

GENERAL STRUCTURAL NOTES:

I. GENERAL:

- A. ALL CONSTRUCTION AND TESTING IS TO BE IN STRICT ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2006 ADDITION AND ALL RELATED PUBLICATIONS OF THE I.C.C.
- B. ALL ICC REPORTS REFERENCED IN THIS REPORT ARE AVAILABLE FREE OF CHARGE AT [HTTP://WWW.ICC-ES.ORG](http://www.icc-es.org).
- C. THE STRUCTURAL DRAWINGS SHOW THE COMPLETED PROJECT. THEY DO NOT INCLUDE COMPONENTS THAT MAY BE NECESSARY FOR CONSTRUCTION SAFETY. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY ON AND AROUND THE JOBSITE DURING CONSTRUCTION.
- D. STRUCTURAL NOTES SHALL BE USED ALONG WITH THE SPECIFICATIONS AND DRAWINGS, WHERE THE STRUCTURAL NOTES, STRUCTURAL AND ARCHITECTURAL DRAWINGS OR SPECIFICATIONS DISAGREE, THE CONTRACTOR MAY REQUEST A CLARIFICATION DURING THE BIDDING PERIOD. OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL.
- E. PROVIDE ALL TEMPORARY BRACING, SHORING, GUYING OR OTHER MEANS TO AVOID EXCESSIVE STRESSES AND TO HOLD STRUCTURAL ELEMENTS IN PLACE DURING CONSTRUCTION.
- F. ESTABLISH AND VERIFY ALL OPENINGS AND INSERTS FOR MECHANICAL, ELECTRICAL AND PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.
- G. VERIFY AND COORDINATE ALL DIMENSIONS AND CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES OR INCONSISTENCIES.
- H. STRUCTURAL DETAILS: DETAILS ARE APPLICABLE WHERE INDICATED BY SECTION CUT, BY NOTE OR BY DETAIL TITLE. PROVIDE SIMILAR DETAILS AT SIMILAR CONDITIONS UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY REQUEST A CLARIFICATION DURING THE BIDDING PERIOD OTHERWISE THE MORE STRINGENT REQUIREMENTS SHALL CONTROL.
- I. REFER TO ARCHITECTURAL DRAWINGS FOR ALL SLAB ELEVATIONS AND SLOPES NOT NOTED.
- J. ANY ENGINEERING DESIGN PROVIDED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN ARIZONA. THE COST OF DESIGN WORK RESULTING FROM ERRORS OR OMISSIONS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
- K. EXISTING CONDITIONS: CONTRACTOR SHALL VERIFY IN THE FIELD ALL DIMENSIONS AND CONDITIONS OF THE EXISTING STRUCTURE PRIOR TO BEGINNING ANY PERTINENT WORK. NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES BETWEEN THE DRAWINGS AND ACTUAL CONDITIONS.
- L. DEMOLITION:
 1. CONTRACTOR SHALL VERIFY IN THE FIELD ALL EXISTING CONDITIONS. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE ARCHITECT/ENGINEER PRIOR TO CONTINUING ANY WORK.
 2. CONTRACTOR SHALL EXERCISE EXTREME CARE DURING DEMOLITION TO AVOID DAMAGING THOSE PORTIONS OF THE STRUCTURE TO REMAIN. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY OF ANY DAMAGE TO THE STRUCTURE TO REMAIN.
 3. ALL TEMPORARY SHORING REQUIRED BY THE REMOVAL OF EXISTING STRUCTURAL ELEMENTS OR PORTIONS THEREOF SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 4. ALL METHODS USED SHALL BE CAREFULLY PLANNED AND SHALL BE APPROPRIATE TO THE WORK TO BE DONE. THE EXISTING STRUCTURE TO REMAIN SHALL NOT BE SUBJECTED TO ANY SUDDEN OR EXCESSIVE FORCES, WHICH MIGHT ADVERSELY AFFECT THE INTEGRITY OF THE STRUCTURE.
 5. WHERE EXISTING CONCRETE OR MASONRY IS TO BE REMOVED SAWCUT BETWEEN THE STRUCTURE TO REMAIN AND THAT TO BE REMOVED UNLESS NOTED OTHERWISE. WHERE NEW DOORS OR OTHER OPENINGS ARE TO BE CUT INTO EXISTING WALLS OR SLABS A MINIMUM 6" DIAMETER CORE HOLE SHALL BE DRILLED INTO EACH CORNER. THE SAWCUT SHALL BE BETWEEN THE CORE HOLES. NO OVERCUTTING INTO THE STRUCTURE TO REMAIN SHALL BE PERMITTED. OPENING CORNERS ARE TO BE SQUARED THROUGH THE USE OF HAND TOOLS WHERE REQUIRED.

II. DESIGN CRITERIA:

A. BUILDING CODE: 2006 I.B.C.

B. LOADINGS:

1. ROOF LIVE LOAD = 20 PSF (ON HORIZONTAL PROJECTION)
2. TYPICAL FLOOR LIVE LOAD = 100 PSF (REDUCIBLE)
3. LAB AREA LIVE LOAD = 125 PSF
4. STAIR LIVE LOAD = 100 PSF
5. SECOND FLOOR LIVE LOAD = 125 PSF

6. WIND LOADS:

- a) VELOCITY @ 3 SEC. GUST = 90 MPH ZONE
- b) EXPOSURE = C
- c) $I_w = 1.15$

7. SEISMIC LOADS:

- a) SOIL SITE CLASS = D
- b) $S_s = 0.286$
- c) $S_1 = 0.081$
- d) OCCUPANCY CATEGORY = III
- e) SEISMIC DESIGN CATEGORY = B
- f) $R = 3$
- g) $I_e = 1.25$

C. SOIL BEARING ALLOWABLE:

1. PER SOILS INVESTIGATION REPORT BY "LMT ENGINEERING, INC.", PROJECT NO. 295044. REFER TO THIS REPORT FOR ADDITIONAL INFORMATION.
2. ALL BASEMENT LEVEL SPREAD FOOTINGS ARE TO BE FOUNDED AT NOT LESS THAN 3'-0" BELOW LOWEST ADJACENT FINISH FLOOR UNLESS DETAILED OR NOTED OTHERWISE. ONTO DENSE UNDISTURBED NATIVE SOILS HAVING A MINIMUM BEARING CAPACITY OF 4500 PSF.
3. ALL BASEMENT LEVEL FOOTING EXCAVATIONS ARE TO BE REVIEWED BY THE SPECIAL GEOTECHNICAL INSPECTOR WHO IS TO BE FAMILIAR WITH THE ABOVE REFERENCED SOILS REPORT, TO VERIFY THE SUITABILITY OF THE NATIVE SOILS AND THE DESIGN BEARING PRESSURE USED.
4. ALL SURFACE LEVEL SPREAD FOOTINGS ARE TO BE FOUNDED AT NOT LESS THAN 2'-4" BELOW LOWEST ADJACENT FINISH FLOOR, FINISH GRADE OR EXISTING GRADE (LOWEST DEPTH GOVERNS) ONTO ENGINEERED FILL HAVING A MINIMUM BEARING CAPACITY OF 2500 PSF.
5. WHERE SURFACE LEVEL FOOTINGS ARE FOUNDED ON ENGINEERED FILL THE LIMITS OF COMPACTION AND THE PERCENT OF COMPACTION ARE TO BE PER THE ABOVE REFERENCED SOIL REPORT. ALL COMPACTION ACTIVITIES ARE SUBJECT TO SPECIAL GEOTECHNICAL INSPECTION.
6. DRILLED PIER FOOTINGS ARE TO BE FOUNDED AT THE DEPTHS INDICATED IN THE DRILLED PIER SCHEDULE, BUT NOT LESS THAN 5 FEET INTO DENSE NATIVE SOILS AND NOT LESS THAN 18 FEET BELOW EXISTING GRADE ONTO SOILS HAVING A MINIMUM BEARING CAPACITY OF 16 KSF. DRILLED PIERS MAY REQUIRE CASING AS DESCRIBED IN THE SOILS REPORT. REFER TO THE REFERENCED REPORT FOR ADDITIONAL REQUIREMENTS.
7. ALL DRILLED PIER EXCAVATIONS ARE TO BE REVIEWED BY THE GEOTECHNICAL SPECIAL INSPECTOR PRIOR TO PLACING REINFORCING OR CONCRETE TO VERIFY THE PIER SIZE, DEPTH AND THE SUITABILITY OF THE DESIGN BEARING PRESSURE USED.

III. MATERIALS AND EXECUTION:

A. CONCRETE:

1. ALL CONCRETE CONSTRUCTION SHALL COMPLY WITH ACI 301 AND 318, LATEST ADOPTION.
2. CONCRETE MATERIAL PROPERTIES: HIGH-RANGE WATER REDUCERS ARE NOT PERMITTED IN ANY CONCRETE USED IN FLATWORK (SLABS ON GRADE, TOPPING SLABS, ETC.). 28-DAY COMPRESSIVE STRENGTHS ARE TO BE AS FOLLOWS.
 - a) ALL CONCRETE U.N.O. 3000 PSI.
 - b) GRADE BEAMS 3500 PSI.
3. AGGREGATE SIZE: 1" MAXIMUM FOR FOOTINGS AND DRILLED PIERS, 3/4" MAXIMUM FOR ALL OTHER CONCRETE.
4. SLUMP: 4" PLUS OR MINUS 1" FOR ALL CONCRETE. EXCEPT DRILLED PIERS TO BE 8" MAX.
5. CAST IN PLACE CONCRETE:
 - a) SPACING OF CONSTRUCTION JOINTS OR CONTROL JOINTS IN WALLS EXPOSED TO VIEW SHALL NOT EXCEED 40 FEET UNLESS SPECIFICALLY NOTED OTHERWISE ON THE DRAWINGS.
 - b) PROVIDE EXTRA REINFORCING AROUND ALL OPENINGS EXCEEDING 24 INCHES SQUARE OR ROUND IN ALL SLABS AND WALLS EQUAL TO TWO #5 BARS ON FOUR SIDES AND EXTEND TWO FEET BEYOND THE OPENING.
 - c) COORDINATE CHAMFER SIZE ON ALL EXPOSED CORNERS OF CONCRETE WITH THE ARCHITECT. OMIT CHAMFER WHERE INDICATED ON THE ARCHITECTURAL DRAWINGS OR IN THE SPECIFICATIONS.
 - d) PROVIDE CLASS B LAP SPLICES FOR ALL REINFORCING UNLESS NOTED OTHERWISE.
 - e) PROVIDE ISOLATION JOINTS AROUND ALL COLUMNS AT ALL SLAB ON GRADE AREAS.
 - f) PROVIDE CORNER BARS AT ALL WALL CORNER AND TEE CONDITIONS WITH CLASS B LAPS PER ACI.

6. REINFORCING STEEL:

- a) ALL BARS #4 AND LARGER TO BE ASTM A 615, GRADE 60. ALL #2 AND #3 BARS TO BE ASTM A 615, GRADE 40. DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH ACI-318, LATEST ADOPTION.
- b) WELDED WIRE FABRIC TO BE IN ACCORDANCE WITH ASTM A 185.
- c) ALL BARS INDICATED ON THE PLANS TO BE WELDED SHALL CONFORM TO ASTM A 706 (GRADE 60).
- d) MINIMUM CONCRETE COVER FOR REINFORCING BARS TO FACE OF BARS INCLUDING TIES:

(1) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
(2) CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 BARS AND LARGER: 2"
#5 BARS AND SMALLER: 1-1/2"

B. STRUCTURAL AND MISCELLANEOUS STEEL:

1. MATERIAL PROPERTIES:

- a) TO BE ASTM A 36 UNLESS NOTED OTHERWISE.
- b) ALL WIDE-FLANGE SHAPES TO BE ASTM A992 - GRADE 50.
- c) PIPE TO BE ASTM A 501, Fy = 36 KSI OR ASTM A 53, TYPE E OR TYPE S, GRADE B, Fy = 35 KSI.
- d) SQUARE OR RECTANGULAR TUBES TO BE ASTM A 500, GRADE B, Fy = 46 KSI.
- e) SHEET STEEL AT STAIR TREADS, RISERS AND LANDINGS IS TO BE ASTM A1011-SS, GRADE 36, TYPE 2.
- f) ALL STEEL TO BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS, LATEST ADOPTION.

2. WELDING:

- a) FOR STRUCTURAL STEEL TO BE IN ACCORDANCE WITH A.W.S. REQUIREMENTS FOR E70XX ELECTRODES.
- b) ALL FILLET WELDS UP TO 5/16" SHALL BE MADE AS SINGLE PASS WELDS. ALL MULTI-PASS WELDS REQUIRE VISUAL INSPECTION BY THE SPECIAL INSPECTOR FOR EACH WELD PASS PRIOR TO INSTALLING SUBSEQUENT PASSES. MULTI-PASS WELDS THAT HAVE NOT BEEN PROPERLY INSPECTED WILL BE REJECTED.
- c) ALL SHOP AND FIELD COMPLETE JOINT PENETRATION (CJP) WELDS REQUIRE ADDITIONAL INSPECTIONS AS FOLLOWS. VISUAL INSPECTION IS REQUIRED FOR EACH WELD PASS AND COMPLETED WELDS ARE TO BE ULTRASONICALLY TESTED. RESULTS OF ALL VISUAL INSPECTIONS AND TESTS ARE TO BE FORWARDED TO THIS ENGINEER AND TO THE SPECIAL INSPECTOR FOR REVIEW.
- d) ALL SHOP VISUAL WELD INSPECTION MAY BE WAIVED IF THE FABRICATOR IS PRE-APPROVED IN ACCORDANCE WITH SECTION III.E.1.b BELOW. ULTRASONIC TESTING IS REQUIRED FOR ALL SHOP AND FIELD COMPLETE JOINT PENETRATION (CJP) WELDS AS DESCRIBED ABOVE.
- e) ALL SHOP WELDING IS TO BE OF ARCHITECTURAL QUALITY AND SUBJECT TO THE APPROVAL OF THE ARCHITECT. GRIND ALL EXPOSED WELDS TO A SMOOTH CONDITION. DO NOT GRIND BEYOND STRUCTURAL THROAT REQUIREMENTS INDICATED.

3. BOLTS AND OTHER FASTENERS:

- a) ALL BOLTS TO BE 3/4" DIAMETER ASTM A 325-N UNLESS NOTED OTHERWISE. ALL BOLTS ARE TO BE TIGHTENED TO A SNUG-TIGHT CONDITION UNLESS NOTED OTHERWISE.
- b) ALL BOLTS ARE TO EXTEND THRU THE NUT SUCH THAT THE BOLT END IS AT LEAST FULL WITH THE TOP OF THE NUT, WHERE THREADS ARE INDICATED TO BE SPOOLED, BOLTS SHALL EXTEND PAST THE NUT BY NOT LESS THAN 1/2".
- c) TYPICAL ANCHOR RODS SHALL BE ASTM A 307 OR A 36, U.N.O.
- d) BASE PLATE HOLES FOR ANCHOR BOLTS ARE TO BE AS FOLLOWS.
 - (1) AT ALL COLUMN BASES AT BRACED FRAME OR MOMENT FRAME COLUMNS, AND AT ALL COLUMN BASES WHERE THREADED RODS WITH DOUBLE NUT AND WASHER ANCHORS ARE INDICATED, BASE PLATE HOLES SHALL BE STANDARD SIZE HOLES FOR THE BOLT DIAMETER INDICATED. HOLES MAY BE INCREASED TO A MAXIMUM DIAMETER OF 1/4" LARGER THAN THE STANDARD SIZE HOLE PROVIDED THAT 1/4" STEEL PLATE WASHERS ARE INSTALLED BELOW THE NUT AND FULLY WELDED TO THE BASE PLATE IN THE FIELD USING 3/16" FILLET WELDS. PLATE WASHERS ARE TO HAVE STANDARD SIZE HOLES WITH PLATE SIZE SUCH THAT THE OVERSIZED BASE PLATE HOLE IS COMPLETELY COVERED WITH NOT LESS THAN 1/2" OVERLAP.
 - (2) AT ALL COLUMN BASES NOT NOTED IN ITEM (1) ABOVE, BASE PLATE HOLES MAY HAVE A DIAMETER OF UP TO 1/4" LARGER THAN THE STANDARD SIZE HOLE FOR THE BOLT DIAMETER INDICATED.

- e) EXPANSION BOLTS ARE TO BE HILTI "KWIK BOLT 3" ANCHORS INSTALLED IN ACCORDANCE WITH ICC ESR-2302. DRILLED HOLE DIMENSIONS AND MINIMUM EFFECTIVE EMBEDMENT ARE TO BE AS FOLLOWS IN CONCRETE. HOLE DEPTH IS MEASURED FROM THE OUTSIDE FACE OF THE CONCRETE. ALL CONCRETE SHALL BE AT ITS SPECIFIED DESIGN STRENGTH AT THE TIME OF INSTALLATION.

BOLT DIAMETER	DRILL BIT DIA.	HOLE DEPTH
1/2"	1/2"	3-1/4"
5/8"	5/8"	4"
3/4"	3/4"	5"

- f) LOW VELOCITY FASTENERS TO BE HILTI 0.157" DIAMETER TYPE X-U FASTENERS AT SPACINGS INDICATED. MINIMUM EMBEDMENT IN CONCRETE TO BE 1-1/4 INCHES. INSTALLATION IS TO BE IN ACCORDANCE WITH ICC REPORT NUMBER ESR-2269. ALTERNATE PRODUCTS MAY BE SUBMITTED FOR REVIEW AND APPROVAL.
- g) ADHESIVE ANCHORS ARE TO BE ASTM A307 OR A36 THREADED RODS WITH SIMPSON "SET" ADHESIVE, INSTALLED IN ACCORDANCE WITH ICC ESR-1772. DRILLED HOLE DIMENSIONS ARE TO BE AS FOLLOWS IN SOLID GROUTED MASONRY OR CONCRETE UNLESS NOTED OTHERWISE. HOLE DEPTH IS MEASURED FROM THE OUTSIDE FACE OF THE MASONRY OR CONCRETE. ALL CONCRETE AND/OR GROUT SHALL BE AT ITS SPECIFIED DESIGN STRENGTH AT THE TIME OF INSTALLATION.

ROD DIA./BAR SIZE	DRILL BIT DIA.	HOLE DEPTH
1/2"	9/16"	4-1/4"
3/8"	3/4"	5"
3/4"	7/8"	6-3/4"
#4	5/8"	4-1/4"
#5	3/4"	5"
#6	7/8"	6-3/4"

- h) SELF-DRILLING, SELF TAPPING SCREWS ARE TO BE "TEKS" SCREWS BY ITW BUILDUP WITH SIZE AS INDICATED AND WITH SCREW POINT SIZE APPROPRIATE TO THE THICKNESS OF THE STEEL SUBSTRATE. INCREASE SCREW SIZE AS REQUIRED IF SUBSTRATE THICKNESS REQUIRES A LARGER POINT SIZE THAN IS AVAILABLE FOR THE SCREW SIZE SPECIFIED. ALL SCREWS ARE TO HAVE HEX WASHER HEADS UNLESS NOTED OTHERWISE.

4. HEADED STUD SHEAR CONNECTORS: TO BE ASTM A 108. ALL HEADED STUDS ARE TO BE BY NELSON STUD WELDING OR APPROVED EQUAL AND ARE TO BE FLASH WELDED TO THE SUPPORTING STEEL USING AN ELECTRIC ARC WELDING PROCESS.

5. METAL ROOF DECK:

- a) TO BE GALVANIZED AND OF THE TYPE AND GAUGES CALLED FOR ON THE DRAWINGS, MANUFACTURED AND ERECTED PER S.D.I. AND IN ACCORDANCE WITH ICBO #ER-2078P.
- b) ALL DECK IS TO BE INSTALLED IN 2-SPAN MINIMUM CONDITIONS EXCEPT AT SPECIFICALLY SHOWN 1-SPAN CONDITIONS. INCREASE DECK GAGE PER MANUFACTURER AND ICBO REPORT REQUIREMENTS WHERE CONTRACTOR'S LAYOUT OPTION RESULTS IN SINGLE-SPAN CONDITIONS. ALL GAGE INCREASES AT THESE CONDITIONS ARE SUBJECT TO APPROVAL BY THIS ENGINEER.
- c) ALL METAL DECK IS TO BE WELDED WITH E6022 ELECTRODES UNLESS OTHER ELECTRODES ARE SPECIFICALLY APPROVED BY THIS ENGINEER. ALL WELDERS ARE TO HAVE ARC-SPOT WELD CERTIFICATION FOR THE SPECIFIC DECK GAGE INDICATED PER A.W.S. REQUIREMENTS.

6. METAL FLOOR DECK:

- a) TO BE GALVANIZED COMPOSITE METAL DECK OF THE TYPE AND GAUGES INDICATED ON THE DRAWINGS, MANUFACTURED AND ERECTED PER S.D.I. AND IN ACCORDANCE WITH ICBO #ER-2078P.
- b) ALL DECK IS TO BE INSTALLED IN 2-SPAN MINIMUM CONDITIONS EXCEPT AT SPECIFICALLY SHOWN 1-SPAN CONDITIONS. INCREASE DECK GAGE PER MANUFACTURER AND ICBO REPORT REQUIREMENTS WHERE CONTRACTOR'S LAYOUT OPTION RESULTS IN SINGLE-SPAN CONDITIONS. ALL GAGE INCREASES AT THESE CONDITIONS ARE SUBJECT TO APPROVAL BY THIS ENGINEER.
- c) ALL METAL DECK IS TO BE WELDED WITH E6022 ELECTRODES UNLESS OTHER ELECTRODES ARE SPECIFICALLY APPROVED BY THIS ENGINEER. ALL WELDERS ARE TO HAVE ARC-SPOT WELD CERTIFICATION FOR THE SPECIFIC DECK GAGE INDICATED PER A.W.S. REQUIREMENTS.

7. COLD-FORMED STEEL FRAMING:

- a) WALLS, PARAPETS AND OTHER ITEMS SPECIFIED AS COLD-FORMED STEEL FRAMING SHALL BE DESIGNED, DETAILED AND FABRICATED IN ACCORDANCE WITH A.I.S.I. SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS.
- b) COLD-FORMED MEMBER SIZES ARE GIVEN IN MILS TO REFLECT THE CURRENT INDUSTRY TEND. FOR INFORMATIONAL PURPOSES, EQUIVALENT GAGE SIZES ARE GIVEN FOLLOWING.

20 GAGE = 33 MIL
18 GAGE = 43 MIL
16 GAGE = 54 MIL
14 GAGE = 68 MIL
12 GAGE = 97 MIL
- c) MATERIALS:
 - (1) ALL FRAMING MEMBERS SHALL BE OF THE TYPE AND SIZE AS SHOWN ON THE DRAWINGS AND SPECIFICATIONS AND SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL STUD MANUFACTURERS ASSOCIATION OR PRE-APPROVED EQUAL.
 - (2) ALL STUDS SHALL HAVE A MINIMUM FLANGE WIDTH OF 1-5/8", WITH A MINIMUM 3/8" RETURN LIP.
 - (3) ALL TRACKS SHALL HAVE A MINIMUM FLANGE WIDTH OF 1-1/4".
 - (4) ALL 97, 68 AND 54 MIL ITEMS SHALL BE FORMED FROM STEEL MEETING THE MINIMUM REQUIREMENTS OF ASTM A 570, GRADE 50.
 - (5) ALL 43 AND 33 MIL ITEMS SHALL BE FORMED FROM STEEL MEETING THE MINIMUM REQUIREMENTS OF ASTM A 570, GRADE 33.
 - (6) ALL 50 KSI MATERIAL IS TO BE TAGGED TO REFLECT ASTM NUMBER AND GRADE.
 - (7) ALL STRUCTURAL COMPONENTS SHALL BE GIVEN A COAT OF RUST RESISTING PAINT. FIELD ABRASIONS AND WELDS SHALL BE TOUCHED UP IN THE FIELD AFTER ERECTION.

d) MATERIALS:

- (1) WALL FRAMING COMPONENTS MAY BE PREFABRICATED INTO PANELS OF A SUITABLE SIZE FOR ERECTION.
- (2) ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY OR AT AN ANGLE AS IN BRACING TO FIT FIRMLY AGAINST BUTTING MEMBERS. MEMBERS SHALL BE HELD SECURELY IN PLACE UNTIL PROPERLY FASTENED.
- (3) ATTACHMENT OF COMPONENTS SHALL BE SCREWED OR WELDED AS INDICATED. ALL WELDS SHALL BE FILLET, PLUG, BUTT OR SEAM AS INDICATED ON THE DRAWINGS AND MADE WITH 3/32" AWS TYPE 6013 ROD WITH A WELDING HEAT OF 60-110 AMPERES. WIRE FEED TYPE WELDER IS RECOMMENDED.
- (4) ALL STUDS SHALL BE FASTENED TO ALL TRACKS WITH A MINIMUM #10 SCREW AT EACH FLANGE UNLESS INDICATED TO BE WELDED. ALL SCREWS SHALL PROTRUDE THRU CONNECTED PARTS BY A MINIMUM OF THREE SCREW THREADS.

e) METAL STUD SHEAR WALL REQUIREMENTS AT ELEVATOR PENTHOUSE:

- (1) PROVIDE DOUBLED STUDS AT THE ENDS OF ALL WALLS. FASTEN DOUBLED STUDS TOGETHER WITH 2" LONG BY 3/32" WELDS AT 12" O.C. MAX FOR THE FULL HEIGHT OF THE STUDS.
- (2) ALL PANEL EDGES ARE TO BE BLOCKED AND FASTENED AS DESCRIBED IN SECTION III.C.2 BELOW. BLOCKING AT PANEL EDGES SHALL BE FULL DEPTH STUD BLOCKING OR 1-1/2" WIDE CONTINUOUS STRAPPING WITH THICKNESS EQUAL TO OR GREATER THAN THE STUD AND TRACK THICKNESS.

C. WOOD:

8. GLULAM POSTS:

- a) SHALL BE MANUFACTURED IN ACCORDANCE WITH ANSI/AITC A190.1, CURRENT EDITION.
- b) ALL MEMBERS SHALL BE ACCOMPANIED BY AN AITC CERTIFICATE OF CONFORMANCE, AND SHALL MEET THE REQUIREMENTS OF D.FIR/LARCH COMBINATION 24F-V8 WITH BALANCED LAYUP PER THE 2001 NATIONAL DESIGN SPECIFICATION.
- c) ALL GLULAM MEMBERS SHALL BE CONSTRUCTED WITH EXTERIOR-GRADE ADHESIVES.

2. ELEVATOR PENTHOUSE WALL SHEATHING:

- a) ON EXTERIOR FACE OF ALL WALLS TO BE STD 23/32" STRUCTURAL 1 SHEATHING WITH EXTERIOR GLUE, COMPLYING WITH DOC P51 OR PS2. FULLY BLOCK AND FASTEN ALL PANEL EDGES.
- b) #10 SCREW FASTENERS ARE TO BE FLAT-HEAD SELF-DRILLING, SELF-TAPPING SCREWS WITH A MINIMUM HEAD DIAMETER OF 0.333 INCHES (8.46 mm), AND WITH SELF-DRILLING POINT SIZE APPROPRIATE TO THE GAGE OF THE WALL STUDS.
- c) FASTENERS ALONG THE EDGES OF PANELS SHALL BE PLACED NOT CLOSER THAN 3/8" FROM THE PANEL EDGES.
- d) PANELS MAY BE APPLIED EITHER PARALLEL OR PERPENDICULAR TO FRAMING. PANELS LESS THAN 12" WIDE SHALL NOT BE USED.
- e) FASTEN SHEATHING TO METAL STUDS AND BLOCKING AT 6" O.C. AT ALL PANEL EDGE SUPPORTS AND AT 12" O.C. AT ALL INTERMEDIATE SUPPORTS.

D. SHOP DRAWINGS:

1. SHOP DRAWINGS ARE TO BE SUBMITTED FOR ALL STRUCTURAL ITEMS AND AS REQUIRED BY THE SPECIFICATIONS. CONTRACT DRAWINGS SHALL NOT BE REDUCED FOR USE AS SHOP DRAWINGS.
2. CONTRACTOR SHALL THOROUGHLY REVIEW ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE DESIGN TEAM. ALL INFORMATION NOT IN ACCORDANCE WITH THE CONTRACT DOCUMENTS SHALL BE CLEARLY NOTED BY THE CONTRACTOR DURING HIS REVIEW.
3. ANY CHANGE FROM THE CONTRACT DOCUMENTS SHALL BE CLEARLY NOTED BY THE SUBMITTING PARTY. ANY CHANGES NOT NOTED SHALL BE CONSIDERED AS NOT APPROVED UNLESS SPECIFICALLY NOTED OTHERWISE BY THIS ENGINEER. THE SHOP DRAWING STAMP SHALL NOT BE CONSIDERED TO BE IMPLIED APPROVAL OF ANY CHANGES.
4. SHOP DRAWINGS SHALL NOT REPLACE THE CONTRACT DOCUMENTS. ITEMS OMITTED AND/OR SHOWN INCORRECTLY AND NOT NOTED BY THE REVIEWER ARE NOT TO BE CONSIDERED TO BE CHANGES TO THE CONTRACT DOCUMENTS. SHOP DRAWING REVIEW IS INTENDED AS AN AID TO THE CONTRACTOR IN HIS OBTAINING CORRECT SHOP DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL ITEMS SHOWN ARE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. ANY ENGINEERING DESIGN PERFORMED BY OTHERS AND SUBMITTED FOR REVIEW SHALL BEAR THE SEAL AND SIGNATURE OF A STRUCTURAL ENGINEER REGISTERED IN THE APPROPRIATE JURISDICTION AND DISCIPLINE. COMPLETE DESIGN CALCULATIONS FOR EACH ITEM SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE ENGINEER. THE ADEQUACY AND ACCURACY OF THE DESIGNS AND LAYOUTS PERFORMED BY OTHERS RESTS WITH THE DESIGNING AND/OR SUBMITTING PARTY.

E. SPECIAL INSPECTION: CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND MONITORING OF ALL SPECIAL INSPECTIONS. REASONABLE ADVANCE NOTICE SHALL BE GIVEN TO THE SPECIAL INSPECTOR. NO PERTINENT WORK SHALL PROCEED UNTIL SPECIAL INSPECTION HAS TAKEN PLACE AND HAS INDICATED COMPLIANCE. COPIES OF ALL WRITTEN SPECIAL INSPECTION REPORTS SHALL BE FORWARDED TO THE ENGINEER PROMPTLY. SPECIAL INSPECTION IS REQUIRED IN ACCORDANCE WITH I.B.C. SECTION 1704 AS FOLLOWS.

1. STEEL FABRICATORS:

- a) SPECIAL INSPECTION OF STEEL FABRICATORS IS REQUIRED FOR ALL STEEL ASSEMBLIES FABRICATED OFF SITE. IN ADDITION TO THE INSPECTION OF THE FABRICATED ASSEMBLIES OR ITEMS, INSPECTION SHALL INCLUDE VERIFICATION OF FABRICATION AND IMPLEMENTATION PROCEDURES AS DESCRIBED IN IBC SECTION 1704.2.1.
- b) SPECIAL INSPECTION OF FABRICATION AND IMPLEMENTATION PROCEDURES MAY BE WAIVED IF THE FABRICATOR HAS RECEIVED PRIOR REGISTRATION AND APPROVAL BY THE CITY OF TUCSON OR ANOTHER RECOGNIZED INDEPENDENT AUTHORITY (A.I.S.C. PLANT CERTIFICATION OR SIMILAR). EVIDENCE OF PRIOR APPROVAL MUST BE SUBMITTED TO THE SPECIAL INSPECTOR FOR REVIEW. FABRICATION SHALL NOT COMMENCE PRIOR TO RECEIVING THE SPECIAL INSPECTOR'S WRITTEN APPROVAL.

2. STEEL CONSTRUCTION: ALL STEEL CONSTRUCTION IS TO HAVE PERIODIC INSPECTION IN ACCORDANCE WITH I.B.C. SECTION 1704.3 AND TABLE 1704.3. INSPECTIONS ARE TO INCLUDE ALL SHOP AND FIELD WELDING AND ALL HIGH-STRENGTH BOLTING OF STRUCTURAL STEEL ELEMENTS. IN ADDITION TO THESE SPECIAL STRUCTURAL INSPECTIONS, ALL COMPLETE JOINT PENETRATION WELDS AND MULTI-PASS WELDS ARE TO HAVE CONTINUOUS INSPECTION AND NON-DESTRUCTIVE TESTING PERFORMED BY AN INDEPENDENT, QUALIFIED TESTING AND INSPECTION LAB AS INDICATED IN SECTION III.B.2 ABOVE.

3. CONCRETE CONSTRUCTION: ALL CONCRETE EXCEPT SLABS ON GRADE AND TOPPING ON METAL DECK IS TO HAVE PERIODIC AND/OR CONTINUOUS INSPECTION IN ACCORDANCE WITH I.B.C. SECTION 1704.4 AND TABLE 1704.4 AS APPLICABLE. IN ADDITION, ALL CONCRETE MATERIALS SHALL BE TESTED IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTER 3 OF ACI 318.

4. SOILS: ALL ENGINEERED FILL TO BE PLACED BELOW FOOTINGS AND/OR INTERIOR SLABS IS TO HAVE SPECIAL INSPECTION PERFORMED IN ACCORDANCE WITH I.B.C. SECTION 1704.5. INSPECTIONS SHALL INCLUDE SITE PREPARATION, FILL PLACEMENT AND IN-PLACE DENSITY EVALUATION. THE SOILS REPORT REFERENCED IN SECTION III.C.1 ABOVE SHALL BE USED TO DETERMINE COMPLIANCE. ALL FOOTING AND DRILLED PIER EXCAVATIONS INTO UNDISTURBED NATIVE SOILS ARE TO BE REVIEWED BY THE GEOTECHNICAL SPECIAL INSPECTOR AS INDICATED IN SECTION III.C ABOVE.

5. EXPANSION AND ADHESIVE ANCHORS: ALL EXPANSION AND ADHESIVE ANCHOR INSTALLATION IS TO HAVE SPECIAL STRUCTURAL INSPECTION PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE REFERENCED I.C.C. REPORT.

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AUGUST 25, 2011
Construction Documents
r+b job #: 0209

U.A. #: 08-8826

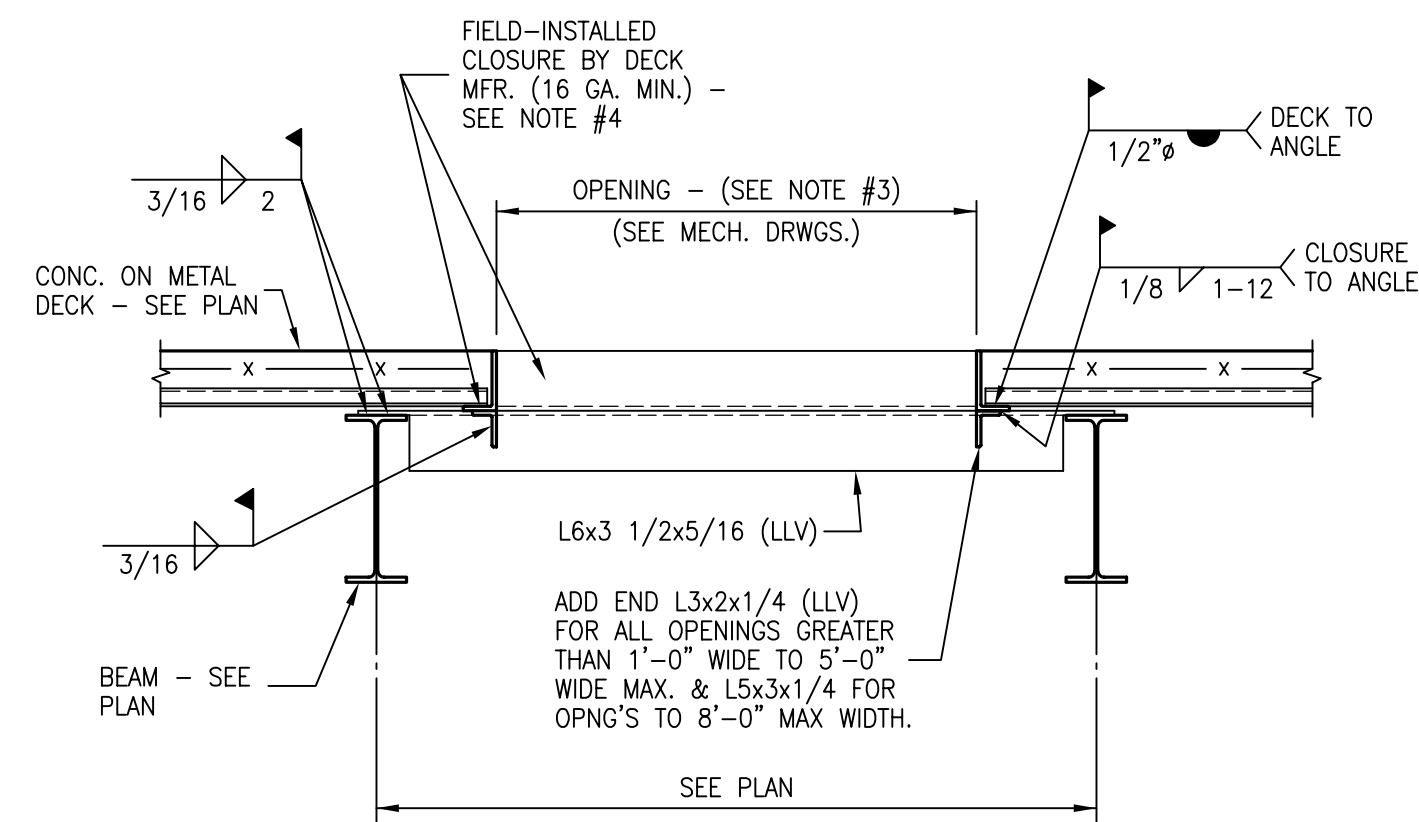
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The University of Arizona - Tucson, Arizona

GMP-ADDENDUM 1
05/13/11
OWNER REVIEW
08/25/11

GEN. STRUCT.
NOTES

S1.0

NO SCALE



- NOTES:**
1. TYPICAL FOR ALL OPENINGS IN ROOF WITH GREATER THAN 12" DIMENSION, AND 8" MAX. WIDTH.
 2. METAL DECK SUPPLIER TO FURNISH ALL SUMP PANS AND REINFORCING PLATES FOR OPENINGS UP TO 12".
 3. MISCELLANEOUS STEEL CONTRACTOR TO VERIFY WITH ALL TRADES, FOR NUMBER AND LOCATION OF FRAMED OPENINGS REQUIRED.
 4. CUT OUT DECK FOR OPENING & INSTALL UPTURNED CLOSURE ANGLE AROUND PERIMETER IMMEDIATELY BEFORE PLACING TOPPING.

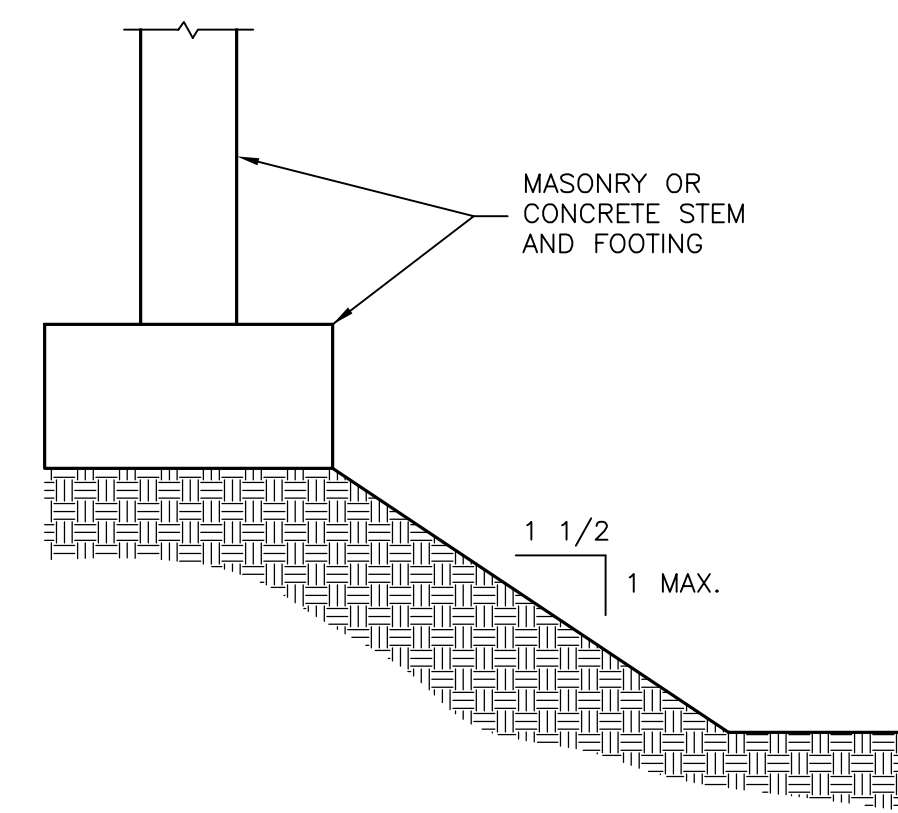
9 TYPICAL FRAMING AT FLOOR OPENING

CONCRETE REINFORCEMENT LAP SCHEDULE								
CLASS B TENSION SPLICE LENGTHS						COMP. BARS		
CONC. PSI	f _c = 2500 PSI / f _c = 3000 PSI		f _c = 4000 PSI		f _c = 5000 PSI		f _c = ALL	
BAR LOCATION	REGULAR CLASS	TOP CLASS	REGULAR CLASS	TOP CLASS	REGULAR CLASS	TOP CLASS	STD. LAP	ENCLOSED w/ SPIRAL TIES
SPACING SIZE	>3db	≥6db	>3db	≥6db	>3db	≥6db	>3db	≥6db
#3	16"	16"	21"	21"	16"	16"	18"	18"
#4	22"	22"	28"	28"	19"	19"	24"	24"
#5	27"	27"	35"	35"	23"	23"	30"	30"
#6	35"	32"	46"	42"	31"	28"	40"	36"
#7	48"	38"	63"	49"	42"	33"	54"	42"
#8	63"	43"	82"	56"	55"	37"	71"	48"
#9	80"	48"	104"	63"	69"	42"	90"	55"
#10	102"	58"	132"	76"	88"	50"	114"	65"
#11	125"	71"	162"	93"	108"	62"	140"	80"

NOTES:

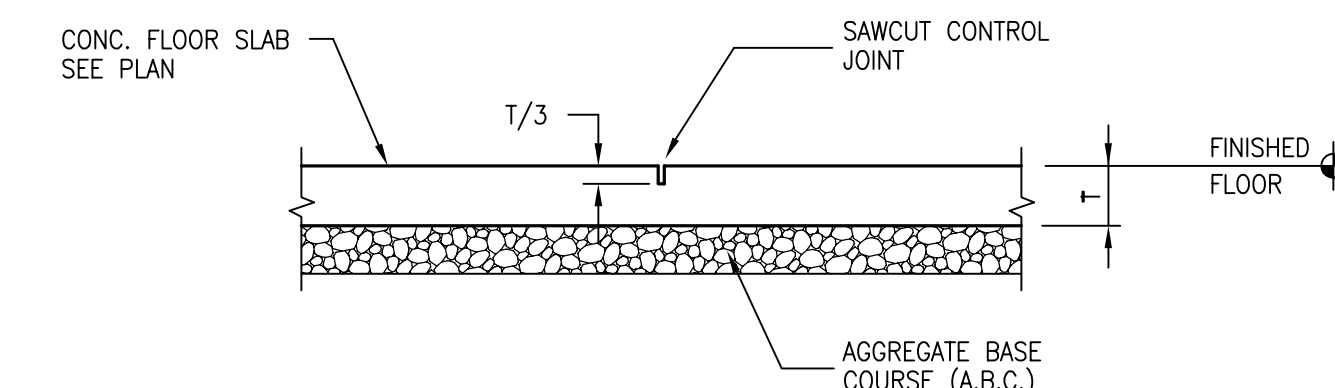
1. TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
2. UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, SLABS, AND WALLS SHALL BE CLASS "B" TENSION LAP SPLICES & LAP SPLICES IN CONCRETE COLUMNS SHALL COMPRESSION LAP SPLICES
3. CONTACT STRUCTURAL ENGINEER IF CENTER TO CENTER SPACING OF REINFORCING IS LESS THAN OR EQUAL TO 3 BAR DIAMETERS (<3db).

6 CONCRETE REINFORCEMENT LAP SCHEDULE

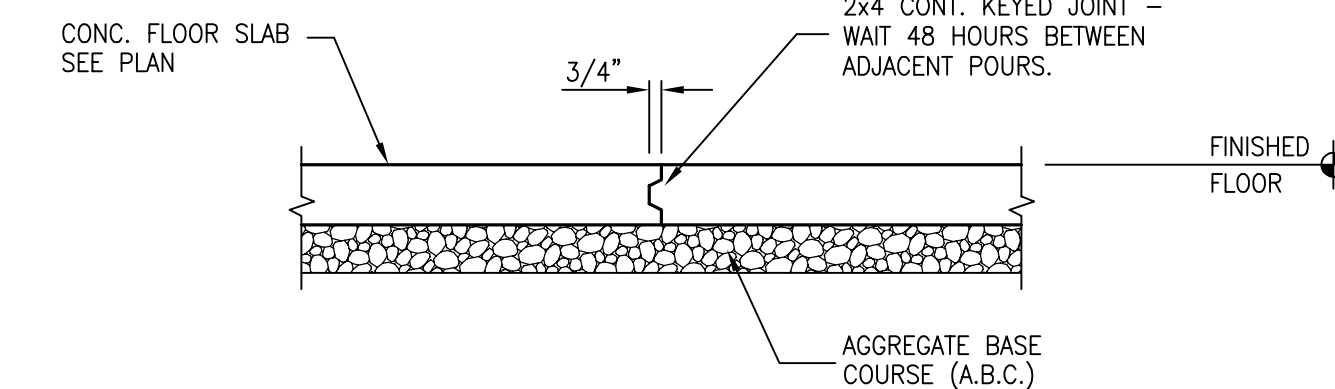


NOTE: TYPICAL FOR ALL EXCAVATION ADJACENT TO ALL WALL OR COLUMN FOOTINGS

3 EXCAVATION ADJACENT TO FOOTING

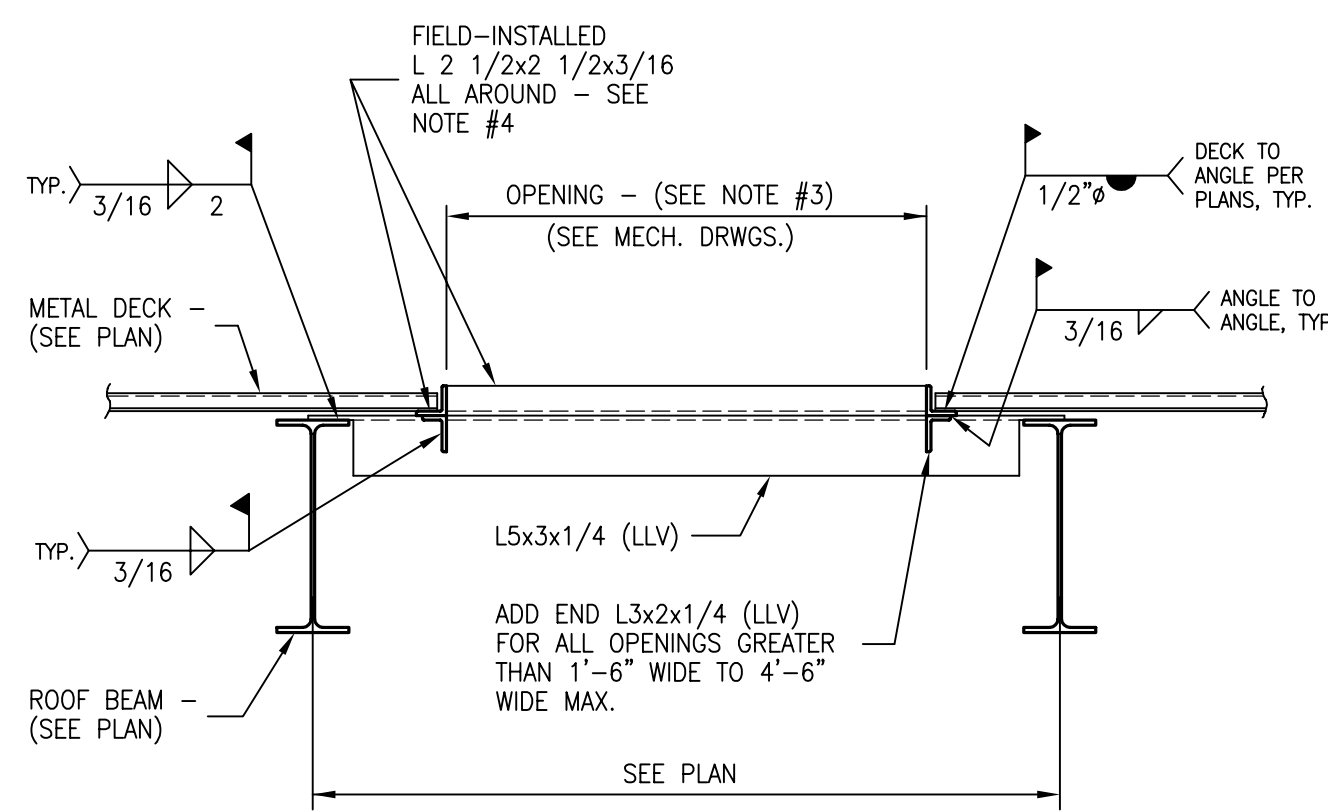


A TYPICAL CONTROL JOINT



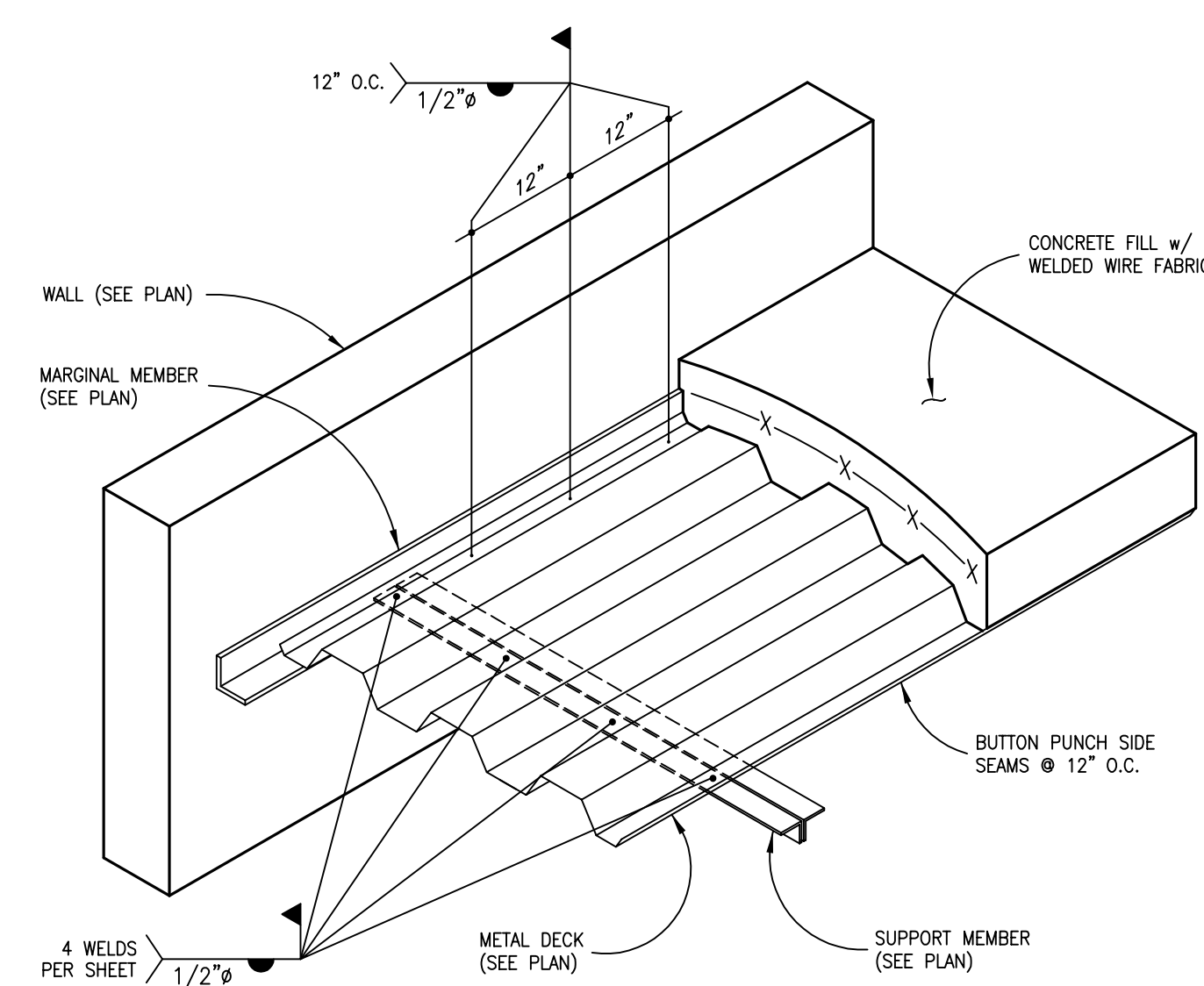
B TYP. KEYED CONSTRUCTION JOINT

1 TYPICAL CONCRETE FLOOR JOINTS

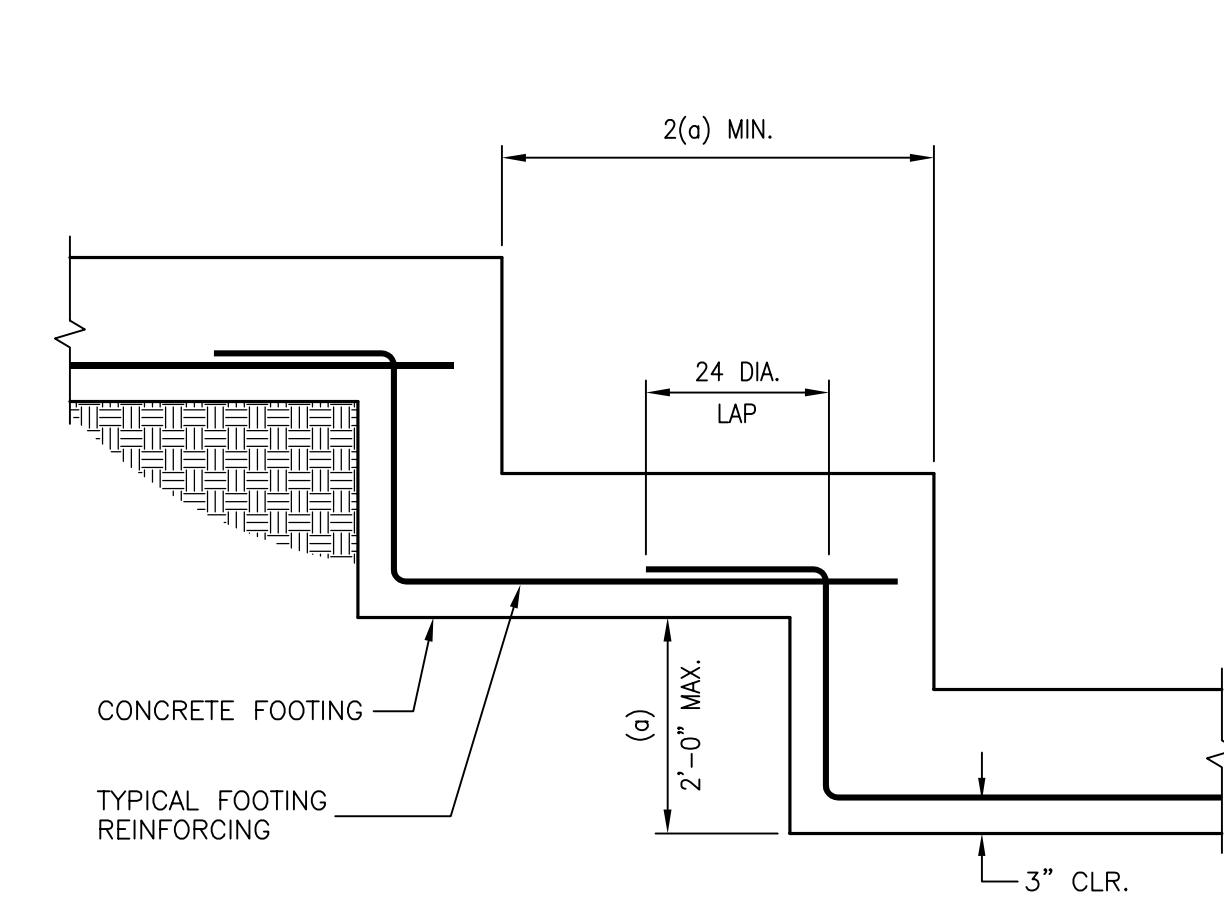


- NOTES:**
1. TYPICAL FOR ALL OPENINGS IN ROOF WITH GREATER THAN 12" DIMENSION.
 2. METAL DECK SUPPLIER TO FURNISH ALL SUMP PANS AND REINFORCING PLATES FOR OPENINGS UP TO 12".
 3. MISCELLANEOUS STEEL CONTRACTOR TO VERIFY WITH ALL TRADES, FOR NUMBER AND LOCATION OF FRAMED OPENINGS REQUIRED.
 4. CUT OUT DECK FOR OPENING & INSTALL UPTURNED L2 1/2" ANGLES AROUND PERIMETER IMMEDIATELY BEFORE INSTALLING EQUIPMENT.

