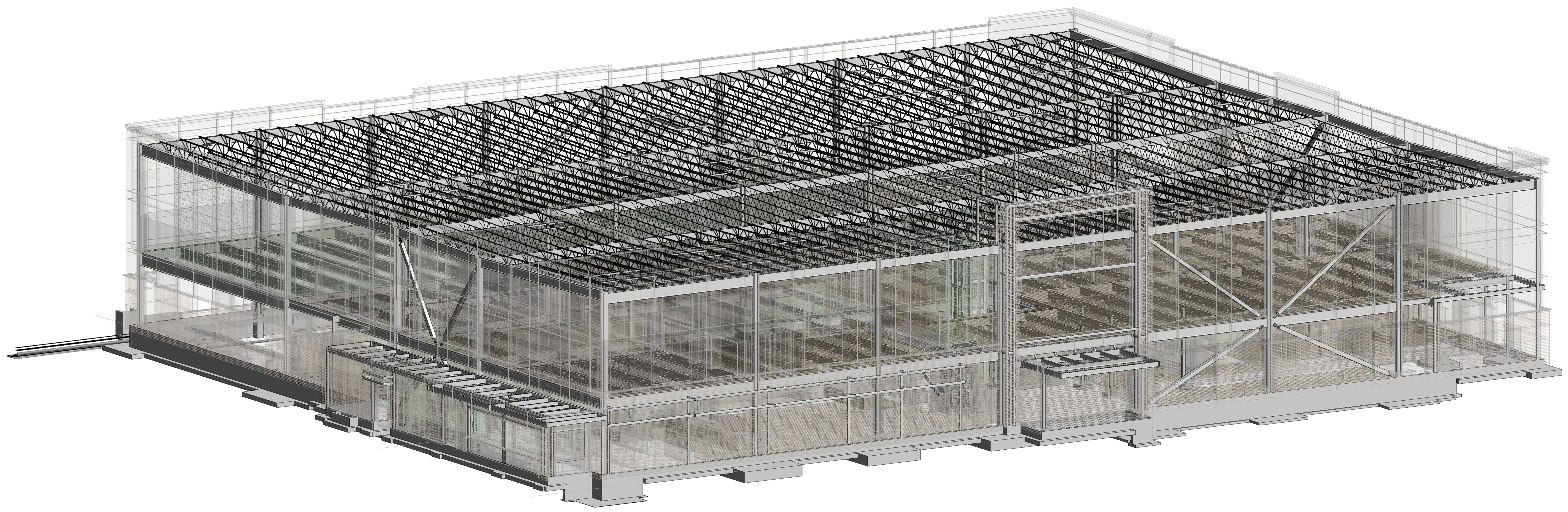

3D REFERENCE VIEW ONLY
SCALE :

A
S000

NOTE: THIS VIEW REPRESENTS A SCHEMATIC RENDERING ONLY AND IS NOT INTENDED TO CONVEY CONSTRUCTION INFORMATION. ALL CONSTRUCTION SHALL COMPLY WITH SPECIFIC NOTES AND DETAILS WITHIN THE STRUCTURAL DRAWINGS.

LEGEND OF SYMBOLS AND ABBREVIATIONS

AB	=	ANCHOR BOLT
ABV	=	ABOVE
ARCH	=	ARCHITECT
BLW	=	BELOW
BN	=	BOUNDARY NAILING
BS	=	BOUNDARY SCREW
BRB	=	BUCKLING RESTRAINED BRACE
BRBF	=	BUCKLING RESTRAINED BRACE FRAME
CJP	=	COMPLETE JOINT PENETRATION
CL	=	CENTERLINE
CMU	=	CONCRETE MASONRY UNIT
COL	=	COLUMN
CONC	=	CONCRETE
CP	=	CONCRETE PIER
DC	=	DEMAND CRITICAL
DIA / Ø	=	DIAMETER
DBA	=	DEFORMED BAR ANCHOR
DBE	=	DECK BEARING ELEVATION
ELEV	=	ELEVATION
EN	=	EDGE NAILING
EOD	=	EDGE OF DECK
FDN	=	FOUNDATION
FTG	=	FOOTING
FFE	=	FINISHED FLOOR ELEVATION
GB	=	CONCRETE GRADE BEAM
HSA	=	HEADED STUD ANCHOR
JBE	=	JOIST BEARING ELEVATION
KB	=	KICKER BRACE
MAX	=	MAXIMUM
MB	=	MASONRY BEAM
MC	=	MASONRY COLUMN
MECH	=	MECHANICAL
MEZZ	=	MEZZANINE
MIN	=	MINIMUM
MJ	=	MASONRY JAMB
MW	=	MASONRY WALL
NS, FS	=	NEAR SIDE, FAR SIDE
OAE	=	OR APPROVED EQUAL
OPP	=	OPPOSITE
PAF	=	POWDER ACTUATED FASTENER
PL	=	PLATE
REINF	=	REINFORCING
REQ'D	=	REQUIRED
SIM	=	SIMILAR
SSH	=	STEEL STUD HEADER
SSJ	=	STEEL STUD JAMB
SSS	=	STEEL STUD SILL
SSW	=	STEEL STUD WALL
TOB	=	TOP OF BEAM ELEVATION
TOC	=	TOP OF CONCRETE SLAB
TOF	=	TOP OF FOOTING
TOG	=	TOP OF GIRDER ELEVATION
TOM	=	TOP OF MASONRY
TOS	=	TOP OF STEEL ELEVATION
TYP	=	TYPICAL
UNO	=	UNLESS NOTED OTHERWISE

- FOOTING MARK
- TOP OF FOOTING ELEVATION
- SECTION MARK
- SHEET NUMBER
- TOP OF FOUNDATION WALL OR COLUMN PIER ELEVATION
- SHEAR WALL - SEE SCHEDULE
- MIN. LENGTH OF SHEAR WALL
- S — S FOOTING STEP
- MASONRY WALL
- CONCRETE WALL
- DEPRESS FDN./WALL AND POUR FLOOR SLAB OVER AT MASONRY FOUNDATION WALL
- DEPRESS FDN./WALL AND POUR FLOOR SLAB OVER AT CONCRETE FOUNDATION WALL
- MASONRY BEAM
- CONCRETE BEAM
- ELEVATION
- L FRAMING ANGLE SEE TYPICAL DETAIL
- C FRAMING CHANNEL SEE TYPICAL DETAIL
- (L) ITEMS, DETAILS, & SYSTEMS WHICH ARE PART OF THE LATERAL FORCE RESISTING SYSTEM.
- BRACED FRAME
- MOMENT RESISTING CONNECTIONS - SEE DETAIL
- MOMENT RESISTING CANTILEVER CONNECTIONS - SEE DETAIL
- KB KICKER BRACE
- COLUMN SIZE / PIER MARK (PIER ELEV.)

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10396064-2203 Arek Higgs STATE OF UTAH 09/10/25

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SCHEMATIC REFERENCE

S000

12/15/2025 11:25:55 AM

STRUCTURAL NOTES :

A. GENERAL

1. THE STRUCTURAL NOTES ARE INTENDED TO COMPLEMENT THE PROJECT SPECIFICATIONS WHICH ARE PART OF THE CONSTRUCTION DOCUMENTS. SPECIFIC NOTES AND DETAILS ON THE DRAWINGS SHALL GOVERN OVER THE STRUCTURAL NOTES AND TYPICAL DETAILS.
2. THESE DRAWINGS (AND, WHERE APPLICABLE, ACCOMPANYING WRITTEN SPECIFICATIONS) ARE THE ONLY CONTRACT DOCUMENTS PROVIDED BY ARW ENGINEERS FOR THE PROJECT REPRESENTED HEREIN. NOTHING IN ANY DIGITAL MODEL OR DIGITAL FILE RELATED TO THIS PROJECT SHALL BE TAKEN TO SUPERSEDE ANY INFORMATION SHOWN IN THESE DRAWINGS (INCLUDING, BUT NOT LIMITED TO, DIMENSIONS, SIZES, ETC).
3. THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. THE STRUCTURAL DRAWINGS ARE SUPPLEMENTARY TO AND MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND OTHER CONSULTANTS DRAWINGS. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AS DIRECTED BY THE ARCHITECT AT NO ADDITIONAL COST TO THE OWNER.
4. SEE SPECIFICATIONS FOR REQUIRED SUBMITTALS. SUBMITTALS SHALL BE MADE IN A TIMELY MANNER AS INDICATED IN SPECIFICATIONS. REVIEW OF SUBMITTALS BY ARW ENGINEERS IS FOR GENERAL COMPLIANCE ONLY AND IS NOT INTENDED AS APPROVAL. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SIZES, DIMENSIONS, AND ELEVATIONS ON SUBMITTALS AS RELATED TO DESIGN DOCUMENTS. PREPARATION OF SHOP DRAWINGS FOR STRUCTURAL ELEMENTS WILL REQUIRE INFORMATION (I.E. DIMENSIONS, ETC.) FOUND IN THE ARCHITECTURAL, STRUCTURAL, AND OTHER CONSULTANTS DRAWINGS.
5. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE. IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON CONTRACT DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT PRIOR TO FABRICATION OR CONSTRUCTION OF ANY AFFECTED ELEMENTS.
6. THE CONTRACTOR SHALL COORDINATE AND VERIFY ALL LOCATIONS AND SIZES OF MECHANICAL EQUIPMENT OR OTHER EQUIPMENT BEFORE FABRICATING AND ERECTING STRUCTURAL ELEMENTS. SIZES AND LOCATIONS THAT DIFFER FROM THOSE SHOWN ON THE CONTRACT DOCUMENTS SHALL BE REPORTED TO THE ARCHITECT.
7. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE ARCHITECT FOR ARCHITECT AND/OR ENGINEER APPROVAL BEFORE PROCEEDING WITH ANY CHANGES, MODIFICATIONS, OR SUBSTITUTIONS.
8. OBSERVATION VISITS TO THE SITE BY ARW ENGINEERS FIELD REPRESENTATIVES SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
9. DURING AND AFTER CONSTRUCTION, BUILDER AND/OR OWNER SHALL KEEP LOADS ON STRUCTURE WITHIN THE LIMITS OF DESIGN LOADS AS NOTED IN THESE DOCUMENTS.
10. TYPICAL OR SIMILAR DETAILS AND SECTIONS SHALL APPLY WHERE SPECIFIC DETAILS ARE NOT SHOWN. TYPICAL OR SIMILAR DETAILS REFER TO THE CONDITION ADDRESSED AND ARE NOT NECESSARILY DETAILS LABELED "TYPICAL" OR "SIMILAR" IN THE PLANS AND DOCUMENTS.
11. DRAWINGS AND DETAILS HAVE BEEN PREPARED WITH THE INTENT TO VISUALLY REPRESENT INFORMATION PROVIDED IN SCALED FORM; HOWEVER CONTRACTOR/SUPPLIERS SHOULD NOT SCALE PLANS OR DETAILS FOR DIMENSIONAL INFORMATION.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DESIGN AND INSTALL ADEQUATE TEMPORARY SHORING AND BRACING FOR ALL STRUCTURAL ELEMENTS UNTIL THE ENTIRE STRUCTURAL SYSTEM IS COMPLETED.
13. ENGINEER SHALL NOT BE RESPONSIBLE FOR ACTIVITIES UNDER CONTROL OF THE CONTRACTOR SUCH AS CONSTRUCTION SITE SAFETY, MEANS, METHODS AND SEQUENCING OF CONSTRUCTION. ENGINEER SHALL NOT BE RESPONSIBLE FOR FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS AS PRESCRIBED BY OSHA OR OTHER REGULATORY AGENCIES REGARDLESS OF INDICATIONS IN THESE DOCUMENTS.
14. NOTICE OF COPYRIGHT: THESE STRUCTURAL DRAWINGS ARE HEREBY COPYRIGHTED BY ARW ENGINEERS, ALL RIGHTS RESERVED. THESE DOCUMENTS DEFINE A STRUCTURE AND ARE INSTRUMENTS OF SERVICE, FOR ONE USE ONLY. REPRODUCTION AND DISTRIBUTION OF THESE DRAWINGS IS ONLY ALLOWED AS REQUIRED FOR REGULATORY AGENCIES AND FOR CONVEYANCE OF INFORMATION TO PARTIES INVOLVED IN THE CONSTRUCTION OF THIS PROJECT. THESE DOCUMENTS SHALL NOT BE REPRODUCED OR COPIED, IN PART OR WHOLE BY ANY PARTY FOR USE IN PREPARATION OF SHOP DRAWINGS OR OTHER SUBMITTALS.
15. WHERE THE WORD "SHALL" OCCURS IN THESE DRAWINGS AND ANY ACCOMPANYING SPECIFICATIONS, IT IS CONSIDERED A MANDATORY OBLIGATION AND SYNONYMOUS WITH THE PHRASE "HAS DUTY TO".

B. STATEMENT OF SPECIAL INSPECTIONS AND SPECIAL INSPECTIONS

1. THE DESIGNATED SEISMIC/WIND SYSTEMS AND SEISMIC/WIND-FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO SPECIAL INSPECTIONS IN ACCORDANCE WITH IBC SECTION 1705.12 AND 1705.13 ARE IDENTIFIED ON THESE DOCUMENTS WITH A CIRCLE "L". ALL OTHER ITEMS REQUIRING SPECIAL INSPECTION ARE IDENTIFIED IN THE SPECIAL INSPECTION SCHEDULE ON SHEET S002.
2. SPECIAL INSPECTIONS AND TESTING ARE TO BE PROVIDED AS REQUIRED BY IBC SECTIONS 1704 THROUGH 1705 AND OTHER APPLICABLE SECTIONS OF THE IBC. THE TYPE AND FREQUENCY OF TESTING AND SPECIAL INSPECTIONS SHALL BE AS NOTED IN THE SPECIAL INSPECTION SCHEDULE, JOB SPECIFICATIONS, AND ACCORDANCE WITH IBC SECTION 110 AND CHAPTER 17. CONTRACTOR SHALL COORDINATE AND COOPERATE WITH REQUIRED INSPECTIONS.
3. ALL TESTING AND SPECIAL INSPECTION SHALL BE PROVIDED BY A QUALIFIED INDEPENDENT SPECIAL INSPECTION AGENCY IN ACCORDANCE WITH IBC 1704 AND AS OUTLINED IN THE JOB SPECIFICATIONS. REPORTS OF FINDINGS OR DISCREPANCIES SHALL BE NOTED AND FORWARDED TO THE CONTRACTOR, ARCHITECT, ENGINEERS, AND BUILDING OFFICIAL IN A TIMELY MANNER.
4. STRUCTURAL OBSERVATION VISITS SHALL BE PERFORMED BY A REPRESENTATIVE FROM ARW ENGINEERS IN ACCORDANCE WITH THE CONTRACT AS NEEDED TO OBSERVE THE CONSTRUCTION OF CRITICAL BUILDING ELEMENTS (I.E. FOOTINGS, BRACED FRAMES, MOMENT FRAMES, DRAG STRUTS AND THEIR CONNECTIONS, COLLECTORS, AND ROOF AND FLOOR DIAPHRAGMS). STRUCTURAL OBSERVATION REPORTS FOR EACH VISIT SHALL BE SENT DIRECTLY TO THE ARCHITECT FOR DISTRIBUTION TO THE CONTRACTOR AND BUILDING OFFICIAL. STRUCTURAL OBSERVATION VISITS SHALL NEITHER BE CONSTRUED AS SPECIAL INSPECTION NOR APPROVAL OF COMPLETED CONSTRUCTION.
5. IN ACCORDANCE WITH IBC 1704.4, THE CONTRACTOR SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND OWNER. THE STATEMENT SHALL BE SUBMITTED PRIOR TO THE CONSTRUCTION OF ANY SEISMIC/WIND-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC/WIND SYSTEM, OR COMPONENT IDENTIFIED IN THESE DOCUMENTS WITH A CIRCLE "L".

C. BASIS OF DESIGN

1. GOVERNING BUILDING CODE : INTERNATIONAL BUILDING CODE (IBC) 2021
   RISK CATEGORY : III
2. SUSPENDED FLOOR LOADS
   a. LIVE LOAD = 100 PSF UNREDUCED
   b. DEAD LOAD = 90 PSF (10 PSF SUPERIMPOSED) + 75 PSF AT RECESSED SLAB AREAS
   c. PIPING IN EQUIPMENT ROOM = 20 PSF (ADDITIONAL DEAD LOAD)
3. ROOF LOADS
   a. MINIMUM ROOF SNOW LOAD, P_m : 22 PSF
   b. FLAT-ROOF SNOW LOAD, P_f : 29 PSF
      1. GROUND SNOW LOAD, P_g : 37 PSF
      2. SNOW EXPOSURE FACTOR, C_e : 1.0
      3. SNOW LOAD IMPORTANCE FACTOR, I_s : 1.1
      4. THERMAL FACTOR, C_t : 1.1
      5. SLOPE FACTOR, C_S : 1.0
      6. SNOW DRIFT : SHOWN ON PLANS WHERE APPLICABLE.
   c. LIVE LOAD = 20 PSF
   d. DEAD LOAD = 20 PSF
   e. RAIN INTENSITY, i : 2.03 IN/HR
4. WIND DESIGN
   a. BASIC WIND SPEED (3 SECOND GUST) : 115 MPH
   b. ALLOWABLE STRESS DESIGN WIND SPEED, V_{ASD} : 89 MPH
   c. WIND EXPOSURE : C
   d. INTERNAL PRESSURE COEFFICIENT, GC_{PI} : 0.18
   e. COMPONENT AND CLADDING DESIGN WIND PRESSURE SHALL BE AS REQUIRED PER ASCE 7-16.
5. SEISMIC DESIGN :
   a. SEISMIC IMPORTANCE FACTOR, I_E : 1.25
   b. SITE CLASS : C
   c. MAPPED SPECTRAL RESPONSE ACCELERATIONS : $S_S = 1.08$, $S_1 = 0.388$
   d. SPECTRAL RESPONSE COEFFICIENTS : $S_{DS} = 0.864$, $S_{D1} = 0.388$
   e. SEISMIC DESIGN CATEGORY : D
   f. BASIC SEISMIC-FORCE-RESISTING SYSTEM : BRBF
   g. DESIGN BASE SHEAR : $V_{N-S} = 0.135Wt$, $V_{E-W} = 0.135Wt$
   h. SEISMIC RESPONSE COEFFICIENT, C_S : 0.135
   i. RESPONSE MODIFICATION FACTOR, R : 8
   j. ANALYSIS PROCEDURE : ELF
6. STORY DRIFT AND LATERAL DISPLACEMENT :

	STORY DRIFT	TOTAL DISPLACEMENT
a. WIND DESIGN LEVEL (0.6*W)(N-S) :		
LEVEL 2 :	0.10"	0.10"
ROOF :	0.23"	0.35"
b. WIND DESIGN LEVEL (0.6*W)(E-W) :		
LEVEL 2 :	0.09"	0.09"
ROOF :	0.26"	0.33"
c. SEISMIC INELASTIC (E*Cd)(N-S) :		
LEVEL 2 :	1.78"	1.78"
ROOF :	3.29"	4.88"
d. SEISMIC INELASTIC (E*Cd)(E-W) :		
LEVEL 2 :	2.15"	2.15"
ROOF :	3.13"	5.03"

7. PERIMETER BEAM LIVE LOAD DEFLECTION LIMITS : 1.0" MAX.

D. FOUNDATION

1. GENERAL
   a. DESIGN SOIL PRESSURE : 1500 PSF
   b. SOILS REPORT BY : WESTERN TECHNOLOGIES
      REPORT # : 61-224216-0
      DATED : MARCH 6, 2025
   c. SOIL PREPARATION UNDER FOUNDATIONS AND SLABS-ON-GRADE SHALL BE IN ACCORDANCE WITH THE SOILS REPORT.
   d. TOP OF FOOTING ELEVATIONS SHOWN ON THE FOOTING AND FOUNDATION PLAN ARE BASED ON PRELIMINARY GRADING INFORMATION AND SHALL BE VERIFIED PRIOR TO CONSTRUCTION. STEPS WHERE SHOWN ARE AT APPROXIMATE LOCATIONS. ACTUAL STEP LOCATIONS SHALL BE AT THE CONTRACTOR'S DISCRETION BASED UPON FIELD CONDITIONS. ALL EXTERIOR FOUNDATIONS SHALL BEAR A MINIMUM OF 30" BELOW LOWEST ADJACENT FINAL GRADE.
   e. ALL WALLS (EXCEPT CANTILEVERED RETAINING WALLS) SHALL BE ADEQUATELY BRACED AGAINST LATERAL MOVEMENT PRIOR TO BACKFILLING. DESIGN AND ERECTION OF BRACING/SHORING SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. BRACING SHALL REMAIN IN PLACE UNTIL SUPPORTING STRUCTURAL ELEMENTS ARE IN PLACE AND HAVE ATTAINED FULL STRENGTH.
   f. UNLESS NOTED OTHERWISE, ALL FOOTINGS AT COLUMNS SHALL BE CENTERED BELOW COLUMNS.
   g. UNLESS NOTED OTHERWISE, ALL FOOTINGS SHALL HAVE VERTICAL FACES FORMED WITH STANDARD FORMING MATERIALS (WOOD, METAL, ETC.). WITH PRIOR APPROVAL OF ARCHITECT AND ENGINEER, CONCRETE FOR FOOTINGS CAN BE PLACED IN EXCAVATED SOIL "FORMS" PROVIDED THAT THE DIMENSIONS ARE INCREASED 3" ON ALL SIDE.
   h. UNLESS NOTED AND DETAILED OTHERWISE, NO PIPES, DUCTS, CONDUITS, NON-STRUCTURAL ITEMS, ETC. SHALL BE BURIED BELOW OR EMBEDDED IN FOOTINGS / FOUNDATION WALLS. SEE TYPICAL DETAIL FOR CONDITIONS WHERE THESE ITEMS CROSS OR RUN PARALLEL TO FOOTINGS / FOUNDATION WALLS.

E. CONCRETE

1. ALL CONCRETE MIX DESIGNS SHALL COMPLY WITH THE MORE STRINGENT OF THE PROJECT SPECIFICATIONS AND THE REQUIREMENTS LISTED BELOW :

ELEMENT	EXPOSURE CATEGORY F	S	W	C	f'c, AT 28 DAYS (PSI)	MAX. W/C RATIO	AIR CONTENT %	MAX. AGGREGATE SIZE	MACRO FIBER DOSAGE LBS/CY
Interior Slabs on Grade	F0	S0	W0	C0	3000	0.50	---	1-1/2"	3.0
Interior Slabs on Metal Deck & Isolation Slab	F0	S0	W0	C0	4000	0.50	---	3/4"	4.0
Water Retaining Vessels, Backwash Pits, Surge Tanks & Collector Tanks	F2	S0	W2	C1	5000	0.40	---	3/4"	
Mat Foundations	F0	S0	W1	C0	3000	---	---	1"	
FTG / Grade Beams / FDN Walls[a]	F0	S0	W1	C0	4000	0.45	---	1-1/2"	
FTG / Grade Beams / FDN Walls[b]	F2	S0	W1	C1	4500	0.45	Note c	1-1/2"	
Retaining Walls	F2	S0	W1	C1	4500	0.45	Note c	1-1/2"	
All Other Site Cast Concrete	F2	S0	W1	C1	4500	0.45	Note c	1-1/2"	
PT Tennis/Pickleball Court Slabs	F2	S0	W2	C1	5000	0.45	Note c	1-1/2"	
Interior Concrete 2" or less in thickness including stair pans	F0	S0	W0	C0	3000	0.50	---	3/8"	

   NOTES :
   a. ELEMENT IS NOT EXPOSED TO FREEZING AND / OR IS PERMANENTLY BURIED IN SOIL.
   b. ELEMENT IS EXPOSED TO FREEZING AND / OR IS NOT PERMANENTLY BURIED IN SOIL AND IS LOCATED ABOVE THE FROST LINE.
   c. TOTAL AIR CONTENT FOR CONCRETE EXPOSED TO CYCLES OF FREEZING AND THAWING SHALL BE DETERMINED IN ACCORDANCE WITH THIS SCHEDULE. TOLERANCE ON AIR CONTENT AS DELIVERED SHALL BE +/- 1.5 PERCENT.

NOMINAL MAXIMUM AGGREGATE SIZE, IN.	TARGET AIR CONTENT, PERCENT F1	F2 AND F3
3/8	6	7.5
1/2	5.5	7
3/4	5	6
1	4.5	6
1-1/2	4.5	5.6
2	4	5
3	3.5	4.5

2. WATER USED IN MIXING CONCRETE SHALL CONFORM TO ASTM C1602.
3. NO CONDUIT, PIPES, DUCTS, SLEEVES, ETC. SHALL BE PLACED IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED OR APPROVED BY THE STRUCTURAL ENGINEER. NO ALUMINUM PRODUCTS SHALL BE EMBEDDED IN CONCRETE. PENETRATIONS THRU STRUCTURAL CONCRETE ELEMENTS MUST BE APPROVED BY THE ENGINEER AND SHALL BE BUILT INTO THE ELEMENT PRIOR TO CONCRETE PLACEMENT.
4. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, ETC. TO BE CAST IN TO CONCRETE, AND FOR EXTENT AND LOCATION OF DEPRESSIONS, CURBS, RAMPS, ETC.
5. UNLESS NOTED OTHERWISE, MINIMUM REINFORCING IN ALL CONCRETE FOUNDATION WALLS SHALL BE AS FOLLOWS:

THICKNESS	TOP & BOTTOM BARS	VERTICAL	HORIZONTAL
6" & 6 1/2"	(1) #5	#4 AT 18"o.c.	#4 AT 16"o.c.
8"	(2) #5	#4 AT 18"o.c.	#4 AT 12"o.c.
10"	(2) #5	#4 AT 12"o.c.	#5 AT 12"o.c.
12"	(2) #5	#4 AT 18"o.c. EA FACE	#4 AT 16"o.c. EA FACE

6. UNLESS NOTED OTHERWISE, FOR NON-DETAILED OPENINGS IN CONCRETE WALLS LARGER THAN 12" AND SMALLER THAN 24" IN ANY DIRECTION ADD (2) #5 BARS ON ALL SIDES IN ADDITION TO REGULAR WALL REINFORCING AND EXTEND 24" EACH WAY BEYOND OPENING. IF 24" IS NOT AVAILABLE ON EVERY SIDE, NOTIFY STRUCTURAL ENGINEER FOR FURTHER DIRECTION. OPENINGS SHALL HAVE A MINIMUM OF 12" OF CONCRETE ABOVE THE OPENING, TYP.
7. CONSTRUCTION JOINTS NOT SHOWN ON THE PLANS SHALL BE MADE AND LOCATED SO AS TO NOT IMPAIR THE STRENGTH OF THE STRUCTURE AND AS APPROVED BY THE STRUCTURAL ENGINEER. PROVIDE 2 X 4 (SHAPED) KEYWAY IN ALL VERTICAL AND HORIZONTAL JOINTS UNLESS NOTED OR DETAILED OTHERWISE. ALL STEEL REINFORCING SHALL BE CONTINUOUS THROUGH COLD JOINTS UNLESS NOTED OTHERWISE. SEE TYPICAL DETAILS FOR COLD/CONSTRUCTION JOINTS FOR SLABS ON GRADE.
8. WHERE NEW CONCRETE IS PLACED AGAINST PREVIOUSLY HARDENED CONCRETE, THE JOINT SHALL BE CLEAN AND FREE OF LAITANCE. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, CONSTRUCTION JOINTS SHALL BE PREWETTED AND STANDING WATER REMOVED.
9. MACRO-FIBER USED IN CONCRETE SHALL BE SYNTHETIC POLYOLEFIN MACRO-FIBERS ENGINEERED AND DESIGNED FOR USE IN CONCRETE, COMPLYING WITH ASTM C1116/C1116M, TYPE III, AND MINIMUM 1-1/2" LONG. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

F. ANCHOR BOLTS/EMBEDDED BOLTS

1. ALL ANCHOR BOLTS SHALL HAVE ASTM A-563 HEAVY HEX NUT AND ASTM F-436 WASHERS AT STANDARD OR OVERSIZED HOLES PER AISC SPECIFICATION TABLE J3.3. WHERE HOLE SIZES DO NOT COMPLY WITH THE LIMITATIONS FOR OVERSIZED HOLES THE STRUCTURAL ENGINEER SHALL BE NOTIFIED TO DETERMINE STEEL PLATE WASHER REQUIREMENTS. ANCHOR BOLTS SHALL COMPLY WITH THE FOLLOWING :
   a. AT BRACED FRAMES - ASTM F1554 GRADE 105 HEADED BOLTS.(ASTM F1554 THREADED ROD OF SAME GRADE MAY BE USED WITH DOUBLE NUT AND WASHER.)
   b. AT ALL OTHER ANCHOR BOLTS (UNLESS NOTED OTHERWISE) - ASTM F1554 GRADE 36 HEADED BOLTS. (ASTM A36 THREADED ROD MAY BE USED WITH DOUBLE NUT AND WASHER.)
2. EMBEDDED BOLTS IN MASONRY SHALL BE (UNLESS NOTED OTHERWISE) ASTM A-307 GRADE HEADED BOLTS.
3. SEE TYPICAL ANCHOR BOLT DETAIL FOR DEFINITIONS OF EMBEDMENT LENGTH, ETC.
4. FURNISH TEMPLATES AND OTHER DEVICES AS NECESSARY FOR PRESETTING ALL BOLTS PRIOR TO PLACING CONCRETE AND/OR GROUT.
5. IF THREADED RODS ARE USED AS PERMITTED ABOVE, THEY SHALL BE CLEAR OF SOIL AND DIRT.
6. WHERE REQUIRED FOR ERECTION, HOLES LARGER THAN OVERSIZED MAY BE PERMITTED WITH THE USE OF STEEL PLATE WASHERS AT THE DISCRETION OF THE STRUCTURAL ENGINEER.

G. ADHESIVE/MECHANICAL ANCHORS

1. WITHOUT WRITTEN APPROVAL OF THE ENGINEER, CONTRACTOR SHALL NOT SUBSTITUTE POST-INSTALLED ANCHORS WHERE CAST-IN-PLACE ANCHORS ARE SPECIFIED IN THE DRAWINGS.
2. WHERE STRUCTURAL DETAILS SPECIFY SPECIFIC BRANDS AND/OR TYPES OF ADHESIVES OR ANCHORS, SUBSTITUTIONS OF OTHER BRANDS AND/OR TYPES IS NOT ALLOWED, WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
3. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS SHALL BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. SUBSTITUTION REQUESTS SHALL INCLUDE AN ICC ESR OR IAPMO REPORT AND SUPPORTING CALCULATIONS INDICATING COMPLIANCE WITH DESIGN INTENT.
4. ALL ADHESIVE/MECHANICAL ANCHORS SHALL BE INSTALLED, INCLUDING HOLE DRILLING AND PREPARATION, IN ACCORDANCE WITH AN APPROVED INDEPENDENT EVALUATION REPORT (ICC-ES, IAPMO, OR APPROVED EQUAL), AS INDICATED BELOW, AND IN ACCORDANCE WITH ALL MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII).
5. INSTALLERS SHALL BE, AT A MINIMUM, TRAINED FOR THE SPECIFIC APPLICATION INSTALLATION TECHNIQUE FOR THE SPECIFIC PRODUCT BY THE PRODUCT MANUFACTURERS FIELD EMPLOYEE OR SHALL POSSESS A TRAINING CARD OBTAINED BY THE MANUFACTURERS ONLINE TRAINING PROGRAM.
6. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. ADHESIVE ANCHORS SHALL NOT BE FULLY LOADED UNTIL CONCRETE HAS REACHED DESIGN STRENGTH.
7. ADHESIVE ANCHORS SHALL CONSIST OF REINFORCING BAR OR THREADED RODS AS INDICATED IN THESE DOCUMENTS.
8. UNLESS APPROVED BY THE ENGINEER OF RECORD, CONCRETE AND DRILLED ANCHOR HOLES SHALL BE DRY AND FREE OF WATER FOR 14 DAYS PRIOR TO ADHESIVE INSTALLATION. CONTACT THE ENGINEER OF RECORD FOR GUIDANCE IF THE CONTRACTOR CHOOSES TO INSTALL IN DAMP, WATER-SATURATED, OR WATER-FILLED HOLES.
9. CONCRETE TEMPERATURE AT THE TIME OF INSTALLATION SHALL BE MONITORED BY THE CONTRACTOR. CONTRACTOR SHALL COMPLY WITH ALL MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPII) RELATIVE TO SUBSTRATE TEMPERATURE.
10. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT IN ACCORDANCE WITH ACI 318-19 26.7.2 (e) PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. CONTINUOUS SPECIAL INSPECTION SHALL BE PROVIDED FOR THESE ANCHORS.
11. UNLESS NOTED OTHERWISE, ALL ADHESIVE ANCHORS INTO CONCRETE SHALL BE:
    a. HILTI HIT-RE 500V3 (ESR-3814), OR HILTI HIT-HY 200-V3 (ESR-4868).
    b. SIMPSON SET-3G (ESR-4057), OR AT-XP (ER-263).
    c. DEWALT PURE 110+ (ESR-3298), OR AC200+ GOLD (ESR-4027-COLD WEATHER).
12. UNLESS NOTED OTHERWISE, ALL ADHESIVE ANCHORS INTO GROUTED MASONRY (CMU) SHALL BE:
    a. HILTI HIT-HY 270 (ESR-4143).
    b. SIMPSON SET-3G (ESR-4844), OR AT-XP (ER-281).
    c. DEWALT AC100+ GOLD (ESR-3200).
13. UNLESS NOTED OTHER WISE, ALL MECHANICAL ANCHORS INTO CONCRETE SHALL BE:
    a. HILTI KWIK BOLT-TZ2 (ESR-4266).
    b. SIMPSON STRONG-BOLT 2 (ESR-3037).
14. UNLESS NOTED OTHERWISE, ALL MECHANICAL ANCHORS INTO GROUTED MASONRY (CMU) SHALL BE:
    a. HILTI KWIK BOLT-TZ2 (ESR-4561).
    b. SIMPSON STRONG BOLT 2 (ER-240).
    c. DEWALT SCREWBOLT+ (ESR-4042).
15. UNLESS NOTED OTHERWISE, ALL SCREW ANCHORS INTO CONCRETE SHALL BE:
    a. SIMPSON TITEN HD (ESR-2713).
    b. DEWALT SCREWBOLT+ (ESR-3889).
    c. HILTI KH-EZ (ESR-3027).
16. UNLESS NOTED OTHERWISE, ALL SCREW ANCHORS INTO GROUTED MASONRY (CMU) SHALL BE:
    a. SIMPSON TITEN HD (ESR-1056).
    b. DEWALT SCREWBOLT+ (ESR-1678).
    c. HILTI KH EZ (ESR-3056).
17. ALL MASONRY CELLS WITHIN 8" OF THE ANCHOR SHALL BE SOLID GROUTED.
18. THE TESTING LABORATORY WILL PERFORM VISUAL INSPECTION OF ANCHORS AND DOWELS AS SPECIFIED IN THE SPECIAL INSPECTION SCHEDULE AND THE APPROVED INDEPENDENT EVALUATION REPORT. TENSION TESTING CAN BE REQUIRED AT THE DIRECTION OF THE STRUCTURAL ENGINEER OF RECORD OR THE SPECIAL INSPECTOR.
19. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON THAT HOLE AND SHIFT THE ANCHOR LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM SPACE OF (2) ANCHOR HOLE DIAMETERS OR 2 INCHES, WHICH EVER IS LARGER, OF SOUND CONCRETE/MASONRY BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT OR AN APPROVED ANCHORING ADHESIVE. AT CONTRACTORS OPTION, LOCATE EXISTING REINFORCEMENT PRIOR TO DRILLING/CORING. IF THE ANCHOR OR DOWEL CANNOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.
20. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.

H. SUSPENDED CONCRETE SLABS / SLABS ON METAL DECK

1. UNLESS NOTED OTHERWISE, ALL CONCRETE SLABS ON METAL DECK SHALL BE 6-1/2" TOTAL THICKNESS NORMAL WEIGHT CONCRETE WITH A WEIGHT LESS THAN 145 POUNDS PER CUBIC FOOT, REINFORCED WITH 8 X 8 - W2.1 X W2.1 WELDED WIRE FABRIC. REINFORCING STEEL SHALL BE CHAIRED TO 1" TOP COVER AT ALL BEAM LOCATIONS. EXCEPT WHERE SPECIFICALLY DETAILED, FIBER MESH MAY BE USED IN PLACE OF REINFORCEMENT IN SLABS ON DECK WHEN USED IN ACCORDANCE WITH AN APPROVED ICC RESEARCH REPORT AND WHERE APPROVED BY THE ENGINEER. WHERE THE SLAB CONSTRUCTION IS USED TO OBTAIN A UL FIRE RATING, THE PROPOSED FIBER MESH SHALL HAVE UL ACCEPTANCE AS AN APPROVED ALTERNATIVE TO WELDED WIRE FABRIC.
2. AROUND OPENINGS IN SUSPENDED CONCRETE SLABS, ADD REINFORCING BARS EQUIVALENT TO BARS CUT BY OPENING WITH HALF ON EACH SIDE OF OPENING. BARS PARALLEL TO PRINCIPAL REINFORCING SHALL RUN FULL LENGTH OF SPAN. BARS PARALLEL TO TEMPERATURE REINFORCING SHALL RUN 24" BEYOND OPENING.
3. SLAB PENETRATIONS LESS THAN 6" IN ALL DIRECTIONS WITH A CLEAR SPACING OF AT LEAST 3 TIMES THE LONGEST DIMENSION, DO NOT REQUIRE SUPPLEMENTAL REINFORCING. OTHERWISE, THE PENETRATIONS SHALL BE FRAMED ON 4 SIDES WITH STEEL ANGLES OR BENT PLATES (SEE TYPICAL DETAIL) UNLESS NOTED OTHERWISE.
4. EVERY EFFORT SHALL BE MADE TO PROVIDE A LEVEL FINISHED FLOOR WHILE MAINTAINING THE MINIMUM INDICATED SLAB THICKNESS.
5. CONTROL JOINTS IN SUSPENDED CONCRETE SLABS AND CONCRETE SLABS ON DECK SHALL NOT BE USED UNLESS SPECIFICALLY APPROVED AND DETAILED BY THE ENGINEER.
6. SEE TYPICAL DETAILS WHEN SLABS ARE MADE COMPOSITE WITH STEEL BEAMS. ANY CONDUIT PLACED IN SLABS ON DECK SHALL BE SPACED NOT CLOSER THAN 18"o.c. CONDUIT LARGER THAN 3/4" DIAMETER SHALL BE PLACED IN DECK FLUTES, BUT MAY NOT BE PLACED IN FLUTES WITH REINFORCING STEEL OR HSA'S. A 1" MINIMUM CLEARANCE SHALL BE MAINTAINED BETWEEN THE CONDUIT AND THE DECK. NO CONDUIT LARGER THAN 1" DIAMETER OR 1/3 THE THICKNESS OF THE CONCRETE OVER THE DECK FLUTE SHALL BE PLACED IN SLABS ON DECK. CONDUIT CROSSOVERS ARE NOT ALLOWED.

H. REINFORCING STEEL

1. REINFORCING BAR STRENGTH REQUIREMENTS:
   a. ALL REINFORCING BARS SHALL CONFORM TO ASTM STANDARD A-615 GRADE 60 AND ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM STANDARD A-1064 AND SHALL BE SUPPLIED IN FLAT SHEETS. ADEQUATELY TIE AND SUPPORT ALL REINFORCING STEEL AS SPECIFIED BY ACI 117, TO MAINTAIN EXACT REQUIRED POSITION.
2. HEADED SHEAR STUD ASSEMBLIES SHALL CONFORM TO ASTM A1044.
3. STEEL DISCONTINUOUS FIBER REINFORCEMENT SHALL BE DEFORMED AND CONFORM TO ASTM A820 AND SHALL HAVE A LENGTH TO DIAMETER RATIO NOT SMALLER THAN 50 AND NOT GREATER THAN 100.
4. HEADED DEFORMED BARS SHALL CONFORM TO ASTM A970. OBSTRUCTIONS OR INTERRUPTIONS OF THE BAR DEFORMATIONS, IF ANY, SHALL NOT EXTEND MORE THAN 2 BAR DIAMETERS FROM THE BEARING FACE OF THE HEAD.
5. ALL REINFORCING STEEL SHALL BE TIED IN PLACE AND ADEQUATELY SUPPORTED PRIOR TO PLACING CONCRETE. WET STABBING OF ANY REINFORCING STEEL IS NOT PERMITTED, UNLESS SPECIFICALLY DETAILED OTHERWISE OR APPROVED BY THE ENGINEER.
6. ALL FIELD BENT DOWELS SHALL BE GRADE 40 WITH SPACING INDICATED REDUCED BY 1/3.
7. UNLESS NOTED OTHERWISE, REINFORCEMENT SHALL HAVE THE FOLLOWING CONCRETE COVERAGE :
   a. CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ….. 3"
   b. EXPOSED TO EARTH OR WEATHER :
      1. #6 & LARGER ….. 2"
      2. #5 & SMALLER …..1-1/2"
   c. NOT EXPOSED TO WEATHER OR EARTH :
      1. SLABS, WALLS, JOISTS, #11 & SMALLER ….. 3/4"
      2. BEAMS, COLUMNS: MAIN REINFORCING OR TIES ….. 1-1/2"
   d. SLAB ON GRADE :
      1. PLACE REINFORCING AT CENTER OF SLAB UNLESS INDICATED OTHERWISE.
8. EXCEPT WHERE NOTED ON PLANS OR DETAILS CONTINUOUS REINFORCEMENT SHALL BE SPLICED AT POINTS OF MINIMUM STRESS BY LAPPING PER THE REBAR LAP SCHEDULE.
9. REINFORCING STEEL MAY BE SPLICED WITH MECHANICAL COUPLERS THAT HAVE A TENSION CAPACITY OF AT LEAST 125% OF THE STRENGTH OF THE BAR. MECHANICAL COUPLERS SHALL BE A POSITIVE CONNECTING TYPE COUPLER, AND SHALL BE INSTALLED IN ACCORDANCE WITH AN APPROVED ICC RESEARCH REPORT. WHERE THESE ARE USED, SPLICES ON ADJACENT BARS SHALL BE STAGGERED AT LEAST 24 INCHES ALONG THE LENGTH OF THE BARS.
10. ALL VERTICAL REINFORCING IN STRUCTURAL ELEMENTS ABOVE SHALL BE SPLICED WITH MATCHING DOWELS EMBEDDED WITHIN THE FOOTINGS OR STRUCTURE BELOW. SPLICE LENGTHS SHALL COMPLY WITH REBAR LAP SCHEDULE. DOWELS INTO FOOTINGS SHALL TERMINATE WITH A STANDARD HOOK, AND SHALL EXTEND TO WITHIN 4" OF THE BOTTOM OF THE FOOTING, BUT NEED NOT EXTEND MORE THAN 20" INTO FOOTING.
11. DO NOT WELD REINFORCING EXCEPT AS NOTED ON PLANS, WHERE REINFORCING IS WELDED, USE ASTM A-706 REINFORCING.
12. REINFORCING BARS, TIES, AND TENDONS SHALL BE SUPPORTED BY NYLON CONES, PLASTIC-COATED TIE-WIRES, OR PLASTIC-COATED CHAIRS. REINFORCING IN FOOTINGS IS PERMITTED TO BE SUPPORTED ON CONCRETE DOBIES.
13. UNLESS NOTED OTHERWISE, HOOKS, STIRRUPS, TIES, AND OTHER BENDS IN REINFORCING STEEL SHALL MEET THE STANDARDS SET FORTH IN ACI 318/318R-19. UNLESS OTHERWISE PERMITTED BY THE ENGINEER, ALL REINFORCEMENT SHALL BE BENT COLD. REINFORCEMENT PARTIALLY EMBEDDED IN CONCRETE SHALL NOT BE FIELD BENT, EXCEPT AS SHOWN ON THESE DRAWINGS OR OTHERWISE PERMITTED BY THE ENGINEER.
14. UNLESS SPECIFICALLY NOTED AND/OR DETAILED IN THE STRUCTURAL DRAWINGS CONDUIT SHALL NOT BE IN CONTACT WITH REINFORCING STEEL.

I. STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING:
   a. ANSI/AISC 360-16 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS", WITH "COMMENTARY" AND "SUPPLEMENTS" AS REQUIRED BY BUILDING CODE.
   b. AISC 303-16 "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES" EXCLUDING THE FOLLOWING SECTIONS: 4.4, 4.4.1, AND 4.4.2.
   c. AISI "SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
   d. AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH STRENGTH BOLTS".
   e. AWS D1.1 AND 1.3, "STRUCTURAL WELDING CODE" (EXCEPT SPECIFIC ITEMS DO NOT APPLY IF THEY CONFLICT WITH AISC).
   f. ANSI/AISC 341-16 "SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS".
   g. AWS D1.8, "STRUCTURAL WELDING CODE - SEISMIC".
2. STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING:
   a. WIDE FLANGE SHAPES, CHANNELS, AND WT SHAPES - ASTM A992 (Fy = 50 ksi)
   b. OTHER SHAPES, PLATES, ANGLES, AND BARS - ASTM A572 (Fy = 50 ksi) (UNO)
   c. HOLLOW STRUCTURAL SECTIONS (HSS) - ASTM A500, GRADE C (Fy = 50 ksi)
   d. STAINLESS STEEL SHAPES, PLATES, AND FASTENERS – ASTM 304
   e. DEFORMED BAR ANCHORS (DBA) - ASTM A-496, WELDED IN ACCORDANCE WITH AWS D1.1
   f. HEADED STUD ANCHORS (HSA) - ASTM A-108, GRADE 1015 STEEL AND WELDED IN ACCORDANCE WITH AWS D1.1 FOR TYPE "B". USE 3/4" DIAMETER STUDS, UNLESS NOTED OTHERWISE.
   g. THREADED ROD - ASTM A-449.
   h. NON-SHRINK GROUT - ASTM C1107. NON-SHRINK GROUT SHALL BE PRE-PACKAGED, NON-METALLIC, WITH A 28-DAY COMPRESSIVE STRENGTH OF 6,000 PSI.
3. CONNECTIONS SHALL COMPLY WITH THE STRUCTURAL DRAWINGS UNLESS WRITTEN APPROVAL TO CHANGE IS GIVEN BY THE STRUCTURAL ENGINEER.
4. ALL SHOP FABRICATIONS SHALL BE PERFORMED BY AN APPROVED FABRICATOR IN ACCORDANCE WITH SECTIONS 1702 AND 1704 OF THE IBC OR WITH SHOP INSPECTION BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH SECTION 1704.2.5 OF THE IBC.
5. WELDING
   a. ALL WELDING AND CUTTING SHALL BE PERFORMED BY AWS QUALIFIED WELDERS IN ACCORDANCE WITH ANSI/AWS D1.1 (LATEST EDITION).
   b. USE E-70XX ELECTRODES UNLESS NOTED OTHERWISE. E-60XX MAY BE USED FOR WELDING STEEL DECKS.
   c. ALL INTERSECTING STEEL SHAPES WHICH ARE NOT CONNECTED WITH BOLTS SHALL BE WELDED TOGETHER WITH A FILLET WELD ALL AROUND UNLESS NOTED OTHERWISE. WHERE WELD SIZES ARE NOT SHOWN, USE THE FOLLOWING:
      1. WHERE THE THICKNESS OF THE CONNECTED PARTS IS EQUAL TO OR THICKER THAN 1/4", WELD SIZE SHALL BE 1/16" LESS THAN THE THICKNESS OF THE THINNEST PART.
      2. WHERE ANY OF THE CONNECTED PARTS IS LESS THAN 1/4" THICK, WELD SIZE SHALL BE THE SAME AS THE THICKNESS OF THE THINNEST PART.
   d. WELDING OF HSA'S (HEADED STUD ANCHORS) AND DBA'S (DEFORMED BAR ANCHORS) SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS AND AWS D1.1 REINFORCING BARS SHALL NOT BE SUBSTITUTED FOR HSA'S OR DBA'S.
   e. WHEREVER POSSIBLE, WELDS SHALL BE SHOP WELDS. SPECIAL CONSIDERATIONS, SUCH AS ITEMS WHICH MAY NEED ADJUSTMENT AT THE SITE, REQUIRE THAT SOME WELDS BE FIELD WELDS. WHERE QUESTIONS OR DISCREPANCIES OCCUR THE CONTRACTOR SHALL COORDINATE THE WORK BETWEEN THE SHOP FABRICATOR AND THE STEEL ERECTOR.
   f. SPECIAL PROVISIONS FOR SFRS (SEISMIC FORCE RESISTING SYSTEM):
      1. ALL WELDS DESIGNATED AS DEMAND CRITICAL WELDS SHALL BE MADE WITH FILLER METALS MEETING THE REQUIREMENTS SPECIFIED IN CLAUSES 6.1, 6.2, AND 6.3 OF AWS D1.8.
      2. ALL OTHER WELDS THAT ARE PART OF THE SFRS SHALL BE MADE WITH FILLER METALS MEETING THE REQUIREMENTS SPECIFIED IN CLAUSE 6.1 OF AWS D1.8.
      3. BUTT WELDS IN MEMBERS WITH DIFFERENT THICKNESSES, SUCH AS COLUMN SPLICES, SHALL BE TAPERED AND MADE IN SUCH A MANNER THAT THE TRANSITION DOES NOT EXCEED 1 IN 2-1/2 INCHES. THE TRANSITION SHALL BE ACCOMPLISHED BY CHAMFERING THE THICKER PART, TAPERING THE WIDER PART, SLOPING THE WELD METAL OR BY A COMBINATION OF THESE
6. BOLTING
   a. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL TO STEEL CONNECTIONS SHALL USE HIGH STRENGTH BOLTS CONFORMING TO ASTM F3125 GR. A325.
   b. UNLESS NOTED OTHERWISE, ALL BOLTING IS CLASSIFIED AS NON-SLIP CRITICAL BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN SHEAR PLANE. TIGHTEN BOLTS TO A SNUG TIGHT CONDITION, WITH ALL PLIES OF THE JOINT IN FIRM CONTACT.
   c. WHERE OVERSIZED OR SLOTTED HOLES OCCUR IN THE OUTER PLY, AN ASTM F436 WASHER OR 5/16" THICK COMMON PLATE WASHER SHALL BE USED AS REQUIRED TO COMPLETELY COVER THE HOLE.
   d. BOLTS SHALL BE CENTERED IN SLOTTED HOLES, UNLESS NOTED OTHERWISE.
   e. WHERE A STEEL BEAM TO BEAM CONNECTION IS NOT SHOWN, PROVIDE AN AISC STANDARD FRAMED CONNECTION SIZED FOR 1/2 OF THE TOTAL LOAD CAPACITY OF THE BEAM FOR THE SPAN AND STEEL SPECIFIED.
7. METAL DECKING
   a. UNLESS NOTED OTHERWISE, METAL ROOF DECK SHALL BE 20 GAUGE TYPE B PAINTED STEEL DECK. SEE ROOF DECK SCHEDULE FOR ATTACHMENTS.
   b. UNLESS NOTED OTHERWISE, METAL FLOOR DECK SHALL BE 20 GAUGE TYPE W3 COMPOSITE, PAINTED, UNVENTED STEEL DECK. UNLESS NOTED OTHERWISE, ATTACH TO SUPPORTING STRUCTURE WITH 3/4" DIAMETER WELDS AT 12" MAXIMUM SPACING. ATTACH SIDE SEAMS WITH BUTTON PUNCH OR SIDE SEAM SCREWS AT 24" MAXIMUM SPACING. AN HSA FIELD-WELDED THROUGH THE DECK MAY SUBSTITUTE FOR A PUDDLE WELD.
      1. UNLESS NOTED OTHERWISE, METAL FLOOR DECK IS BASED ON A "LIGHT DUTY" CONSTRUCTION LIVE LOAD OF 20 PSF (IN ADDITION TO THE UNIFORM WET CONCRETE SLAB THICKNESS). SEE STEEL DECK INSTITUTE DESIGN MANUAL FOR ADDITIONAL INFORMATION.
   c. ALL DECK SHALL BE CONTINUOUS OVER 3-SPANS. WHERE NOT POSSIBLE, THE DECK SUPPLIER/CONTRACTOR SHALL PROVIDE HEAVIER GAUGE DECK AS NEEDED TO PROVIDE THE EQUIVALENT PERFORMANCE OF THE SPECIFIED DECK WITH 3-SPAN CONTINUITY.
   d. SEE TYPICAL DETAILS FOR SUPPORT OF DECK AT OPENINGS.
   e. PROVIDE L2"x2"x3/16" FOR DECK SUPPORT AT LOCATIONS WHERE COLUMNS EXTEND THROUGH DECK.
   f. PAINTED STEEL DECK SHALL CONFORM TO EITHER ASTM A1008 OR A1039, GRADE 50 STEEL AND GALVANIZED STEEL DECK SHALL CONFORM TO EITHER ASTM A653 OR A1063, GRADE 50 STEEL, WITH A ZINC COATING DESIGNATION OF G60.
   g. BUILDING ELEMENTS MAY BE SUPPORTED BY HANGING DIRECTLY FROM METAL DECKING, PROVIDED THAT THE TOTAL WEIGHT PER CONNECTION IS LESS THAN 50 LBS AND THAT THE ATTACHMENT TO THE DECKING IS DISTRIBUTED ACROSS AT LEAST TWO RIBS AND SPACED AT LEAST 6 FEET APART IN ANY DIRECTION.
8. UNLESS NOTED OTHERWISE, WHERE STEEL BEAMS SUPPORT WOOD FRAMING OR WOOD SHEATHING, PROVIDE A CONTINUOUS DOUBLE 2x OR SINGLE 3x NAILER PLATE ON THE TOP OF THE BEAM THAT IS EQUAL TO THE FULL WIDTH OF THE BEAM FLANGE. ATTACH NAILER PLATES TO WIDE-FLANGE BEAMS WITH 1/2" DIAMETER THRU BOLTS AT 24"o.c. - STAGGERED. COUNTER-SINK HEAD OF BOLTS INTO TOP OF NAILER PLATE TO PROVIDE A FLUSH BEARING SURFACE.
9. ALL COLUMNS ADJACENT TO OR EMBEDDED IN WOOD STUD WALLS SHALL HAVE (1) 1/2" DIAMETER X 3-1/2" THREADED STEEL ROD SHOP-WELDED TO THE FACE OF THE COLUMN AT 24"o.c. AND EXTENDING EACH WAY INTO THE ADJACENT STUD WALLS. ATTACH ADJACENT WOOD WALL STUDS TO STEEL COLUMN WITH STANDARD NUT AND WASHER AS REQUIRED.
10. PROVIDE FULL DEPTH WEB STIFFENER PLATES AT EACH SIDE OF STEEL BEAMS AT ALL BEARING (EXCEPT SECONDARY FRAMING) POINTS. STIFFENER PLATES SHALL BE THICKNESS SHOWN UNLESS NOTED OTHERWISE AND SHALL BE WELDED BOTH SIDES WITH FILLET WELDS ALL AROUND.

FLANGE WIDTH	STIFFENER THICKNESS	WELD THICKNESS
< 8 1/4"	1/4"	3/16"
8 1/4" < BF < 12 1/2"	3/8"	1/4"
12 1/2" < BF < 18"	1/2"	5/16"

11. FABRICATORS AND SUPPLIERS SHALL COORDINATE PAINT/FINISHES WITH REQUIREMENTS FOR DIRECT APPLIED INSULATION, FIREPROOFING, ETC. AS NOTED IN THE PROJECT SPECIFICATIONS.
12. WHEN DETERMINING THE FIRE RESISTANCE OF ASSEMBLIES, USE THE FOLLOWING: STEEL ROOF MEMBERS ARE CONSIDERED UN-RESTRAINED AND STEEL FLOOR FRAMING MEMBERS ARE CONSIDERED RESTRAINED.
13. UNLESS NOTED OTHERWISE, ALL HORIZONTAL FRAMING MEMBERS SHALL BE ERECTED WITH THE NATURAL CROWN UP.
14. UNLESS OTHERWISE SHOWN OR DETAILED IN THE PLANS, ALL STEEL COLUMNS, BEAMS, BRACES, STRUTS, ETC. SHALL BE CONTINUOUS BETWEEN CONNECTIONS OR SUPPORTS. SPLICES IN MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL BY THE ENGINEER OF RECORD.

J. OPEN WEB JOISTS AND GIRDERS

1. ALL OPEN WEB STEEL JOISTS AND GIRDERS SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF "STANDARD SPECIFICATIONS AND CODE OF STANDARD PRACTICE" OF THE STEEL JOIST INSTITUTE.
2. (###/###) DENOTES APPLIED TOTAL AND LIVE UNIFORMLY DISTRIBUTED LOADS IN POUNDS PER LINEAR FOOT OF JOIST, RESPECTIVELY.
3. SEE JOIST LOAD PROFILES FOR SPECIALLY LOADED JOISTS.
4. CONCENTRATED POINT LOADS, NOT SPECIFICALLY SHOWN ON THE PLANS, OF LESS THAN 100 POUNDS FOR MECHANICAL UNITS, FIRE SPRINKLER MAINS, AND OTHER EQUIPMENT SHALL BE ALLOWED WITHOUT REQUIRING ADDITIONAL WEB MEMBERS TO BE INSTALLED. WHERE THE LOAD EXCEEDS 100 POUNDS, THE LOAD SHALL BE SUPPORTED WITHIN 6" OF A CHORD PANEL POINT. SUPPORT BEYOND 6" FROM PANEL POINTS CAN BE PROVIDED BY ADDING (2) L2 x 2 x 1/4 DIAGONALS TO THE NEAREST OPPOSITE CHORD PANEL POINT PER THE TYPICAL DETAIL. CONNECTIONS SHALL BE MADE CONCENTRIC TO THE CHORD ANGLES. BEAM CLAMPS, OR SIMILAR ECCENTRIC ATTACHMENTS, ARE NOT ALLOWED, EXCEPT AS INDICATED BELOW. LOADS SHALL BE SPACED AT LEAST 6 FEET APART WITH NO MORE THAN 4 PER JOIST. BEAM CLAMPS, OR SIMILAR ATTACHMENTS THAT ARE NOT CENTERED ON THE CHORD ANGLES MAY ONLY BE USED FOR LOADS LESS THAN 10 POUNDS. SEE JOIST SUBMITTAL FOR ADDITIONAL REQUIREMENTS. ALL LOADS PROVIDED FOR IN THIS NOTE SHALL BE ACCOUNTED FOR IN THE SPECIFIED DESIGN LOADS.
5. ANY BRACING REQUIRED FOR MISCELLANEOUS ITEMS (I.E. DUCTWORK, PIPING, ETC.) MUST CONNECT TO THE TOP CHORD OF THE JOIST OR GIRDER. BRACING TO THE BOTTOM CHORD IS NOT ALLOWED UNLESS SPECIFICALLY DETAILED THAT WAY ON THE PLANS.
6. PROVIDE SPECIAL BEARING ENDS AS REQUIRED AT SLOPED BEARING CONDITIONS. CONTRACTOR SHALL COORDINATE WITH OTHER STRUCTURAL ELEMENTS.
7. ALL JOISTS SHALL BE CAMBERED PER SJI SPECIFICATIONS, UNLESS NOTED OTHERWISE.
8. FIELD MODIFICATIONS (INCLUDING HOLES IN THE CHORD OR WEB MEMBERS) SHALL NOT BE MADE TO ANY JOIST OR GIRDER WITHOUT PRIOR APPROVAL BY THE MANUFACTURER.
9. FABRICATORS AND SUPPLIERS SHALL COORDINATE PAINT/FINISHES WITH REQUIREMENTS FOR DIRECT APPLIED INSULATION, FIREPROOFING, ETC. AS NOTED IN THE PROJECT SPECIFICATIONS.
10. JOIST BRIDGING SHALL BE PROVIDED AS REQUIRED BY THE JOIST MANUFACTURER AND SJI STANDARDS. BRIDGING WHERE SHOWN ON THE STRUCTURAL DRAWINGS IS A SCHEMATIC REPRESENTATION ONLY. SEE JOIST MANUFACTURER FOR BRIDGING SIZE, CONNECTIONS, TYPE AND QUANTITY.
11. WHERE ADDED LOADS ARE SHOWN ON THE JOISTS BUT NOT SPECIFICALLY DIMENSIONED, THE JOIST DESIGNER SHALL PLACE THOSE LOADS ON THE JOIST AT A LOCATION THAT RESULTS IN THE HIGHEST STRESS IN THE MEMBERS. THE DESIGNER MAY ASSUME THAT THE LOAD OCCURS WITHIN 10 FEET OF A SCALED DIMENSION.
12. FABRICATOR MUST SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL PER IBC 2207.5 STATING THAT WORK WAS PERFORMED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND WITH SJI SPECIFICATIONS.
13. UNLESS NOTED OTHERWISE, ROOF JOISTS AND GIRDERS SHALL BE DESIGNED FOR A NET WIND UPLIFT OF ***10*** PSF.
14. ALL ROOF JOISTS BEARING ON EXTERIOR WALLS SHALL BE DESIGNED TO TRANSFER ***3.75*** KIPS (ULTIMATE) TOP CHORD AXIAL FORCE THROUGH THE BEARING SHOE.
15. ALL JOISTS AT GRID LINES SHALL BE DESIGNED TO RESIST A 10 KIP TOP CHORD AXIAL FORCE (ULTIMATE).
16. ALL STANDARD AND NON STANDARD SJI JOISTS SHALL BE DESIGNED FOR THE FOLLOWING DEFLECTION CRITERIA :
    a. LIVE LOAD : L/***360*** TOTAL LOAD : L/***240***
17. JOIST MANUFACTURER SHALL APPLY ADDITIONAL POINT OR LINE LOAD AS REQUIRED TO SUPPORT FIRE PROTECTION MAINLINES 4" DIAMETER OR GREATER. JOIST MANUFACTURER SHALL COORDINATE WITH GENERAL CONTRACTOR TO OBTAIN LOCATIONS AND WEIGHTS OF THESE LINES. SEISMIC BRACING LOADS FOR FIRE PROTECTION MAINLINES SHALL ALSO BE ACCOUNTED FOR IN THE JOIST MANUFACTURER'S DESIGN.

K. STRUCTURAL DELEGATED DESIGNS AND DEFERRED SUBMITTALS

1. STRUCTURAL DELEGATED DESIGNS AND SUBSEQUENT DEFERRED SUBMITTALS ARE FOR ELEMENTS, PARTS, OR PORTIONS OF THE OVERALL STRUCTURAL SYSTEM THAT ARE INDICATED OR REFERRED TO ON THESE DRAWINGS AND THAT ARE CRITICAL TO THE PERFORMANCE OF THE OVERALL STRUCTURAL SYSTEM. DESIGN CRITERIA HAS BEEN PROVIDED FOR THESE ITEMS IN THE STRUCTURAL NOTES, PLANS, AND DETAILS.
2. STRUCTURAL DEFERRED SUBMITTALS ARE COMPLETE PACKAGES TO BE SUBMITTED FOR REVIEW THAT INCLUDE DRAWINGS AND CALCULATIONS FOR ALL DELEGATED DESIGN ITEMS AND THEIR CONNECTIONS. DEFERRED SUBMITTALS SHALL BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THEIR DESIGN.
3. ARW ENGINEERS WILL REVIEW STRUCTURAL DEFERRED SUBMITTALS TO VERIFY DESIGN CRITERIA IS COMPLIANT WITH THE APPROVED CONSTRUCTION DOCUMENTS.
4. STRUCTURAL DELEGATED DESIGN COMPONENTS SHALL NOT BE INSTALLED UNTIL APPROVED BY THE BUILDING OFFICIAL.
5. STRUCTURAL DELEGATED DESIGN ITEMS REQUIRING DEFERRED SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO :
   a. OPEN WEB JOISTS & GIRDERS, BRIDGING, BRACING, CONNECTIONS, AND RELATED COMPONENTS.
   b. BRB BRACES, GUSSET PLATES, AND CONNECTIONS. THESE DESIGNS SHALL BE BASED UPON QUALIFIED CYCLIC TESTS IN ACCORDANCE WITH SECTION K3 OF AISC 341-16.

L. NON-STRUCTURAL DELEGATED DESIGNS AND DEFERRED SUBMITTALS

1. NON-STRUCTURAL DELEGATED DESIGNS AND SUBSEQUENT DEFERRED SUBMITTALS ARE FOR ITEMS NOT INCLUDED IN THE STRUCTURAL DELEGATED DESIGN SECTION. THESE ARE ITEMS THAT ARE NOT CRITICAL TO THE OVERALL PERFORMANCE OF THE STRUCTURAL SYSTEM BUT THAT IMPART LOADS AND FORCES TO THE STRUCTURAL SYSTEM.
2. NON-STRUCTURAL DEFERRED SUBMITTALS SHALL BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN.
3. ARW ENGINEERS WILL REVIEW NON-STRUCTURAL DEFERRED SUBMITTALS TO VERIFY DESIGN CRITERIA IS COMPLIANT WITH THE APPROVED CONSTRUCTION DOCUMENTS.
4. IF THE STRUCTURAL DRAWINGS INCLUDE LOADS TO ACCOMMODATE NON-STRUCTURAL ELEMENTS, THE CONTRACTOR SHALL SUBMIT DOCUMENTATION INDICATING THAT THE NON-STRUCTURAL ELEMENTS COMPLY WITH THE LOADING CRITERIA PROVIDED HEREIN. SUCH DOCUMENTATION SHALL BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN.
5. WHEN THE NON-STRUCTURAL DEFERRED SUBMITTAL INDICATES THAT THE ELEMENT WILL IMPART FORCES IN EXCESS OF LOADS THAT ARE INDICATED ON THE STRUCTURAL DRAWINGS, THE CONTRACTOR SHALL SUBMIT A DETAILED GRAPHICAL REPRESENTATION OF THOSE DESIGN LOADS, INCLUDING MAGNITUDE, AND LOCATION. THE GRAPHIC SHALL BE ACCOMPANIED BY DOCUMENTATION INDICATING THAT THE NON-STRUCTURAL ELEMENT DESIGN COMPLIES WITH THE LOADING CRITERIA PROVIDED HEREIN. THE LETTER SHALL BEAR THE STAMP AND SIGNATURE OF THE DESIGN PROFESSIONAL RESPONSIBLE FOR THE DESIGN.
6. NON-STRUCTURAL DELEGATED DESIGN ITEMS REQUIRING DEFERRED SUBMITTALS SHALL INCLUDE, BUT ARE NOT LIMITED TO :
   a. SEISMIC BRACING OF ALL ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL ITEMS WHERE REQUIRED BY THE MOST RECENT VERSION OF ASCE 7 AND THE PROJECT CONTRACT DOCUMENTS.
   b. STRUCTURAL STEEL STAIRS.

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VCBO NUMBER: Project Number
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1	20250926	Addendum 001

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STRUCTURAL NOTES

S001

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STRUCTURAL STEEL SPECIAL INSPECTION SCHEDULE

ESTABLISHED PER 2021 IBC SECTION 1705.2.1

INSPECTION TASKS PRIOR TO WELDING (TABLE N5.4-1)	FABRICATOR QUALITY CONTROL		SPECIAL INSPECTOR QUALITY ASSURANCE	
	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
WELDER QUALIFICATION RECORDS AND CONTINUITY RECORDS	●			●
WELDING PROCEDURE SPECIFICATIONS (WPSs) AVAILABLE	●		●	
MANUFACTURER CERTIFICATIONS FOR WELDING CONSUMABLES AVAILABLE	●		●	
MATERIAL IDENTIFICATION (TYPE / GRADE)		●		●
WELDER IDENTIFICATION SYSTEM[1]		●		●
FIT-UP OF GROOVE WELDS (INCLUDING JOINT GEOMETRY)		●		●
* JOINT PREPARATION				
* DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)				
* CLEANLINESS (CONDITION OF STEEL SURFACES)				
* TACKING (TACK WELD QUALITY AND LOCATION)				
* BACKING TYPE AND FIT (IF APPLICABLE)				
FIT-UP OF CJP GROOVE WELDS OFHSS T-, Y-, AND K-JOINTS WITHOUT BACKING (INCLUDING JOINT GEOMETRY)	●			●
* JOINT PREPARATIONS				
* DIMENSIONS (ALIGNMENT, ROOT OPENING, ROOT FACE, BEVEL)				
* CLEANLINESS (CONDITION OF STEEL SURFACES)				
* TACKING (TACK WELD QUALITY AND LOCATION)				
CONFIGURATION AND FINISH OF ACCESS HOLES		●		●
FIT-UP OF FILLET WELDS		●		●
* DIMENSIONS (ALIGNMENT, GAPS AT ROOT)				
* CLEANLINESS (CONDITION OF STEEL SURFACES)				
* TACKING (TACK WELD QUALITY AND LOCATION)				
CHECK WELDING EQUIPMENT		●		

[1]THE FABRICATOR OR ERECTOR, AS APPLICABLE, SHALL MAINTAIN A SYSTEM BY WHICH A WELDER WHO HAS WELDED A JOINT OR MEMBER CAN BE IDENTIFIED. STAMPS, IF USED, SHALL BE THE LOW-STRESS TYPE.

INSPECTION TASKS DURING WELDING (TABLE N5.4-2)	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
CONTROL AND HANDLING OF WELDING CONSUMABLES		●		●
* PACKAGING				
* EXPOSURE CONTROL				
NO WELDING OVER CRACKED TACK WELDS		●		●
ENVIRONMENTAL CONDITIONS		●		●
* WIND SPEED WITHIN LIMITS				
* PRECIPITATION AND TEMPERATURE				
WPS FOLLOWED		●		●
* SETTINGS ON WELDING EQUIPMENT				
* TRAVEL SPEED				
* SELECTED WELDING MATERIALS				
* SHIELDING GAS TYPE / FLOW RATE				
* PREHEAT APPLIED				
* INTERPASS TEMPERATURE MAINTAINED (MIN. / MAX)				
* PROPER POSITION (F, V, H, OH)				
WELDING TECHNIQUES		●		●
* INTERPASS AND FINAL CLEANING				
* EACH PASS WITHIN PROFILE LIMITATIONS				
* EACH PASS MEETS QUALITY REQUIREMENTS				
PLACEMENT AND INSTALLATION OF STEEL HEADED STUD ANCHORS	●		●	

INSPECTION TASKS AFTER WELDING (TABLE N5.4-3)	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
WELDS CLEANED		●		●
SIZE, LENGTH AND LOCATION OF WELDS	●		●	
WELDS MEET VISUAL ACCEPTANCE CRITERIA	●		●	
* CRACK PROHIBITION				
* WELD / BASE-METAL FUSION				
* CRATER CROSS SECTION				
* WELD PROFILES				
* WELD SIZE				
* UNDERCUT				
* POROSITY				
ARC STRIKES	●		●	
K-AREA[1]	●		●	
WELD ACCESS HOLES IN ROLLED HEAVY SHAPES AND BUILT-UP HEAVY SHAPES[2]	●		●	
BACKING REMOVED AND WELD TABS REMOVED (IF REQUIRED)	●		●	
REPAIR ACTIVITIES	●		●	
DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT OR MEMBER	●		●	
NO PROHIBITED WELDS HAVE BEEN ADDED WITHOUT THE APPROVAL OF THE EOR		●		●

[1]WHEN WELDING OF DOUBLER PLATES, CONTINUITY PLATES OR STIFFENERS HAS BEEN PERFORMED IN THE K-AREA, VISUALLY INSPECT THE WEB K-AREA FOR CRACKS WITHIN 3 IN. (75mm) OF THE WELD)
[2]AFTER ROLLED HEAVY SHAPES (SEE SECTION A3.1c) AND BUILT-UP HEAVY SHAPES (SEE SECTION A3.1d) ARE WELDED, VISUALLY INSPECT THE WELD ACCESS HOLE FOR CRACKS.

NOTES

1. PERIODIC - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
2. CONTINUOUS - PERFORM THESE TASKS FOR EACH WELDED JOINT OR MEMBER.
3. QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.
4. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ), APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD (EOR). NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE, EXCEPT AS PERMITTED IN ACCORDANCE WITH SECTION N6.
5. QC AND QA INSPECTORS SHALL BE QUALIFIED IN ACCORDANCE WITH AISC 360-16 CHAPTER N4.
6. NONDESTRUCTIVE TESTING PERSONNEL SHALL BE QUALIFIED IN ACCORDANCE WITH AISC 360-16 CHAPTER N4.3.
7. NONDESTRUCTIVE TESTING OF WELDED JOINTS SHALL COMPLY WITH AISC 360-16 CHAPTER N5.5a AND b.
8. OBSERVATION OF WELDING OPERATIONS AND VISUAL INSPECTION OF IN-PROCESS AND COMPLETED WELDS SHALL BE THE PRIMARY METHOD TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. FOR STRUCTURAL STEEL, ALL PROVISIONS OF AWS D1.1 / D1.1M STRUCTURAL WELDING CODE - STEEL FOR STATICALLY LOADED STRUCTURES SHALL APPLY.
9. THERMALLY CUT SURFACES OF ACCESS HOLES SHALL BE TESTED BY QA USING MT OR PT, WHEN THE FLANGE THICKNESS EXCEEDS 2 IN. (50mm) FOR ROLLED SHAPES, OR WHEN THE WEB THICKNESS EXCEEDS 2 IN. (50mm) FOR BUILT-UP SHAPES. ANY CRACK SHALL BE DEEMED UNACCEPTABLE REGARDLESS OF SIZE OR LOCATION.
10. WHEN REQUIRED BY APPENDIX 3, TABLE A-3.1, WELDED JOINTS REQUIRING WELD SOUNDNESS TO BE ESTABLISHED BY RADIOGRAPHICS OR ULTRASONIC INSPECTION SHALL BE TESTED BY QA AS PRESCRIBED. REDUCTION IN THE RATE OF UT IS PROHIBITED.
11. REDUCTION OF RATE OF ULTRASONIC TESTING - THE RATE OF UT IS ONLY PERMITTED TO BE REDUCED IF APPROVED BY THE EOR AND THE AHJ PER AISC 360-16 CHAPTER N5.5e.
12. FOR STRUCTURES IN RISK CATEGORY II, WHERE THE INITIAL RATE FOR UT IS 10%, THE NDT RATE FOR AN INDIVIDUAL WELDER OR WELDING OPERATOR SHALL BE INCREASED TO 100% SHOULD THE REJECT RATE, THE NUMBER OF WELDS CONTAINING UNACCEPTABLE DEFECTS DIVIDED BY THE NUMBER OF WELDS COMPLETED, EXCEEDS 5% OF THE WELDS TESTED FOR THE WELDER OR WELDING OPERATOR. A SAMPLING OF AT LEAST 20 COMPLETED WELDS FOR A JOB SHALL BE MADE PRIOR TO IMPLEMENTING SUCH AN INCREASE. WHEN THE REJECT RATE FOR THE WELDER OR WELDING OPERATOR, AFTER A SAMPLING OF AT LEAST 40 COMPLETED WELDS, HAS FALLEN TO 5% OR LESS, THE RATE OF UT SHALL BE RETURNED TO 10%. FOR EVALUATING THE REJECT RATE OF CONTINUOUS WELDS OVER 3 FT (1M) IN LENGTH WHERE THE EFFECTIVE THROAT IS 1 IN. (25mm) OR LESS, EACH 12 IN. (300mm) INCREMENT OR FRACTION THEREOF SHALL BE CONSIDERED AS ONE WELD. FOR EVALUATING THE REJECT RATE ON CONTINUOUS WELDS OVER 3 FT (1M) IN LENGTH WHERE THE EFFECTIVE THROAT IS GREATER THAN 1 IN. (25mm), EACH 6 IN. (150mm) OF LENGTH OR FRACTION THEREOF SHALL BE CONSIDERED ON WELD.
13. ALL NDT PERFORMED SHALL BE DOCUMENTED. FOR SHOP FABRICATION, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY PIECE MARK AND LOCATION IN THE PIECE. FOR FIELD WORK, THE NDT REPORT SHALL IDENTIFY THE TESTED WELD BY LOCATION IN THE STRUCTURE, PIECE MARK, AND LOCATION IN THE PIECE. WHEN A WELD IS REJECTED ON THE BASIS OF NDT, THE NDT RECORD SHALL INDICATE THE LOCATION OF THE DEFECT AND THE BASIS OF REJECTION
14. DEMAND CRITICAL WELDS SHALL MEET THE PROVISION FOUND IN AISC 341-16 AND WELDING METHODS, PROCEDURES AND QUALITY CONTROL SHALL COMPLY WITH AWS D1.1 AND THE FOLLOWING:
    a. ARC STRIKES, GOUGES AND OTHER IMPERFECTIONS WITHIN OR ADJACENT TO THE JOINT, SHALL BE REPAIRED OR REMOVED.
    b. PREHEAT AND INTER-PASS REQUIREMENTS AS OUTLINED IN SECTION 3.5.
    c. UNREPAIRED CRACKS, GOUGES, AND NOTCHES WILL NOT BE PERMITTED IN THE JOINT AREA.
    d. USE ELECTRODES WITH CHARPY V-NOTCH ABSORBED ENERGY EQUAL TO OR GREATER THAN 20 FT-LBS AT 20 DEGREES FAHRENHEIT UNDER AWS A5 CLASSIFICATION TEST METHODS, AND 40 FT-LBS AT 70 DEGREES FAHRENHEIT USING TEST PROCEDURES PRESCRIBED IN APPENDIX X OF AISC 358. ACCEPTABLE ELECTRODES INCLUDE E70TG-K2, E71 T-1.

INSPECTION TASKS PRIOR TO BOLTING (TABLE N5.6-1)	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
MANUFACTURER'S CERTIFICATIONS AVAILABLE FOR FASTENER MATERIALS		●	●	
FASTENERS MARKED IN ACCORDANCE WITH ASTM REQUIREMENTS		●		●
PROPER FASTENERS SELECTED FOR THE JOINT DETAIL (GRADE, TYPE, BOLT LENGTH IF THREADS ARE TO BE EXCLUDED FROM SHEAR PLANE)		●		●
PROPER BOLTING PROCEDURES SELECTED FOR JOINT DETAIL		●		●
CONNECTING ELEMENTS, INCLUDING THE APPROPRIATE FAYING SURFACE CONDITION AND HOLE PREPARATION, IF SPECIFIED, MEET APPLICABLE REQUIREMENTS		●		●
PRE-INSTALLATION VERIFICATION TESTING BY INSTALLATION PERSONNEL OBSERVED AND DOCUMENTED FOR FASTENER ASSEMBLIES AND METHODS USED	●			●
PROPER STORAGE PROVIDED FOR BOLTS, NUTS, WASHERS AND OTHER FASTENER COMPONENTS		●		●

INSPECTION TASKS DURING BOLTING (TABLE N5.6-2)	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
FASTENER ASSEMBLIES, PLACED IN ALL HOLES AND WASHERS (IF REQUIRED) ARE POSITIONED AS REQUIRED		●		●
JOINT BROUGHT TO THE SNUG-TIGHT CONDITION PRIOR TO THE PRETENSIONING OPERATION		●		●
FASTENER COMPONENT NOT TURNED BY THE WRENCH PREVENTED FROM ROTATING		●		●
FASTENERS ARE PRETENSIONED IN ACCORDANCE WITH THE RCSC SPECIFICATION, PROGRESSING SYSTEMATICALLY FROM THE MOST RIGID POINT TOWARD THE FREE EDGES		●		●

INSPECTION TASKS AFTER BOLTING (TABLE N5.6-3)	CONTINUOUS	PERIODIC	CONTINUOUS	PERIODIC
DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS	●		●	

NOTES

1. PERIODIC - OBSERVE THESE ITEMS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS.
2. CONTINUOUS - PERFORM THESE TASKS FOR EACH BOLTED CONNECTION.
3. QUALITY CONTROL (QC) SHALL BE PROVIDED BY THE FABRICATOR AND ERECTOR.
4. QUALITY ASSURANCE (QA) SHALL BE PROVIDED BY OTHERS WHEN REQUIRED BY THE AUTHORITY HAVING JURISDICTION (AHJ), APPLICABLE BUILDING CODE (ABC), PURCHASER, OWNER, OR ENGINEER OF RECORD (EOR). NONDESTRUCTIVE TESTING (NDT) SHALL BE PERFORMED BY THE AGENCY OR FIRM RESPONSIBLE FOR QUALITY ASSURANCE, EXCEPT AS PERMITTED IN ACCORDANCE WITH SECTION N7.
5. FOR SNUG-TIGHT JOINTS, PRE-INSTALLATION VERIFICATION TESTING AS SPECIFIED IN TABLE N5.6-1 AND MONITORING OF THE INSTALLATION PROCEDURES AS SPECIFIED IN TABLE N5.6-2 ARE NOT APPLICABLE. THE QCI AND QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS IN SNUG-TIGHT JOINTS.
6. FOR PRETENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE TURN-OF-NUT METHOD WITH MATCHMARKING TECHNIQUES, THE DIRECT-TENSION-INDICATOR METHOD, OR THE TWIST-OFF-TYPE TENSION CONTROL BOLT METHOD, MONITORING OF BOLT PRETENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6-2. THE QCI AND QAI NEED NOT BE PRESENT DURING THE INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER.
7. FOR PRETENSIONED JOINTS AND SLIP-CRITICAL JOINTS, WHEN THE INSTALLER IS USING THE CALIBRATED WRENCH METHOD OR THE TURN-OF-NUT METHOD WITHOUT MATCHMARKING, MONITORING OF BOLT PRETENSIONING PROCEDURES SHALL BE AS SPECIFIED IN TABLE N5.6-2. THE QCI AND QAI SHALL BE ENGAGED IN THEIR ASSIGNED INSPECTION DUTIES DURING INSTALLATION OF FASTENERS WHEN THESE METHODS ARE USED BY THE INSTALLER.
8. OBSERVATION OF BOLTING OPERATIONS SHALL BE THE PRIMARY METHOD USED TO CONFIRM THAT THE MATERIALS, PROCEDURES AND WORKMANSHIP INCORPORATED IN CONSTRUCTION ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND THE PROVISIONS OF THE RCSC SPECIFICATION.

GENERAL STEEL SPECIAL INSPECTION NOTES :

1. QUALITY ASSURANCE (QA) INSPECTION OF FABRICATED ITEMS SHALL BE MADE AT THE FABRICATOR'S PLANT. THE QUALITY ASSURANCE INSPECTOR (QAI) SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE FABRICATOR.
2. QA INSPECTION OF THE ERECTED STEEL SYSTEM SHALL BE MADE AT THE PROJECT SITE. THE QAI SHALL SCHEDULE THIS WORK TO MINIMIZE INTERRUPTION TO THE WORK OF THE ERECTOR.
3. WHERE A TASK IS NOTED TO BE PERFORMED BY BOTH QC AND QA, IT IS PERMITTED TO COORDINATE THE INSPECTION FUNCTION BETWEEN THE QCI AND QAI SO THAT THE INSPECTION FUNCTIONS ARE PERFORMED BY ONLY ONE PARTY. WHERE QA RELIES UPON INSPECTION FUNCTIONS PERFORMED BY QC, THE APPROVAL OF THE ENGINEER OF RECORD AND THE AUTHORITY HAVING JURISDICTION IS REQUIRED.
4. THE FABRICATOR'S QCI SHALL INSPECT THE FABRICATED STEEL TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE SHOP DRAWINGS, SUCH AS PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION. THE ERECTOR'S QCI SHALL INSPECT THE ERECTED STEEL FRAME TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE ERECTION DRAWINGS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
5. THE QAI SHALL BE ON THE PREMISES FOR INSPECTION DURING THE PLACEMENT OF ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. AS A MINIMUM, THE DIAMETER, GRADE, TYPE AND LENGTH OF THE ANCHOR ROD OR EMBEDDED ITEM, AND THE EXTENT OR DEPTH OF EMBEDMENT INTO THE CONCRETE, SHALL BE VERIFIED PRIOR TO PLACEMENT OF THE CONCRETE.
6. THE QAI SHALL INSPECT THE FABRICATED STEEL OR ERECTED STEEL FRAME, AS APPROPRIATE, TO VERIFY COMPLIANCE WITH THE DETAILS SHOWN ON THE CONSTRUCTION DOCUMENTS, SUCH AS BRACES, STIFFENERS, MEMBER LOCATIONS AND PROPER APPLICATION OF JOINT DETAILS AT EACH CONNECTION.
7. QUALITY ASSURANCE (QA) INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING (NDT), MAY BE WAIVED WHEN THE WORK IS PERFORMED IN A FABRICATING SHOP OR BY AN ERECTOR APPROVED BY THE AUTHORITY HAVING JURISDICTION (AHJ) TO PERFORM THE WORK WITHOUT QA. NDT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE AHJ. WHEN THE FABRICATOR PERFORMS THE NDT, THE QA AGENCY SHALL REVIEW THE FABRICATOR'S NDT REPORTS.
8. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE FABRICATOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS. AT COMPLETION OF ERECTION, THE APPROVED ERECTOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE AHJ STATING THAT THE MATERIALS SUPPLIED AND WORK PERFORMED BY THE ERECTOR ARE IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
9. IDENTIFICATION AND REJECTION OF MATERIAL OR WORKMANSHIP THAT IS NOT IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS, SHALL BE PERMITTED AT ANY TIME DURING THE PROGRESS OF THE WORK. HOWEVER, THIS PROVISION SHALL NOT RELIEVE THE OWNER OR THE INSPECTOR OF THE OBLIGATION FOR TIMELY, IN-SEQUENCE INSPECTIONS. NONCONFORMING MATERIAL AND WORKMANSHIP SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE FABRICATOR OR ERECTOR, AS APPLICABLE.
10. NONCONFORMING MATERIAL OR WORKMANSHIP SHALL BE BROUGHT INTO CONFORMANCE, OR MADE SUITABLE FOR ITS INTENDED PURPOSE AS DETERMINED BY THE ENGINEER OF RECORD.
11. CONCURRENT WITH THE SUBMITTAL OF SUCH REPORTS TO THE AHJ, EOR OR OWNER, THE QA AGENCY SHALL SUBMIT TO THE FABRICATOR AND ERECTOR:
    (1) NONCONFORMANCE REPORTS
    (2) REPORTS OF REPAIR, REPLACEMENT OR ACCEPTANCE OF NONCONFORMING ITEMS.

