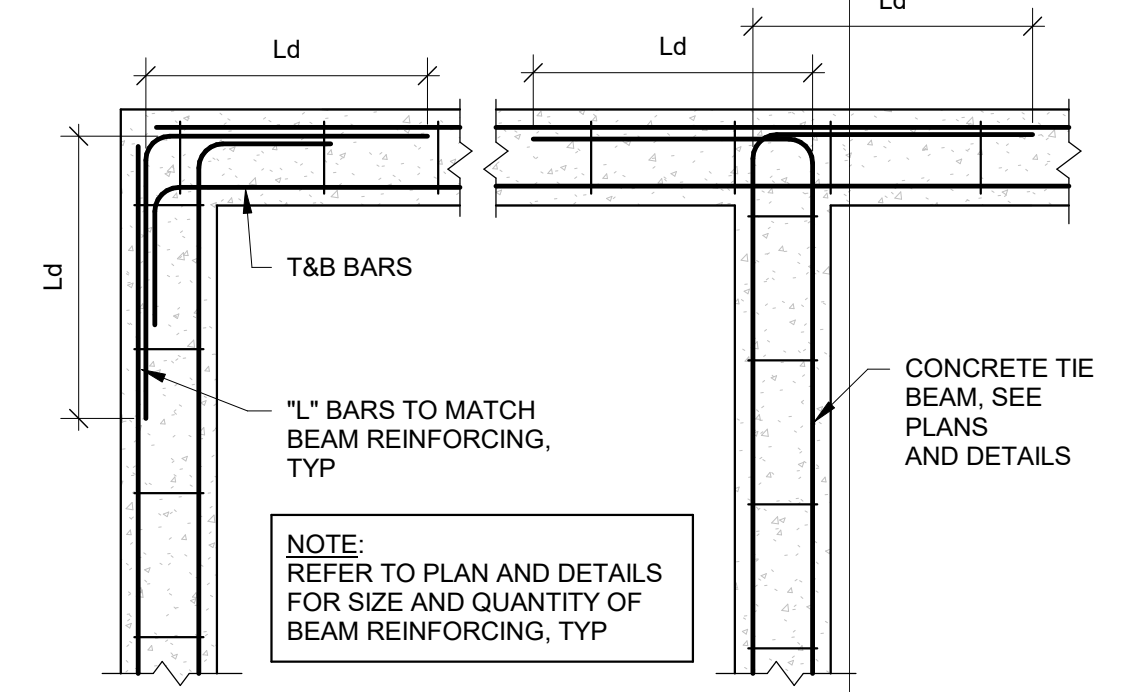


BEAM DESIGNATION	SIZE		REBAR (T & B)	STIRRUPS	NOTES
	"A"	"B"			
TB-8X14	8"	14"	(2) #5	#3 @ 12"	
TB-8X16	8"	16"	(2) #5	#3 @ 12"	
TB-8X24	8"	24"	(2) #5	#3 @ 12"	(1) #5 INTERMEDIATE BAR EA FACE
TB-8X32	8"	32"	(2) #5	#3 @ 12"	(2) #5 INTERMEDIATE BAR EA FACE
RB-8	8"	8" (MIN)	(2) #5	#3 @ 12"	RAKED TIE BEAM, SEE 11 / S5.11
RB-12	12"	8" (MIN)	(2) #5	#3 @ 12"	RAKED TIE BEAM, SEE 11 / S5.11

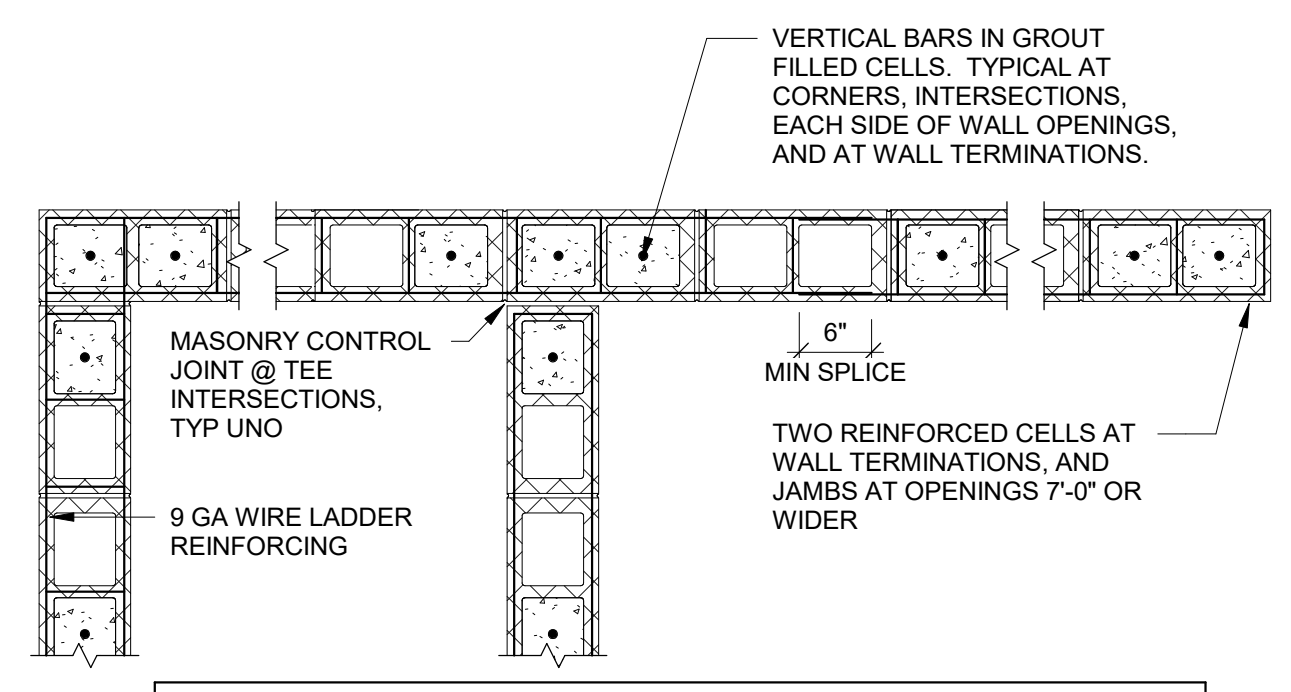
NOTES:  
 1. LAP SPLICE TOP AND BOTTOM BARS PER SPLICE SCHEDULE.  
 2. SEE PLANS FOR TIE BEAM ELEVATIONS.  
 3. ALL TIE BEAMS SHALL BE CONTINUOUS, UNLESS OTHERWISE NOTED.  
 4. FOR TYPICAL TIE BEAMS WITH ELEVATION THAT VARIES, STEP TIE BEAM AS REQUIRED TO FOLLOW ROOF SLOPE. SEE STEPPED TIE BEAM DETAIL.  
 5. TIE BEAMS AND CONCRETE BEAMS SHALL BEAR A MINIMUM OF 8" ON MASONRY WALLS, WITH THE CELLS UNDER THE POINT OF BEARING REINFORCED AND GROUTED SOLID.  
 6. WHERE BEAMS INTERSECT A MASONRY WALL, WITHOUT FORMING A T- OR L-SHAPED BEAM CONFIGURATION, BEAM SHALL FULLY BEAR ON WALL FOR FULL DEPTH OF WALL AND FULL WIDTH OF BEAR. ALL CELLS UNDER BEAM BEARING SHALL BE GROUTED SOLID AND REINFORCED. TOP & BOTTOM BARS SHALL BE TERMINATED IN STANDARD 90° HOOKS, WHERE A T- OR L-SHAPED BEAM INTERSECTION IS FORMED, TOP & BOTTOM BARS SHALL BE LAP SPLICED WITH CORNER OR INTERSECTION BARS.



NOTE: REFER TO PLAN AND DETAILS FOR SIZE AND QUANTITY OF BEAM REINFORCING, TYP.



NOTE: REFER TO PLAN AND DETAILS FOR SIZE AND QUANTITY OF BEAM REINFORCING, TYP.



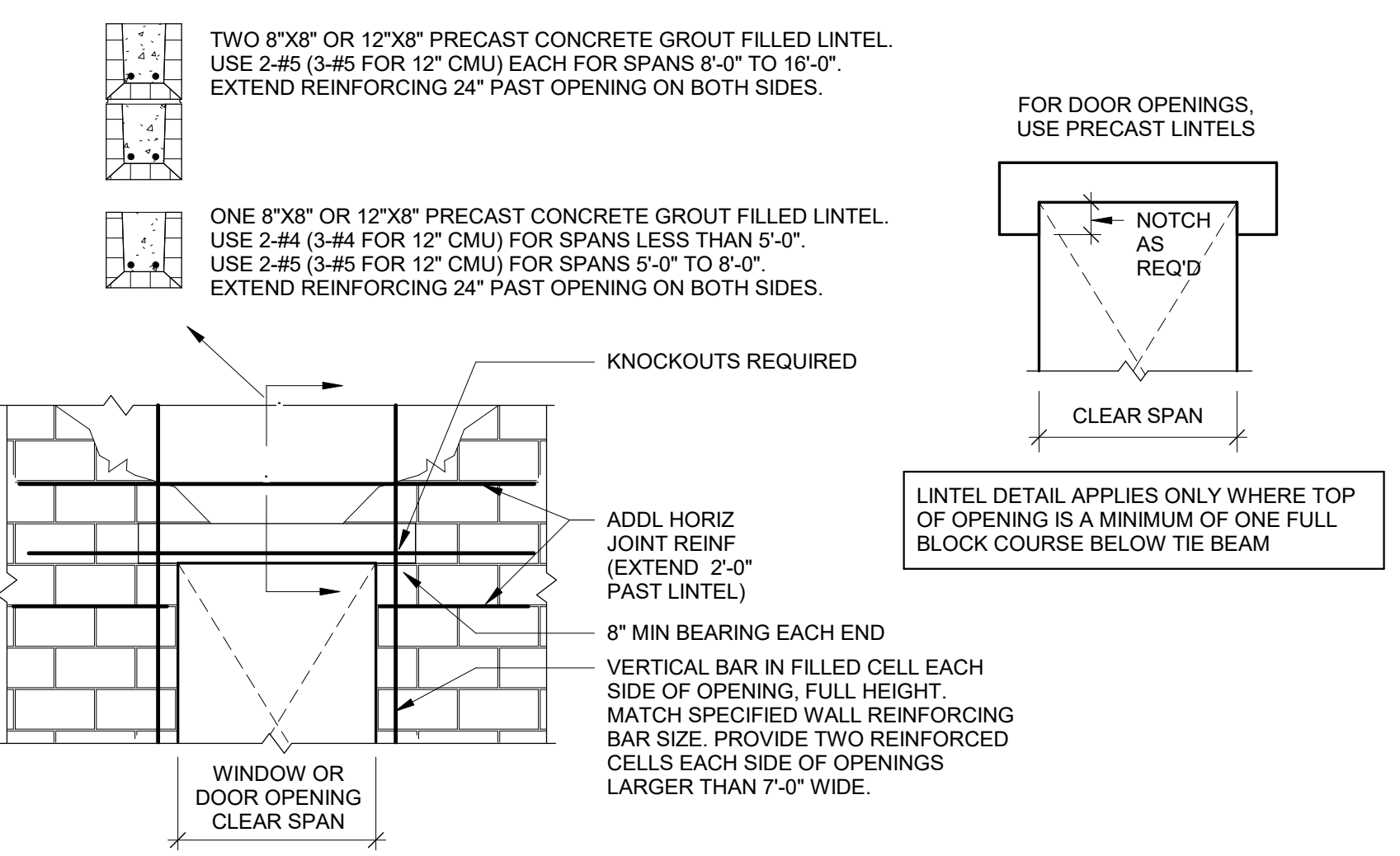
NOTES:  
 1. TYPICAL WIRE LADDER REINFORCEMENT FOR ALL CMU WALLS SPACED @ 16" O.C. VERTICALLY. PROVIDE ADDITIONAL LAYERS ABOVE AND BELOW WINDOW AND DOOR OPENINGS.  
 2. SEE PLAN FOR SIZE AND SPACING OF VERTICAL REINFORCING BARS.  
 3. USE PREFABRICATED L-SHAPED WIRE SEGMENTS AT WALL INTERSECTIONS.  
 4. TERMINATE HORIZONTAL WIRE REINFORCING AT CONTROL JOINTS.

2 CONCRETE BEAM / TIE BEAM SCHEDULE  
 3/4" = 1'-0"

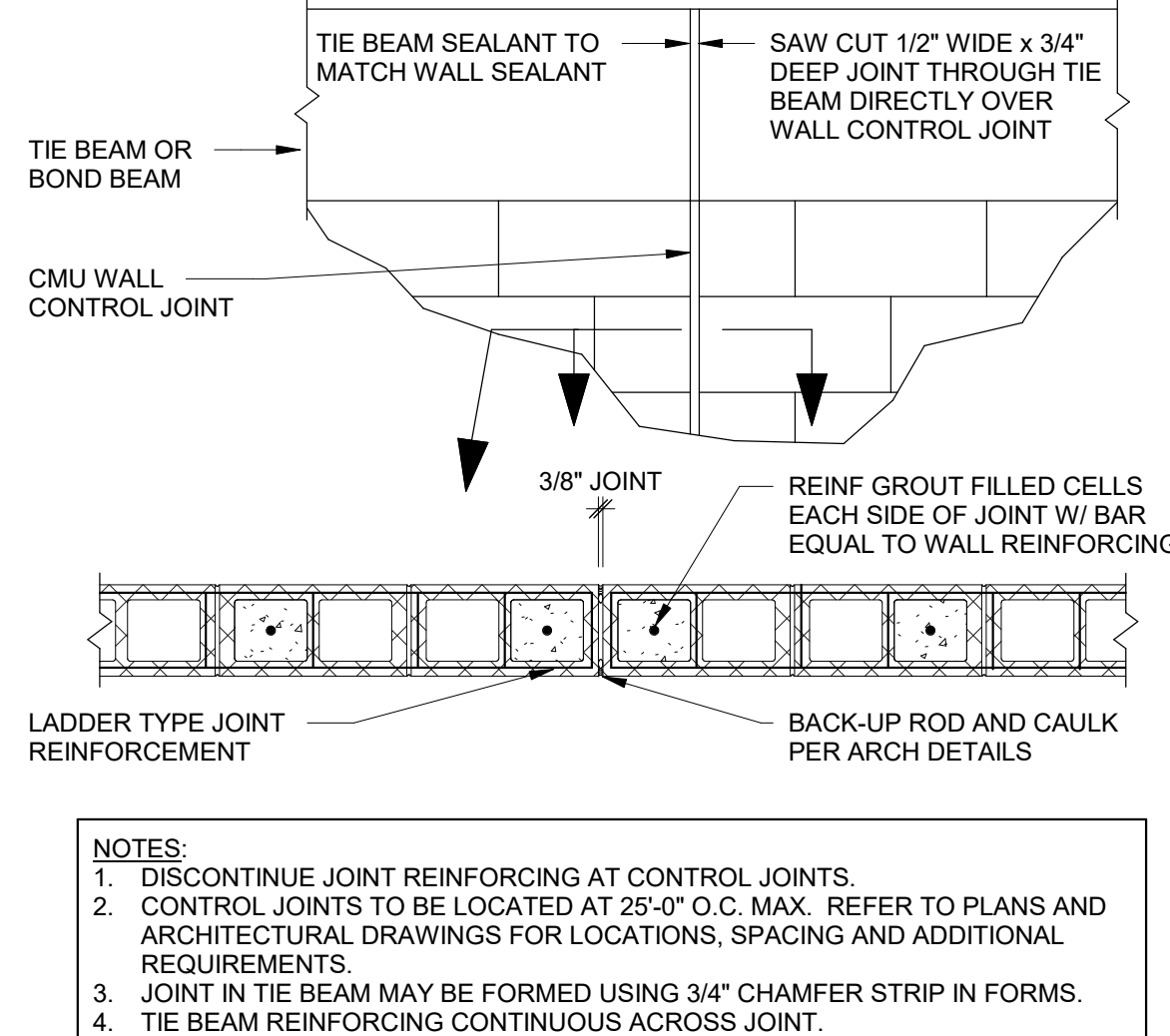
3 TYPICAL BOND BEAM AND CORNER REINFORCING  
 3/4" = 1'-0"