10 TYPICAL FRAMING AT METAL ROOF OPENING

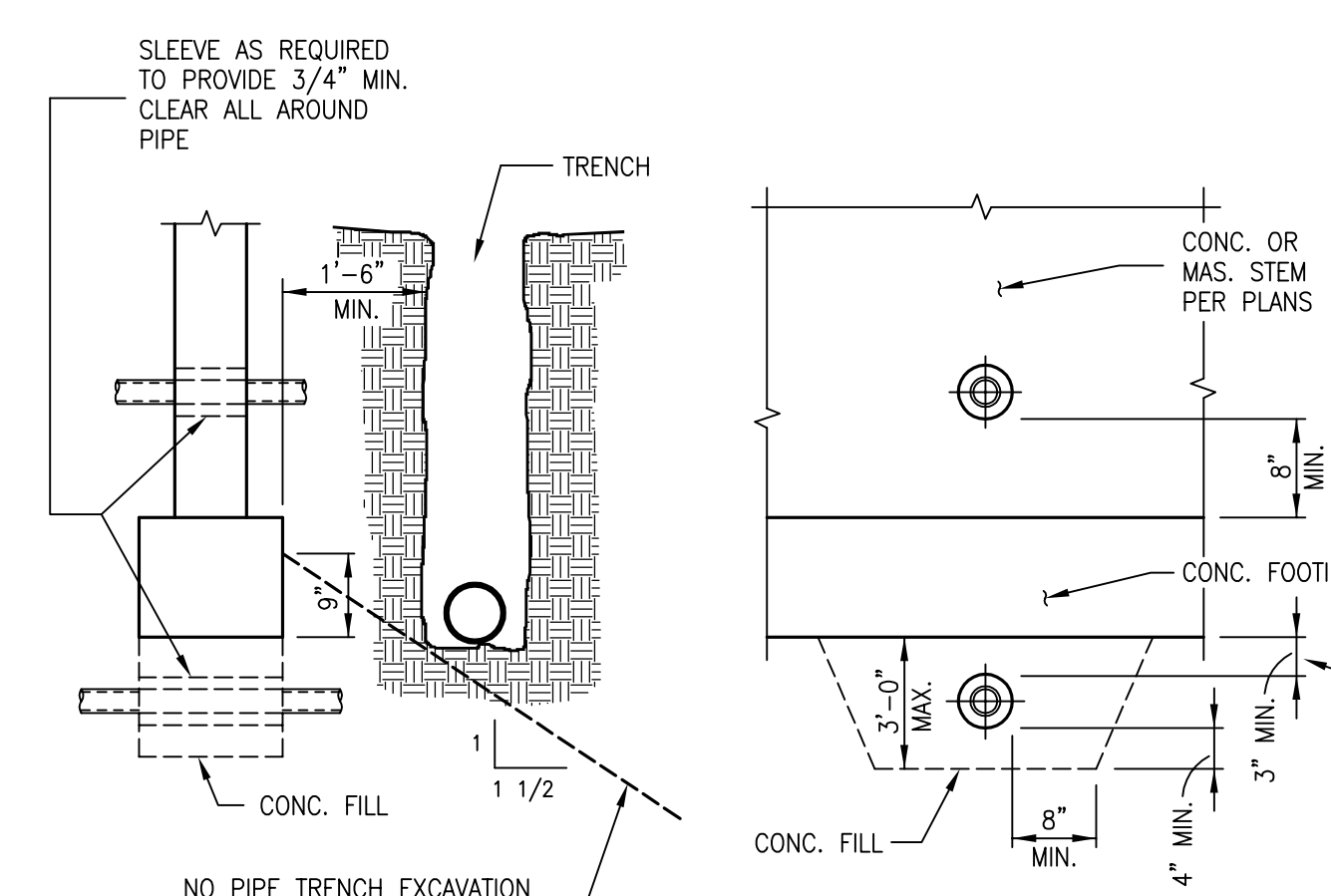


7 METAL FLOOR DECK WELDING PATTERN



NOTE: REINFORCING MAY BE CONTINUOUS

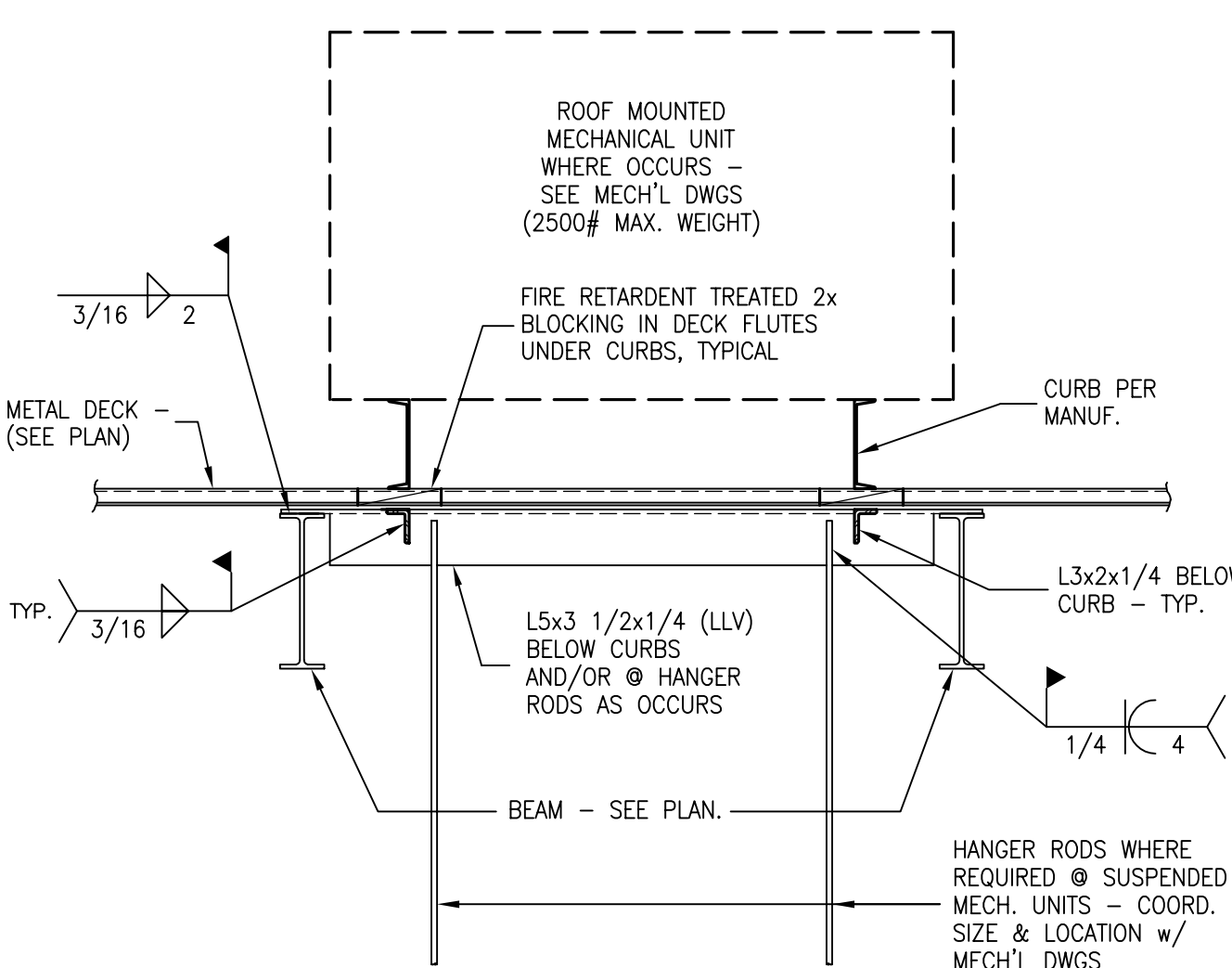
4 TYPICAL STEPPED FOOTING



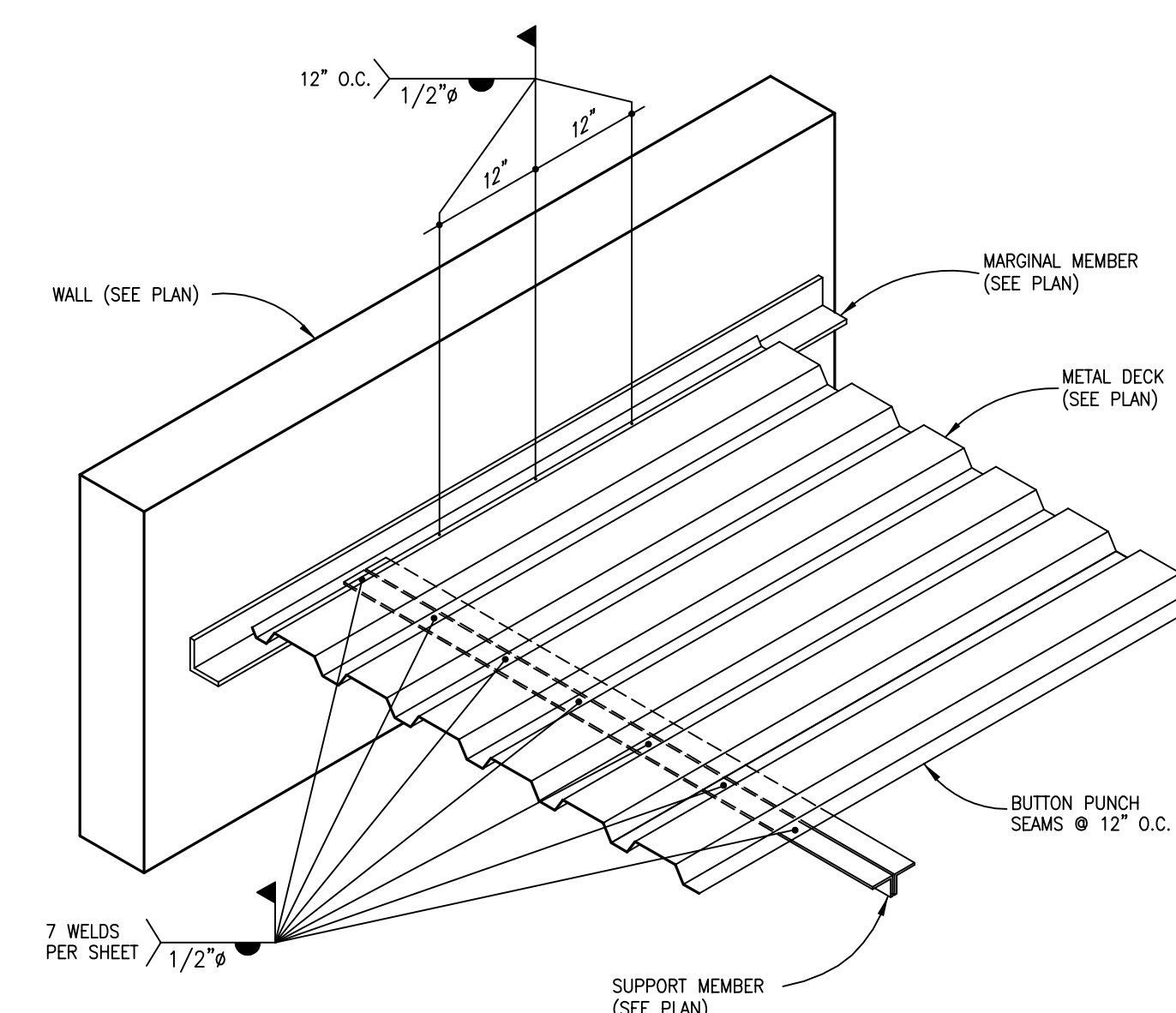
NOTE: CONCRETE FILL TO BE THE SAME WIDTH AS FOOTING & FULL WIDTH OF PIPE TRENCH. PIPE TO CLEAR SLEEVE BY 1/2" ALL AROUND

NOTE: CONC. FILL MAY BE OMITTED WHERE THIS DIMENSION EXCEEDS 2'-0"

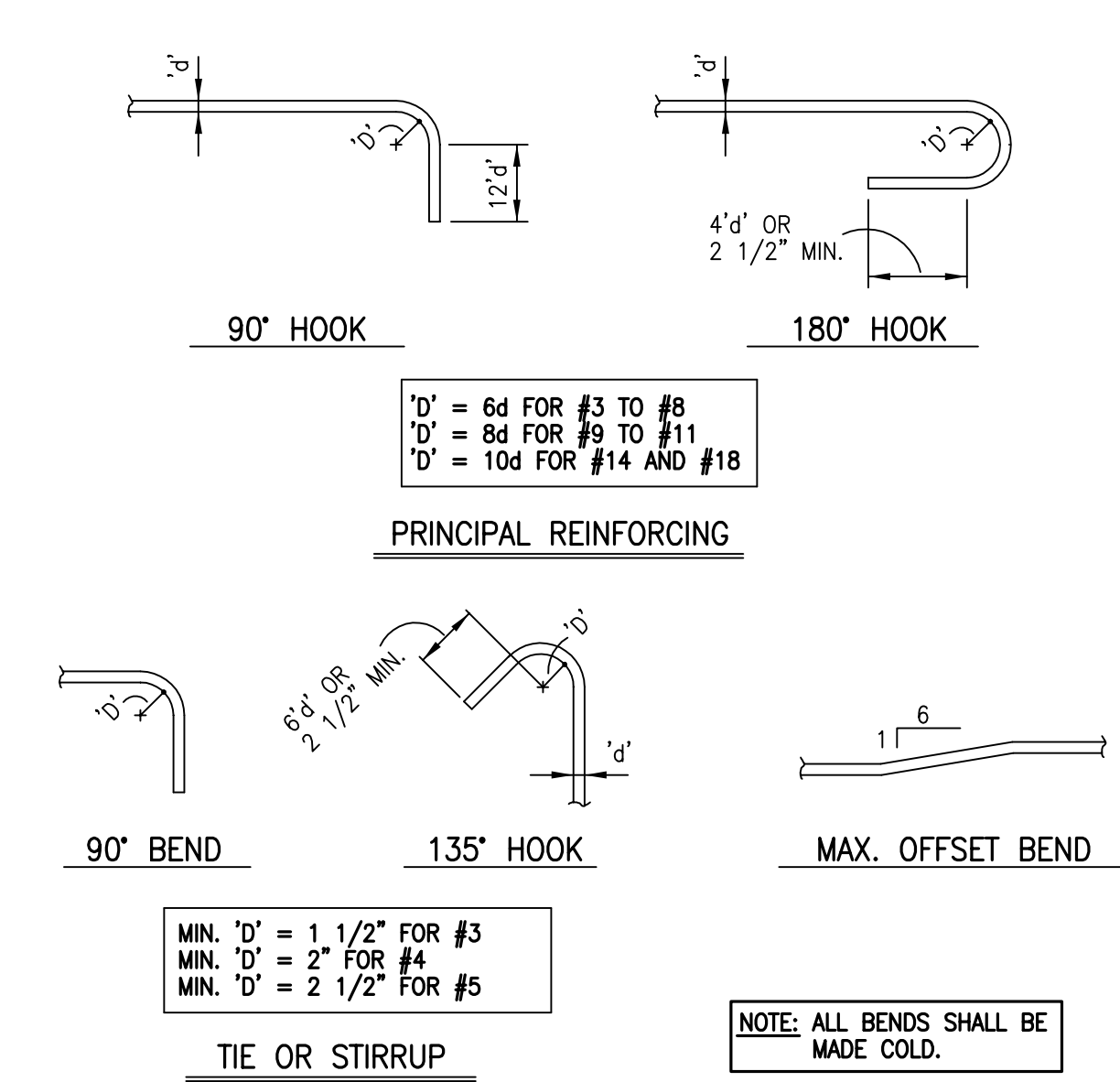
2 PIPES AT CONCRETE FOOTING



11 TYPICAL MECHANICAL UNIT SUPPORT



8 METAL ROOF DECK WELDING PATTERN



5 TYPICAL REINFORCING BAR BENDS

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19788
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 EXPIRES 3/31/2013

AUGUST 25, 2011
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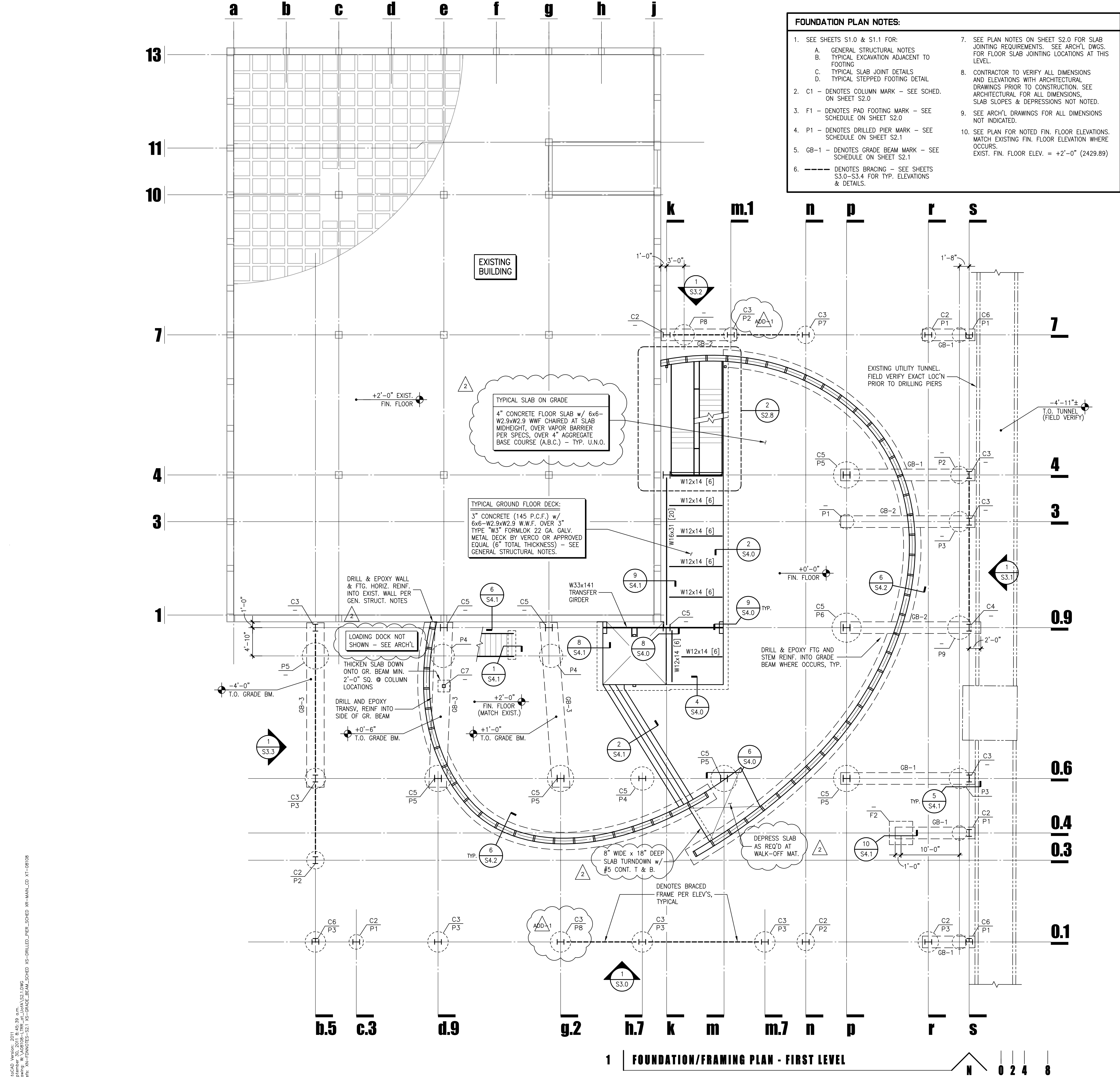
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TYPICAL DETAILS
S1.1
 SCALE VARIES

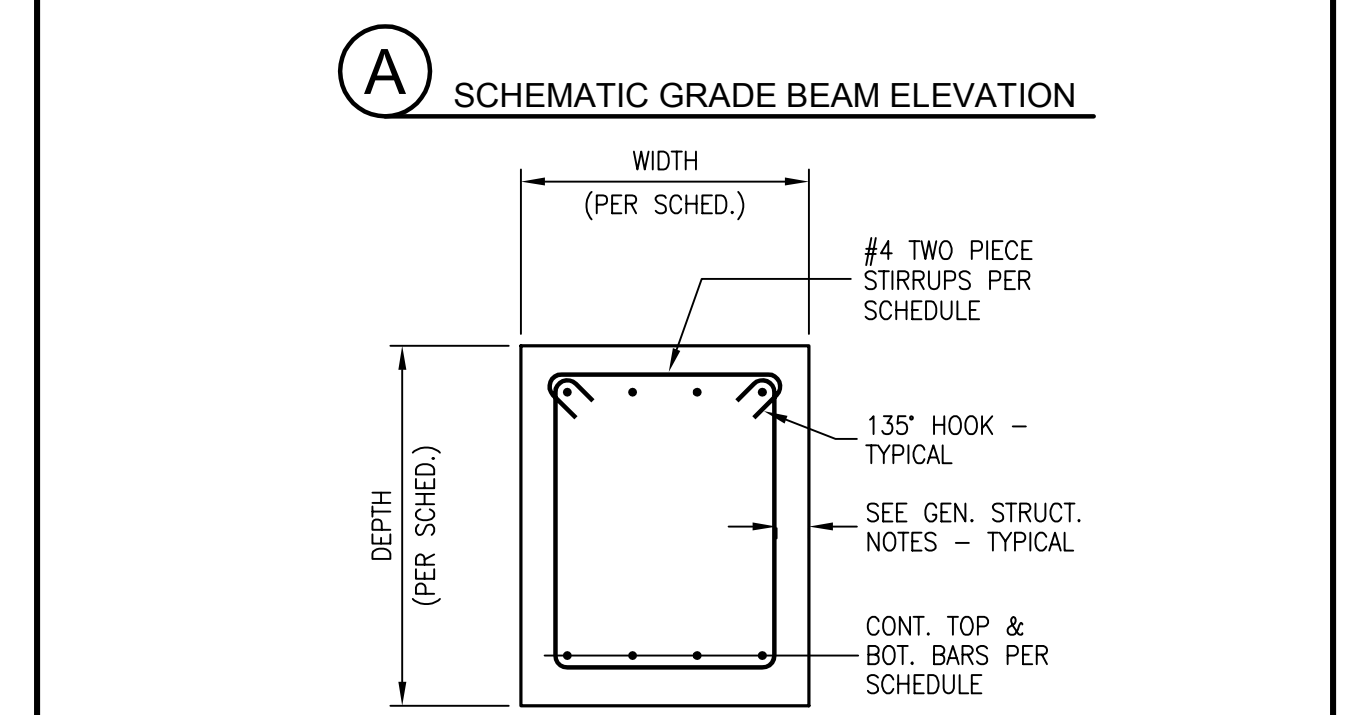
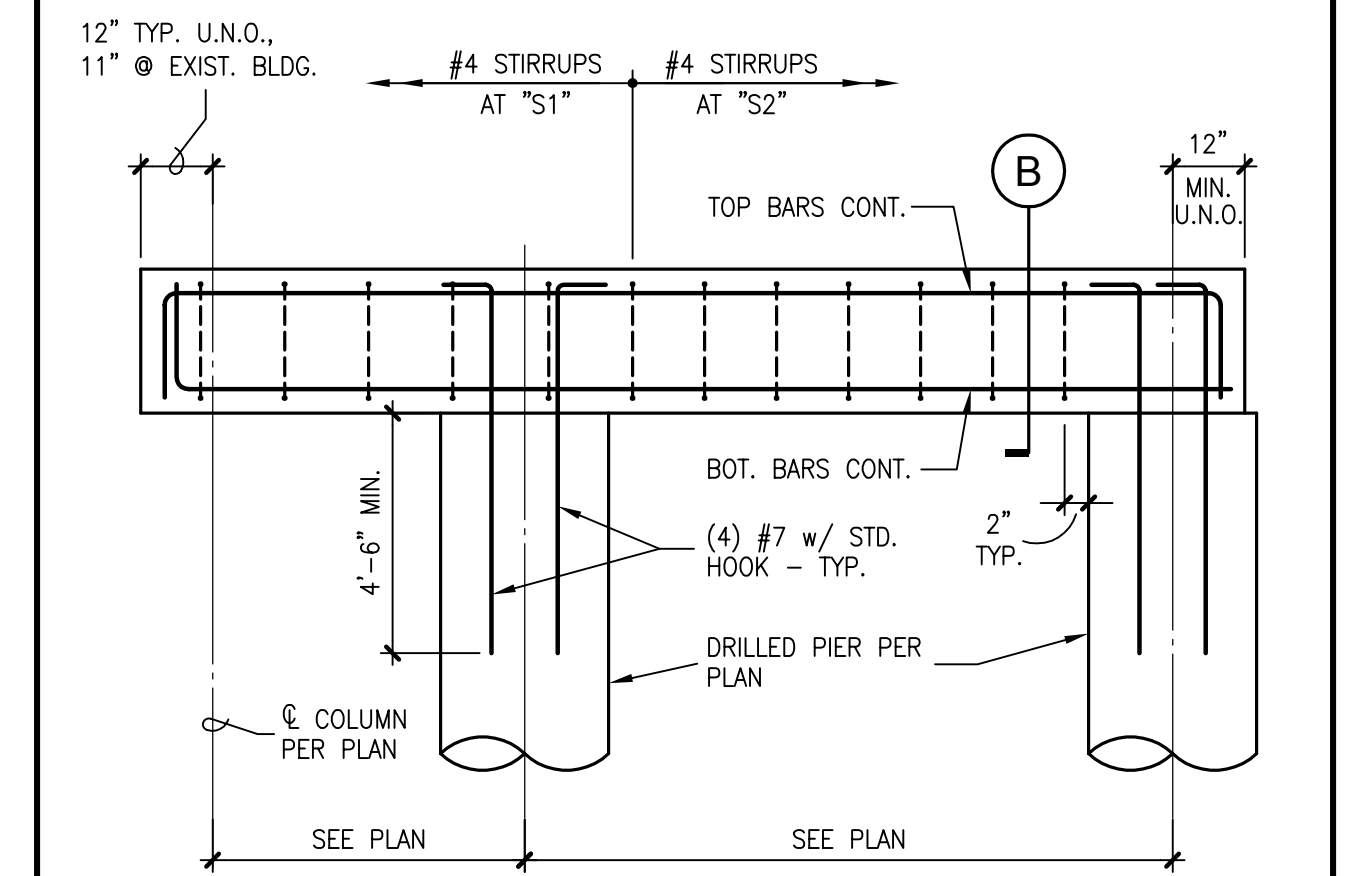
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- FOUNDATION PLAN NOTES:**
- SEE SHEETS S1.0 & S1.1 FOR:
 - GENERAL STRUCTURAL NOTES
 - TYPICAL EXCAVATION ADJACENT TO FOOTING
 - TYPICAL SLAB JOINT DETAILS
 - TYPICAL STEPPED FOOTING DETAIL
 - C1 - DENOTES COLUMN MARK - SEE SCHED. ON SHEET S2.0
 - F1 - DENOTES PAD FOOTING MARK - SEE SCHEDULE ON SHEET S2.0
 - P1 - DENOTES DRILLED PIER MARK - SEE SCHEDULE ON SHEET S2.1
 - GB-1 - DENOTES GRADE BEAM MARK - SEE SCHEDULE ON SHEET S2.1
 - DENOTES BRACING - SEE SHEETS S3.0-S3.4 FOR TYP. ELEVATIONS & DETAILS.
 - SEE PLAN NOTES ON SHEET S2.0 FOR SLAB JOINTING REQUIREMENTS. SEE ARCH'L DWGS. FOR FLOOR SLAB JOINTING LOCATIONS AT THIS LEVEL.
 - CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS PRIOR TO CONSTRUCTION. SEE ARCHITECTURAL FOR ALL DIMENSIONS, SLAB SLOPES & DEPRESSIONS NOT NOTED.
 - SEE ARCH'L DRAWINGS FOR ALL DIMENSIONS NOT INDICATED.
 - SEE PLAN FOR NOTED FIN. FLOOR ELEVATIONS. MATCH EXISTING FIN. FLOOR ELEVATION WHERE OCCURS. EXIST. FIN. FLOOR ELEV. = +2'-0" (2429.89)

GRADE BEAM SCHEDULE

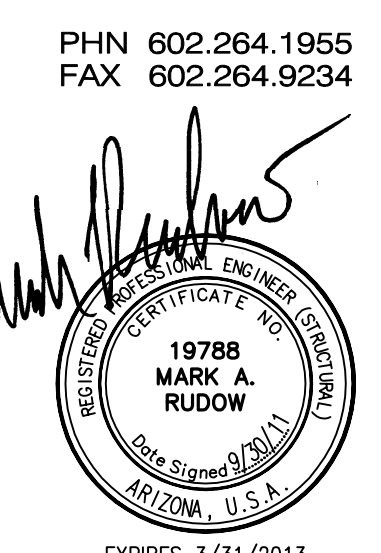
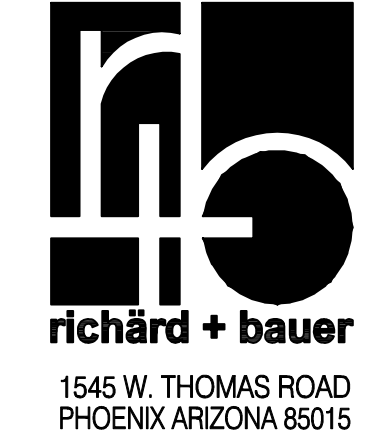
MARK	BEAM SIZE	CONT. REINFORCING		STIRRUPS	
		TOP	BOTTOM	S1	S2
GB1	24" WIDE x 30" DEEP	(4) #7	(2) #7	12" O.C.	12" O.C.
GB2	24" WIDE x 36" DEEP	(4) #8	(3) #8	16" O.C.	16" O.C.
GB3	36" WIDE x 48" DEEP	(8) #8	(3) #8	12" O.C.	20" O.C.



DRILLED PIER FOOTING SCHEDULE

MARK	PIER DIAMETER	VERTICAL REINF.	TIE REINFORCING	PIER LENGTH*
P1	2'-6"	(8) #6 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P2	3'-0"	(8) #7 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P3	3'-6"	(12) #7 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P4	4'-0"	(15) #7 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P5	4'-6"	(15) #8 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P6	5'-0"	(18) #8 BARS	#4 TIES @ 12" O.C. MAX.	18'-0"
P7	3'-0"	(8) #7 BARS	#4 TIES @ 12" O.C. MAX.	22'-0"
P8	3'-6"	(12) #7 BARS	#4 TIES @ 12" O.C. MAX.	22'-0"
P9	4'-0"	(15) #7 BARS	#4 TIES @ 12" O.C. MAX.	23'-0"

(* TOTAL PIER LENGTH (LENGTH BELOW COLUMN OR GRADE BEAM AS OCCURS).)



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Construction Documents
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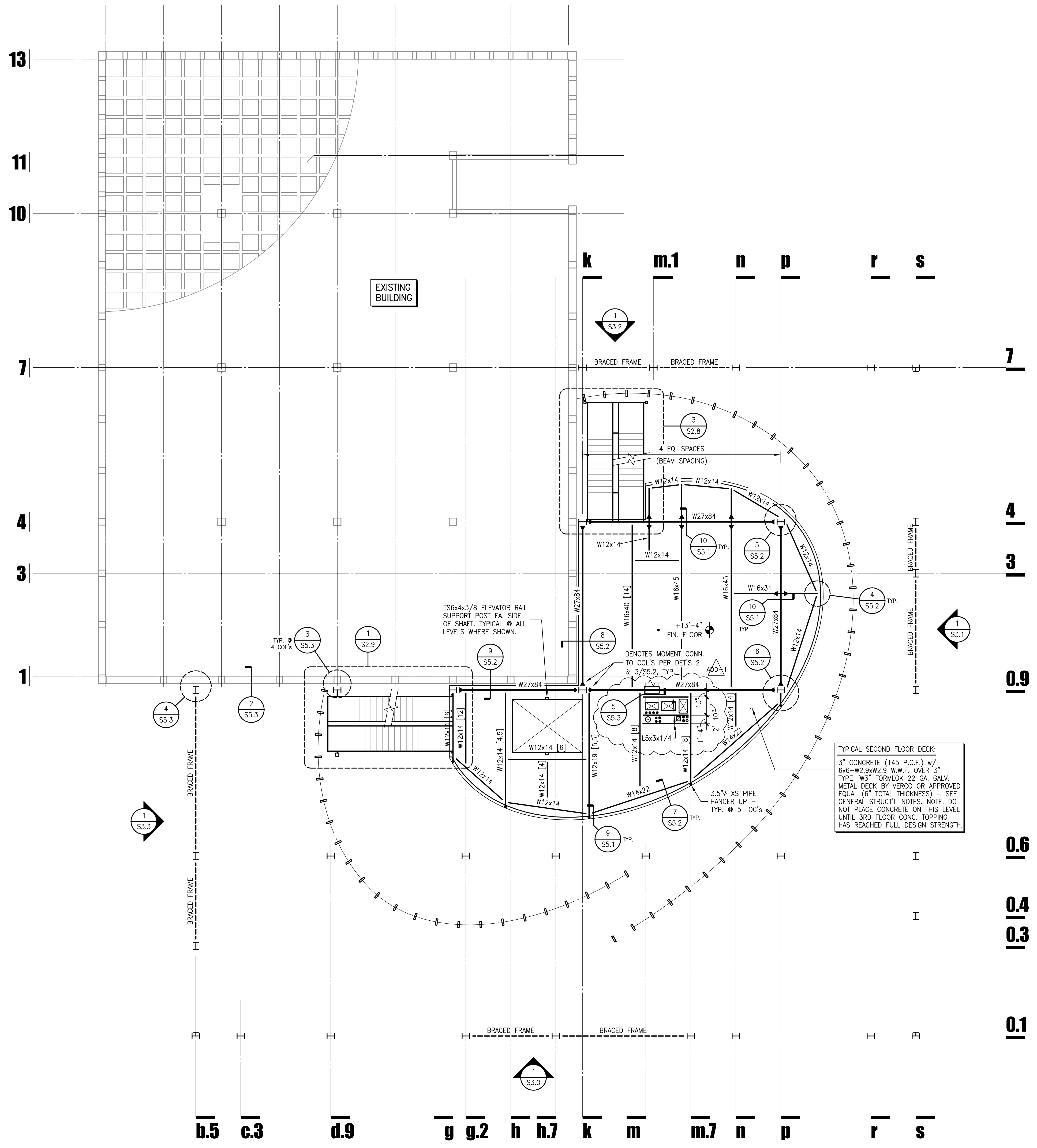
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GMP-ADDENDUM 1
 05/13/11
 OWNER REVIEW
 08/25/11
 1ST LEVEL FDN/
 FRAMING PLAN
S2.1
 1/8"=1'-0"

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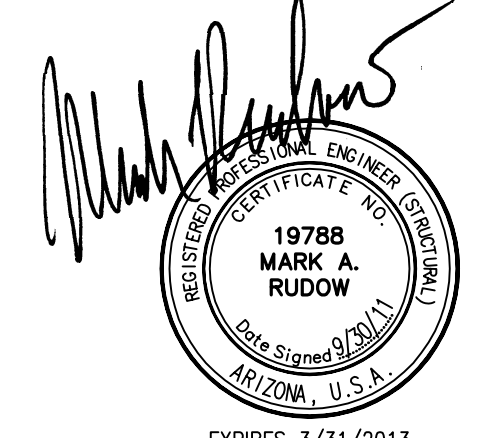


1 FRAMING PLAN - SECOND LEVEL

- FLOOR FRAMING PLAN NOTES:**
- SEE SHEETS S1.0 & S1.1 FOR:
 - GENERAL STRUCTURAL NOTES
 - TYPICAL FLOOR METAL DECK WELDING PATTERN
 - TYPICAL FLOOR OPENING DETAIL
 - COORD. ALL FINISH FLOOR ELEVATIONS AND SLAB DEPRESSIONS WITH ARCH'L DRAWINGS
 - SEE DETAIL 1/S5.0 FOR TYPICAL BEAM TO BEAM CONNECTIONS, U.N.O.
 - SEE DETAILS 2 THROUGH 6 ON SHEET S5.0 FOR TYPICAL COMPOSITE BEAM & GIRDER DETAILS.
 - SEE ARCH'L FOR ALL STAIR DIMENSIONS & ELEVATIONS.
 - HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE ROOF METAL DECK IS NOT ALLOWED.
 - DENOTES MOMENT CONN. - SHEET DETAILS.
 - DENOTES NUMBER OF 3/4\"/>
 - DENOTES BRACING - SEE SHEETS S3.0-S3.4 FOR TYP. ELEVATIONS & DETAILS.
 - ESTABLISH AND VERIFY ALL OPENINGS & INSERTS FOR MECHANICAL, ELECTRICAL & PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.



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

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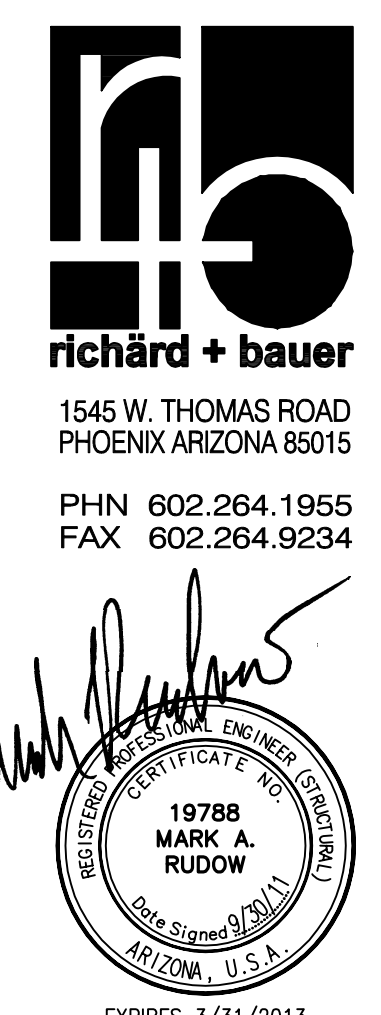
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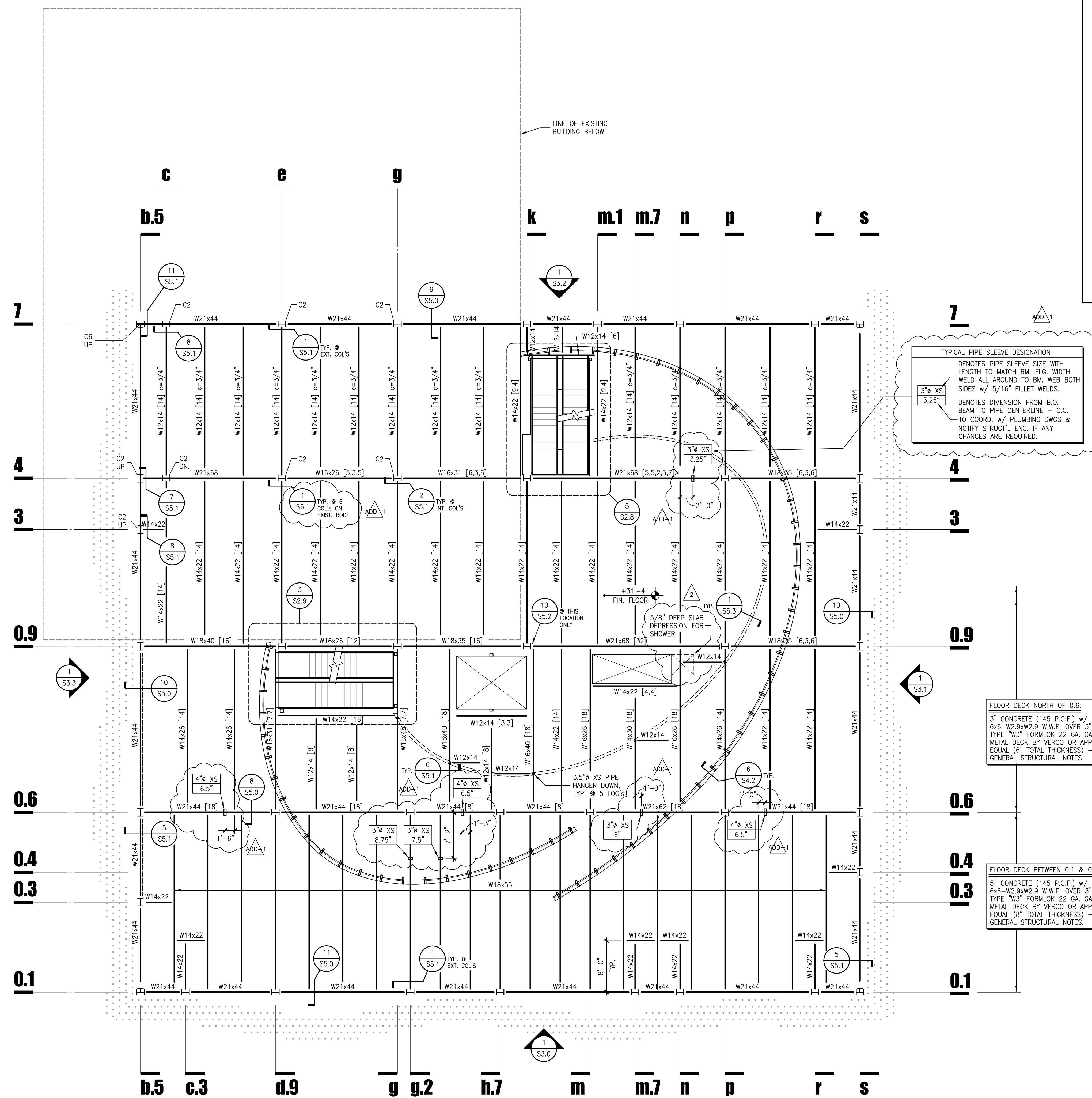
GMP-ADDENDUM 1
 ADD-1 05/13/11
SECOND LEVEL FRAMING PLAN
 S2.2
 1/8"=1'-0"

FLOOR FRAMING PLAN NOTES:

- SEE SHEETS S1.0 & S1.1 FOR:
 - GENERAL STRUCTURAL NOTES
 - TYPICAL FLOOR METAL DECK WELDING PATTERN
 - TYPICAL FLOOR OPENING DETAIL
- COORD. ALL FINISH FLOOR ELEVATIONS AND SLAB DEPRESSIONS WITH ARCH'L DRAWINGS
- SEE DETAIL 1/S5.0 FOR TYPICAL BEAM TO BEAM CONNECTIONS, U.N.O.
- SEE DETAILS 2 THROUGH 6 ON SHEET S5.0 FOR TYPICAL COMPOSITE BEAM & GIRDER DETAILS.
- SEE ARCH'L FOR ALL STAIR DIMENSIONS & ELEVATIONS.
- HANGING CEILING, DUCTWORK OR OTHER ITEMS FROM THE ROOF METAL DECK IS NOT ALLOWED.
-  DENOTES MOMENT CONN. - SHEET DETAILS.
-  DENOTES NUMBER OF 3/4" HEADED STUD SHEAR CONNECTORS - SEE TYP. DETAILS ON SHEET S5.0.
-  DENOTES BRACING - SEE SHEETS S3.0-S3.4 FOR TYP. ELEVATIONS & DETAILS.
- ESTABLISH AND VERIFY ALL OPENINGS & INSERTS FOR MECHANICAL, ELECTRICAL & PLUMBING WITH THE APPROPRIATE TRADES, DRAWINGS AND SUBCONTRACTORS PRIOR TO CONSTRUCTION.



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U.A. #: 08-8826



TYPICAL PIPE SLEEVE DESIGNATION
DENOTES PIPE SLEEVE SIZE WITH LENGTH TO MATCH BM. FLG. WIDTH. WELD ALL AROUND TO BM. WEB BOTH SIDES w/ 5/16" FILLET WELDS.
DENOTES DIMENSION FROM B.O. BEAM TO PIPE CENTERLINE - G.C. TO COORD. w/ PLUMBING DWGS & NOTIFY STRUCT'L ENG. IF ANY CHANGES ARE REQUIRED.

FLOOR DECK NORTH OF 0.6:
3" CONCRETE (145 P.C.F.) w/ 6x6-W2.9xW2.9 W.W.F. OVER 3" TYPE "W3" FORMLOK 22 GA. GALV. METAL DECK BY VERCO OR APPROVED EQUAL (6" TOTAL THICKNESS) - SEE GENERAL STRUCTURAL NOTES.

FLOOR DECK BETWEEN 0.1 & 0.6:
5" CONCRETE (145 P.C.F.) w/ 6x6-W2.9xW2.9 W.W.F. OVER 3" TYPE "W3" FORMLOK 22 GA. GALV. METAL DECK BY VERCO OR APPROVED EQUAL (8" TOTAL THICKNESS) - SEE GENERAL STRUCTURAL NOTES.

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1 FRAMING PLAN - THIRD LEVEL

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OWNER REVIEW 08/25/11
GMP-ADDENDUM 1 05/13/11
THIRD LEVEL FRAMING PLAN
S2.3
1/8"=1'-0"

AutoCAD Version: 2011
September 30, 2011 8:46:45 a.m. V:\S3.0\009
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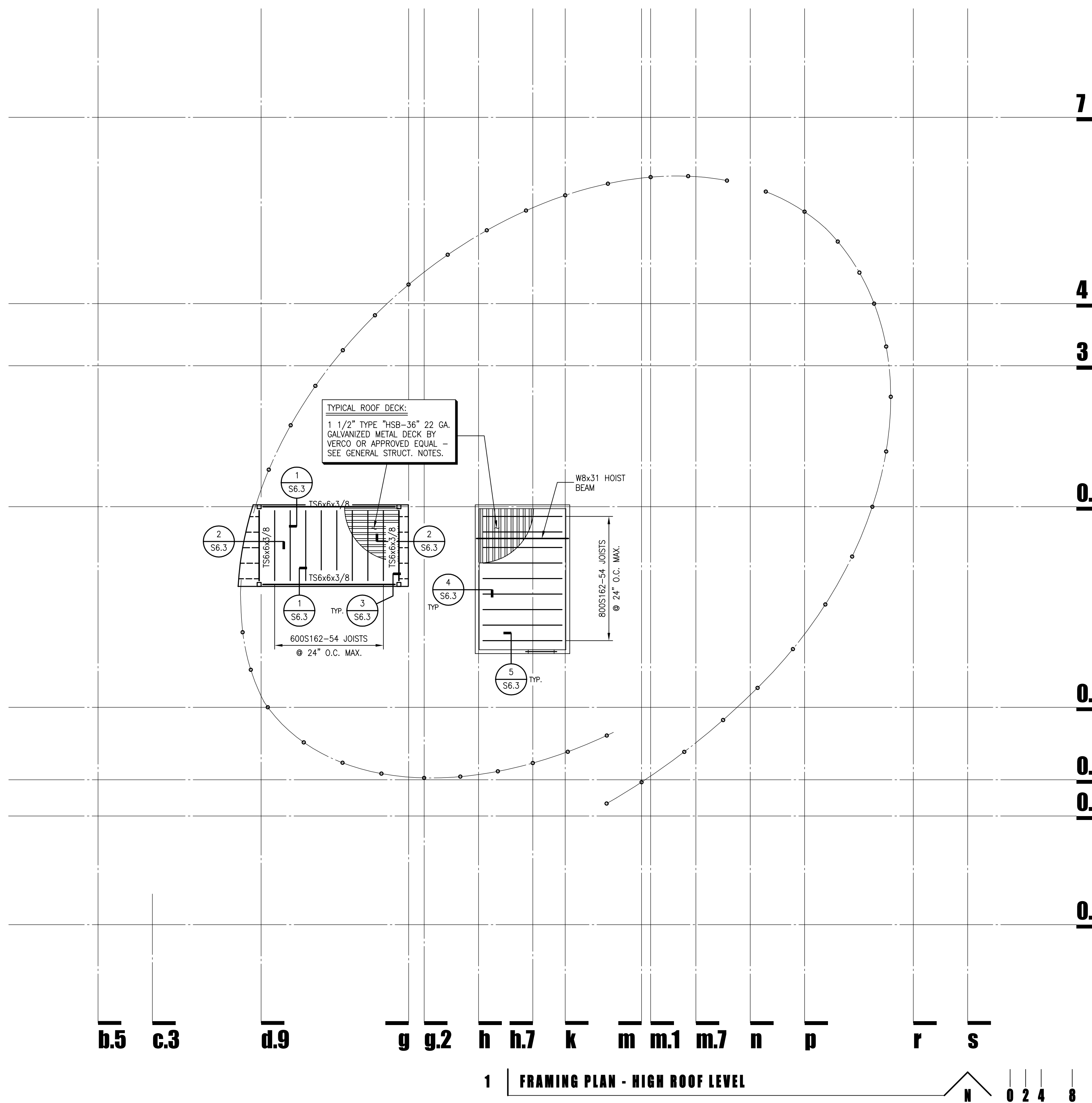


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1 FRAMING PLAN - HIGH ROOF LEVEL

r+b job #08108

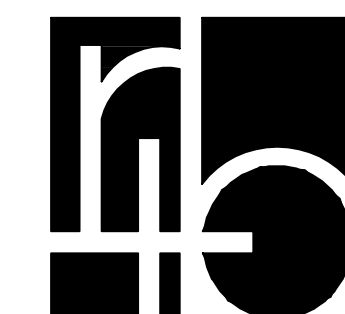
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HIGH ROOF LEVEL
FRAMING PLAN

S2.6

1/8"=1'-0"



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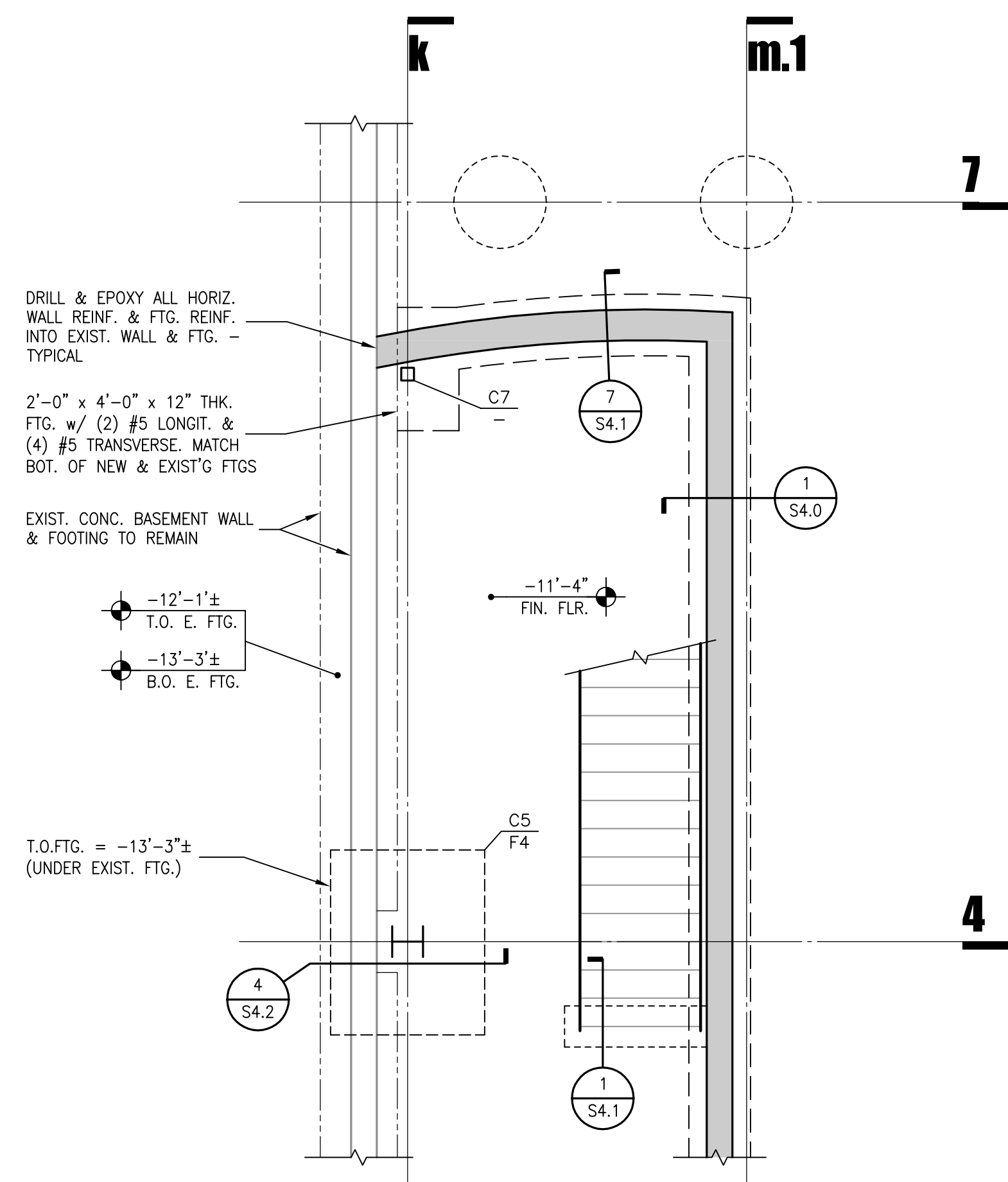


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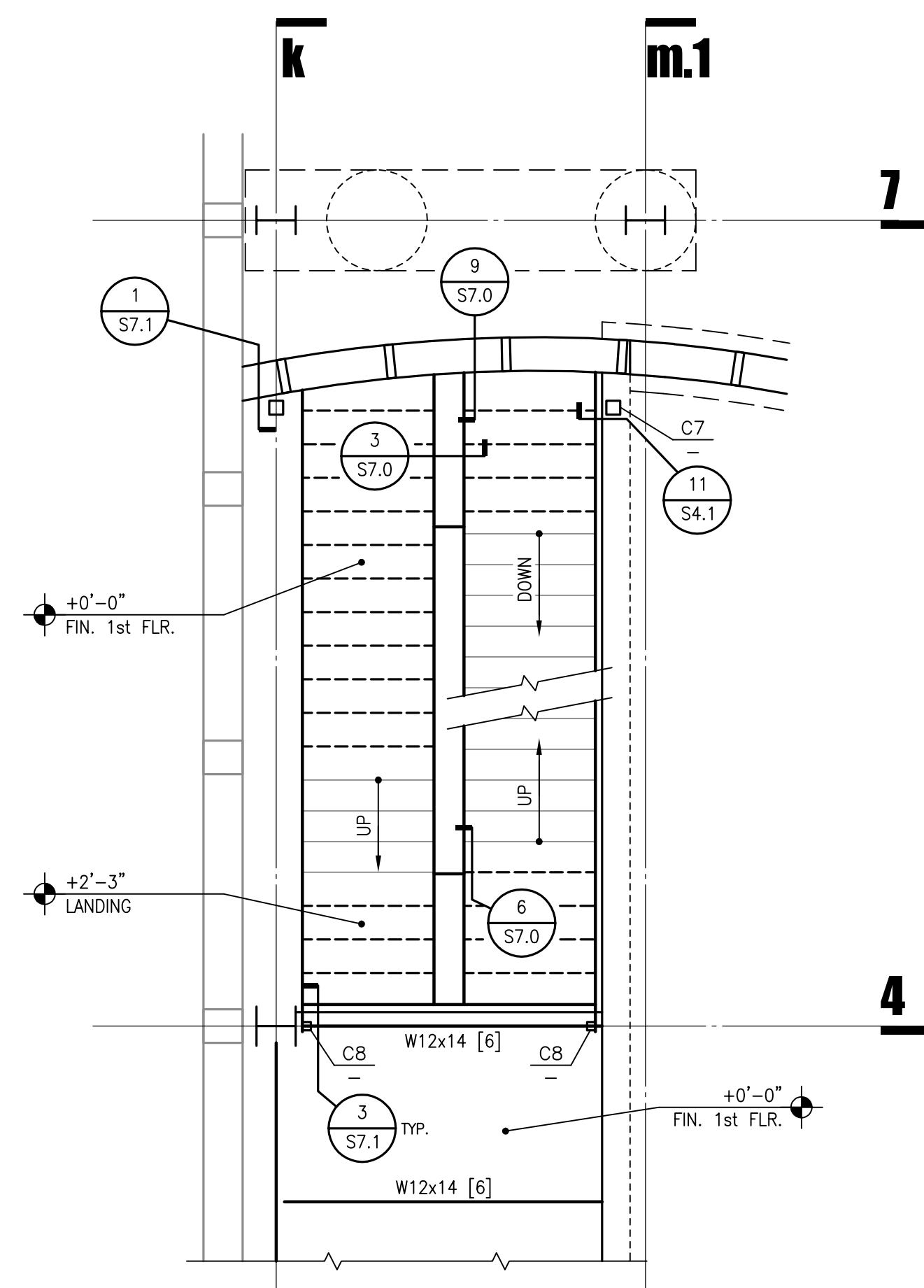
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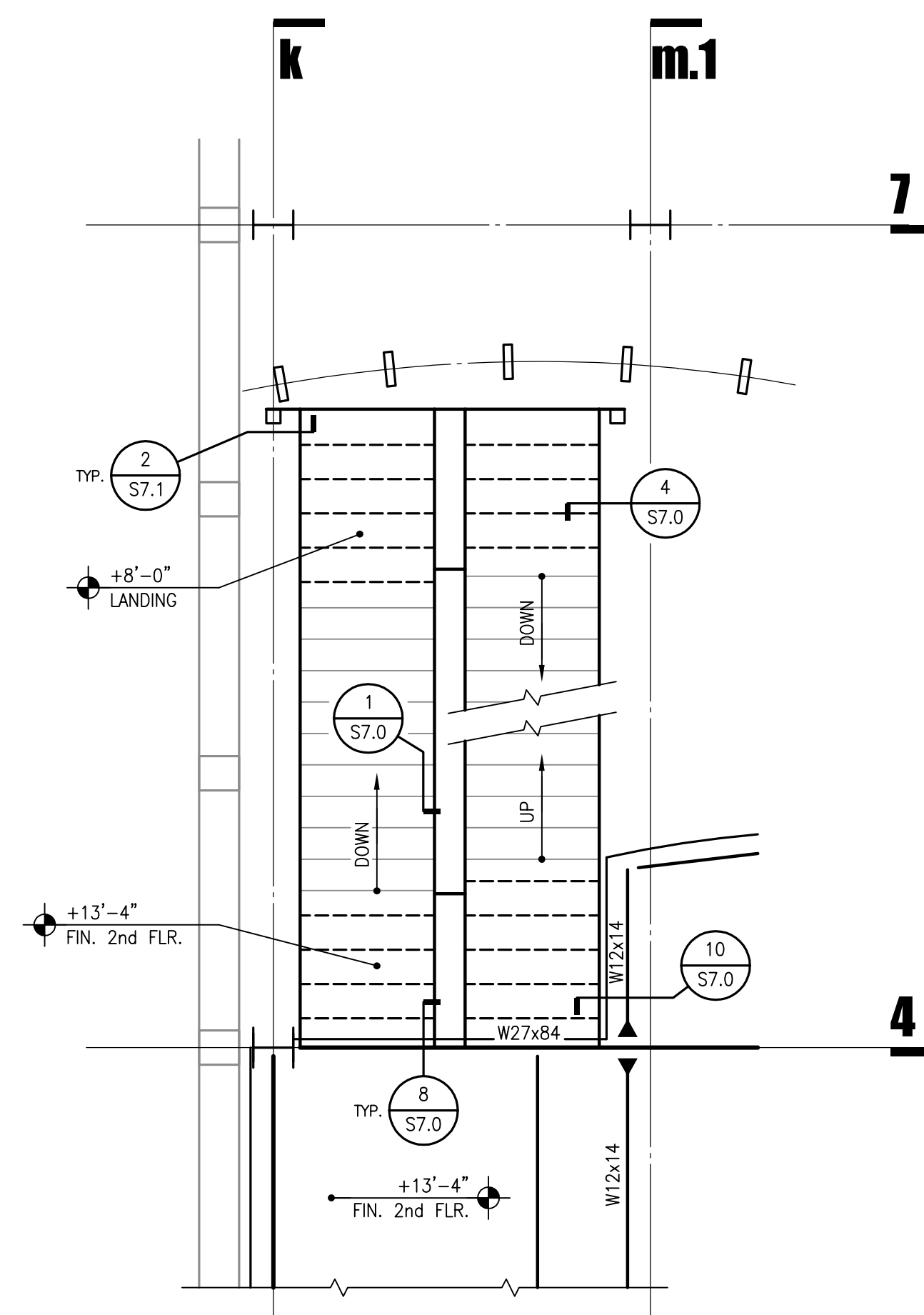
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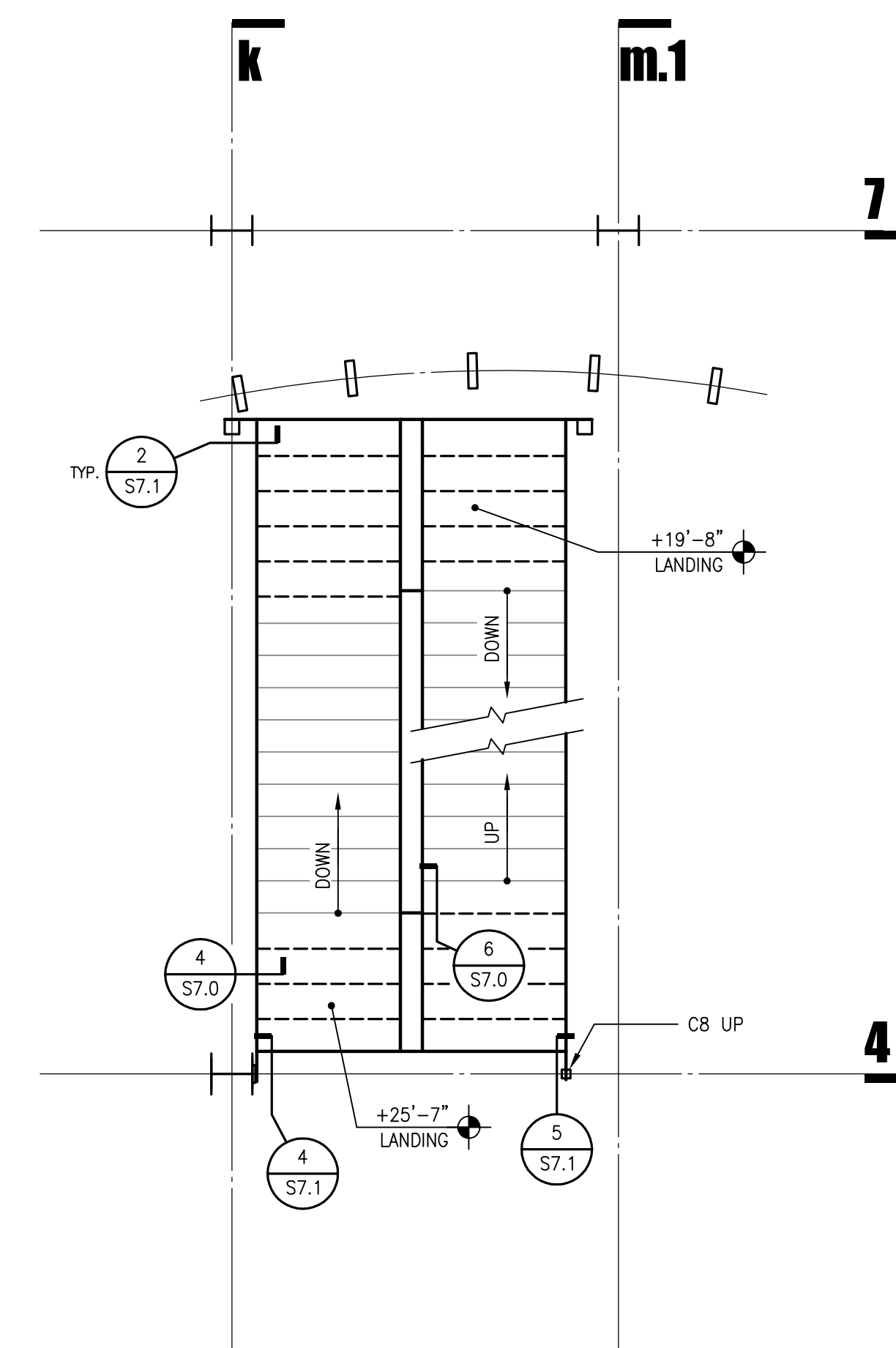
1 NORTH STAIR - BASEMENT LEVEL



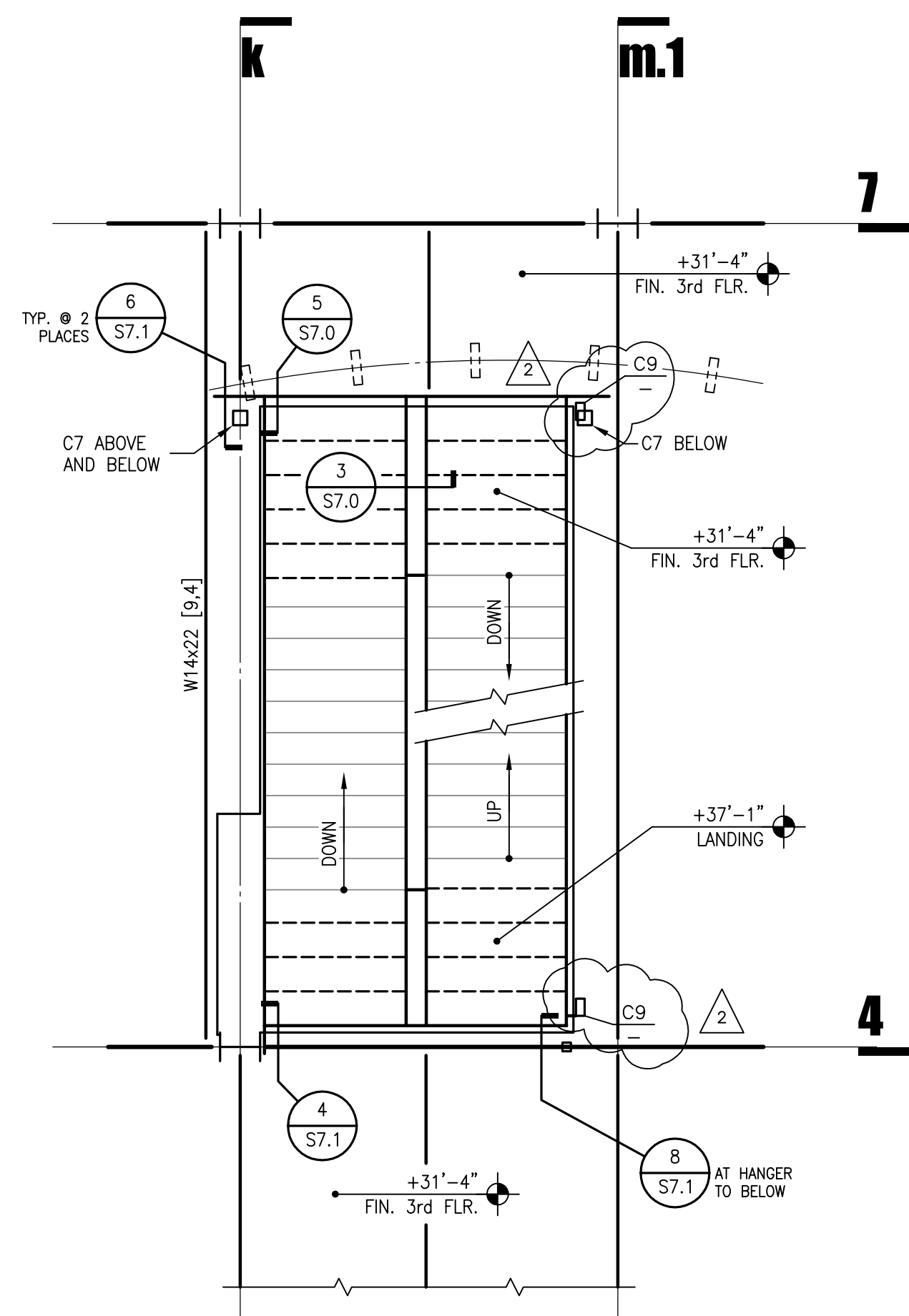
2 NORTH STAIR - FIRST FLOOR LEVEL



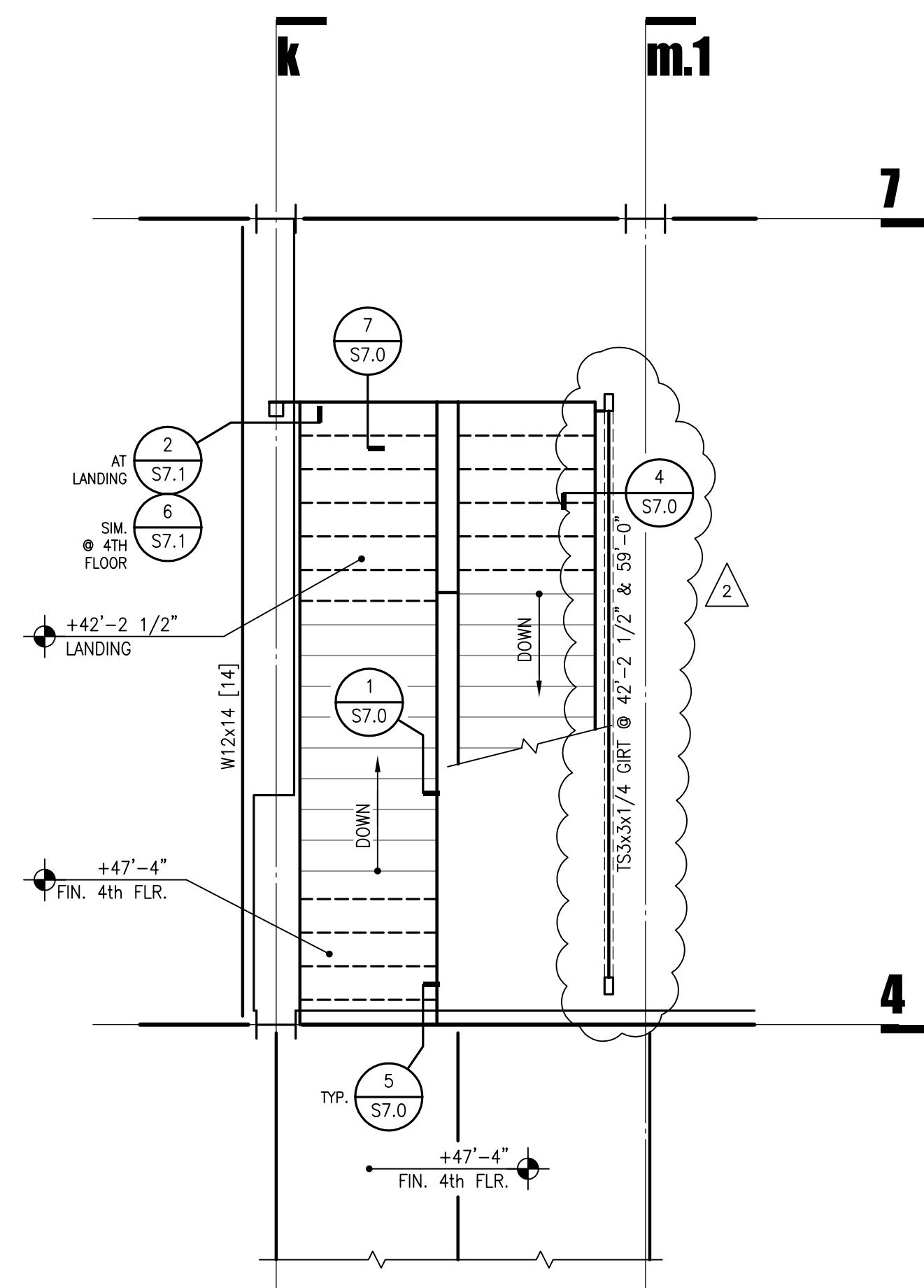
3 NORTH STAIR - SECOND FLOOR LEVEL



4 NORTH STAIR - 2-3 MID-HT LANDING LEVEL



5 NORTH STAIR - THIRD FLOOR LEVEL



6 NORTH STAIR - FOURTH FLOOR LEVEL

AutoCAD Version: 2011
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XREF: X:\1-08108

r+b job #08108

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structural engineering

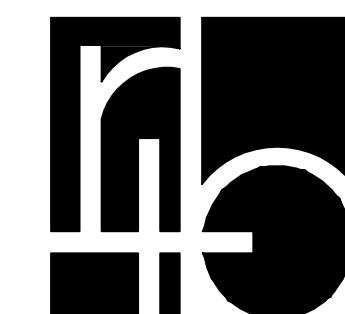
4021 North 75th Street Suite 101
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OWNER REVIEW
08/25/11

NORTH STAIR
FRAMING PLANS

S2.8

1/4"=1'-0"