SPECIAL INSPECTION SCHEDULE [1, 2]

ESTABLISHED PER 2021 IBC SECTION 110 AND CHAPTER 17

ITEM	CONTINUOUS[3]	PERIODIC[3]	REFERENCE	COMMENTS
PRE-FAB CONSTRUCTION (IBC 1704.2)			REFERENCE NOTES P1 & P2	P1. SPECIAL INSPECTION IS NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION, PROVIDED THE FABRICATOR COMPLIES WITH IBC. P2. INSPECTION FOR PREFABRICATED CONSTRUCTION SHALL BE THE SAME AS IF THE MATERIAL USED IN THE CONSTRUCTION TOOK PLACE ON SITE. SPECIAL INSPECTION WILL NOT BE REQUIRED DURING PREFABRICATION IF THE APPROVED AGENCY CERTIFIES THE CONSTRUCTION AND FURNISHES EVIDENCE OF COMPLIANCE. (SEE NOTE 2).
OPEN-WEB STEEL JOISTS AND JOIST GIRDERS (IBC 1705.2.3)				
INSTALLATION OF OPEN-WEB JOISTS AND JOIST GIRDERS				
END CONNECTIONS - WELDED OR BOLTED		●	SJI SPECIFICATIONS LISTED IN SECTION 2207.1	
BRIDGING - HORIZONTAL OR DIAGONAL				
STANDARD BRIDGING		●		
BRIDGING THAT DIFFERS FROM THE SJI SPECIFICATIONS LISTED IN SECTION 2207.1		●	SJI SPECIFICATIONS LISTED IN SECTION 2207.1	
CONCRETE CONSTRUCTION (IBC 1705.3)			SEE IBC TABLE 1705.3 - REF. NOTE C1	C1. SPECIAL INSPECTION IS NOT REQUIRED FOR CONC. ISOLATED SPREAD FOOTINGS, CONTINUOUS FOOTINGS, NON-STRUCTURAL SLABS, FOUNDATION WALLS, PATIOS, DRIVEWAYS, AND SIDEWALKS PROVIDED THE REQUIREMENTS OF IBC 1705.3 ARE MET. C2. PERIODIC SPECIAL INSPECTION IS ALLOWED FOR VERIFICATION OF THE WELDABILITY OF REINFORCING STEEL RESISTING FLEXURAL AND AXIAL FORCES IN INTERMEDIATE AND SPECIAL MOMENT FRAMES, BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEAR WALLS, AND SHEAR REINFORCEMENT. PERIODIC SPECIAL INSPECTION IS ALLOWED FOR WELDING OF OTHER ASTM A 706 REINFORCING STEEL NOT INCLUDED IN THE CONTINUOUS SPECIAL INSPECTION REQUIREMENTS NOTED ABOVE. C3. PERFORM AIR, SLUMP AND TEMP. TESTS WHEN CONCRETE SAMPLES ARE CAST. C4. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS. C5. EPOXY AND EXPANSION ANCHORS INTO MASONRY OR CONCRETE MAY BE USED ONLY WHEN APPROVED BY ARCHITECT AND/OR ENGINEER USING AN APPROVED PRODUCT WITH CURRENT PUBLISHED ICC RESEARCH REPORT NUMBERS. COORDINATE CONTINUOUS/PERIODIC SPECIAL INSPECTION REQUIREMENTS WITH ICC REPORT AND ACI 318: 17.8.2.4. C6. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR FORMWORK SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.
REINFORCING STEEL PLACEMENT		●		
WELDING OF REINFORCING STEEL	●	●	REFERENCE NOTE C2	
ANCHORS CAST IN CONCRETE	●			
VERIFYING REQUIRED DESIGN MIX		●		
CONCRETE PLACEMENT / SAMPLING	●		REFERENCE NOTE C3	
CURING TEMPERATURE / TECHNIQUES		●		
CONCRETE AND SHOTCRETE PLACEMENT / APPLICATION TECHNIQUES	●			
PRESTRESSED CONCRETE				
APPLICATION OF PRESTRESSING FORCES	●			
GROUTING BONDED TENDONS	●			
ERECTION OF PRECAST MEMBERS		●		
VERIFICATION OF IN-SITU STRENGTH		●	REFERENCE NOTE C4	
POST-INSTALLED ANCHOR PLACEMENT	●	●	REFERENCE NOTE C5	
FORMWORK		●	REFERENCE NOTE C6	

GENERAL SPECIAL INSPECTION NOTES :

1. THE ITEMS MARKED WITH A "●" IN THE SPECIAL INSPECTION SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT, AND ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.
3. CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. (IBC SECTION 202)

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10396064-2203 Arek Higgs STATE OF UTAH 09/10/25

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REV	DATE	DESCRIPTION

HERRIMAN, UT

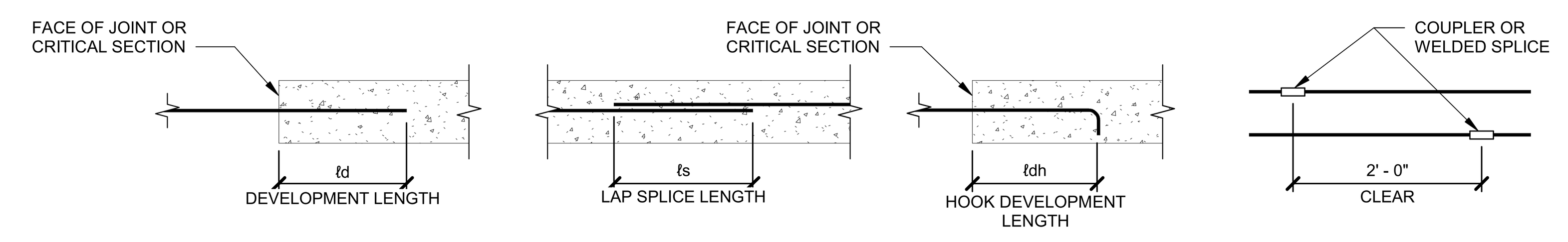
4684 W 12600 S
RIVERTON, UT 84096
BID SET

SPECIAL INSPECTION

Autodesk Docs://25085.00 - Life Time Fitness - Herriman UT/S - 25090 - Lifetime Fitness Herriman - 2025.rvt
12/15/2025 11:25:56 AM

2021 IBC CONCRETE REBAR LAP SPLICE SCHEDULE (60KSI REBAR)

FOR CONCRETE APPLICATIONS (ACI 318 - 19)

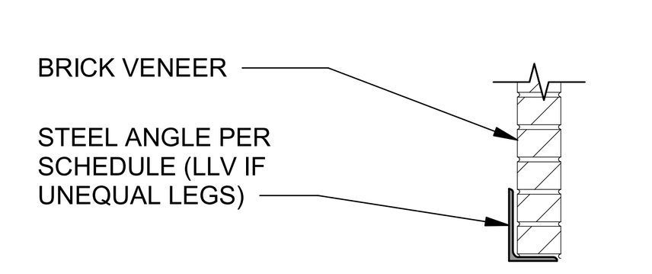


BAR LOCATION	CONCRETE		CONCRETE REINFORCING & SPLICE LENGTHS (IN) — BAR SIZE																											COMMENTS
	TYPE	STRENGTH	#3			#4			#5			#6			#7			#8			#9			#10			#11			
			ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	
VERT. WALL BARS, FILL ON METAL DECK	NWC	3000 PSI	17	22	6	22	29	6	28	36	8	33	43	11	48	62	14	55	72	16	62	81	20	70	91	23	78	101	27	
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	3000 PSI	22	29	6	29	38	6	36	47	8	43	56	11	63	82	14	72	94	16	81	105	20	91	118	23	101	131	27	
BEAM BOTTOM BARS, COLUMN BARS	NWC	3000 PSI	17	22	6	22	29	10	28	36	13	33	43	17	48	62	21	55	72	26	62	81	31	70	91	37	78	101	43	
FOOTING BOTTOM BARS, SLAB ON GRADE	NWC	3000 PSI	12	16	6	14	18	6	17	22	8	20	26	11	29	38	14	33	43	16	38	49	20	42	55	23	46	61	27	
SLAB TOP BARS[5] BEAM TOP BARS	NWC	3000 PSI	22	29	6	29	38	10	36	47	13	43	56	17	63	82	21	72	94	26	81	105	31	91	118	37	101	131	43	

BAR LOCATION	CONCRETE		CONCRETE REINFORCING & SPLICE LENGTHS (IN) — BAR SIZE																											COMMENTS
	TYPE	STRENGTH	#3			#4			#5			#6			#7			#8			#9			#10			#11			
			ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	ℓd	ℓs	ℓdh	
VERT. WALL BARS, FILL ON METAL DECK	NWC	4500 PSI	14	18	6	18	23	6	23	30	8	27	35	10	40	52	12	45	59	15	51	66	18	57	74	21	64	83	25	
HORIZ. WALL BARS, FOOTING TOP BARS	NWC	4500 PSI	18	23	6	24	31	6	30	39	8	35	46	10	51	66	12	59	77	15	66	86	18	74	96	21	82	107	25	
BEAM BOTTOM BARS, COLUMN BARS	NWC	4500 PSI	14	18	6	18	23	9	23	30	12	27	35	16	40	52	20	45	59	24	51	66	29	57	74	34	64	83	40	
FOOTING BOTTOM BARS, SLAB ON GRADE	NWC	4500 PSI	12	16	6	12	16	6	13	17	8	16	21	10	23	30	12	26	34	15	29	38	18	33	43	21	36	47	25	
SLAB TOP BARS[5] BEAM TOP BARS	NWC	4500 PSI	18	23	6	24	31	9	30	39	12	35	46	16	51	66	20	59	77	24	66	86	29	74	96	34	82	107	40	

NOTES :
1. MECHANICAL COUPLERS MAY BE USED IN LIEU OF LAP SPLICES SHOWN. SEE STRUCTURAL NOTES FOR MINIMUM COUPLER CAPACITY. WHERE MECHANICAL COUPLERS ARE USED, STAGGER ADJACENT SPLICES A MINIMUM OF 24" AS INDICATED ABOVE.
2. WHERE EPOXY COATING IS USED, LENGTHS INDICATED IN THIS SCHEDULE SHALL BE INCREASED BY 50%. HOOKED DEVELOPMENT LENGTHS (ℓdh) SHALL INCREASE BY 20%.
3. WHEN SPLICING BARS OF DIFFERENT SIZES, USE LAP SPLICE LENGTH OF LARGER BARS UNO.
4. SPLICE BARS LARGER THAN #11 USING MECHANICAL COUPLERS.
5. SLAB TOP BARS ONLY FOR SLABS 12" OR GREATER IN THICKNESS.
6. WHERE LIGHTWEIGHT CONCRETE IS USED, LENGTHS INDICATED IN THIS SCHEDULE SHALL BE INCREASED BY 33%.

STEEL LOOSE LINTEL SCHEDULE

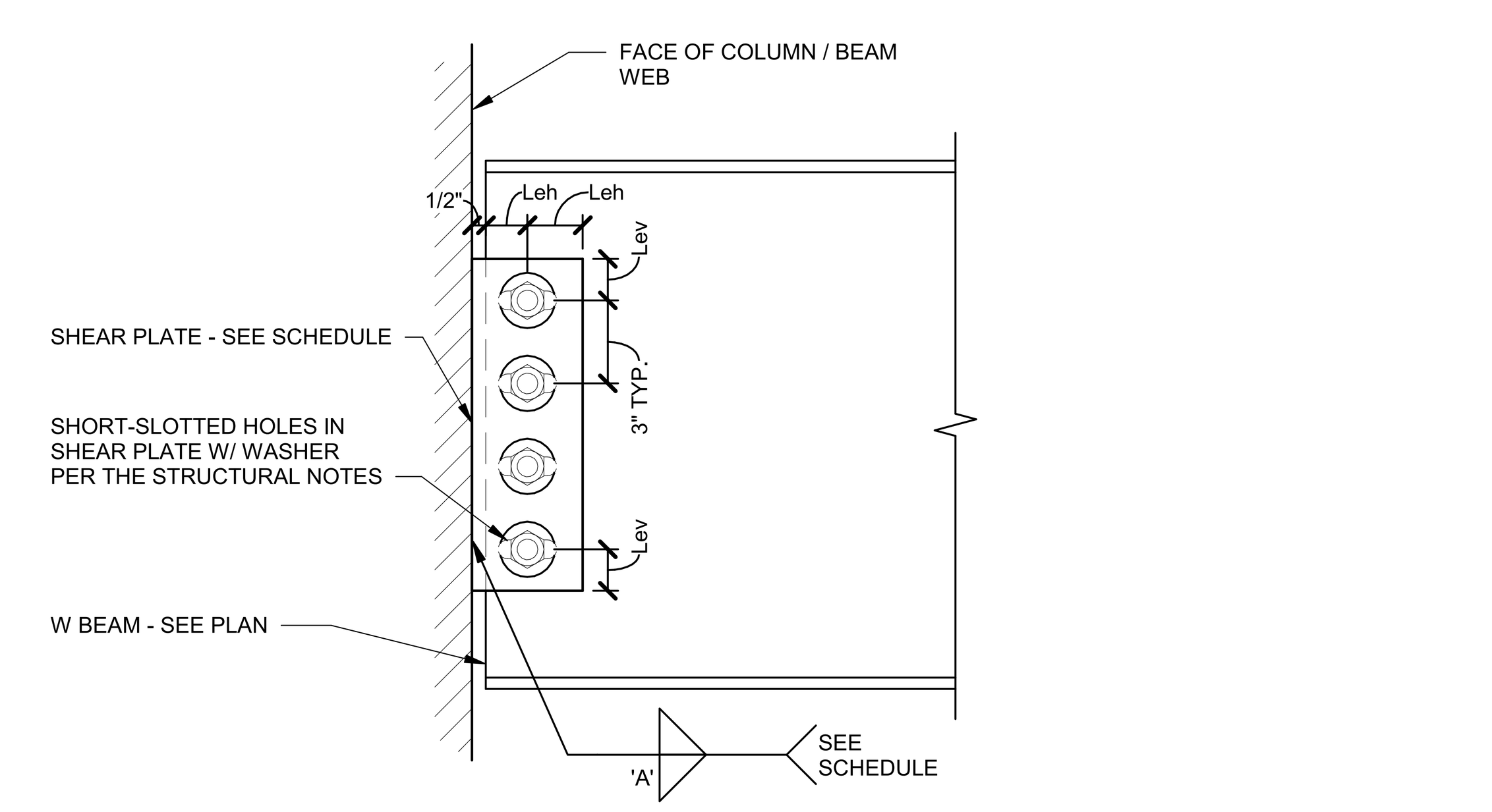


NOTE: PROVIDE 1" BEARING FOR EACH FOOT OF SPAN @ EACH END. (MIN. OF 6" BEARING @ EACH END)

CLEAR OPENING	SIZE OF ANGLE
UP TO 7'-0"	3-1/2" x 3-1/2" x 1/4"
7'-1" TO 9'-0"	5" x 3-1/2" x 1/4"
9'-1" TO 10'-0"	5" x 3-1/2" x 5/16"
10'-1" TO 11'-0"	5" x 3-1/2" x 3/8"
11'-1" TO 12'-0"	6" x 4" x 3/8"

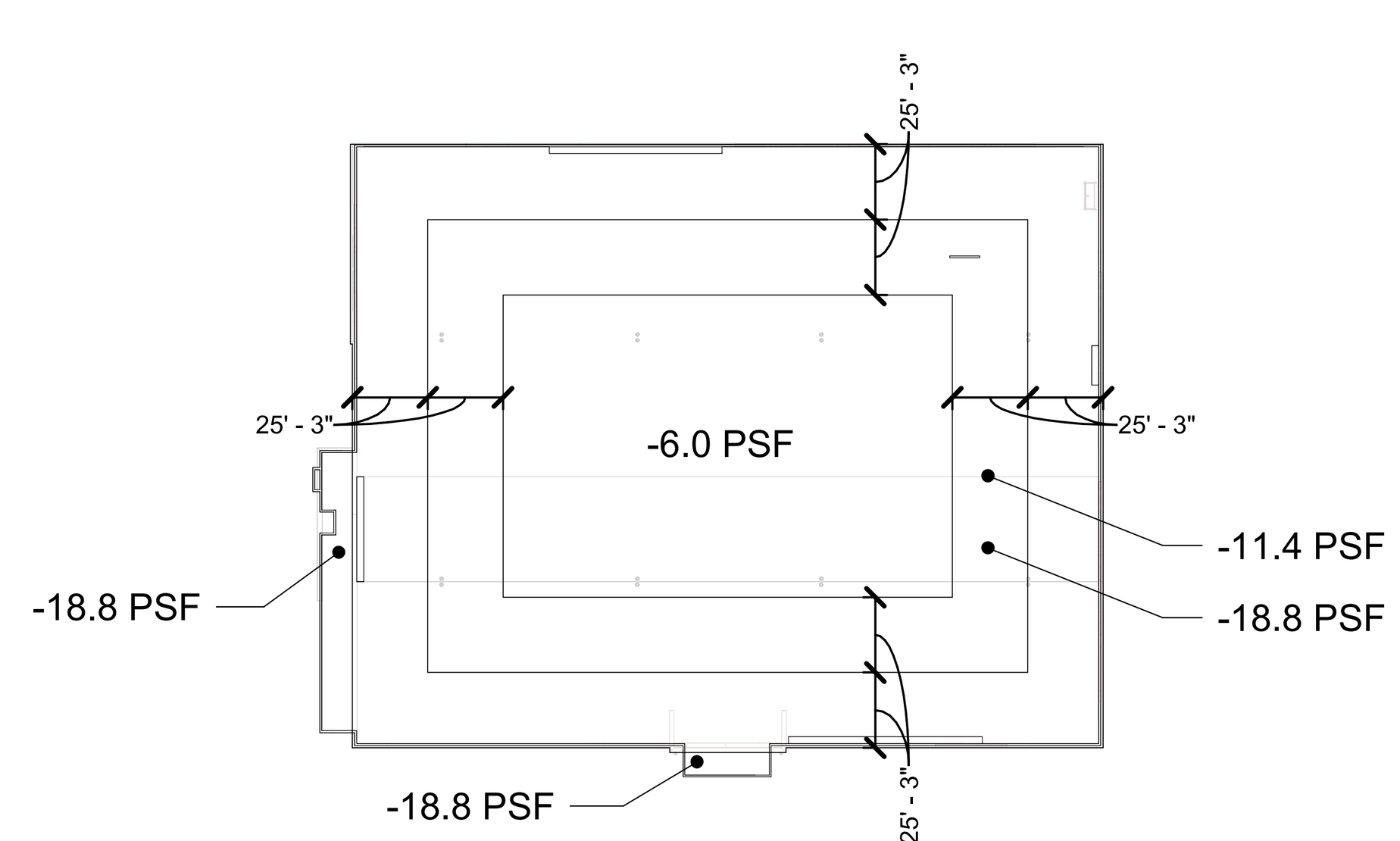
BEAM CONNECTION SCHEDULE

BEAM DEPTH	SHEAR PLATE INFORMATION			BOLTS W/ STANDARD WASHERS OVER SLOTS		WELD 'A'	COMMENTS
	PL. DIMENSIONS W/ SHORT-SLOTTED HOLES	Lev	Leh	No.	SIZE		
W8, W10	PL. 1/4" x REQ'D	1 1/2"	2"	2	3/4" Ø	3/16"	
W12, W14	PL. 5/16" x REQ'D	1 1/2"	2"	3	3/4" Ø	1/4"	
W16	PL. 5/16" x REQ'D	1 1/2"	2"	4	3/4" Ø	1/4"	
W18	PL. 5/16" x REQ'D	1 1/2"	2"	5	3/4" Ø	1/4"	
W21	PL. 5/16" x REQ'D	1 1/2"	2"	6	3/4" Ø	1/4"	
W24	PL. 3/8" x REQ'D	1 1/2"	2"	6	7/8" Ø	1/4"	
W27	PL. 3/8" x REQ'D	1 1/2"	2"	7	7/8" Ø	1/4"	
W30	PL. 1/2" x REQ'D	1 3/4"	2"	8	1" Ø	5/16"	
W33	PL. 1/2" x REQ'D	1 3/4"	2"	9	1" Ø	5/16"	
W36	PL. 1/2" x REQ'D	2"	2 1/2"	10	1-1/8" Ø	5/16"	
W40	PL. 1/2" x REQ'D	2"	2 1/2"	10	1-1/8" Ø	5/16"	



WIND UPLIFT SCHEDULE

(FOR JOIST AND JOIST GIRDER DESIGN)



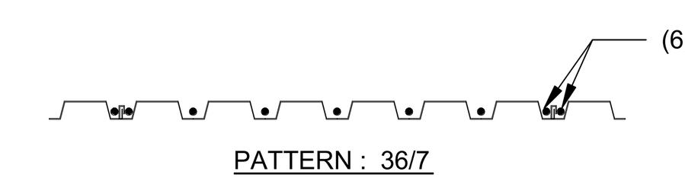
KEY PLAN

NOTE : LOADS SHOWN ARE NET UPLIFT LOADS. 60% OF DEAD LOAD HAS BEEN SUBTRACTED FROM GROSS WIND UPLIFT LOAD. LOADS SHOWN ARE ASSUMING AN EFFECTIVE AREA OF 100 FT2. USE ASCE7 FOR CALCULATING WIND PRESSURES FOR OTHER EFFECTIVE AREAS.

ROOF DECK SCHEDULE

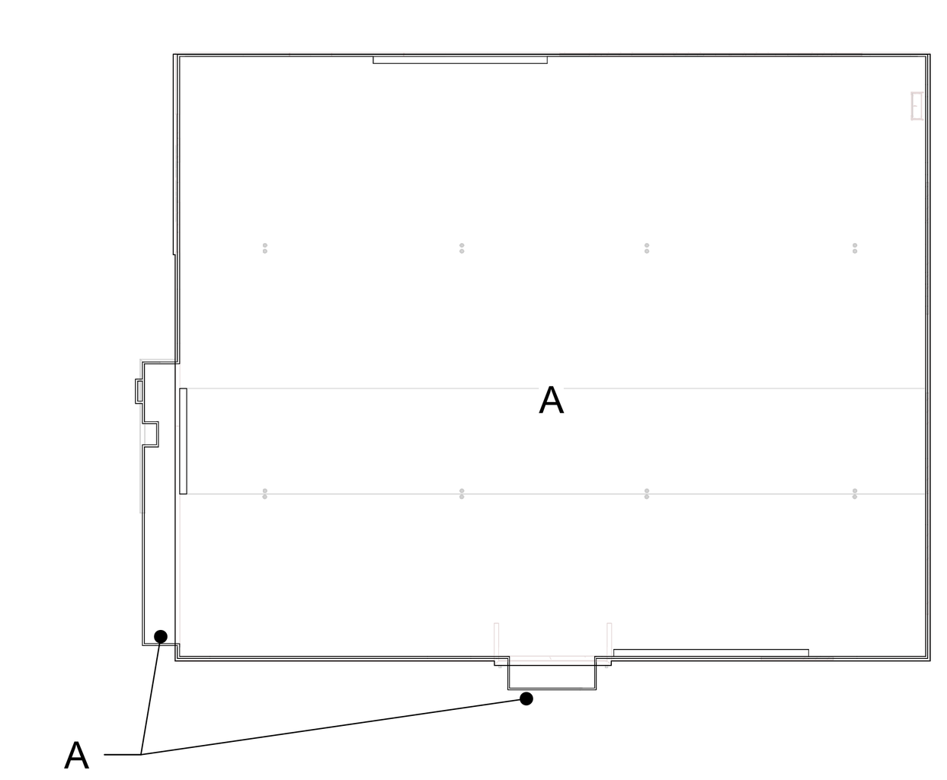
AREA	DECK		ATTACHMENT						MIN. SHEAR CAPACITY, lb/ft (ASD)	MIN. SHEAR STIFFNESS G' (kip/in)	COMMENTS
			SUPPORTS		SIDE SEAMS		SUPPORTS PARALLEL TO FLUTES				
	TYPE	GA.	TYPE[2]	PATTERN	TYPE[2]	SPACING	TYPE[2]	SPACING			
A	B	22	SPOT WELD	36/7	VCS2	24"o.c.	SPOT WELD	12"o.c.	1365	113	---

FASTENING PATTERNS



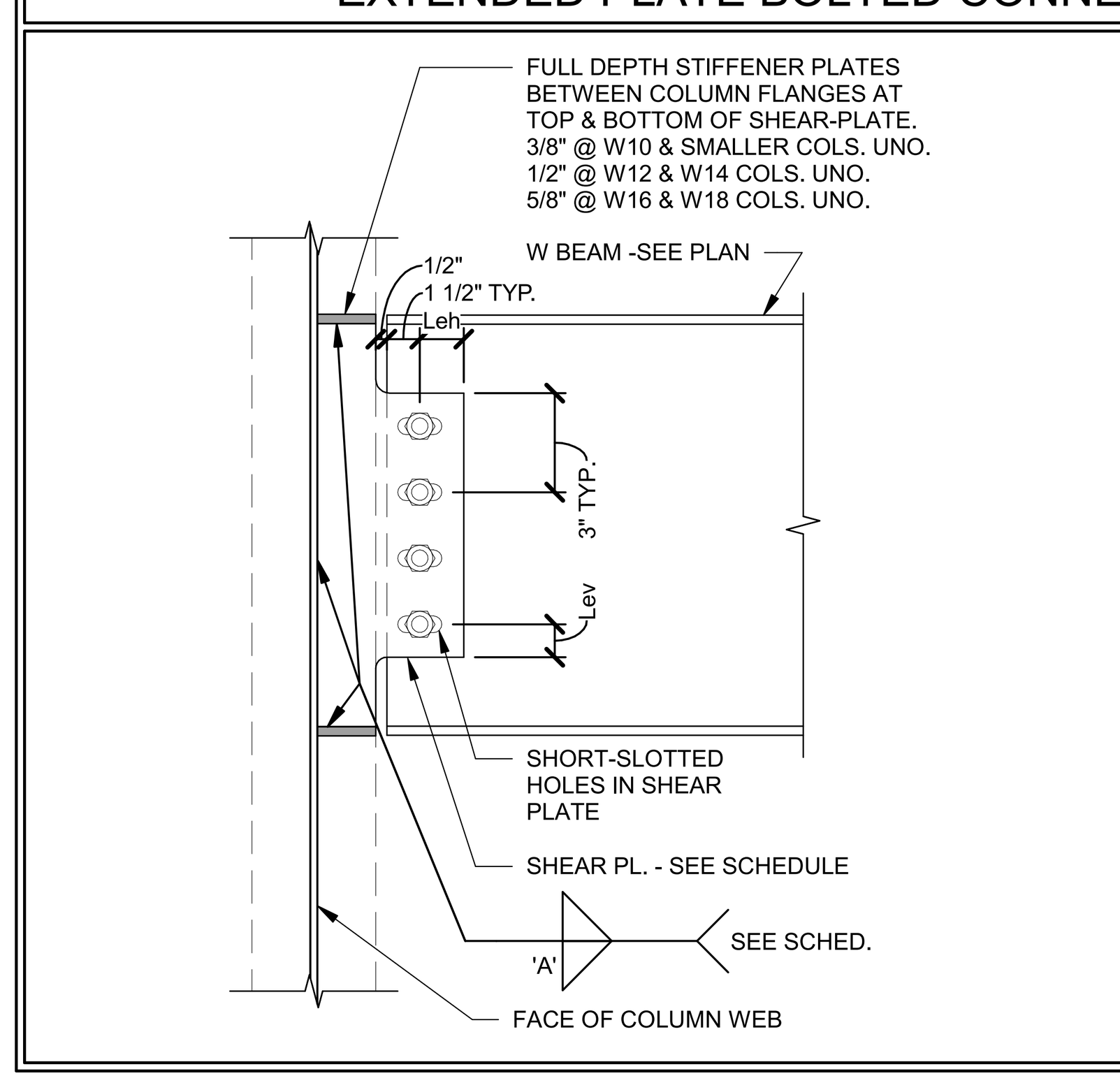
PATTERN : 36/7

NOTES :
1. ALL ROOF DECKING TO BE SUPPLIED BY VERCO, OR APPROVED EQUAL. ALTERNATE DECKING SHALL BE SUBMITTED WITH CURRENT ICC APPROVAL TO ENGINEER FOR REVIEW AND APPROVAL. ALTERNATE DECKING SYSTEMS SHALL MEET OR EXCEED THE MINIMUM SHEAR CAPACITY AND SHALL PROVIDE GREATER THAN OR EQUAL TO THE MINIMUM SHEAR STIFFNESS LISTED IN THE SCHEDULE.
2. PAF = HILTI X-HSN 24 POWDER ACTUATED FASTENERS, VSC2 = VERCO SIDELAP CONNECTION WITH PUNCHLOK TOOL, SCREWS = SELF DRILLING SCREW PER ASTM C1513, SPOT WELD = 3/4" VISIBLE DIAMETER SPOT WELD.
3. USE NESTABLE (OVERLAPPING) SIDE SEAMS AT SCREW ATTACHMENTS AND INTERLOCKING SIDE SEAMS AT WELDS.
4. IF N DECK IS NOT NESTABLE, N DECK END BUTT JOINTS OVER STEEL JOISTS SHALL USE 16 GA. x 6" CONTINUOUS SHEET BETWEEN DECK AND JOIST TOP CHORD ANGLES. DECK WELDS TO PENETRATE SHEET AND ENGAGE JOIST CHORD.
5. ALL DECK WITH A PROFILE DEPTH OF 2" OR LESS SHALL HAVE NESTED OR TELESCOPED END LAPS.
6. WHERE WELDS ARE USED, SUPPORT WELDS AT INTERLOCKING SIDELAPS MAY BE 3/8" x 1-1/4" ARC SEAM WELDS IN LIEU OF ARC SPOT WELDS.



KEY PLAN

EXTENDED PLATE BOLTED CONNECTION SCHEDULE



BEAM DEPTH	SHEAR PLATE INFORMATION			BOLTS		WELD 'A'
	PL. DIMENSIONS W/ SHORT-SLOTTED HOLES	Lev	Leh	No.	Ø SIZE	
C8, W8, W10	PL. 3/8" x REQ'D	1 1/2"	2"	2	3/4"	1/4"
W12, W14	PL. 3/8" x REQ'D	1 1/2"	2"	3	7/8"	1/4"
W16	PL. 3/8" x REQ'D	1 3/4"	2"	4	1"	1/4"
W18	PL. 3/8" x REQ'D	1 3/4"	2"	5	1"	1/4"
W21	PL. 3/8" x REQ'D	1 3/4"	2"	6	1"	1/4"
W24	PL. 1/2" x REQ'D	1 3/4"	2"	7	1"	1/4"
W27	PL. 1/2" x REQ'D	1 3/4"	2"	7	1"	1/4"
W30	PL. 5/8" x REQ'D	2"	2 1/4"	8	1-1/8"	5/16"
W33	PL. 5/8" x REQ'D	2"	2 1/4"	9	1-1/8"	5/16"
W36	PL. 5/8" x REQ'D	2"	2 1/4"	10	1-1/8"	5/16"

STANDARD HOOK & BEND SCHEDULE

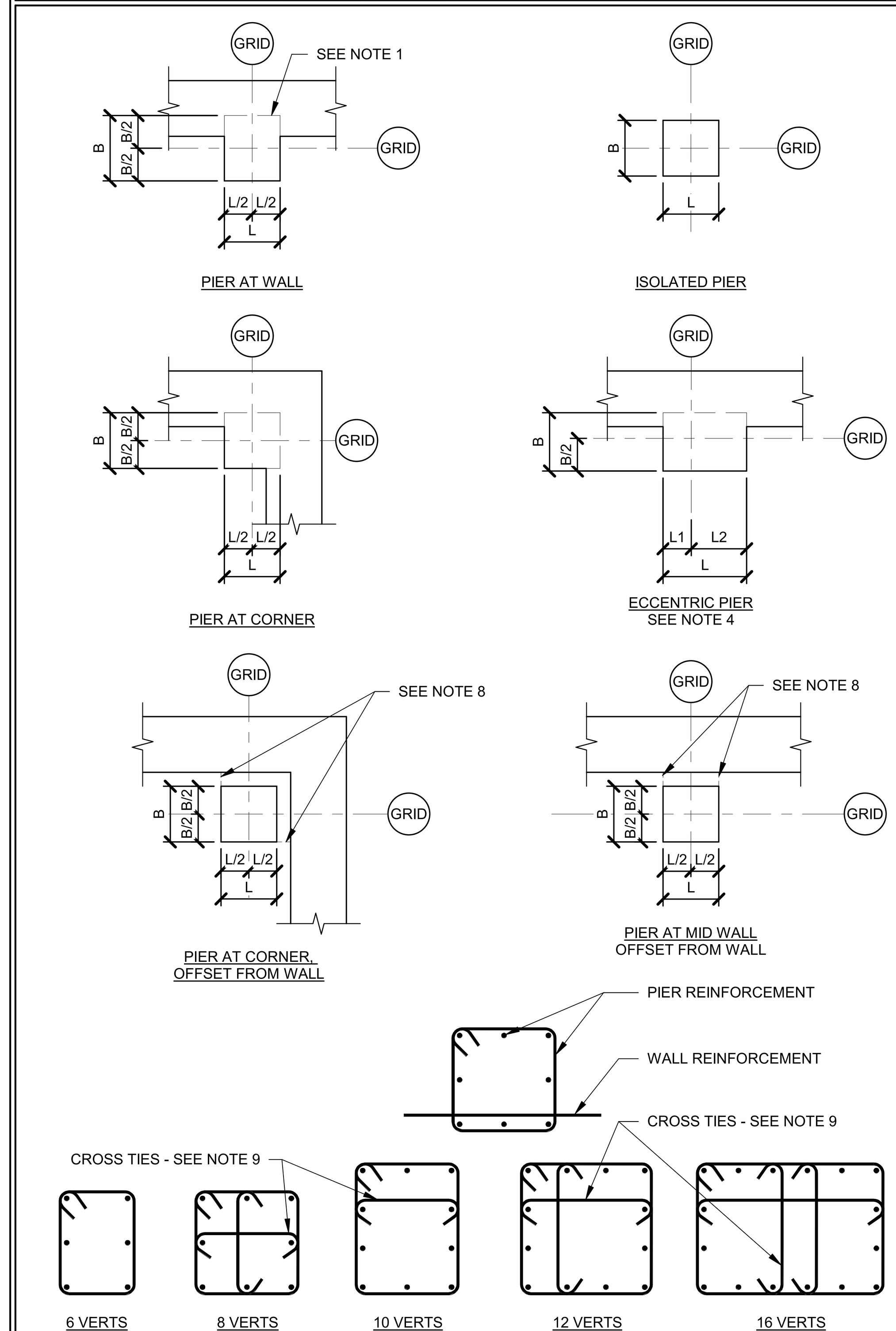
TYPE OF STANDARD HOOK	BAR SIZE	MIN. INSIDE BEND DIA. FOR STIRRUPS, TIES, AND HOOPS, in	STRAIGHT EXTENSION ℓ_{ext} FOR STIRRUPS, TIES, AND HOOPS in.	MIN. INSIDE BEND DIA. FOR OTHER BARS, in	STRAIGHT EXTENSION ℓ_{ext} FOR OTHER BARS in.	TYPE OF STANDARD HOOK
90° HOOK	#3 - #5	$4d_b$	GREATER OF $6d_b$ AND 3"	$6d_b$	$12d_b$	POINT AT WHICH BAR IS DEVELOPED; d_b; 90° BEND; DIA.; ℓ_{ext}; ℓ_{dh}
	#6 - #8	$6d_b$	$12d_b$			
	#9 - #11	N/A	N/A	$8d_b$		
	#14 - #18	N/A	N/A	$10d_b$		
135° HOOK	#3 - #5	$4d_b$	GREATER OF $6d_b$ AND 3"	N/A	N/A	d_b; 135° BEND; DIA.; ℓ_{ext}
	#6 - #8	$6d_b$	GREATER OF $6d_b$ AND 3"	N/A	N/A	
180° HOOK	#3 - #5	$4d_b$	GREATER OF $4d_b$ AND 2.5"	$6d_b$	GREATER OF $4d_b$ AND 2.5"	d_b; DIA.; 180° BEND; ℓ_{ext}
	#6 - #8	$6d_b$				
	#9 - #11	N/A	N/A	$8d_b$		
	#14 - #18	N/A	N/A	$10d_b$		

METAL DECK SCHEDULE

TYPE	GAUGE	MINIMUM SECTION PROPERTIES			SECTION	TYP METAL DECK FILL REINF.	SHEAR CONN. (STUDS) LENGTH AFTER WELD	REMARKS
		$I\ in^4$	$+S\ in^3$	$-S\ in^3$				
B	22 GAUGE	0.175	0.187	0.198	1 1/2"	--	--	GALVANIZED (G60)
B	20 GAUGE	0.216	0.235	0.248	1 1/2"	--	--	GALVANIZED (G60)
W3 FORMLOCK	20 GAUGE	0.907	0.510	0.528	3"	8X8 - W2.1XW2.1 WWF	5 1/2"	

CONCRETE PIER SCHEDULE

MARK	SIZE (B x L)	B1	B2	L1	L2	VERT REINF. (NOTE 2)	TIES	COMMENTS
CP-1	20" x 20"	---	---	---	---	(8) #6	#3 @ 8"	(3 TIES IN TOP 5")
CP-2	28" x 48"	---	---	---	---	(18) #6	#3 @ 8"	(3 TIES IN TOP 5")
CP-3	28" x 48"	---	---	---	---	(18) #8	#3 @ 8"	(3 TIES IN TOP 5")
CP-4	28" x 36"	---	---	---	---	(12) #6	#3 @ 8"	(3 TIES IN TOP 5")



NOTES :

1. WHERE TOP OF PIER IS LOWER THAN TOP OF FOUNDATION WALL, BLOCK OUT FOUNDATION WALL AS REQUIRED FOR BASE PLATE CLEARANCE.
2. VERTICAL PIER REINFORCING TO BE UNIFORMLY SPACED AROUND PERIMETER, 2" CLEAR FROM OUTSIDE OF PIER.
3. TOP OF PIER ELEVATION IS 8" BELOW FINISHED FLOOR ELEVATION EXCEPT WHERE [PIER (ELEV.)] OTHERWISE NOTED ON PLANS. SEE LEGEND FOR ADDITIONAL INFORMATION.
4. WHERE PIER IS NOT SYMMETRICAL ABOUT GRIDLINES, REFER TO PLAN FOR BRACED FRAME LAYOUT AND RESPECTIVE DIRECTION OF OFFSET DIMENSIONS, WHERE PROVIDED.
5. ALL PIERS AT FOUNDATION WALLS ARE TO BE CONSTRUCTED MONOLITHICALLY WITH WALLS UNLESS NOTED OTHERWISE.
6. PIER REINFORCEMENT SHALL BE FABRICATED WITH SUFFICIENT SIZE SO THAT WALL REINFORCEMENT PASSES THROUGH PIER REINFORCEMENT.
7. WHERE SPECIFIC 'B' AND 'L' DIMENSIONS ARE NOT PROVIDED, EDGE OF PIER EXTENDS TO EXTERIOR EDGE OF FOUNDATION WALL.
8. AT CONTRACTORS OPTION, WHERE PIERS ARE NEXT TO FOUNDATION WALLS BUT DO NOT TOUCH, THE CONCRETE MAY BE EXTENDED TO INCORPORATE PIER INTO WALL. KEEP REINFORCEMENT LOCATION AS IF PIER WAS NOT EXTENDED.
9. CROSS TIES SHALL BE PLACED AT EVERY OTHER VERTICAL BAR WERE THE SPACING OF THE VERTICAL BARS IS 6" O.C. OR LESS. CROSS TIES SHALL BE PLACED AT EVERY NON CORNER VERTICAL BAR AT LOCATIONS WHERE VERTICAL REINFORCEMENT IS SPACED MORE THAN 6" O.C.

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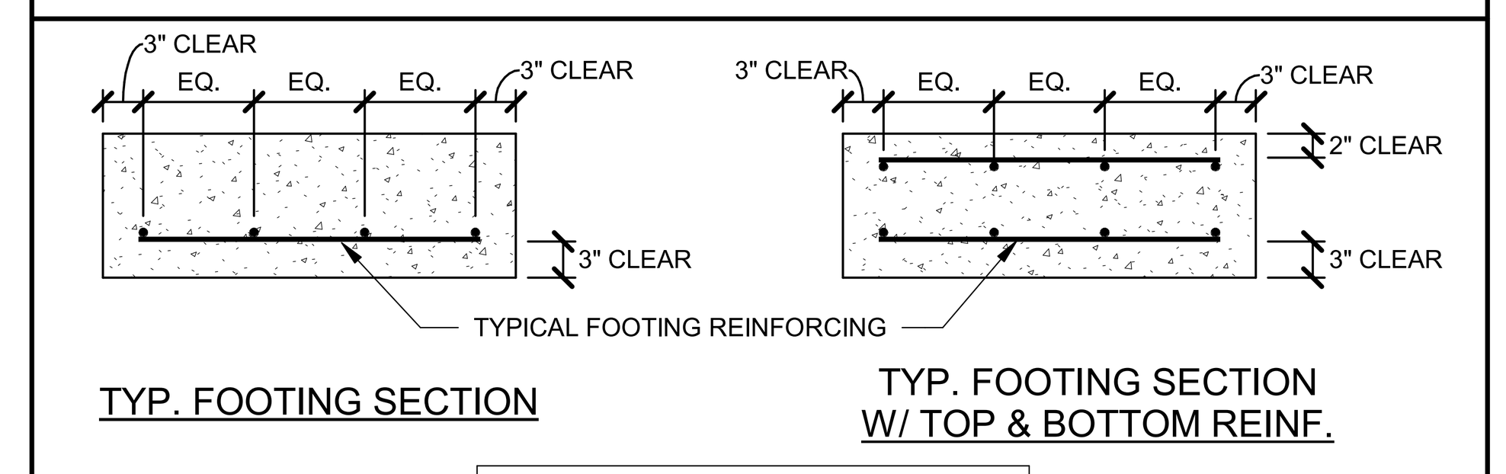
REV	DATE	DESCRIPTION

HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

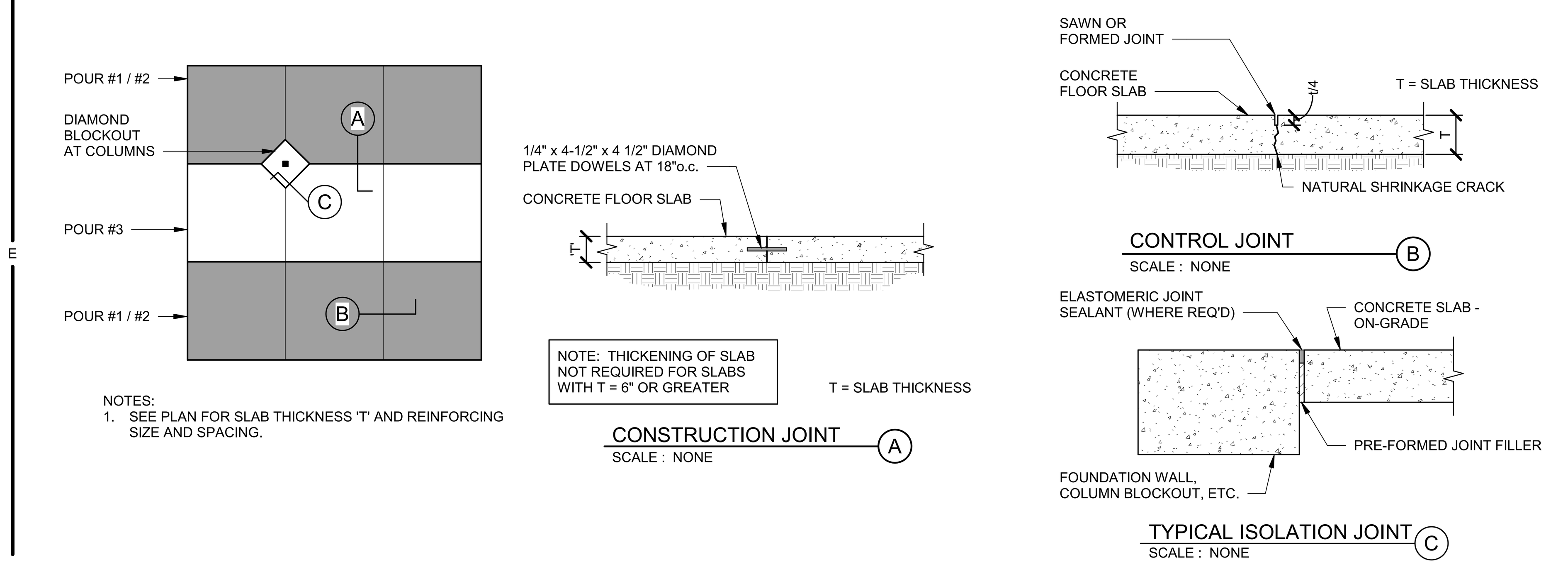
SCHEDULES

FOOTING SCHEDULE



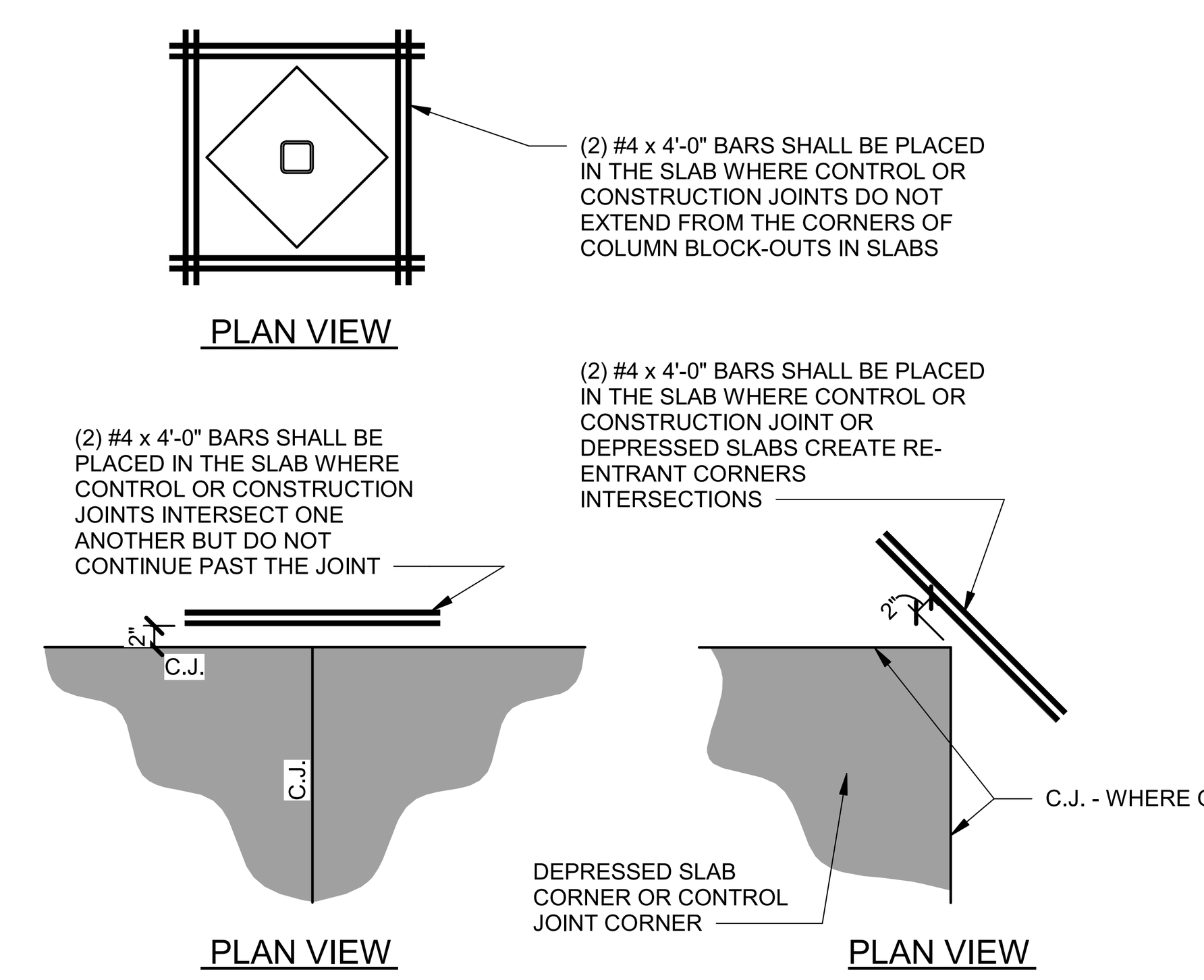
NOTE: REINFORCE TOP AND BOTTOM AT ALL BRACE FRAME COLUMN FOOTINGS.

MARK	WIDTH	LENGTH	THICK	LENGTHWISE REINF.	CROSSWISE REINF.	REMARKS
FC3	3' - 0"	CONT.	1' - 0"	(3) #5		
FC4	4' - 0"	CONT.	1' - 0"	(4) #5		
FC12	12' - 0"	CONT.	3' - 0"	(12) #8	#8 @ 12"o.c.	
F3	3' - 0"	3' - 0"	1' - 0"	(3) #5	(3) #5	
F3	3' - 0"		1' - 0"			
F4	4' - 0"	4' - 0"	1' - 0"	(4) #5	(4) #5	
F4.5	4' - 6"	4' - 6"	1' - 0"	(4) #5	(4) #5	
F6.5	6' - 6"	6' - 6"	1' - 2"	(7) #5	(7) #5	
F7	7' - 0"	7' - 0"	1' - 2"	(7) #6	(7) #6	
F7.5	7' - 6"	7' - 6"	1' - 2"	(7) #6	(7) #6	
F8	8' - 0"	8' - 0"	1' - 4"	(8) #6	(8) #6	
F9	9' - 0"	9' - 0"	1' - 6"	(9) #6	(9) #6	
F10.5	10' - 6"	10' - 6"	1' - 8"	(10) #7	(10) #7	
F12.5	12' - 6"	12' - 0"	2' - 0"	(12) #7	(12) #7	
F13	13' - 0"	12' - 0"	2' - 2"	(12) #7	(12) #7	
F13.5	13' - 6"	12' - 0"	2' - 2"	(12) #7	(12) #7	
F14	14' - 0"	12' - 0"	2' - 4"	(12) #7	(12) #7	
F14.5	14' - 6"	12' - 0"	2' - 4"	(12) #7	(12) #7	
F15	15' - 0"	12' - 0"	2' - 6"	(12) #7	(12) #7	
F15.5	15' - 6"	5' - 0"	2' - 6"	(5) #5	(5) #5	
F16	16' - 0"	12' - 0"	2' - 8"	(12) #7	(12) #7	
F16.5	16' - 6"	12' - 0"	2' - 8"	(12) #7	(12) #7	
F17	17' - 0"	12' - 0"	2' - 10"	(12) #7	(12) #7	
F18	18' - 0"	12' - 0"	3' - 0"	(12) #7	(12) #7	
F18.5	18' - 6"	12' - 0"	3' - 0"	(12) #7	(12) #7	
F20	20' - 0"	12' - 0"	3' - 4"	(12) #7	(12) #7	
FS14.5	14' - 6"	12' - 0"	4' - 0"	(15) #10	(15) #10	REINF TOP & BOTTOM
F19	19' - 0"	12' - 0"	3' - 2"	(12) #7	(12) #7	

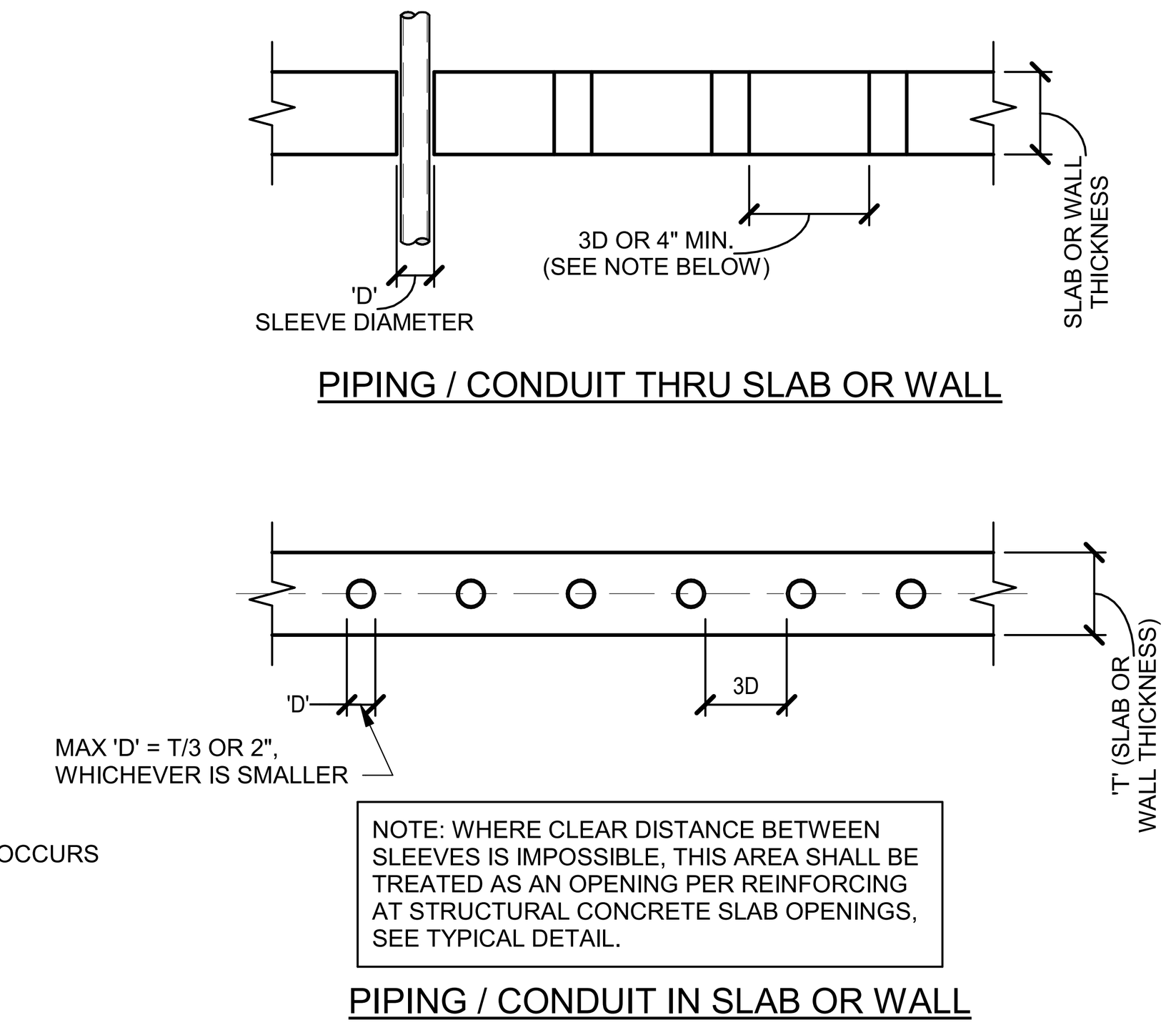


NOTES:
1. SEE PLAN FOR SLAB THICKNESS 'T' AND REINFORCING SIZE AND SPACING.

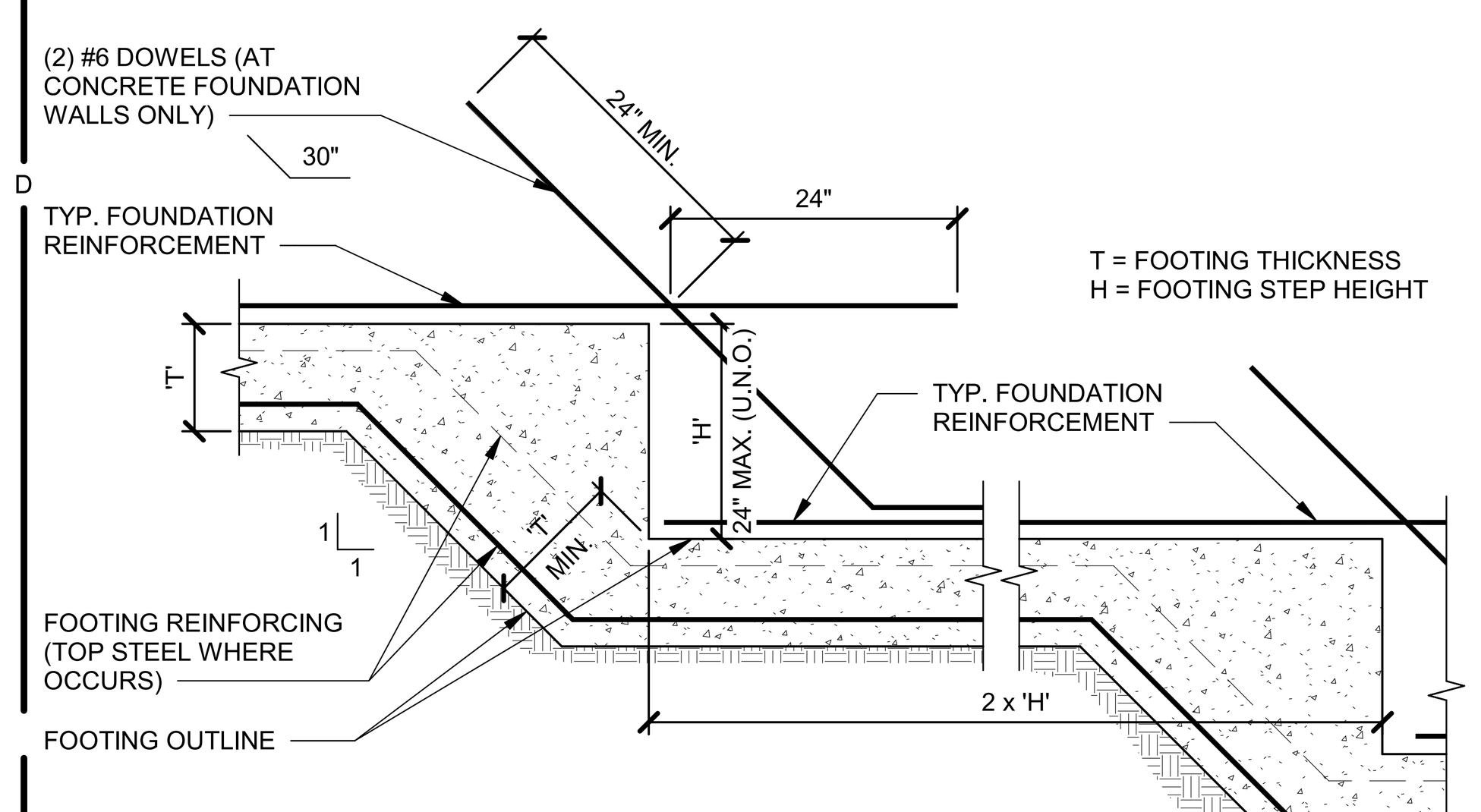
TYPICAL CONCRETE SLAB JOINTS
SCALE : NONE
1 / S004



TYPICAL CONTROL JOINT DETAIL
SCALE : NONE
2 / S004

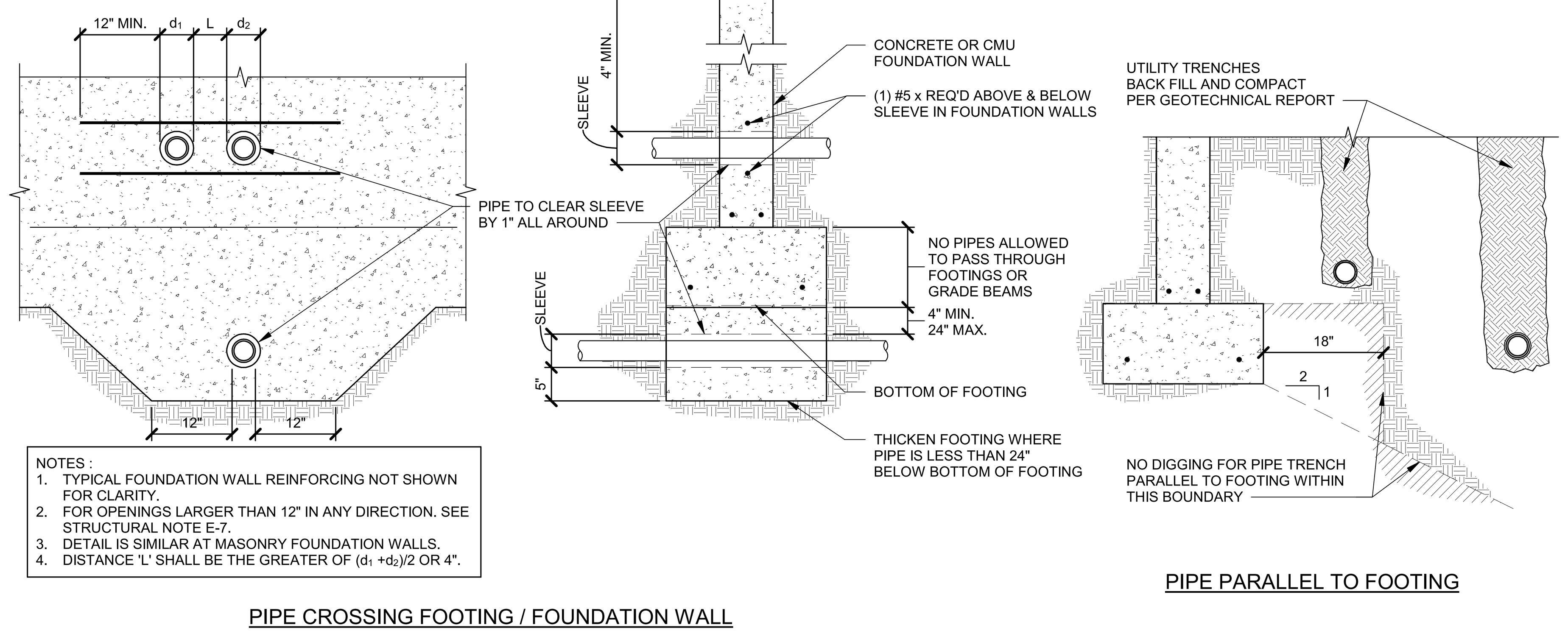


TYPICAL PIPING/CONDUIT AT SLAB OR WALL
SCALE : NONE
3 / S004



NOTES :
1. FOUNDATION REINFORCING NOT SHOWN FOR CLARITY.
2. SEE FOOTING SCHEDULE FOR FOOTING WIDTH AND REINFORCING SIZE AND LOCATION. ALL FOOTING REINFORCING REFERENCED IN THE SCHEDULE OR SHOWN IN THE DETAILS MUST RUN CONTINUOUS THROUGH THE FOOTING STEP.

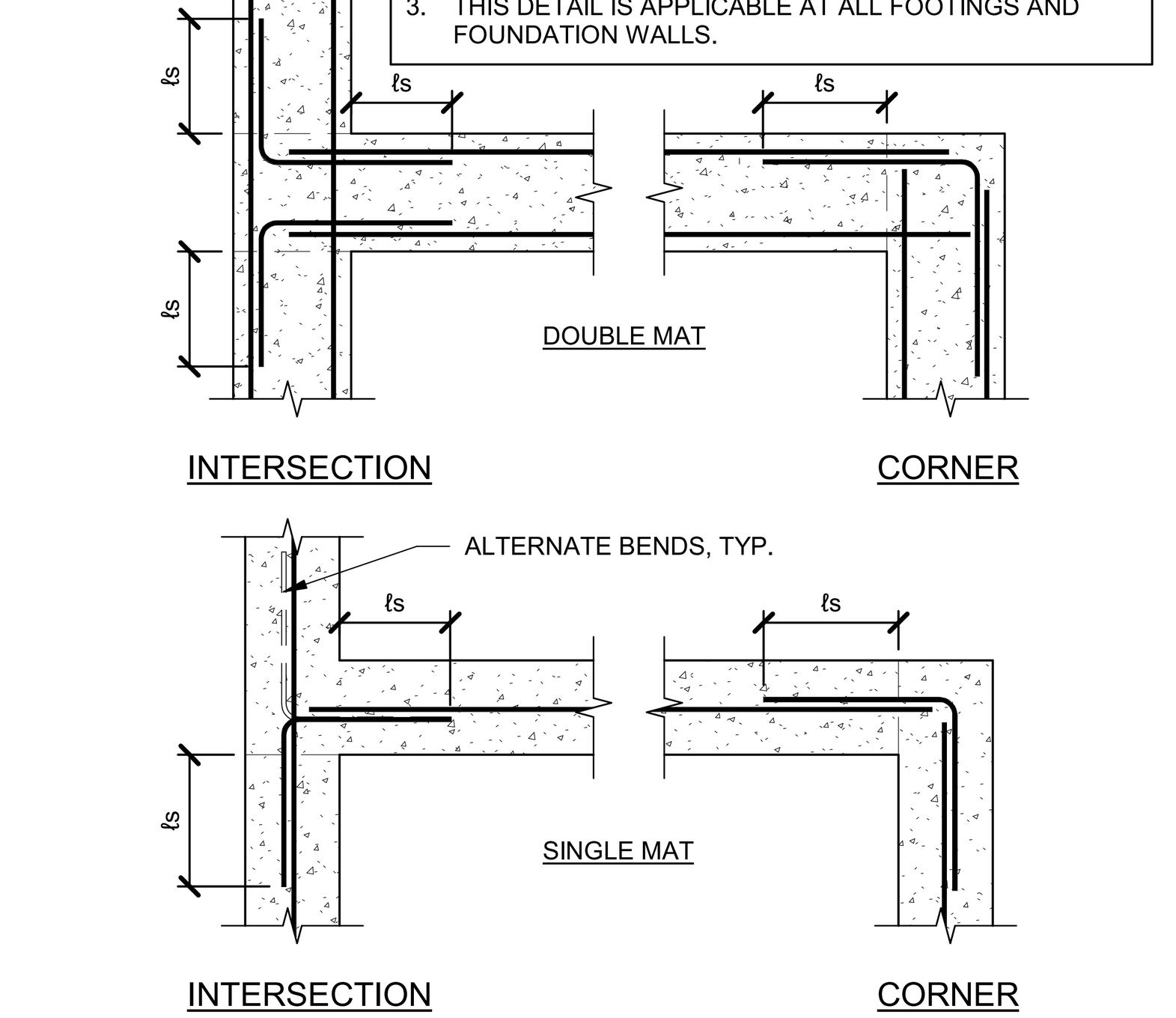
TYPICAL STEPPED FOOTING
SCALE : NONE
4 / S004



NOTES :
1. TYPICAL FOUNDATION WALL REINFORCING NOT SHOWN FOR CLARITY.
2. FOR OPENINGS LARGER THAN 12" IN ANY DIRECTION. SEE STRUCTURAL NOTE E-7.
3. DETAIL IS SIMILAR AT MASONRY FOUNDATION WALLS.
4. DISTANCE 'L' SHALL BE THE GREATER OF (d_1 +d_2)/2 OR 4".

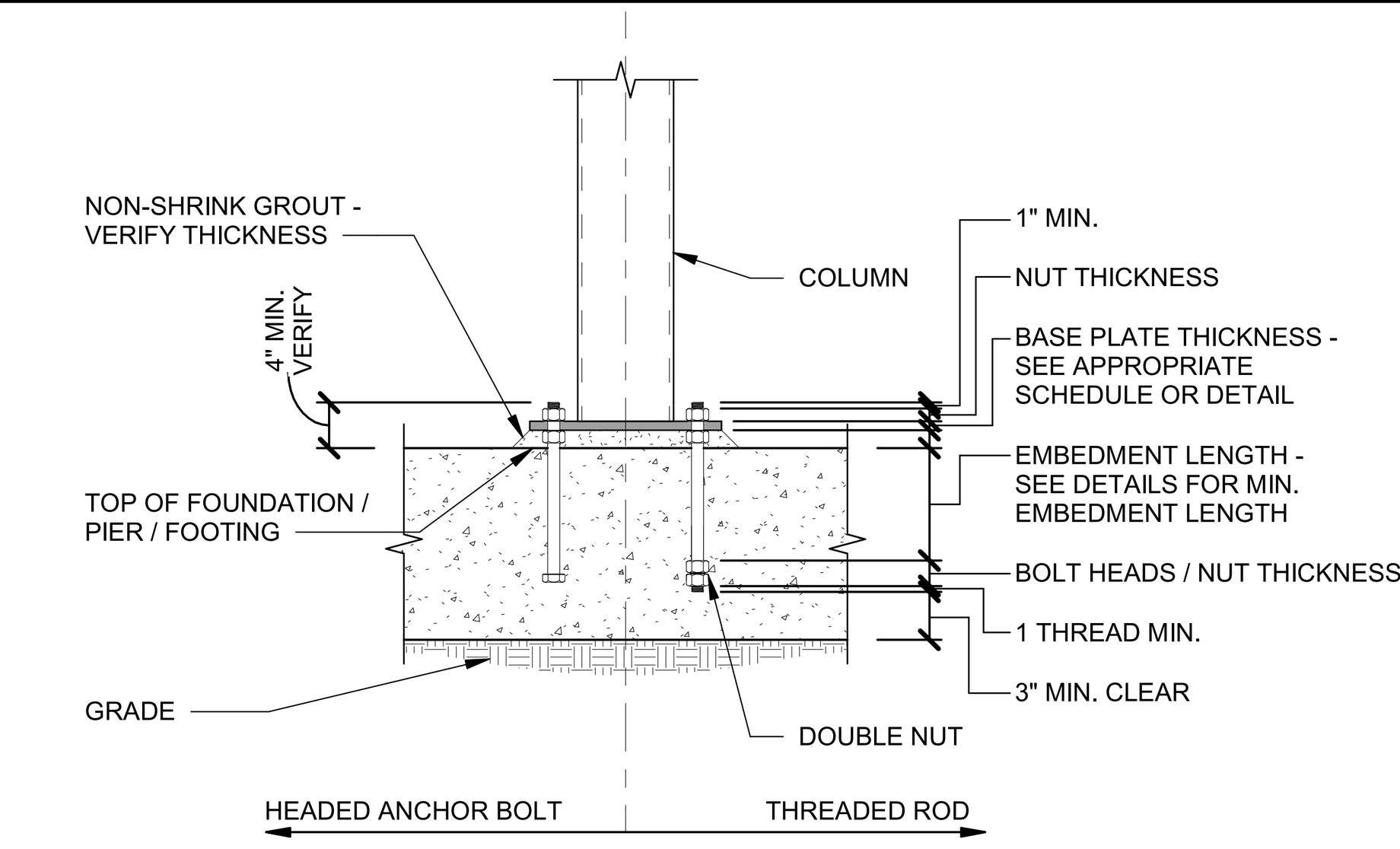
ALLOWABLE PIPING LOCATIONS @ FOOTING DETAIL
SCALE : NONE
5 / S004

NOTES:
1. ls = LAP SPLICE LENGTH - SEE REBAR LAP SCHEDULE.
2. VERTICAL BARS NOT SHOWN.
3. THIS DETAIL IS APPLICABLE AT ALL FOOTINGS AND FOUNDATION WALLS.

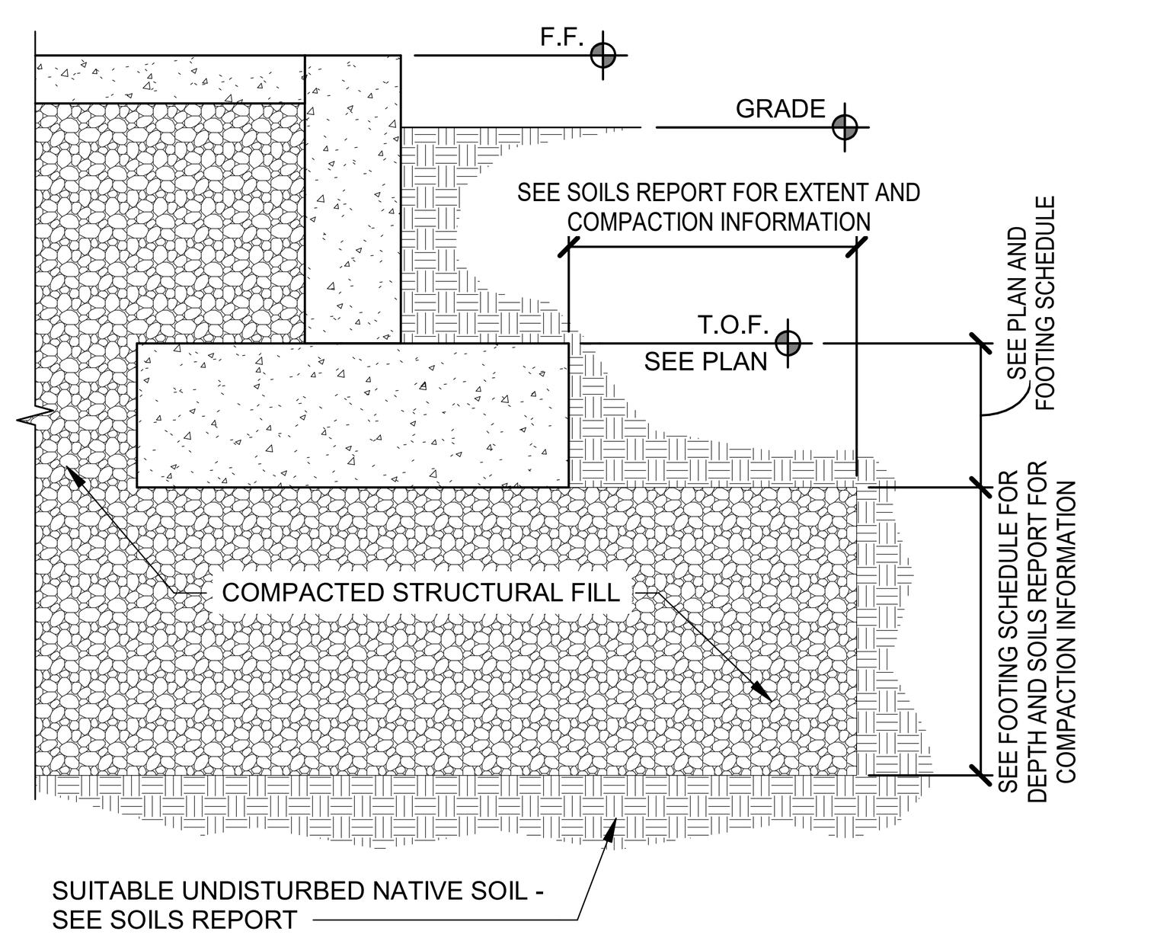


TYPICAL REINFORCING @ INTERSECTIONS IN CONCRETE DETAIL
SCALE : NONE
6 / S004

NOTE: THIS DOES NOT APPLY TO BRACE FRAME COLUMNS, SEE SHEET S203 FOR BRACE FRAME ANCHORAGE DETAILS.

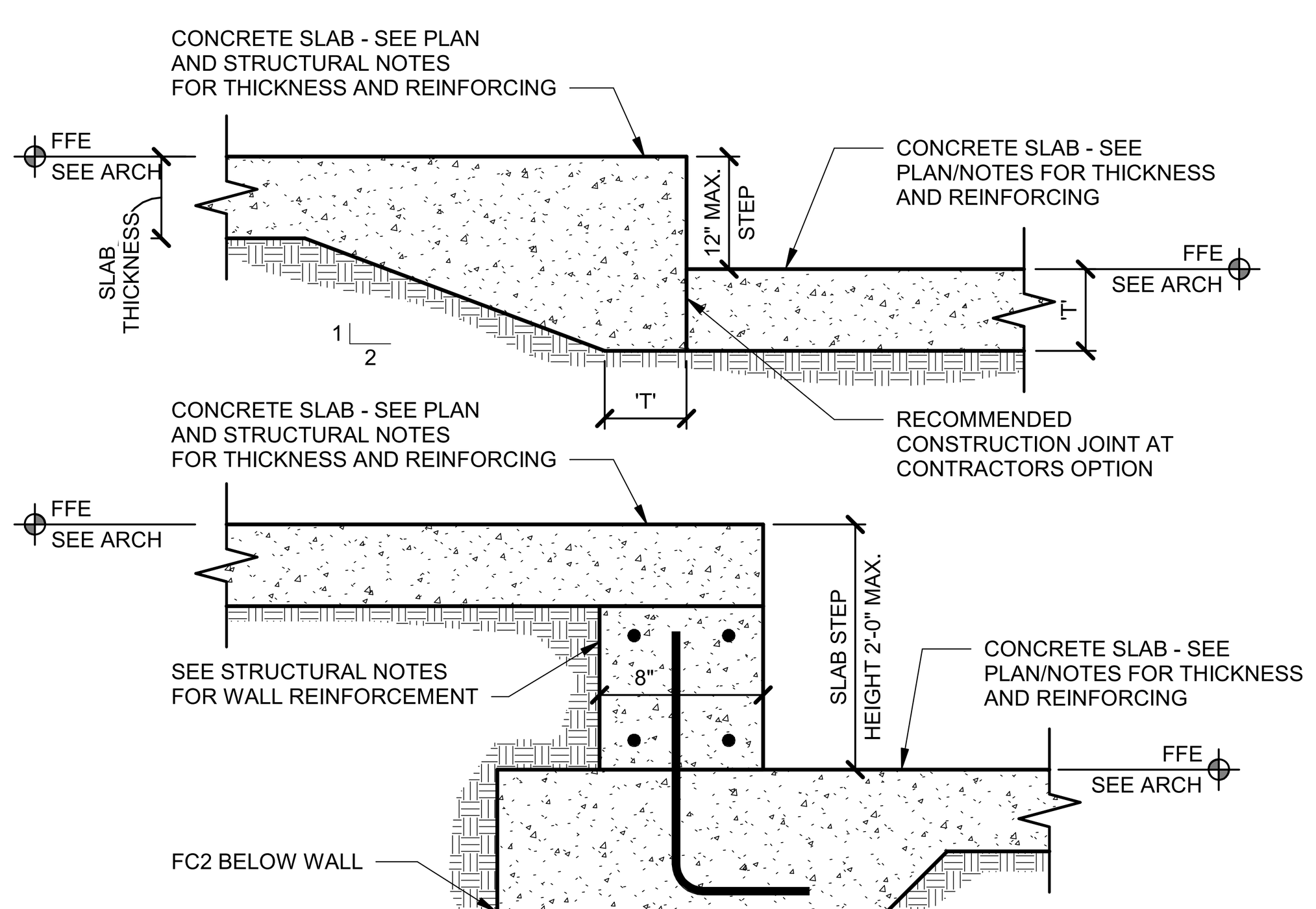


TYPICAL ANCHOR BOLT EMBEDMENT DETAIL
SCALE : NONE
7 / S004



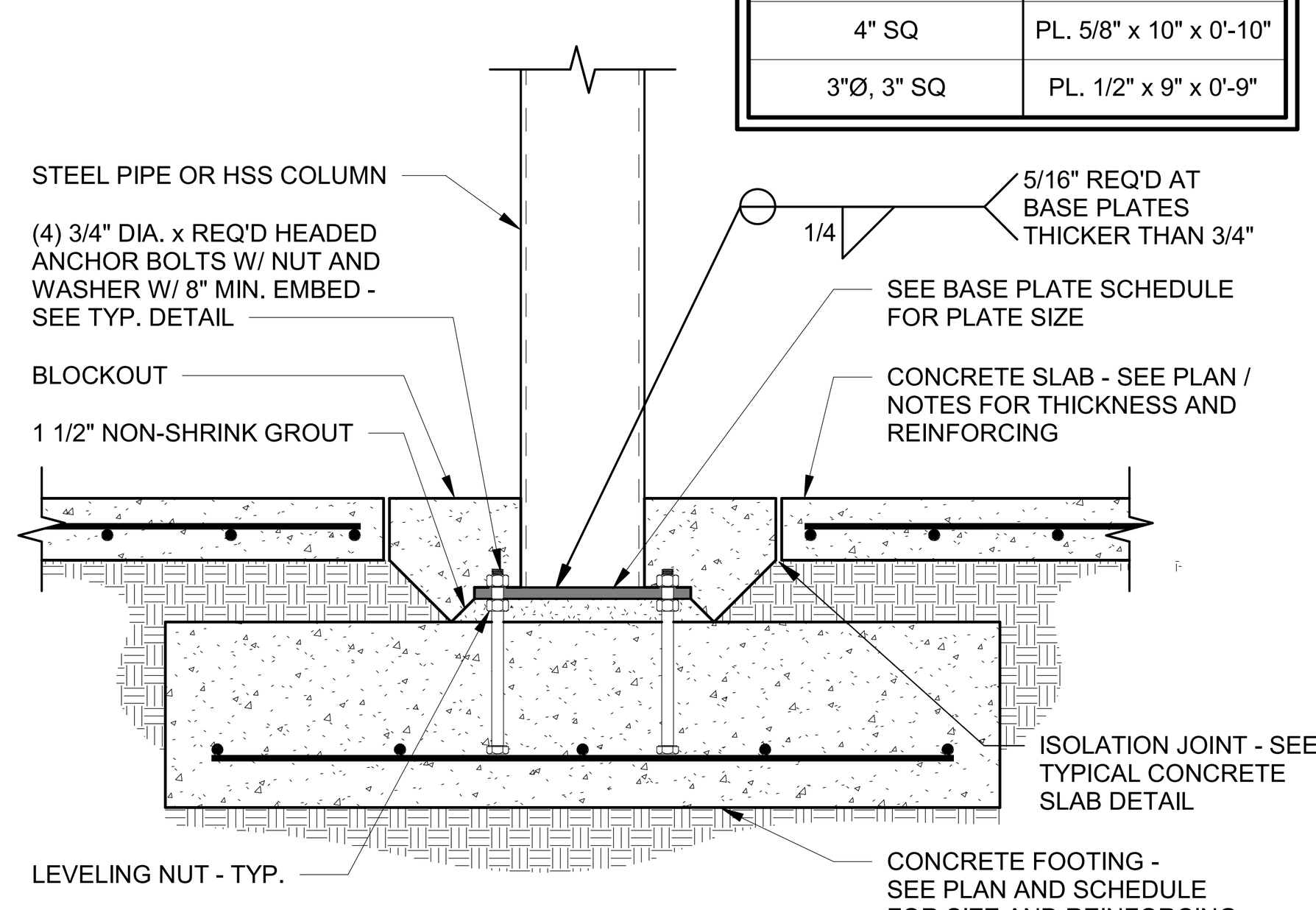
NOTE: SEE SOILS REPORT FOR SPECIFIC REQUIREMENTS FOR NATIVE SOIL AND COMPACTED STRUCTURAL FILL.