4 TYPICAL CONCRETE TIE BEAM CORNER REINFORCING  
 3/4" = 1'-0"

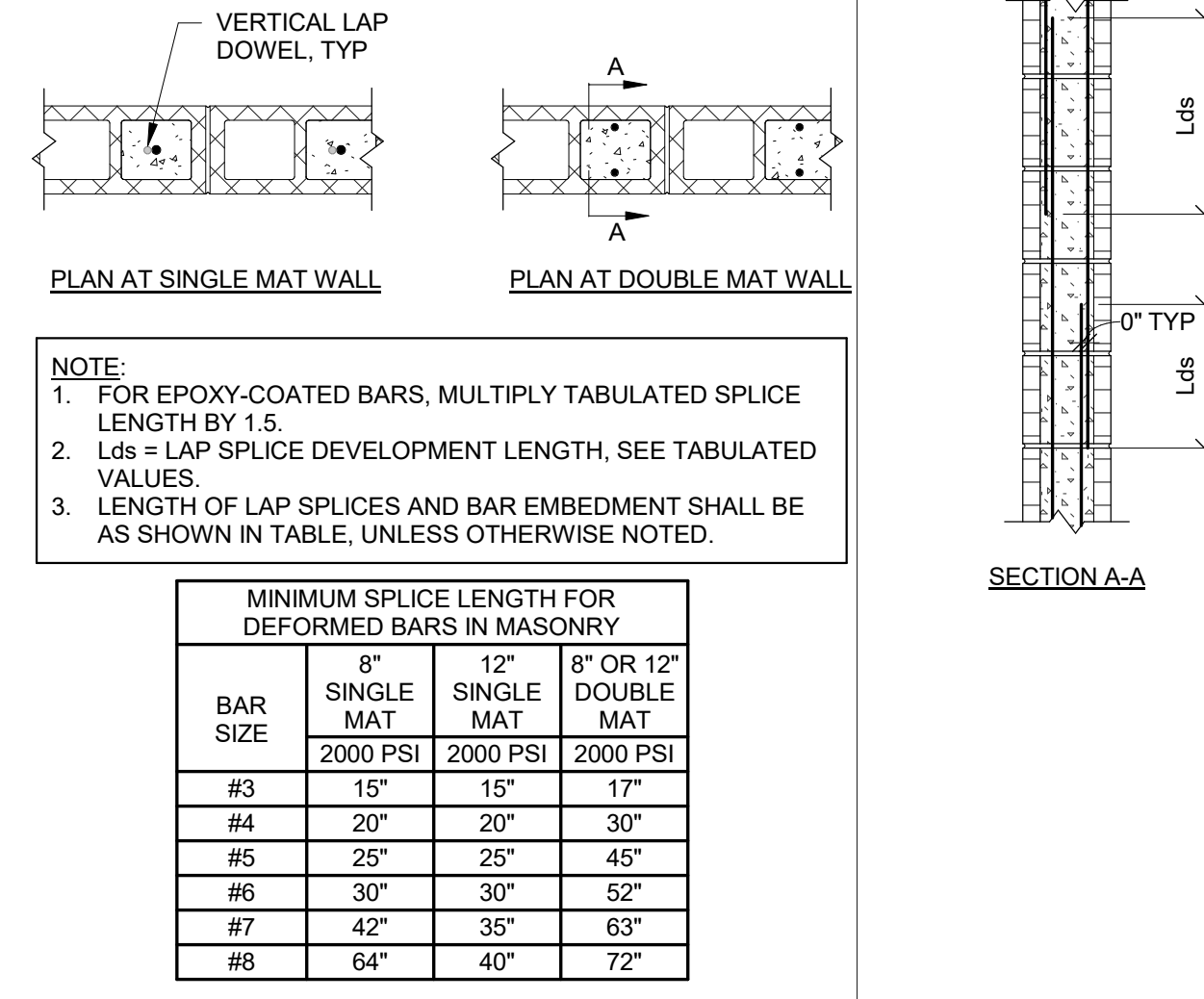
5 TYPICAL HORIZONTAL WALL REINFORCING / VERTICAL CORNER REINFORCING  
 3/4" = 1'-0"



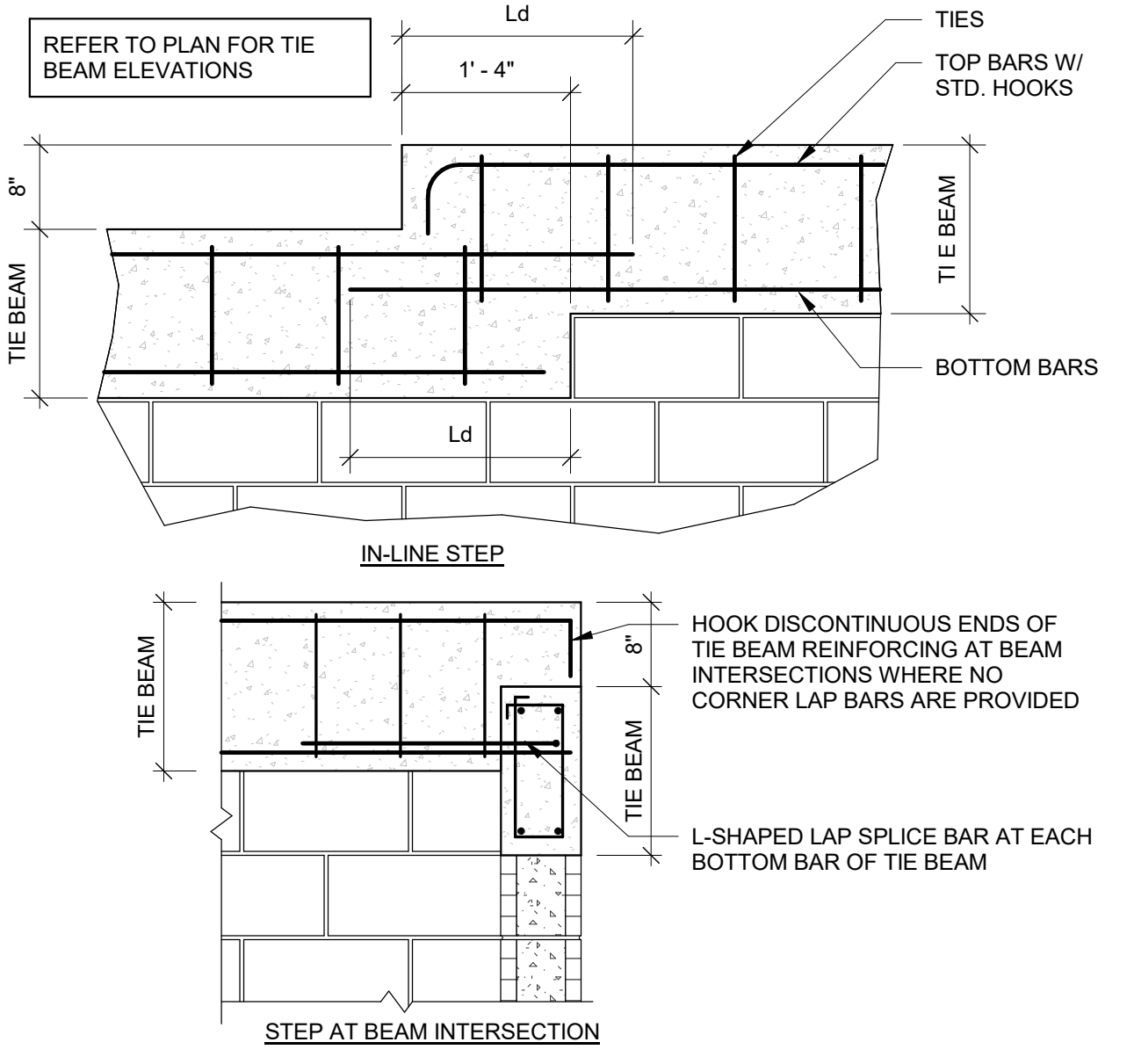
6 TYPICAL MASONRY WALL OPENING LINTEL DETAIL  
 3/4" = 1'-0"



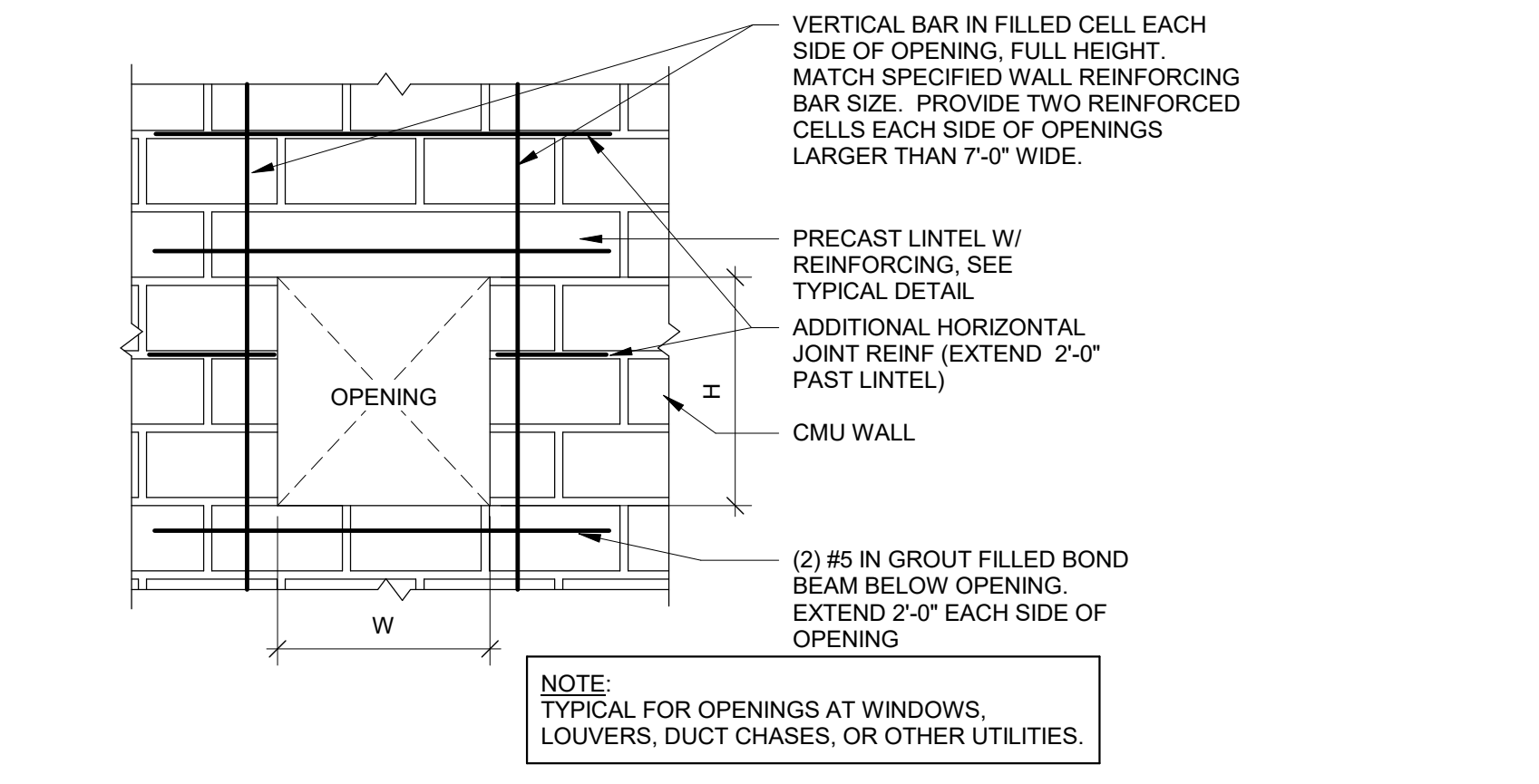
7 TYPICAL MASONRY CONTROL JOINT  
 3/4" = 1'-0"



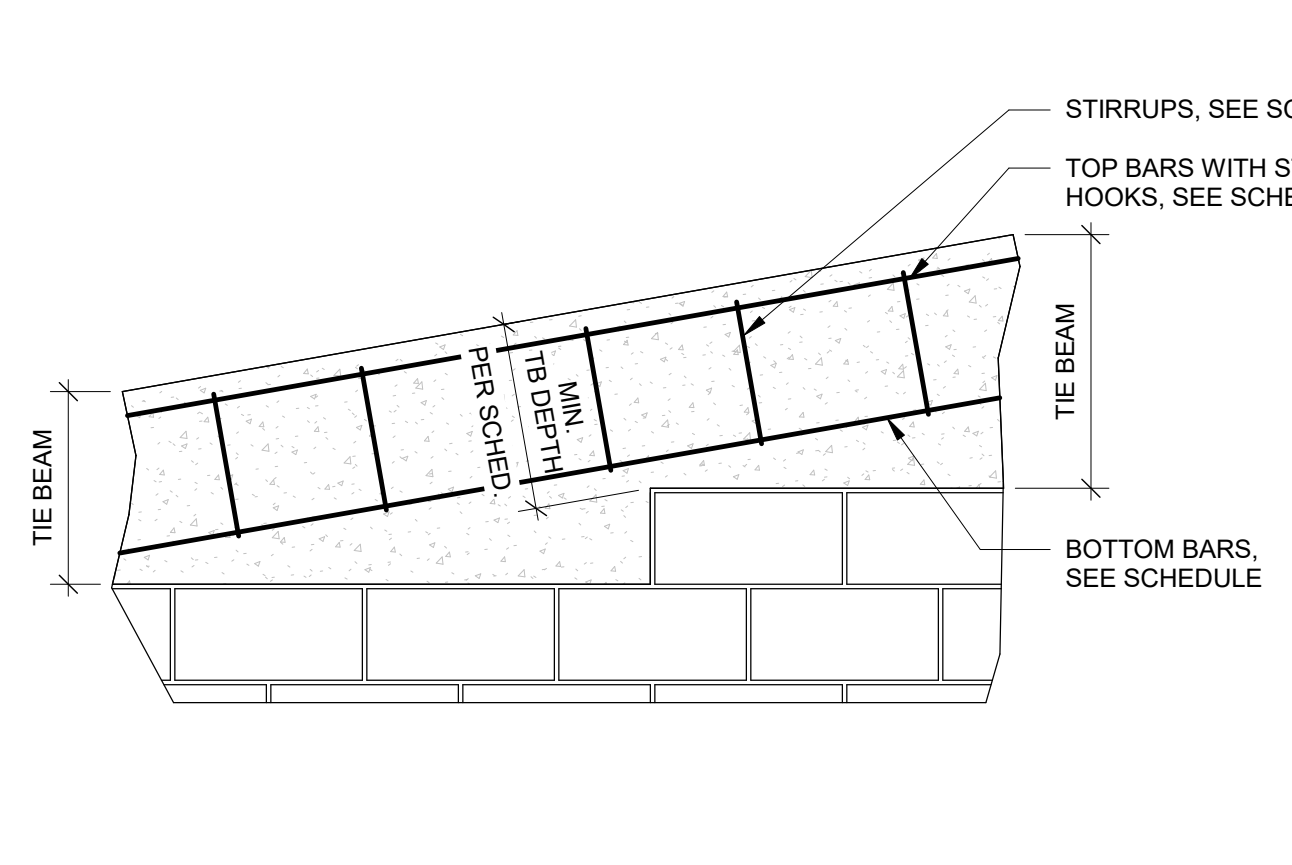
8 TYPICAL MASONRY LAP SPLICE DETAIL  
 3/4" = 1'-0"



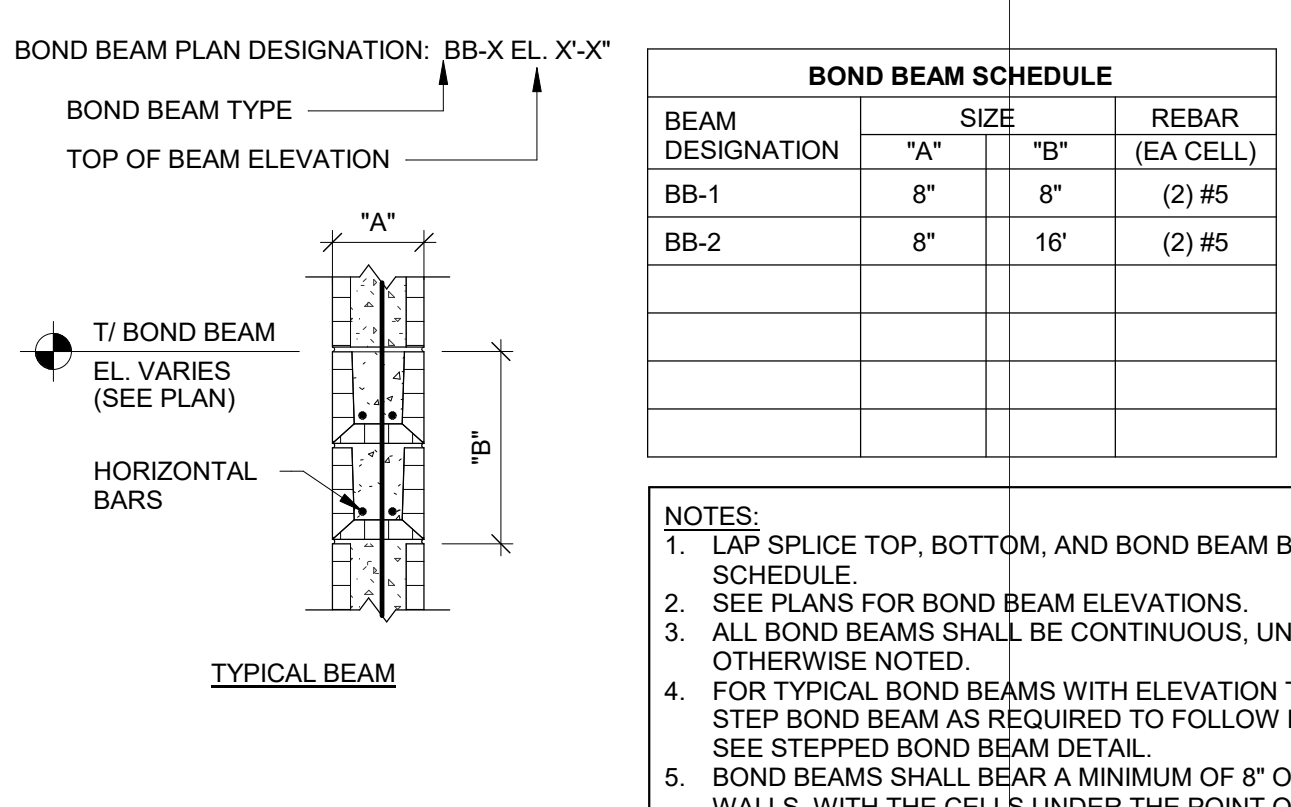
9 TYPICAL STEPPED TIE BEAM DETAIL  
 3/4" = 1'-0"