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PHN 602.264.1955

FAX 602.264.9234

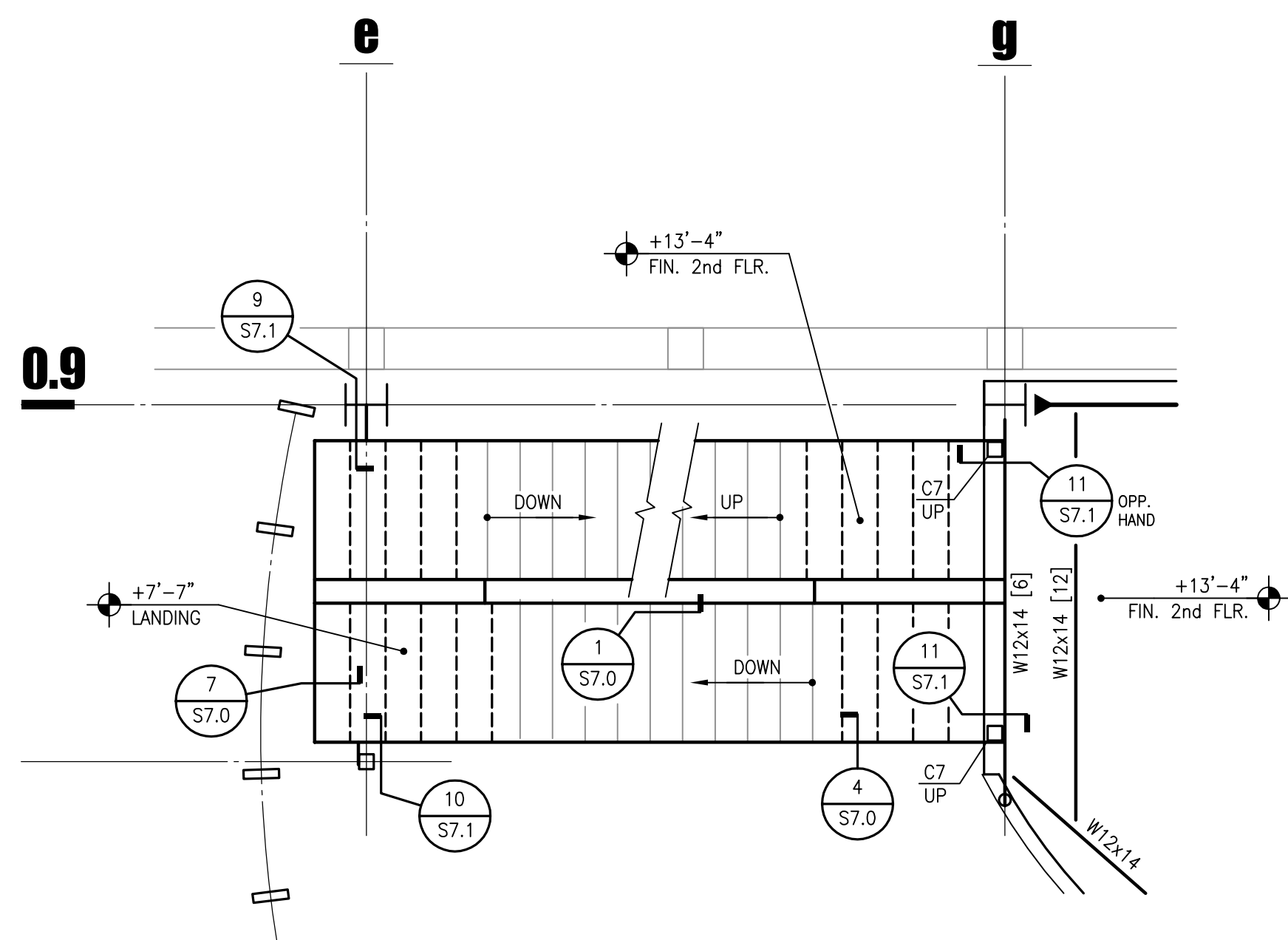


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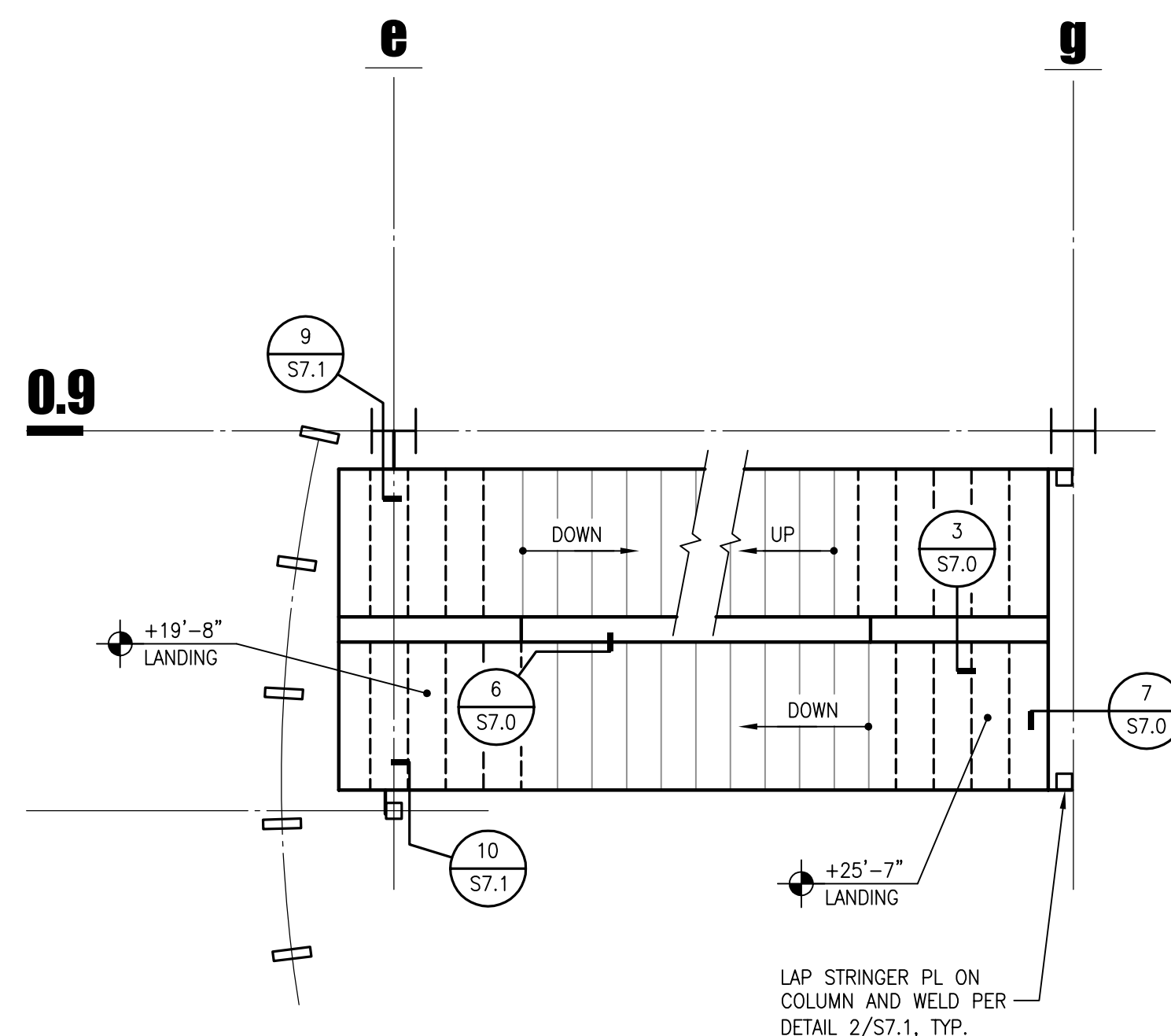
AUGUST 25, 2011
Construction Documents
r+b job #: 0209

U.A. #: 08-8826

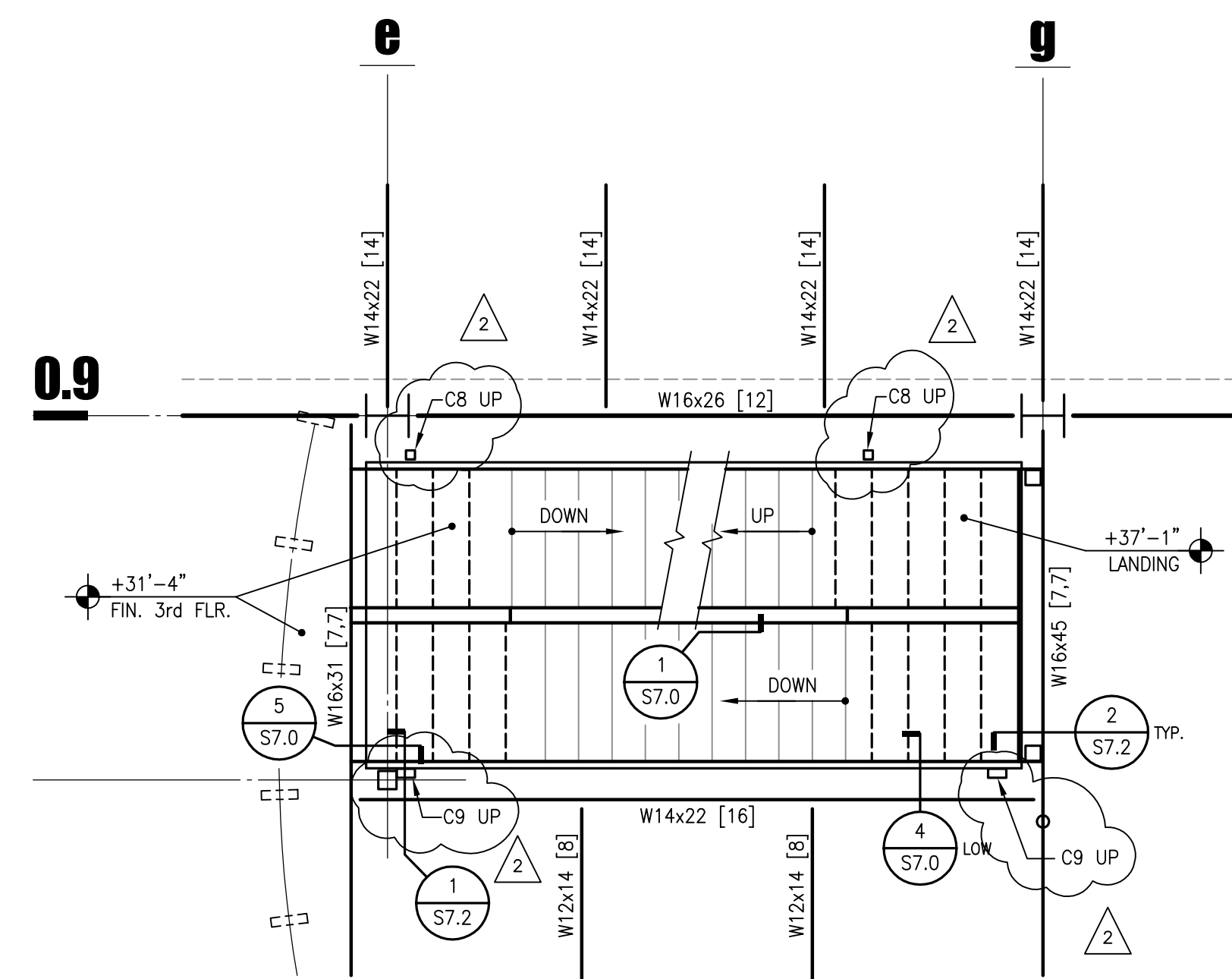
LABORATORY OF TREE-RING RESEARCH
BRYANT BANNISTER TREE-RING BUILDING
The University of Arizona - Tucson, Arizona



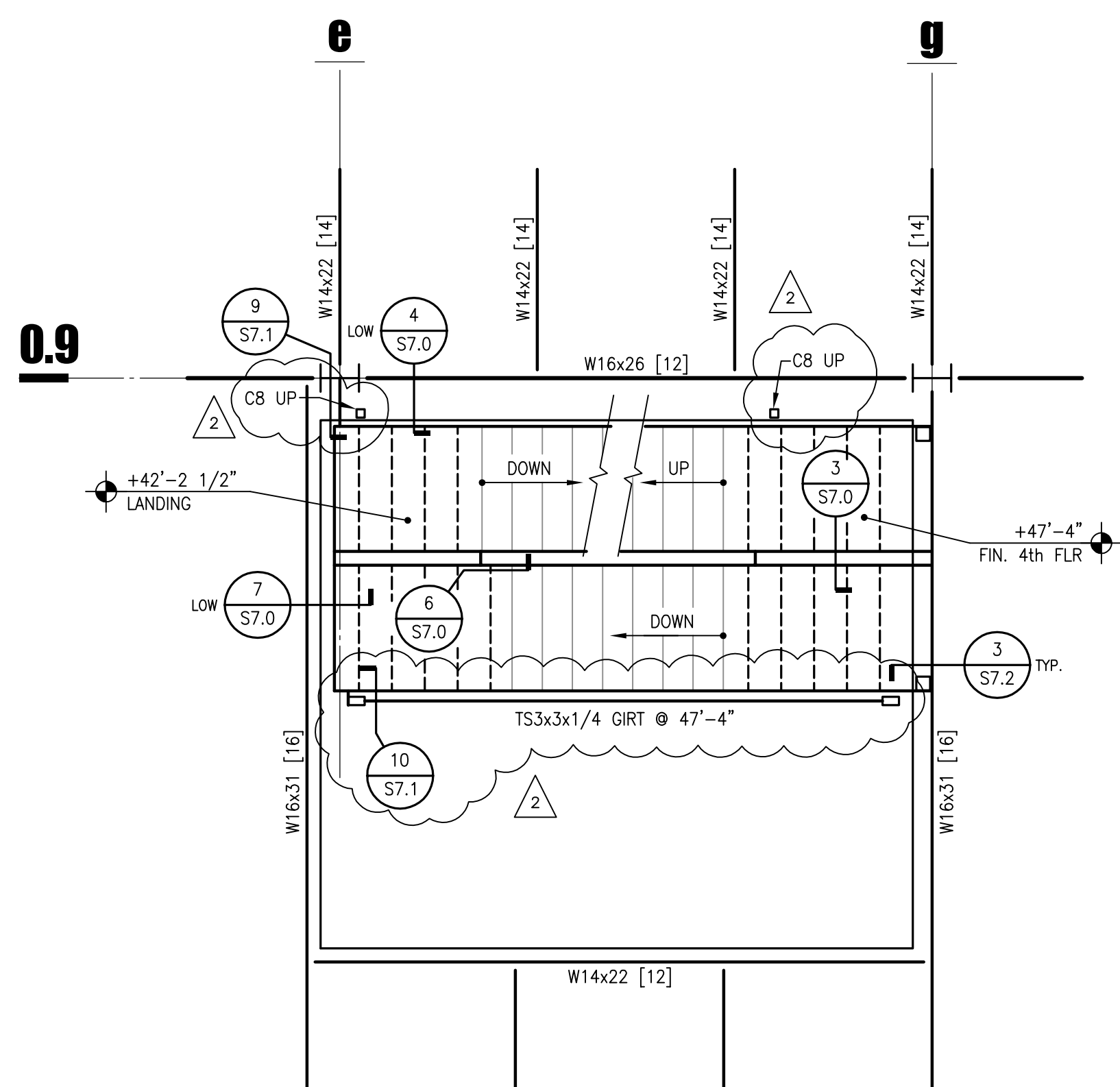
1 SOUTH STAIR - SECOND FLOOR LEVEL



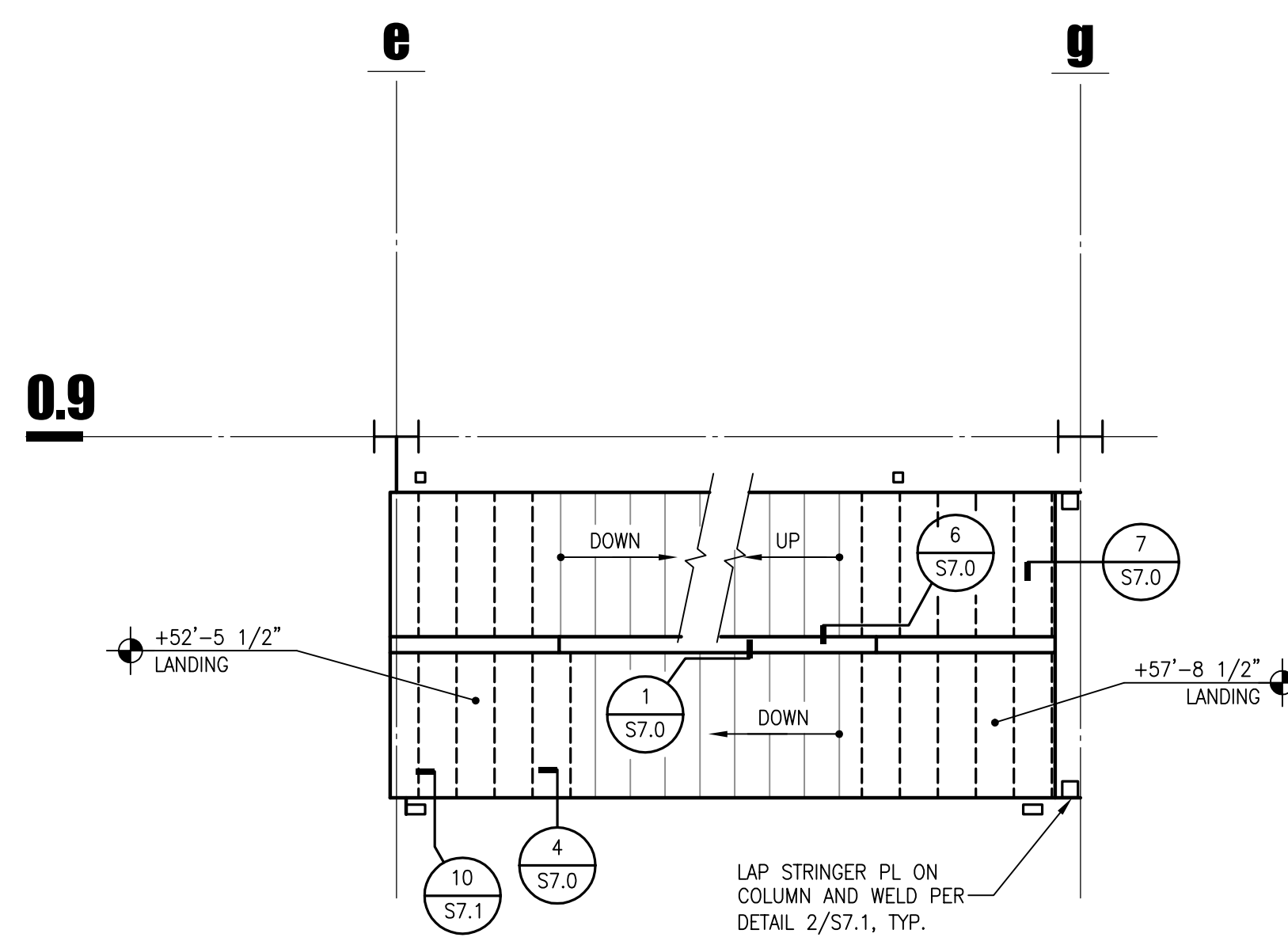
2 SOUTH STAIR - 2-3 MID-HT LANDING LEVEL



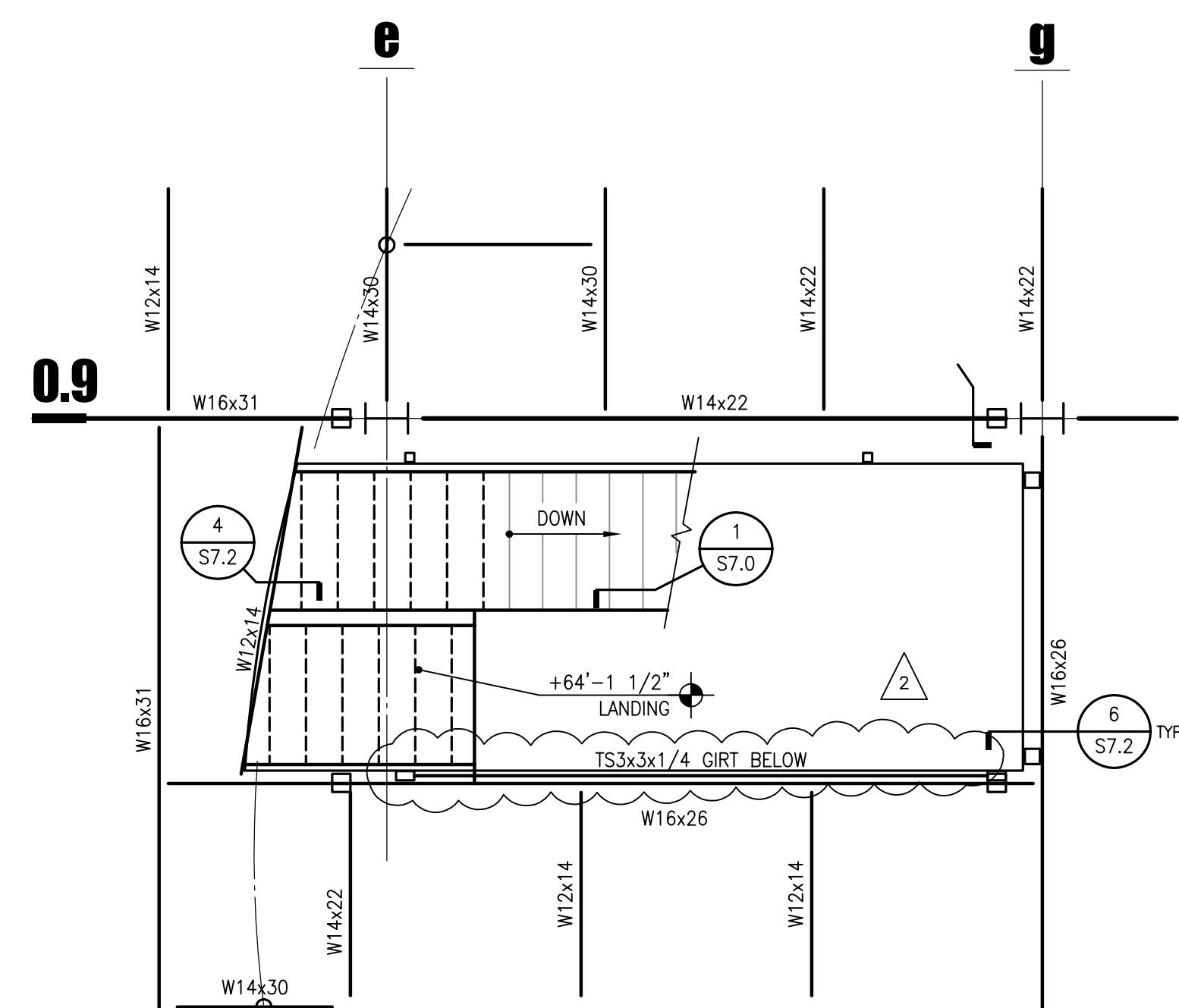
3 SOUTH STAIR - THIRD FLOOR LEVEL



4 SOUTH STAIR - FOURTH FLOOR LEVEL



5 SOUTH STAIR - 4-ROOF MID-HT LANDING LEVEL



6 SOUTH STAIR - ROOF LEVEL

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r+b job #08108

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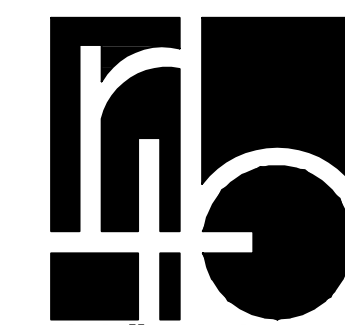
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OWNER REVIEW
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SOUTH STAIR
FRAMING PLANS

S2.9

1/4"=1'-0"



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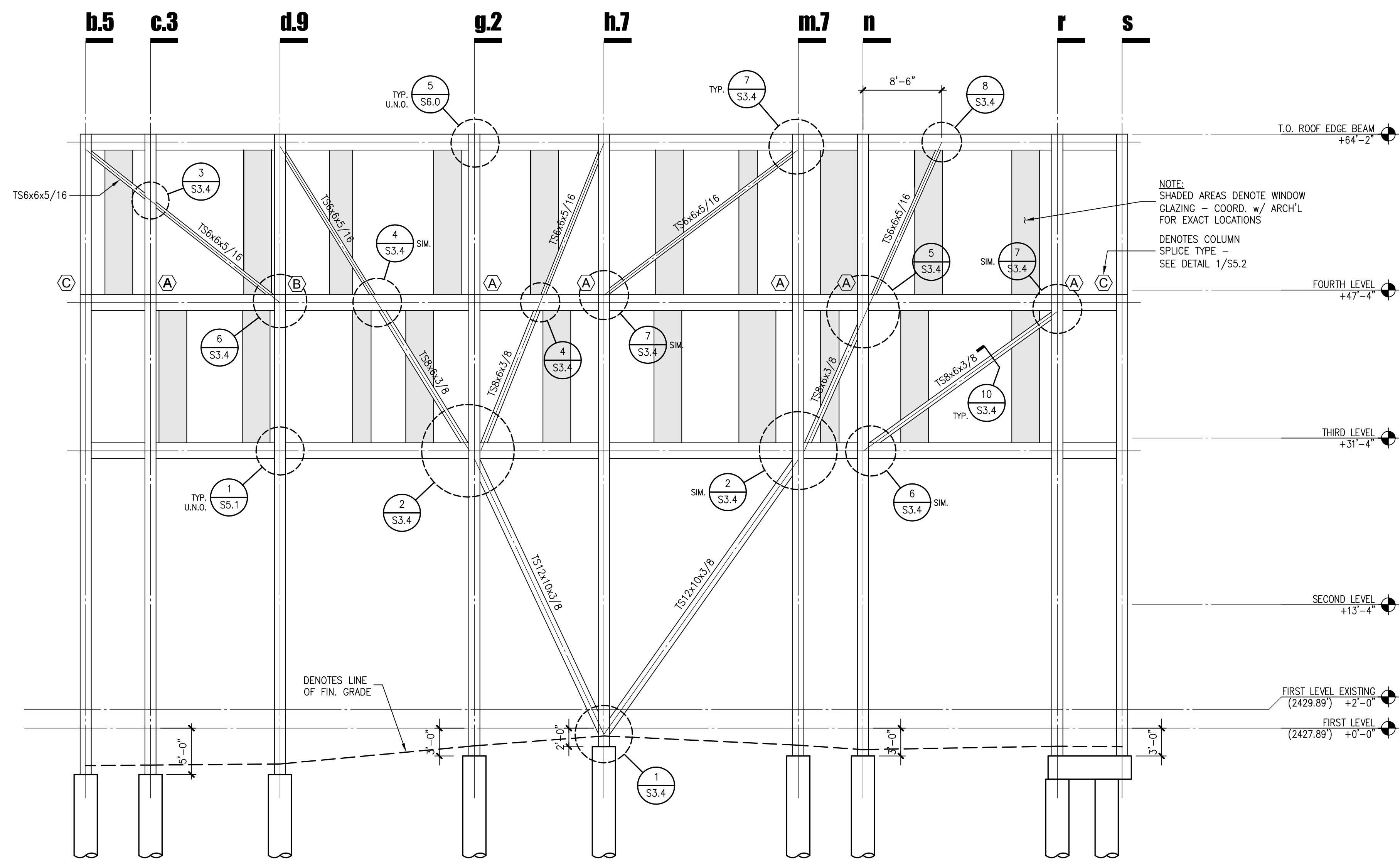
FAX 602.264.9234



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Construction Documents
r+b job #: 0209

U.A. #: 08-8826



1 SOUTH EXTERIOR WALL ELEVATION
1/8" = 1'-0"

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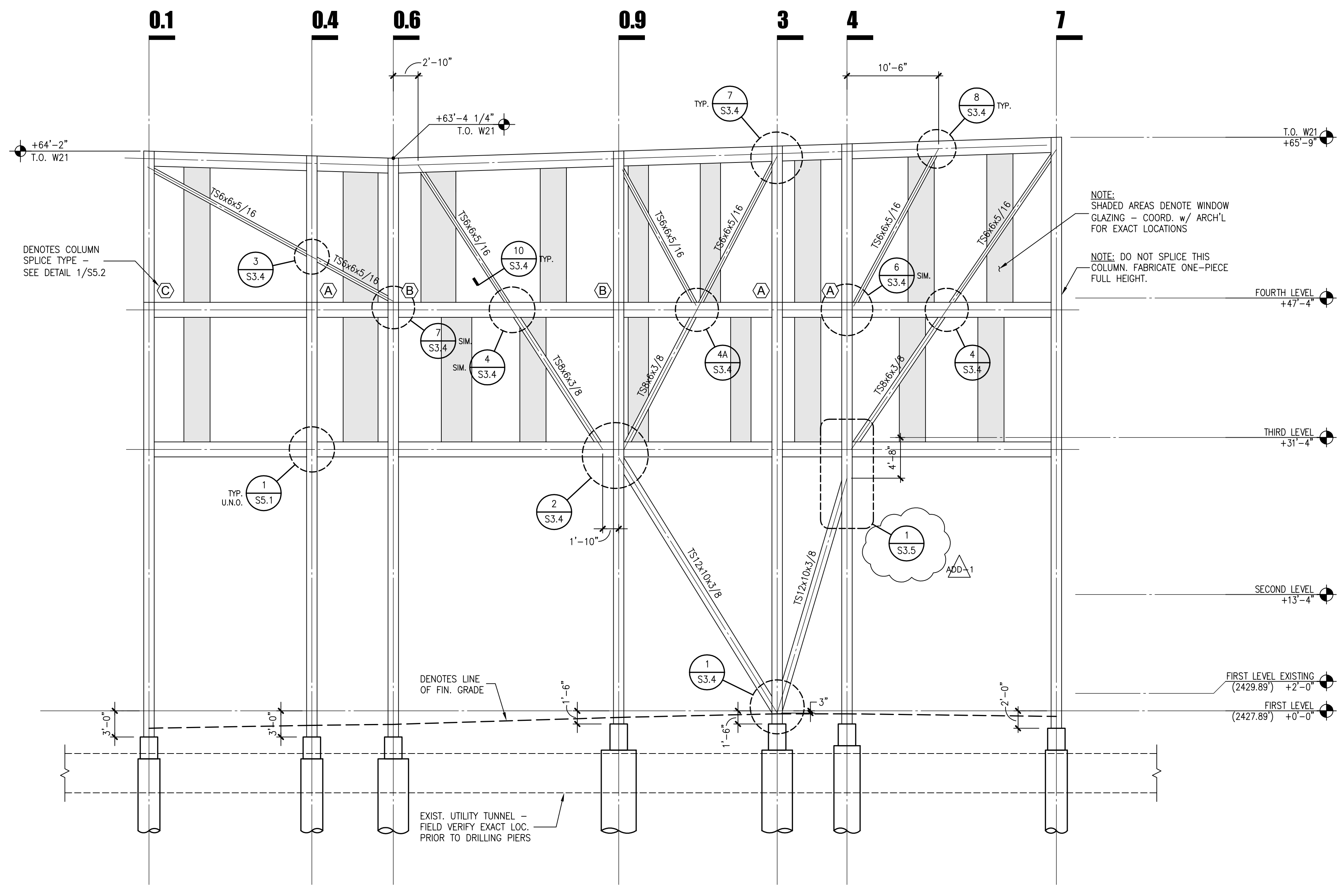
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BRACED FRAME
WALL ELEVATION

S3.0

1/8" = 1'-0"

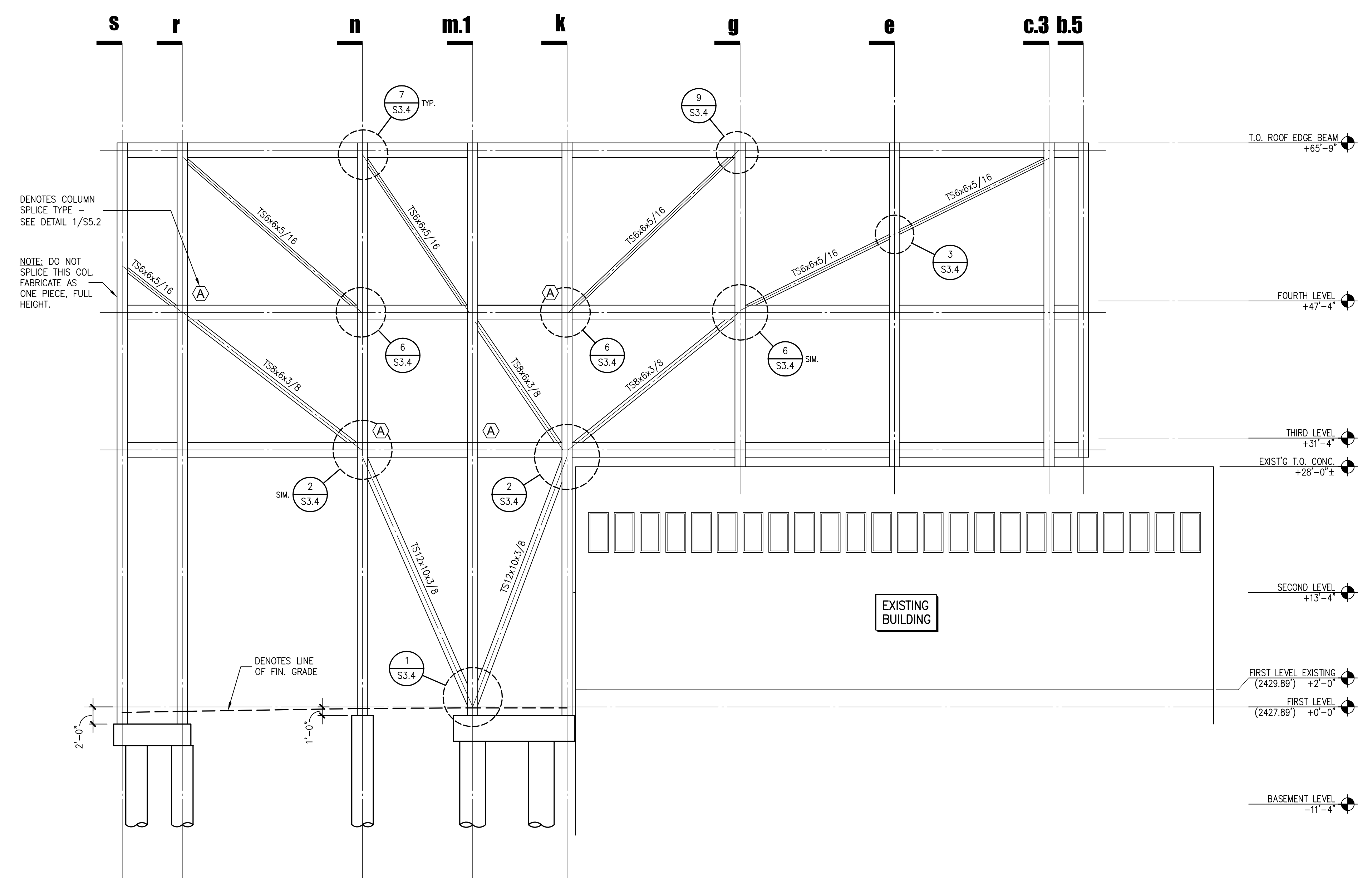
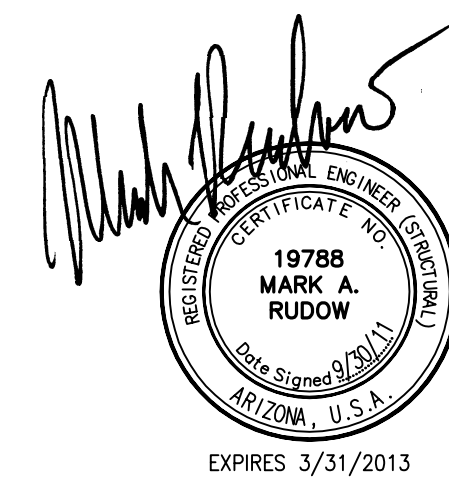
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1 EAST EXTERIOR WALL ELEVATION
 1/8" = 1'-0"

AutoCAD Version: 2011
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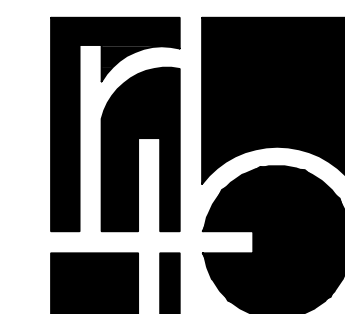
1 NORTH EXTERIOR WALL ELEVATION
 1/8" = 1'-0"

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BRACED FRAME
 WALL ELEVATION
S3.2
 1/8" = 1'-0"

AutoCAD Version: 2011
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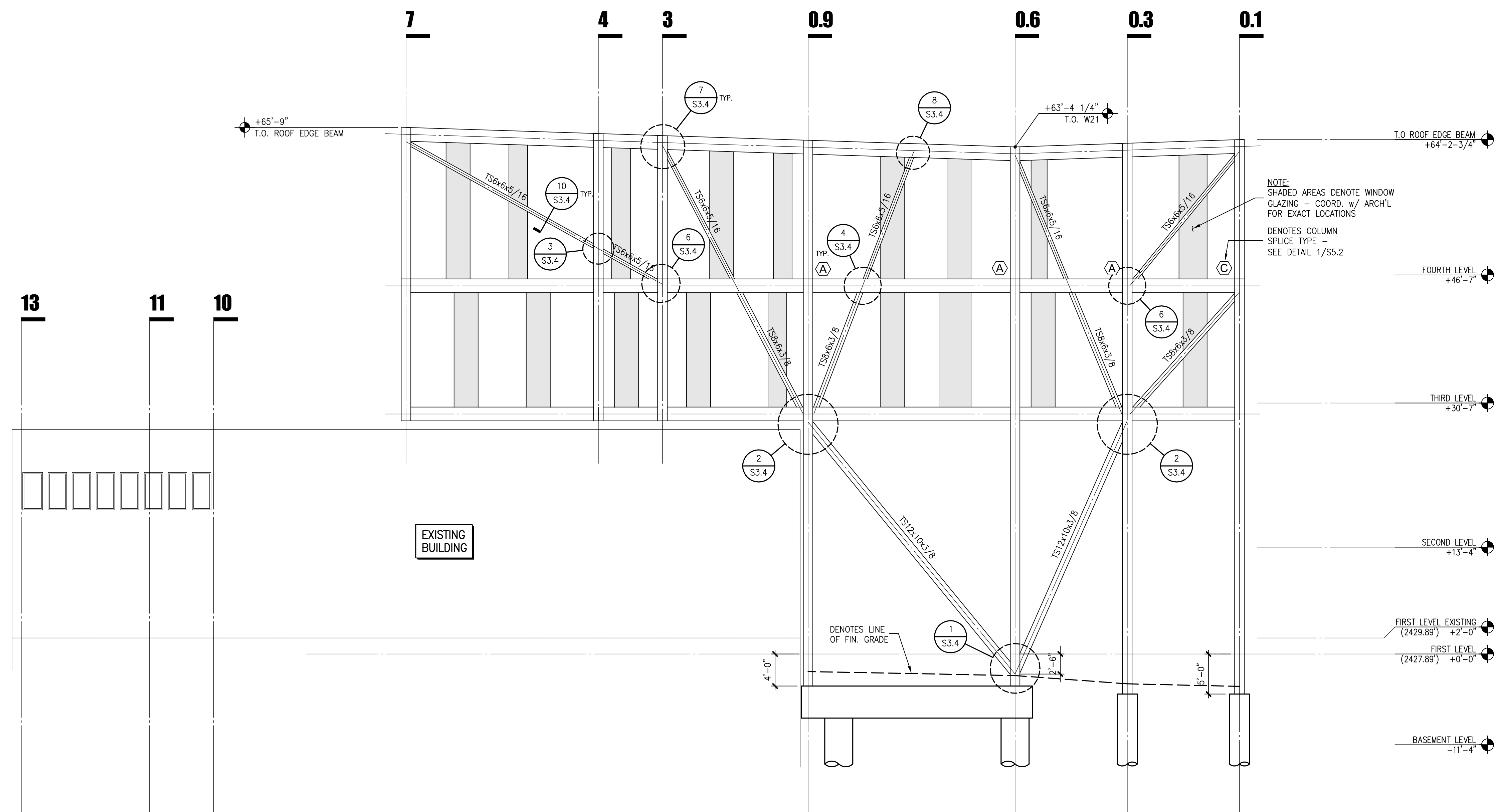


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AUGUST 25, 2011
Construction Documents
r+b job #: 0209

U.A. #: 08-8826

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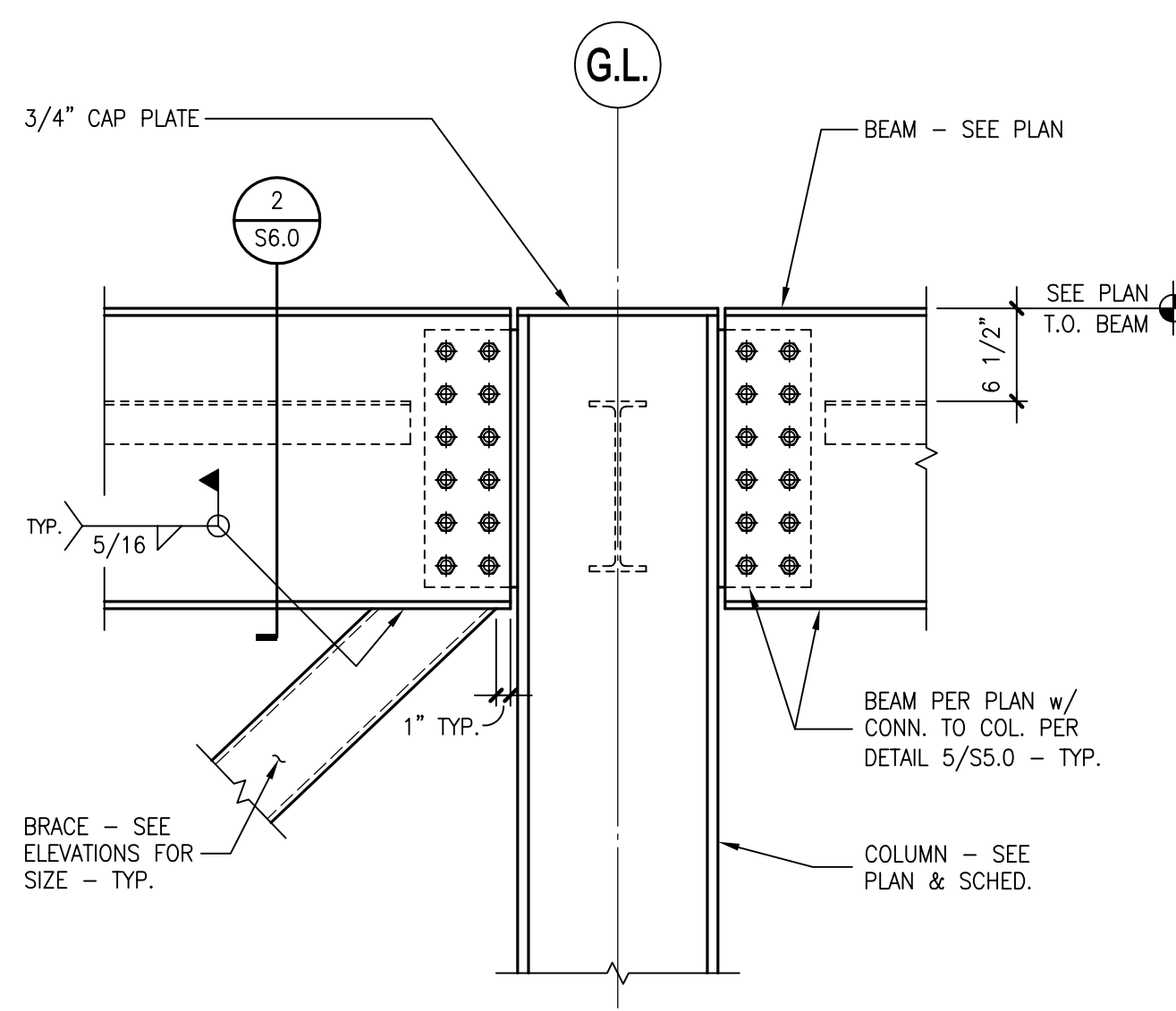


1 WEST EXTERIOR WALL ELEVATION
1/8"=1'-0"

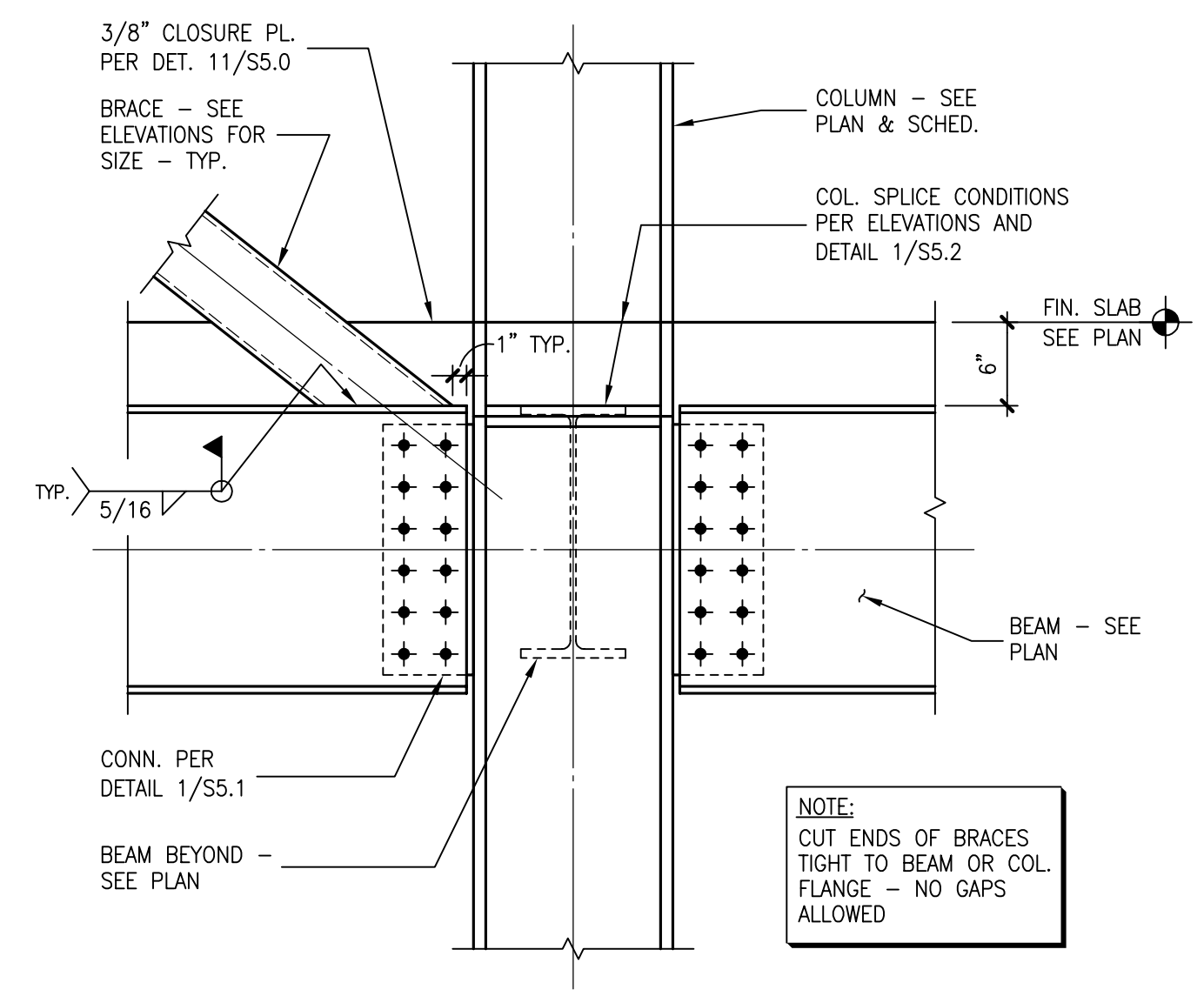
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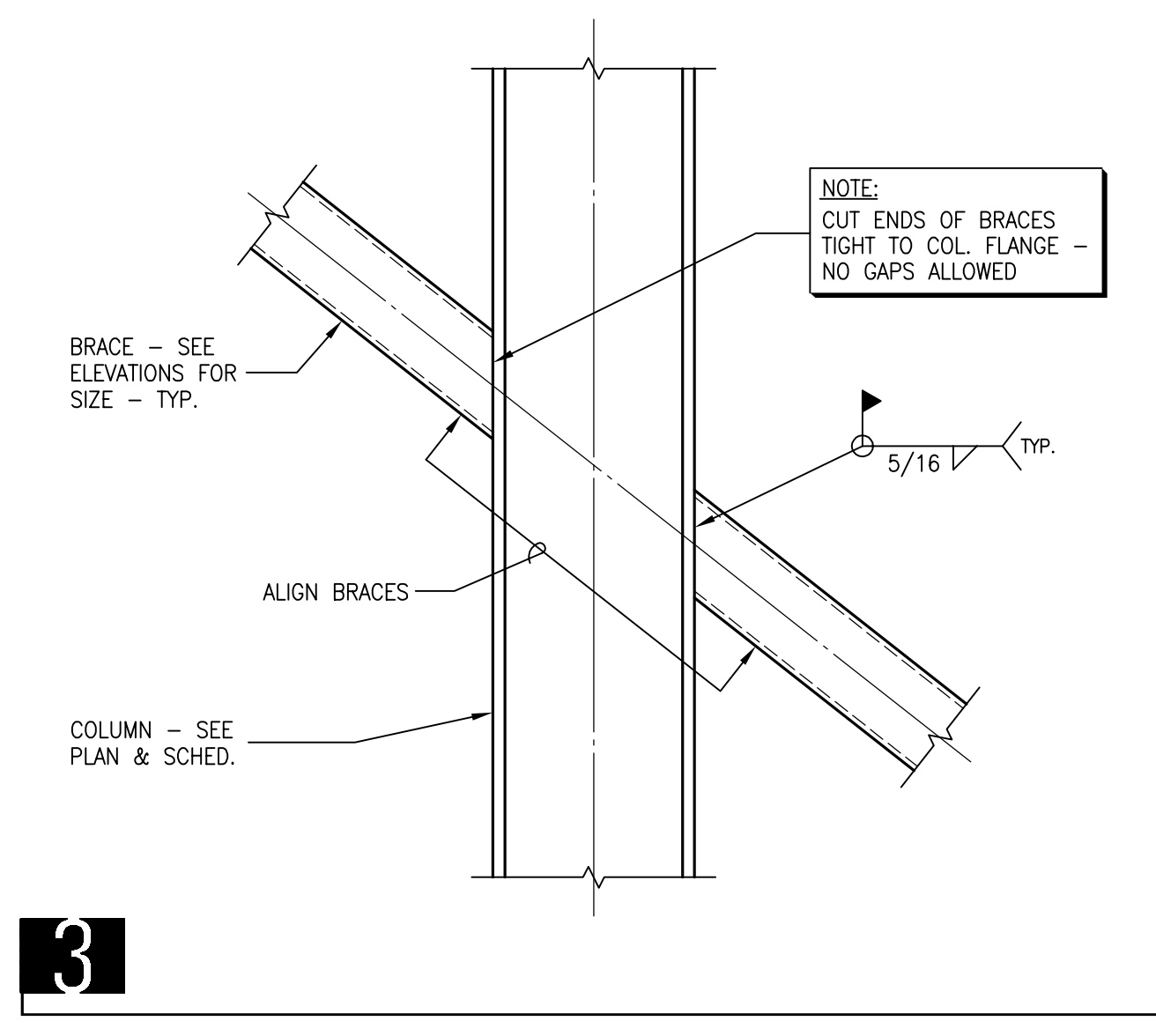
BRACED FRAME
WALL ELEVATION
S3.3
1/8"=1'-0"



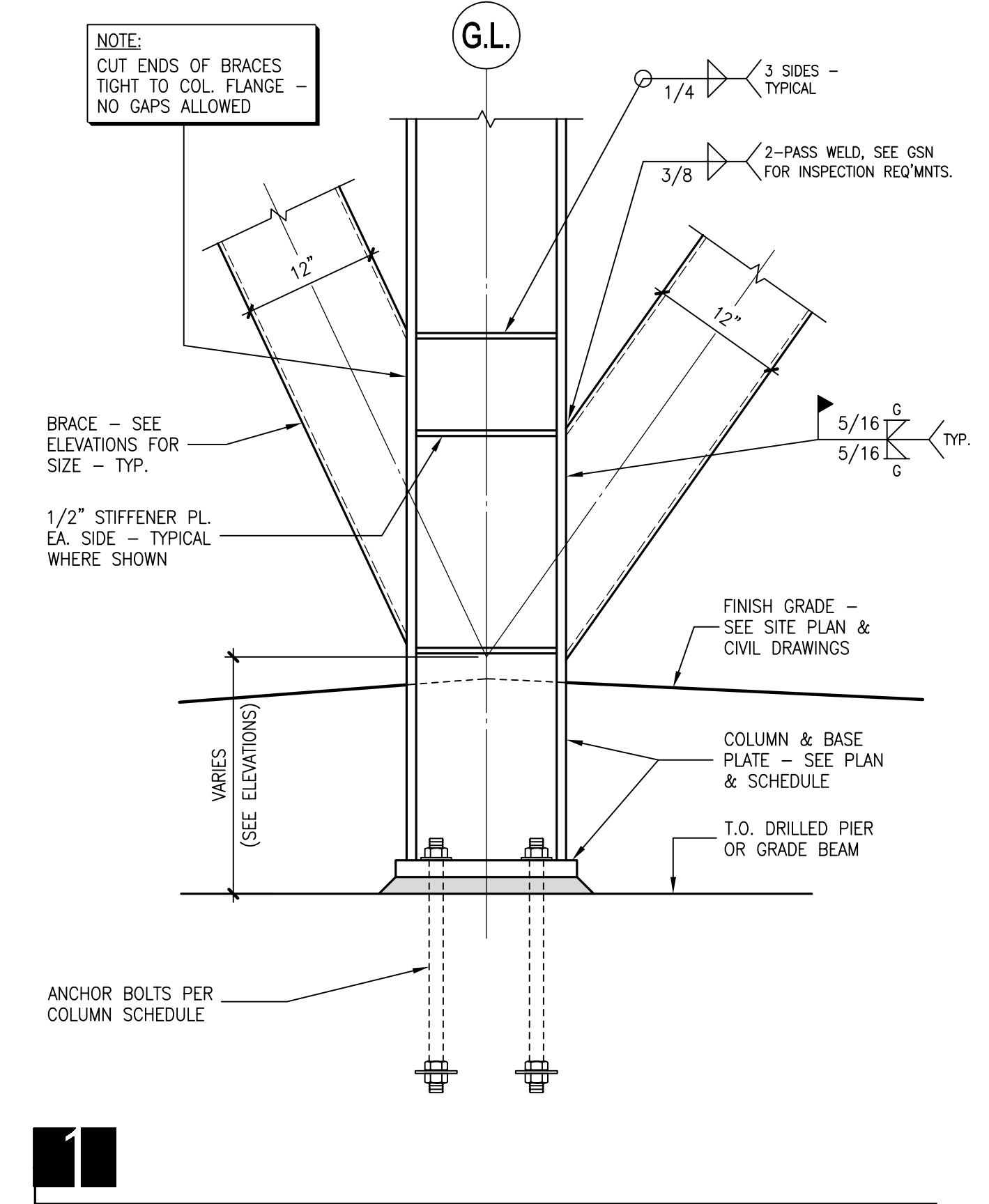
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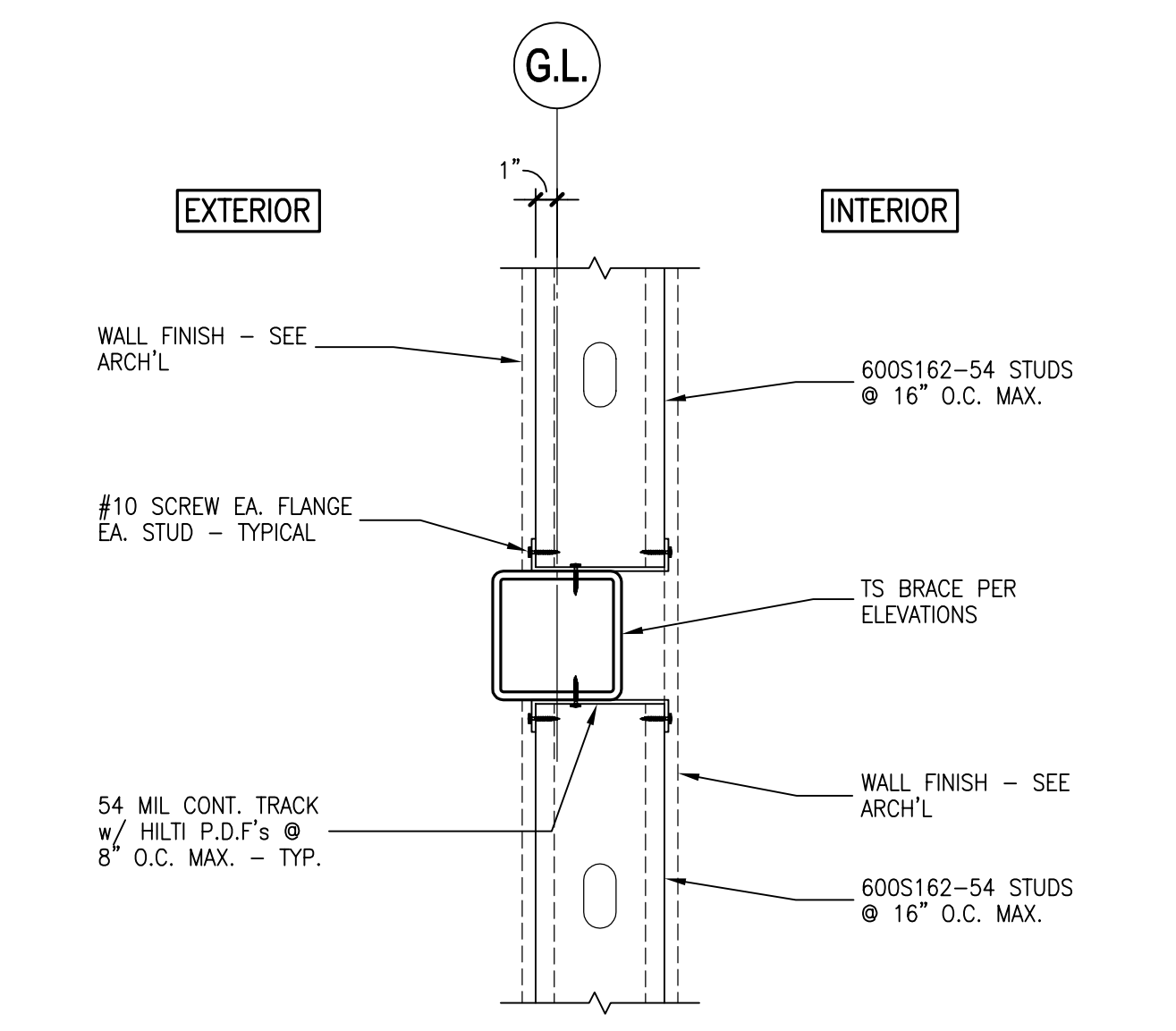
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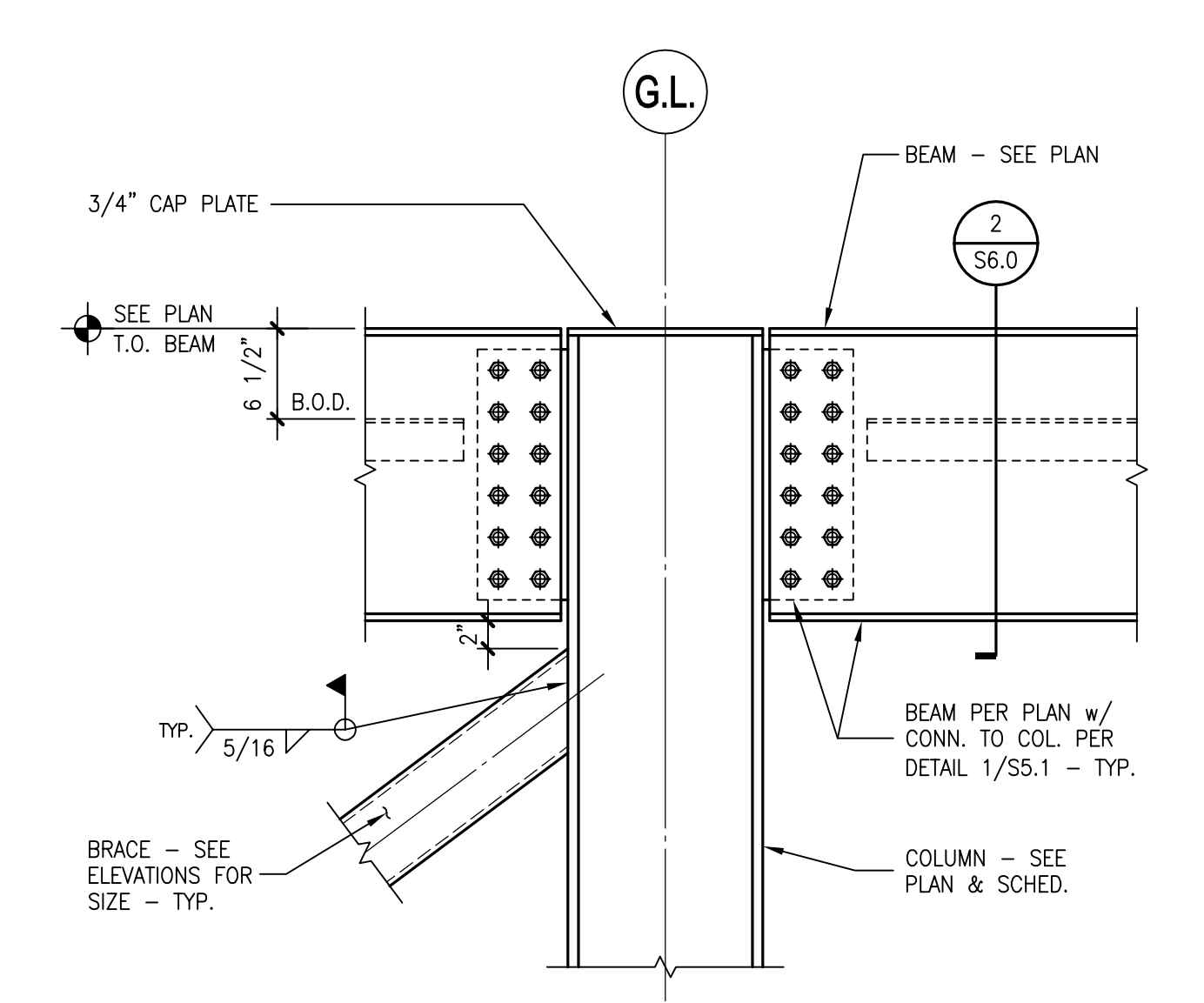
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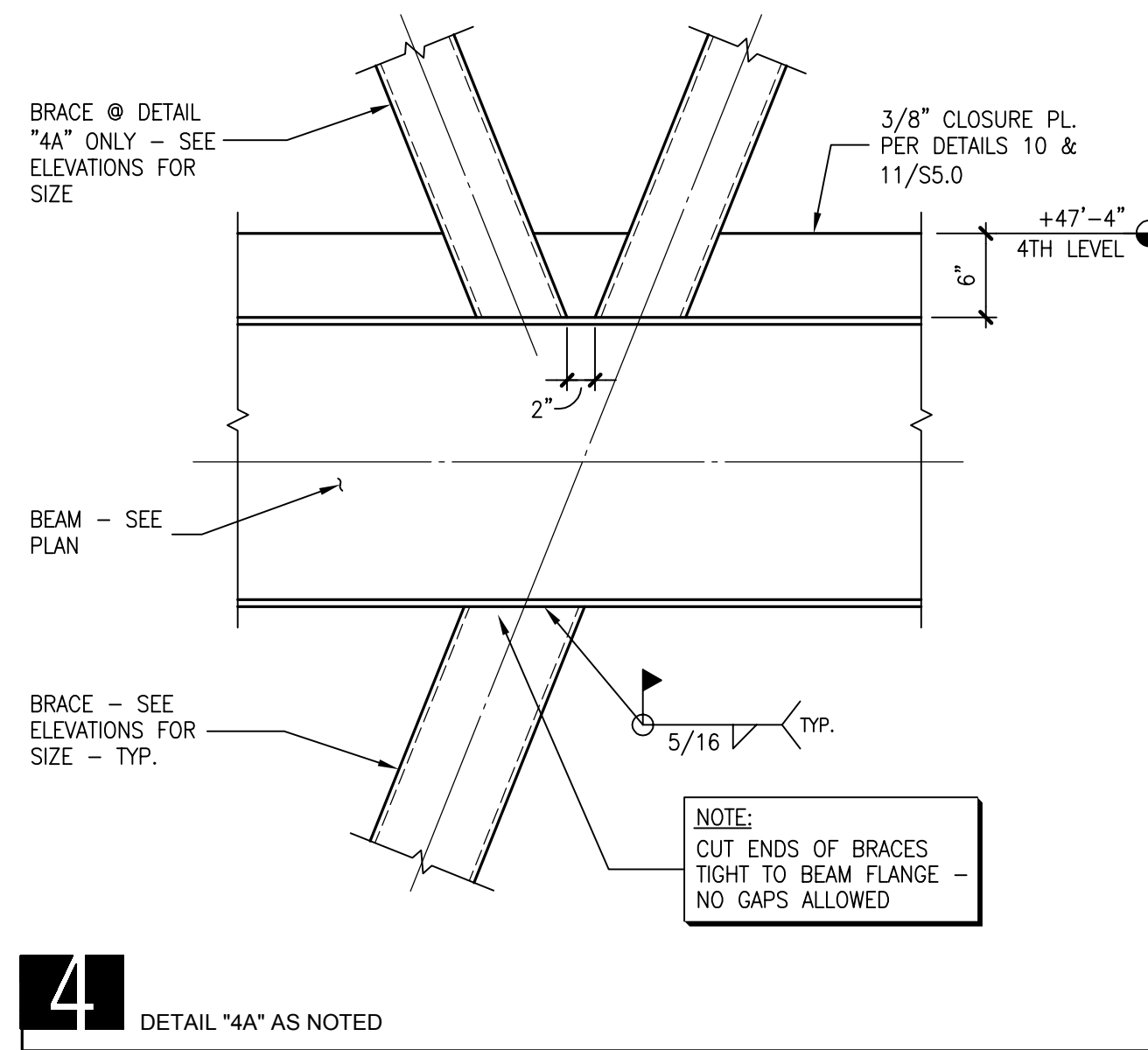
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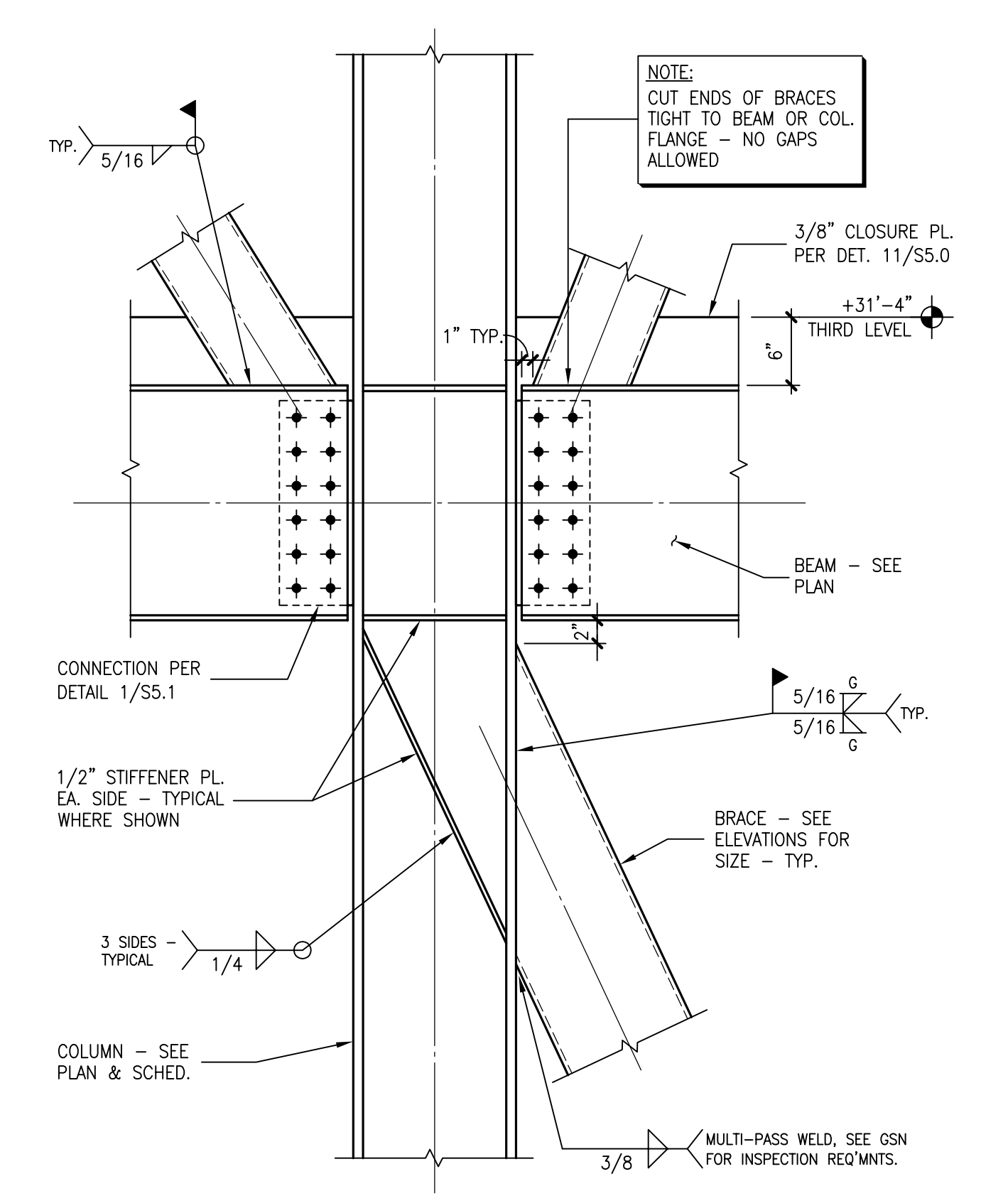
10 TYPICAL METAL STUDS AT TS BRACE



