GENERAL NOTES

(UNLESS OTHERWISE NOTED ON DRAWINGS OR SPECIFICATIONS)

GENERAL:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL, AND LANDSCAPE DRAWINGS, ALONG WITH SHOP DRAWINGS AND SPECIFICATIONS.
2. REFER TO THE ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND / OR ELEVATIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS. DO NOT SCALE THESE DRAWINGS.
3. ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT BEFORE PROCEEDING WITH THE AFFECTED PORTION OF THE WORK.
4. IN CASE OF CONFLICT AMONG CONTRACT DOCUMENTS, THE MORE SPECIFIC AND LOCALIZED INFORMATION IN THE FOLLOWING ASCENDING ORDER SHALL GOVERN: SPECIFICATIONS, NOTES, PLANS, SCHEDULES AND DETAILS.
5. WHERE A SECTION / DETAIL IS CUT ON THE PLAN, IT IS ASSUMED TO BE REPRESENTATIVE OF ALL LIKE OR SIMILAR CONDITIONS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING SUCH REQUIREMENTS INTO THEIR SHOP DRAWINGS AND WORK. DETAILS SHOWN ON ANY DRAWINGS ARE TO BE CONSIDERED TYPICAL FOR ALL SIMILAR CONDITIONS.
6. ANY DIMENSION NOTED (±) SHALL BE COORDINATED AND VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE SUBMISSION OF SHOP DRAWINGS.
7. NO CHANGE IN SIZE OR LOCATION OF STRUCTURAL MEMBERS SHALL BE MADE WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
8. NO OPENINGS SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTTEN APPROVAL OF THE STRUCTURAL ENGINEER.
9. OPENINGS 2'-0" AND LESS ON A SIDE ARE GENERALLY NOT SHOWN ON THE STRUCTURAL DRAWINGS. REFER TO THE ARCHITECTURAL AND MEP DRAWINGS FOR SUCH OPENINGS.
10. SHOP DRAWINGS FOR REINFORCING STEEL (INCLUDING ALL ACCESSORIES), POUR SCHEDULES, STRUCTURAL STEEL, AND STEEL DECKING SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED ACCEPTANCE RECEIVED BEFORE FABRICATION CAN PROCEED. ERECTION SHALL BE EXECUTED FROM ACCEPTED SHOP DRAWINGS ONLY.
11. A COMPLETE SLAB-ON-GRADE PLACEMENT SCHEDULE SHALL BE SUBMITTED TO THE ARCHITECT AND A STAMPED ACCEPTANCE RECEIVED BEFORE ANY CONCRETE PLACEMENT CAN BE MADE.
12. U.O.N. = UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND EXECUTION OF ALL TEMPORARY SHORING AND BRACING FOR THE BUILDING DURING THE ENTIRE CONSTRUCTION PERIOD, AS REQUIRED TO PREVENT DAMAGE TO PERSONS AND PROPERTY.
14. THE CONTRACTOR IS RESPONSIBLE FOR LIMITING THE AMOUNT OF CONSTRUCTION LOAD IMPOSED UPON STRUCTURAL FRAMING. CONSTRUCTION LOADS SHALL NOT EXCEED THE DESIGN CAPACITY OF THE FRAMING AT THE TIME THAT THE LOADS ARE IMPOSED.
15. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITIONS (UNLESS OTHERWISE NOTED) OF THE FOLLOWING BUILDING CODES AND STANDARDS:
    A. 780 CMR - THE COMMONWEALTH OF MASSACHUSETTS STATE BUILDING CODE, 9TH EDITION
    B. IBC - THE INTERNATIONAL BUILDING CODE, 2015 EDITION
    C. AISC 303 - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES
    D. AISC 360 - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
    E. ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE

DESIGN LOADS:

1. BUILDING RISK CATEGORY	III
2. BUILDING CONSTRUCTION CLASSIFICATION	TYPE IIA
3. ROOF LOADS	
A. SNOW LOAD	
i. GROUND SNOW LOAD	P_g = 35 PSF
ii. EXPOSURE FACTOR	C_e = 1.0
iii. THERMAL FACTOR	C_t = 1.0 (TYPICAL) C_t = 1.2 (AT CANOPIES)
iv. SNOW IMPORTANCE FACTOR	I_s = 1.1
ii. ROOF SNOW LOAD	P_f = 35 PSF PLUS SNOW DRIFT LOAD WHERE APPLICABLE
B. ROOFING AND INSULATION	10 PSF
C. SERVICES	7 PSF
D. CEILINGS	3 PSF
E. ALLOWANCE FOR PV ARRAYS	7 PSF
F. MECHANICAL UNITS	SEE MEP DRAWINGS FOR WEIGHTS
G. STRUCTURE	ACTUAL MATERIAL WEIGHTS
4. BUILDING FLOOR LOADS	
A. LIVE LOADS	
i. TYPICAL CLASSROOMS	40 PSF + 15 PSF (PARTITIONS)
ii. CORRIDORS	80 PSF
iii. LOBBIES, STAIRS, AND FIRST FLOOR CORRIDORS	100 PSF
iv. MECHANICAL, LIBRARIES	150 PSF
B. SERVICES	7 PSF
C. CEILINGS	3 PSF
D. STRUCTURE	ACTUAL MATERIAL WEIGHTS
5. SLAB-ON-GRADE LOADS	
A. LIVE LOADS	
i. TYPICAL AREAS	100 PSF
ii. MECHANICAL AREAS	150 PSF
B. STRUCTURE	ACTUAL MATERIAL WEIGHTS
6. SEISMIC LOADS	
A. SEISMIC IMPORTANCE FACTOR	I_E = 1.25
B. SITE CLASS	D
C. SPECTRAL RESPONSE COEFFICIENTS	S_s = 0.172 S_1 = 0.065
D. DESIGN RESPONSE COEFFICIENTS	S_{DS} = 0.183 S_{D1} = 0.104
E. SEISMIC DESIGN CATEGORY	B
F. ANALYSIS PROCEDURE	EQUIVALENT LATERAL FORCE
G. LATERAL FORCE RESISTING SYSTEMS:	A STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
H. RESPONSE MODIFICATION COEFFICIENT	R = 3.0
I. OVERSTRENGTH FACTOR	Ω_0 = 3.0
J. DEFLECTION AMPLIFICATION FACTOR	C_d = 3.0
K. SEISMIC WEIGHT	W = 7,800 k
L. SEISMIC RESPONSE COEFFICIENT	C_s = 0.056
M. DESIGN BASE SHEAR	V = 437 k
7. WIND LOADS	
A. RISK CATEGORY	III
B. DESIGN WIND SPEED	V_{ult} = 126 MPH V_{asd} = 98 MPH
C. EXPOSURE CATEGORY	B
D. INTERNAL PRESSURE COEFFICIENT	GC_{pi} = ±0.18
E. COMPONENTS AND CLADDING PRESSURES PER TABLES BELOW:	

WALL DESIGN WIND PRESSURE TABLE (BASED ON V_{ULT})

EFFECTIVE AREA	INTERIOR ZONES	END ZONES
10 ft²	30 PSF	37 PSF
20 ft²	29 PSF	34 PSF
50 ft²	27 PSF	31 PSF
100 ft²	26 PSF	29 PSF
500 ft²	23 PSF	23 PSF

ROOF DESIGN WIND PRESSURE TABLE (BASED ON V_{ULT})

EFFECTIVE AREA	INTERIOR ZONES	END ZONES	CORNER ZONES
10 ft²	30 PSF	50 PSF	76 PSF
20 ft²	29 PSF	45 PSF	63 PSF
50 ft²	28 PSF	38 PSF	46 PSF
100 ft²	28 PSF	33 PSF	33 PSF

NOTES:

1. a = 0.10xBUILDING LENGTH FOR DETERMINING END ZONES AND CORNER ZONES OF WALLS AND ROOFS.
2. DESIGN WIND PRESSURE MAY BE INTERPOLATED FOR EFFECTIVE WIND PRESSURE AREAS BETWEEN THOSE GIVEN; OTHERWISE USE THE VALUE ASSOCIATED WITH THE LOWER EFFECTIVE WIND AREA.
3. PRESURES LISTED ABOVE SHALL BE CONSIDERED TO ACT TOWARDS OR AWAY FROM WALL OR ROOF SURFACE.
4. PRESSURES SHOWN ARE FOR STRUCTURAL ELEMENTS ONLY. FOR ROOF PRESSURES ON ROOF ASSEMBLIES, THE ASSUMED TRIBUTARY AREA MAY NOT EXCEED 10 SF. SEE ARCHITECTURAL SECTIONS FOR FURTHER INFORMATION.
5. FOR ROOF PRESSURES, LOADS ARE ON SEISMIC LOADS TO BETTER CORRELATE WITH ROOFING REQUIREMENTS.

8. SPECIAL LOADS	
A. GUARDRAILS / HANDRAILS	200 POUND CONCENTRATED LOAD, OR 50 PLF IN ANY DIRECTION (NOT SIMULTANEOUS)
B. ELEVATORS	WEIGHT OF MACHINERY AND MOVING LOADS SHALL BE DOUBLED FOR IMPACT

9. FUTURE LOADING: THE STRUCTURAL DESIGN DOES NOT INCLUDE ANY PROVISIONS OR ALLOWANCES FOR FUTURE VERTICAL OR HORIZONTAL ADDITIONS.

QUALITY ASSURANCE:

1. THE CONTRACTOR WILL EMPLOY AND PAY FOR THE SERVICES OF AN INDEPENDENT TESTING AGENCY TO PROVIDE QUALITY ASSURANCE TESTING AND INSPECTIONS FOR WORK SPECIFIED IN CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE. THE TESTING AGENCY SHALL BE LICENSED IN MASSACHUSETTS AND ALL TESTING AND INSPECTIONS SHALL BE PERFORMED UNDER THE SUPERVISION OF AN ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS.
2. FAILURE OF QUALITY ASSURANCE TESTING AND INSPECTIONS TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER REJECTION WHEN SUCH DEFECT IS NOTED, NOR SHALL IT OBLIGATE THE OWNER'S REPRESENTATIVE FOR FINAL ACCEPTANCE.
3. THE TESTING AGENCY AND ITS REPRESENTATIVES ARE NOT AUTHORIZED TO REVOKE, ALTER, RELAX, ENLARGE OR RELEASE ANY PORTION OF THE WORK, PERFORM ANY DUTIES OF THE CONTRACTOR OR BE A PARTY TO SCHEDULING OF WORK.
4. RECORDS OF INSPECTIONS SHALL BE KEPT AVAILABLE TO THE BUILDING OFFICIAL DURING PROGRESS OF THE WORK AND FOR TWO YEARS AFTER COMPLETION OF THE PROJECT. RECORDS SHALL BE PRESERVED BY THE INDEPENDENT TESTING AGENCY.
5. SEE SPECIFICATIONS FOR SPECIFIC REQUIREMENTS FOR QUALITY ASSURANCE TESTING AND INSPECTIONS.
6. CONTRACTOR SHALL SUBMIT A SCHEDULE OF SHOP DRAWING SUBMITTAL DATES AT LEAST 30 DAYS PRIOR TO FIRST SUBMITTAL. FAILURE TO SUBMIT DRAWINGS ON DESIGNATED DATE MAY IMPACT REVIEW SCHEDULE.

LIST OF SPECIAL INSPECTIONS:

1. CONCRETE:
    A. CONCRETE MIX
    B. COMPRESSIVE STRENGTH
    C. REBAR
    D. CURING & PROTECTION
2. STRUCTURAL STEEL:
    A. GRADE
    B. PLACEMENT
    C. BOLTED AND WELDED CONNECTIONS
3. STEEL DECKING:
    A. GAUGE
    B. ATTACHMENT TO SUPPORTING MEMBERS.
4. CONCRETE MASONRY UNITS:
    A. PRISM TEST
    B. GROUT
    C. MORTAR
    D. REBAR

REINFORCED CONCRETE MASONRY UNITS (CMU):

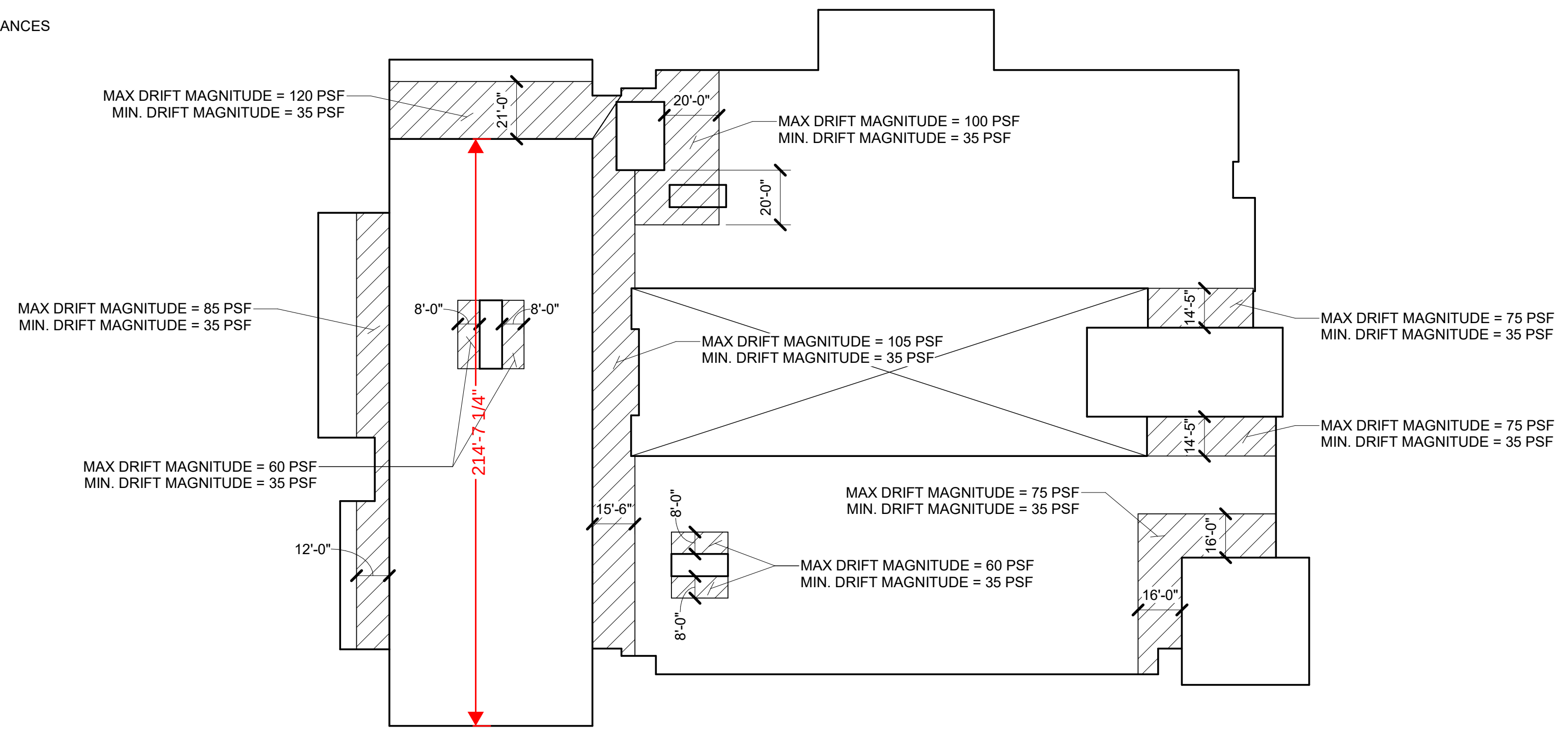
1. ALL REINFORCED CONCRETE MASONRY (CMU) SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF TMS 402/602.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C90 AND SHALL BE NORMAL WEIGHT OR LIGHTWEIGHT.
3. MORTAR SHALL CONFORM TO THE REQUIREMENTS OF ASTM C270 AND SHALL BE TYPE M OR S.
4. GROUT SHALL CONFORM TO THE REQUIREMENTS OF ASTM C476, SHALL BE FINE TYPE, AND SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3000 PSI.
5. ALL REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60, AND SHALL BE DEFORMED.
6. CONCRETE UNITS SHALL HAVE AN MINIMUM AVERAGE COMPRESSIVE STRENGTH OF 1900 PSI ON THE NET AREA, UNLESS OTHERWISE INDICATED ON PLAN OR IN SECTIONS.
7. THE COMPRESSIVE STRENGTH OF MASONRY ASSEMBLIES SHALL EQUAL OR EXCEED 2000 PSI.
8. GROUTING SHALL BE LIMITED TO LIFTS OF 4'-0" PER LIFT.

FOUNDATIONS AND SUBGRADE PREPARATION:

1. FOR COMPLETE GEOTECHNICAL REQUIREMENTS, REFER TO: "GEOTECHNICAL ENGINEERING REPORT; PROPOSED PECK MIDDLE SCHOOL, HOLYOKE, MASSACHUSETTS," PREPARED BY LAHLAF GEOTECHNICAL CONSULTING, INC. AND DATED JULY 24, 2023.
2. ALL NEW FOUNDATIONS SHALL BEAR DIRECTLY ON A MINIMUM OF 12" OF STRUCTURAL FILL PLACED DIRECTLY OVER THE TOP OF THE NATURAL SAND AND SHALL HAVE AN ALLOWABLE SOIL BEARING PRESSURE OF 3,000 PSF.
3. THE ESTIMATED ELEVATION OF THE BOTTOM OF EACH FOOTING IS INDICATED THUS [0'-0"] ON PLAN. THE BOTTOM OF EACH EXTERIOR FOOTING (AND INTERIOR FOOTINGS BELOW UNHEATED SPACES) SHALL BE A MINIMUM OF 4'-0" BELOW ADJACENT FINISHED GRADE ELEVATION. THE BOTTOM OF EACH INTERIOR FOOTING BELOW HEATED SPACES SHALL BE A MINIMUM OF 2'-0" BELOW THE ADJACENT INTERIOR FINISHED FLOOR ELEVATION. ACTUAL FOOTING GRADES MAY BE ALTERED, AS REQUIRED, AT THE REQUEST OF THE CONTRACTOR AND WITH THE APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD TO ACCOMMODATE UTILITY PENETRATIONS THROUGH THE FOUNDATION WALLS.
4. UNLESS OTHERWISE NOTED, NO BACKFILL SHALL BE PLACED AGAINST FOUNDATION WALLS RETAINING EARTH UNLESS WALLS ARE SUFFICIENTLY BRACED TO PREVENT MOVEMENT OR STRUCTURAL DAMAGE AND THE SLAB-ON-GRADE IS IN PLACE.
5. ORGANIC MATERIALS, EXISTING FILL, BURIED ORGANIC SOIL, BURIED SUBSOIL, ABANDONED UTILITIES, BURIED FOUNDATIONS AND OTHER BELOW-GROUND STRUCTURES SHALL BE ENTIRELY REMOVED FROM WITHIN THE FOOTPRINT OF THE PROPOSED BUILDING AND SITE STRUCTURES, INCLUDING SITE RETAINING WALLS, AND EXTERIOR STAIRS, IF ANY, BEFORE THE START OF FOUNDATION WORK.
6. ALL TREE STUMPS, ROOT BALLS, AND ROOTS LARGER THAN 1/2" DIAMETER SHALL BE REMOVED AND CAVITIES FILLED WITH SUITABLE MATERIAL AND COMPACTED IN 9" LOOSE LIFTS TO AT LEAST 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D1557).
7. ALL EXISTING FILL SHALL BE ENTIRELY REMOVED FROM THE BUILDING FOOTPRINT AND REPLACED WITH STRUCTURAL FILL. SEE THE GEOTECHNICAL REPORT FOR FURTHER REQUIREMENTS.
8. FOR TYPICAL SLAB-ON-GRADE CONSTRUCTION, PROVIDE A 15-MIL VAPOR BARRIER OVER A MINIMUM OF 12" OF COMPACTED STRUCTURAL FILL BASE COURSE PLACED DIRECTLY OVER THE NATURAL SAND AND COMPACTED TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY DETERMINED BY ASTM D1557.
9. WHERE REQUIRED BENEATH PAVING SLABS OR FOOTINGS, STRUCTURAL FILL SHALL BE COMPACTED IN 9" LAYERS (MAXIMUM) TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY.
10. FOR CONSTRUCTION UNDER WINTER CONDITIONS, FOUNDATION AND FLOOR SLABS SHALL BE PROTECTED FROM FREEZING TEMPERATURES UNTIL THE BUILDING IS ENCLOSED AND HEATED.
11. THE DESIGN AND EXECUTION OF ALL TEMPORARY EARTH RETENTION SYSTEMS DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR.
12. NO CONCRETE SHALL BE PLACED IN WATER, ICE, FROST, OR ON FROZEN SUBGRADE MATERIAL PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PREVENT FROST FROM PENETRATING ANY FOOTING OR SUBGRADE MATERIAL (BEFORE AND AFTER CONCRETE PLACEMENT) UNTIL SUCH SUBGRADE MATERIAL IS FULLY PROTECTED BY THE PERMANENT STRUCTURAL SYSTEM.
13. FOUNDATIONS SHALL BE CENTERED ON GRID INTERSECTIONS, UNLESS OTHERWISE NOTED ON PLAN.
14. FOUNDATION DRAINS ARE REQUIRED BEHIND THE EXTERIOR OF WALLS OF BELOW-GROUND SPACES. PROVIDE 4" DIAMETER PERFORATED PVC PIPES INSTALLED WITH SLOTS FACING DOWN. DRAINS SHALL BE INSTALLED AT THE BOTTOM OF WALLS WRAPPED IN 18" OF CRUSHED STONE BOUND BY A GEOTEXTILE FABRIC.
15. FREE DRAIN MATERIAL SHALL BE PLACED WITHIN 3'-0" OF ALL EXTERIOR WALLS OF BELOW-GROUND SPACES.
16. THE GEOTECHNICAL ENGINEER SHALL BE PRESENT TO OBSERVE ALL SUBGRADE PREPARATIONS BELOW ALL FOUNDATIONS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

CONCRETE:

1. STRUCTURAL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS AND SHALL BE NORMAL WEIGHT (150 PCF MAXIMUM).
2. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60 (DEFORMED), AND SHALL BE FREE FROM LOOSE RUST AND SCALE. LAP ALL CONTINUOUS BARS IN ACCORDANCE WITH THE TYPICAL DETAILS ON S002. PROVIDE A GALVANIZED COATING ON REINFORCING BARS WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
3. ALL WELDED WIRE FABRIC (W.W.F.) SHALL CONFORM TO ASTM A1064 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 70 KSI. LAP (2) SQUARES AT ALL JOINTS AND TIE AT 3'-0" ON CENTER. PROVIDE A GALVANIZED COATING ON WELDED WIRE FABRIC WHERE INDICATED ON THE STRUCTURAL DRAWINGS.
4. CLEAR CONCRETE PROTECTION FOR REINFORCING SHALL CONFORM TO THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE NOTED:
    A. FOOTINGS AND OTHER ELEMENTS CAST AGAINST EARTH: 3"
    B. FOUNDATION WALLS AND OTHER CONCRETE ELEMENTS CAST AGAINST EARTH: 2"
    C. SLABS-ON-GRADE: 1 1/4" FROM TOP
    D. COMPOSITE SLABS ON DECK: 1 1/4" FROM TOP
    E. PIERS AND PILASTERS: 2" TO TIES
5. DETAILS NOT SHOWN ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI DETAILING MANUAL 315.
6. CONCRETE SHALL BE CAST MONOLITHICALLY, EXCEPT AS INDICATED ON THE DRAWINGS.
7. ALL CONCRETE EXPOSED TO WEATHER SHALL BE AIR-ENTRAINED (6% ± 1.5%). AIR ENTRAINMENT VALUE SHALL BE MEASURED AT THE HOSE OUTLET IF CONCRETE IS PUMPED.
8. NO BARS SHALL BE CUT OR OMITTED IN THE FIELD BECAUSE OF SLEEVES, DUCT OPENINGS OR RECESSES. BARS MAY BE MOVED ASIDE WITHOUT CHANGE IN LEVEL WITH THE APPROVAL OF THE ENGINEER.
9. HORIZONTAL CONSTRUCTION JOINTS SHALL BE AS INDICATED ON THE DRAWINGS. ALL VERTICAL CONSTRUCTION JOINTS IN FLOORS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPANS OF SLABS, BEAMS AND GIRDERS. ALL VERTICAL CONSTRUCTION JOINTS IN GIRDERS SHALL BE OFFSET A MINIMUM DISTANCE OF TWO TIMES THE WIDTH OF INTERSECTING BEAMS.
10. ALL CONSTRUCTION JOINTS SHALL BE FORMED WITH A STANDARD KEY AND ALL REINFORCING EXTENDED IN ACCORDANCE WITH THE TYPICAL DETAILS.
11. THE CONTRACTOR SHALL SUBMIT DRAWINGS SHOWING THE COMPLETE LAYOUTS OF ALL CONTROL JOINTS, CONSTRUCTION JOINTS, AND ISOLATION JOINTS FOR SLABS-ON-GRADE AND LAYOUTS OF CONSTRUCTION JOINTS FOR REINFORCED CONCRETE WALLS. THE FOLLOWING GUIDELINES SHALL APPLY:
    A. MAXIMUM LENGTH OF CONCETE WALL PLACEMENT BETWEEN CONSTRUCTION JOINTS SHALL BE 40 LINEAR FEET, UNLESS CONTROL JOINTS ARE PROVIDED TO MEET SAME.
    B. CONTROL JOINTS SHALL BE CUT AS SOON AS THE CONCRETE IS STIFF ENOUGH TO ALLOW CUTTING - TYPICALLY BETEEN 4 TO 12 HOURS AFTER PLACEMENT OF CONCRETE (REFER TO ACI 360R FOR FURTHER REQUIREMENTS).
12. ALUMINUM CONDUITS AND PIPES SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE UNLESS EFFECTIVELY COATED OR COVERED TO PREVENT ALUMINUM-CONCRETE REACTION OR ELECTROLYTIC ACTION BETWEEN ALUMINUM AND STEEL.
13. ALL CONDUIT SHALL RUN ABOVE BOTTOM REINFORCING, BELOW TOP REINFORCING, AND INSIDE BEAM STIRRUPS AND WALL REINFORCING. LINES OF CONDUIT SHALL BE SPACED NOT CLOSER THAN THREE CONDUIT DIAMETERS ON CENTER. MAXIMUM SIZE OF CONDUIT IN SLAB SHALL BE EQUAL TO 1/3 OF THE SLAB OR WALL THICKNESS.
14. PIPE PENETRATIONS THROUGH CONCRETE ARE NOT ALLOWED WITHOUT THE PERMISSION OF THE ENGINEER. STEEL PIPE SLEEVES SHALL BE PROVIDED AND SPACED A MINIMUM OF THREE PIPE DIAMETERS APART. ALL OTHER SLEEVE LOCATIONS MUST BE SUBMITTED FOR REVIEW. IN NO CASE SHALL SLEEVES BE PLACED IN CONCRETE BEAMS WITHOUT WRITTEN ACCEPTANCE FROM THE STRUCTURAL ENGINEER.
15. SLAB BOLSTERS SHALL BE PROVIDED AT NEW STEEL BEAMS AND AT MID-SPAN BETWEEN NEW BEAMS, AS NOTED ON THE TYPICAL DETAILS ON DRAWING S003.
16. SUPPORT BARS FOR SLAB REINFORCING SHALL BE #5 OR GREATER, AND SHALL BE SPACED NOT MORE THAN 4'-0" O.C. SUPPORT BARS AND ENDS OF MAIN REINFORCING BARS SHALL NOT EXTEND MORE THAN 1'-6" PAST THE OUTERMOST CHAIR OR SUPPORT BAR.
17. ALL REINFORCING ACCESSORIES FOR EXPOSED SURFACES SHALL HAVE UPTURNED LEGS AND BE PLASTIC DIPPED AFTER FABRICATION. ACCESSORIES FOR REINFORCING STEEL SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI STANDARDS.
18. A PLASTIC "DOUGHNUT" TYPE OF SPACER SHALL BE PROVIDED FOR ALL VERTICAL COLUMN REINFORCING STEEL, IN ORDER TO MAINTAIN MINIMUM CLEARANCE.
19. ALL COLUMN DOWELS SHALL BE SET BY TEMPLATE TO ASSURE ACCURATE PLACEMENT.
20. ALL DOWELS FOR COLUMN AND WALL REINFORCEMENT SHALL MATCH LAPPING BAR SIZE AND SPACING, UNLESS OTHERWISE NOTED.
21. REFER TO THE ARCHITECTURAL DRAWINGS FOR THE SIZE AND LOCATION OF ALL CURBS NOT SHOWN ON THE STRUCTURAL DRAWINGS.
22. ALL KEYS SHALL BE FORMED BY A 2X4 WITH BEVELED SIDES UNLESS OTHERWISE NOTED IN THE TYPICAL DETAILS OR IN SECTIONS.
23. SHORING IS NOT REQUIRED BELOW NEW COMPOSITE STEEL DECKING OR BEAMS. HOWEVER, THE CONTRACTOR SHALL ALLOW IN THE BID PRICE FOR ADDITIONAL CONCRETE OVER STEEL DECK DUE TO MINOR DEFLECTIONS OF THE STRUCTURAL STEEL MEMBERS SUPPORTING THE WET WEIGHT OF THE CONCRETE.
24. SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 150 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS AND WALLS.



SNOW DRIFT LOADING DIAGRAM

1" = 40'-0"

STRUCTURAL STEEL FRAMING:

1. ALL STRUCTURAL STEEL MATERIALS, WORKMANSHIP, AND DETAILS SHALL CONFORM TO THE REQUIREMENTS OF AISC 303-10 AND AISC 360-10. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING SPECIFICATIONS:

A. W-SHAPES, WT-SHAPES:	ASTM A992
B. SQUARE, RECTANGULAR, ROUND HSS-SHAPES:	ASTM A500, GRADE C
C. ROUND PIPE SHAPES:	ASTM A53, GRADE B
D. ANGLES, PLATES (UP TO 4" THICK), CHANNELS:	ASTM A572, GRADE 50
E. PLATES (GREATER THAN OR EQUAL TO 4" THICK):	ASTM A36 (F_y = 36 KSI)

2. ALL STRUCTURAL STEEL BEAMS AND COLUMNS SHALL BE UNPRIMED TO RECEIVE SPRAYED-ON FIREPROOFING MATERIAL, UNLESS OTHERWISE NOTED ON THE STRUCTURAL OR ARCHITECTURAL DRAWINGS.
3. ALL EXPOSED STRUCTURAL STEEL AND THEIR ASSOCIATED CONNECTIONS, INCLUDING ANY DUNNAGE, SCREEN SUPPORTS, RELIEVING ANGLES, AND LOOSE LINTELS, SHALL BE HOT-DIPPED GALVANIZED. REFER TO ARCHITECTURAL DRAWINGS FOR COLOR GALVANIZING REQUIREMENTS.
4. WELDED CONNECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AWS D1.1 "STRUCTURAL WELDING - STEEL." WELDING SHALL UTILIZE E70 SERIES ELECTRODES OR BETTER, EXCEPT WELDING OF MEMBERS CONSISTING OF A913 STEEL (AND ANY OTHER MEMBERS WITH F_y = 65 KSI) SHALL UTILIZE E80 SERIES ELECTRODES. WHERE WELD SIZE AND / OR TYPE IS NOT INDICATED, PROVIDE A MINIMUM OF 1/4" FILLET WELDS ALL AROUND. ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS. ALL CERTIFICATIONS MUST BE CURRENT (WITHIN 12 MONTHS OF PERFORMANCE OF WELDING).
5. BOLTED CONNECTIONS SHALL USE HIGH STRENGTH BOLTS CONFORMING TO THE REQUIREMENTS OF ASTM F3125, CONVENTIONAL OR TWIST-OFF TENSION-CONTROL TYPE BOLTS, UNLESS OTHERWISE NOTED. WHERE NO BOLT SIZE IS INDICATED ON PLAN OR IN SECTIONS, PROVIDE 3/4"Ø BOLTS.
6. PROVIDE SHORT-SLOTTED HOLES IN THE WEB OF THE BEAM OR IN THE SHEAR CONNECTIONS AT STEEL-TO-STEEL CONNECTIONS AS INDICATED IN THE TYPICAL DETAILS.
7. PROVIDE 1/4" THICK LEVELING PLATE AND 3/4" OF NON-SHRINK GROUT UNDER ALL COLUMN BASE PLATES SUPPORTED ON CONCRETE. LEVELING PLATES SHALL BE SET AND GROUTED SOLID BEFORE ERECTION OF THE COLUMN.
8. ANCHOR RODS SHALL CONFORM TO ASTM F1554, GRADE 55 (CONFORMING TO SUPPLEMENT S1.), UNLESS OTHERWISE NOTED. ANCHOR RODS SHALL BE THREADED RODS WITH A STANDARD HEX-HEAD NUT TACK WELDED TO THE ROD, OR STANDARD HEX-HEAD BOLTS, AND SHALL BE EMBEDDED A MINIMUM OF 10" OR 16" INTO THE PIER / PILASTER OR FOOTING BELOW (SEE COLUMN SCHEDULE AND DETAILS ON DRAWINGS S201 AND S202). SET ANCHOR RODS WITH A TEMPLATE TO ENSURE PROPER POSITIONING.
9. SHEAR CONNECTORS AT STEEL BEAMS SHALL BE 3/4"Ø HEADED STUDS WELDED TO THE TOP FLANGE OF THE BEAM. REFER TO PLAN NOTES FOR STUD LENGTHS. THE NUMBER OF EQUALLY SPACED SHEAR STUDS PER BEAM IS INDICATED ON PLAN THUS [XX]. WHERE STEEL DECK FRAMES PERPENDICULAR TO THE BEAMS, SHEAR CONNECTORS SHALL BE PLACED IN DECK RIBS. WHERE THE NUMBER OF STUDS EXCEEDS THE NUMBER OF AVAILABLE RIBS, CONNECTORS SHALL BE DOUBLED OR TRIPLED UP IN THE RIBS STARTING AT EACH END OF THE BEAM AND CONTINUING TOWARDS MID-SPAN TO RESULT IN A CONNECTOR DISTRIBUTION ALONG THE BEAM WHICH IS AS UNIFORM AS POSSIBLE. SPACING OF SHEAR CONNECTORS SHALL CONFORM TO THE REQUIREMENTS OF AISC 360. WHERE THE NUMBER OF STUDS IS NOT SHOWN ON PLAN, PROVIDE A MINIMUM OF 3/4"Ø STUDS AT 12" ON CENTER.
10. FASTENING OF SHEAR CONNECTORS SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF AWS D1.1.
11. BEAM CONNECTIONS SHALL BE DESIGNED / SELECTED BY THE STEEL FABRICATOR FOR THE END REACTIONS GIVEN ON PLAN THUS: "V=XX KIPS". WHERE NO REACTION IS GIVEN ON PLAN, BEAM CONNECTIONS SHALL BE DESIGNED FOR THE REACTIONS GIVEN IN THE TYPICAL DETAILS. GENERAL CONNECTIONS SHOWN ON THE DRAWINGS ARE SCHEMATIC ONLY AND ARE INTENDED TO SHOW THE RELATIONSHIPS OF CONNECTED MEMBERS.
12. PROVIDE 1/2" THICK (MINIMUM) FULL-HEIGHT FITTED STIFFENER PLATES EACH SIDE OF THE BEAM WEB AT ALL LOCATIONS WHERE BEAMS FRAME OVER COLUMNS OR WHERE COLUMNS ARE SUPPORTED ON BEAMS, UNLESS OTHERWISE NOTED.
13. AT THE TOP LEVELS OF MOMENT FRAME COLUMNS, PROVIDE A CAP PLATE MATCHING THE FLANGE THICKNESS OF THE THICKEST OF THE MOMENT-CONNECTED BEAMS WELDED TO THE TOP OF THE COLUMN. THE TOP OF THE CAP PLATE SHALL BE SET FLUSH WITH THE TOP OF THE HIGHEST SUPPORTED BEAM.
14. AT MOMENT FRAME COLUMNS WHERE THE FLANGE WIDTH OF THE SUPPORTED BEAM EXCEEDS THE FLAT WIDTH OF THE COLUMN FACE, PROVIDE A MINIMUM 3/4" THICK FACE PLATE WELDED TO THE COLUMN MATCHING THE DEPTH AND WIDTH OF THE SUPPORTED BEAM.
15. PROVIDE L2X2X1/4 SLAB SUPPORT ANGLES AT COLUMNS WHERE STRUCTURAL MEMBERS DO NOT FRAME INTO ALL FOUR SIDES. REFER TO THE TYPICAL DETAILS FOR ADDITIONAL SLAB SUPPORT DETAILS.
16. SPLICING OF STEEL MEMBERS, EXCEPT AS SHOWN ON THE STRUCTURAL DRAWINGS, IS PROHIBITED WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER.
17. FOR STRUCTURAL STEEL BRACED FRAME CONNECTIONS, MOMENT CONNECTIONS, AND SIMPLE SHEAR CONNECTIONS, PROVIDE SIGNED AND STAMPED STRUCTURAL CALCULATIONS (BY A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS) INDICATING THAT THE DETAILED CONNECTIONS COMPLY WITH THE DESIGN LOADS INDICATED ON THE STRUCTURAL DRAWINGS.

STEEL DECKING:

1. COMPOSITE STEEL FLOOR DECK UNITS SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO THE REQUIREMENTS OF ASTM A653, GRADE 33. BEFORE FORMING, SHEETS SHALL BE COATED WITH A ZINC COATING CONFORMING TO ASTM A653, G60 COATING. STEEL DECK UNITS SHALL BE SUPPLIED WITH INTEGRAL LOCKING LUGS TO PROVIDE A MECHANICAL LOCK BETWEEN THE STEEL DECK AND THE CONCRETE SLAB.
2. STEEL ROOF DECK UNITS SHALL BE FORMED FROM STEEL SHEETS CONFORMING TO ASTM A653, GRADE 33. BEFORE FORMING, SHEETS SHALL BE COATED WITH A ZINC COATING CONFORMING TO ASTM A653, G90 COATING.
3. STEEL DECK UNITS SHALL BE FASTENED TO STEEL FRAMING BY A 5/8" DIAMETER PUDDLE WELD SPACED AS FOLLOWS:

	FLOOR DECK	3" ROOF DECK	1 1/2" ROOF DECK
PANEL END SUPPORTS	12" ON CENTER	8" ON CENTER	6" ON CENTER
PANEL SIDE SUPPORTS	12" ON CENTER	8" ON CENTER	12" ON CENTER
PANEL INTERIOR SUPPORTS	12" ON CENTER	8" ON CENTER	12" ON CENTER

4. STEEL DECKING SIDELAPS SHALL BE CONNECTED WITH #10 TEK SCREWS AT 30" ON CENTER FOR FLOOR DECKING AND 12" ON CENTER FOR ROOF DECKING. PROVIDE A MINIMUM OF THREE SIDELAP FASTENERS PER DECK SPAN.
5. THE DECK SUPPLIER SHALL PROVIDE ALL END LIGHT GAUGE POUR STOPS, DECK CLOSURES, CAPS, SUMP PANS AND ALL OTHER ACCESSORIES REQUIRED FOR A COMPLETE DECKING INSTALLATION.
6. STEEL DECK UNITS SHALL SPAN THREE OR MORE SUPPORTS WHEREVER POSSIBLE.
7. PROVIDE A COMPLETE LAYOUT OF ALL SHEAR CONNECTORS AT COMPOSITE BEAMS ON THE STEEL DECK SHOP DRAWINGS.
8. MECHANICAL, ELECTRICAL, PLUMBING OR CEILING CONSTRUCTION SHALL NOT BE HUNG DIRECTLY FROM THE DECK, EXCEPT UNDER THE FOLLOWING CONDITIONS:
    AT COMPOSITE SLABS ONLY, IT IS ALLOWED TO PLACE NOT MORE THAN ONE HANGER PER DECK SPAN PER RIB, WITH THE HANGER LOAD LIMITED TO 100 POUNDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE USE OF THESE HANGERS BY ALL TRADES. ALL ADDITIONAL ITEMS, INCLUDING ANY ITEMS WHICH WOULD RESULT IN A HANGER LOAD GREATER THAN 100 POUNDS, MUST BE HUNG DIRECTLY FROM STEEL BEAMS.

MISCELLANEOUS METALS AND METAL FABRICATIONS (INCLUDING STAIRS AND RAILINGS):

1. ALL STEEL INDICATED ON THESE DRAWINGS BUT NOT SPECIFICALLY SIZED BY LENGTH, WIDTH, THICKNESS, OR WEIGHT SHALL BE PROVIDED UNDER THE WORK OF SPECIFICATIONS SECTION 05 50 00 (METAL FABRICATIONS), UNLESS SPECIFICALLY CALLED OUT TO BE MISCELLANEOUS METALS.
2. ALL STAIRS, STAIR LANDINGS, RAILINGS AND OTHER STAIR COMPONENTS SHALL BE DESIGNED AND DETAILED UNDER THE SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS.
3. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED, SEALED, AND SUBMITTED TO THE ARCHITECT FOR REVIEW. SHOP DRAWINGS SHALL CLEARLY INDICATE, BUT NOT BE LIMITED TO, THE FOLLOWING:
    A. LOADS IMPOSED ON THE STRUCTURE FROM THE STAIRS AND / OR RAILINGS
    B. ALL CONNECTIONS FROM THE STAIRS AND / OR RAILINGS TO THE STRUCTURE
    C. ALL STAIR AND / OR RAILING MEMBER SIZES AND SHAPES
    D. ALL DIMENSIONS AND CONFIGURATIONS
4. ALL CONCRETE INFILLS (WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS) AND LANDINGS SHALL BE CAST WITH NORMAL WEIGHT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI.