10 TYPICAL MASONRY WALL OPENING REINFORCING  
 3/4" = 1'-0"



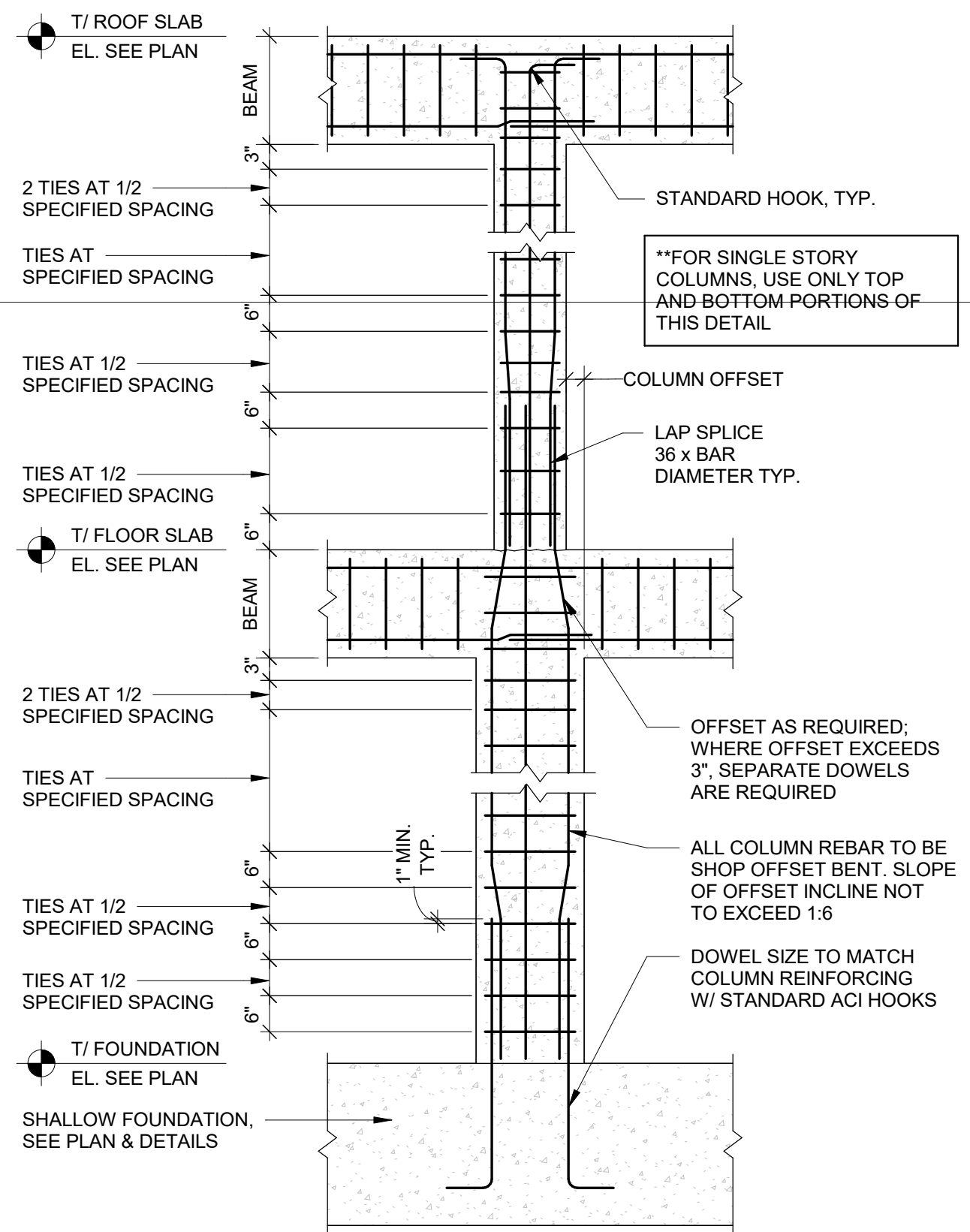
11 TYPICAL RAKED TIE BEAM DETAIL  
 3/4" = 1'-0"



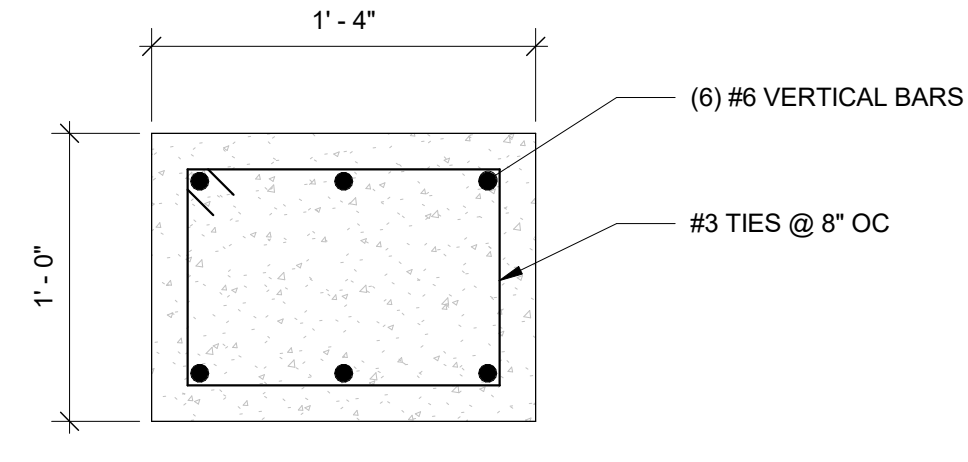
12 CMU BOND BEAM SCHEDULE  
 3/4" = 1'-0"

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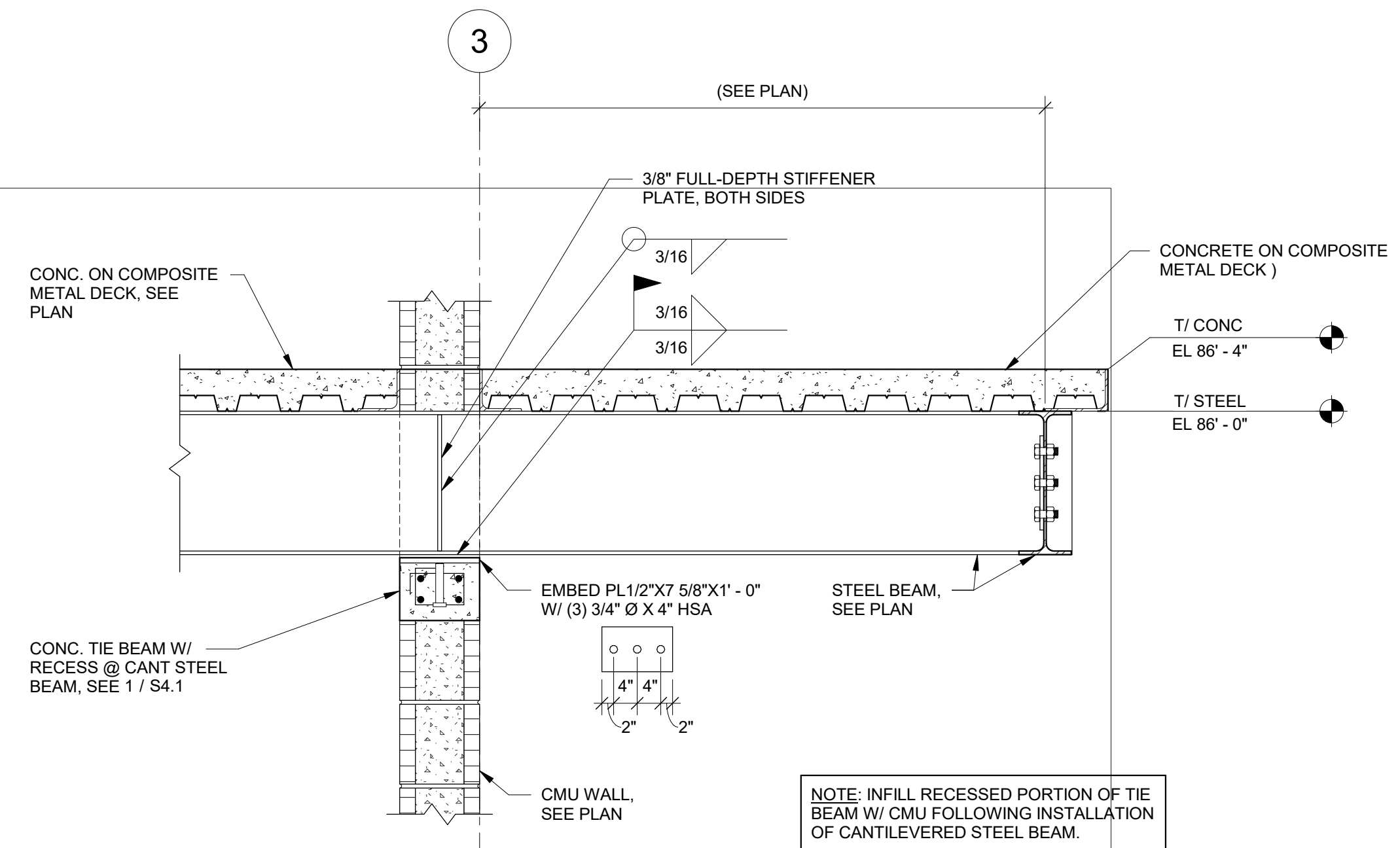
DATE: \_\_\_\_\_  
 DESCRIPTION: \_\_\_\_\_  
 NO.: \_\_\_\_\_  
 GARY C. KRUEGER  
 FL LICENSE NO. 40788  
 JOHN P. ADAMS, AIA  
 JEROME BANKOVICH, JR., AIA, LEED  
 EKHAN J. HINE, AIA  
 JENNIFER ZAFFUTO, AIA, LEED, NCARB  
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 S5.11



1 TYPICAL MULTI-STORY CONCRETE COLUMN  
3/4" = 1'-0"



2 CONCRETE COLUMN SCHEDULE  
1 1/2" = 1'-0"



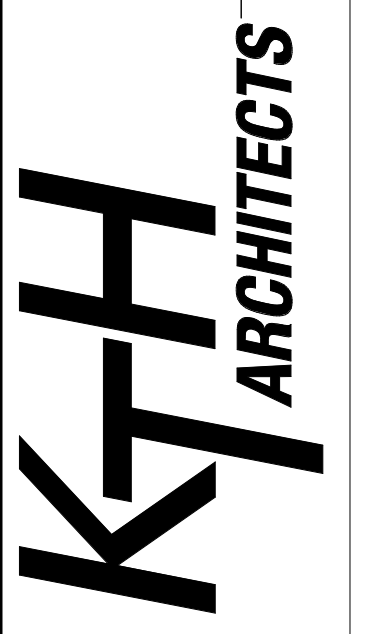
3 CANTILEVERED BEAM BEARING DETAIL  
1" = 1'-0"

DATE	DESCRIPTION	NO.

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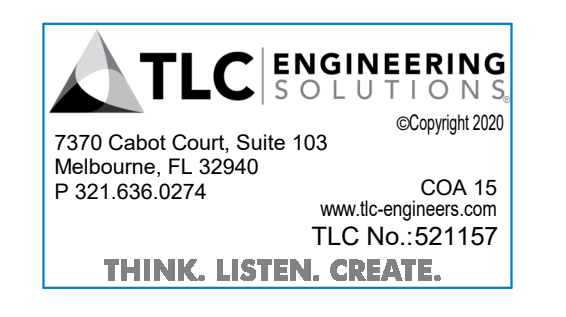
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LAKE COUNTY  
FIRE STATION NO. 71  
STRUCTURAL DETAILS

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NOVEMBER 10, 2021

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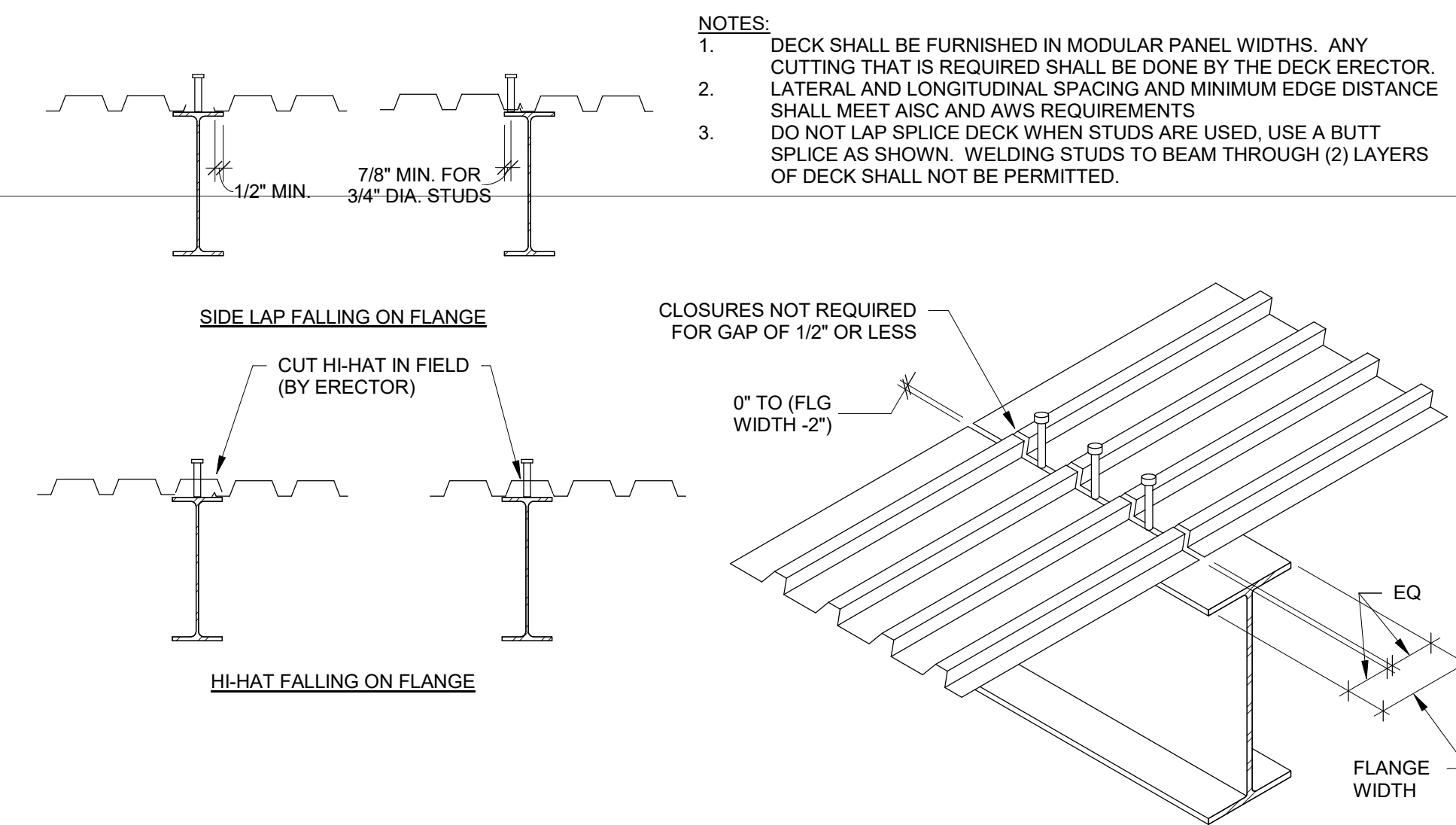
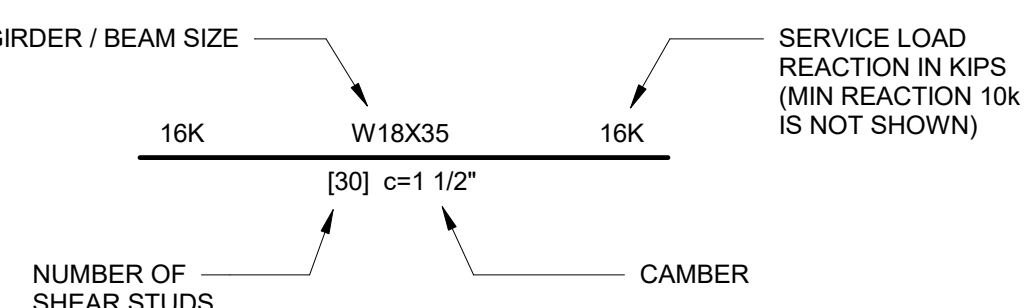
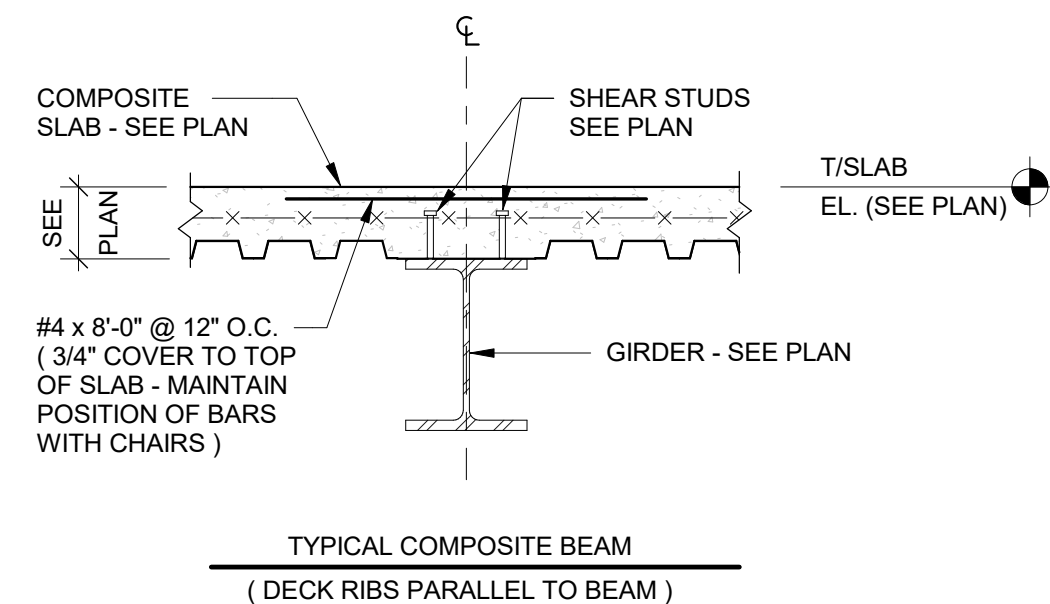
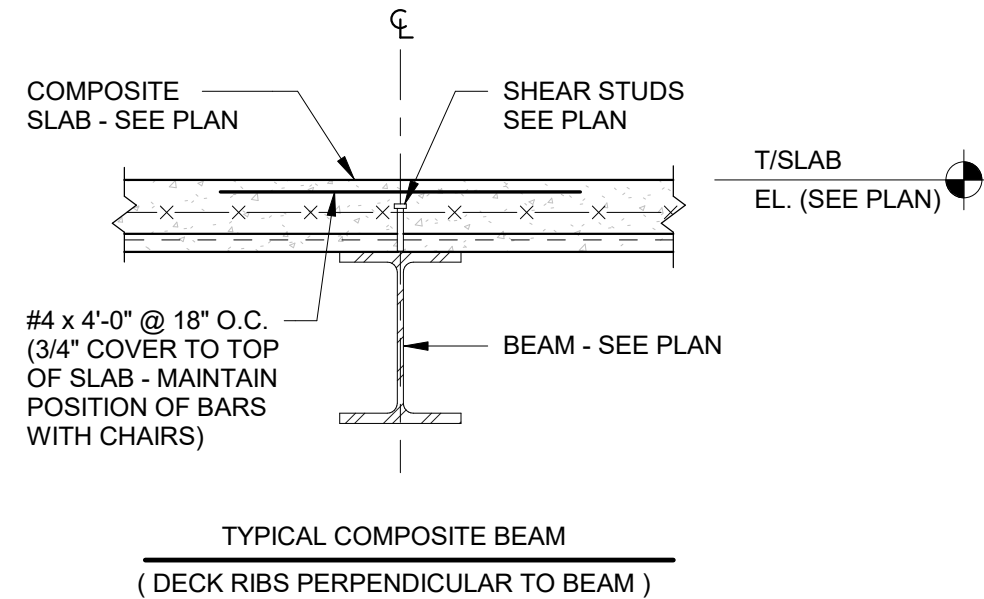