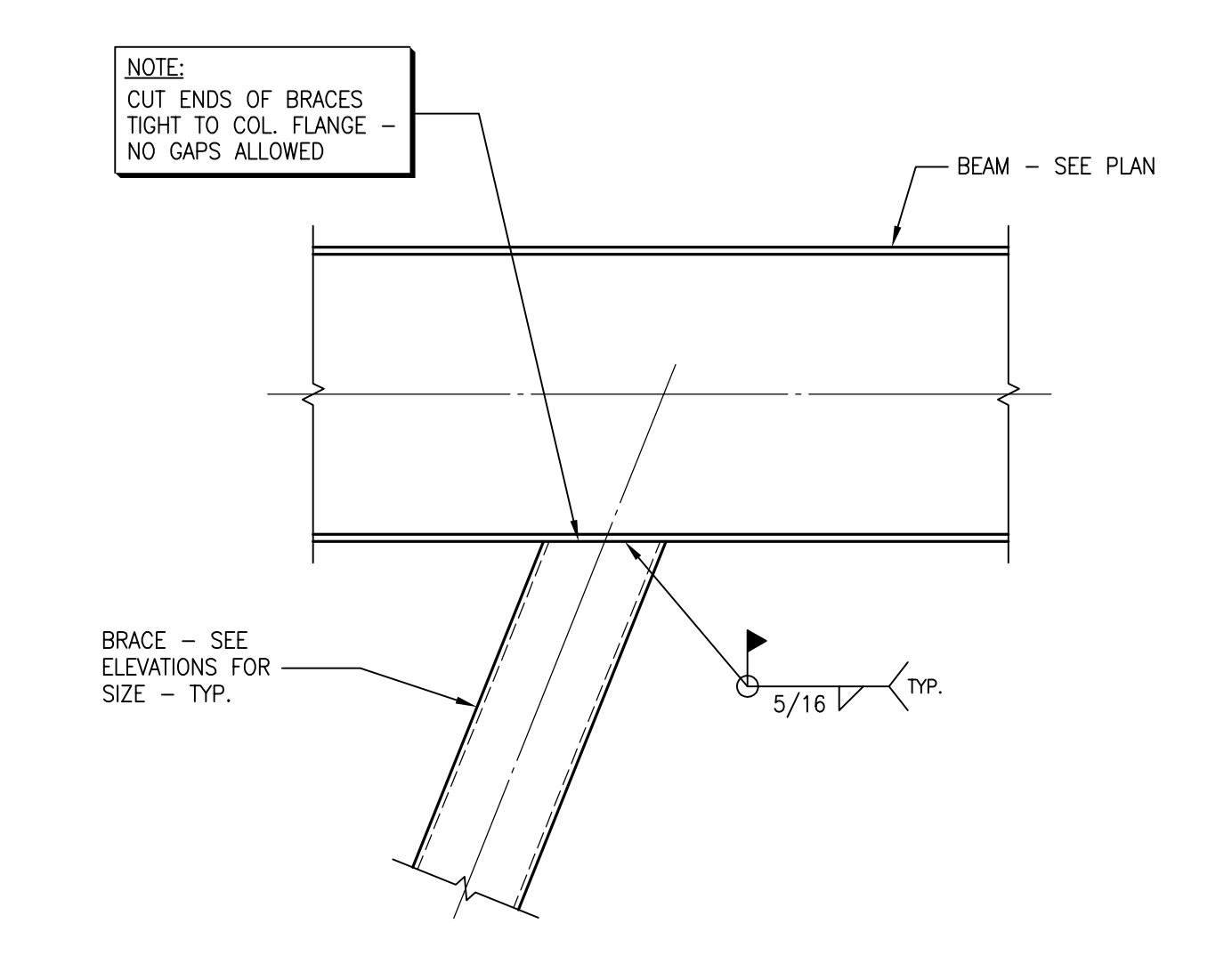
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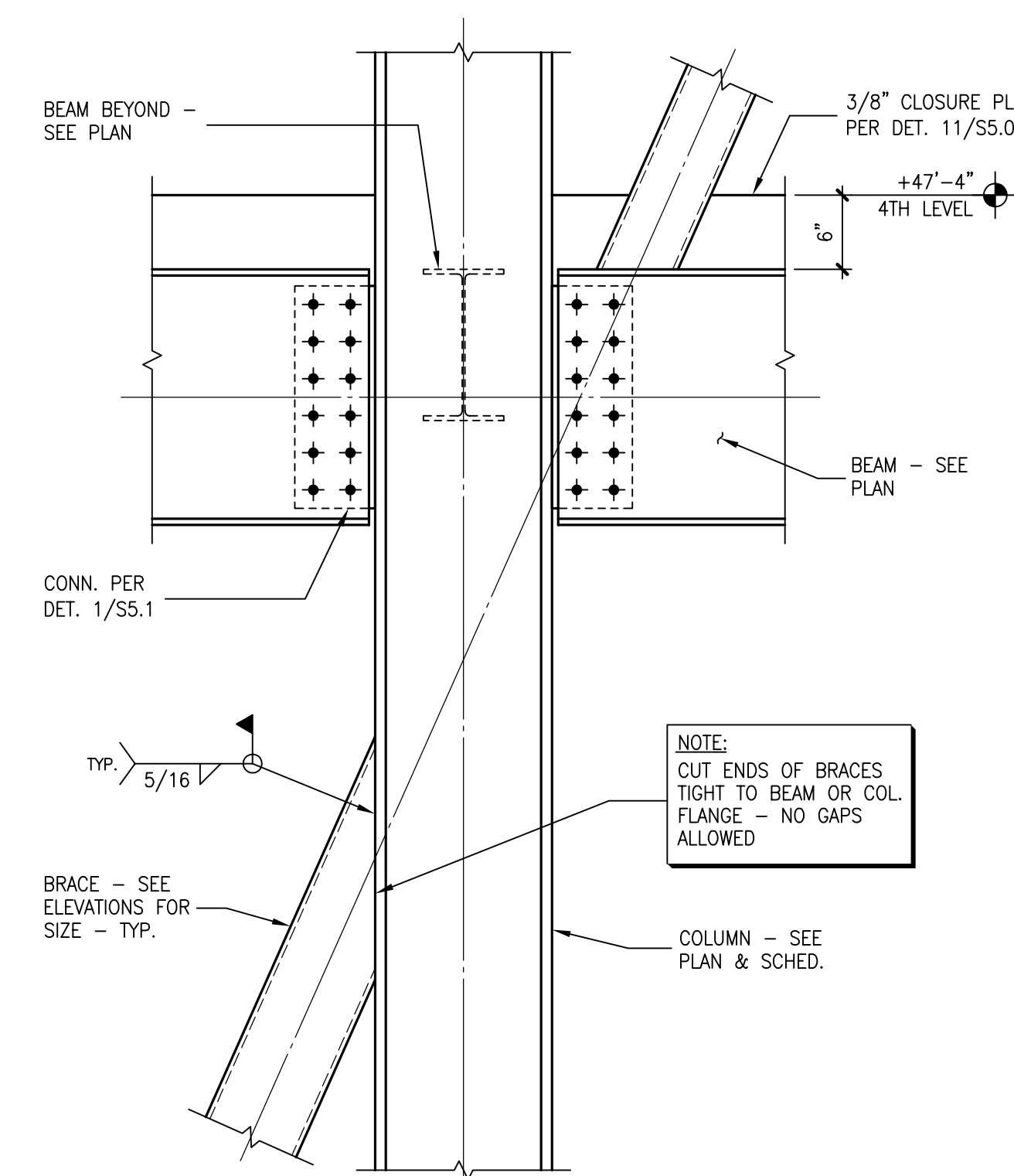
4 DETAIL "4A" AS NOTED



2



8



5

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Mark A. Rudow
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 19788
 MARK A. RUDOW
 ARIZONA, U.S.A.
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BRACING
 DETAILS
S3.4
 SCALE VARIES

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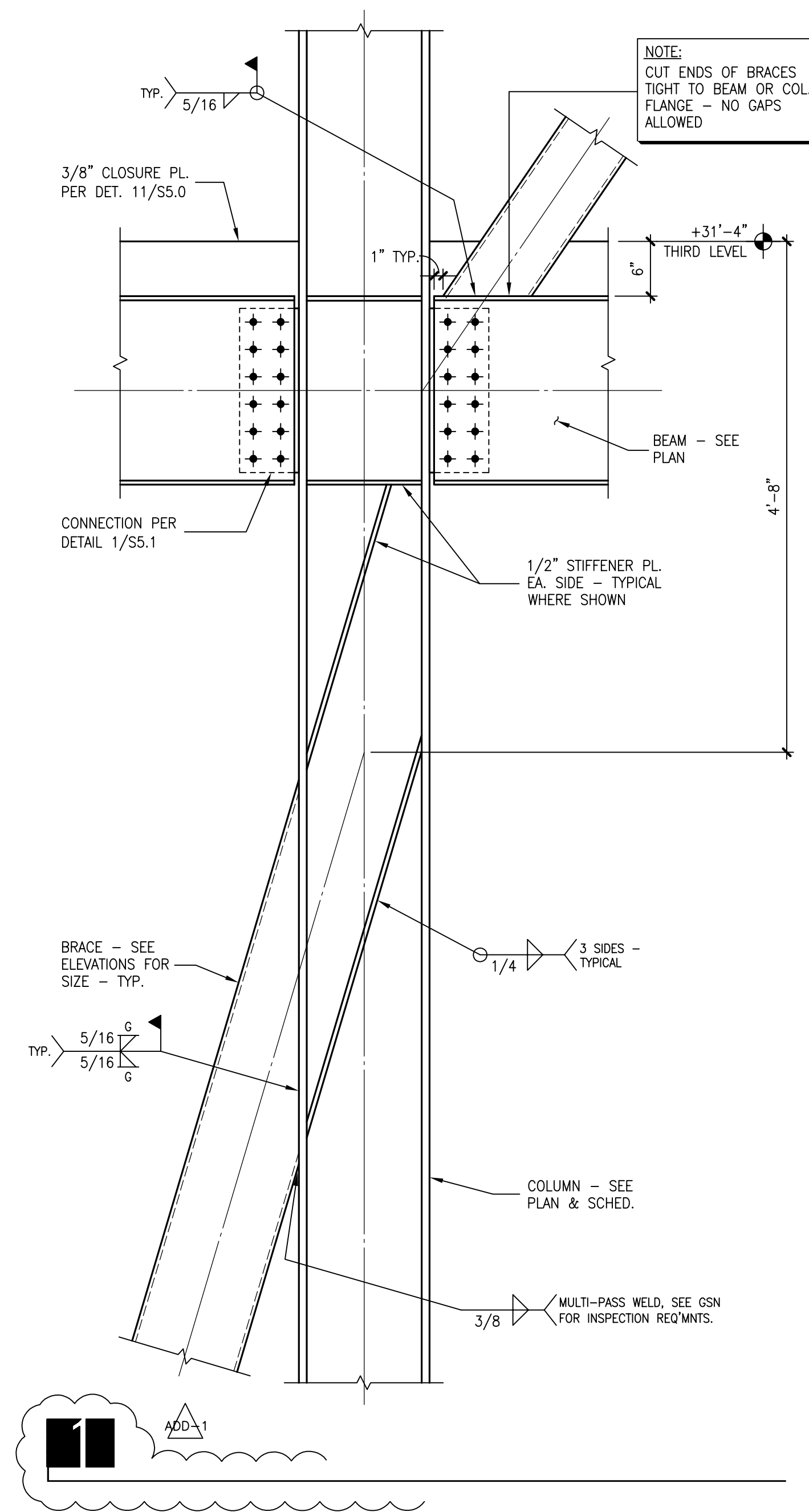


EXPIRES 3/31/2013

AUGUST 25, 2011
Construction Documents
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r+b job #08108

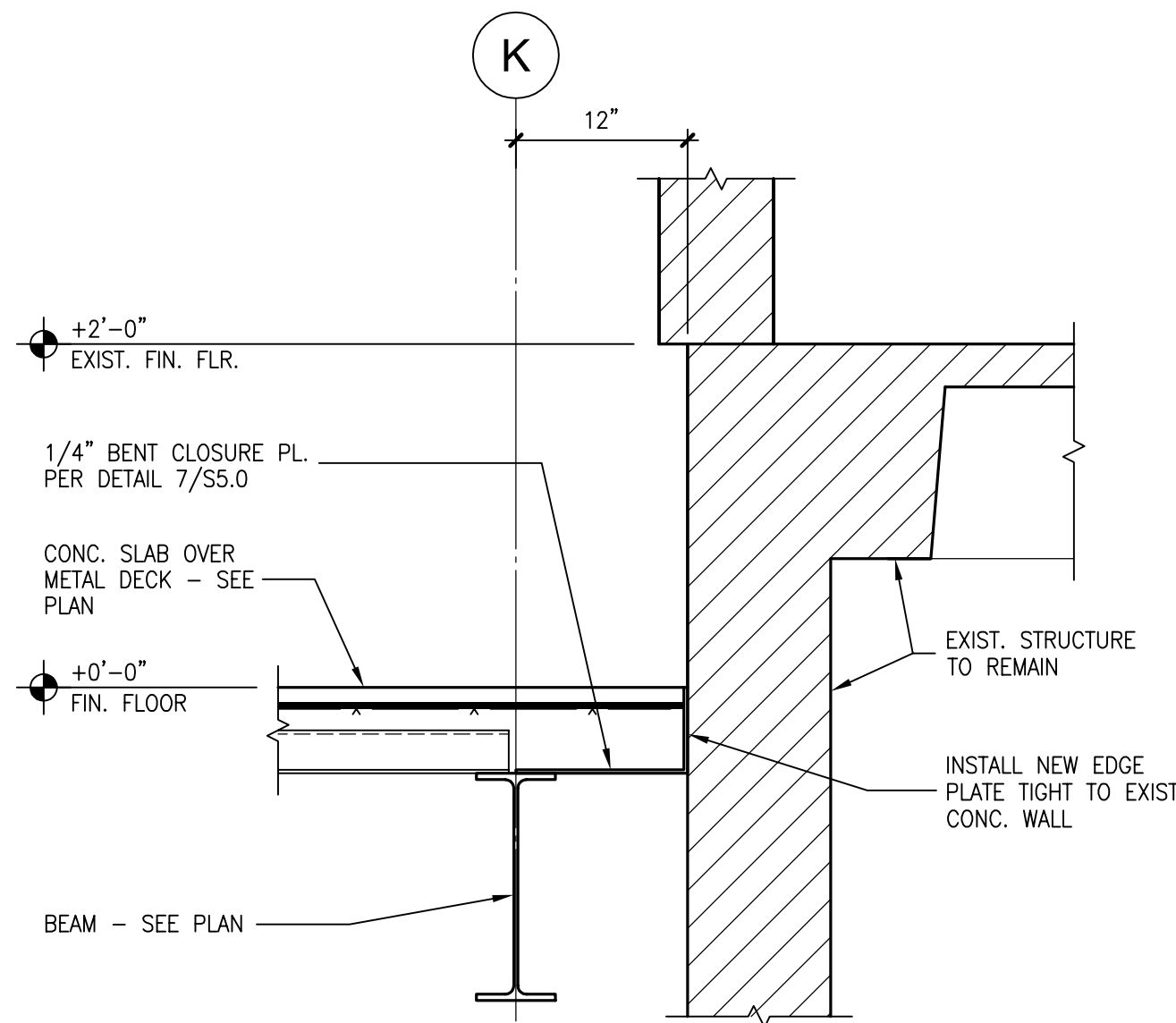
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ADD-1 GMP-ADDENDUM 1
05/13/11

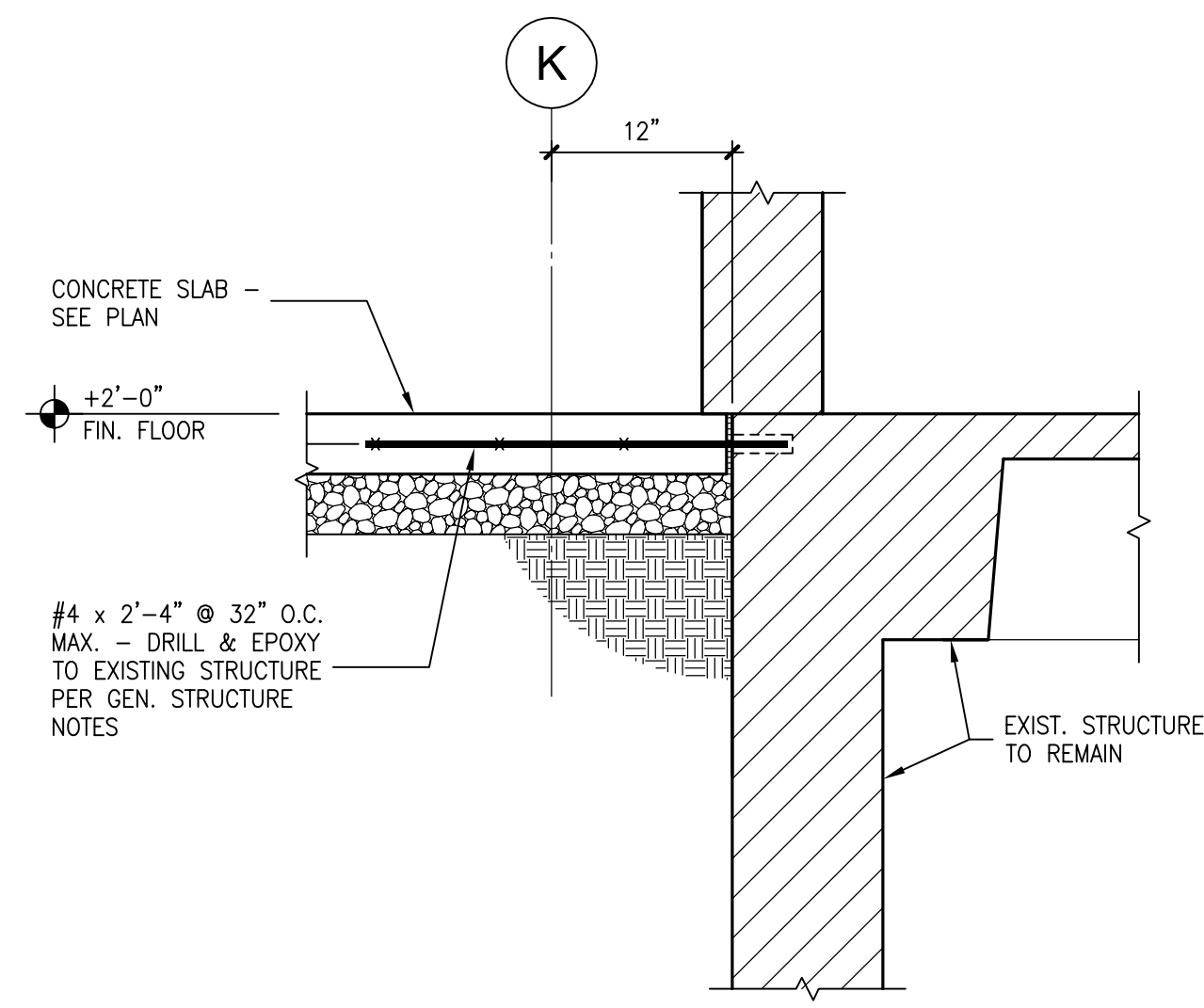
BRACING
DETAILS

S3.5

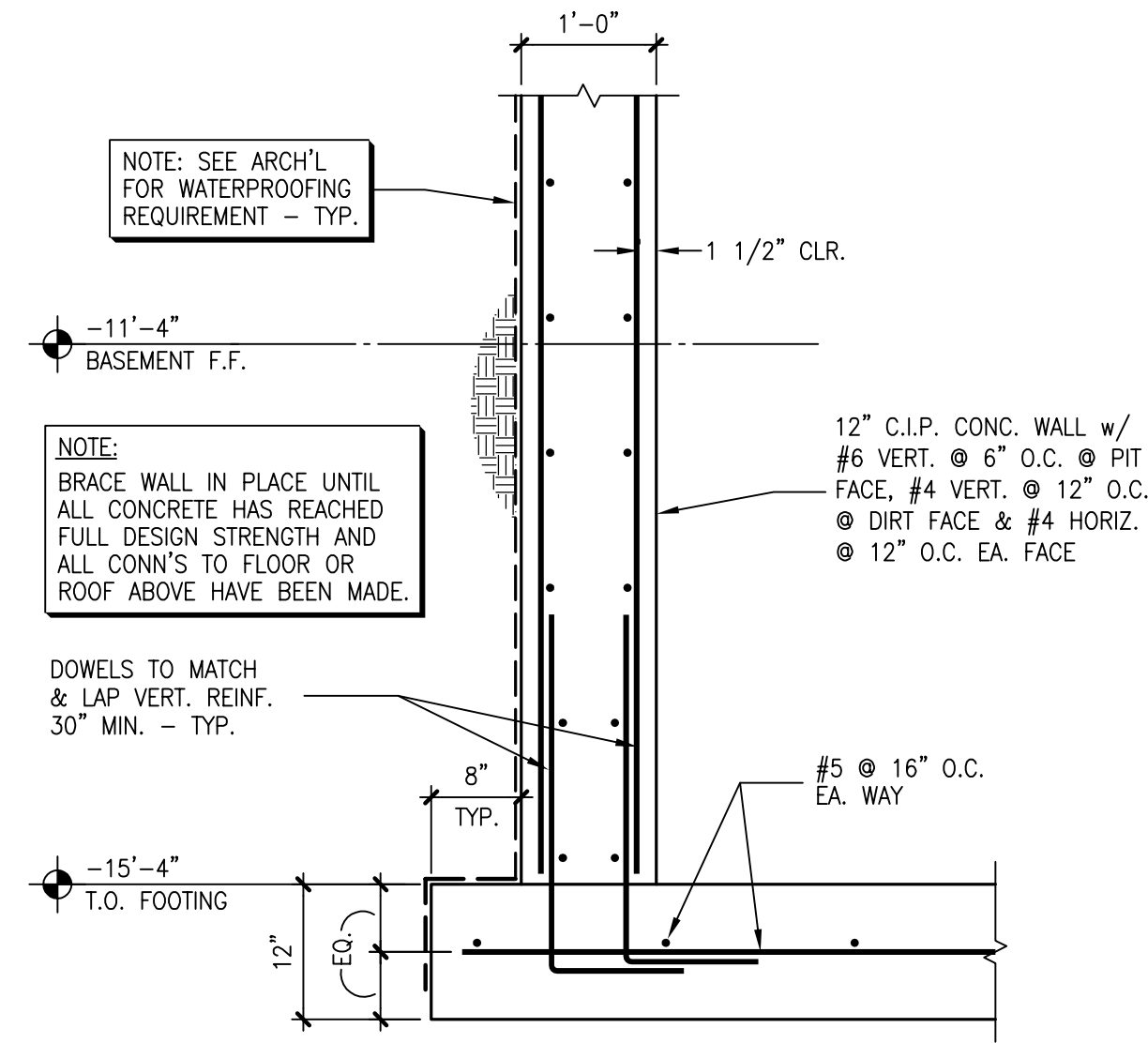
SCALE VARIES



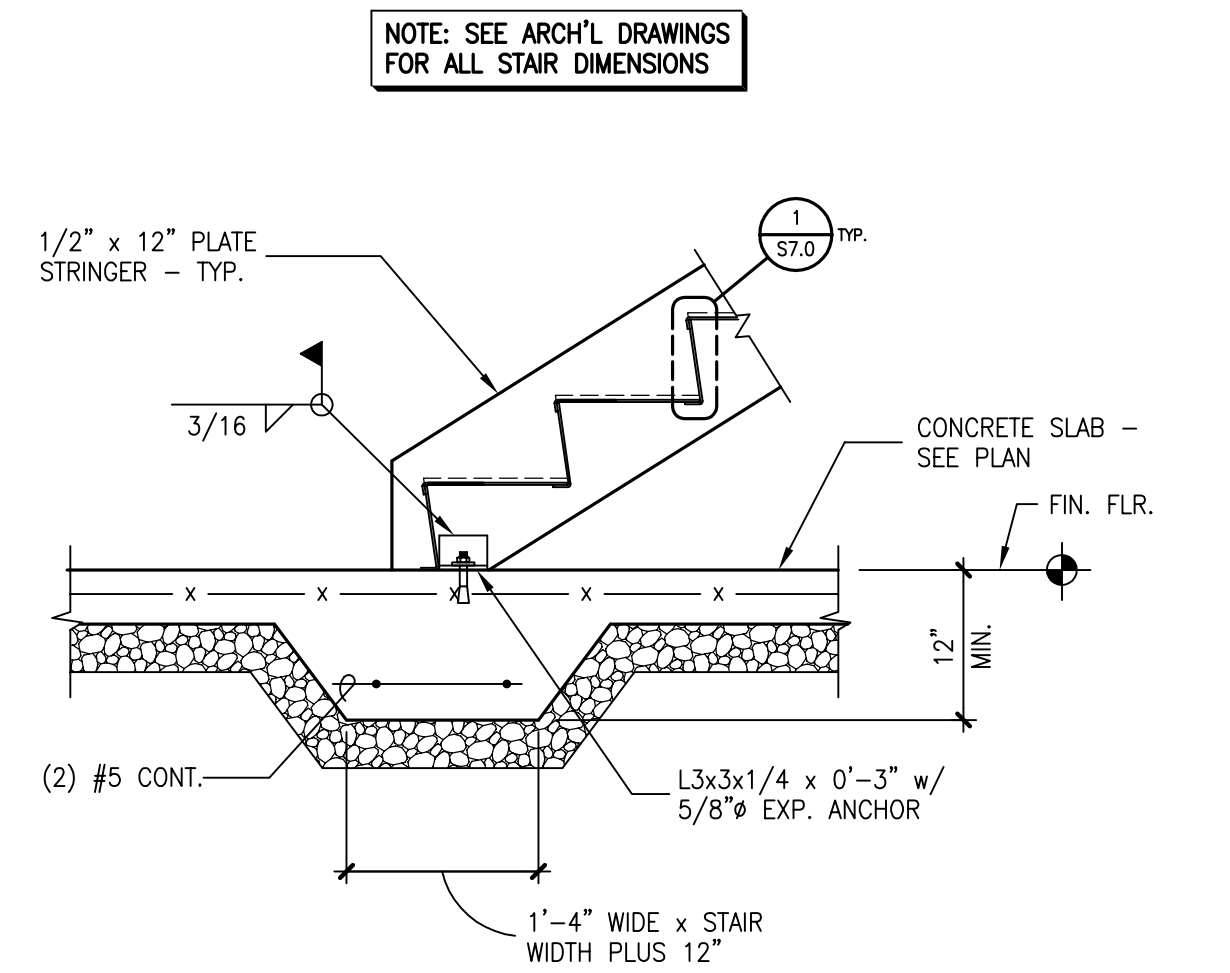
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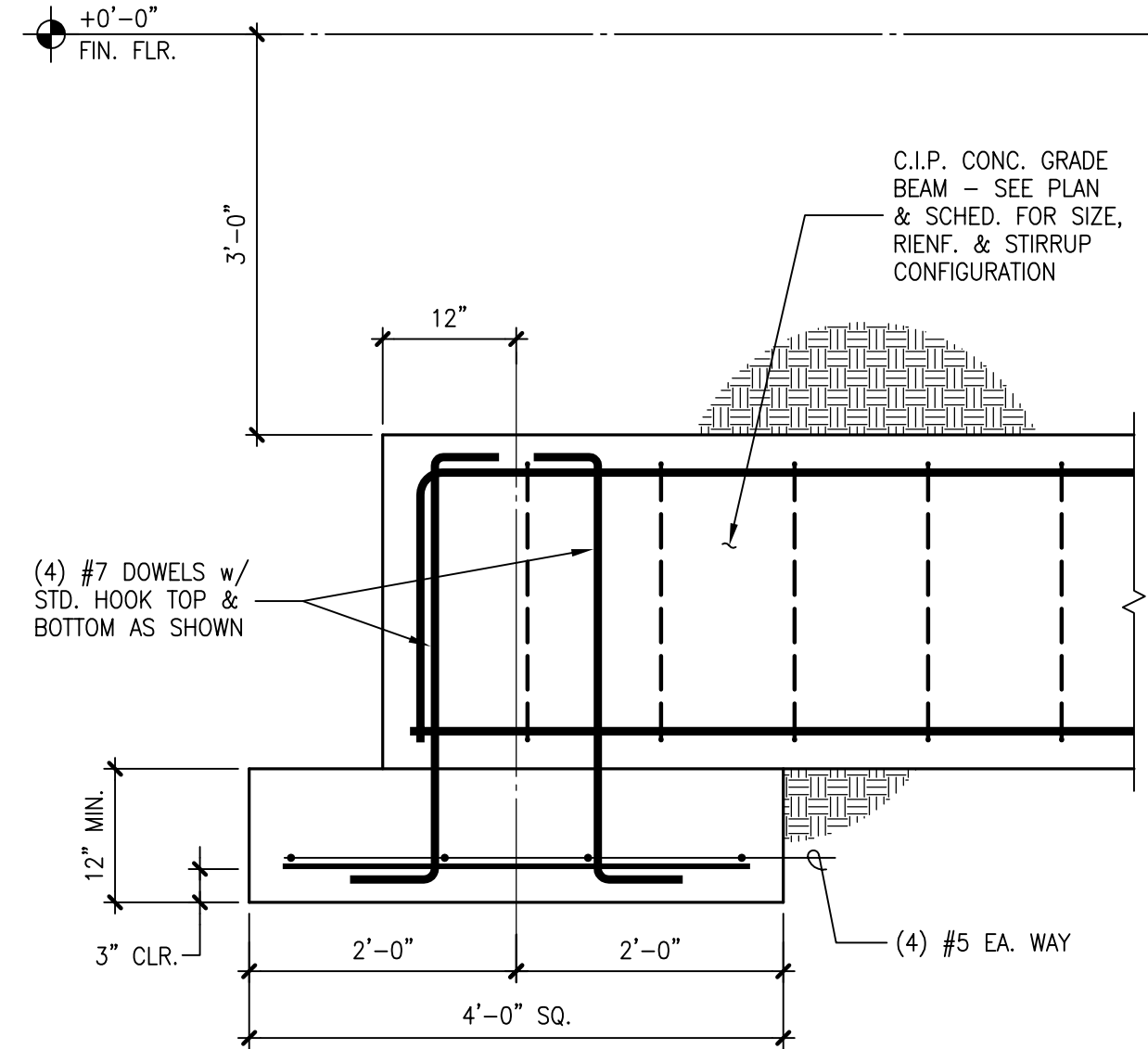
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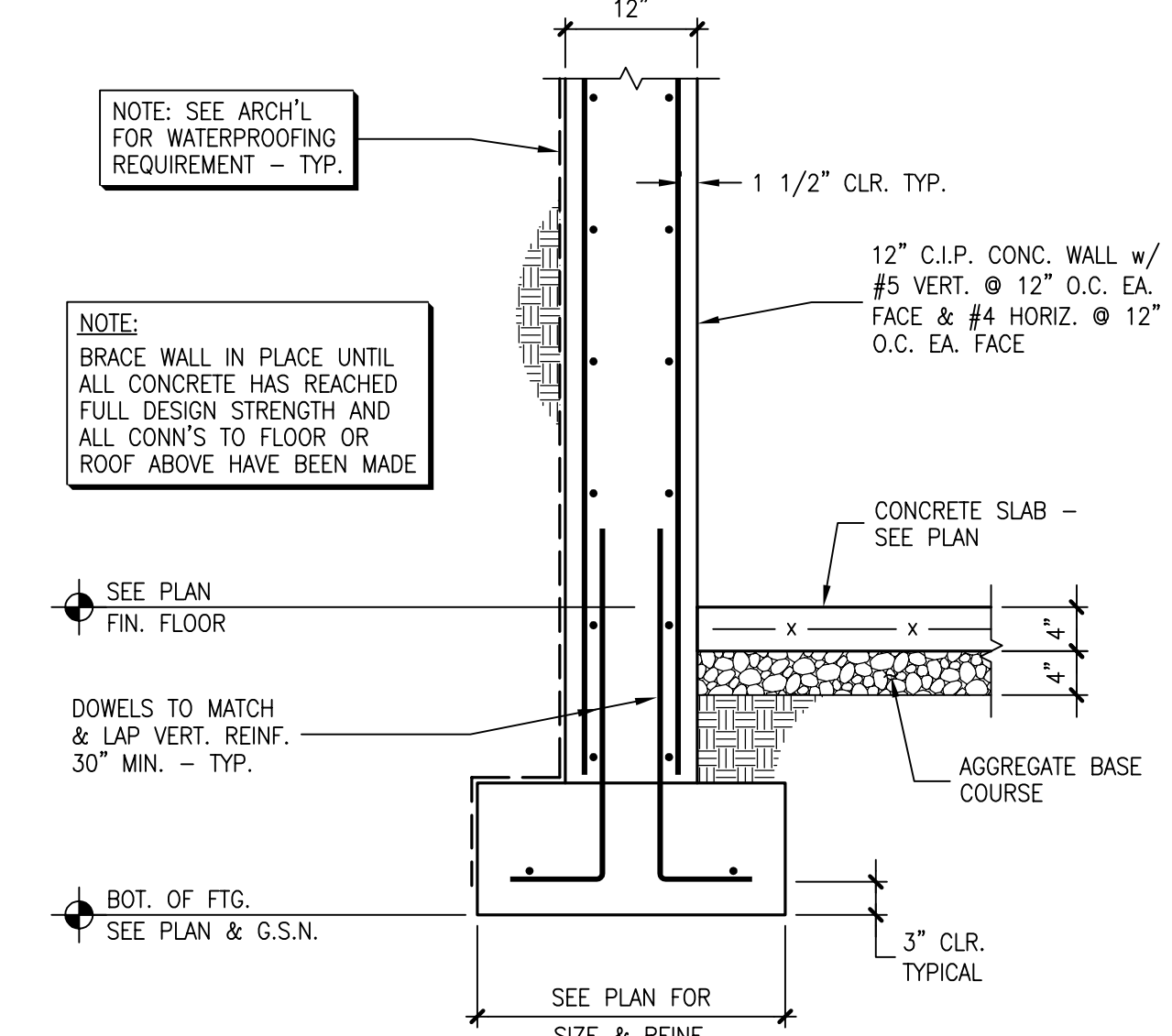
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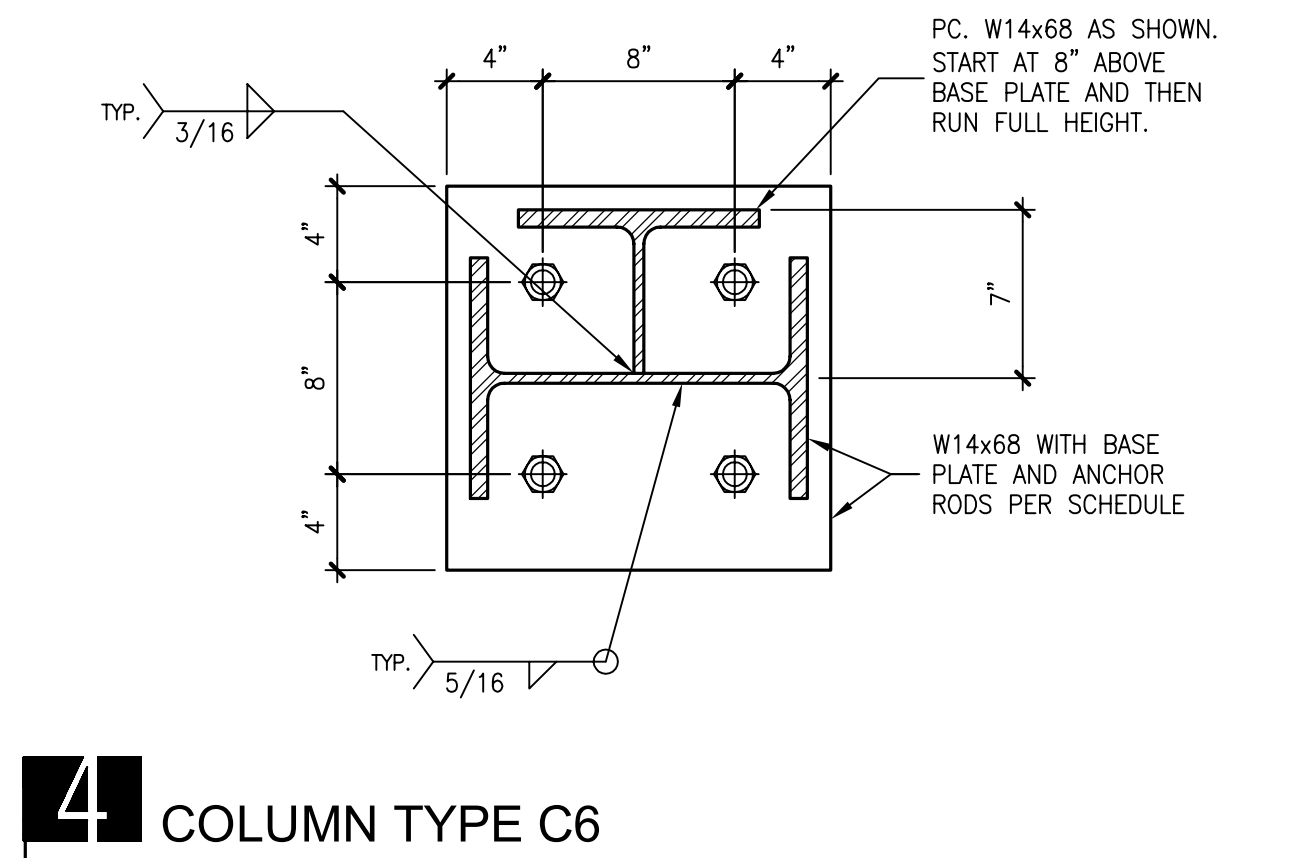
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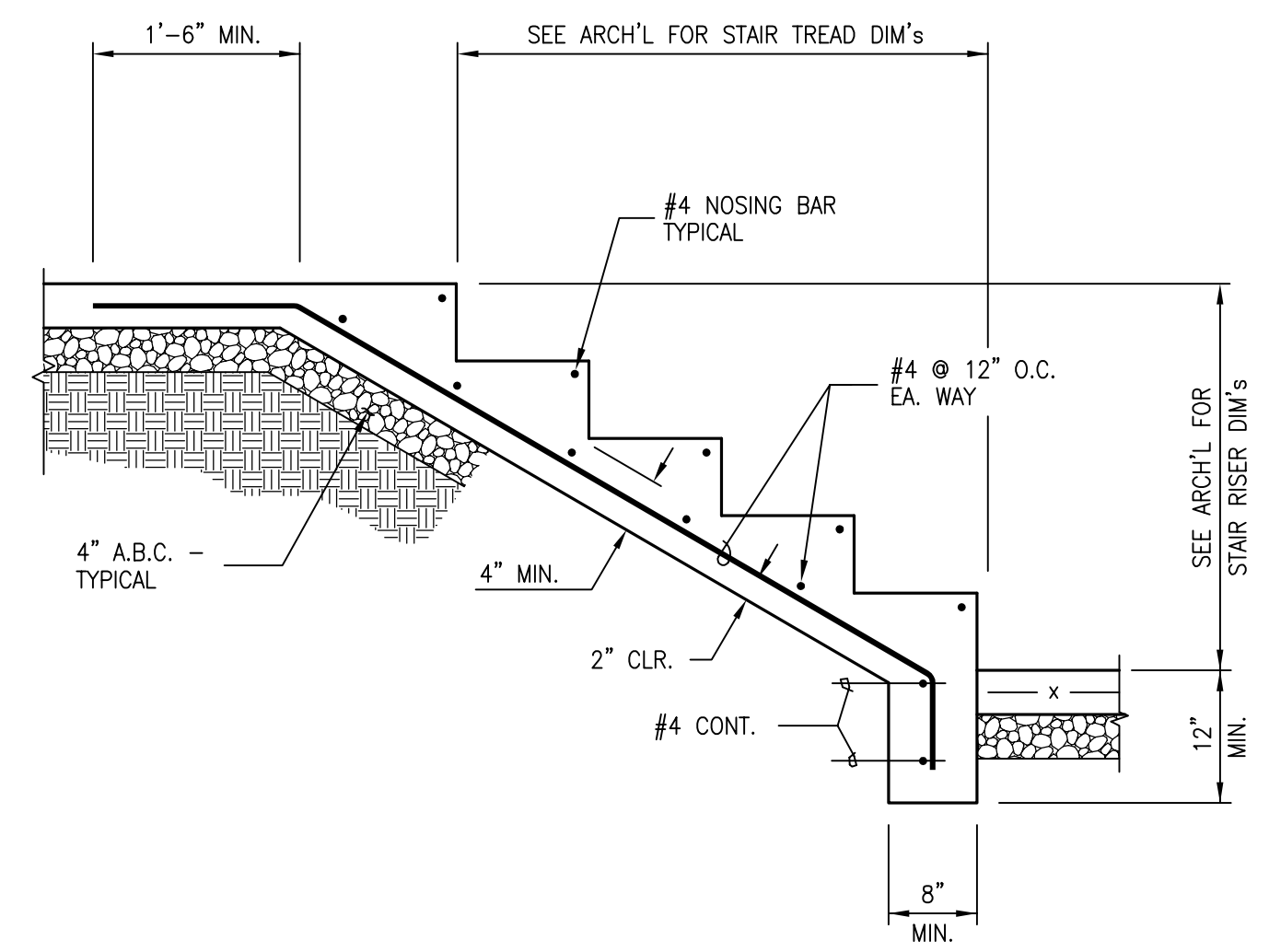
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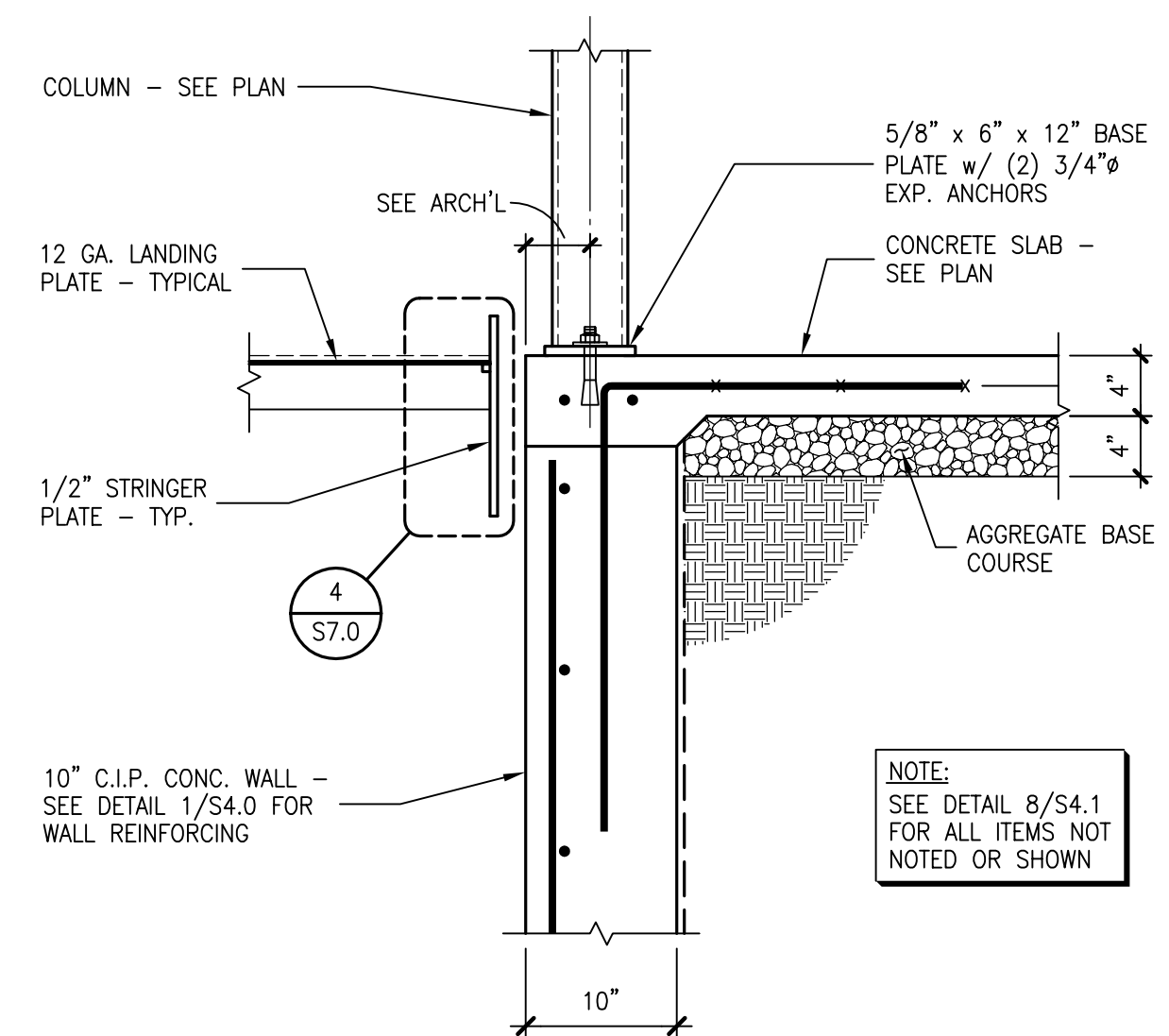
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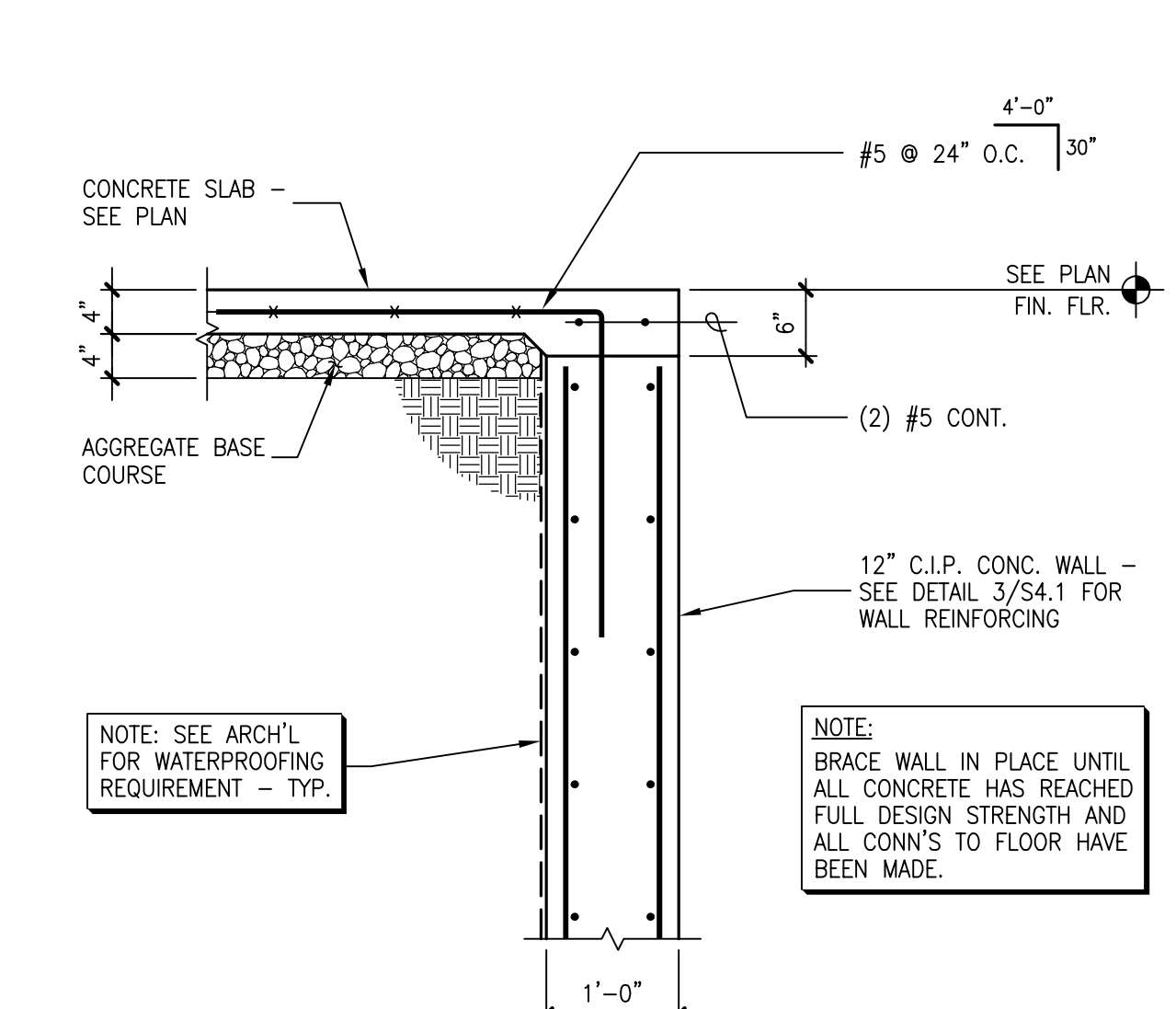
4 COLUMN TYPE C6



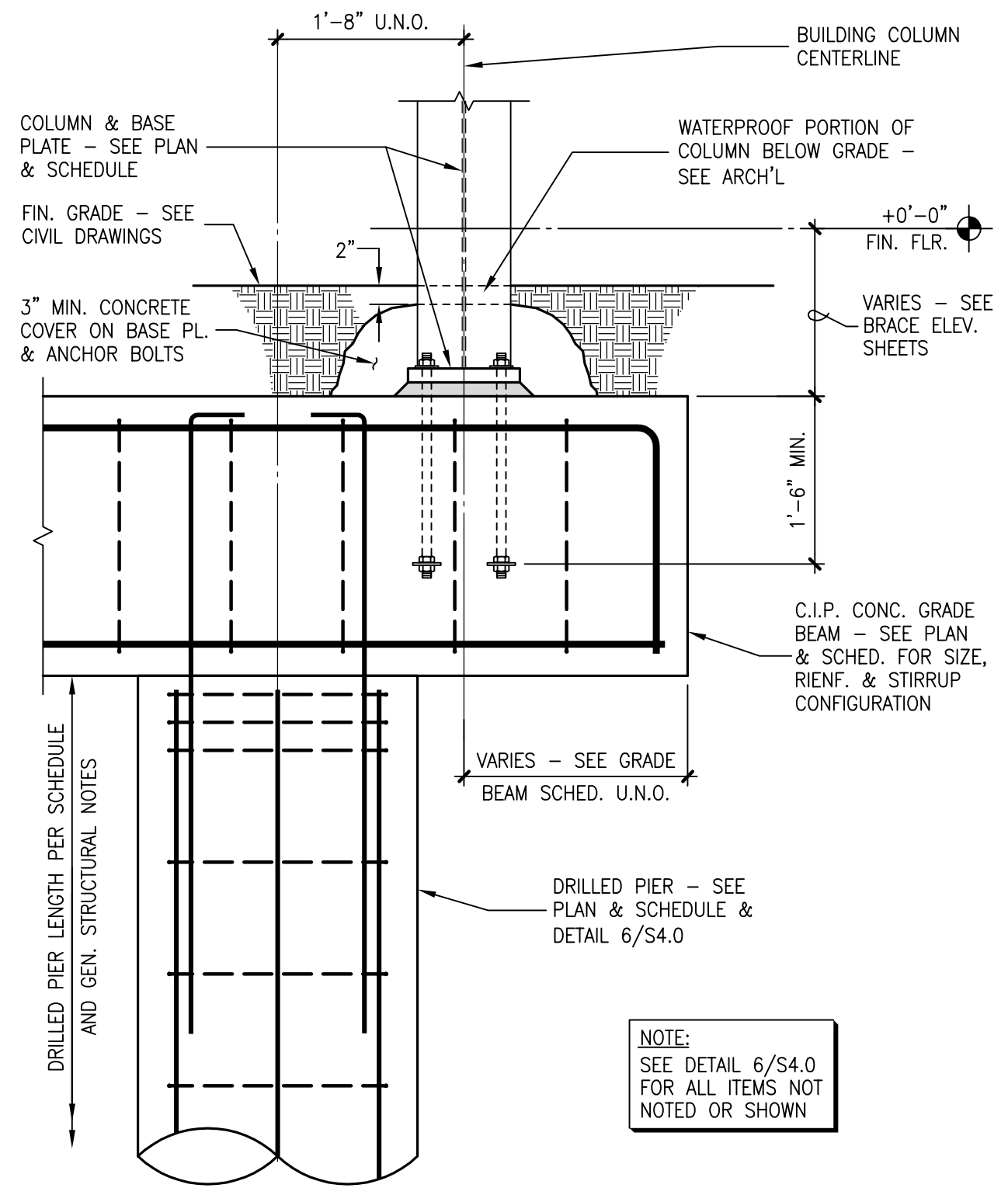
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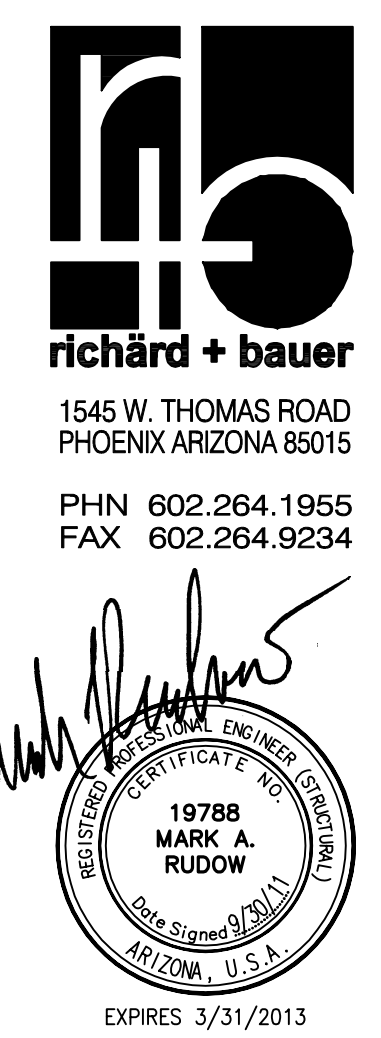
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5

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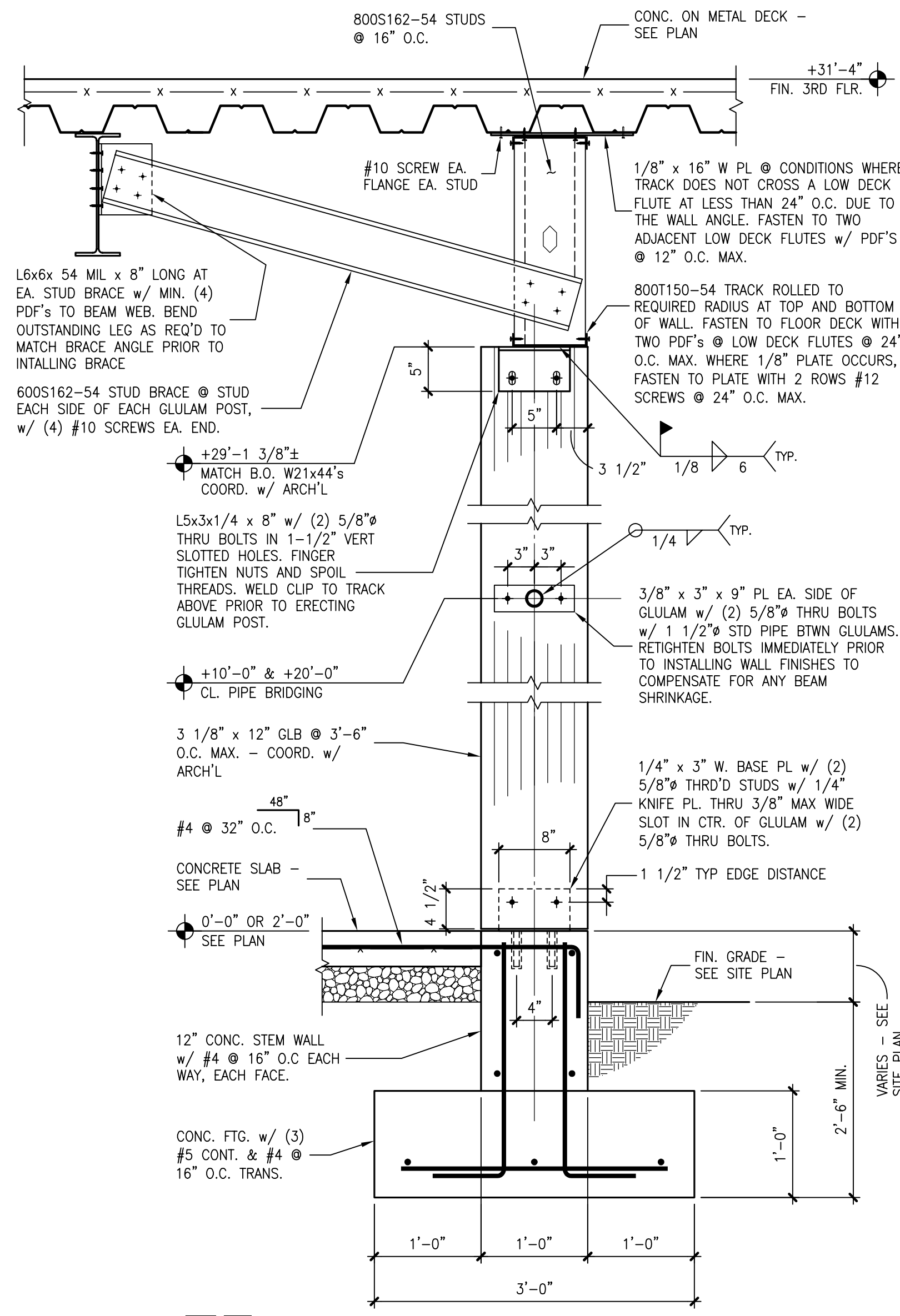


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Construction Documents
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U.A. #: 08-8826

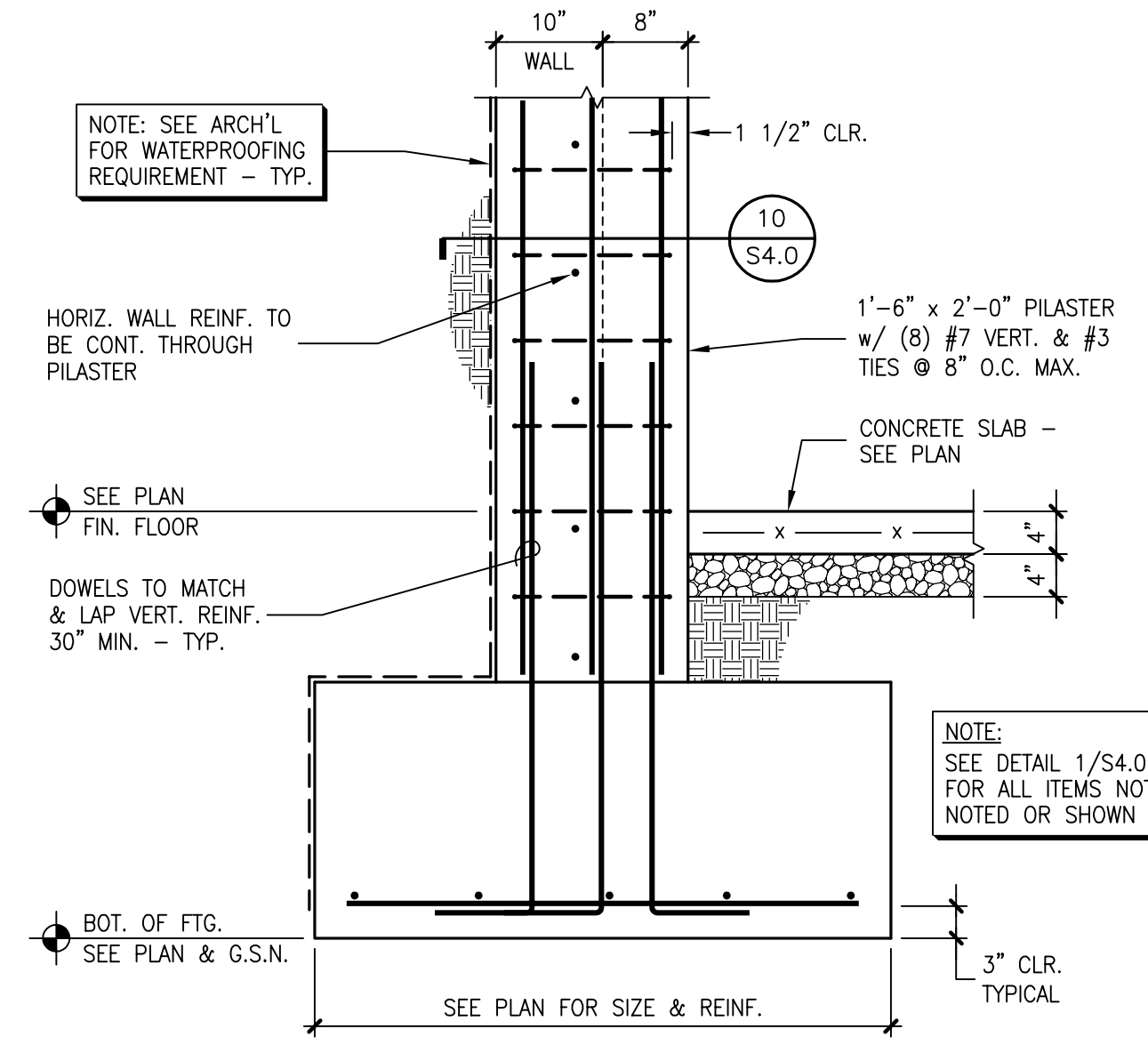
LABORATORY OF TREE-RING RESEARCH
BRYANT BANNISTER TREE-RING BUILDING
The University of Arizona - Tucson, Arizona