TYP. FOOTING OVER COMPACTED STRUCTURAL FILL
SCALE : NONE
8 / S004



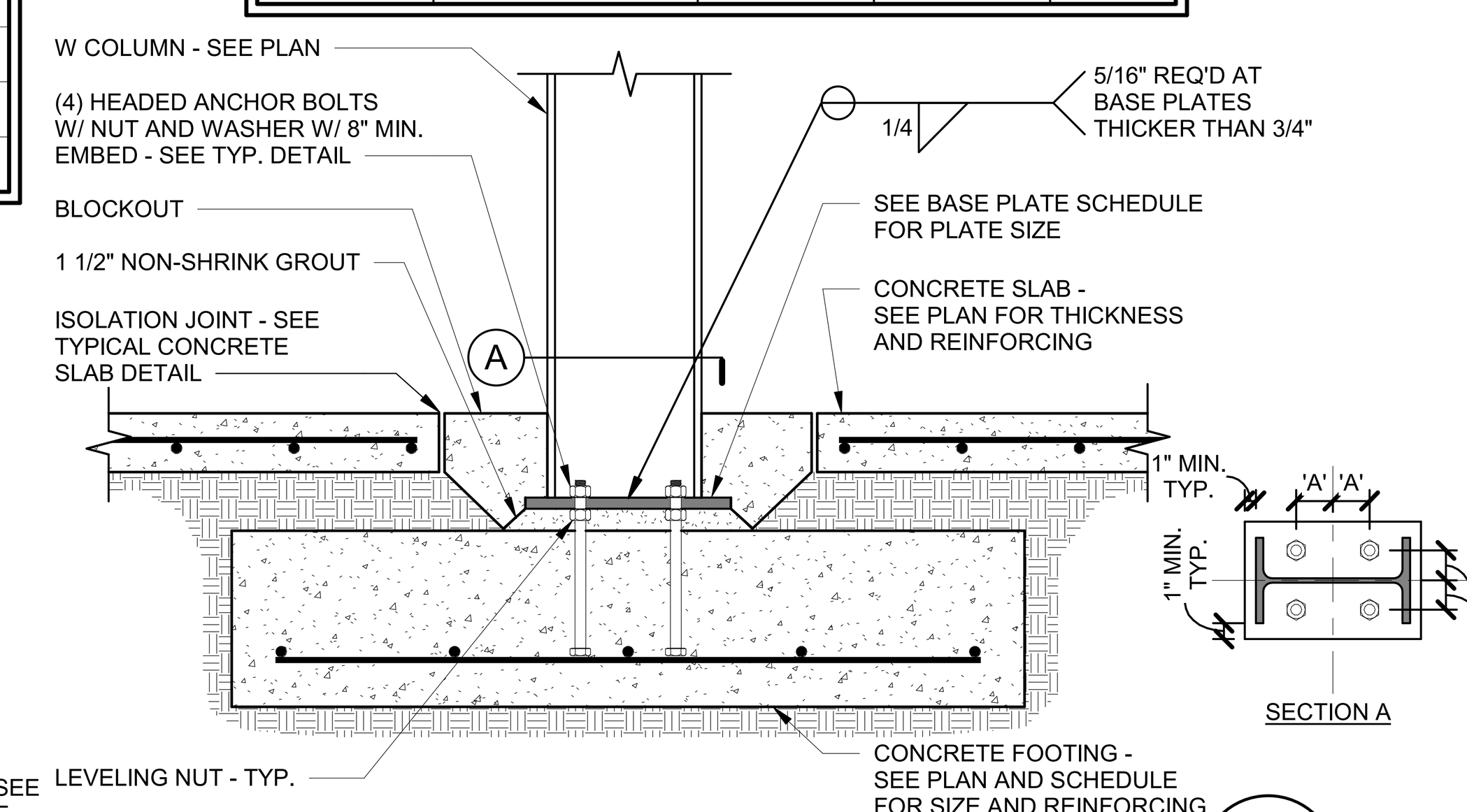
TYPICAL RECESSED SLAB
SCALE : NONE
9 / S004

BASE PLATE SCHEDULE	
COLUMN SIZE	BASE PLATE SIZE
8"SQ, 10"Ø	PL. 3/4" x 14" x 1'-2"
7" SQ	PL. 3/4" x 13" x 1'-1"
6"SQ , 8"Ø	PL. 3/4" x 12" x 1'-0"
5" SQ	PL. 3/4" x 12" x 1'-0"
4" SQ	PL. 5/8" x 10" x 0'-10"
3"Ø, 3" SQ	PL. 1/2" x 9" x 0'-9"

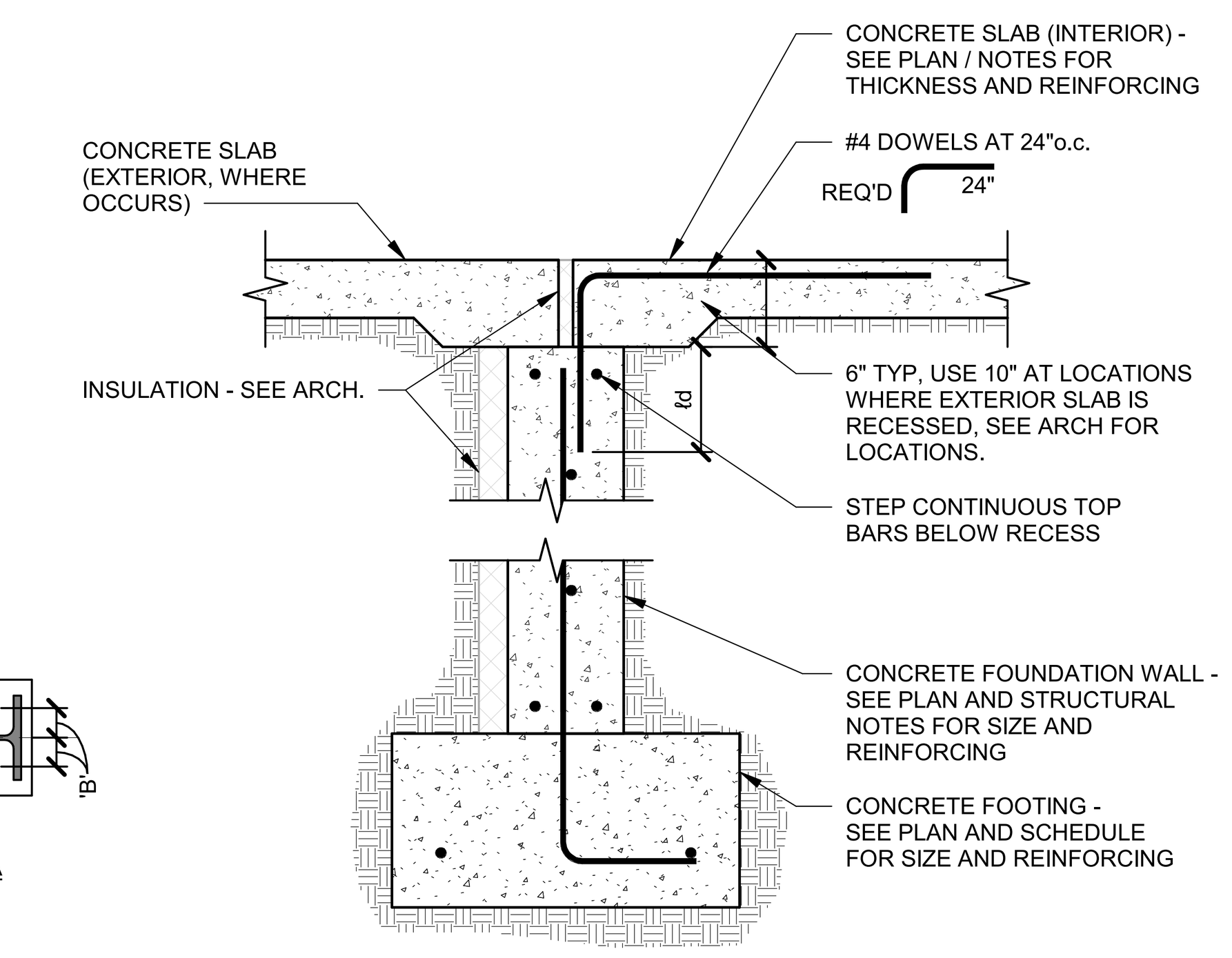


COLUMN TO SPOT FOOTING
SCALE : NONE
10 / S004

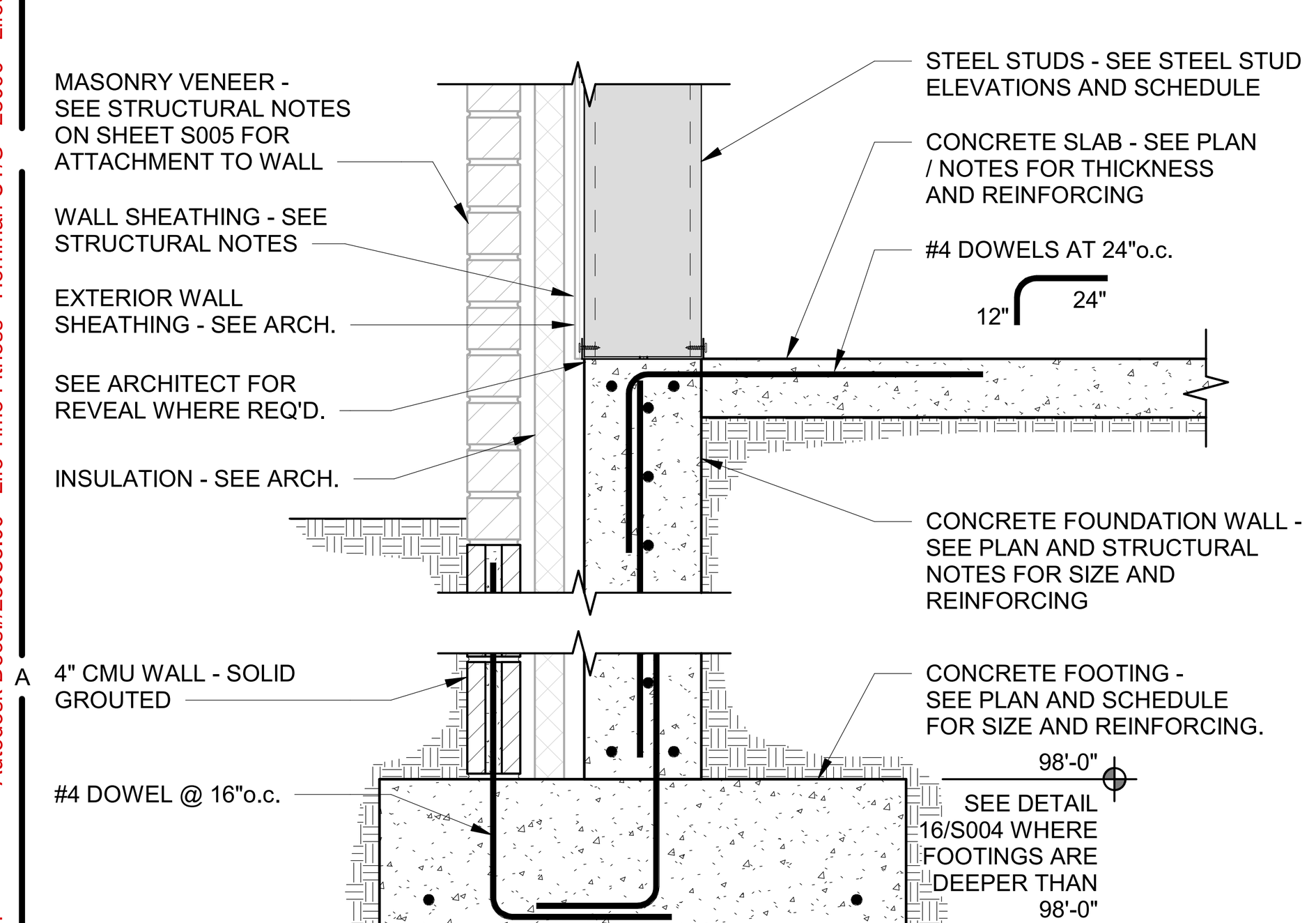
BASE PLATE SCHEDULE				
COLUMN SIZE	BASE PLATE SIZE	DIMENSION 'A'	DIMENSION 'B'	A.B. SIZE
W10	3/4" x REQ'D	3"	2"	3/4"
W12	1 1/2" x REQ'D	3"	2"	3/4"
W14	1 1/2" x REQ'D	3"	2"	3/4"



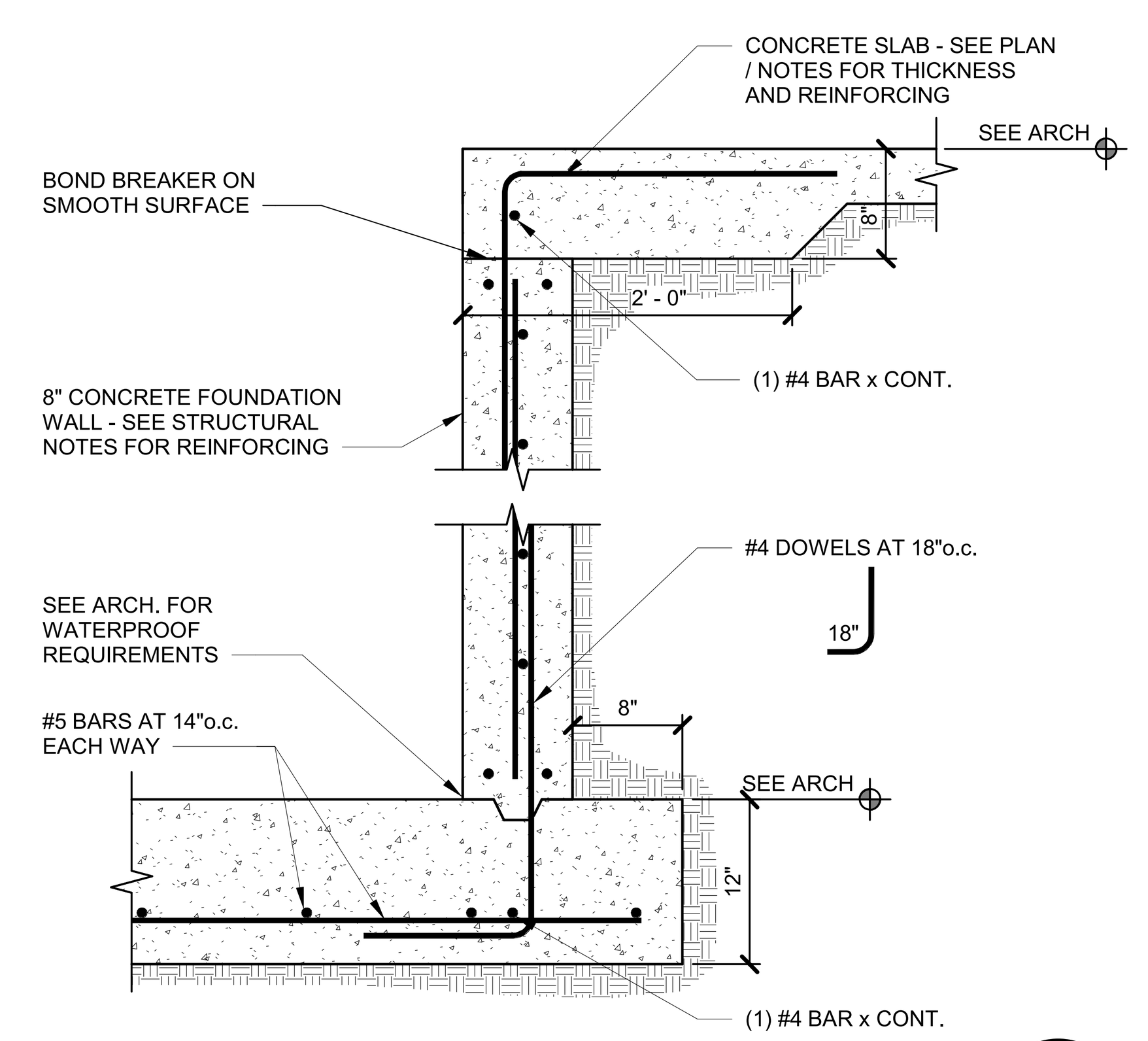
COLUMN TO SPOT FOOTING
SCALE : NONE
11 / S004



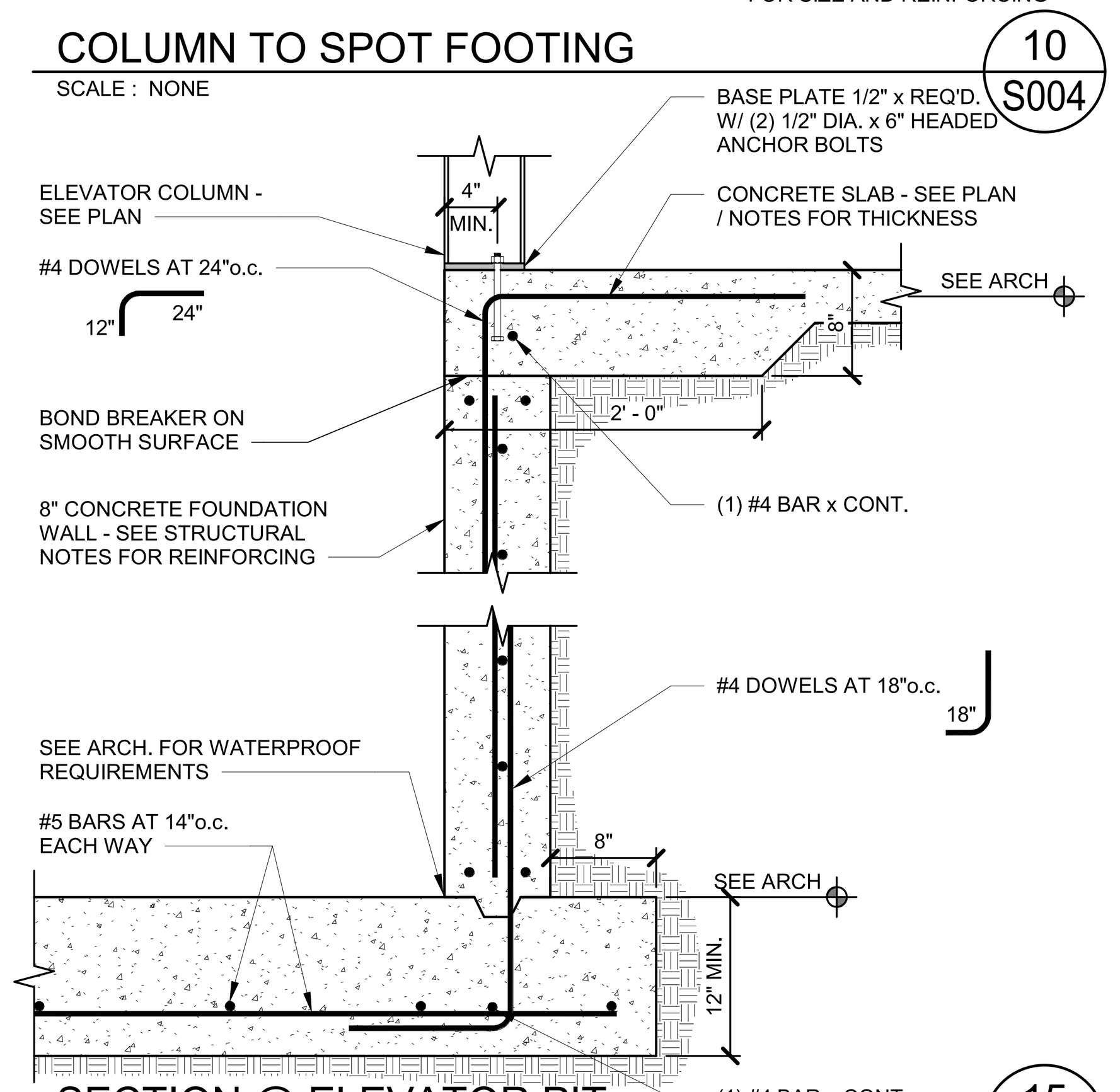
CONCRETE FOUNDATION @ OPENING
SCALE : NONE
12 / S004



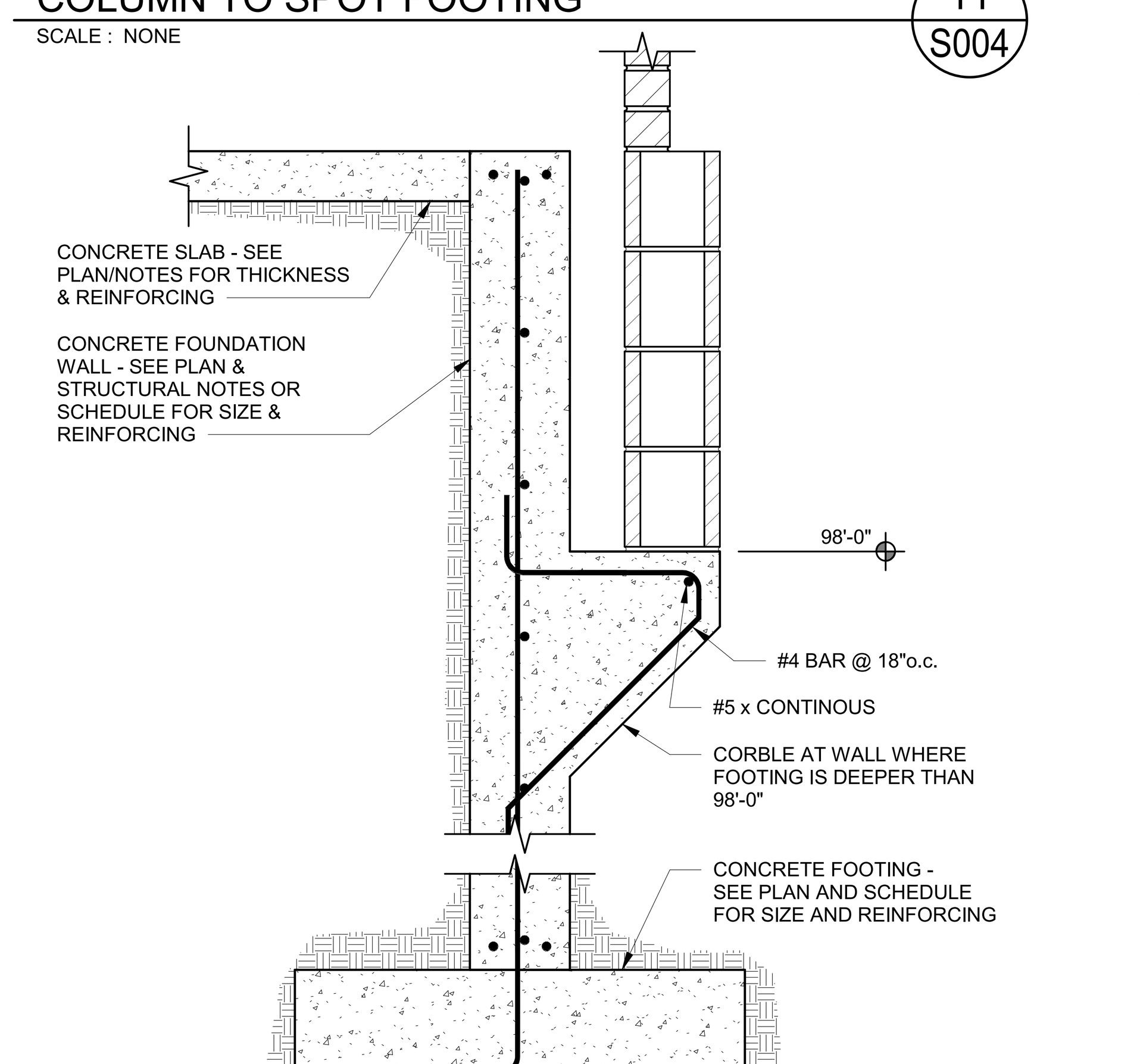
SECTION @ EXTERIOR WALL
SCALE : NONE
13 / S004



SECTION @ ELEVATOR PIT
SCALE : NONE
14 / S004



SECTION @ ELEVATOR PIT
SCALE : NONE
15 / S004



DETAIL
SCALE : NONE
16 / S004

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10396004-2203 Arek Higgs STATE OF UTAH 09/10/25

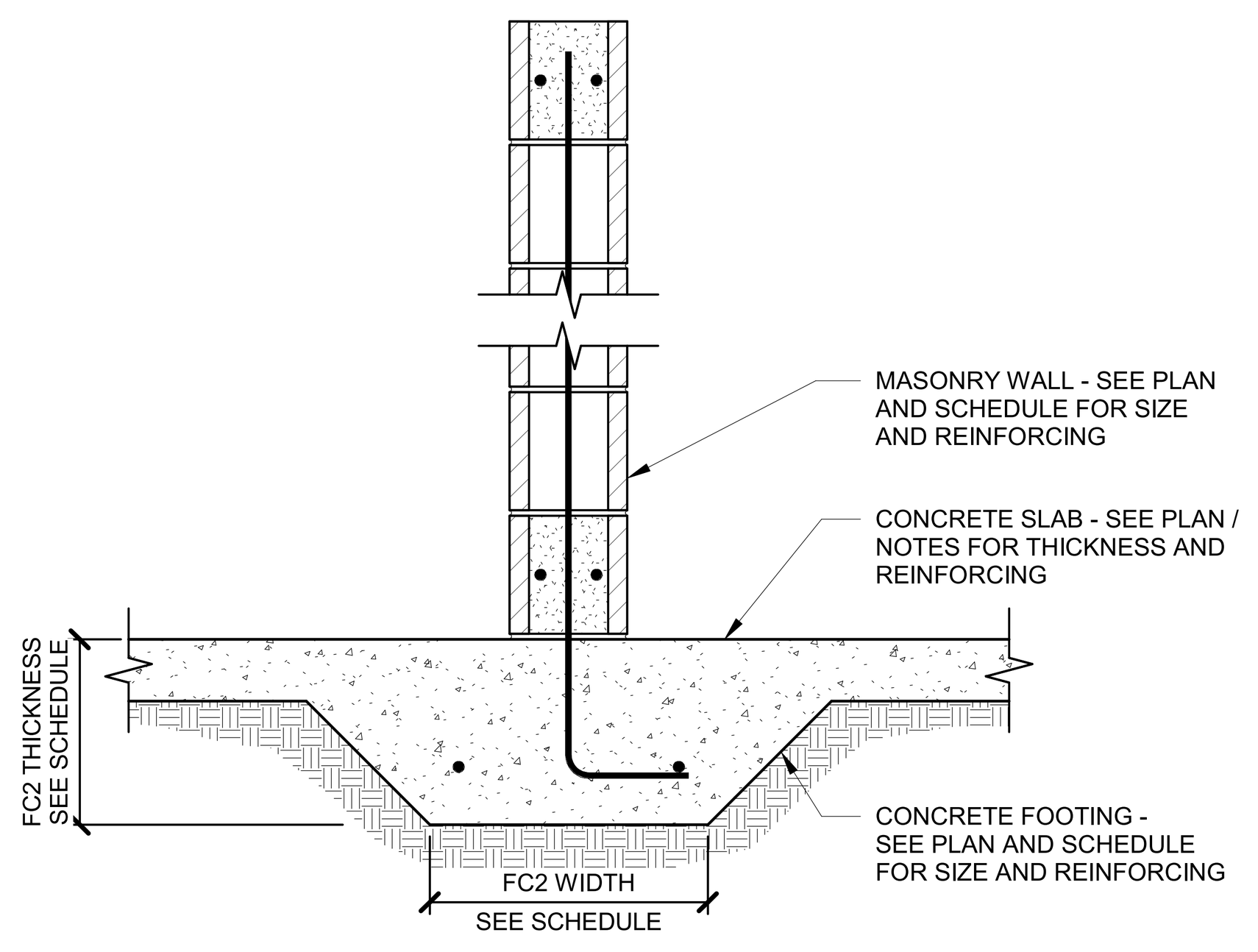
ARW ENGINEERS

REV	DATE	DESCRIPTION
1	20250926	Addendum 001

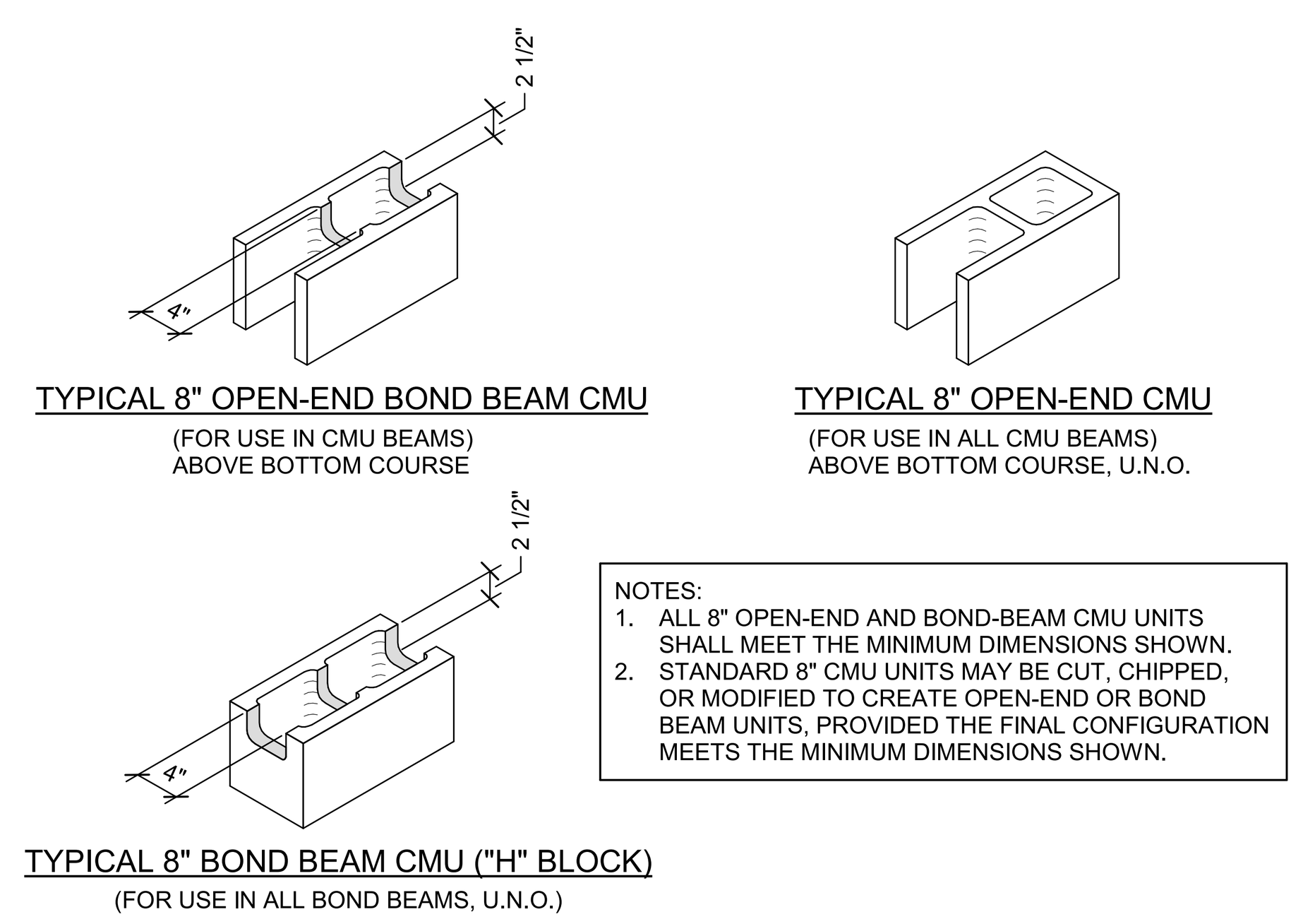
HERRIMAN, UT
4684 W 12600 S
RIVERTON, UT 84096
BID SET

TYPICAL FOUNDATION DETAILS

S004

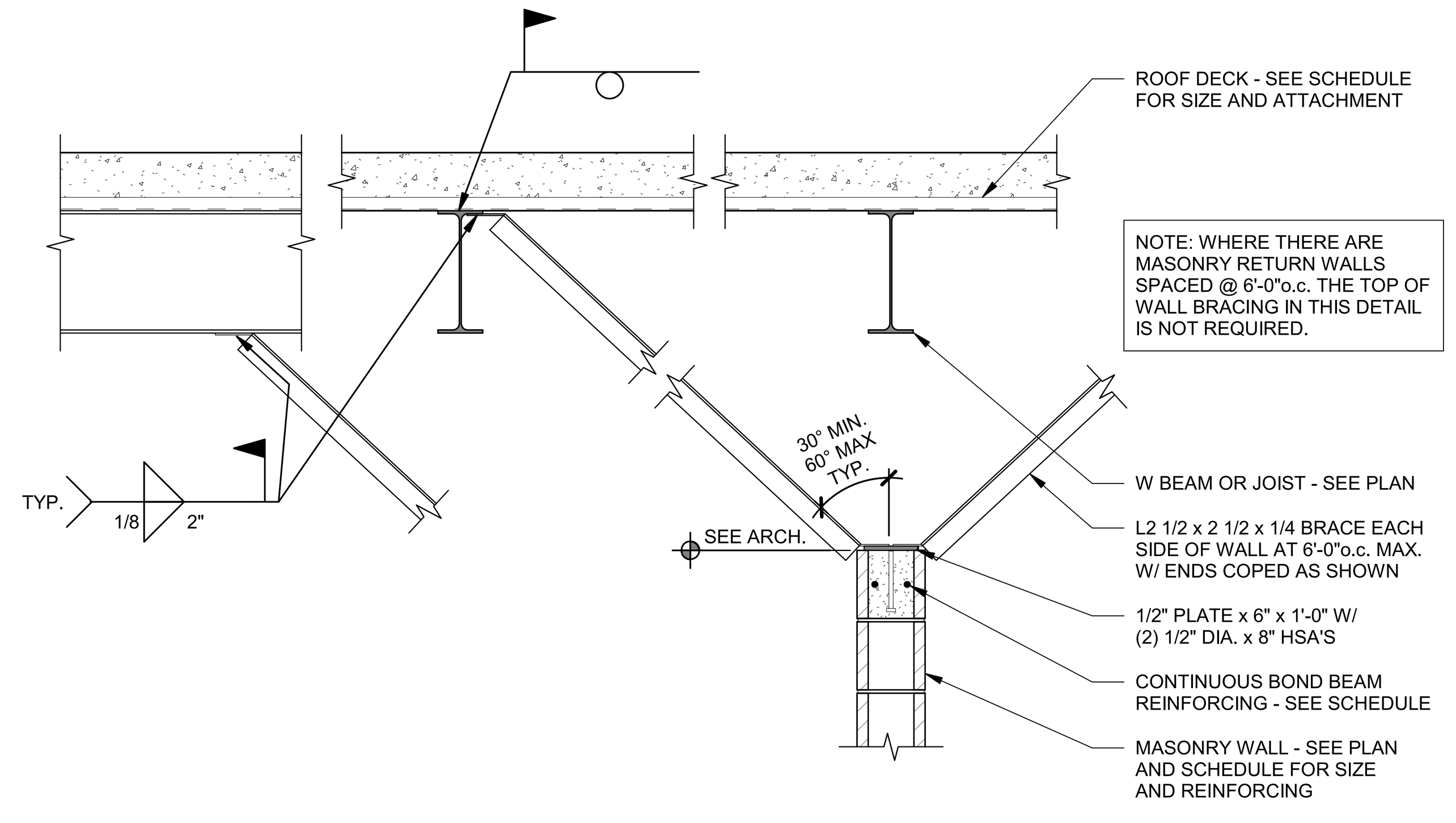


MASONRY ON THICKENED SLAB
SCALE : NONE
1 / S005

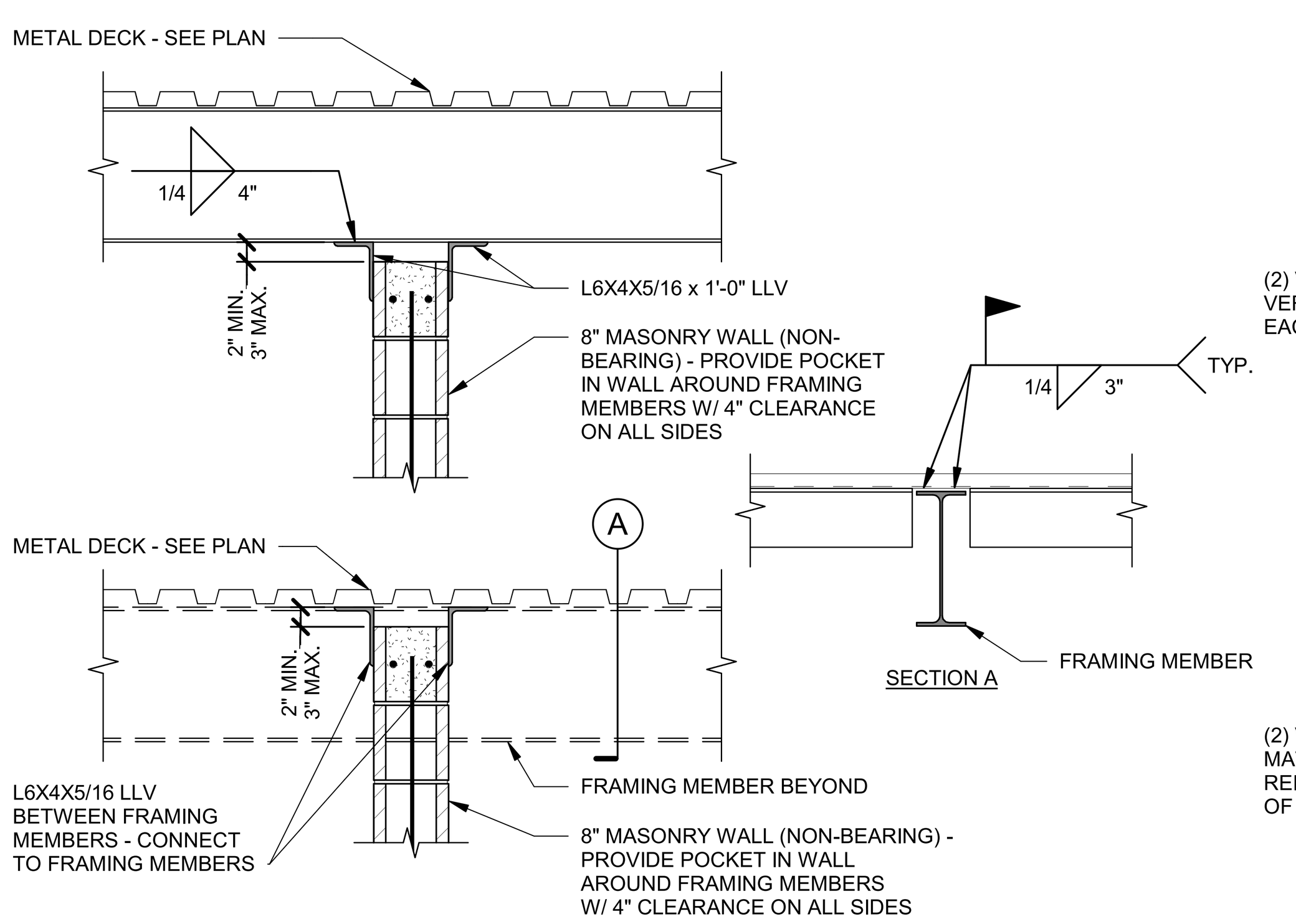


NOTES:
1. ALL 8" OPEN-END AND BOND-BEAM CMU UNITS SHALL MEET THE MINIMUM DIMENSIONS SHOWN.
2. STANDARD 8" CMU UNITS MAY BE CUT, CHIPPED, OR MODIFIED TO CREATE OPEN-END OR BOND BEAM UNITS, PROVIDED THE FINAL CONFIGURATION MEETS THE MINIMUM DIMENSIONS SHOWN.

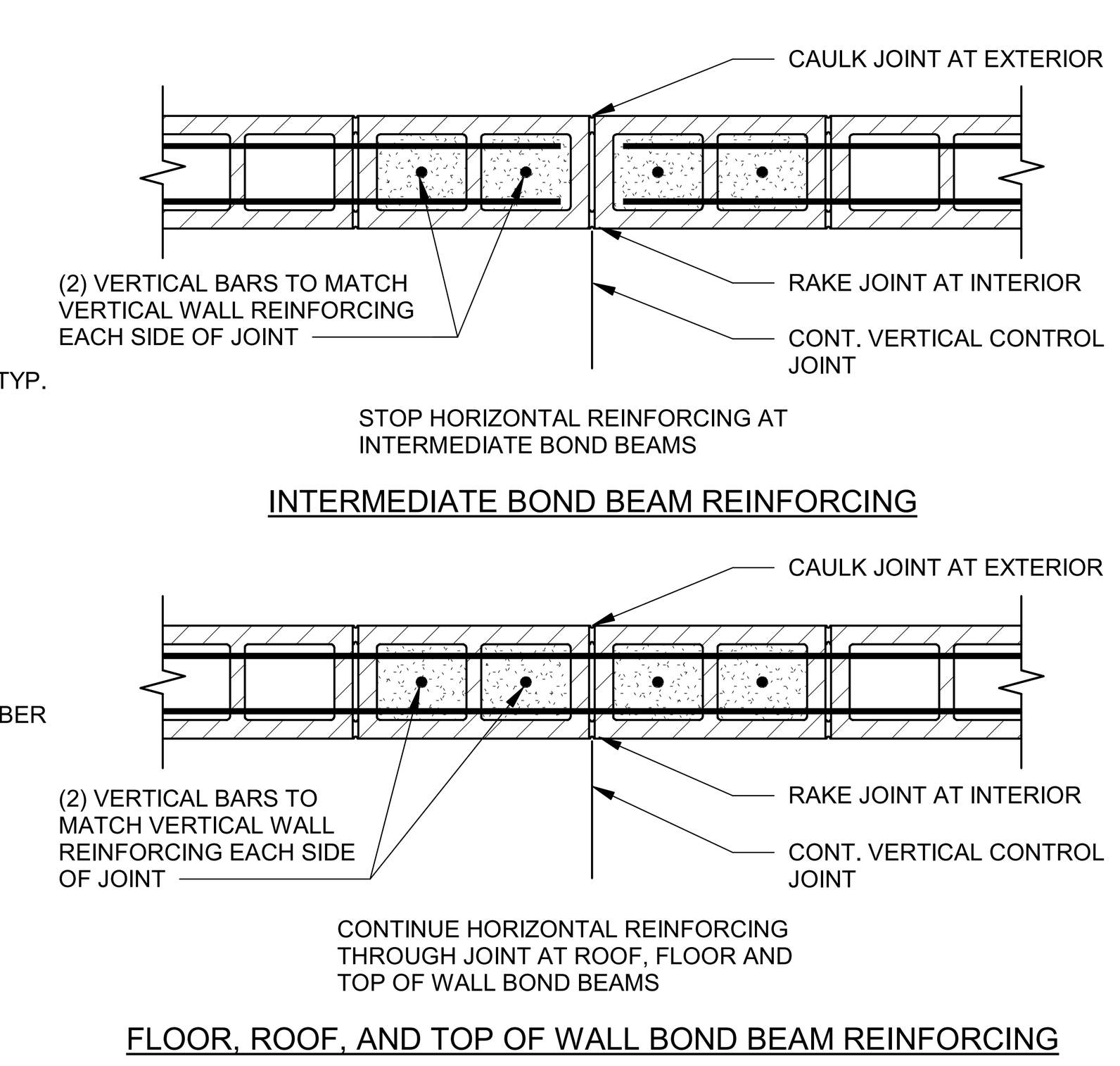
TYPICAL CMU BLOCK
SCALE : NONE
2 / S005



TYP. RESTRAINT OF NON-BEARING MASONRY WALLS WHERE WALLS DO NOT EXTEND TO JUST THE UDNER SIDE OF THE STRUCTURE
SCALE : NONE
3 / S005

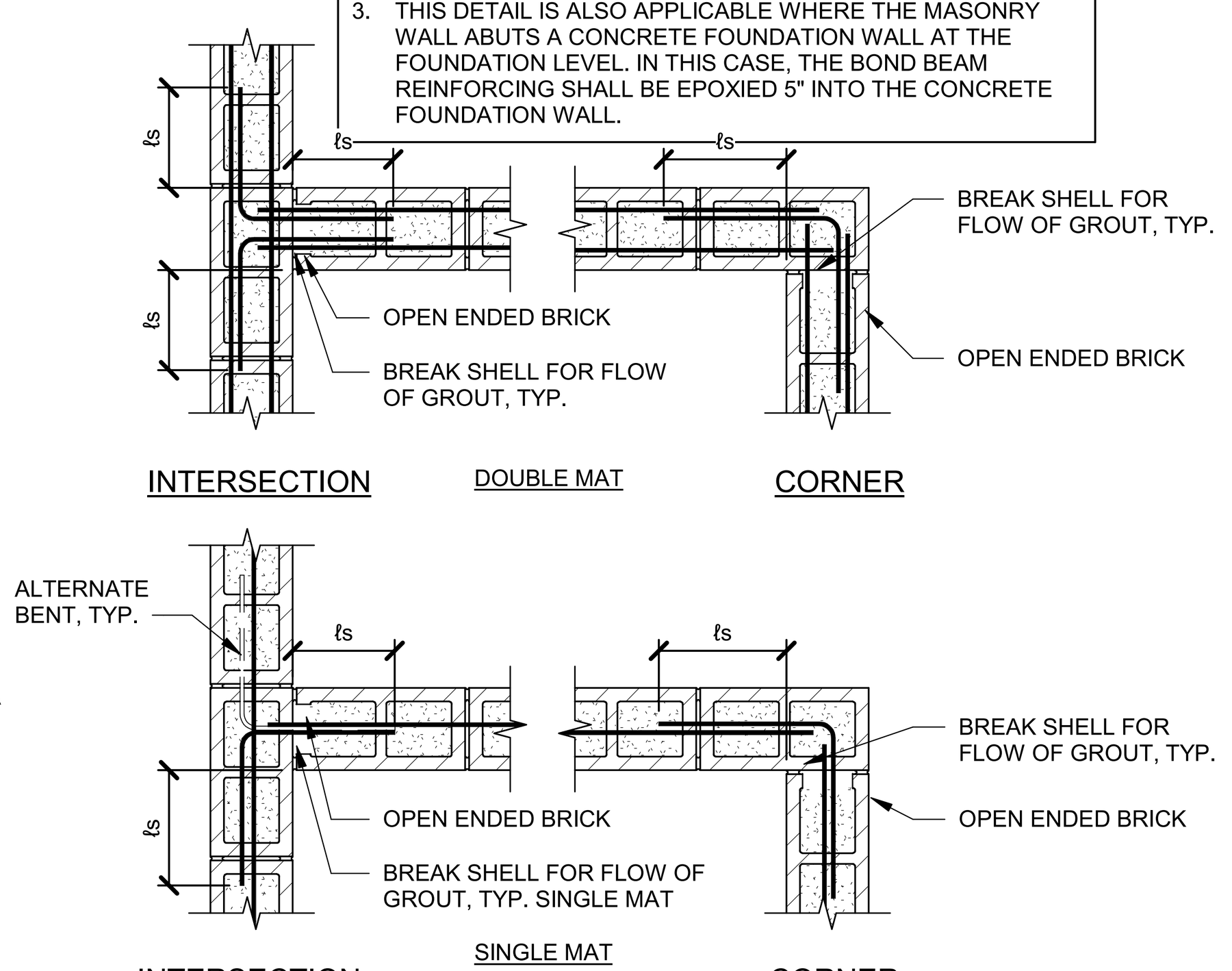


TYPICAL RESTRAINT OF NON-BEARING MASONRY WALLS WHERE WALLS EXTEND TO JUST UNDER THE STRUCTURE
SCALE : NONE
4 / S005

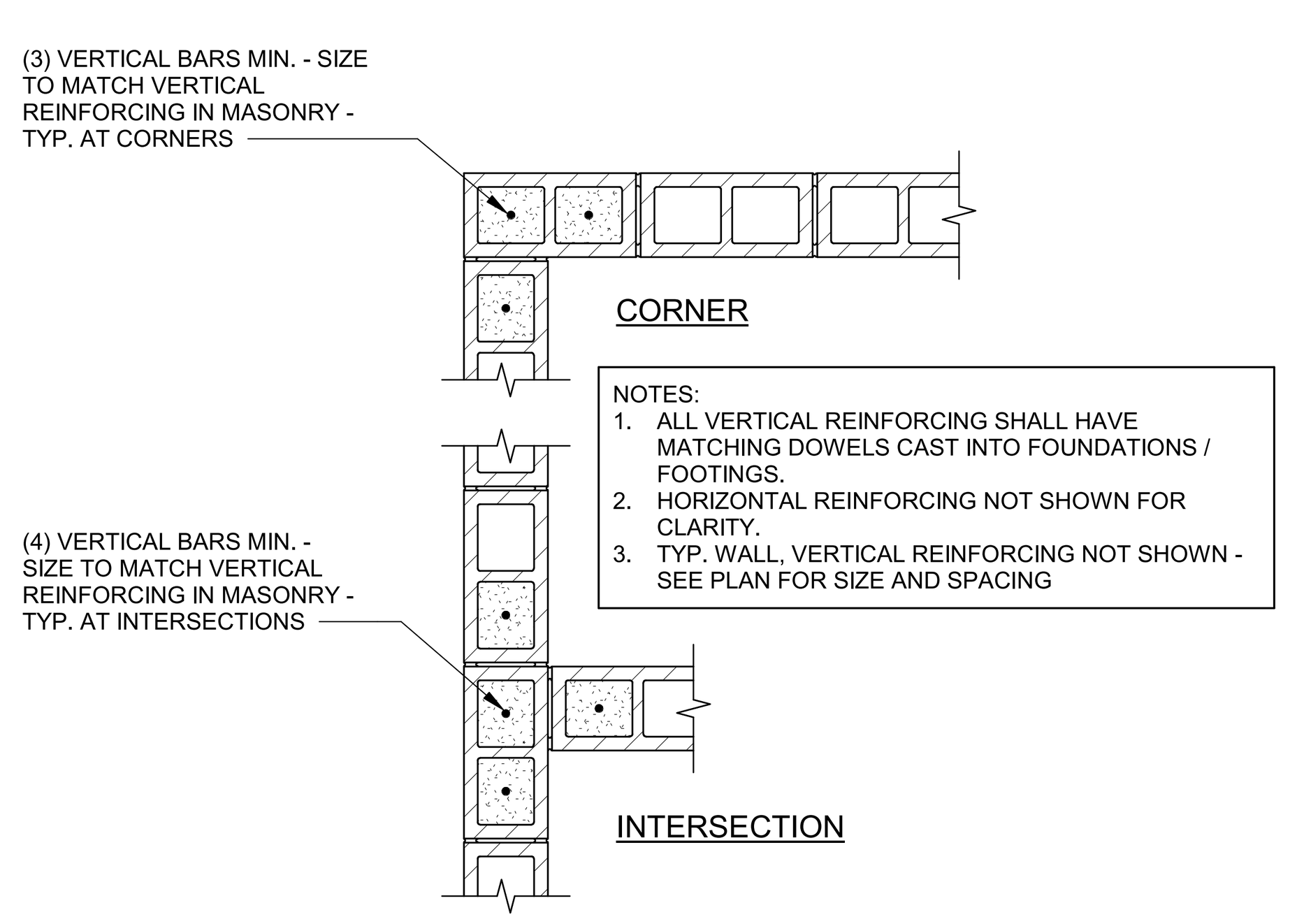


TYP. JOINT REINFORCING DETAIL
SCALE : NONE
5 / S005

NOTES :
1. ℓs = LAP SPLICE LENGTH - SEE REBAR LAP SCHEDULE.
2. VERTICAL BARS NOT SHOWN.
3. THIS DETAIL IS ALSO APPLICABLE WHERE THE MASONRY WALL ABUTS A CONCRETE FOUNDATION WALL AT THE FOUNDATION LEVEL. IN THIS CASE, THE BOND BEAM REINFORCING SHALL BE EPOXIED 5" INTO THE CONCRETE FOUNDATION WALL.



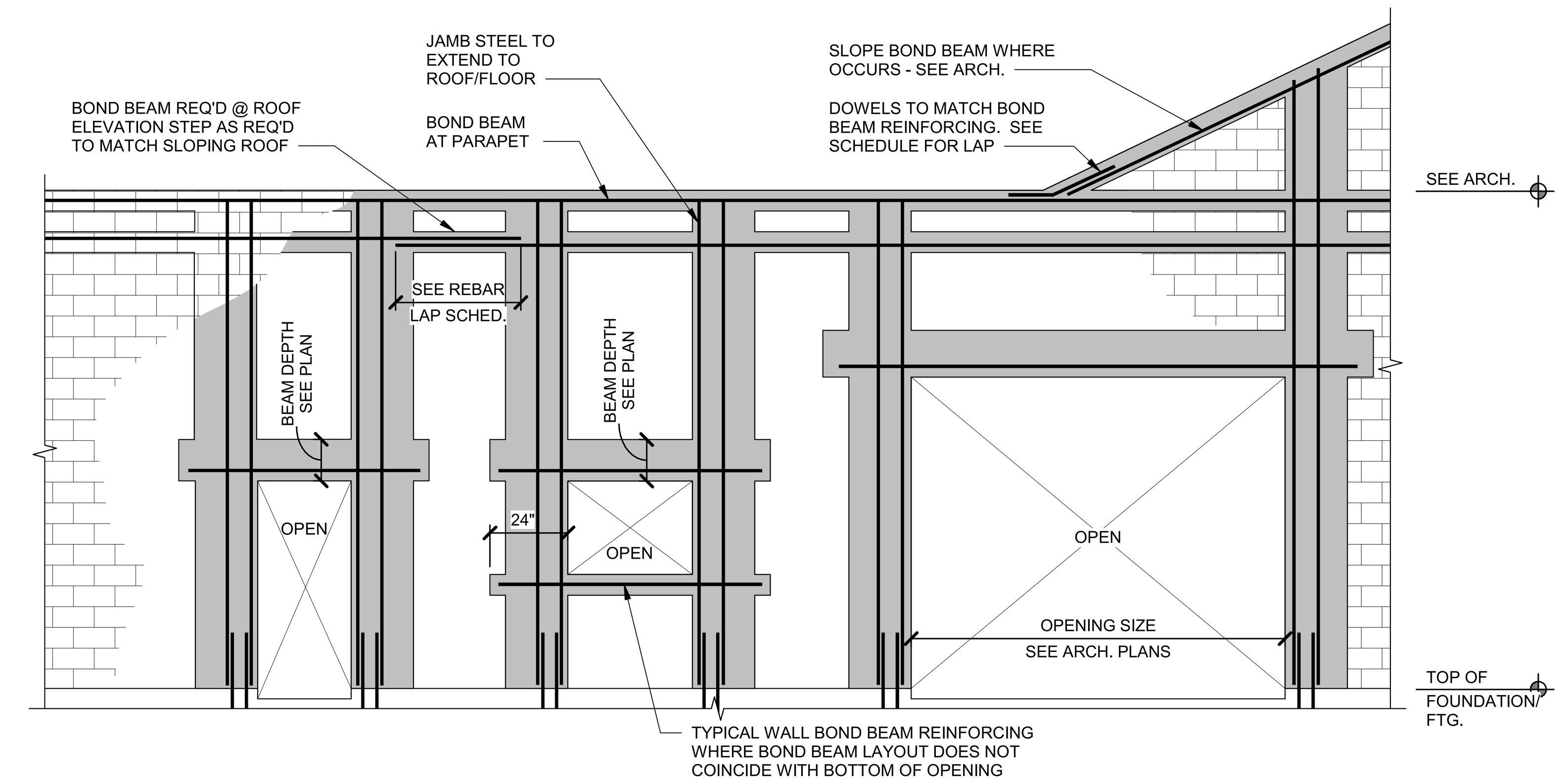
TYP. REINF. AT INTERSECTIONS IN MASONRY DETAIL
SCALE : NONE
6 / S005



NOTES:
1. ALL VERTICAL REINFORCING SHALL HAVE MATCHING DOWELS CAST INTO FOUNDATIONS / FOOTINGS.
2. HORIZONTAL REINFORCING NOT SHOWN FOR CLARITY.
3. TYP. WALL, VERTICAL REINFORCING NOT SHOWN - SEE PLAN FOR SIZE AND SPACING

TYPICAL VERTICAL REINFORCING DETAIL
SCALE : NONE
7 / S005

TYPICAL MASONRY / JAMB REINFORCING SCHEDULE

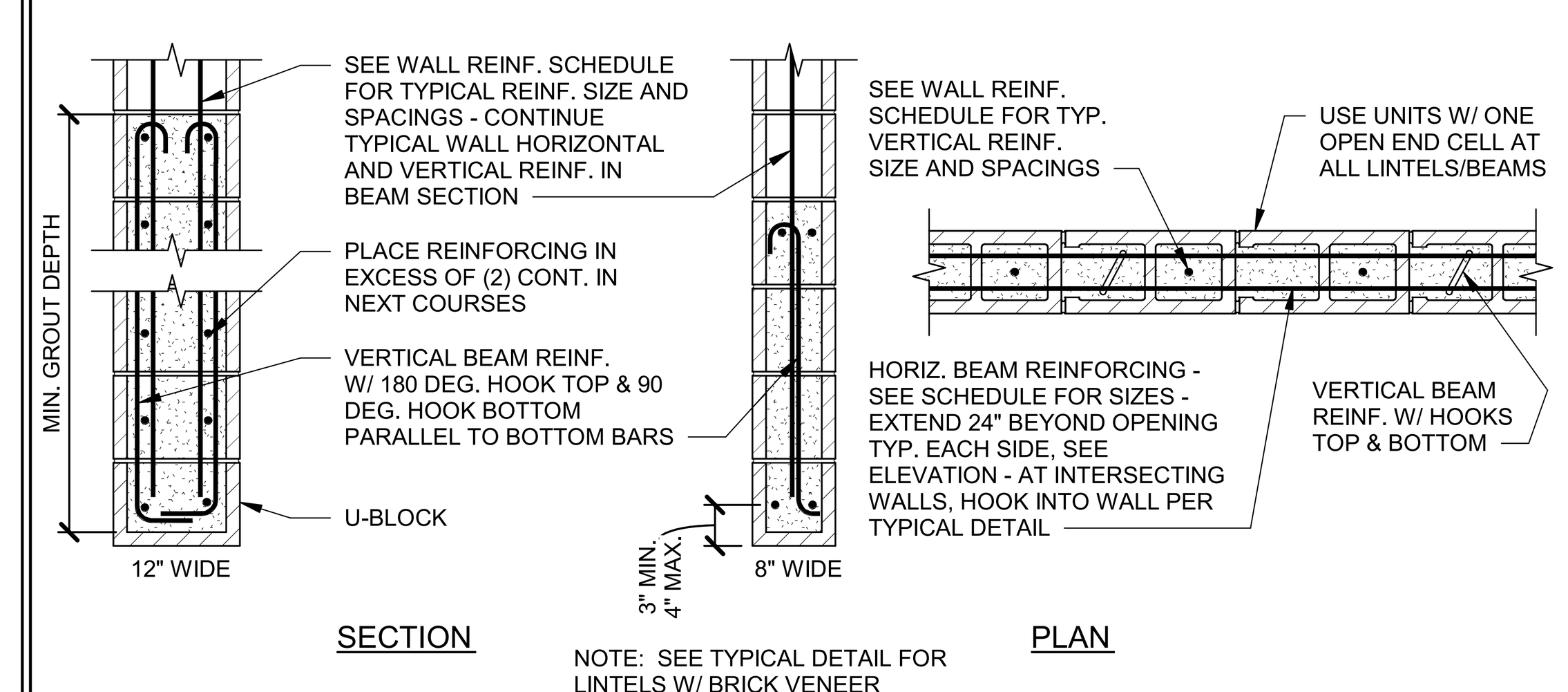


NOTES:
1. USE OPEN-END UNITS AT INTERSECTIONS OF BEAMS AND JAMBS.
2. TYPICAL HORIZONTAL BOND BEAMS MAY BE ADJUSTED UP OR DOWN BY ONE COURSE PROVIDED THE OVERALL NUMBER OF REQUIRED BOND BEAMS ARE INSTALLED.
3. TYPICAL HORIZONTAL AND VERTICAL WALL REINFORCING NOT SHOWN FOR CLARITY, SEE PLAN AND SCHEDULE FOR TYPICAL WALL REINFORCING.
4. JAMB REINFORCING SHOWN IS SCHEMATIC. SEE SCHEDULE & DETAILS FOR ACTUAL JAMB REINFORCING.
5. ALL VERTICAL WALL REINFORCING SHALL BE CONTINUOUS BETWEEN THE LEVELS IN WHICH THE WALL OCCURS.

MASONRY BEAM SCHEDULE

MARK	NOMINAL THICKNESS	BOTTOM REINF.	TOP REINF.	VERTICAL REINF.	MIN. GROUT DEPTH	OPENING (1) SIZE	COMMENTS
MB-16A	6" OR 8"	(1) #5	---	---	16"	UP TO 3'-6"	
MB-16B	6" OR 8"	(1) #5	---	---	16"	UP TO 6'-6"	

NOTES:
1. WHERE SPECIFIC BEAMS ARE NOT NOTED ON THE PLANS - REFER TO OPENING SIZE FOR REQUIRED BEAM DEPTH AND REINFORCING.
2. FIRST VERTICAL BAR TO BE WITHIN 8" OF END OF BEAM.
3. SEE TYPICAL ELEVATION - VIEW OF BEAM.
4. VERTICAL REINFORCING SHALL HAVE HOOKS TOP AND BOTTOM.

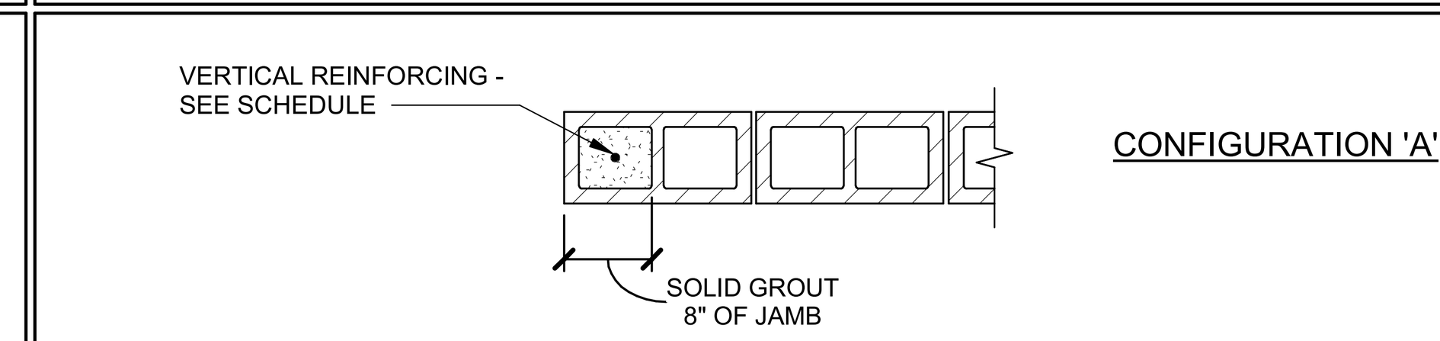


NOTE: SEE TYPICAL DETAIL FOR LINTELS W/ BRICK VENEER

MASONRY JAMB SCHEDULE

MARK	NOMINAL THICKNESS	VERTICAL REINF.	TIES	CONFIG.	OPENING (1) SIZE	COMMENTS
MJ-1	6" OR 8"	(1) #5	---	A	UP TO 3'-6"	
MJ-2	6" OR 8"	(2) #5	---	B	UP TO 6'-6"	

NOTES:
1. WHERE SPECIFIC JAMBS ARE NOT NOTED ON THE PLANS - REFER TO OPENING SIZE FOR REQUIRED REINFORCING AND CONFIGURATION.
2. ALL VERTICAL REINFORCING SHALL HAVE MATCHING DOWELS CAST INTO FOUNDATIONS.
3. HORIZONTAL REINFORCING NOT SHOWN.
4. JAMBS TO BE GROUTED SOLID.



MASONRY WALL SCHEDULE

MARK	THICK.	VERT. REINF.		HORIZ. BOND BEAM REINF.			COMMENTS
		SIZE	SPACE	NO.	SIZE	SPACE	
MW-6	6"	5	32"	2	4	48"	
MW-8	8"	5	32"	2	4	48"	

NOTES:
1. FOR ANY CMU WALLS NOT SPECIFICALLY CALLED OUT IN PLANS, USE MW1
2. VERTICAL REINFORCING TO BE @ CENTERLINE OF WALL UNLESS OTHERWISE NOTED.
3. SOLID GROUTING OF WALLS IS UNACCEPTABLE EXCEPT WHERE SPECIFICALLY NOTED.
4. SEE STRUCTURAL NOTES FOR ADDITIONAL INFORMATION.
5. A BOND BEAM SHALL BE LOCATED IN THE FIRST COURSE ABOVE THE FOUNDATION IF VERTICAL DOWELS HAVE BEEN BENT TO ALIGN WITH VERTICAL CELLS, WHETHER OR NOT MASONRY WEBS HAVE BEEN CUT.

MASONRY NOTES

1. ALL HOLLOW MASONRY UNITS SHALL CONFORM TO ASTM C-90.
   f'm (MINIMUM, FACTORED) 2,000 PSI
   MINIMUM UNIT STRENGTH 2,000 PSI (TESTED IN ACCORDANCE WITH ASTM C-140)
   ACCEPTABLE RANGE OF UNIT WEIGHT : 105 PCF TO 125 PCF
2. ALL GROUT (SITE MIXED OR PRE-MIXED) SHALL CONFORM TO ASTM C-476 OR SECTION 2.2A OF TMS 602-16. GROUT SHALL BE PLACED WITH SUFFICIENT WATER FOR POURING WITHOUT SEGREGATION. DO NOT USE MORTAR FOR GROUT. MECHANICALLY VIBRATE ALL GROUT.
3. GROUT STOPS SHALL BE AN APPROVED PRODUCT DESIGNED AND MANUFACTURED FOR USE AS A GROUT STOP. GROUT STOP SUBMITTALS SHALL BE SUBMITTED TO THE ARCHITECT AND ENGINEER FOR REVIEW. OTHER GROUT STOP MATERIALS SUCH AS ASPHALT IMPREGNATED MATERIALS ARE NOT PERMITTED.
4. MORTAR SHALL BE TYPE S AND SHALL CONFORM TO ASTM C 270.
5. ALL MASONRY WORK SHALL CONFORM TO CHAPTER 21 OF THE IBC.
6. UNLESS NOTED OTHERWISE, MINIMUM REINFORCING IN ALL XX" MASONRY WALLS SHALL BE AS FOLLOWS :
   a. VERTICAL : # … BARS IN GROUTED CELLS ADJACENT TO ALL OPENINGS GREATER THAN 24 INCHES WIDE, ON EACH SIDE OF CONTROL JOINTS, AT ENDS OF WALL, AND AT A MAXIMUM SPACING OF XX" THROUGHOUT THE WALL. AT CORNERS, PROVIDE A MINIMUM OF (4) VERTICAL BARS AT "T" JOINTS AND (3) VERTICAL BARS AT "L" JOINTS. SEE THE TYPICAL DETAIL / SCHEDULE FOR MORE INFORMATION. ALL VERTICAL REINFORCEMENT SHALL BE DOWELED INTO THE FOUNDATION WALL UNLESS SPECIFICALLY DETAILED OTHERWISE.
   b. HORIZONTAL : ( ) #... BARS IN 8" DEEP "H" BLOCK BOND BEAM UNITS AT XX"o.c. AND AT FLOORS, ROOF, BELOW OPENINGS, AND TOP OF WALL. BOND BEAMS AT ROOF SHALL SLOPE TO MATCH SLOPING ROOF. SEE THE MASONRY REINFORCING SCHEDULE FOR MASONRY BEAMS ABOVE OPENINGS.
7. SEE THE MASONRY REINFORCING SCHEDULE FOR OPENINGS WHICH EXCEED 32 INCHES IN EITHER DIRECTION.
8. ALL BLOCK CELLS CONTAINING REINFORCING, BOLTS, OR ANCHORS SHALL BE GROUTED SOLID.
9. PROVIDE (1) #5 (MINIMUM), IN GROUTED SPACE, ON ALL SIDES AND ADJACENT TO EVERY OPENING WHICH EXCEEDS 24" IN EITHER DIRECTION. HORIZONTAL BARS SHALL EXTEND 24" BEYOND THE CORNERS OF THE OPENING AND VERTICAL BARS SHALL EXTEND TO TOP OF WALL. VERTICAL REINFORCING SHALL BE PROVIDED AT ENDS, CORNERS AND EACH SIDE OF CONTROL JOINTS. SEE TYPICAL DETAILS FOR OPENINGS WHICH EXCEED 32" IN EITHER DIRECTION.
10. SOLID GROUTING OF MASONRY IS UNACCEPTABLE EXCEPT AS SPECIFICALLY NOTED ON PLANS AND SCHEDULES.
11. WHERE WALLS ARE NOT GROUTED SOLID, EACH GROUT POUR SHALL TERMINATE FLUSH WITH THE TOP OF THE UPPERMOST UNIT EXCEPT AT CELLS WITH VERTICAL REINFORCING WHERE GROUT SHALL BE 1-1/2" BELOW TOP OF UNIT TO PROVIDE CONSTRUCTION KEY. WHERE WALLS ARE GROUTED SOLID, EACH GROUT POUR SHALL TERMINATE 1-1/2" BELOW TOP OF UNIT.
12. GROUT POURS SHALL NOT EXCEED 5'-0" UNLESS HIGH LIFT GROUTING PROCEDURES ARE FOLLOWED.
13. THE USE OF HIGH LIFT GROUTING PROCEDURES REQUIRE THE APPROVAL OF THE ARCHITECT AND ENGINEER AND SHALL NOT EXCEED THE MAXIMUM HEIGHTS GIVEN IN TABLE 3.2.1 OF TMS 402-16. GROUT DEMONSTRATION PANELS, AS PRESCRIBED BY THE ARCHITECT AND ENGINEER, SHALL BE REQUIRED WHERE REQUESTED GROUTING PROCEDURES DO NOT MEET THE LIMITS OF TABLE 3.2.1. ADDITIONALLY, ALL HIGH LIFT GROUTING SHALL REQUIRE SPECIAL INSPECTION PROCEDURES NEEDED TO VERIFY GROUT PLACEMENT DURING CONSTRUCTION. DURING THE SUBMITTAL FOR APPROVAL PROCESS, SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO: STATEMENT OF PROCEDURE FOR MECHANICAL VIBRATION OF HIGH LIFT GROUT; NEW MIX DESIGNS FOR HIGH SLUMP, HIGH LIFT GROUT; FOR SELF-CONSOLIDATING GROUT, SUBMIT MIX DESIGNS, SLUMP FLOW RATES, VISUAL STABILITY INDEX (VSI), AND QUANTITIES OF ADMIXTURES BEING USED.
14. ALL MASONRY BEAMS SHALL BE BUILT INTEGRAL WITH SUPPORT. NO TOOTHING OR DOWELING PERMITTED. UNITS WITH ONE END OPEN SHALL BE USED FOR ALL MASONRY BEAMS.
15. PROVIDE VERTICAL CONTROL JOINTS AT MAXIMUM SPACINGS NOTED BELOW UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS AND/OR ON ARCHITECTURAL ELEVATIONS AND AT ALL CHANGES IN WALL ELEVATION AND MASONRY THICKNESS. CONTROL JOINTS SHALL NOT BE LOCATED DIRECTLY OVER OR CLOSER THAN 24" TO WALL OPENINGS (DOORS, WINDOWS, MECHANICAL OPENINGS, ETC.), OR WITHIN MASONRY JAMBS.
    REINFORCED MASONRY : 40 FT
    VENEER : 30 FT AND AT INTERFACE BETWEEN VENEER SUPPORTED BY FOUNDATIONS AND SUSPENDED STRUCTURAL ELEMENTS.
16. HORIZONTAL REINFORCEMENT SHALL TERMINATE AT EACH SIDE OF CONTROL JOINTS.
17. SUPPORT NON-BEARING, NON-STRUCTURAL WALLS AT TOP OF MASONRY AS PER TYPICAL DETAILS AT LOCATIONS WHERE INTERSECTING OR PERPENDICULAR WALLS ARE 12'-0" OR MORE APART OR WHERE END OF WALL OCCURS 6'-0" OR MORE FROM INTERSECTING WALL.
18. EMBED CHANNELS AND PLATES TO BE PLACED SO AS TO CREATE FLUSH SURFACE WITH FACE OF MASONRY. FLANGES ON CHANNEL EMBEDS SHALL BE HORIZONTAL.
19. ALL VERTICAL REINFORCING SHALL BE SECURED IN PLACE PRIOR TO GROUTING USING WIRE POSITIONERS OR OTHER ACCEPTABLE DEVICES. REINFORCING SHALL BE SECURED AT BAR-SPLICE LOCATIONS AND AT A SPACING NOT MORE THAN 120 BAR DIAMETERS.
20. UNLESS NOTED OTHERWISE, MASONRY WALLS SHALL BE CONSTRUCTED UTILIZING COMMON RUNNING-BOND WITH FULLY MORTARED BED JOINTS AROUND GROUTED CELLS.
21. MASONRY VENEER SHALL BE ANCHORED USING THE HOHMANN AND BARNARD VENEER ANCHOR ASSEMBLY SYSTEM, OR AN APPROVED EQUAL. REGARDLESS OF BACK-UP SYSTEM, PROVIDE A CONTINUOUS HORIZONTAL 9 GAUGE WIRE AT 16"o.c. IN VENEER MORTAR JOINTS FOR ANCHOR ATTACHMENT. POSITIVE ANCHORAGE TO THE WIRE USING THE SEISMICLIP INTERLOCK SYSTEM SHALL BE PROVIDED TO SUPPORT NOT MORE THAN 2 SQUARE FEET OF WALL, WITH A HORIZONTAL SPACING NOT EXCEEDING 18".
    a. METAL STUDS; USE HOHMANN AND BARNARD HB-213 S.I.S. (SEISMICLIP INTERLOCK SYSTEM) HEAVY DUTY ANCHORS OR AN APPROVED EQUAL. THE HB-213 ASSEMBLY SHALL BE ATTACHED TO WOOD STUDS USING A # 12 X 2" WOOD SCREWS OR TO METAL STUDS USING #10 SCREWS.
22. ELECTRICAL CONDUIT SHALL NOT BE PLACED IN CELLS THAT CONTAIN REBAR. CONDUIT IS ALLOWED TO PASS THROUGH REINFORCED CELLS WHEN IT OCCURS PERPENDICULAR TO THE REBAR. CONDUIT SHALL NOT CONTACT REBAR AS IT PASSES. THERE SHALL BE 1" CLEAR BETWEEN CONDUIT AND REBAR.

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10396064-2203 Arek Higgs STATE OF UTAH 09/10/25

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1594 W. Park Circle Ogden, Utah 84404
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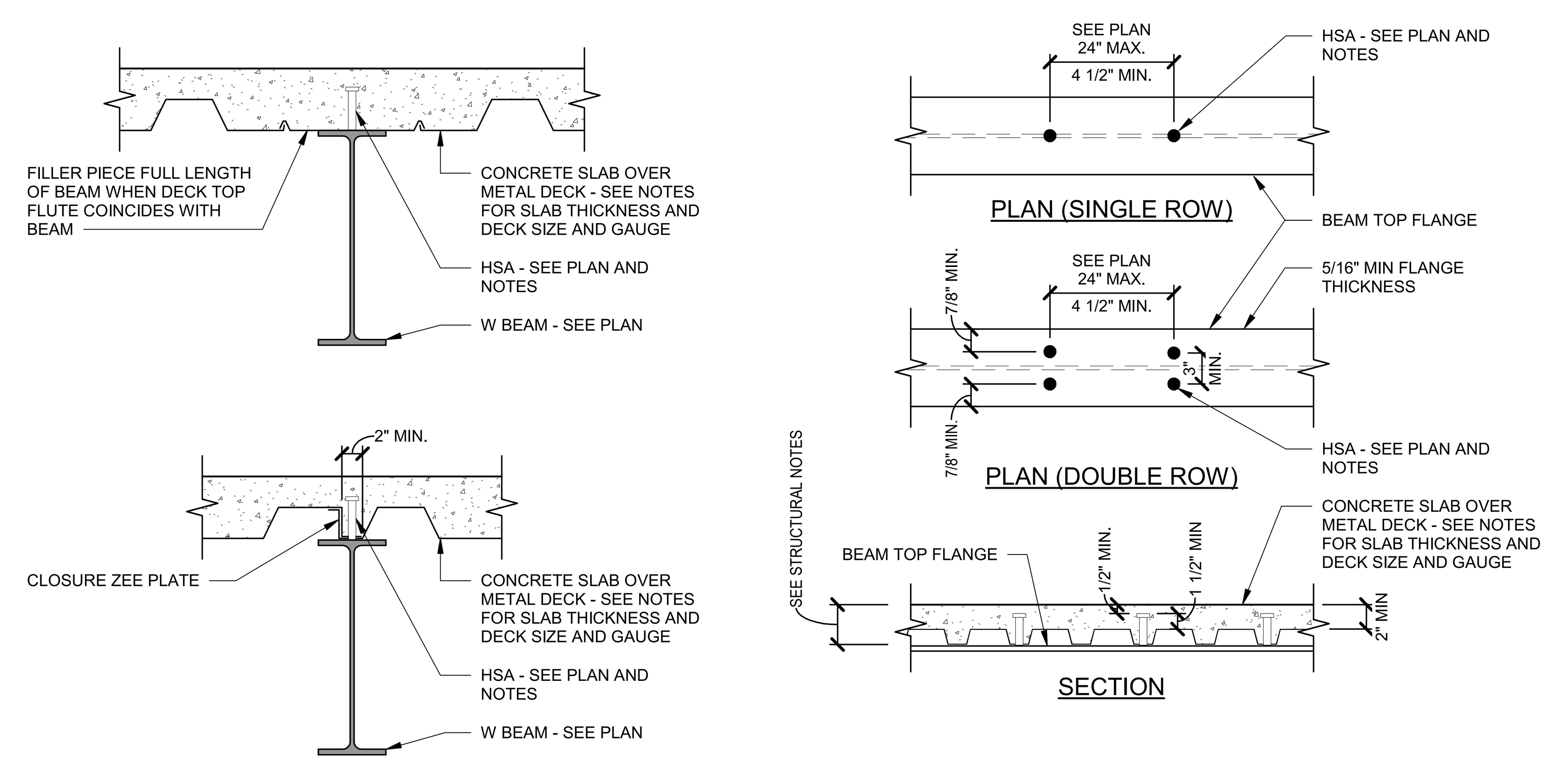
REV	DATE	DESCRIPTION

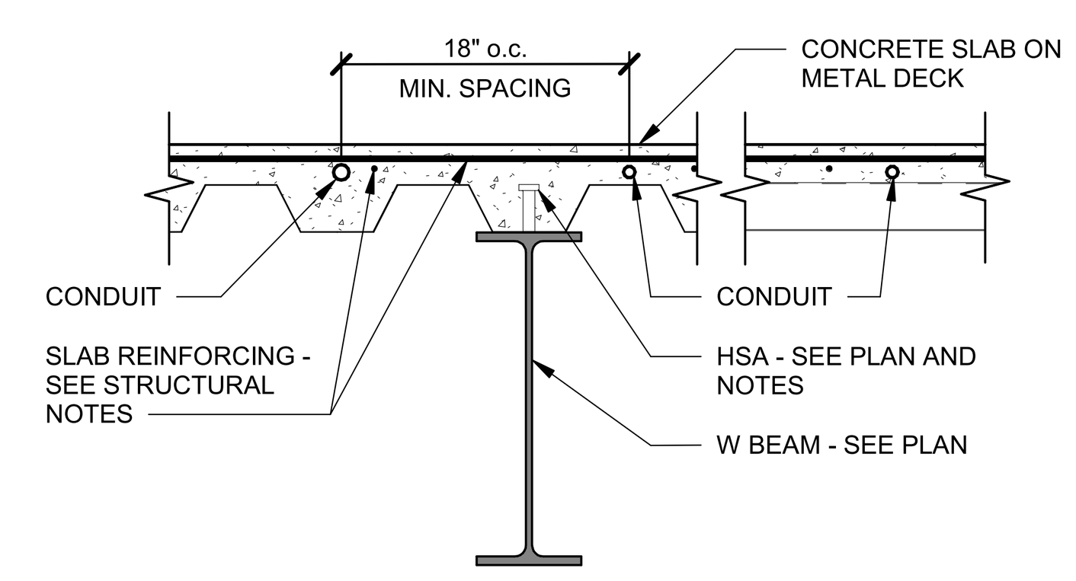
HERRIMAN, UT
4684 W 12600 S
RIVERTON, UT 84096
BID SET

TYPICAL DETAILS - NON-STRUCTURAL CMU

S005

COMPOSITE FLOOR DETAIL

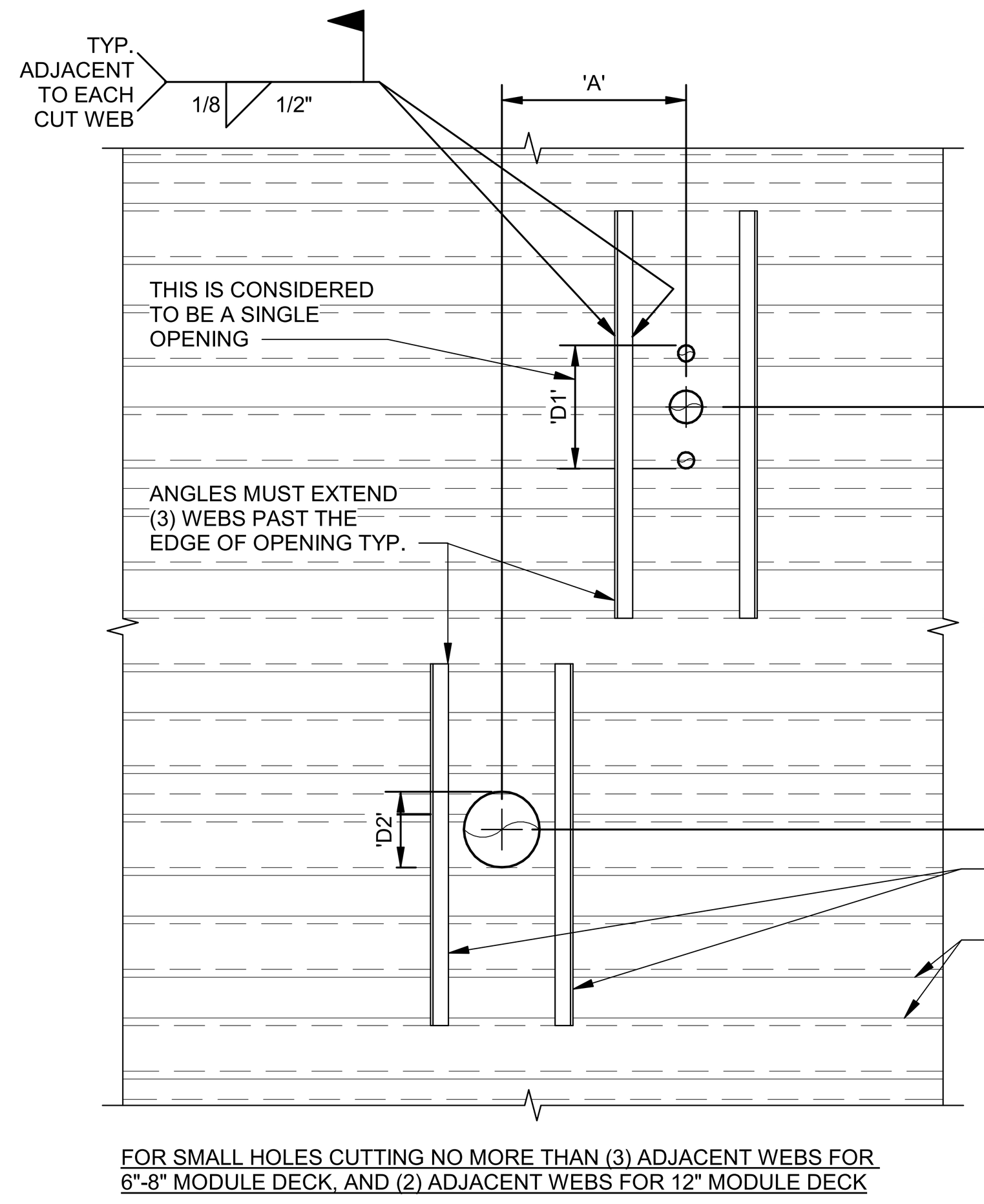




NOTES:
1. 1" OUTSIDE DIAMETER MAXIMUM CONDUIT SIZE.
2. CONDUIT SHALL NOT CROSSOVER.
3. CONDUIT SHALL HAVE 3/4" MINIMUM CONCRETE COVER.
4. MAINTAIN 1" CLEAR BETWEEN THE CONDUIT AND THE DECK.
5. CONDUIT SHALL NOT BE PLACED IN DECK FLUTES WITH REINFORCING STEEL OR HSA's.
6. CONDUIT SHALL NOT BE PLACED IN CONCRETE SLABS USED TO OBTAIN A FIRE RATING.

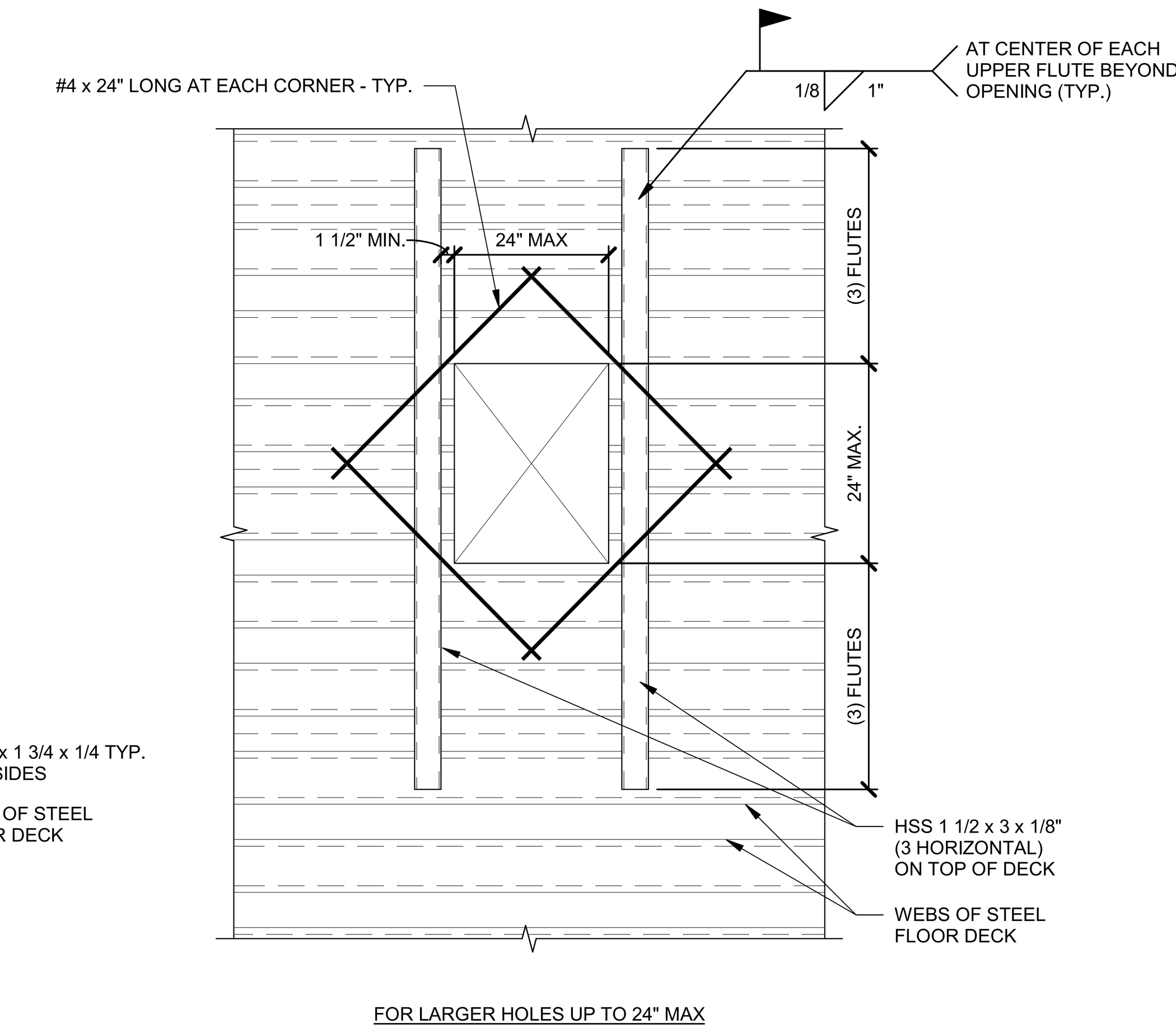
1 / S006 — SCALE : NONE

FLOOR OPENING DETAIL



FOR SMALL HOLES CUTTING NO MORE THAN (3) ADJACENT WEBS FOR 6"-8" MODULE DECK, AND (2) ADJACENT WEBS FOR 12" MODULE DECK

NOTES :
1. USE THIS DETAIL FOR HOLES CUTTING NO MORE THAN: (3) ADJACENT WEBS FOR 6" AND 8" MODULE DECK (2) ADJACENT WEBS FOR 12" MODULE DECK.
2. PRIOR TO CONCRETE POUR, SMALL OPENINGS SHOULD BE BLOCKED OUT AND FLOOR DECK LEFT INTACT. HOLES LESS THAN 6" IN DIAMETER AND CUTTING NO MORE THAN 1 WEB NEED NO REINFORCING. AFTER THE CONCRETE HAS CURED, THE BLOCKOUT CAN BE REMOVED AND THE FLOOR DECK IN THE AREA OF THE HOLE REMOVED.
3. ANGLES SHALL EXTEND (3) WEBS PAST THE DECK OPENING, TYPICAL.
4. ANGLES SHALL BE PLACED ON TOP OF THE DECK.
5. IF DIMENSION "A" IS GREATER THAN 4D1, 4D2, OR 32", WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIMENSION "B".
6. IF DIMENSION "B" IS GREATER THAN 4D1, 4D2, OR 32", WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIMENSION "A".
7. IF DIMENSIONS "A" AND "B" ARE LESS THAN 4D1, 4D2, OR 32", WHICHEVER IS LARGER, THE OPENING GROUP WILL BE CONSIDERED AS A SINGLE HOLE, AND MUST BE REINFORCED AS REQUIRED FOR A LARGER OPENING.



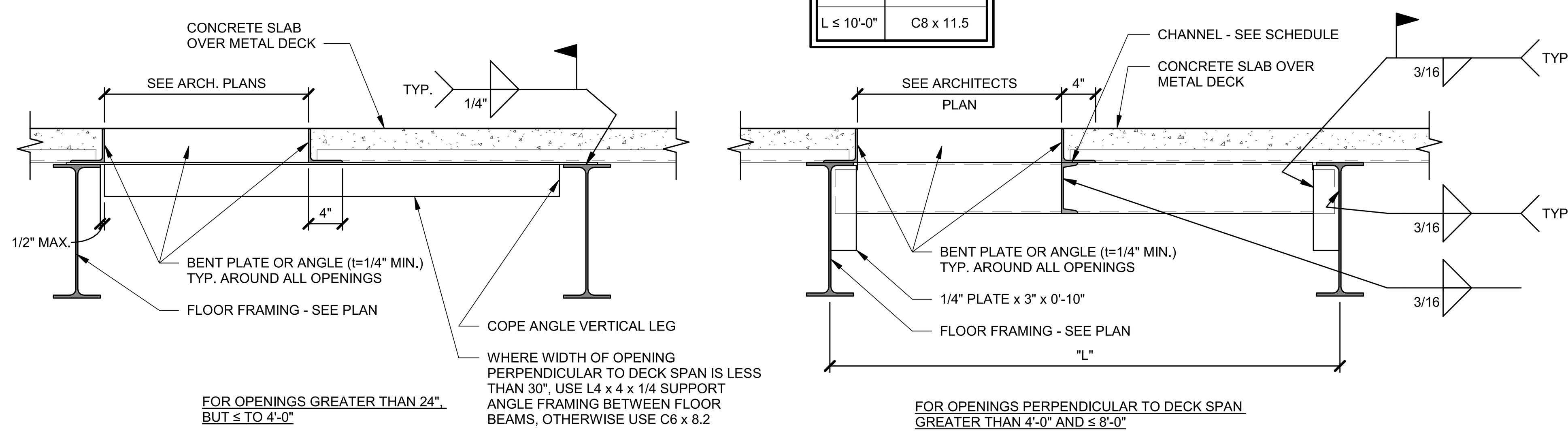
FOR LARGER HOLES UP TO 24" MAX

NOTES :
1. USE THIS DETAIL FOR LARGER HOLES, RECTANGULAR OR SQUARE.
2. PRIOR TO CONCRETE POUR, SMALL OPENINGS SHOULD BE BLOCKED OUT AND FLOOR DECK LEFT INTACT. HOLES LESS THAN 6" IN DIAMETER AND CUTTING OF NO MORE THAN (1) WEB NEED NO REINFORCING. AFTER THE CONCRETE HAS CURED, THE BLOCKOUT CAN BE REMOVED AND THE FLOOR DECK IN THE AREA OF THE HOLE REMOVED. PRIOR TO CONCRETE POUR, SMALL OPENINGS SHOULD BE BLOCKED OUT AND FLOOR DECK LEFT INTACT. HOLES LESS THAN 6" IN DIAMETER AND CUTTING OF NO MORE THAN (1) WEB NEED NO REINFORCING. AFTER THE CONCRETE HAS CURED, THE BLOCKOUT CAN BE REMOVED AND THE FLOOR DECK IN THE AREA OF THE HOLE REMOVED.
3. IF THE OPENING OR GROUP OF OPENINGS OCCURS IN ONE DECKING UNIT THE OPENING OR OPENING GROUP MAY BE CUT PRIOR TO POURING OF CONCRETE.
4. IF THE OPENING OR OPENING GROUP CUTS THROUGH THE TWO DECKING UNITS, THE DECKING SHALL NOT BE CUT UNTIL THE CONCRETE HAS BEEN PLACED AND CURED, AT THE TIME OF POURING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.