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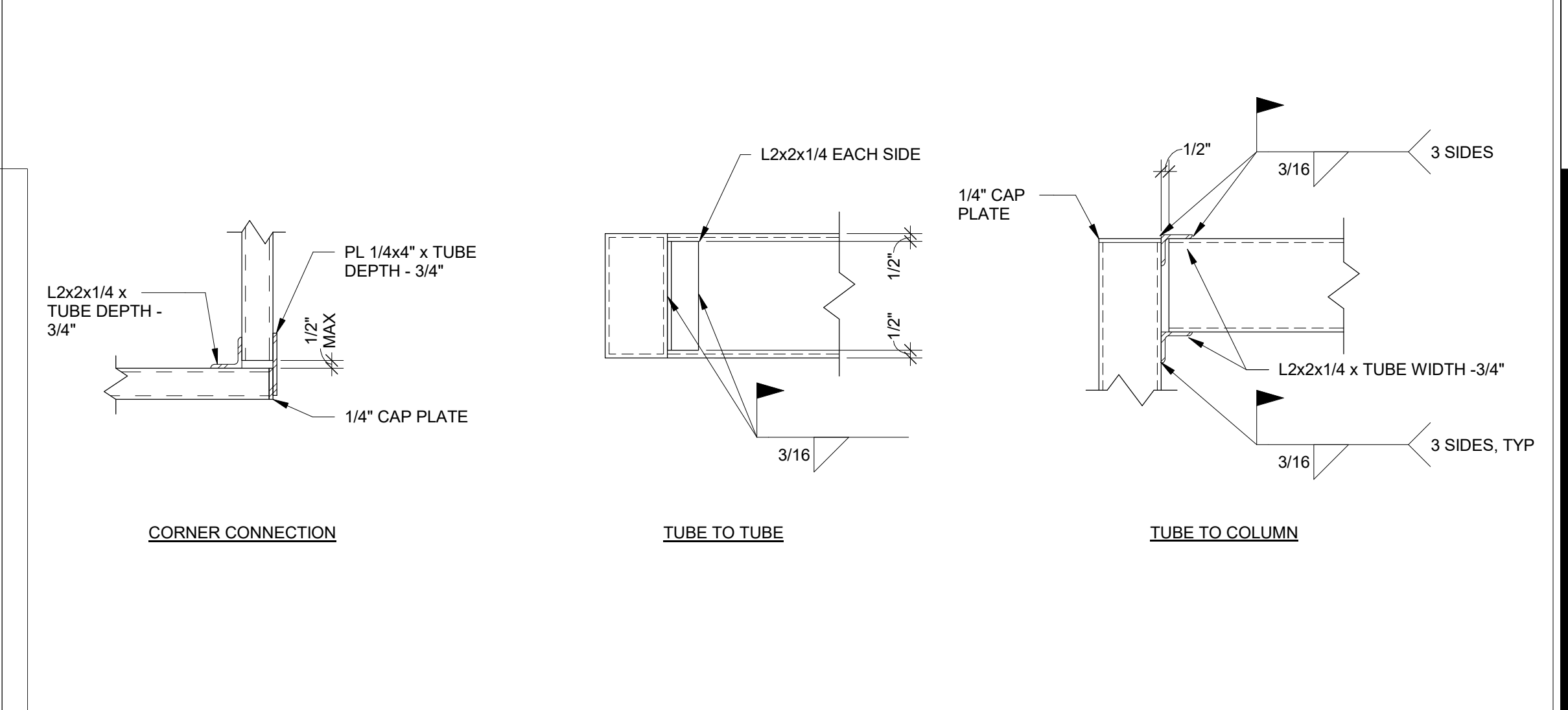
### COMPOSITE BEAM CRITERIA

#### SHEAR STUD PLACEMENT NOTES:

- ALL SHEAR STUDS : 3/4"Ø x 4 1/2", UNLESS OTHERWISE NOTED.
- THE NUMBER OF STUDS IS INDICATED THUS [XX] ON THE PLAN. WHEN MORE THAN ONE QUANTITY OF STUDS ARE INDICATED ON GIRDER/BEAM (EX: [XX-XX]), PLACE STUDS IN CORRESPONDING GROUPS BETWEEN INTERSECTING MEMBERS, SUPPORTING MEMBERS, OR LOADING POINTS.
- MINIMUM CENTER TO CENTER SPACING OF STUDS ALONG THE LONGITUDINAL AXIS OF THE COMPOSITE GIRDER/BEAM : 4 1/2", WITH THE MAXIMUM CENTER TO CENTER SPACING OF STUDS ALONG THE TRAVERSE AXIS, THE CENTER TO CENTER SPACING : 3".
- WHERE BEAM FLANGE THICKNESS IS LESS THAN 5/16" ONLY A SINGLE ROW OF STUDS CENTERED OVER THE WEB IS TO BE USED.
- FOR BEAMS SUPPORTING COMPOSITE DECK WITHOUT STUD NOTATION, PROVIDE STUDS AT MAXIMUM CENTER TO CENTER SPACING.
- ADD ADDITIONAL STUD OR 3/4"Ø PUDDLE WELD SO THAT THE SPACE BETWEEN DECK ATTACHMENTS TO BEAM ( WELDS OR STUDS ) DOES NOT EXCEED 16".
- WHERE DECK IS PERPENDICULAR TO THE COMPOSITE BEAM, PLACE STUDS AS FOLLOWS:  
 CASE 1 ( MORE DECK FLUTES THAN STUDS ) :  
 PLACE ONE STUD IN EVERY OTHER DECK FLUTE. THEN STARTING AT EACH END OF THE BEAM ( OR BEAM SEGMENT ), PLACE REMAINING STUDS IN UNUSED DECK FLUTES. THE NUMBER OF STUDS ON EACH HALF OF THE BEAM ( OR BEAM SEGMENT ) SHOULD BE EQUAL. SEE NOTE 3 FOR SPACING LIMITATIONS.  
 CASE 2 ( MORE STUDS THAN DECK FLUTES ) :  
 PLACE ONE STUD IN EVERY DECK FLUTE. THEN STARTING AT EACH END OF THE BEAM ( OR BEAM SEGMENT ), DOUBLE STUDS EVERY DECK FLUTE UNTIL REMAINING STUDS ARE USED. THE NUMBER OF STUDS ON EACH HALF OF THE BEAM ( OR BEAM SEGMENT ) SHOULD BE EQUAL. SEE NOTE 3 FOR SPACING LIMITATIONS.
- WHERE DECK IS PARALLEL TO THE COMPOSITE GIRDER, SPACE THE STUDS UNIFORMLY IN A SINGLE ROW FOR THE ENTIRE LENGTH OF THE GIRDER ( OR GIRDER SEGMENT ). IF THE STUDS CANNOT BE SPACED AT 4 1/2" CENTER TO CENTER OR GREATER IN A SINGLE ROW, SPACE THE STUDS UNIFORMLY IN A DOUBLE ROW.
- COMPOSITE BEAM NOTATION :



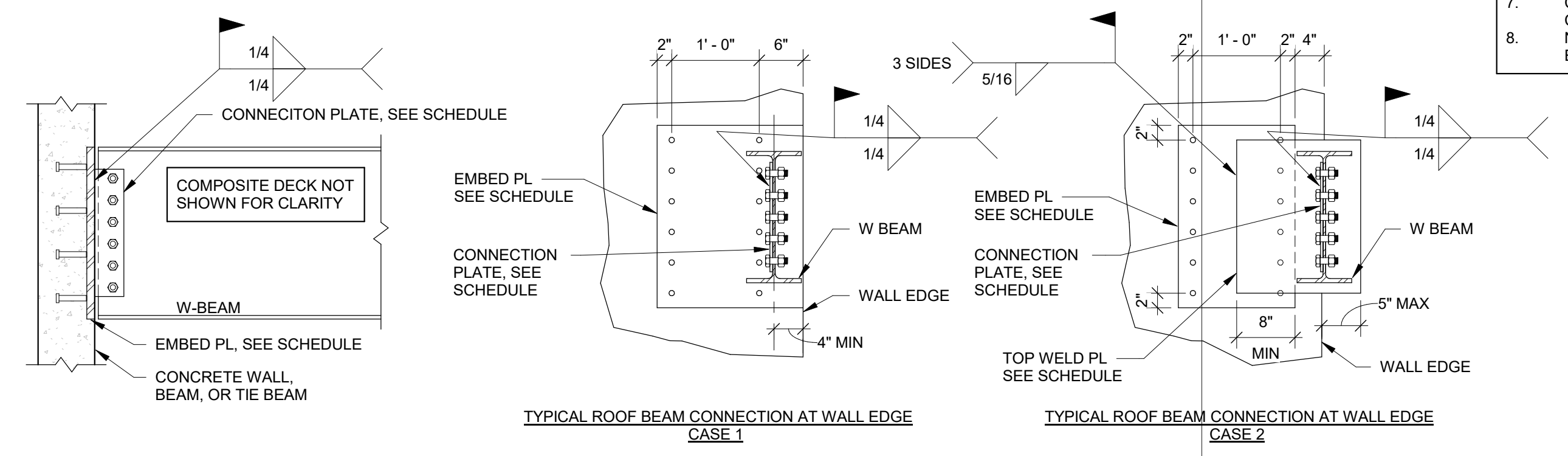
2) TYPICAL COMPOSITE DECK PLACEMENT DETAILS  
3/4" = 1'-0"



3) TYPICAL TUBE TO TUBE CONNECTION  
1 1/2" = 1'-0"

BEAM SIZE (SEE PLAN)	NO. OF 3/4"Ø A325N BOLTS	PLATE SIZE	AT TYPICAL CONDITION				NEAR WALL EDGE	
			EMBED PL	HEADED STUD ANCHORS	EMBED PL CASE 1	EMBED PL CASE 2	HEADED STUD ANCHORS CASE 1 & 2	TOP WELD PL CASE 2
W8W10	2	PL 3/8"X 4" X 0'-6"	1/2"x12"x1'-4"	(6) 3/4" DIA.	1/2"x20"x1'-6"	1/2"x16"x1'-6"	(8) 3/4" DIA.	1/2"x1'-5"x1'-0"
W12W14	3	PL 3/8"X 4" X 0'-9"	1/2"x12"x1'-6"	(8) 3/4" DIA.	1/2"x20"x1'-9"	1/2"x16"x1'-9"	(10) 3/4" DIA.	5/8"x1'-5"x1'-3"
W16W18	4	PL 3/8"X 4" X 1'-0"	1/2"x12"x1'-8"	(8) 3/4" DIA.	5/8"x20"x2'-0"	5/8"x16"x2'-0"	(10) 3/4" DIA.	3/4"x1'-5"x1'-6"

- NOTES:
- SEE SCHEDULE FOR NUMBER OF BOLTS (3" GA.)
  - CONNECTIONS ARE VALID FOR BEAMS WITH STANDARD OR SHORT-SLOTTED HOLES, FULLY TIGHTENED OR SNUG TIGHT. LENGTH OF HEADED STUDS SHALL BE 4" FOR WALLS 5.5" TO 7.25" THICK, 6" FOR WALLS 7.5" TO 9.5" THICK, AND 8" FOR WALLS 10" OR THICKER.
  - HEADED STUDS SHALL BE ARRANGED IN ROWS OF TWO, W/ 2" TYP. EDGE DISTANCE.
  - THIS DETAIL APPLIES AT CONCRETE BEAMS/COLUMNS, AND TIE BEAMS IN MASONRY WALLS.
  - CASE 1 WALL EDGE CONDITION SHALL APPLY WHENEVER BEAM CENTERLINE IS LESS THAN 12" BUT MORE THAN 4" FROM WALL EDGE.
  - CASE 2 WALL EDGE CONDITION SHALL APPLY WHENEVER BEAM CENTERLINE IS LESS THAN 4" FROM EDGE OF WALL.
  - NOTIFY THE ENGINEER IF THE BEAM CENTERLINE LIES OUTSIDE WALL EDGE.