POST-INSTALLED ANCHORS:

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AS PROVIDED BY HILTI, INC. (OR APPROVED EQUAL):
    A. FOR ANCHORAGE TO CONCRETE WITH ADHESIVE ANCHORS, USE THE HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) WITH HAS-E-55 THREADED RODS (SEE NOTE #2 BELOW) PER ICC ESR-3187.
    B. FOR ANCHORAGE OF REINFORCING BARS TO CONCRETE, USE THE HILTI HIT-HY 200 SAFE SET SYSTEM WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) WITH CONTINUOUSLY DEFORMED REBAR PER ICC ESR-3187.
    C. FOR ANCHORAGE TO SOLID GROUTED MASONRY WITH ADHESIVE ANCHORS, USE THE HILTI HIT-HY HYBRID ADHESIVE FOR MASONRY WITH HILTI HOLLOW DRILL BIT (TE-CD OR TE-YD) WITH HAS-E-55 THREADED RODS (SEE NOTE #2 BELOW) PER ICC ESR-2682.
    D. FOR ANCHORAGE TO CONCRETE OR SOLID GROUTED MASONRY WITH EXPANSION ANCHORS, USE HILTI KWIK BOLT TZ2 (KB-TZ2) EXPANSION ANCHORS PER ICC ESR-4561.
2. UNLESS OTHERWISE NOTED, THREADED ROD ANCHORS SHALL CONFORM TO HAS-E STANDARD IS 898 CLASS 5.8.
3. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGES OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH THE SPACING AND EDGE CLEARANCES INDICATED ON THESE DRAWINGS.
4. DESIGN ANCHOR CAPACITIES ARE BASED ON THE TECHNICAL DATA PROVIDED BY HILTI OR OTHER SUCH METHODS AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. THE CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS MUST HAVE COMPREHENSIVEE INSTALLATION INSTRUCTIONS AND AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODES FOR SEISMIC USE, LOAD RESISTANCE, AND INSTALLATION CATEGORY. ADHESIVE ANCHOR EVALUATION WILL ALSO CONSIDER CREEP, IN-SERVICE TEMPERATURE, AND INSTALLATION TEMPERATURE.
5. INSTALL ALL ANCHORS PER THE MANUFACTURER'S INSTRUCTIONS, AS INCLUDED IN THE ANCHOR PACKAGING.
6. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE STRUCTURAL ENGINEER OF RECORD MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF INSTALLING ANCHORS.
7. FOR PROJECTS MEETING IBC 2012 OR LATER, ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION IS REQUIRED FOR ALL INSTALLERS OF ADHESIVE ANCHORS IN HORIZONTAL OR UPWARDLY INCLINED ORIENTATION. THE HILTI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM (HAAICP) IS AN APPROVED EQUIVALENT.
8. EXISTING REINFORCING BARS IN THE CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. NO EXISTING BARS MAY BE CUT OR REMOVED TO INSTALL ANCHORS. ADDITIONALLY, AND UNLESS EXACT LOCATIONS OF ALL EXISTING REINFORCEMENT IS LOCATED PRIOR TO DRILLING, THE USE OF A DIAMOND CORE BIT TO DRILL THE HOLES IS STRICTLY PROHIBITED. CONTRACTOR MAY RELOCATE ANCHORS TO AVOID EXISTING REINFORCEMENT PROVIDED MAXIMUM SPACING AND EDGE CLEARANCE DISTANCES ARE MAINTAINED.

COLD-FORMED METAL FRAMING:

1. THE CONTRACTOR SHALL SUBMIT THE FOLLOWING:
    A. SHOP DRAWINGS FOR ALL COMPONENTS AND INSTALLATIONS NOT FULLY DIMENSIONED OR DETAILED IN THE MANUFACTURER'S PRODUCT DATA
    B. CALCULATIONS AND DRAWINGS, TO BE REVIEWED BY THE ARCHITECT FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT
    C. PRODUCT CATALOG WITH PROPERTIES OF ALL C STUDS.
2. SHOP DRAWINGS AND CALCULATIONS SHALL BE SEALED BY A STRUCTURAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS. CALCULATIONS AND DRAWINGS WILL BE REVIEWED BY THE ARCHITECT FOR GENERAL COMPLIANCE WITH DESIGN INTENT AND BY THE STRUCTURAL ENGINEER OF RECORD FOR COMPLIANCE WITH THE STRUCTURAL DESIGN CRITERIA.
3. 12-, 14-, AND 16-GAUGE STUDS, TRACKS, BRIDGING, END CLOSURES, AND ACCESSORIES SHALL BE FORMED FROM STEEL CORRESPONDING TO ASTM A1003, GRADE D, MINIMUM YIELD = 50 KSI.
4. 18-, AND 20-GAUGE STUDS, TRACKS, BRIDGING, END CLOSURES, AND ACCESSORIES SHALL BE FORMED FROM STEEL CORRESPONDING TO ASTM A1003, GRADE D, MINIMUM YIELD = 33 KSI.
5. ALL STUDS AND ACCESSORIES SHALL BE FORMED FROM STEEL HAVING A HOT-DIPPED GALVANIZED COATING MEETING ASTM A525 AND C955.
6. THE FOLLOWING INSTALLATION PROCEDURES SHALL BE MAINTAINED:
    A. TRACKS: INSTALL CONTINUOUS TRACKS SIZED TO MATCH STUDS. ALIGN TRACKS ACCURATELY TO LAYOUT AT BASE AND TOPS OF STUDS. SECURE TRACKS AS RECOMMENDED BY THE STUD MANUFACTURER, EXCEPT DO NOT EXCEED 16" ON CENTER. PROVIDE FASTENERS AT CORNERS AND END OF TRACKS.
    B. WALL STUDS: SECURE STUDS TO TOP AND BOTTOM RUNNER TRACKS BY EITHER WELDING OR SCREW FASTENING AT BOTH INSIDE AND OUTSIDE FLANGES. ATTACH STUDS WITH SLIP CONNECTION TO UNDERSIDE OF BEAMS AND / OR DECK ABOVE TO ALLOW 3/4" VERTICAL DEFLECTION OF BEAM.
    C. SUPPLEMENTARY FRAMING: PROVIDE BLOCKING AND BRACING IN METAL FRAMING SYSTEM WHEREVER WALL OR PARTITIONS ARE INDICATED TO SUPPORT FIXTURES, EQUIPMENT, SERVICES CASEWORK, HEAVY TRIM AND FURNISHINGS, AND SIMILAR WORK REQUIRING ATTACHMENT TO THE WALL OR PARTITION. WHERE TYPE OF SUPPLEMENTARY SUPPORT IS NOT OTHERWISE INDICATED, COMPLY WITH STUD MANUFACTURER'S RECOMMENDATIONS AND INDUSTRY STANDARDS IN EACH CASE, CONSIDERING WEIGHT OR LOADING RESULTING FROM ITEM SUPPORTED.
    D. WALL OPENINGS: OPENINGS LARGER THAN 2'-0" SQUARE SHALL BE FRAMED WITH DOUBLE STUDS AT EACH JAMB OR FRAME, EXCEPT WHERE MORE THAN TWO ARE REQUIRED, OR WHERE HEAVY-DUTY STUDS ARE PROVIDED.
7. ALL MEMBERS SHALL BE PLUMBED, ALIGNED AND SECURELY ATTACHED TO SUPPORTING MEMBERS.
8. METAL STUDS SHALL BE DESIGNED PER THE "SPECIFICATIONS FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS" FOR ALL APPLICABLE LOADS PER THE 2015 INTERNATIONAL BUILDING CODE AND ANY IMPOSED LOADS FROM MECHANICAL EQUIPMENT.

SHOP DRAWINGS:

1. SHOP DRAWINGS ARE DRAWINGS, DIAGRAMS, SCHEDULES, MATERIAL LISTS AND OTHER DATA SPECIFICALLY PREPARED FOR THE WORK FOR THE GENERAL CONTRACTOR OR ANY SUBCONTRACTOR, MANUFACTURER, SUPPLIER OR DISTRIBUTOR TO ILLUSTRATE SOME PORTION OF THE WORK. CONTRACT DRAWINGS ARE NOT TO BE REPRODUCED FOR USE AS SHOP DRAWINGS.
2. WHEN APPLICABLE, SHOP DRAWINGS SHALL INCLUDE, BUT NOT BE LIMITED TO: ERECTION PLANS, NOTES AND BRACING DETAILS, ACCESSORIES, CONNECTION DETAILS, JOIST, BEAM AND COLUMN DETAILS, BENDING DETAILS FOR REINFORCING RODS, AND ANY OTHER ITEMS WHICH ARE TYPICAL OF INDUSTRY STANDARD FOR SHOP DRAWING SUBMITTALS. SUBMIT STAMPED STRUCTURAL CALCULATIONS WHERE NOTED ABOVE.
3. NO PORTION OF THE WORK REQUIRING SUBMISSION OF A SHOP DRAWING SHALL BE STARTED UNTIL THE SUBMITTAL HAS BEEN SATISFACTORILY REVIEWED BY SOUZA, TRUE AND PARTNERS (STP) AND ALL OTHER PARTIES INVOLVED. ALL SUCH PORTIONS OF THE WORK SHALL BE IN ACCORDANCE WITH FINAL REVIEWED SUBMITTALS AND THE CONTRACT DOCUMENTS.
4. ALL SHOP DRAWINGS SHALL BE SUBMITTED ELECTRONICALLY, UNLESS OTHERWISE NOTED IN THE CONTRACT DOCUMENTS. UNLESS OTHERWISE NOTED IN THE CONTRACT SPECIFICATIONS, THE FOLLOWING SEQUENCE SHALL BE FOLLOWED: MANUFACTURER / CONTRACTOR / ARCHITECT / ENGINEER / ARCHITECT / CONTRACTOR / MANUFACTURER.
5. THE CONTRACTOR SHALL REVIEW, APPROVE AND SUBMIT ALL SHOP DRAWINGS REQUIRED BY THE CONTRACT DOCUMENTS IN AN ORDER WHICH IS SEQUENTIAL WITH THE PROGRESS OF THE WORK AND CONSISTANT WITH THE LEAD TIMES RELATED TO THE PRODUCTS. THE SHOP DRAWING SUBMITTAL SCHEDULE SHALL INCLUDE ADEQUATE TIME FOR A COMPLETE AND PROFESSIONAL REVIEW BY ALL PARTIES INVOLVED. IT SHALL BE NOTED THAT THE REVEIW TIME WILL VARY DEPENDING ON THE SIZE AND CONTENT OF THE SUBMITTAL. BY APPROVING AND SUBMITTING SHOP DRAWINGS, THE CONTRACT REPRESENTS THAT HE OR SHE HAS VERIFIED ALL MATERIALS, FIELD MEASUREMENTS AND FIELD CONSTRUCTION CRITERIA RELATED THERETO, OR WILL DO SO. IN ADDITION, THIS SHALL REPRESENT THAT HE OR SHE HAS CHECKED AND COORDINATED THE INFORMATION CONTAINED WITHIN SUCH SUBMITTALS WITH THE REQUIREMENTS OF THE WORK AND OF THE CONTRACT DRAWINGS. SOUZA, TRUE AND PARTNERS, INC. RESERVES THE RIGHT TO RETURN ANY SHOP DRAWINGS WHICH ARE JUDGED TO BE "RUBBER STAMP APPROVED" BY THE CONTRACTOR WITHOUT PROPER REVIEW AND EVALUATION.
6. ALL SHOP DRAWINGS THAT ARE RECEIVED WITHOUT FIRST BEING REVIEWED AND STAMPED BY THE CONTRACTOR WILL BE RETURNED UNREVIEWED.
7. THE CONTRACTOR SHALL NOT BE RELIEVED OF RESPONSIBILITY FOR ANY DEVIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AS A RESULT OF STP'S (SOUZA, TRUE AND PARTNERS, INC.) REVIEW OF THE SHOP DRAWINGS UNLESS THE CONTRACTORHAS SPECIFICALLY INFORMED STP, IN WRITING, OF SUCH DEVIATION AT THE TIME OF SUBMISSION AND STP HAS GIVEN WRITTEN ACCEPTANCE TO THE SPECIFIC DEVIATION. THE CONTRACTOR SHALL NOT BE RELIEVED FROM RESPONSIBILITY FOR ERROR OR OMISSIONS IN THE SHOP DRAWINGS BY STP'S REVIEW THEREOF.
8. THE CONTRACTOR SHALL DRAW ATTENTION TO ALL DEVIATIONS FROM THE CONTRACT DRAWINGS AND INCLUDE REASONS FOR SUCH DEVIATIONS WITH THE SUBMITTED SHOP DRAWINGS. IN ADDITION, THE CONTRACTOR SHALL DIRECT SPECIFIC ATTENTION, IN WRITING OR ON RESUBMITTED SHOP DRAWINGS, TO REVISIONS OTHER THAN THOSE REQUESTED BY STP ON PREVIOUS SUBMITTALS.
9. REFER TO SAMPLE SHOP DRAWING STAMP AND ACTION LEGEND (BELOW) FOR FURTHER CLARIFICATION.

ACTION LEGEND:

SUBMITTAL ACCPETED:
MATERIALS, SIZES, GENERAL ARRANGEMENT AND DETAILS SHOWN ON THIS DRAWING APPEAR TO BE IN SUBSTANTIAL COMPLIANCE WITH THE INTENT OF THE CONTRACT DRAWINGS.

SUBMITTAL ACCEPTED, SUBJECT TO NOTATIONS:
CORRECTIONS NOTED WILL BRING THIS SUBMITTAL INTO SUBSTANTIAL COMPLIANCE WITH THE MATERIALS, SIZES GENERAL ARRANGEMENTS AND DETAILS NOTED IN THE CONTRACT DOCUMENTS. PROVIDED THAT NO OTHER MODIFICATIONS ARE NECESSARY, RESUBMITTAL IS NOT REQUIRED. REVIEW IS COMPLETE AND ALL CORRECTIONS ARE DEEMED OBVIOUS WITH NO AMBIGUITY.

SUBMITTAL ACCEPTED IN PART, RESUBMIT ITEMS NOTED:
CORRECTIONS NOTED WILL BRING THIS SUBMITTAL INTO SUBSTANTIAL COMPLIANCE WITH THE MATERIALS, SIZES, GENERAL ARRANGEMENTS AND DETAILS NOTED IN THE CONTRACT DOCUMENTS. PORTIONS OF THE DRAWING MUST BE REVISED AND REVIEWED PRIOR TO FABRICATION.

SUBMITTAL NOT ACCEPTED; REVISE, REVIEW AND RESUBMIT:
FABRICATION SHALL NOT TAKE PLACE PRIOR TO THIS DRAWING BEING REVISED, RESUBMITTED AND REVIEWED BY SOUZA, TRUE AND PARTNERS, INC., AND ALL OTHER PARTIES INVOLVED. DETAILS OR ITEMS NOTED BY THE REVIEWER REQUIRE FURTHER CLARIFICATION.

RESUBMITTED SHOP DRAWINGS THAT WERE PREVIOUSLY SUBMITTED WILL NOT BE REVIEWED UNLESS REVISIONS ARE CLOUDED. ONLY CLOUDED ITEMS WILL BE RE-REVIEWED.

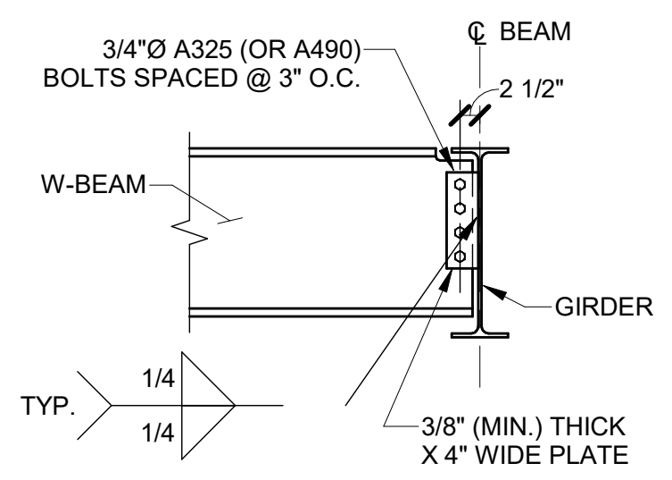
CONTRACTOR SHALL SUBMIT A SCHEDULE OF SHOP DRAWING SUBMITTAL DATES AT LEAST 30 DAYS PRIOR TO FIRST SUBMITTAL. FAILURE TO SUBMIT DRAWINGS ON DESIGNATED DATE MAY IMPACT REVIEW SCHEDULE.

ABBREVIATION LIST

ARCH.	ARCHITECT or ARCHITECTURAL DRAWINGS
B. OR BOT.	BOTTOM
B.E.W.	BOTTOM EACH WAY
BM.	BEAM
B.S. or B/S	BOTH SIDES
CANT.	CANTILEVER(ED)
CFMF	COLD-FORMED METAL FRAMING
C.I.P.	CAST-IN-PLACE
C.J.	CONTROL JOINT
CL	CENTERLINE
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONST. JT.	CONSTRUCTION JOINT
CONT.	CONTINUOUS
DIA. OR Ø	DIAMETER
DIM.	DIMENSION
DWG.	DRAWING
DWLS.	DOWELS
EA.	EACH
E.E.	EACH END
E.F.	EACH FACE
EL. or ELEV.	ELEVATION
E.O.D.	EDGE OF DECK
E.O.S.	EDGE OF SLAB
EQ.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
(e)	EXISTING
EXP. BOLT	EXPANSION BOLT
EXP. JT.	EXPANSION JOINT
EXT.	EXTERIOR
FIN.	FINISH(ED)
FLR.	FLOOR
FND. or FNDTN.	FOUNDATION
F.O.W.	FACE OF WALL
F.S. or F/S	FAR SIDE
FTG.	FOOTING
F.V.	FIELD-VERIFY
GA.	GAUGE
GALV.	GALVANIZED
H. or HOR.	HORIZONTAL
H.E.F.	HORIZONTAL EACH FACE
H.I.F.	HORIZONTAL INSIDE FACE
H.O.F.	HORIZONTAL OUTSIDE FACE
H.P.	HIGH POINT
ID	INSIDE DIAMETER
I.F.	INSIDE FACE
INT.	INTERIOR
JT.	JOINT
K or ^{K}	KIP
KSF	KIPS PER SQUARE FOOT
KSI	KIPS PER SQUARE INCH
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
L.P.	LOW POINT
LW	LIGHT WEIGHT
LWC	LIGHT WEIGHT CONCRETE
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MID.	MIDDLE
MIN.	MINIMUM
N.F.	NEAR FACE
NO. or #	NUMBER
NTS	NOT TO SCALE
NW	NORMAL WEIGHT
NWC	NORMAL WEIGHT CONCRETE
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
O.H.	OPPOSITE HAND
OPNG.	OPENING
OPP.	OPPOSITE
PAF	POWDER ACTUATED FASTENER
PL.	PLATE
P.S.	POUR STOP
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
R.D.	ROOF DRAIN
REF.	REFERENCE
REINF.	REINFORCED or REINFORCING
REQ.	REQUIRED
S.C.	SLIP CRITICAL
SCHED.	SCHEDULE
SECT.	SECTION
SIM.	SIMILAR
S.O.G.	SLAB-ON-GRADE
SPECS.	SPECIFICATIONS
STD.	STANDARD
STIFF.	STIFFENER
STL.	STEEL
STR.	STRUCTURAL
T.	TOP
TEMP.	TEMPORARY
THK.	THICK or THICKNESS
T.O.C.	TOP OF CONCRETE
T.O.S.	TOP OF STEEL
T.O.W.	TOP OF WALL
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
U/S	UNDERSIDE
V. or VERT.	VERTICAL
V.E.F.	VERTICAL EACH FACE
V.I.F.	VERTICAL INSIDE FACE
V.O.F.	VERTICAL OUTSIDE FACE
W/	WITH
W/O	WITHOUT
W.P.	WORK POINT or WORKING POINT
W.W.F.	WELDED WIRE FABRIC

STRUCTURAL DRAWING LIST

S0.01	GENERAL NOTES
S0.02	TYPICAL DETAILS
S0.03	TYPICAL DETAILS
S0.04	TYPICAL DETAILS
S1.01	FIRST FLOOR / FOUNDATION PLAN
S1.02	SECOND FLOOR FOUNDATION/FRAMING PLAN
S1.03	LOW ROOF FRAMING PLAN
S1.04	ROOF FRAMING PLANS
S3.01	COLUMN SCHEDULE
S3.02	COLUMN SCHEDULE, BASE PLATE & PIER DETAILS
S4.01	SECTIONS
S4.02	SECTIONS
S4.03	SECTIONS



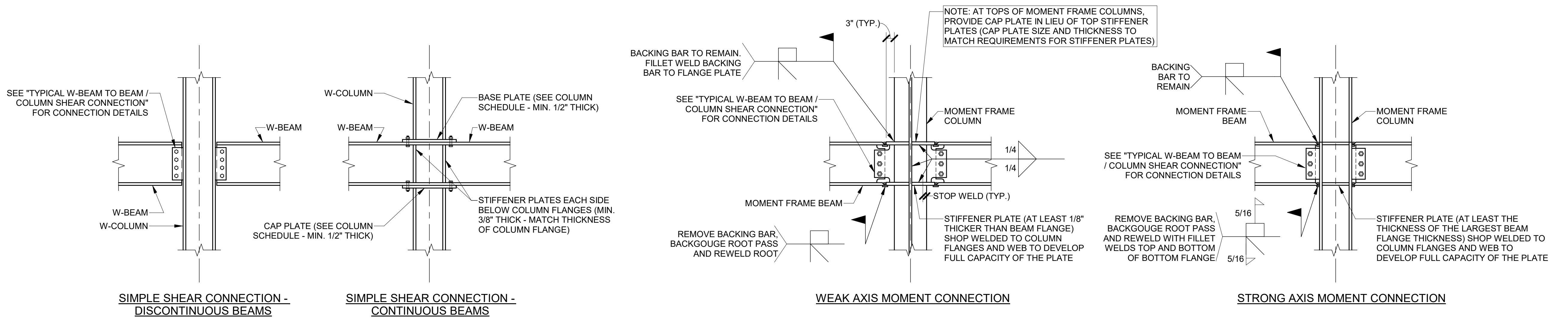
NOTES:

1. SIMILAR AT BEAM TO COLUMN CONNECTIONS.
2. THE STEEL FABRICATOR SHALL DESIGN ALL CONNECTIONS FOR SHEAR REACTIONS GIVEN ON PLANS OR IN SECTIONS. IF NO REACTION IS GIVEN, THE MINIMUM SHEAR CAPACITIES IN THE TABLE TO THE RIGHT SHALL BE MAINTAINED.
3. THE STEEL FABRICATOR HAS THE OPTION TO USE ALTERNATE CONNECTION TYPES IN LIEU OF SINGLE PLATE CONNECTIONS, PROVIDED THAT THE MINIMUM SHEAR CAPACITIES AND NUMBERS OF BOLTS AS DEFINED IN THE TABLE ARE MAINTAINED, AND THE STEEL FABRICATOR PROVIDES FULL CALCULATIONS OR REFERENCES TO AISC STANDARD CONNECTION TABLES.
4. WHERE SHORT-SLOTTED HOLES ARE USED, THE HOLE MAY BE HORIZONTALLY SLOTTED IN EITHER THE BEAM WEB OR THE SHEAR PLATE AT THE FABRICATOR'S PREFERENCE.
5. MINIMUM SHEAR CONNECTION REQUIREMENTS ARE FOR ALLOWABLE STRENGTH DESIGN (ASD).

MINIMUM SHEAR CONNECTION REQUIREMENTS (ASD LOADS)

BEAM DEPTH	MINIMUM SHEAR CAPACITY (KIPS)	MINIMUM NUMBER OF ROWS OF BOLTS	BOLT HOLE TYPE
W10s AND LESS	16.5	2	STANDARD OR SHORT-SLOTTED
W12s AND W14s	28.8	3	STANDARD OR SHORT-SLOTTED
W16s AND W18s	41.5	4	STANDARD OR SHORT-SLOTTED
W21s	54.1	5	STANDARD OR SHORT-SLOTTED
W24s	66.5	6	SHORT-SLOTTED
W27s	78.7	7	SHORT-SLOTTED
W30s	90.8	8	SHORT-SLOTTED
W33s	103	9	SHORT-SLOTTED
W36s	115	10	SHORT-SLOTTED
W40s	126	11	SHORT-SLOTTED

① TYPICAL W-BEAM TO BEAM / COLUMN SHEAR CONNECTION



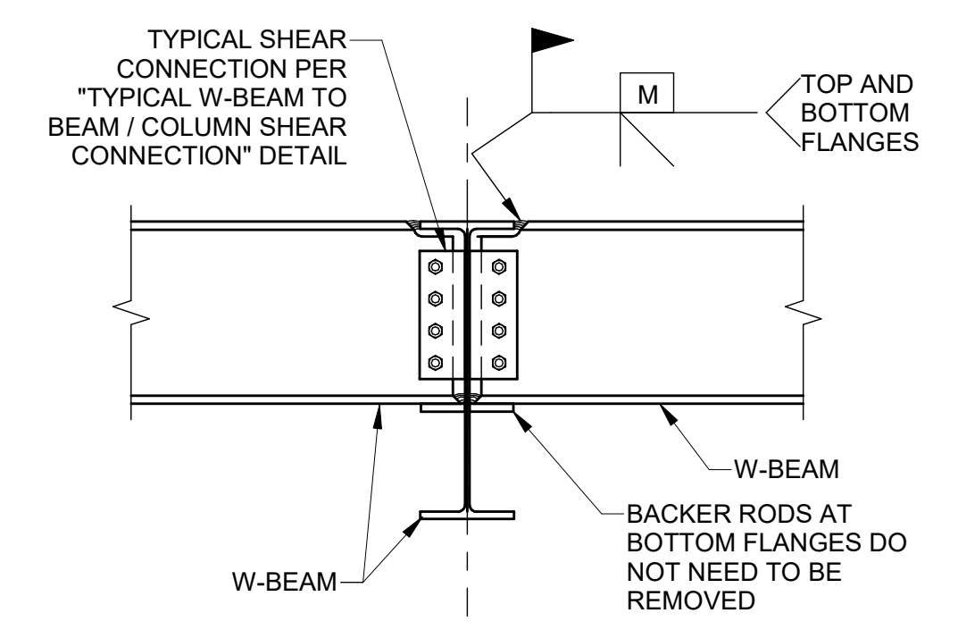
SIMPLE SHEAR CONNECTION - DISCONTINUOUS BEAMS

SIMPLE SHEAR CONNECTION - CONTINUOUS BEAMS

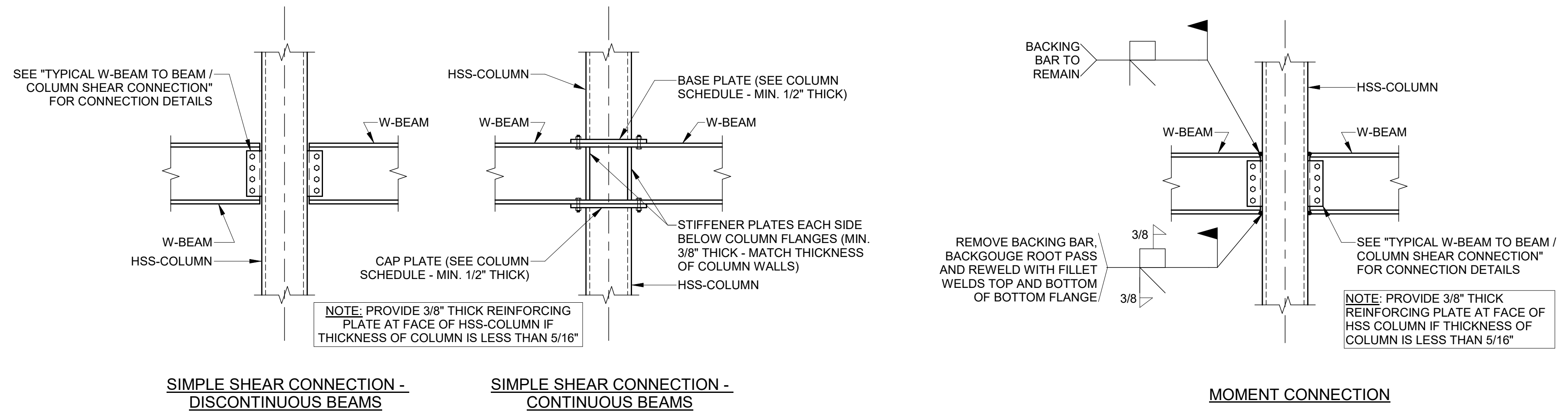
WEAK AXIS MOMENT CONNECTION

STRONG AXIS MOMENT CONNECTION

② TYPICAL W-BEAM TO W-COLUMN SHEAR CONNECTION AND MOMENT CONNECTION DETAILS



③ TYPICAL BEAM TO GIRDER MOMENT CONNECTION DETAIL

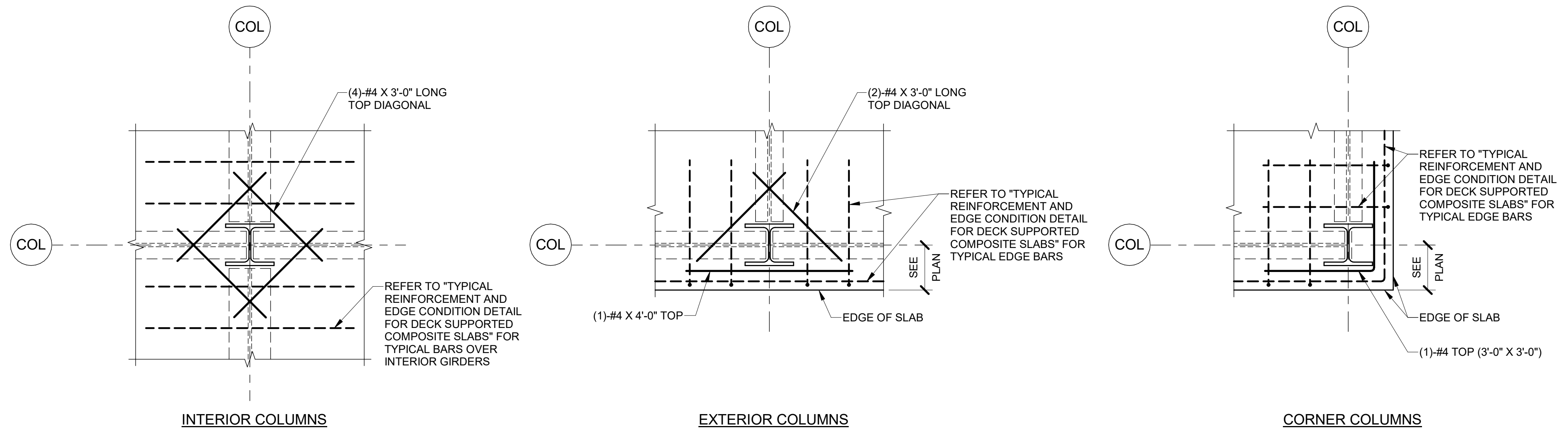


SIMPLE SHEAR CONNECTION - DISCONTINUOUS BEAMS

SIMPLE SHEAR CONNECTION - CONTINUOUS BEAMS

MOMENT CONNECTION

④ TYPICAL W-BEAM TO HSS-COLUMN SHEAR CONNECTION AND MOMENT CONNECTION DETAILS

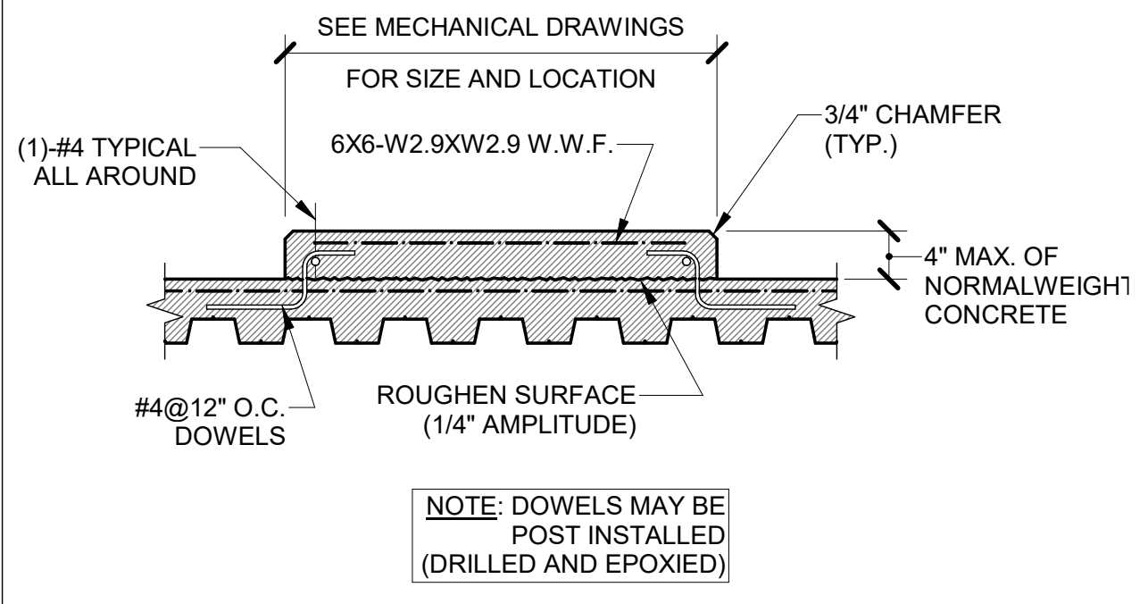


INTERIOR COLUMNS

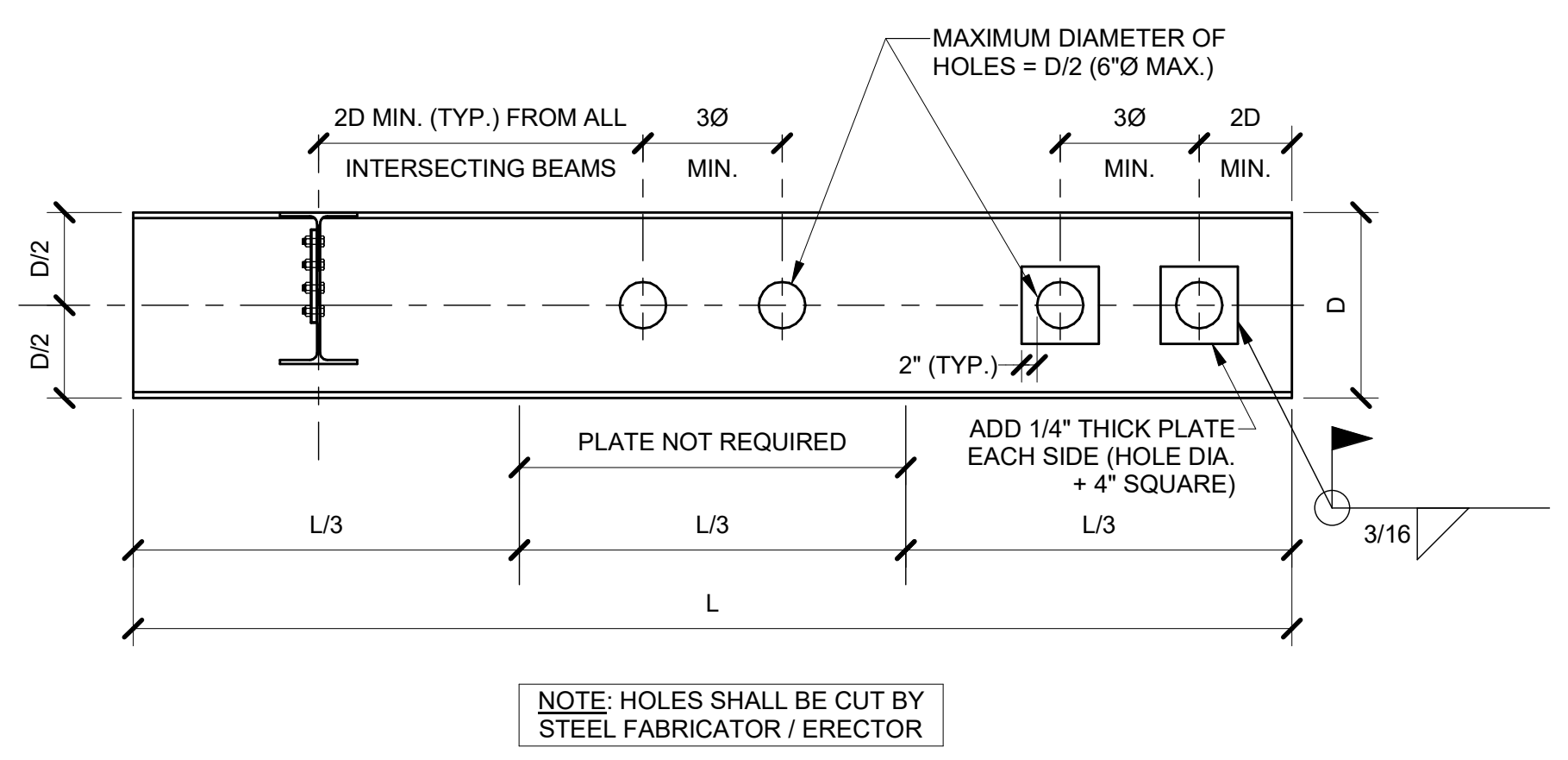
EXTERIOR COLUMNS

CORNER COLUMNS

⑤ TYPICAL ADDED REINFORCEMENT AROUND COLUMNS AT COMPOSITE SLABS-ON-DECK



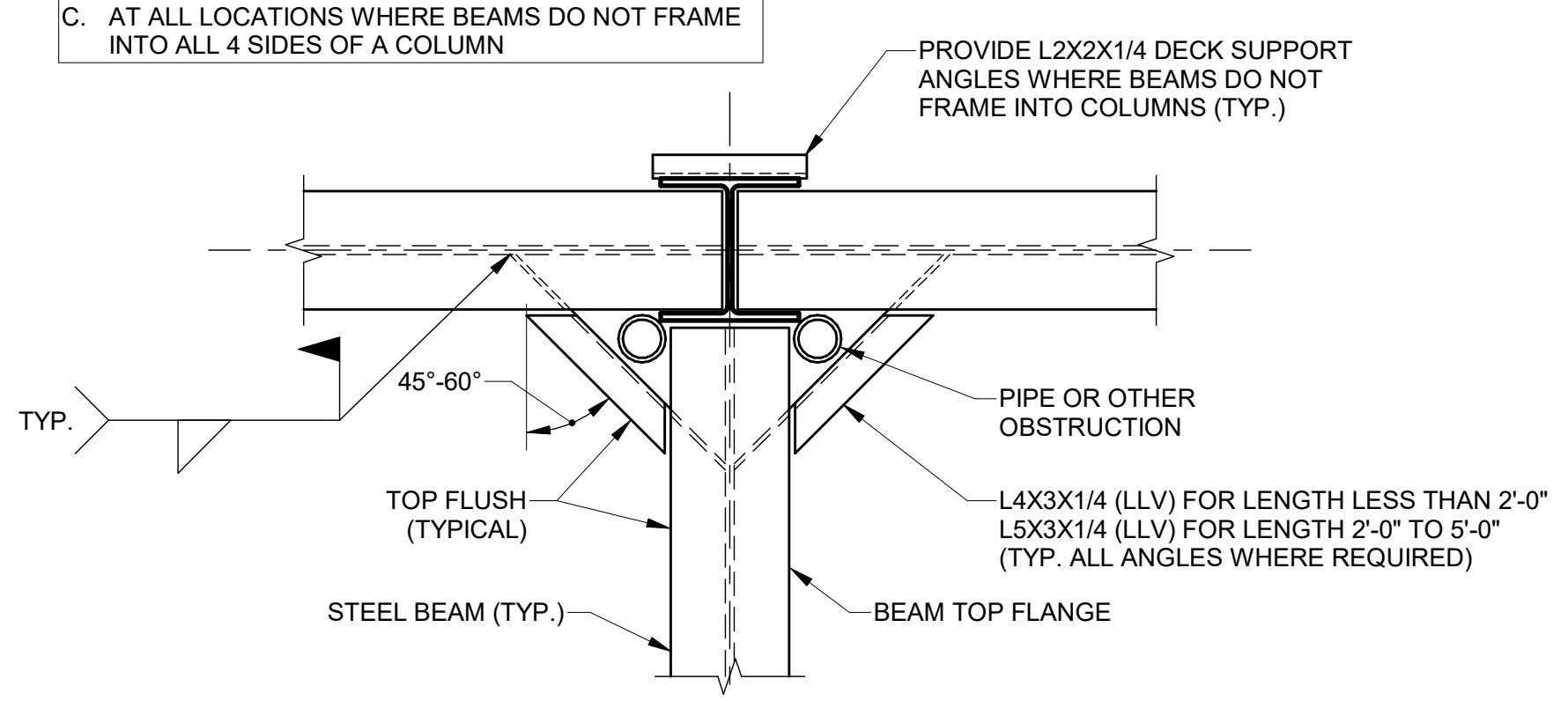
⑥ TYPICAL HOUSEKEEPING PAD DETAIL FOR SLABS ON METAL DECK



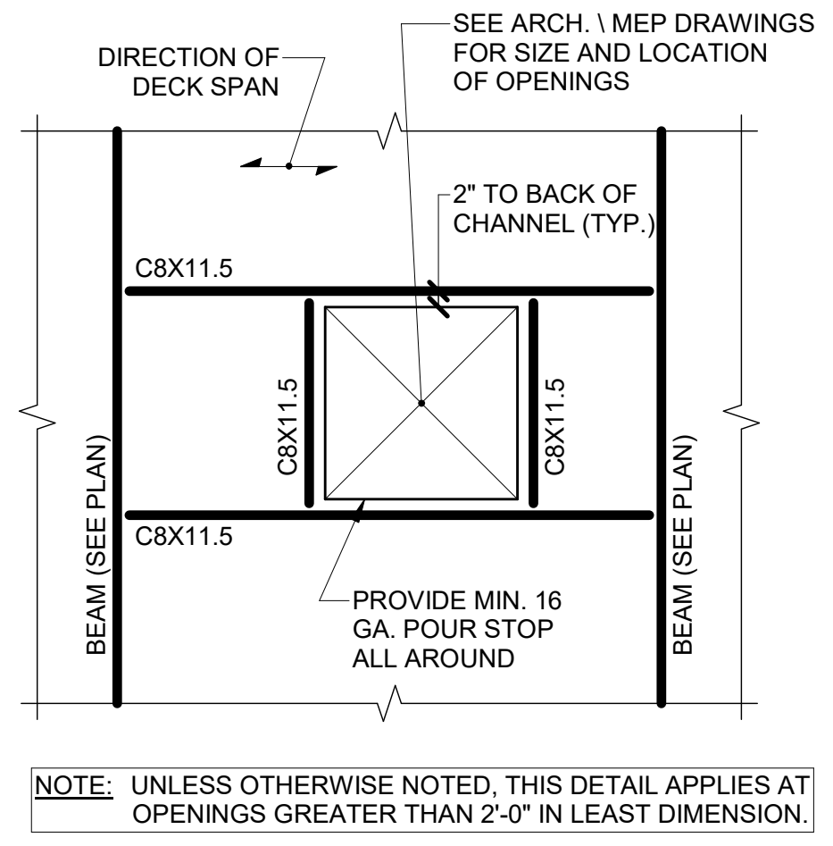
⑦ TYPICAL PIPE HOLE DETAIL THROUGH W-BEAMS

THIS DETAIL OCCURS AT THE FOLLOWING CONDITIONS:

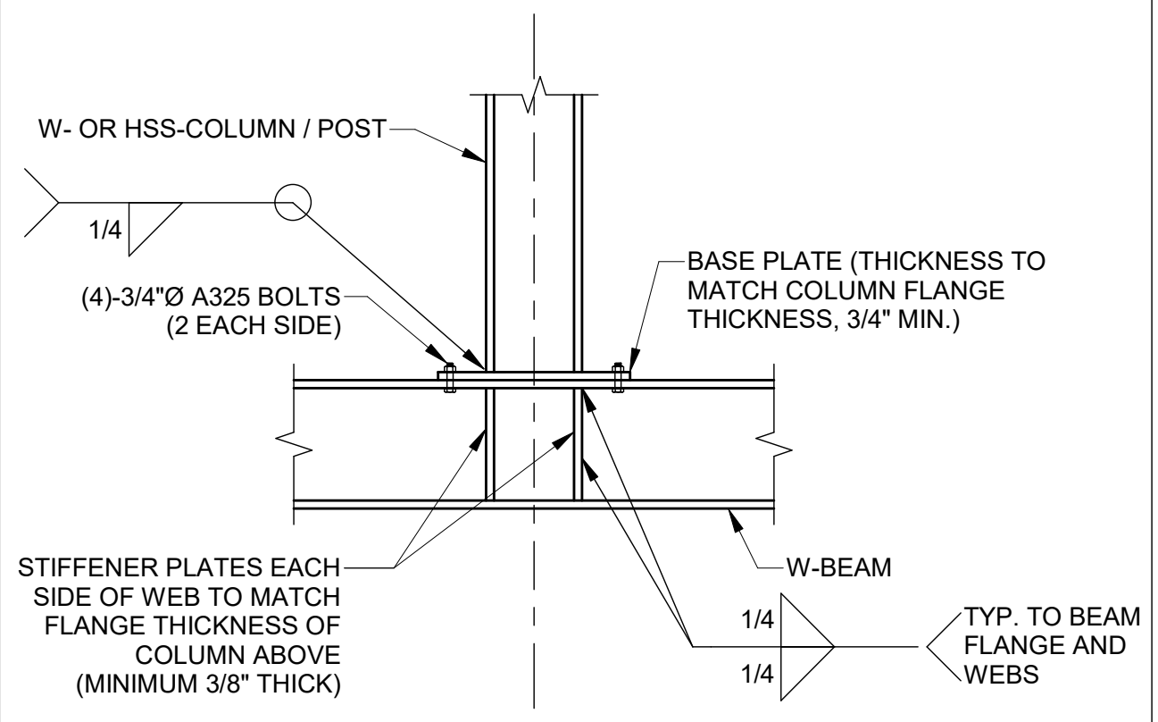
- A. WHERE PIPE SLEEVES OCCUR NEXT TO COLUMN
- B. AT ALL CONDITIONS WHERE DECK SUPPORT IS INTERRUPTED FOR A DISTANCE GREATER THAN 6"
- C. AT ALL LOCATIONS WHERE BEAMS DO NOT FRAME INTO ALL 4 SIDES OF A COLUMN



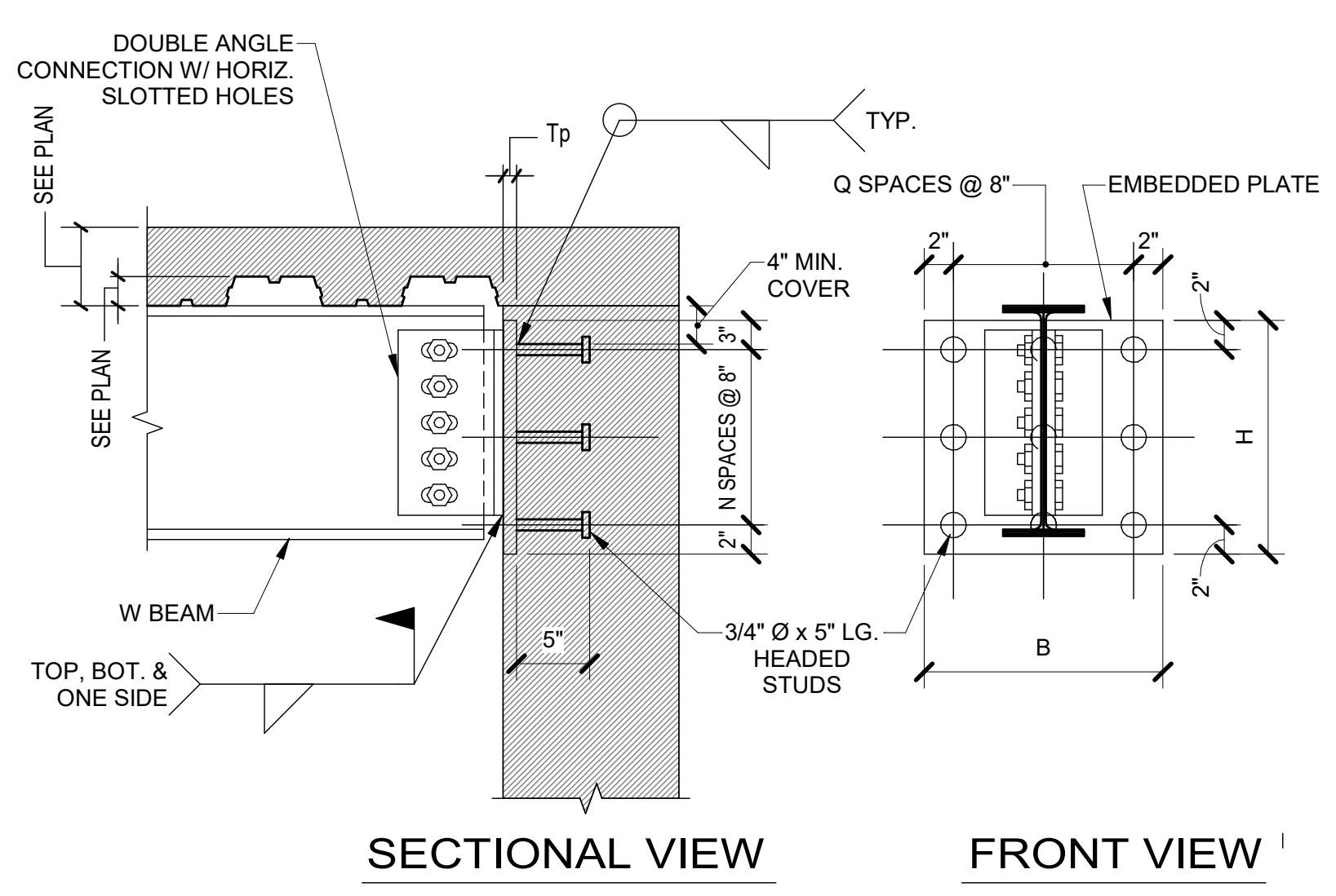
⑧ TYPICAL STEEL DECK SUPPORT DETAILS AT INTERIOR COLUMNS



⑨ ADDITIONAL FRAMING AT LARGE OPENINGS THROUGH CONCRETE SLABS ON STEEL DECK



⑩ TYPICAL DETAIL AT COLUMN SUPPORTED ON BEAM



SECTIONAL VIEW

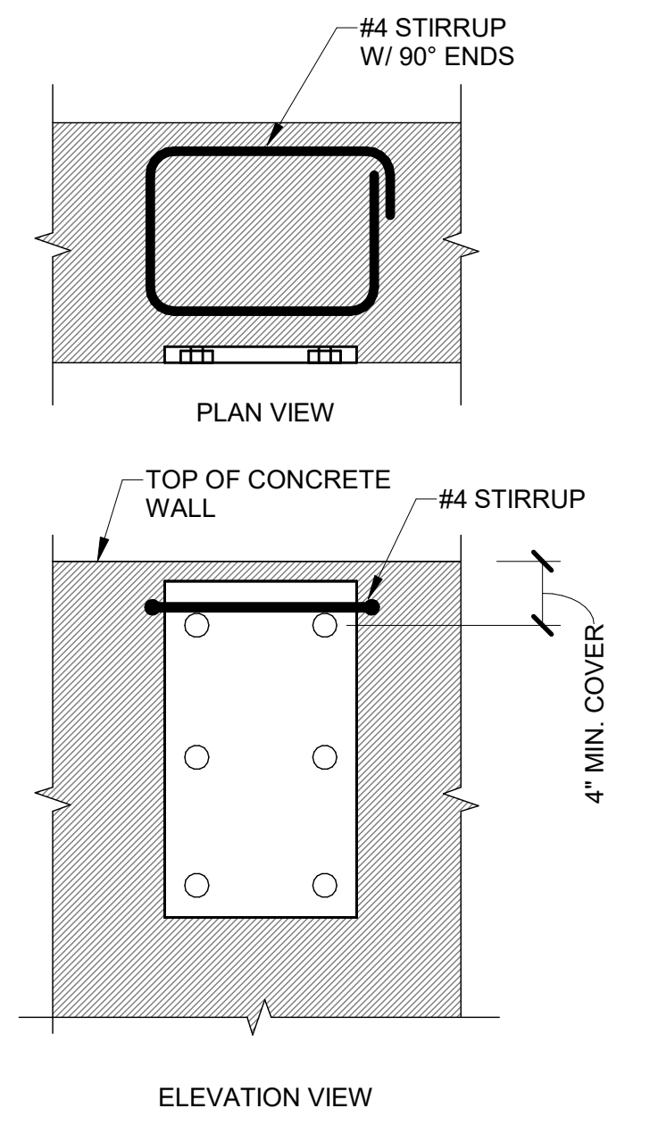
FRONT VIEW

EMBEDDED PLATE SCHEDULE

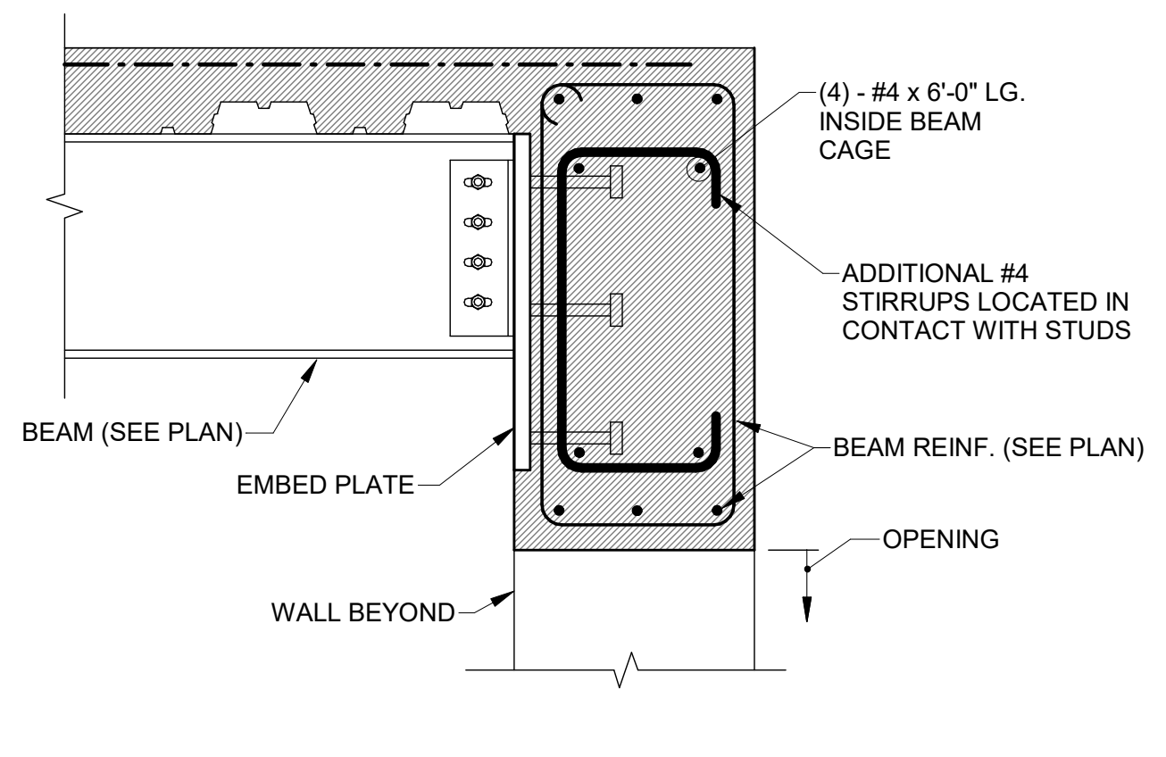
MARK	N (VERT. SPACES)	Q (HOR. SPACES)	NUMBER OF 3/4"∅ x 5" STUDS	PLATE SIZE T x B x H	MAX Vu
EP-1	1	1	4	1"x1'-0"x1'-2"	30 KIPS
EP-2	2	1	6	1"x1'-0"x1'-9"	45 KIPS
EP-3	3	1	8	1½"x1'-0"x2'-5"	60 KIPS
EP-4	4	1	10	1½"x1'-0"x3'-1"	80 KIPS
EP-5	3	2	12	2"x1'-8"x2'-5"	95 KIPS
EP-6	4	2	15	2"x1'-8"x3'-1"	120 KIPS
EP-7	5	2	18	2"x1'-8"x3'-9"	140 KIPS

* SHEAR CAPACITY ASSUMING BEAM REACTION 3" OFF FACE OF PLATE

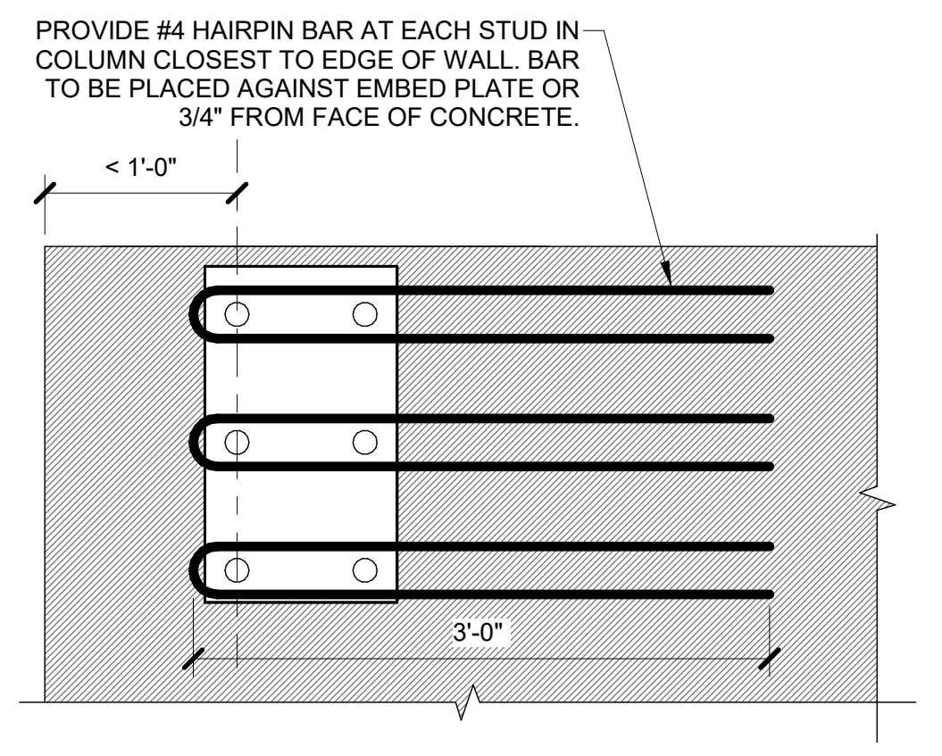
** KEEP 3" MIN. CLEAR CONC. COVER FOR ALL ANCHOR BOLTS



ADDITIONAL REINFORCING AT TOP OF WALL

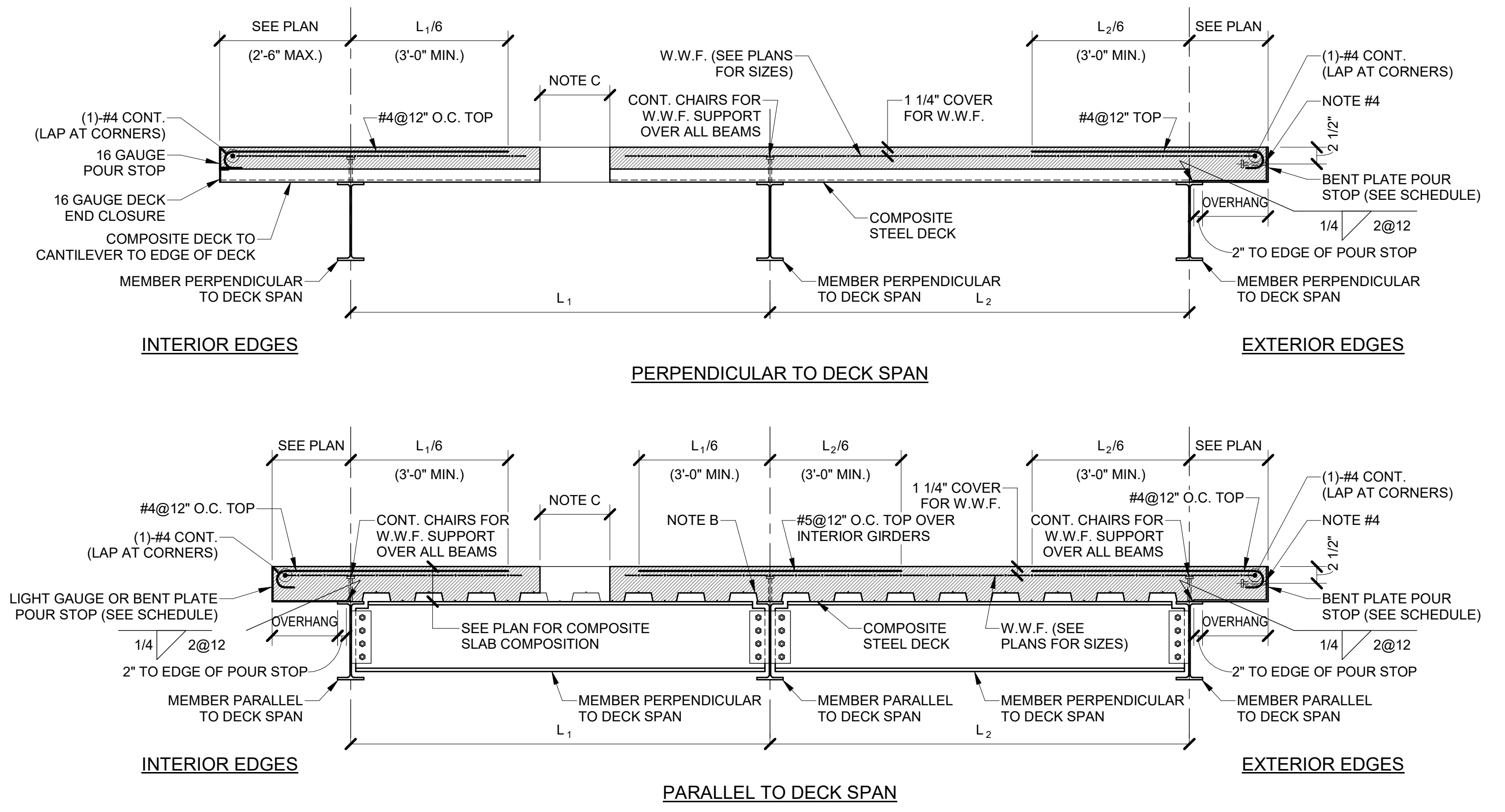


ADDITIONAL REINFORCING AT CONCRETE BEAMS



ADDITIONAL REINFORCING AT WALL END / EDGE

⑪ TYPICAL EMBEDDED PLATE CONNECTION DETAIL AND SCHEDULE



PERPENDICULAR TO DECK SPAN

PARALLEL TO DECK SPAN

POUR STOP SCHEDULE

SLAB OVERHANG BEYOND EDGE OF FLANGE	POUR STOP SIZE	
	INTERIOR EDGES	EXTERIOR EDGES
< 3"	16 GAUGE	5/16" BENT PLATE
3" TO 5"	14 GAUGE	5/16" BENT PLATE
5" TO 8"	12 GAUGE	5/16" BENT PLATE
8" TO 11"	10 GAUGE	5/16" BENT PLATE
11" TO 13"	5/16" BENT PLATE	
13" TO 16"	3/8" BENT PLATE	
16" TO 20"	1/2" BENT PLATE	
> 20"	REFER TO SECTIONS	

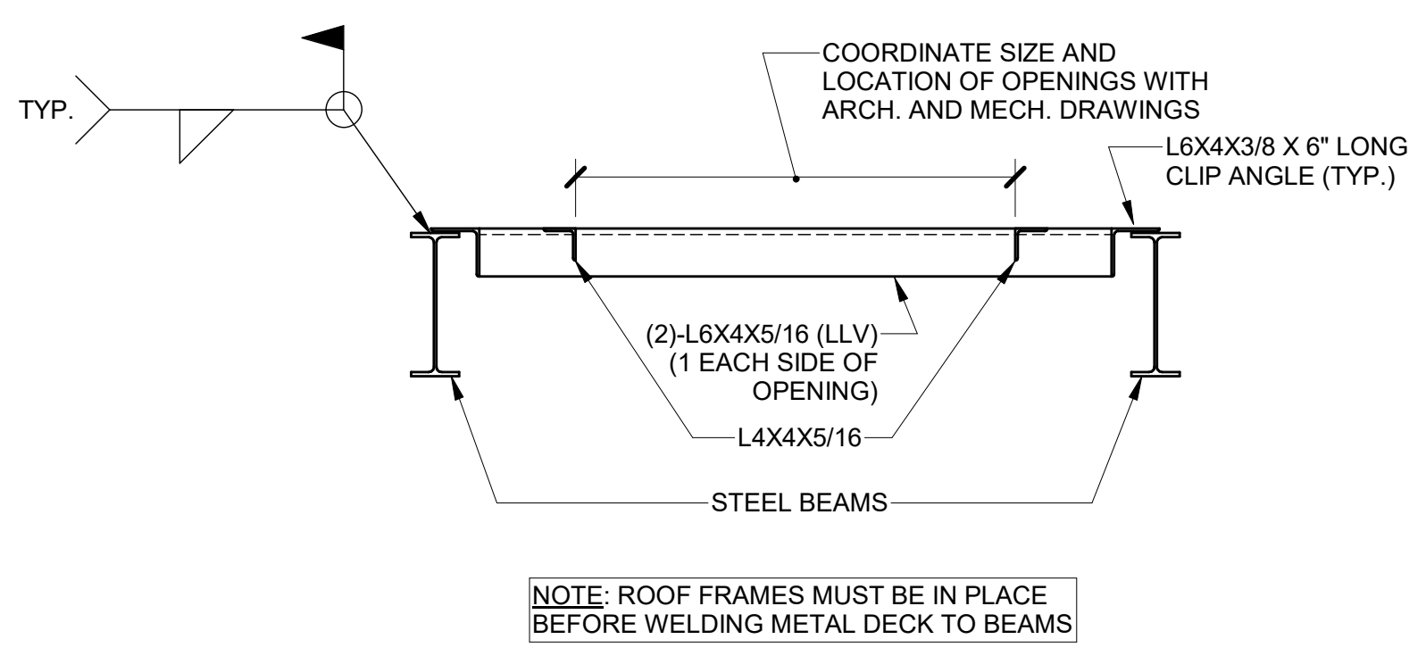
GENERAL NOTES:

- A. TYPICAL FOR ALL SUPPORTED SLABS UNLESS SHOWN OTHERWISE.
- B. DECK MUST BE IN CONTACT WITH GIRDER TO INSURE THAT FLANGE DOES NOT FALL UNDER HIGH CELL, RESULTING IN UNBRACED BEAM. WHEN VOIDS OCCUR OVER A BEAM FLANGE, CUT DECK AS REQUIRED AND PROVIDE LIGHT GAUGE DECK CLOSURE.
- C. UNFRAMED OPENINGS ARE TO BE BLOCKED OUT WITH FORMWORK. DECK SHALL BE CUT AFTER CONCRETE IS CURED.

POUR STOP NOTES:

1. TABLE ABOVE INDICATES MINIMUM POUR STOP REQUIREMENTS. REFER TO SECTIONS AND DETAILS FOR FURTHER REQUIREMENTS.
2. IN THE CASE OF CONFLICT BETWEEN THE SCHEDULE AND A DETAIL, THE DETAIL SHALL GOVERN.
3. PROVIDE BENT PLATE POUR STOPS AT ALL EXTERIOR SLAB EDGES AND INTERIOR STAIR OPENING EDGES, UNLESS OTHERWISE NOTED. AT OTHER INTERIOR OPENINGS, PROVIDE A LIGHT GAUGE POUR STOP, UNLESS OVERHANG DIMENSION REQUIRES A BENT PLATE.
4. PROVIDE 3/4"Ø X 6" LONG HEADED STUDS AT 24" ON CENTER WELDED TO ALL BENT PLATES, UNLESS OTHERWISE NOTED ON PLAN OR SECTIONS (2 1/2" FROM TOP OF CONCRETE TO CENTER OF STUD).

⑫ TYPICAL REINFORCEMENT AND EDGE CONDITION DETAIL FOR COMPOSITE SLABS-ON-DECK



NOTE: ROOF FRAMES MUST BE IN PLACE BEFORE WELDING METAL DECK TO BEAMS

⑬ TYPICAL ROOF OPENING AND MECHANICAL UNIT SUPPORT DETAIL AT STEEL BEAMS

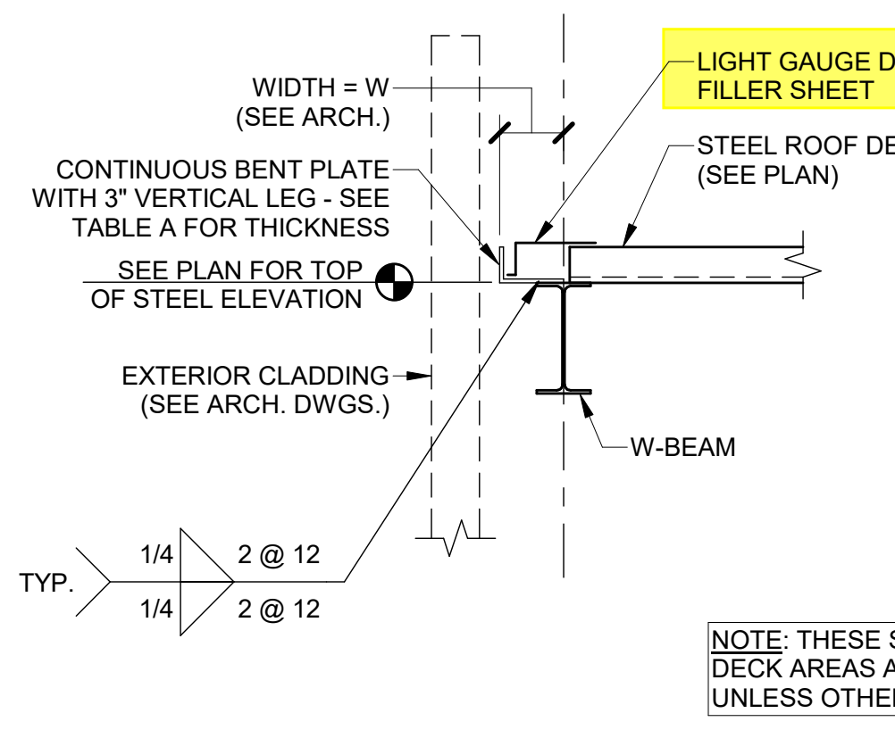
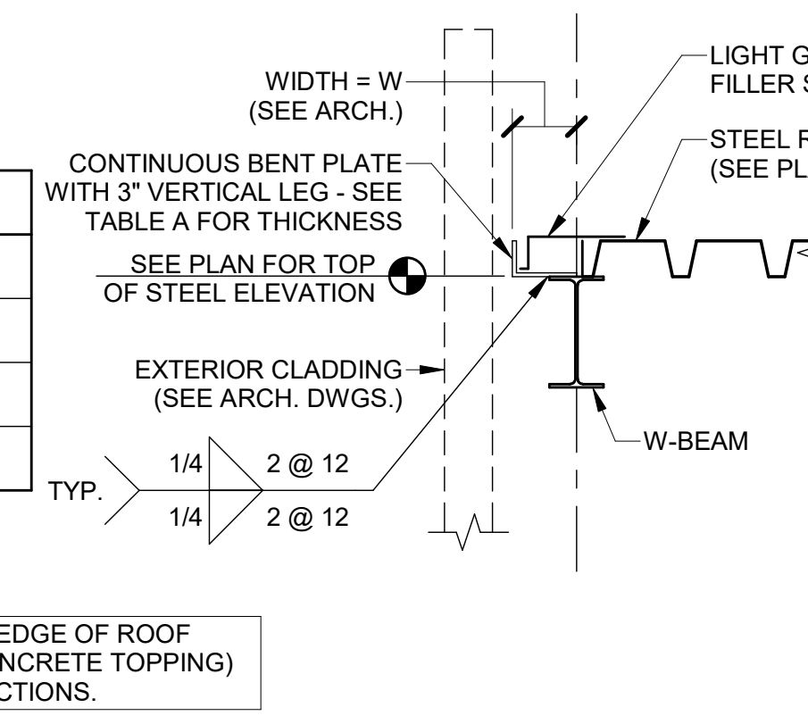


TABLE A

WIDTH = W	THICKNESS
W ≤ 12"	1/4"
12" < W ≤ 16"	5/16"
16" < W ≤ 20"	3/8"



NOTE: THESE SECTIONS ARE TYPICAL FOR ALL EDGE OF ROOF DECK AREAS AT ANY ROOF LEVEL (WITH NO CONCRETE TOPPING) UNLESS OTHERWISE NOTED ON PLAN OR IN SECTIONS.

⑭ TYPICAL ROOF DECK EDGE CONDITIONS

TYPICAL LOOSE STEEL LINTEL SCHEDULE

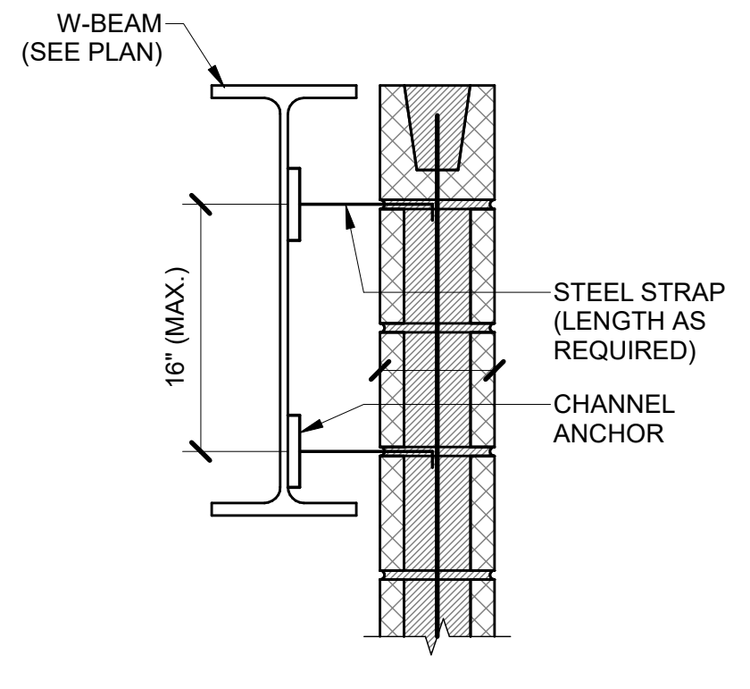
MASONRY OPENING	LINTEL SIZE
UP TO 3'-0"	L3 1/2X3 1/2X5/16
3'-1" TO 4'-6"	L4X3 1/2X5/16 (4" LEG VERTICAL)
4'-7" TO 6'-0"	L5X3 1/2X5/16 (5" LEG VERTICAL)
6'-1" TO 8'-0"	L6X3 1/2X5/16 (6" LEG VERTICAL)
8'-1" TO 10'-0"	L7X4X3/8 (7" LEG VERTICAL)

NOTES:

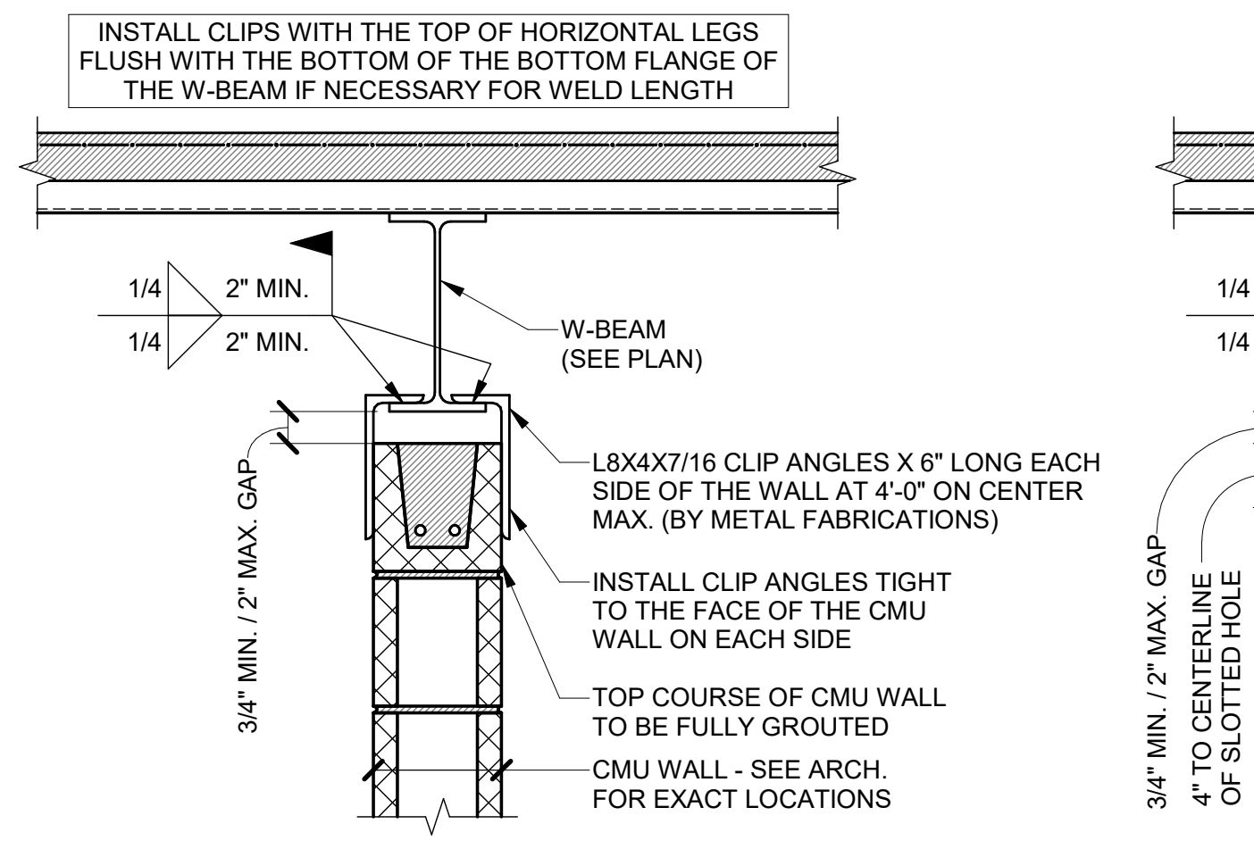
1. PROVIDE LINTELS OVER ALL OPENING EXCEPT WHERE LINTEL BLOCKS ARE PROVIDED.
2. PROVIDE ONE ANGLE FOR EACH 4" OF WALL THICKNESS. FOR 6" WALLS PROVIDE TEE OR BUILT UP SECTION WITH PROPERTIES (I_x, Z_x) EQUAL TO OR GREATER THAN 1.5 TIMES ANGLE PROPERTIES FOR 4" WALL THICKNESS.
3. PROVE 8" OF BEARING AT EACH END OF ALL LINTELS.
4. PROVIDE GALVANIZED STEEL AT ALL EXTERIOR WALLS.