2 / S006 — SCALE : NONE

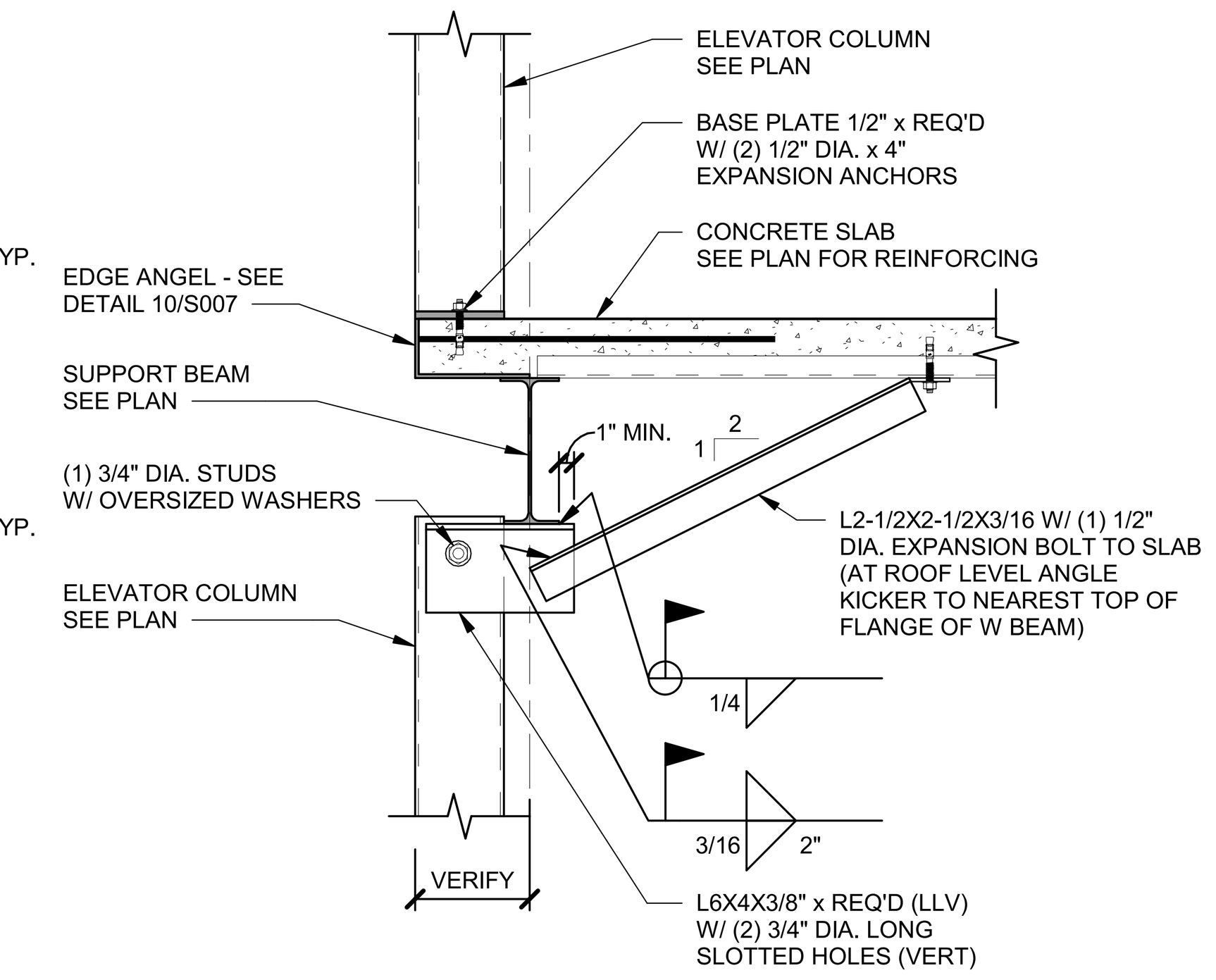
FLOOR OPENING DETAIL

"L"	CHANNEL
L ≤ 6'-0"	C6 x 8.2
L ≤ 10'-0"	C8 x 11.5



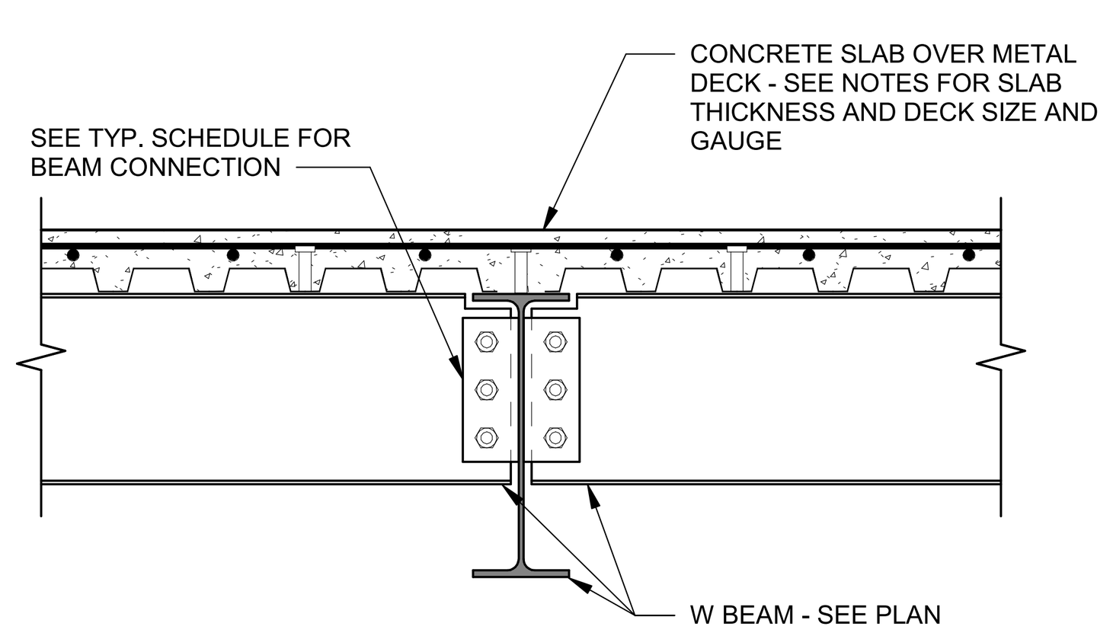
3 / S006 — SCALE : NONE

TYPICAL ELEVATOR COLUMN AT SUSPENDED SLAB



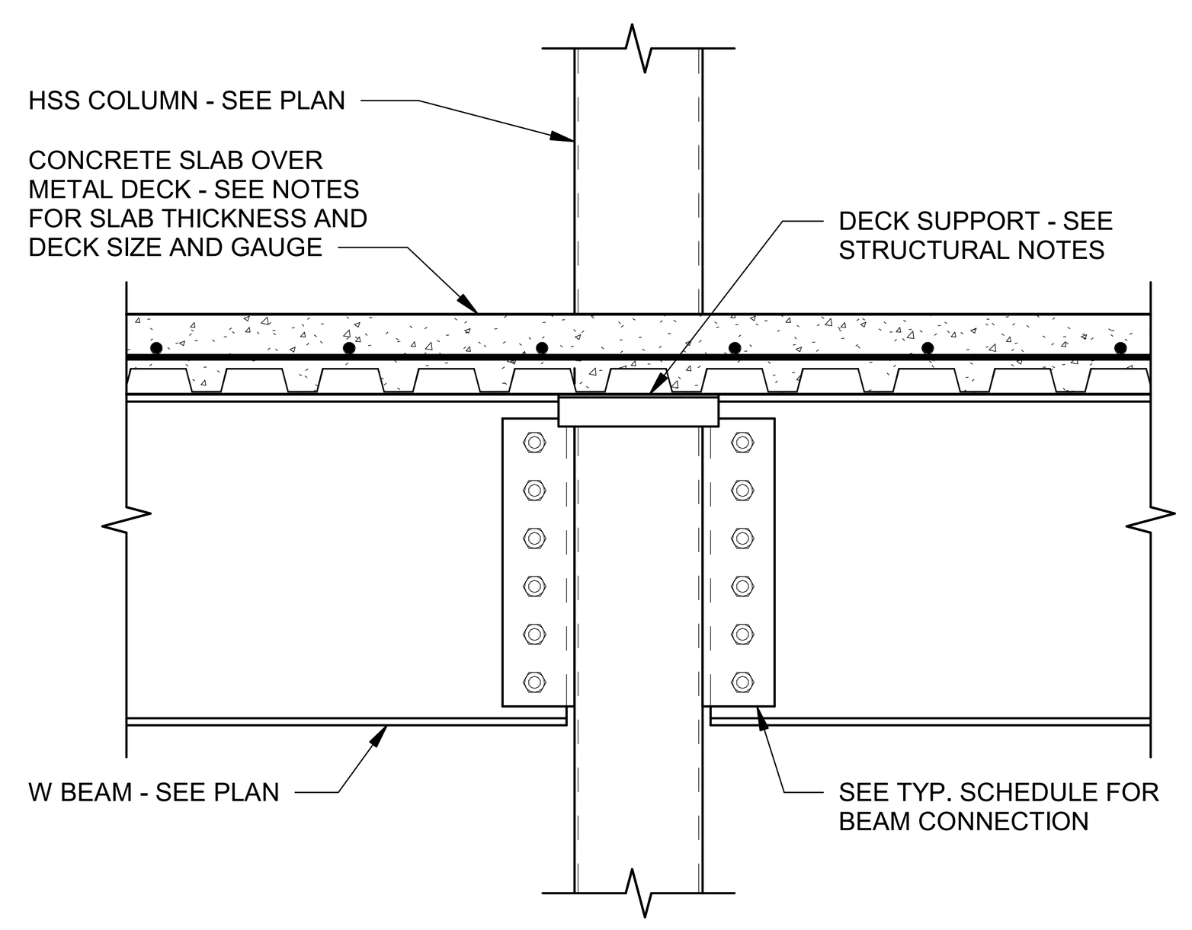
4 / S006 — SCALE : NONE

BEAMS INTO GIRDER



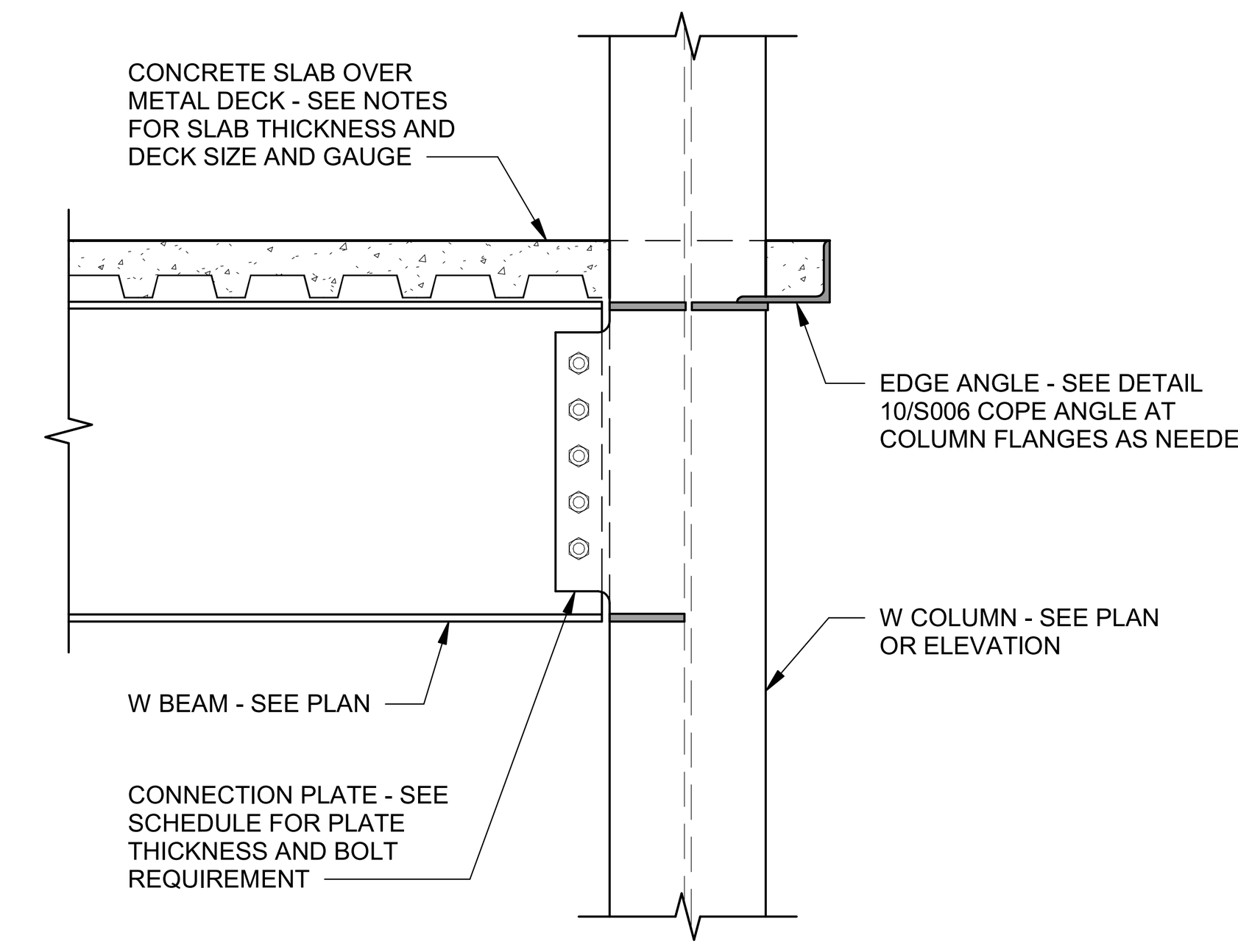
5 / S006 — SCALE : NONE

BEAM INTO COLUMN



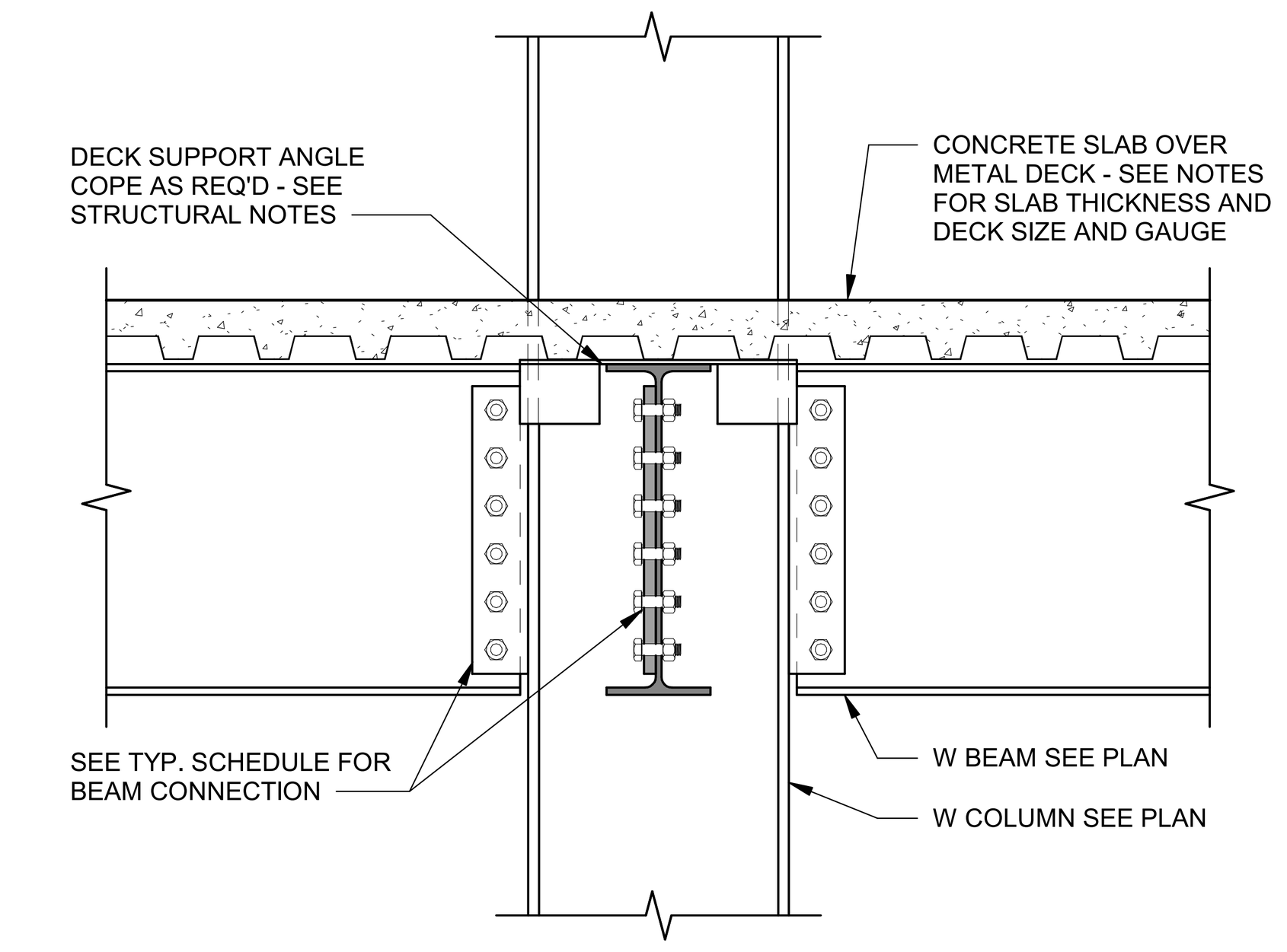
6 / S006 — SCALE : NONE

DETAIL



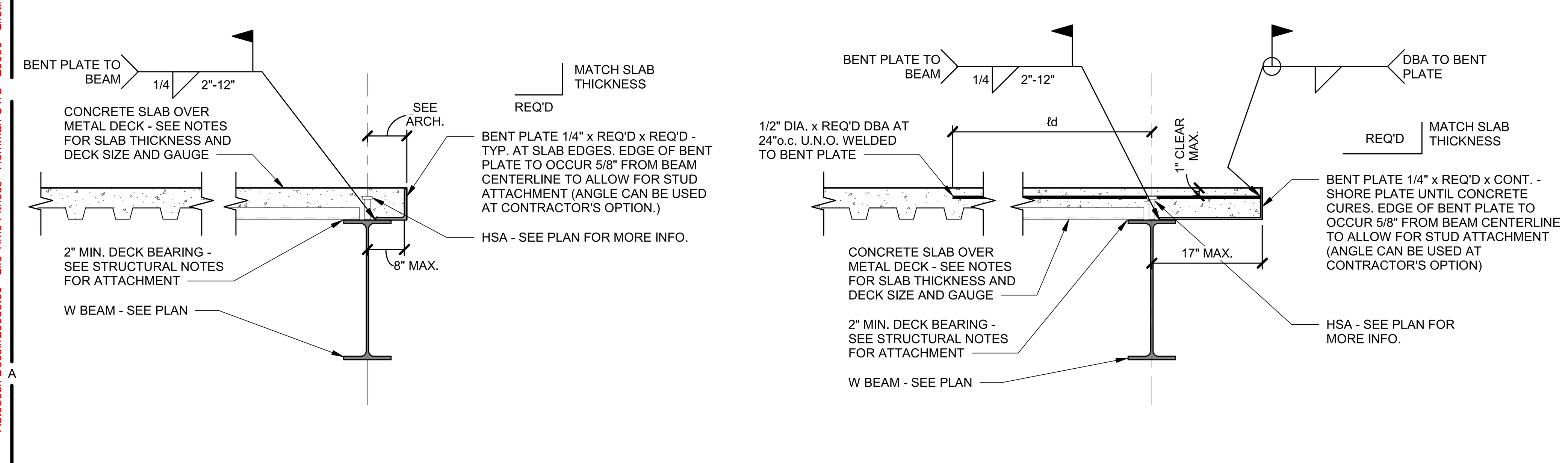
8 / S006 — SCALE : NONE

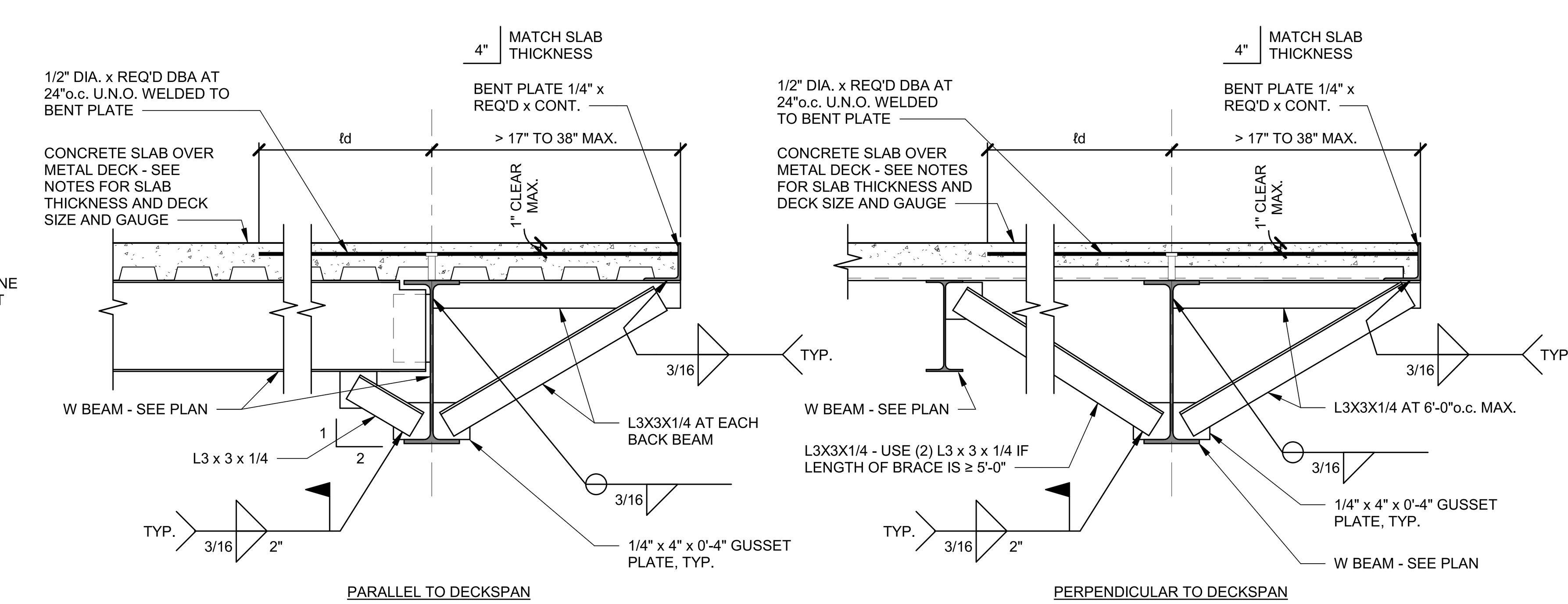
DETAIL



9 / S006 — SCALE : NONE

TYPICAL SLAB EDGE DETAIL

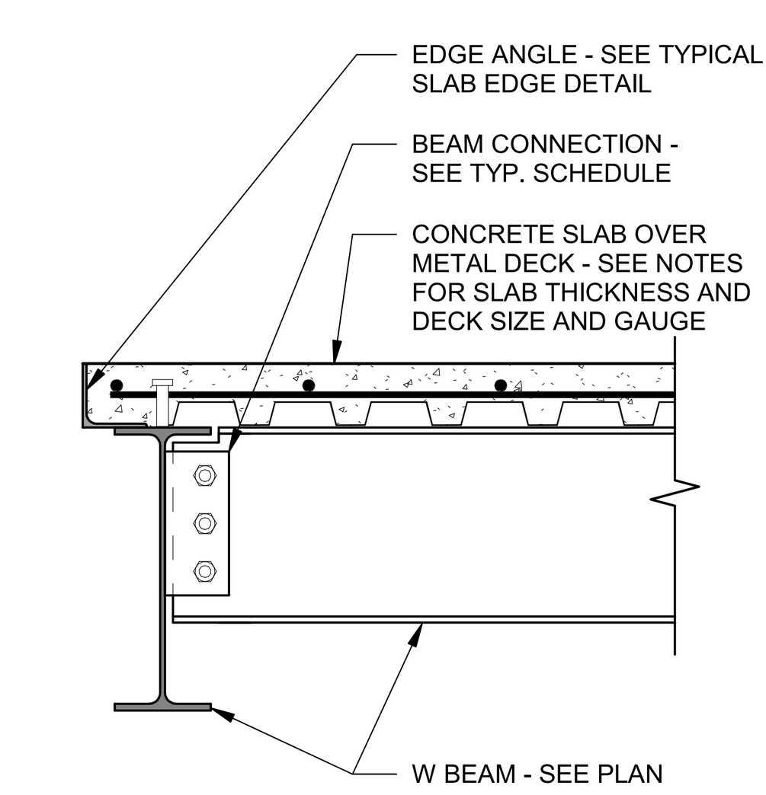




FOR SLAB OVERHANGS GREATER THAN 17" ≤ 38"

10 / S006 — SCALE : NONE

TYPICAL SLAB EDGE DETAIL



11 / S006 — SCALE : NONE

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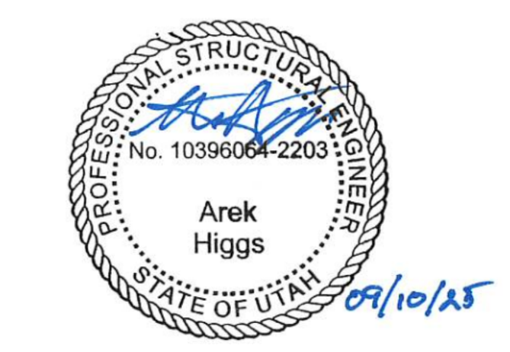

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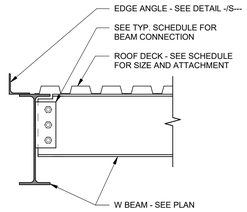
TYPICAL DETAILS - STEEL COMPOSITE

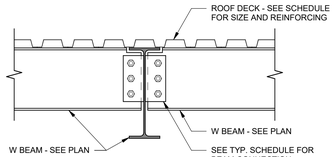
S006



DECK ON BEAM

SCALE : NONE

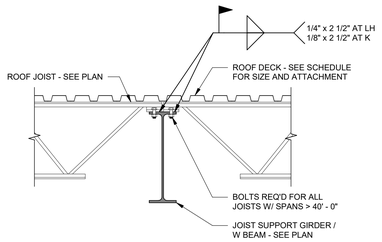
1 S007



BEAMS TO GIRDER

SCALE : NONE

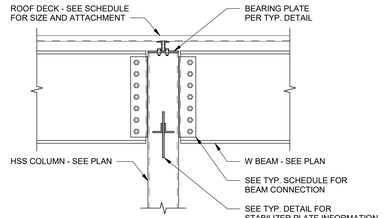
2 S007



JOISTS ON BEAM

SCALE : NONE

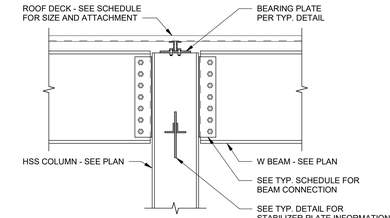
3 S007



BEAMS & JOISTS INTO HSS COLUMN

SCALE : NONE

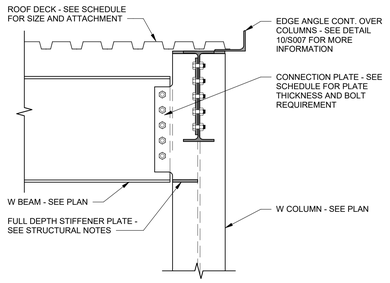
4 S007



BEAMS & JOISTS INTO HSS COLUMN

SCALE : NONE

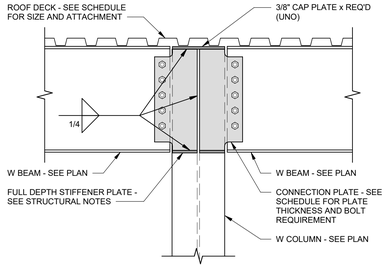
5 S007



DETAIL

SCALE : NONE

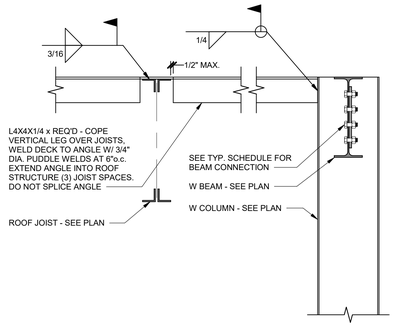
6 S007



DETAIL

SCALE : NONE

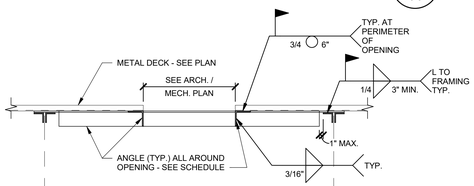
7 S007



DETAIL

SCALE : NONE

8 S007



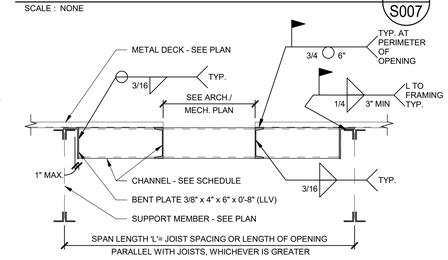
SPAN	ANGLE SIZE
L ≤ 6'-0"	L4 x 4 x 1/4
L ≤ 8'-0"	L4 x 4 x 3/8
L ≤ 10'-0"	L5 x 5 x 3/8

NOTES :
1. THIS DETAIL APPLIES TO ROOF OPENINGS LARGER THAN 18" IN EITHER DIRECTION.
2. MECHANICAL CURB ATTACHMENT TO STRUCTURE IS BY OTHERS.
3. THIS DETAIL OCCURS UNDER THE CURB AND AROUND THE OPENING. WHERE NO OPENING OCCURS, FRAME OCCURS BELOW CURB ONLY.
4. WHERE FRAME CONNECTS TO JOISTS MORE THAN 6" FROM A PANEL POINT, SEE DETAIL 11/S007 FOR REQUIRED JOIST UPGRADE INFORMATION.
5. UNLESS NOTED OTHERWISE, USE THE ANGLE FRAMES WHERE JOIST SPACING IS LESS THAN OR EQUAL TO 10'-0" AND EQUIPMENT WEIGHS 1,000 POUNDS OR LESS. WHERE EQUIPMENT WEIGHT IS GREATER THAN 1,000 POUNDS, USE CHANNEL FRAMES.

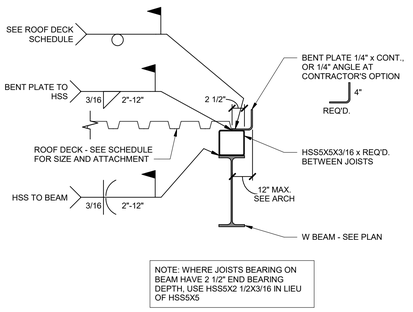
TYPICAL FRAMING @ ROOF OPENINGS & ROOFTOP EQUIPMENT DETAIL

SCALE : NONE

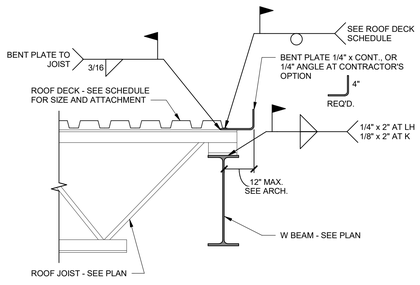
9 S007

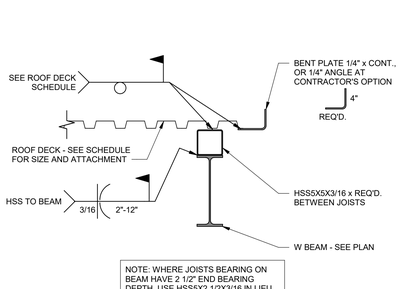


SPAN	CHANNEL
L ≤ 8'-0"	C6 x 8.2
L ≤ 10'-0"	C8 x 11.5

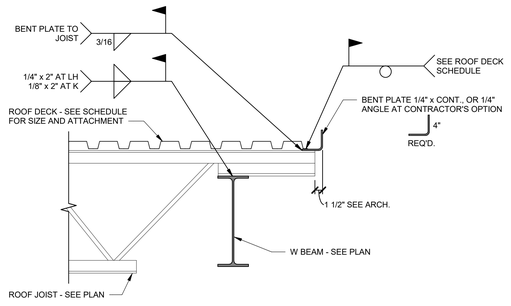


NOTE: WHERE JOISTS BEARING ON BEAM HAVE 2 1/2" END BEARING DEPTH, USE HSS5X2 1/2X3/16 IN LIEU OF HSS5X5





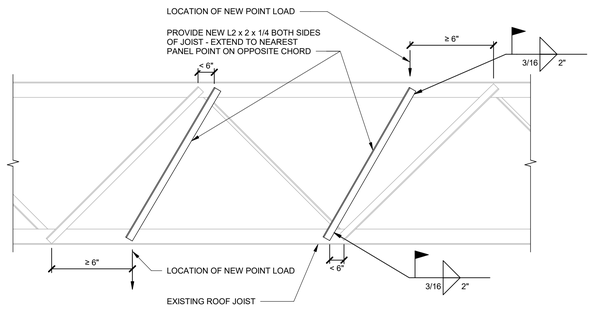
NOTE: WHERE JOISTS BEARING ON BEAM HAVE 2 1/2" END BEARING DEPTH, USE HSS5X2 1/2X3/16 IN LIEU OF HSS5X5



TYPICAL DECK ON JOISTS

SCALE : NONE

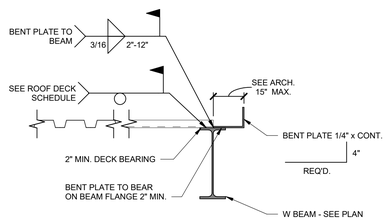
10 S007

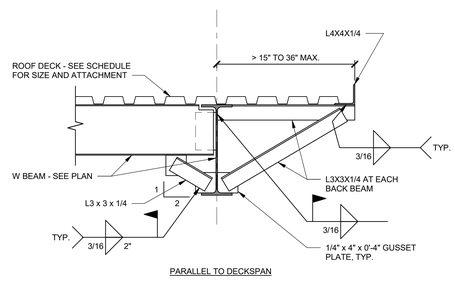


TYPICAL JOIST UPGRADE DETAIL

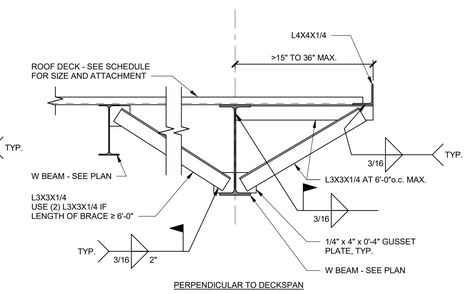
SCALE : NONE

11 S007





PARALLEL TO DECKSPAN



PERPENDICULAR TO DECKSPAN

FOR ROOF DECK EDGE > 15" ≤ 36"

TYPICAL DECK EDGE ON BEAM

SCALE : NONE

12 S007

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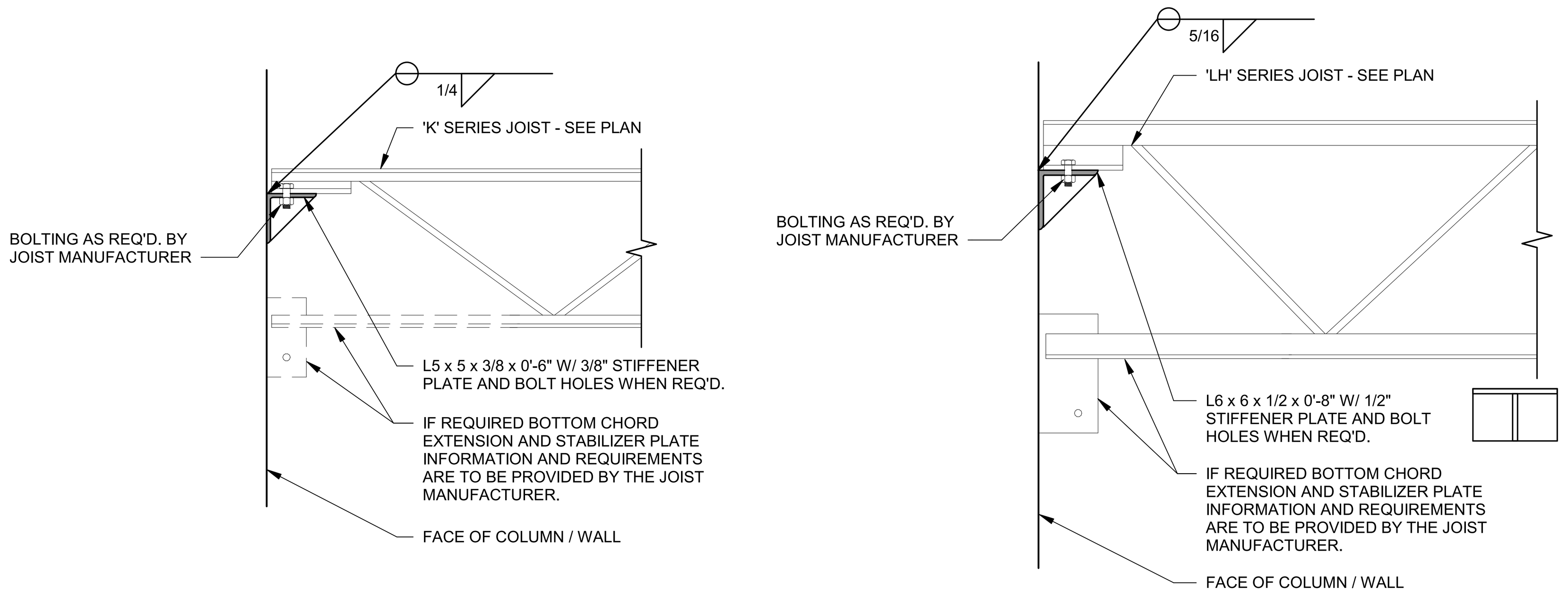
TYPICAL DETAILS - STEEL

S007

12/15/2025 11:26:00 AM

NOTE: WELD SHALL BE FIELD WELDED AT MASONRY AND CONCRETE EMBEDS AND SHOP WELDED AT STEEL TO STEEL CONNECTIONS.

NOTE: WELD SHALL BE FIELD WELDED AT MASONRY AND CONCRETE EMBEDS AND SHOP WELDED AT STEEL TO STEEL CONNECTIONS.



TYP. 'K'-'LH'-'GIRDER' SERIES JOIST BEARING SEAT (U.N.O.)

SCALE : NONE

1
S008

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PROFESSIONAL STRUCTURAL ENGINEER
No. 10396064-2203
Arek Higgs
STATE OF UTAH
09/10/25

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structural consultants
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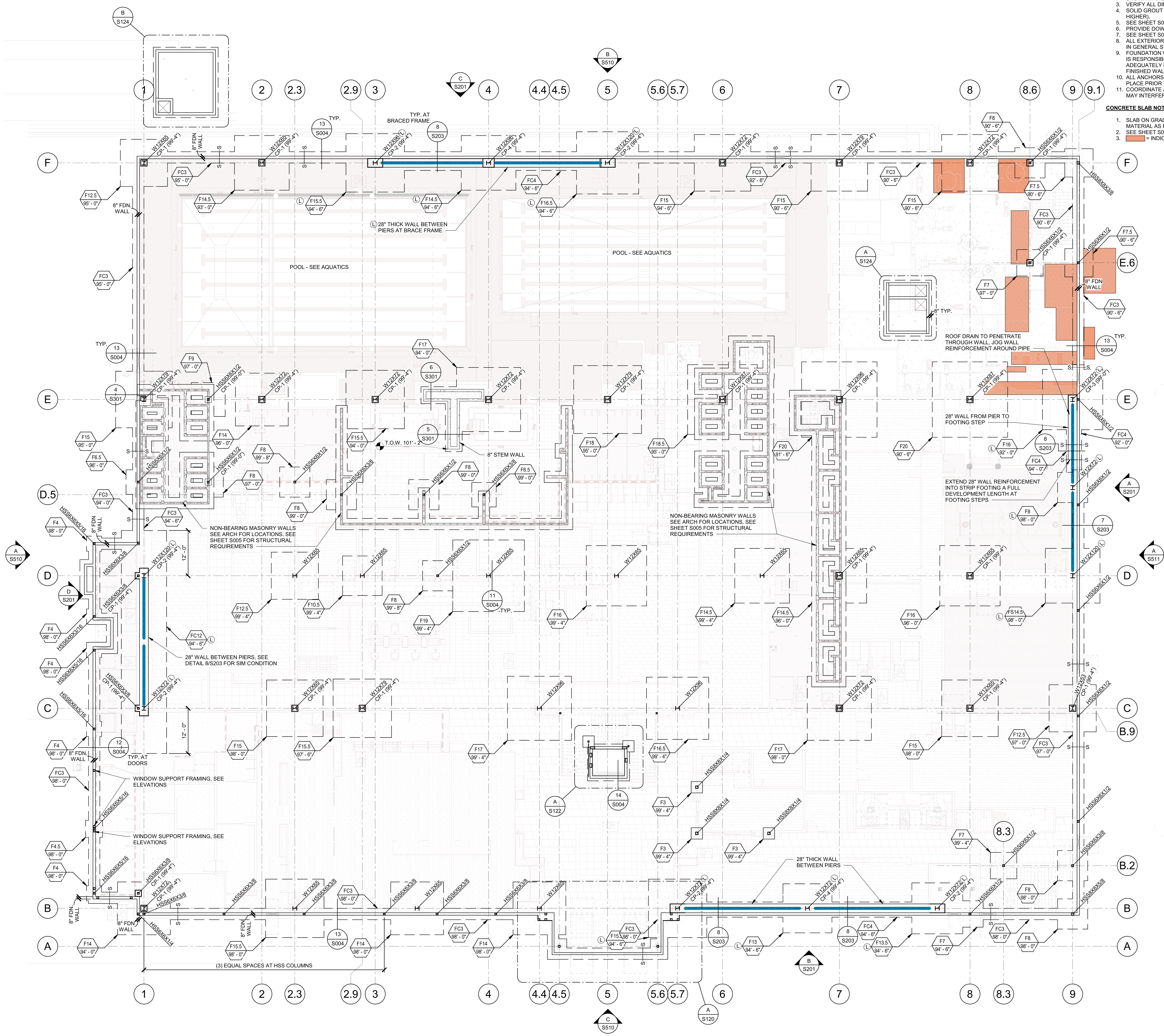
TYPICAL DETAILS - STEEL

S008



FOOTING & FOUNDATION PLAN

SCALE : 3/32" = 1'-0"

A
S101

FOOTING & FOUNDATION NOTES :

1. SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES.
2. ALL FOOTINGS SHALL BE PLACED ON SOIL WHICH HAS BEEN PREPARED FOR THE BEARING PRESSURE SHOWN IN THE STRUCTURAL NOTES.
3. VERIFY ALL DIMENSIONS WITH DRAWINGS AND NOTIFY ENGINEER OF ANY DISCREPANCIES FOUND.
4. SOLID GROUT ALL MASONRY COURSES BELOW FINISHED FLOOR OR EXTERIOR GRADE (WHICHEVER IS HIGHER).
5. SEE SHEET S004 FOR FOOTING SCHEDULE.
6. PROVIDE DOWELS IN FOOTINGS / FOUNDATIONS TO MATCH VERTICAL WALL REINFORCING U.N.O.
7. SEE SHEET S004 FOR TYPICAL FOOTING AND FOUNDATION DETAILS.
8. ALL EXTERIOR WALL FOOTINGS TO BEAR A MINIMUM DIMENSION BELOW EXTERIOR GRADE AS NOTED IN GENERAL STRUCTURAL NOTES.
9. FOUNDATION WALLS ARE DESIGNED AND DETAILED FOR THE COMPLETED CONDITION. CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION. BACKFILLED WALLS SHALL BE ADEQUATELY BRACED DURING CONSTRUCTION AND BACKFILLING TO PRODUCE PLUMB AND TRUE FINISHED WALLS.
10. ALL ANCHORS, HOLDOWNS, ANCHOR BOLTS, DOWELS, EMBEDDED ITEMS, ETC. SHALL BE HELD IN PLACE PRIOR TO AND DURING CONCRETE AND/OR GROUT PLACEMENT.
11. COORDINATE ALL FOOTING DEPTHS (INTERIOR AND EXTERIOR) WITH DRAINS, CONDUITS, ETC. THAT MAY INTERFERE WITH FOOTINGS.

CONCRETE SLAB NOTES :

1. SLAB ON GRADE SHALL BE 4" THICK CONCRETE U.N.O. SLAB SHALL BE UNDERLAIN BY FREE DRAINING MATERIAL AS PRESCRIBED IN THE SOILS REPORT.
2. SEE SHEET S004 FOR CONTROL AND CONSTRUCTION JOINT INFORMATION.
3. = INDICATES A 4" HOUSEKEEPING PAD. VERIFY SIZE WITH EQUIPMENT SUPPLIER.

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FOOTING & FOUNDATION PLAN

S101

FLOOR FRAMING NOTES :

1. SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES
2. CONCRETE FLOOR SLABS SHALL CONSIST OF A CONCRETE SLAB ON METAL DECK AS INDICATED IN THE GENERAL STRUCTURAL NOTES. SLAB THICKNESS IS TOTAL FROM BOTTOM OF DECK TO TOP OF CONCRETE. THE WELDED WIRE FABRIC SHALL BE PLACED AT THE APPROXIMATE CENTERLINE OF THE CONCRETE DEPTH OVER THE TOP FLUTE OF THE FORMLOK DECK.
3. ( ) DENOTES QUANTITY OF 3/4" DIAMETER X 5" LONG HSA ALONG BEAM TOP FLANGE.
4. c = DENOTES AMOUNT OF CAMBER IN WF BEAM AT MIDSPAN.
5. PROVIDE TYPICAL SLAB CLOSURE AT ALL OPENINGS AND SLAB EDGES AS PER DETAIL 3/S006 & 10/S006. TYPICAL UNLESS NOTED OTHERWISE.
6. SEE ARCHITECTURAL DRAWINGS FOR FINISHED FLOOR ELEVATIONS.
7. SEE S2.1 FOR MASONRY BEAM/LINTEL SCHEDULE.
8. WHERE STEEL FLOOR DECK RUNS PERPENDICULAR TO BEAMS WITH HSA, HSA SHALL BE FIELD WELDED TO BEAMS THRU DECK MATERIAL.
9. WHERE STEEL FLOOR DECK RUNS PARALLEL TO BEAMS WITH HSA, A 2-1/2" X CONTINUOUS EXPOSED BEAM FLANGE SURFACE IS REQUIRED FOR CONCRETE COVER OF HSA.
10. DO NOT PROVIDE CONTROL JOINTS IN SUSPENDED CONCRETE SLABS..
11. CONSTRUCTION JOINTS IN SLABS ON DECK SHALL NOT BE CLOSER THAN 12" TO HSA.
12. AT NON-COMPOSITE BEAMS AND JOISTS AND WHERE HSA'S ARE SPACED AT MORE THAN 12" O.C., WELD DECK TO SUPPORT WITH 3/4" DIAMETER PUDDLE WELDS AT 12" O.C.
13. [grey-green box] = INDICATES A 6" RECESS IN THE STRUCTURAL SLAB WITH AN ISOLATION SLAB ABOVE. ISOLATION SLAB SHALL WEIGH A MAXIMUM OF 75 PSF.
14. [orange box] = INDICATES A 6" RECESS IN THE STRUCTURAL SLAB WITH A 6" NORMAL WEIGHT CONCRETE TOPPING SLAB.
15. [pink box] = INDICATES TILE CEILING BELOW 2ND FLOOR. TILE CEILING SUPPORT BY OTHERS.
16. [green dashed line] = INDICATES ADDITIONAL DRAG AND DIAPHRAGM REINFORCEMENT IN SUSPENDED CONCRETE SLAB - SEE PLAN.

SECOND FLOOR FRAMING PLAN

SCALE : 3/32" = 1'-0"

A / S102

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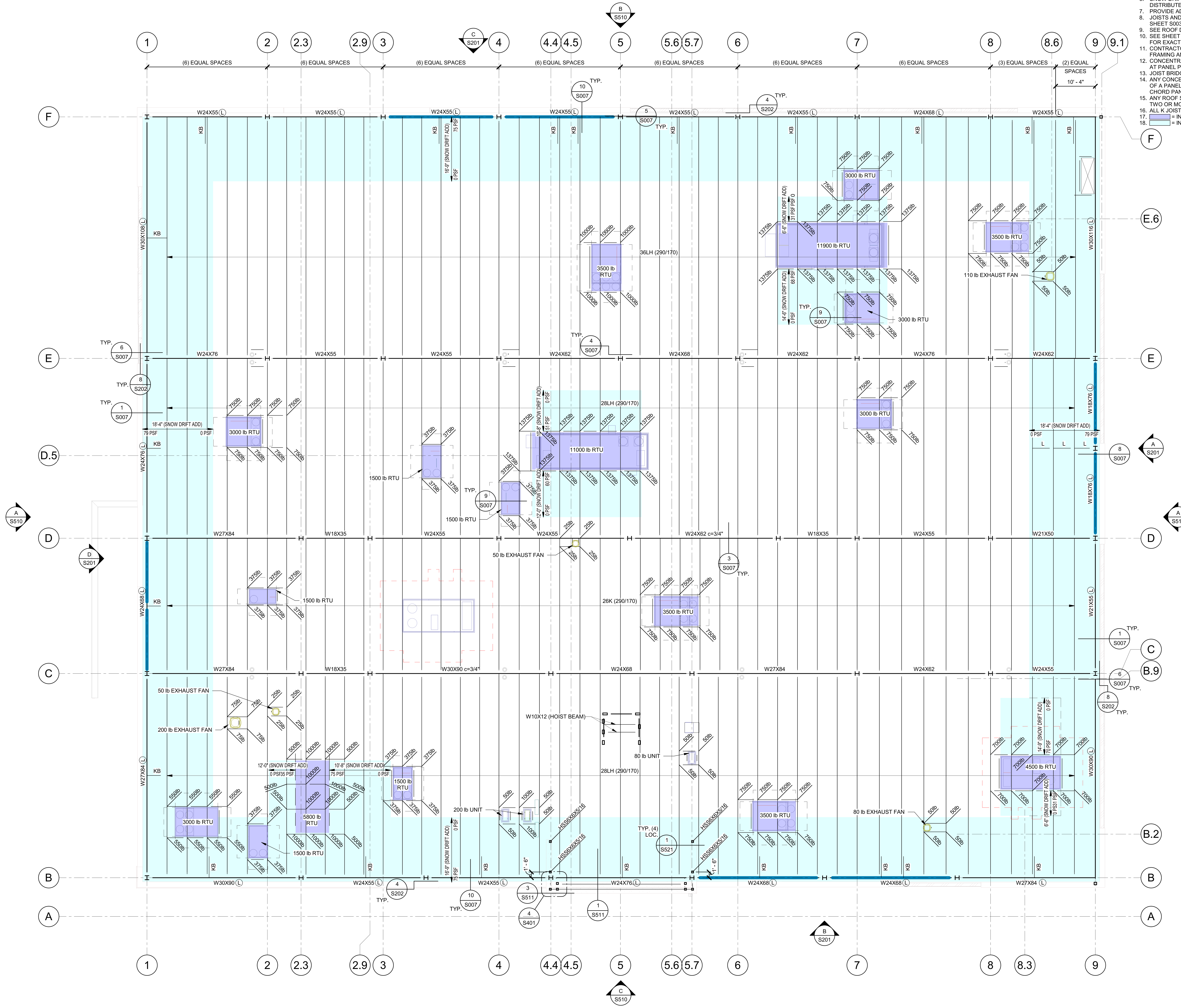
FLOOR FRAMING PLAN

S102

ROOF FRAMING NOTES :

1. SEE SHEET S001 FOR GENERAL STRUCTURAL NOTES.
2. GENERAL CONTRACTOR SHALL VERIFY MECHANICAL EQUIPMENT WEIGHTS, DIMENSIONS, AND LOCATIONS W/ MECHANICAL AND REFRIGERATION CONTRACTORS PRIOR TO ORDERING/FABRICATING JOISTS.
3. (### / ###) DENOTES APPLIED TOTAL AND LIVE UNIFORMLY DISTRIBUTED LOADS IN POUNDS PER LINEAR FOOT OF JOIST, RESPECTIVELY.
4. JOISTS SUPPORTING MECHANICAL EQUIPMENT SHALL BE DESIGNED FOR ADDITIONAL LOADS INDICATED.
5. WHERE JOIST AXIAL LOADS ARE SHOWN ON THE PLANS (XX.X(W)) OR (XX.X(E)), LOADS ARE ASD LEVEL LOADS
6. SNOW DRIFT LOADS INDICATED ON FRAMING PLANS SHALL BE APPLIED IN ADDITION TO UNIFORMLY DISTRIBUTED LOADS INDICATED PER NOTE 3.
7. PROVIDE ADDED HORIZONTAL AND VERTICAL JOISTS LOADS WHERE INDICATED ON PLAN OR DETAILS.
8. JOISTS AND GIRDERS SHALL BE DESIGNED FOR 15 PSF NET WIND UPLIFT, OR PER SCHEDULE ON SHEET S003.
9. SEE ROOF DECK SCHEDULE FOR REQUIRED DECK AND ATTACHMENTS.
10. SEE SHEET S007 FOR OPENINGS IN ROOF DECK. SEE MECHANICAL AND ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS.
11. CONTRACTOR SHALL ERECT AND MAINTAIN ADEQUATE TEMPORARY BRACING UNTIL ALL ROOF FRAMING AND DECK ATTACHMENTS ARE COMPLETE.
12. CONCENTRATED LOADS FROM EQUIPMENT, PIPING, ETC., SHALL NOT BE HUNG FROM JOISTS EXCEPT AT PANEL POINTS AND AS APPROVED BY THE ENGINEER.
13. JOIST BRIDGING DESIGN AND LOCATION BY JOIST MANUFACTURER.
14. ANY CONCENTRATED LOAD ON JOIST CHORDS (INCLUDING FRAMING ANGLES) NOT LOCATED WITHIN 6" OF A PANEL POINT REQUIRE (2) L 2" X 2" X 1/4" FROM THE POINT LOAD TO THE NEAREST OPPOSITE CHORD PANEL POINT (CONTRACTOR SUPPLIED AND INSTALLED).
15. ANY ROOF SUPPORTED PIPING 6" OR LARGER RUNNING PARALLEL TO JOIST SHALL BE SUPPORTED BY TWO OR MORE JOISTS.
16. ALL K JOISTS SHALL HAVE 5" DEEP BEARING SEATS.
17. [purple box] = INDICATES ROOF TOP UNIT - COORDINATE WITH MECHANICAL.
18. [cyan box] = INDICATES ADDITIONAL SNOW DRIFT LOAD - SEE PLAN.



ROOF FRAMING PLAN
SCALE : 3/32" = 1'-0"
A S103

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DATE: 12-17-2025

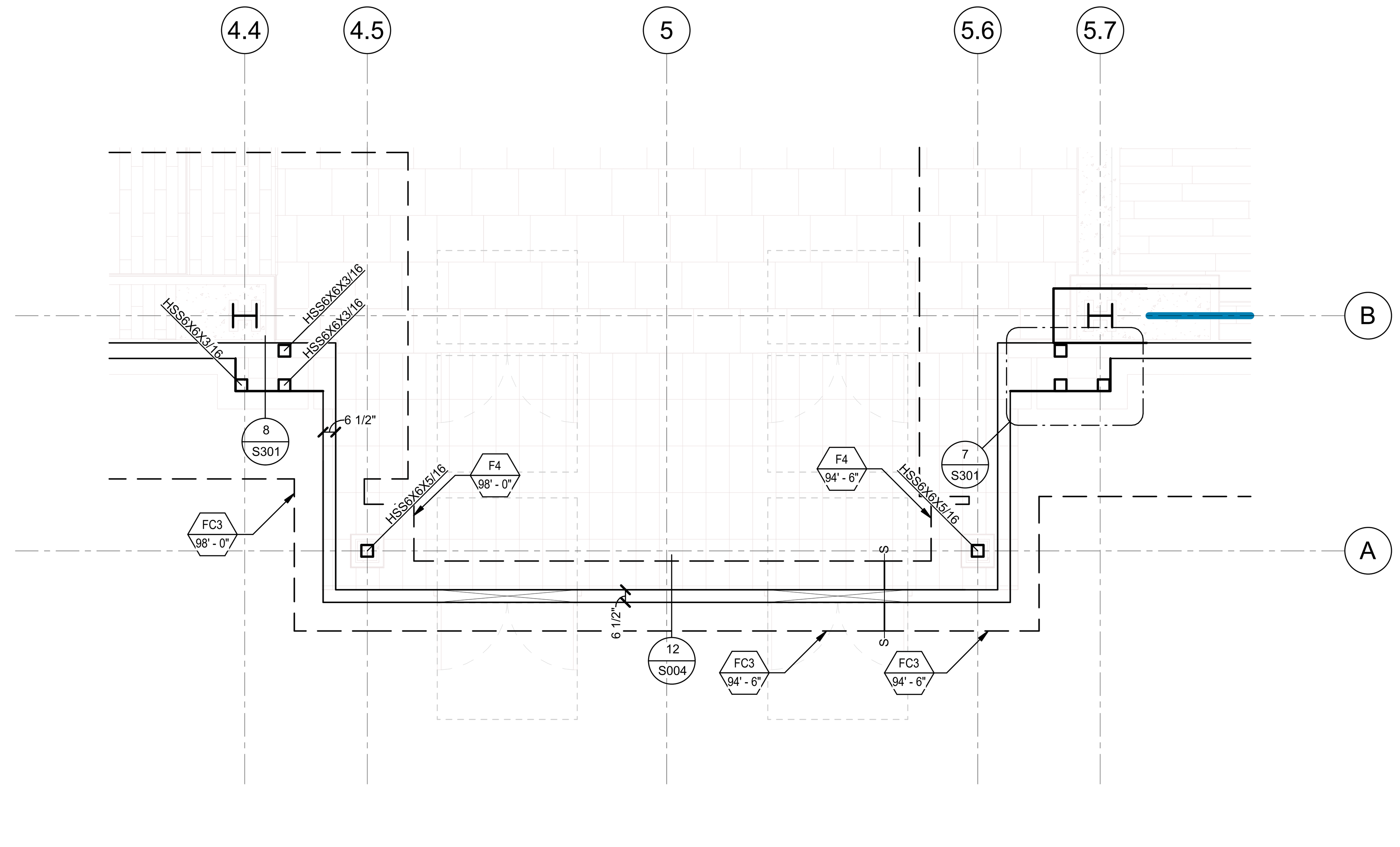
ARW ENGINEERS
structural consultants
1594 W. Park Circle
Ogden, Utah 84404
+1 801 782 6008
arwengineers.com

REV	DATE	DESCRIPTION

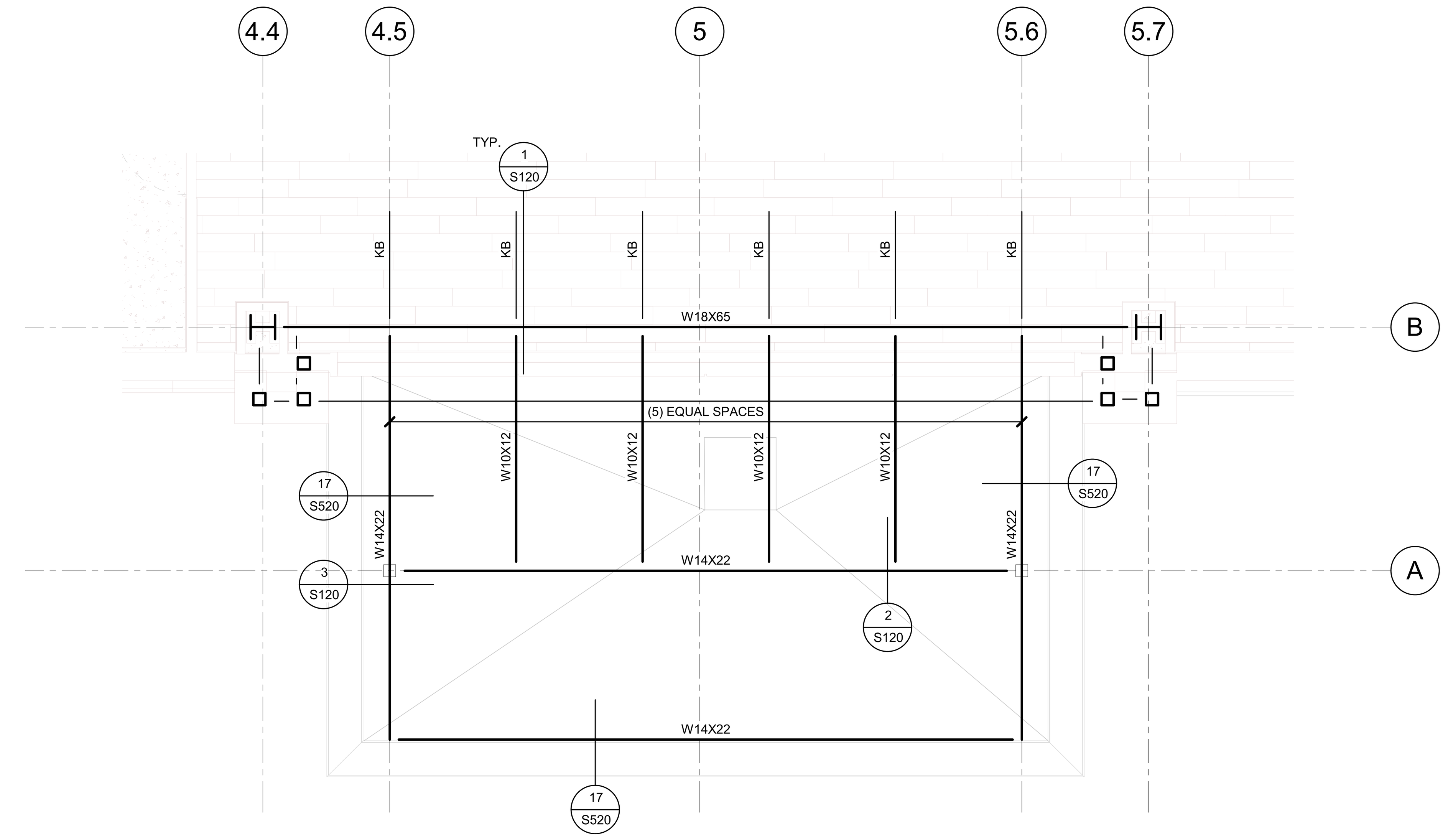
HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

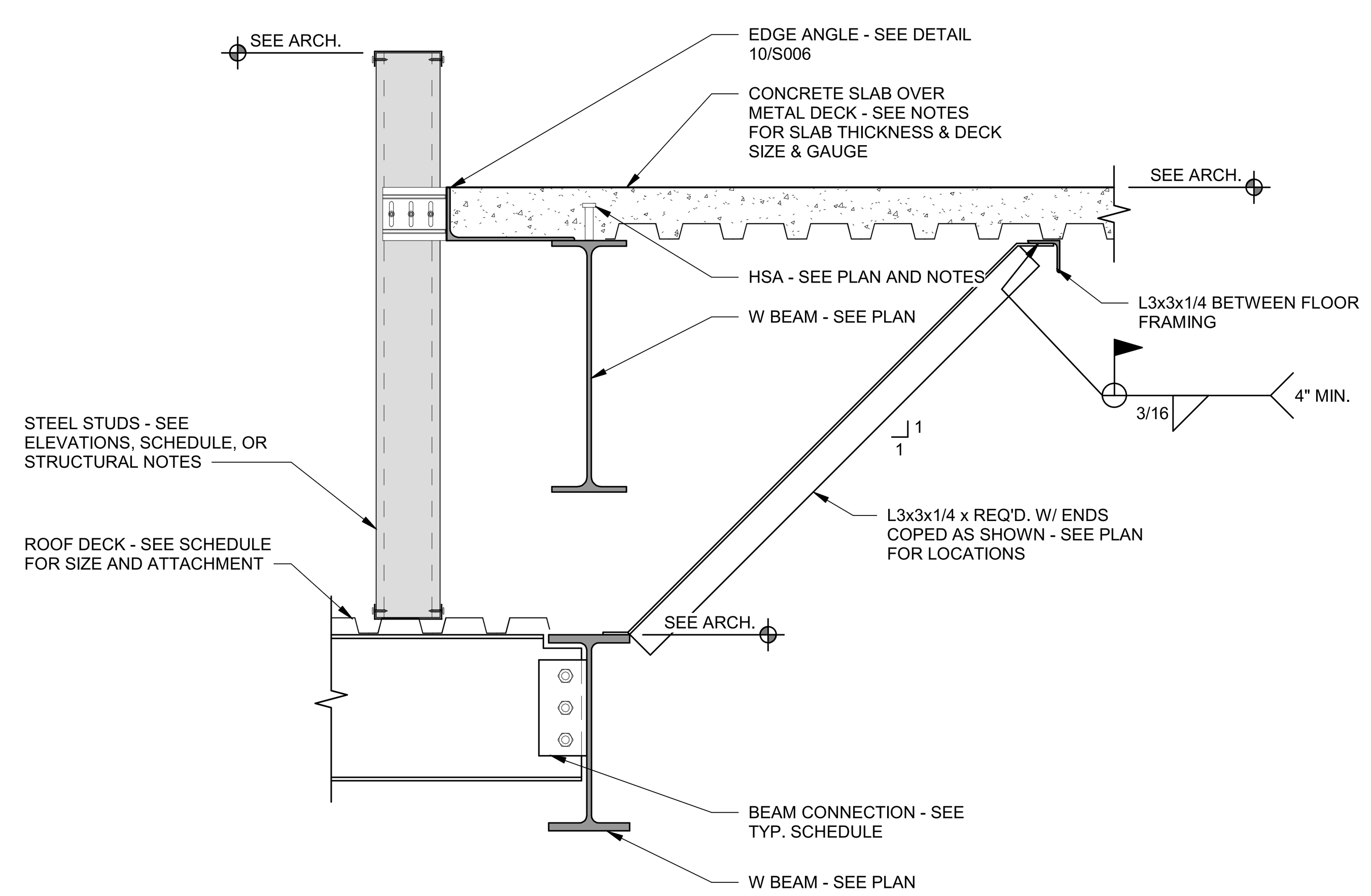
ROOF FRAMING PLAN



ENLARGED ENTRANCE FOUNDATION PLAN
SCALE : 1/4" = 1'-0"
A
S120



ENLARGED ENTRANCE FRAMING PLAN
SCALE : 1/4" = 1'-0"
B
S120



DETAIL
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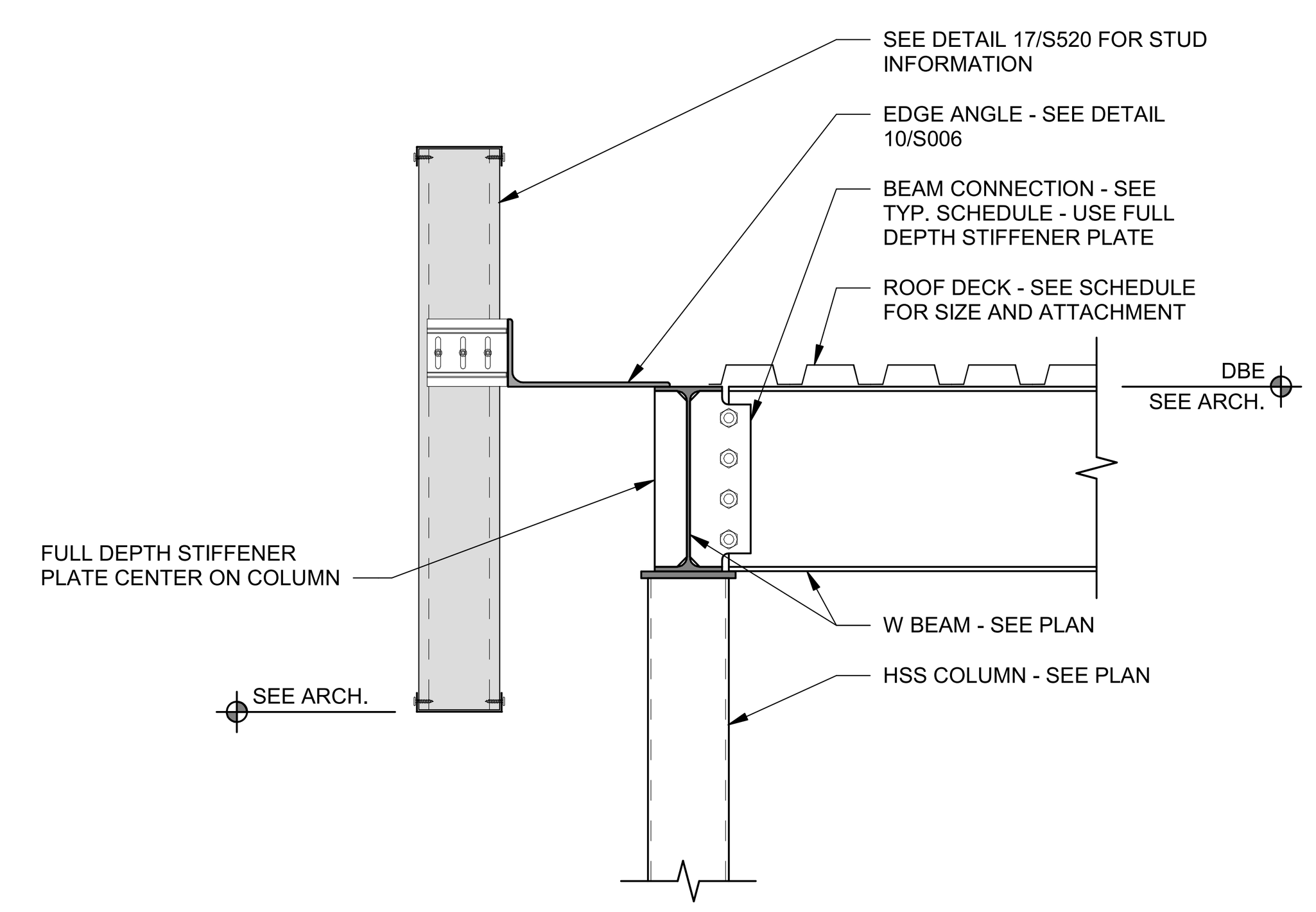
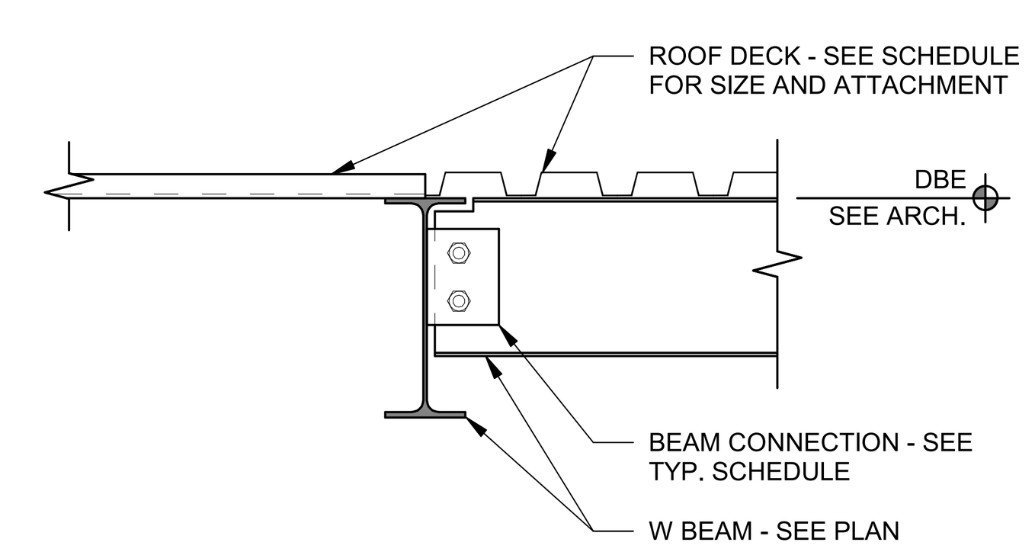
S120



DETAIL
SCALE : NONE
2
S120



DETAIL
SCALE : NONE
3
S120

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PROFESSIONAL STRUCTURAL ENGINEER
No. 10395604-2203
Arek Higgs
STATE OF UTAH
09/10/25

ARW ENGINEERS

REV	DATE	DESCRIPTION

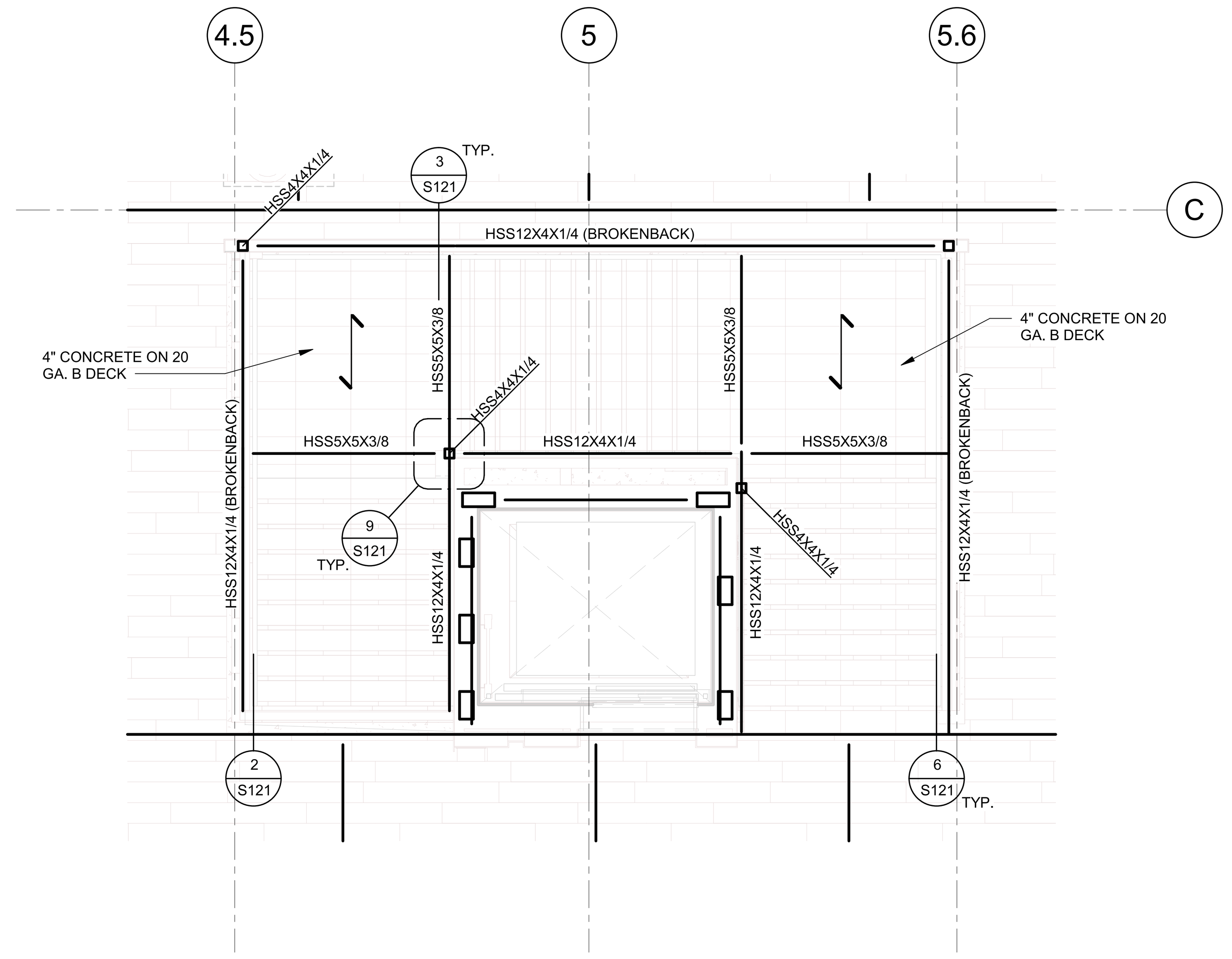
HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

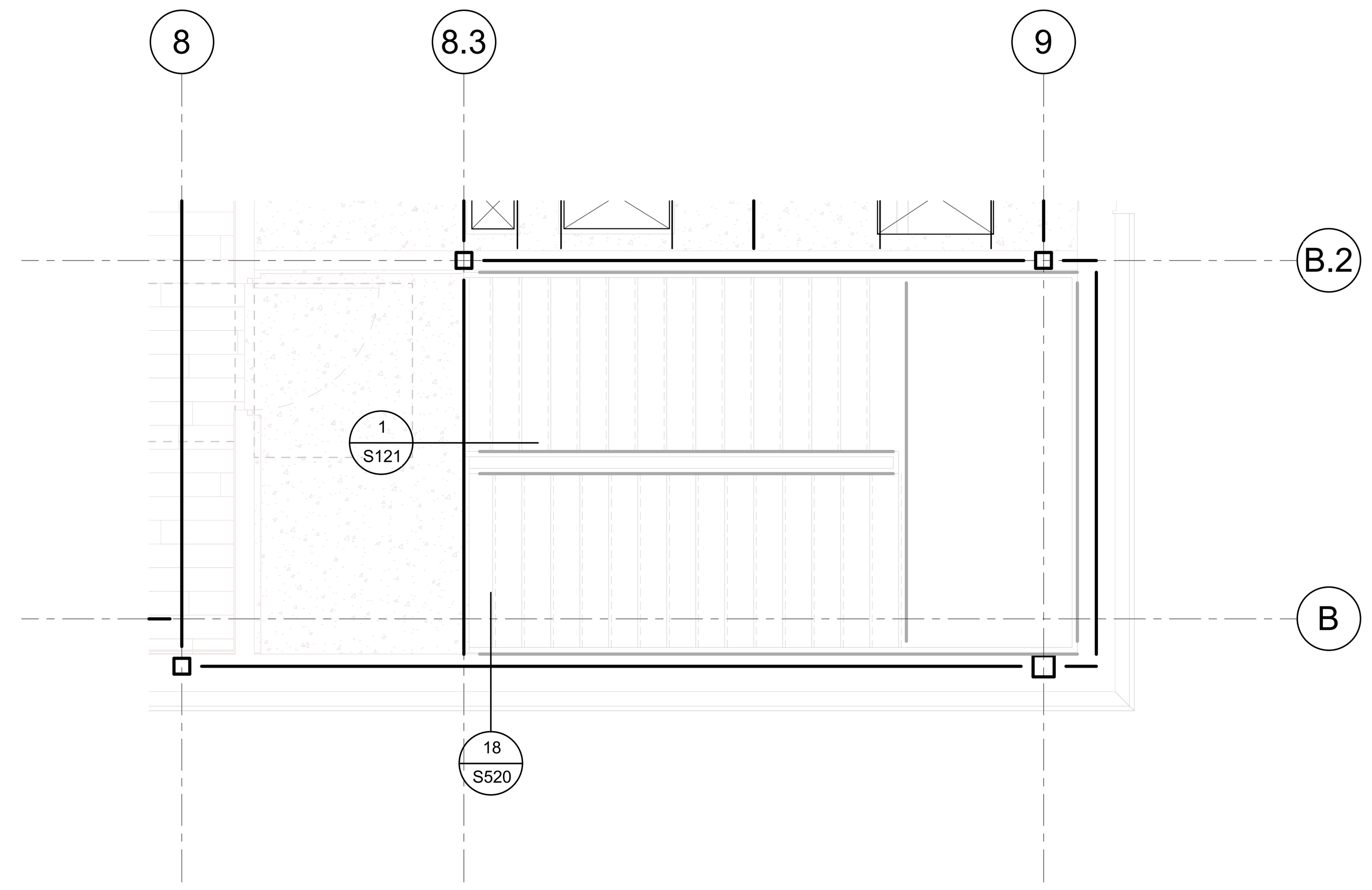
ENLARGED FRONT ENTRANCE PLAN

S120

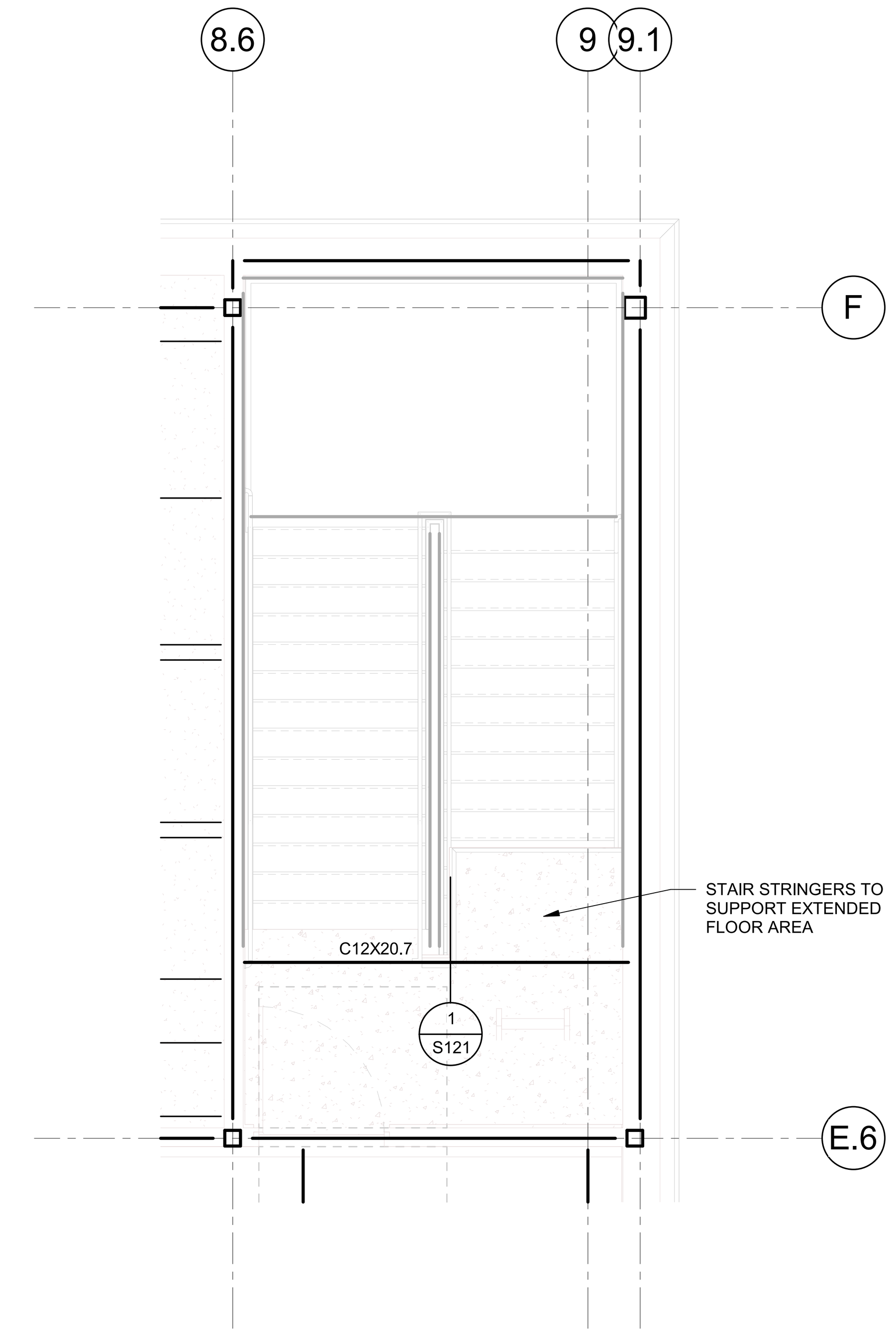
12/15/2025 11:26:10 AM



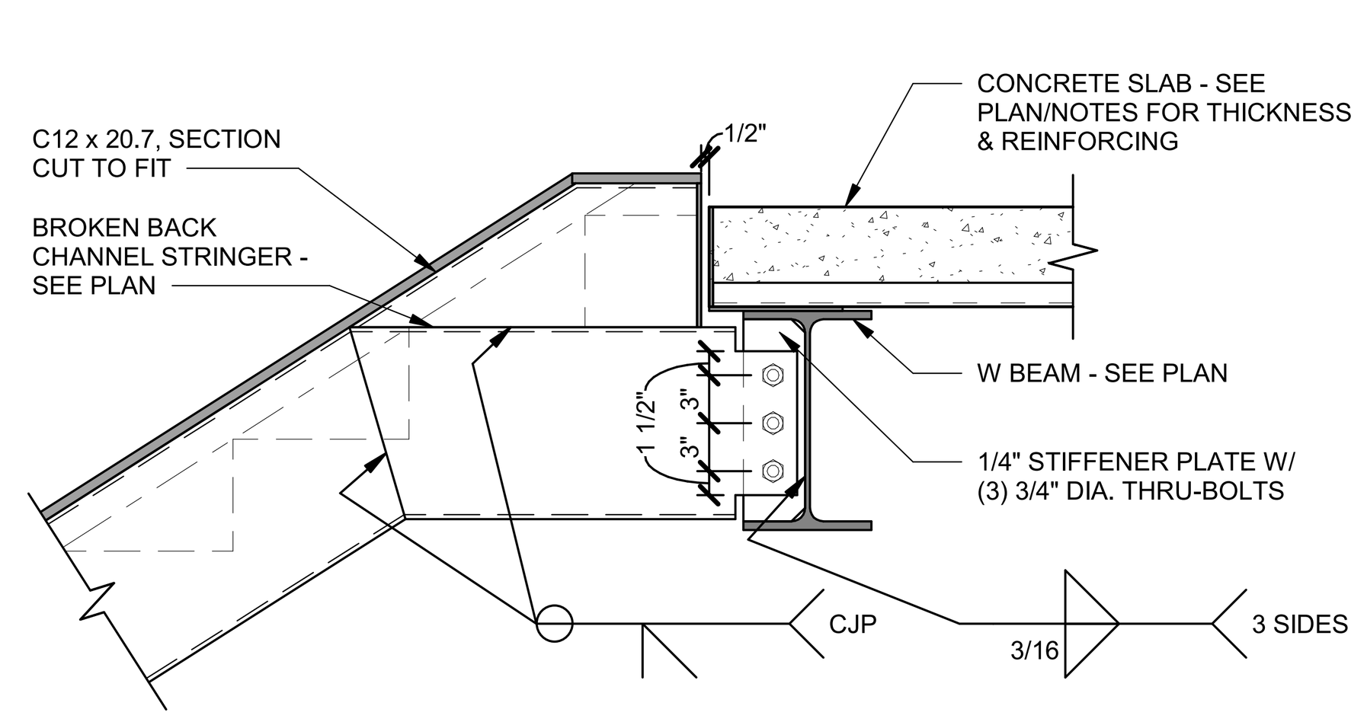
ENLARGED CENTRAL STAIR PLAN
SCALE : 1/4" = 1'-0"
A
S121



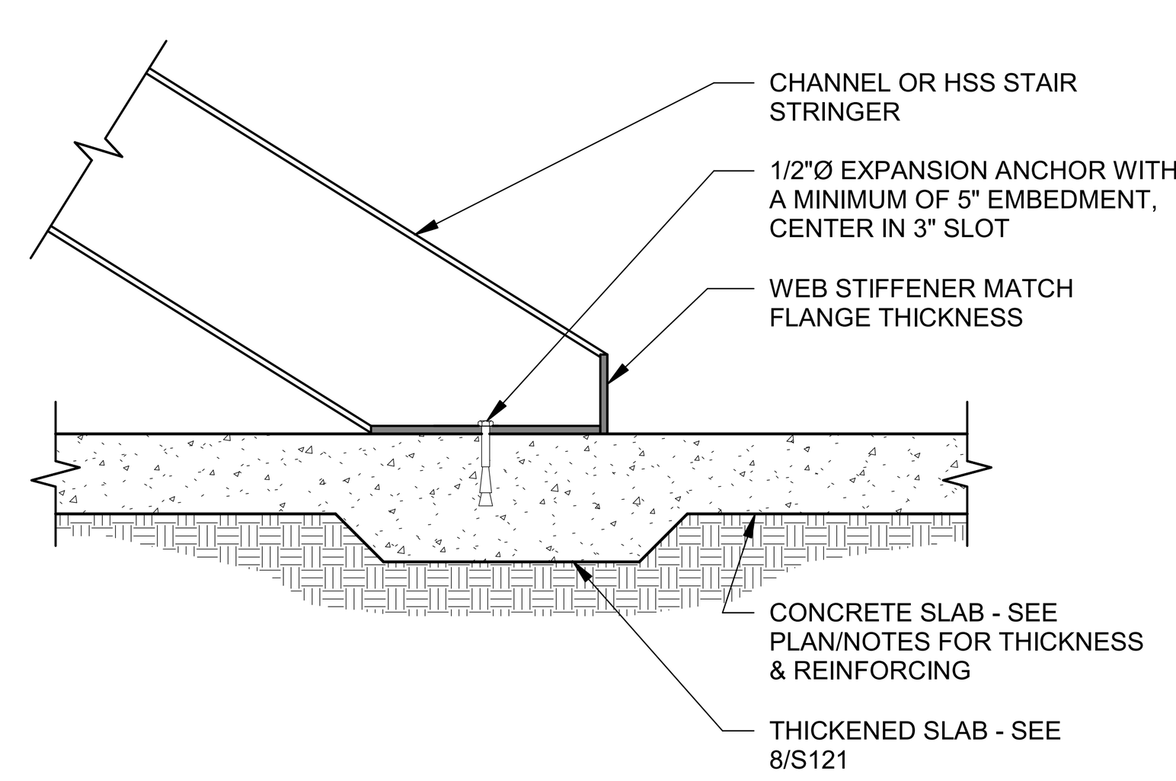
ENLARGED SOUTH STAIR PLAN
SCALE : 1/4" = 1'-0"
B
S121



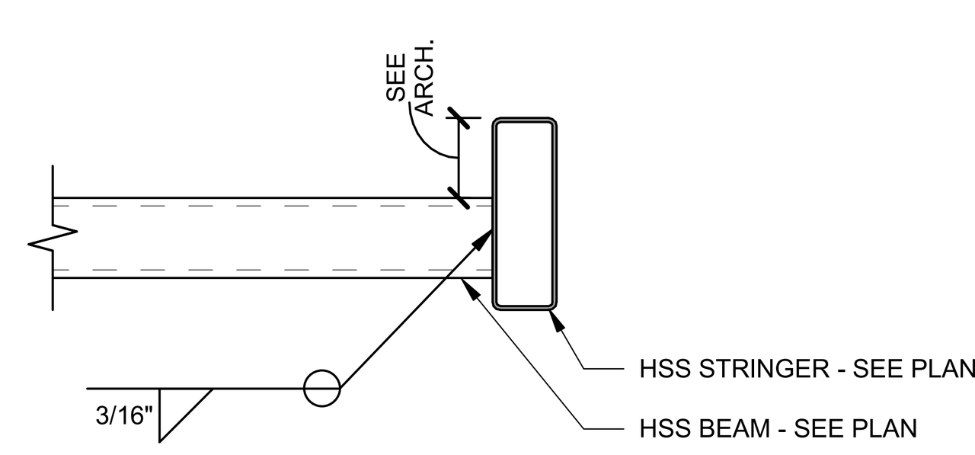
ENLARGED NORTH STAIR PLAN
SCALE : 1/4" = 1'-0"
C
S121



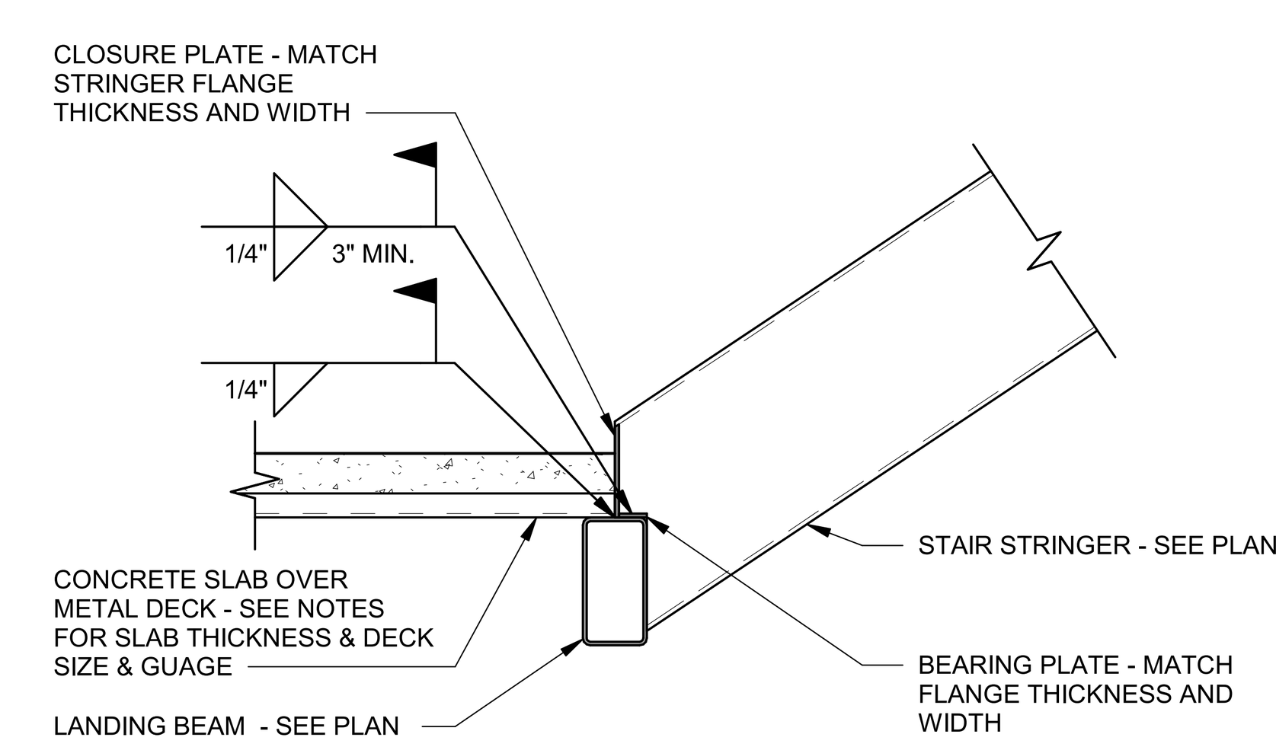
CHANNEL STAIR STRINGER TO FLOOR FRAMING
SCALE : NONE
1
S121



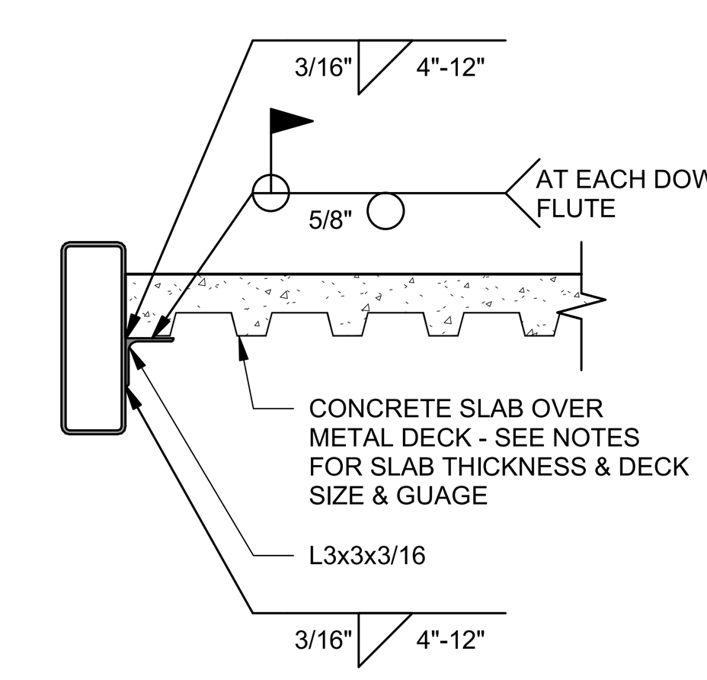
THICKENED SLAB @ STAIR
SCALE : NONE
2
S121



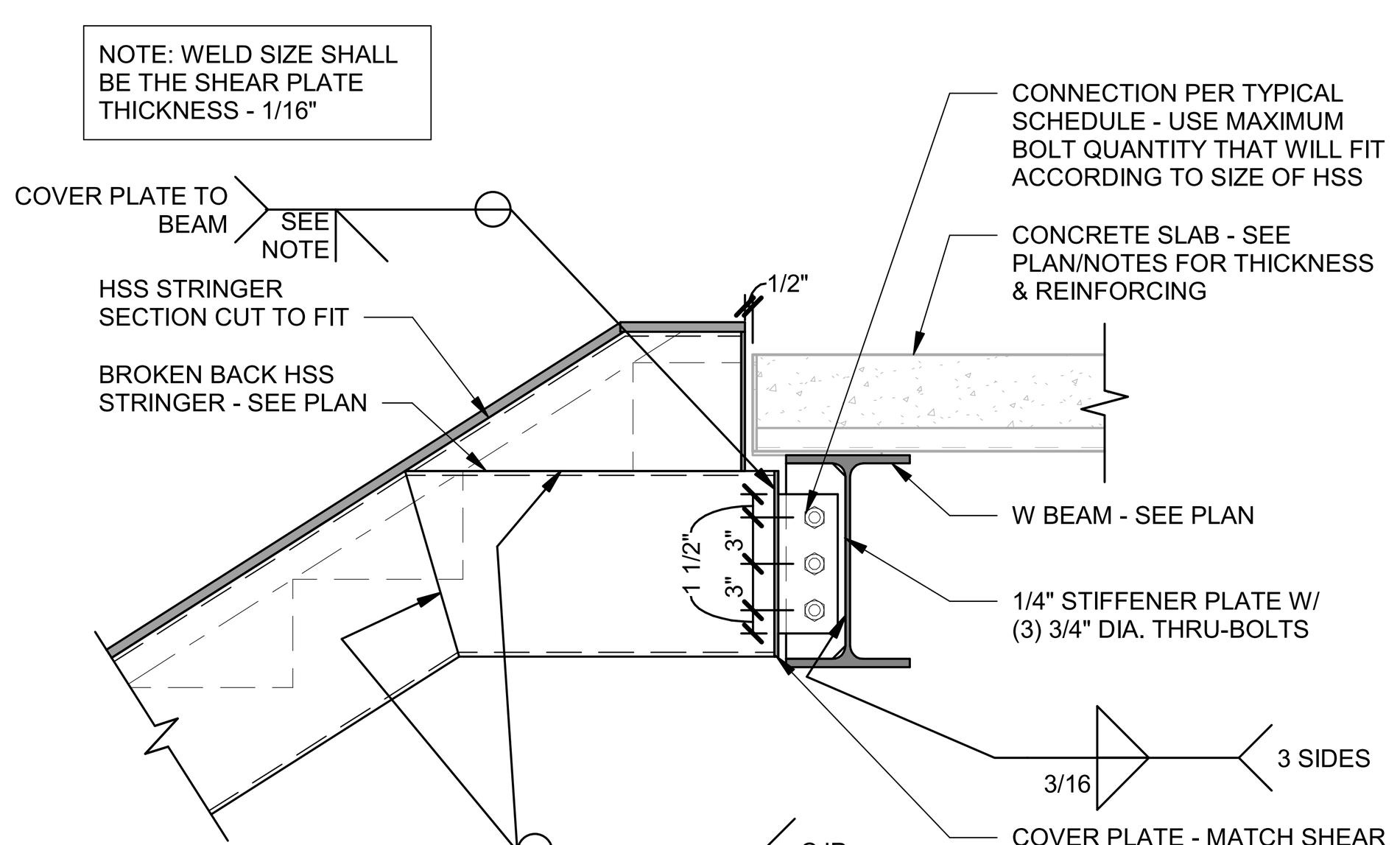
STAIR STRINGER TO FLOOR FRAMING
SCALE : NONE
3
S121