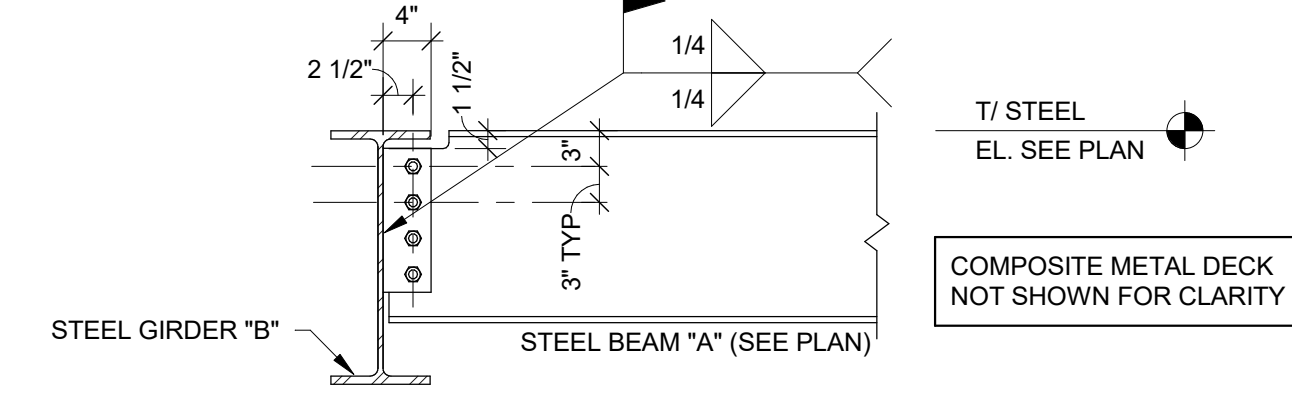


4) TYPICAL FLOOR BEAM TO CONCRETE WALL CONNECTION  
3/4" = 1'-0"

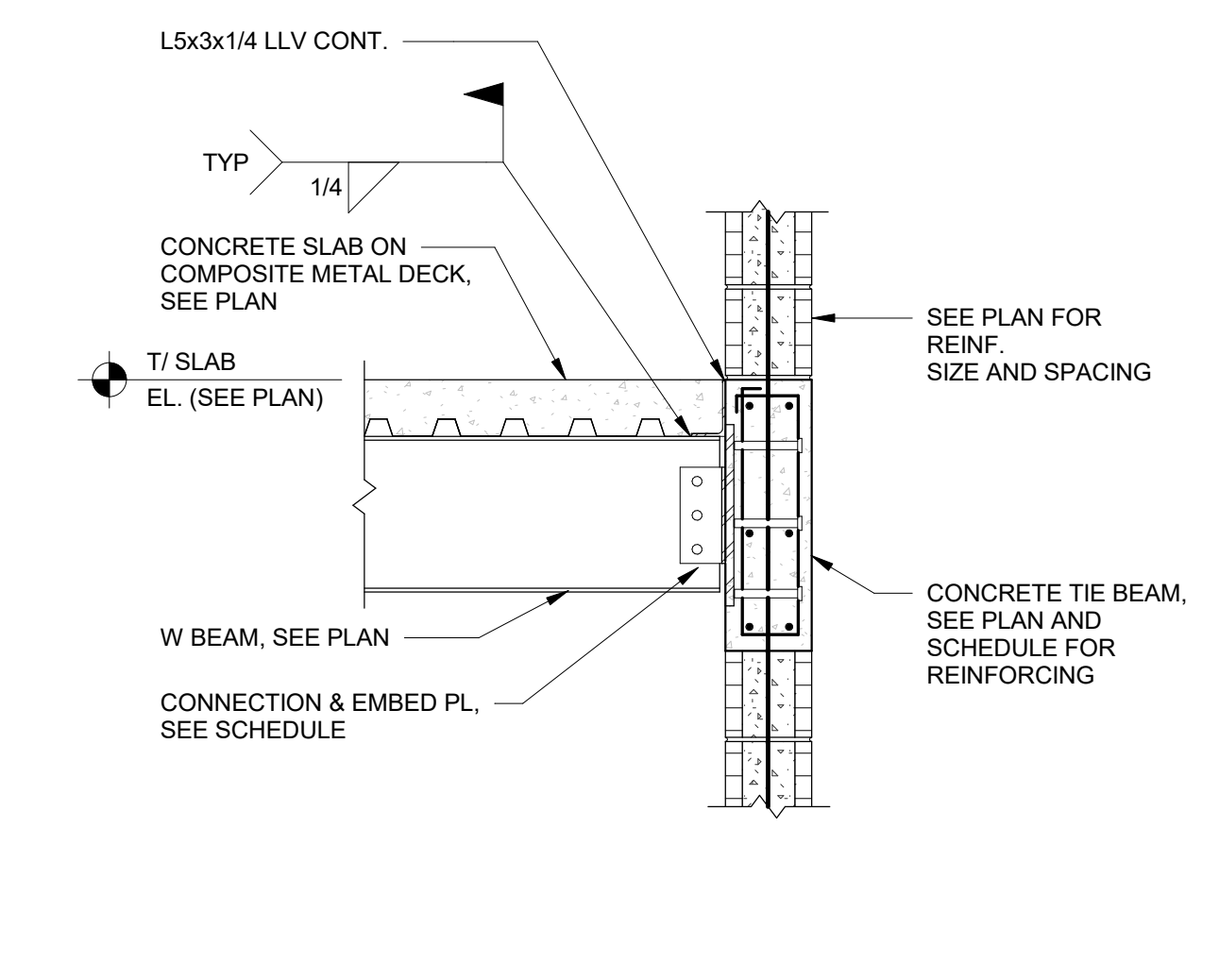
1) COMPOSITE BEAM CRITERIA  
3/4" = 1'-0"

BEAM SIZE (SEE PLAN)	ANGLE SIZE	NO. OF 3/4"Ø A325-N BOLTS
W8W10	PL 3/8"X 4" X 0'-6"	2
W12W14	PL 3/8"X 4" X 0'-9"	3
W16W18	PL 3/8"X 4" X 1'-0"	4

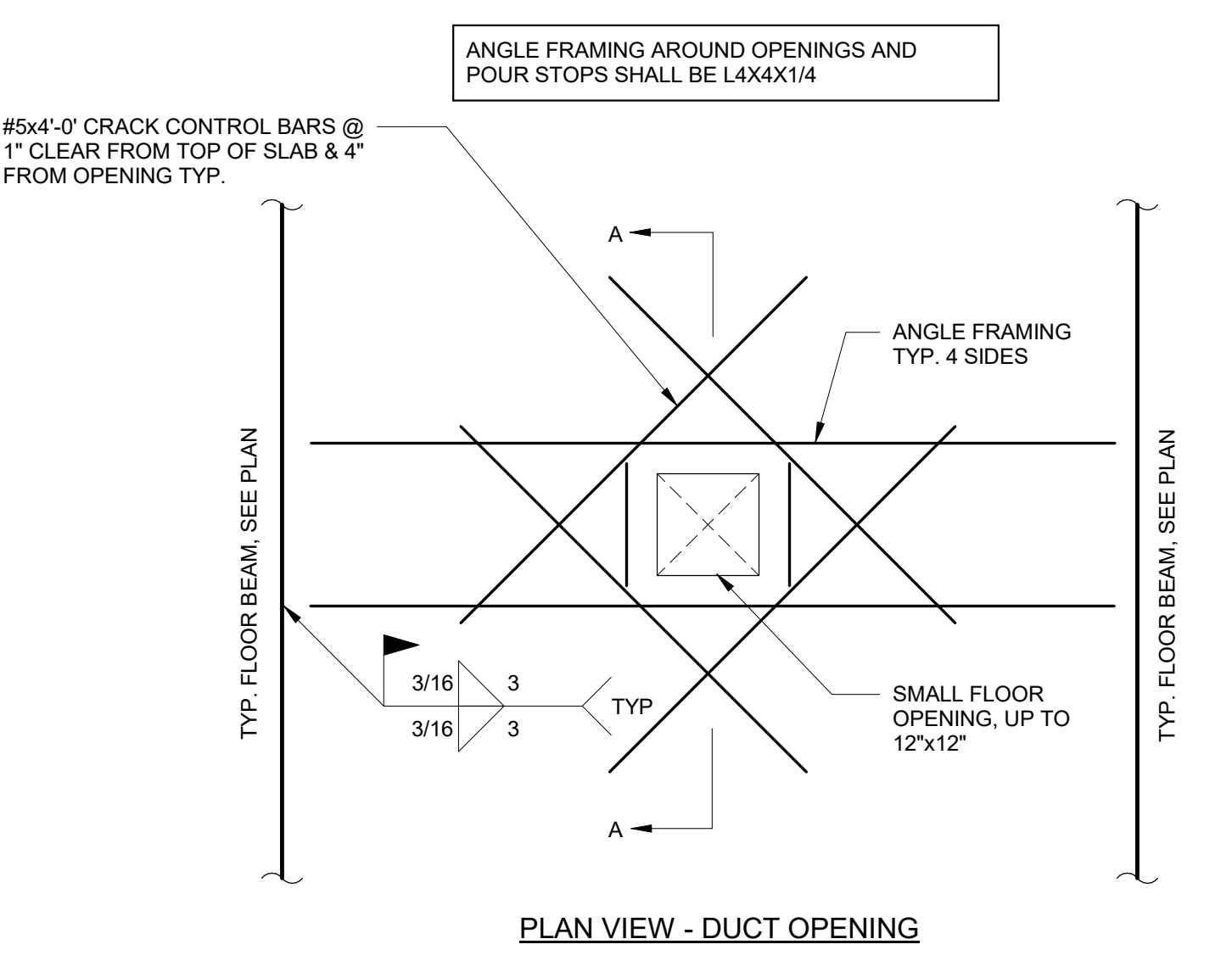
- NOTES:
- SEE SCHEDULE ABOVE FOR NUMBER OF BOLTS (3" GA.)
  - TABULATED VALUES ARE VALID FOR BEAMS WITH STANDARD OR SHORT-SLOTTED HOLES, FULLY TIGHTENED OR SNUG TIGHT. COPE BEAM FLANGE AS REQUIRED, TOP & BOTTOM REINFORCE WHERE REQUIRED TO SUSTAIN AISC SPECIFIED CAPACITY



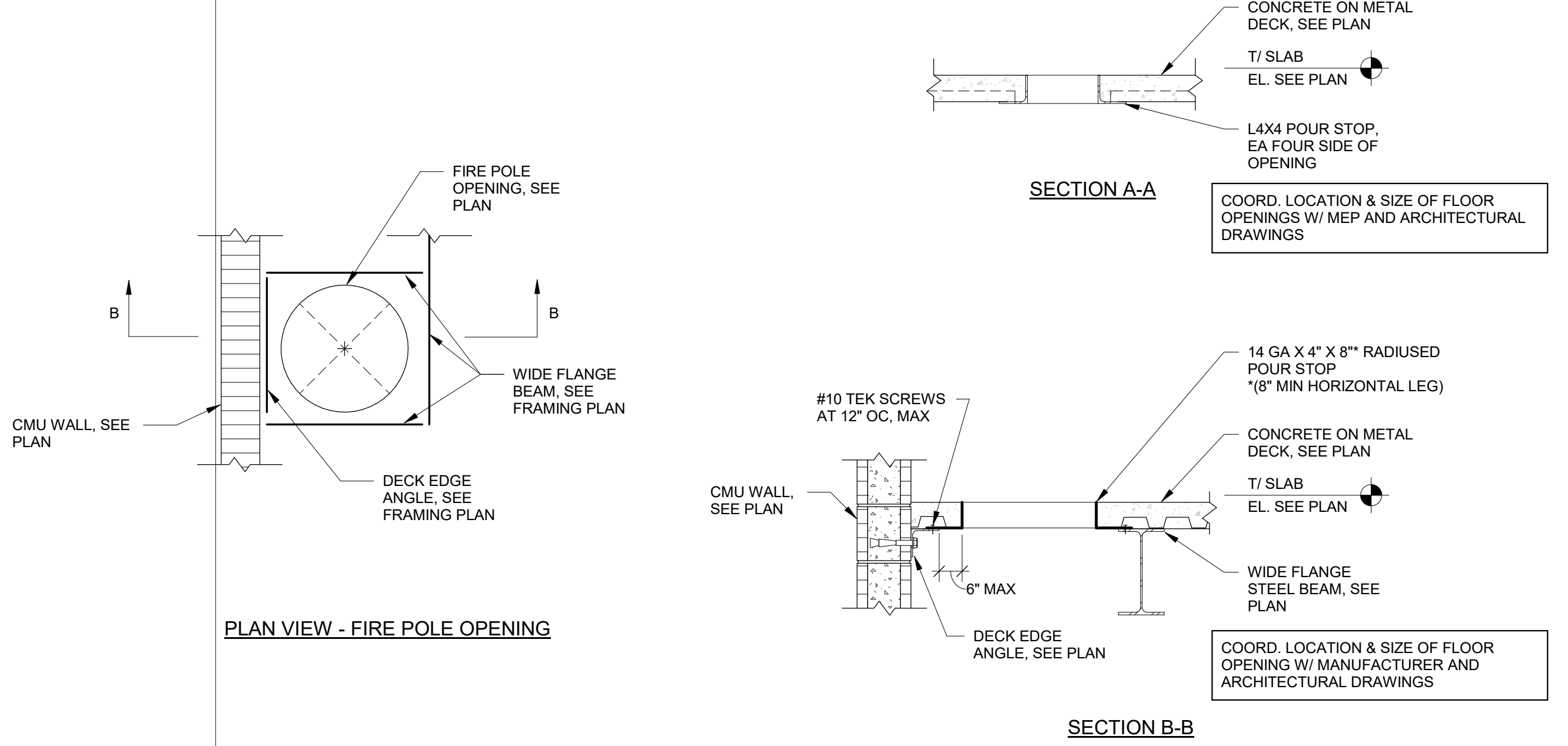
5) TYPICAL FLOOR BEAM TO GIRDER CONNECTION  
3/4" = 1'-0"



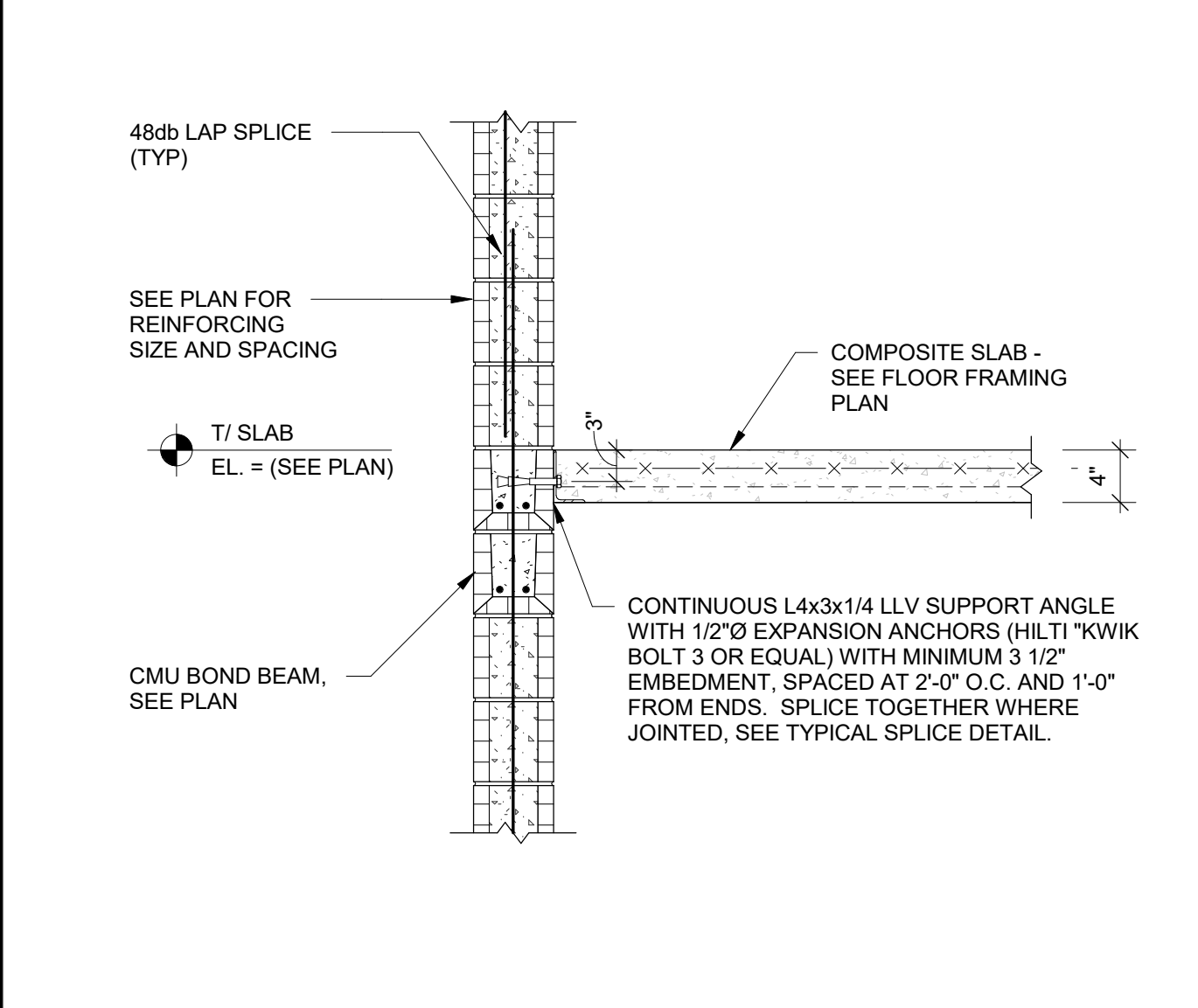
6) TYPICAL FLOOR BEAM DETAIL AT MASONRY WALL  
3/4" = 1'-0"



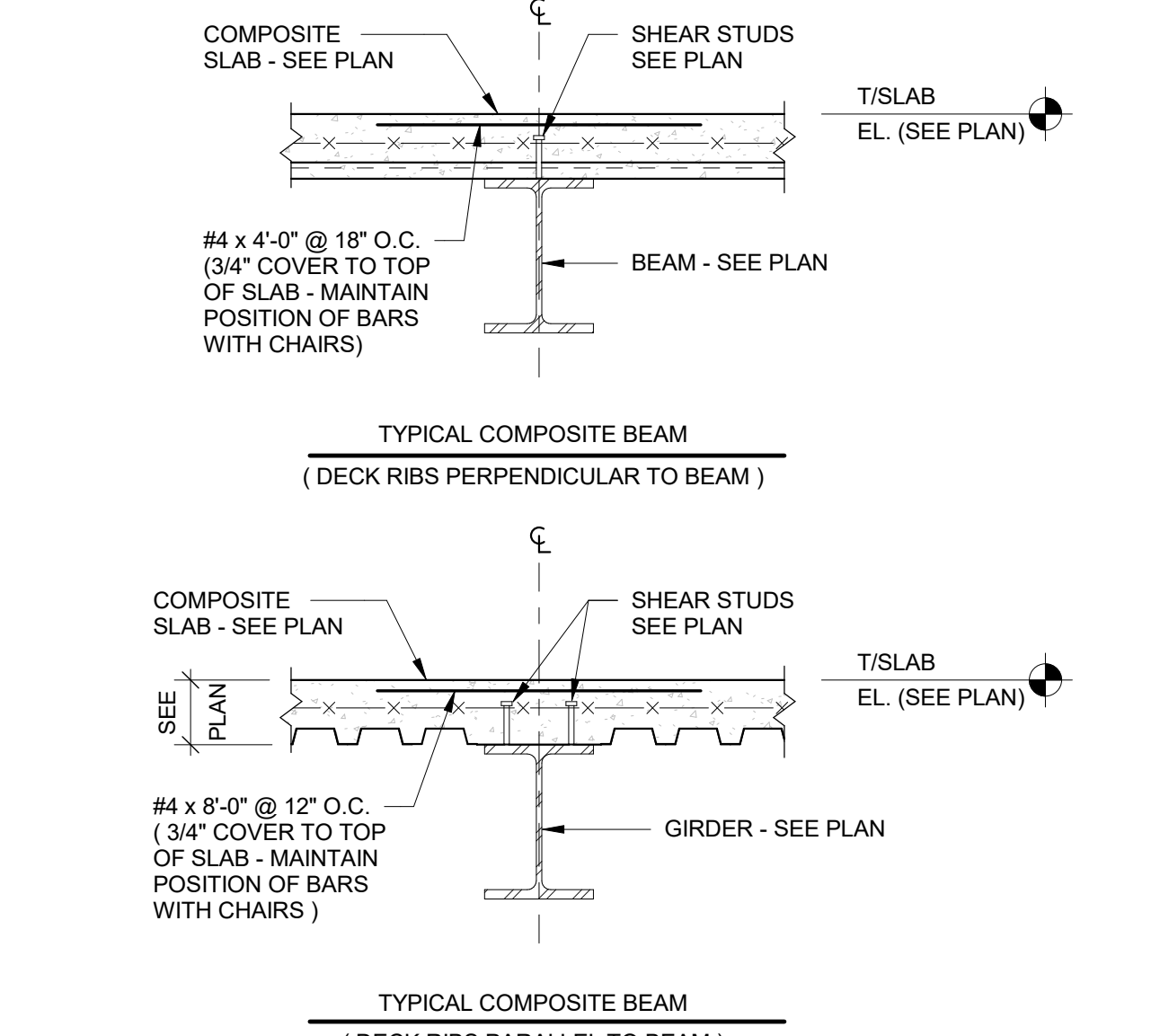
7) FLOOR SLAB OPENING DETAIL  
3/4" = 1'-0"