NOR

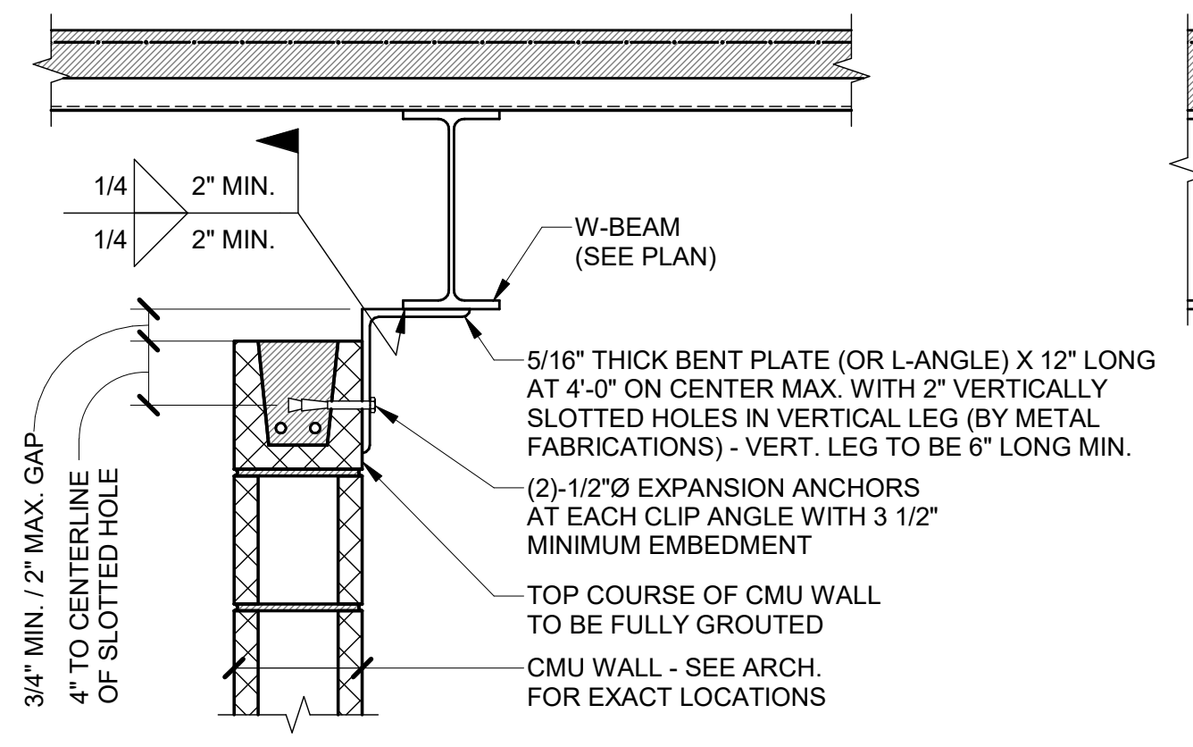
⑮ TYPICAL LOOSE STEEL LINTEL SCHEDULE



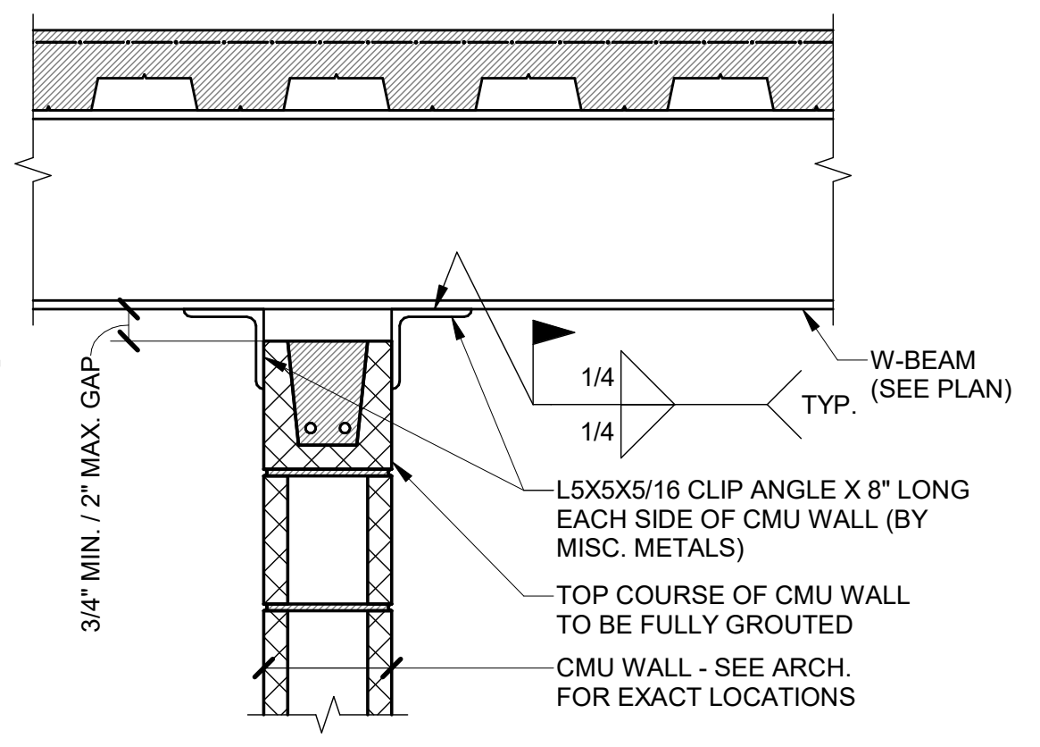
AT WALLS NOT ON BEAM LINE



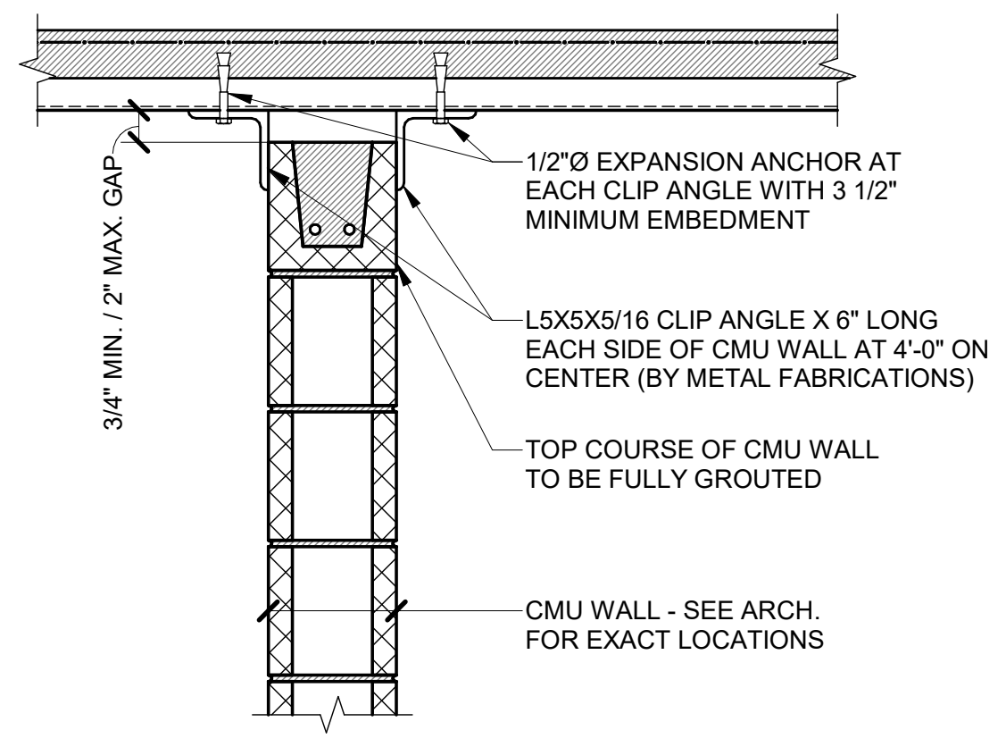
CENTERED ON BEAMS AT FLOORS AND ROOFS



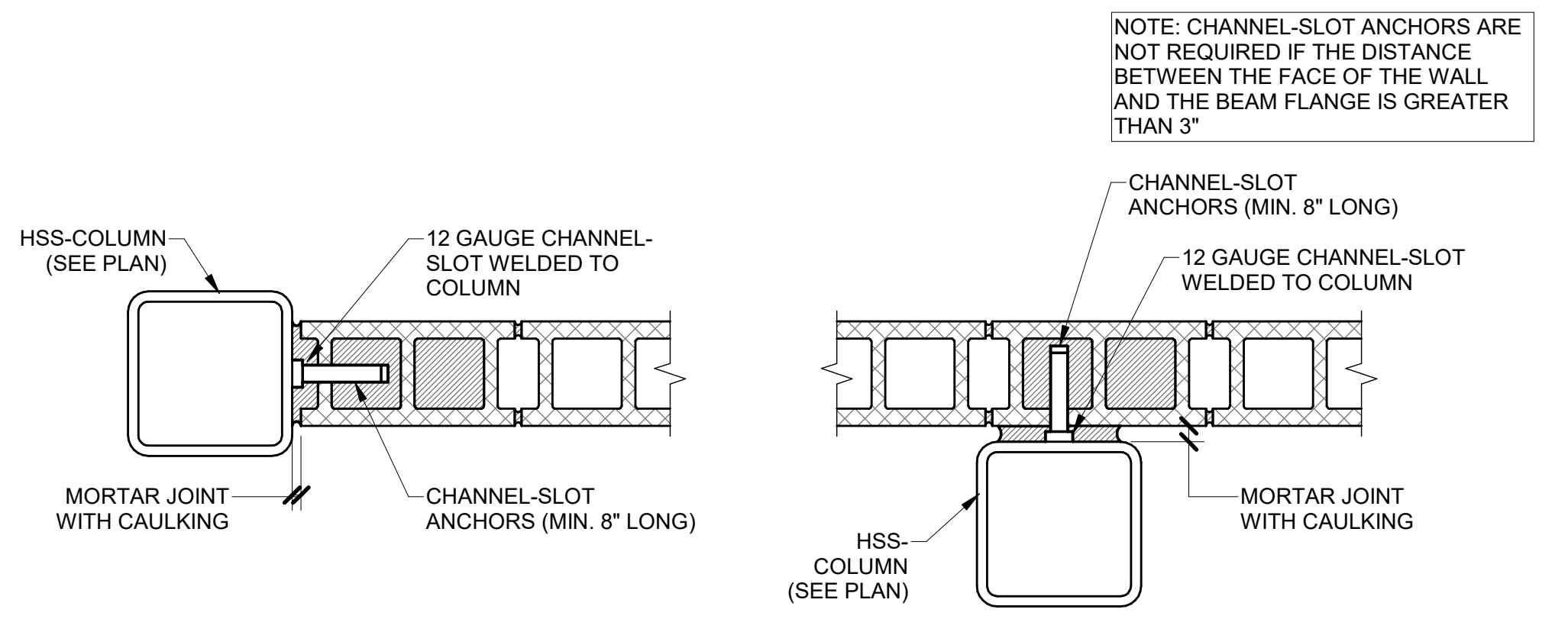
PARALLEL TO BEAMS AT FLOORS AND ROOFS



PERPENDICULAR TO BEAMS AT FLOORS AND ROOFS



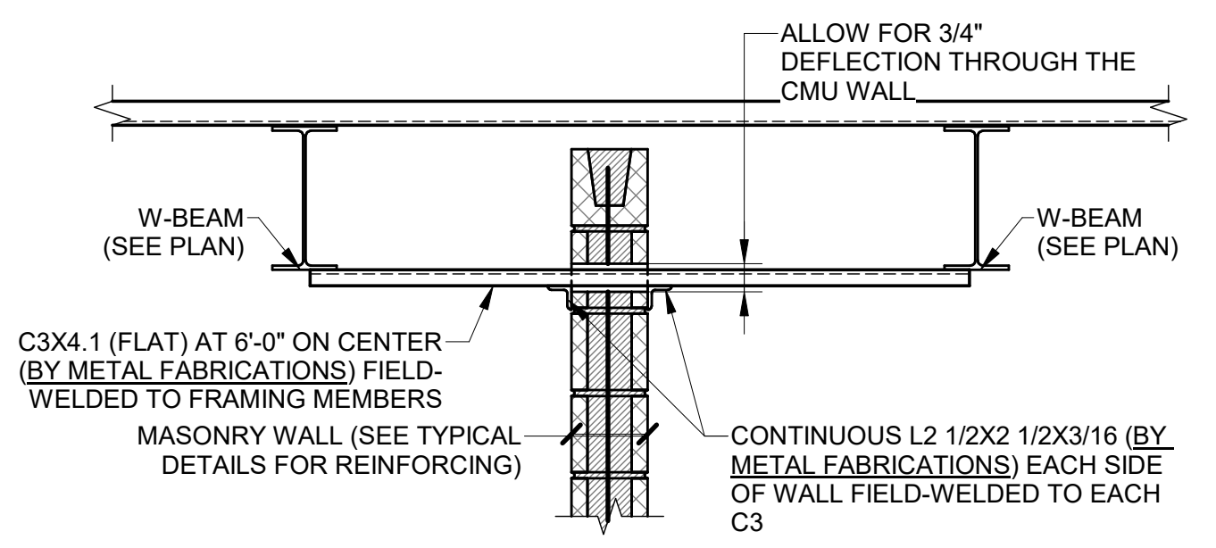
PERPENDICULAR TO SLABS-ON-DECK



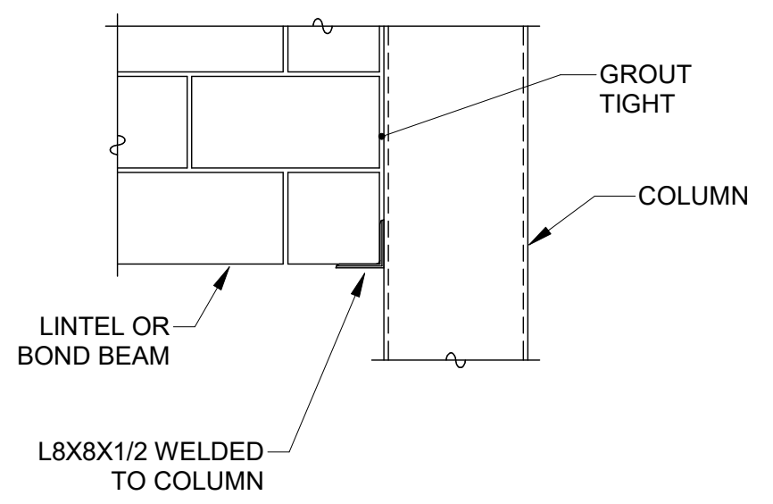
NOTES:

1. ALL BLOCK CORES THAT RECEIVE ANCHORS SHALL BE FILLED WITH GROUT.
2. ANCHORS SHALL BE LOCATED A MAXIMUM OF 16" ON CENTER VERTICALLY AND 24" ON CENTER HORIZONTALLY.

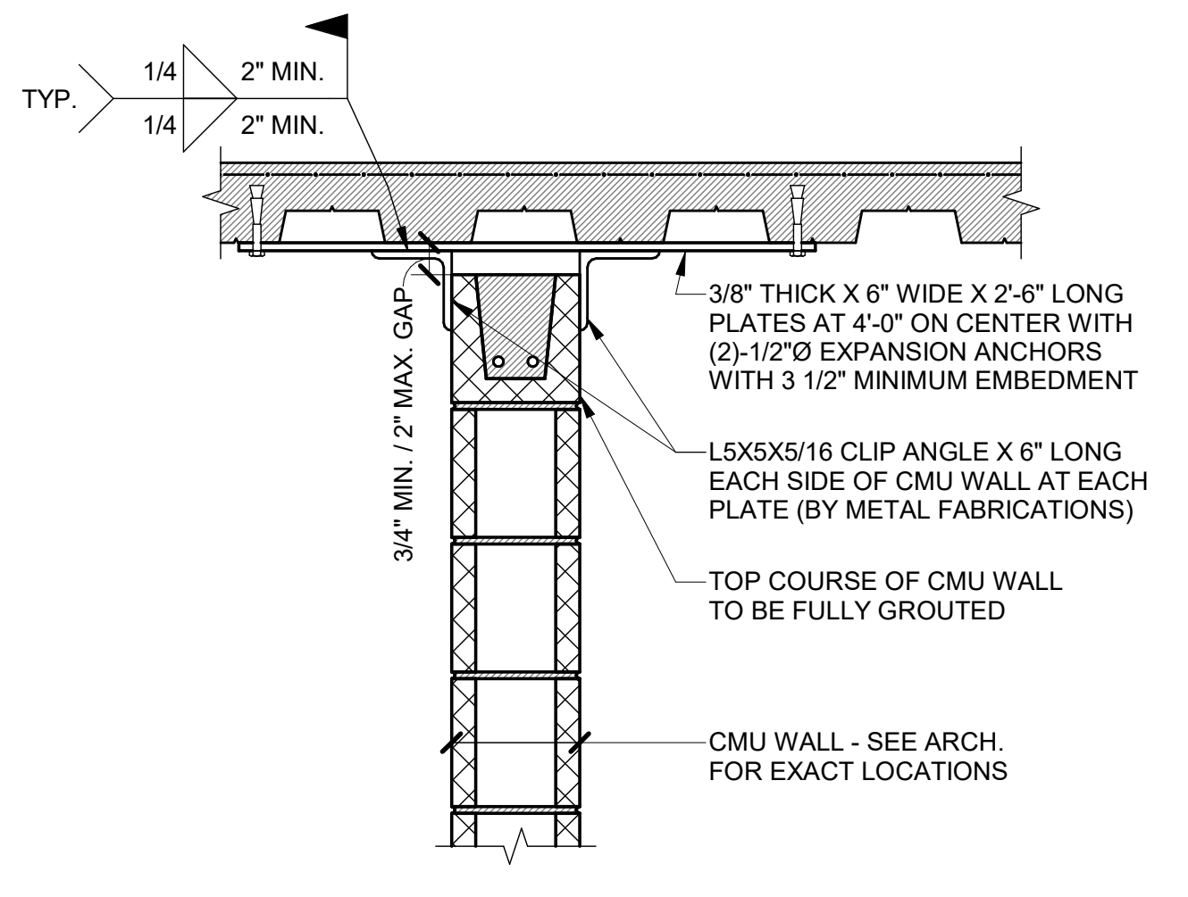
AT WALL - COLUMN CONNECTIONS



WALLS PARALLEL TO AND BETWEEN BEAMS AT COMPOSITE FLOORS

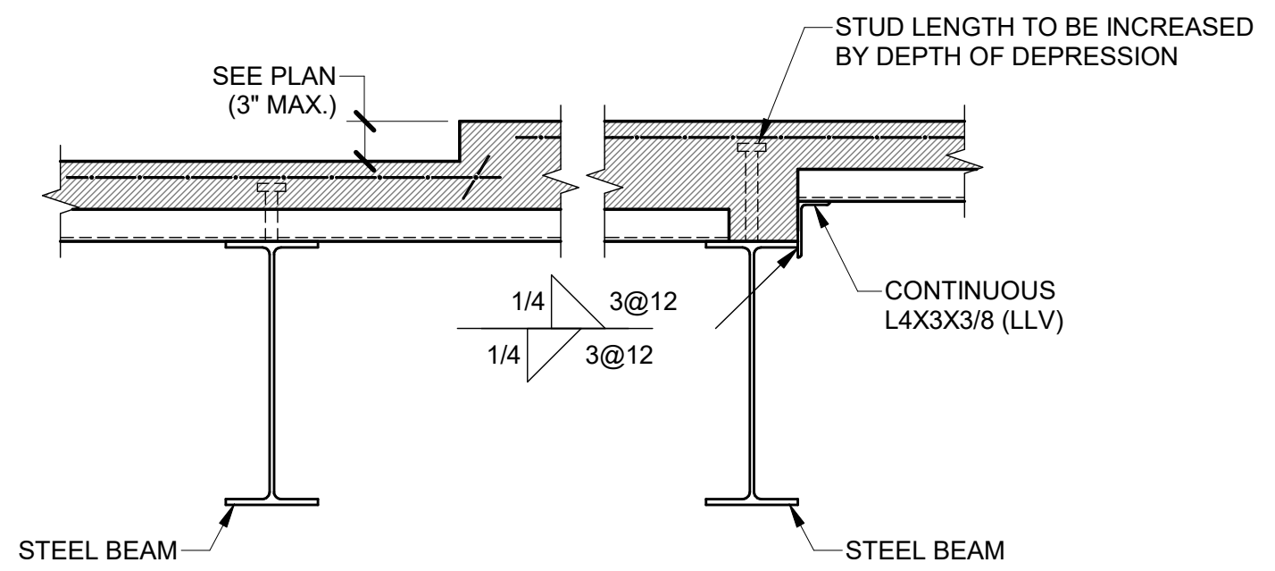


TYPICAL LINTEL
SUPPORT AT COLUMN

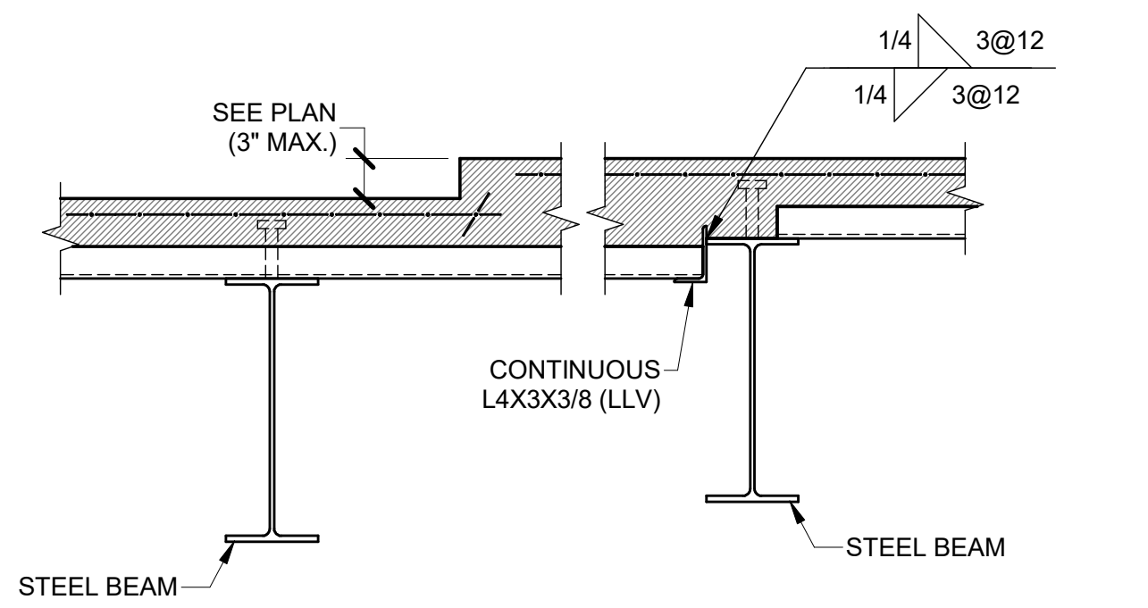


PARALLEL TO SLABS-ON-DECK

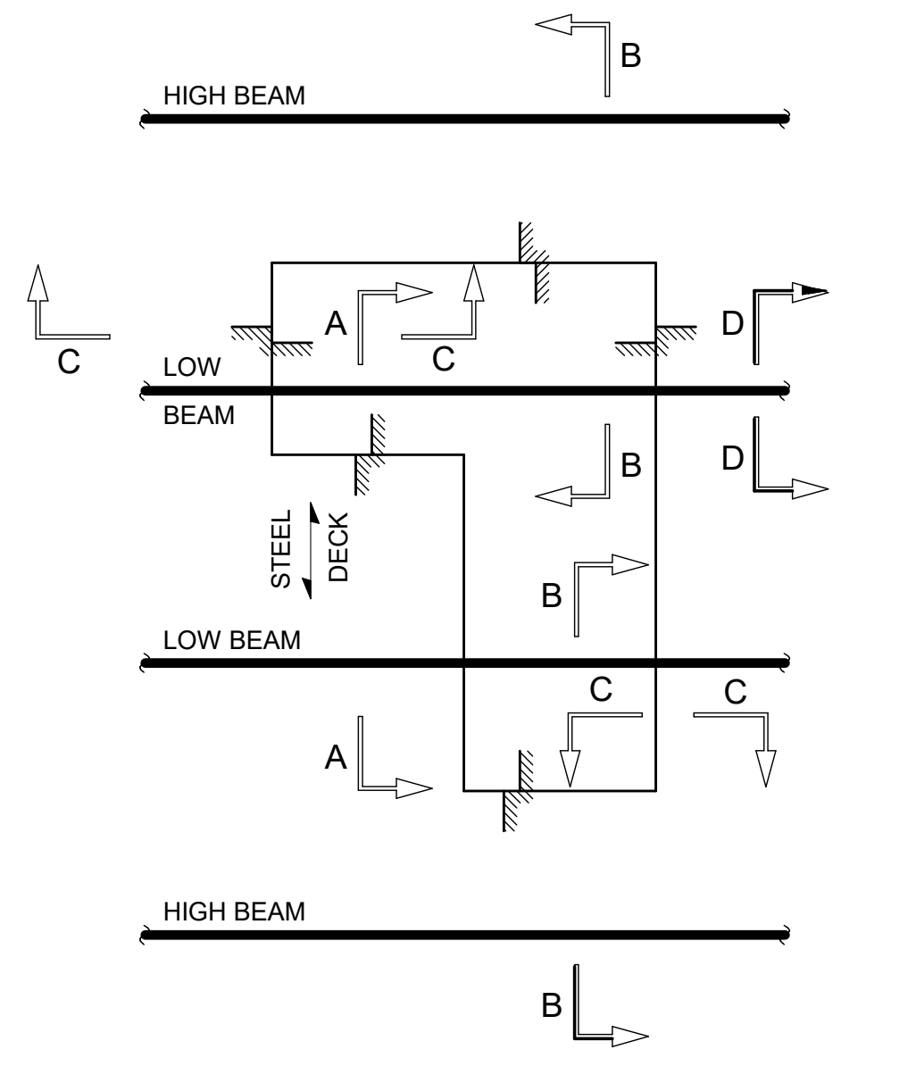
1 TYPICAL CMU PARTITION (NON-STRUCTURAL) WALL - TO - STEEL DETAILS



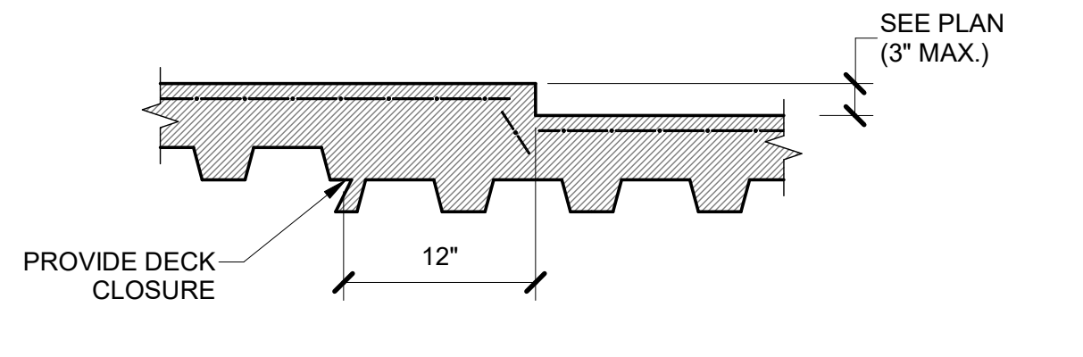
SECTION A-A



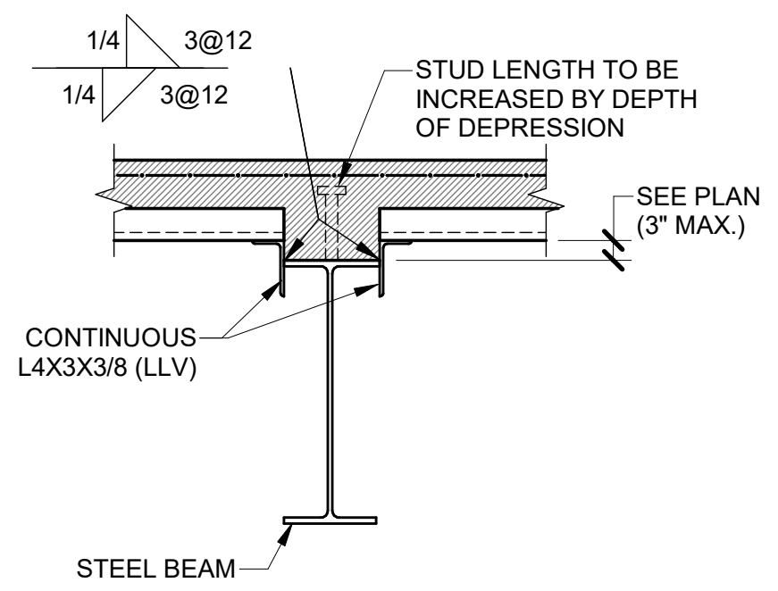
SECTION B-B



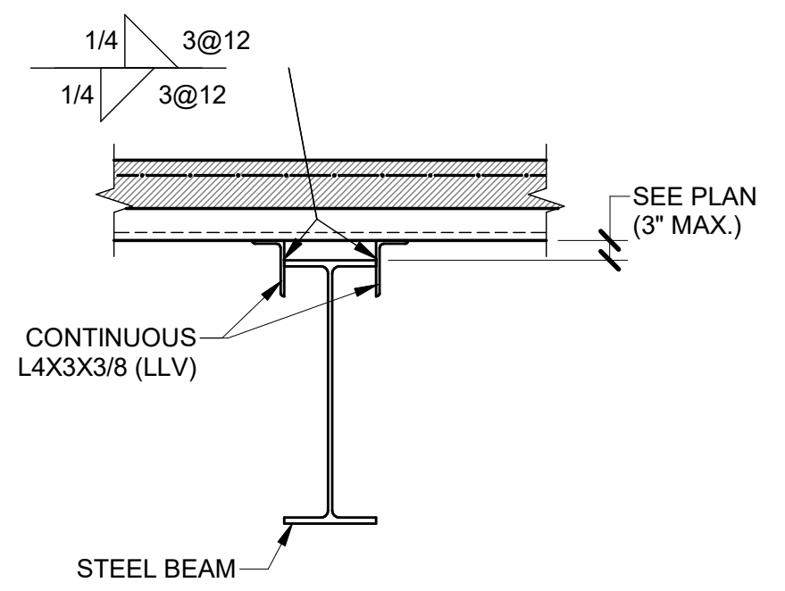
PLAN VIEW



SECTION C-C

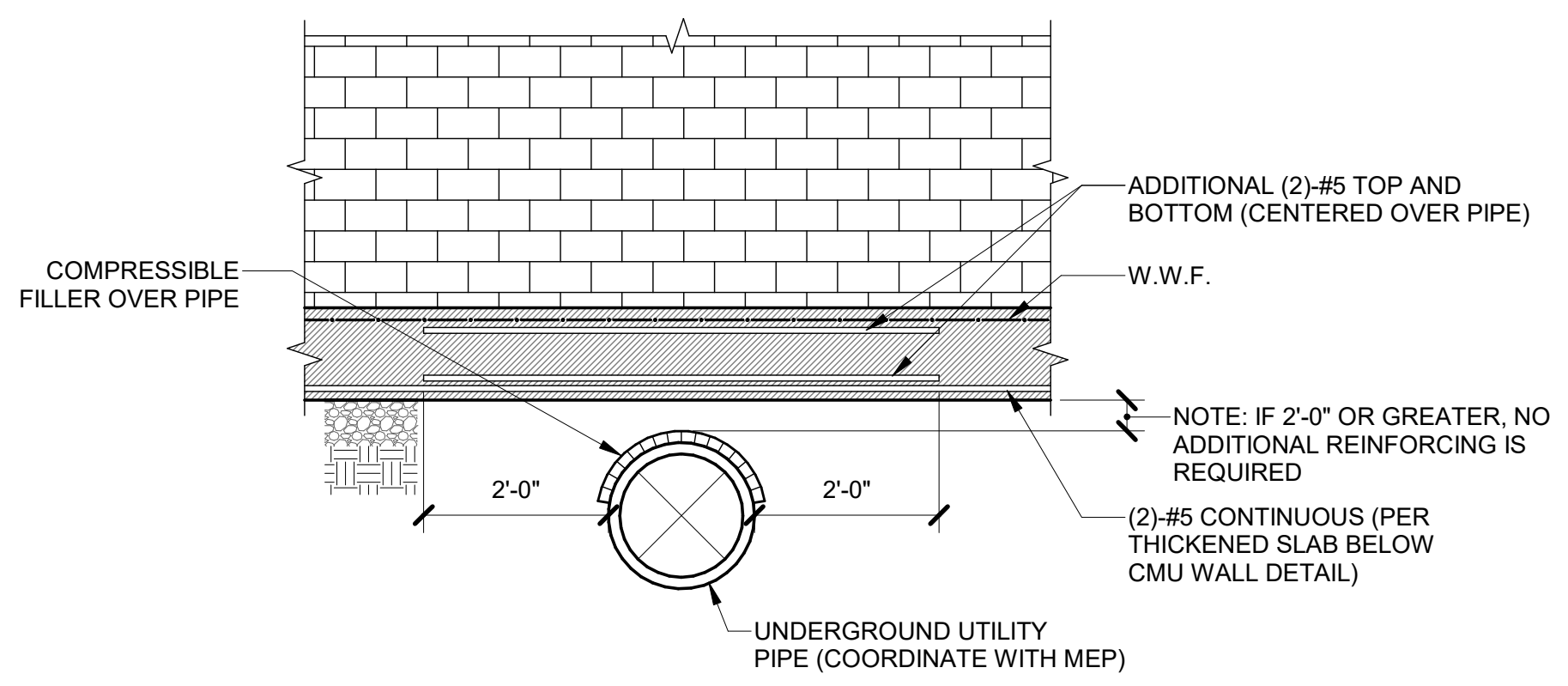


SECTION D-D
(COMPOSITE BEAM)

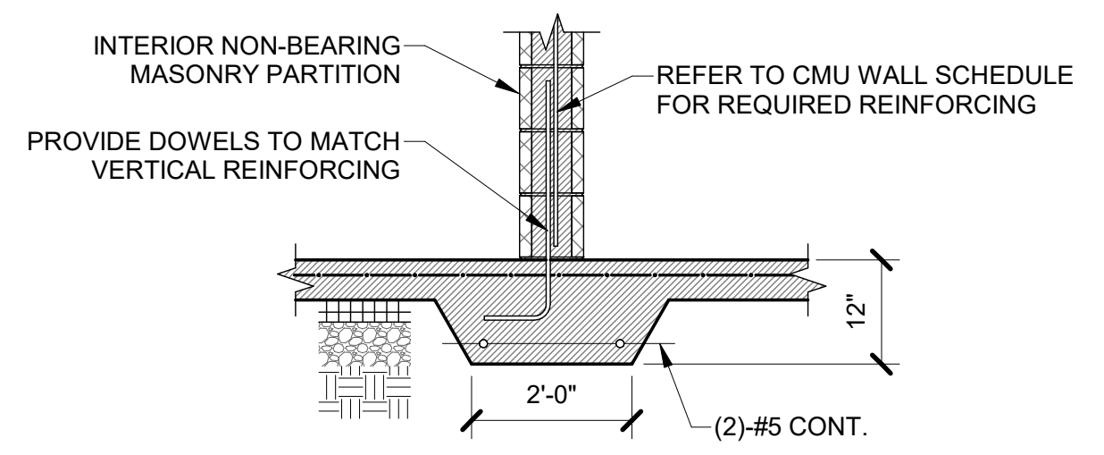


SECTION D-D
(NON-COMPOSITE BEAM)

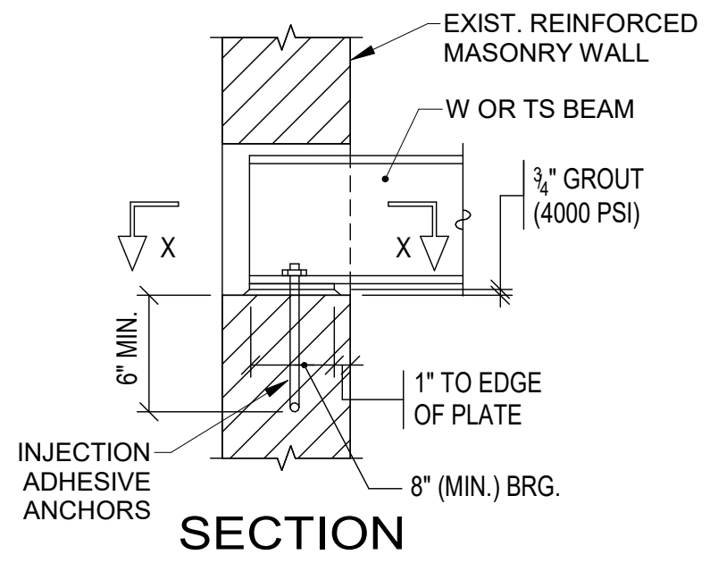
2 TYPICAL STEEL DECK SUPPORT DETAILS AT CHANGES IN SLAB ELEVATION



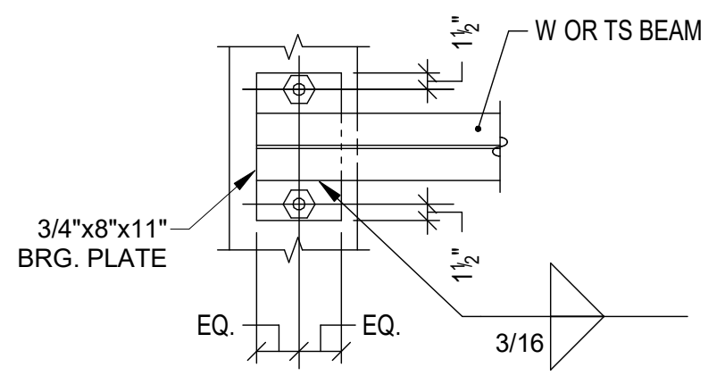
3 TYPICAL DETAIL OF MASONRY WALLS WITH THICKENED SLAB OVER UNDERGROUND UTILITY PIPE



4 TYPICAL DETAIL UNDER INTERIOR NON-BEARING MASONRY PARTITIONS

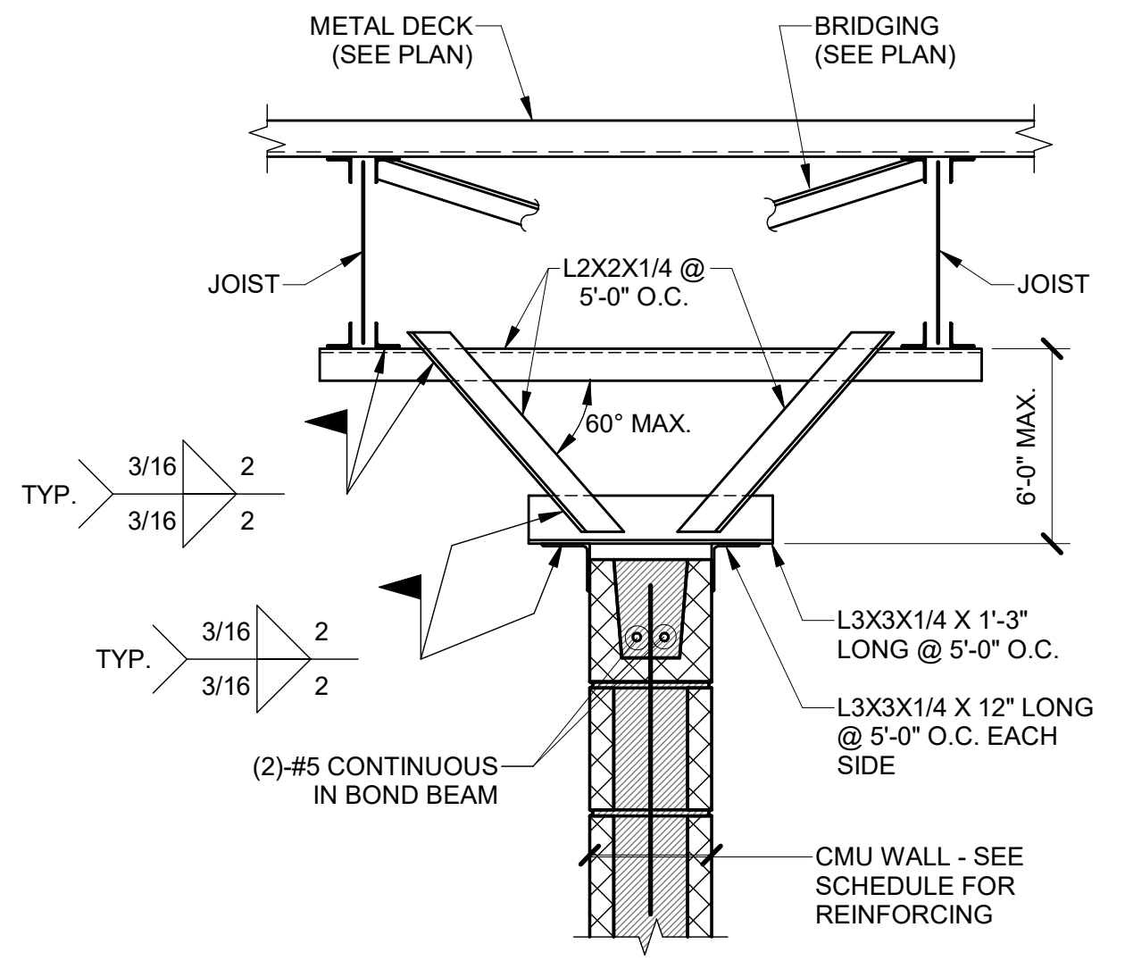


SECTION



PLAN

5 TYPICAL BEAM POCKET DETAIL @ CMU WALLS

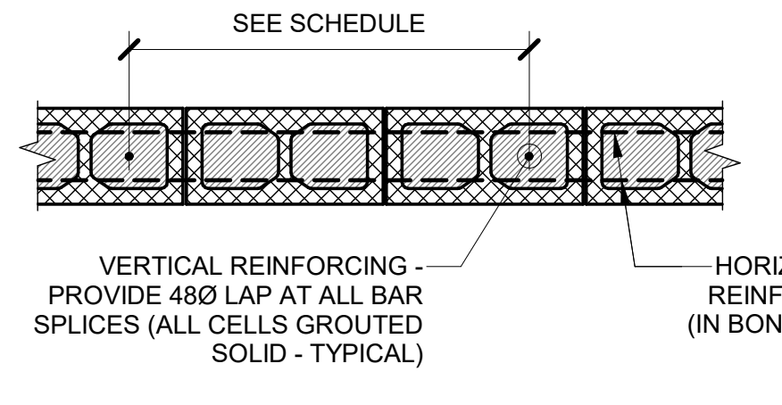


6 TYPICAL BRACING AT TOP OF NON-BEARING CMU WALL PARALLEL TO JOISTS

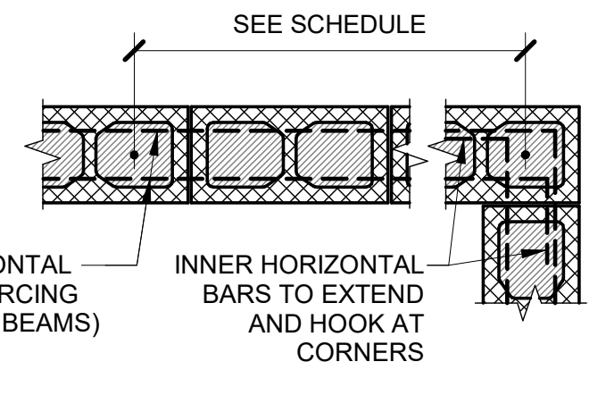
MINIMUM CONCRETE MASONRY WALL REINFORCING SCHEDULE

WALL LOCATION	WALL THICKNESS	VERT. REINF.	GROUT REQUIREMENTS	HORIZ. REINFORCING
ELEVATOR WALLS	8"	#5 @ 32"	FULLY GROUTED	BOND BEAMS W/ 2- #4 CONT. @ 4'-0" O.C.
EXTERIOR WALLS	8"	#5 @ 32"	FULLY GROUTED	BOND BEAMS W/ 2- #4 CONT. @ 4'-0" O.C.
	12"	#6 @ 40"	FULLY GROUTED	BOND BEAMS W/ 2- #5 CONT. @ 48" O.C.
INTERIOR/ EXTERIOR WALLS AT LINES 1, 10.3, B AND E	12"	#6 @ 40"	FULLY GROUTED	BOND BEAMS W/ 2- #5 CONT. @ 48" O.C.
STAIR ENCLOSURE WALLS	8"	#5 @ 32"	FULLY GROUTED	BOND BEAMS W/ 2- #4 CONT. @ 4'-0" O.C.
ALL OTHER INT. PARTITION CMU WALLS	ALL SIZES	#5 @ 48"	FULLY GROUTED	9 GA. LADDER-TYPE @ 16" O.C.

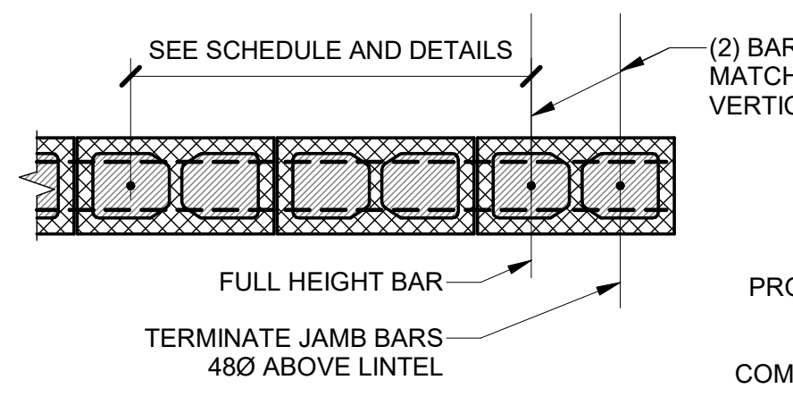
NOTE: REFER TO PLANS & SECTIONS FOR ANY REINFORCING REQUIREMENTS MORE STRINGENT THAN IN THIS SCHEDULE.