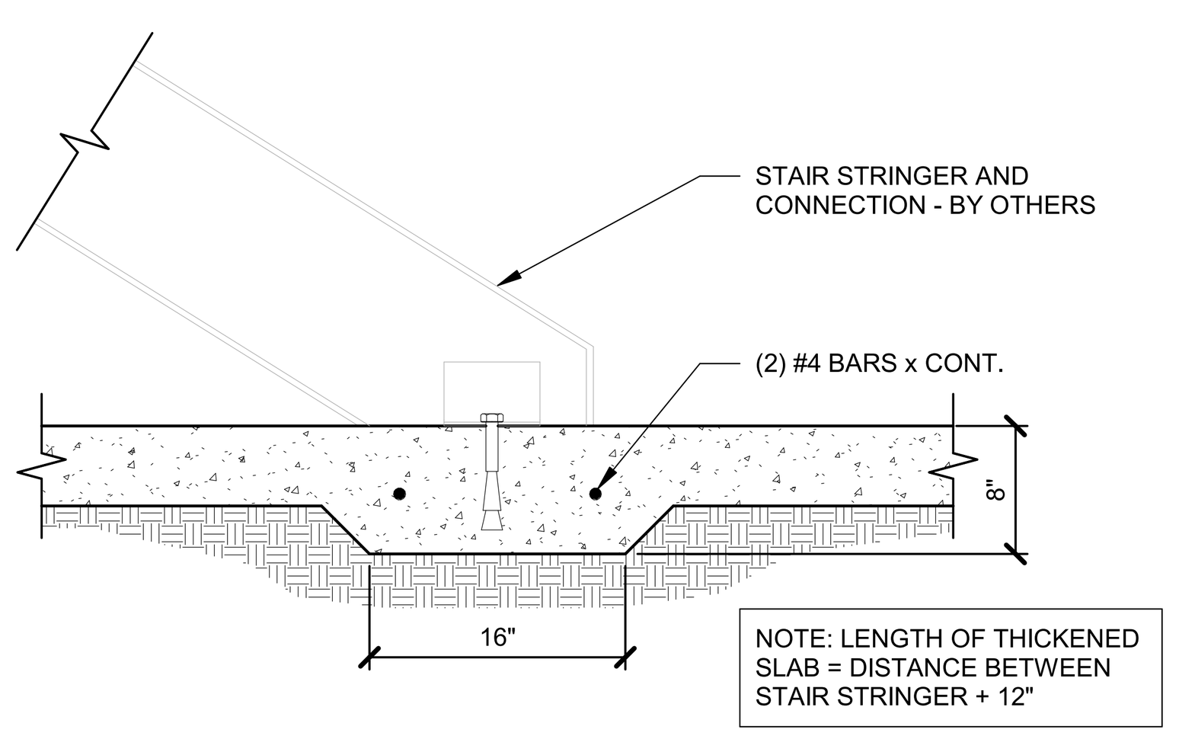
DECK ON MASONRY
SCALE : NONE
4
S121



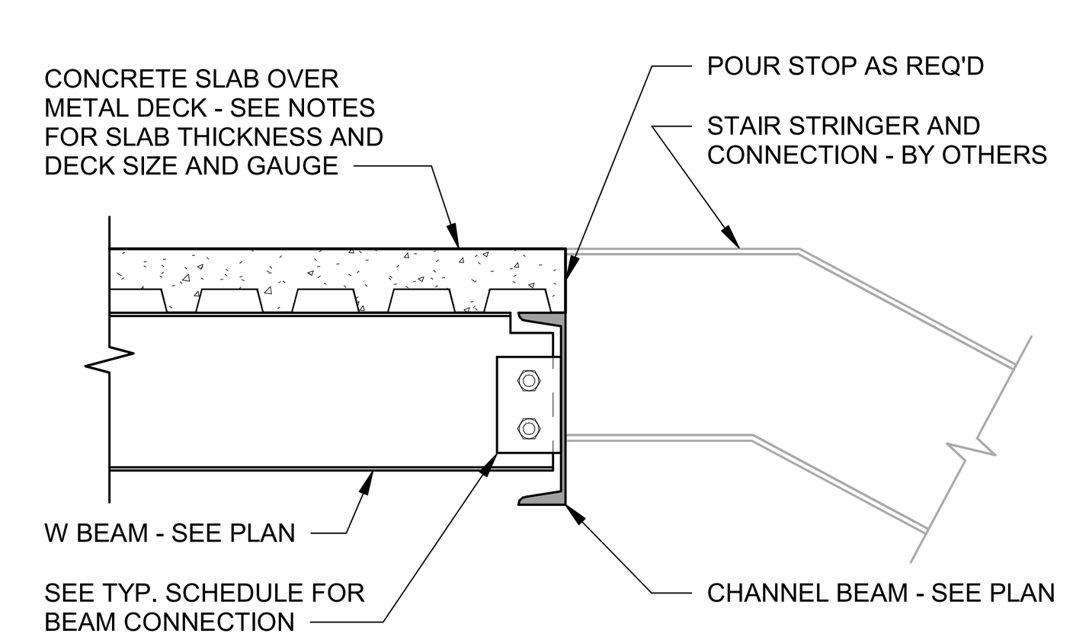
STAIR STRINGER TO FLOOR FRAMING
SCALE : NONE
5
S121



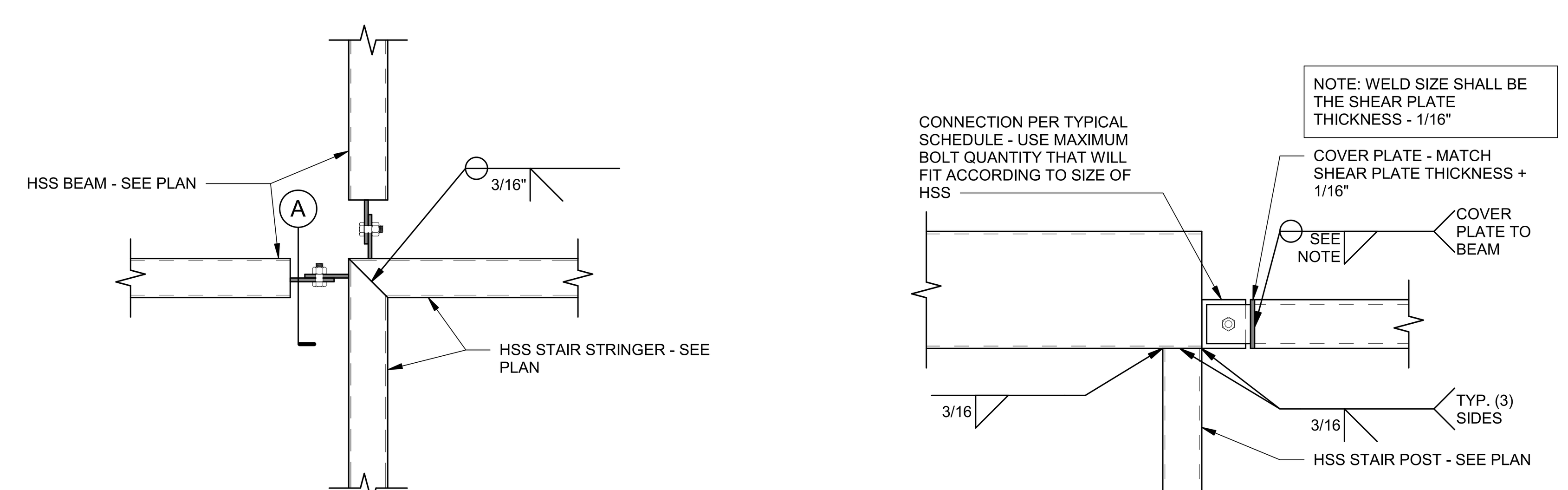
HSS STAIR STRINGER TO FLOOR FRAMING
SCALE : NONE
6
S121



THICKENED SLAB @ STAIR
SCALE : NONE
7
S121



STAIR STRINGER TO FLOOR FRAMING
SCALE : NONE
8
S121



DETAIL
SCALE : NONE
9
S121

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No. 10396604-2203
Arek Higgs
STATE OF UTAH
09/10/25

ARW ENGINEERS

REV	DATE	DESCRIPTION

HERRIMAN, UT

4684 W 12600 S
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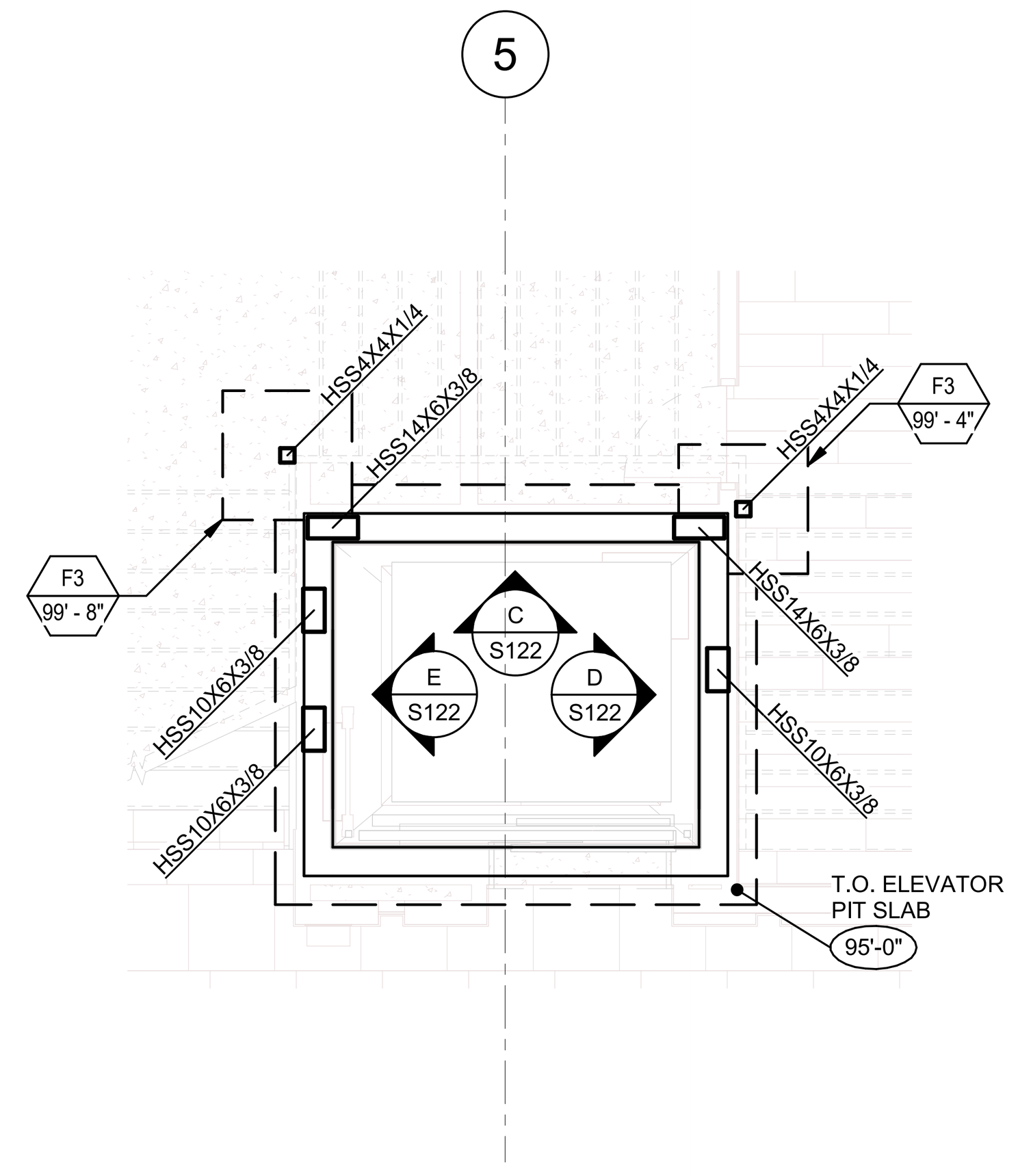
BID SET

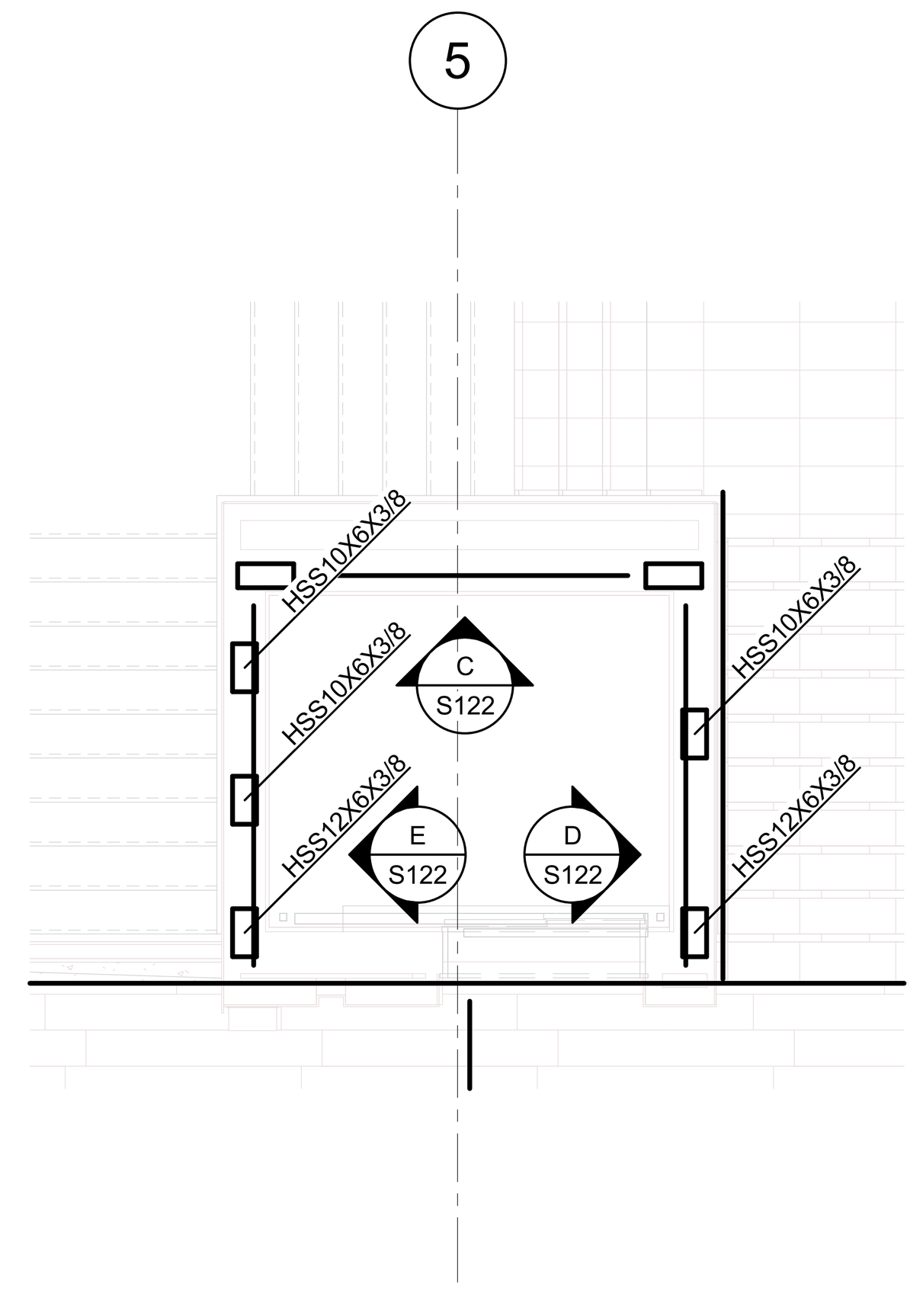
ENLARGED PLAN AT STAIRS

S121

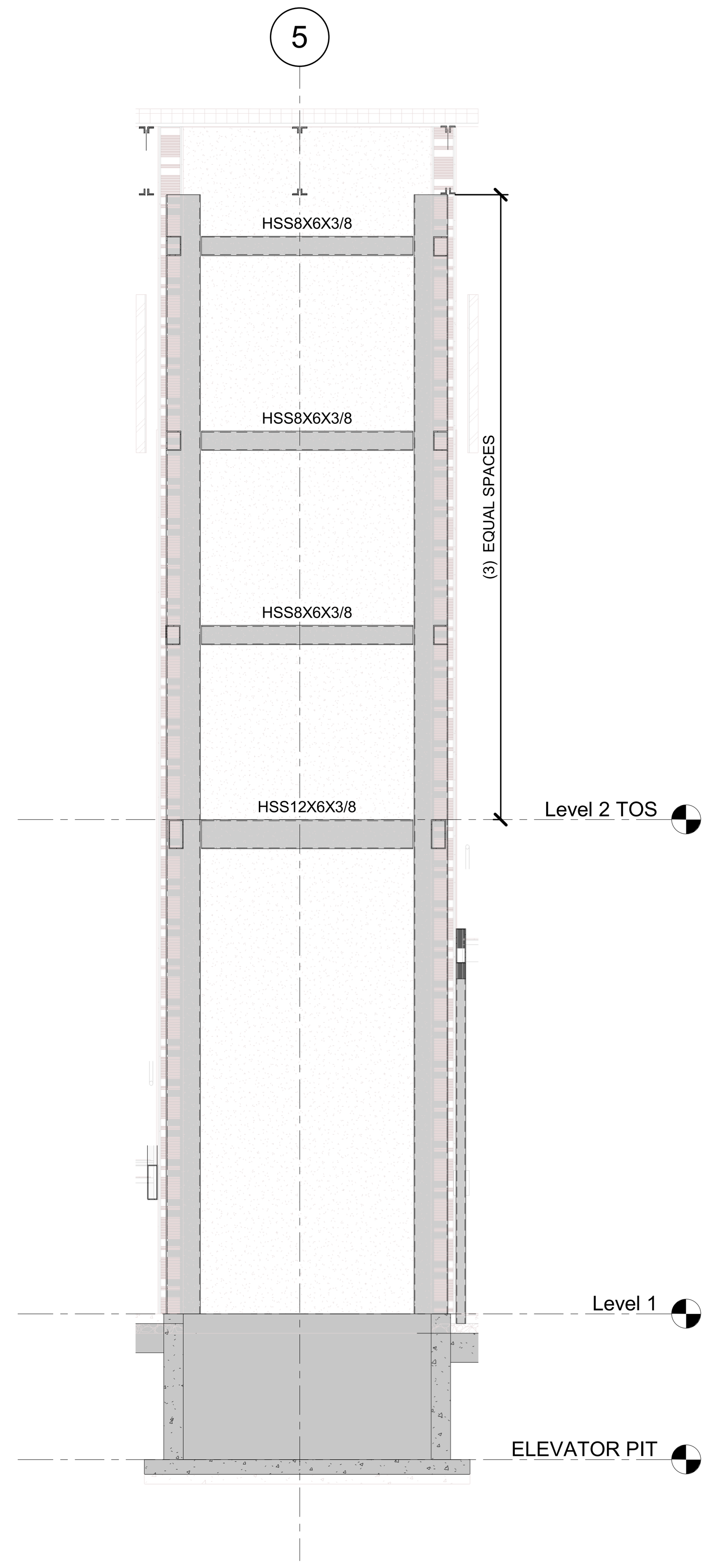
12/15/2025 11:28:12 AM



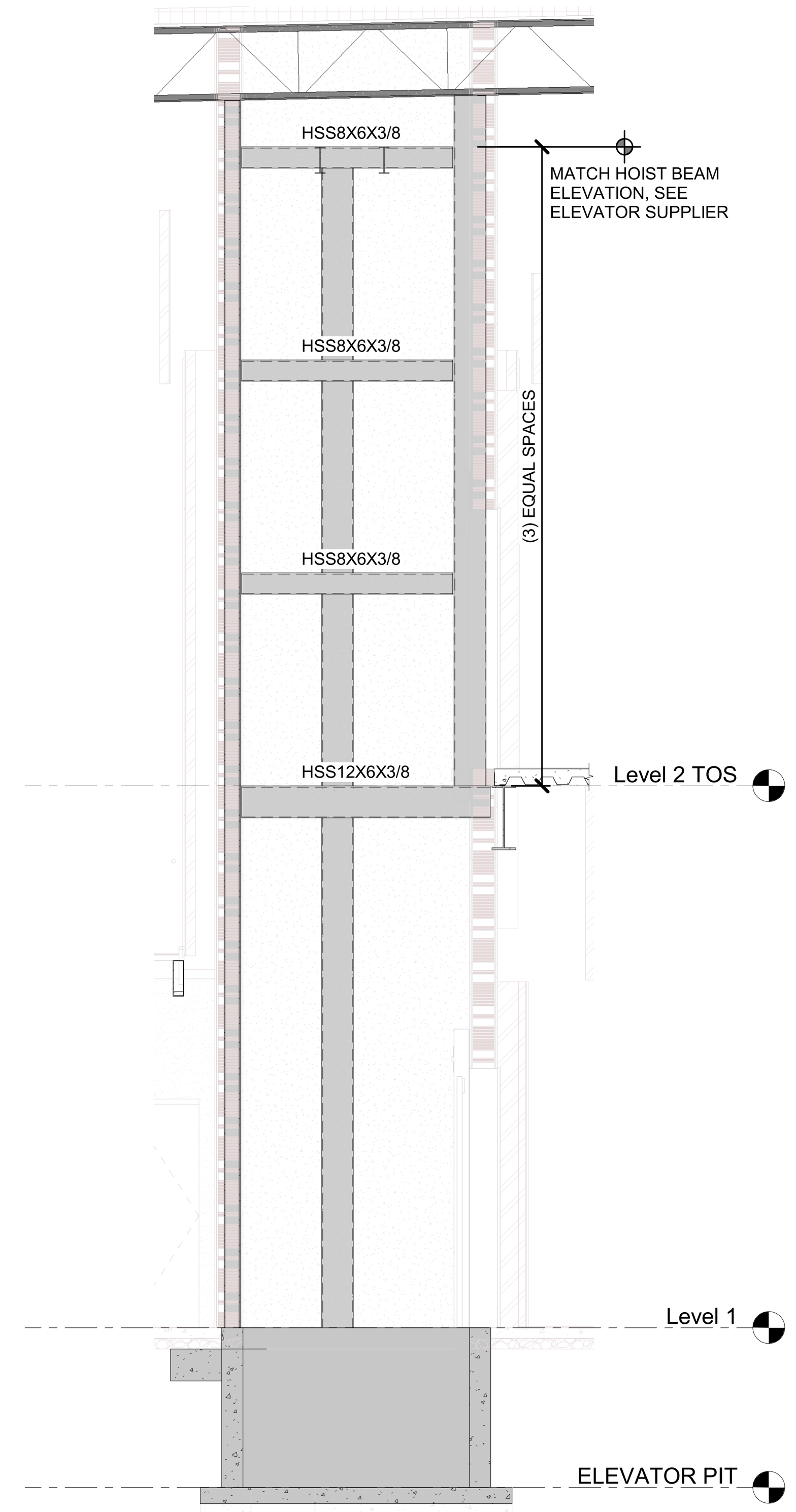
ENLARGED CENTRAL ELEVATOR - FOOTING & FOUNDATION PLAN
SCALE : 1/4" = 1'-0"
A
S122



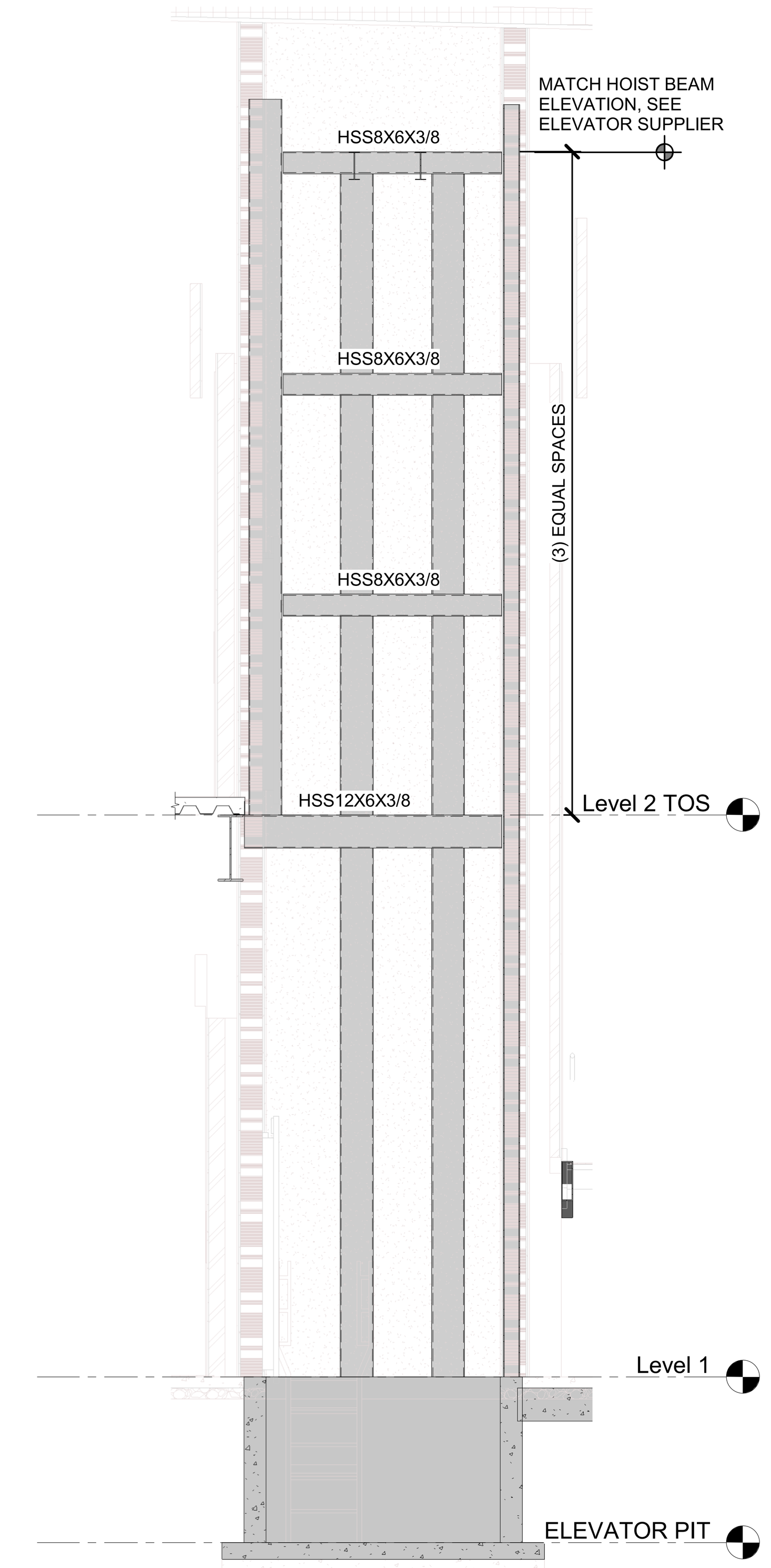
ENLARGED CENTRAL ELEVATOR - SECOND FLOOR FRAMING PLAN
SCALE : 1/4" = 1'-0"
B
S122



ELEVATION
SCALE : NONE
C
S122



ELEVATION
SCALE : NONE
D
S122



ELEVATION
SCALE : NONE
E
S122

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Arek Higgs
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09/10/25

ARW ENGINEERS

REV	DATE	DESCRIPTION
1	20250926	Addendum 001

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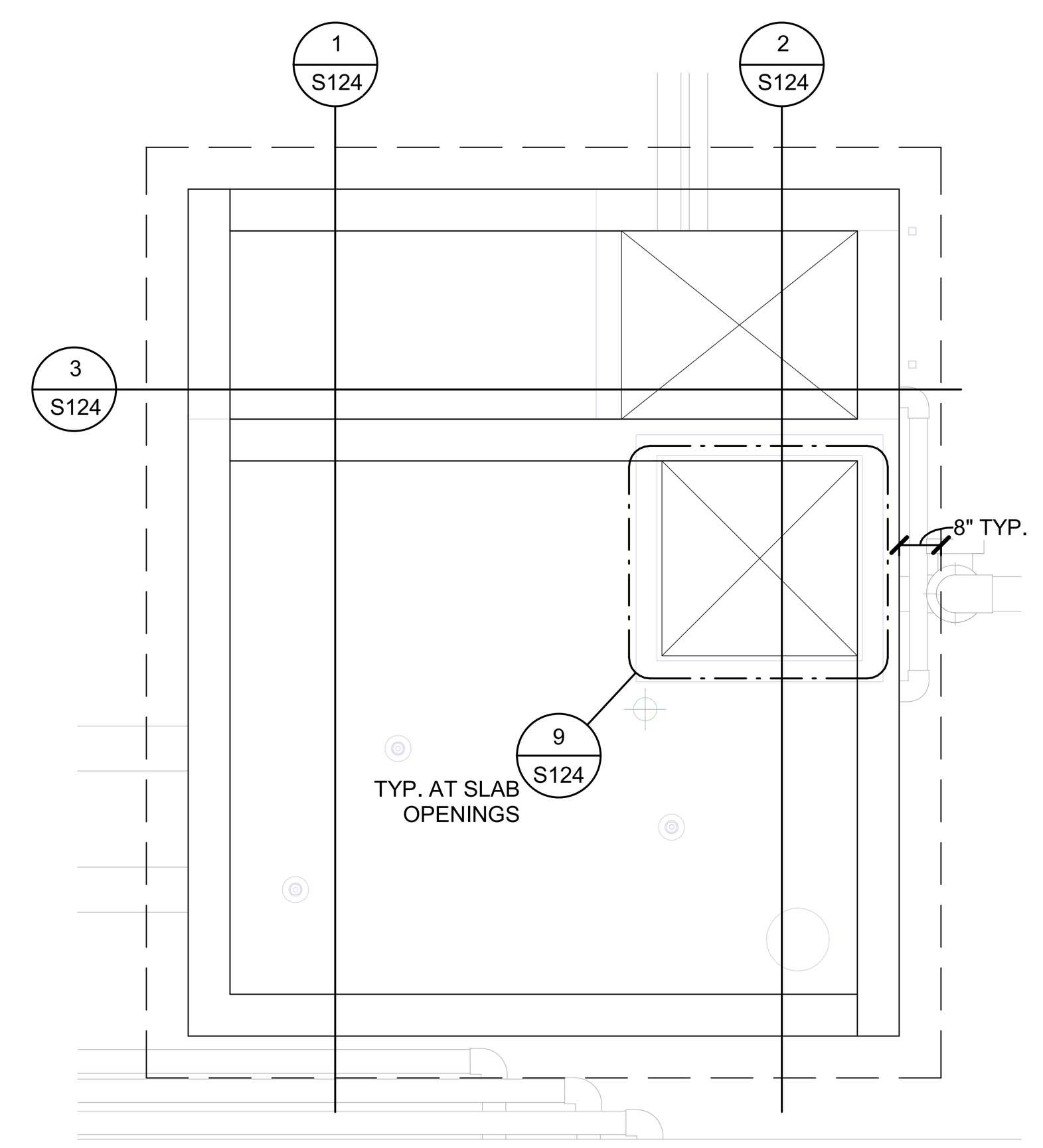
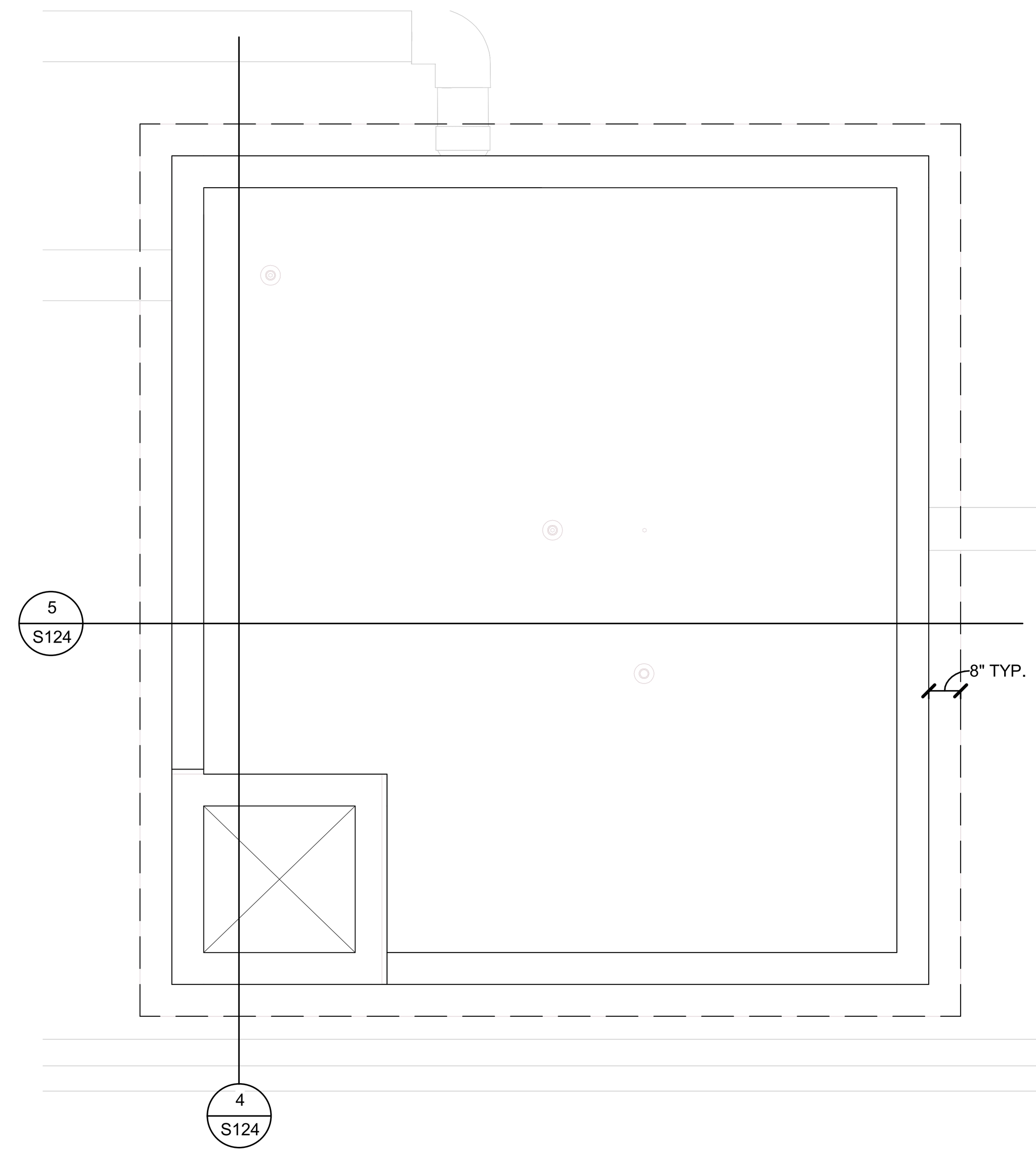
BID SET

ENLARGED PLANS AT ELEVATOR

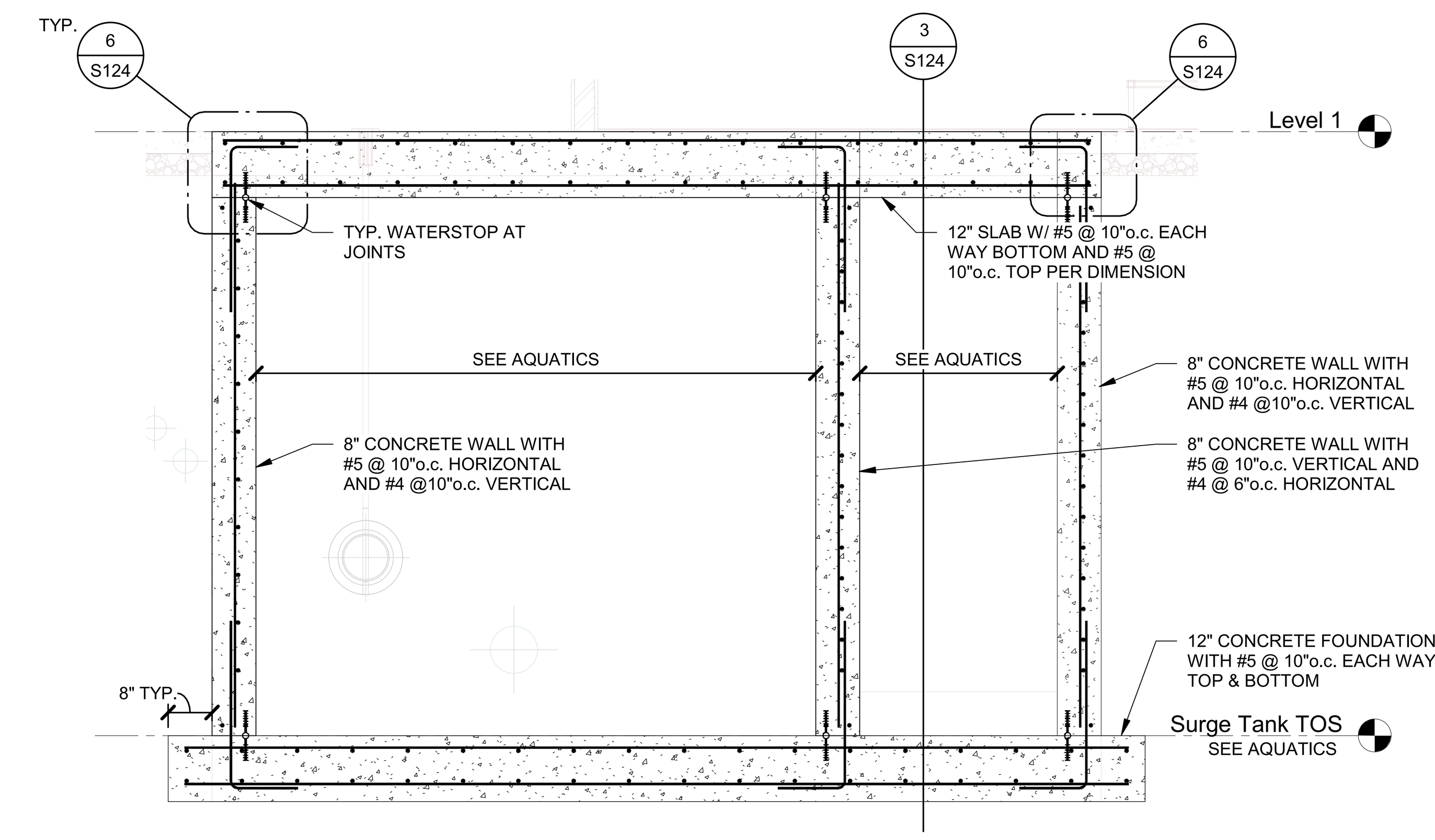
S122



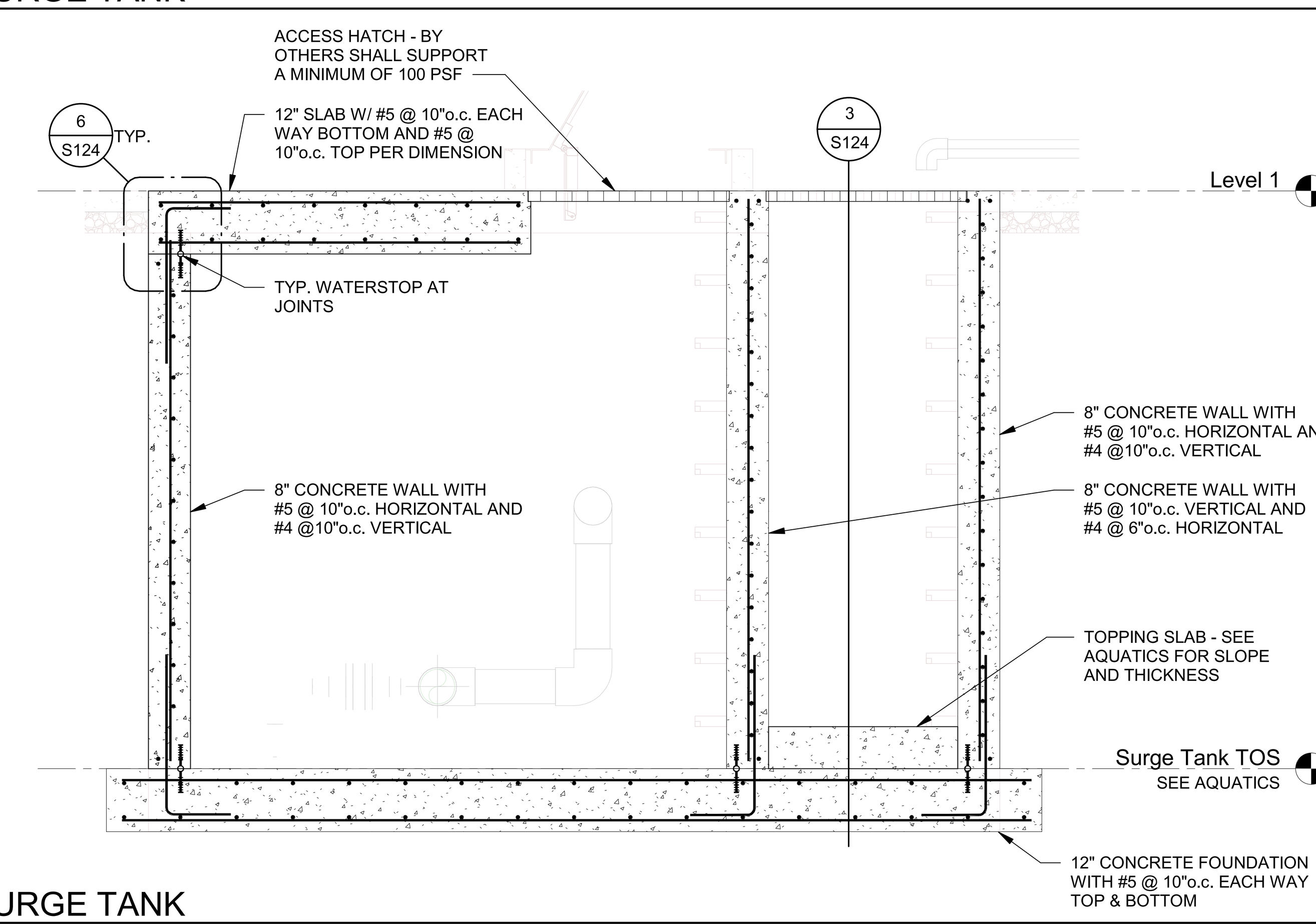
INTERIOR SURGE TANK
SCALE : 3/8" = 1'-0"
A S124



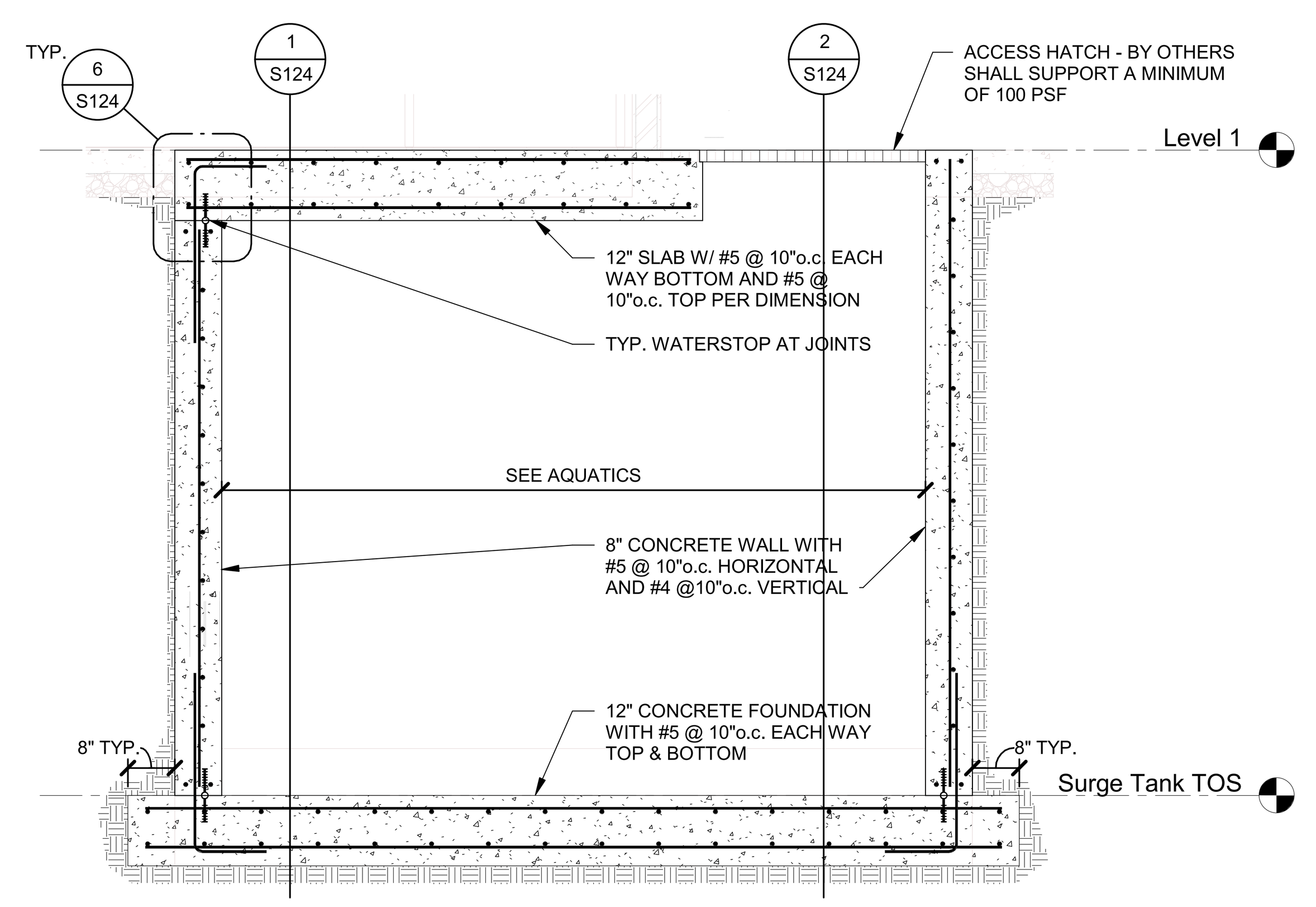
EXTERIOR SURGE TANK
SCALE : 3/8" = 1'-0"
B S124



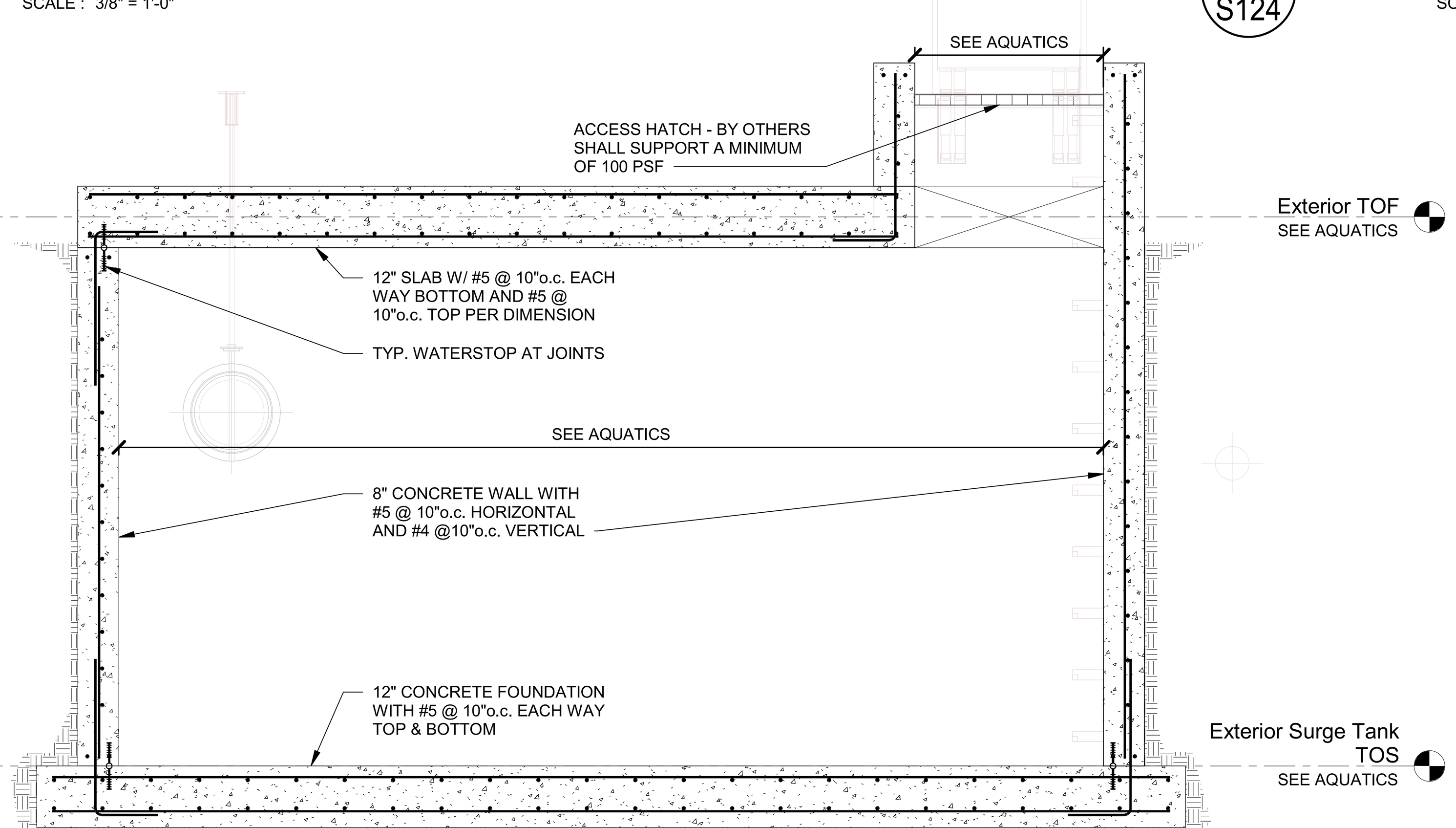
INTERIOR SURGE TANK
SCALE : NONE
1 S124



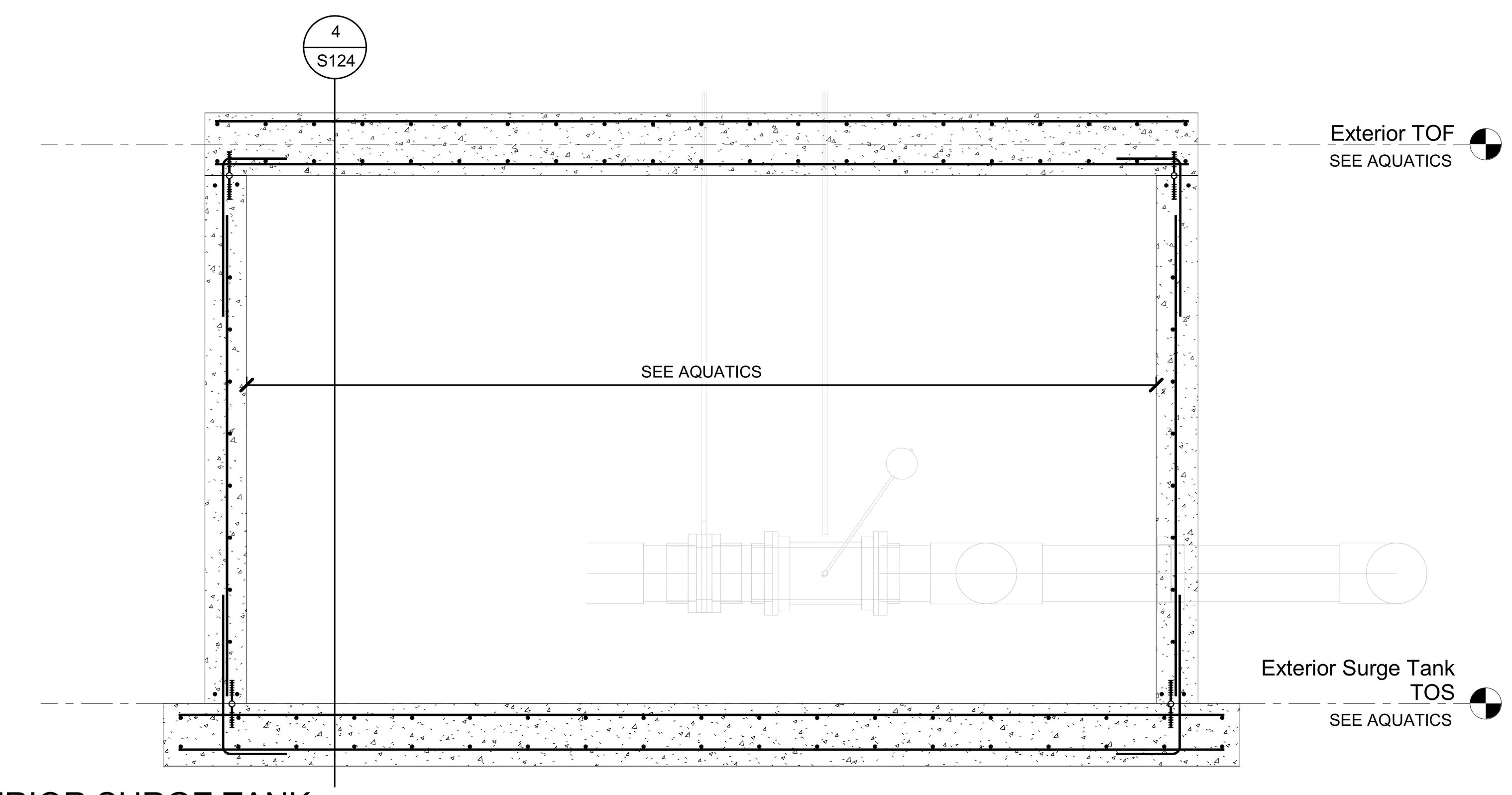
INTERIOR SURGE TANK
SCALE : NONE
2 S124



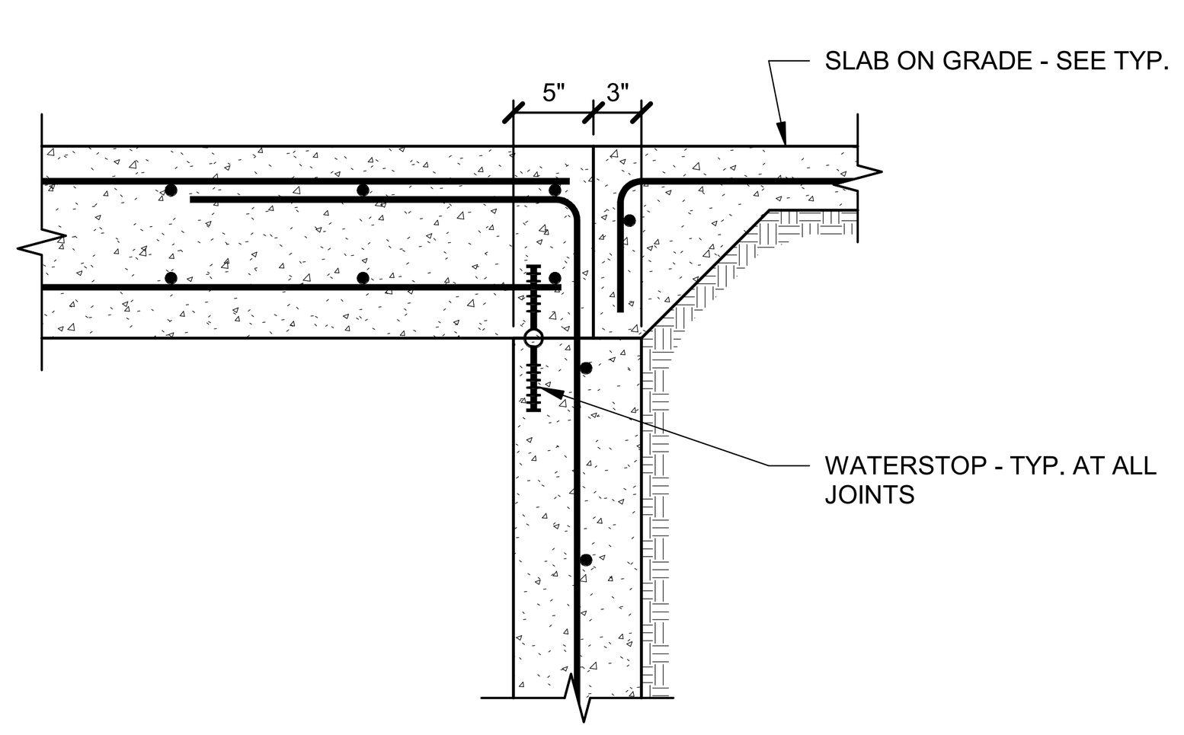
INTERIOR SURGE TANK
SCALE : NONE
3 S124



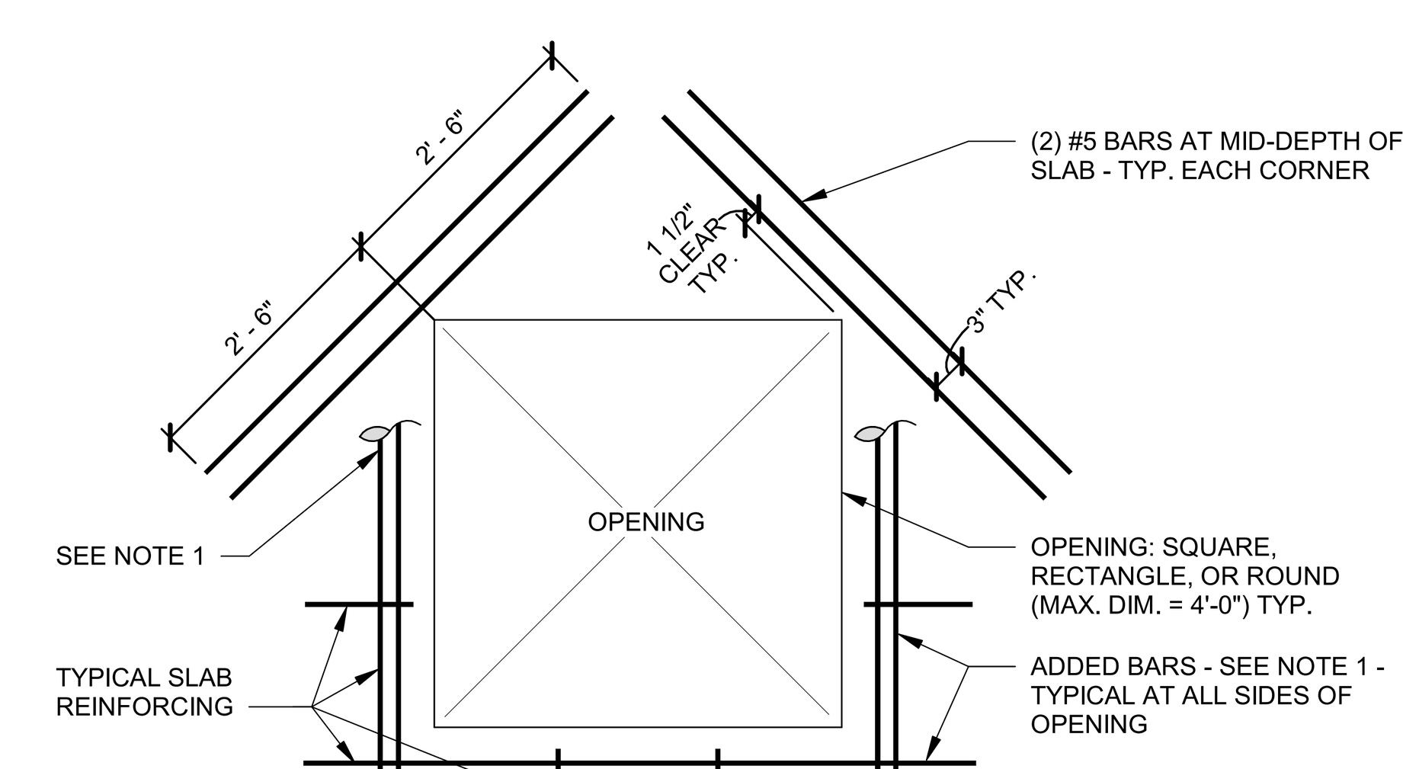
EXTERIOR SURGE TANK
SCALE : NONE
4 S124



EXTERIOR SURGE TANK
SCALE : NONE
5 S124



DETAIL
SCALE : NONE
6 S124



NOTES:
1. ALL TOP AND BOTTOM SLAB BARS INTERRUPTED BY THE OPENING SHALL BE REPLACED BY ADDITIONAL REINFORCING EQUAL TO THAT INTERRUPTED. PLACE HALF OF THE ADDITIONAL REINFORCING ON EACH SIDE OF THE OPENING AND EXTEND INTO THE FLOOR SLAB/WALL BY THE REQUIRED DEVELOPMENT LENGTH AS SPECIFIED IN THE REBAR LAP SPLICE SCHEDULE.
2. BOXED OUT OPENINGS, BOXED RECESSES, AND PIPE SLEEVE CLUSTERS SHALL BE TREATED AS FRAMED SLAB OPENINGS.

TYPICAL REINFORCING @ CONCRETE WALL & SLAB OPENINGS DETAIL
SCALE : NONE
9 S124

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10395604-2203 Arek Higgs STATE OF UTAH 09/10/25

ARW ENGINEERS

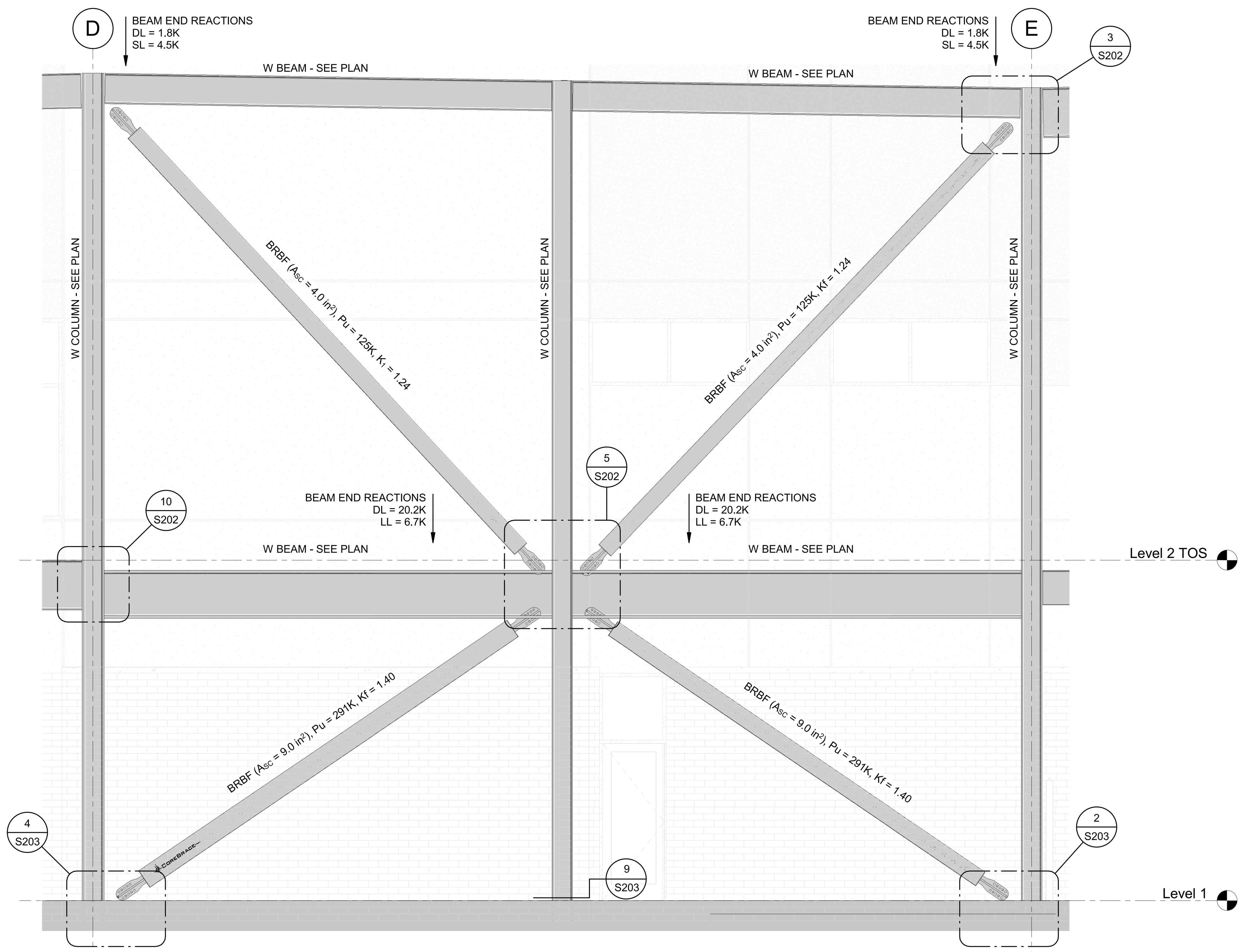
REV	DATE	DESCRIPTION
1	20250926	Addendum 001

HERRIMAN, UT
4684 W 12600 S
RIVERTON, UT 84096
BID SET

ENLARGED PLAN AT SURGE TANK

S124

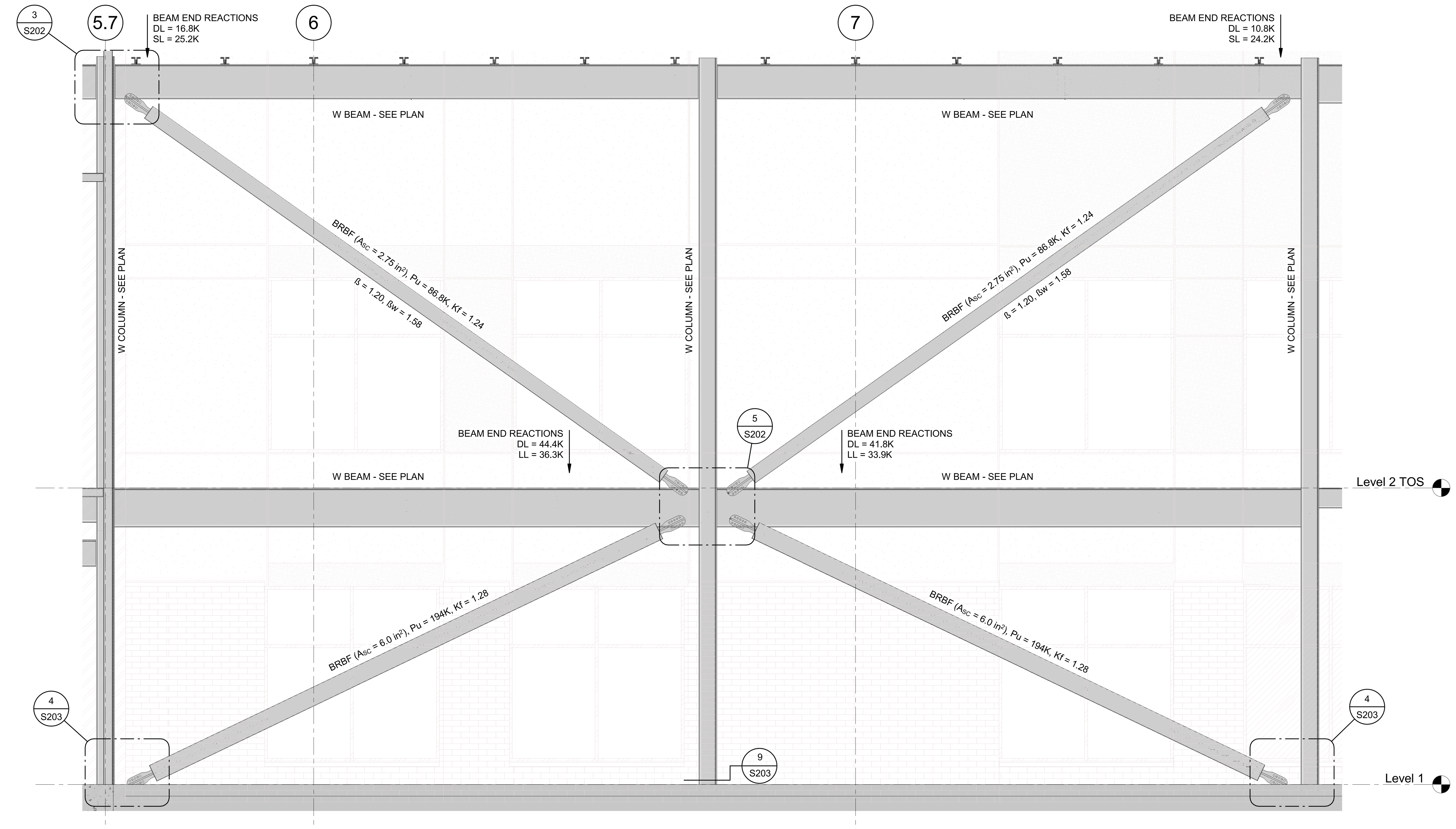
B.F. ELEVATION ALONG GRID 9



A S201

SCALE : 1/4" = 1'-0"
SEE S202 FOR BRACED FRAME NOTES

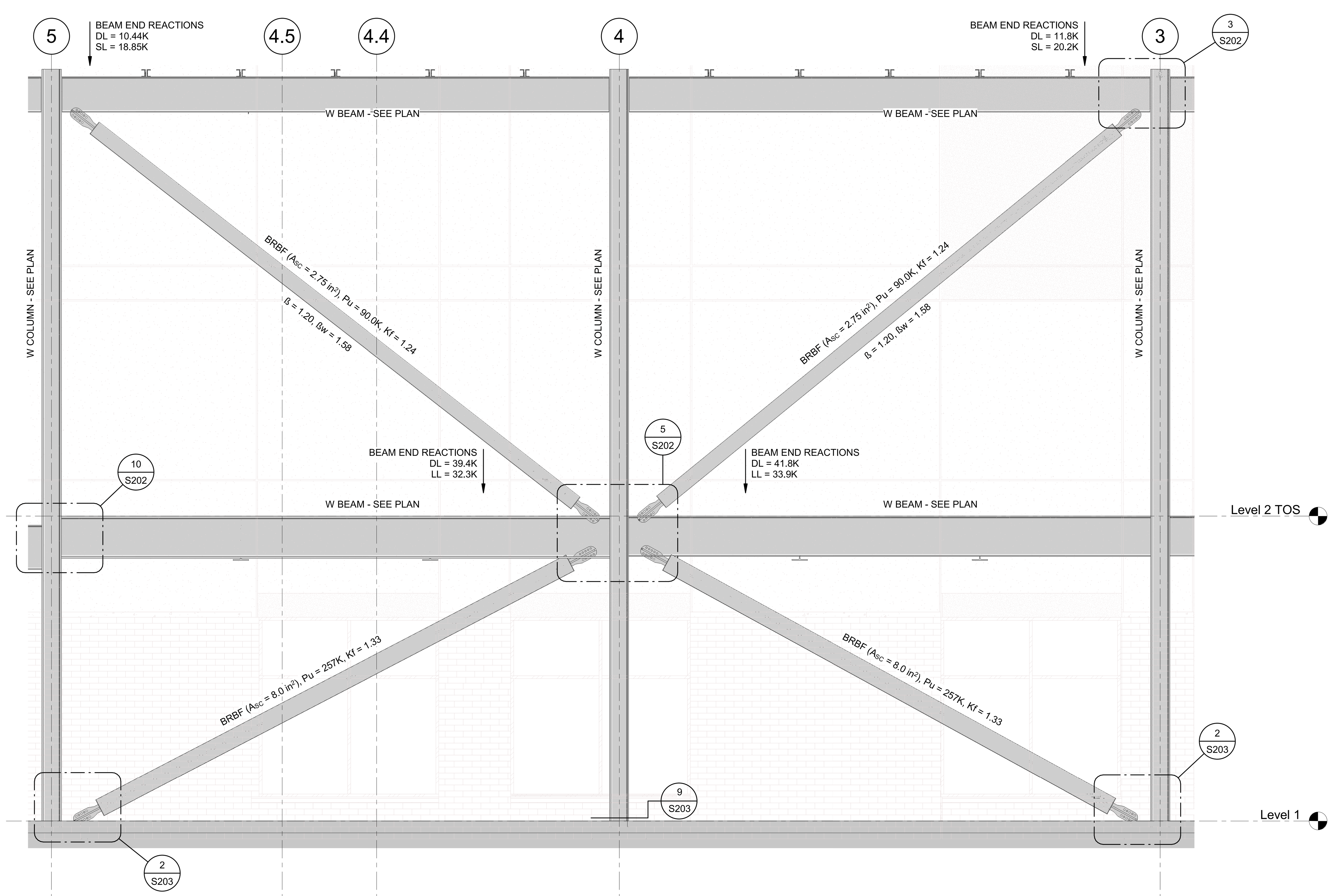
B.F. ELEVATION ALONG GRID B



B S201

SCALE : 1/4" = 1'-0"
SEE S202 FOR BRACED FRAME NOTES

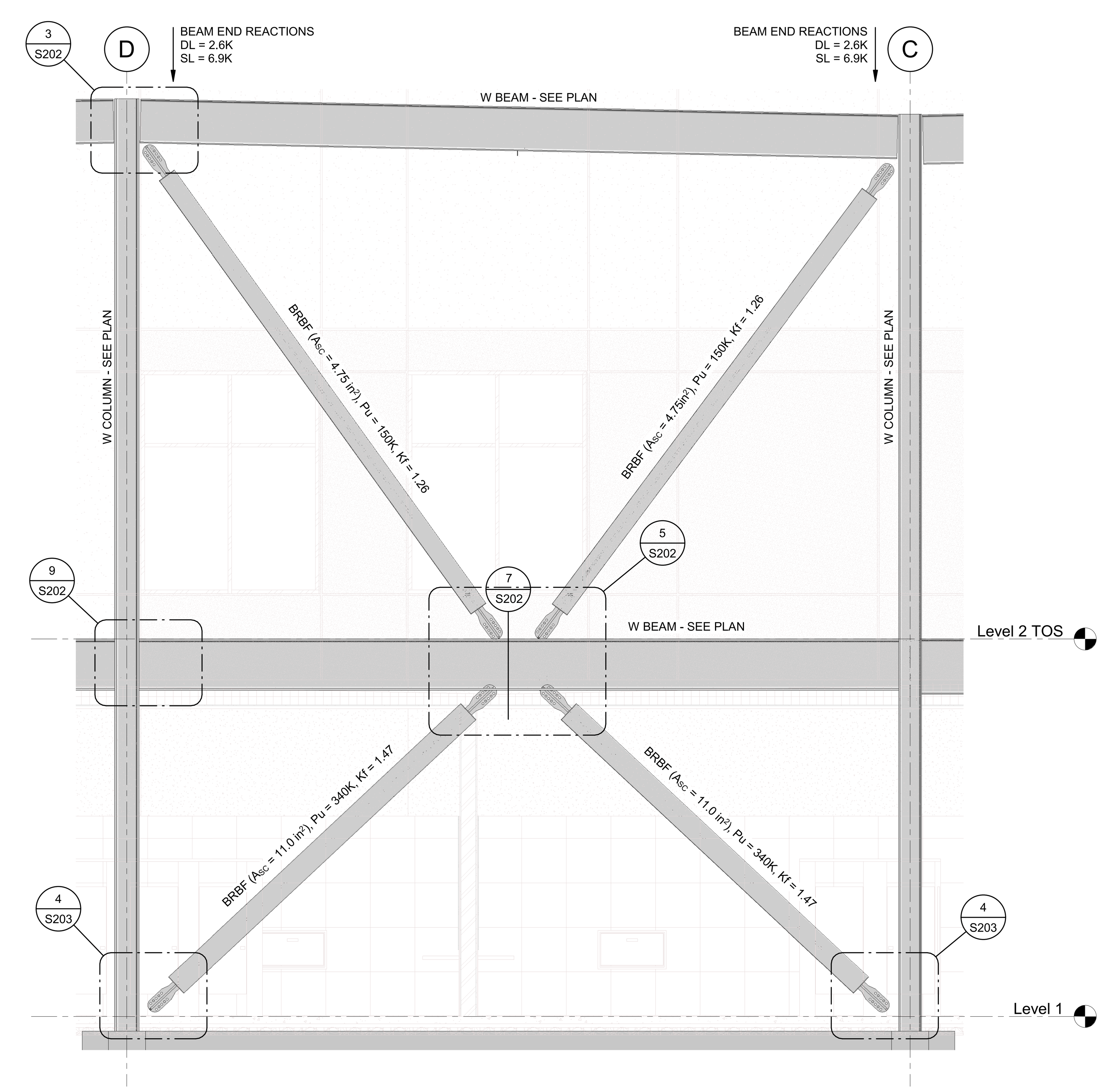
B.F. ELEVATION ALONG GRID F



C S201

SCALE : 1/4" = 1'-0"
SEE S202 FOR BRACED FRAME NOTES

B.F. ELEVATION ALONG GRID 1



D S201

SCALE : 1/4" = 1'-0"
SEE S202 FOR BRACED FRAME NOTES

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PROFESSIONAL STRUCTURAL ENGINEER No. 10396... Arek Higgs STATE OF UTAH 09/10/25

ARW ENGINEERS

CONFIDENTIALITY NOTICE

REV	DATE	DESCRIPTION
1	20250926	Addendum 001

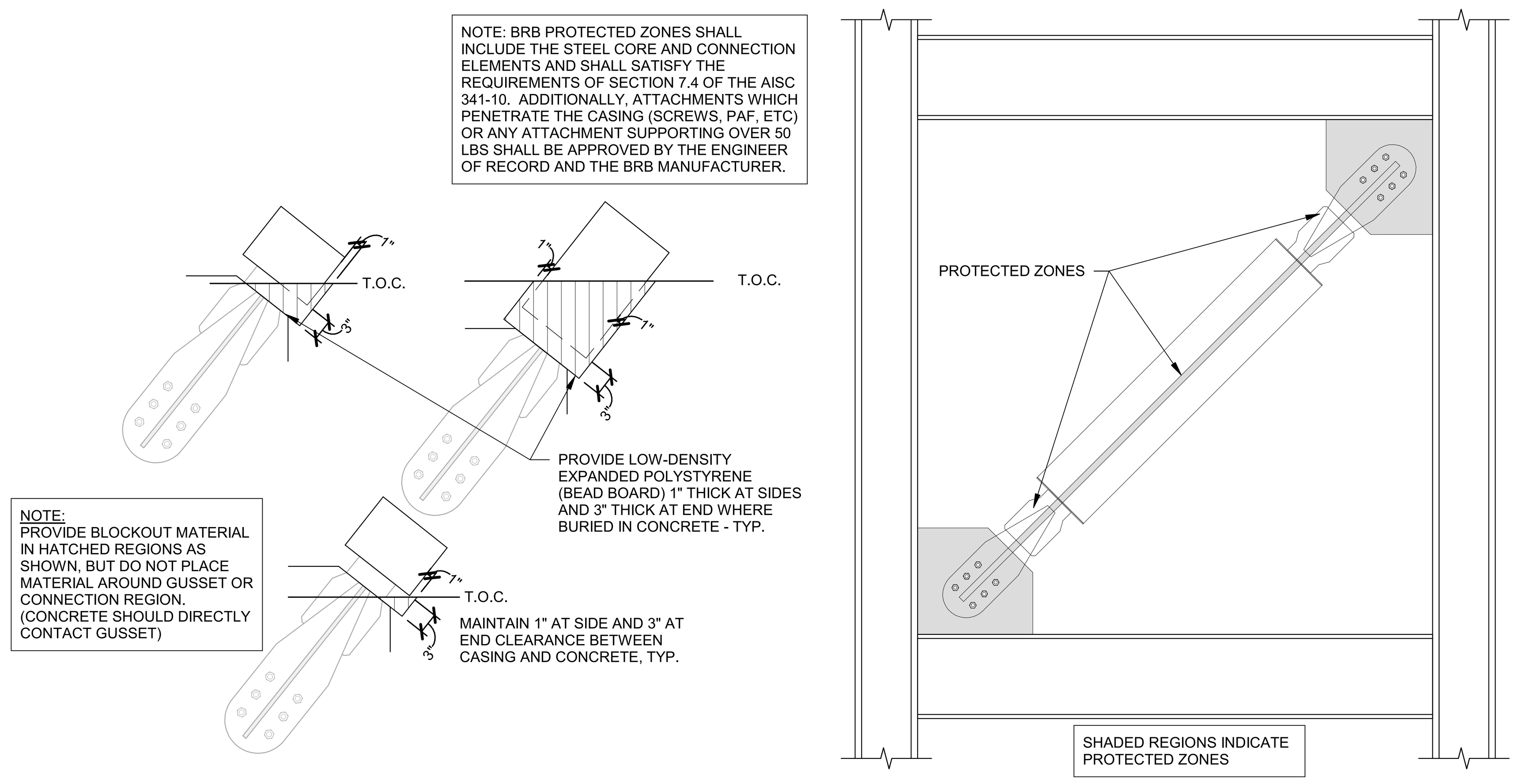
HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

BRACE FRAME ELEVATIONS

S201

12/15/2025 11:26:21 AM



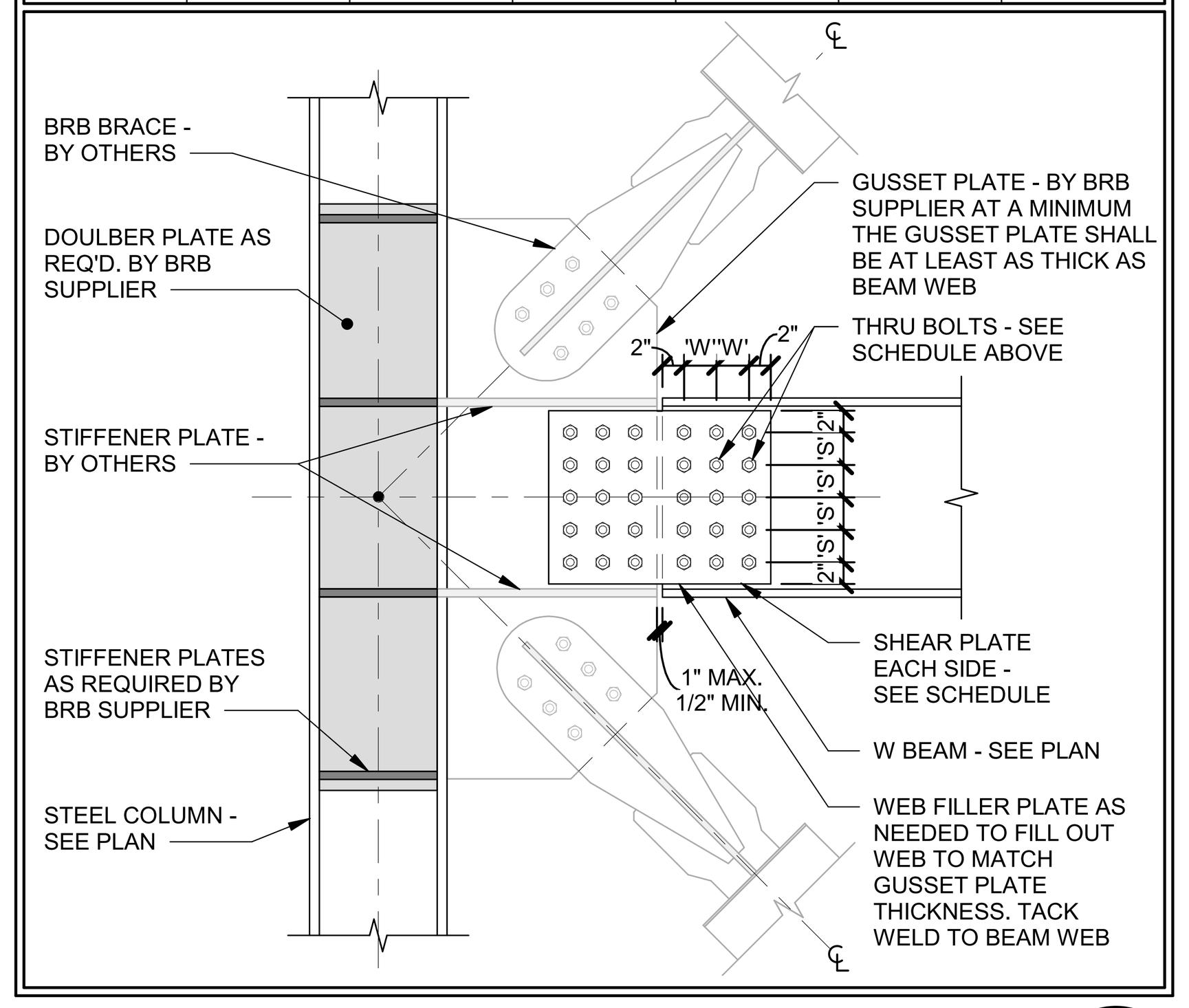
BRB TYPICAL CLEARANCES AROUND CASINGS BURIED IN CONCRETE AND PROTECTED ZONES

1 / S202 (L)

SCALE : NONE

BRB BEAM CONNECTION SCHEDULE

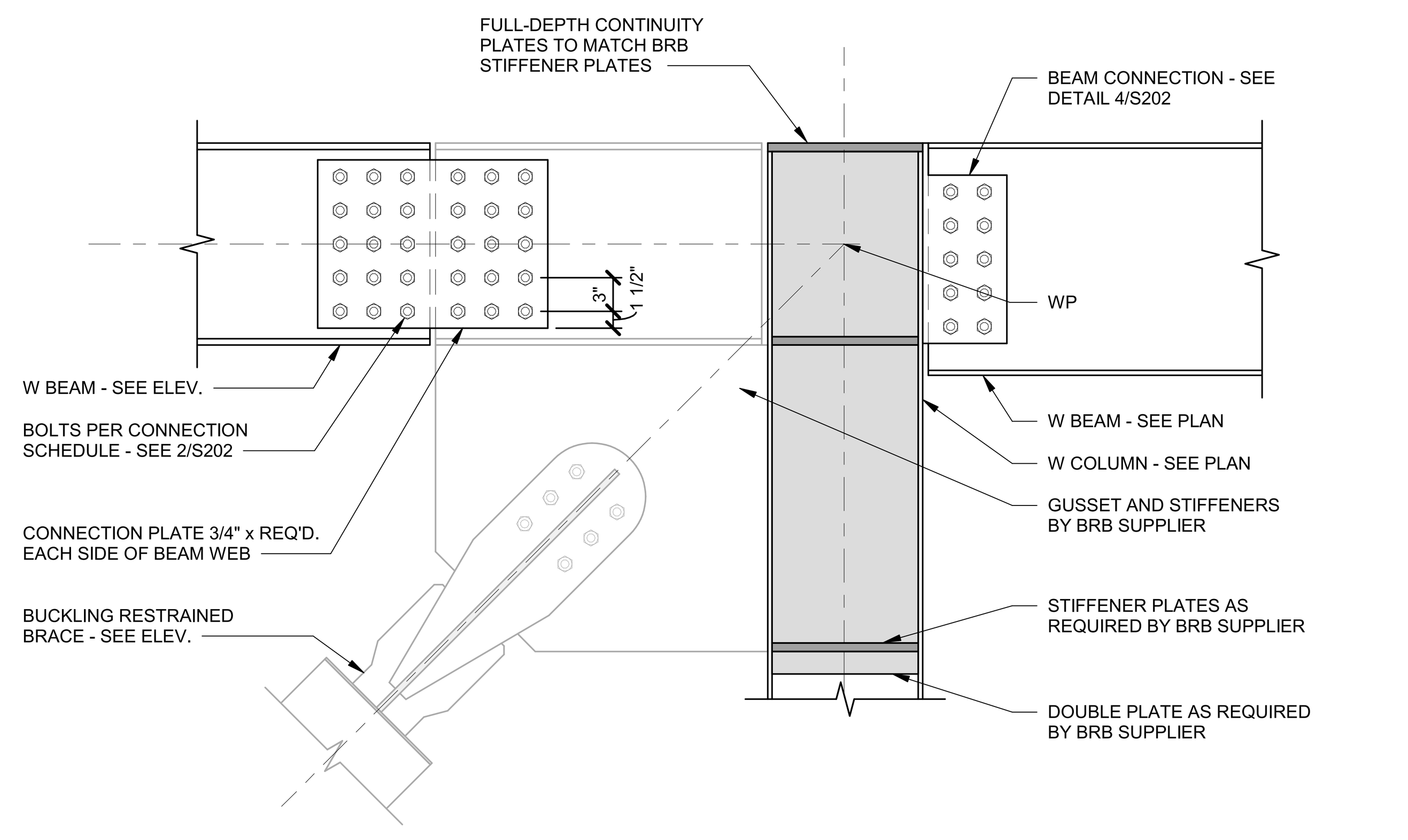
BEAM SIZE	SHEAR PL THICKNESS (in)	BOLT DIAMETER (in)	# OF ROWS OF BOLTS EA. SIDE	# OF BOLTS PER ROW EA. SIDE	'W' (in)	'S' (in)
W18	3/8	3/4	(5)	(3)	3	3
W24	1/2	7/8	(6)	(3)	3	3
W27	1/2	7/8	(7)	(3)	3	3



DETAIL

2 / S202 (L)