FOUNDATION
DETAILS
S4.1
SCALE VARIES

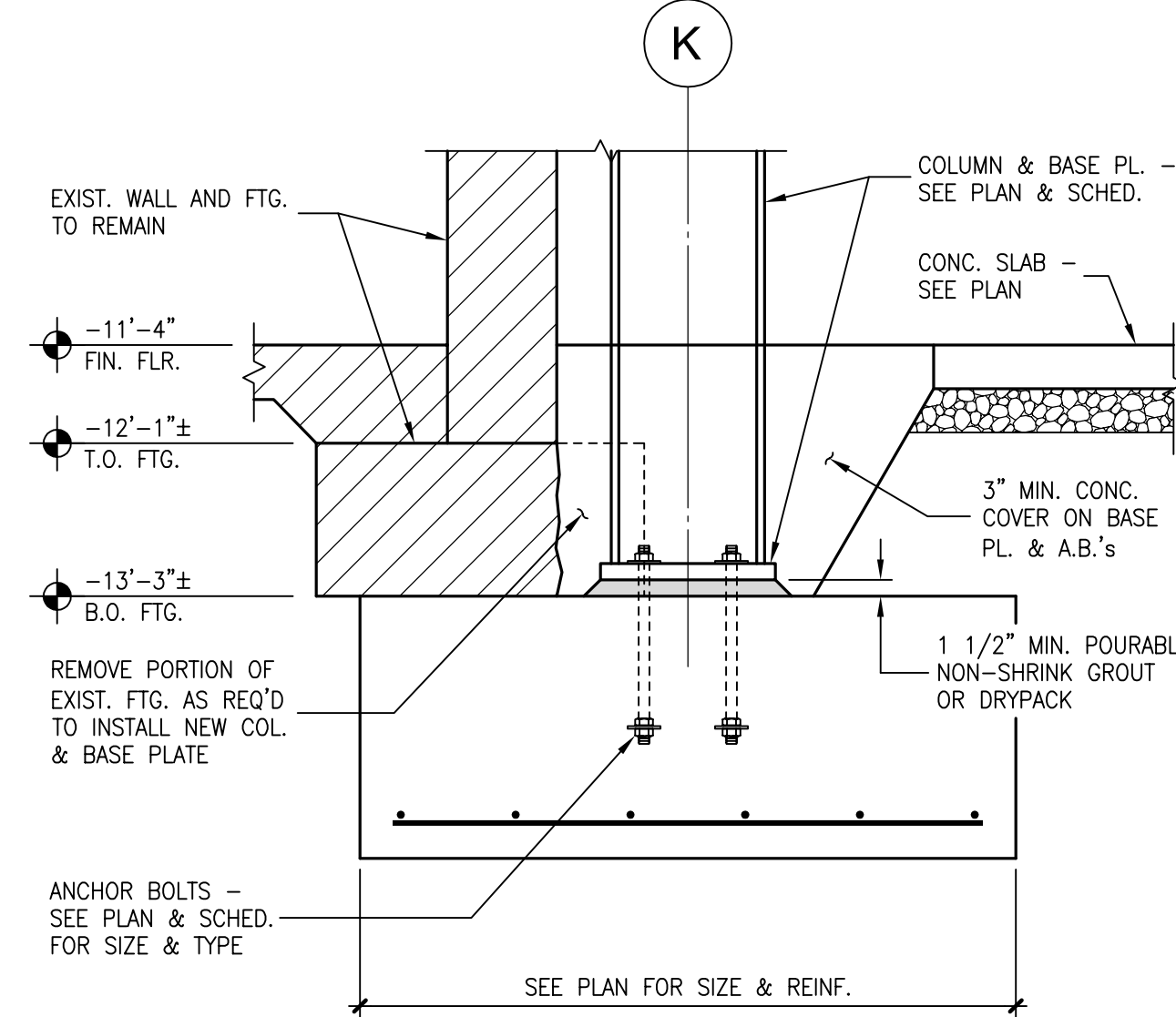
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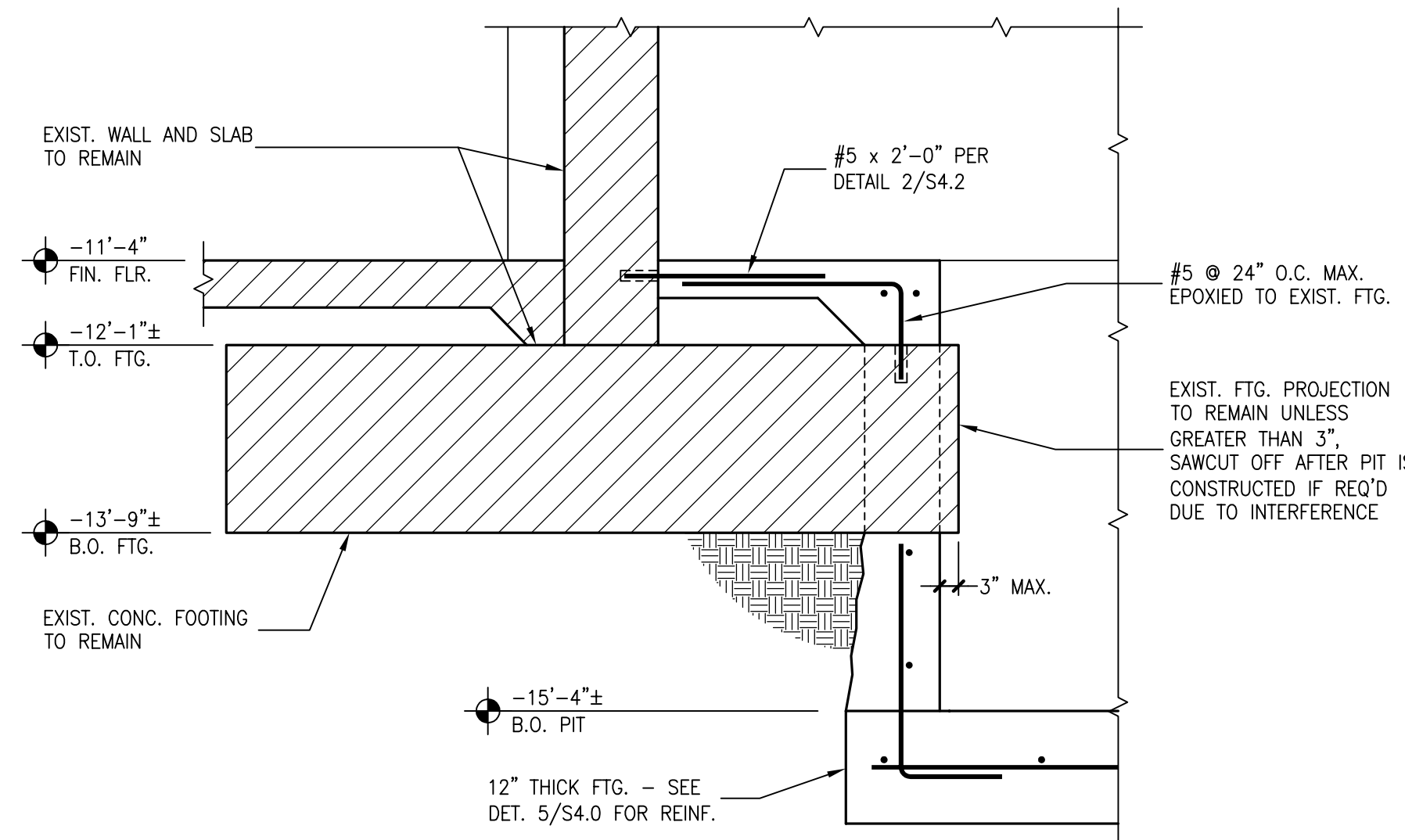
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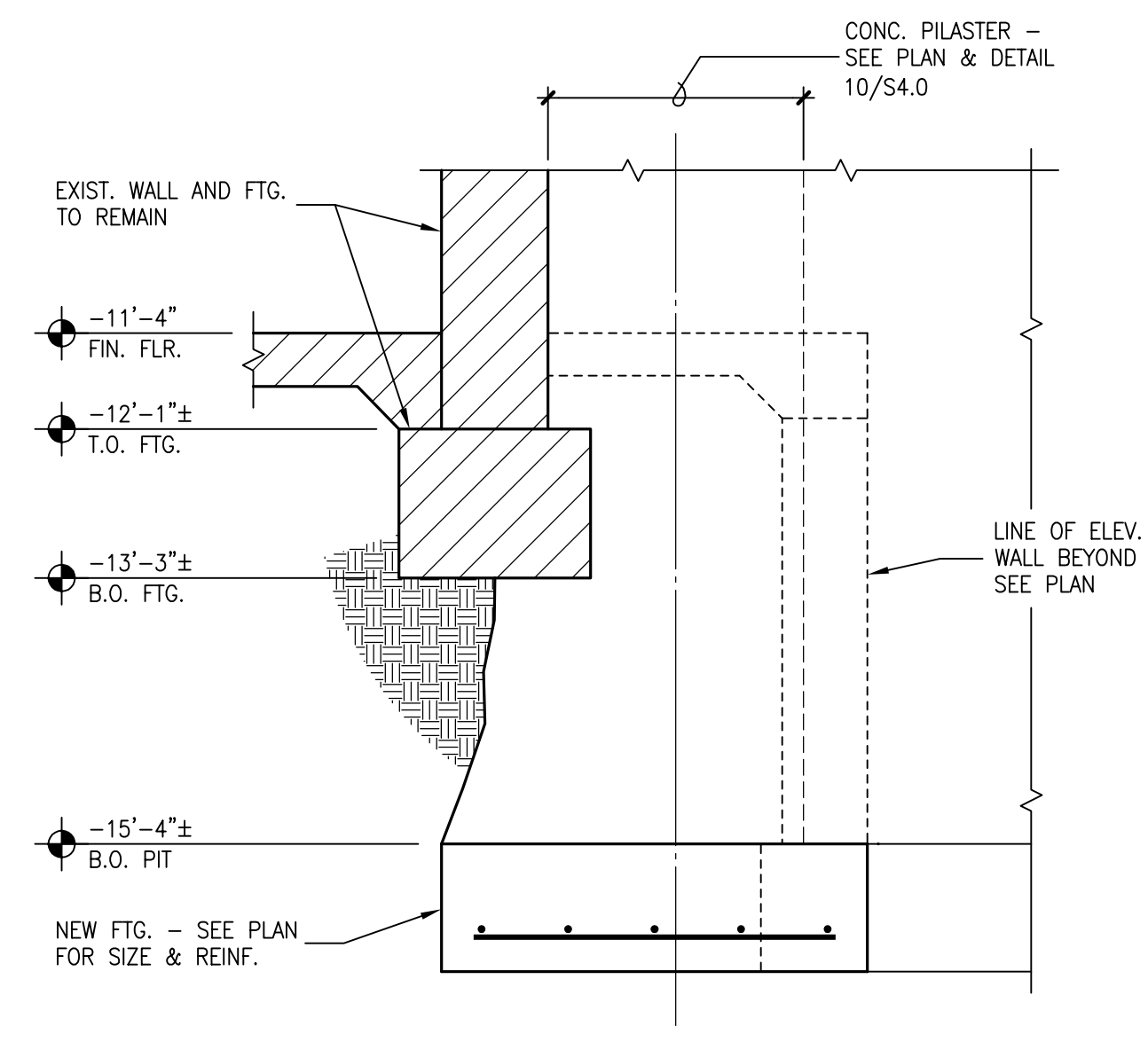
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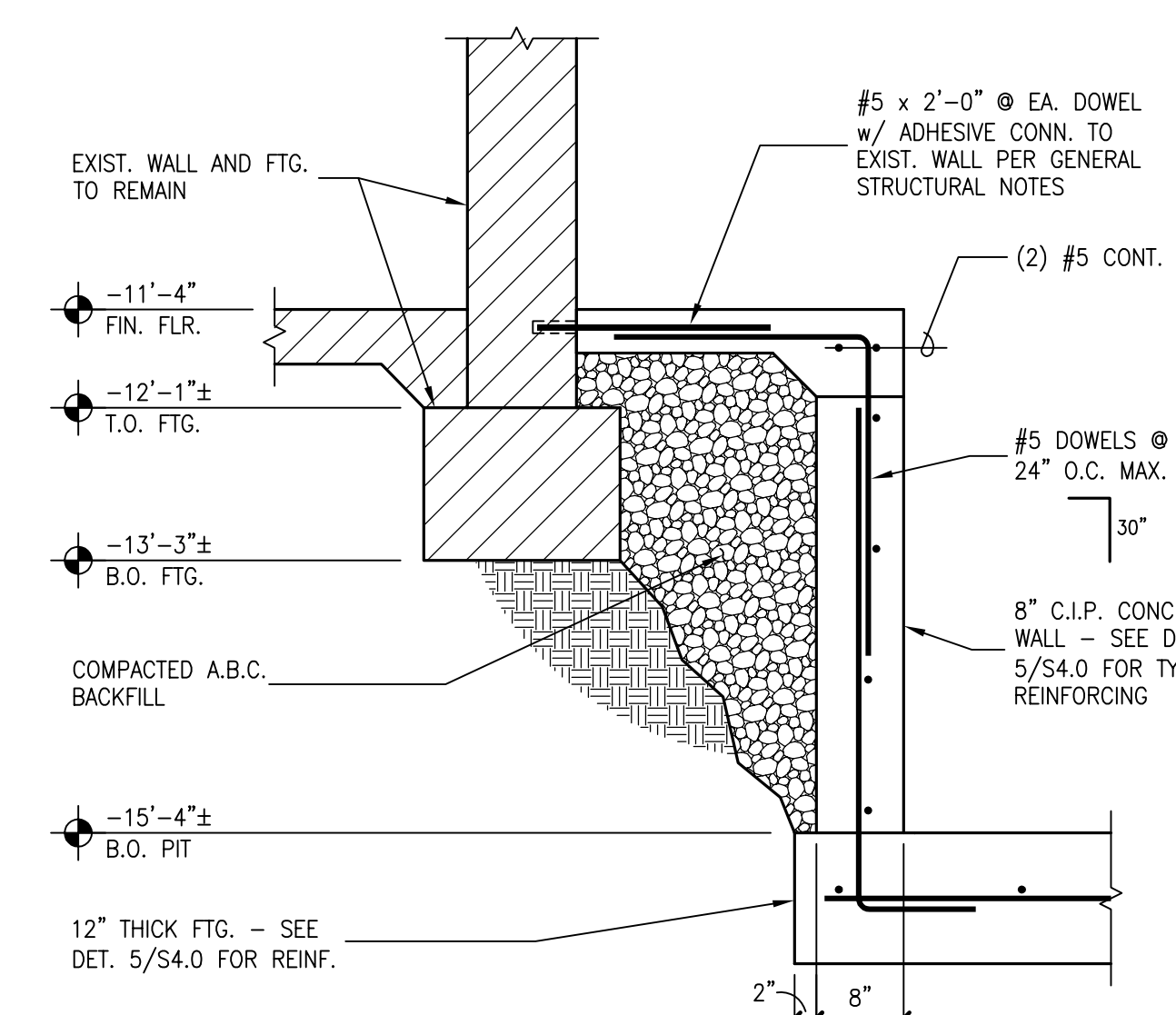
4



5



1



2

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Construction Documents
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U.A. #: 08-8826

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FOUNDATION
DETAILS

S4.2

SCALE VARIES



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MARK A. RUDOW
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EXPIRES 3/31/2013

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Construction Documents

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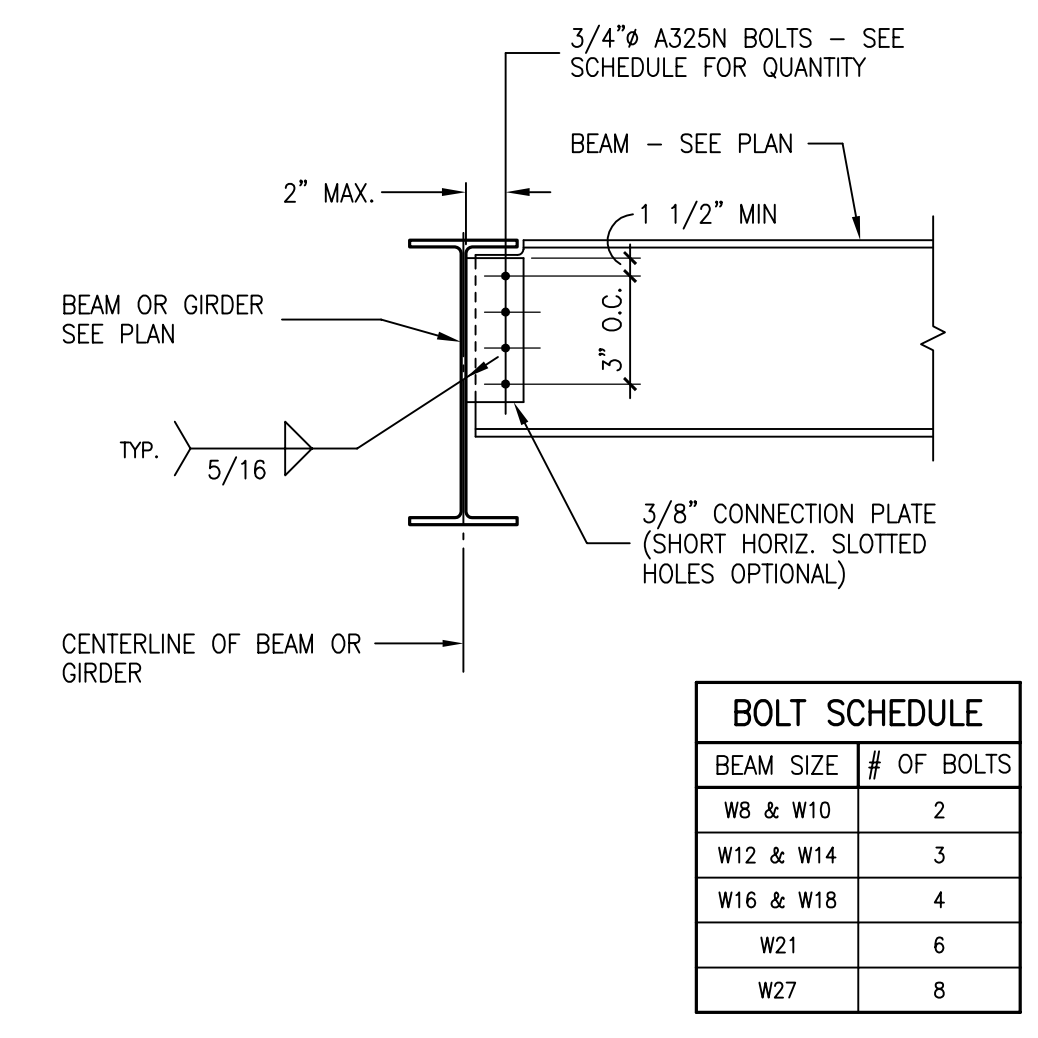
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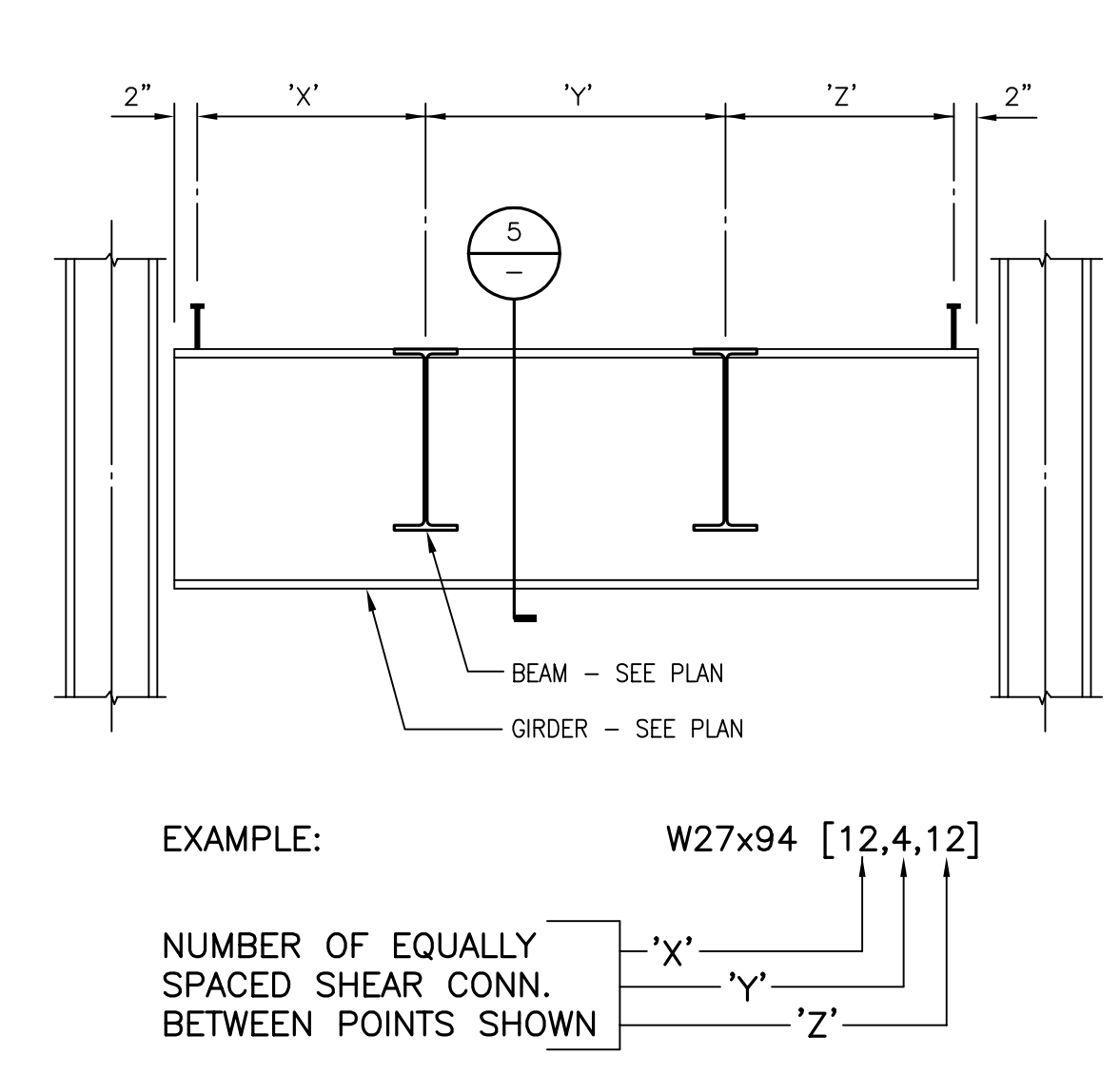
FLOOR FRAMING
DETAILS

S5.0

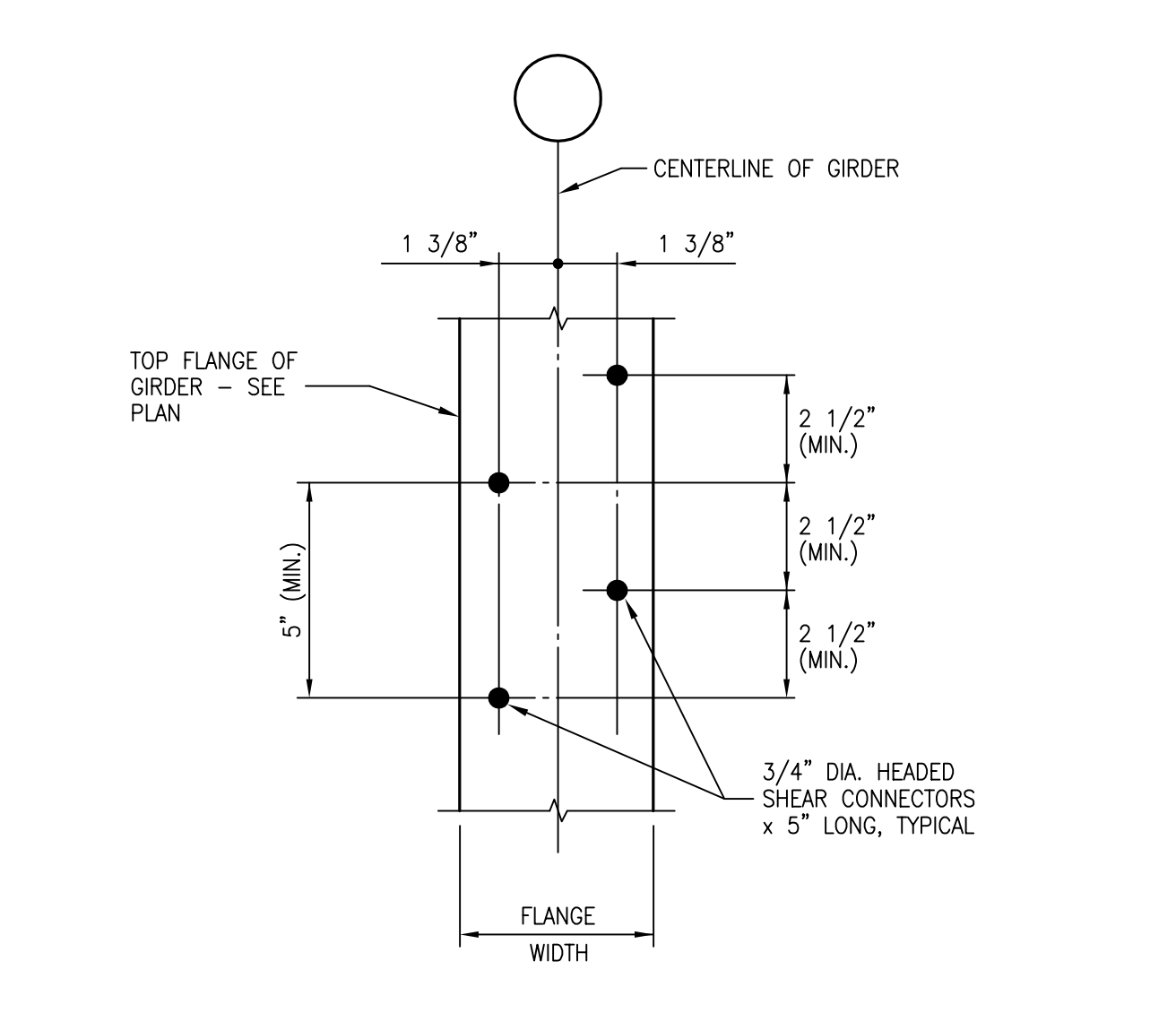
SCALE VARIES



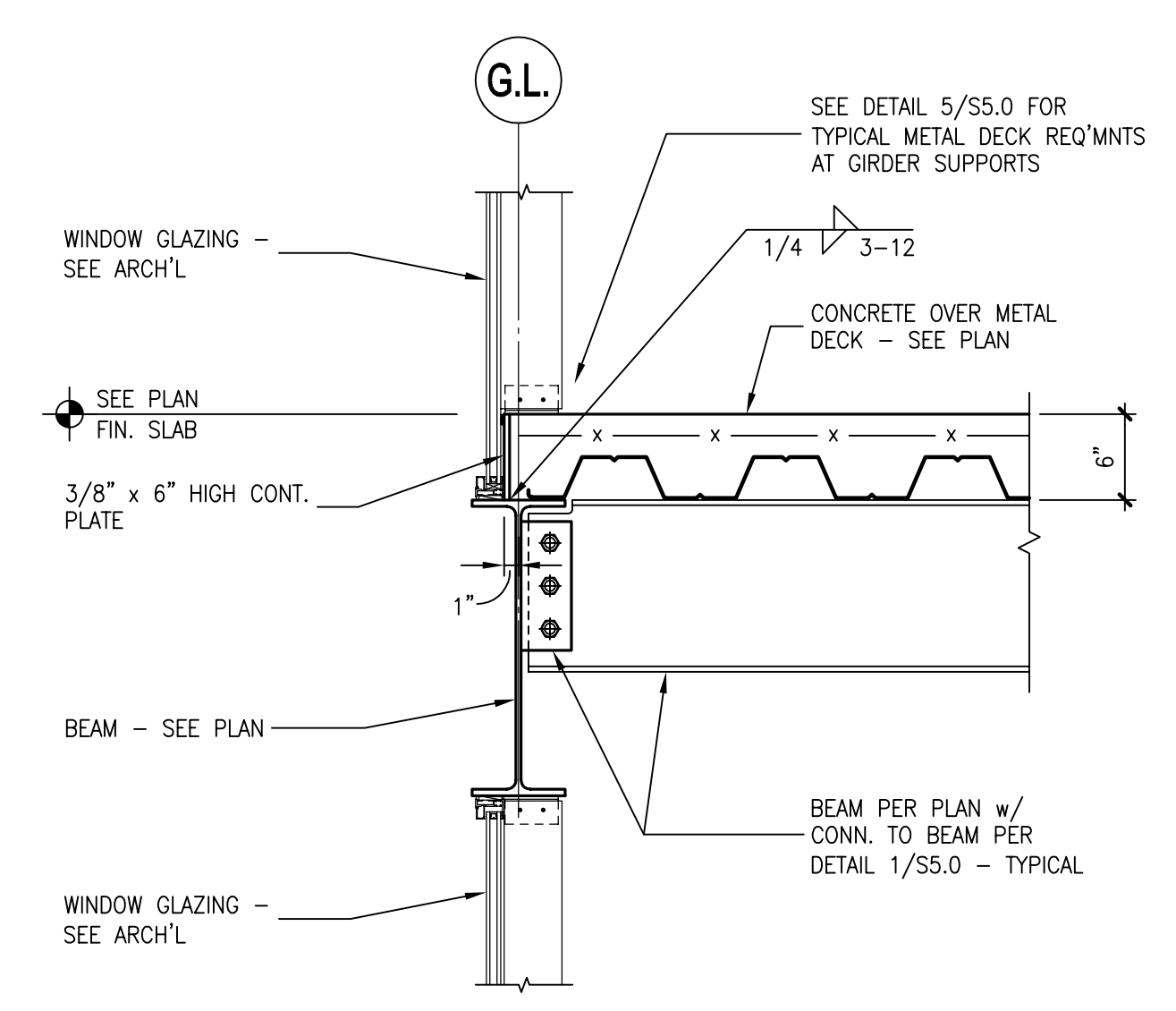
1 TYPICAL BEAM TO BEAM CONNECTION



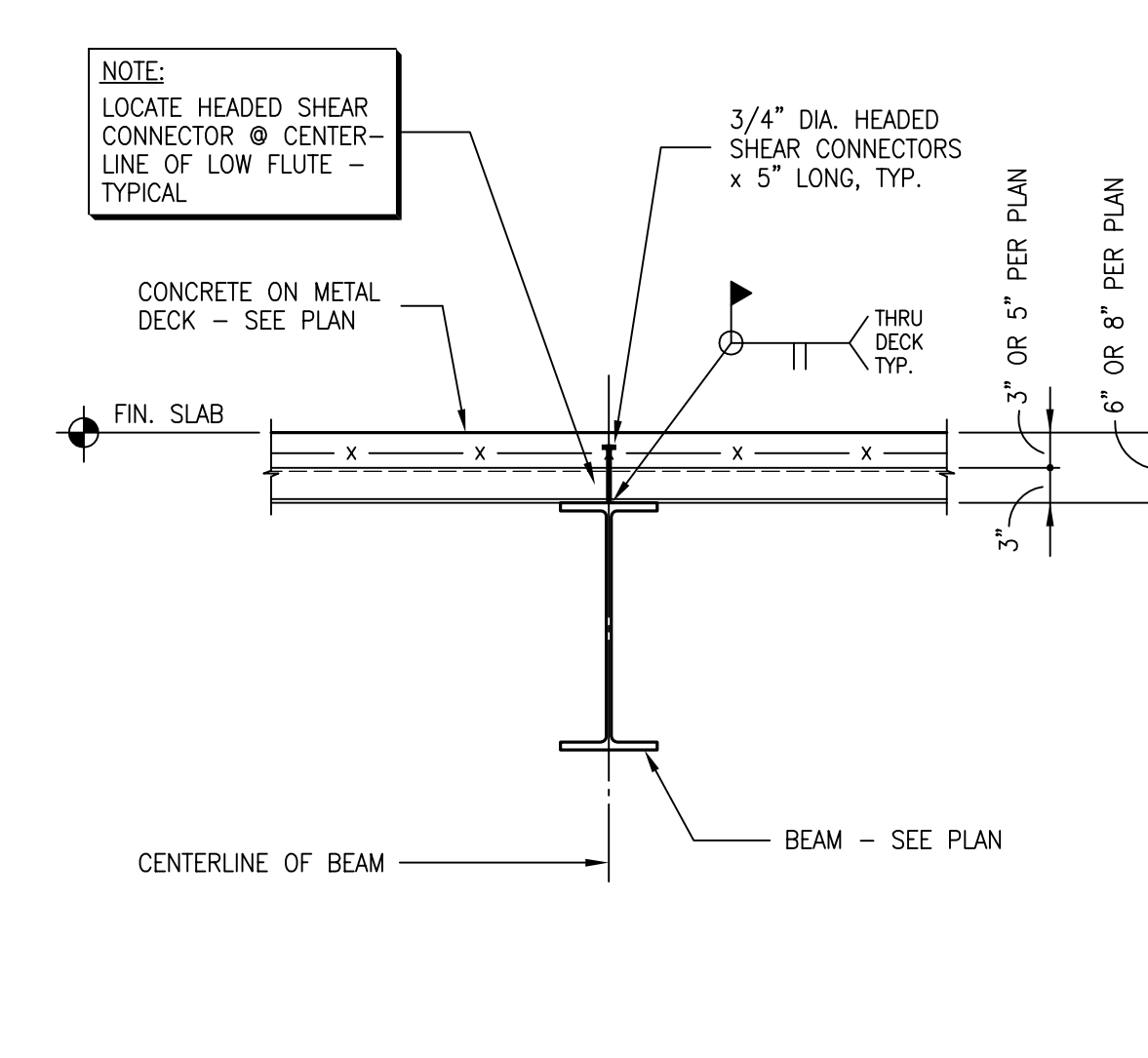
3 SHEAR CONNECTOR PLACEMENT @ GIRDERS



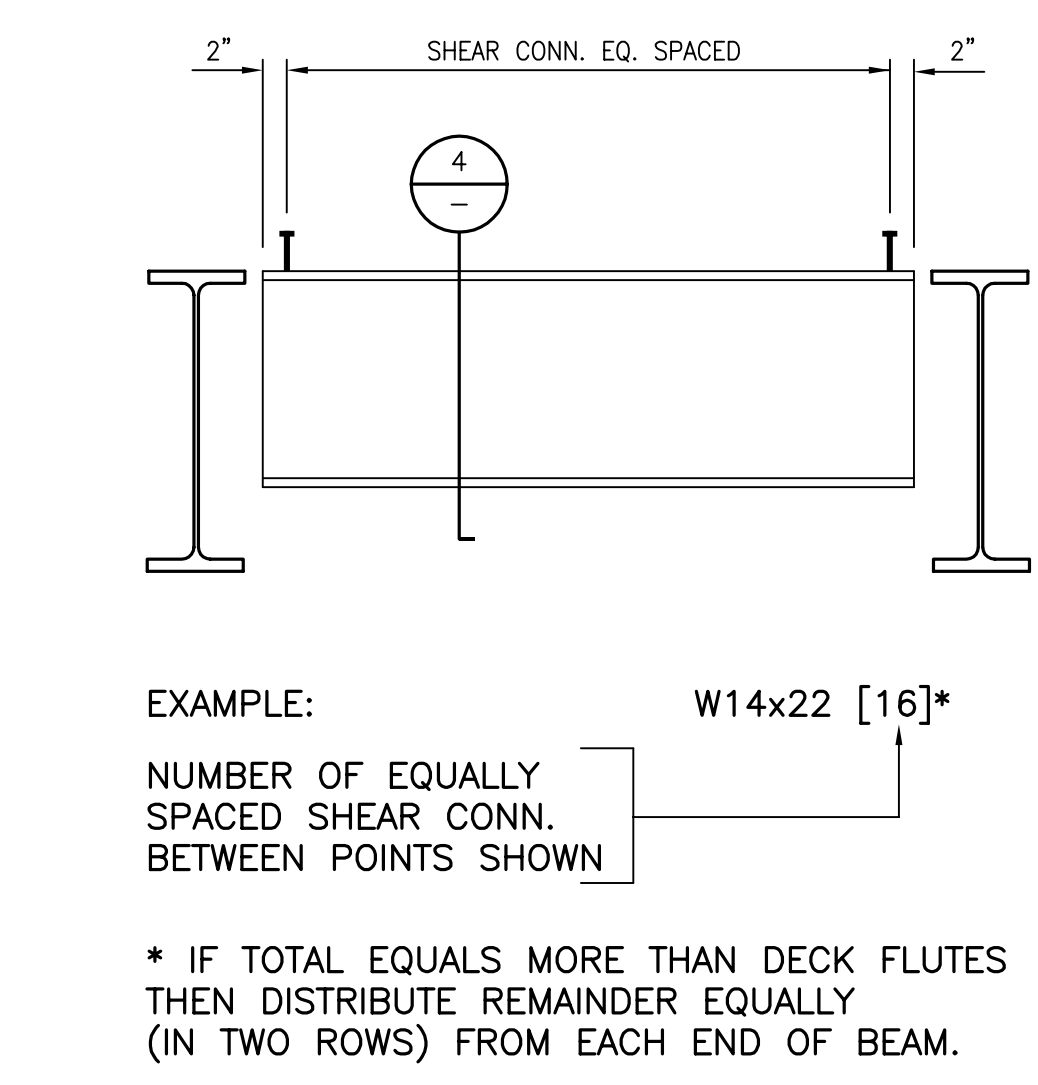
6 PLACEMENT FOR 2 ROWS OF SHEAR CONN'S



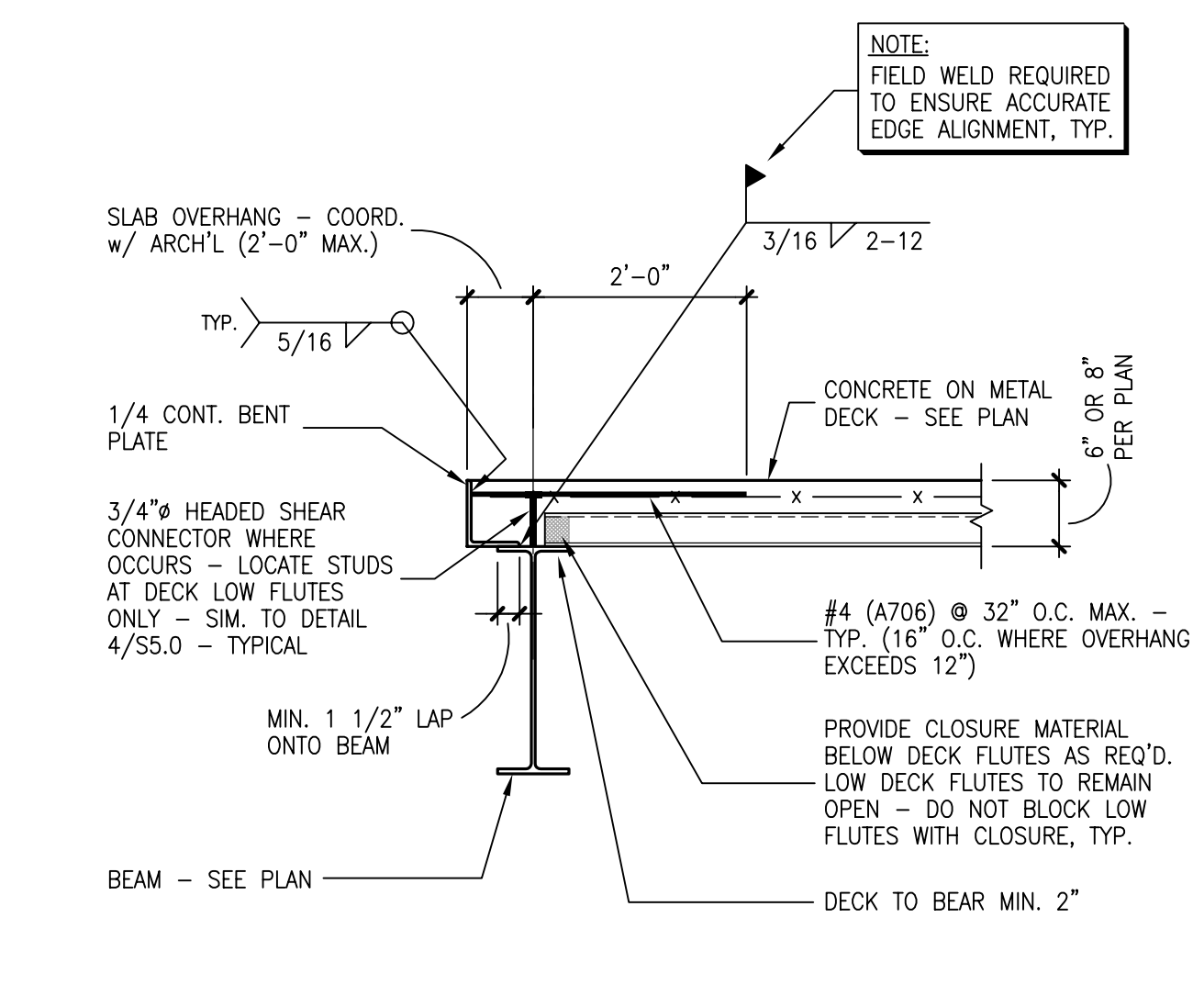
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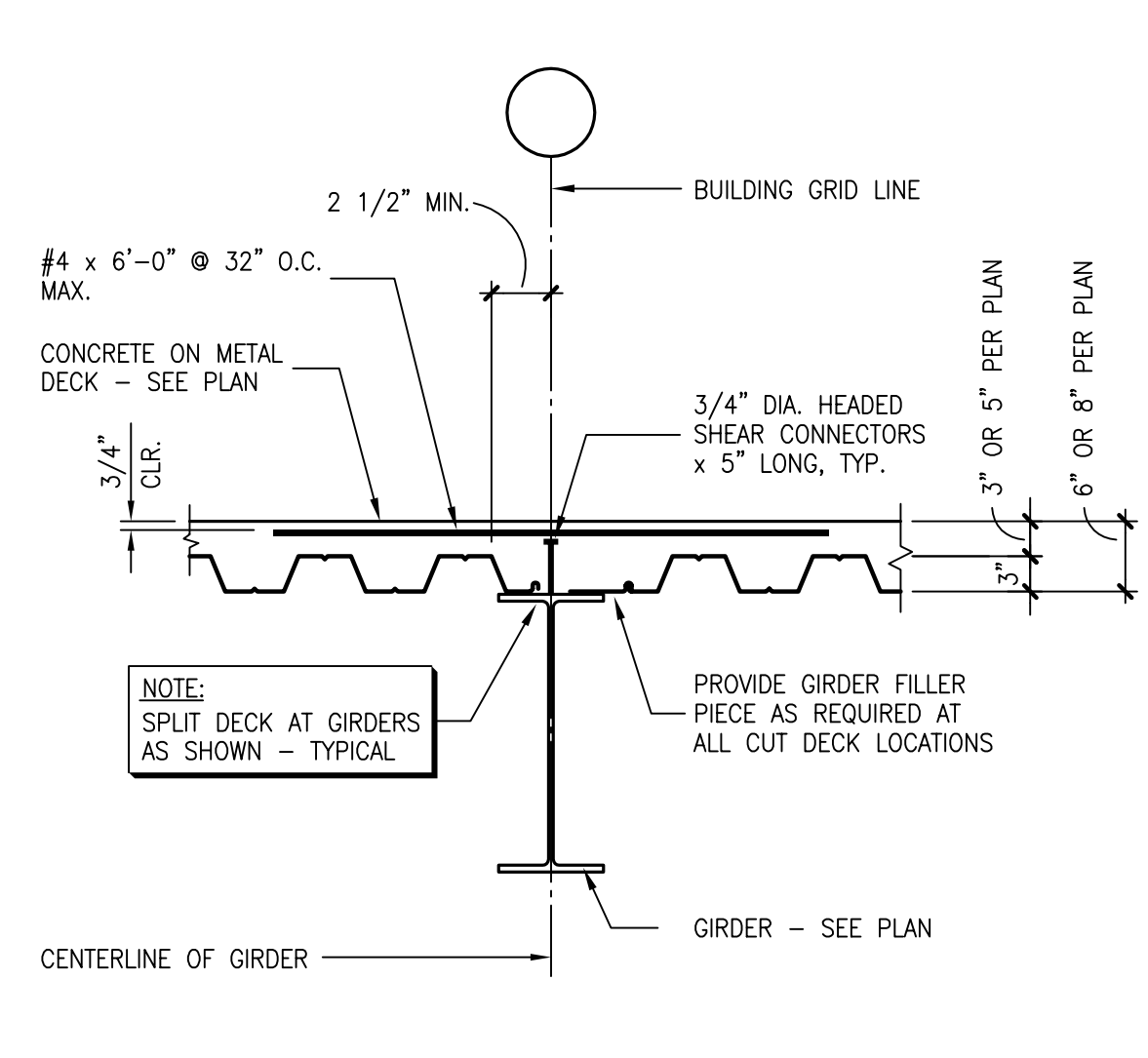
4 SHEAR CONNECTORS @ BEAMS



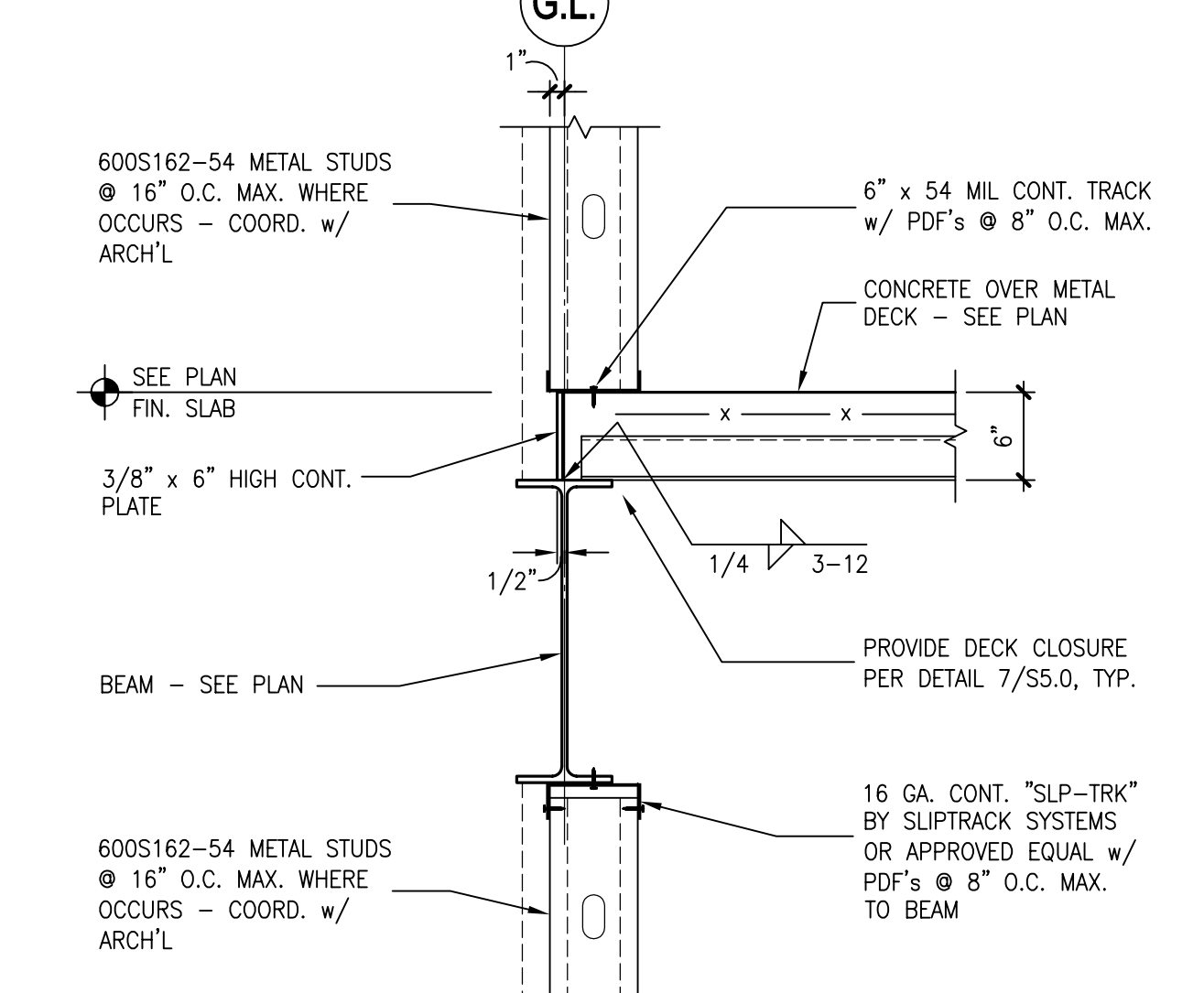
2 SHEAR CONNECTOR PLACEMENT @ BEAMS



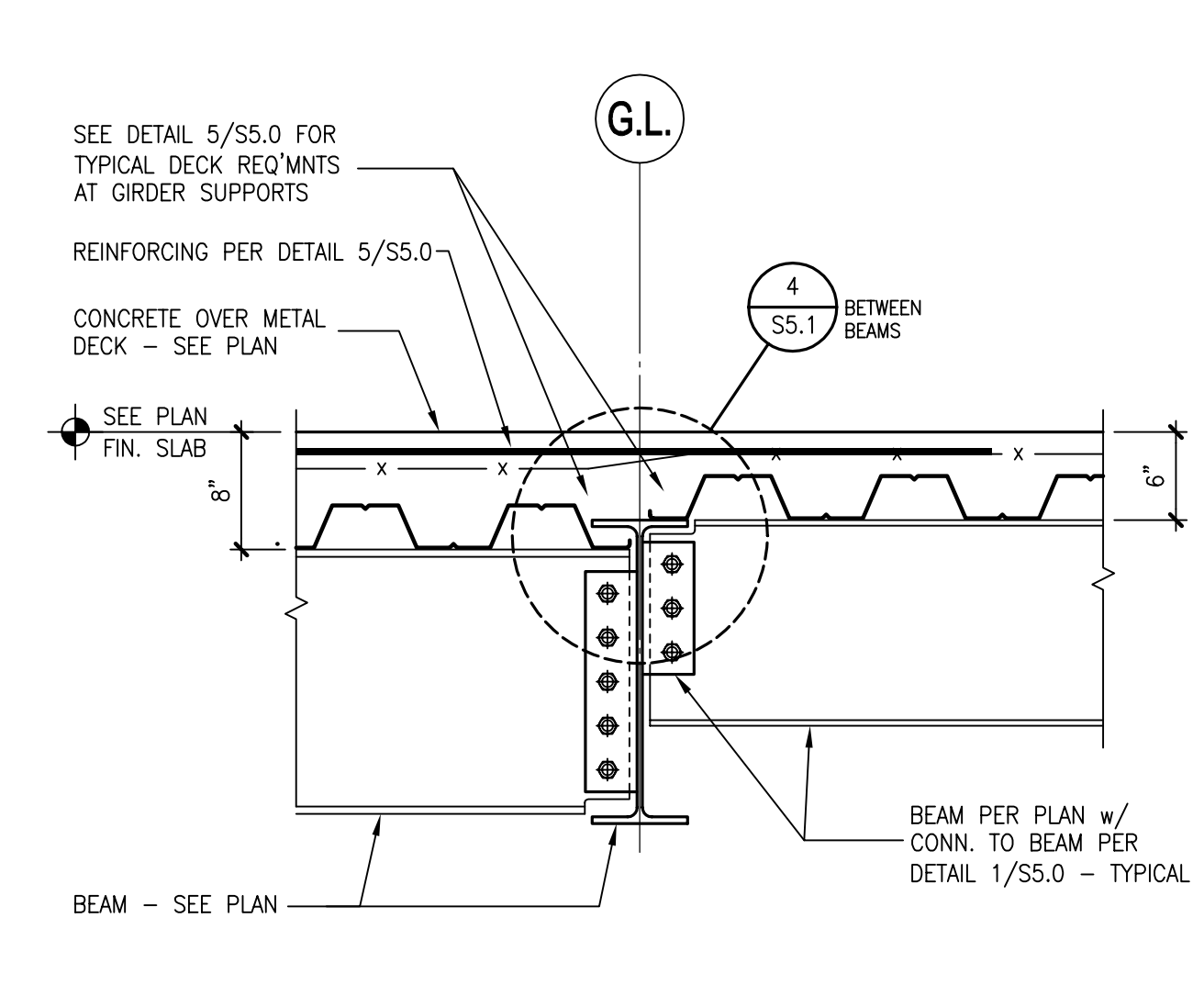
7 TYPICAL INTERIOR EDGE CONDITION, U.N.O.



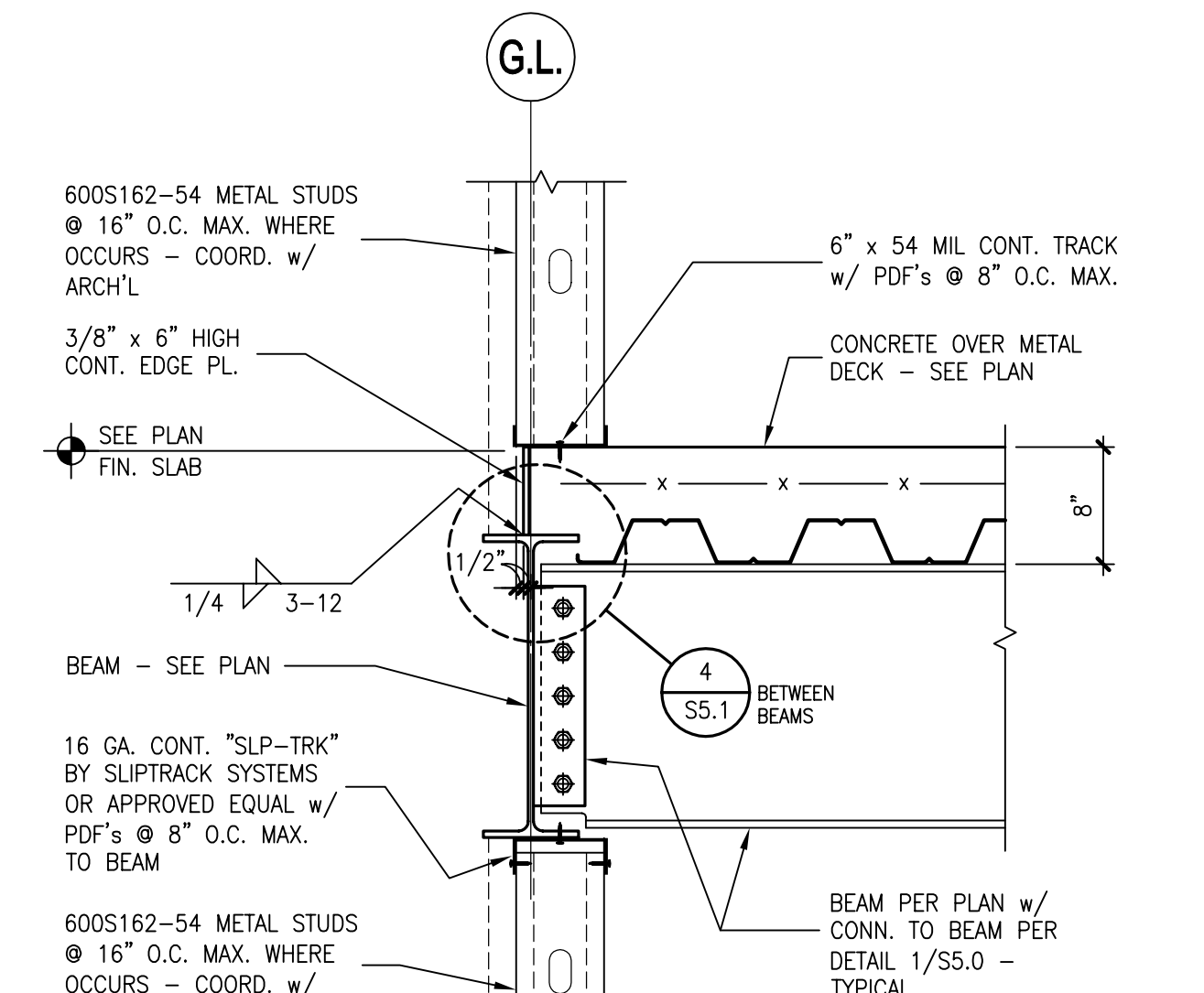
5 SHEAR CONNECTORS AT GIRDERS AT 3" x 22 GA. "W3 FORMLOK" METAL DECK



10



8



11

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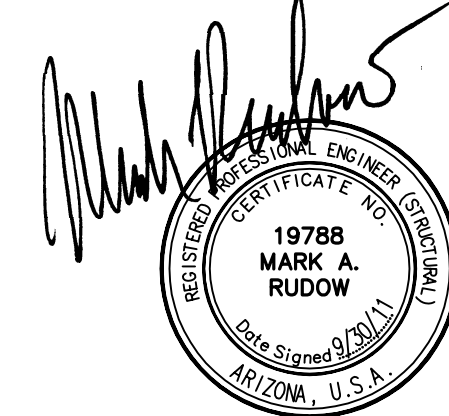
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Construction Documents
r+b job #: 0209

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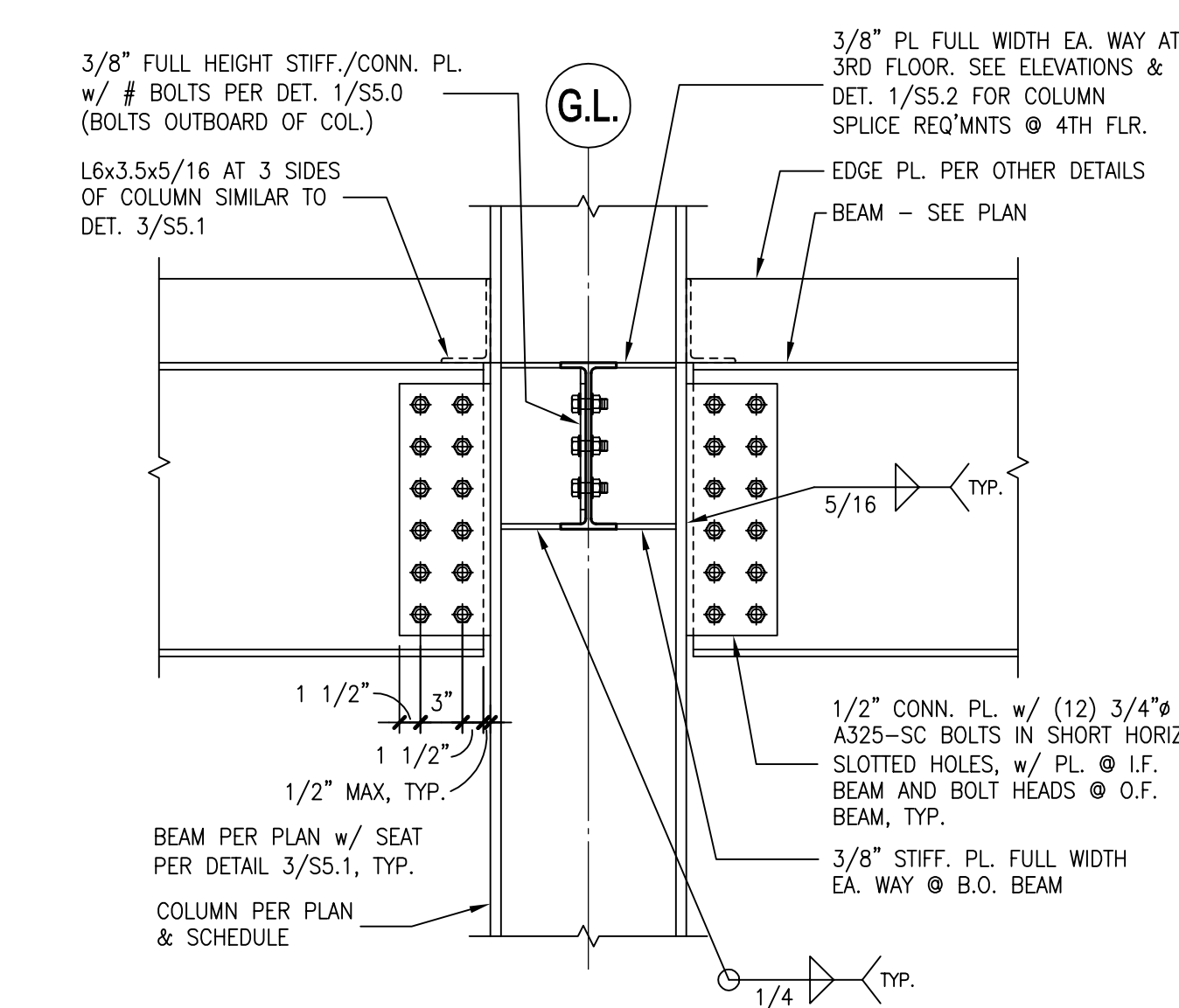
FLOOR FRAMING
DETAILS

S5.1

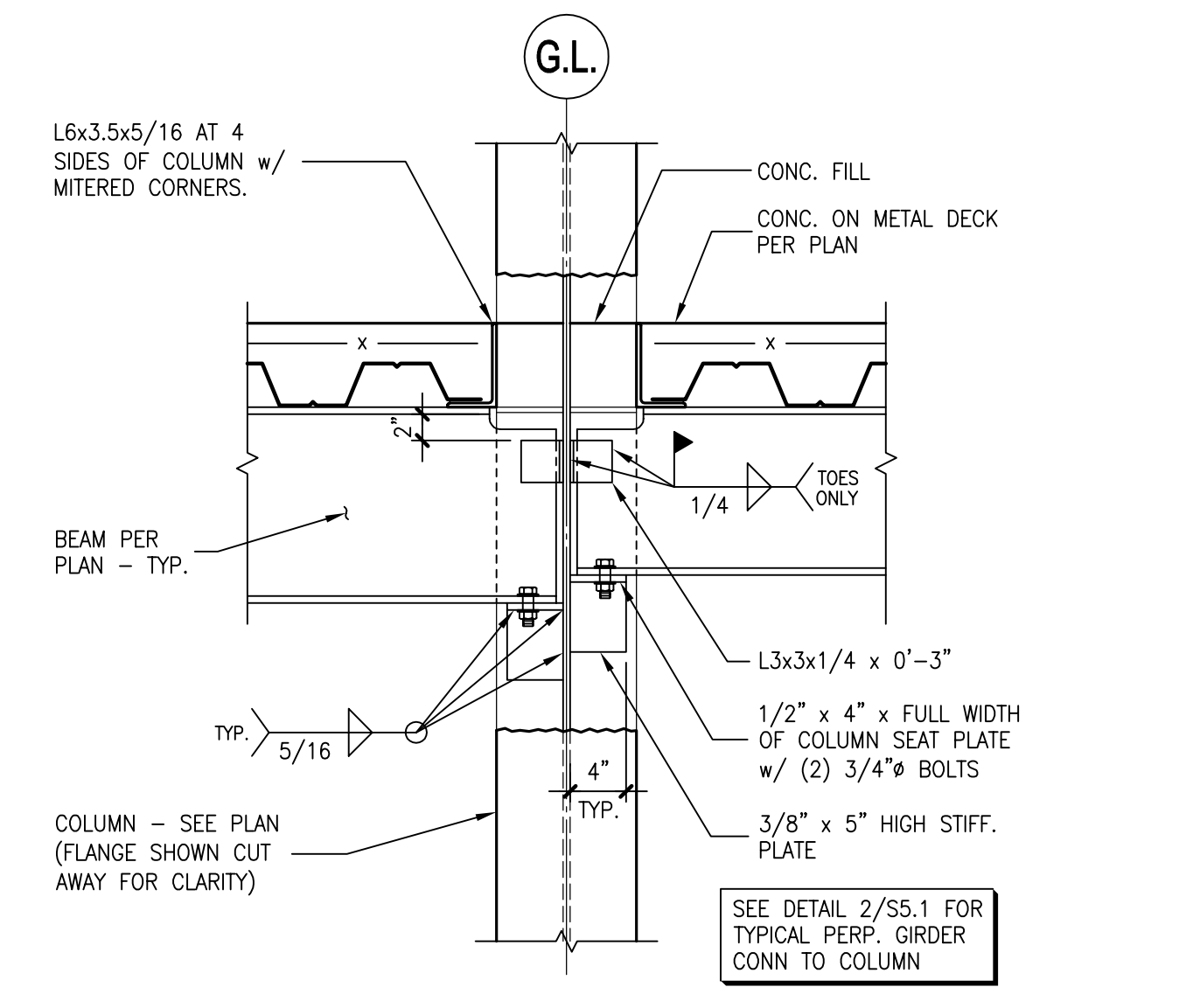
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r+b job #08108