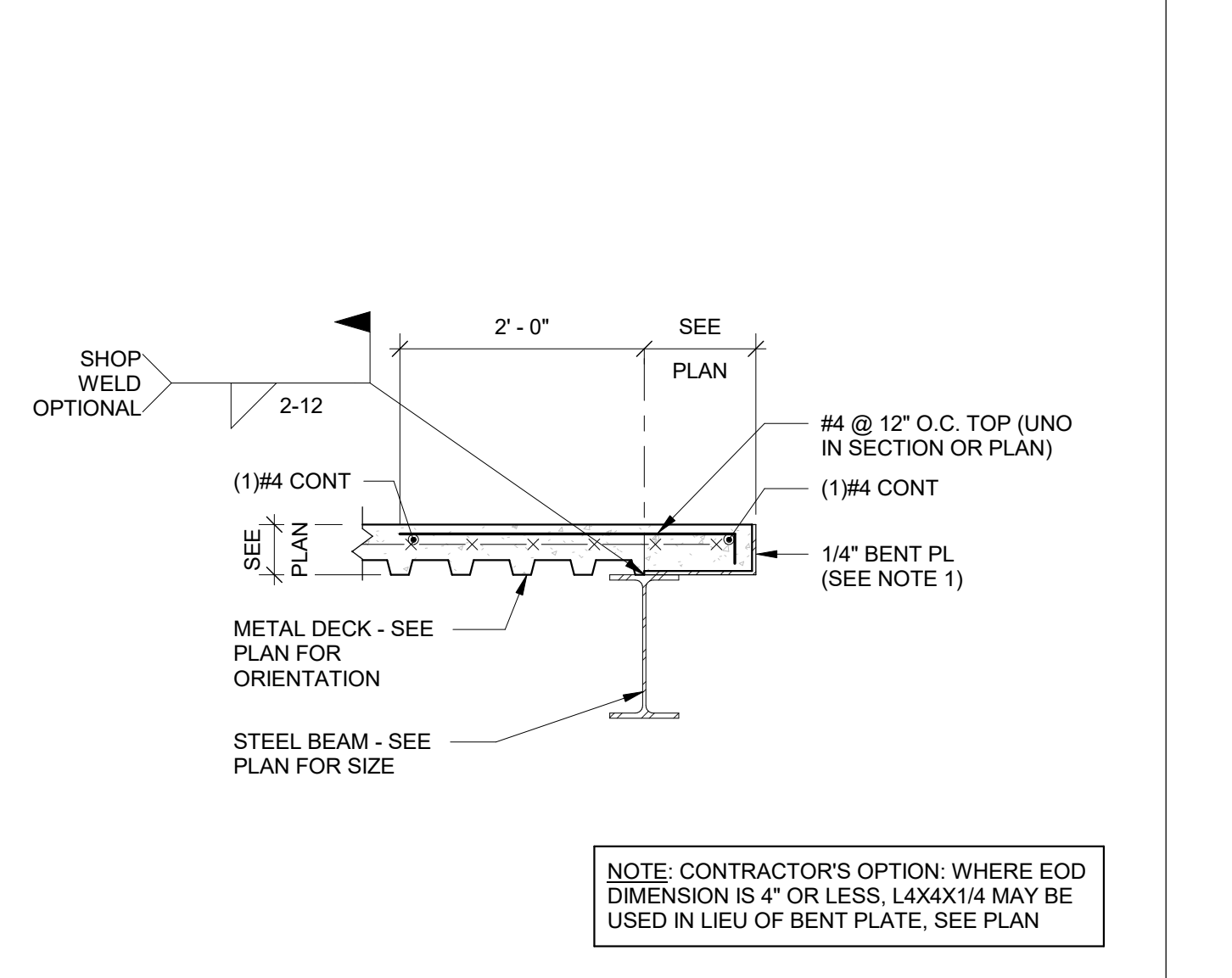
SECTION B-B



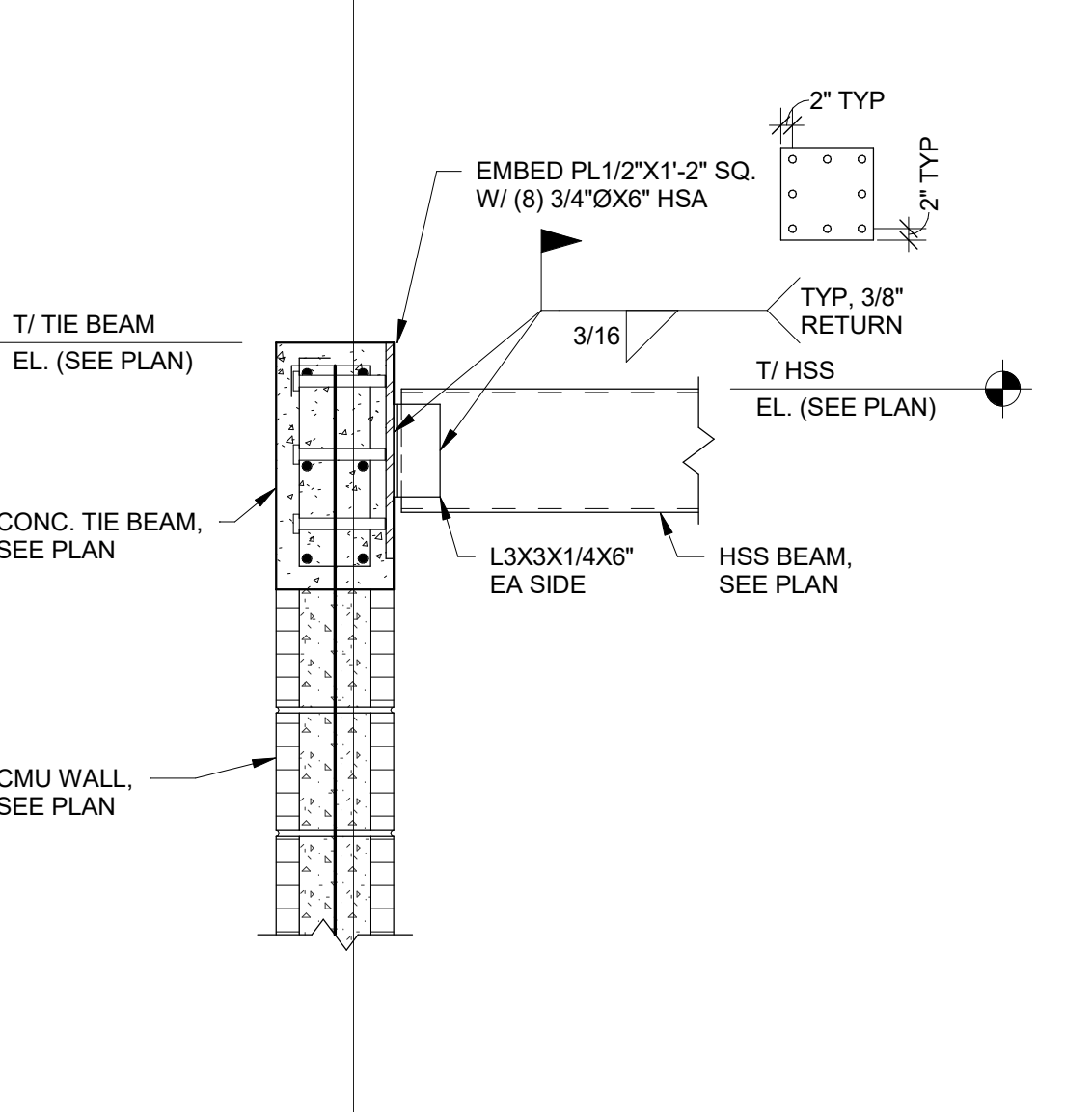
8) TYPICAL COMPOSITE SLAB SUPPORT ANGLE  
3/4" = 1'-0"



9) TYPICAL CRACK BAR DETAIL  
3/4" = 1'-0"



10) TYPICAL EDGE OF SLAB AT INTERIOR  
3/4" = 1'-0"



11) TYPICAL HSS TO CONCRETE CONNECTION  
1" = 1'-0"

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LAKE COUNTY  
FIRE STATION NO. 71  
STRUCTURAL DETAILS

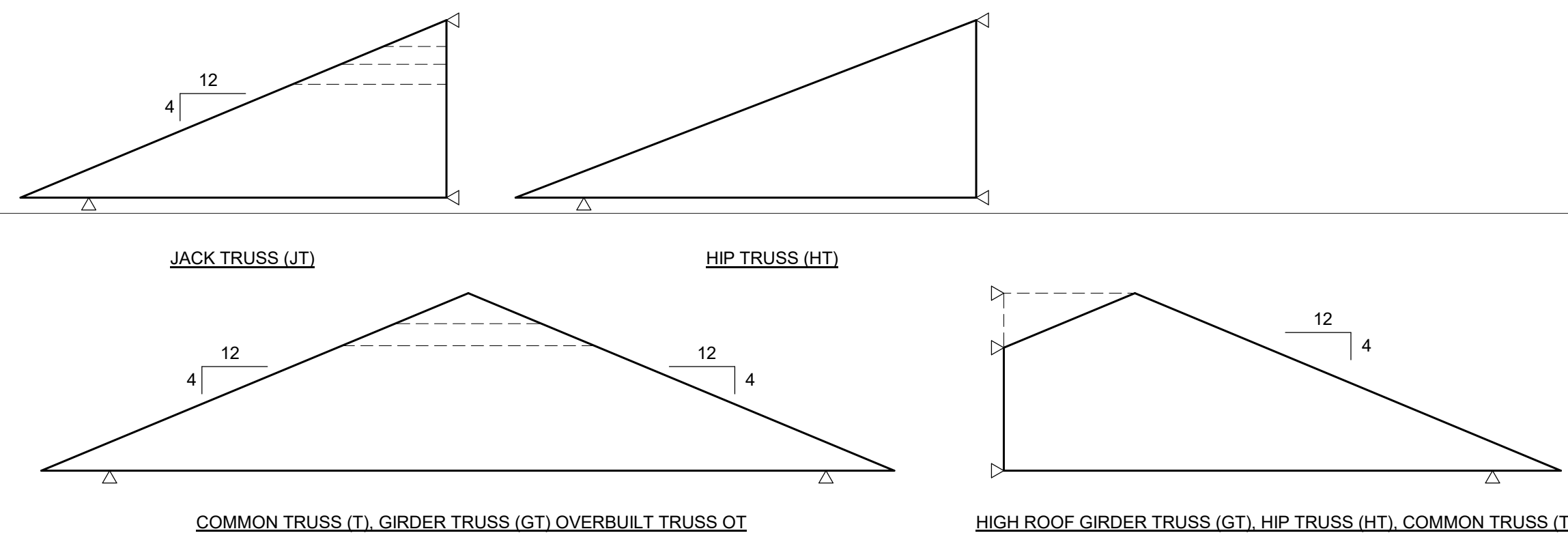
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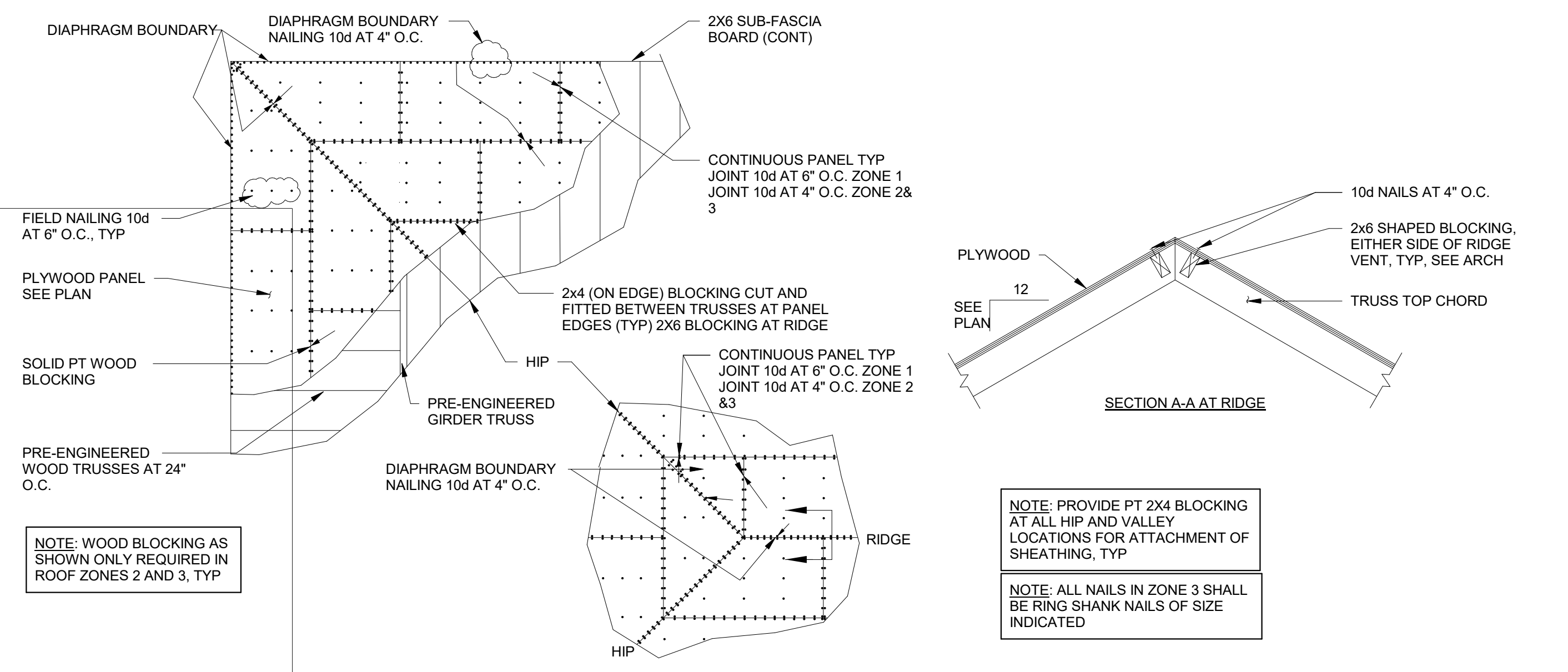
BIM 360//20073A - Lake County Fire Station 71/521157\_Lake Co FS 71\_STR\_R1.d.rvt  
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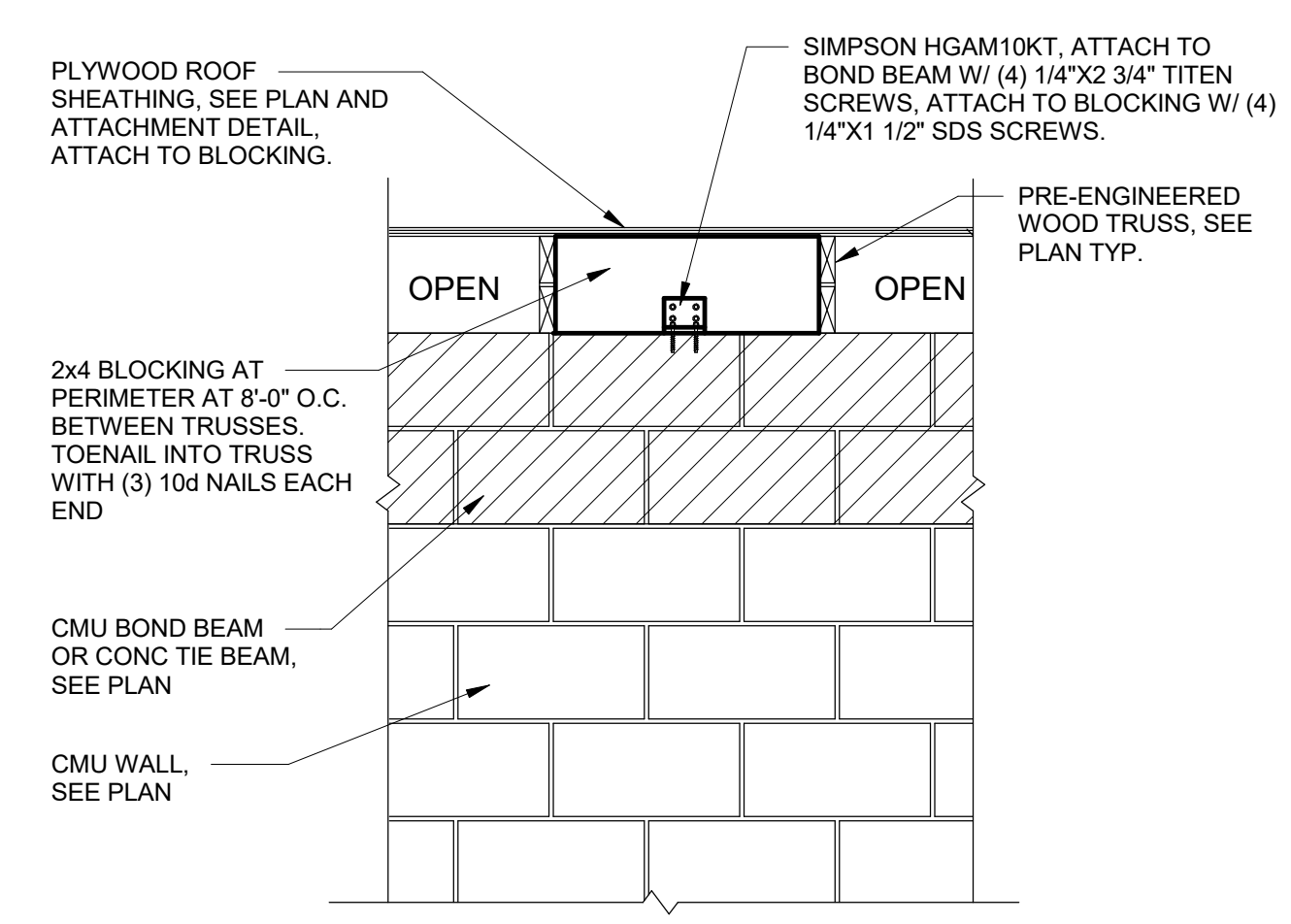
- TRUSS PROFILE NOTES:**
1. DASHED LINES INDICATE SIMILAR TRUSS PROFILES OR SHAPES.
  2. TRUSS MANUFACTURER SHALL VERIFY ROOF SLOPES WITH ARCHITECTURAL DRAWINGS.
  3. TRUSS MANUFACTURER SHALL COORDINATE REQUIRED OPENINGS IN TRUSS WITH MECHANICAL DRAWINGS.
  4. ALL TRUSS TO TRUSS CONNECTIONS TO BE DESIGNED BY THE TRUSS SYSTEM SPECIALTY ENGINEER.
  5. DESIGN TRUSSES TO ACCOMMODATE THE REQUIRED DUCT OPENING SIZES WHERE REQUIRED.
  6. ALL TRUSS TO STRUCTURE CONNECTIONS TO BE DESIGNED BY THE TRUSS SYSTEM SPECIALTY ENGINEER.
  7. GIRDER TRUSSES SHALL MATCH TRUSS PROFILES INDICATED ON PLANS.