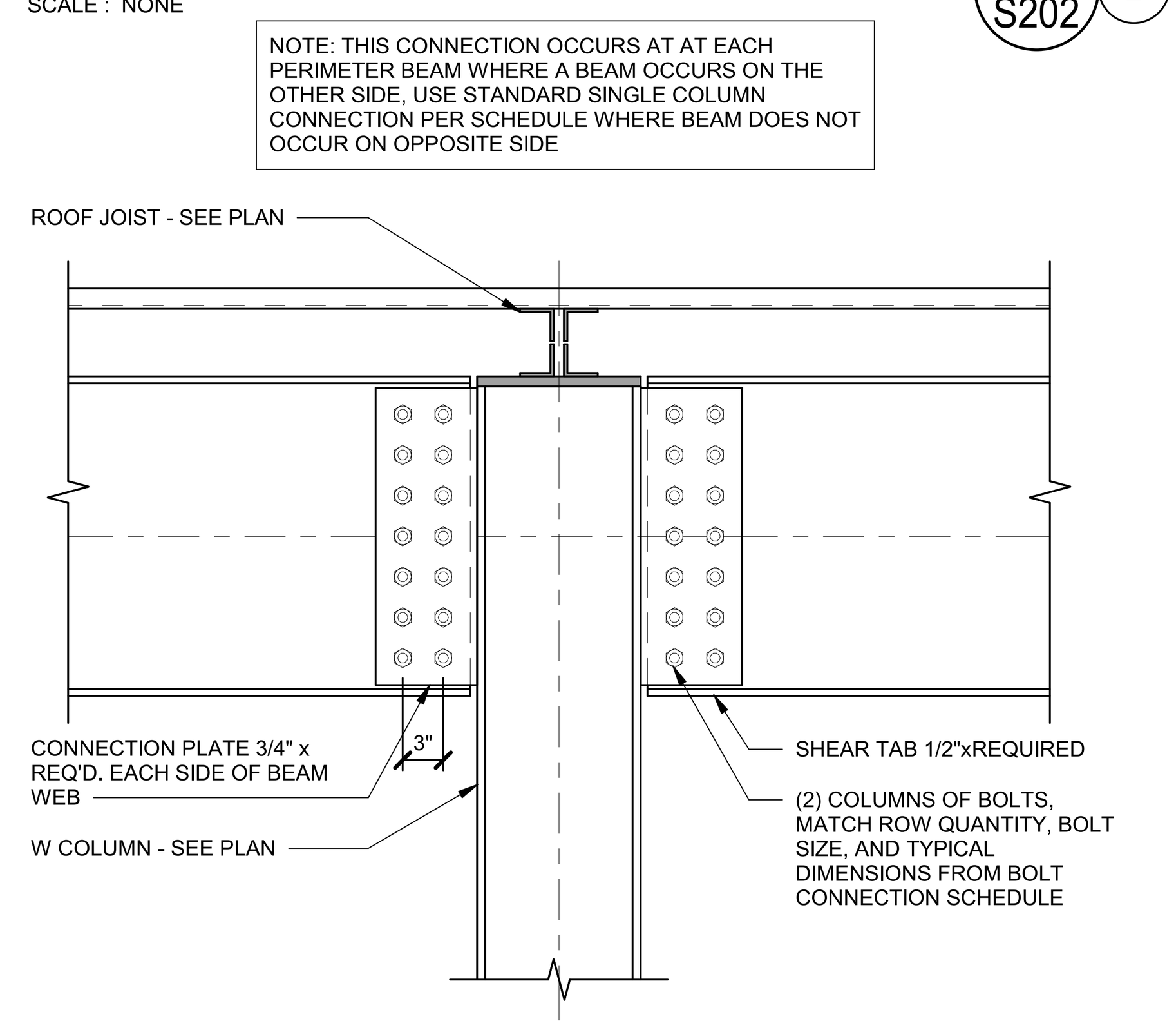
SCALE : NONE



DETAIL

3 / S202 (L)

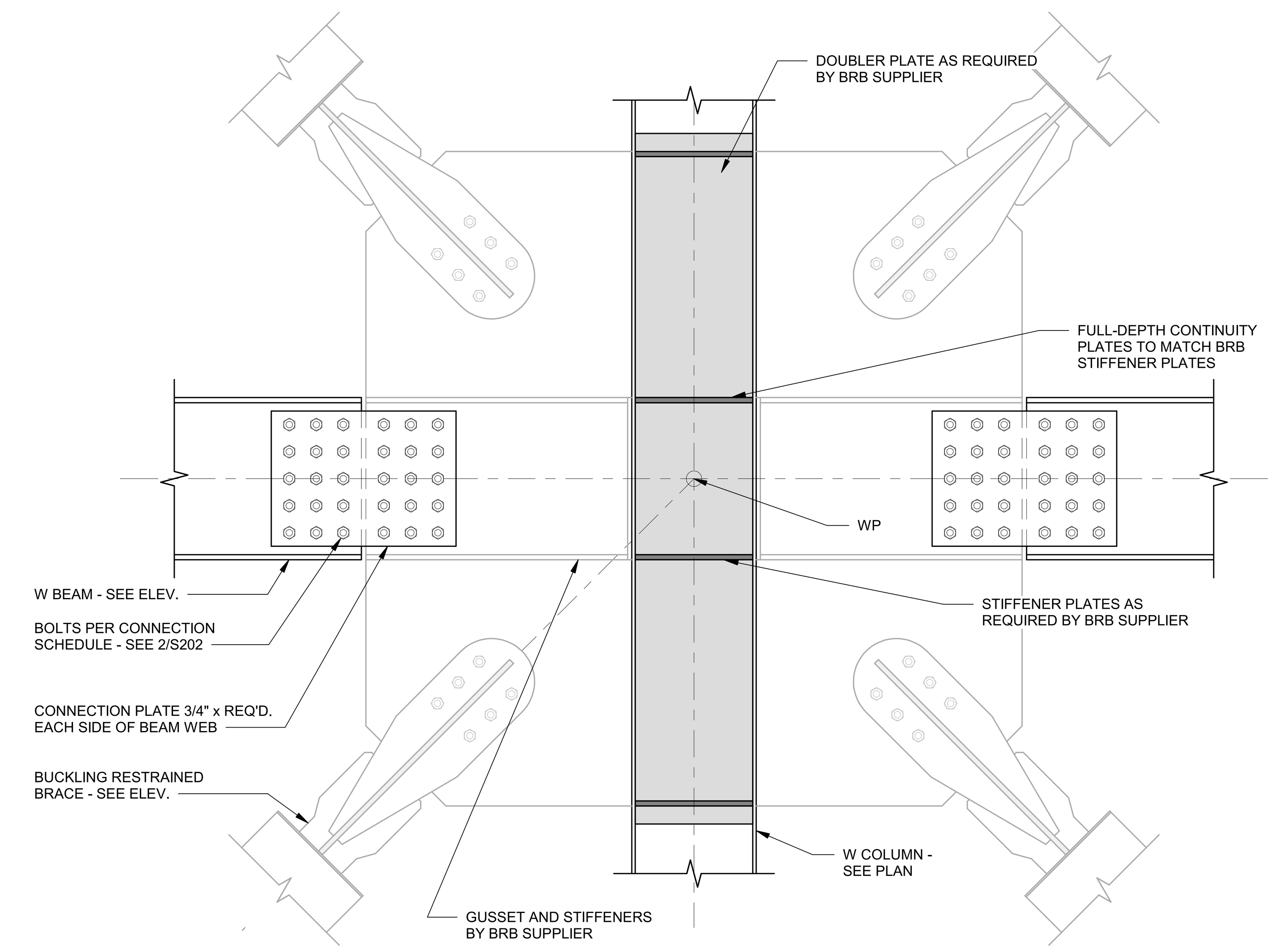
SCALE : NONE



ROOF PERIMETER BEAM CONNECTION

4 / S202 (L)

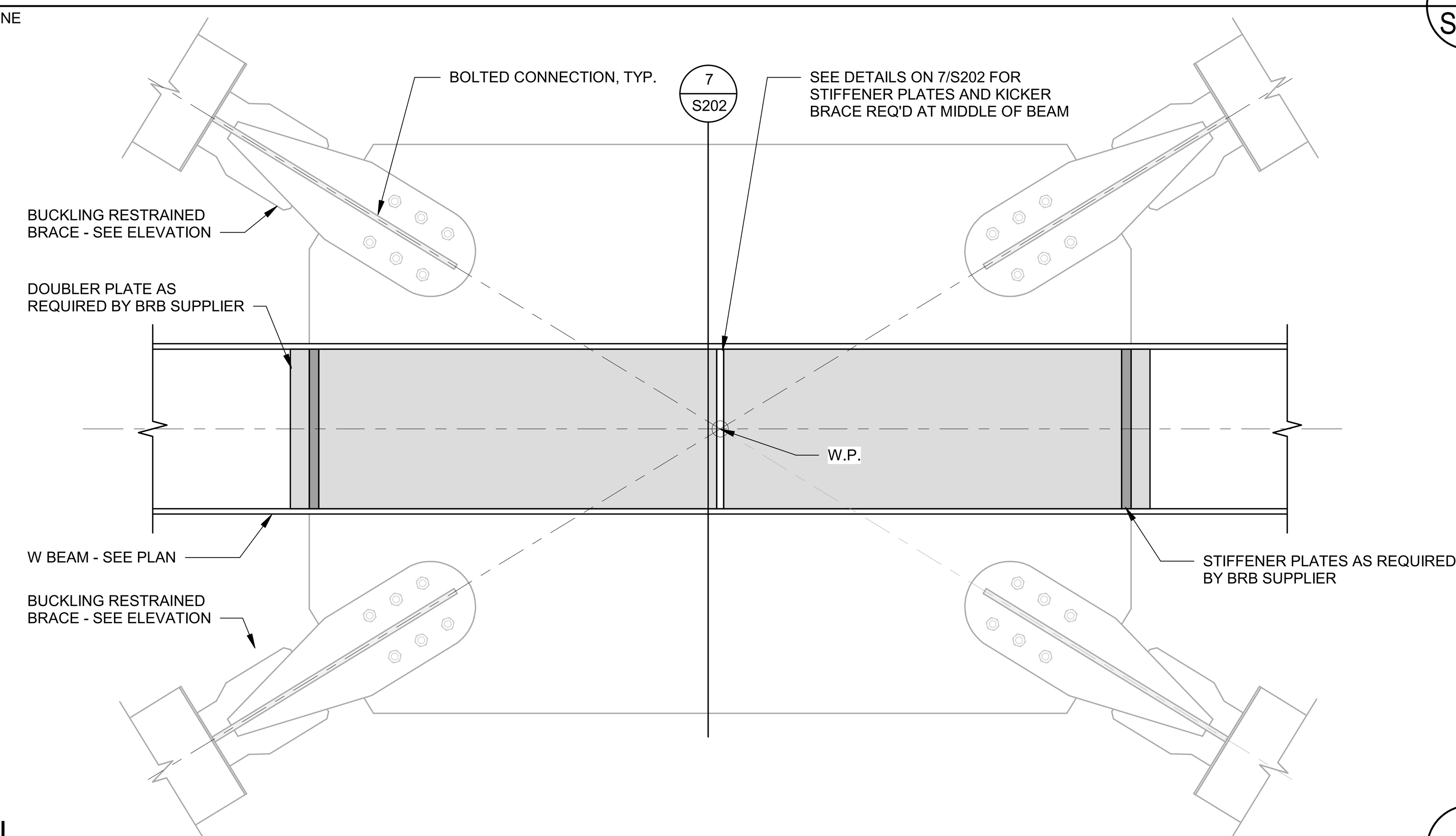
SCALE : NONE



DETAIL

5 / S202 (L)

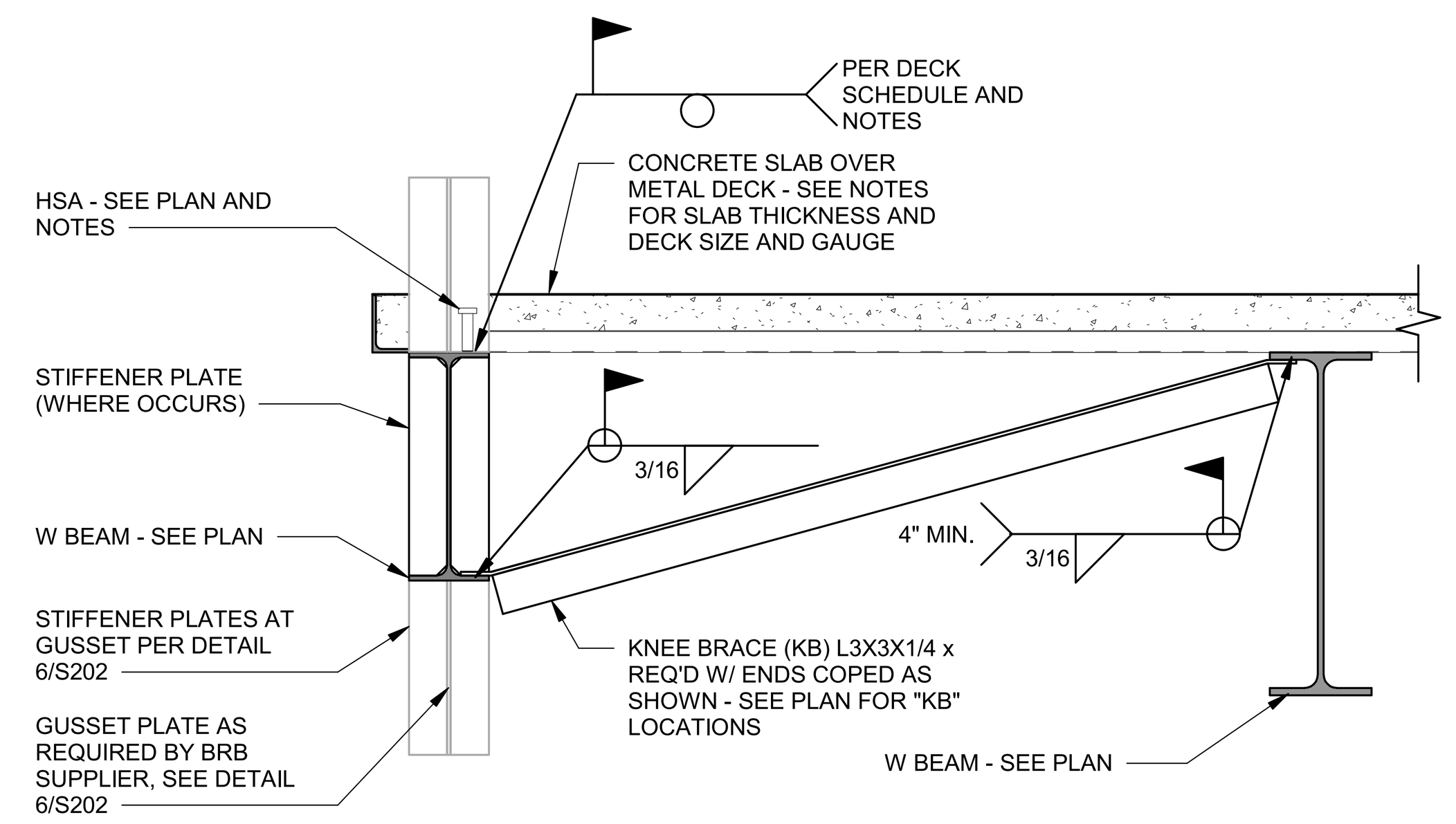
SCALE : NONE



DETAIL

6 / S202 (L)

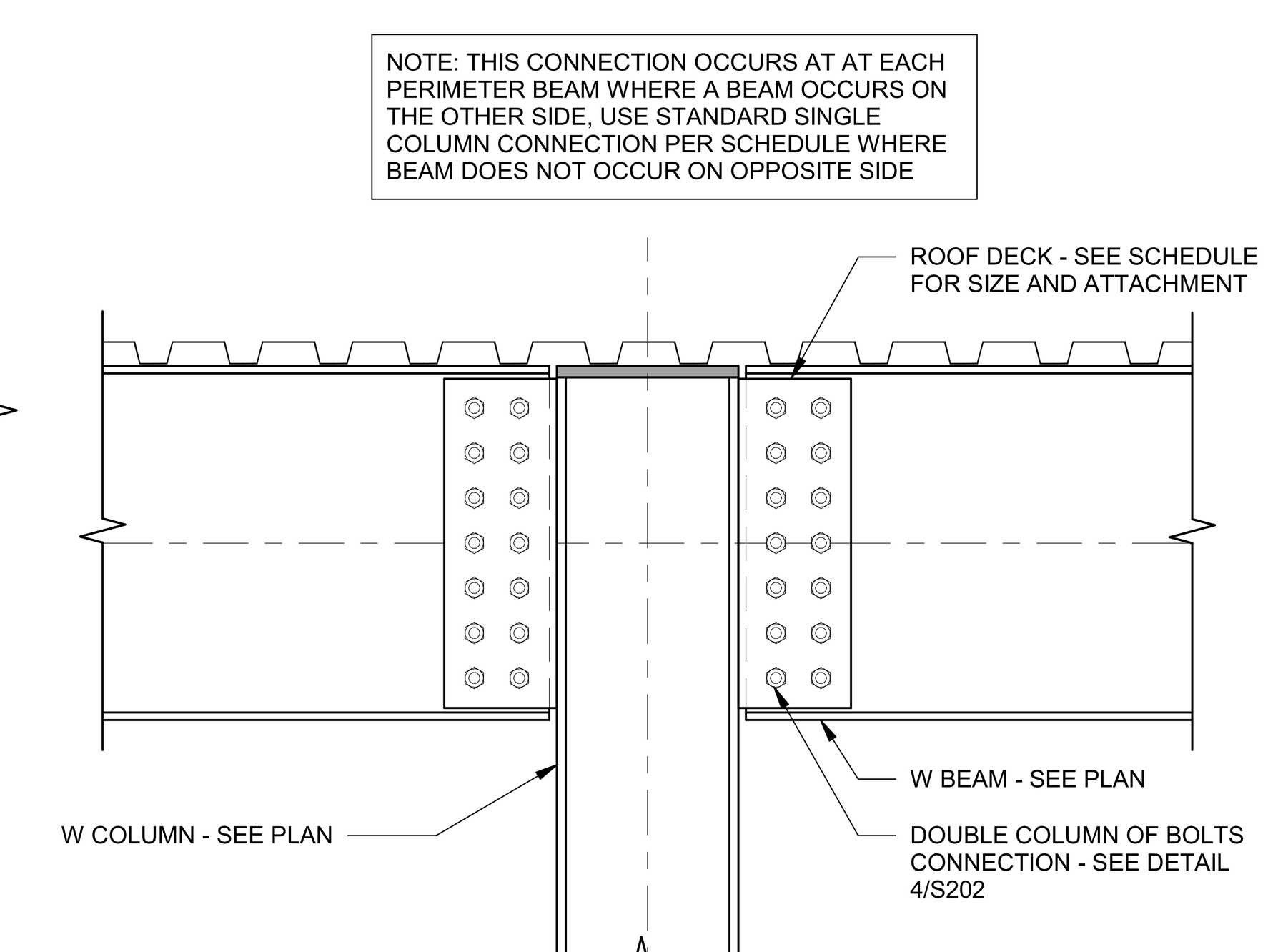
SCALE : NONE



PERPENDICULAR FLOOR JOIST BRACING

7 / S202 (L)

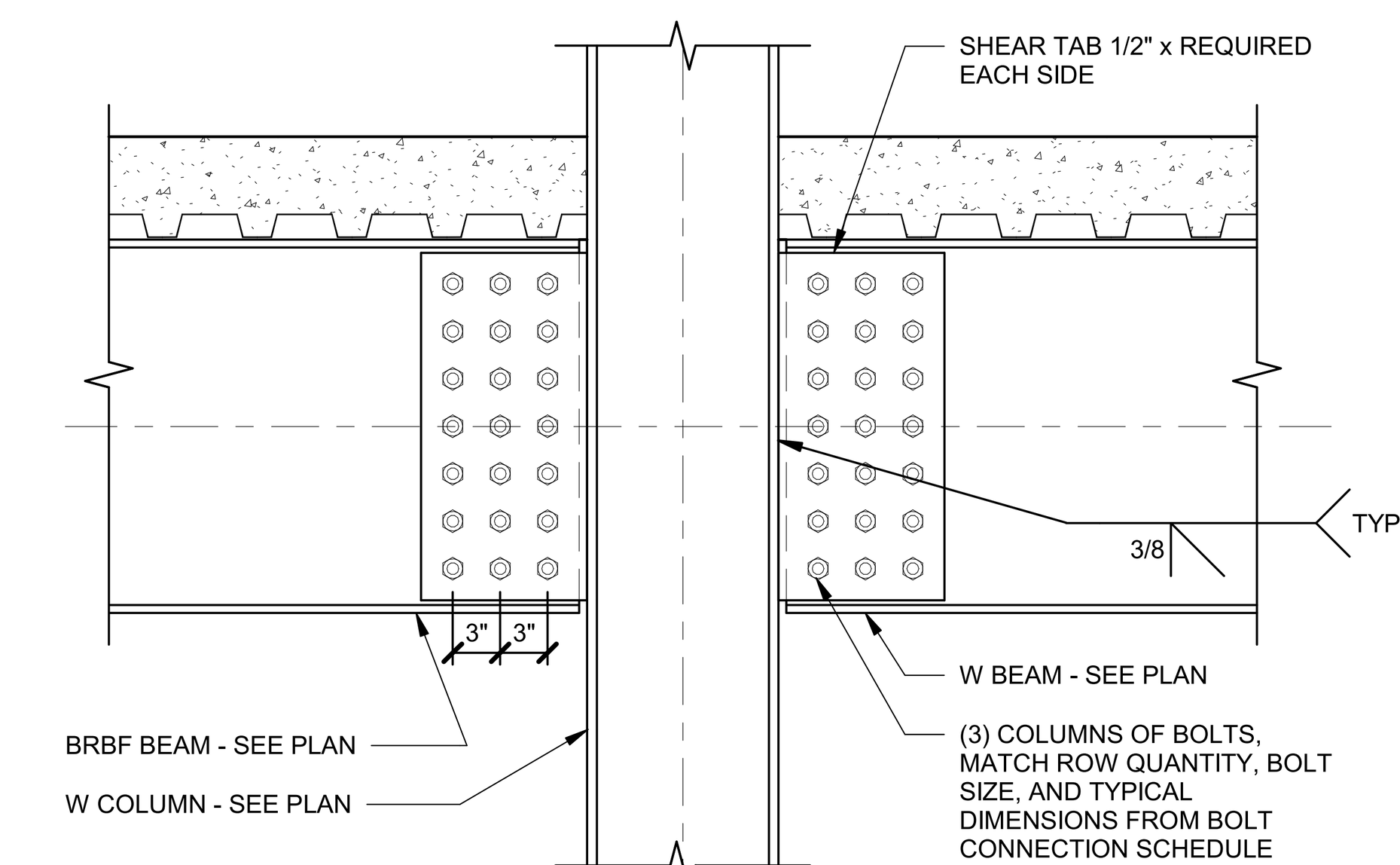
SCALE : NONE



ROOF PERIMETER BEAM CONNECTION

8 / S202 (L)

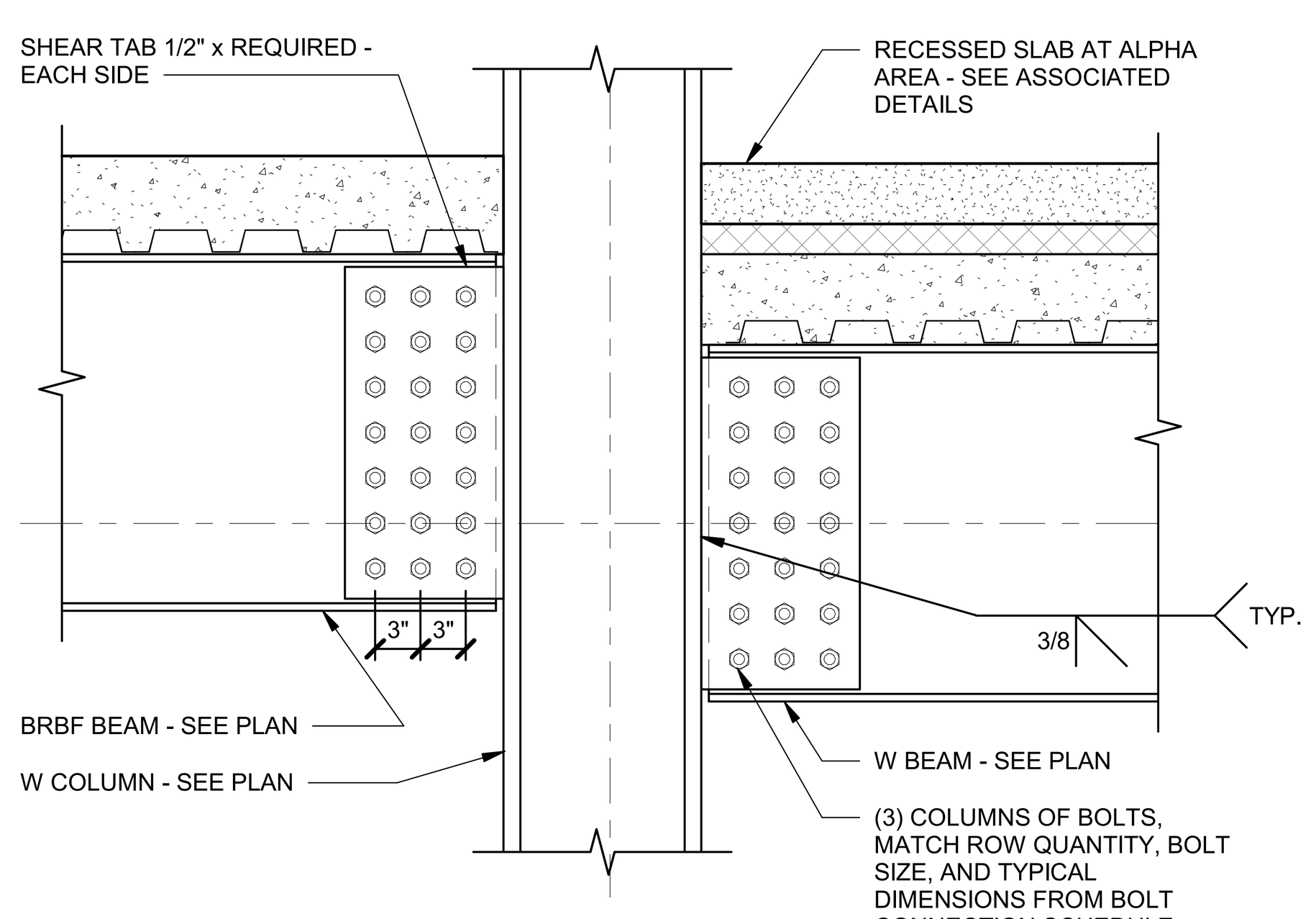
SCALE : NONE



FLOOR DRAG BEAM CONNECTION

9 / S202 (L)

SCALE : NONE



FLOOR DRAG BEAM CONNECTION

10 / S202 (L)

SCALE : NONE

BUCKLING RESTRAINED BRACED FRAME NOTES :

1. DESIGN OF GUSSET PLATE AND CONNECTIONS OF PLATES TO COLUMNS AND BEAMS SHALL BE PROVIDED BY THE BRBF SUPPLIER.
2. GUSSET PLATES AND PORTIONS OF BRACES EXTENDING 4-1/2" FROM THE END OF THE SLEEVES ARE PROTECTED ZONES. NO WELDS OR ATTACHMENTS MAY BE MADE TO THESE AREAS. SEE TYPICAL DETAILS FOR EXTENT AND LIMITATIONS OF PROTECTED ZONES.
3. WHERE BRACES OR GUSSET ELEMENTS ARE EMBEDDED IN SLABS, PROVIDE 1/2" COMPRESSIBLE MATERIAL BETWEEN ELEMENTS AND SLAB.
4. ALL BRACES BELOW FLOOR FRAMING MUST BE INSTALLED PRIOR TO POURING CONCRETE FLOORS.
5. BUCKLING RESTRAINED BRACES SHALL BE DESIGNED AND TESTED AS FOLLOWS :
   a. BUCKLING RESTRAINED BRACES ARE TO BE TESTED PER THE PROVISIONS OF AISC 341-16. BRACE SUPPLIER SHALL SUBMIT PROOF OF EACH BRACE'S COMPLIANCE WITH THE QUALIFIED LOAD AND STRAIN RANGES.
   b. Pu IS THE GOVERNING CODE LEVEL FORCE IN THE BRACE BASED ON LRFD FORCE LEVELS. SEE BRACED FRAME ELEVATIONS. Pu ≤ 0.9*Asc*Fymin.
   c. THE ACTUAL YIELD STRESS OF THE STEEL CORE (F_{ysc}) SHALL BE DETERMINED BY A COUPON TEST (38 KSI ≤ F_{ysc} ≤ 46 KSI). CHARPY TESTING IS REQUIRED WHEN THE THICKNESS OF THE CORE MATERIAL EXCEEDS 2".
   d. BRACE STIFFNESS, Keff, TO BE CALCULATED AS KF*Asc*E/Lwp-wp(±10%), WHERE THE VALUES FOR THE STIFFNESS MODIFICATION FACTOR (K_1)=1.2, Asc IS TAKEN FROM THE BRACED FRAME ELEVATIONS, AND Lwp-wp IS THE WORKPOINT-TO-WORKPOINT LENGTH OF THE BRACE.
   e. BRACE STRAINS TO BE CALCULATED AS Pservice=Pu/(ρI), WHERE ρ=1.0 AND I=1.0.
   f. MAXIMUM βω NOT TO EXCEED 1.52 AND MAXIMUM β NOT TO EXCEED 1.17. U.N.O. ON ELEVATIONS.

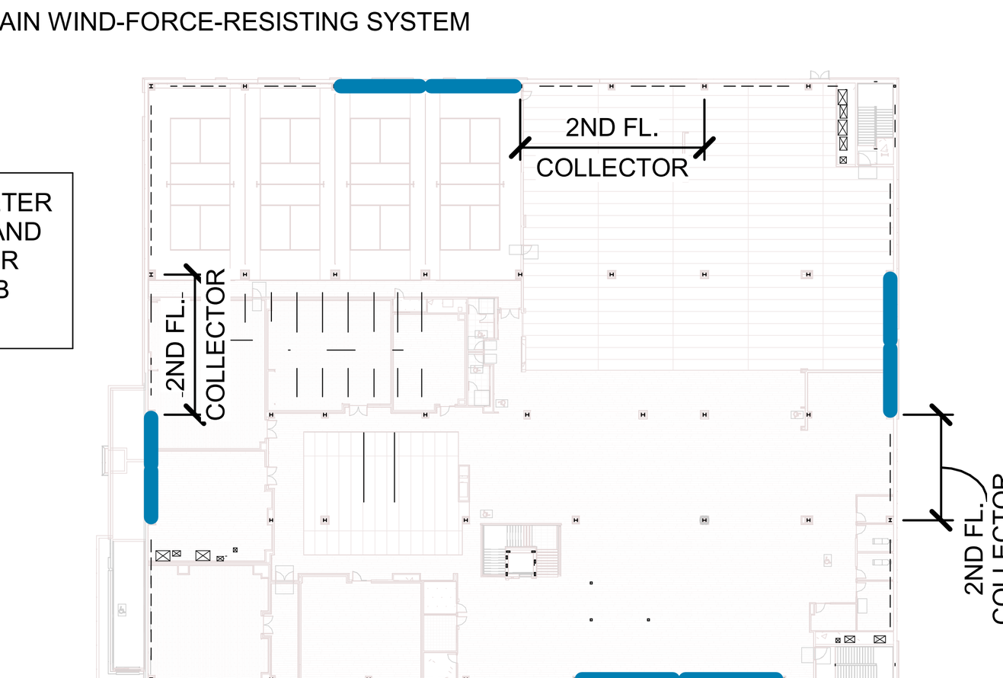
QUALITY ASSURANCE PLAN

ESTABLISHED PER 2000 IBC SECTION 1705.2

ITEM	DESCRIPTION
SPECIAL INSPECTIONS & TESTING	REFER TO SPECIAL INSPECTION SCHEDULE
STRUCTURAL OBSERVATIONS	OBSERVATION VISITS SHALL BE PERFORMED AS NEEDED TO VERIFY THE CONSTRUCTION OF CRITICAL BUILDING ELEMENTS, SUCH AS : FOOTINGS, BRACED FRAMES, COLLECTORS, AND FLOOR AND ROOF DIAPHRAGMS. OBSERVATION REPORTS FOR EACH VISIT SHALL BE SENT DIRECTLY TO THE ARCHITECT FOR DISTRIBUTION TO THE CONTRACTOR AND BUILDING OFFICIAL.

DESIGNATED SEISMIC & MAIN WIND-FORCE-RESISTING SYSTEM

NOTE: ALL ROOF PERIMETER FRAMING ARE CHORDS AND COLLECTORS, SEE FLOOR FRAMING PLAN FOR SLAB REINFORCEMENT



BRACED FRAME KEY PLAN

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10396064-2203 Arek Higgs STATE OF UTAH 09/10/25

ARW ENGINEERS structural consultants
1594 W. Park Circle
Ogden, Utah 84404
+1 801 782 6008
arwengineers.com

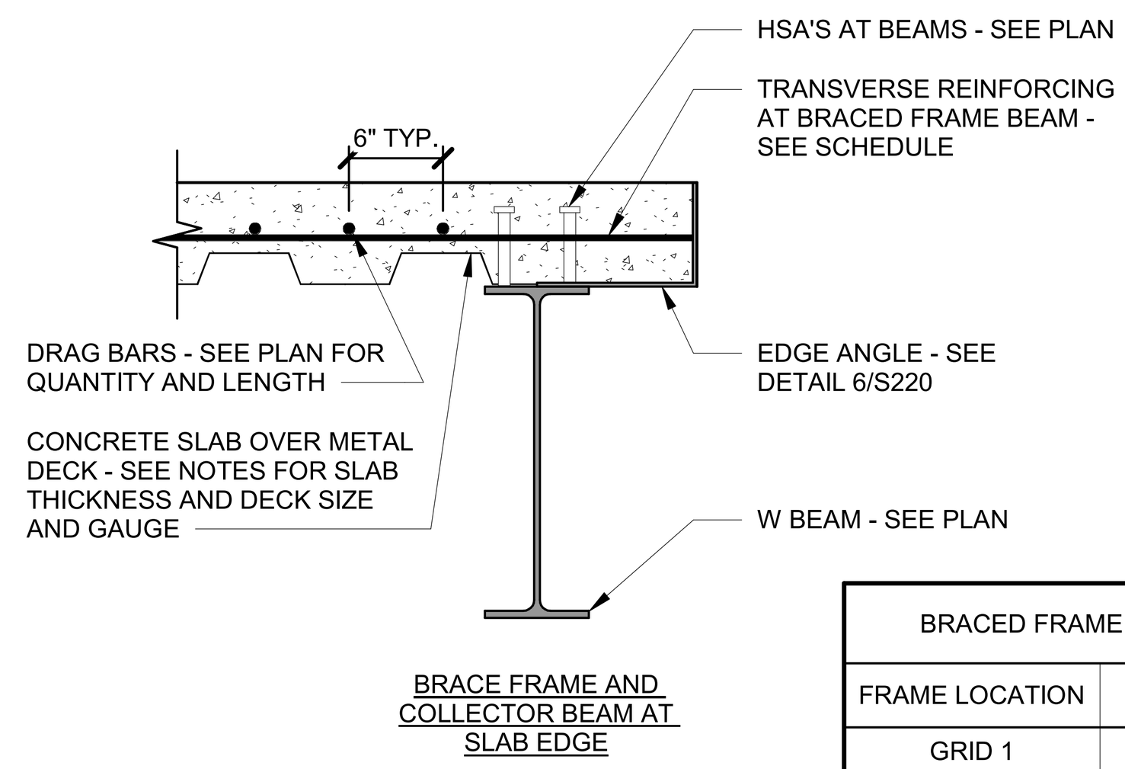
REV	DATE	DESCRIPTION

HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

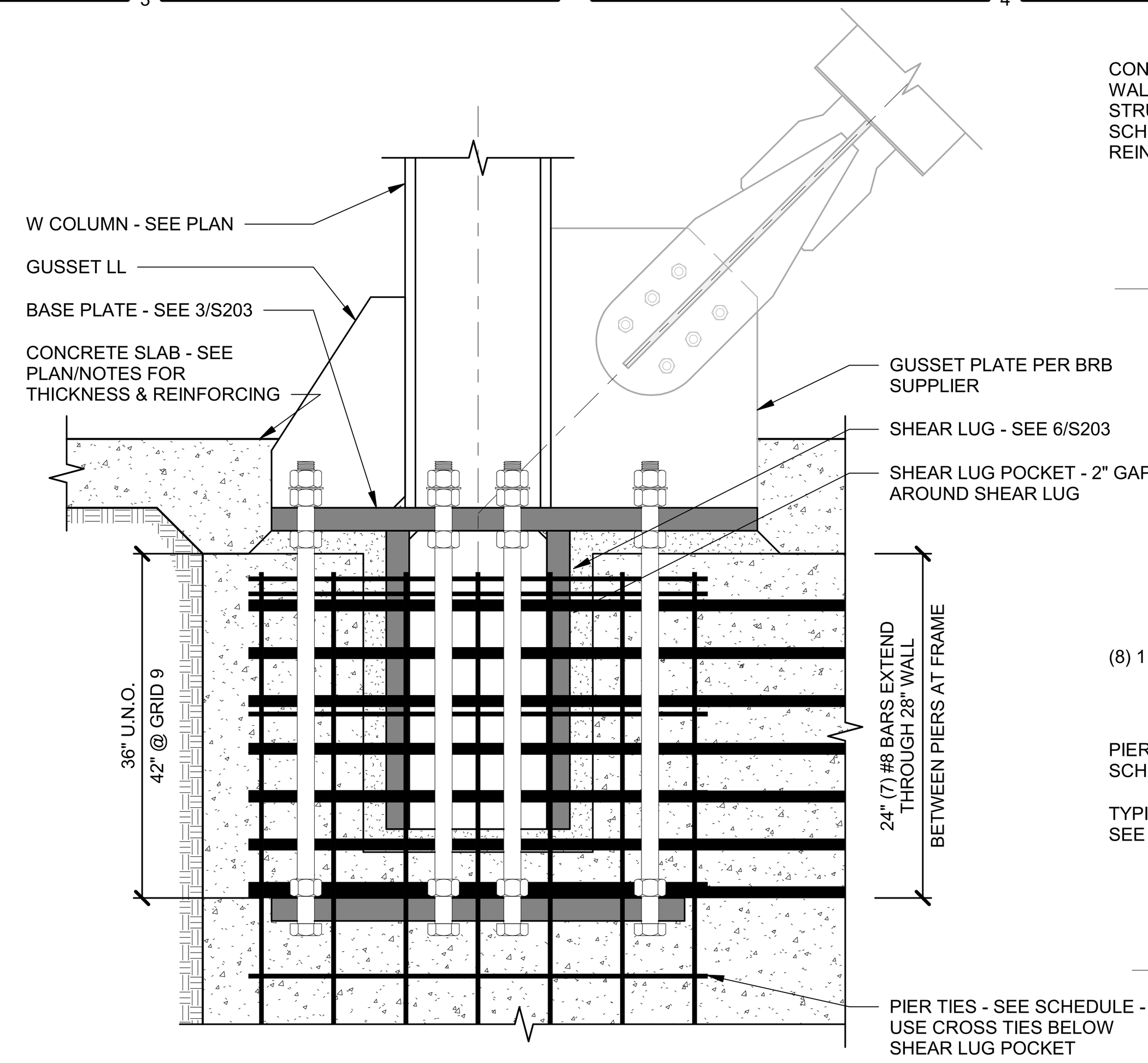
BRACE FRAME DETAILS

S202



BRACED FRAME BEAM TRANSVERSE REINFORCING			
FRAME LOCATION	LEVEL	BAR SIZE	BAR SPACING
GRID 1	2nd	#4	18"
GRID 9	2nd	#4	18"
GRID B	2nd	#4	18"
GRID F	2nd	#4	18"

DETAIL 1/S203
SCALE : NONE



BRACE FRAME ANCHORAGE AT PIER 2/S203
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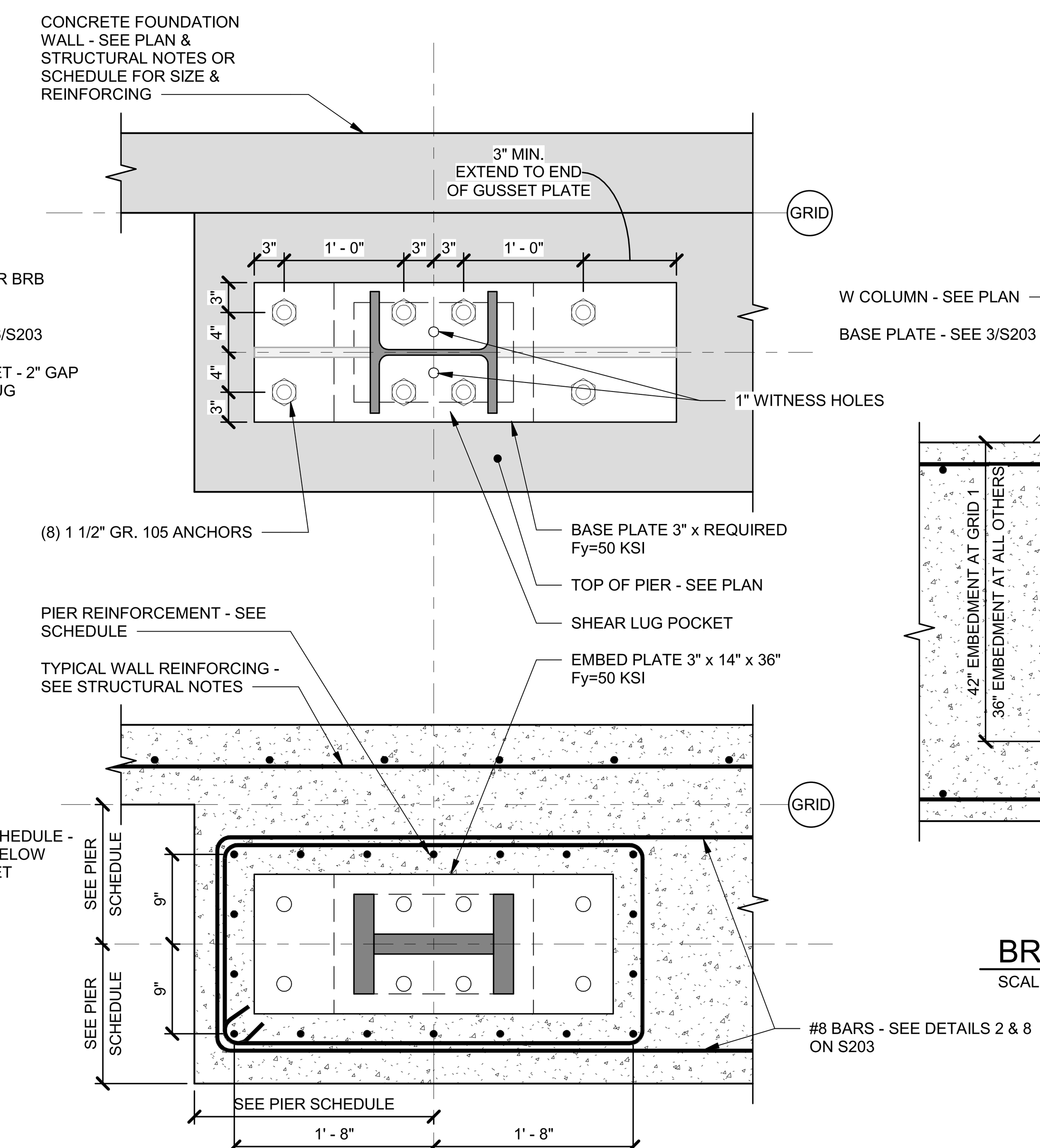

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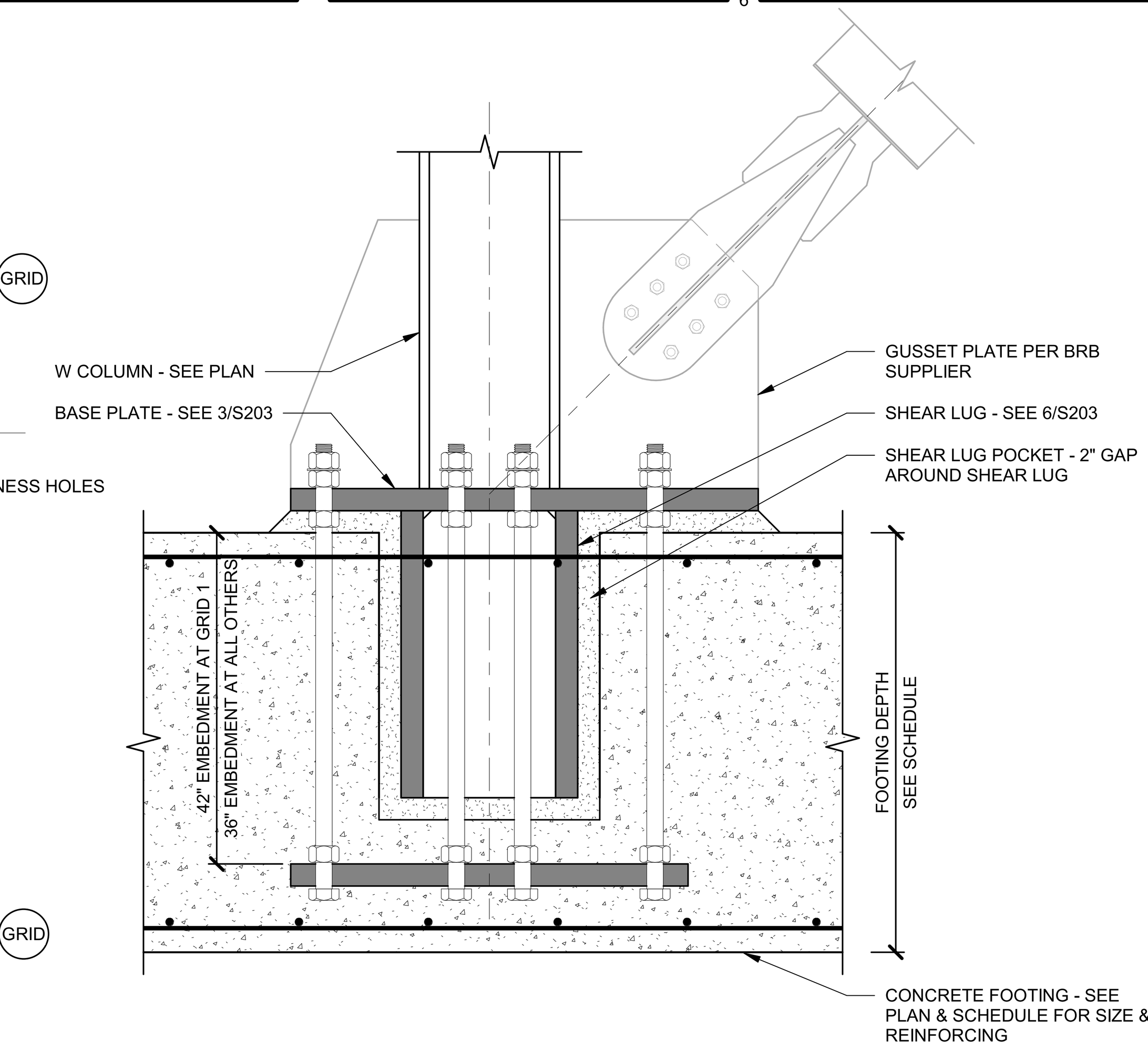

BRACE FRAME ANCHORAGE AT FOOTING 4/S203
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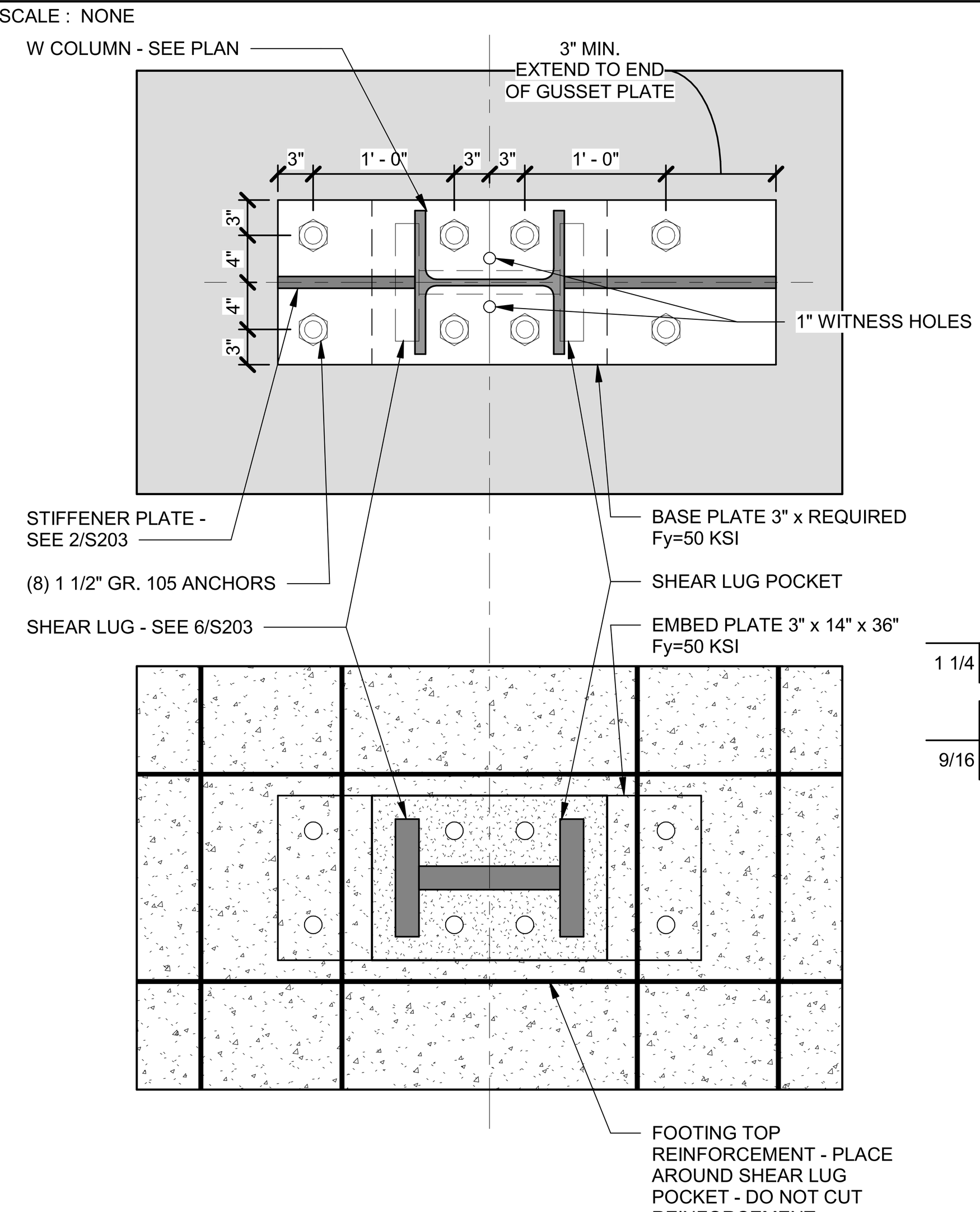

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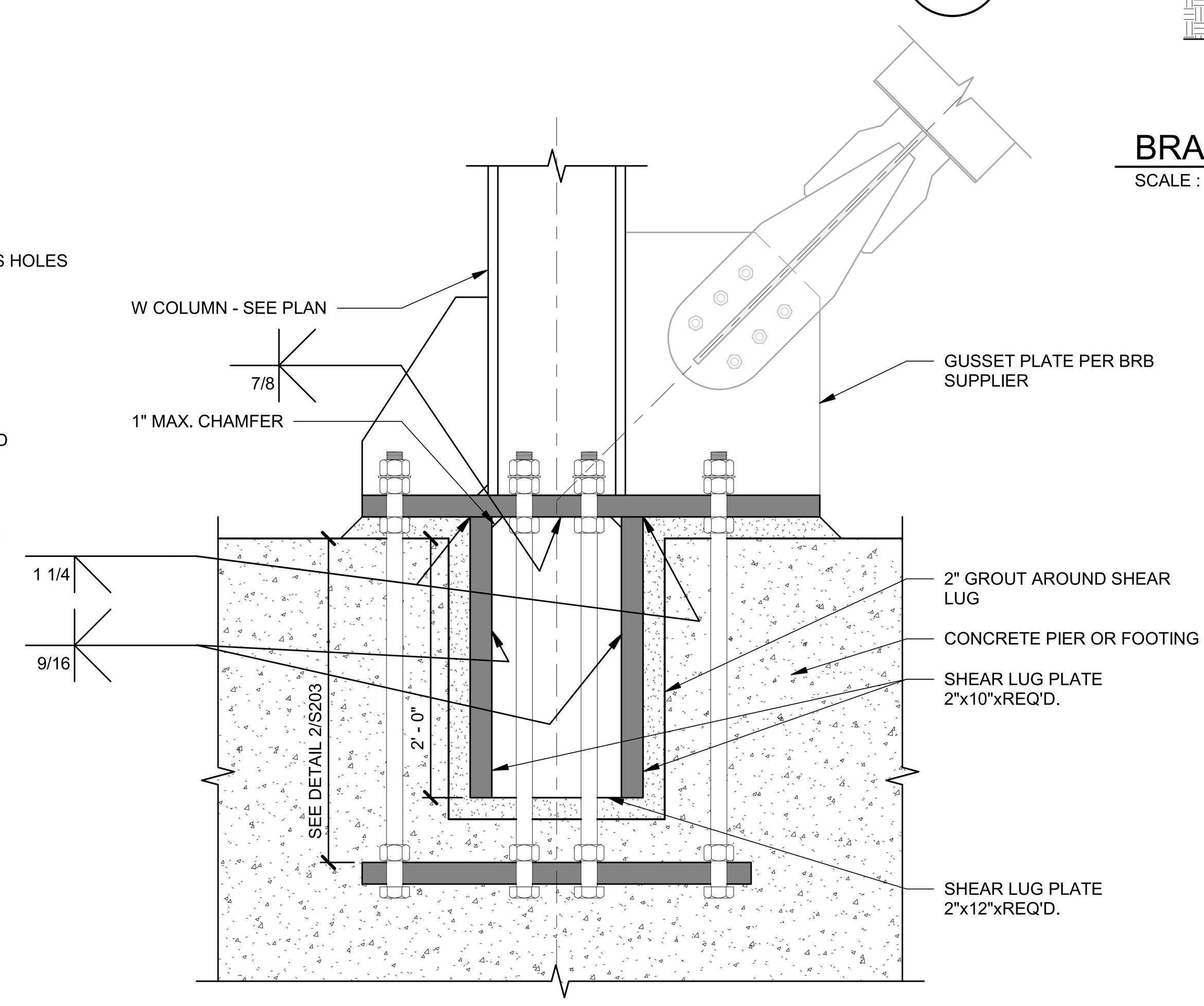

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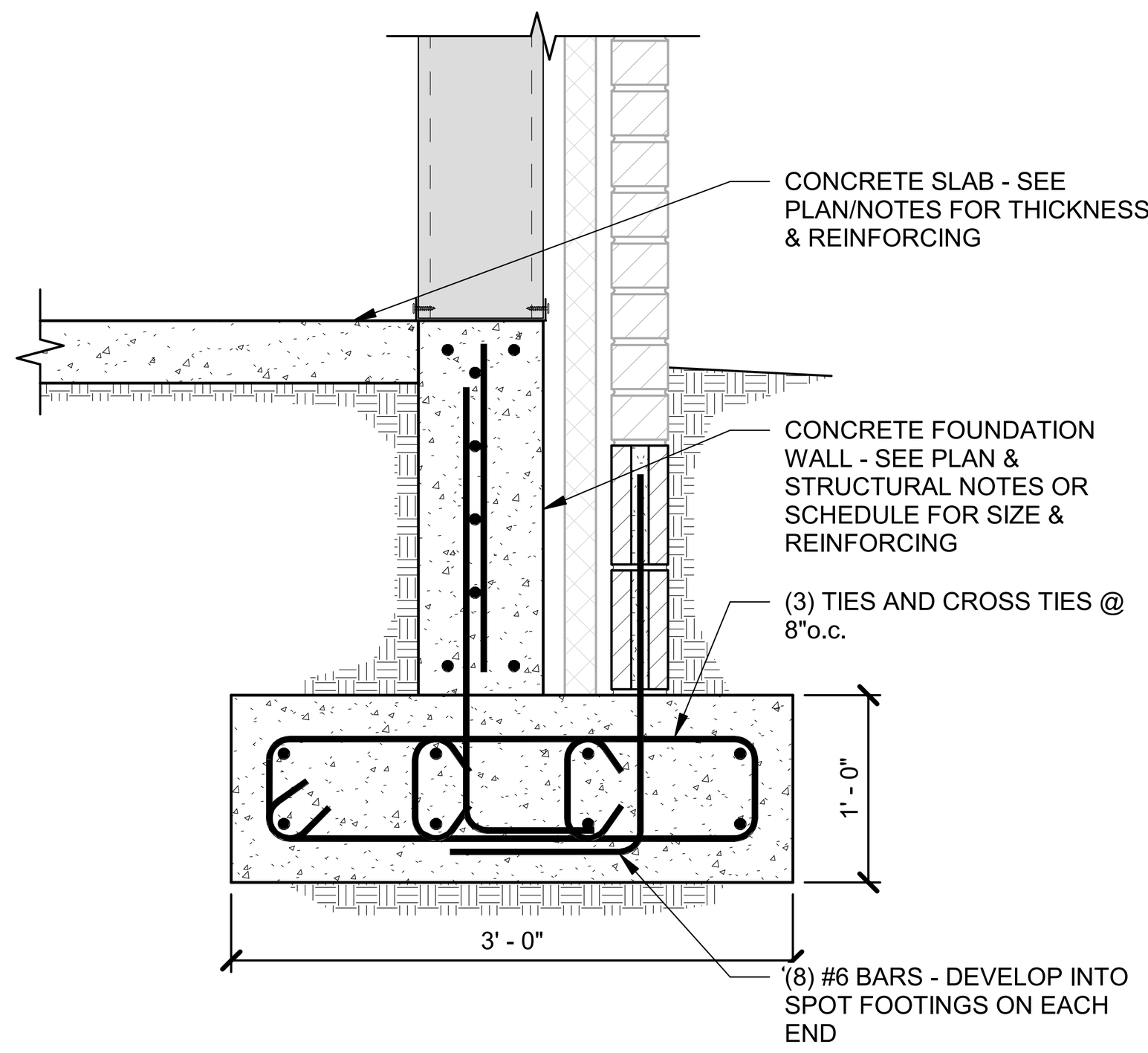

GRADE BEAM 1 7/S203
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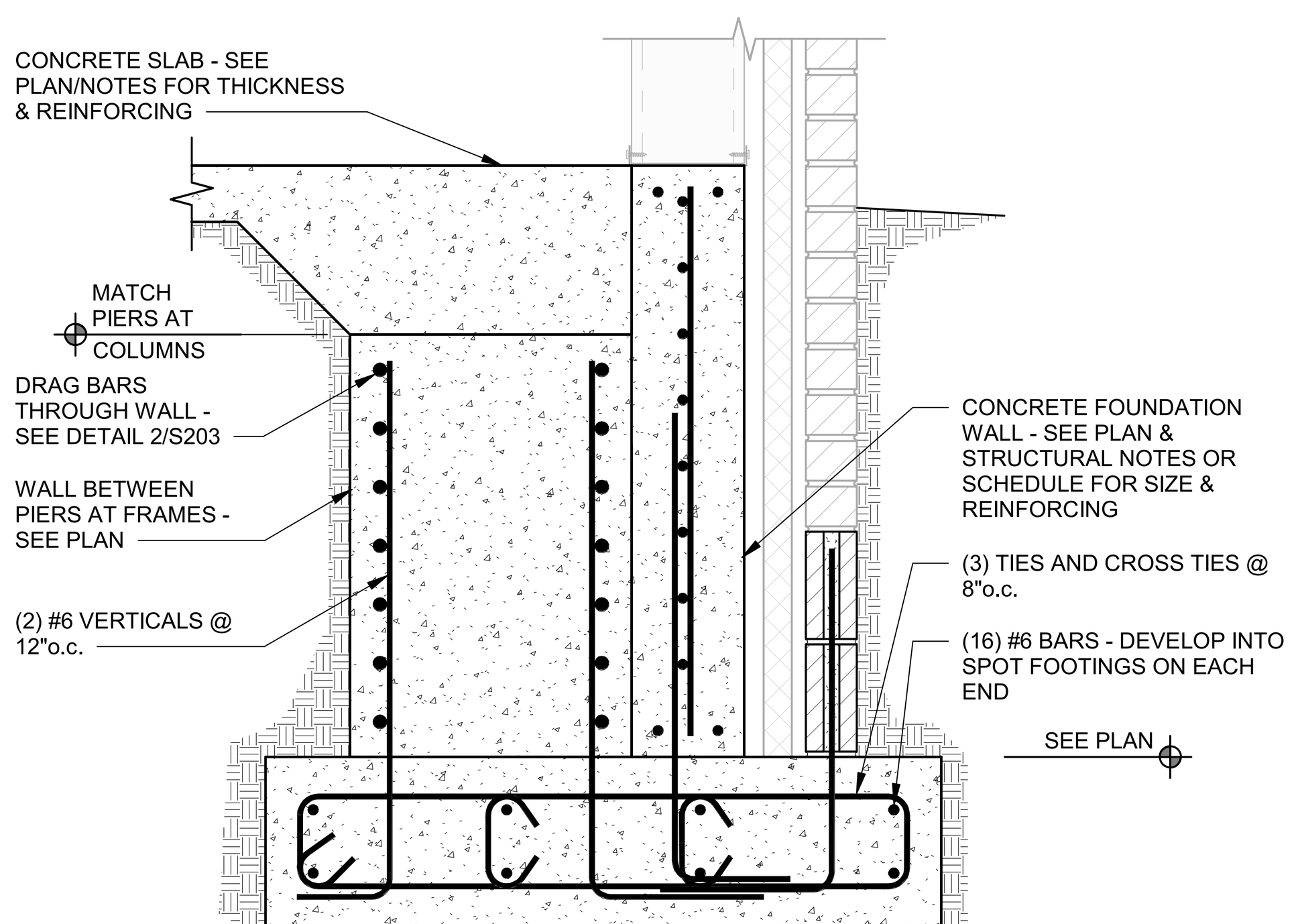

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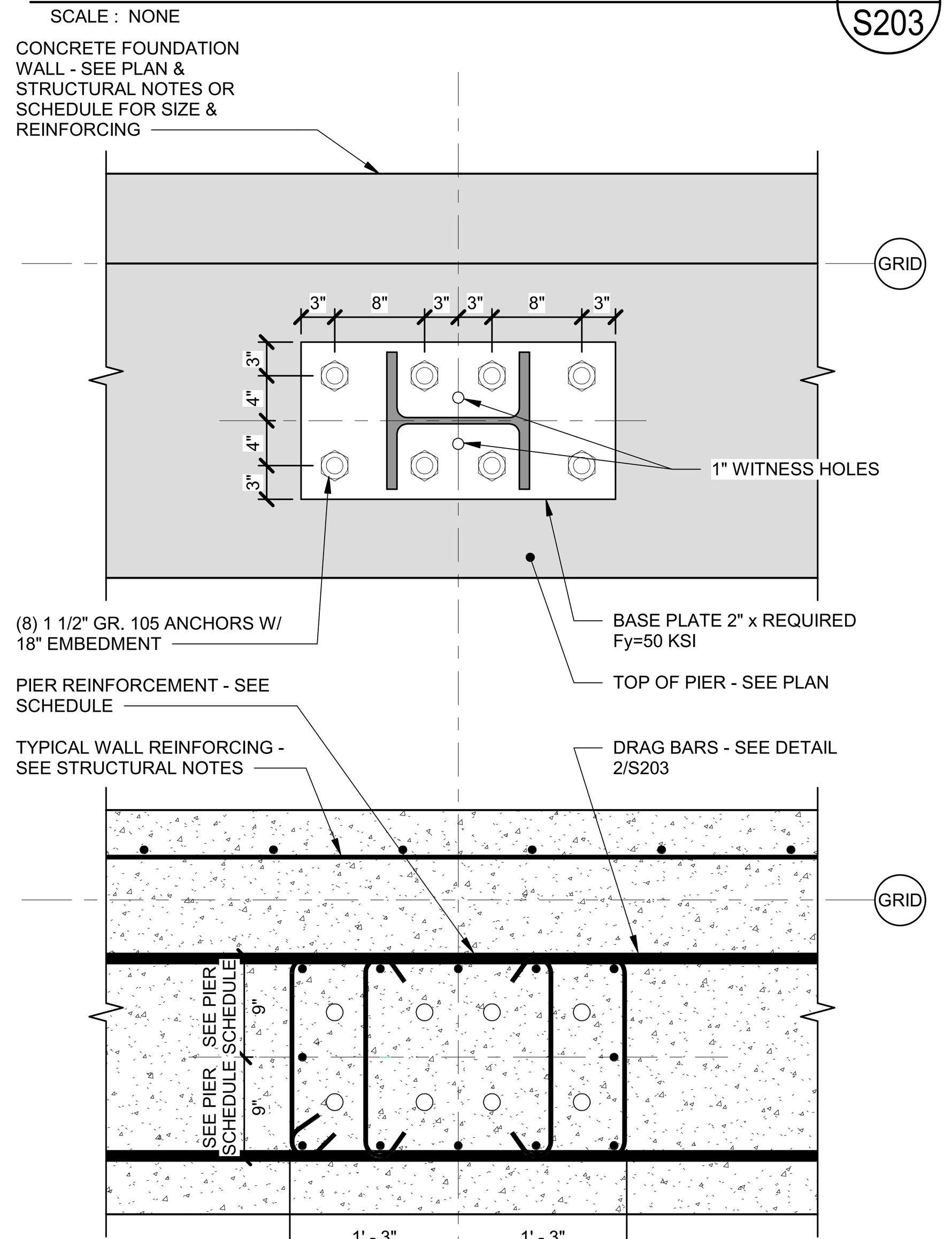

FRAME CENTER COLUMN ANCHORAGE AT PIER 9/S203
SCALE : NONE

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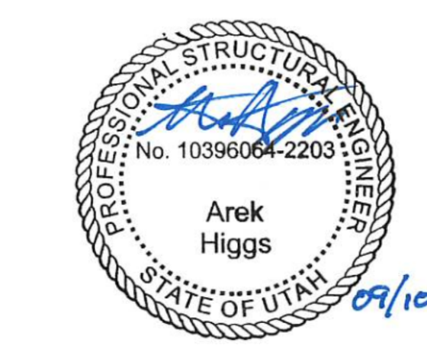


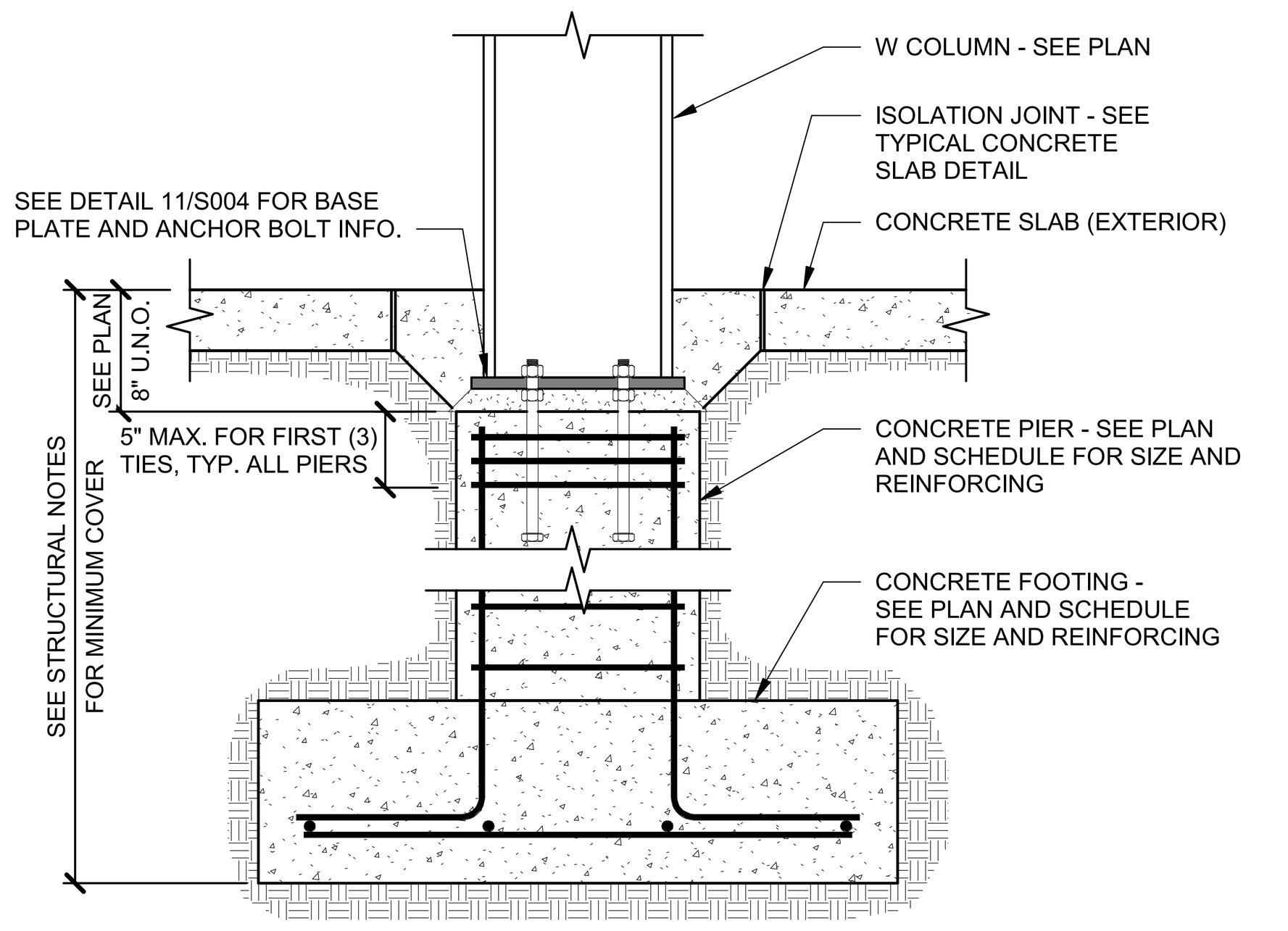
ARW ENGINEERS

REV	DATE	DESCRIPTION

HERRIMAN, UT
4684 W 12600 S
RIVERTON, UT 84096
BID SET

BRACE FRAME DETAILS

S203



CONCRETE PIER
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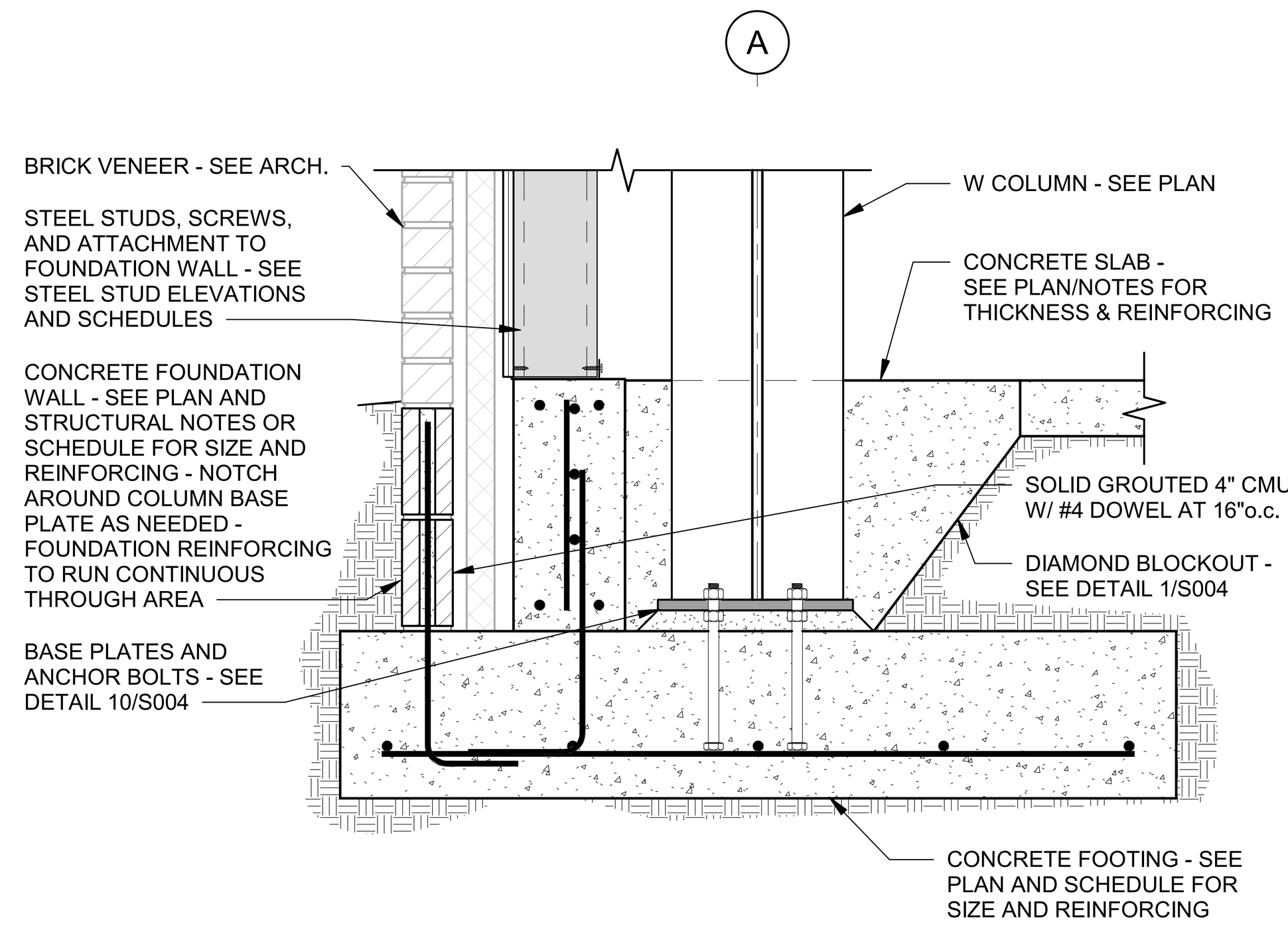

DETAIL
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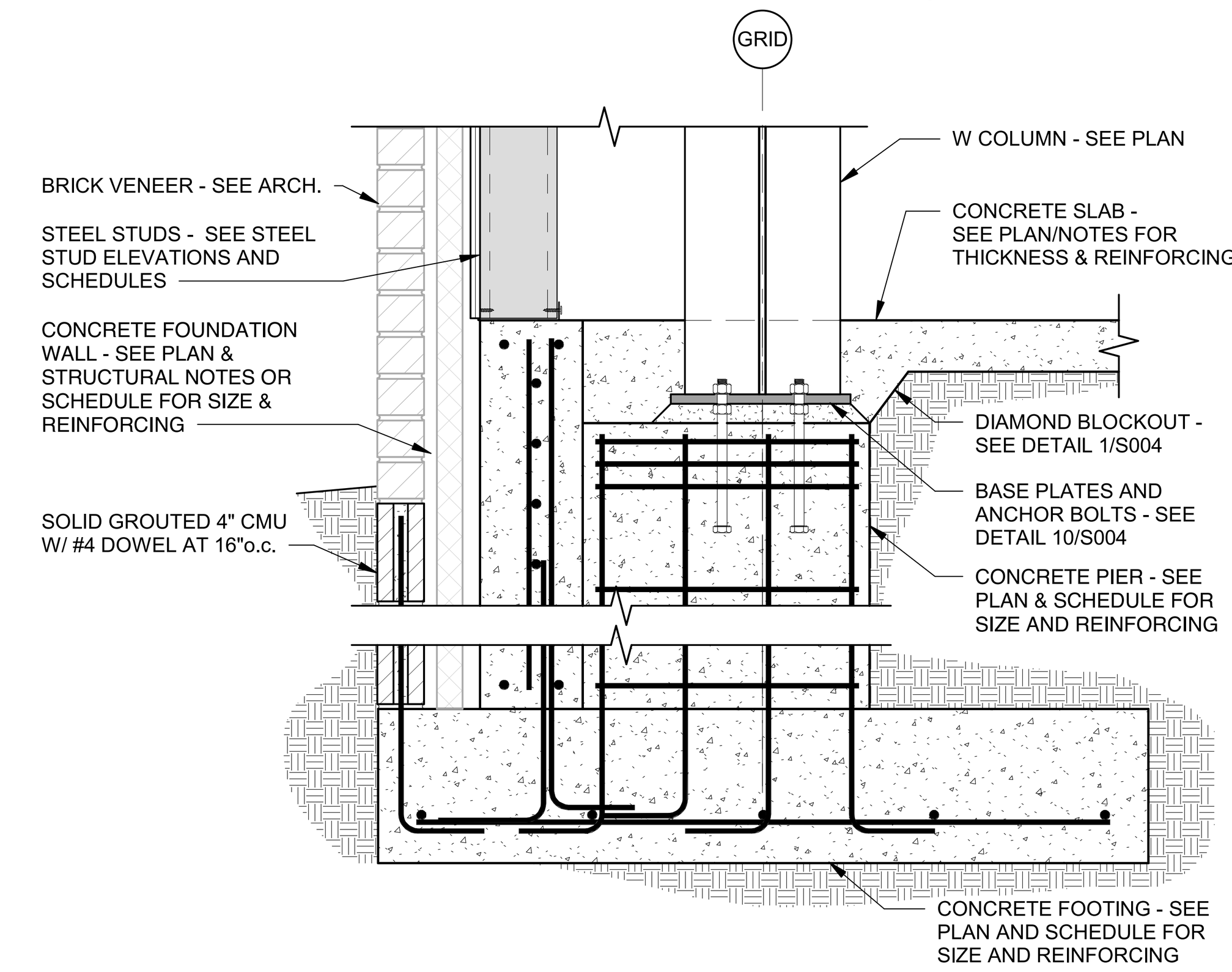

DETAIL
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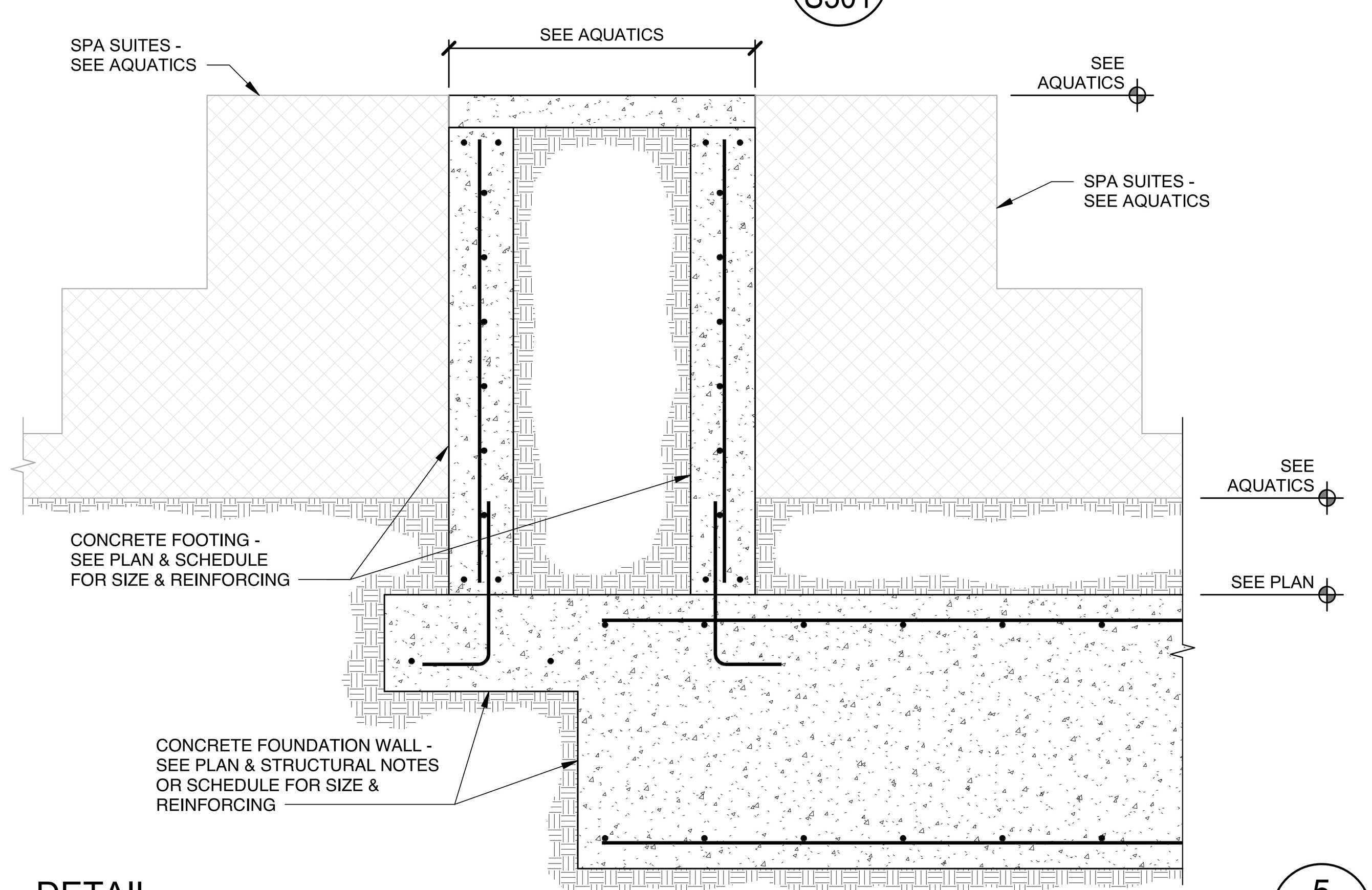

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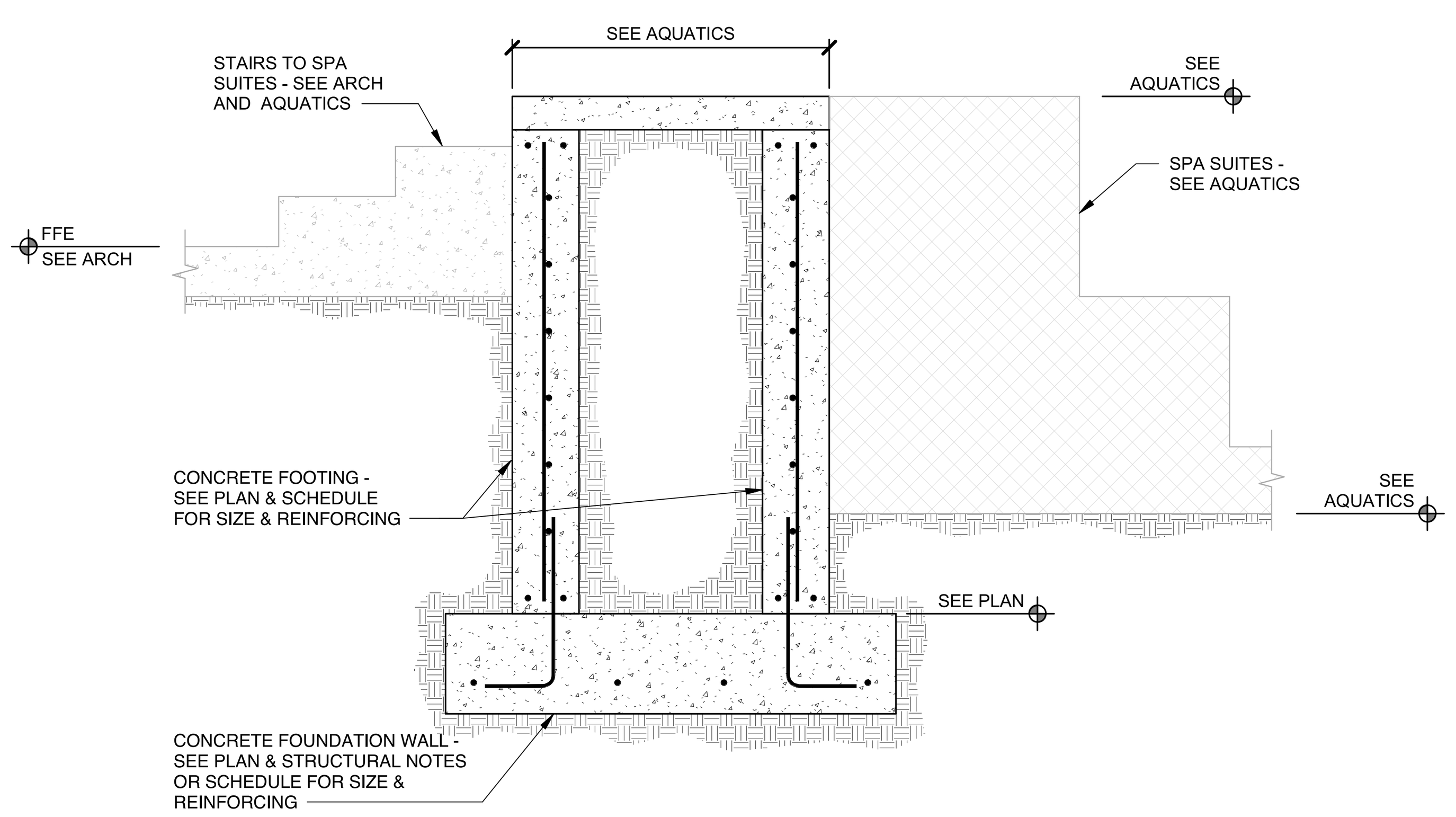

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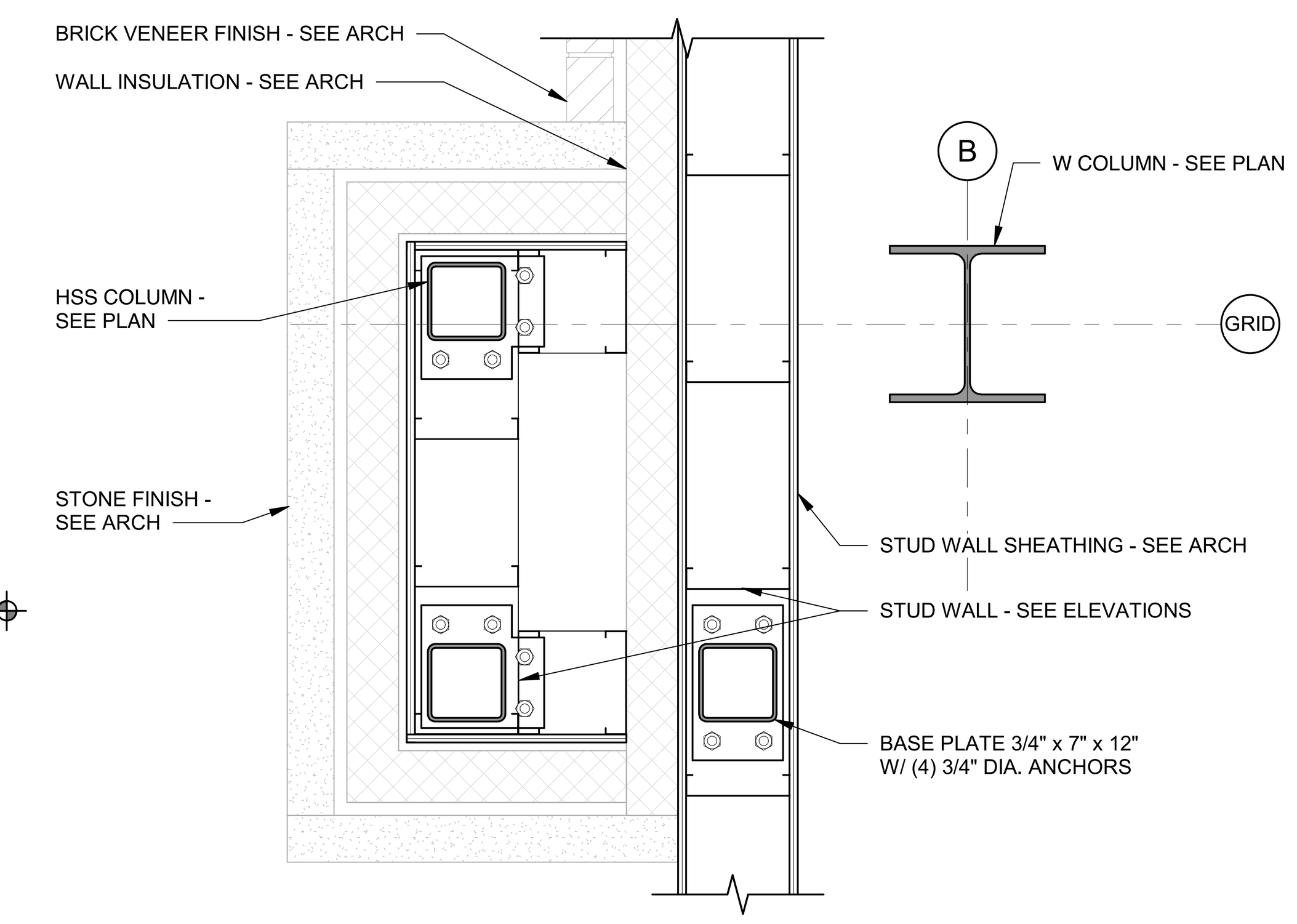