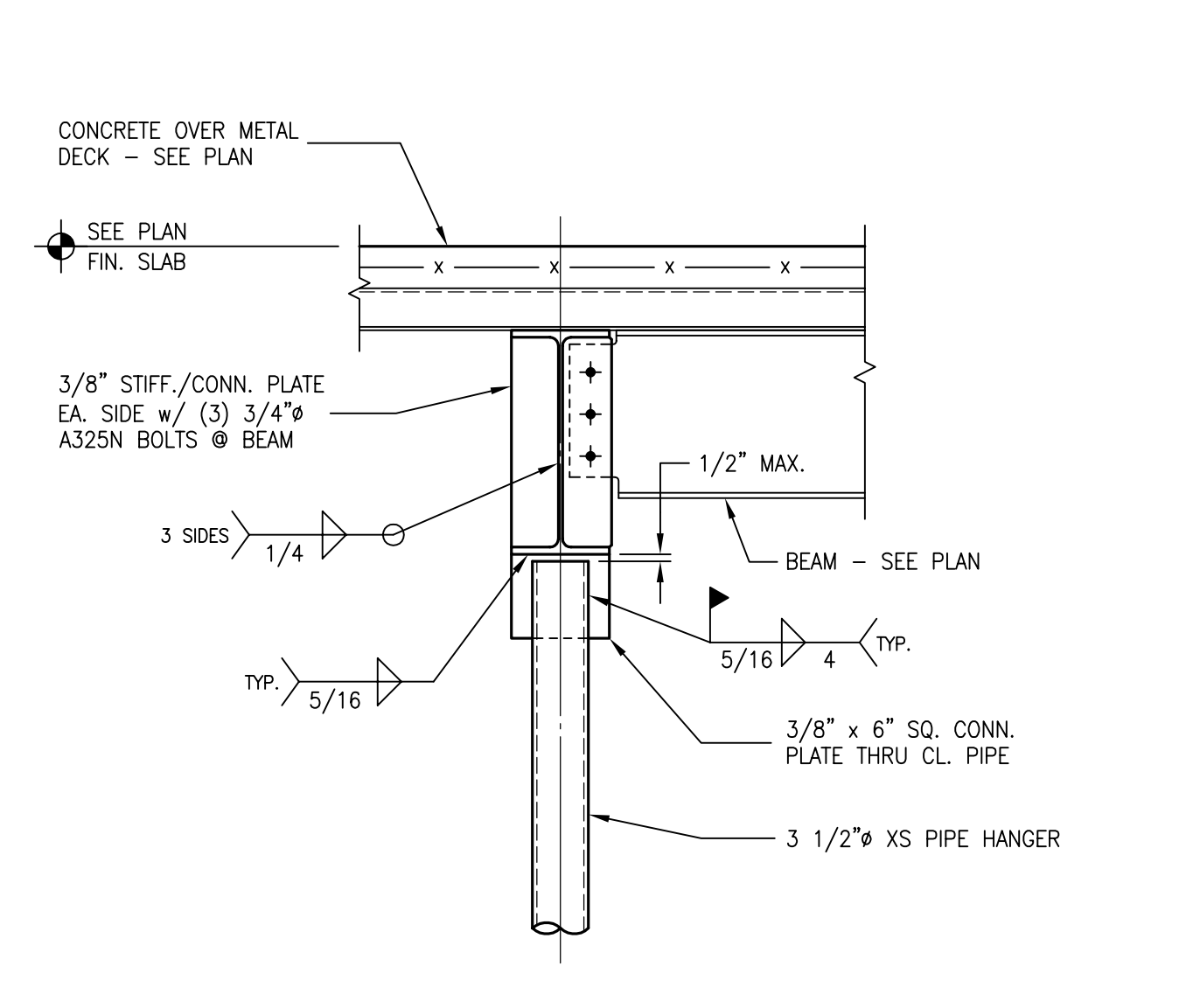
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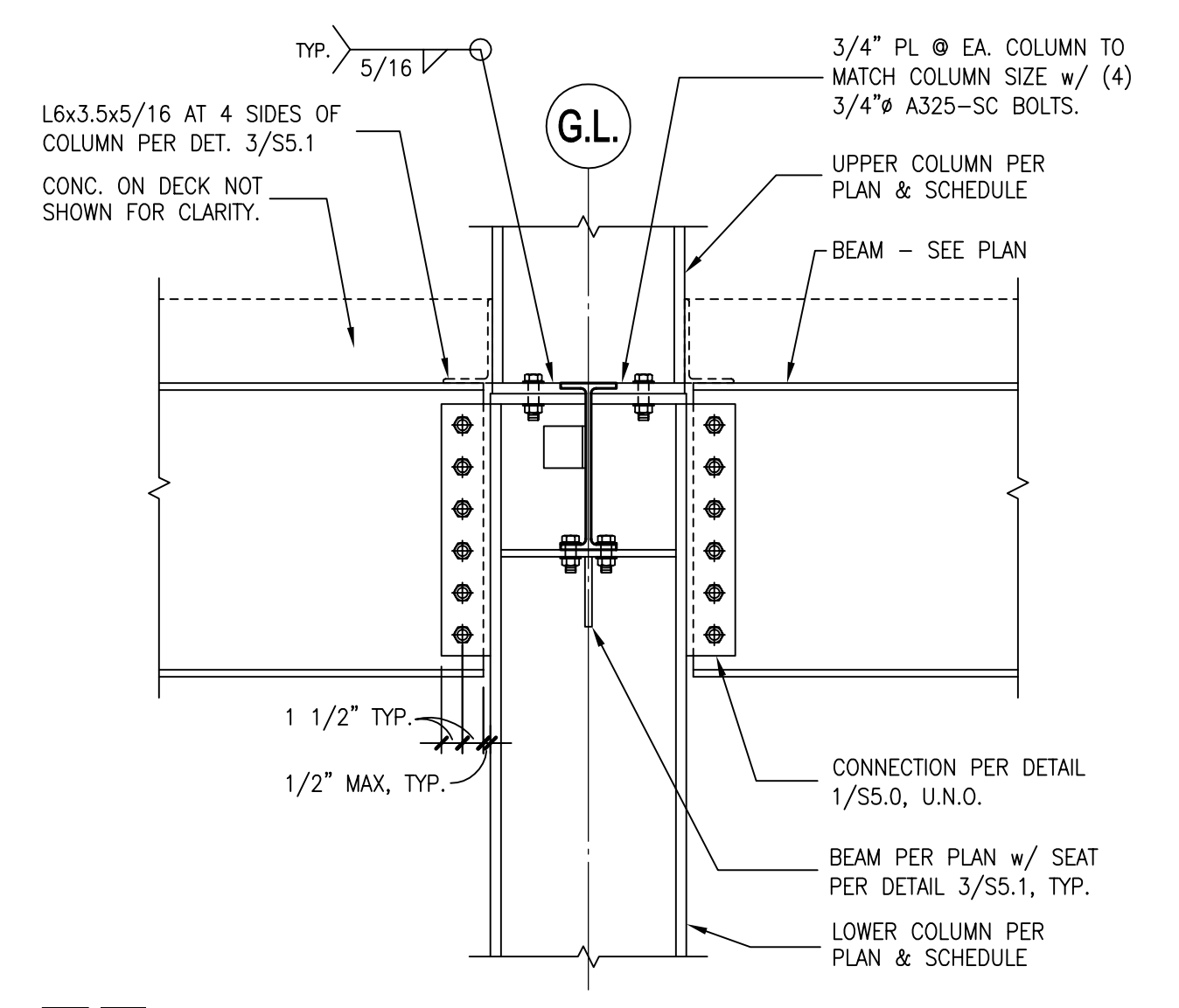
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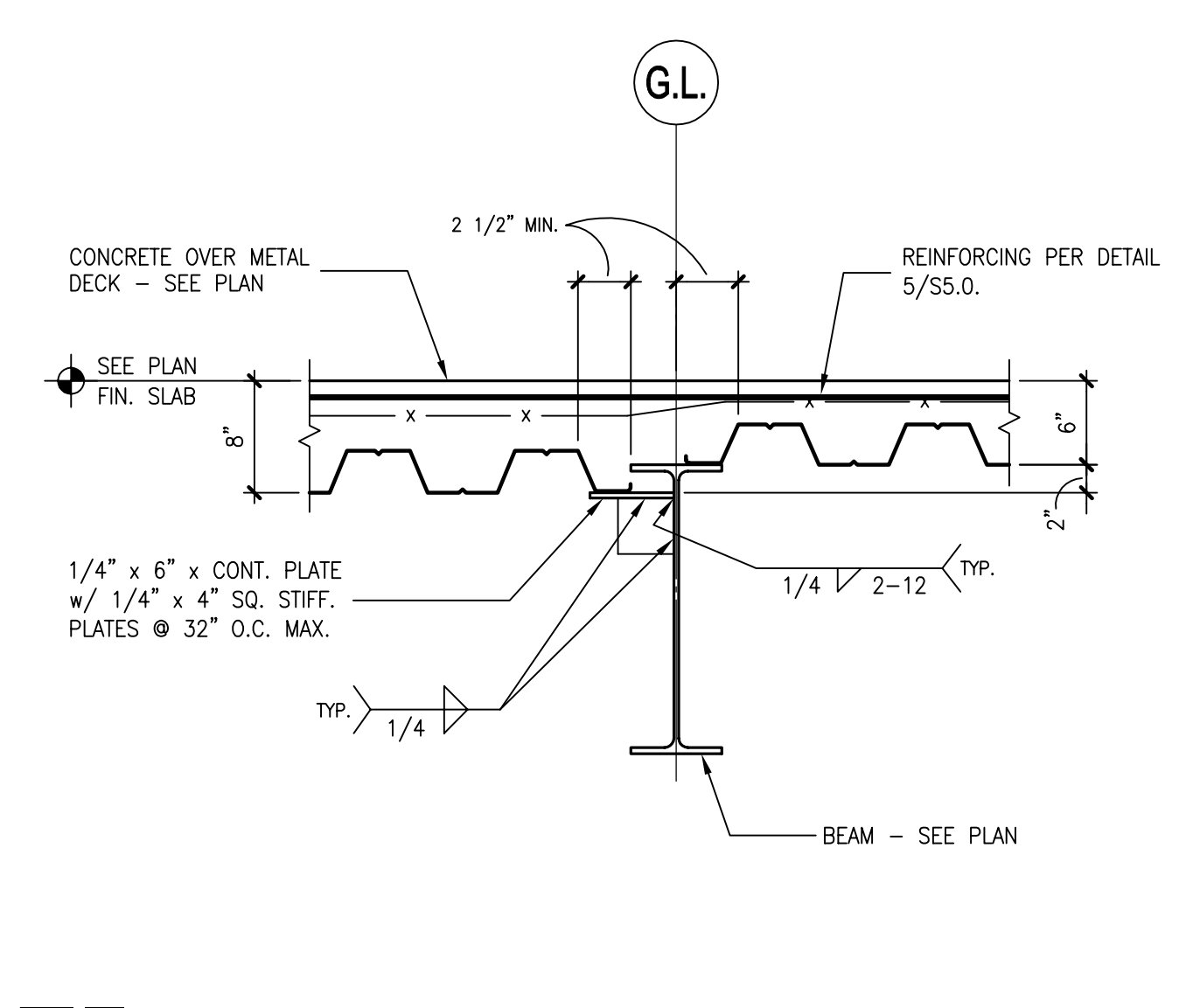
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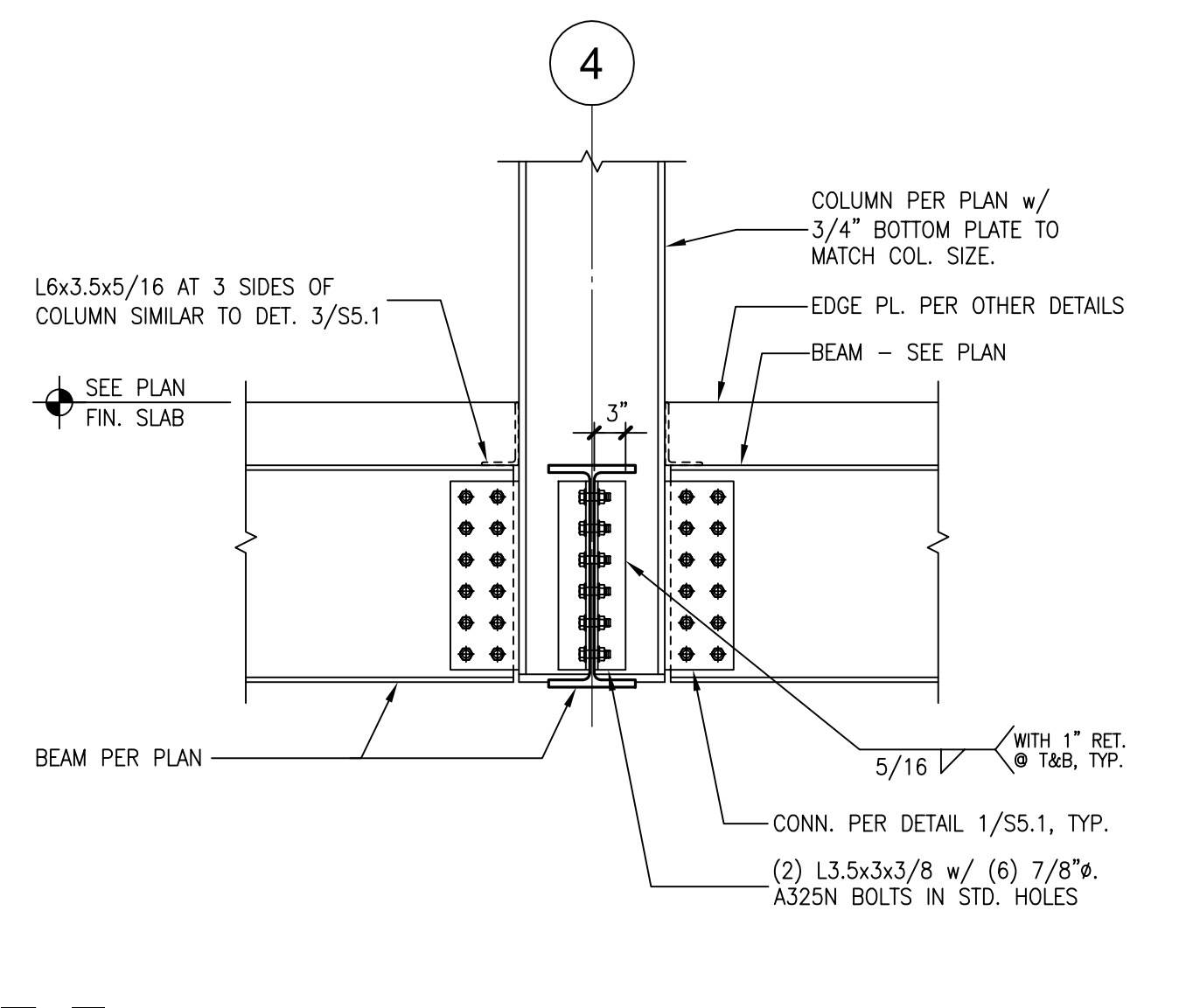
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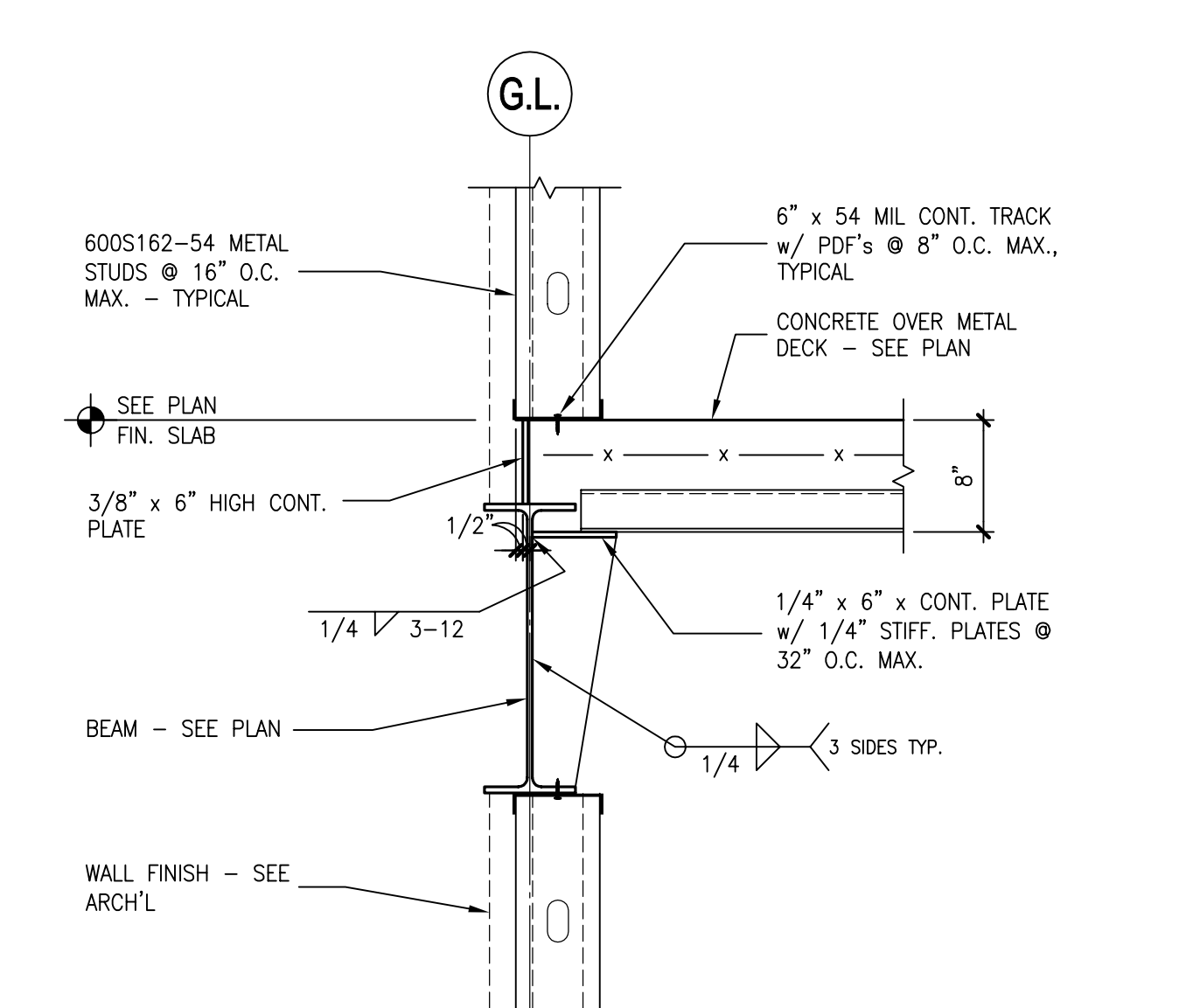
2 TYPICAL INTERIOR COLUMN @ 3RD FLOOR



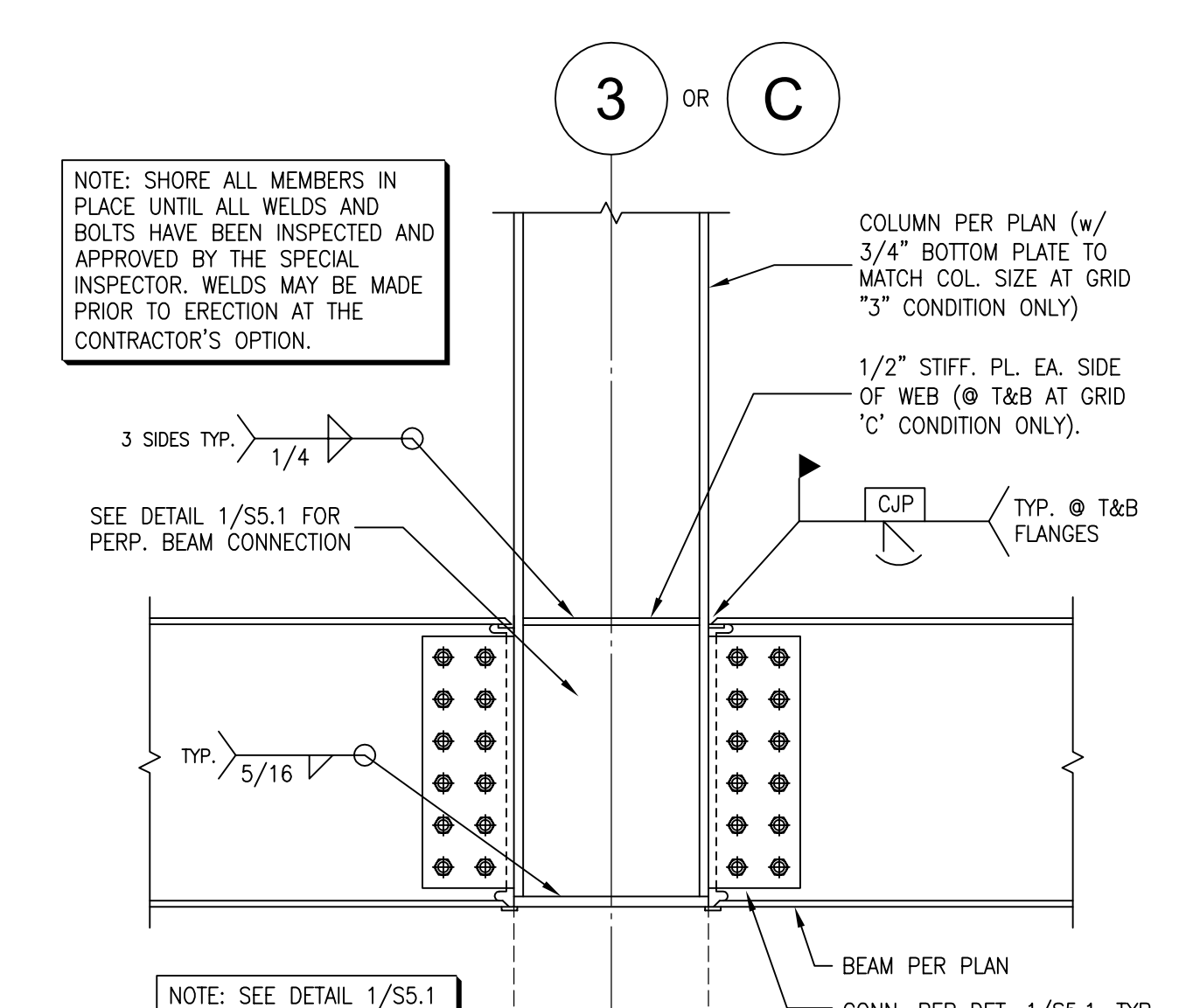
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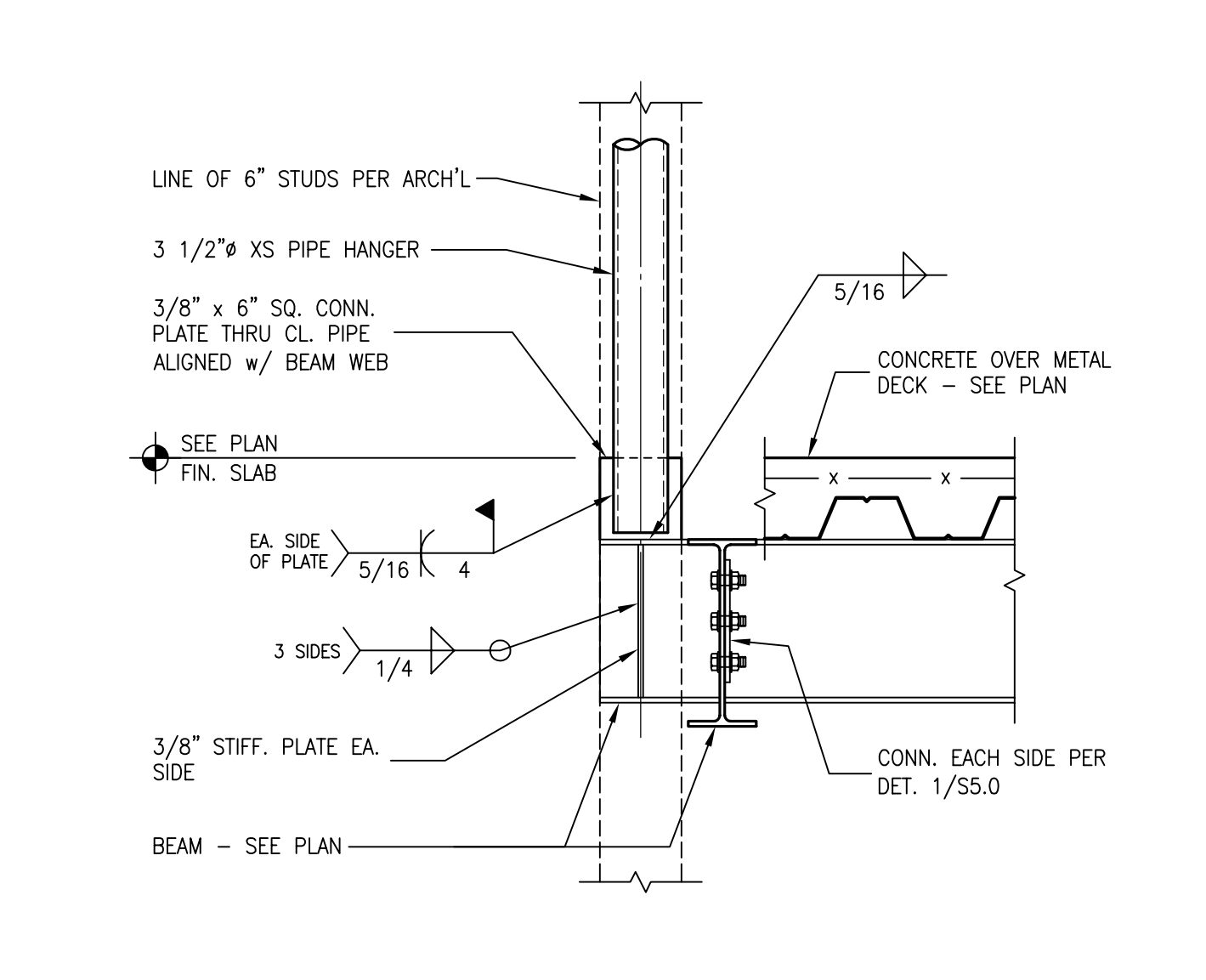
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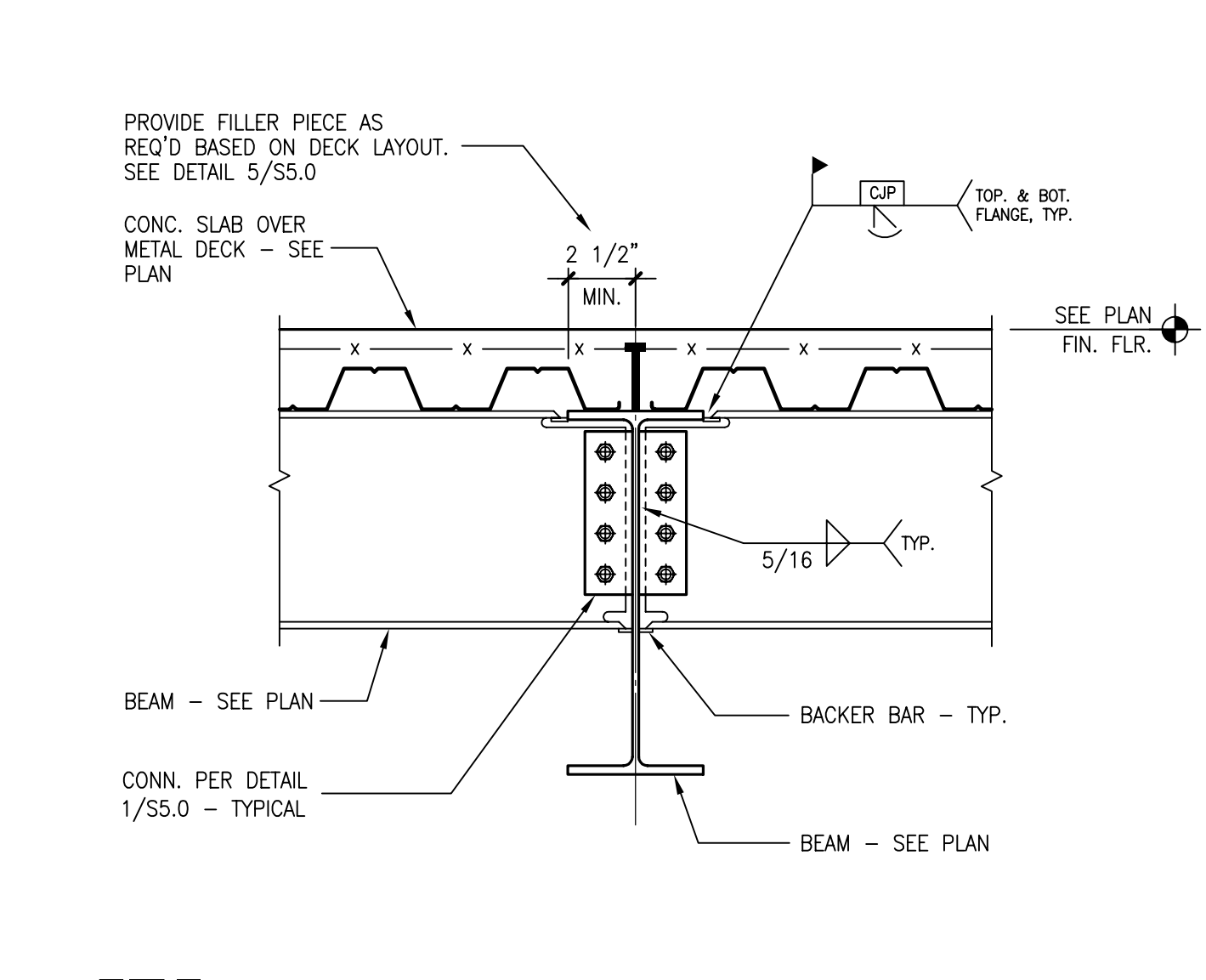
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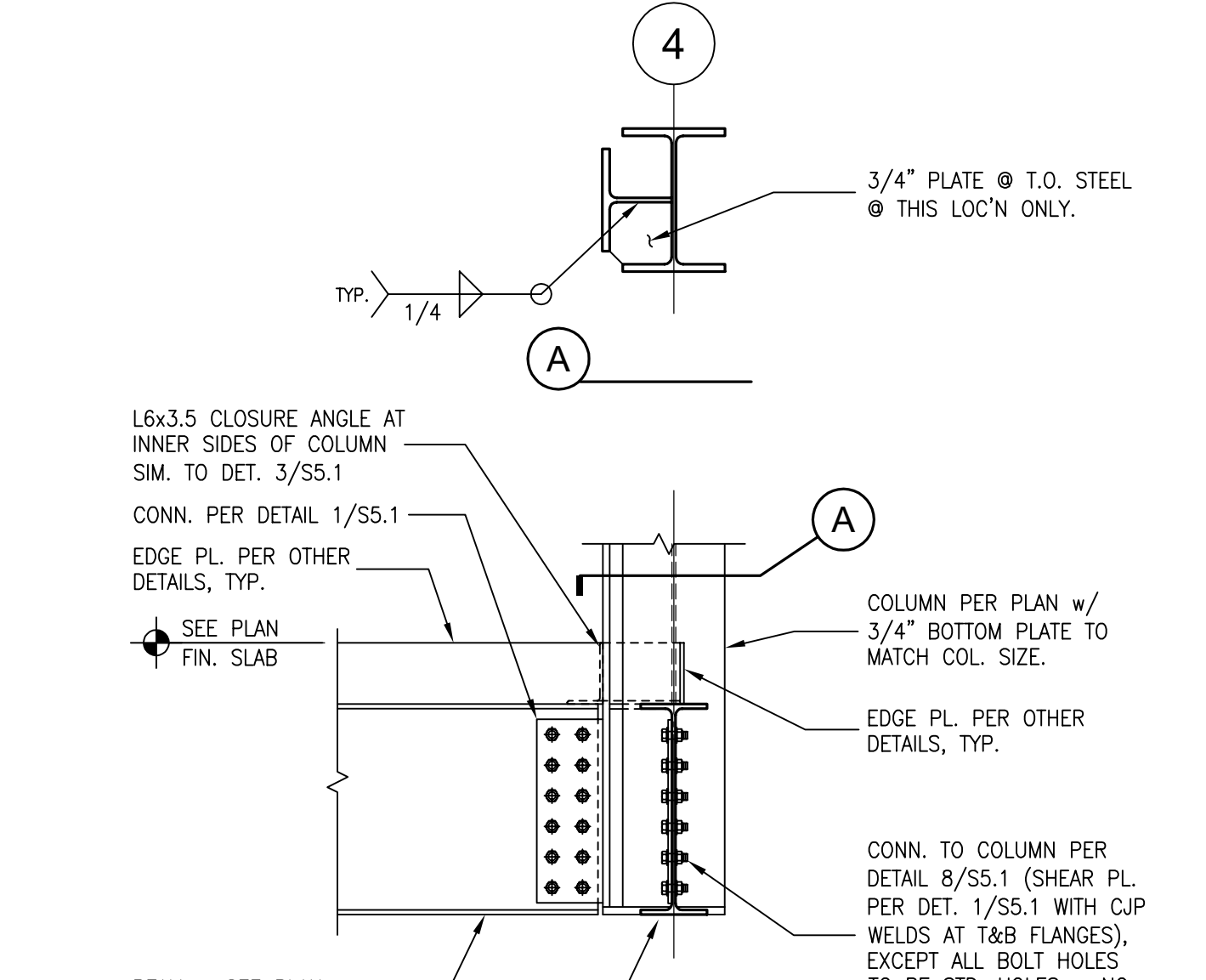
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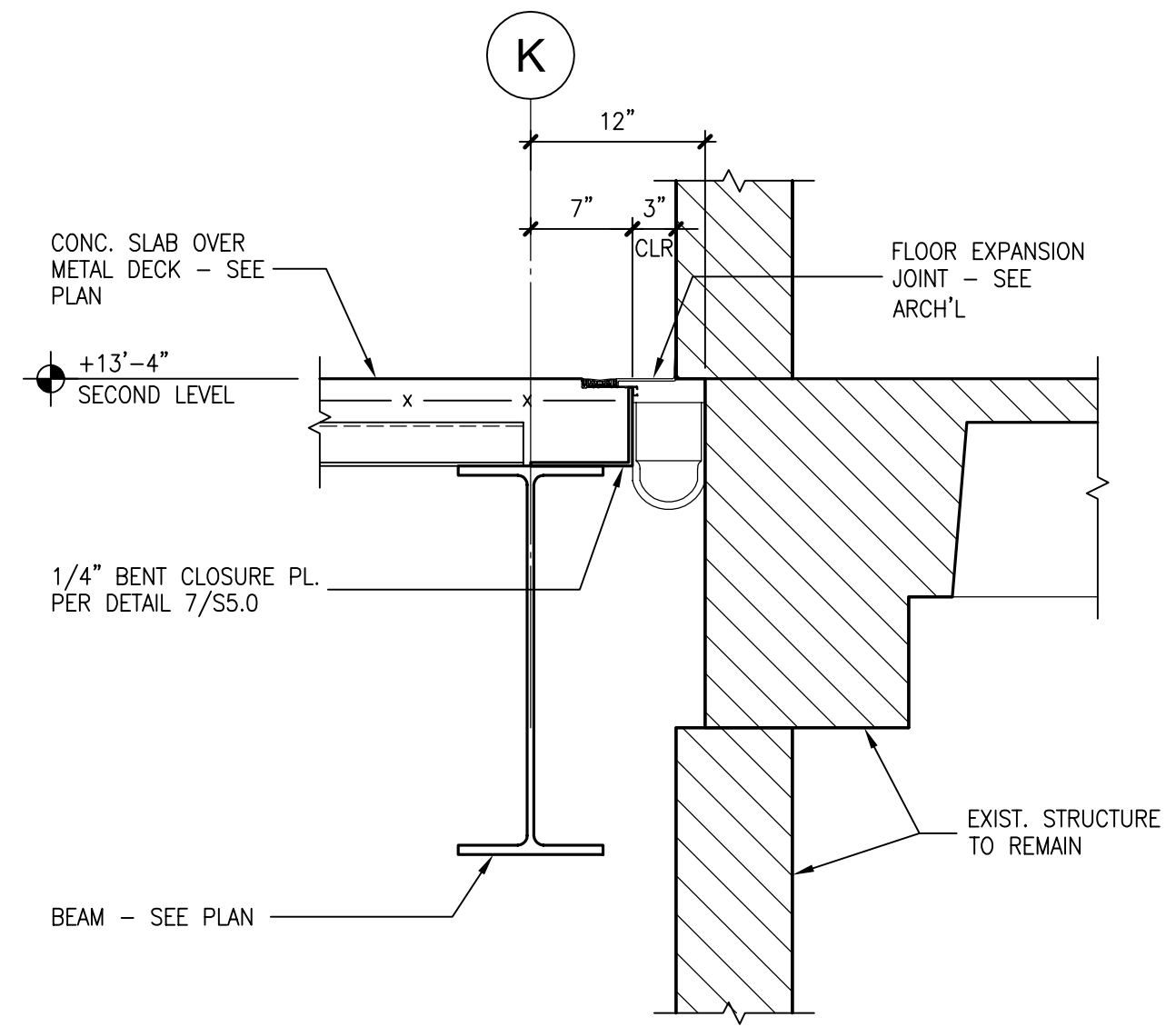


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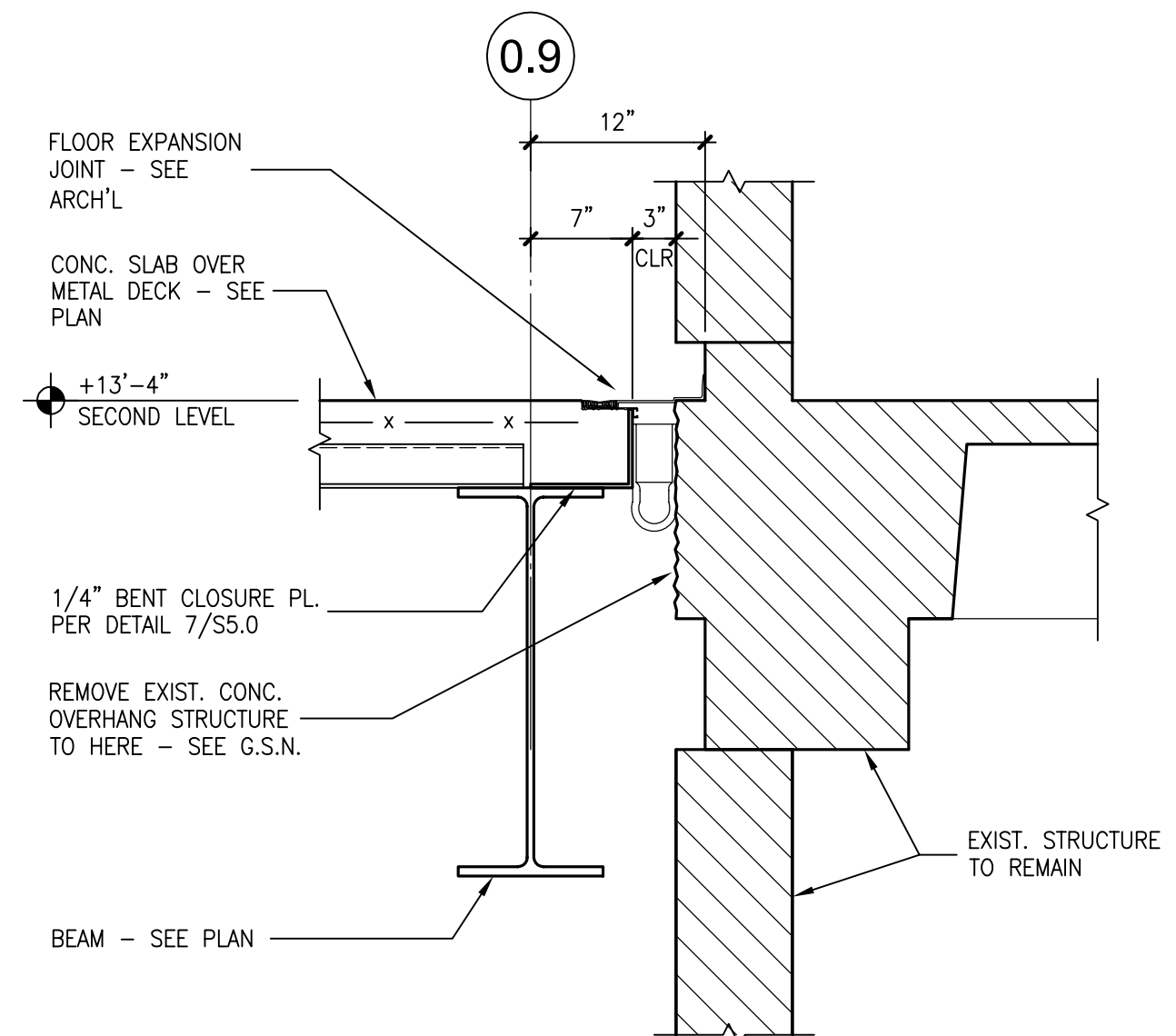


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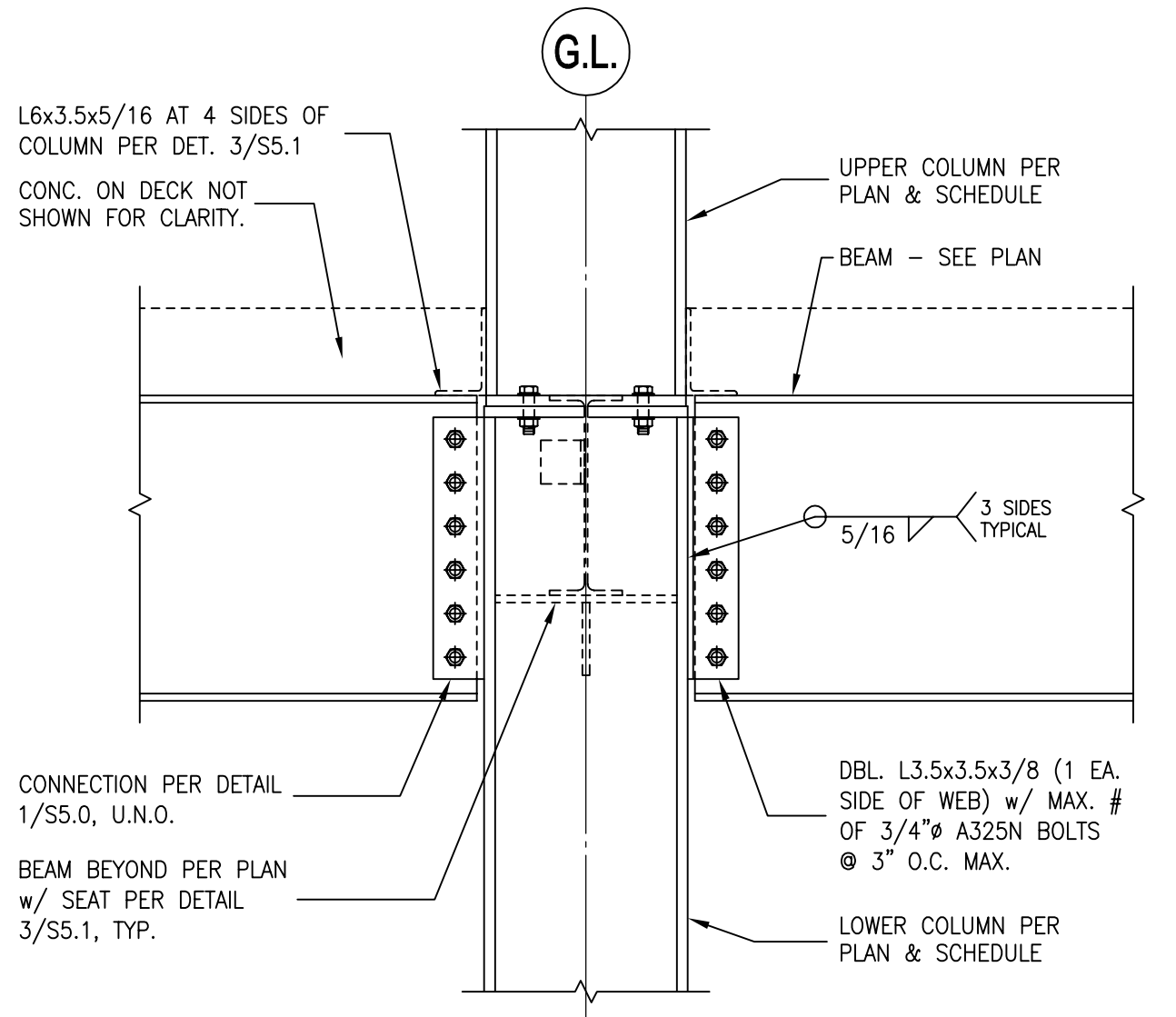
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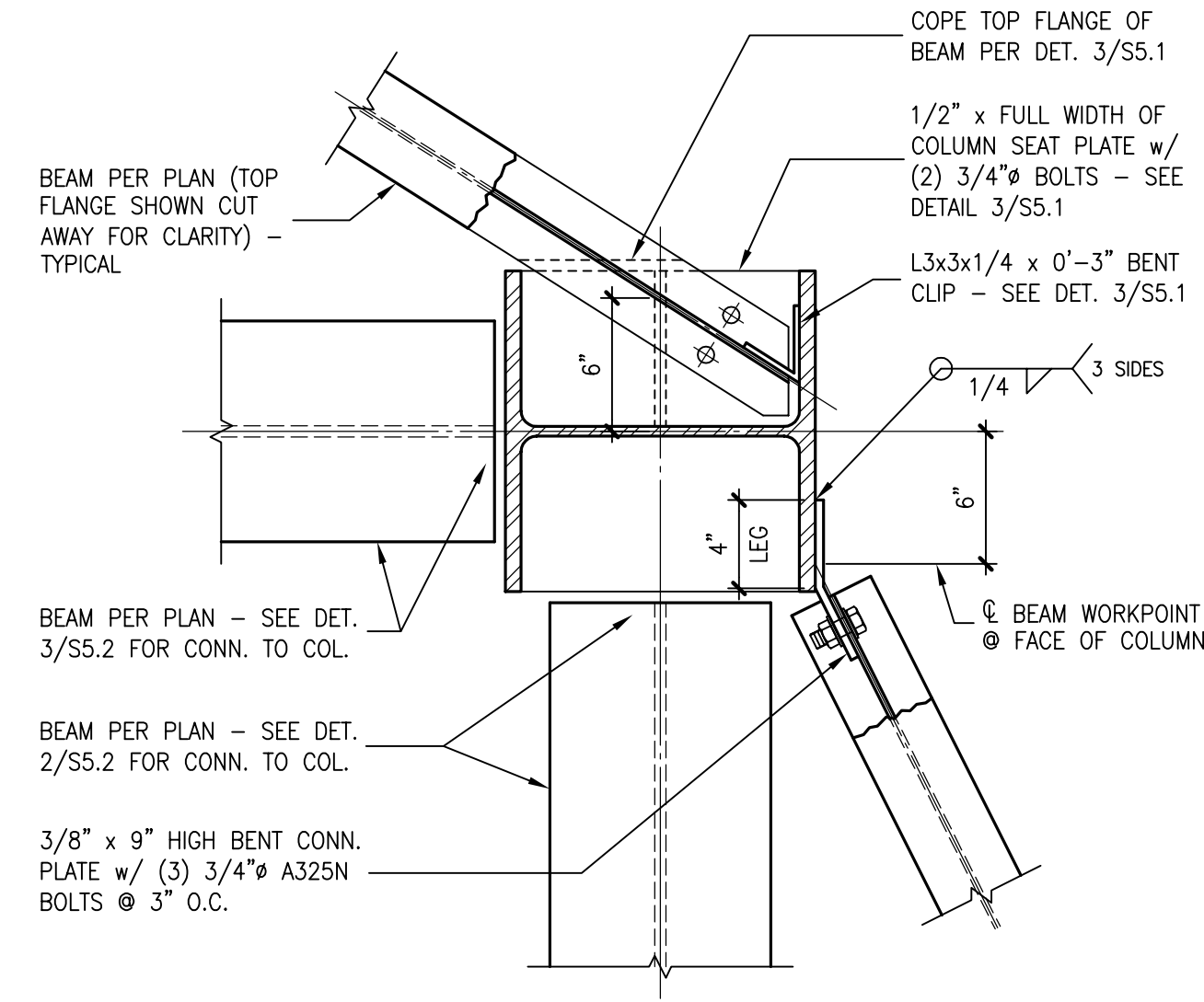
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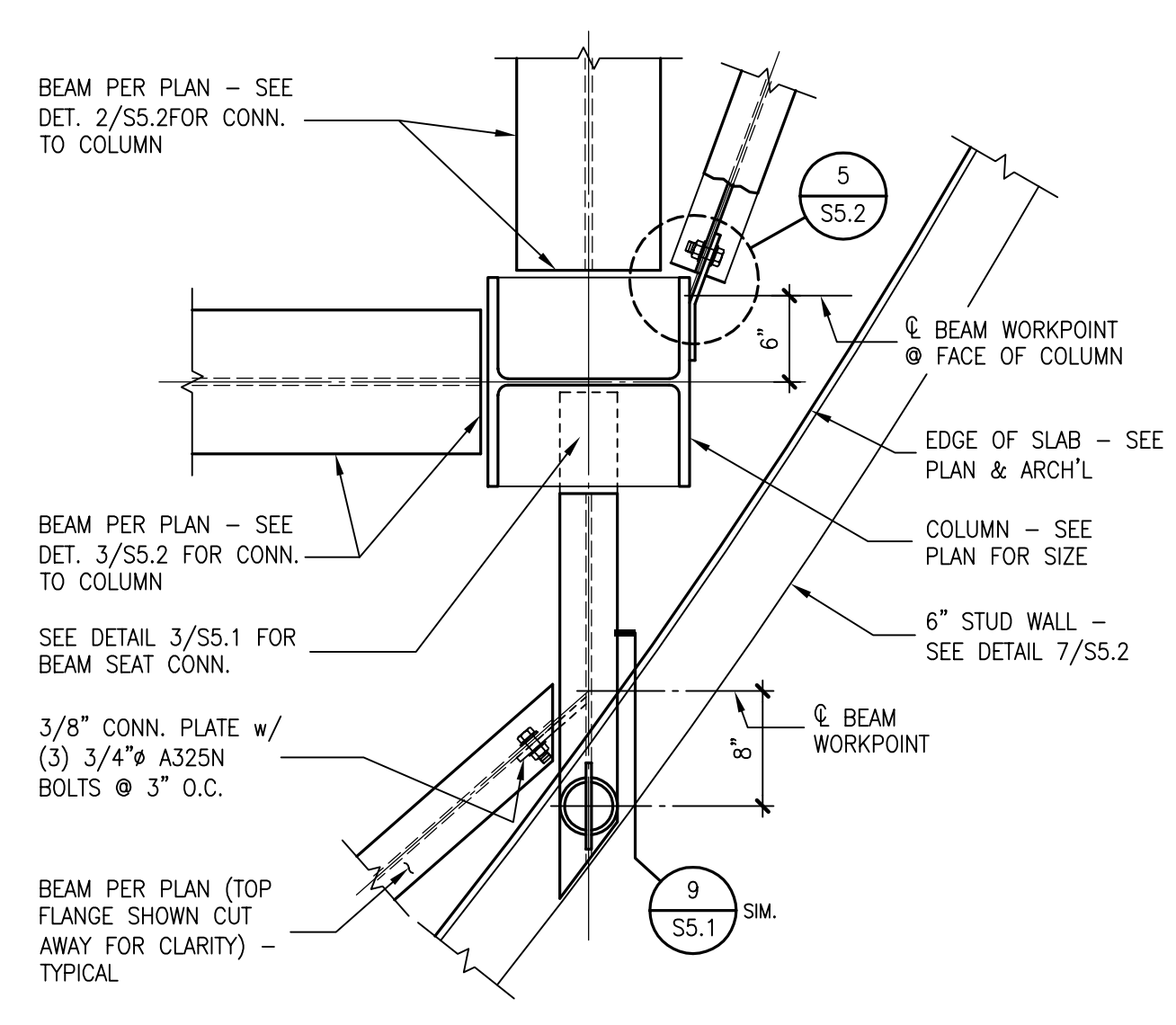
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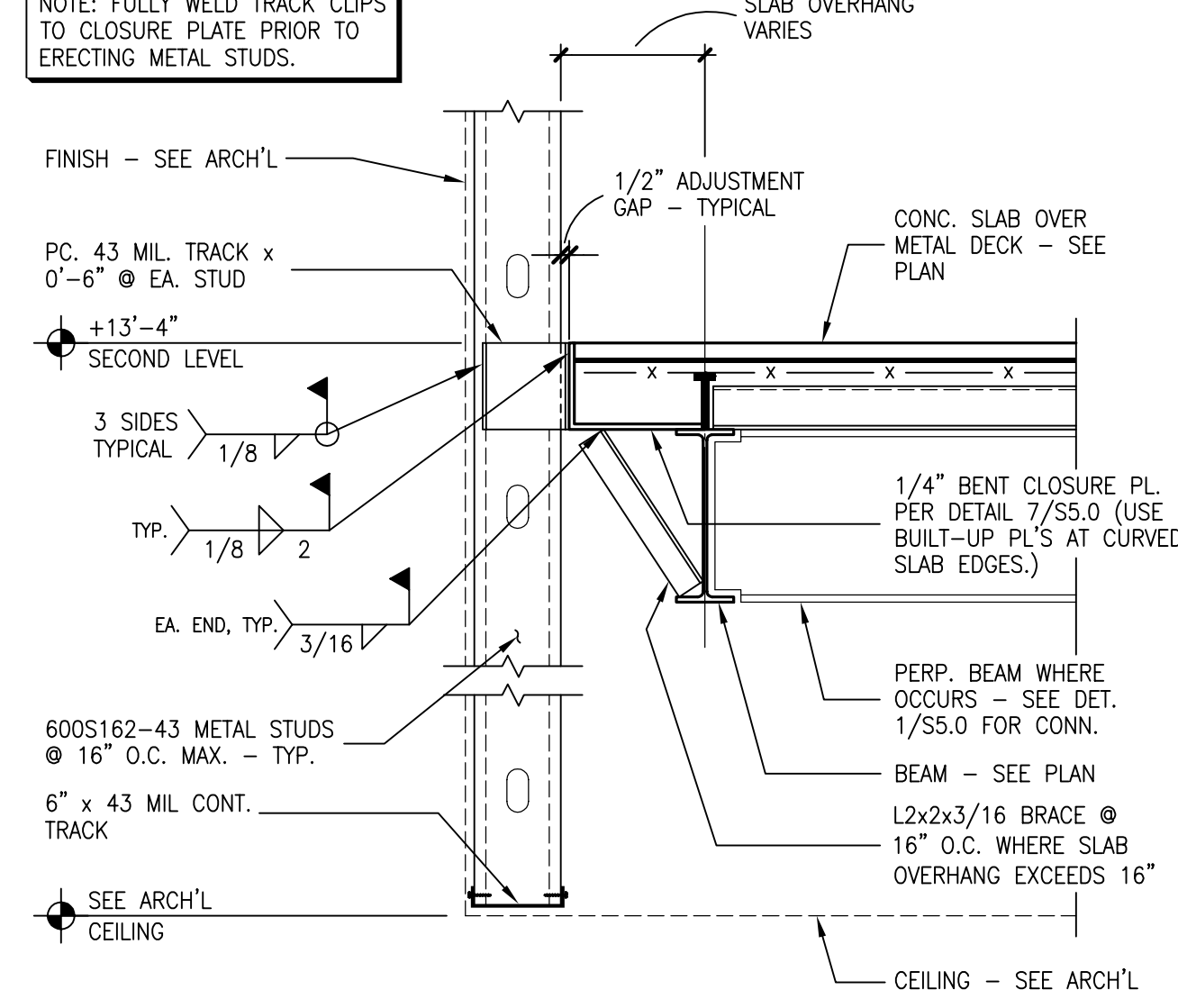
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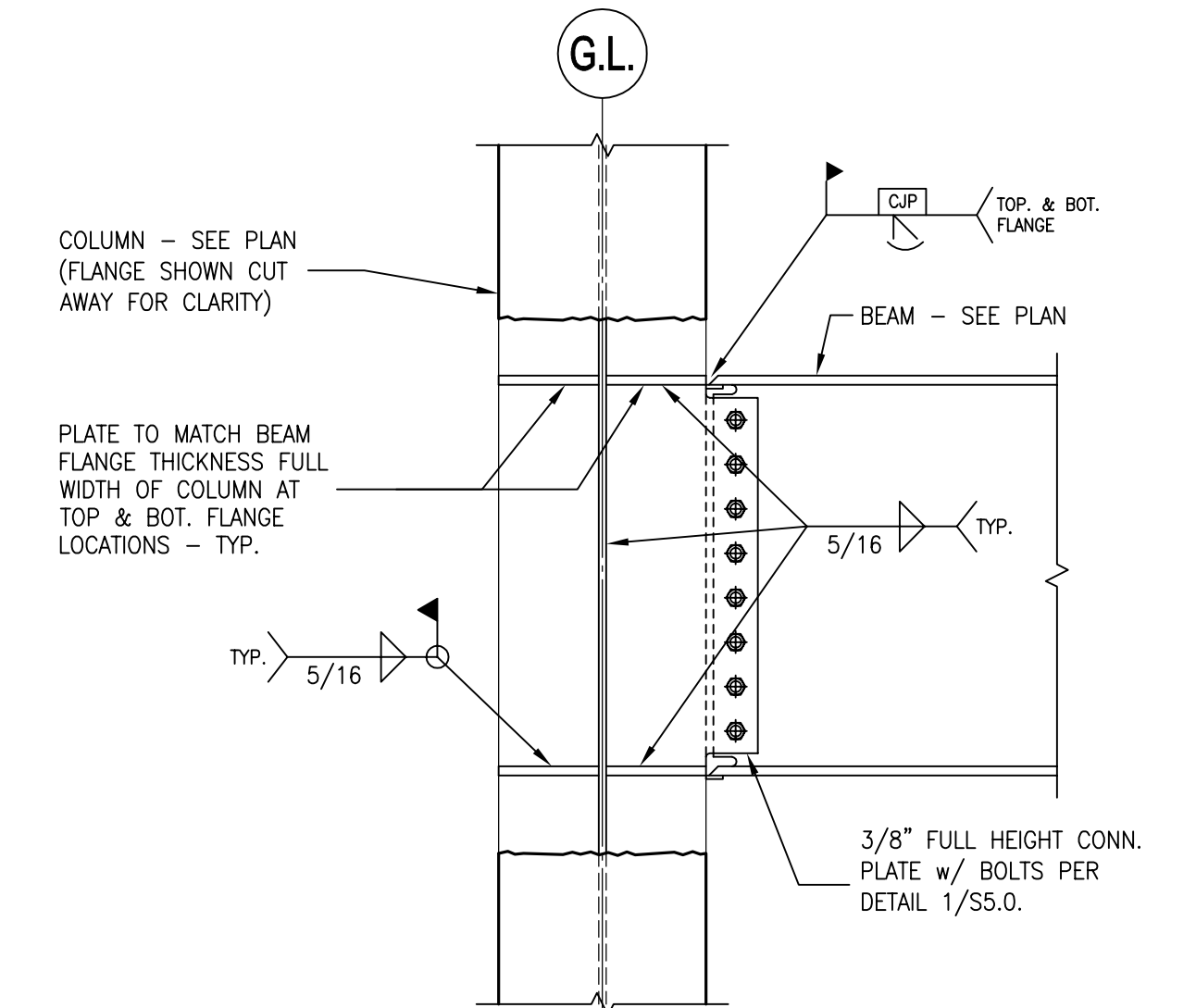
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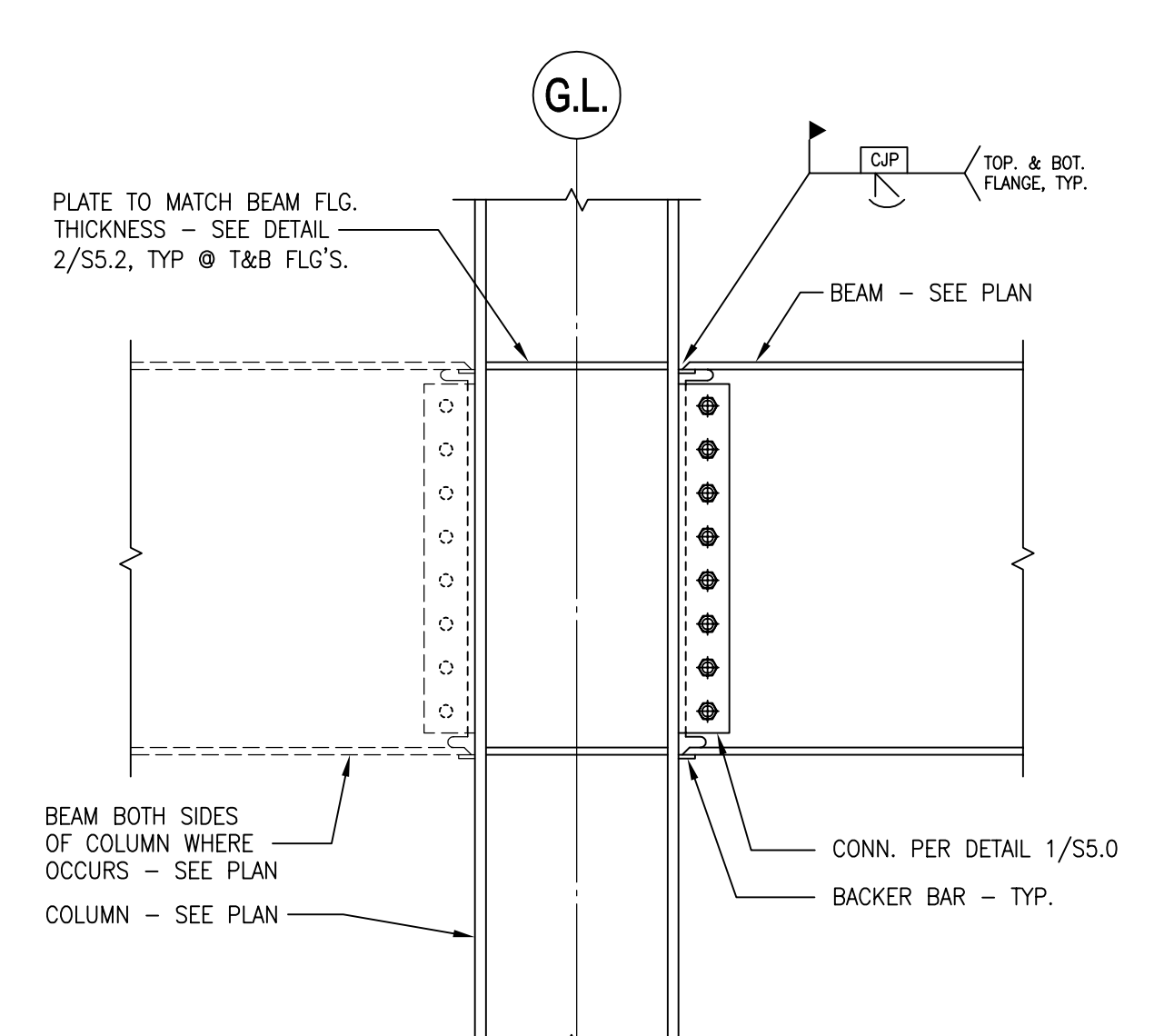
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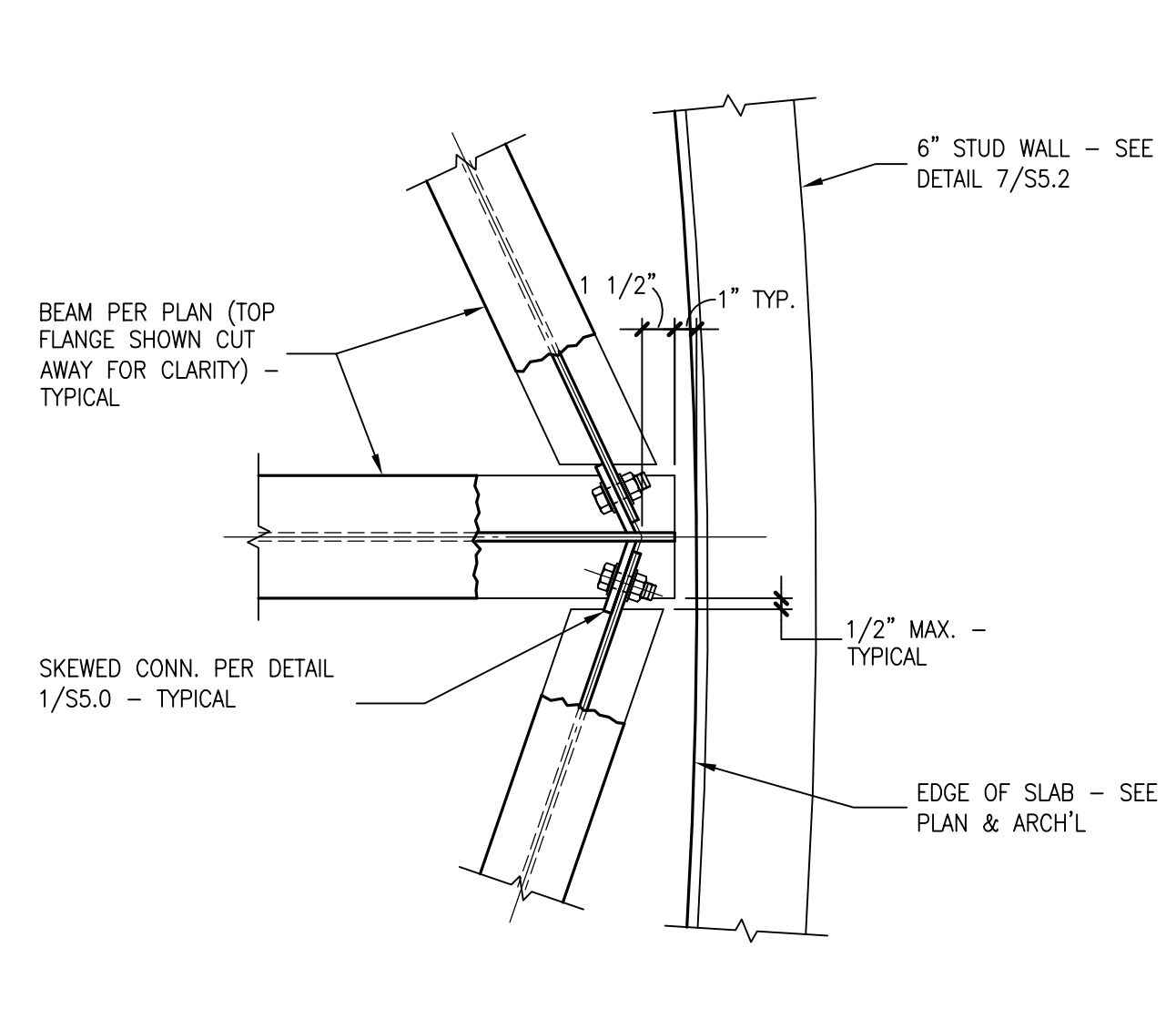
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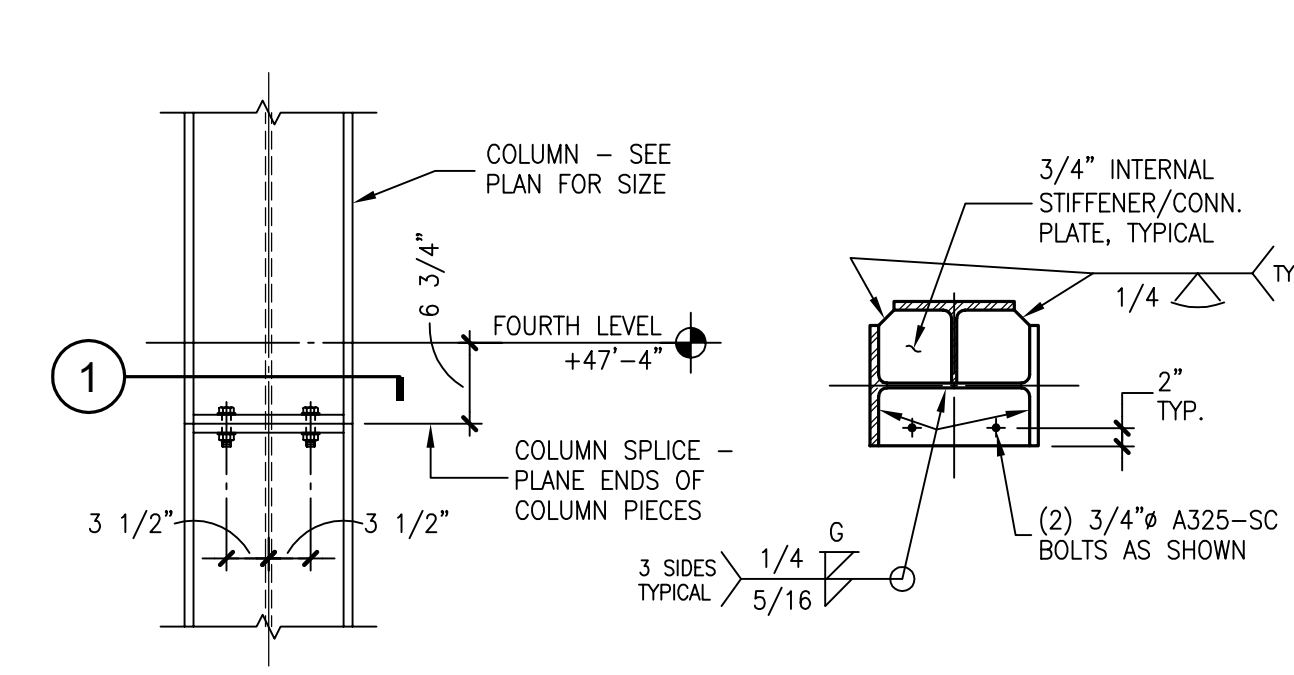
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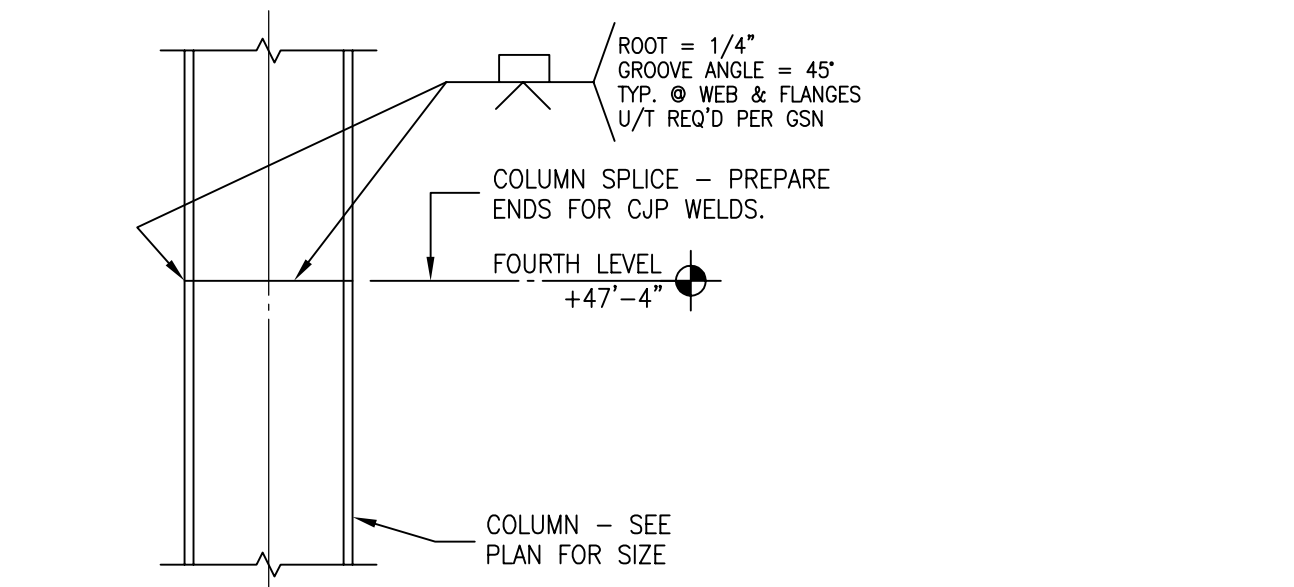
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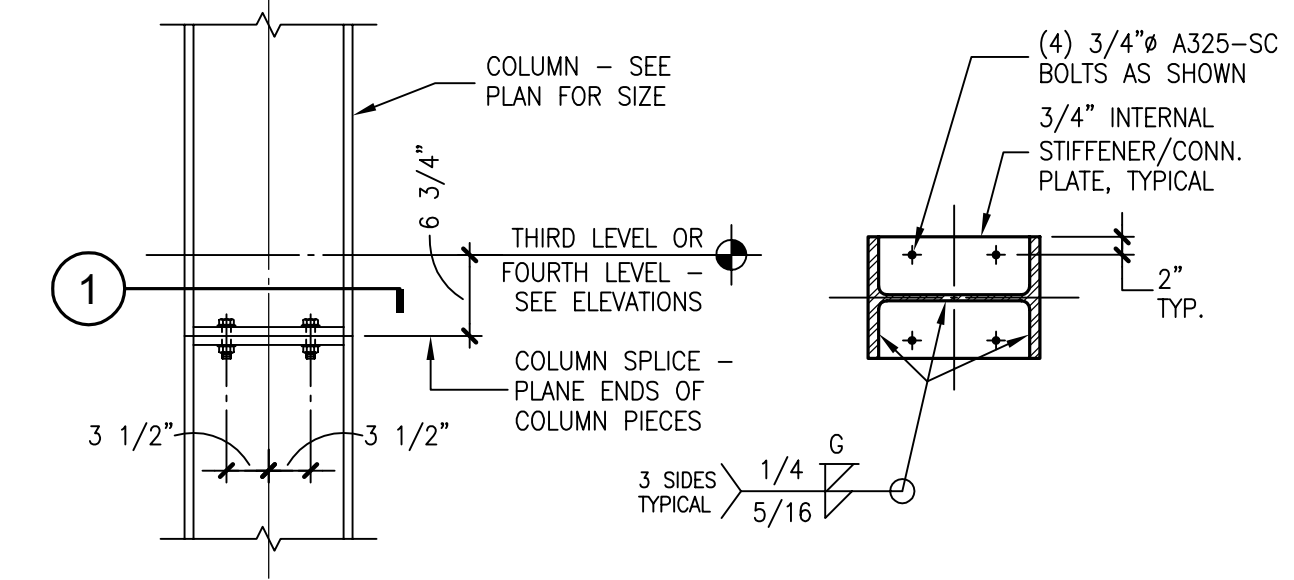
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C SPLICE TYPE "C"