1 ROOF TRUSS PROFILES  
1/4" = 1'-0"

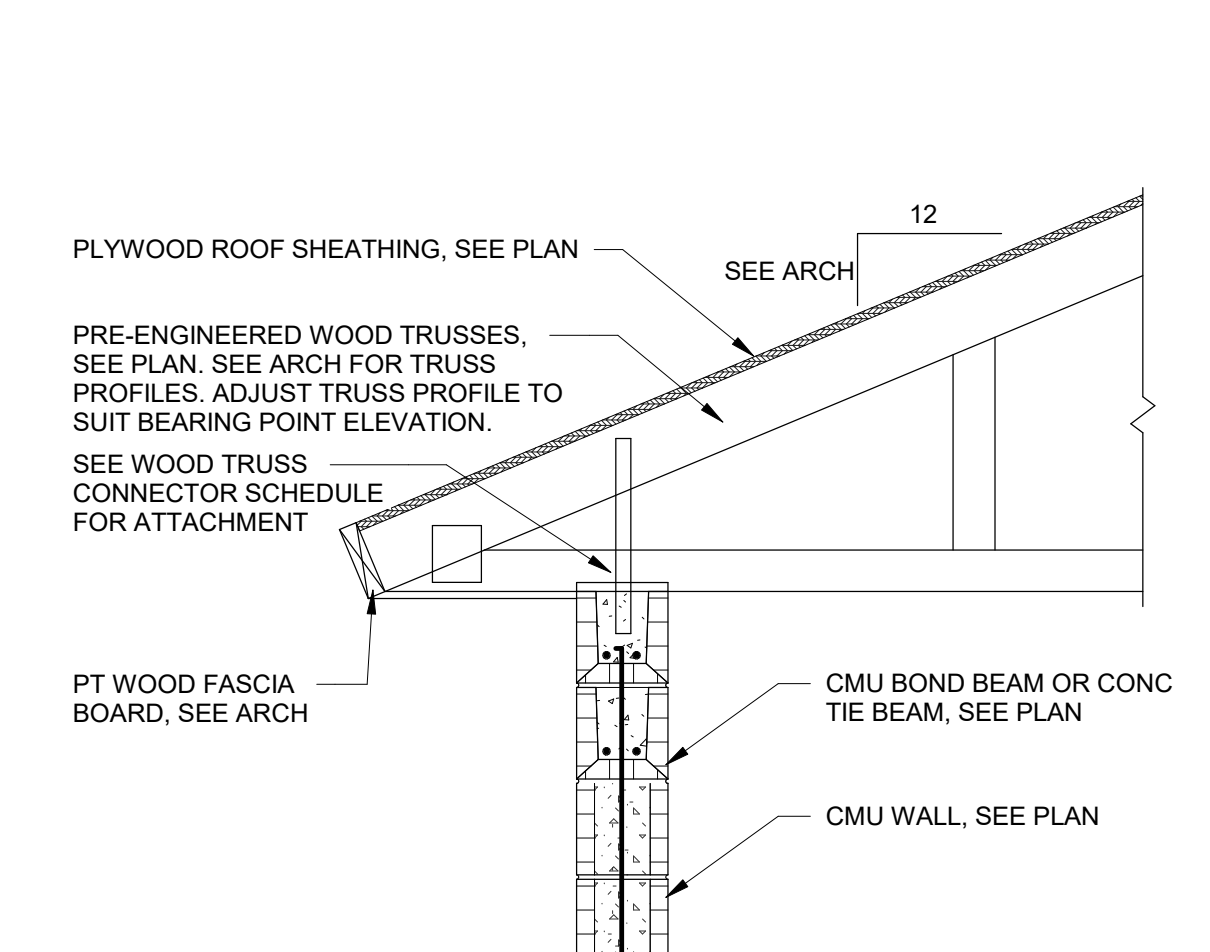


- NOTE: WOOD BLOCKING AS SHOWN ONLY REQUIRED IN ROOF ZONES 2 AND 3, TYP**
- NOTE: PROVIDE PT 2X4 BLOCKING AT ALL HIP AND VALLEY LOCATIONS FOR ATTACHMENT OF SHEATHING, TYP**
- NOTE: ALL NAILS IN ZONE 3 SHALL BE RING SHANK NAILS OF SIZE INDICATED**

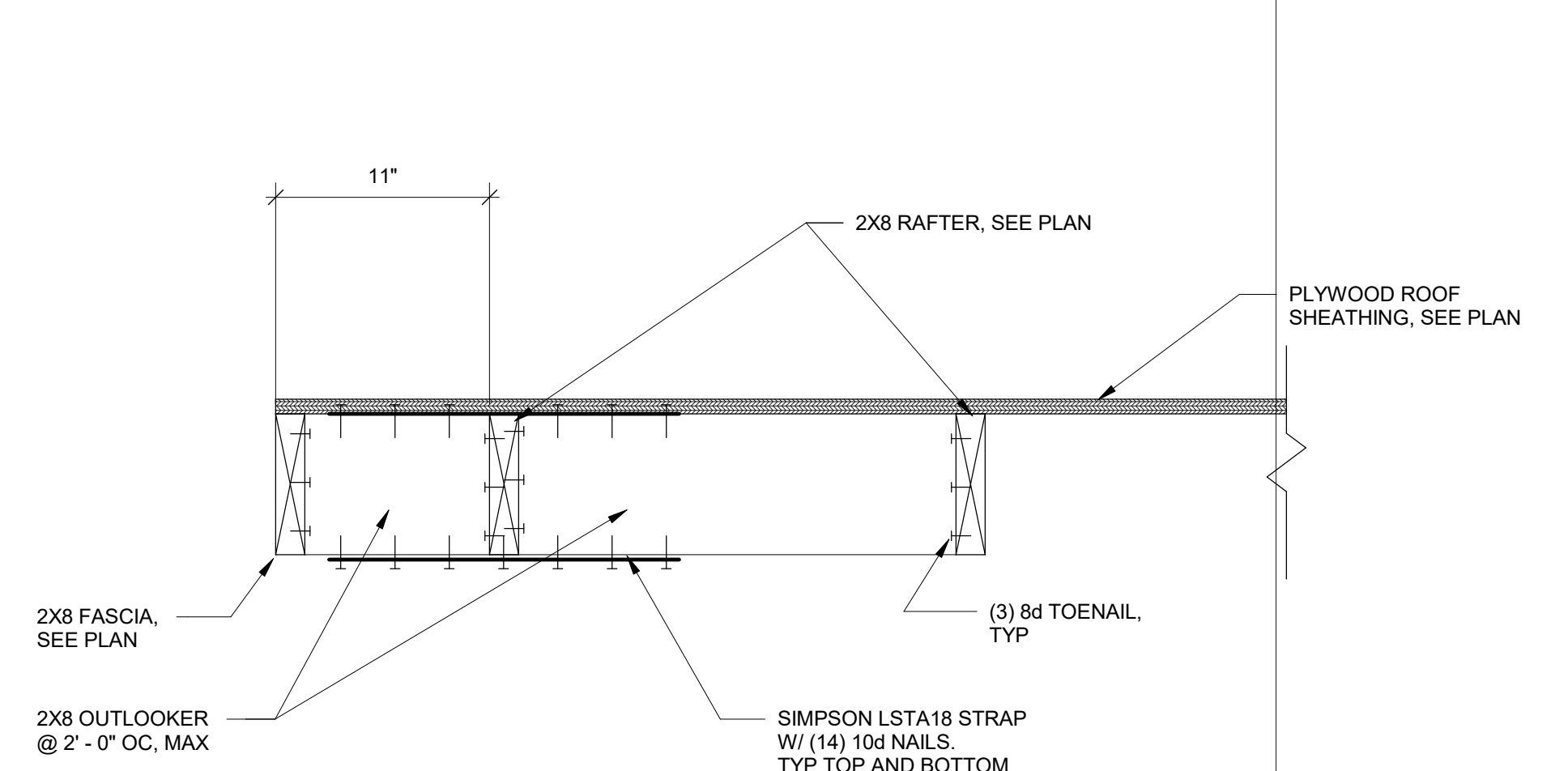
2 TYPICAL ROOF SHEATHING FASTENING ATTACHMENTS  
3/4" = 1'-0"



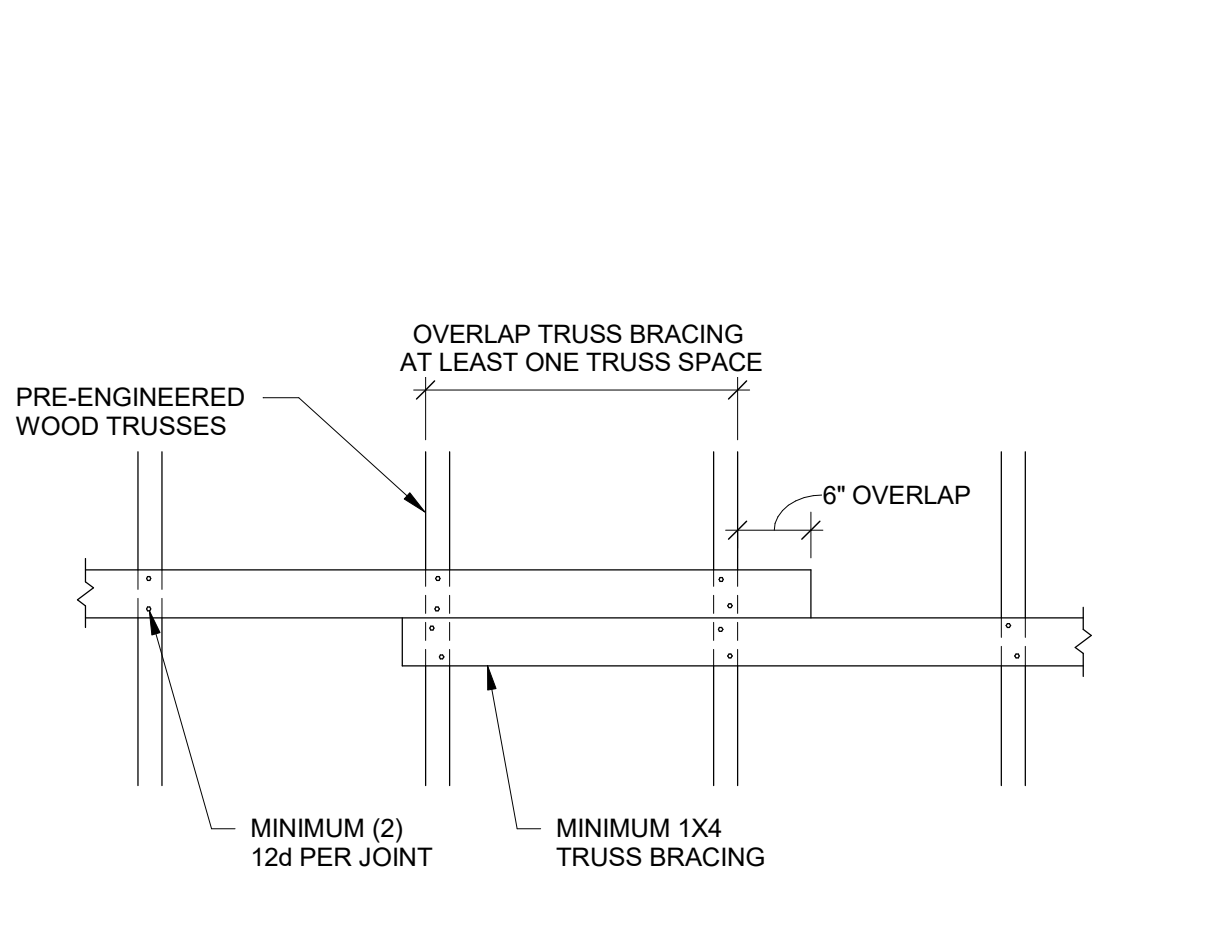
3 TYPICAL TRUSS BLOCKING AT PERIMETER WALLS  
3/4" = 1'-0"



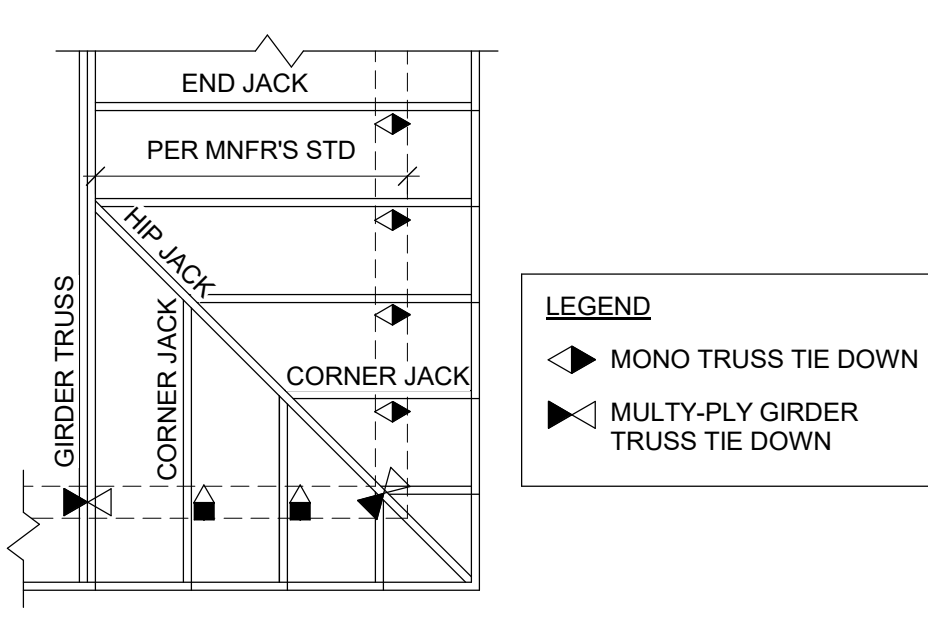
4 TYPICAL WOOD TRUSS TO CMU DETAIL  
3/4" = 1'-0"