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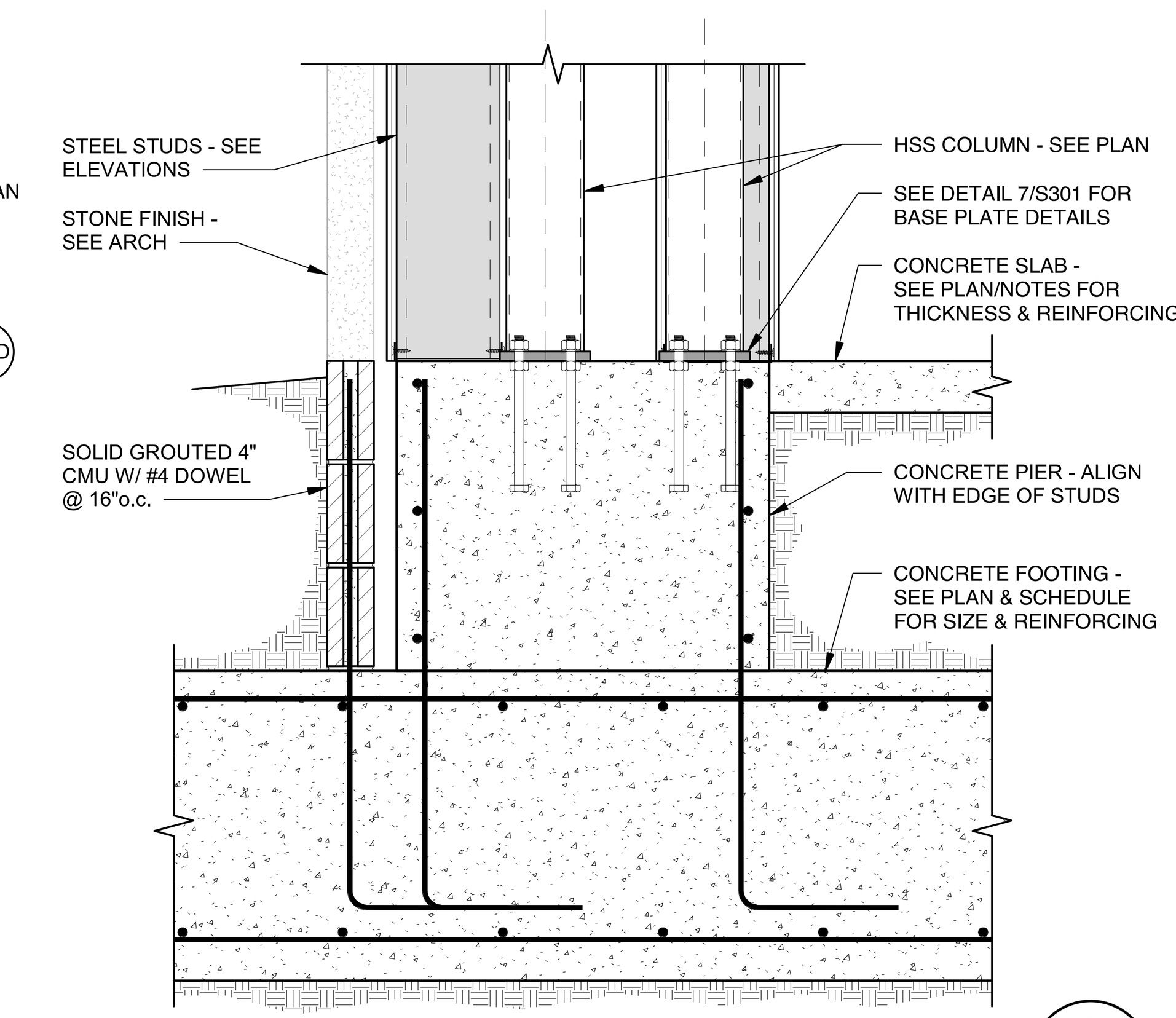

DETAIL
8 S301
SCALE : NONE

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER
No. 10395606-2203
Arek Higgs
STATE OF UTAH
09/10/25

ARW ENGINEERS

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REV	DATE	DESCRIPTION

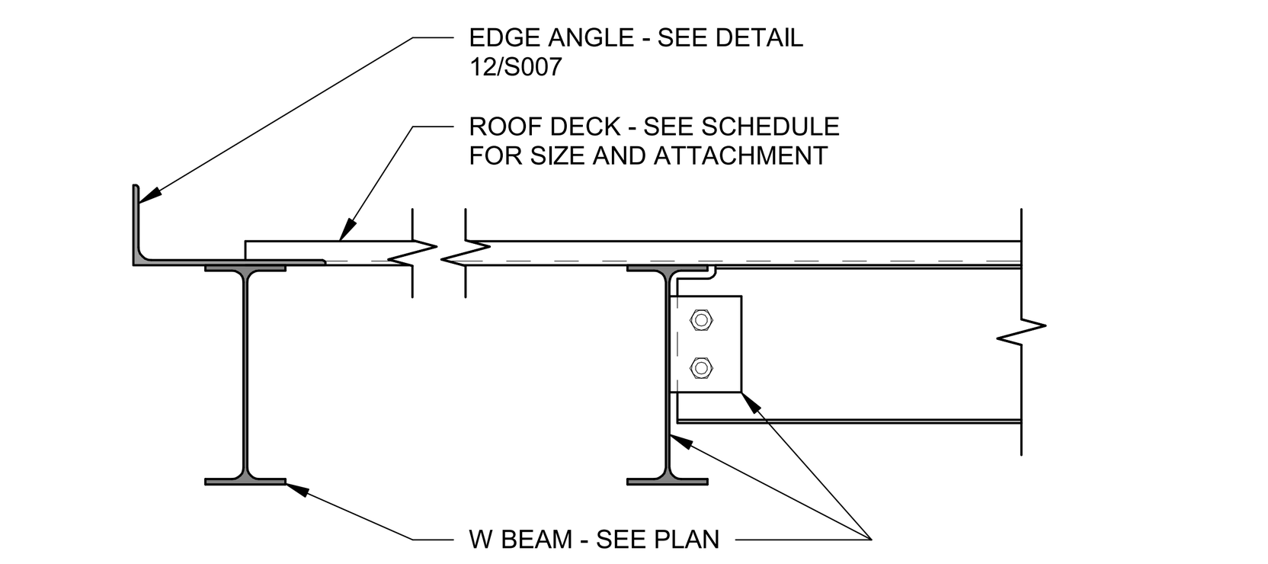
HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

FOUNDATION DETAILS

S301

12/15/2025 11:26:24 AM



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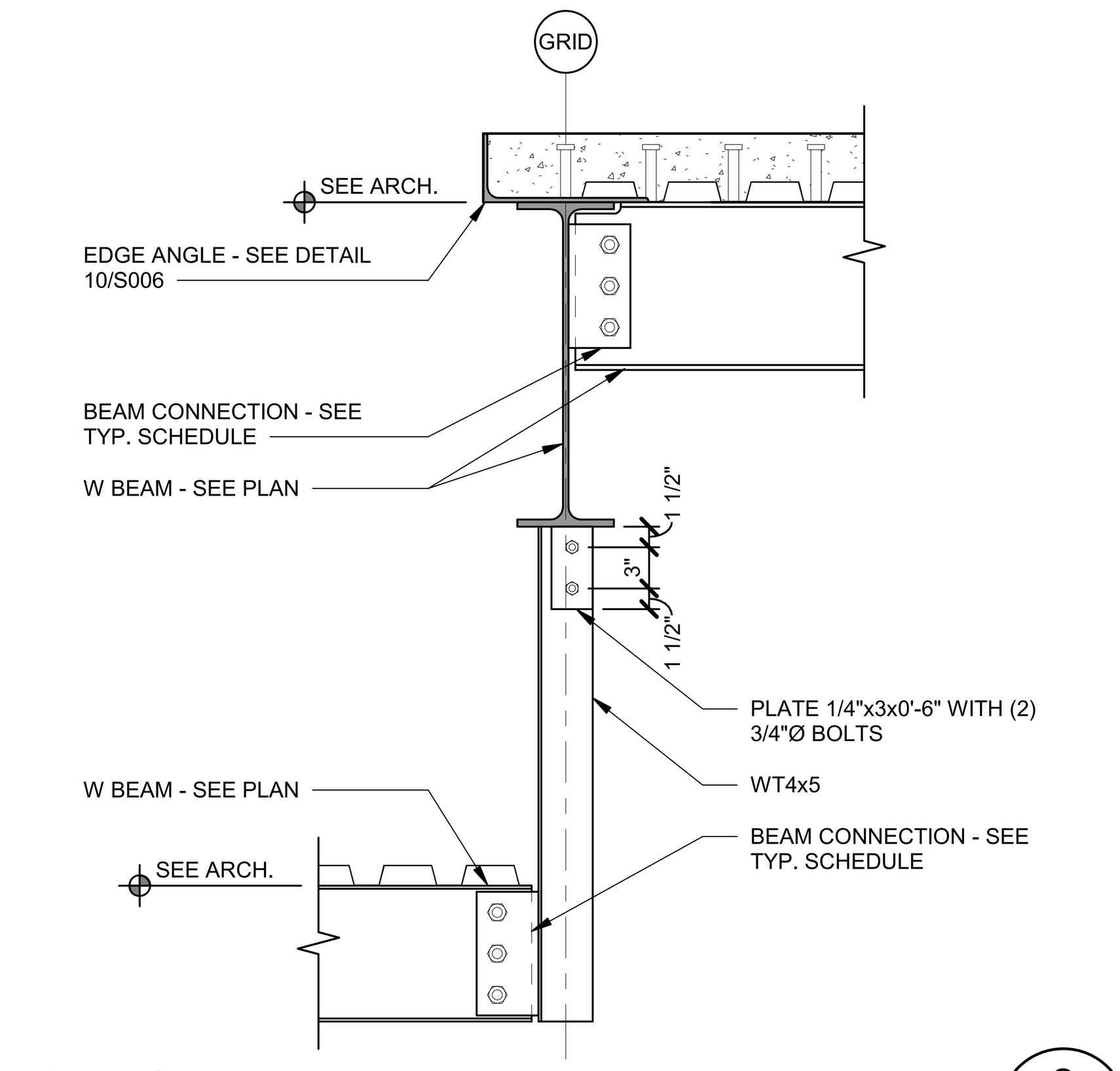

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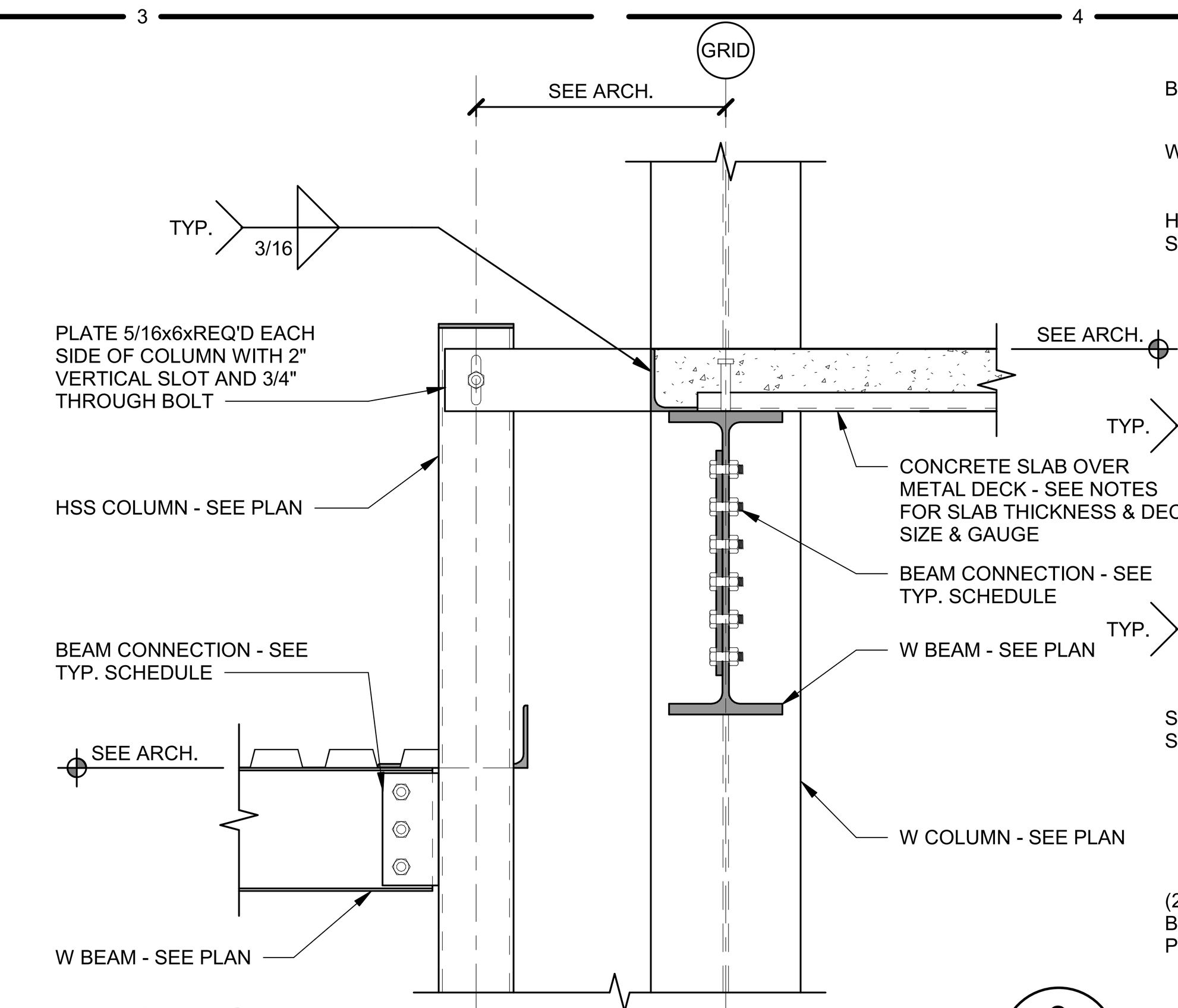

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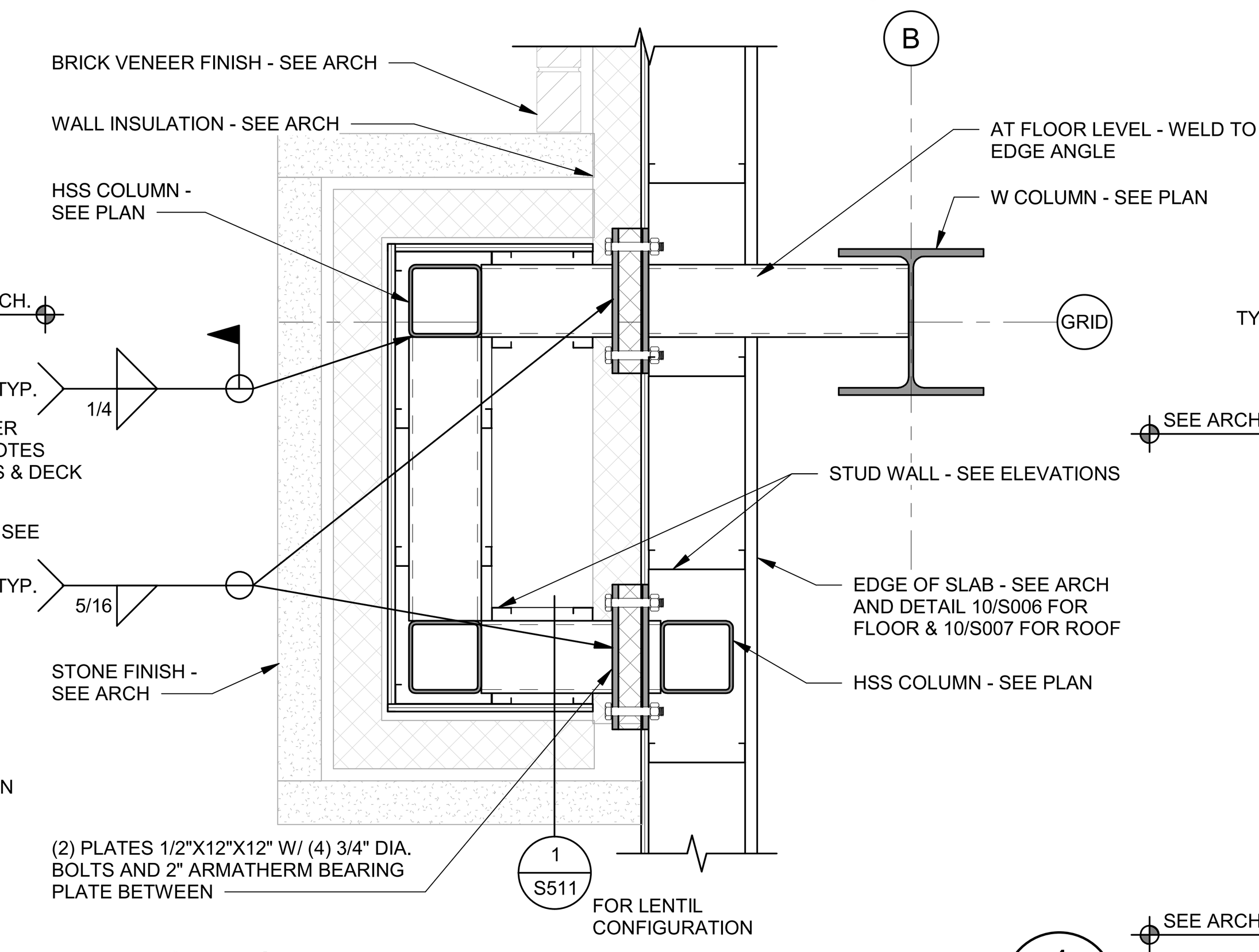

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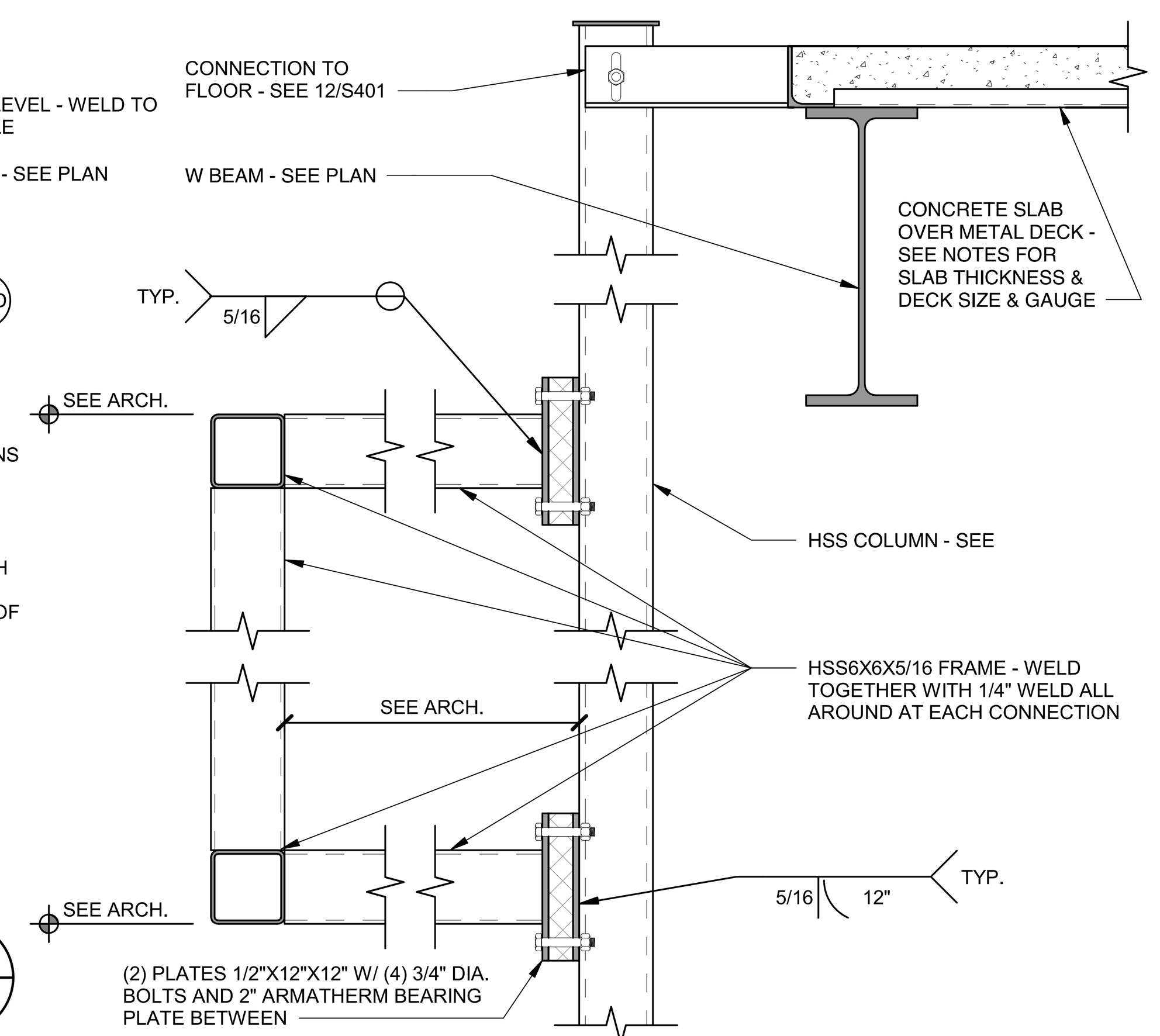

DETAIL 5 / S401
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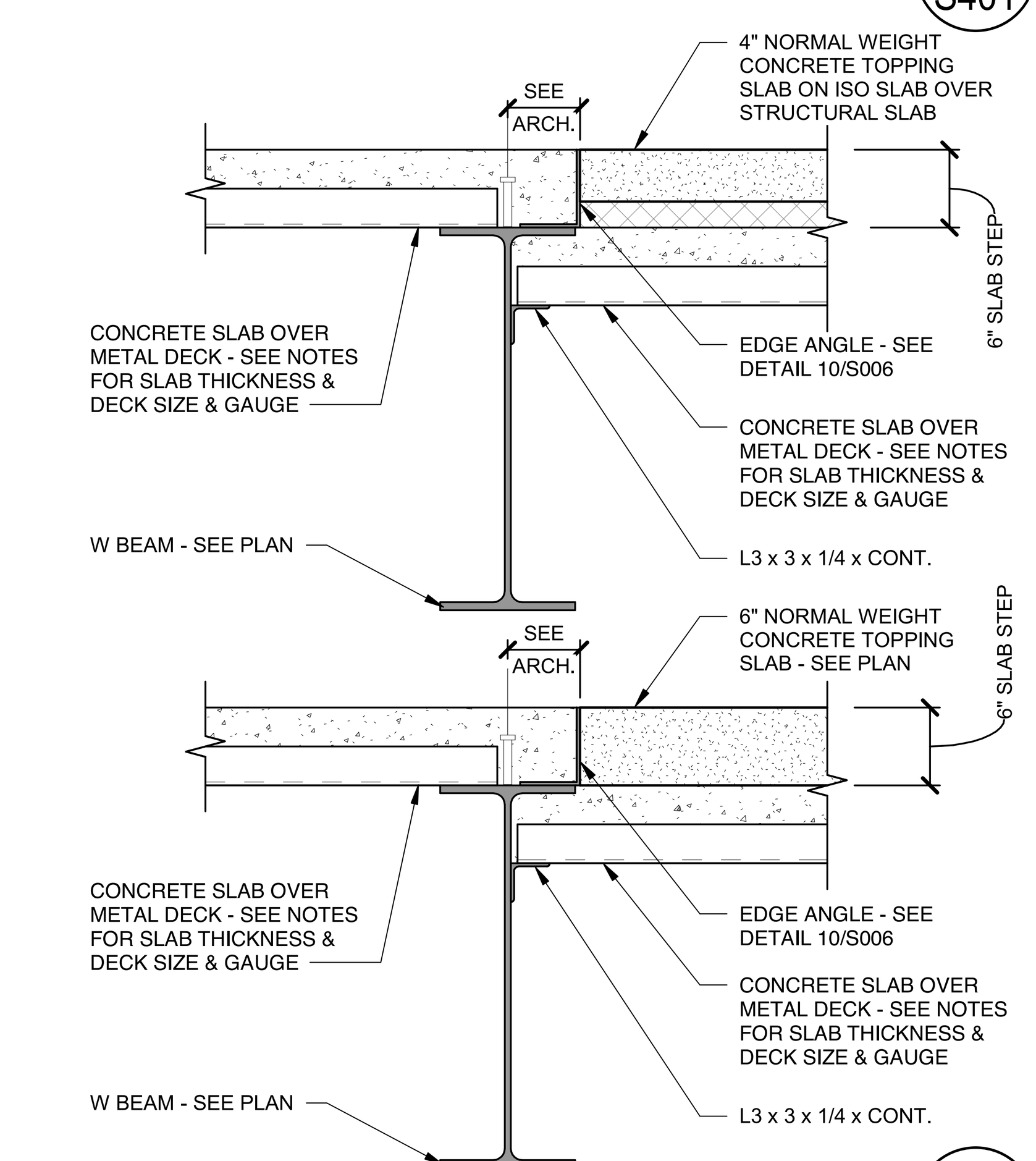

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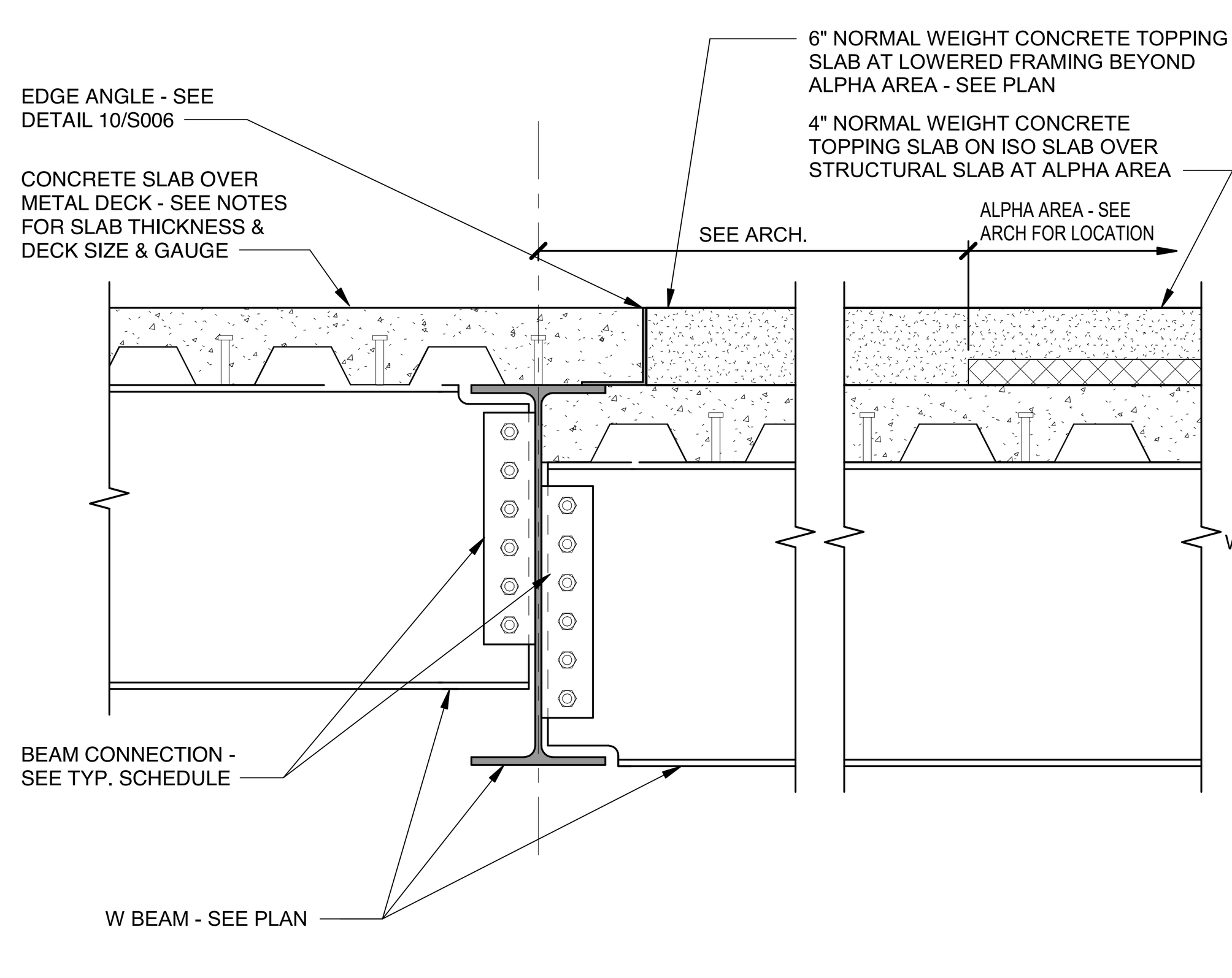

DETAIL 7 / S401
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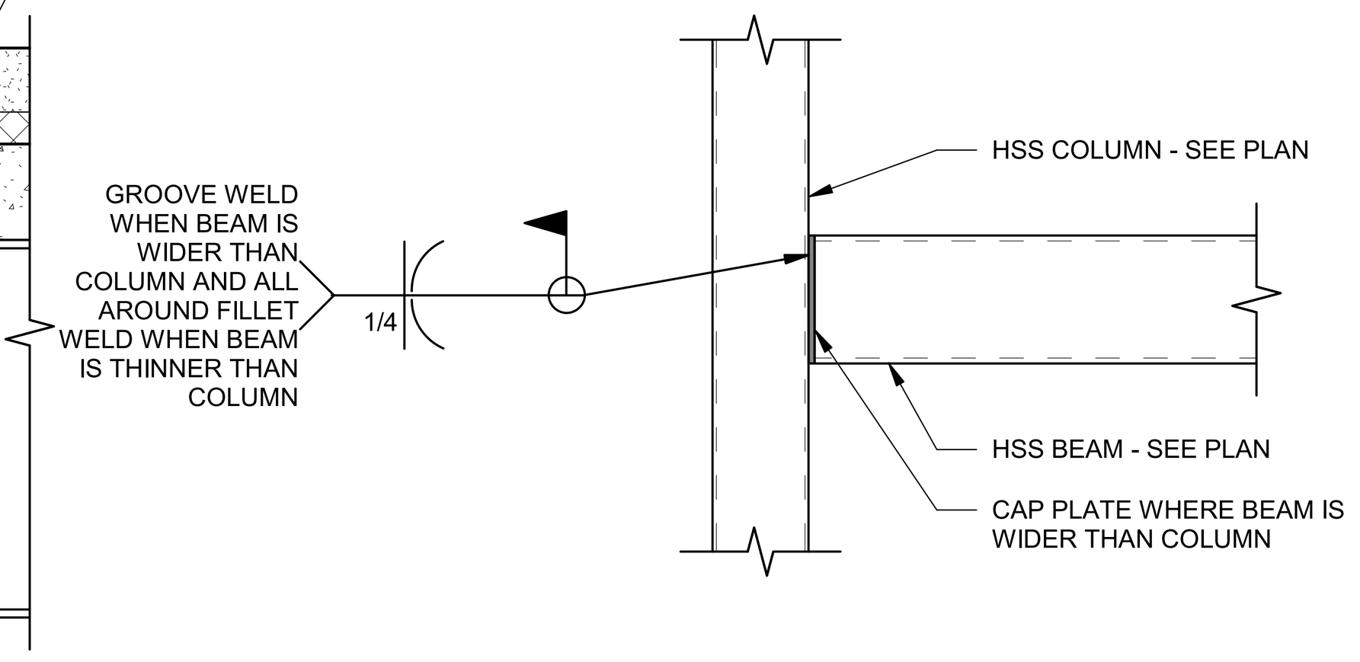

DETAIL 8 / S401
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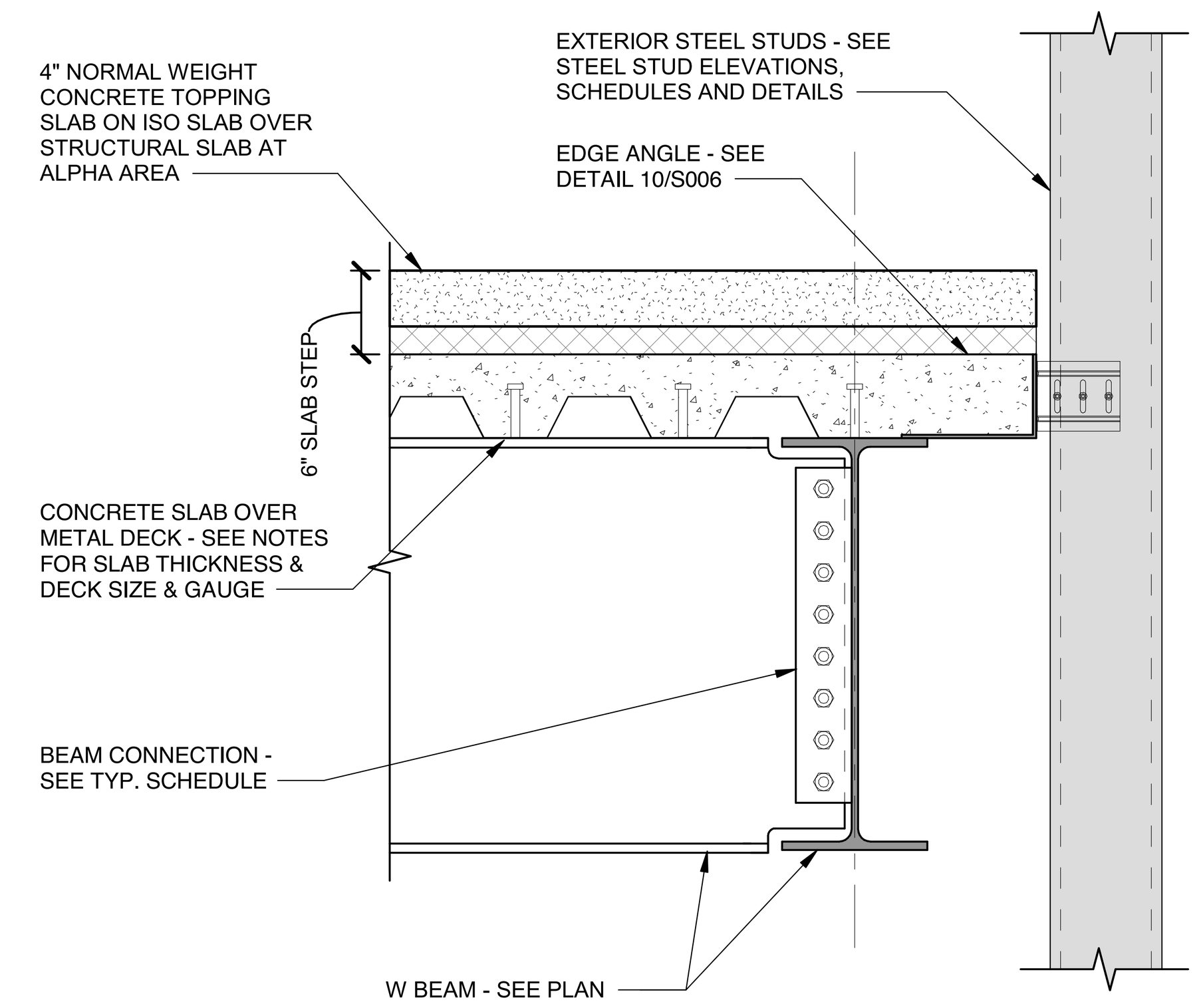

DETAIL 9 / S401
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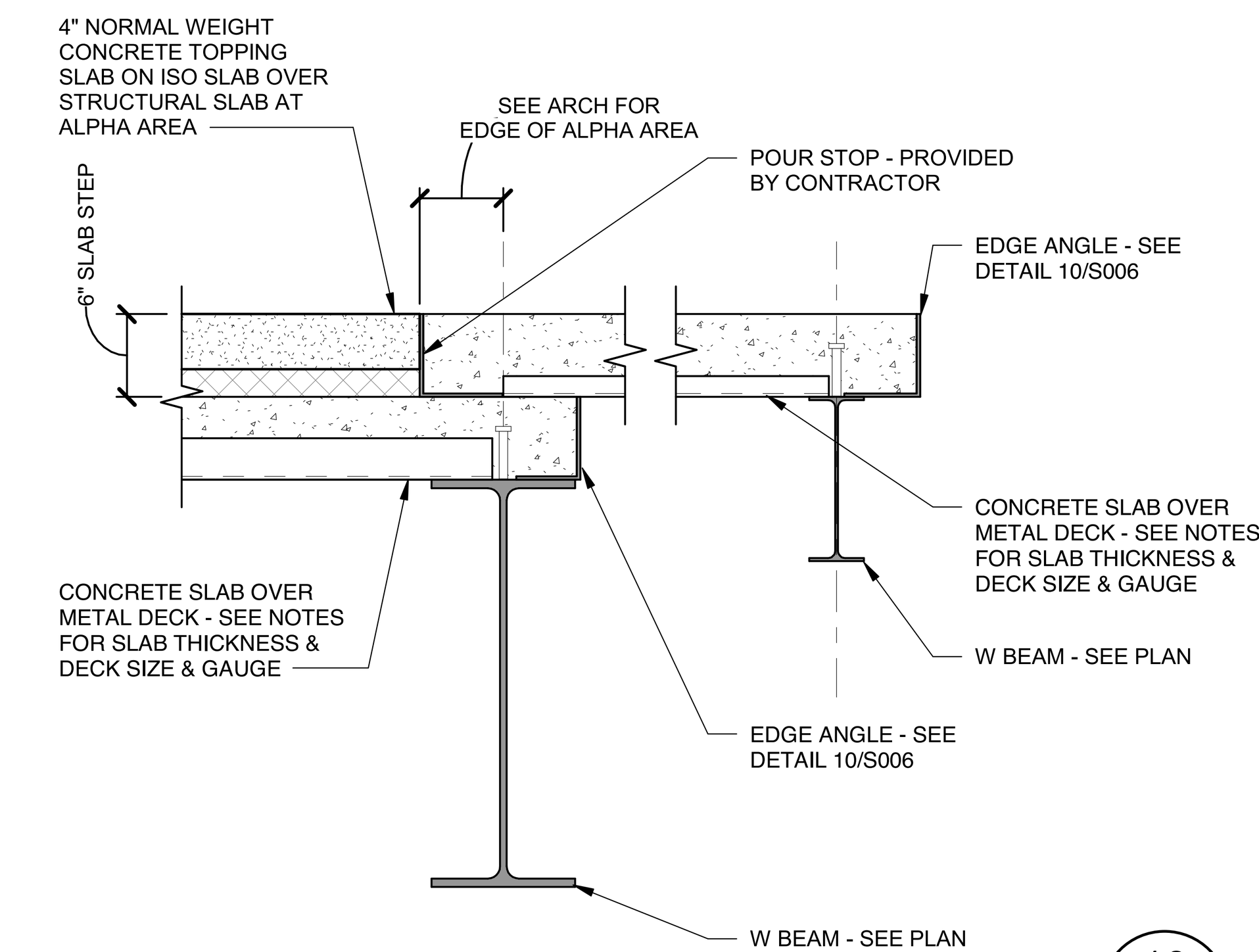

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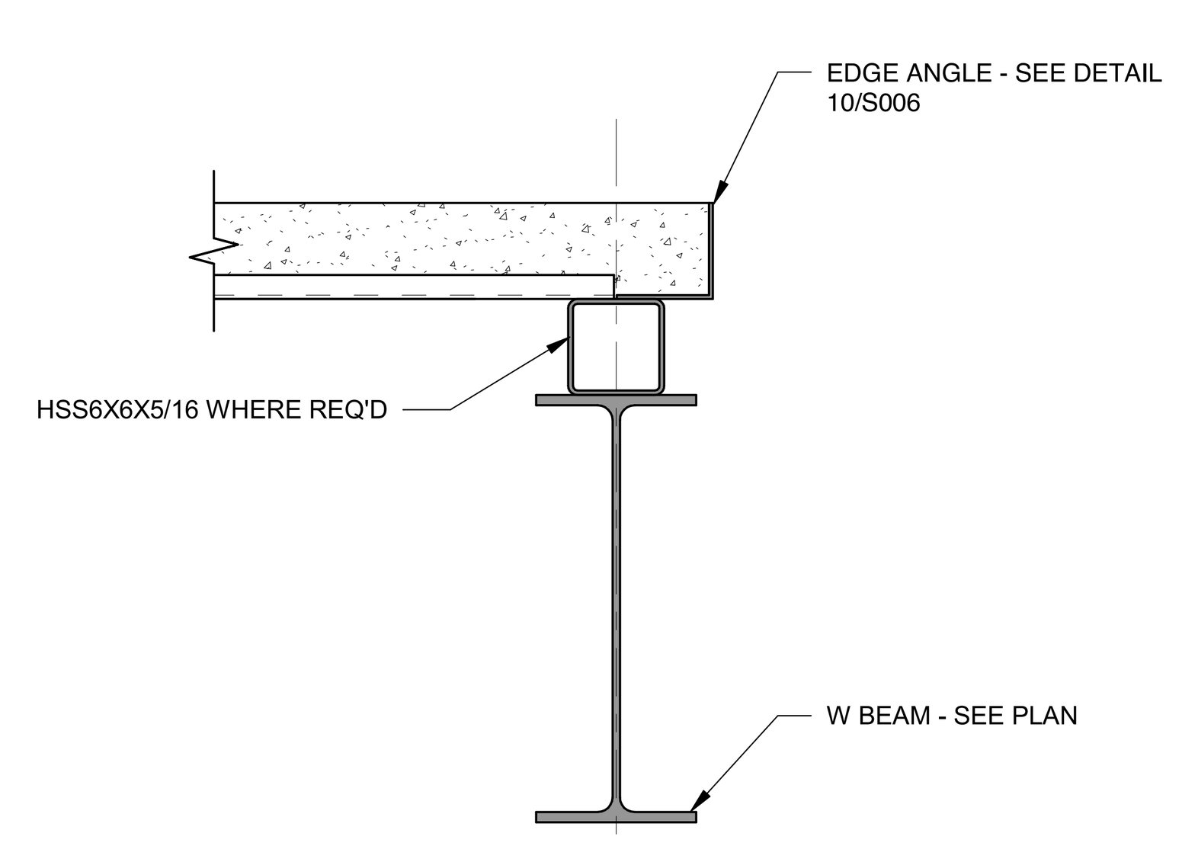

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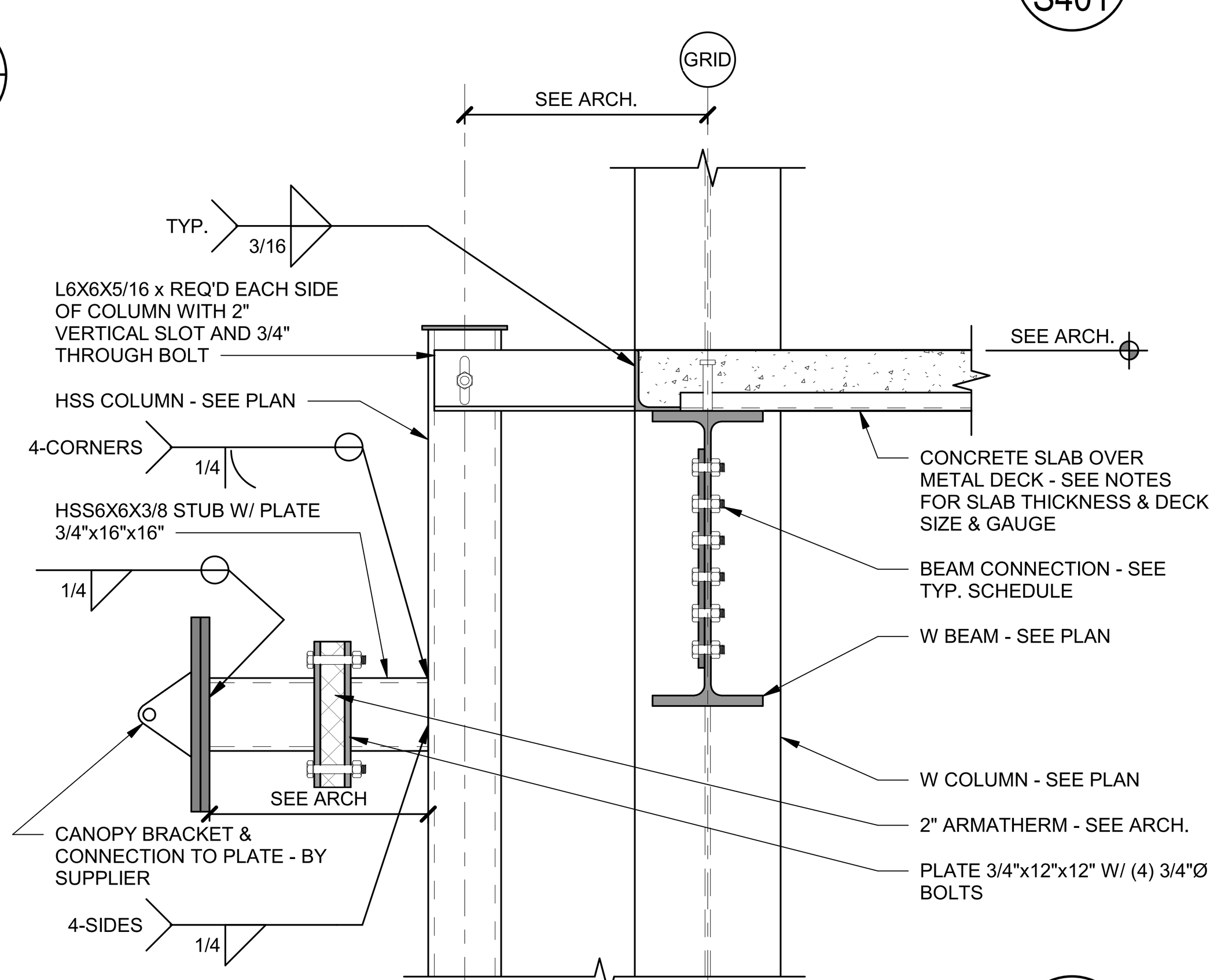

DETAIL 12 / S401
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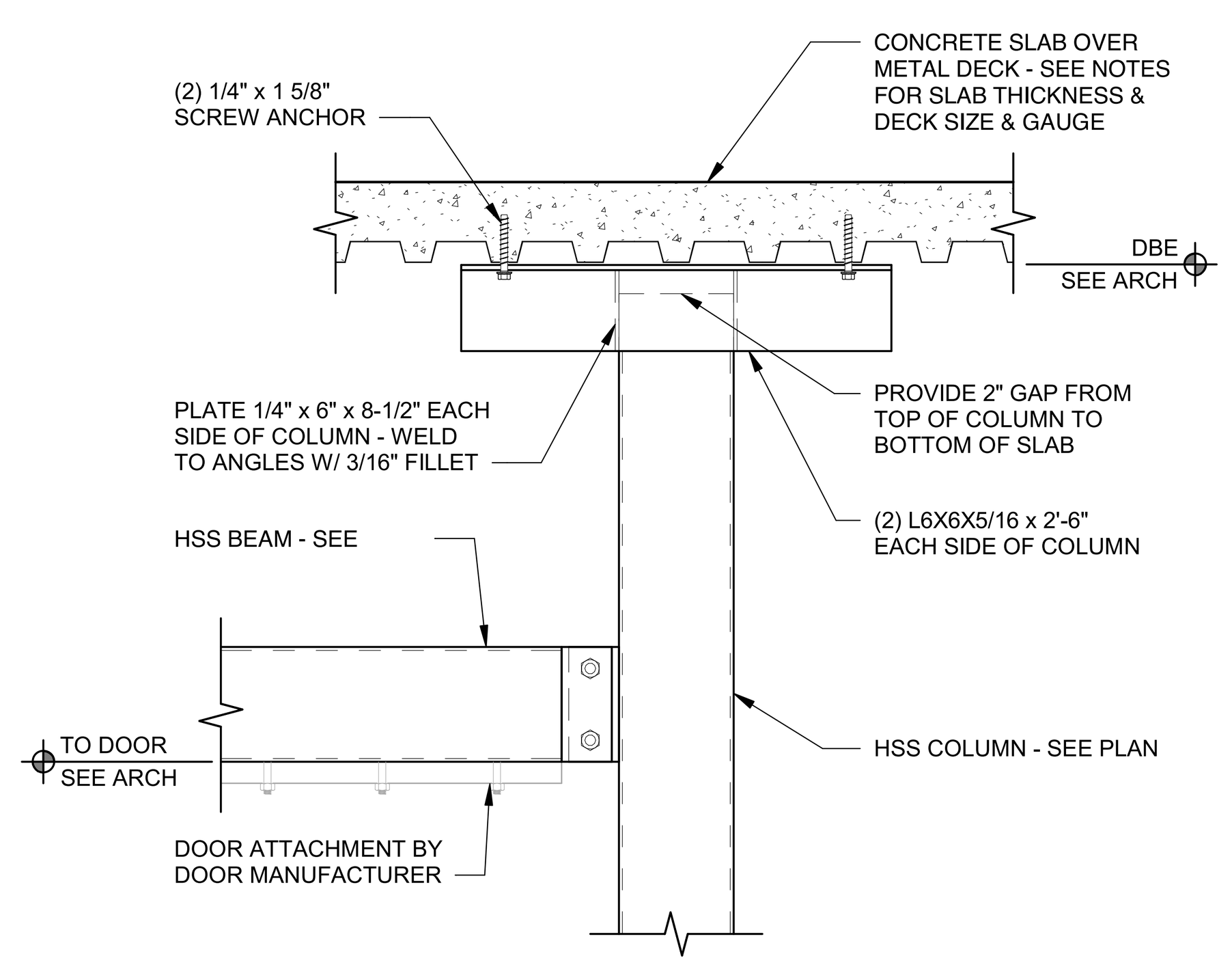

DETAIL 13 / S401
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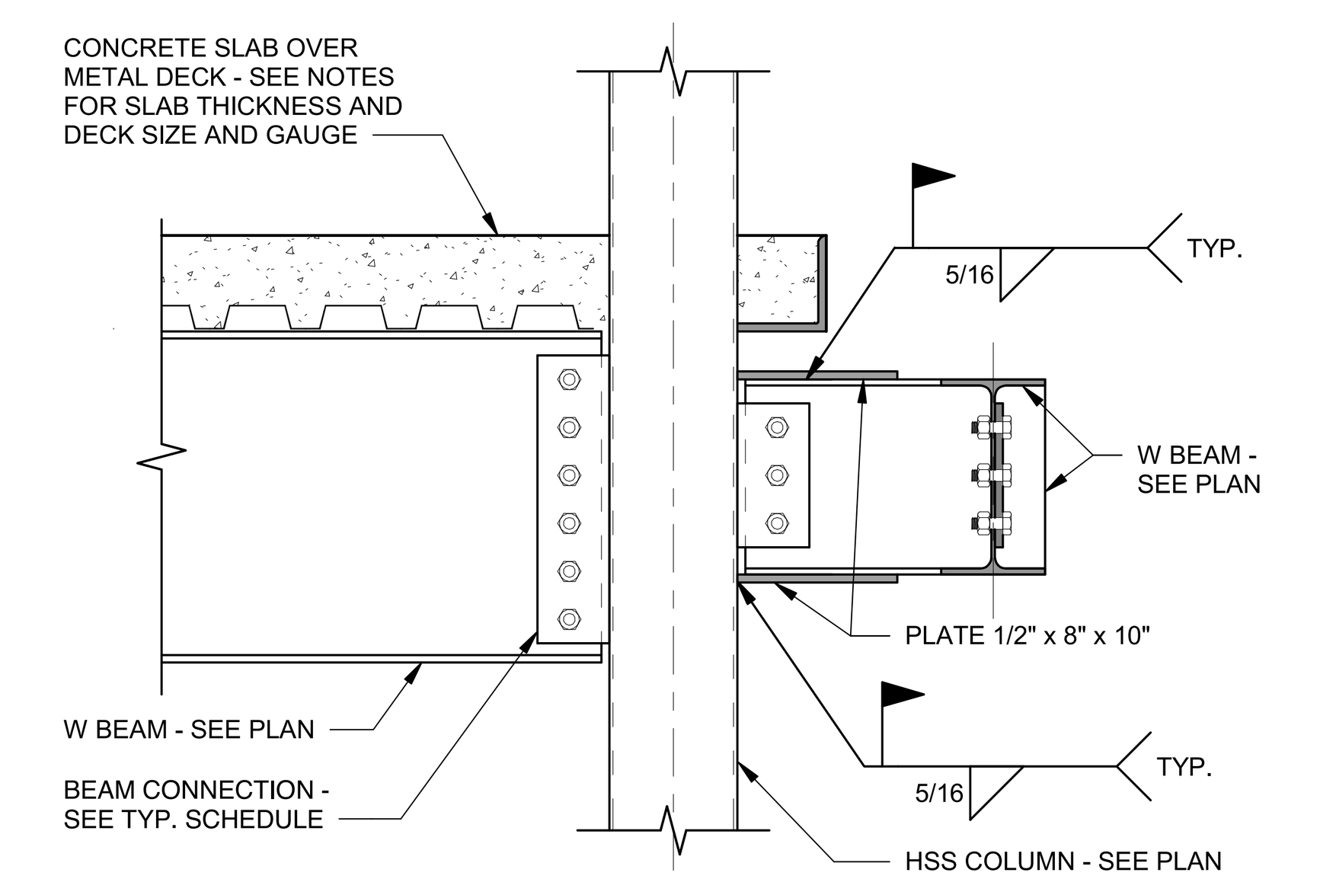

DETAIL 14 / S401
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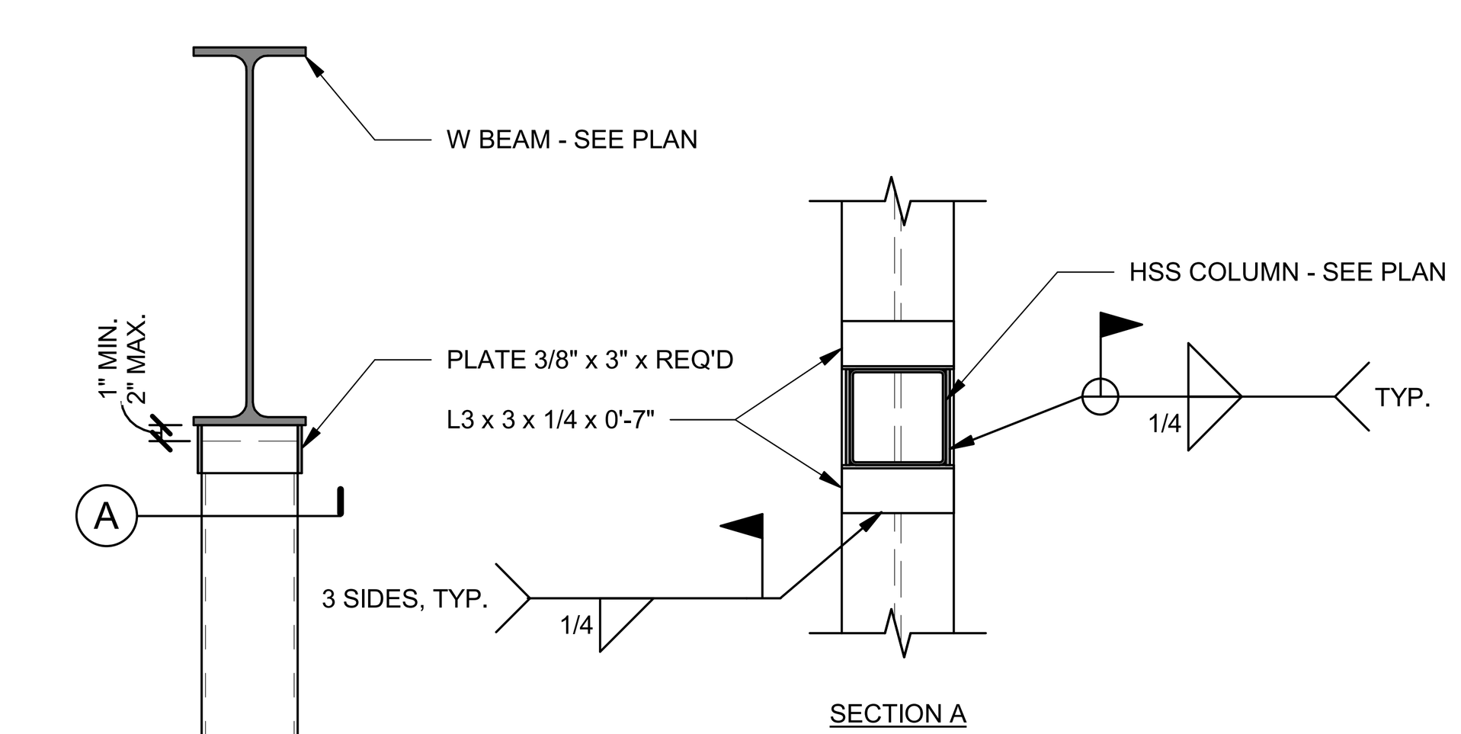

DETAIL 15 / S401
SCALE : NONE

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER No. 10395604-2203 Arek Higgs STATE OF UTAH 09/10/25

ARW ENGINEERS

REV	DATE	DESCRIPTION
1	20250926	Addendum 001

HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

STEEL FRAMING DETAILS

S401

12/15/2025 11:26:24 AM

EXTERIOR METAL STUD FRAMING NOTES :

A. GENERAL

1. THE ARCHITECTURAL DRAWINGS ARE THE PRIME CONTRACT DRAWINGS. THE EXTERIOR FRAMING DRAWINGS ARE SUPPLEMENTARY TO AND MUST BE USED IN CONJUNCTION WITH THE ARCHITECTURAL DRAWINGS AND OTHER CONSULTANTS DRAWINGS. ALL OMISSIONS OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND/OR SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND SPECIALTY STRUCTURAL ENGINEER BEFORE PROCEEDING WITH ANY WORK INVOLVED. IN CASE OF CONFLICT, FOLLOW THE MOST STRINGENT REQUIREMENT AT NO ADDITIONAL COST TO THE OWNER.
2. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL SIZES, DIMENSIONS, AND ELEVATIONS ON SUBMITTALS AS RELATED TO DESIGN DOCUMENTS. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS AND DIMENSIONS AT THE SITE. IF ACTUAL CONDITIONS DIFFER FROM THOSE SHOWN ON CONTRACT DOCUMENTS, CONTRACTOR SHALL NOTIFY ARCHITECT AND SPECIALTY STRUCTURAL ENGINEER PRIOR TO FABRICATION OR CONSTRUCTION OF ANY AFFECTED ELEMENTS.
3. OBSERVATION VISITS TO THE SITE BY ARW ENGINEERS FIELD REPRESENTATIVES SHALL NEITHER BE CONSTRUED AS INSPECTION NOR APPROVAL OF CONSTRUCTION.
4. SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER, TYPICAL OR SIMILAR DETAILS AND SECTIONS SHALL APPLY WHERE SPECIFIC DETAILS ARE NOT SHOWN, TYPICAL OR SIMILAR DETAILS REFER TO THE CONDITION ADDRESSED AND ARE NOT NECESSARILY DETAILS LABELED “TYPICAL” OR “SIMILAR” IN THE PLANS AND DOCUMENTS.
5. DRAWINGS AND DETAILS HAVE BEEN PREPARED WITH THE INTENT TO VISUALLY REPRESENT INFORMATION PROVIDED IN SCALED FORM; HOWEVER, CONTRACTOR/SUPPLIERS SHOULD NOT SCALE PLANS OR DETAILS FOR DIMENSIONAL INFORMATION. IT IS EXPECTED THAT THE COMPONENT SUBMITTAL WILL BE REVIEWED BY THE SER AND/OR AOR FOR CONFORMANCE WITH THE OVERALL PROJECT REQUIREMENTS.
6. SPECIALTY STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR ACTIVITIES UNDER CONTROL OF THE CONTRACTOR SUCH AS CONSTRUCTION SITE SAFETY, MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION. ENGINEER SHALL NOT BE RESPONSIBLE FOR FABRICATION, ERECTION AND CONSTRUCTION REQUIREMENTS AS PRESCRIBED BY OSHA OR OTHER REGULATORY AGENCIES REGARDLESS OF INDICATIONS IN THESE DOCUMENTS.
7. NOTICE OF COPYRIGHT: THESE EXTERIOR FRAMING DRAWINGS ARE HEREBY COPYRIGHTED BY ARW ENGINEERS, ALL RIGHTS RESERVED. THESE DOCUMENTS DEFINE NON-STRUCTURAL FRAMING COMPONENTS AND ARE INSTRUMENTS OF SERVICE, FOR ONE USE ONLY. REPRODUCTION AND DISTRIBUTION OF THESE DRAWINGS IS ONLY ALLOWED AS REQUIRED FOR REGULATORY AGENCIES AND FOR CONVEYANCE OF INFORMATION TO PARTIES INVOLVED IN THE CONSTRUCTION OF THIS PROJECT.
8. SPECIALTY STRUCTURAL OBSERVATION VISITS (WHEN PROVIDED) SHALL BE PERFORMED BY A REPRESENTATIVE FROM ARW ENGINEERS IN ACCORDANCE WITH THE CONTRACT AS REQUIRED TO OBSERVE THE CONSTRUCTION OF CRITICAL ELEMENTS RELATED TO THIS SCOPE OF WORK. OBSERVATION REPORTS FOR EACH VISIT SHALL BE SENT DIRECTLY TO THE CLIENT FOR DISTRIBUTION TO THE CONTRACTOR AND BUILDING OFFICIAL. STRUCTURAL OBSERVATION VISITS SHALL NEITHER BE CONSTRUED AS SPECIAL INSPECTION NOR APPROVAL OF COMPLETED CONSTRUCTION.

B. SPECIAL INSPECTIONS

1. SPECIAL INSPECTIONS AND TESTING ARE TO BE PROVIDED AS REQUIRED BY IBC SECTIONS 1704 THROUGH 1708 AND OTHER APPLICABLE SECTIONS OF THE IBC. THE TYPE AND FREQUENCY OF TESTING AND SPECIAL INSPECTIONS SHALL BE AS NOTED IN THE SPECIAL INSPECTION SCHEDULE ON SHEET S502, JOB SPECIFICATIONS, AND ACCORDANCE WITH IBC SECTION 110 AND CHAPTER 17. CONTRACTOR SHALL COORDINATE AND COOPERATE WITH REQUIRED INSPECTIONS.
2. ALL TESTING AND SPECIAL INSPECTION SHALL BE PROVIDED BY A QUALIFIED INDEPENDENT SPECIAL INSPECTION AGENCY IN ACCORDANCE WITH IBC 1704 AND AS OUTLINED IN THE JOB SPECIFICATIONS. REPORTS OF FINDINGS OR DISCREPANCIES SHALL BE NOTED AND FORWARDED TO THE CONTRACTOR, ARCHITECT, ENGINEERS, AND BUILDING OFFICIAL IN A TIMELY MANNER.

C. POST-INSTALLED CONCRETE ANCHORS

1. WITHOUT WRITTEN APPROVAL OF THE ENGINEER, CONTRACTOR SHALL NOT SUBSTITUTE POST-INSTALLED ANCHORS WHERE CAST-IN-PLACE ANCHORS ARE SPECIFIED IN THE DRAWINGS.
2. WHERE STRUCTURAL DETAILS SPECIFY SPECIFIC BRANDS AND/OR TYPES OF ADHESIVES OR ANCHORS, SUBSTITUTIONS OF OTHER BRANDS AND/OR TYPES IS NOT ALLOWED, WITHOUT WRITTEN APPROVAL OF THE ENGINEER.
3. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS SHALL BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. SUBSTITUTION REQUESTS SHALL INCLUDE AN ICC ESR OR IAPMO REPORT AND SUPPORTING CALCULATIONS INDICATING COMPLIANCE WITH DESIGN INTENT.
4. ALL ADHESIVE/MECHANICAL ANCHORS SHALL BE INSTALLED, INCLUDING HOLE DRILLING AND PREPARATION, IN ACCORDANCE WITH AN APPROVED INDEPENDENT EVALUATION REPORT (ICC-ES, IAPMO, OR APPROVED EQUAL) AS INDICATED BELOW, AND IN ACCORDANCE WITH ALL MANUFACTURER’S PRINTED INSTALLATION INSTRUCTIONS (MPII).
5. ADHESIVE ANCHORS SHALL BE INSTALLED IN CONCRETE HAVING A MINIMUM AGE OF 21 DAYS AT TIME OF ANCHOR INSTALLATION. ADHESIVE ANCHORS SHALL NOT BE FULLY LOADED UNTIL CONCRETE HAS REACHED DESIGN STRENGTH.
6. UNLESS APPROVED BY THE ENGINEER OF RECORD, CONCRETE AND DRILLED ANCHOR HOLES SHALL BE DRY AND FREE OF WATER FOR 24 HOURS PRIOR TO ADHESIVE INSTALLATION. CONTACT THE ENGINEER OF RECORD FOR GUIDANCE IF THE CONTRACTOR CHOOSES TO INSTALL IN DAMP OR WET HOLES.
7. CONCRETE TEMPERATURE AT THE TIME OF INSTALLATION SHALL BE MONITORED BY THE CONTRACTOR. CONTRACTOR SHALL COMPLY WITH ALL MANUFACTURER’S PRINTED INSTALLATION INSTRUCTIONS (MPII) RELATIVE TO SUBSTRATE TEMPERATURE.
8. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY AN APPLICABLE CERTIFICATION PROGRAM. CERTIFICATION SHALL INCLUDE WRITTEN AND PERFORMANCE TESTS IN ACCORDANCE WITH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM, OR EQUIVALENT IN ACCORDANCE WITH ACI 318-19 17.8.2.2. PROOF OF CURRENT CERTIFICATION SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL PRIOR TO INSTALLATION. CONTINUOUS SPECIAL INSPECTION SHALL BE PROVIDED FOR THESE ANCHORS.
9. UNLESS NOTED OTHERWISE, ALL ADHESIVE ANCHORS INTO CONCRETE SHALL BE:
   a. HILTI HIT-RE 500V3 (ESR-3814), OR HILTI HIT-HY 200-A (ESR-3187).
   b. SIMPSON SET-3G (ESR-4057), OR AT-XP (ER-0263).
   c. DEWALT PURE 110+ (ESR-3298), OR AC200+ (ESR-4027-COLD WEATHER).
10. UNLESS NOTED OTHER WISE, ALL MECHANICAL ANCHORS INTO CONCRETE SHALL BE:
   a. SIMPSON STRONG-BOLT 2 (ESR-3037).
   b. HILTI KWIK BOLT-TZ2 (ESR-4266).
11. UNLESS NOTED OTHERWISE, ALL SCREW ANCHORS INTO CONCRETE SHALL BE:
   a. SIMPSON TITEN HD (ESR-2713).
   b. DEWALT SCREWBOLT+ (ESR-3889).
   c. HILTI KWIK HUS-EZ (ESR-3027).
12. THE TESTING LABORATORY WILL PERFORM VISUAL INSPECTION OF ANCHORS AND DOWELS AS SPECIFIED IN THE SPECIAL INSPECTION SCHEDULE AND THE APPROVED INDEPENDENT EVALUATION REPORT. TENSION TESTING CAN BE REQUIRED AT THE DIRECTION OF THE STRUCTURAL ENGINEER OF RECORD OR THE SPECIAL INSPECTOR.
13. IF REINFORCEMENT IS ENCOUNTERED DURING DRILLING, ABANDON THAT HOLE AND SHIFT THE ANCHOR LOCATION TO AVOID THE REINFORCEMENT. PROVIDE A MINIMUM SPACE OF (2) ANCHOR HOLE DIAMETERS OR 1 INCH, WHICH EVER IS LARGER, OF SOUND CONCRETE/MASONRY BETWEEN THE ANCHOR AND THE ABANDONED HOLE. FILL THE ABANDONED HOLE WITH NON-SHRINK GROUT. AT CONTRACTORS OPTION, LOCATE EXISTING REINFORCEMENT PRIOR TO DRILLING/CORING. IF THE ANCHOR OR DOWEL CANNOT BE SHIFTED AS NOTED ABOVE, THE ENGINEER WILL DETERMINE A NEW LOCATION.
14. LOCATE REINFORCEMENT AND CONFIRM FINAL ANCHOR LOCATIONS PRIOR TO FABRICATING PLATES, MEMBERS, OR OTHER STEEL ASSEMBLIES ATTACHED WITH MECHANICAL ANCHORS.

D. SUPPLEMENTARY STRUCTURAL STEEL

1. WHERE SUPPLEMENTARY STRUCTURAL STEEL HAS BEEN DETAILED IN THESE DOCUMENTS IT SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF THE FOLLOWING:
   a. ANSI/AISC 360-16 “SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS”, WITH “COMMENTARY” AND “SUPPLEMENTS” AS REQUIRED BY BUILDING CODE.
   b. AISC 303-16 “CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES” EXCLUDING THE FOLLOWING SECTIONS: 4.4, 4.4.1, AND 4.4.2.
   c. AISI “SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS”.
   d. AISC “SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS”.
   e. AWS D1.1 AND 1.3, “STRUCTURAL WELDING CODE” (EXCEPT SPECIFIC ITEMS DO NOT APPLY IF THEY CONFLICT WITH AISC).
   f. ANSI/AISC 341-16 “SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS”.
2. SUPPLEMENTARY STRUCTURAL STEEL SHALL COMPLY WITH THE FOLLOWING:
   a. PLATES - ASTM A-36 (UNO)
   b. HOLLOW STRUCTURAL SECTIONS (HSS) – ASTM A-500, GRADE C FOR SQUARE, RECTANGULAR, AND ROUND SHAPES (FY = 50 KSI FOR SQUARE AND RECTANGULAR SHAPES AND 46 KSI FOR ROUND SHAPES).
   c. PIPE COLUMNS - ASTM A-53, GRADE B TYPE E OR S
3. CONNECTIONS SHALL COMPLY WITH THE EXTERIOR FRAMING DRAWINGS UNLESS WRITTEN APPROVAL TO CHANGE IS GIVEN BY THE SPECIALTY STRUCTURAL ENGINEER.
4. ALL SHOP FABRICATIONS SHALL BE PERFORMED BY AN APPROVED FABRICATOR IN ACCORDANCE WITH SECTIONS 1702 AND 1704 OF THE IBC OR WITH SHOP INSPECTION BY AN INDEPENDENT AGENCY IN ACCORDANCE WITH SECTION 1704.2.5 OF THE IBC.
5. WELDING
   a. ALL WELDING AND CUTTING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS IN ACCORDANCE WITH ANSI/AWS D1.1 (LATEST EDITION).
   b. USE E-60XX ELECTRODES UNLESS NOTED OTHERWISE.

E. COLD-FORMED STEEL

1. LIGHT GAUGE STEEL FRAMING
   a. WHERE STEEL FRAMING SIZE DESIGNATORS ARE USED IN THE DRAWINGS, THEY SHALL FOLLOW THE CONVENTION ESTABLISHED BY THE STEEL STUD MANUFACTURERS' ASSOCIATION (SSMA). FRAMING MEMBERS PROVIDED SHALL COMPLY WITH THE DESIGNATIONS ACCORDING TO THIS CONVENTION.
   b. ALL EXTERIOR FRAMING STUDS ALONG WITH ALL TOP/BOTTOM TRACKS, BRIDGING, AND END-TRACKS SHALL BE OF THE DESIGNATION SHOWN ON THE PLANS. ALL OF THE ABOVE ELEMENTS SHALL BE FORMED FROM STEEL MEETING REQUIREMENTS OF ASTM A1011/A1011M-04. ALL COMPONENTS SHALL BE G60 GALVANIZED. ALL COMPONENTS SHALL HAVE THE FOLLOWING YIELD STRESSES:

COMPONENT	BASE METAL THICKNESS	YIELD STRESS
STUDS & TRACKS	33 & 43 MILL	33,000 PSI
	54, 68 & 97 MILL	50,000 PSI
END CLOSURES & BRIDGING	33, 43, 54 & 68 MILL	33,000 PSI

   c. FOLLOW ALL MANUFACTURERS' RECOMMENDATIONS FOR THE USE OF THESE PRODUCTS.
   d. UNLESS NOTED OTHERWISE, ALL WELDED CONNECTIONS SHALL BE IN ACCORDANCE WITH AWS D1.3 AND THE EXTERIOR FRAMING DETAILS. ALL WELDS SHALL BE COMPLETED USING E60XX ELECTRODES. ALL WELDS SHALL BE EQUIVALENT TO A FILLET WELD THAT IS EQUAL IN SIZE TO THE THICKNESS OF THE THINNEST PART BEING WELDED. ALL WELDS SHALL BE TOUCHED-UP WITH ZINC-RICH PAINT (ASTM A-780).
2. ERECTION TOLERANCES
   a. CONCRETE FOUNDATION SHALL BE LEVEL AND FREE FROM DEFECTS. IF THE FOUNDATION IS NOT LEVEL, PROVISIONS SHALL BE MADE TO PROVIDE A UNIFORM BEARING SURFACE WITH A MAXIMUM 1/4” GAP BETWEEN THE BOTTOM TRACK AND FOUNDATION.
   b. PER AISI S200 ENDS OF STRUCTURAL WALL STUDS SHALL HAVE SQUARE CUT ENDS AND SHALL BE “SEATED TIGHT” AGAINST TRACKS. “SEATED TIGHT” SHALL MEAN THAT A MAXIMUM GAP OF 1/8” WILL BE ACCEPTABLE BETWEEN THE END OF WALL FRAMING AND THE TRACK.
   c. ALL COLD FORMED FRAMING MEMBER SHALL BE INSTALLED PLUMB, SQUARE AND TRUE PER THE PROJECT SPECIFICATIONS.
3. CONNECTIONS AND FASTENERS
   a. ALL SCREWS SHALL HAVE THE FOLLOWING MINIMUM PROPERTIES, SPACING AND EDGE DISTANCE:

SCREW SIZE	SHANK DIA.	MIN. SPACING	MIN. EDGE DIST.
NO. 6	0.138”	7/16”	1/4”
NO. 8	0.164”	1/2”	1/4”
NO. 10	0.190”	5/8”	5/16”
NO. 12	0.216”	3/4”	3/8”
1/4”	0.250”	3/4”	3/8”

      1. SELF DRILLING SCREWS WITH WINGS ARE NOT PERMITTED TO BE USED ON ANY CONNECTIONS INTO COLD FORMED STEEL.
      2. UNLESS NOTED OTHERWISE, ALL FRAMING ANCHORS, CLIPS, HOLD DOWNS, STRAPS, ETC. SHALL BE PROVIDED BY THE STEEL NETWORK OR APPROVED EQUAL.
      3. ALL POWDER ACTUATED FASTENERS SHALL BE HILTI XU OR APPROVED EQUAL.
   b. UNLESS OTHERWISE NOTED, ALL METAL STUD WALLS SHALL HAVE HORIZONTAL BRIDGING PLACED AT 4'-0” O.C. SEE TYPICAL DETAIL FOR BRIDGING INFORMATION.
   c. UNLESS NOTED OTHERWISE, ALL WALL STUDS SHALL BE CONTINUOUS BETWEEN TOP AND BOTTOM TRACKS WITH NO SPLICES.
   d. UNLESS NOTED OTHERWISE, ALL WALLS SHALL BE CONSIST OF 800S162-54 STUDS SPACED AT 16” O.C. W/ #8 SCREWS ATTACHING EACH FLANGE OF THE STUD TO THE BOTTOM TRACK.
   e. UNLESS NOTED OTHERWISE, ALL EXTERIOR WALL BOTTOM TRACKS SHALL BE ANCHORED TO THE CONCRETE FOUNDATION WALL WITH POST-INSTALLED CONCRETE ANCHORS AT 16” O.C. SEE THE POST-INSTALLED CONCRETE ANCHOR SECTION IN THESE NOTES FOR MORE INFORMATION.
   f. ALTERNATE ANCHORS MANUFACTURERS MAY BE USED AS APPROVED BY THE SPECIALTY STRUCTURAL ENGINEER. THERE SHALL BE A MINIMUM OF (2) ANCHORS PER TRACK WITH (1) ANCHOR LOCATED NOT MORE THAN 12” AND NOT LESS THAN 4” FROM THE END OF EACH PIECE.
   g. UNLESS NOTED OTHERWISE, ALL TOP TRACKS SHALL BE 800T125-54 TRACKS. WHERE DEFLECTION TRACKS ARE REQUIRED PER THE METAL STUD DRAWINGS, USE 800T225-64, SEE APPLICABLE DETAILS FOR CONSTRUCTION INFORMATION.
   h. ALL TOP TRACKS OF STUD WALLS SHALL BE CONTINUOUS. WHERE LONG TRACKS ARE NOT AVAILABLE, TOP TRACKS SHALL BE SPLICED PER DETAIL 7/S520.
   i. UNLESS NOTED OTHERWISE, ALL STEEL STUD BOX HEADER COMPONENTS AND SILL COMPONENTS (I.E. STUDS AND TRACKS), SHALL BE CONTINUOUS WITH NO SPLICES BETWEEN BEARING SUPPORTS.
   j. PREFABRICATED SYSTEMS: SUBMIT COMPLETE SHOP DRAWINGS AND CALCULATIONS OF ALL ELEMENTS FOR REVIEW. SUBMITTALS SHALL BEAR THE STAMP OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE IN WHICH THE PROJECT OCCURS.

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER
No. 10396064-2203
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09/10/25

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REV	DATE	DESCRIPTION

HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

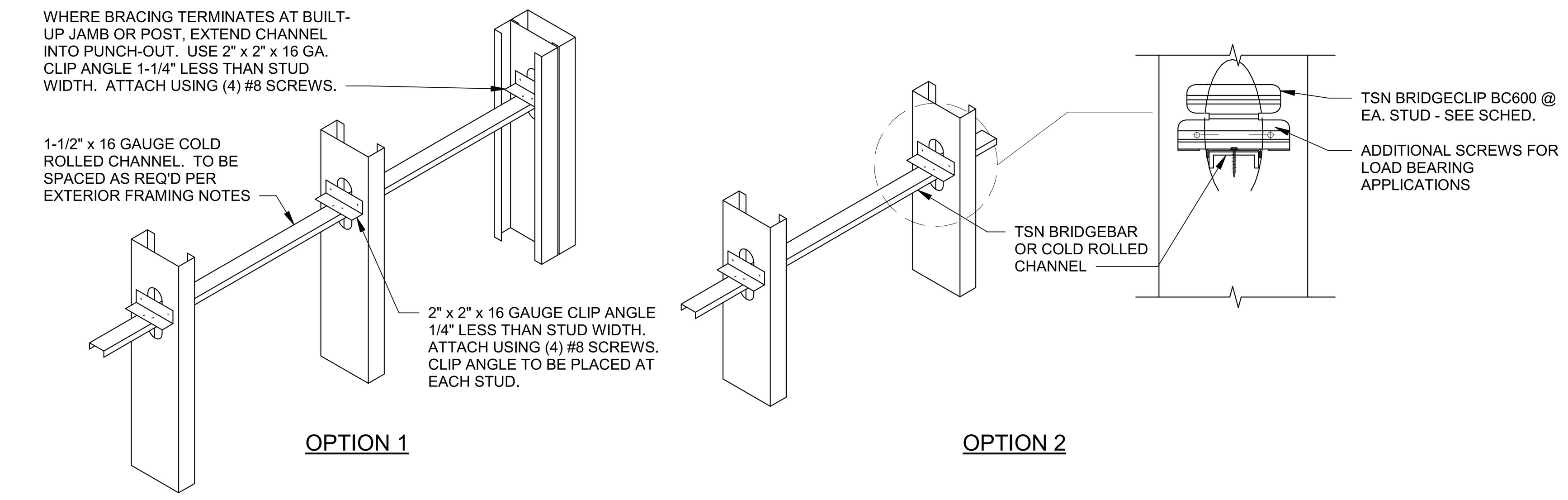
STEEL STUD NOTES

WALL SCHEDULE

MARK	STUD	SPACING	TOP TRACK	BOTTOM TRACK	COMMENTS
SSW-1	800S162-54	16"	800T125-54	800T125-54	BRIDGING @ 4'-0"o.c. WHERE SHEATHING IS NOT ATTACHED ON BOTH FLANGES OF STUD
SSW-2	600S162-54	16"	600T150-54	600T125-54	
SSW-3					
SSW-4					
SSW-5					
SSW-6					
SSW-7					
SSW-8					

NOTE :
1. USE SSW-1 UNLESS NOTED OTHERWISE.
2. ATTACH BOTTOM TRACK TO SLAB PER 2/S520.
3. ATTACH HEAD OF WALL PER DETAIL 6/S520.