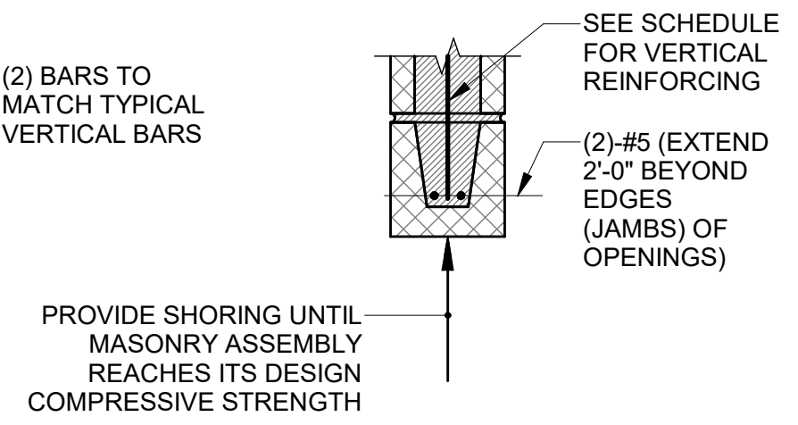
TYPICAL DETAIL



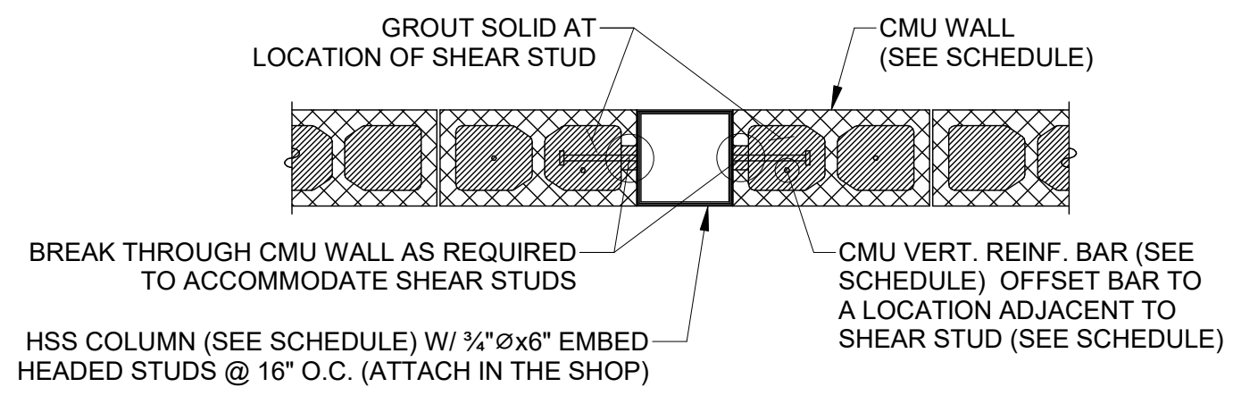
CORNER DETAIL



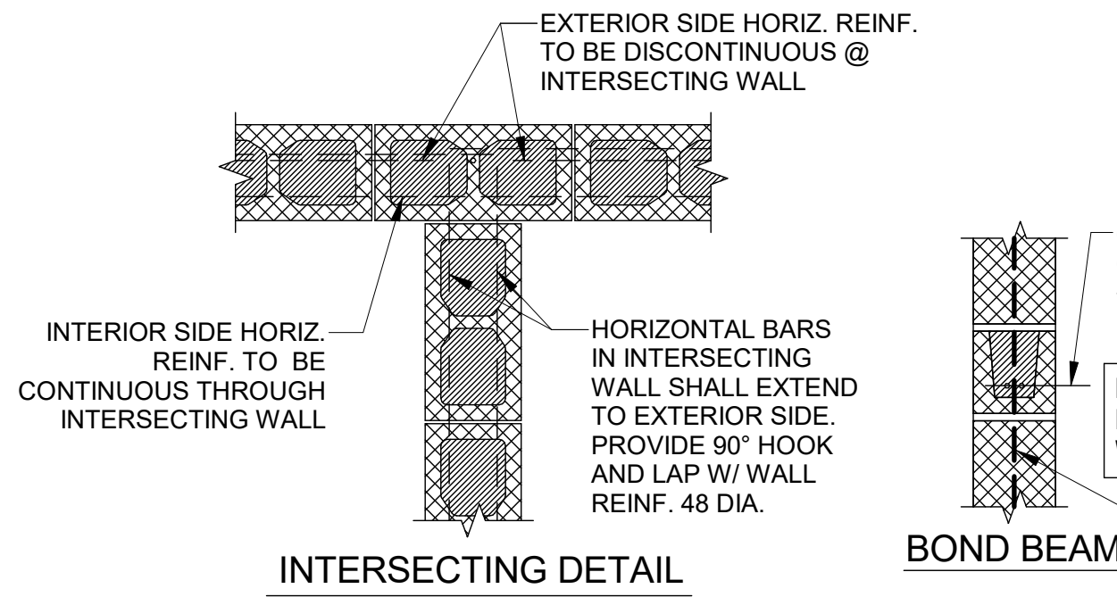
END OR JAMB DETAIL



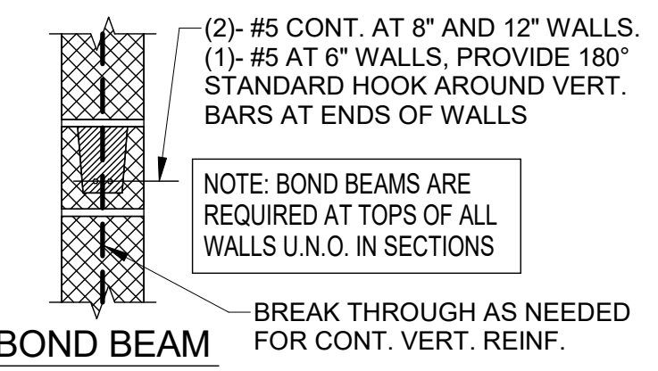
LINTEL DETAIL



TYPICAL HSS COLUMN EMBED IN
CMU STRUCTURAL WALL



INTERSECTING DETAIL



BOND BEAM

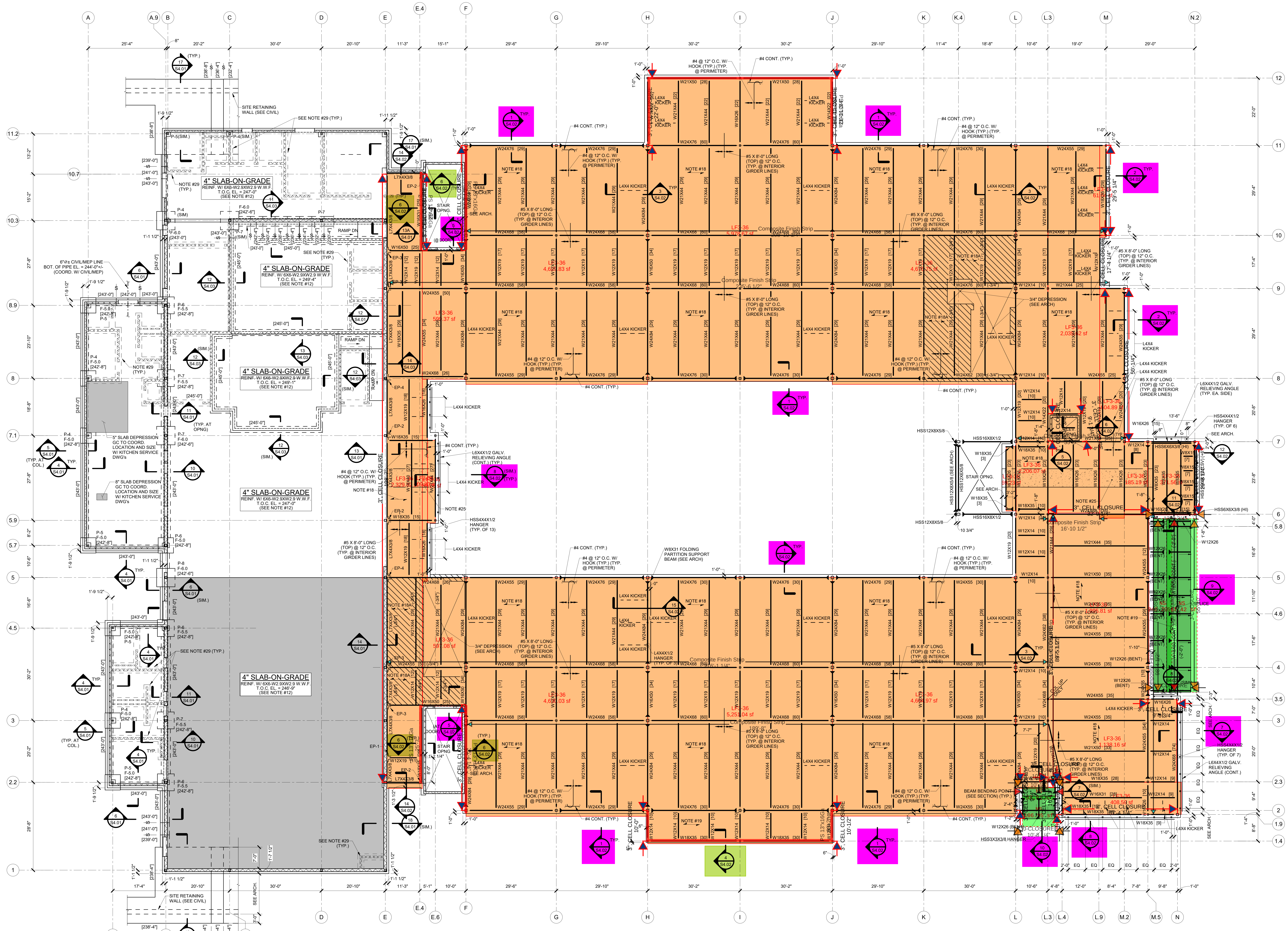
REINFORCED MASONRY LINTEL SCHEDULE

MASONRY OPENING WIDTH (L)	LINTEL SIZE (4", 6", 8", 10" & 12" NOMINAL WIDTHS)
0 < L < 6'-0"	8" HIGH "U" BLOCK W/ 2-#5
6'-0" < L < 12'-0"	16" HIGH "U" BLOCK W/ 2-#5
12'-0" < L < 13'-6"	16" HIGH "U" BLOCK W/ 2-#6

NOTES:

1. LINTELS ABOVE ARE FOR CONDITIONS WITHOUT CONCENTRATED LOADS WITHIN A TRIANGULAR AREA ABOVE THE LINTEL (BASE = L, HEIGHT = L/2).
2. CONTINUE BARS 2'-0" BEYOND EACH SIDE OF THE OPENING.
3. PROVIDE 2-#5 VERTICAL BARS IN GROUTED CELLS ON EACH SIDE OF THE OPENING AND CONTINUE 2'-0" ABOVE THE LINTEL.
4. PROVIDE SHORING UNDER LINTELS UNITL MASONRY ASSEMBLY REASONS fm' = 1500 PSI.
5. HORIZONAL BARS TO BE NO MORE THAN 3 ½" ABOVE BOTTOM OF THE LINTEL.

7 TYPICAL CONCRETE MASONRY UNIT WALL SCHEDULE AND DETAILS



SECOND FLOOR FOUNDATION / FRAMING PLAN

3/32" = 1'-0"

LEVEL 2 FOUNDATION / FRAMING PLAN NOTES:

1. FOUNDATION DESIGN IS BASED ON AN ALLOWABLE BEARING PRESSURE OF 3000 PSF. REFER TO FOUNDATION AND SUBGRADE PREPARATION NOTES ON DRAWING S0.01 FOR ADDITIONAL INFORMATION.
2. SECOND FLOOR TOP OF STEEL EL. = 246' -5 1/2"
   SECOND FLOOR TOP OF CONCRETE = 247'-0"
   SEE ARCH FOR TOP OF STEEL ELEVATIONS FOR ALL LOW AND SLOPED ROOFS.
3. REFER TO DRAWINGS S3.01 & S3.02 FOR COLUMN SCHEDULE AND DETAILS.
4. REFER TO DRAWINGS S0.01 THROUGH S0.04 FOR GENERAL NOTES AND TYPICAL DETAILS.
5. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND / OR ELEVATIONS NOT SHOWN.
6. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT SIZES AND LOCATIONS OF ALL FLOOR / ROOF OPENINGS (MECHANICAL OR OTHERWISE) NOT SPECIFICALLY LOCATED ON THESE DRAWINGS. SEE DRAWING S0.03 FOR TYPICAL FRAMING DETAILS.
7. [0'-0"] INDICATES A BOTTOM OF FOOTING OR MAT ELEVATION. BOTTOM OF ALL EXTERIOR FOOTINGS SHALL BE A MINIMUM OF 4'-0" BELOW EXTERIOR FINISHED GRADE UNLESS OTHERWISE NOTED ON PLAN OR IN SECTION. TOP OF ALL INTERIOR FOOTINGS SHALL BE 1'-0" BELOW TOP OF SLAB UNLESS OTHERWISE NOTED IN PLAN OR IN SECTION. REFER TO FOUNDATION NOTES ON DRAWING S0.01 FOR ADDITIONAL INFORMATION.
8. F0.0 INDICATES A SPREAD FOOTING TYPE. REFER TO SCHEUDLE ON THIS SHEET FOR SIZE AND REINFORCEMENT.
9. P-0 INDICATES A PIER OR PILASTER TYPE. REFER TO DWG. S3.02 FOR PIER PILASTER SCHEDULE.
10. COORDINATE ALL SLOTS, INSERTS, DOWELS, SLEEVES, PADS ETC., AND ALL ANCHORS PRIOR TO PLACING CONCRETE.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN AND AND EXECUTION OF ALL TEMPORARY SHORING AND BRACING, AND TEMPORARY EARTH RETENTION SYSTEMS, DURING THE ENTIRE CONSTRUCTION PERIOD AS REQUIRED, TO PREVENT DAMAGE TO PERSONS OR PROPERTY.
12. UNLESS OTHERWISE NOTED, CONCRETE SLABS ON GRADE SHALL BE OF THE MINIMUM THICKNESS INDICATED, REINFORCED WITH 6x6-W2.9XW2.9 WELDED WIRE FABRIC SET 1 1/4" CLEAR FROM THE TOP OF SLAB. REFER TO PROJECT MANUAL (SPECIFICATIONS) AND GEOTECHNICAL REPORT FOR FILL MATERIAL AND COMPACTION REQUIREMENTS. DEPRESSED SLAB AREAS SHALL MAINTAIN THE SLAB THICKNESS INDICATED.
13. T.O.C ELEVATIONS SHALL BE AS NOTED ON PLAN. REFER TO ARCHITECTURAL DRAWINGS FOR SLAB ELEVATIONS, SLOPES, CURBS, PADS, OPENINGS, AND DEPRESSIONS NOT SHOWN. COORDINATE PRIOR TO SHOP DRAWINGS SUBMITTAL.
14. CONSTRUCTION JOINTS IN ALL CONCRETE FOUNDATION WALLS SHALL NOT EXCEED 40 LINEAR FEET, UNLESS CONTROL JOINTS ARE PROVIDED TO MEET SAME.
15. C.J. INDICATES A SAW CUT CONSTRUCTION / CONTROL JOINT IN THE CONCRETE SLAB-ON-GRADE. TYPICAL LOCATIONS ARE SHOWN. A FINAL LAYOUT PLAN SHALL BE SUBMITTED SHOWING ALL C.J. LOCATIONS. FOR LOCATIONS THAT DO NOT MATCH THE TYPICAL, USE THE FOLLOWING RULES:
    - A. TOTAL AREA OF CONCRETE BETWEEN CONTROL JOINTS SHALL NOT EXCEED 225 SQUARE FEET.
    - B. MAXIMUM DISTANCE BETWEEN CONTROL JOINTS SHALL NOT EXCEED 15'-0"
    - C. ASPECT RATIO OF CONCRETE BETWEEN CONTROL JOINTS SHALL NOT EXCEED 1.5:1.0.
    - D. PROVIDE A CONTROL JOINT AT ALL REENTRANT CORNERS.
    - E. PROVIDE ADDITIONAL REINFORCEMENTS AT ALL CONSTRUCTION JOINTS AS REQUIRED.
16. —$— INDICATES A STEP IN FOOTING. REFER TO TYPICAL DETAILS FOR ADDITIONAL REINFORCING AS REQUIRED AT STEPS.
17. PROVIDE A DIAMOND SHAPED ISOLATION JOINT IN THE SLAB-ON-GRADE AT AL INTERIOR COLUMNS PER THE "TYPICAL INTERIOR COLUMN BASE DETAIL" SHOWN ON SHEET S0.02.
18. ⇄ INDICATES THE SPAN DIRECTION OF 3 1/2" THICK N.W. CONCRETE ON 3" DP. X 18. GA. GALV. COMPOSITE STEEL FLOOR DECKING (6 1/2" OVERALL). REINFORCE SLAB WITH 6x6-W2.9xW2.9 WWF. LOCATE 1" BELOW TOP OF SLAB.

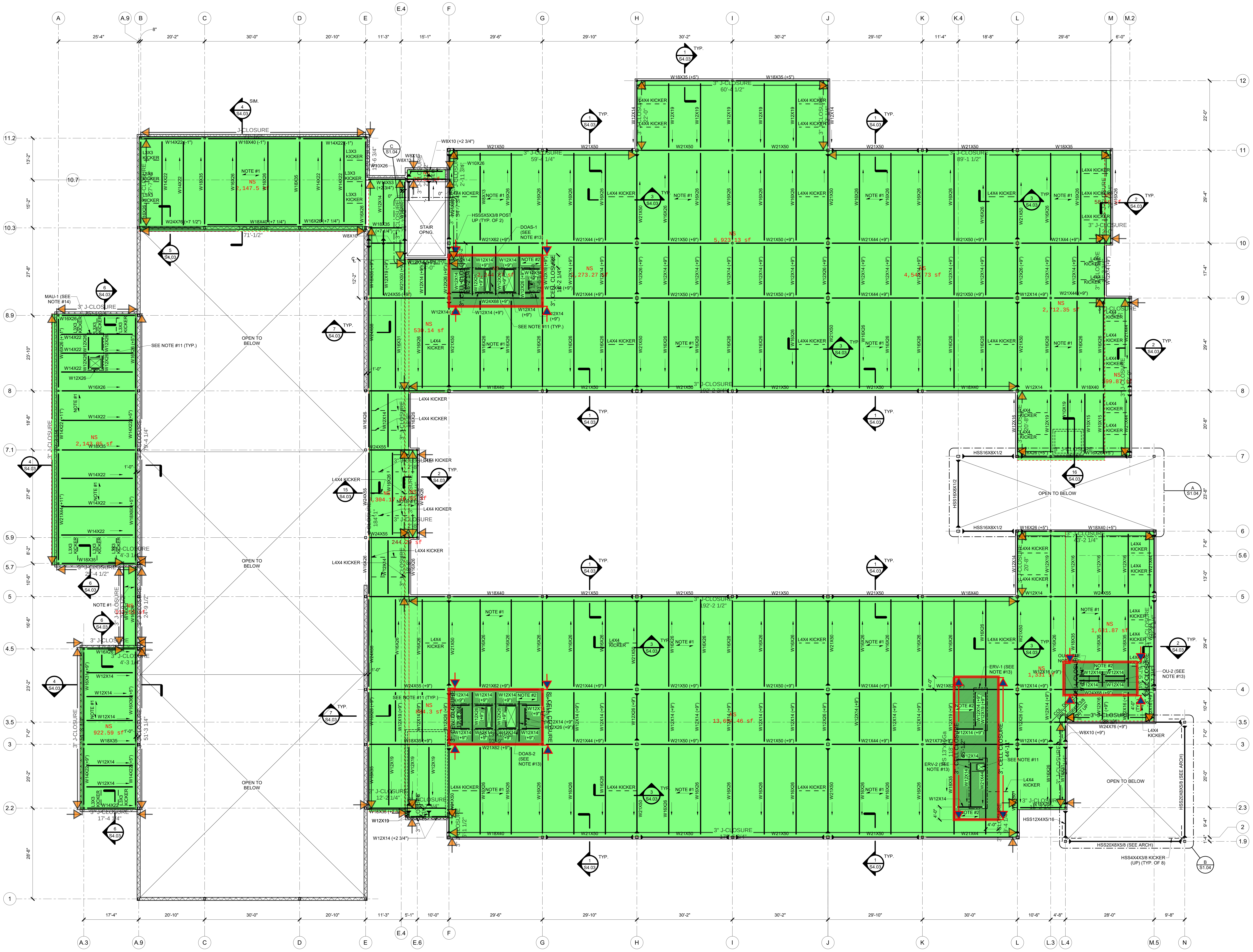
18A. ⇄ INDICATES THE SPAN DIRECTION OF 4 1/4" THICK N.W. CONCRETE ON 3" DP. X 18. GA. GALV. COMPOSITE STEEL FLOOR DECKING (7 1/4" OVERALL). REINFORCE SLAB WITH 6x6-W2.9xW2.9 WWF. LOCATE 1" BELOW TOP OF SLAB. ▨ INDICATES EXTENT OF THICKENED AREA.

19. ⇄ INDICATES THE SPAN DIRECTION OF 3" DP. X 18 GA. GALV STEEL WIDE RIB ROOF DECKING. ▭ INDICATES EXTENTS OF ROOF DECK.
20. → INDICATES THE DIRECTION OF DOWNWARD SLOPE OF A STRUCTURAL MEMBER.
21. ▶— INDICATES A FIELD WELDED MOMENT CONNECTION BETWEEN BEAM AND COLUMN (UNLESS OTHERWISE NOTED ON PLAN OR IN SECTION). THE MOMENT CONNECTION SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR TO DEVELOP THE FULL MOMENT CAPACITY OF THE BEAM. SEE TYPICAL DETAILS.
22. COORDINATE ROOF OPENING SIZES AND LOCATIONS WITH EQUIPMENT MANUFACTURER AND MEP DRAWINGS. SEE TYPICAL DETAILS FOR FRAMING REQUIREMENTS.
23. "V=XXX" INDICATES THE STEEL FABRICATOR IS TO DESIGN THE CONNECTION TO HAVE THE MINIMUM LISTED SHEAR CAPACITY. IF NO VALUE IS LISTED, THE CONNECTION CAPACITY SHALL CONFORM TO THE "TYPICAL BEAM TO BEAM SINGLE PLATE CONNECTION" DETAIL SHOWN ON SHEET S0.03.
24. [00] INDICATES THE NUMBER OF 3/4" Ø X 5" LONG HEADED STUDS LOCATED ALONG THE MEMBER LENGTH. FOR EXACT SPACING ALONG THE MEMBER LENGTH, REFER TO TYPICAL SHEAR CONNECTOR DISTRIBUTION DETAILS ON TYPICAL DETAIL SHEETS.
25. ▭ INDICATES A SLAB IS A "LEAVE OUR POUR STRIP ZONE". THIS PORTION OF THE SLAB SHALL BE CAST AT LEAST 14 (MIN.) DAYS AFTER THE SLAB NORTH AND SOUTH OF THE POUR IS CAST TO ALLOW POTENTIAL SHRINKAGE OF THE CONCRETE SLABS. POUR STRIP SHALL BE 6'-0" WIDE AND CENTERED IN THE BAY. REINFORCEMENT IN THE SLAB SHALL BE CONTINUOUS THROUGH THE POUR STRIP.
26. ☒☒☒ INDICATES STRUCTURAL CMU WALL. SEE TYPICAL DETAILS SHEETS FOR ELEVATIONS AND DETAILS. SEE ARCH. FOR EXACT LOCATIONS.
27. ☒☒ ☒ INDICATES NON-STRUCTURAL CMU PARTITION WALL. SEE TYPICAL DETAILS SHEETS FOR TYPICAL DETAILS. SEE ARCH. FOR EXACT LOCATIONS.
28. EP-X INDICATES AN EMBEDDED PLATE CONNECTION. REFER TO THE "TYPICAL EMBED PLATE DETAIL AND CONNECTION SCHEDULE" ON SHEET S0.03 .
29. PROVIDE A 12" THICKENED SLAB UNDER ALL INTERIOR CMU WALLS PER 4 / S0.04 UNLESS OTHERWISE NOTED (COORDINATE WITH ARCH DRAWINGS FOR EXACT LOCATIONS).

SPREAD FOOTING SCHEDULE

BASED ON A PRESUMED ALLOWABLE SOIL BEARING PRESSURE OF 3 KSF

MARK	WIDTH	LENGTH	THICKNESS	REINFORCING	REMARKS
F-4.5	4'-6"	4'-6"	1' - 4"	5 - #5 EA. WAY (BOTT. EA. WAY)	
F-5.0	5'-0"	5'-0"	1' - 4"	6 - #5 EA. WAY (BOTT. EA. WAY)	
F-5.5	5'-6"	5'-6"	1' - 4"	6 - #5 EA. WAY (BOTT. EA. WAY)	
F-6.0	6'-0"	6'-0"	1' - 6"	7 - #6 EA. WAY (BOTT. EA. WAY)	
F-6.5	6'-6"	6'-6"	1' - 6"	7 - #6 EA. WAY (BOTT. EA. WAY)	
F-7.0	7'-0"	7'-0"	1' - 8"	8 - #6 EA. WAY (BOTT. EA. WAY)	
F-7.5	7'-6"	7'-6"	1' - 8"	8 - #6 EA. WAY (BOTT. EA. WAY)	
F-8.0	8'-0"	8'-0"	1' - 10"	9 - #7 EA. WAY (BOTT. EA. WAY)	
F-8.5	8'-6"	8'-6"	1' - 10"	9 - #7 EA. WAY (BOTT. EA. WAY)	
F-SP	8" WIDER THAN PIER ON ALL SIDES X 12" THICK			#5 @ 12" O.C. EA. WAY (BOTT.)	



LOW ROOF FRAMING PLAN

3/32" = 1'-0"

LOW ROOF FRAMING NOTES:

1. ←→ INDICATES THE SPAN DIRECTION OF 3" DP. X 18 GA. GALV. WIDE RIB STEEL ROOF DECK.
2. ←→ INDICATES THE SPAN DIRECTION OF 3" X 18 GA. GALV. WIDE RIB ROOF DECK SUPPORTING 2" OF 3000 PSI LIGHTEIGHT CONCRETE SLAB (TOTAL THICKNESS = 5") REINFORCE WITH 6X6-W2.9X2.9 WELDED WIRE FABRIC LOCATED 1" BELOW TOP OF SLAB. ▨ INDICATES EXTENT OF SLAB.
3. TOP OF STEEL ELEVATION = 262'-3" (U.N.O. THUS (± X'-XX") ON PLAN).
4. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. SHOP DRAWINGS THAT DO NOT INCLUDE FIELD VERIFIED DIMENSIONS WILL BE REQUIRED TO BE RESUBMITTED PRIOR TO APPROVAL.
5. REFER TO DRAWINGS S3.01 AND S3.02 FOR COLUMN SCHEDULE AND DETAILS.
6. REFER TO DRAWINGS S0.01 THROUGH S0.04 FOR GENERAL NOTES AND TYPICAL DETAILS.
7. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND/OR ELEVATIONS NOT SHOWN.
8. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT SIZES AND LOCATIONS OF ALL FLOOR/ROOF OPENINGS (MECHANICAL OR OTHERWISE) NOT SPECIFICALLY LOCATED ON THESE DRAWINGS. SEE DRAWING S0.03 FOR TYPICAL FRAMING DETAILS.
9. → INDICATES THE DIRECTION OF DOWNWARD SLOPE OF A STRUCTURAL MEMBER.
10. ▶━ INDICATES A FIELD WELDED MOMENT CONNECTION BETWEEN BEAM AND COLUMN (UNLESS OTHERWISE NOTED ON PLAN OR IN SECTION). THE MOMENT CONNECTION SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR TO DEVELOP THE FULL MOMENT CAPACITY OF THE BEAM. SEE TYPICAL DETAILS.
11. COORDINATE ROOF OPENING SIZES AND LOCATIONS WITH THE EQUIPMENT MANUFACTURER AND MEP DRAWINGS. SEE TYPICAL DETAILS FOR FRAMING REQUIREMENTS.
12. "V=XXX" INDICATES STEEL FABRICATOR IS TO DESIGN THE CONNECTION TO HAVE THE MINIMUM LISTED SHEAR CAPACITY. IF NO VALUE IS LISTED, THE CONNECTION CAPACITY SHALL CONFORM TO THE "TYPICAL BEAM TO BEAM SINGLE PLATE CONNECTION" DETAIL. SHOWN ON SHEET S0.03.
13. THE MAXIMUM OPERATING WEIGHT FOR THE FOLLOWING:
    OU-1: ---------- 662 LBS
    OU-2: ---------- 609 LBS
    ERV-1: ---------- 2,831 LBS
    ERV-2: ---------- 2,831 LBS
    DOAS-1: ---------- 7,685 LBS
    DOAS-2: ---------- 7,624 LBS
    MAU-1:--------------1,612 LBS

    THE ROOF STRUCTRUE IS DESIGNED TO SUPPORT THE MECHANICAL UNITS SHOWN. IF THE SIZE OR LOCATION CHANGES, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY FOR REVIEW AND POSSIBLE REDESIGN OF THE STRUCTURE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH THE EQUIPMENT MANUFACTURER PRIOR TO SHOP DRAWING SUBMISSION.
14. SMALLER MECHANICAL EQUIPMENT NOT SHOWN. COORDINATE WITH ARCH. AND MEP DRAWINGS. SEE TYPICAL DETAILS FOR FRAMING REQUIREMENTS.
15. SEE TYPICAL DETAILS FOR CONNECTION REQUIRMENTS FOR STEEL TO CMU.
16. ⊠⊠⊠ INDICATES STRUCTURAL CMU SHEAR WALL. SEE SECTIONS AND TYPICAL DETAILS SHEETS FOR ELEVATIONS AND DETAILS. SEE ARCH. FOR EXACT LOCATIONS.
17. ⊠ ⊠⊠ INDICATES NON-STRUCTURAL CMU PARTITION WALL. SEE TYPICAL DETAILS SHEETS FOR TYPICAL DETAILS. SEE ARCH. FOR EXACT LOCATIONS.

TOTAL DECK:

1.5B, 18Ga, G90 = 45 SQ
3" COMP, 18Ga, G60 = 427 FT
3"ACOUSTICAL, 18/20Ga, G90 = 87 FT
3" ROOF, 18Ga, G90 = 532 SQ

ACCESSORIES

#10TEK SCREW = 39 BOX
Ridge & Valley Plate = 80 FT
PS (13" X 16Ga) = 1060 FT
1.5" J-CLOSURE = 120 FT
GIRDER FILLER = 1110 FT
3"- J-CLOSURE = 2700 FT
3" CC = 1160 FT

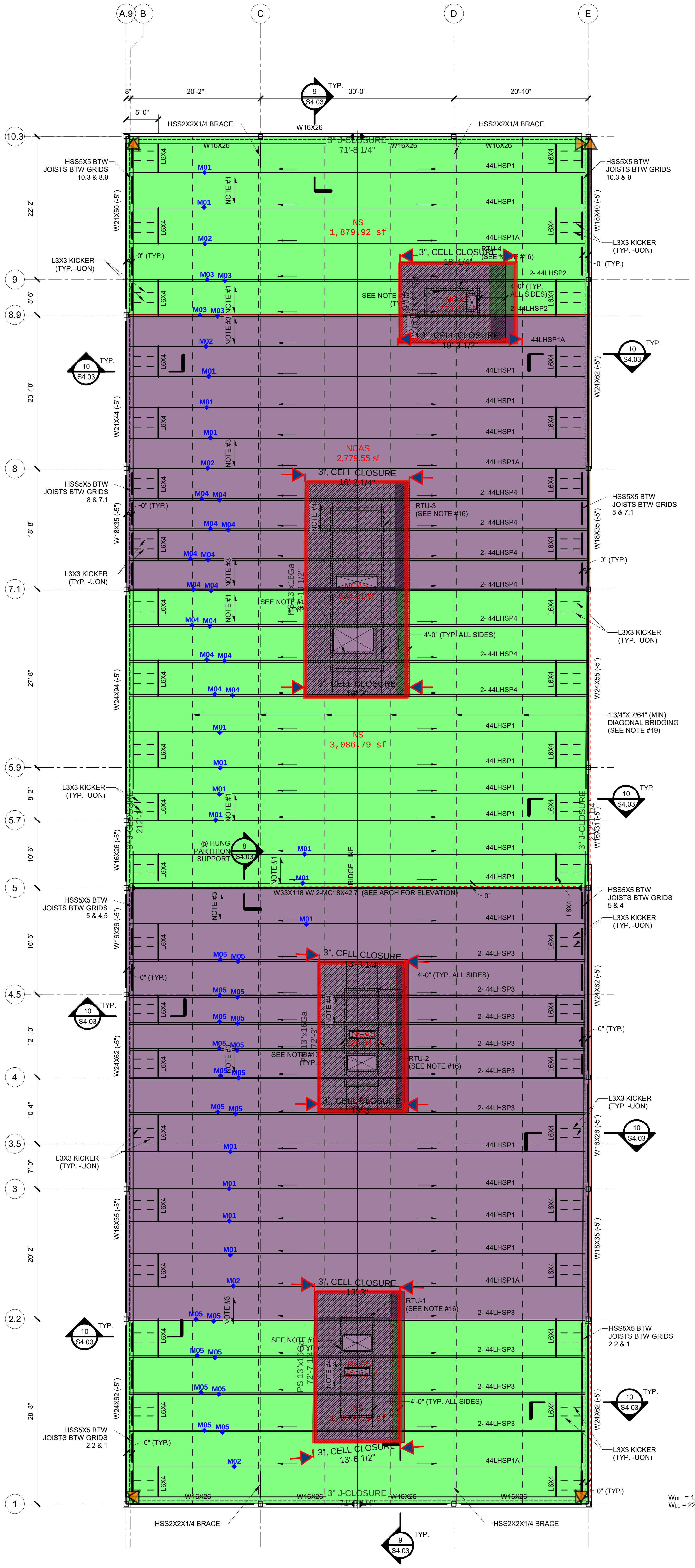
Qualifications:

1.

Exclusions:

Shear Studs, Hanger Tabs, Flexible Rubber Closure
Architectural drawing, MEP drawing.
Material for frames @ openings
Sump pans.
Loading & Special web geometry for Duct line.

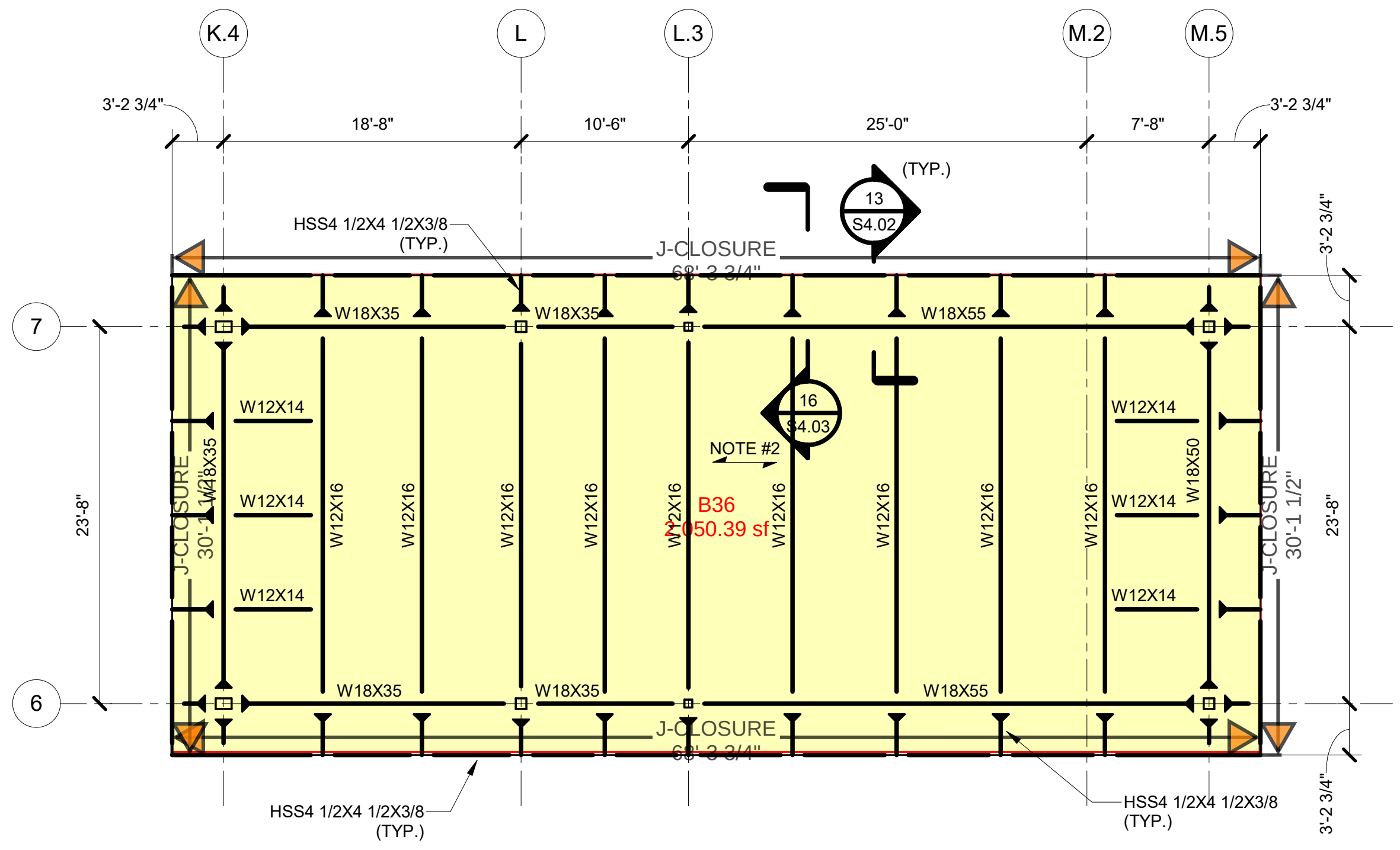
	Joist Description	Quantity
⟼	M01	16
⟼	M02	5
⟼	M03	4
⟼	M04	14
⟼	M05	20



J=59/16

HIGH ROOF FRAMING PLAN

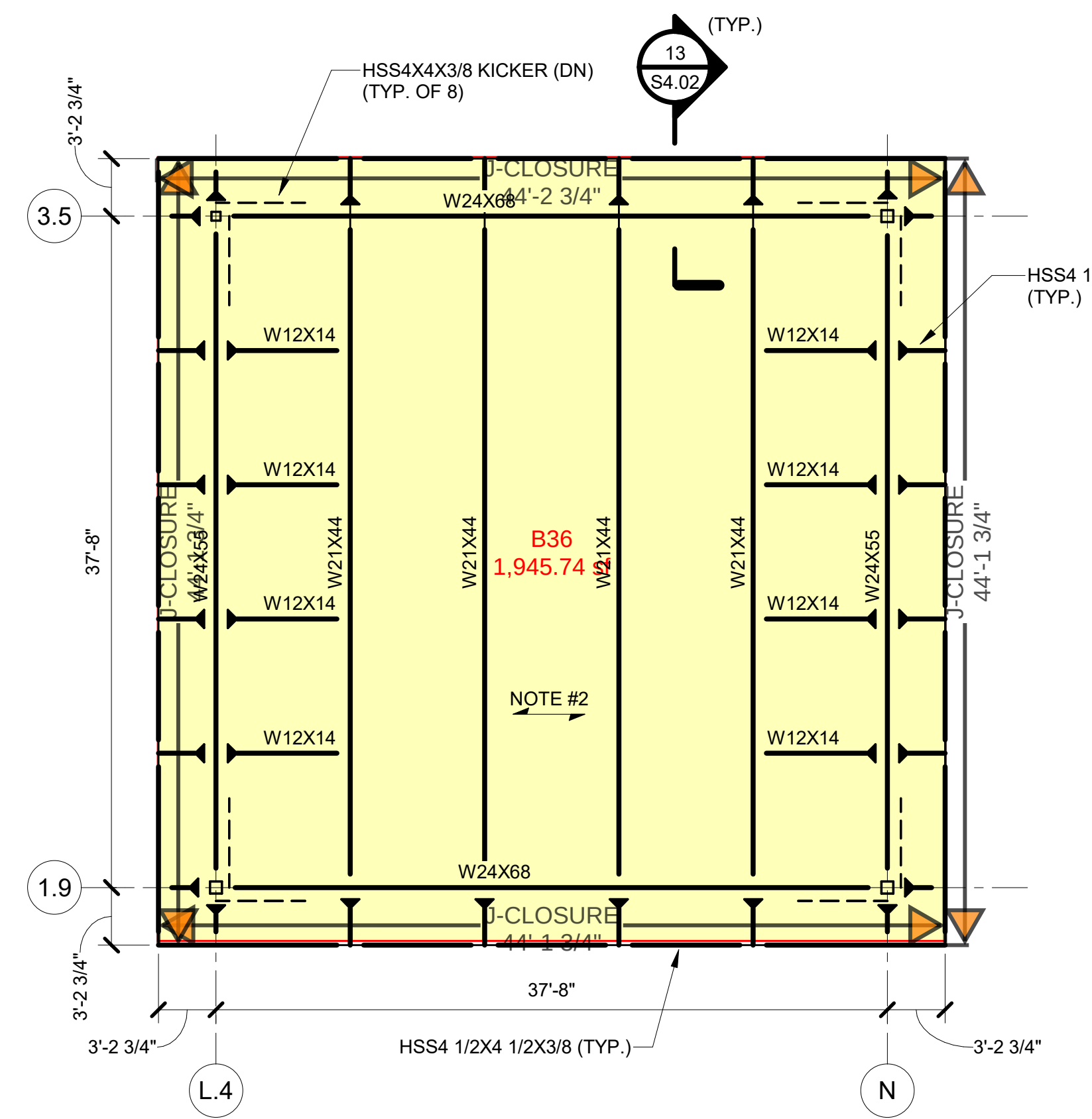
1/8" = 1'-0"



PARTIAL ROOF FRAMING PLAN A (A)

1/8" = 1'-0"

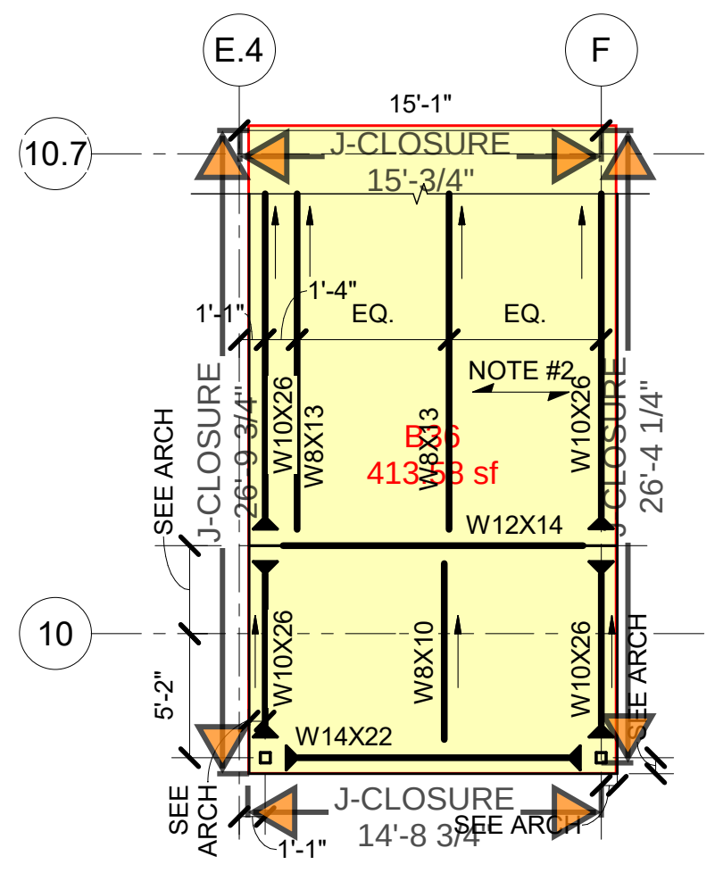
(T.O.S. ELEV. = 266'-2 1/2")



PARTIAL ROOF FRAMING PLAN B (B)

1/8" = 1'-0"

(T.O.S. ELEV. = 266'-2 1/2")



PARTIAL ROOF FRAMING PLAN C (C)

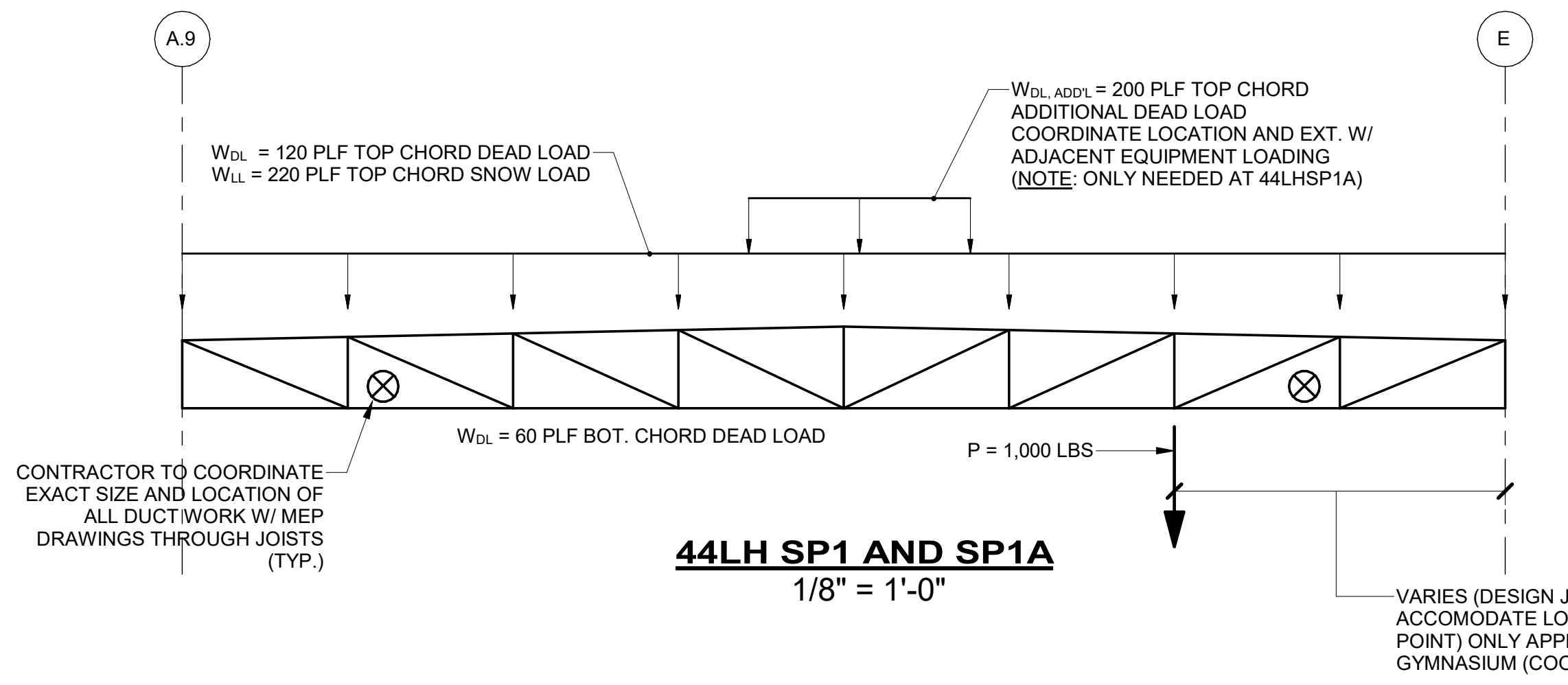
1/8" = 1'-0"