5 TYP OUTLOOKER AT VAULTED CEILING - COVERED ENTRY  
1 1/2" = 1'-0"

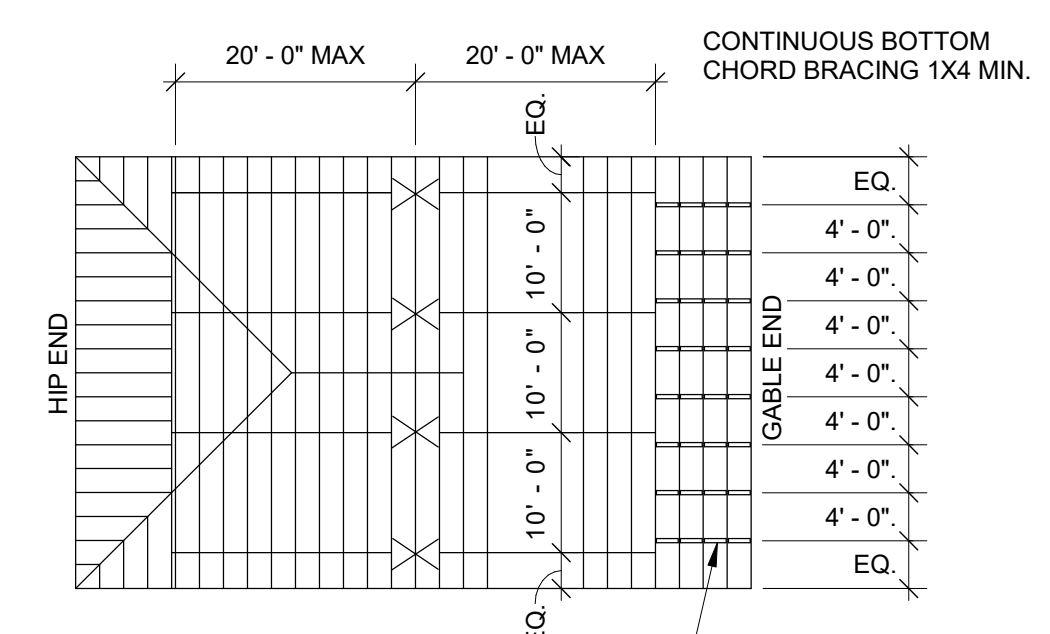


6 TRUSS BRACING OVERLAP DETAIL  
1" = 1'-0"



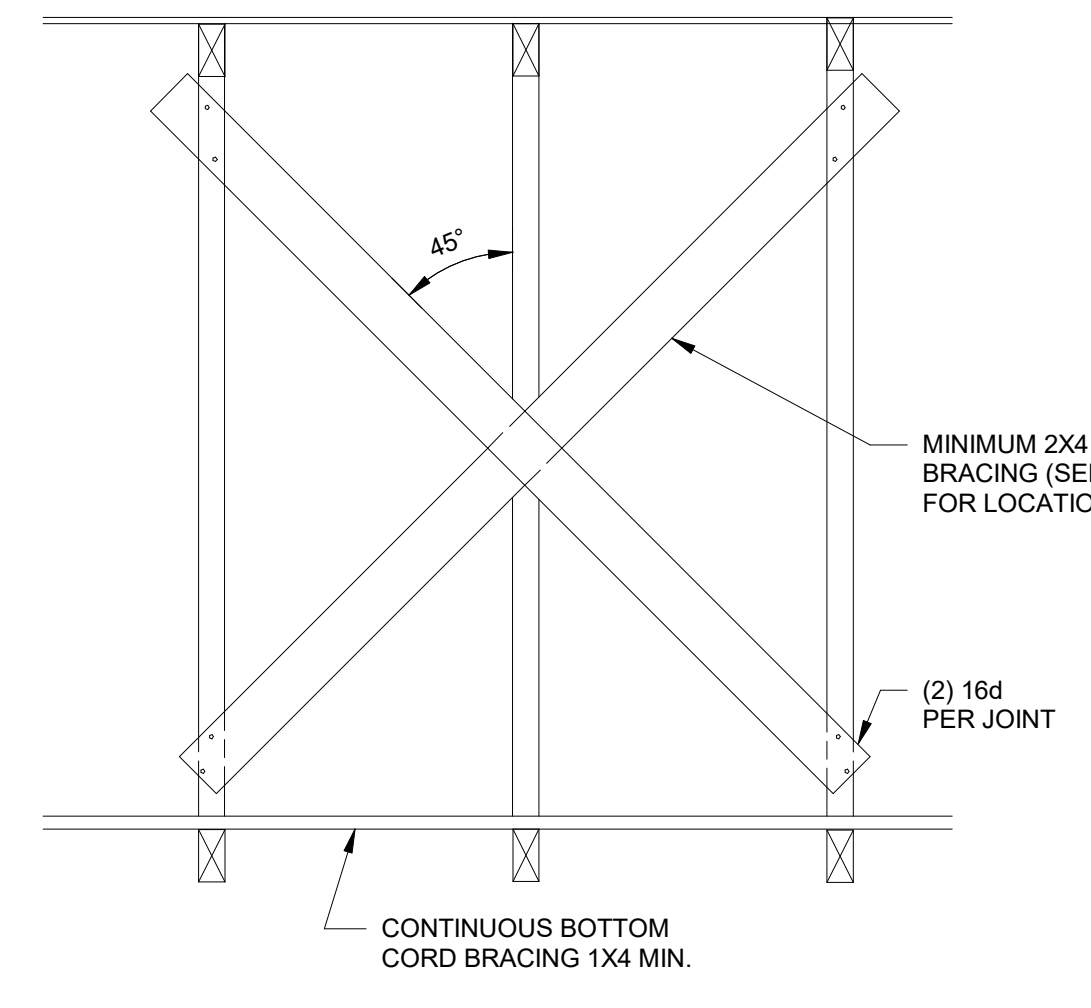
- LEGEND**
- ▶ MONO TRUSS TIE DOWN
  - ▶ MULTI-PLY GIRDER TRUSS TIE DOWN
- NOTES:**
1. REFER TO PLAN FOR TRUSS CONNECTOR SCHEDULE NUMBER AND SIZE OF NAILS AS PER MANUFACTURER'S SPECIFICATIONS.
  2. PROVIDE MOISTURE BARRIER BETWEEN WOOD TRUSS BEARING AND CONCRETE TIE BEAMS/MASONRY BOND BEAMS.
  3. TRUSS-TO-TRUSS CONNECTIONS ARE THE RESPONSIBILITY OF THE DELEGATED TRUSS DESIGN ENGINEER.

7 UPLIFT CONNECTIONS @ HIP ROOF FRAMING DETAIL  
1" = 1'-0"

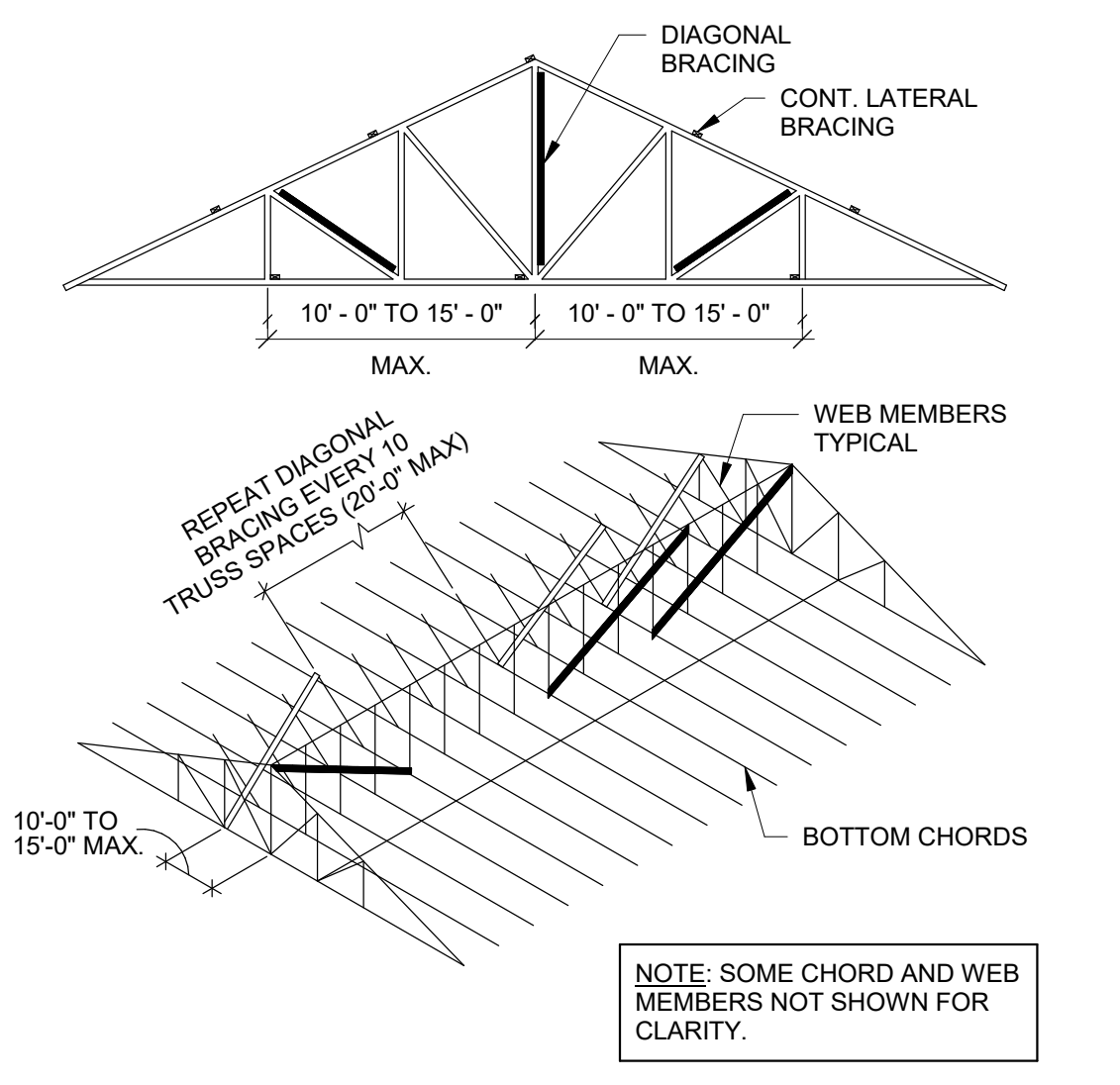
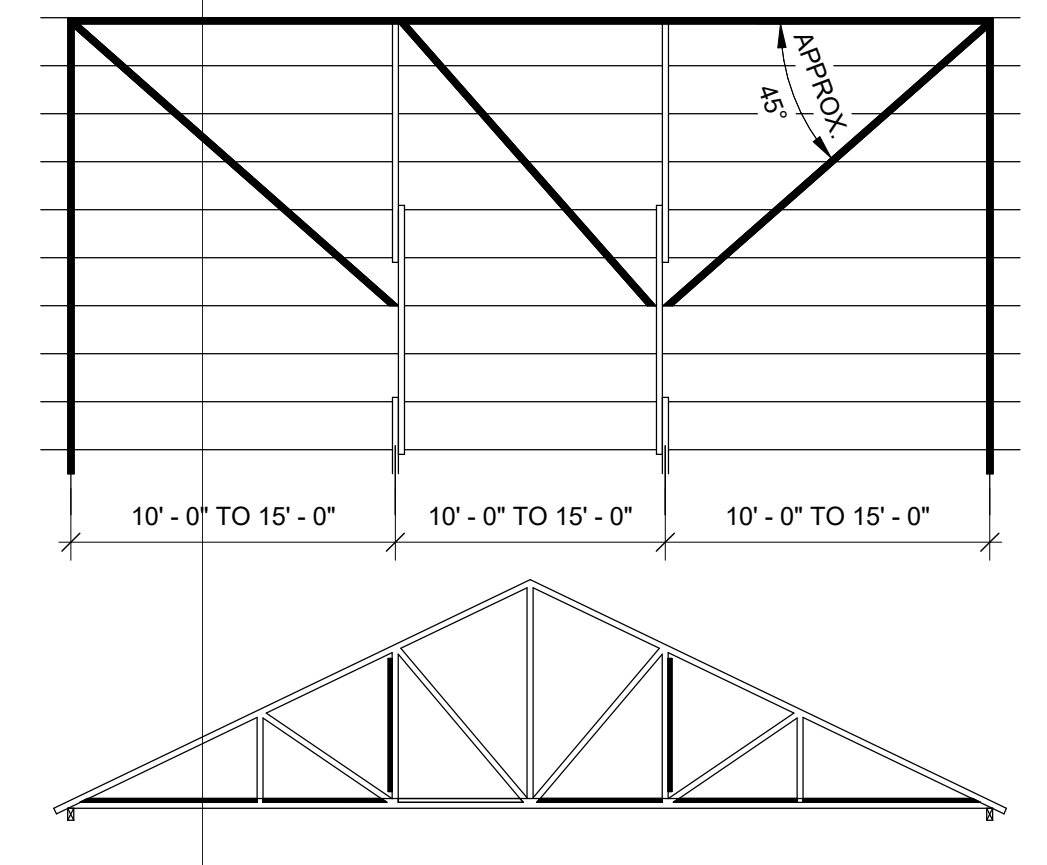


- NOTES:**
1. SEE TRUSS MANUFACTURER'S TRUSS ENGINEERING CUT SHEETS FOR ANY ADDITIONAL PERMANENT BRACINGS REQUIRED.
  2. "T" BRACING MAY BE USED IN PLACE OF PERMANENT BRACING PROVIDED IT EXTENDS OVER AT LEAST 80% OF THE WEB.

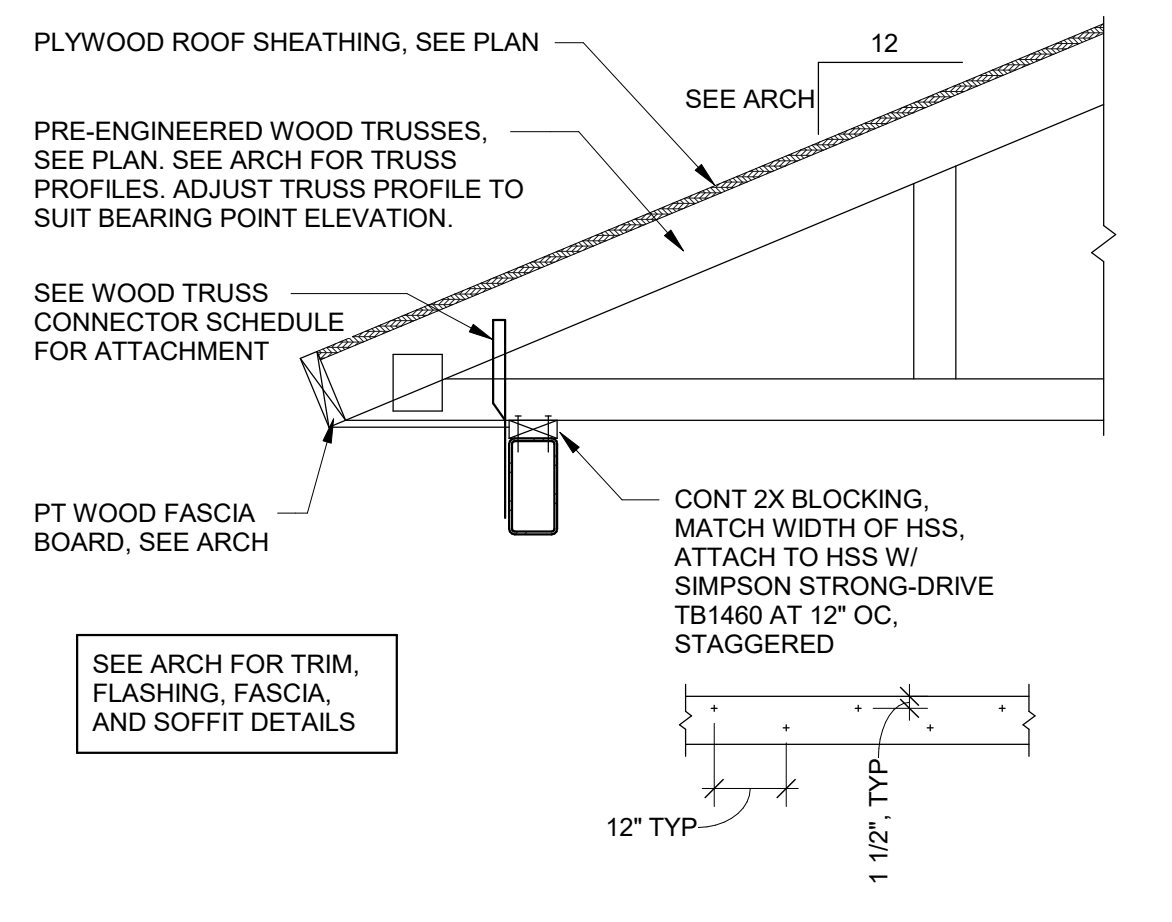
8 REQUIRED MINIMUM PERMANENT TRUSS BRACING PLAN  
1" = 1'-0"



9 CROSS BRACE DETAIL  
1 1/2" = 1'-0"



10 TRUSS BRACING DETAILS-GABLE ROOF  
3/4" = 1'-0"



11 TYP ROOF TRUSS TO HSS BEAM CONNECTION  
3/4" = 1'-0"

DATE	DESCRIPTION	NO.

GARY C. KRUEGER  
FL LICENSE NO. 40788  
11/9/2021 3:21:21 PM

John P. Adams, AIA  
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**KTH ARCHITECTS**

20073A

LAKE COUNTY  
FIRE STATION NO. 71  
STRUCTURAL DETAILS

33661 CR 473, LEESBURG, FL 34788

NOVEMBER 10, 2021

100% CD Submittal - Bid Set

**S5.41**

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