BRIDGING OPTIONS

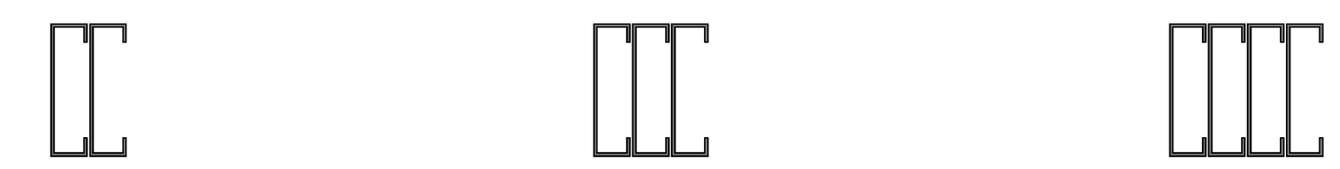


OPTION 1

OPTION 2

JAMB STUD SCHEDULE

MARK	MAX. OPENING	# OF JAMB STUDS	CONFIGURATION	CONCRETE CONNECTION		FLOOR / ROOF CONNECTION		COMMENTS
				CONNECTOR	ANCHOR	CONNECTOR	ANCHORAGE	
SSJ-1	4'-0"	1	--	--	--	--	--	--
SSJ-2	8'-0"	2	1	--	--	--	--	--
SSJ-3	12'-0"	3	2	--	--	--	--	--
SSJ-4	--	--	--	--	--	--	--	--

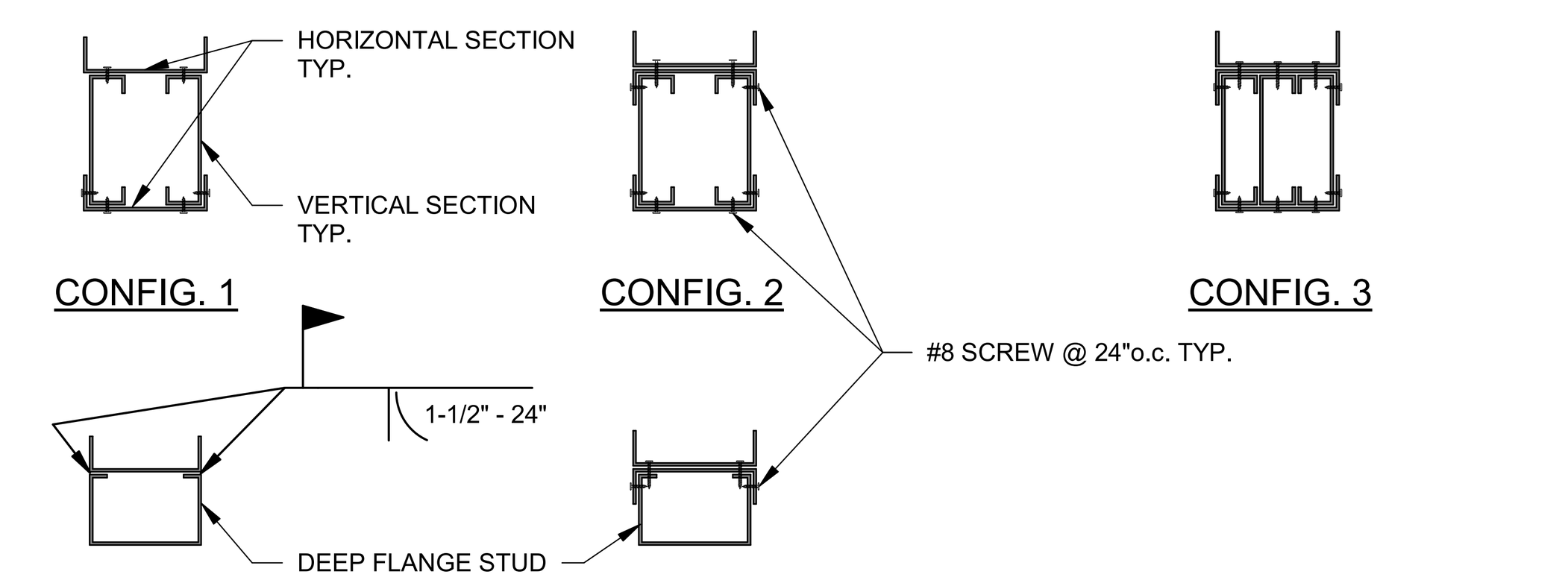


CONFIG. 1 CONFIG. 2 CONFIG. 3

NOTE : SEE DETAIL 14/S520 FOR JAMB STITCHING OPTIONS

HEADER SCHEDULE

MARK	MAX. OPENING	VERT. SECTIONS	HORIZ. SECTIONS	CONFIGURATION	HEADER CONNECTION	COMMENTS
SSH-1	4'-0"	600S162-54	1	5/S520	---	
SSH-2	8'-0"	600S162-54	2	5/S520	---	
SSH-3	12'-0"	600S162-54	2	5/S520	---	
SSH-4	---	---	---	---	---	
SSH-5						
SSH-6						
SSH-7						

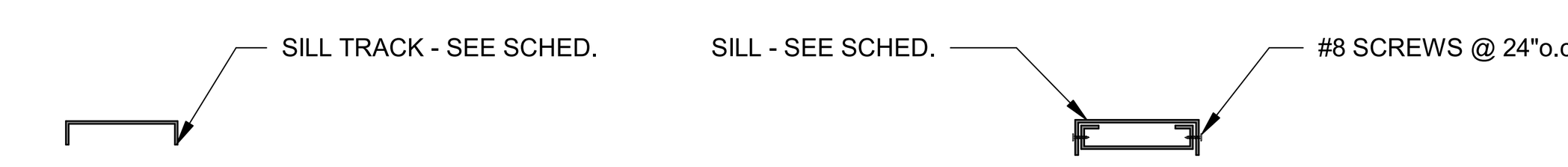


CONFIG. 1 CONFIG. 2 CONFIG. 3

CONFIG. 4 CONFIG. 5

SILL SCHEDULE

MARK	MAX. OPENING	SILL COMPONENTS	CONFIGURATION	SILL CONNECTION ANGLE	COMMENTS
SSS-1	4'-0"	800T125-54	1		
SSS-2	8'-0"	800T125-54	1		
SSS-3	12'-0"	800T125-68, 800S162-43	2		



CONFIG. 1 CONFIG. 2

SPECIAL INSPECTION SCHEDULE [1, 2]

ESTABLISHED PER 2021 IBC SECTION 110 AND CHAPTER 17

ITEM	CONTINUOUS[3]	PERIODIC[3]	REFERENCE	COMMENTS
COLD FORMED FRAMING (IBC 1705.12.2 & 1705.13.3)				CF 1. SPECIAL INSPECTION IS NOT REQUIRED FOR COLD-FORMED STEEL LIGHT-FRAME SHEAR WALLS, BRACES, DIAPHRAGMS, COLLECTORS (DRAG STRUTS) AND HOLDOWNS WHERE SHEATHING IS WOOD STRUCTURAL PANEL OR STEEL SHEETS ON ONLY ONE SIDE OF THE SHEAR WALL, SHEAR PANEL OR DIAPHRAGM ASSEMBLY AND THE SPECIFIED FASTENER SPACING AT THE PANEL OR SHEET EDGES.
LIGHT GAUGE METAL FRAMING WELDING		●		

GENERAL SPECIAL INSPECTION NOTES :

1. THE ITEMS MARKED WITH A "●" IN THE SPECIAL INSPECTION SCHEDULE SHALL BE INSPECTED IN ACCORDANCE WITH IBC CHAPTER 17 BY A CERTIFIED SPECIAL INSPECTOR FROM AN ESTABLISHED TESTING AGENCY. FOR MATERIAL SAMPLING AND TESTING REQUIREMENTS, REFER TO THE MATERIAL SAMPLING AND TESTING SECTION, THE PROJECT SPECIFICATIONS, AND THE SPECIFIC GENERAL NOTES SECTIONS. THE TESTING AGENCY SHALL SEND COPIES OF ALL STRUCTURAL TESTING AND INSPECTION REPORTS DIRECTLY TO THE ARCHITECT, ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL. ANY ITEMS WHICH FAIL TO COMPLY WITH THE APPROVED CONSTRUCTION DOCUMENTS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF DISCREPANCIES ARE NOT CORRECTED, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL, ARCHITECT, AND ENGINEER PRIOR TO COMPLETION OF THAT PHASE OF WORK. SPECIAL INSPECTION TESTING REQUIREMENTS APPLY EQUALLY TO ALL BIDDER DESIGNED COMPONENTS.
2. ANY CONSTRUCTION OR MATERIAL THAT HAS FAILED INSPECTION SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT.
3. CONTINUOUS SPECIAL INSPECTION MEANS THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED. PERIODIC SPECIAL INSPECTION MEANS THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK. (IBC SECTION 202)

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VCBO NUMBER: Project Number
DATE: 12-17-2025

PROFESSIONAL STRUCTURAL ENGINEER
No. 10396064-2203
Arek Higgs
STATE OF UTAH
09/10/25

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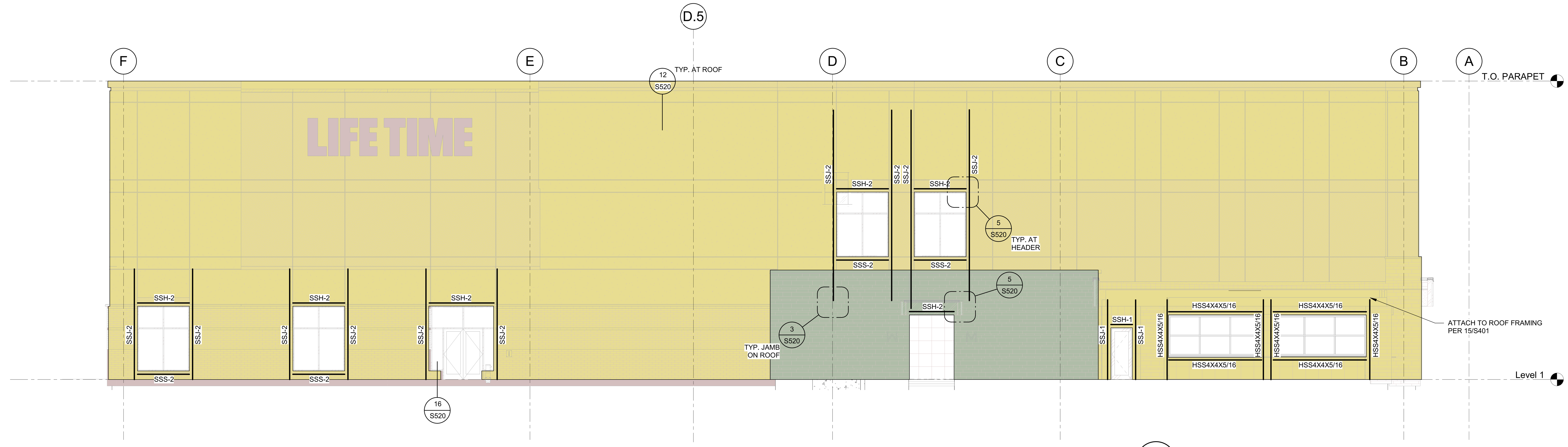
REV	DATE	DESCRIPTION

HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

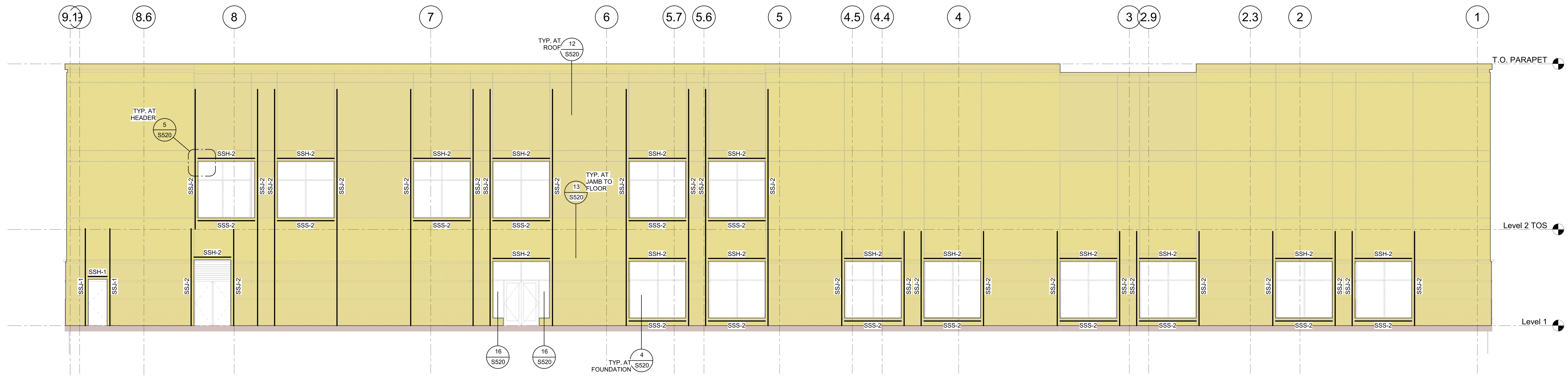
STEEL STUD SCHEDULES



WEST ELEVATION

SCALE : 1/8" = 1'-0"

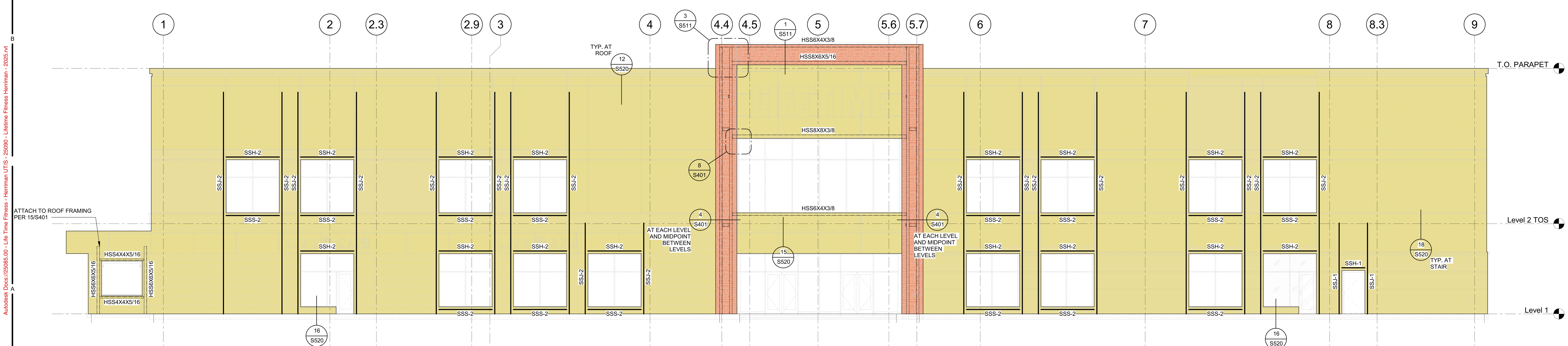
A
S510



NORTH ELEVATION

SCALE : 1/8" = 1'-0"

B
S510



SOUTH ELEVATION

SCALE : 1/8" = 1'-0"

C
S510

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REV	DATE	DESCRIPTION
1	20250926	Addendum 001

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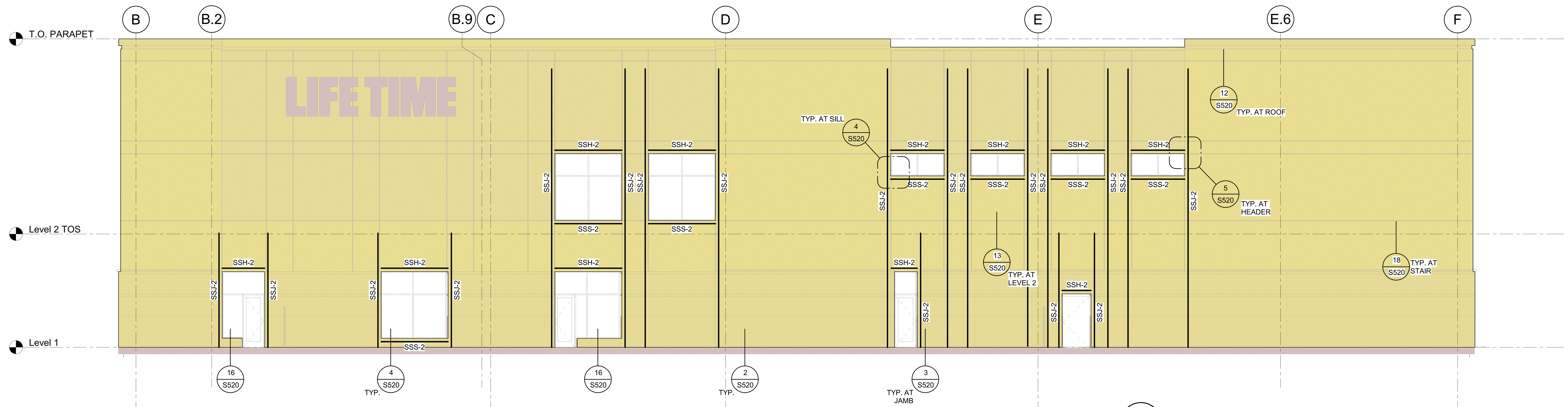
BID SET

EXTERIOR ELEVATIONS

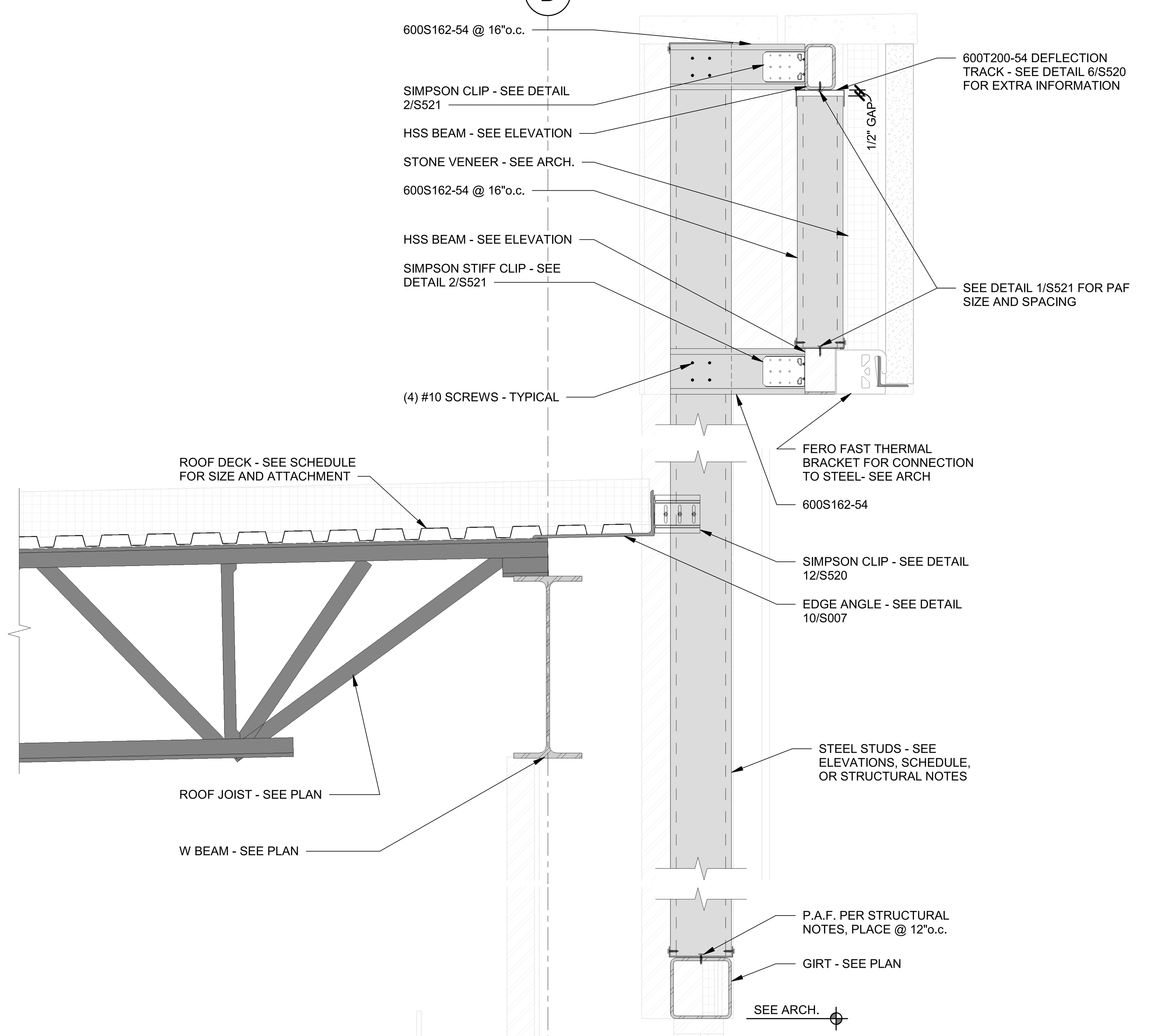
S510



EAST ELEVATION

SCALE : 1/8" = 1'-0"

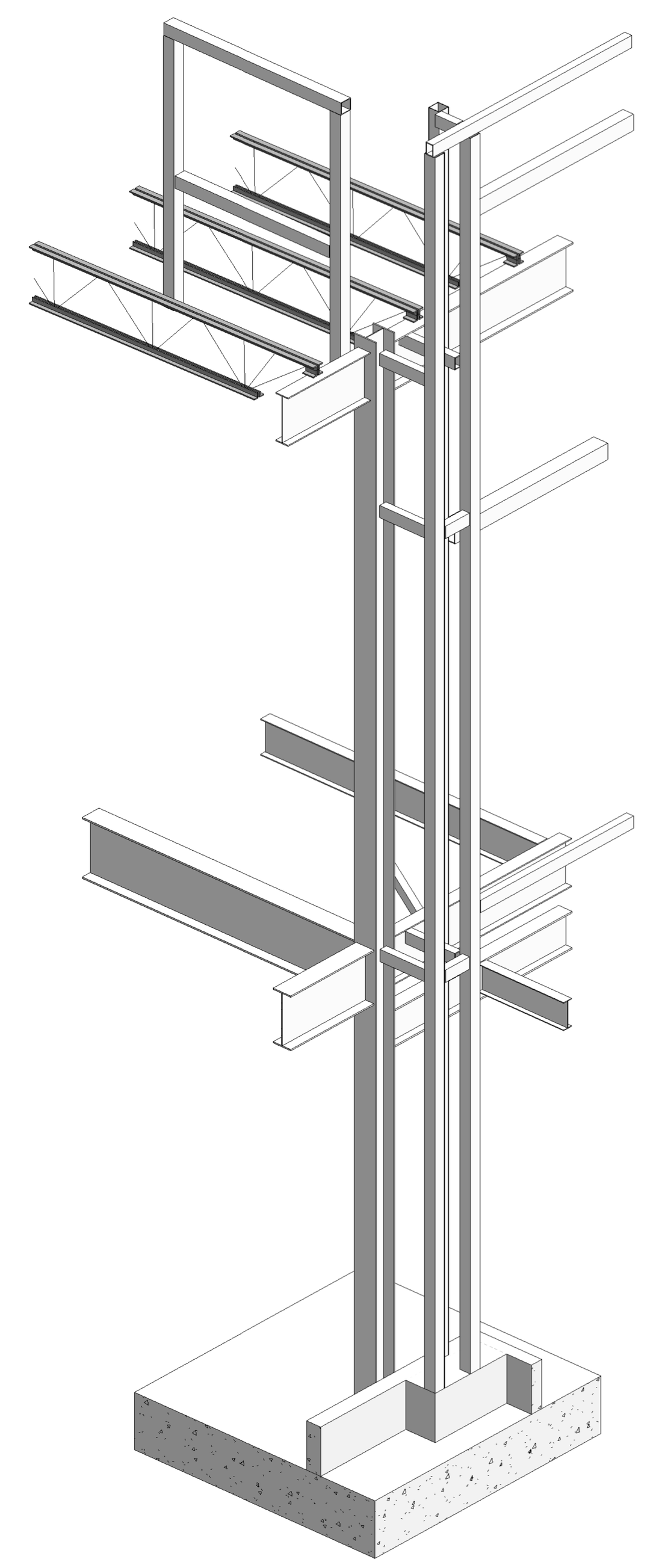
A S511



DETAIL

SCALE : NONE

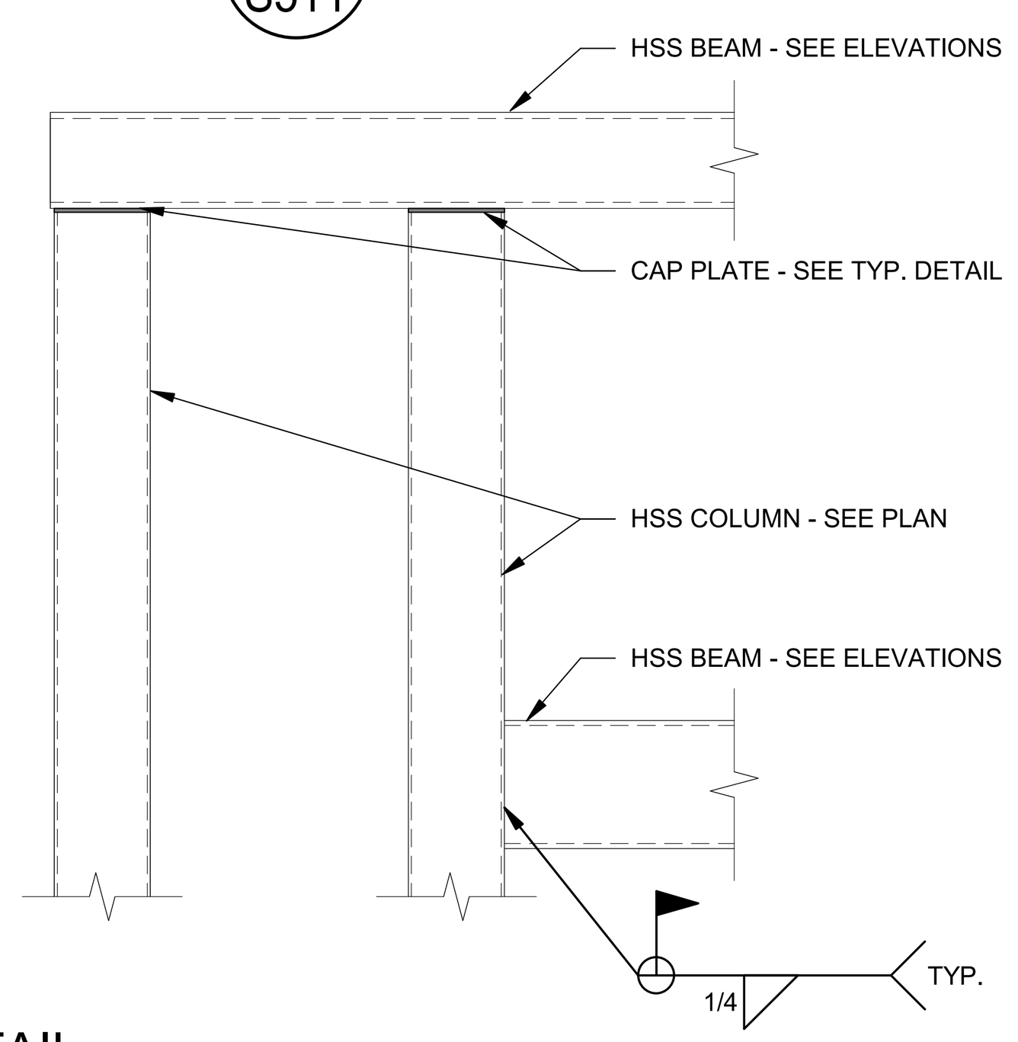
1 S511



ENTRANCE FRAMING 3D REFERENCE VIEW

SCALE : NONE

2 S511



DETAIL

SCALE : NONE

3 S511

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PROFESSIONAL STRUCTURAL ENGINEER
No. 10396064-2203
Arek Higgs
STATE OF UTAH
09/10/25

ARW ENGINEERS

CONFIDENTIALITY NOTICE

REV	DATE	DESCRIPTION

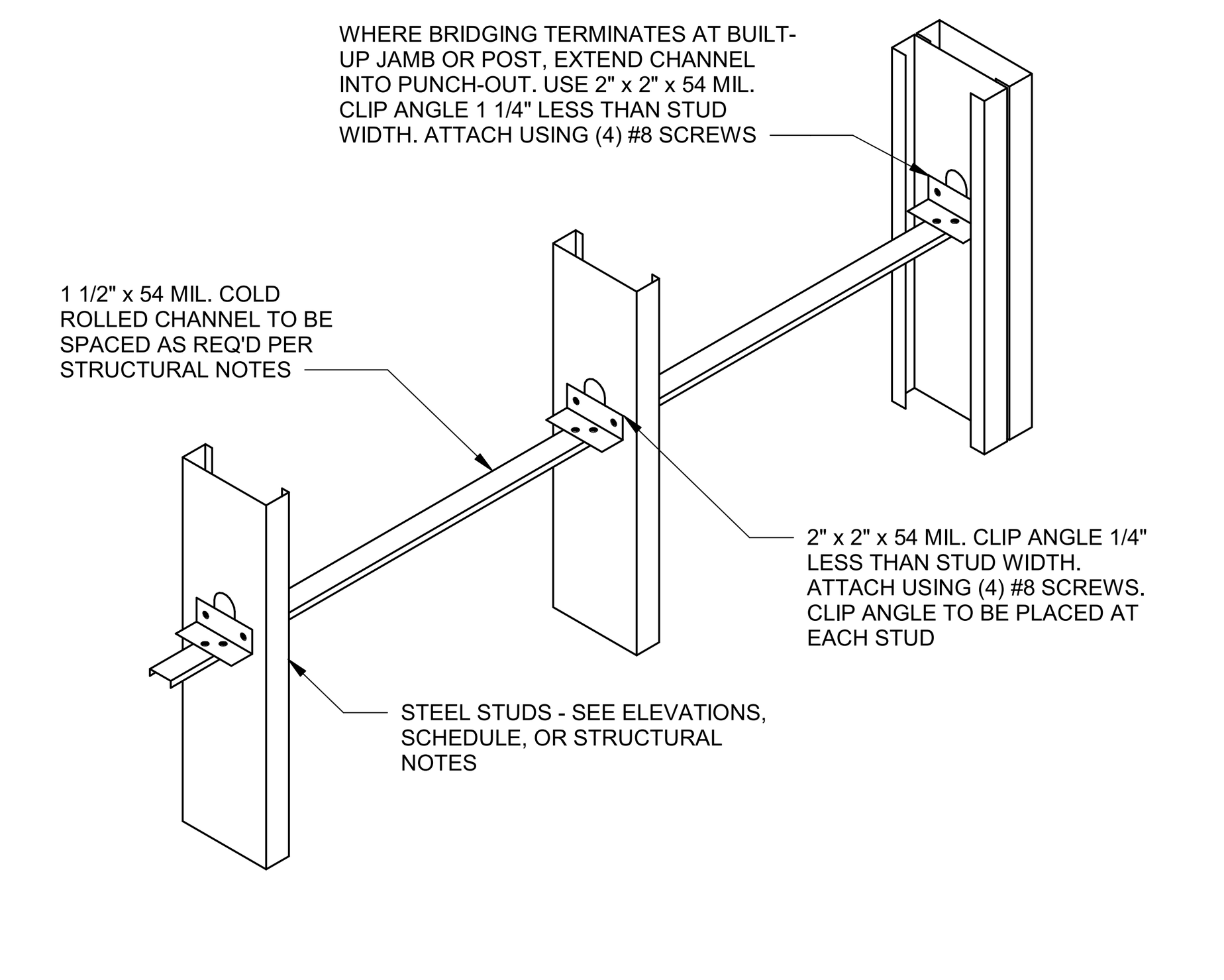
HERRIMAN, UT

4684 W 12600 S
RIVERTON, UT 84096
BID SET

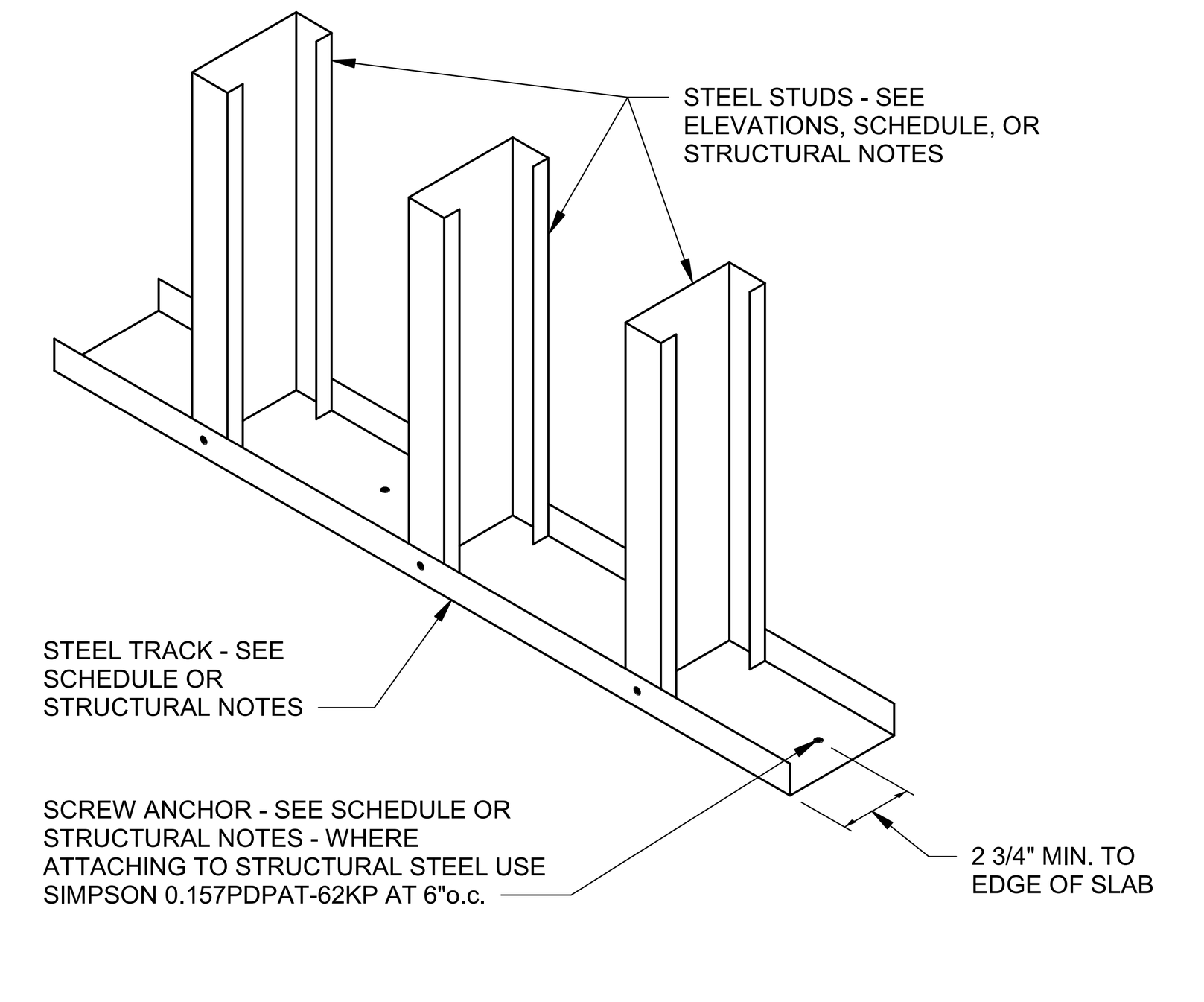
EXTERIOR ELEVATIONS

S511

12/15/2025 11:26:30 AM



TYP. LATERAL BRACING / BRIDGING
SCALE : NONE
1 S520



DETAIL
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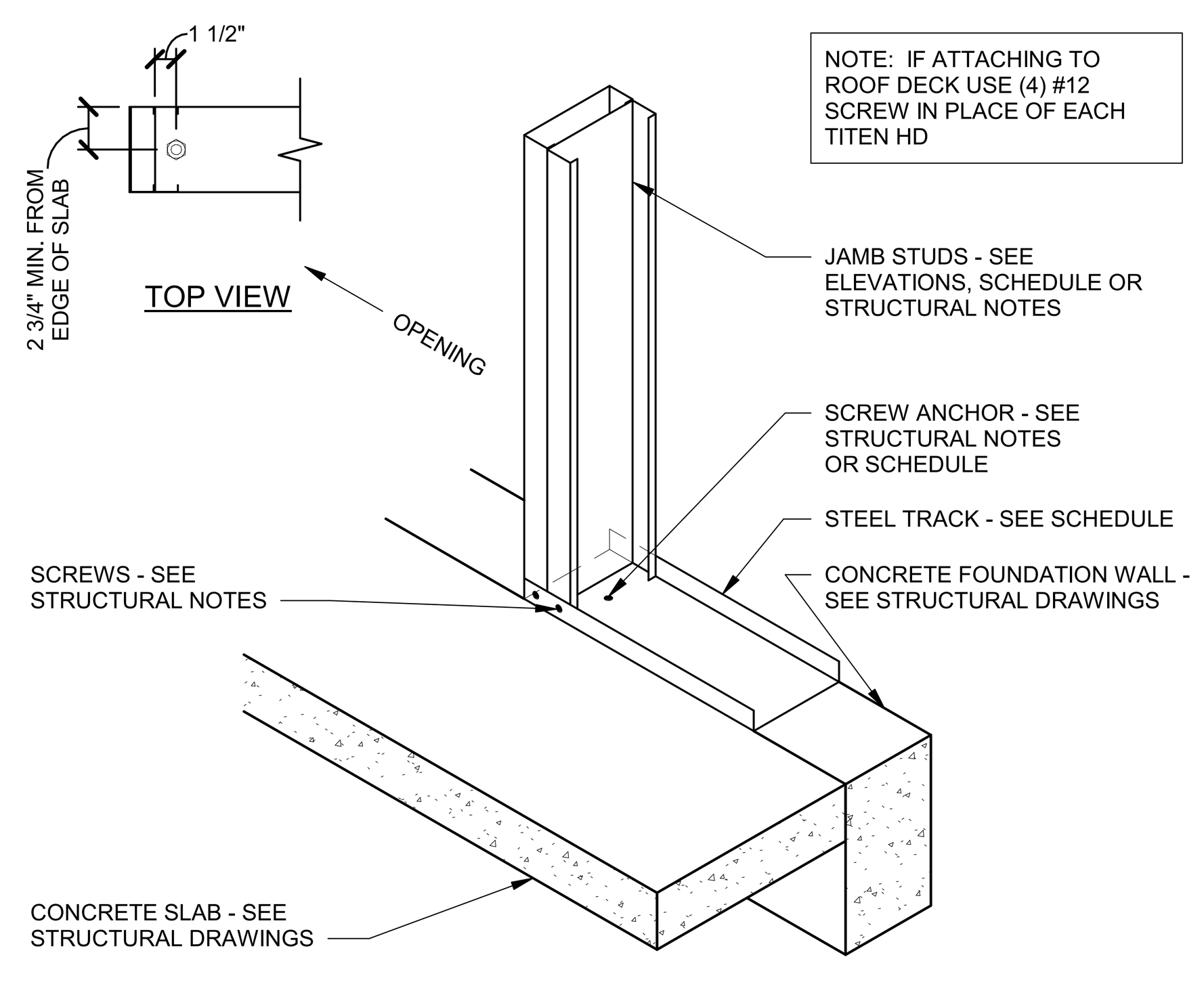
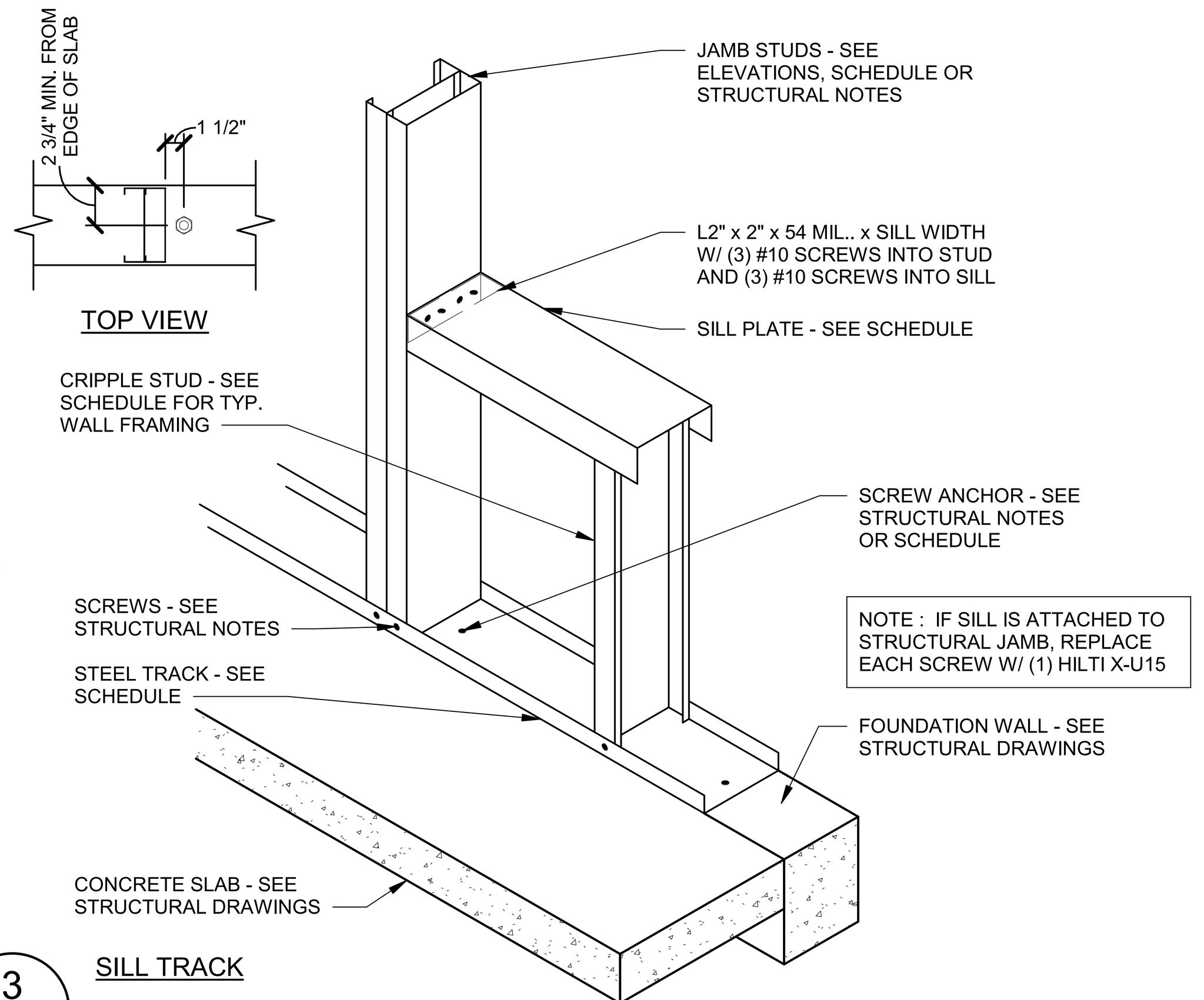
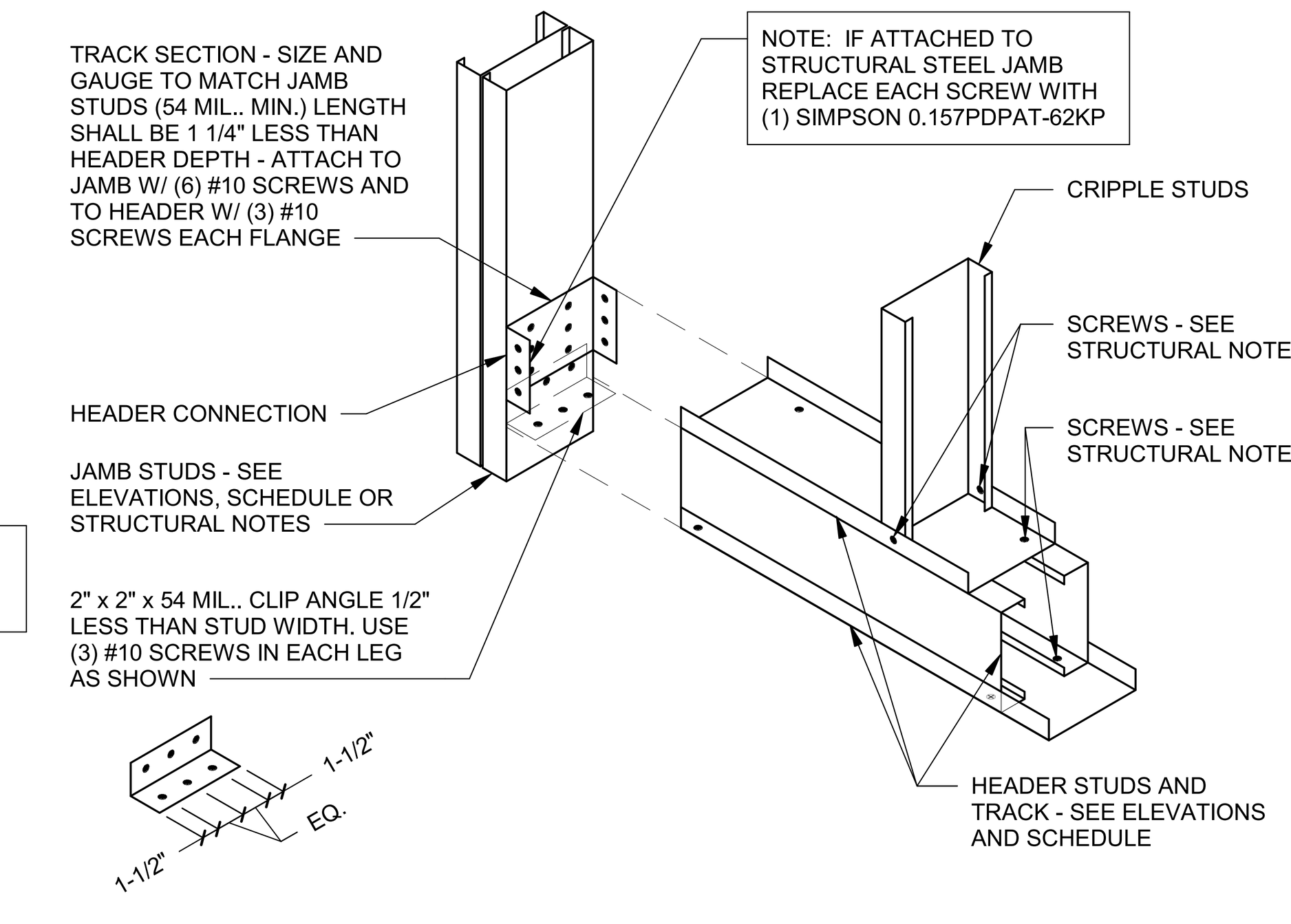
2 S520



DOOR JAMB ANCHORAGE
SCALE : NONE
3 S520



SILL TRACK CONNECTION @ WINDOW OPENINGS
SCALE : NONE
4 S520



TYP. BOX HEADER CONNECTION
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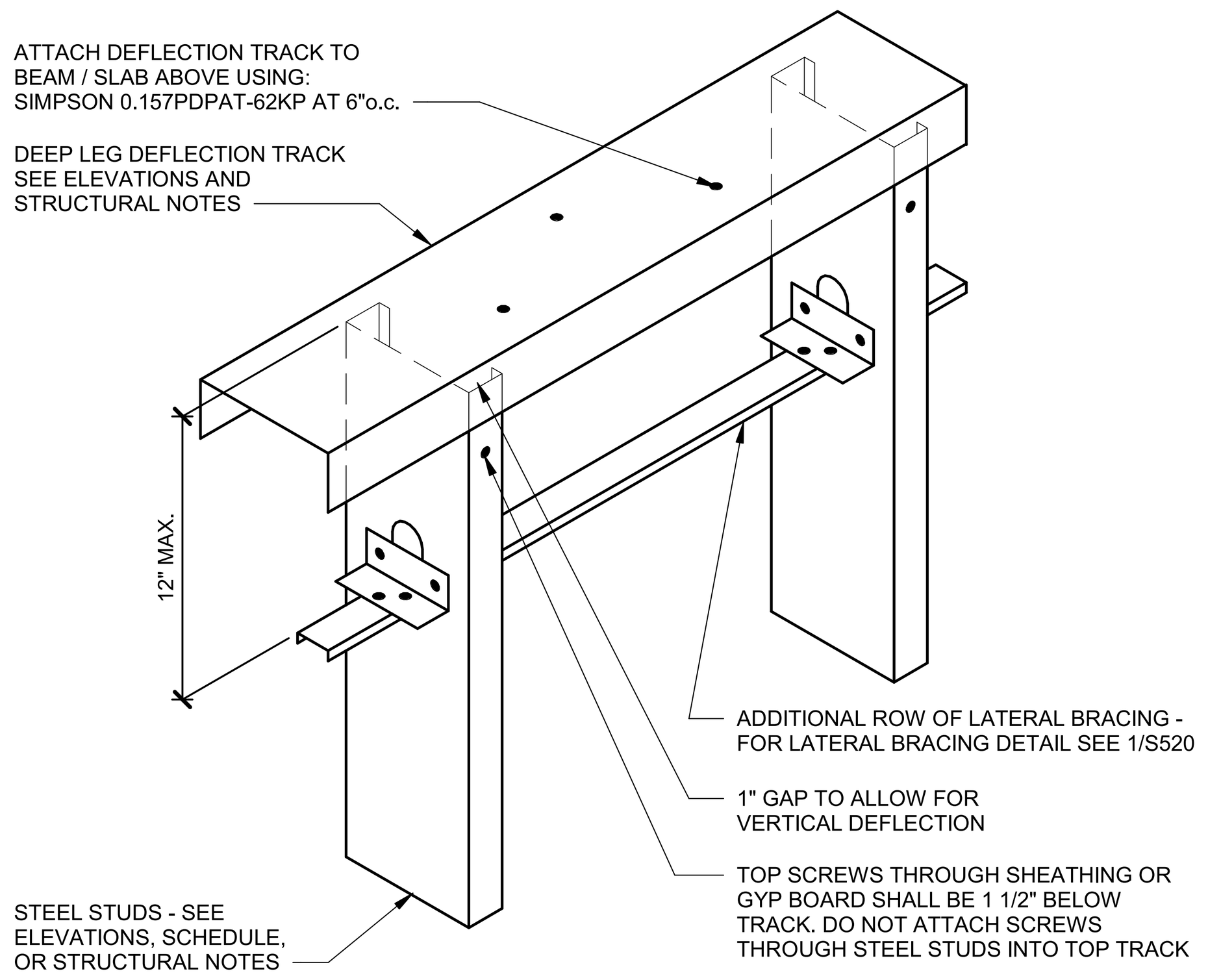
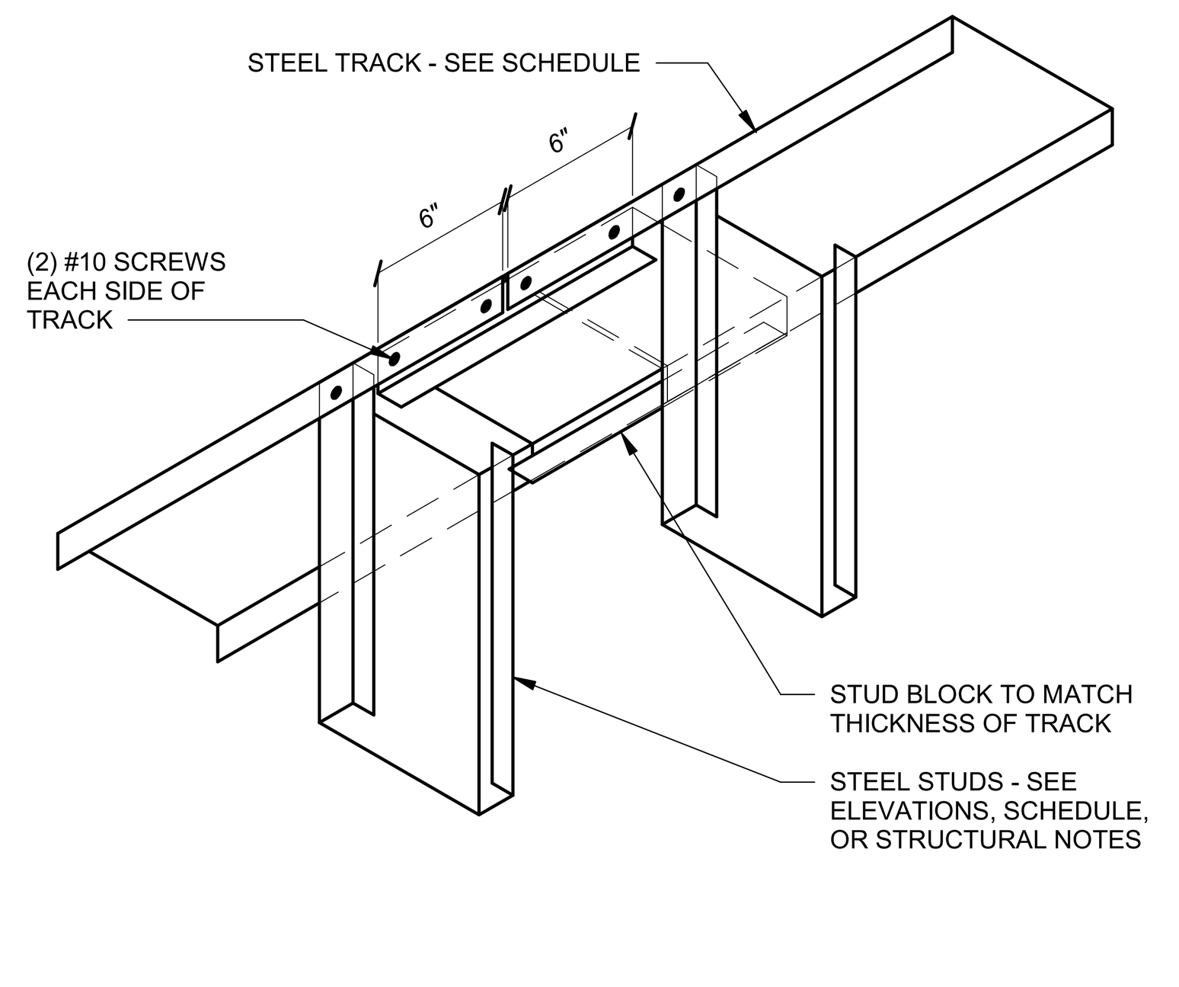
5 S520



TYPICAL DEFLECTION TRACK (OPTION #1)
SCALE : NONE
6 S520



TYP. TRACK SPLICE DETAIL
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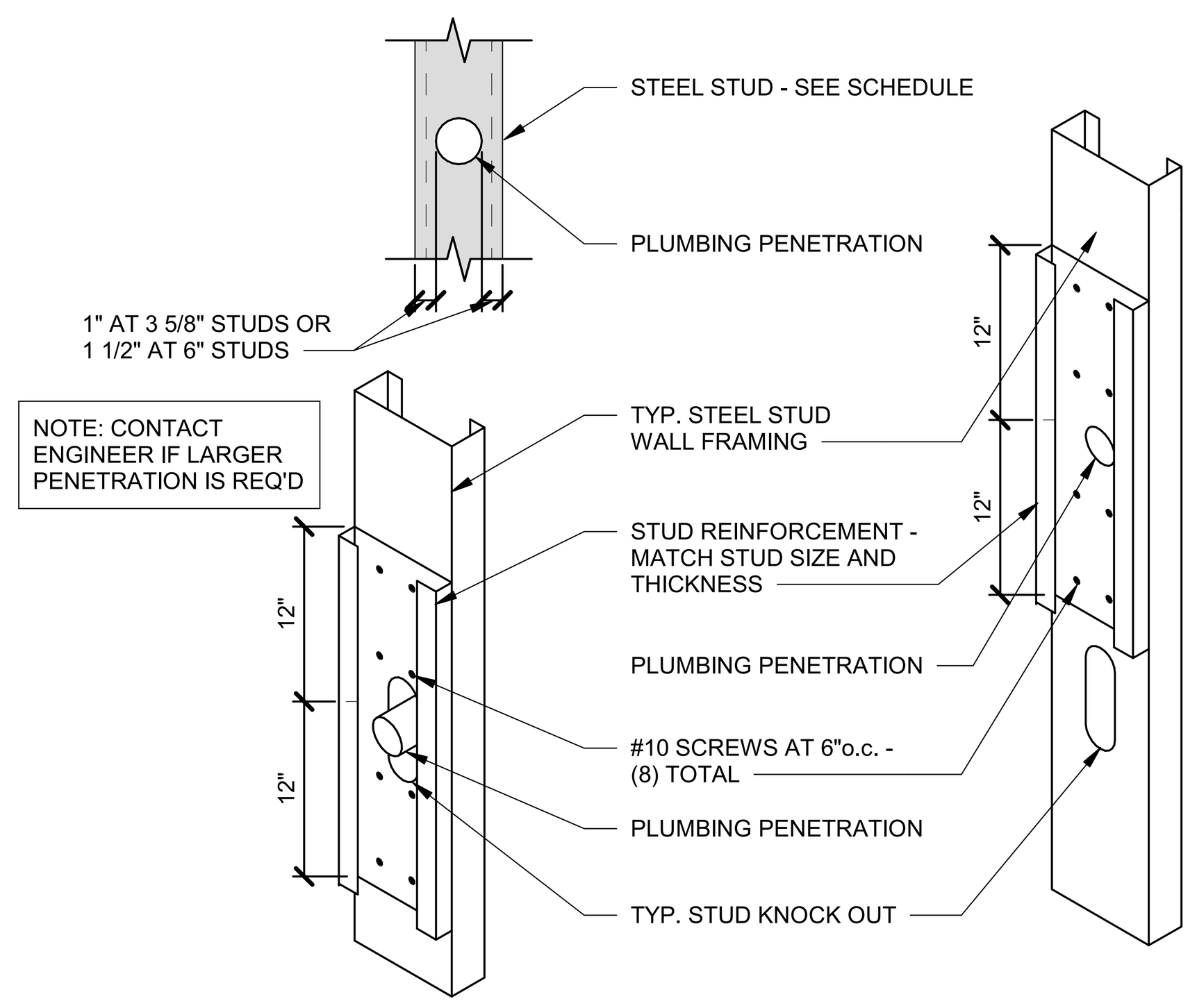
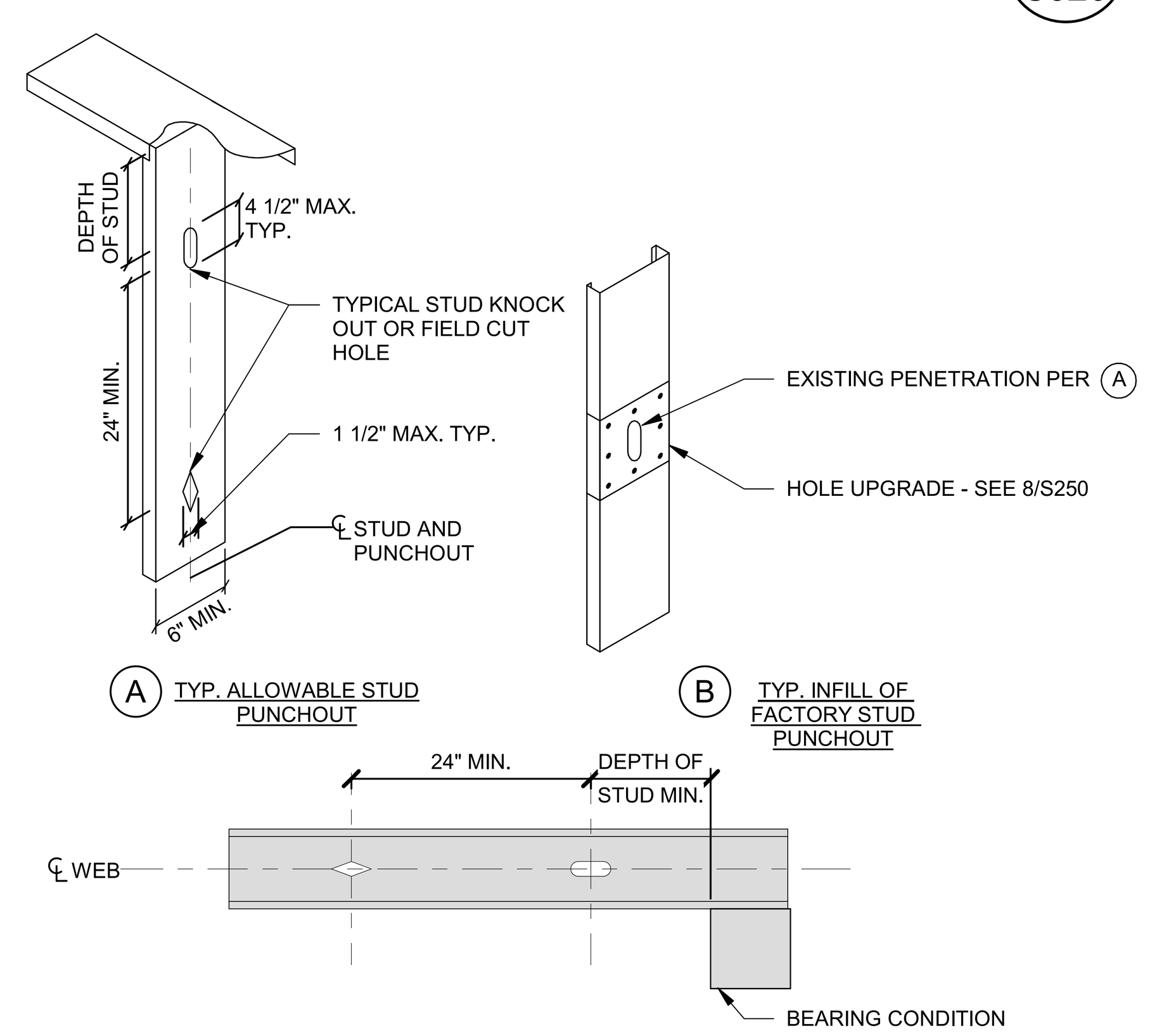
7 S520



PLUMBING PENETRATION REINFORCEMENT
SCALE : NONE
8 S520



ALLOWABLE JOIST PUNCHOUT
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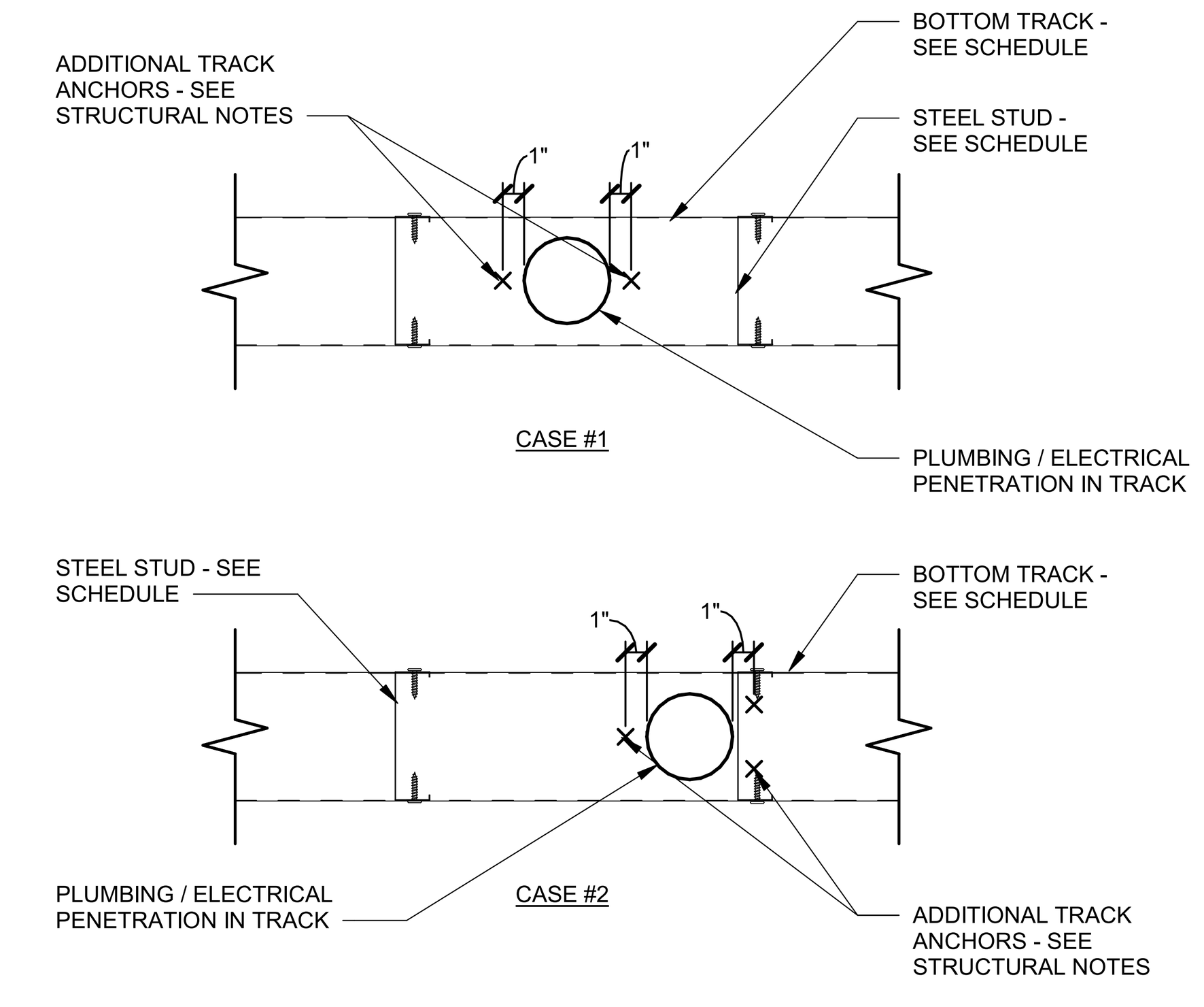
9 S520



TYPICAL BOTTOM TRACK PENETRATION DETAIL
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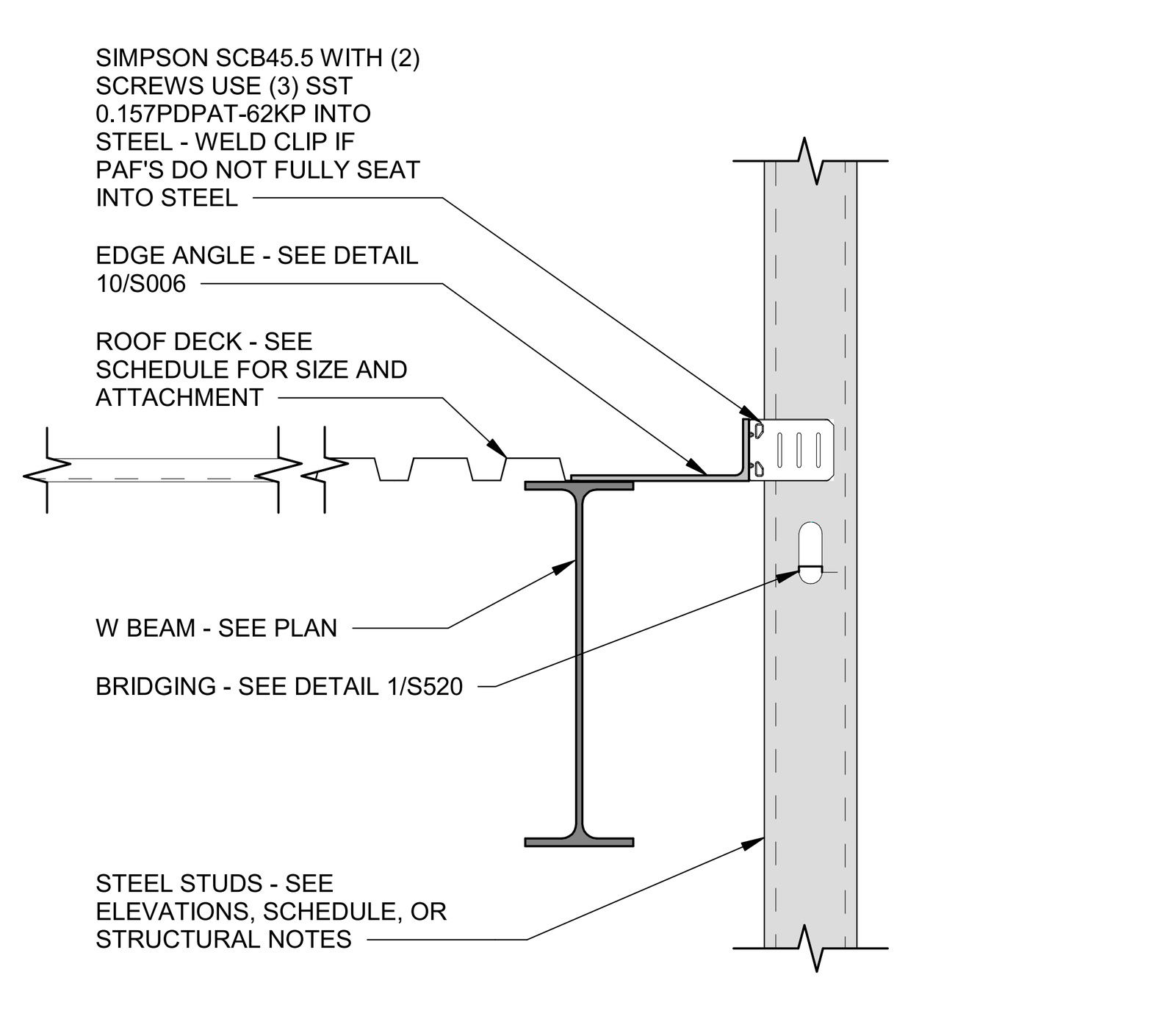
10 S520



DETAIL
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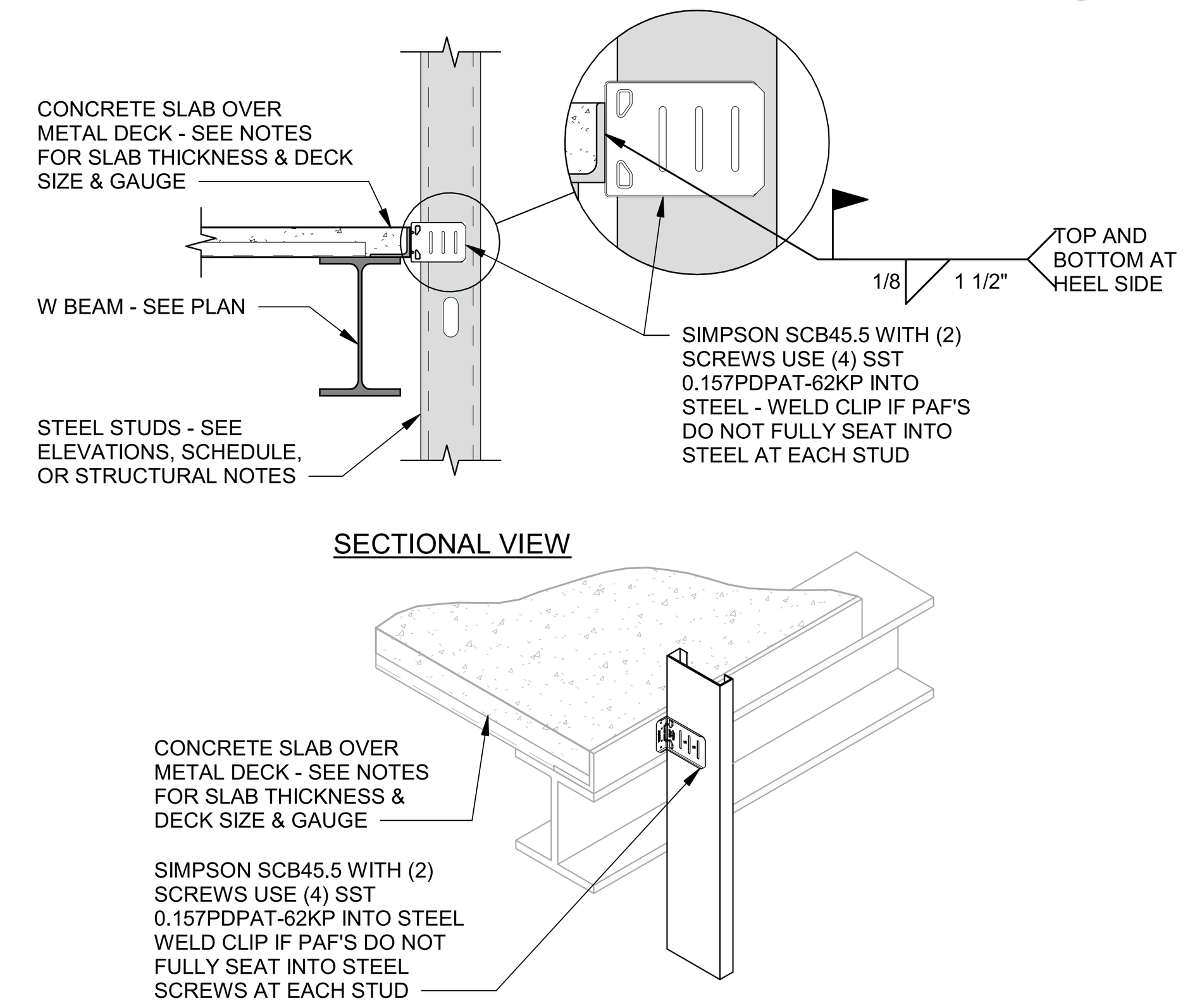
12 S520



VERTICAL DEFLECTION BY-PASS SLAB
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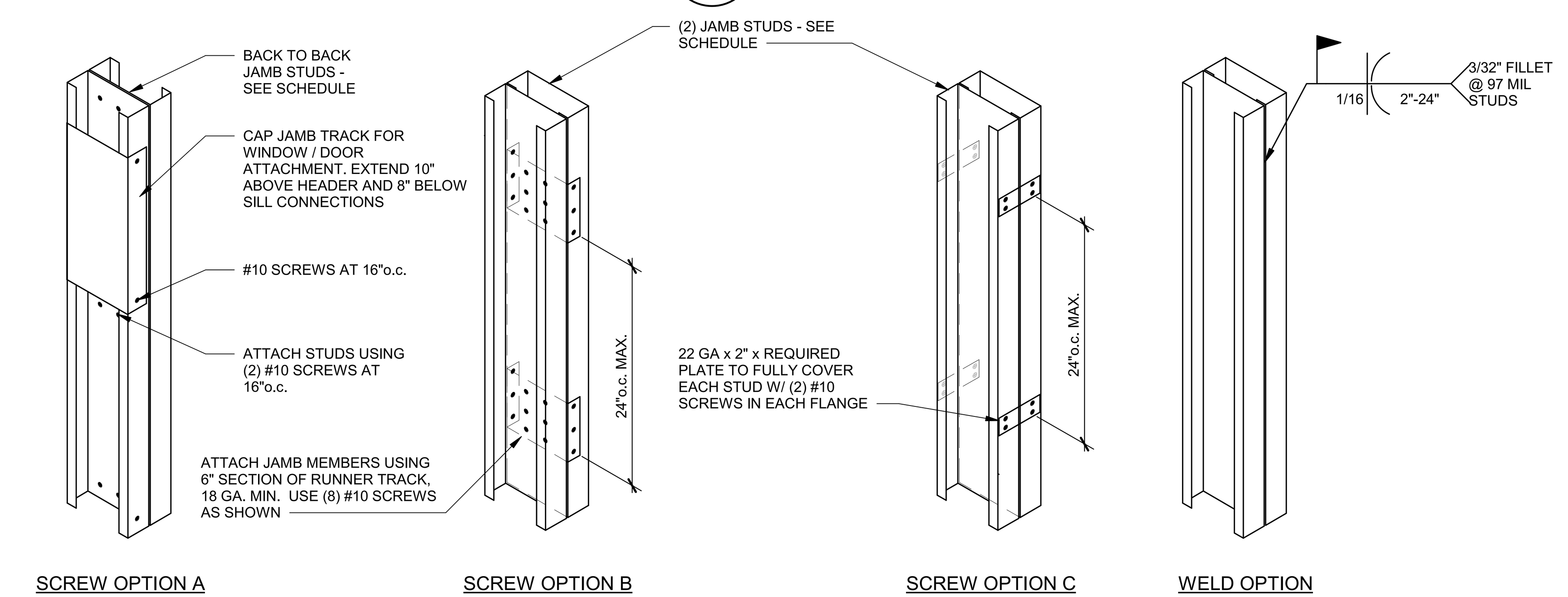
13 S520



TYPICAL BUILT-UP STUDS STITCHING DETAIL
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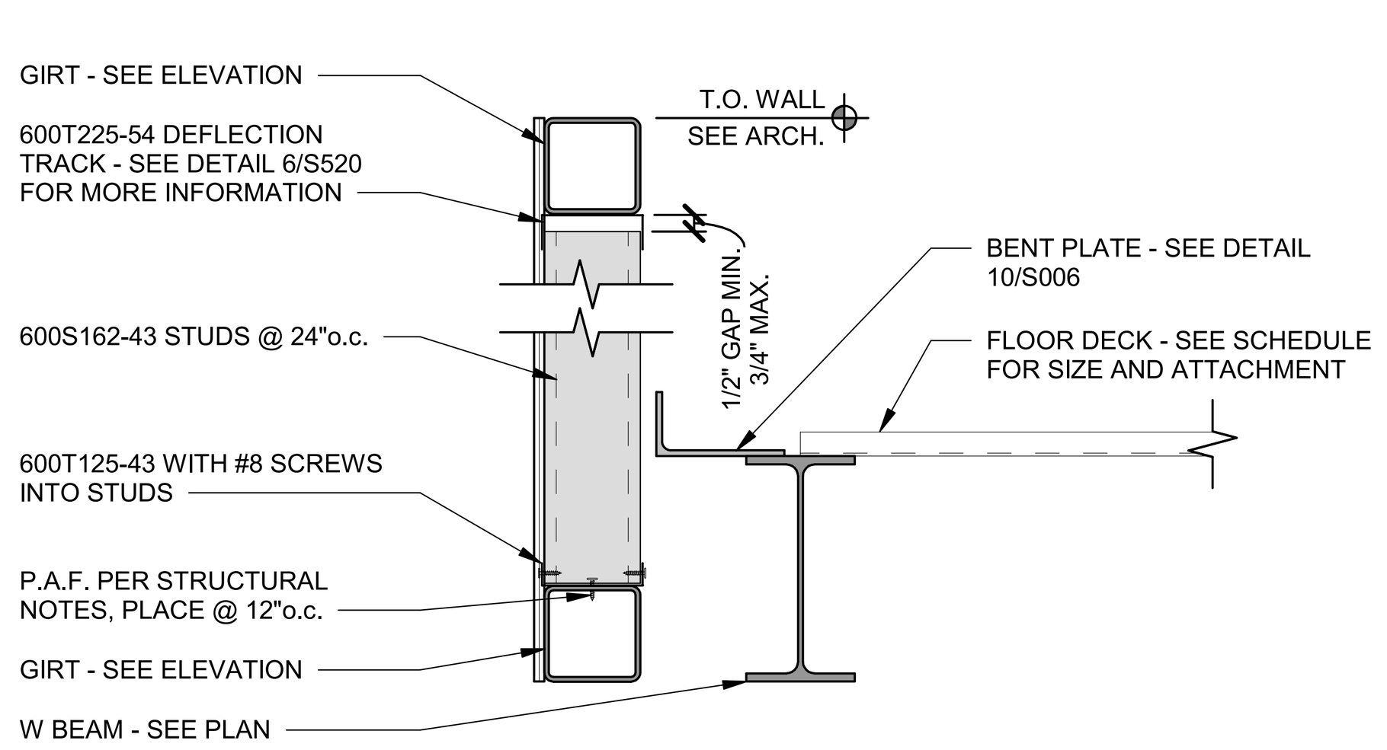
14 S520



DETAIL
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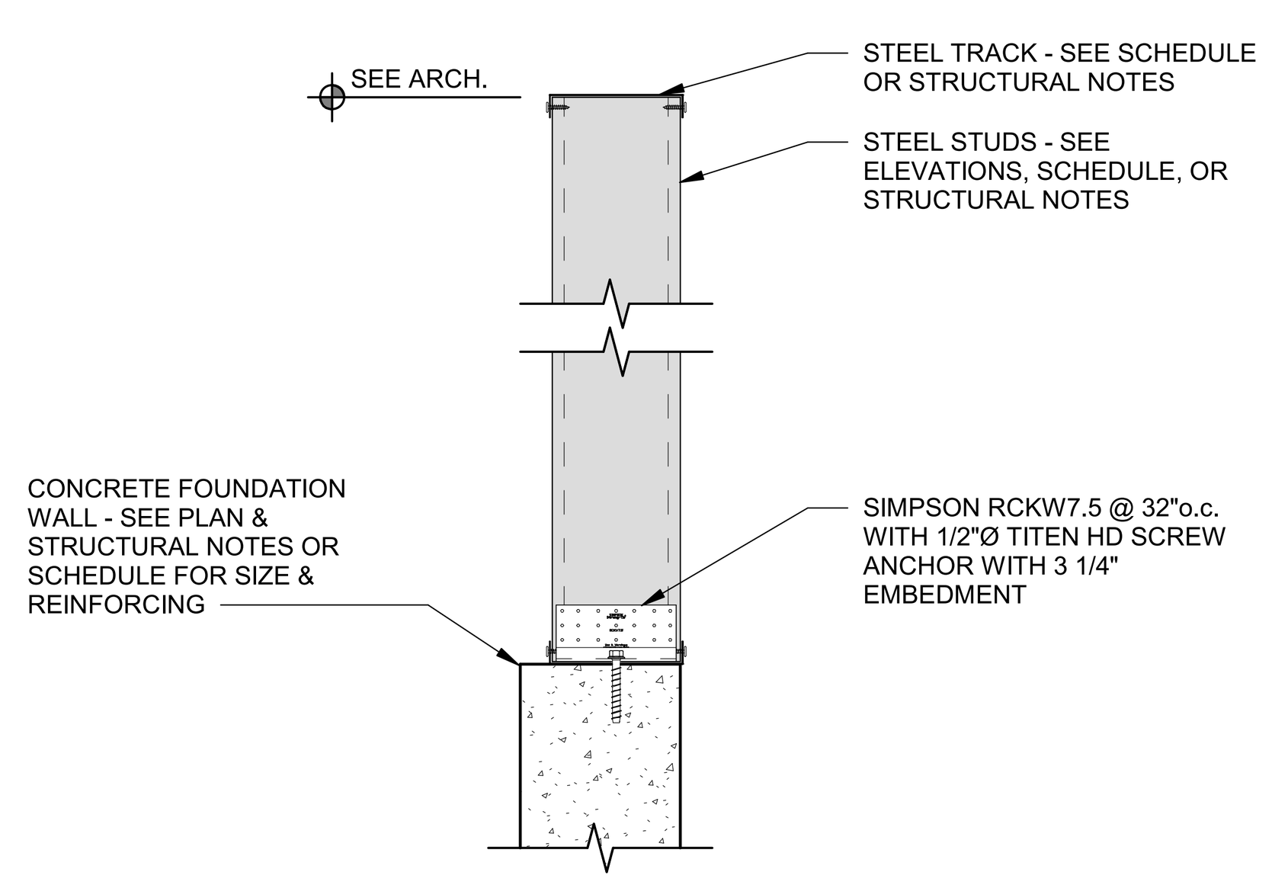
15 S520



DETAIL
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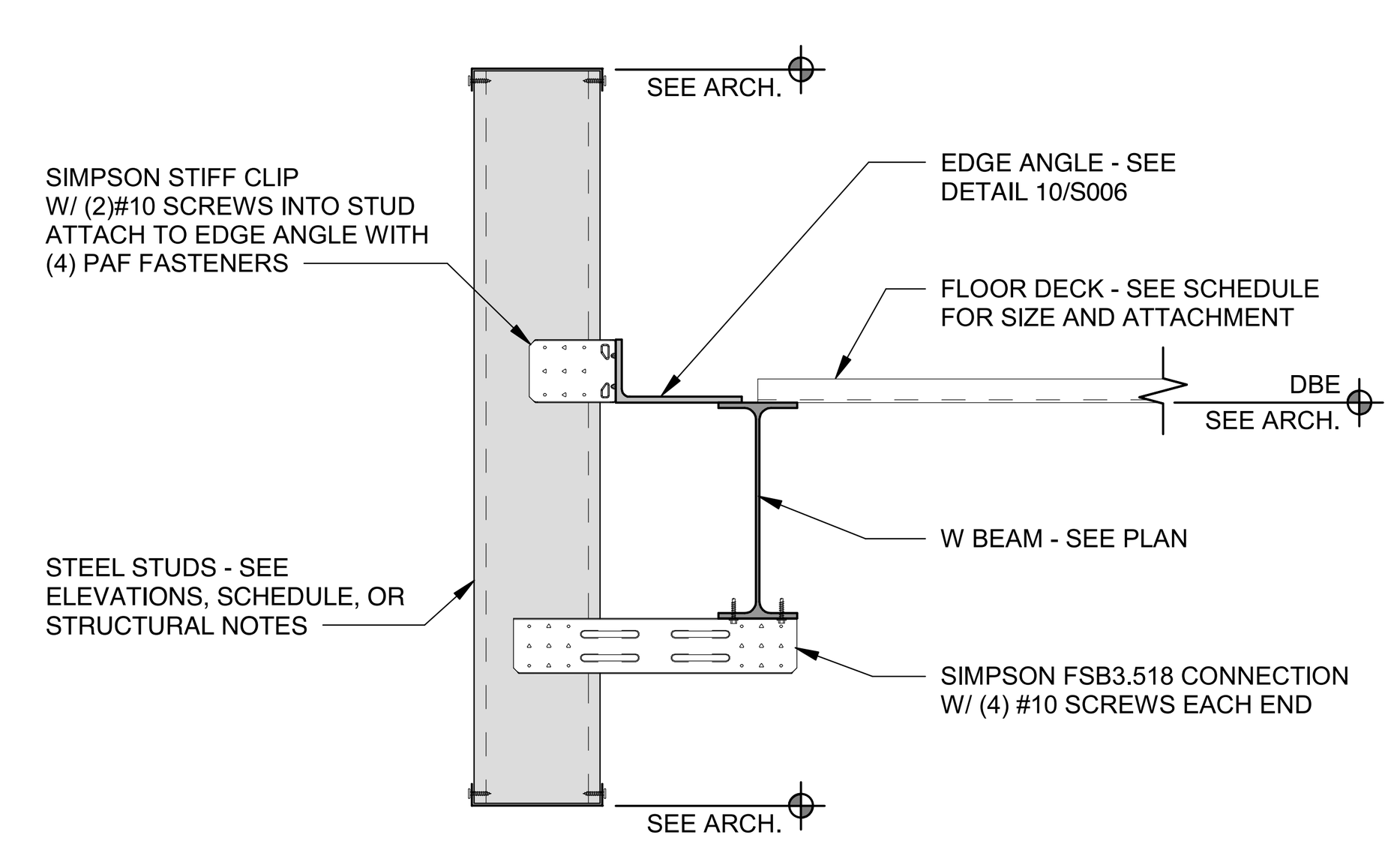
16 S520



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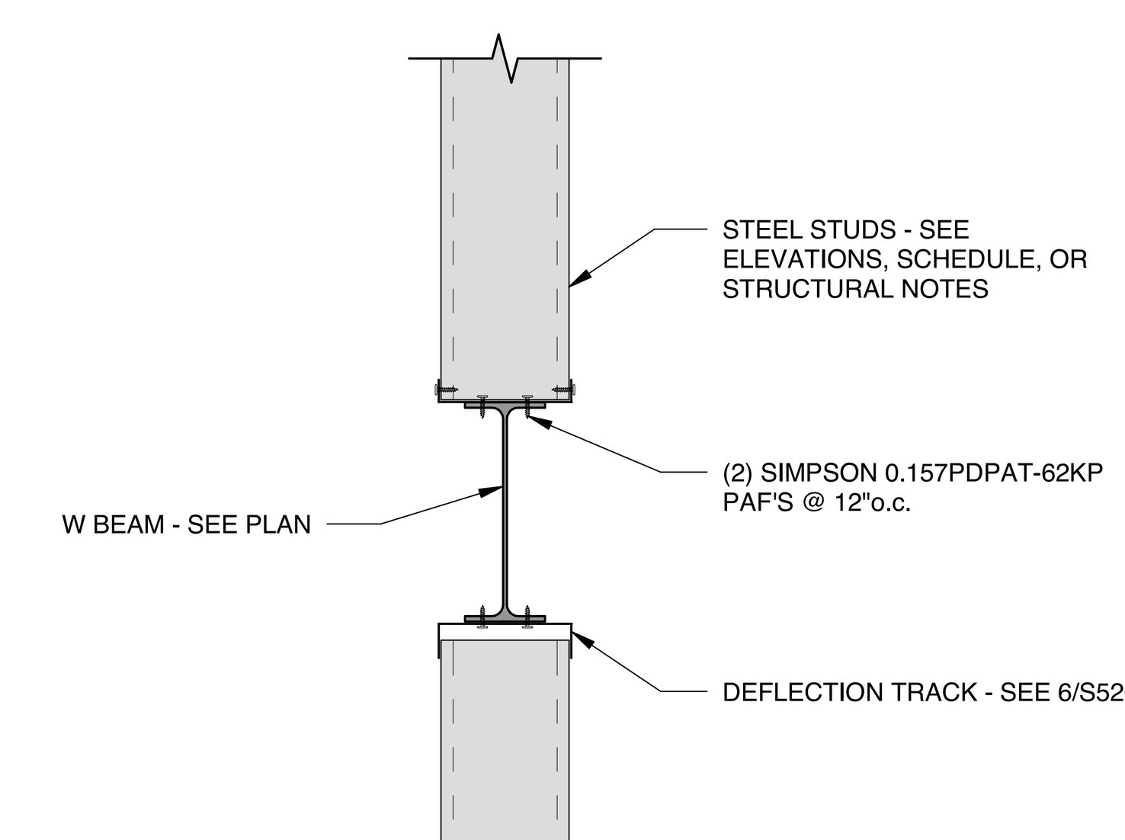

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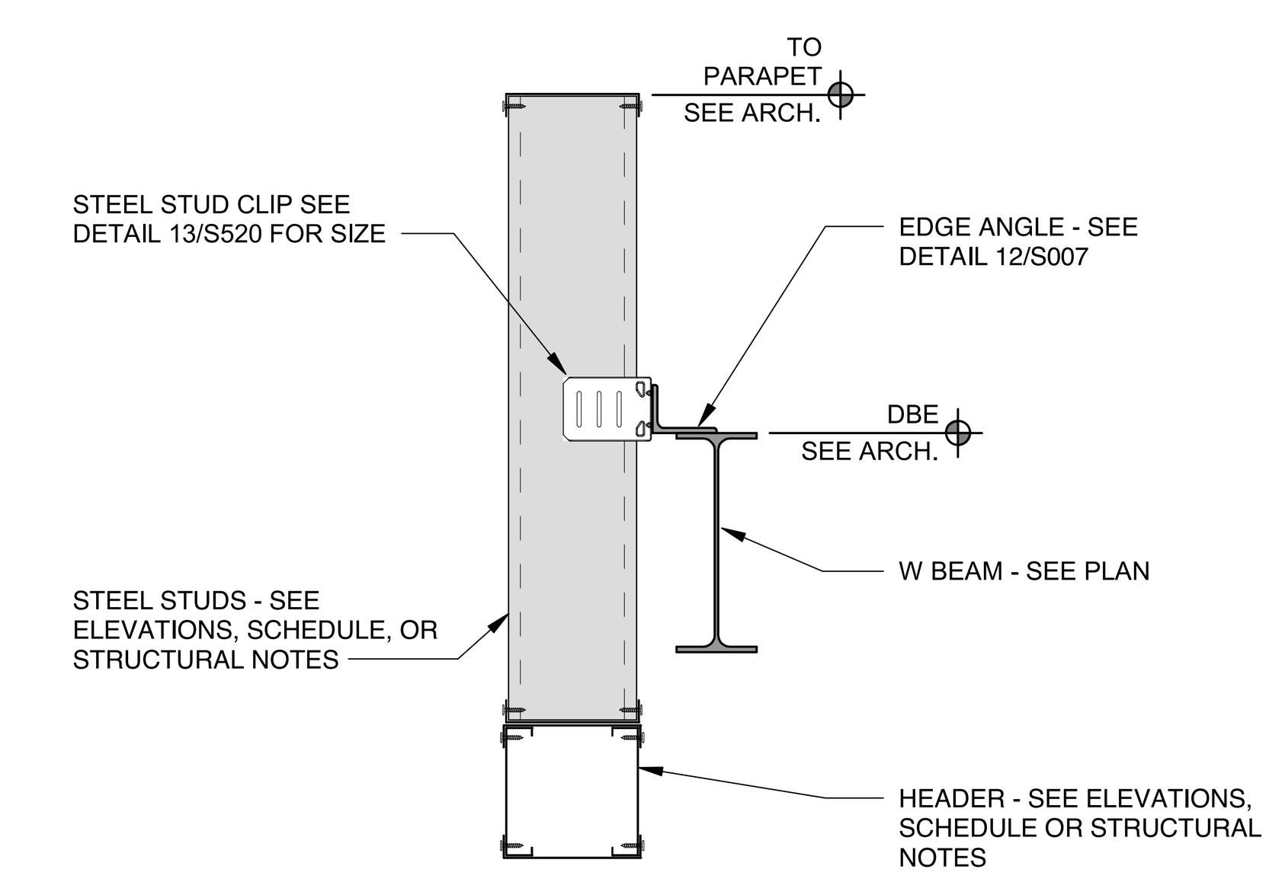

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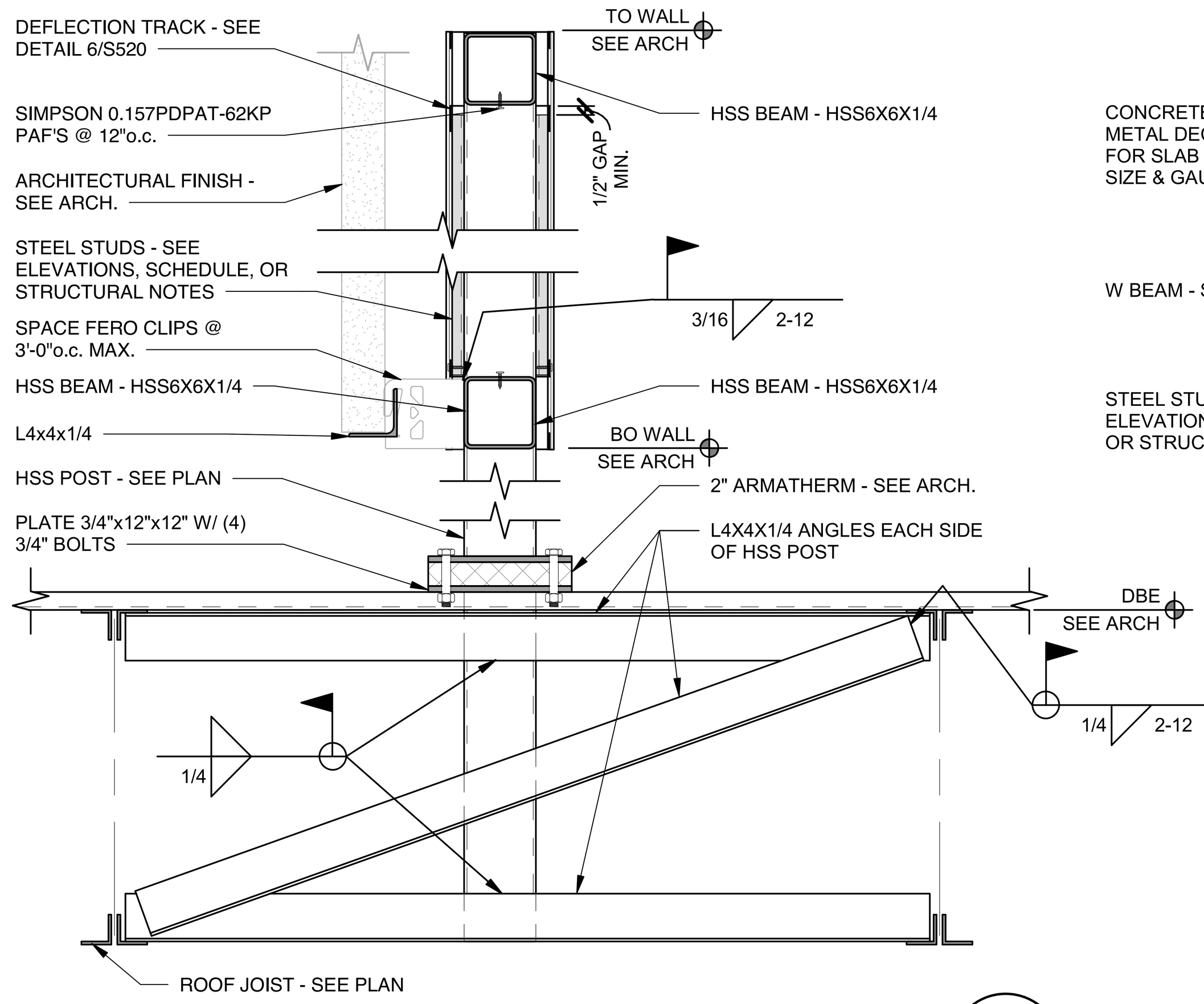

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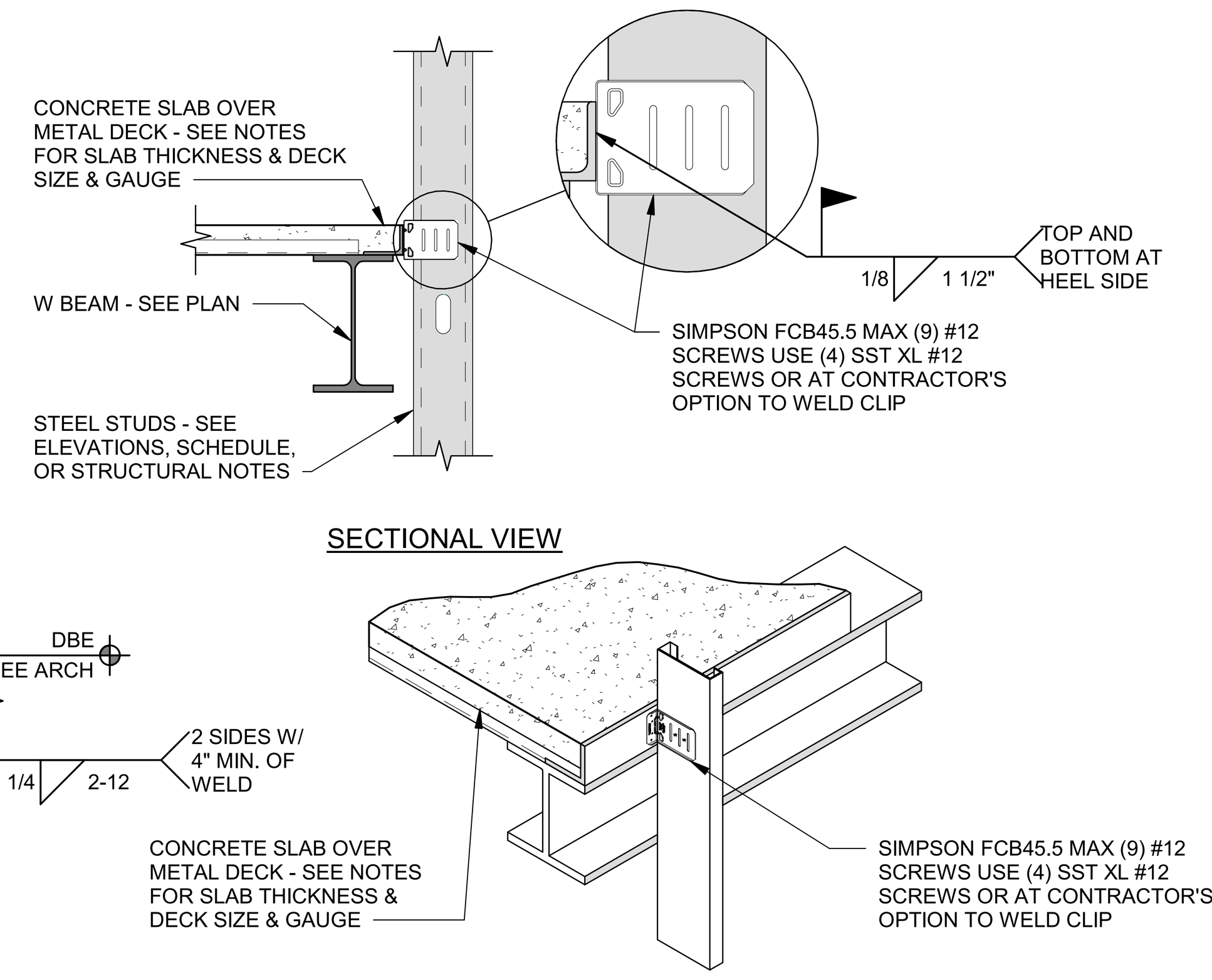

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