(T.O.S. ELEV. = 273'-2")

ROOF FRAMING NOTES:

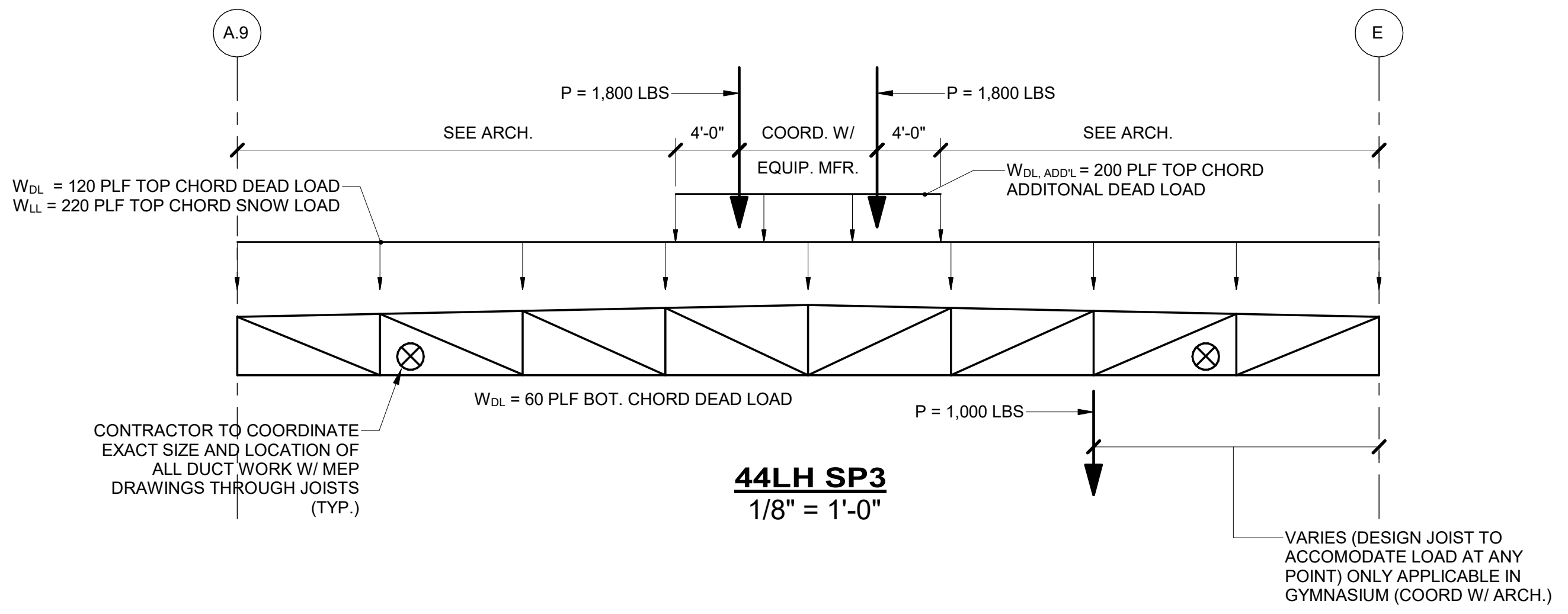
1. ⟷ INDICATES THE SPAN DIRECTION OF 3" DP. X 18 GA. GALV. WIDE RIB STEEL ROOF DECK.
2. ⟷ INDICATES THE SPAN DIRECTION 1 1/2" DP. X 18 GA. GALV. WIDE RIB STEEL ROOF DECK.
3. ⟷ INDICATES THE SPAN DIRECTION OF 3" DP. X 18 GA. GALV. WIDE RIB STEEL CELLULAR ACOUSTICAL ROOF DECK WITH 20 GA. GALV. BOTTOM PLATE.
4. ⟷ INDICATES THE SPAN DIRECTION OF 3" X 18 GA. GALV. WIDE RIB STEEL CELLULAR ACCOUSTICAL ROOF DECK WITH 20 GA. GALV. BOTTOM PLATES SUPPORTING 2" OF 3000 PSI LIGHTEIGHT CONCRETE SLAB (TOTAL THICKNESS = 5") REINFORCE WITH 6X6-W2.9X2.9 WELDED WIRE FABRIC LOCATED 1" BELOW TOP OF SLAB. ▨ INDICATES EXTENT OF SLAB.
5. TOP OF STEEL ELEVATION = 277'-0" (U.N.O. THUS (± X'-XX") ON PLAN).
6. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR PRIOR TO THE SUBMISSION OF SHOP DRAWINGS. SHOP DRAWINGS THAT DO NOT INCLUDE FIELD VERIFIED DIMENSIONS WILL BE REQUIRED TO BE RESUBMITTED PRIOR TO APPROVAL.
7. REFER TO DRAWINGS S3.01 AND S3.02 FOR COLUMN SCHEDULE AND DETAILS.
8. REFER TO DRAWINGS S0.01 THROUGH S0.04 FOR GENERAL NOTES AND TYPICAL DETAILS.
9. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND/OR ELEVATIONS NOT SHOWN.
10. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT SIZES AND LOCATIONS OF ALL FLOOR/ROOF OPENINGS (MECHANICAL OR OTHERWISE) NOT SPECIFICALLY LOCATED ON THESE DRAWINGS. SEE TYPICAL DETAILS FOR TYPICAL FRAMING DETAILS.
11. ⟶ INDICATES THE DIRECTION OF DOWNWARD SLOPE OF A STRUCTURAL MEMBER.
12. ⟼ INDICATES A FIELD WELDED MOMENT CONNECTION BETWEEN BEAM AND COLUMN (UNLESS OTHERWISE NOTED ON PLAN OR IN SECTION). THE MOMENT CONNECTION SHALL BE DESIGNED AND DETAILED BY THE STEEL FABRICATOR TO DEVELOP THE FULL MOMENT CAPACITY OF THE BEAM. SEE TYPICAL DETAILS.
13. COORDINATE ROOF OPENING SIZES AND LOCATIONS WITH THE EQUIPMENT MANUFACTURER AND MEP DRAWINGS. SEE TYPICAL DETAILS FOR FRAMING REQUIREMENTS AT UNIT PERIMETER AND AT OPENINGS.
14. "V=XXX" INDICATES STEEL FABRICATOR IS TO DESIGN THE CONNECTION TO HAVE THE MINIMUM LISTED SHEAR CAPACITY. IF NO VALUE IS LISTED, THE CONNECTION CAPACITY SHALL CONFORM TO THE "TYPICAL BEAM TO BEAM SINGLE PLATE CONNECTION" DETAIL. SHOWN ON SHEET S0.03.
15. ALL JOISTS SHALL HAVE A SLOPED TOP CHORD TO A CENTER RIDGE. THE DEPTH GIVEN ON THE PLAN IS THE JOIST DEPTH AT THE LOW POINTS (ie. THE ENDS OF THE JOISTS). THE DPETH OF THE JOISTS AT THE CENTER IS +9" GREATER. LOADING REQUIREMENTS ARE SHOWN ON THIS SHEET.
16. THE MAXIMUM OPERATING WEIGHT FOR THE FOLLOWING:
    - RTU-1: ---------- 5,763 LBS
    - RTU-2: ---------- 5,763 LBS
    - RTU-3: ---------- 7,825 LBS
    - RTU-4: ---------- 1,500 LBS

    THE ROOF STRUCTRUE IS DESIGNED TO SUPPORT THE MECHANICAL UNITS SHOWN. IF THE SIZE OR LOCATION CHANGES, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IMMEDIATELY FOR REVIEW AND POSSIBLE REDESIGN OF THE STRUCTURE. CONTRACTOR SHALL VERIFY ALL DIMENSIONS WITH THE EQUIPMENT MANUFACTURER PRIOR TO SHOP DRAWING SUBMISSION.
17. SMALLER MECHANICAL EQUIPMENT SHOWN FOR GENERAL LOCATION AND SCOPE. COORDINATE WITH ARCH. AND MEP DRAWINGS. SEE TYPICAL DETAILS FOR FRAMING REQUIREMENTS.
18. ⟷ INDICATES SPAN DIRECTION OF 3" X 18 GA. GALV. WIDE RIB ROOF DECK SUPPORTING 3 1/2" OF 4000 PSI NORMAL WEIGHT CONCRETE SLAB (TOTAL THICKNESS = 6 1/2"). REINFORCE WITH 6X6-W2.9XW2.9 WELDED WIRE FABRIC LOCATED 1" BELOW THE TOP OF THE SLAB. ▨ INDICATES EXTENT OF CONCRETE SLAB.
19. DIAGONAL BRIDGING LINES SHOWN ARE MINIMUM REQUIREMENTS. JOIST FABRICATOR SHALL DESIGN ALL ADDITIONAL HORIZONTAL AND DIAGONAL BRIDGING REQUIREMENTS DEFINED BY THE STEEL JOIST INSTITUTE. JOISTS AND BRIDGING SHALL BE DESIGNED PER THE "ROOF DESIGN WIND PRESSURE" TABLE ON SHEET S0.01.
20. SEE TYPICAL DETAILS FOR CONNECTION REQUIRMENTS FOR STEEL TO CMU.
21. ⊠⊠⊠ INDICATES STRUCTURAL CMU SHEAR WALL. SEE SECTIONS AND TYPICAL DETAILS SHEETS FOR ELEVATIONS AND DETAILS. SEE ARCH. FOR EXACT LOCATIONS.
22. ⊠⊠⊠ INDICATES NON-STRUCTURAL CMU PARTITION WALL. SEE TYPICAL DETAILS SHEETS FOR TYPICAL DETAILS. SEE ARCH. FOR EXACT LOCATIONS.



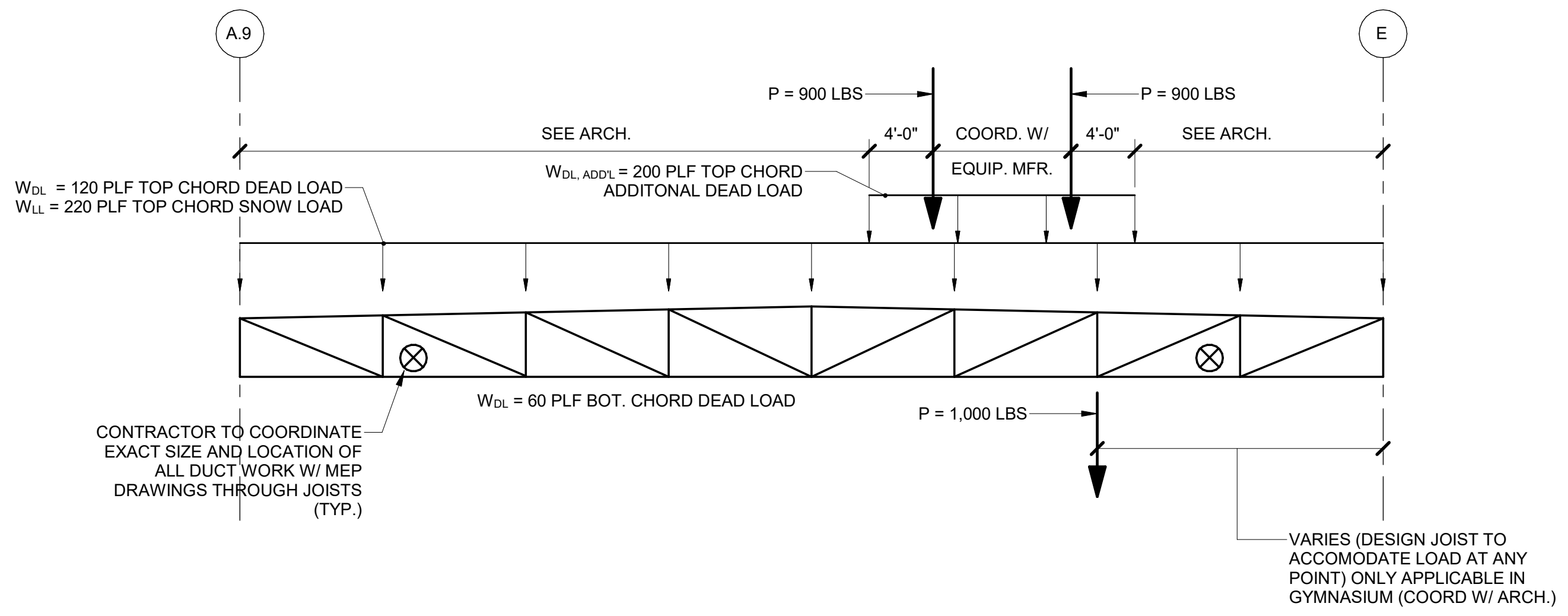
44LH SP1 AND SP1A

1/8" = 1'-0"



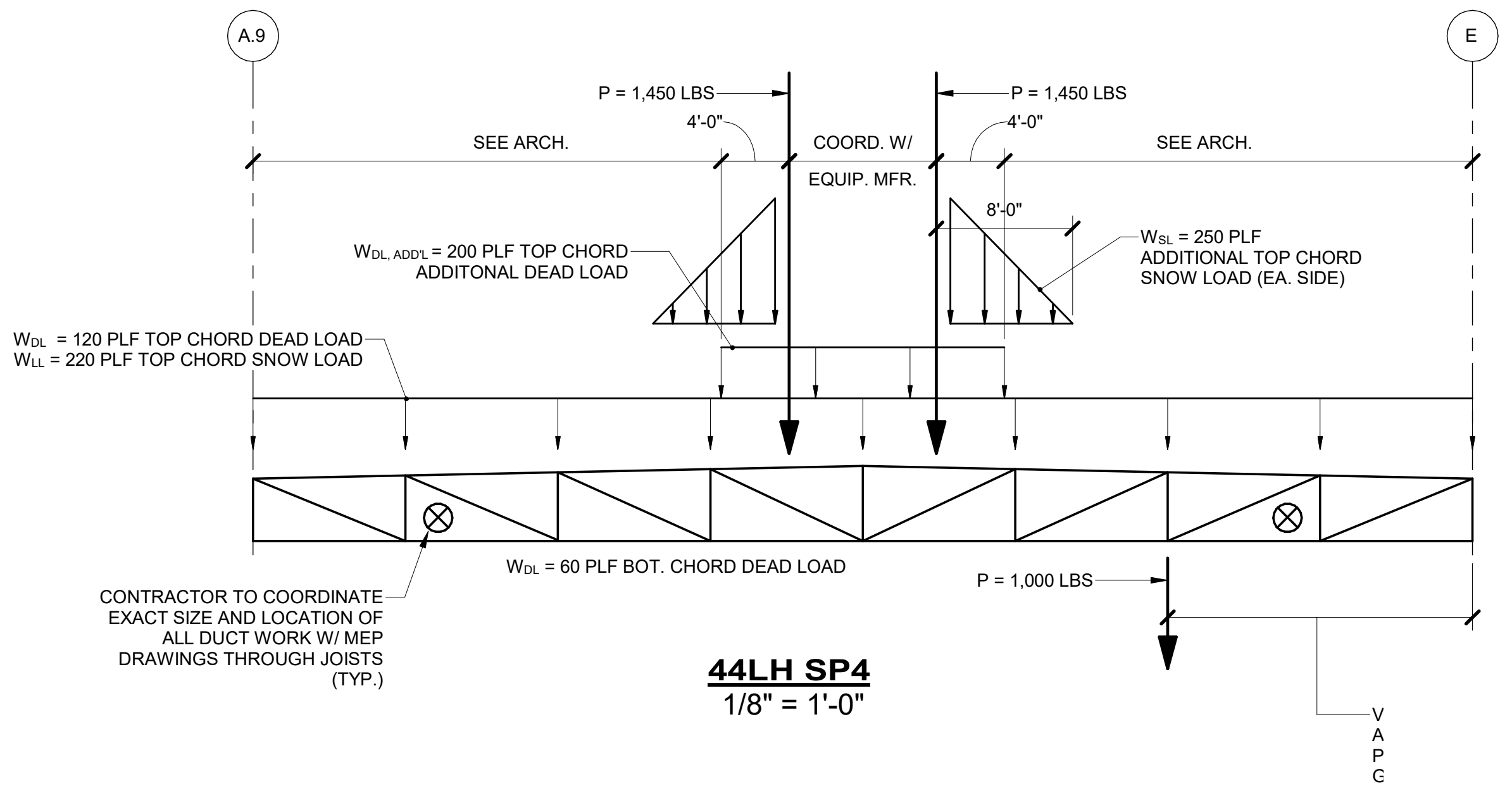
44LH SP3

1/8" = 1'-0"



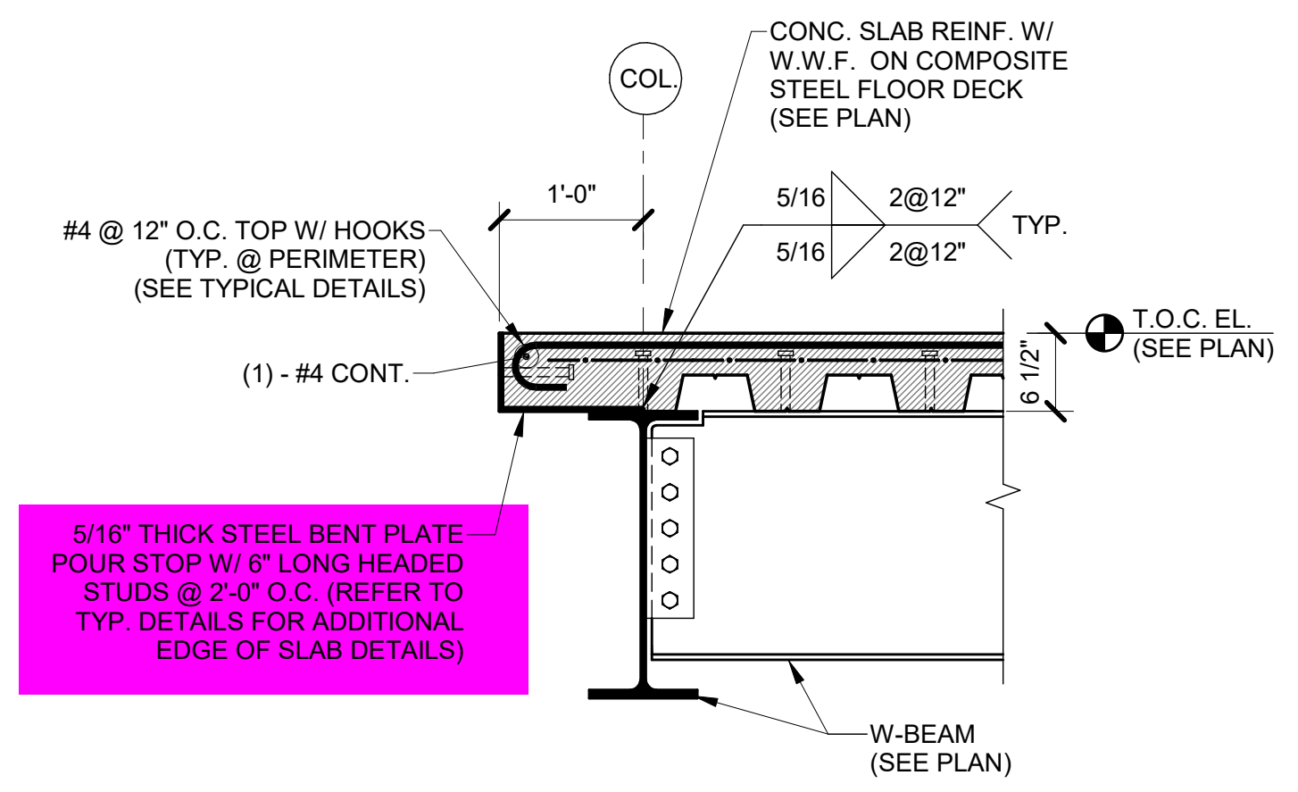
44LH SP2

1/8" = 1'-0"

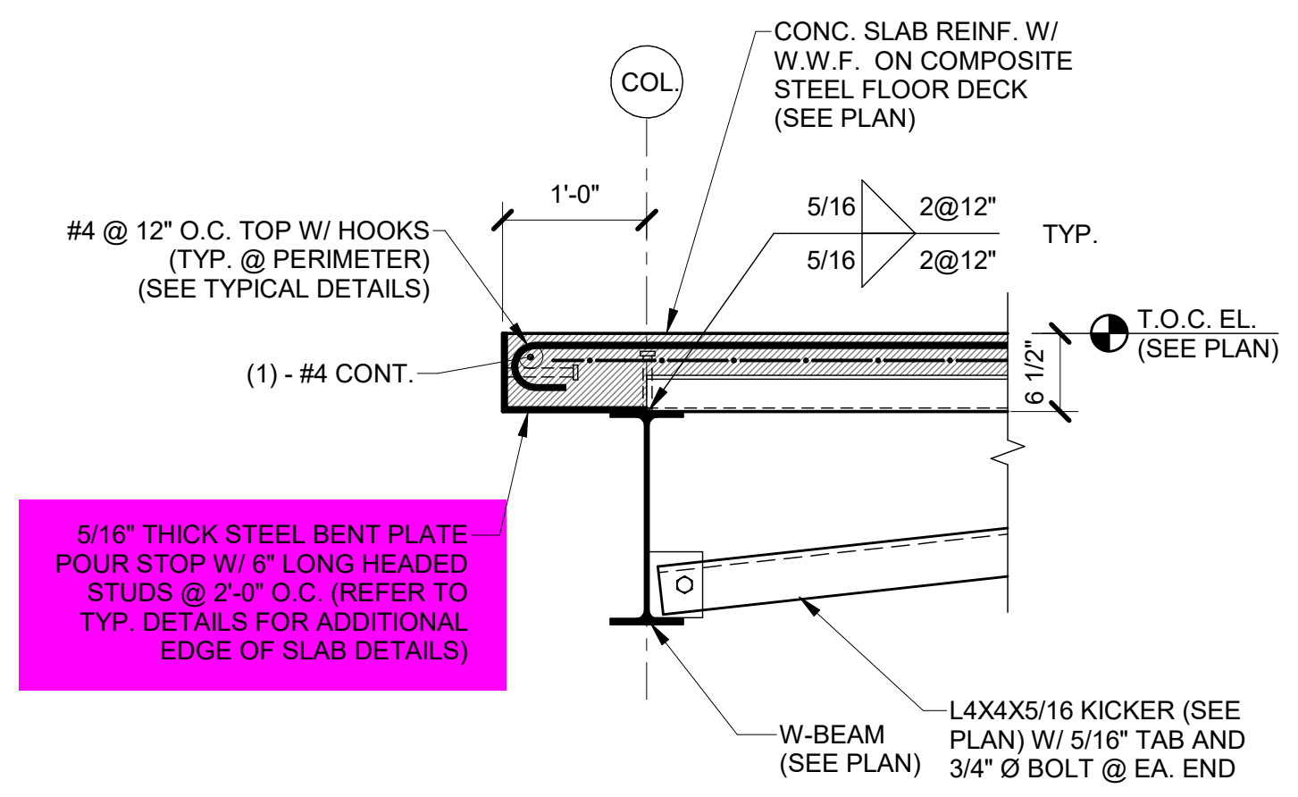


44LH SP4

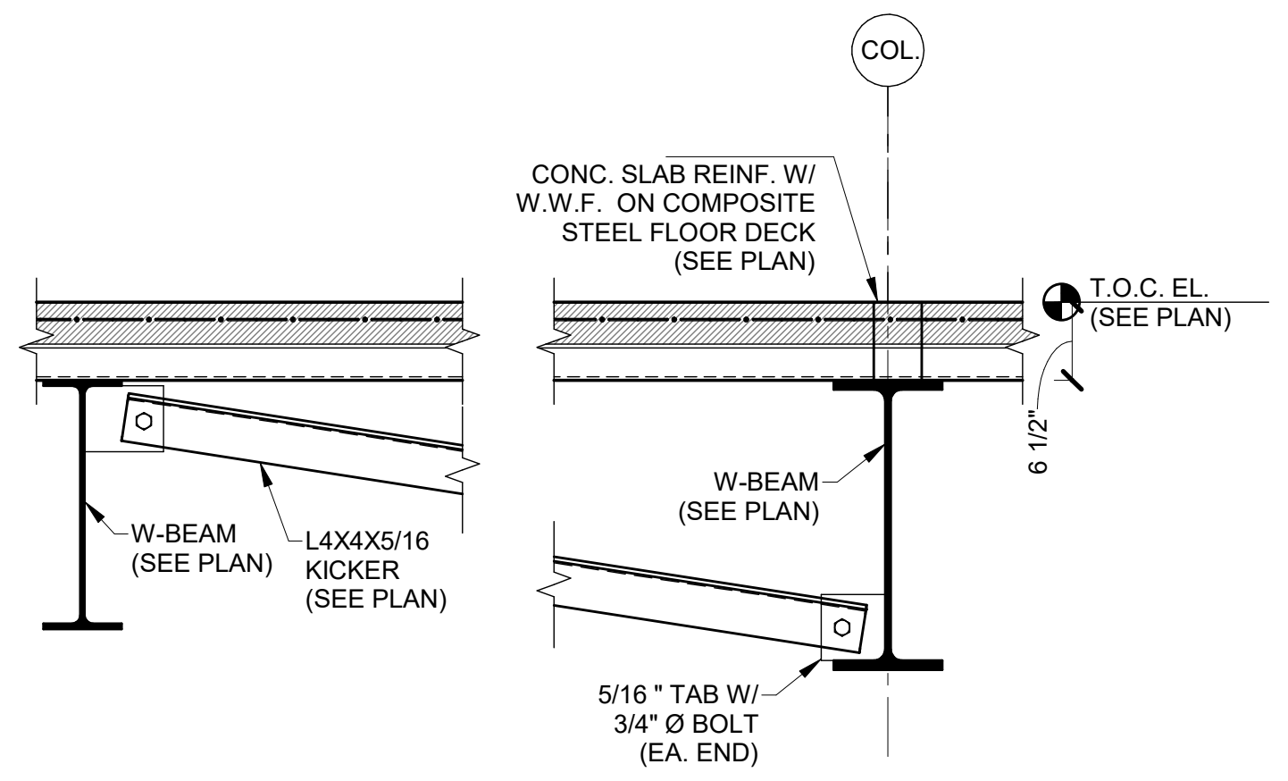
1/8" = 1'-0"



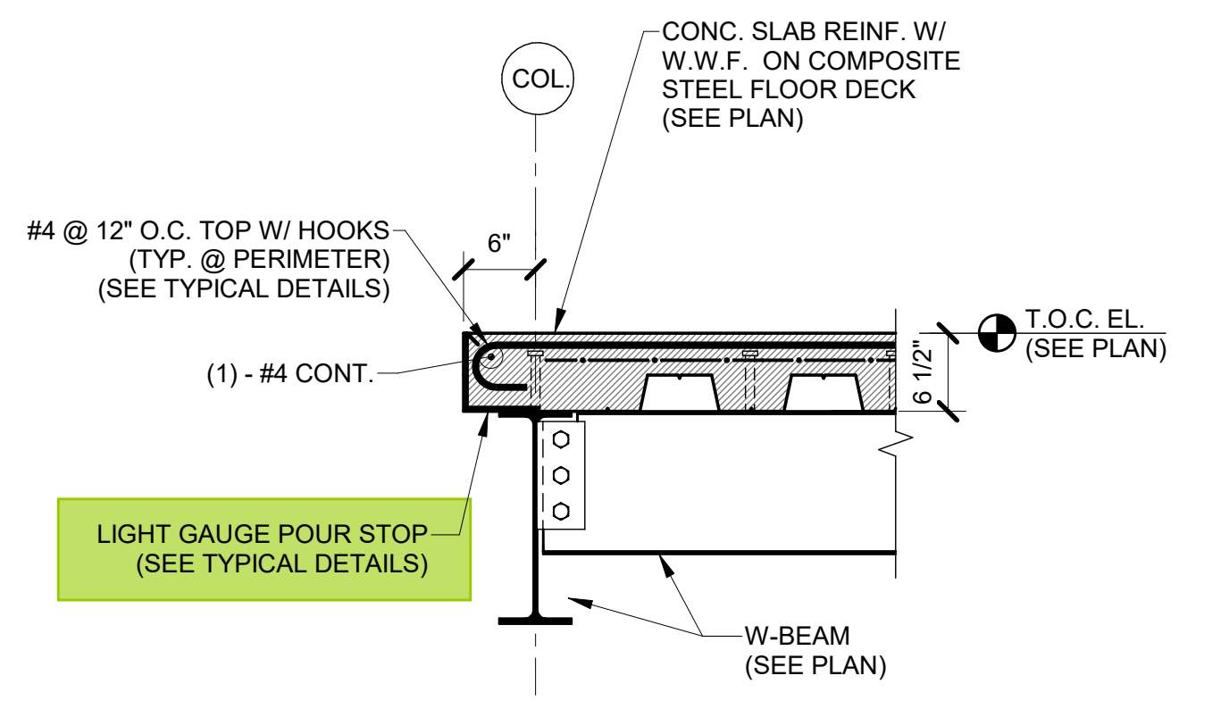
SECTION 1
3/4" = 1'-0"



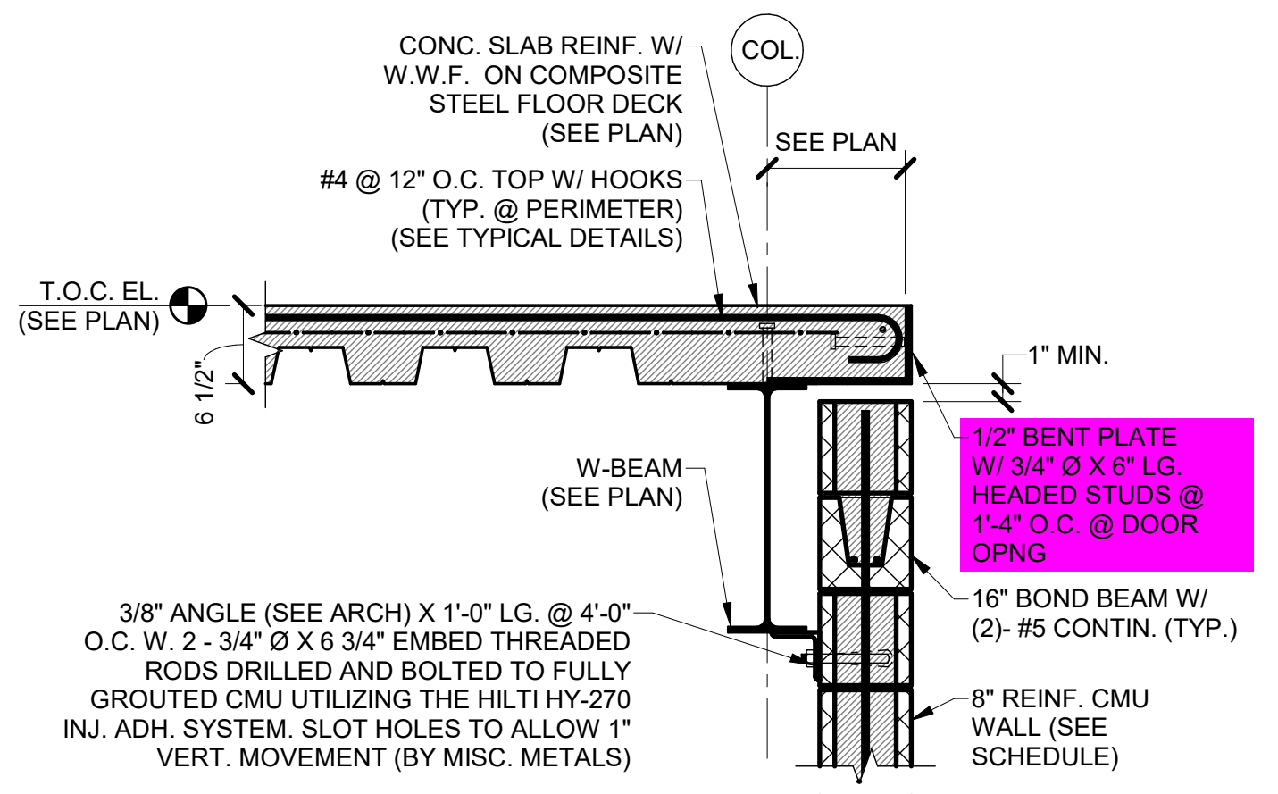
SECTION 2
3/4" = 1'-0"



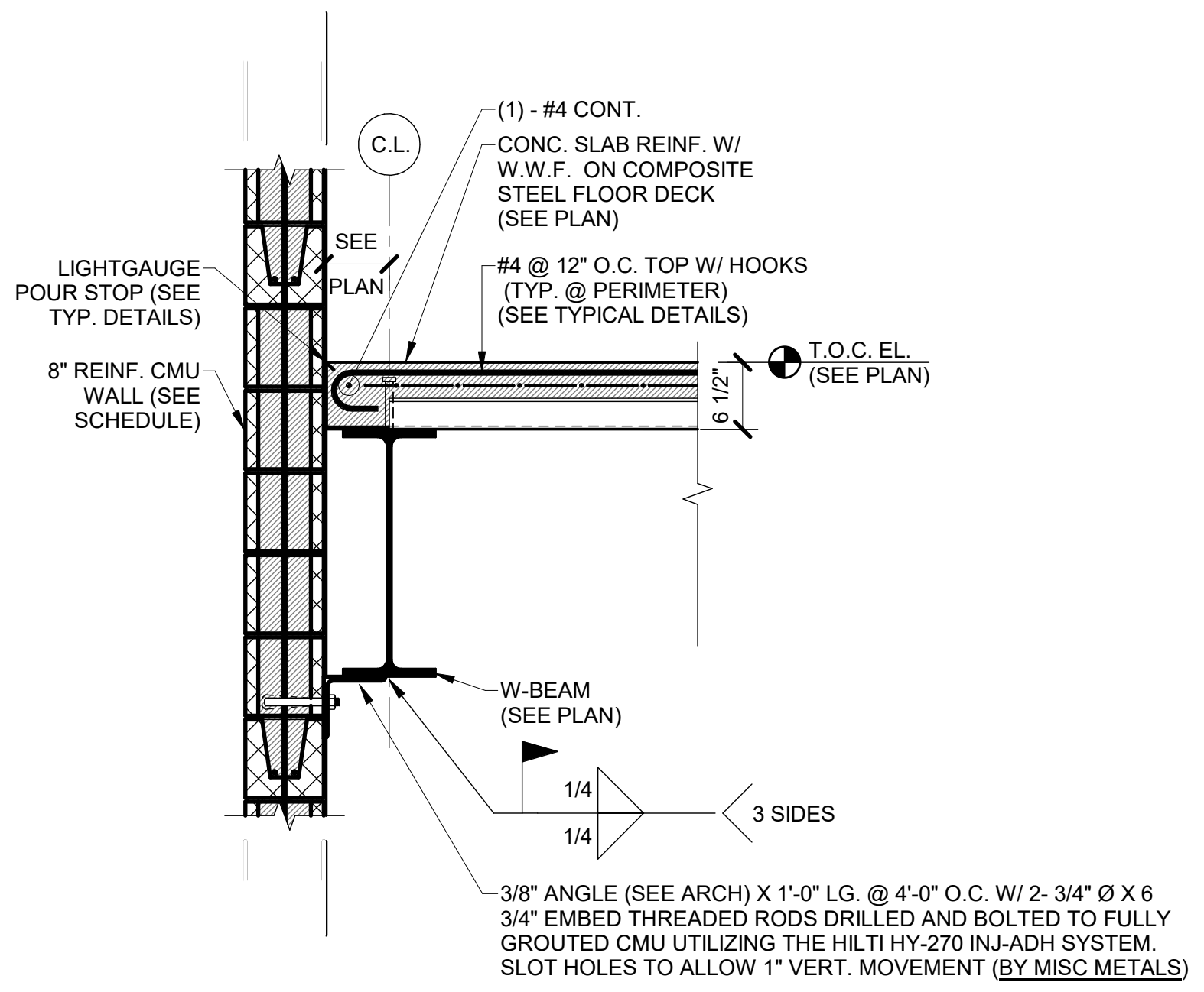
SECTION 3
3/4" = 1'-0"



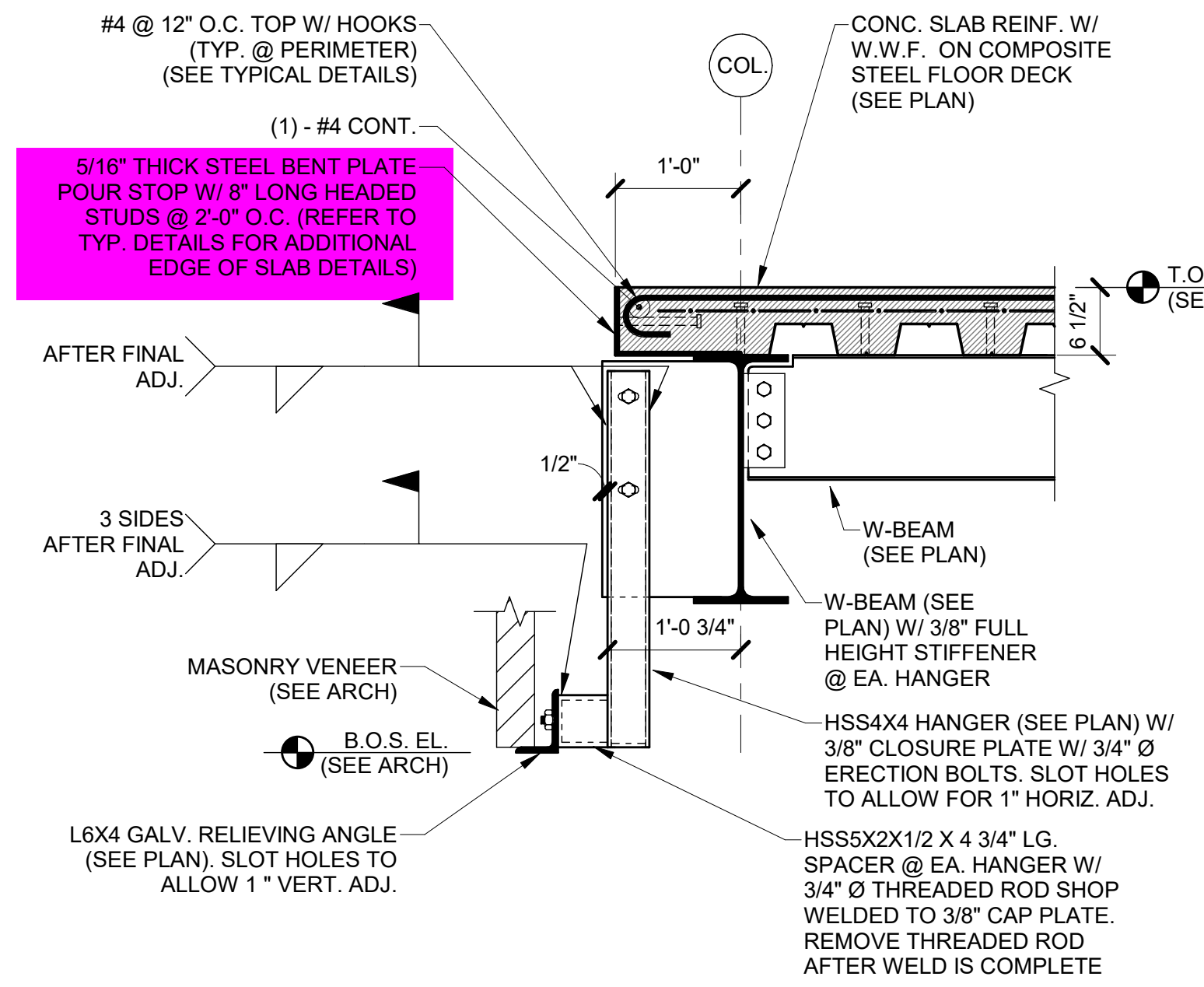
SECTION 4
3/4" = 1'-0"