B SPLICE TYPE "B"



A SPLICE TYPE "A"

1 TYPICAL COLUMN SPLICE TYPES

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richard + bauer
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Professional Engineer License
19788 MARK A. RUDOW
Arizona, U.S.A.
Expires 3/31/2013

AUGUST 25, 2011
Construction Documents
r+b job #: 0209
U.A. #: 08-8826

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FLOOR FRAMING
DETAILS
S5.2
SCALE VARIES

AutoCAD Version: 2011
September 30, 2011 8:46:30 a.m. VSS:0.00
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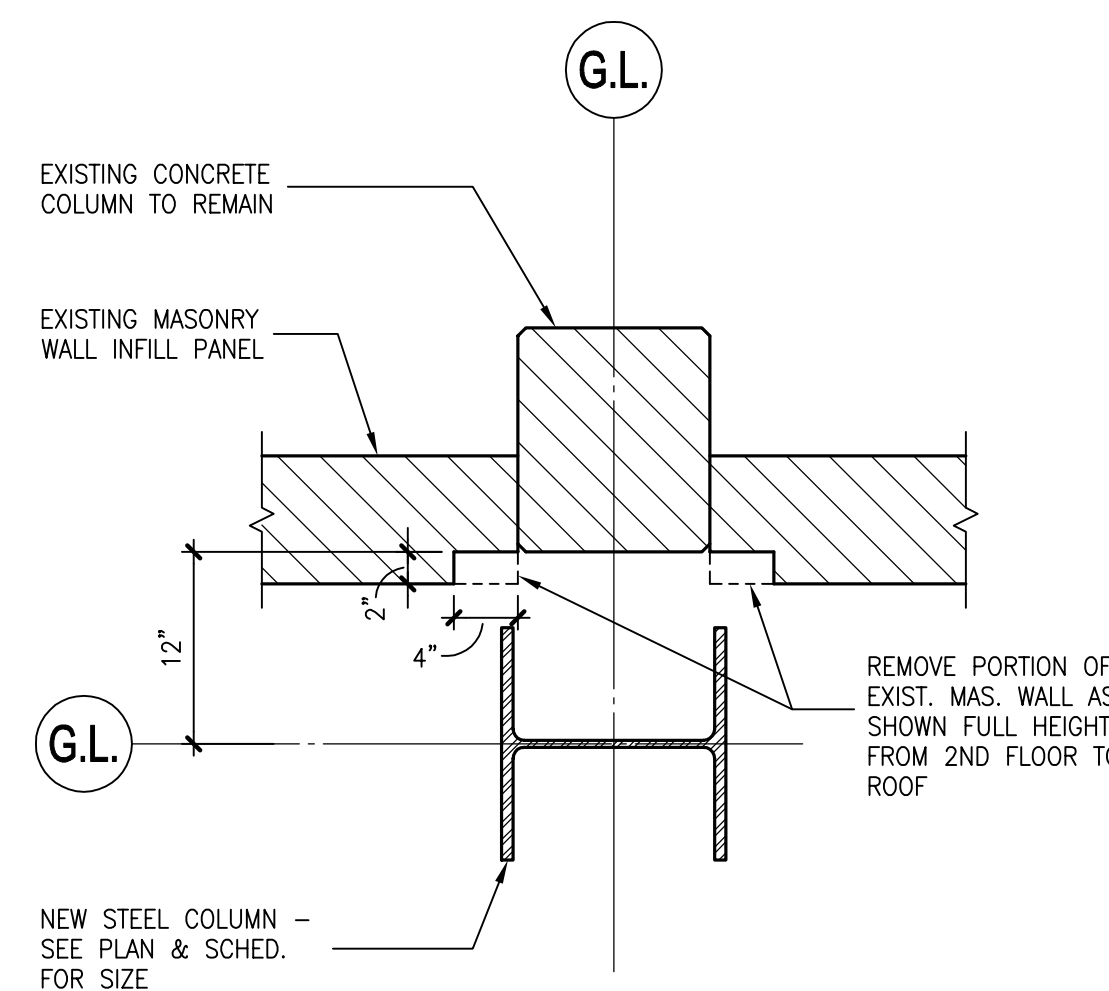
FAX 602.264.9234



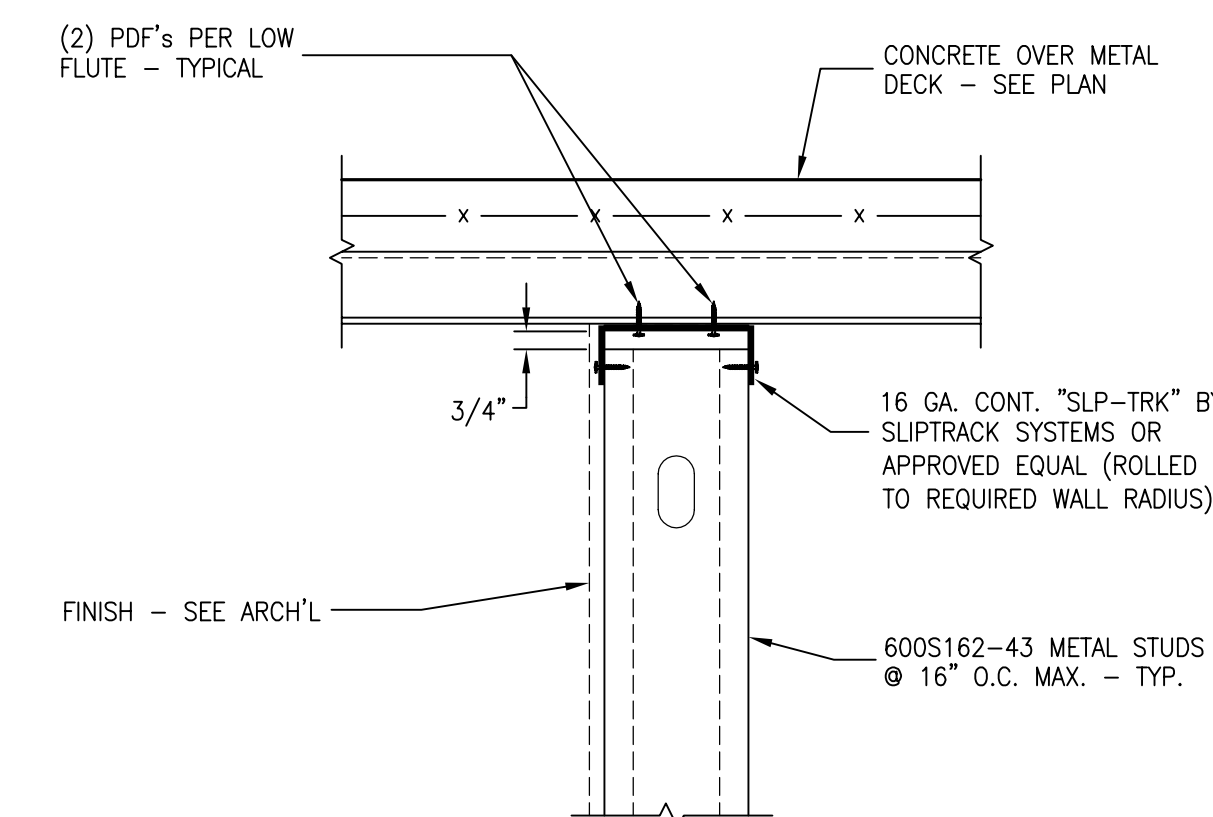
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AUGUST 25, 2011
Construction Documents
r+b job #: 0209

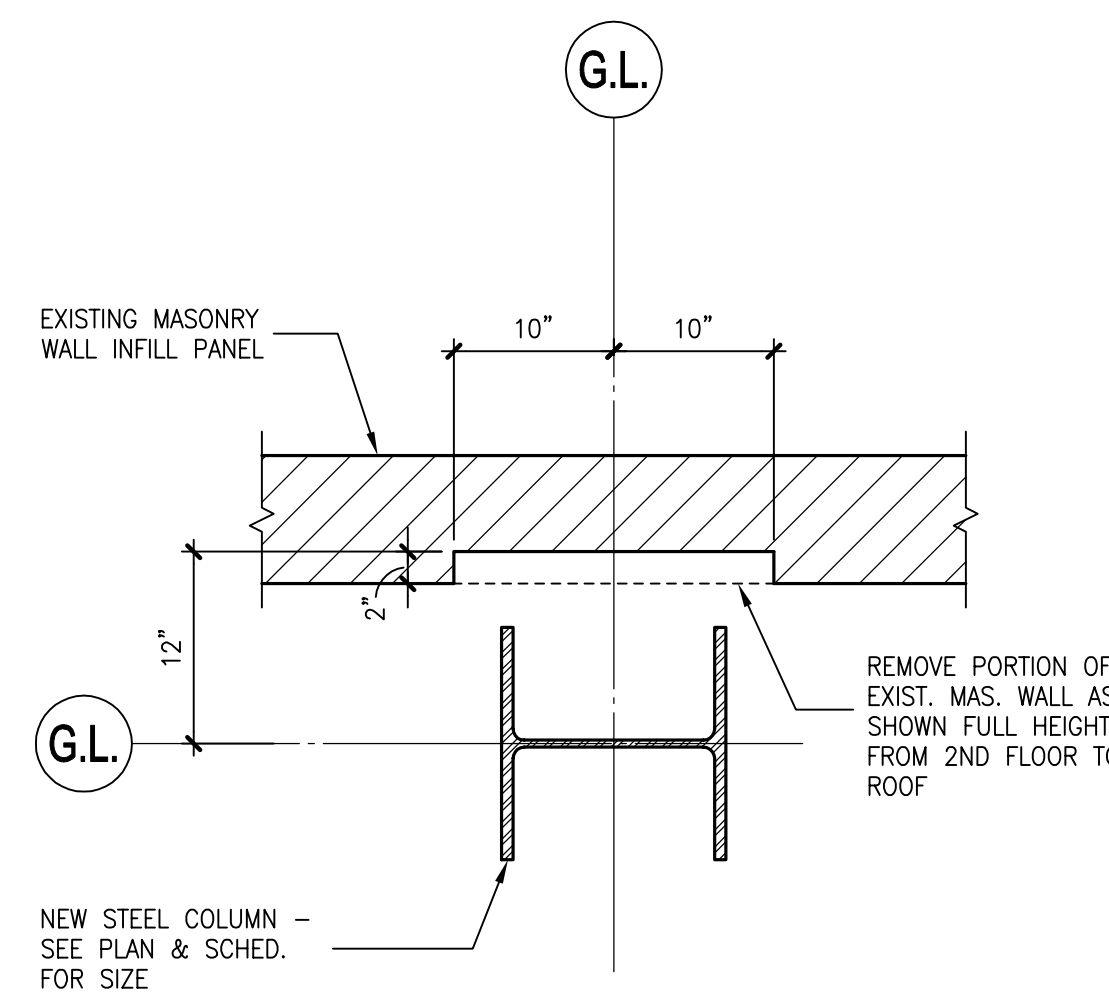
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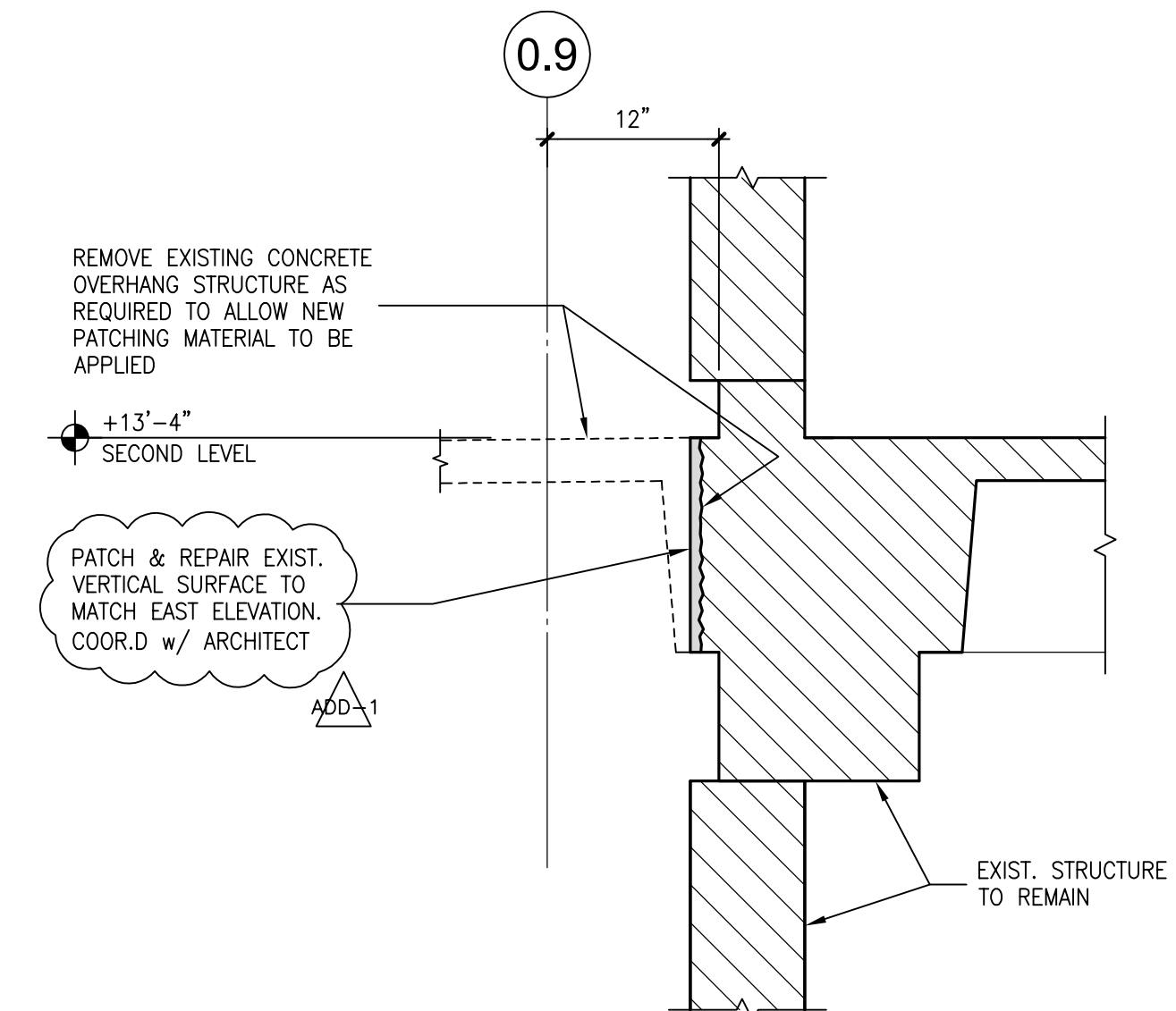
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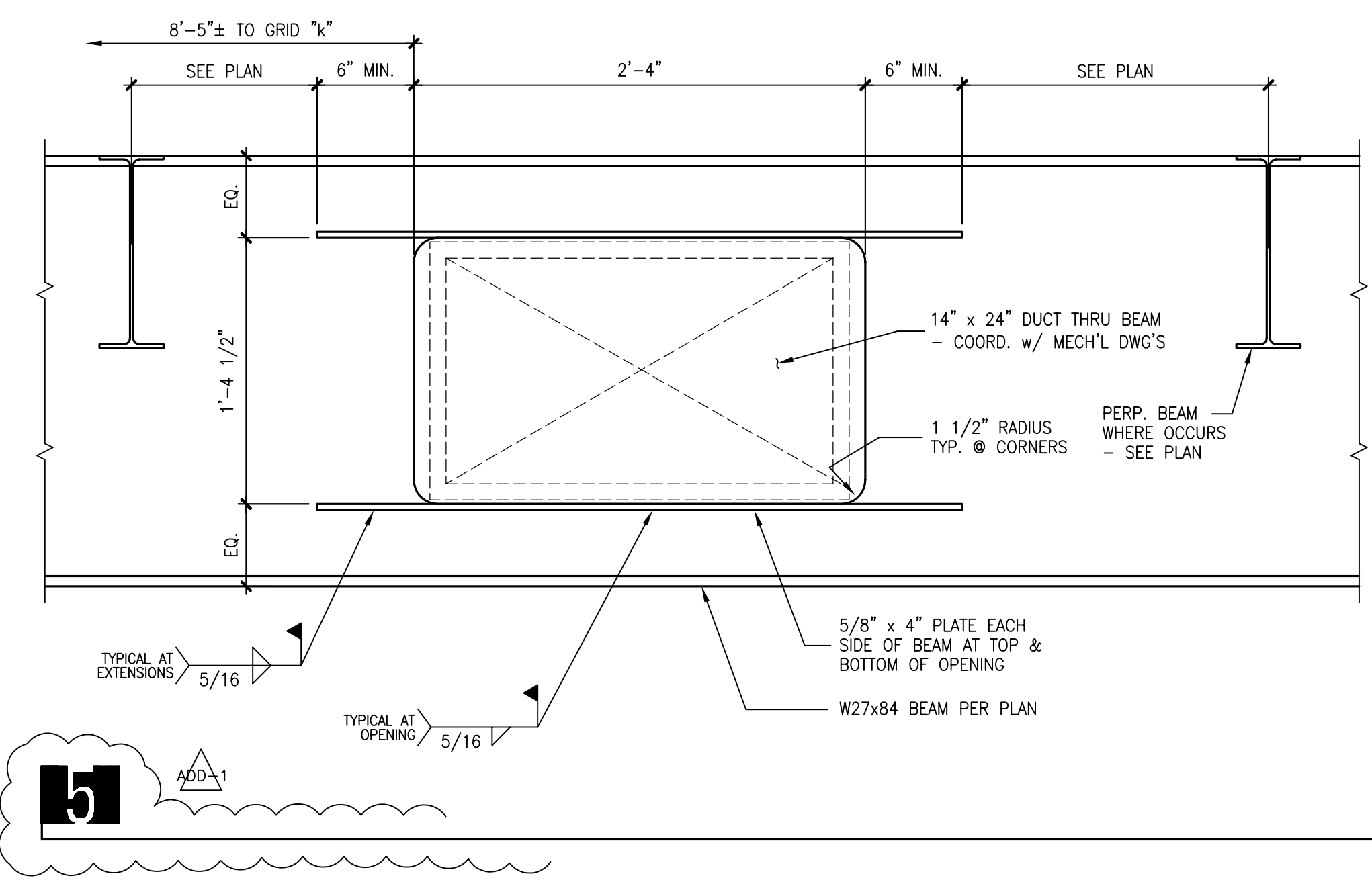
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4



2



5

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GMP-ADDENDUM 1
05/13/11

FLOOR FRAMING
DETAILS

S5.3

SCALE VARIES

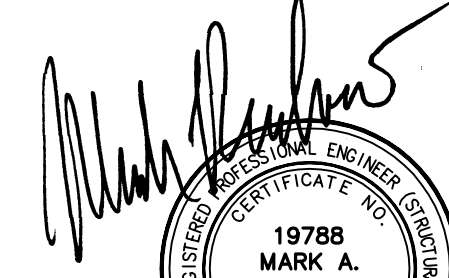
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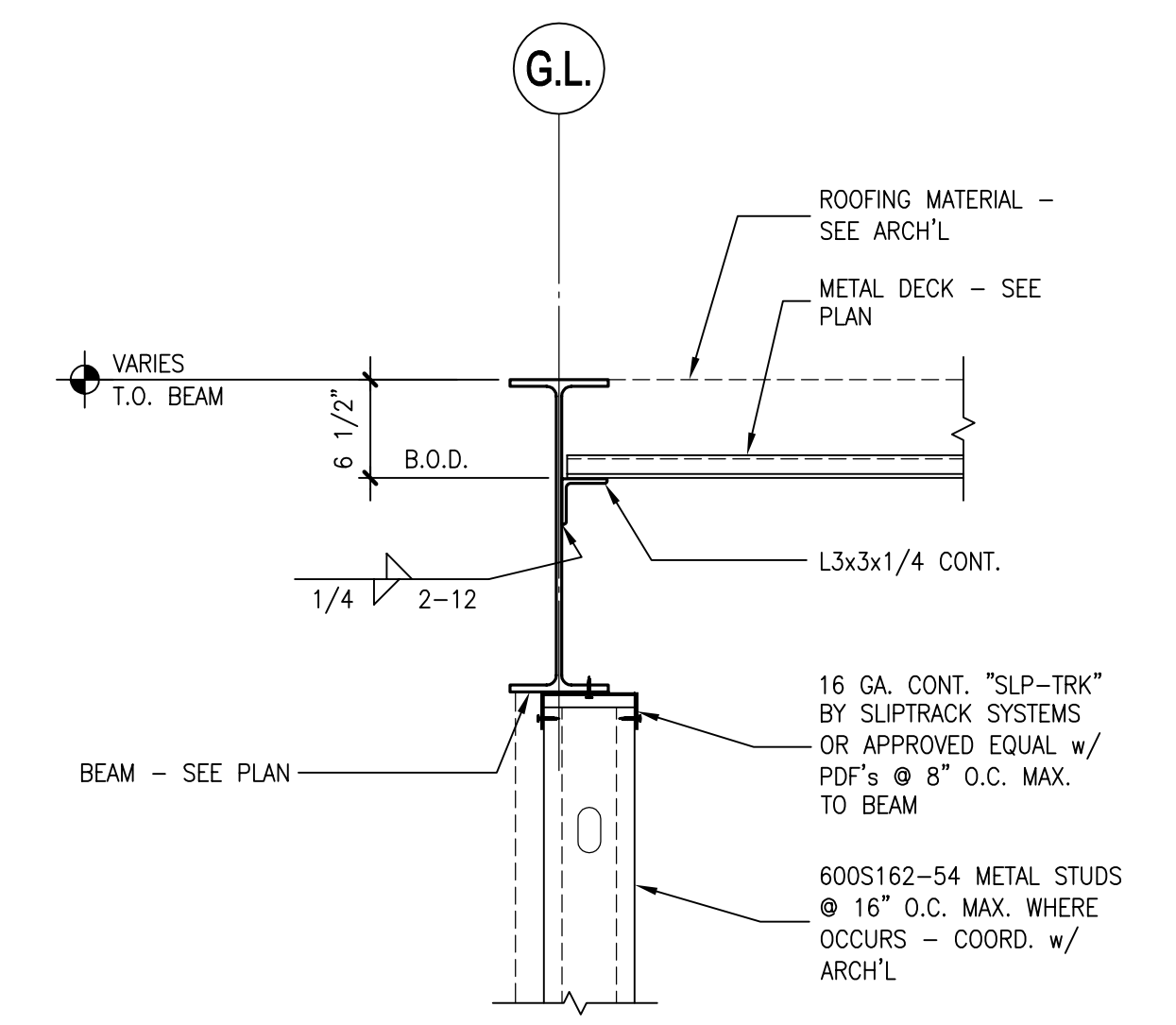
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08/25/11
GMP-ADDENDUM 1
05/13/11

ROOF FRAMING
DETAILS

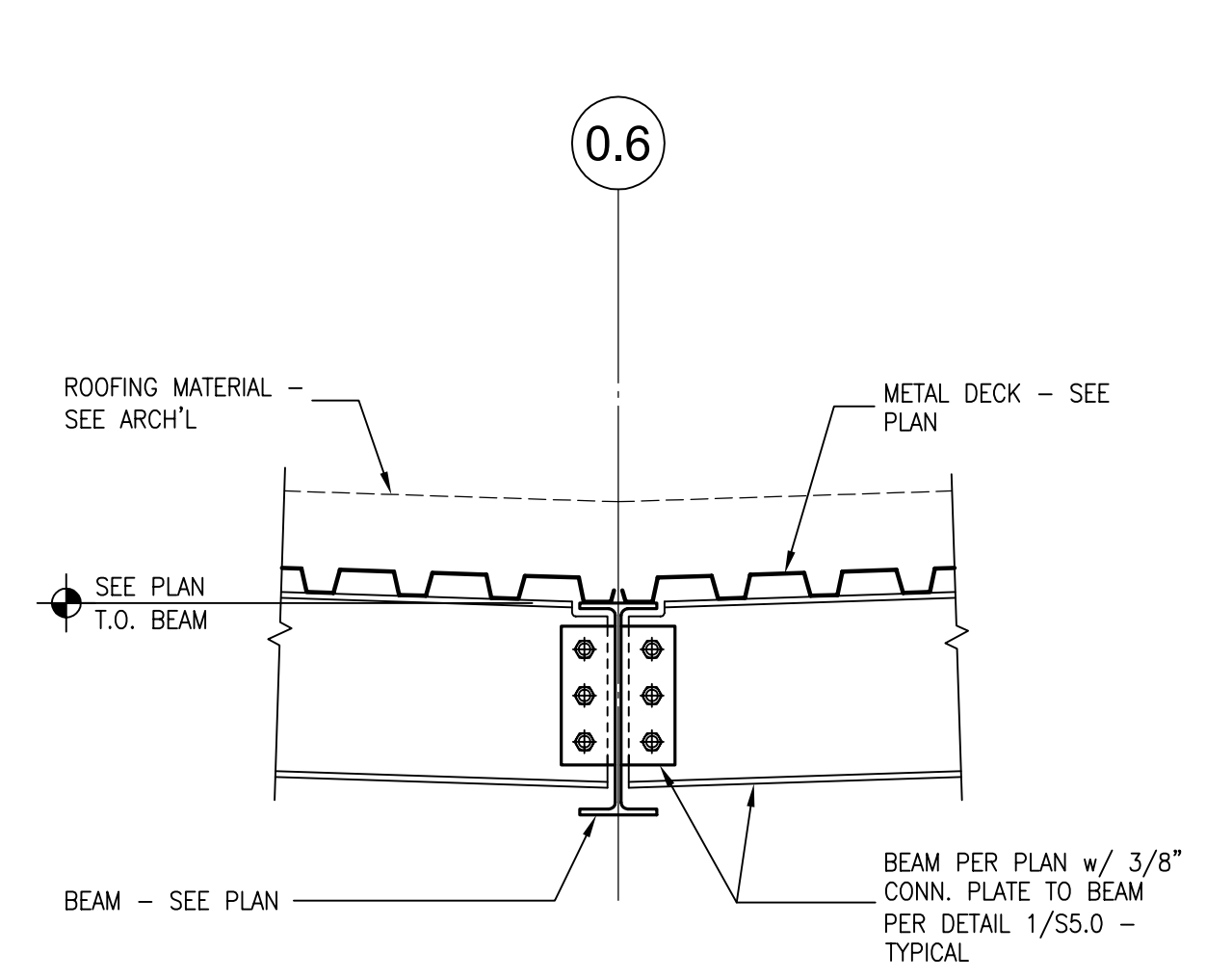
SCALE VARIES

r+b job #08108

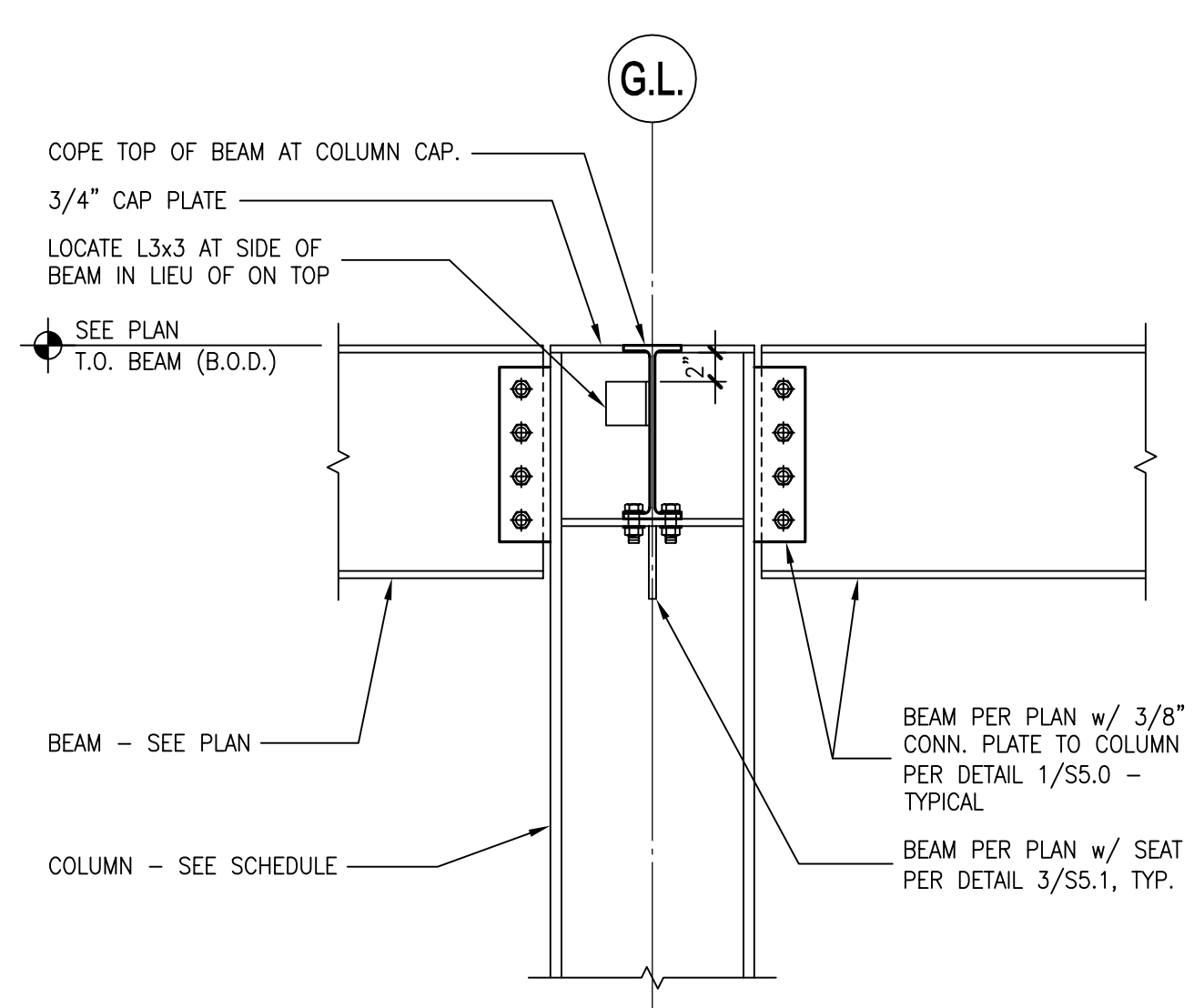
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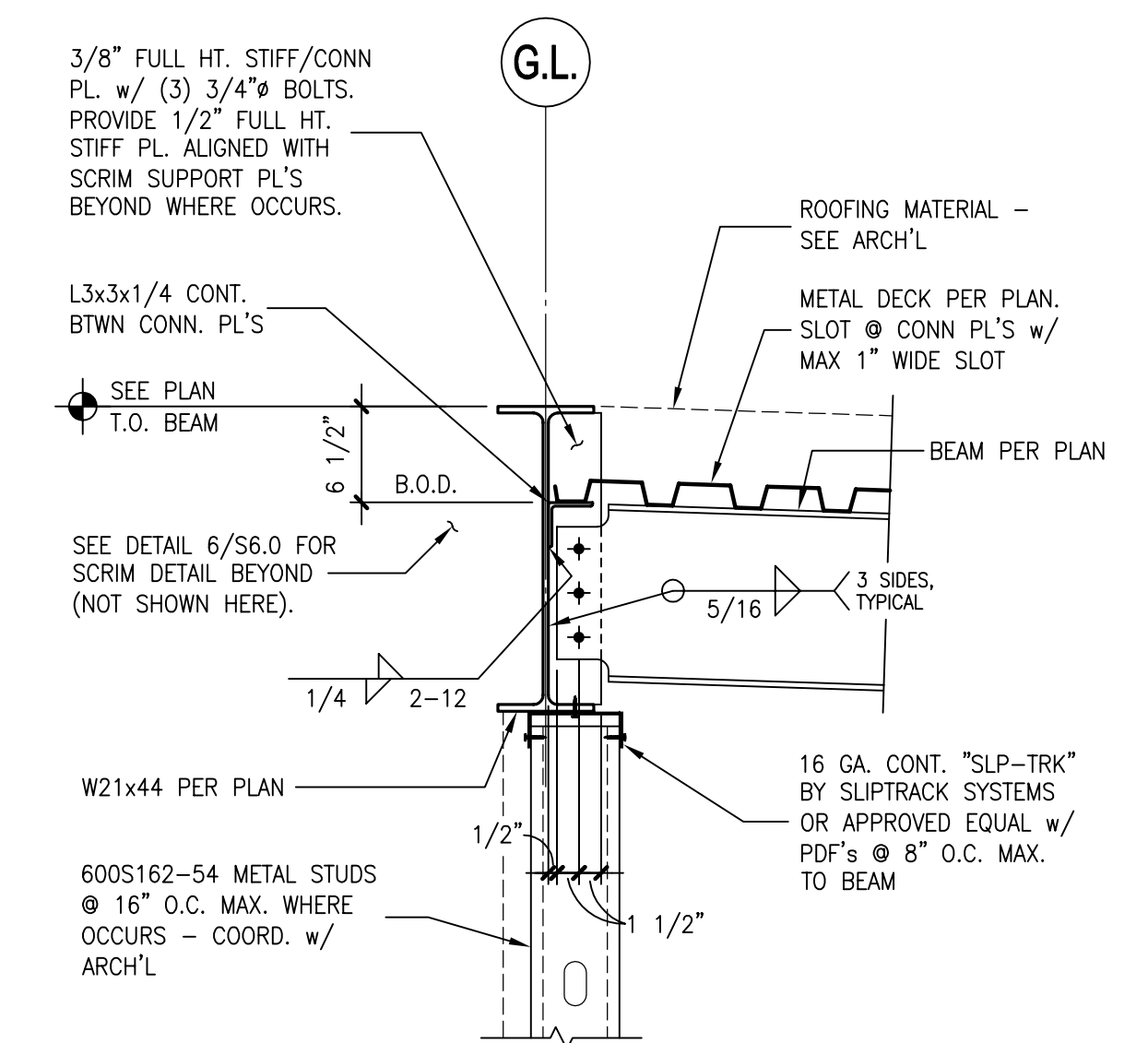
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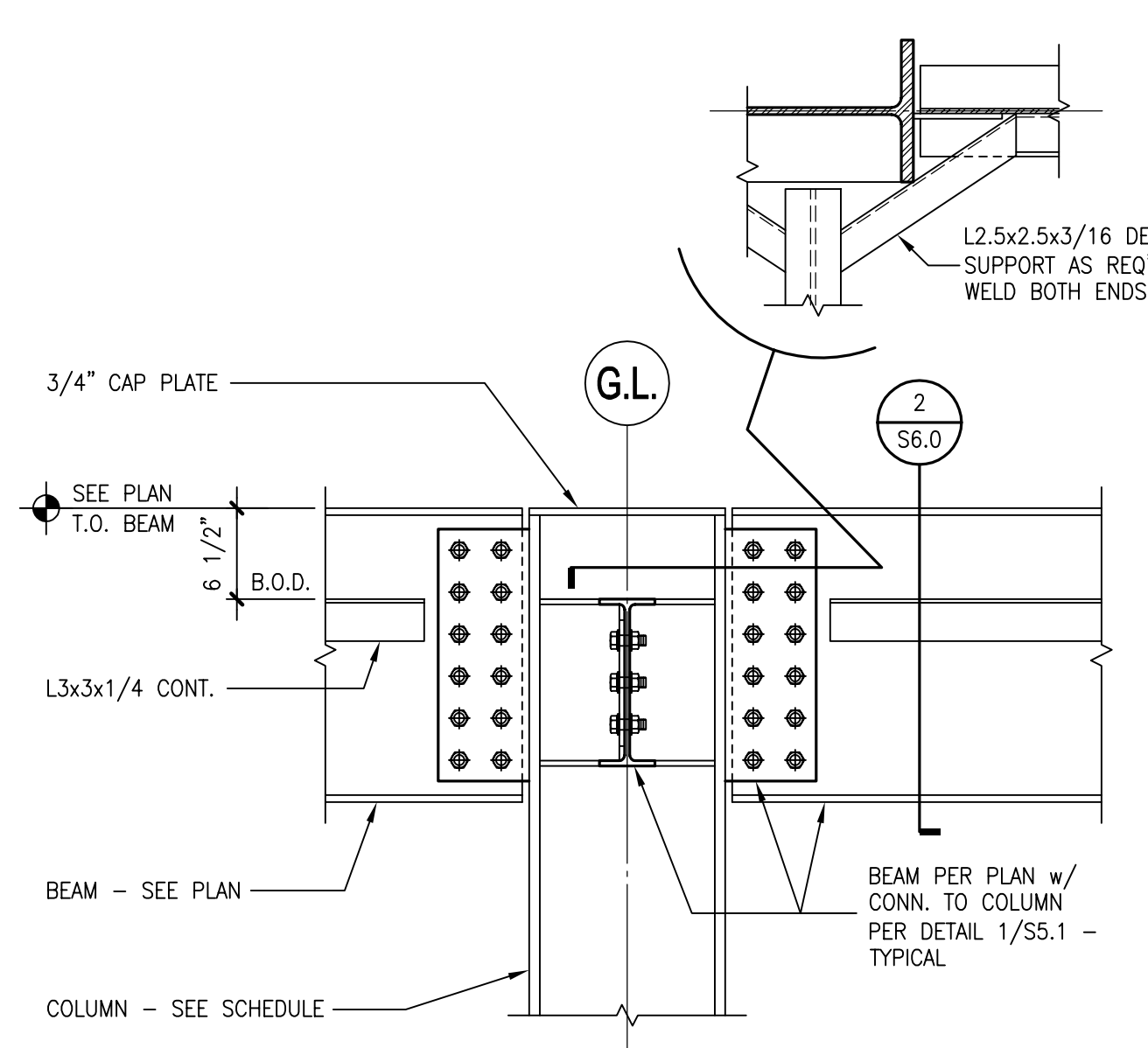
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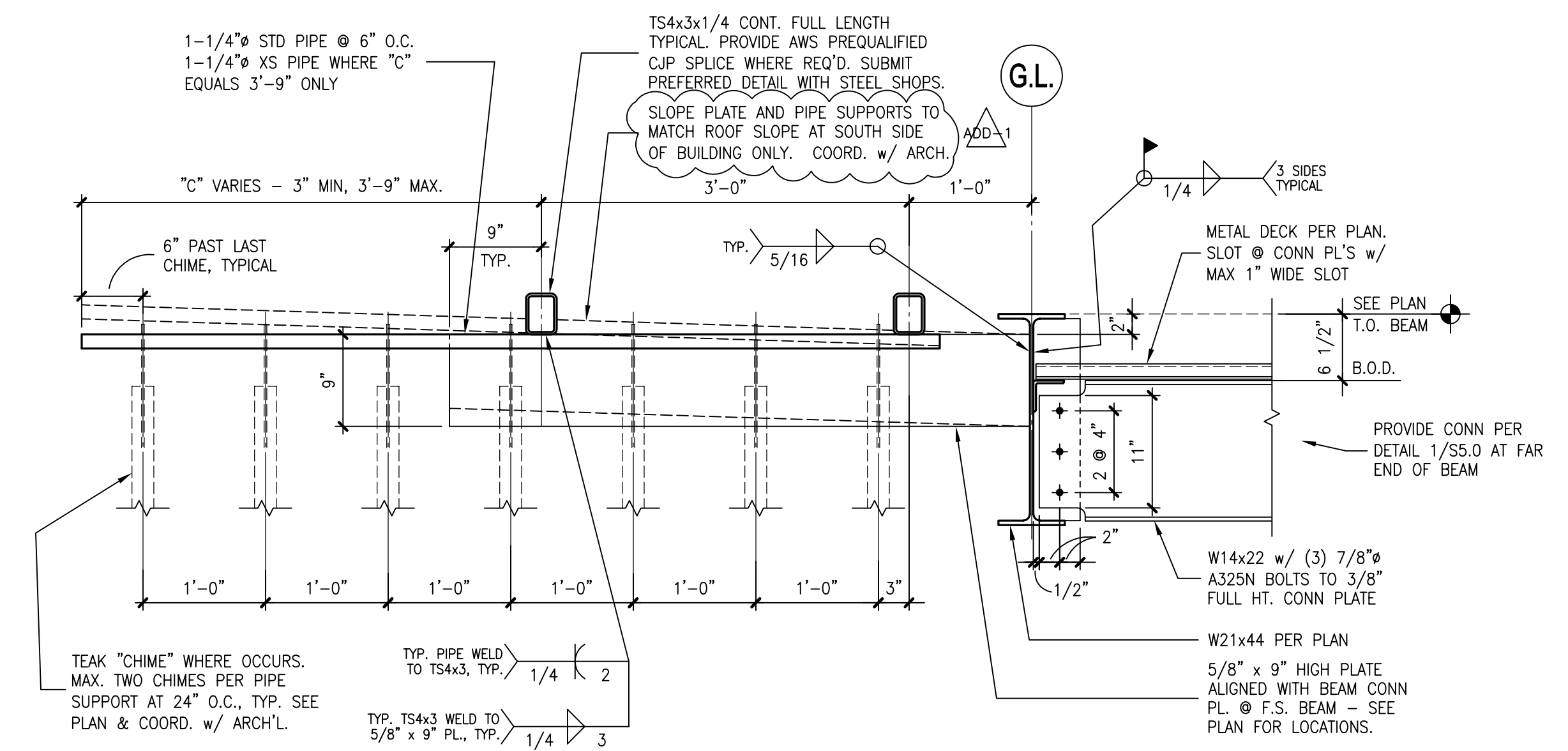
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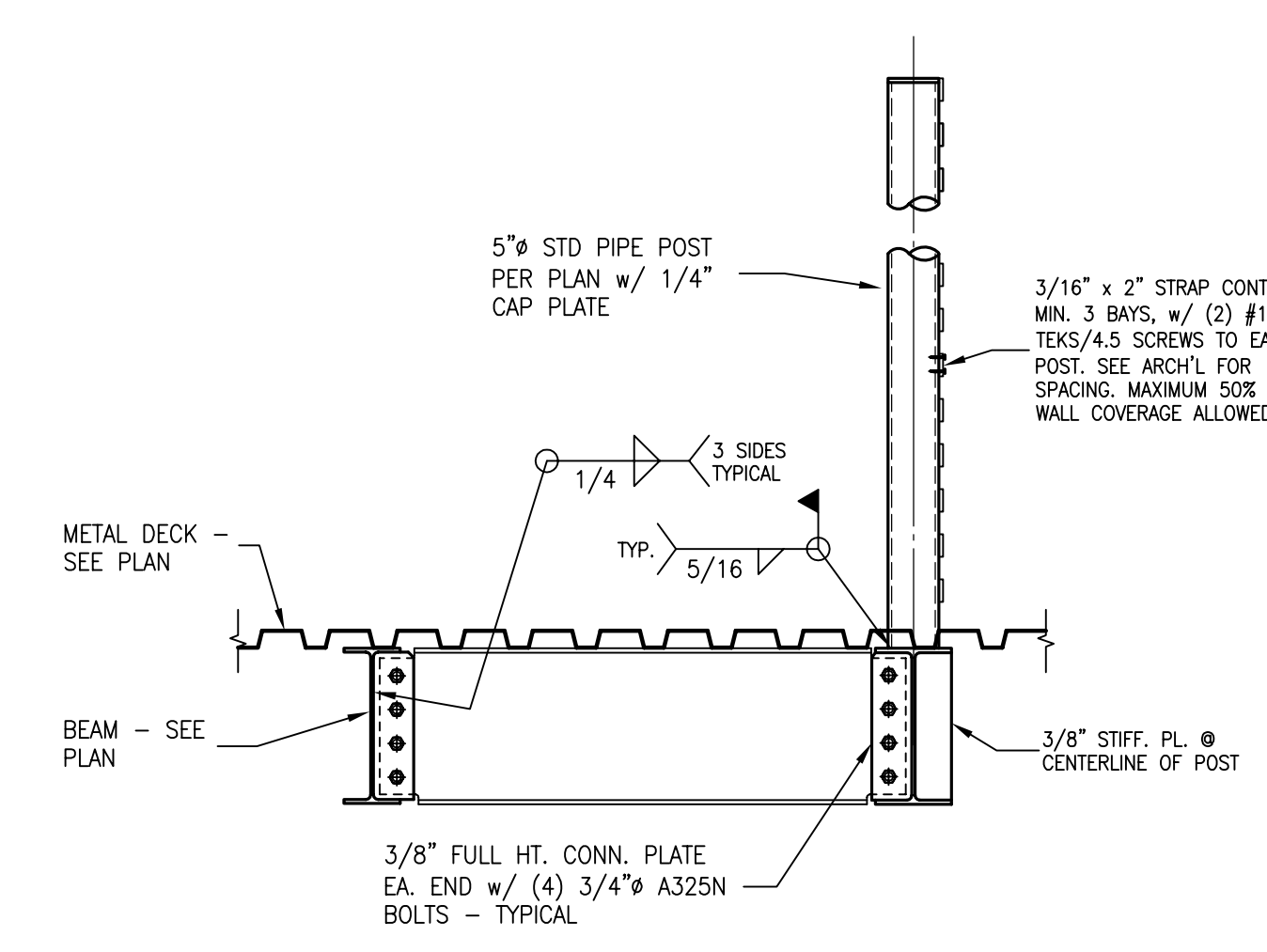
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5 TYPICAL PERIMETER COLUMN AT ROOF



6



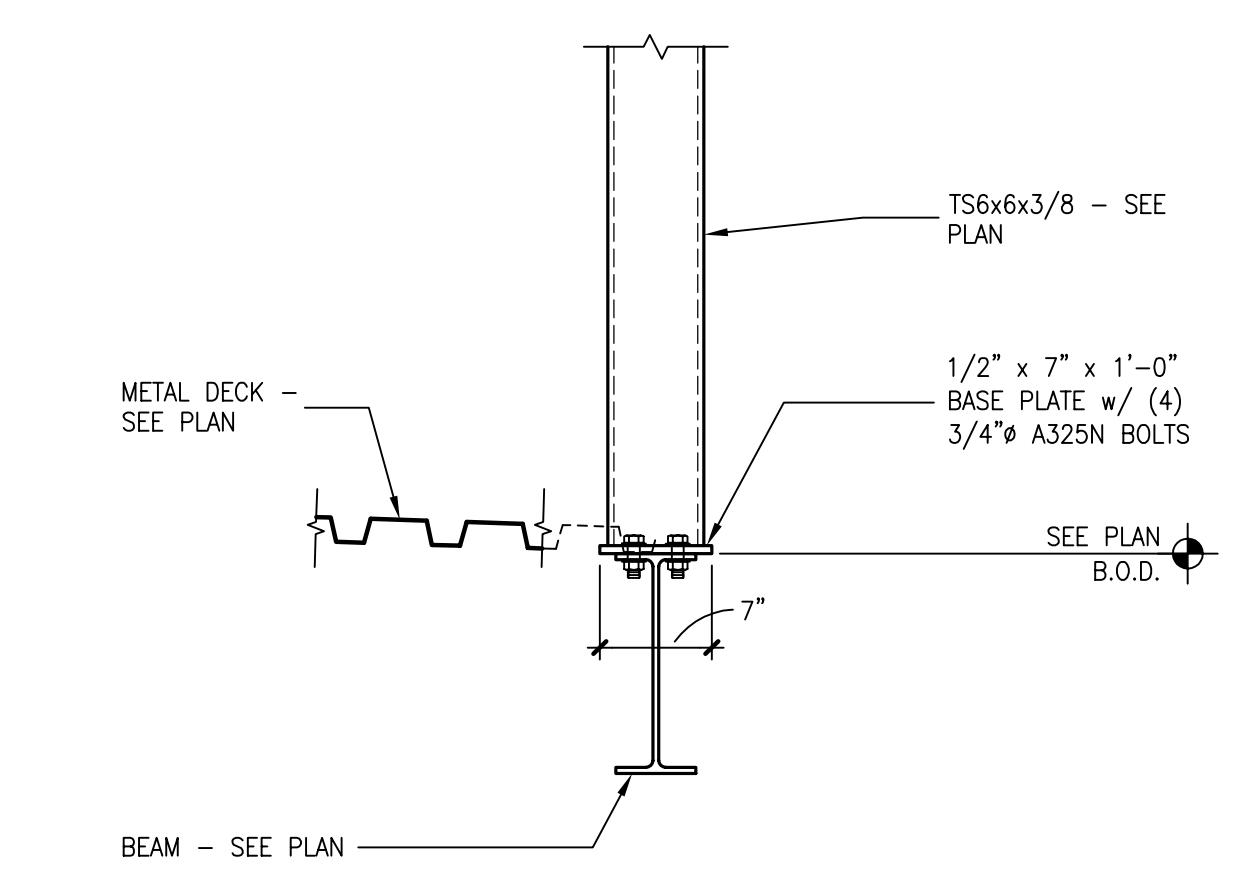
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DETAIL OMITTED

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DETAIL OMITTED

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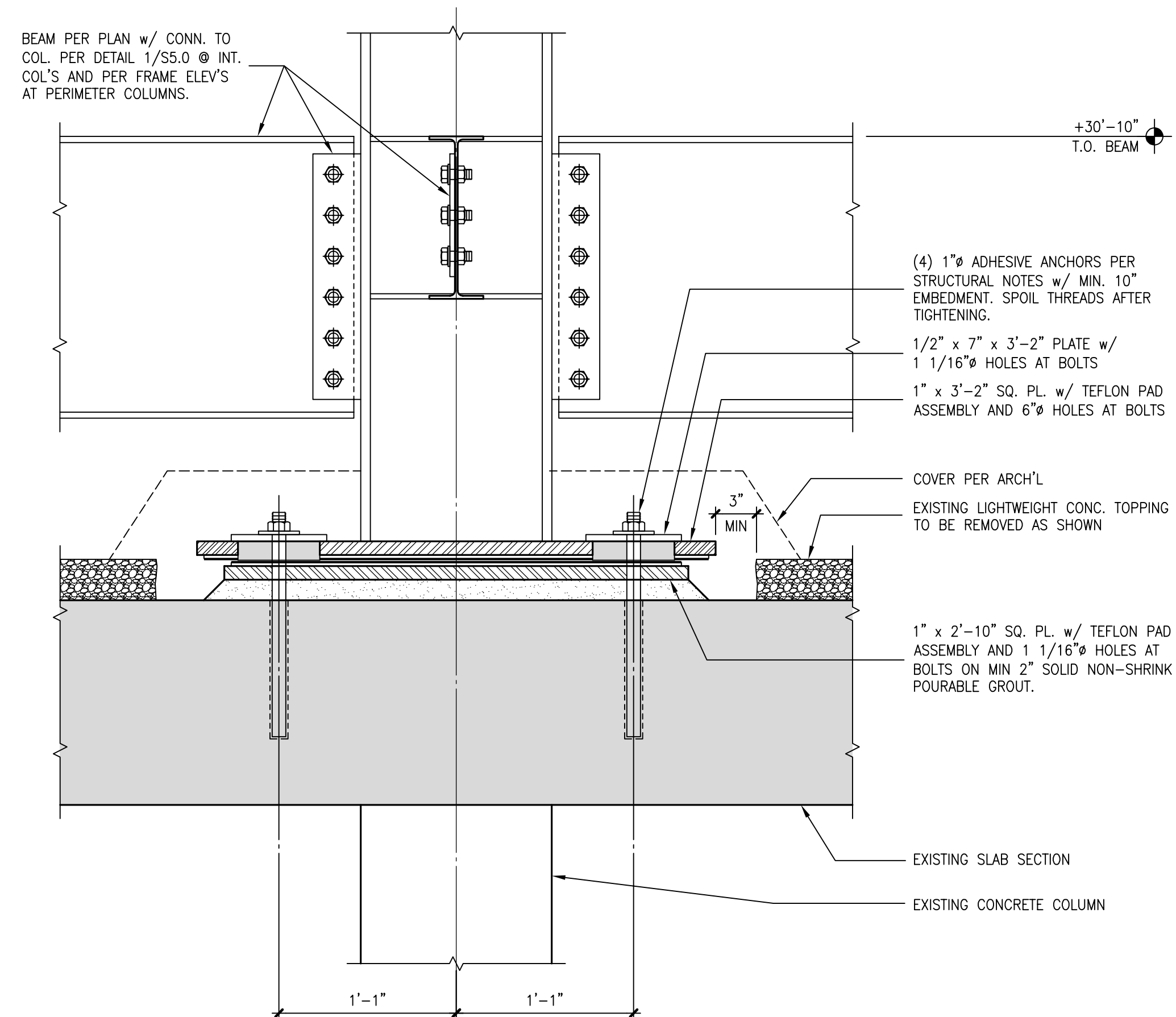


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U.A. #: 08-8826

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1 TYPICAL WF COLUMN BEARING ON EXISTING ROOF

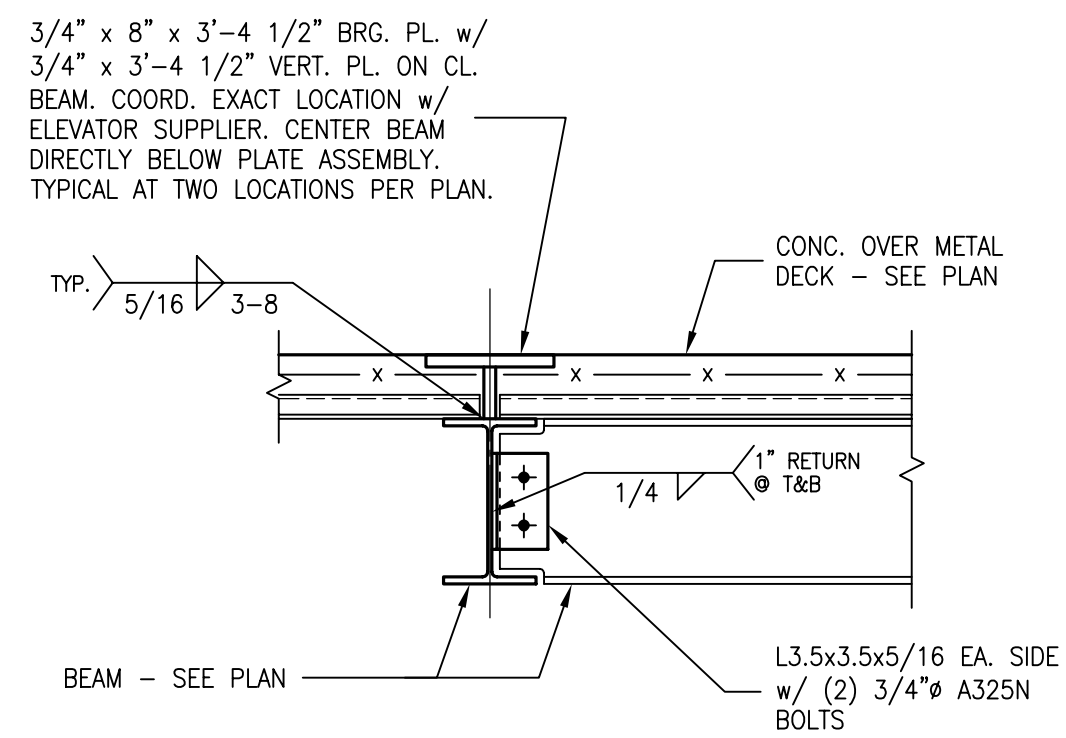
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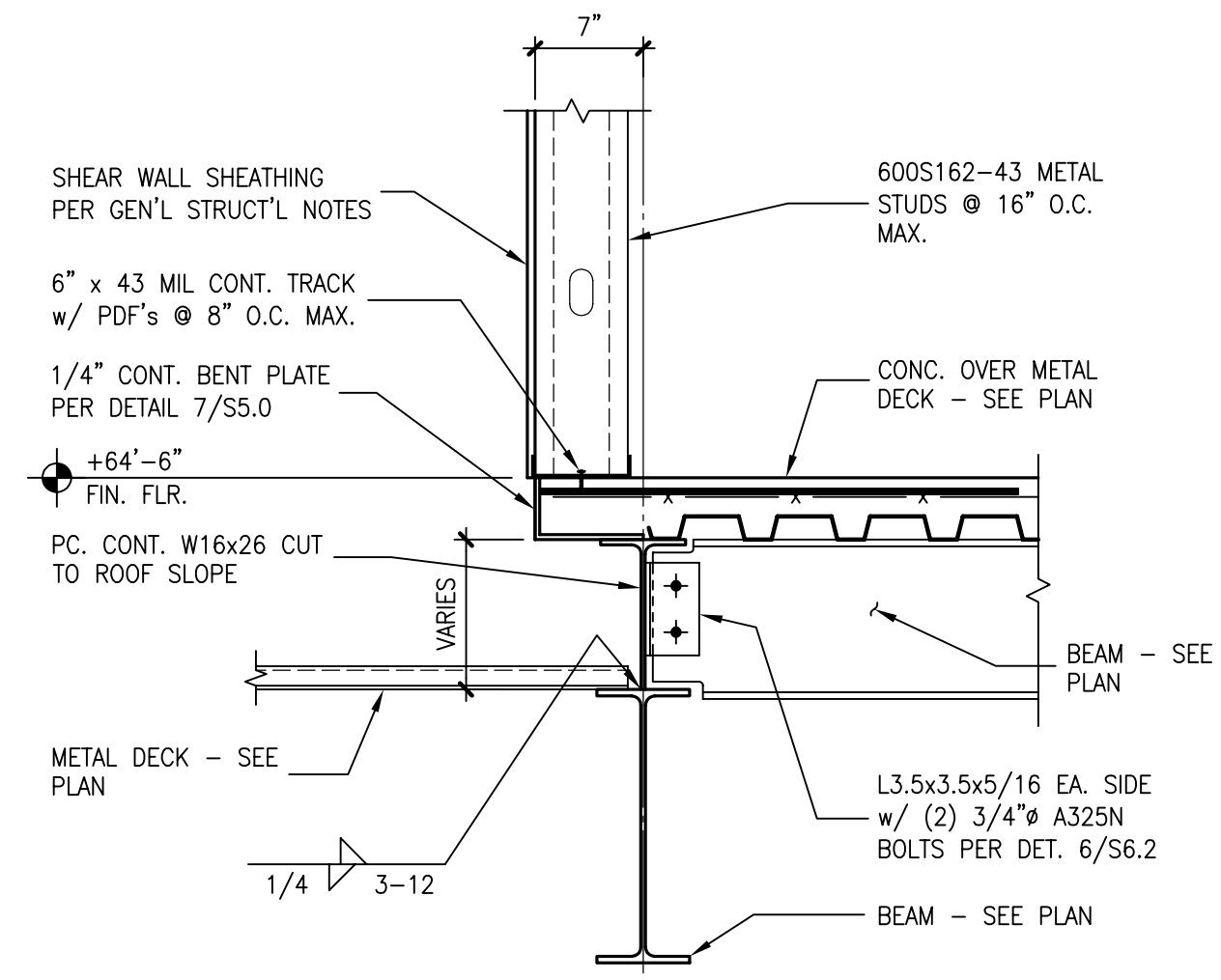
ROOF FRAMING
 DETAILS