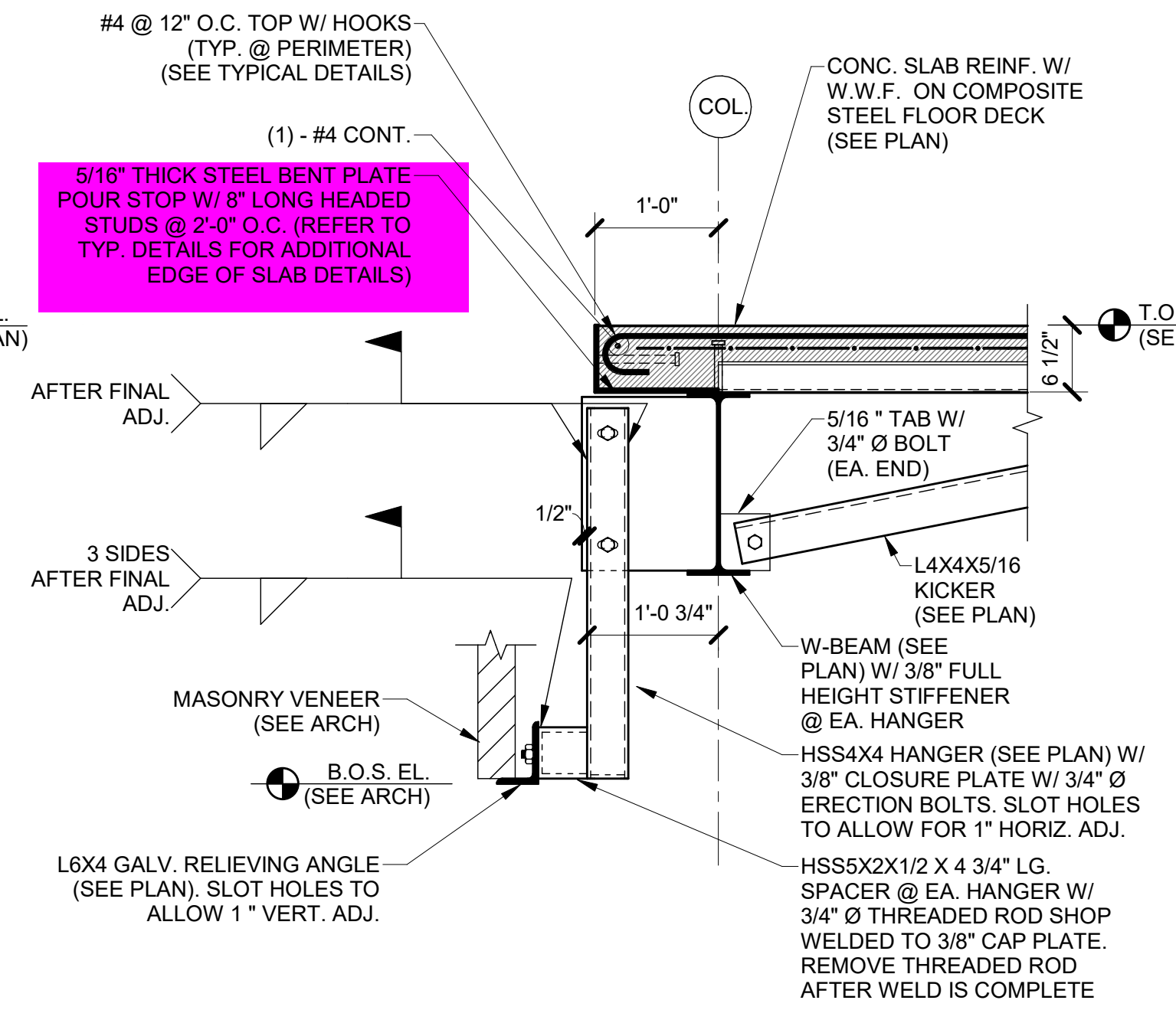
SECTION 5
3/4" = 1'-0"



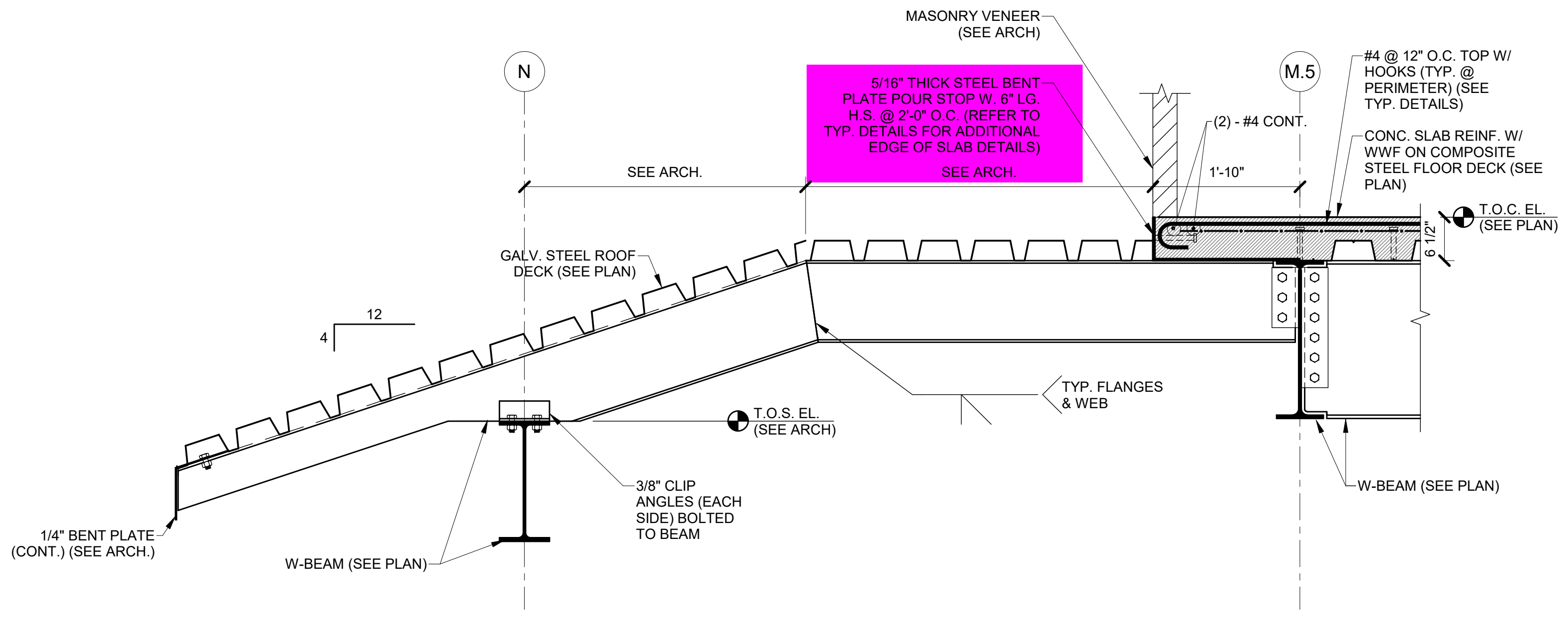
SECTION 6
3/4" = 1'-0"



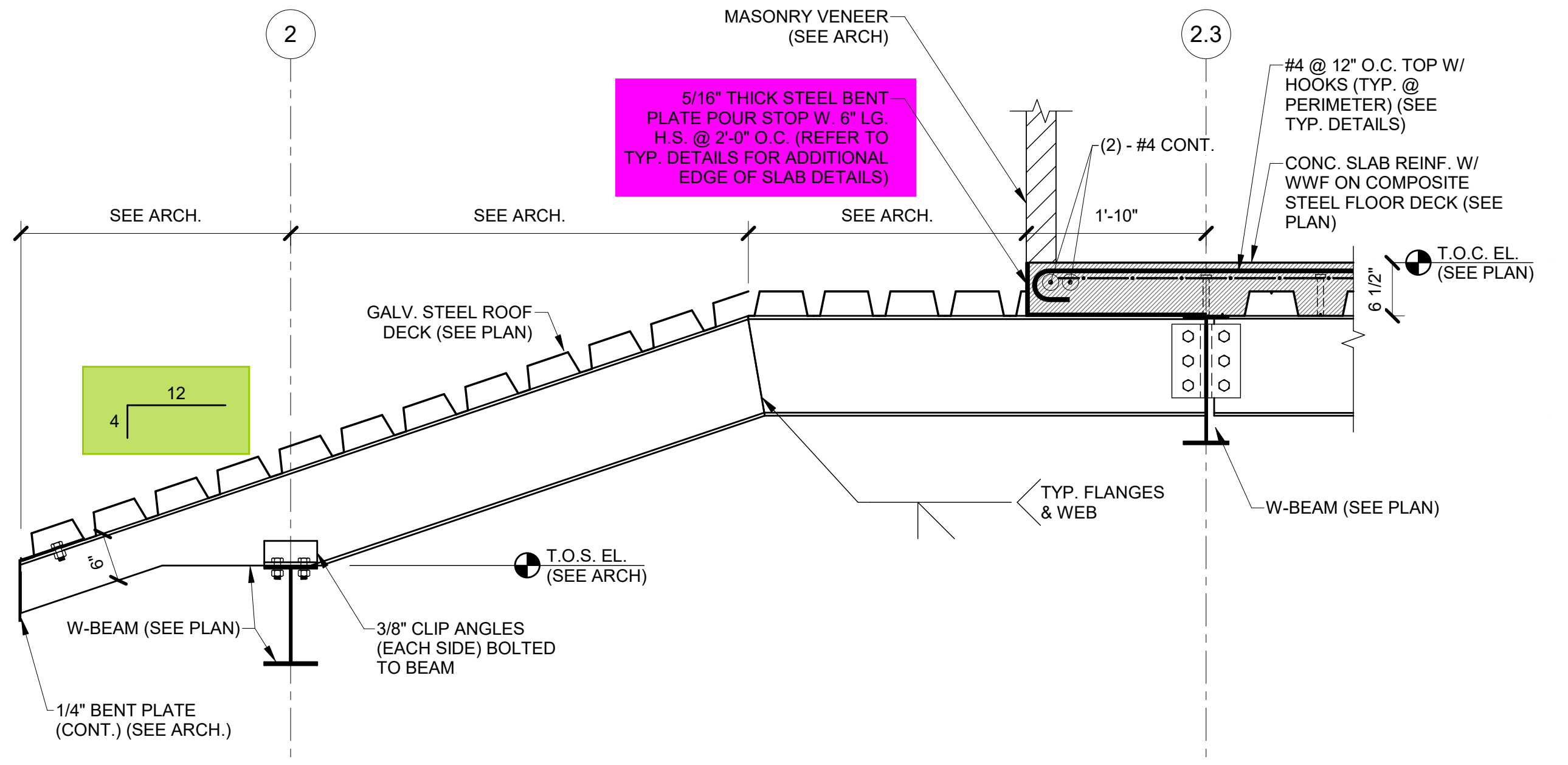
SECTION 7
3/4" = 1'-0"



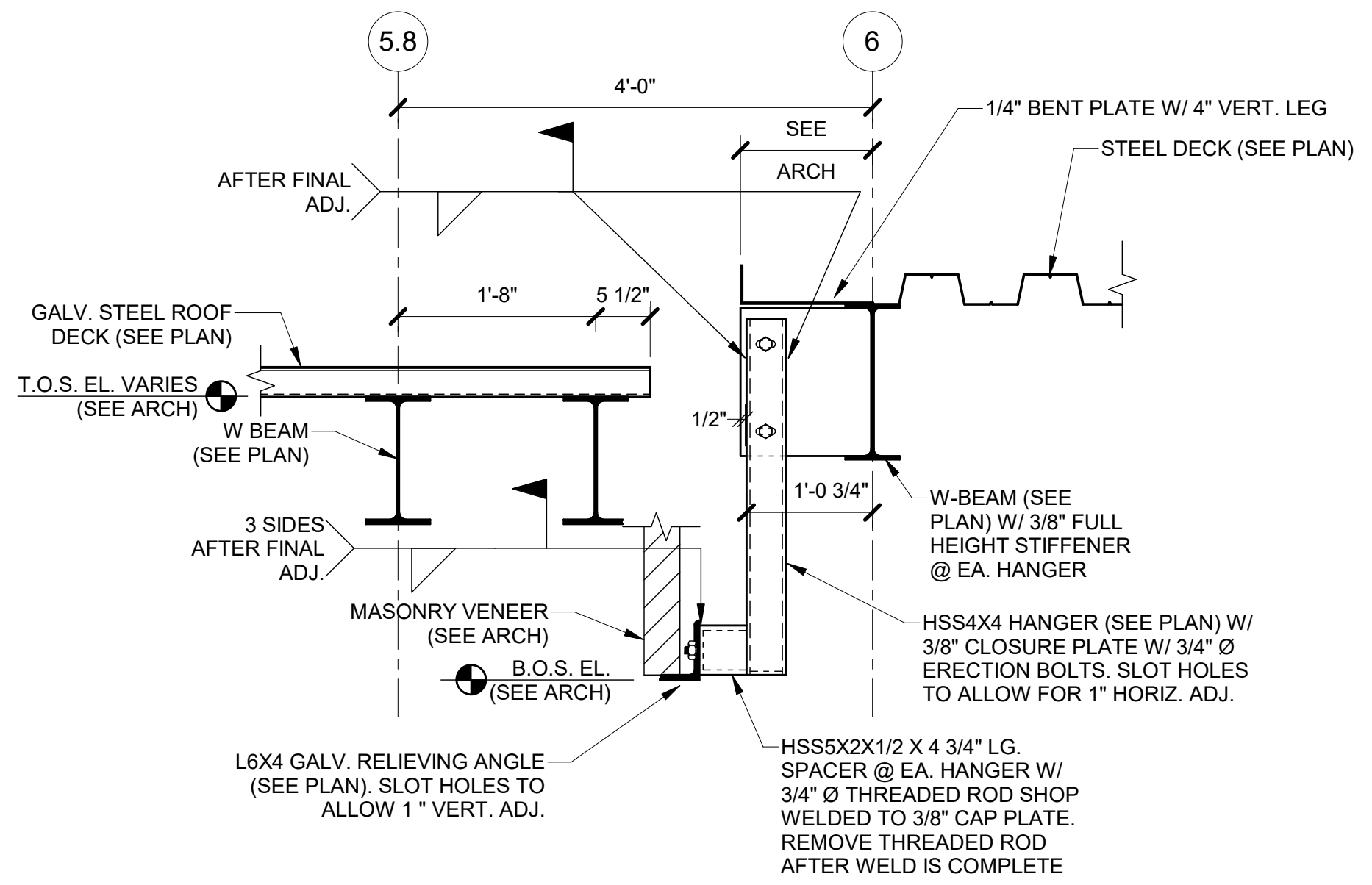
SECTION 8
3/4" = 1'-0"



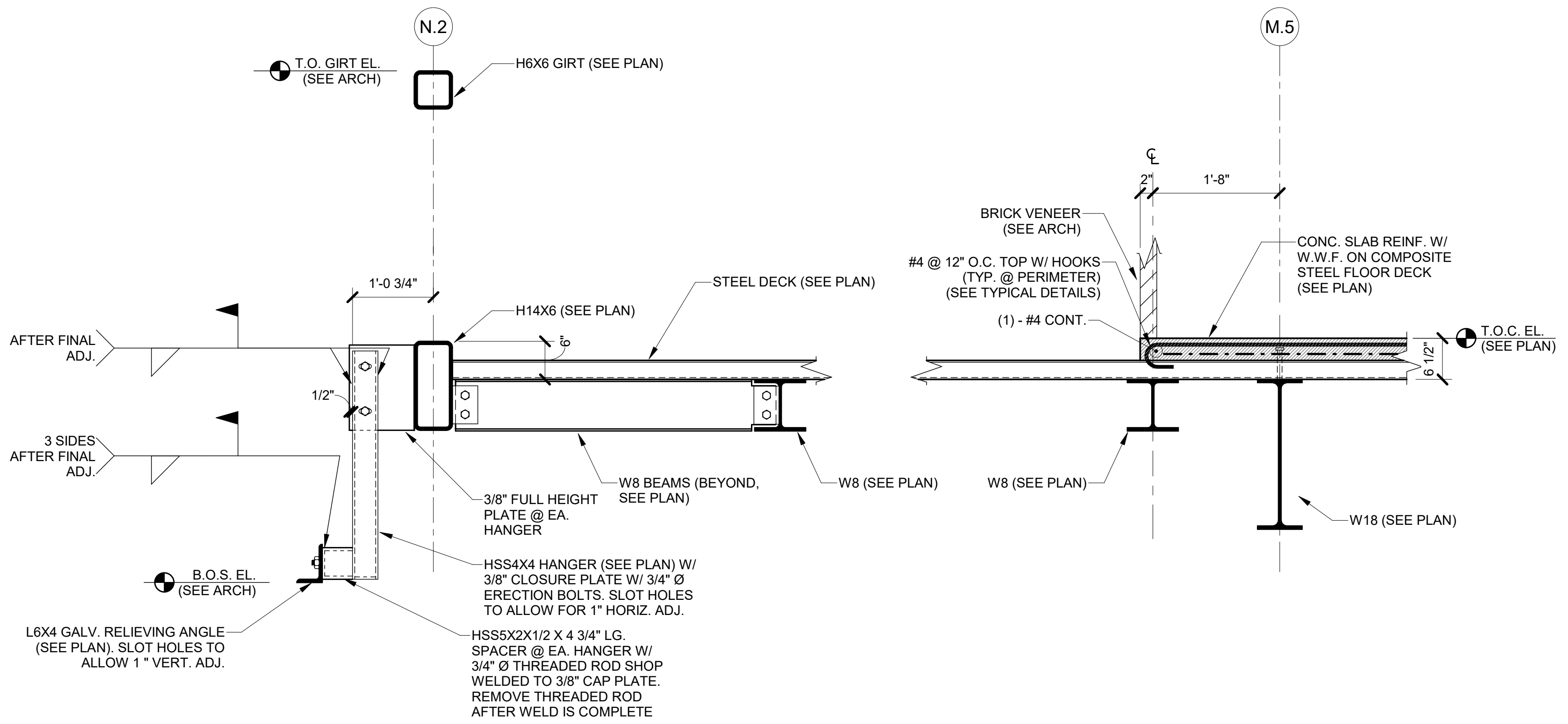
SECTION 9
3/4" = 1'-0"



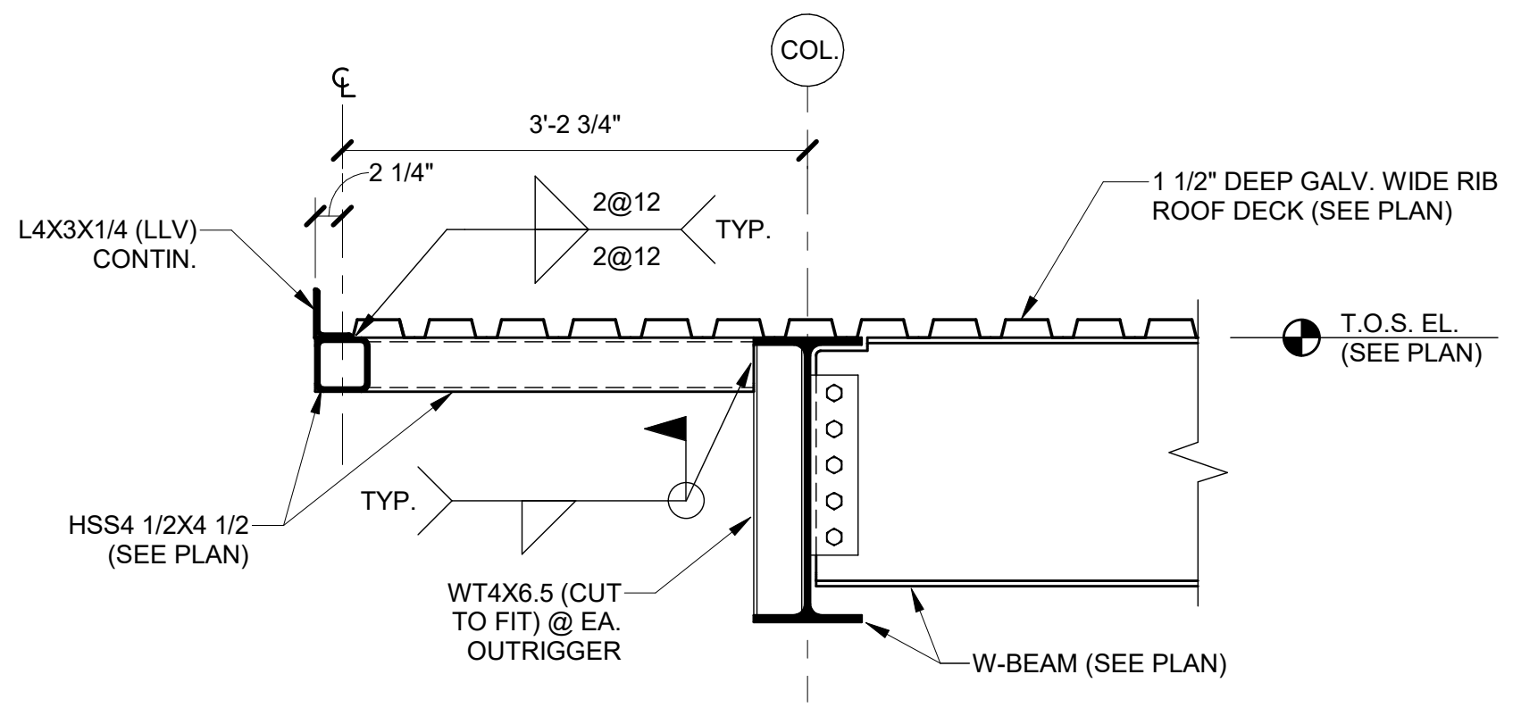
SECTION 10
3/4" = 1'-0"



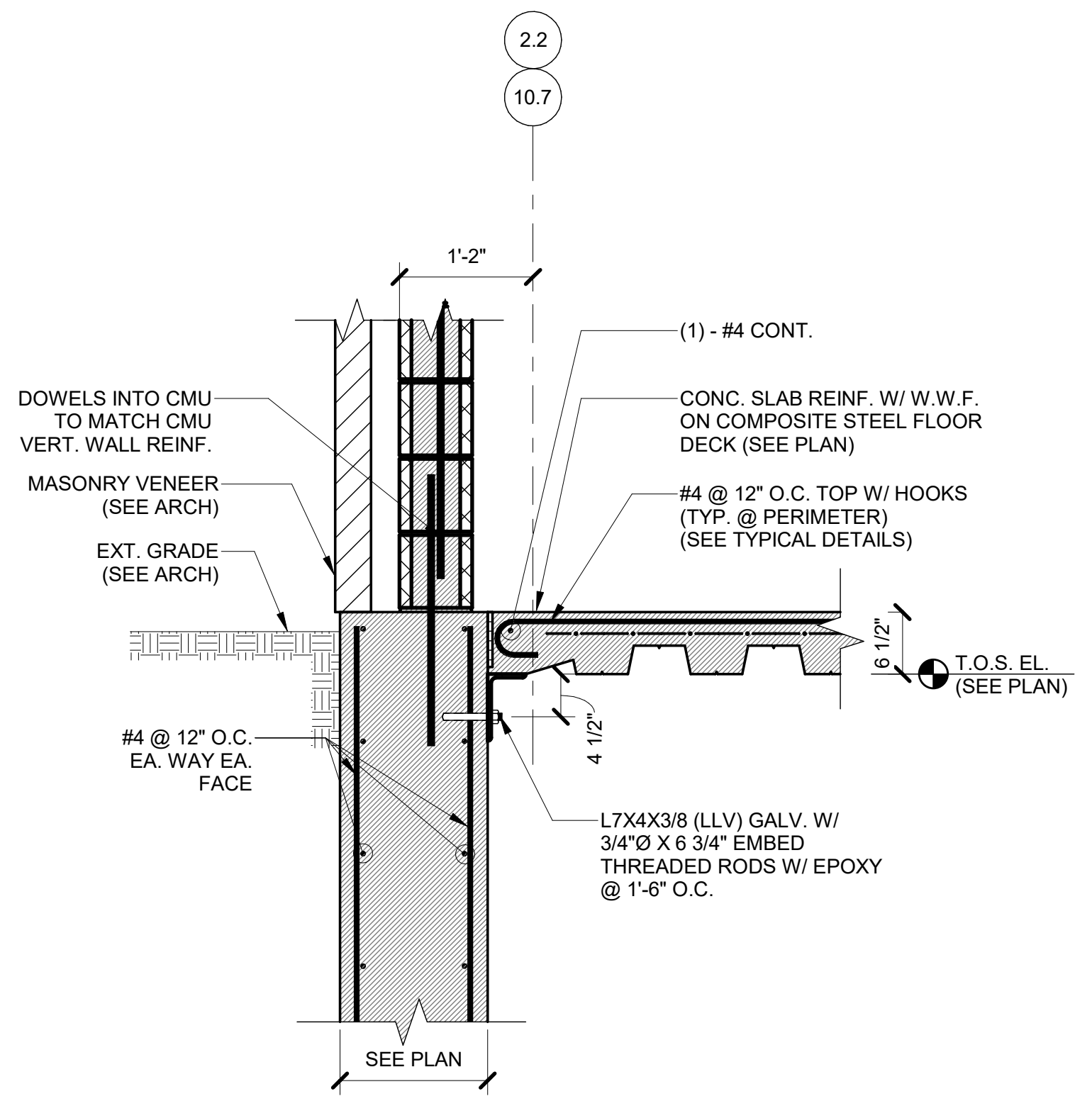
SECTION 11
3/4" = 1'-0"



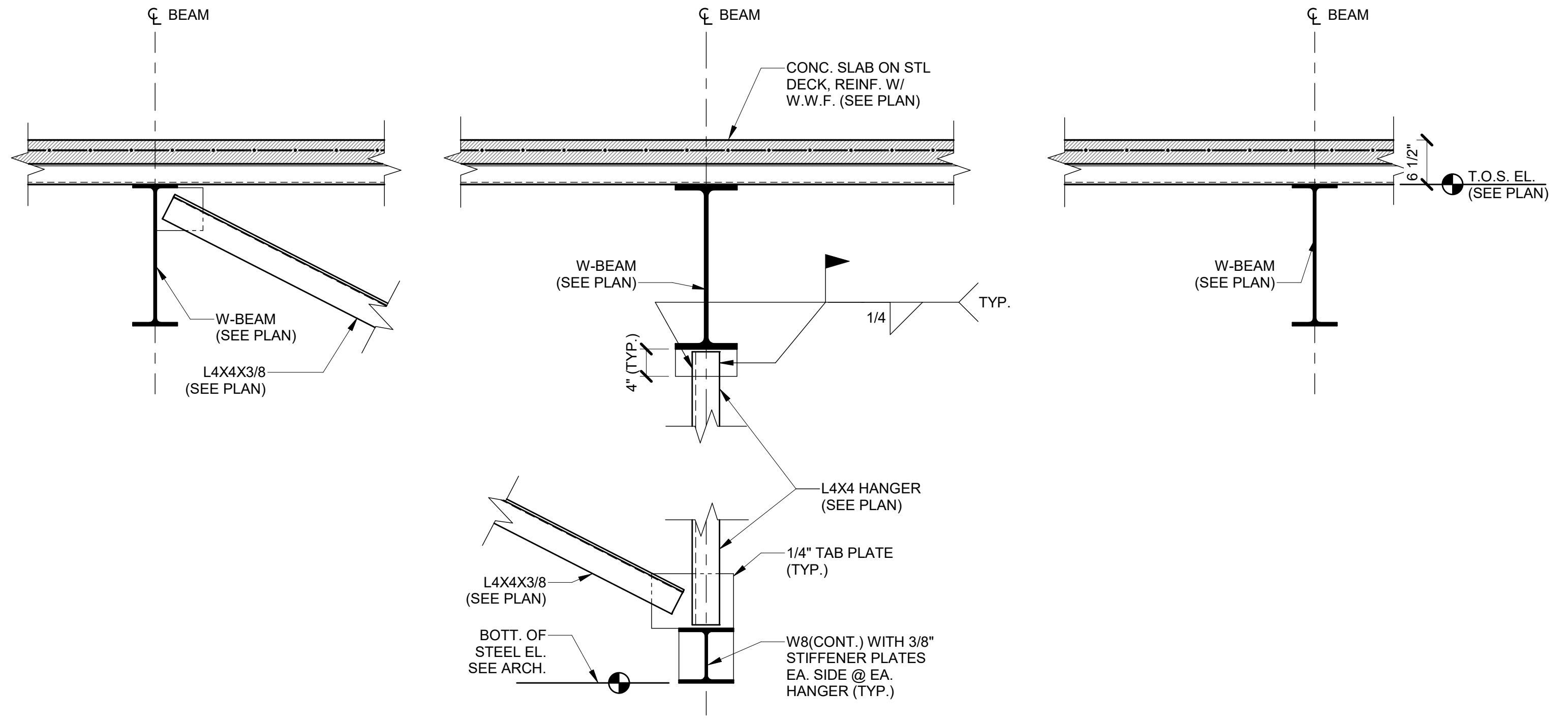
SECTION 12
3/4" = 1'-0"



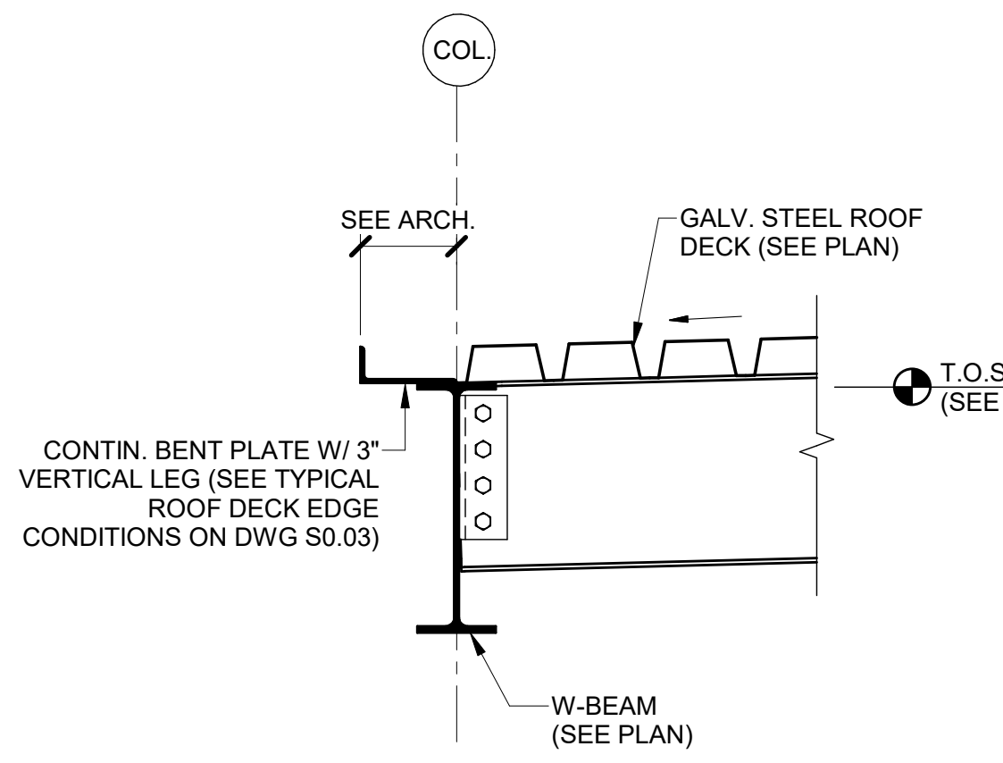
SECTION 13
3/4" = 1'-0"



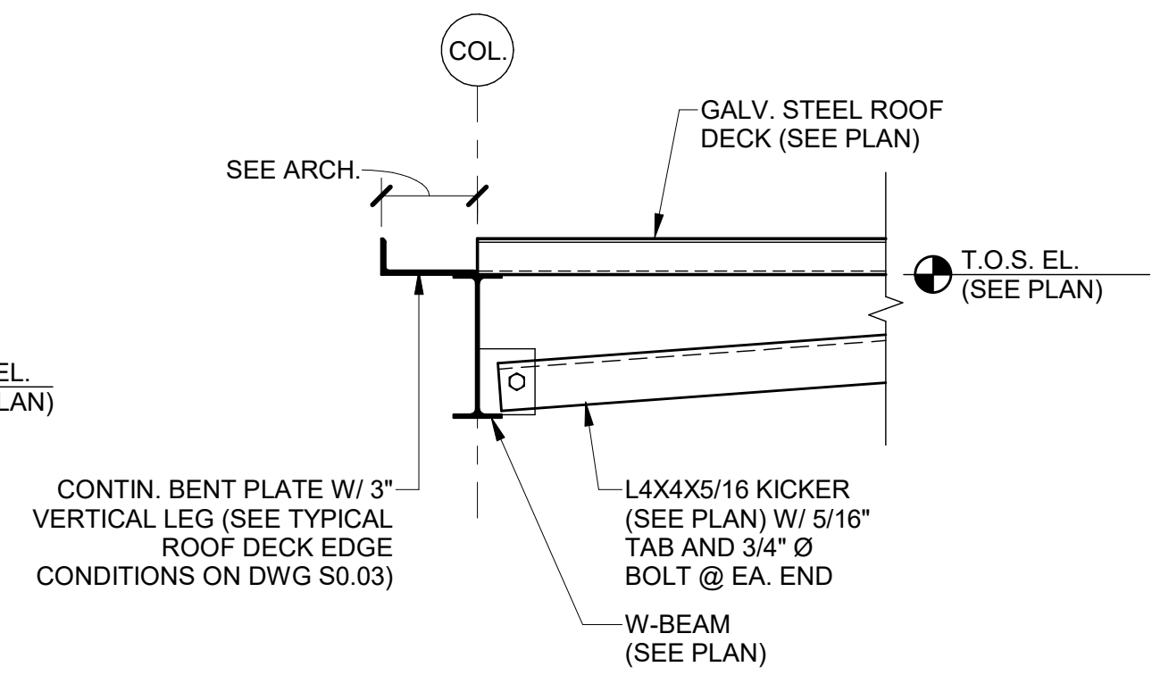
SECTION 14
3/4" = 1'-0"



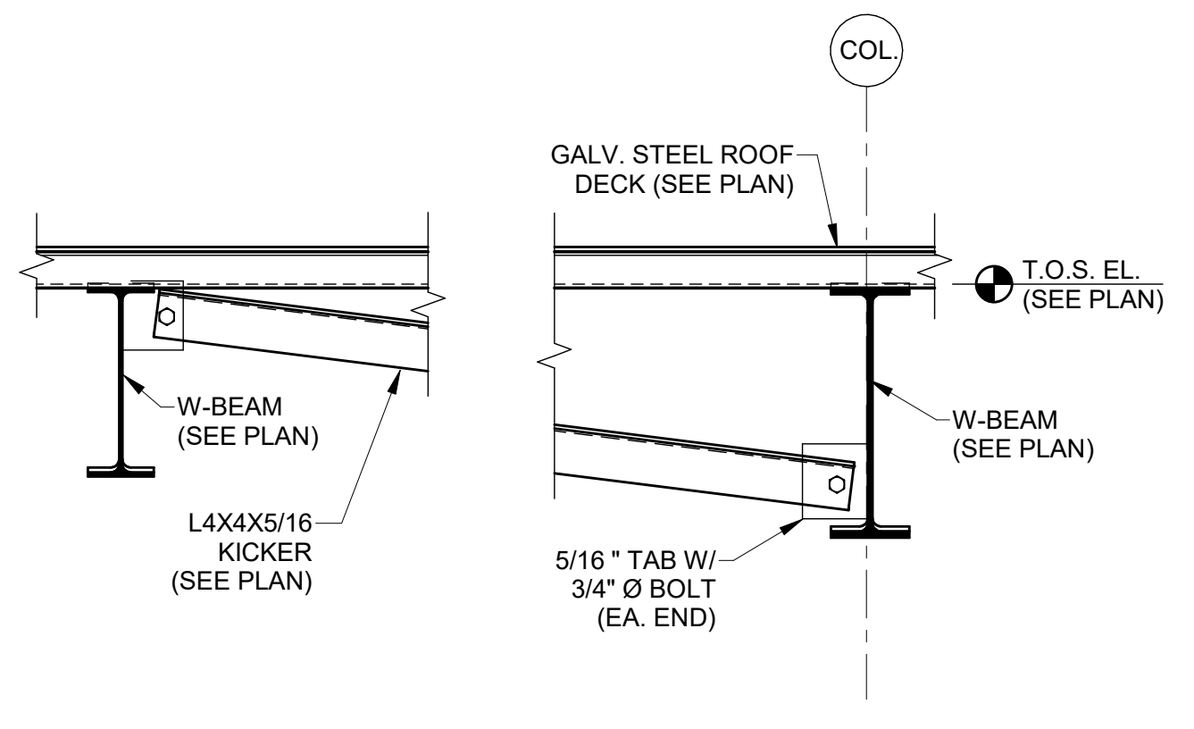
SECTION 15
3/4" = 1'-0"



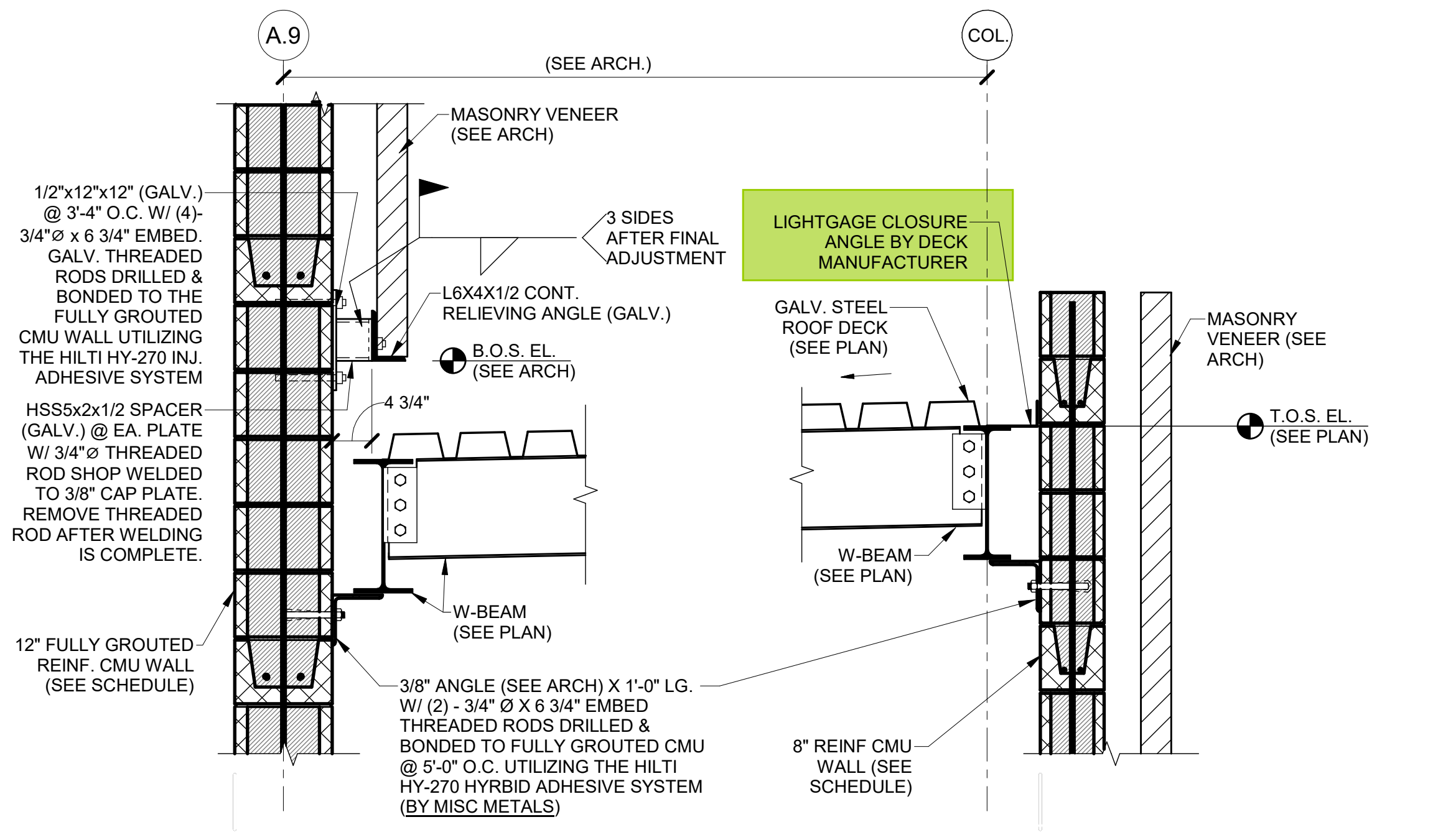
SECTION 1
3/4" = 1'-0"



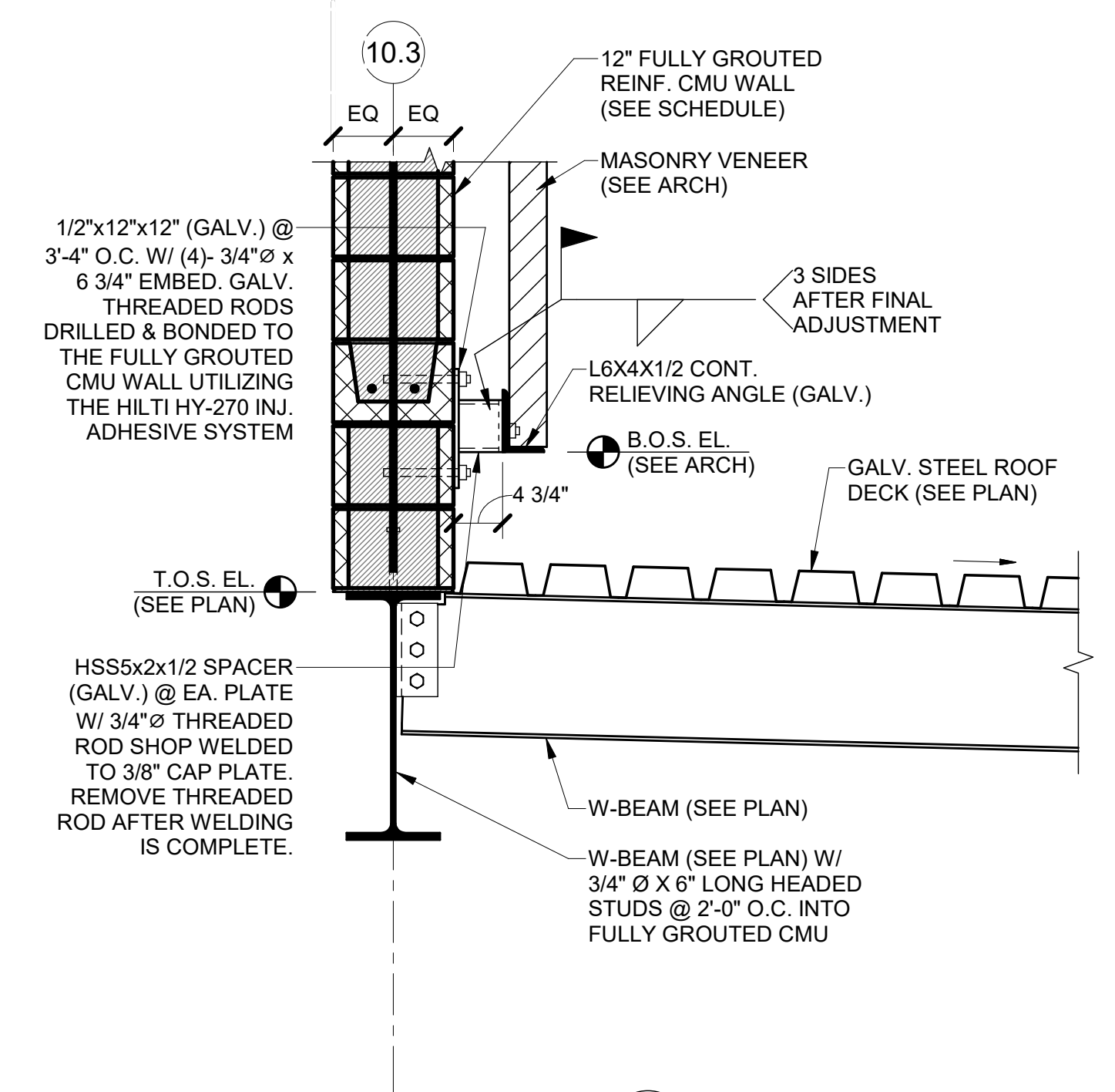
SECTION 2
3/4" = 1'-0"



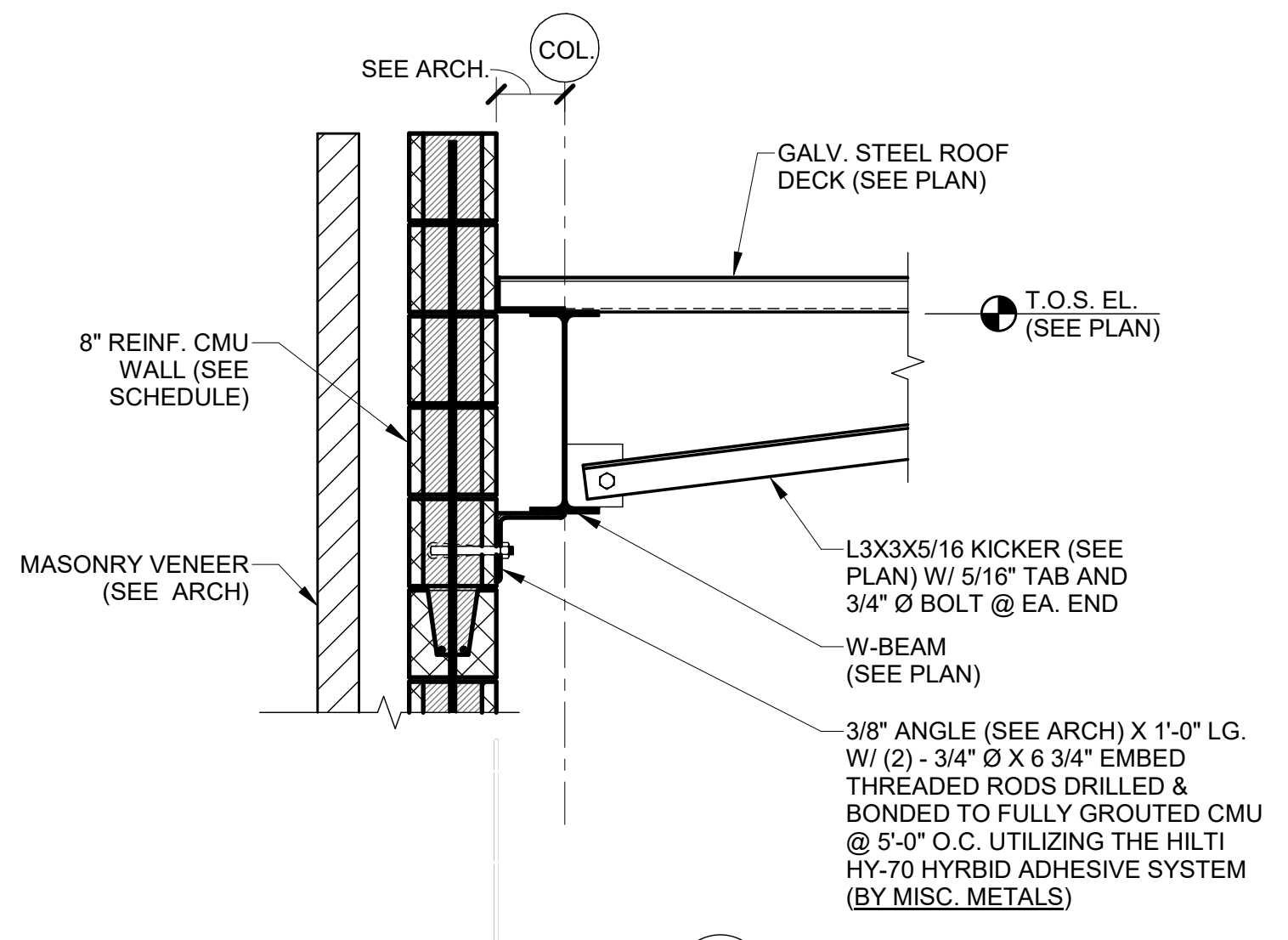
SECTION 3
3/4" = 1'-0"



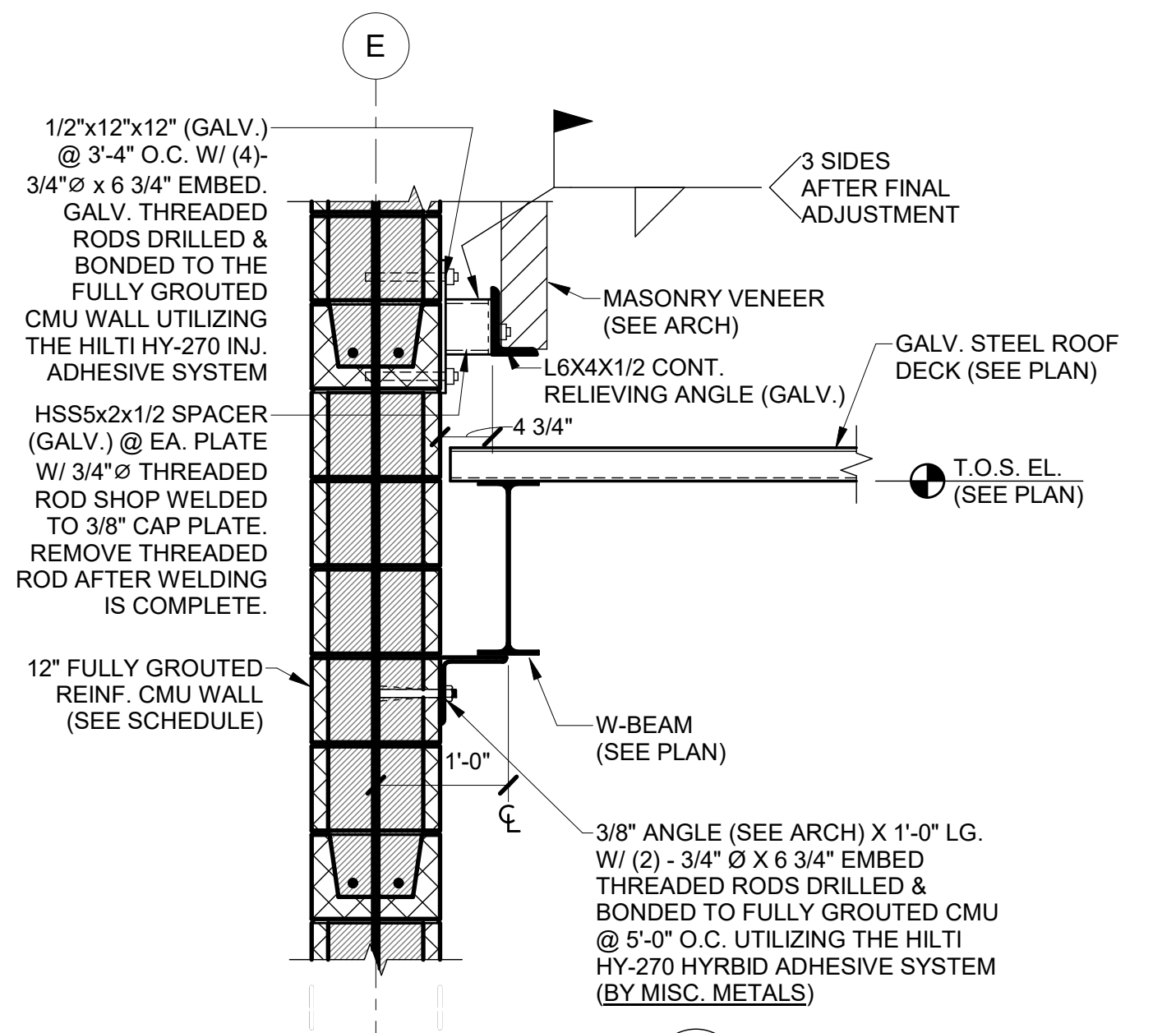
SECTION 4
3/4" = 1'-0"



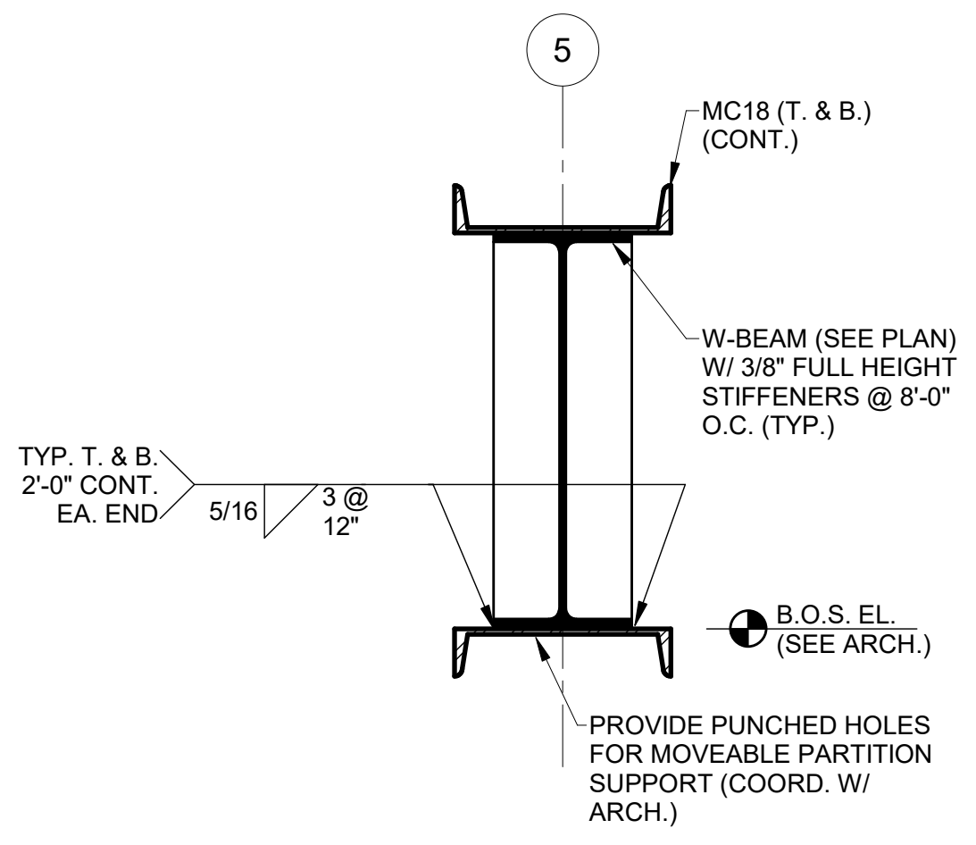
SECTION 5
3/4" = 1'-0"



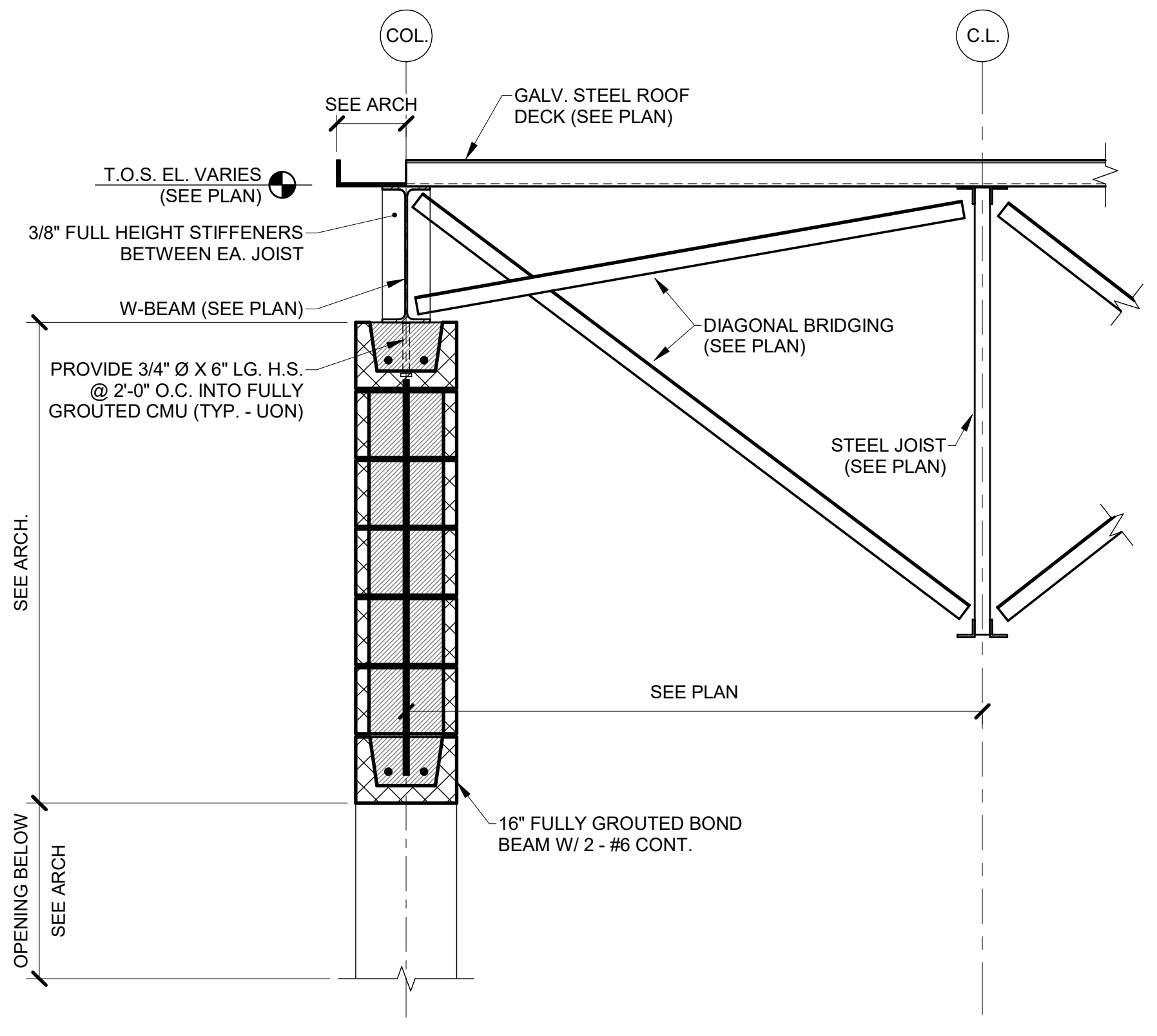
SECTION 6
3/4" = 1'-0"



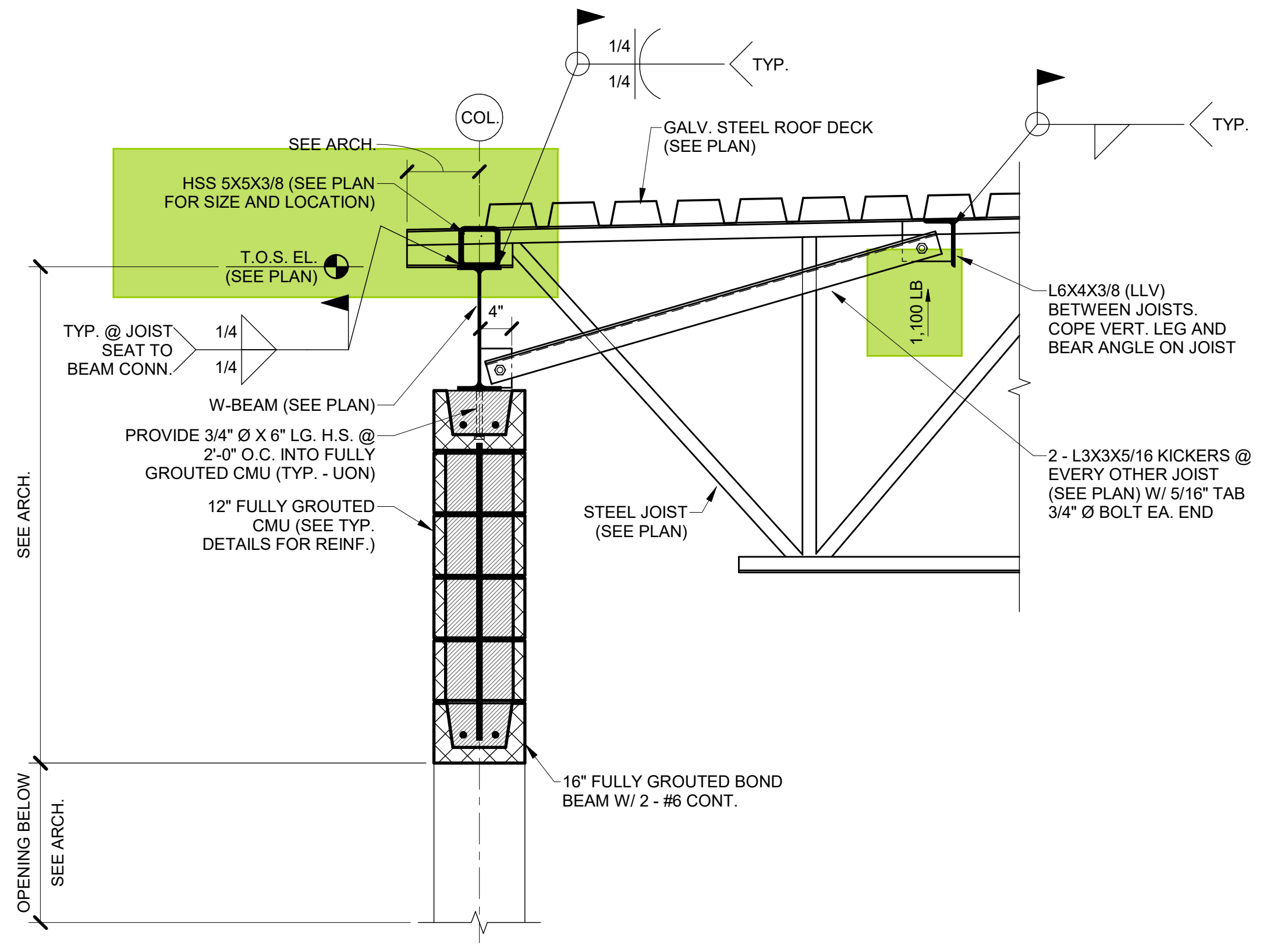
SECTION 7
3/4" = 1'-0"



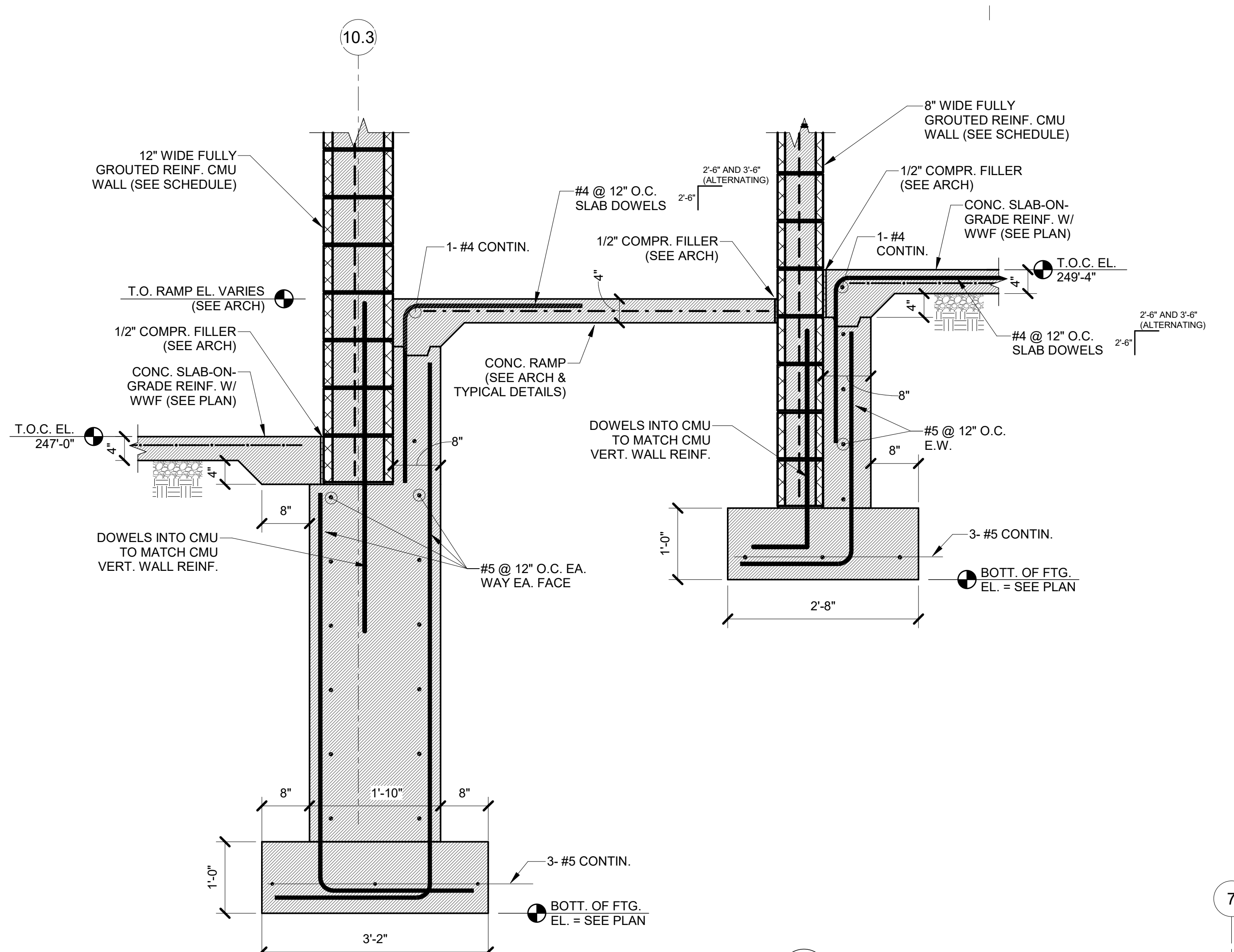
SECTION 8
3/4" = 1'-0"



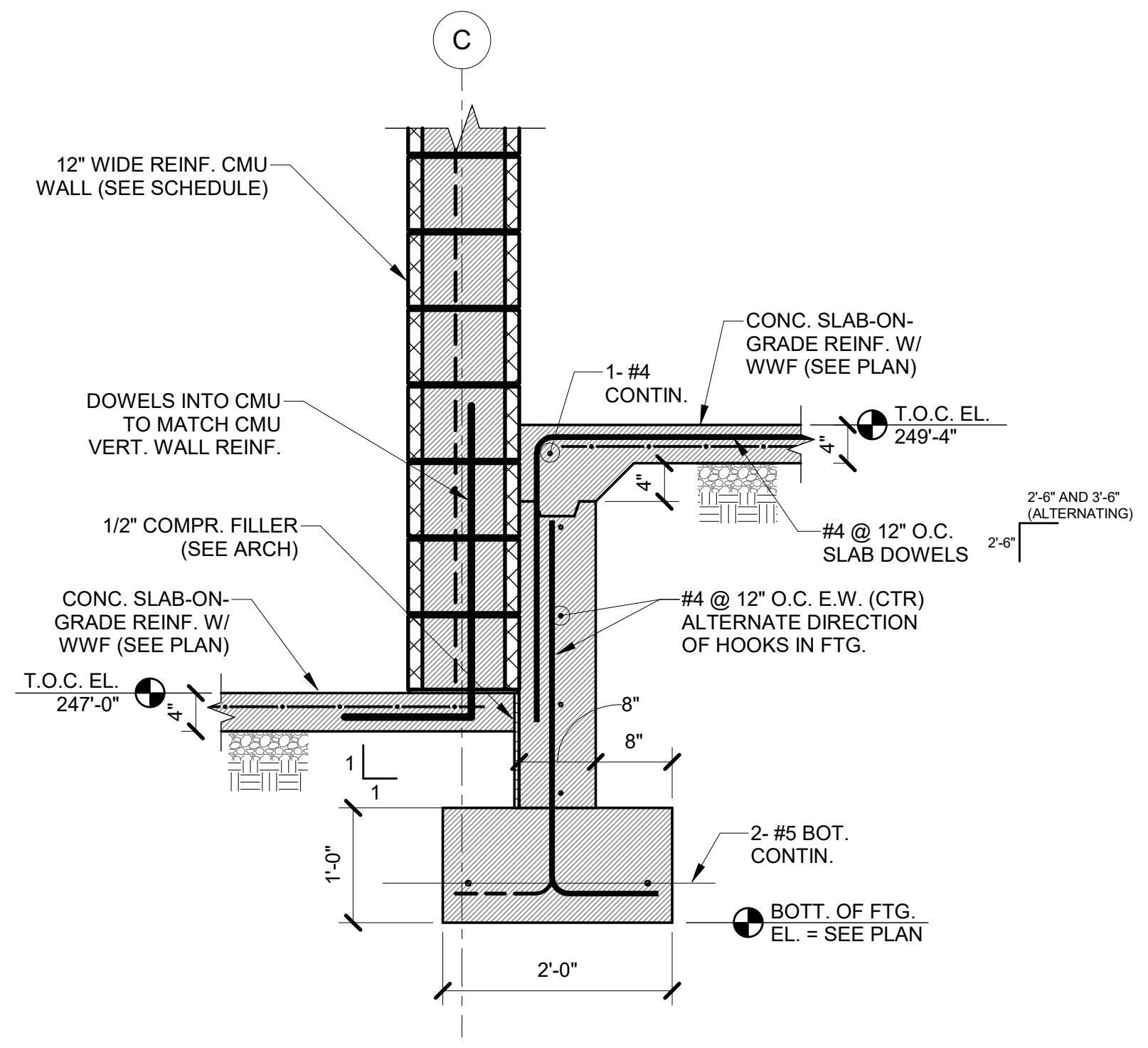
SECTION 9
3/4" = 1'-0"



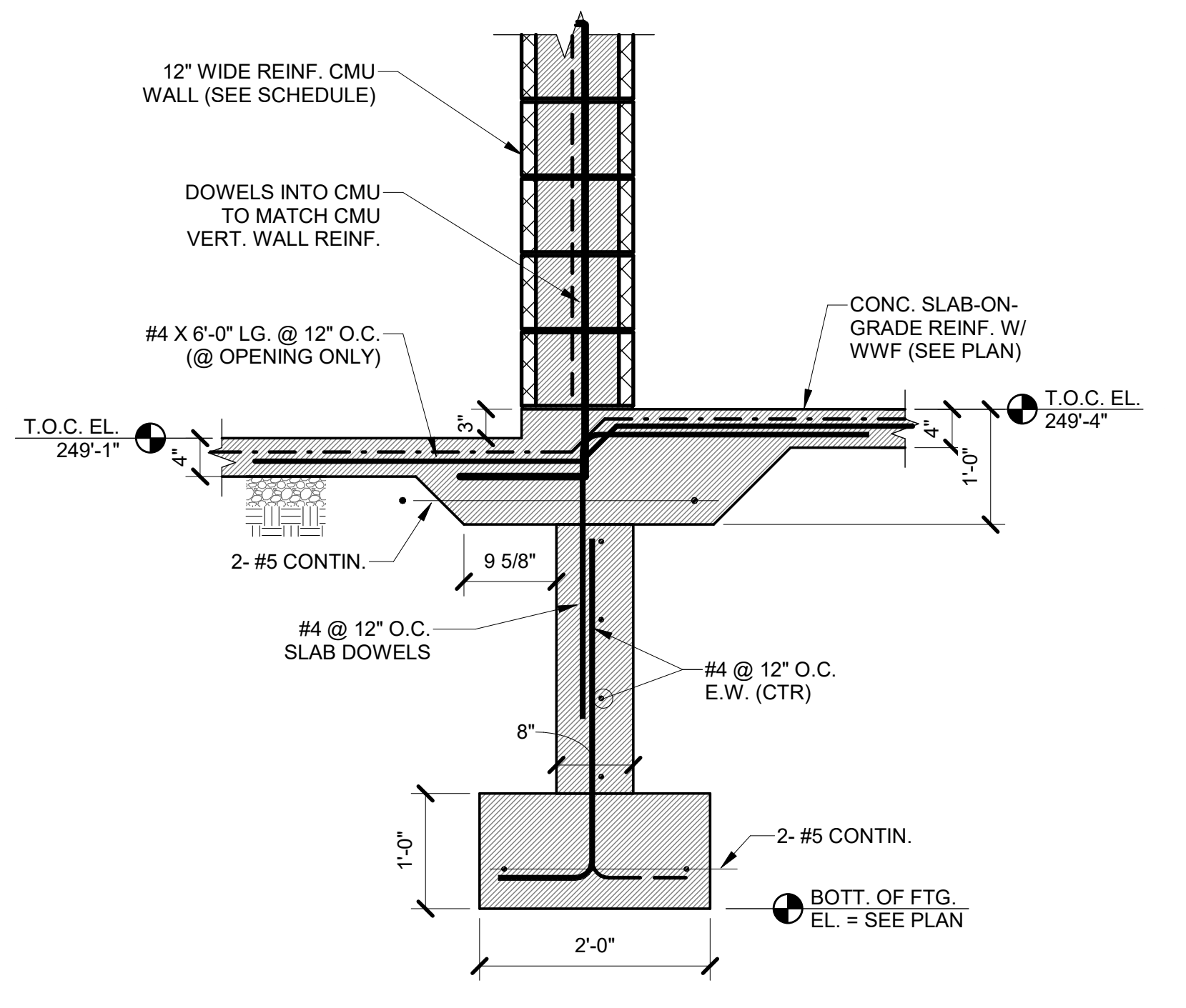
SECTION 10
3/4" = 1'-0"



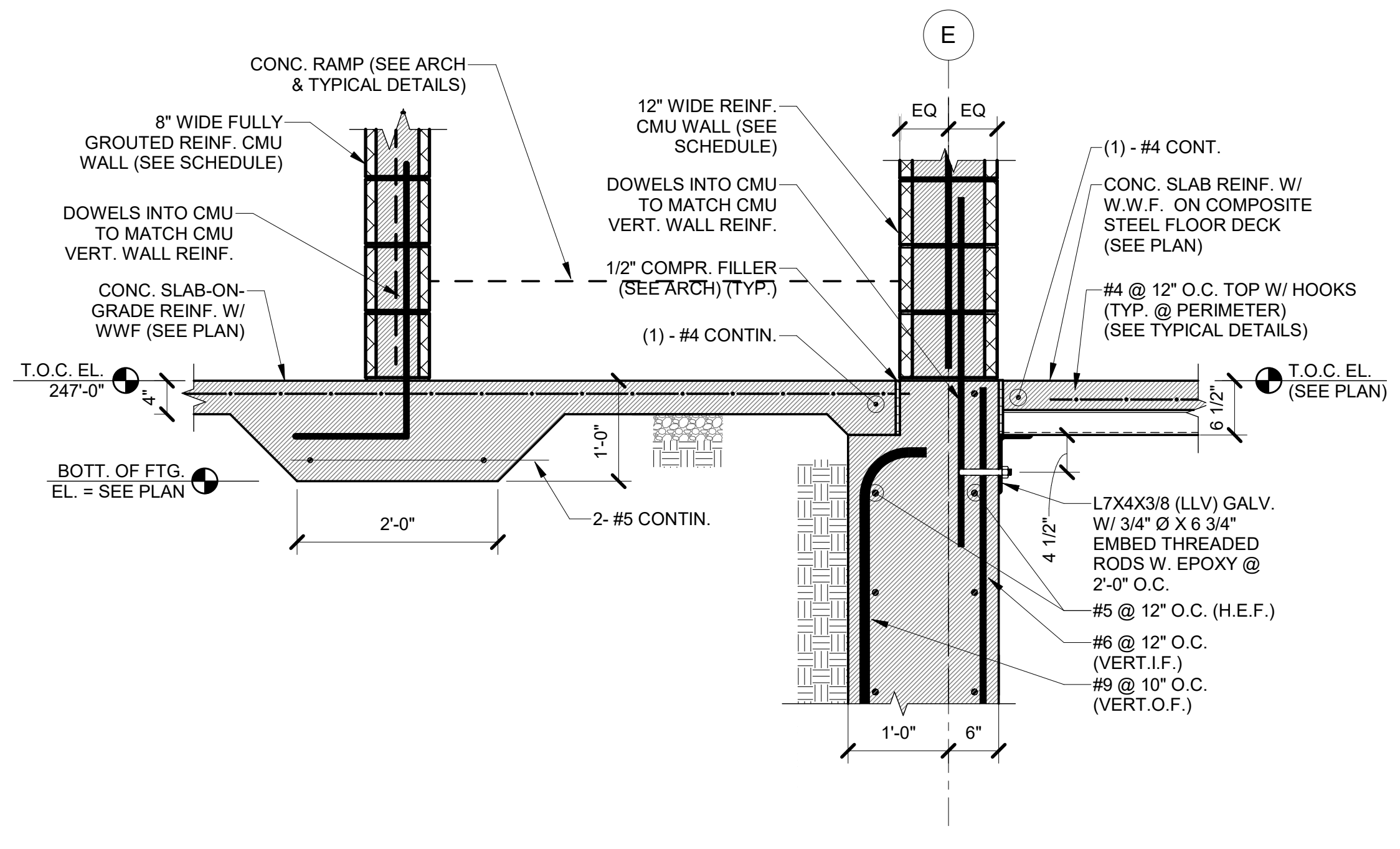
SECTION 11
3/4" = 1'-0"



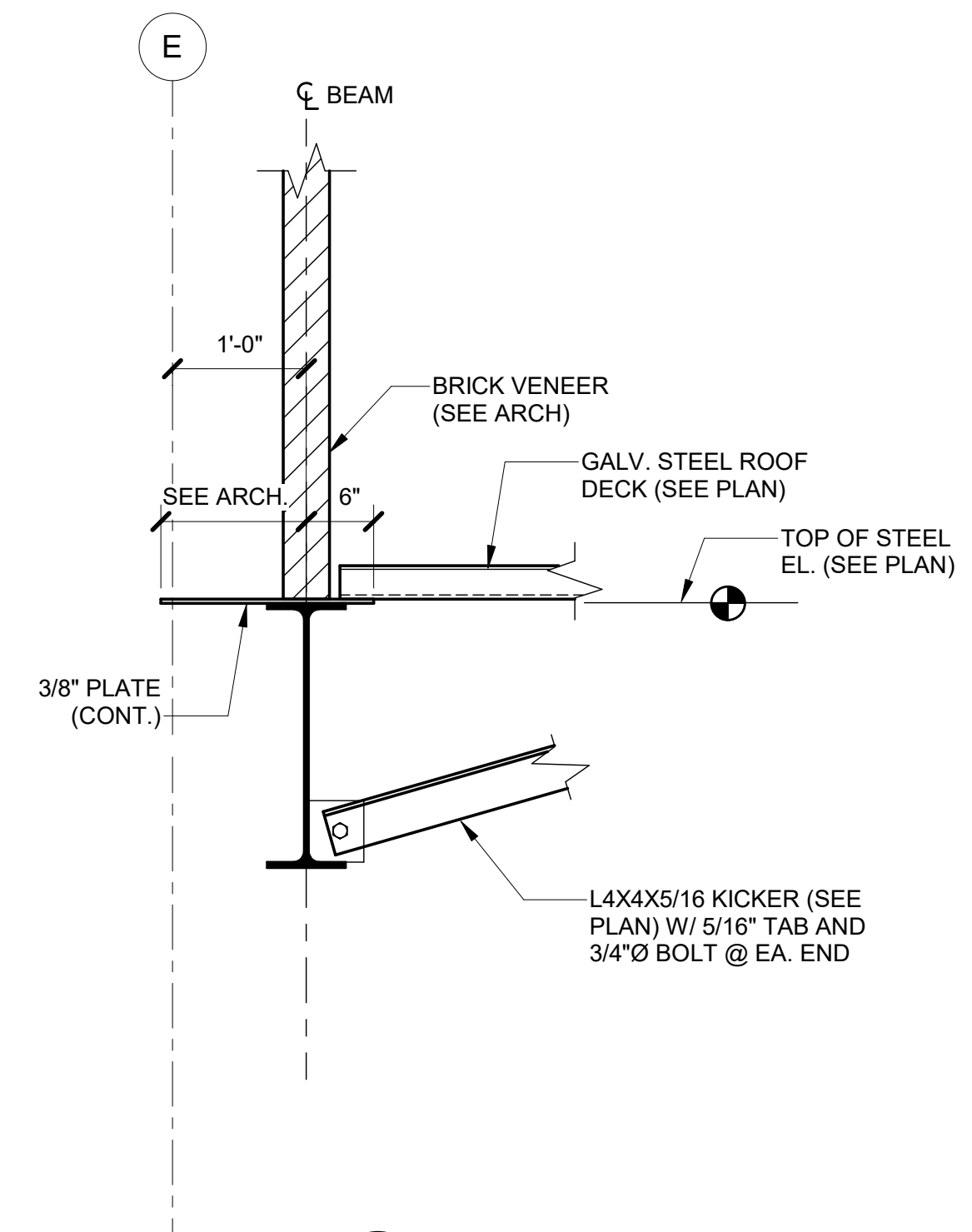
SECTION 12
3/4" = 1'-0"



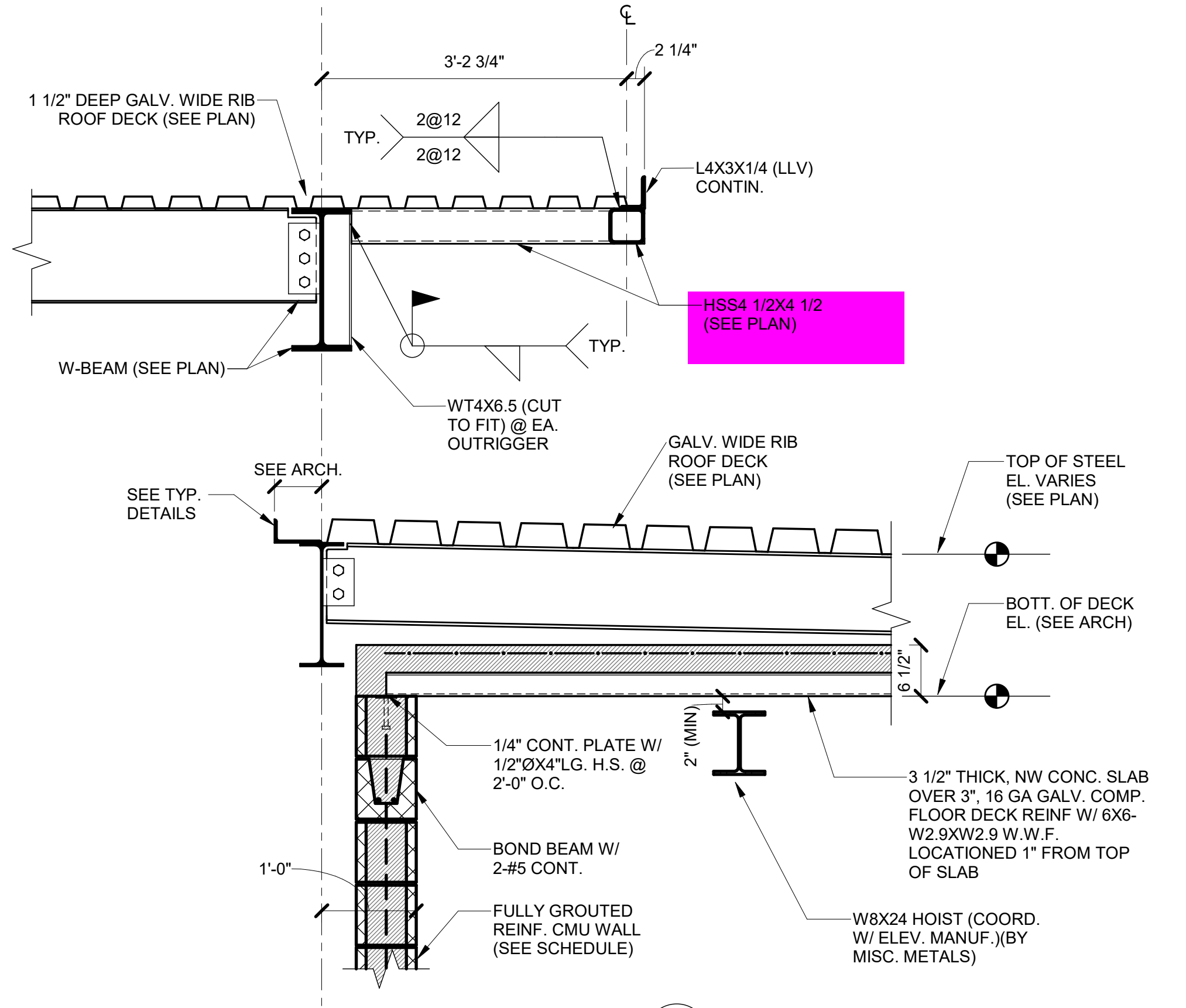
SECTION 13
3/4" = 1'-0"



SECTION 14
3/4" = 1'-0"



SECTION 15
3/4" = 1'-0"



SECTION 16
3/4" = 1'-0"

JOISTS

NOTES :

LL DEFL **L/240** TL DEFL JOIST SPACING

DWG	MARK	QTY	BCX	DESIGNATION	SPAN	SPACE	NU PSF	TCX L	TCX R	COMMENTS
	M01	16	3	44LHSP1	71'-8"	5.5	19.8	0.5	0.5	1, 2, 3, 4, 9
	M02	5	1	44LHSP1A	71'-8"	5.5	19.8	0.5	0.5	1, 2, 3, 5, 9
	M03	4	4	44LHSP2	71'-8"	5.5	19.8	0.5	0.5	1, 2, 3, 6, 9
	M04	14	2	44LHSP4	71'-8"	3	19.8	0.5	0.5	1, 2, 3, 7, 9
	M05	20	6	44LHSP3	71'-8"	3	19.8	0.5	0.5	1, 2, 3, 8, 9
	TOTAL	59	16							

1	ADD'L UP & DOWN LOAD 1.1K 0'-0" TO 10'-0" FROM TE & NON TE
2	AXIAL LOAD 1.1K @ TC TRANSFER THRU WELD PLATE
3	FOR SP LOADING DIAGRAM SEE S1.04.
4	DESIGN JOIST FOR 44LHSP1
5	DESIGN JOIST FOR 44LHSP1A
6	DESIGN JOIST FOR 44LHSP2
7	DESIGN JOIST FOR 44LHSP4
8	DESIGN JOIST FOR 44LHSP3
9	JOIST SHALL BE TCDP, 44" DEPTH @ BOTH END AND 53" @ MID