S6.1

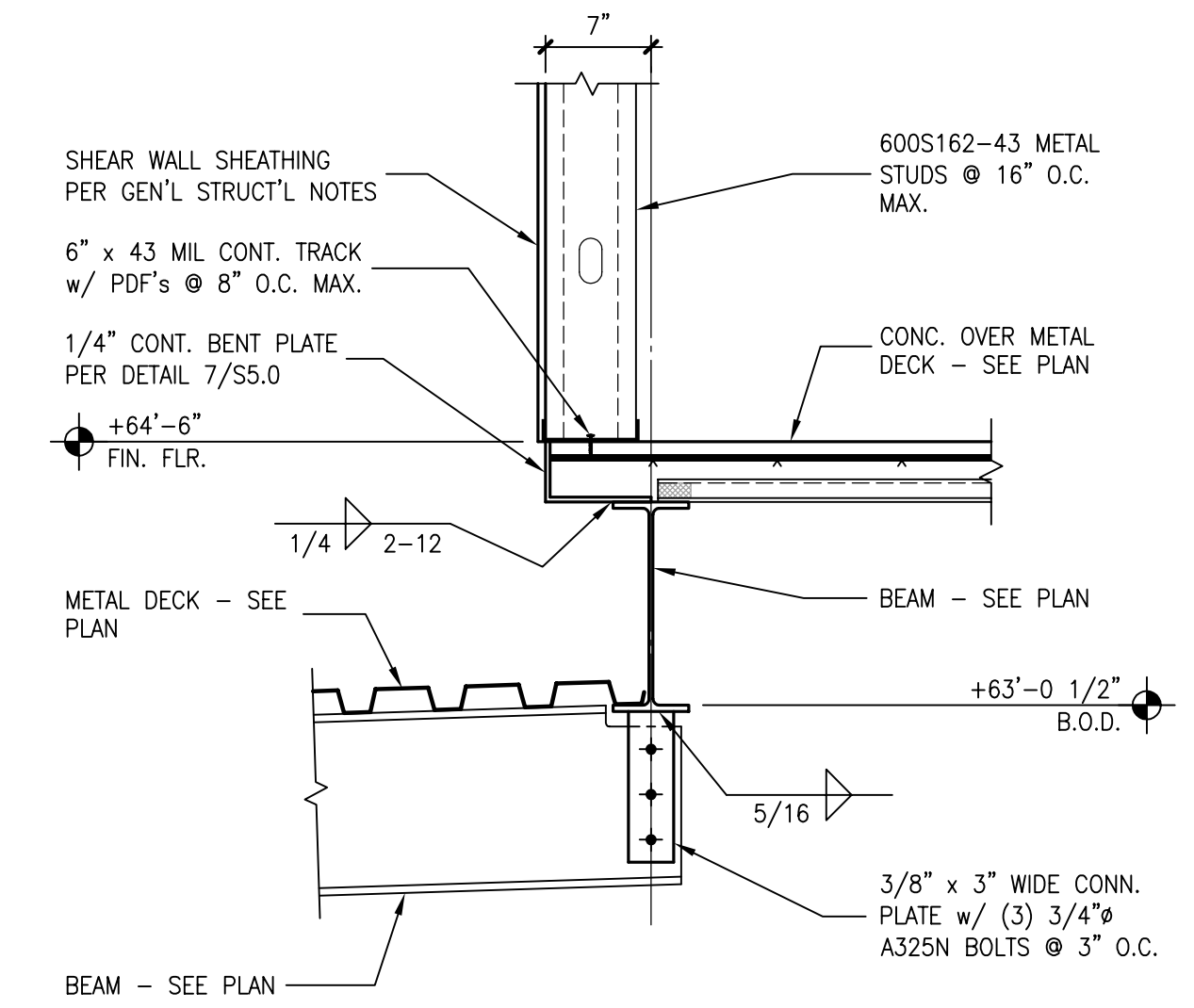
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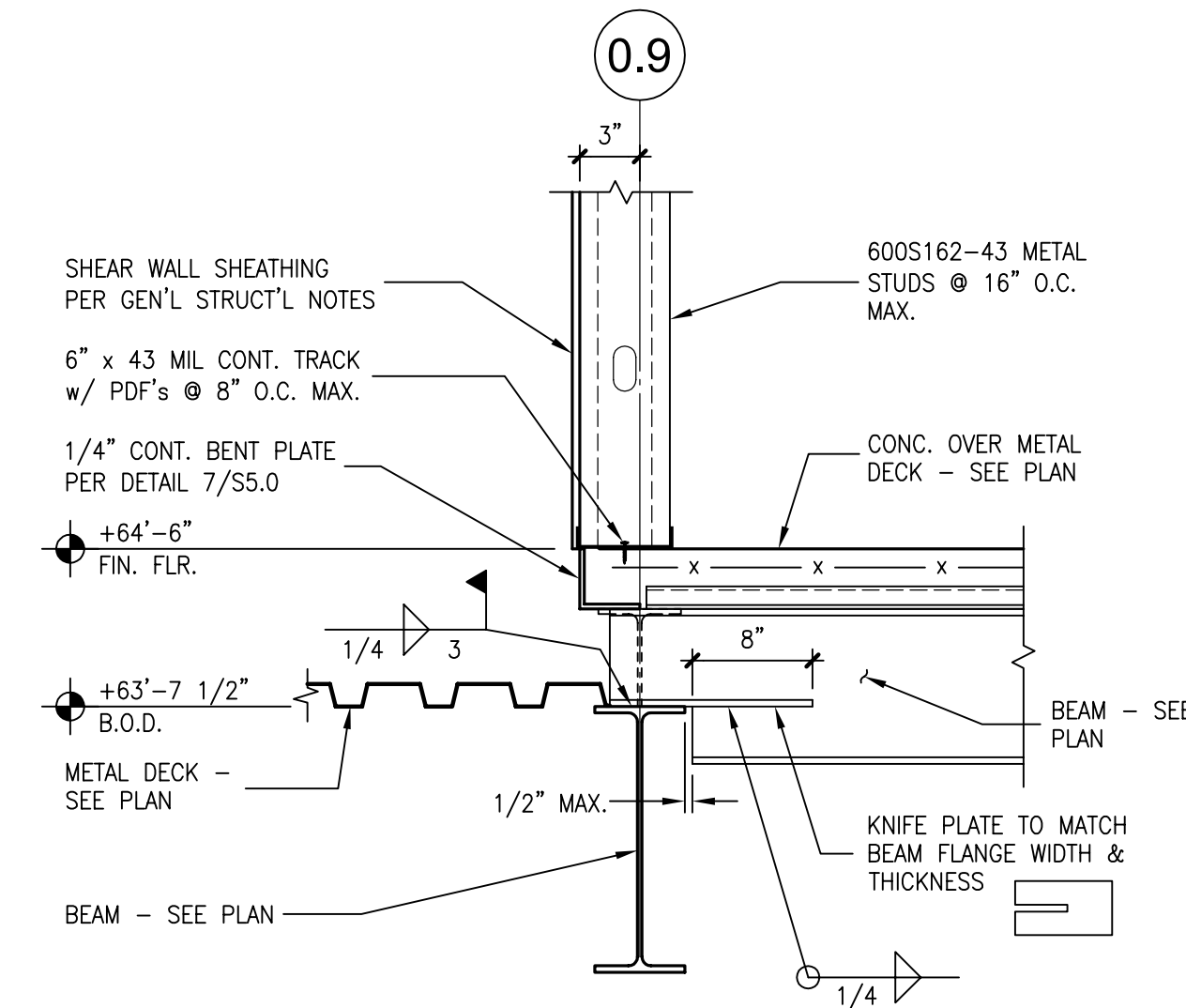
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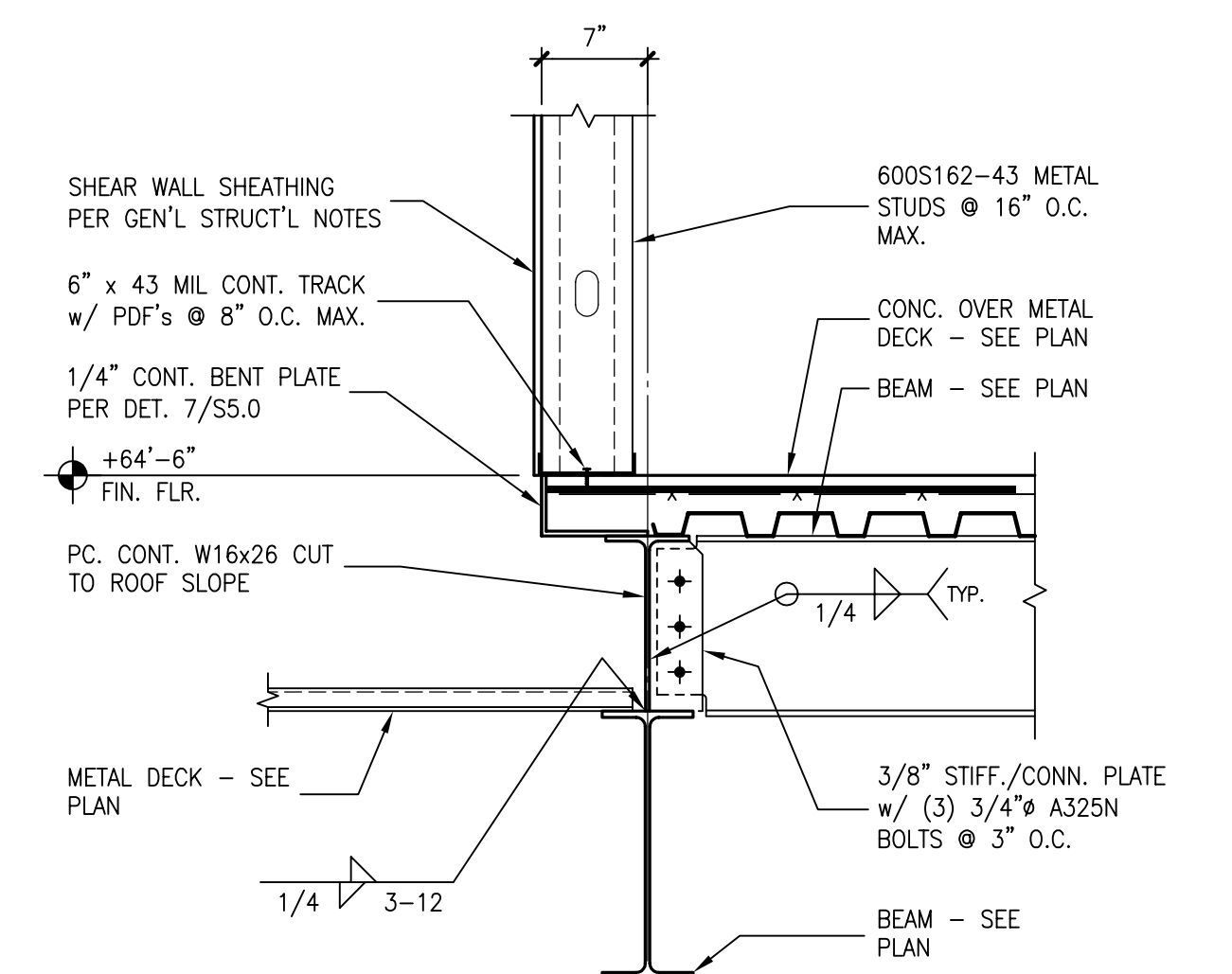
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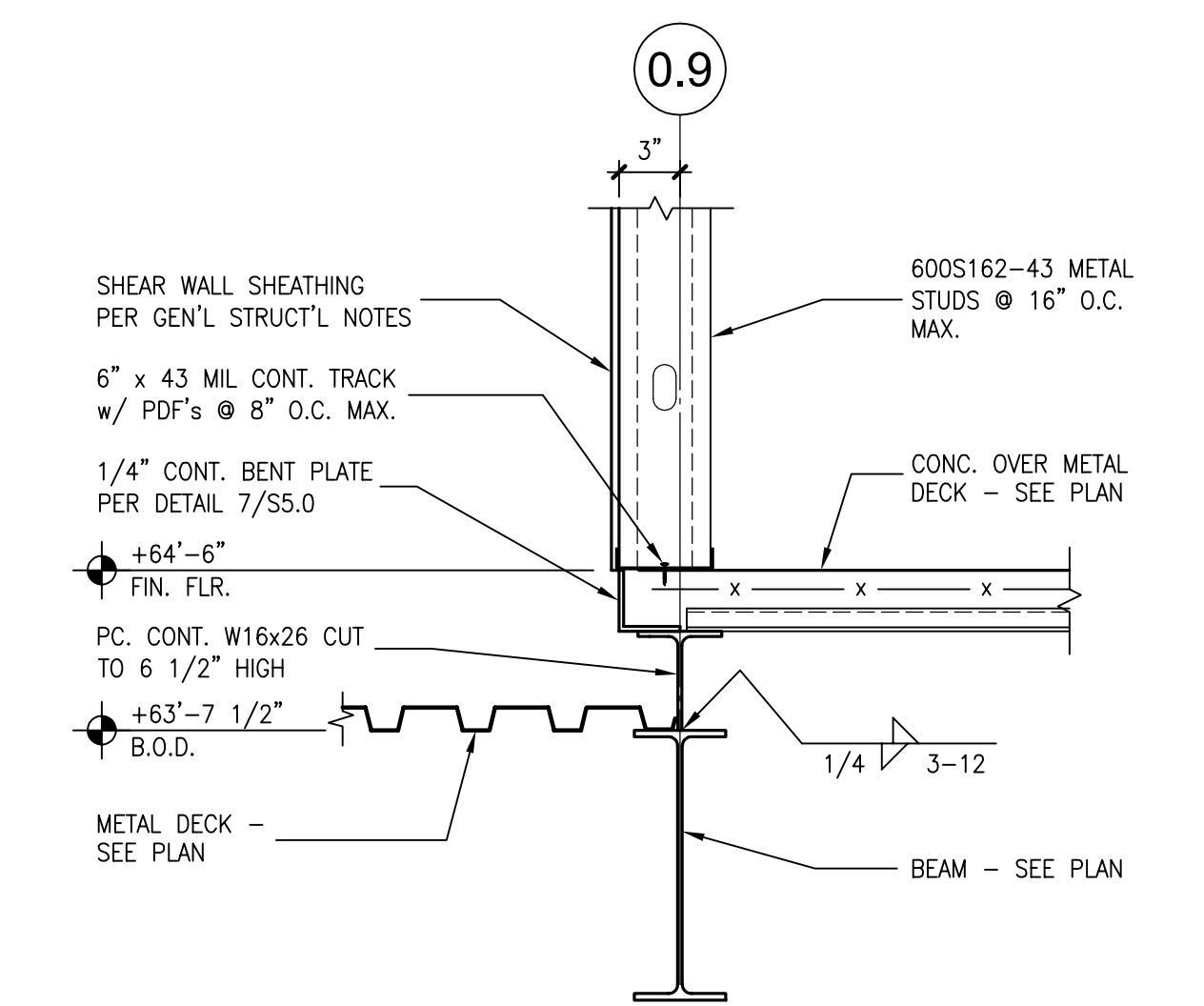
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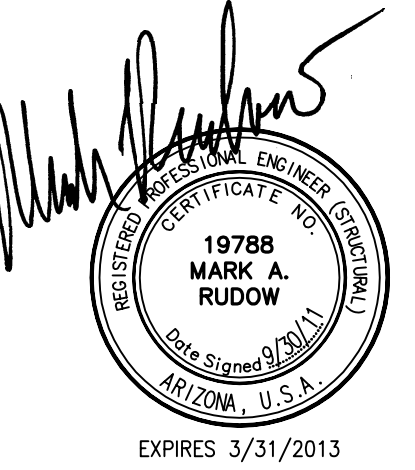
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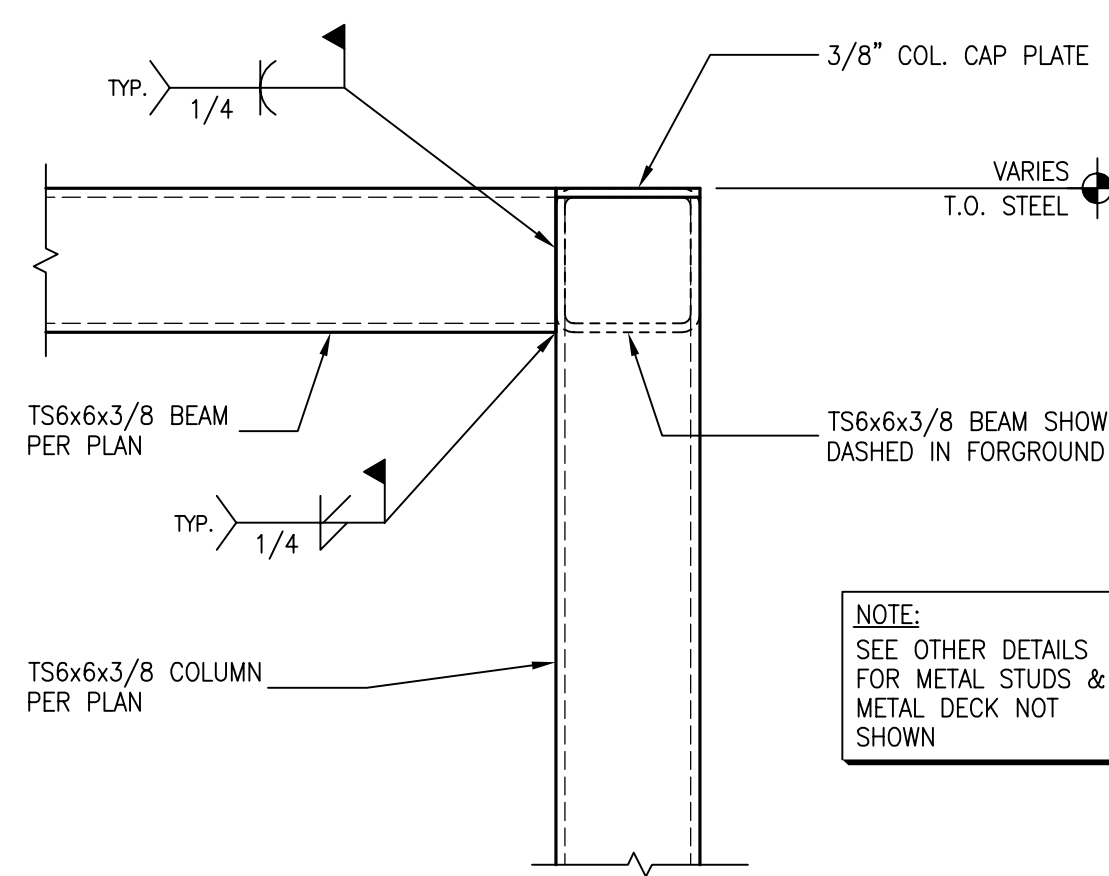
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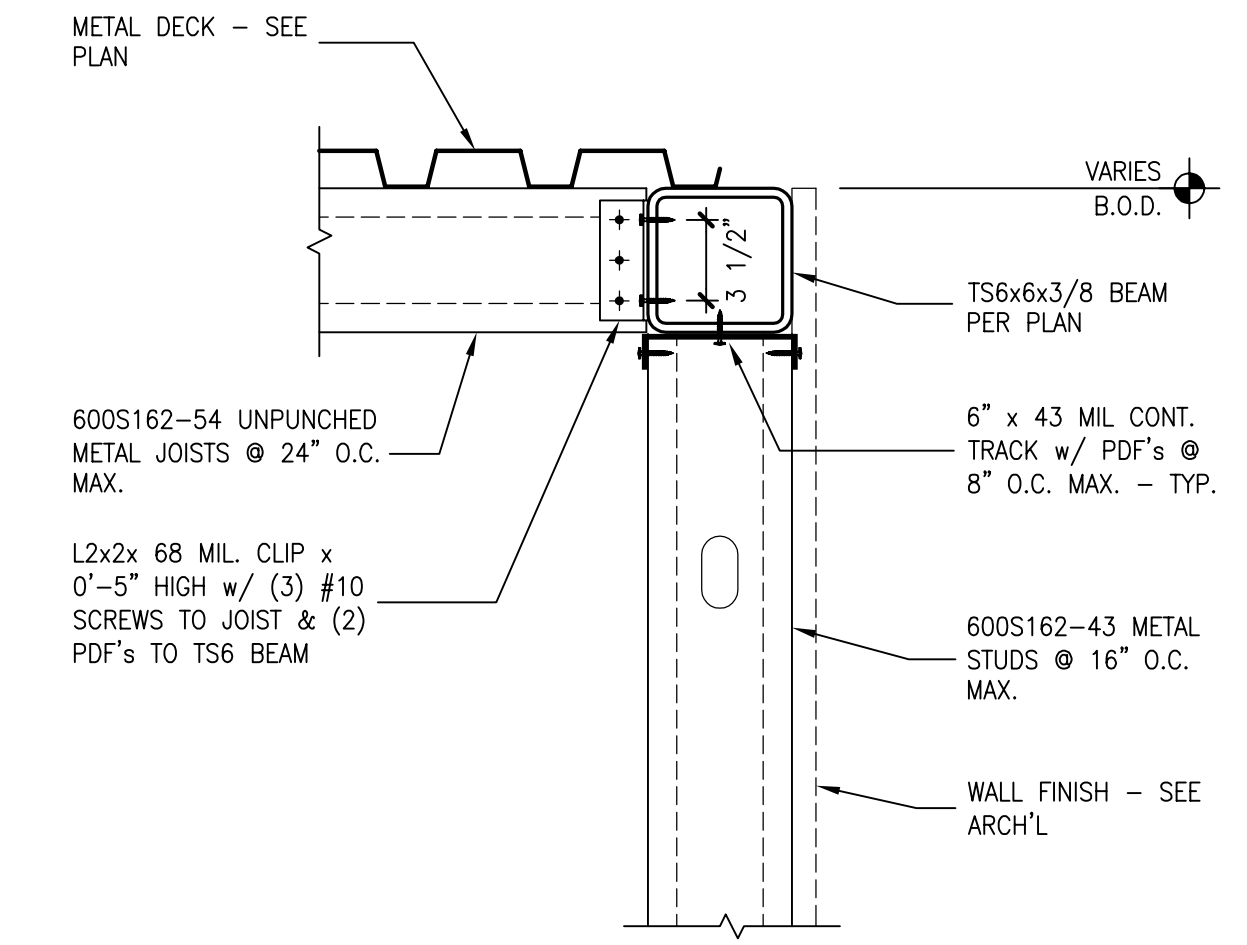
ROOF FRAMING
DETAILS

S6.2

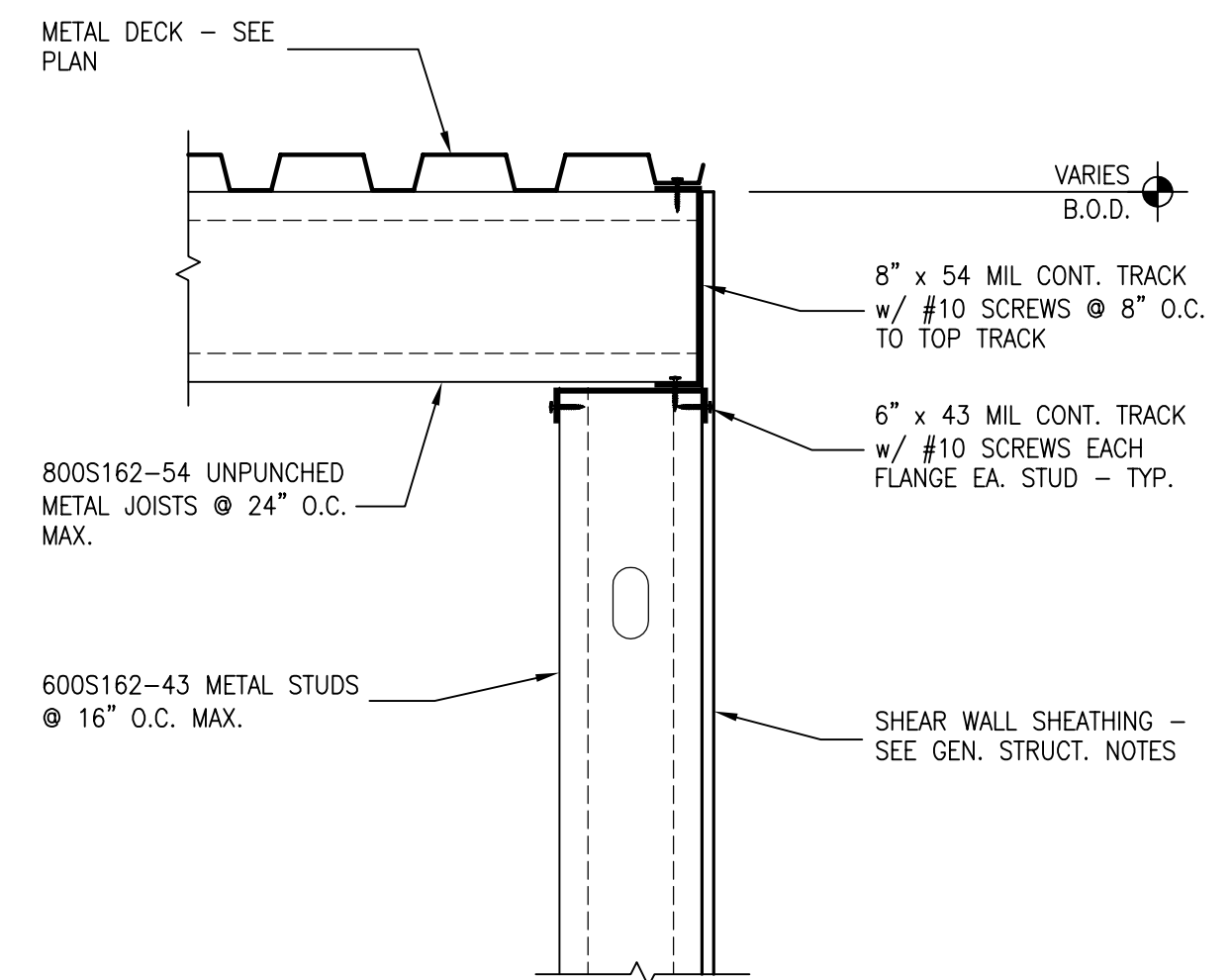
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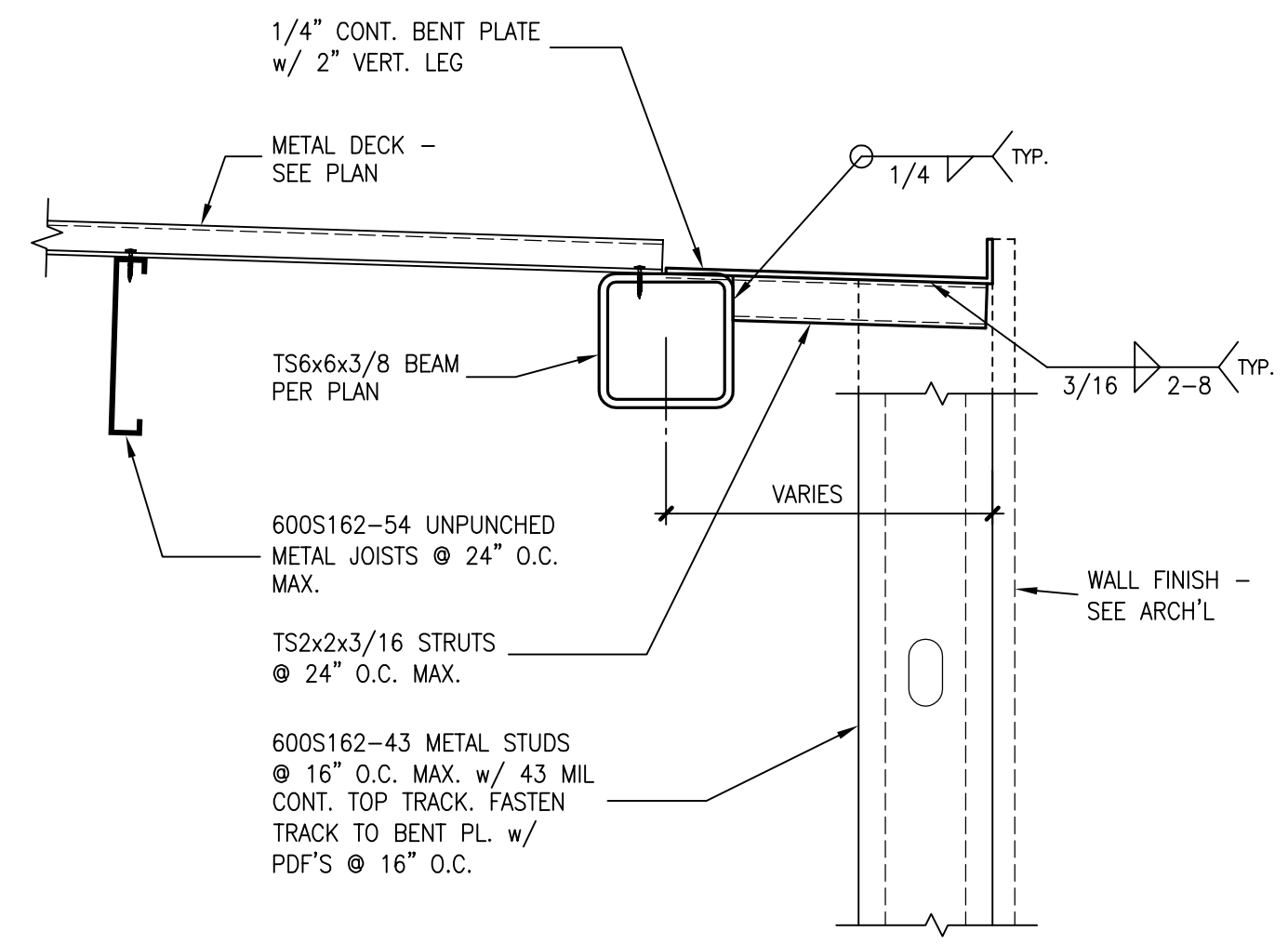
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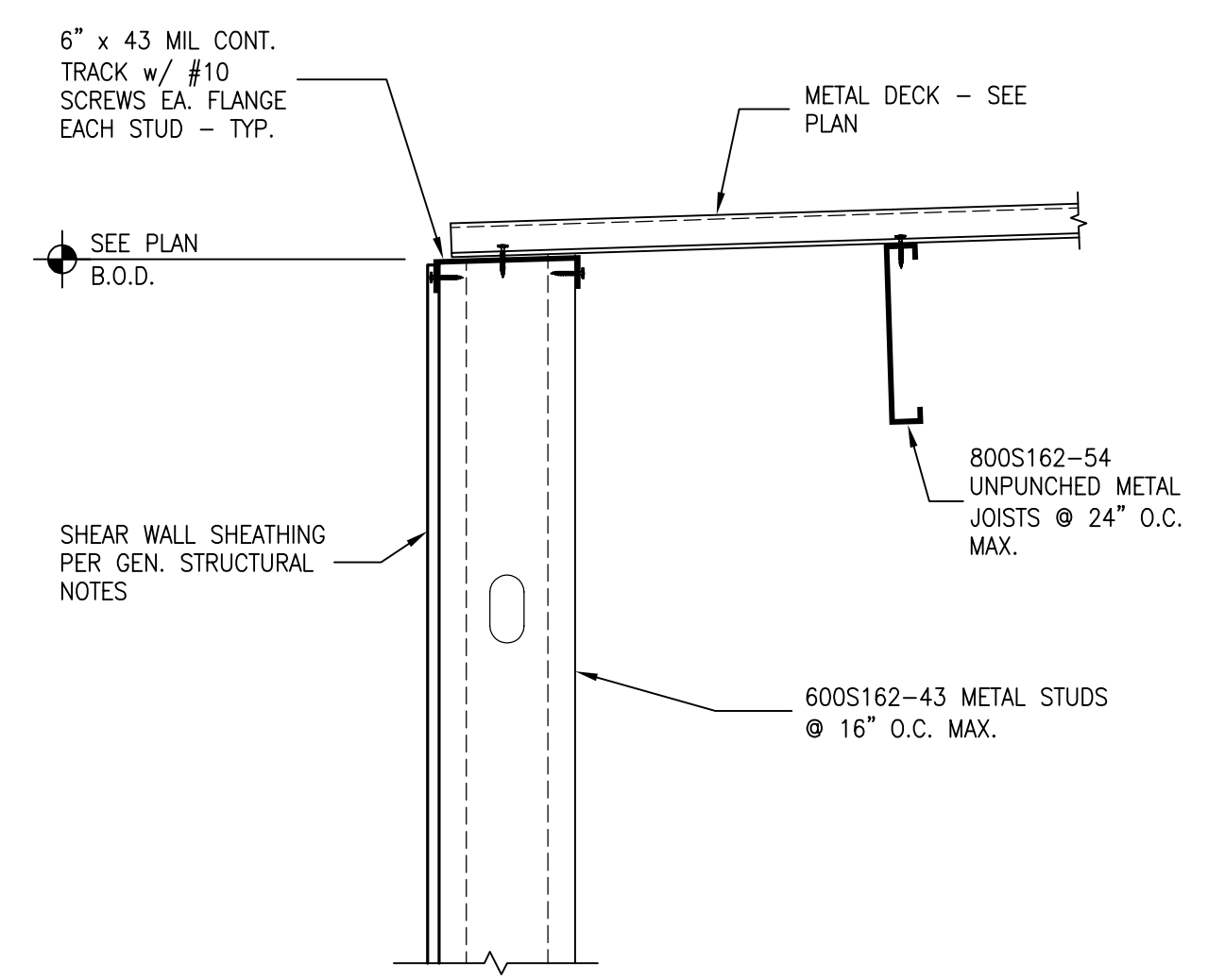
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4



2



5

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ROOF FRAMING
 DETAILS

S6.3

SCALE VARIES

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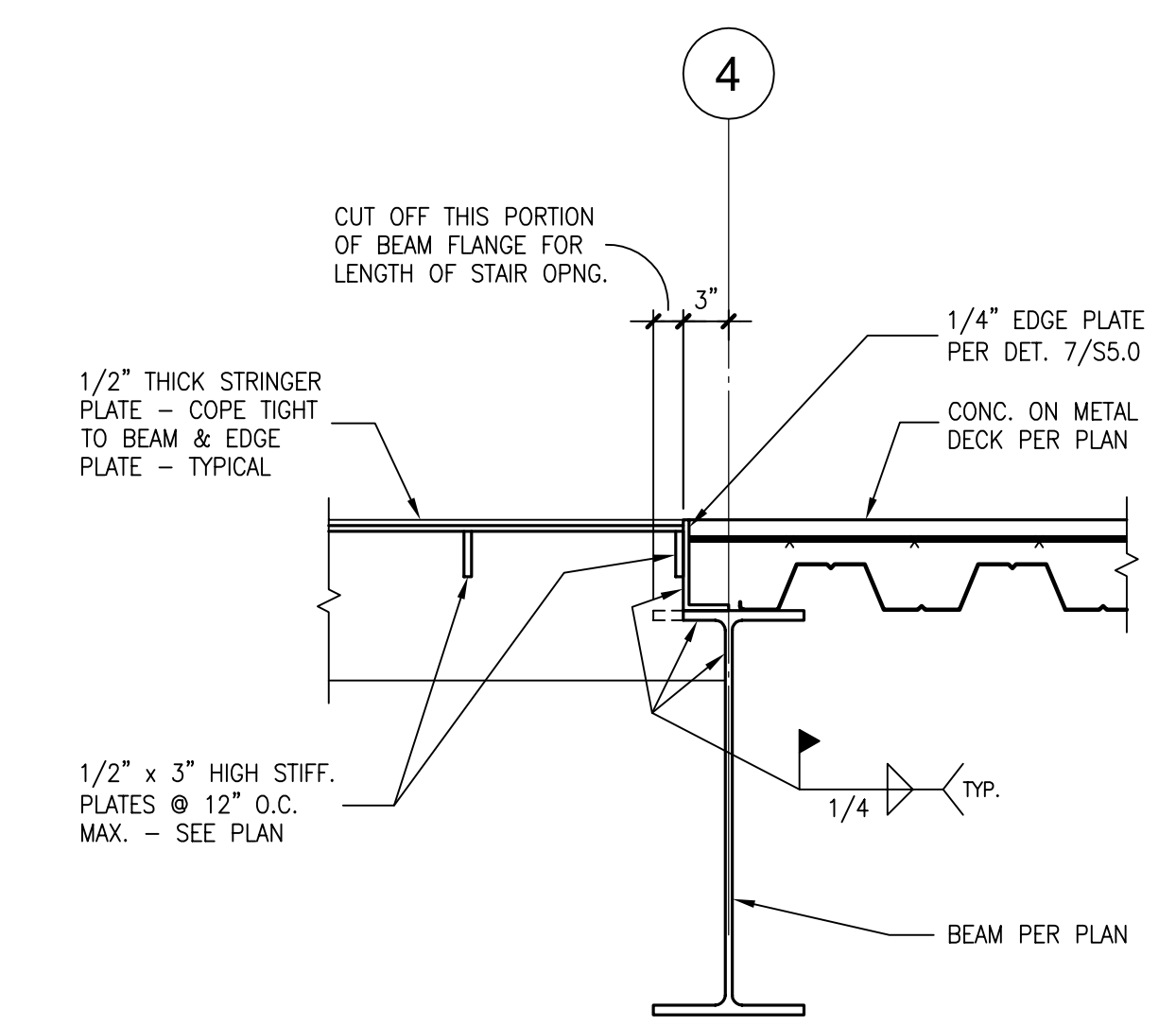


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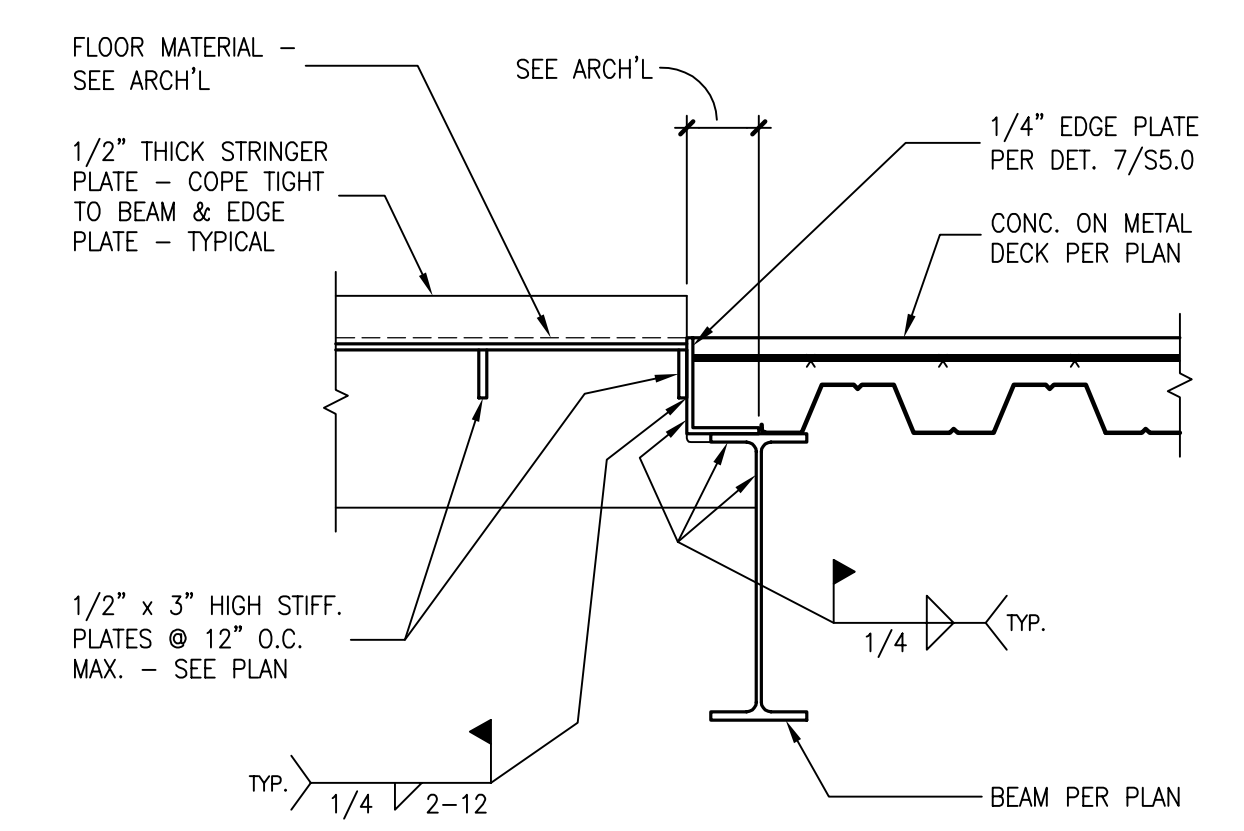
AUGUST 25, 2011
Construction Documents
r+b job #: 0209

U.A. #: 08-8826

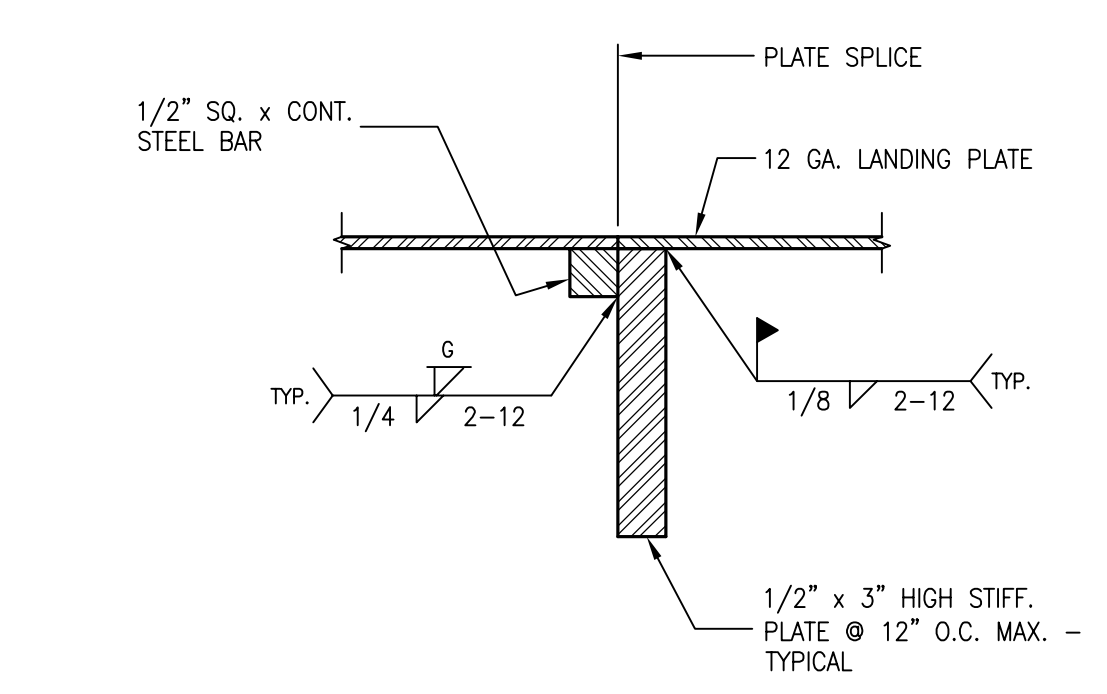
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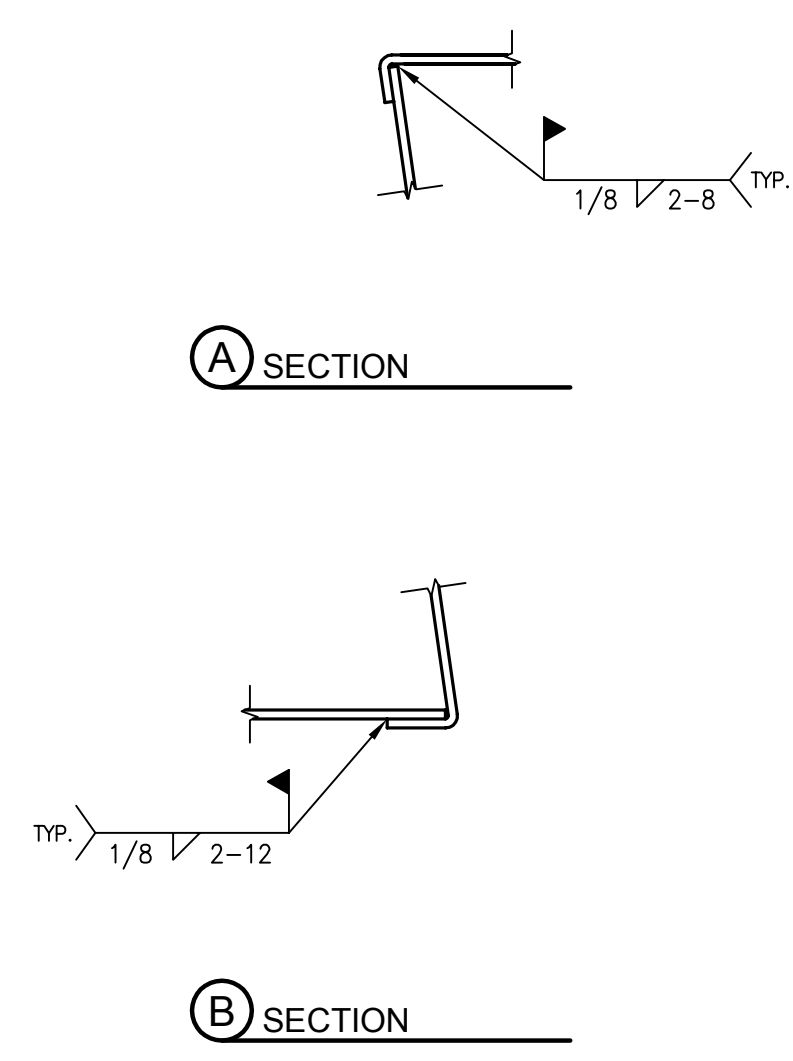
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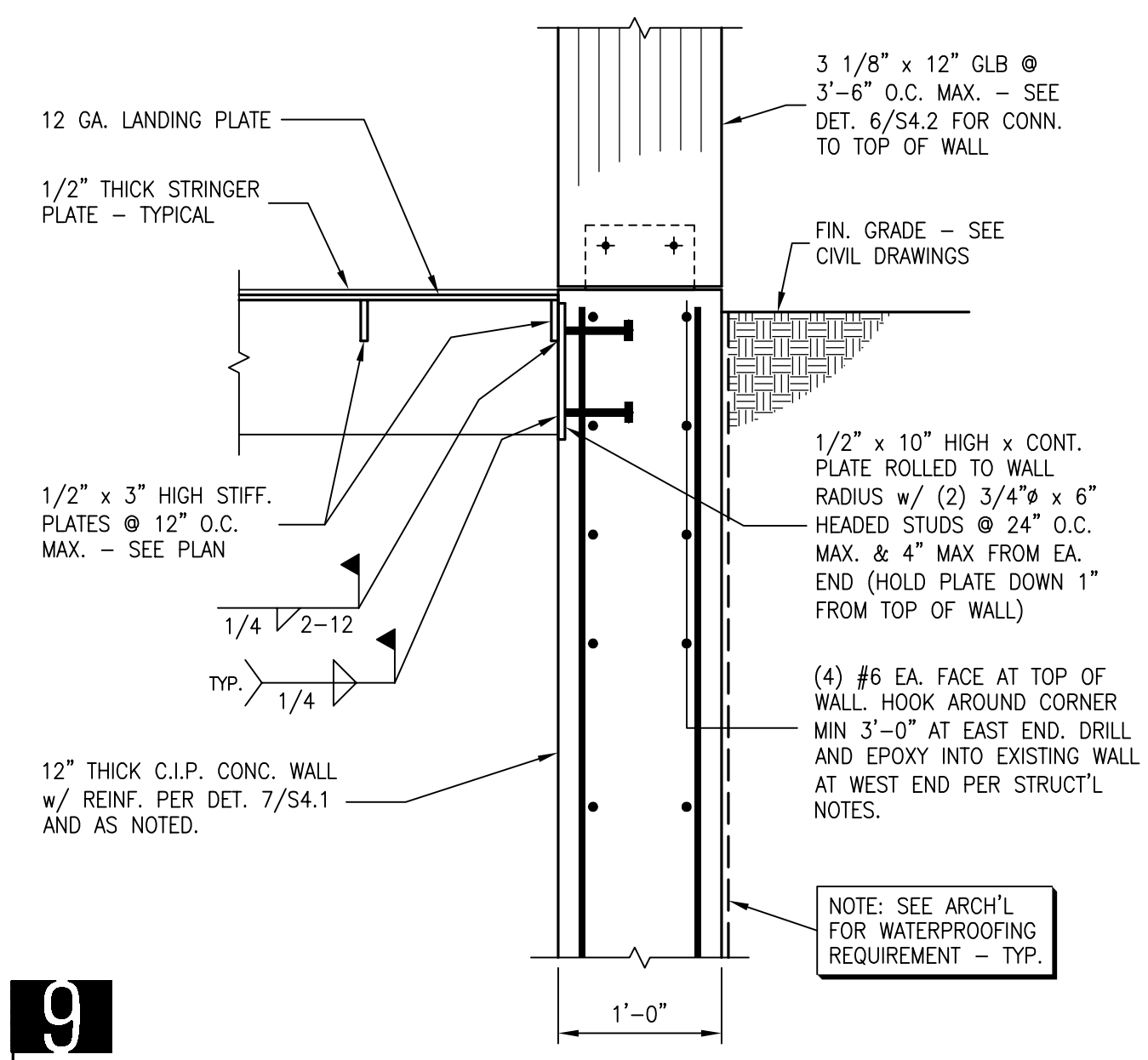
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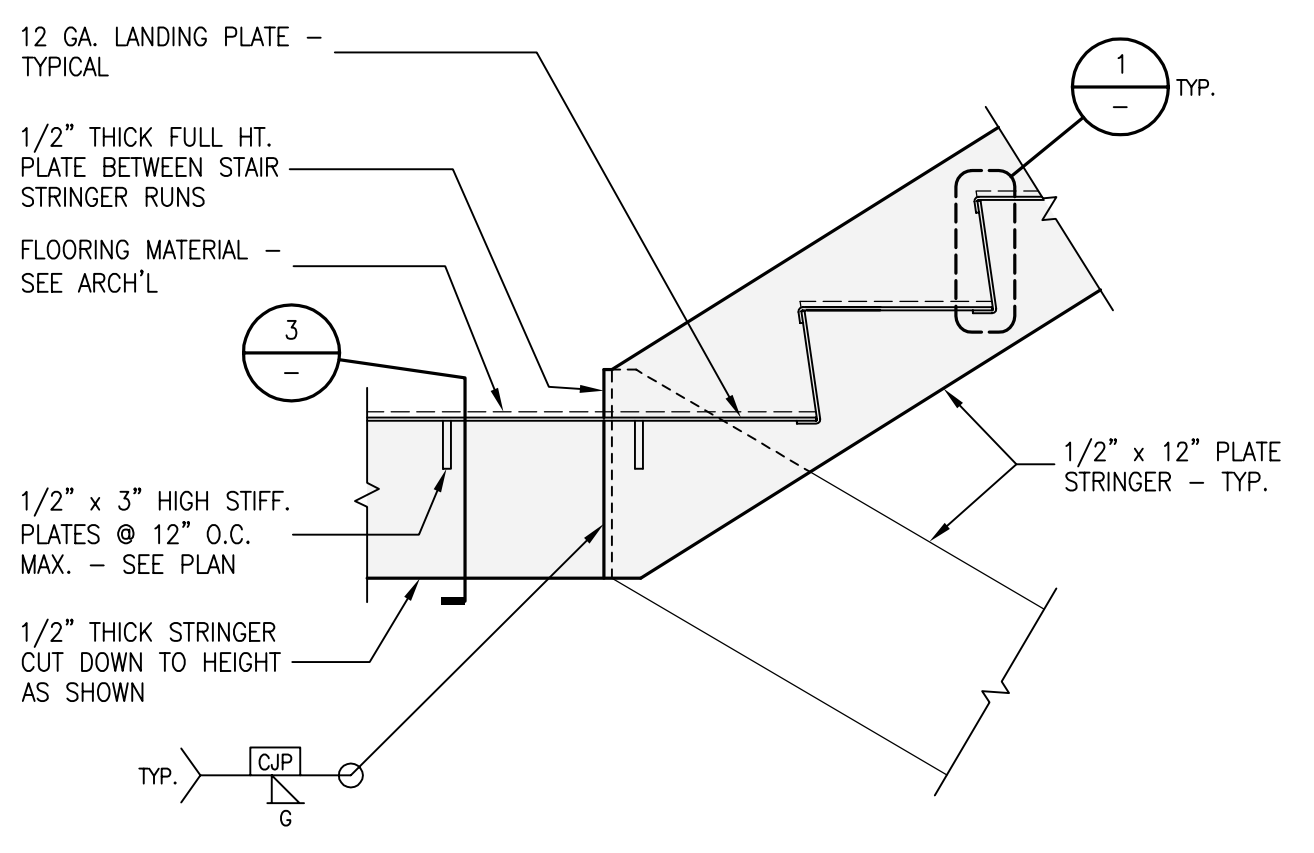
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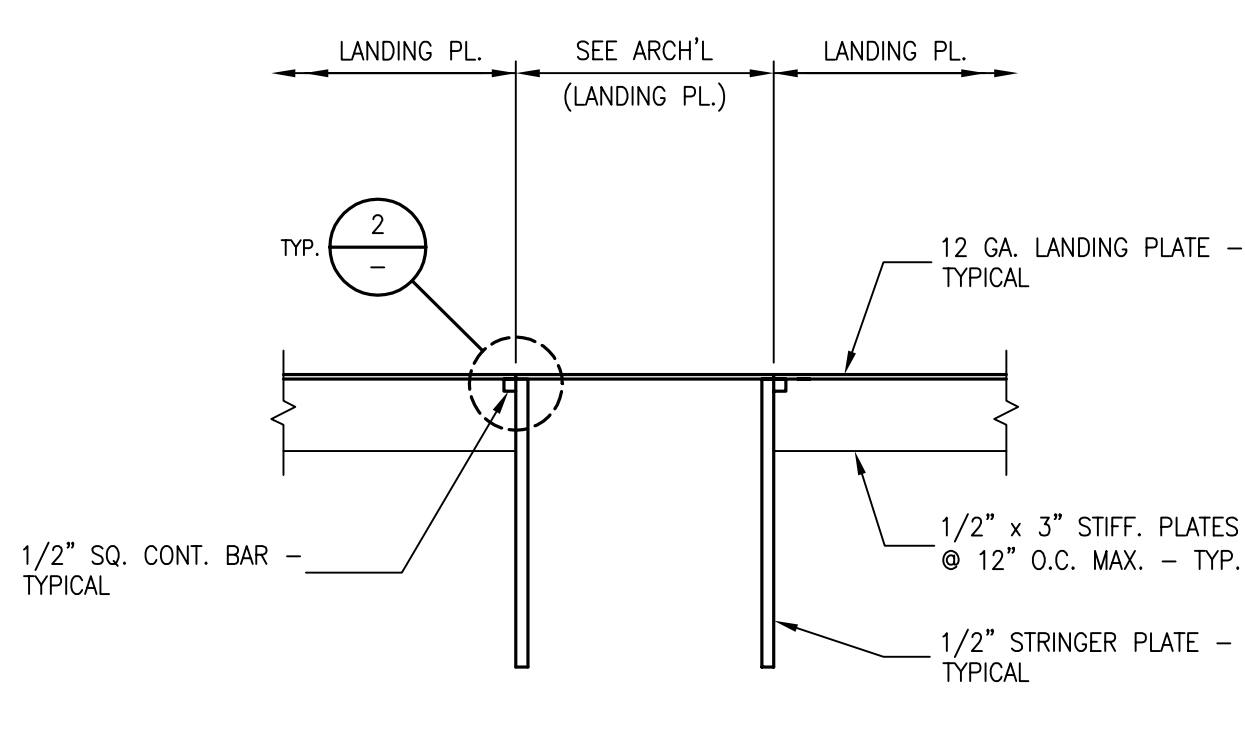
A SECTION
B SECTION



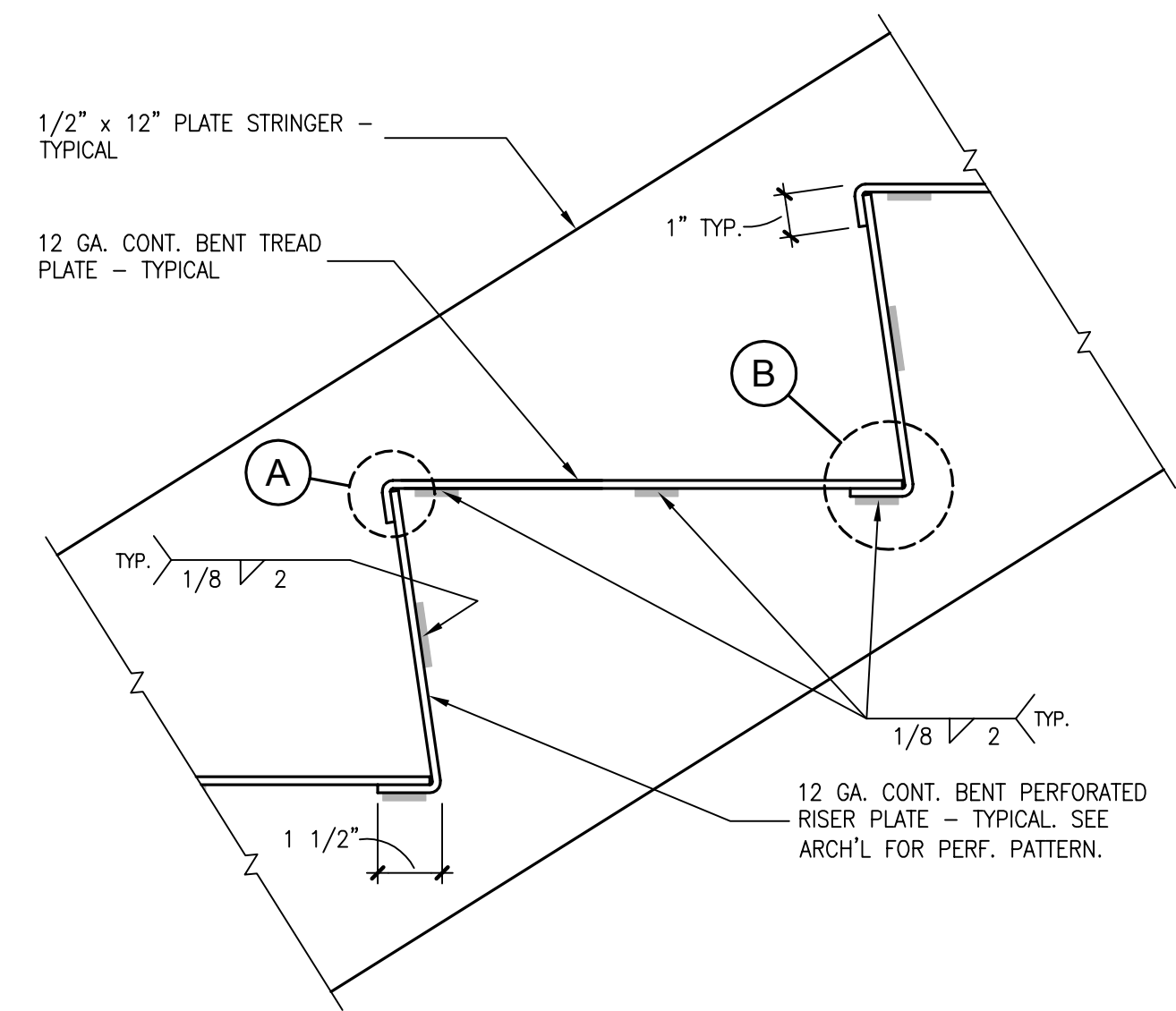
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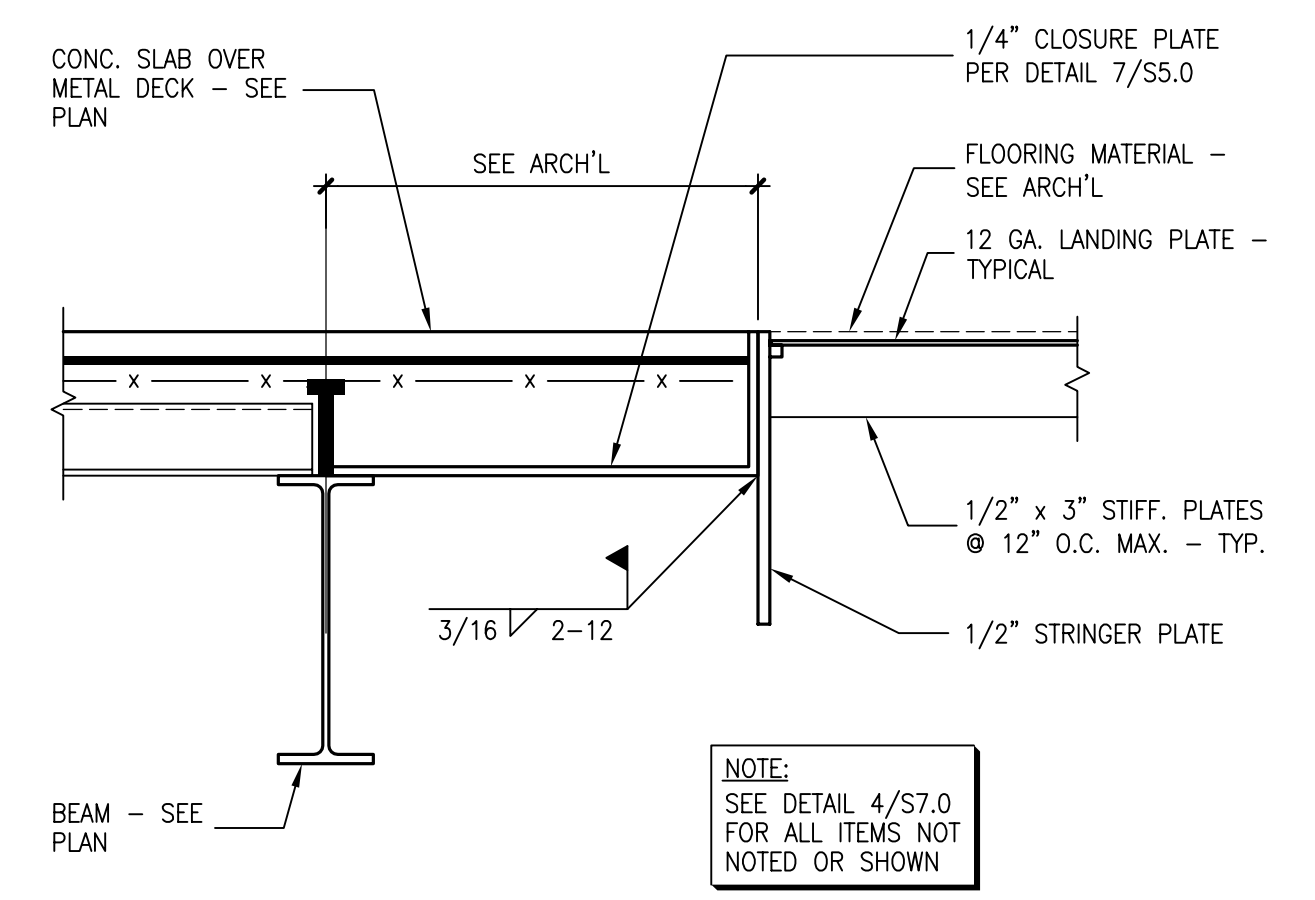
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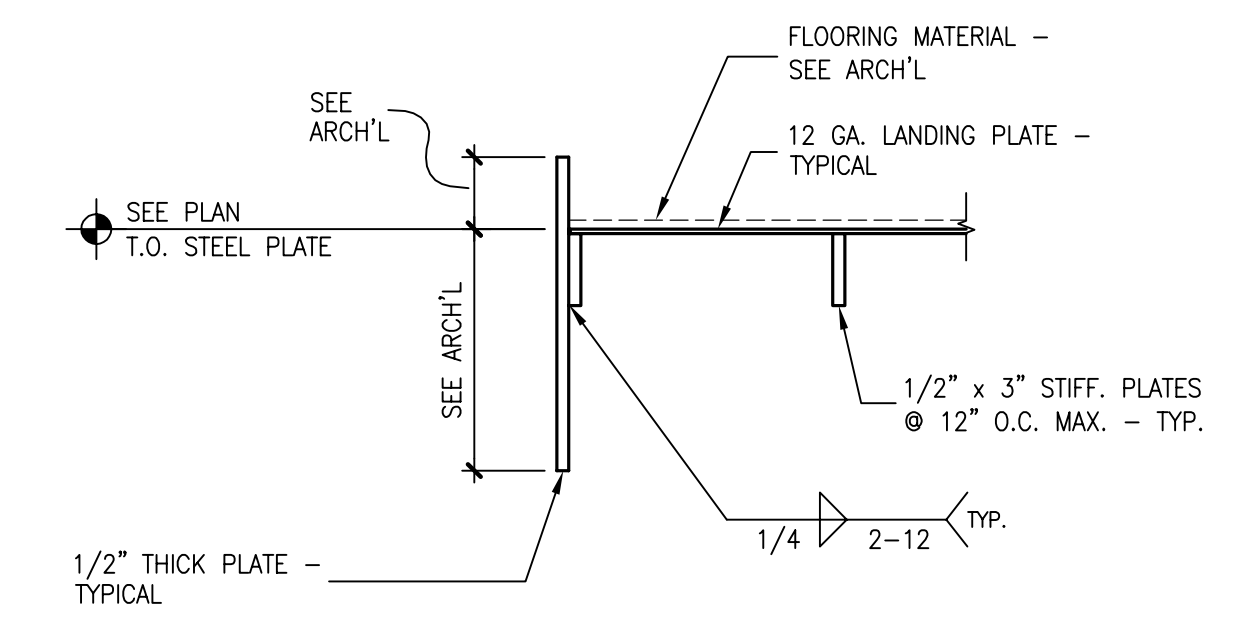
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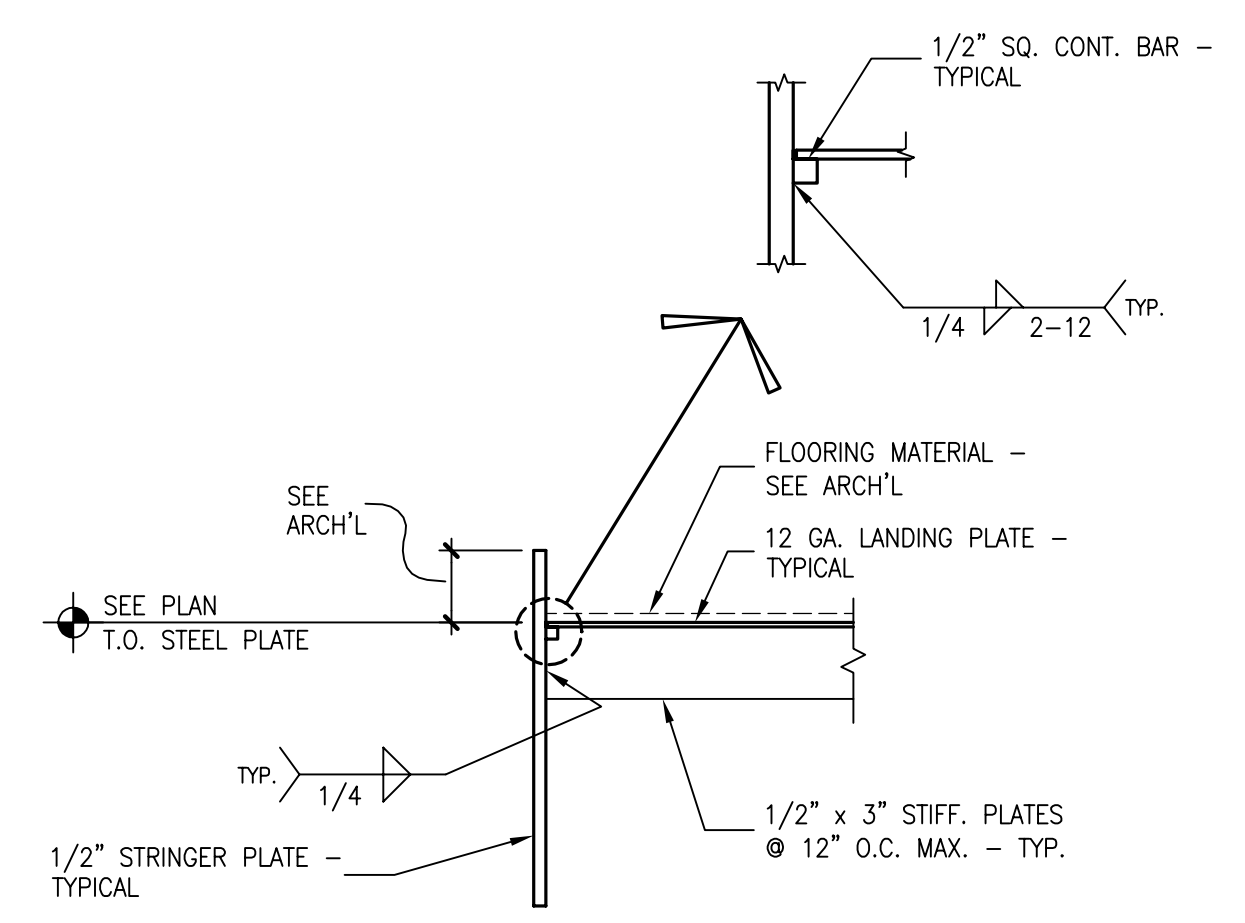
1 TYPICAL BENT STAIR RISER/TREAD PLATE



10



7



4

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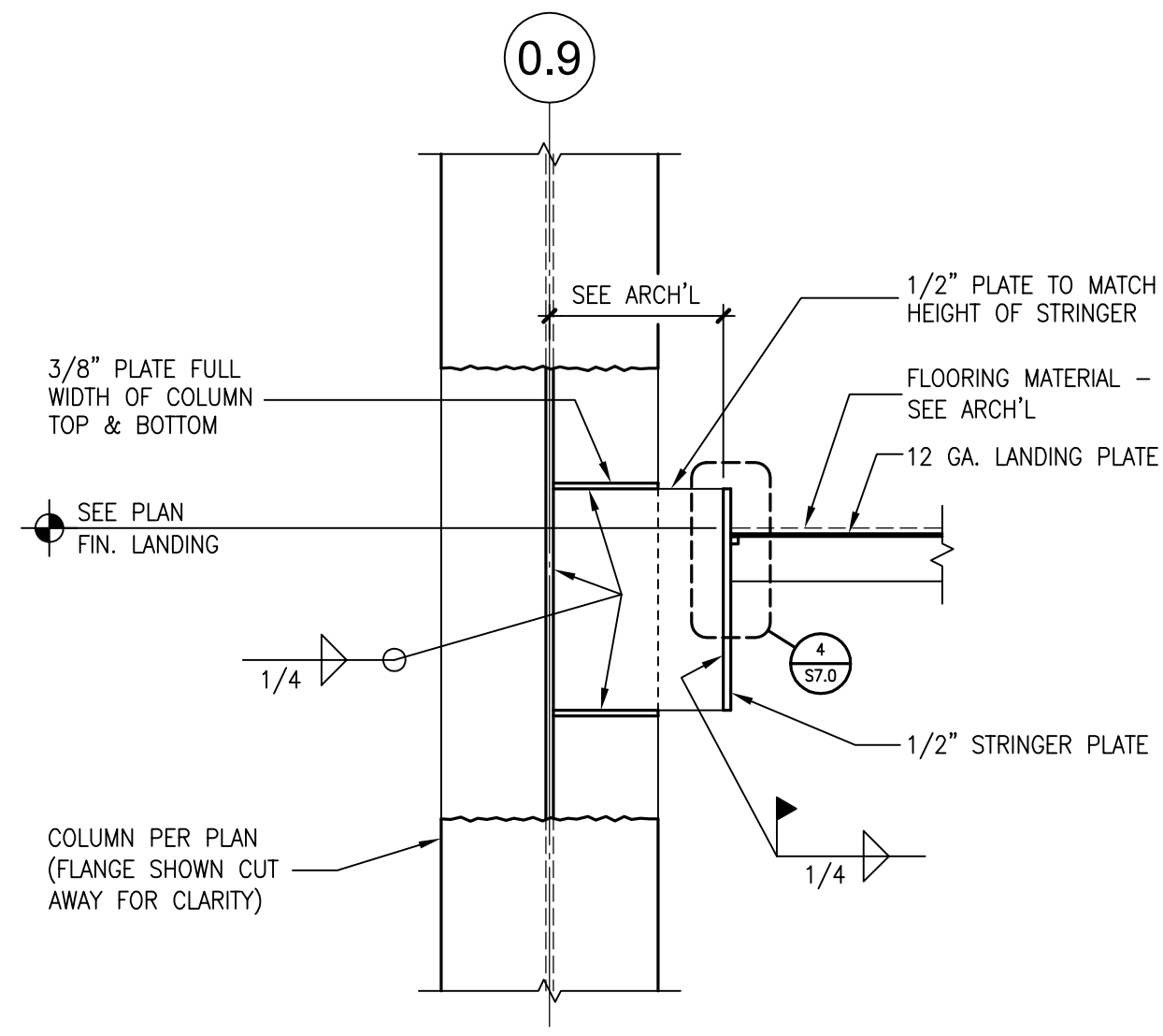
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STAIR DETAILS

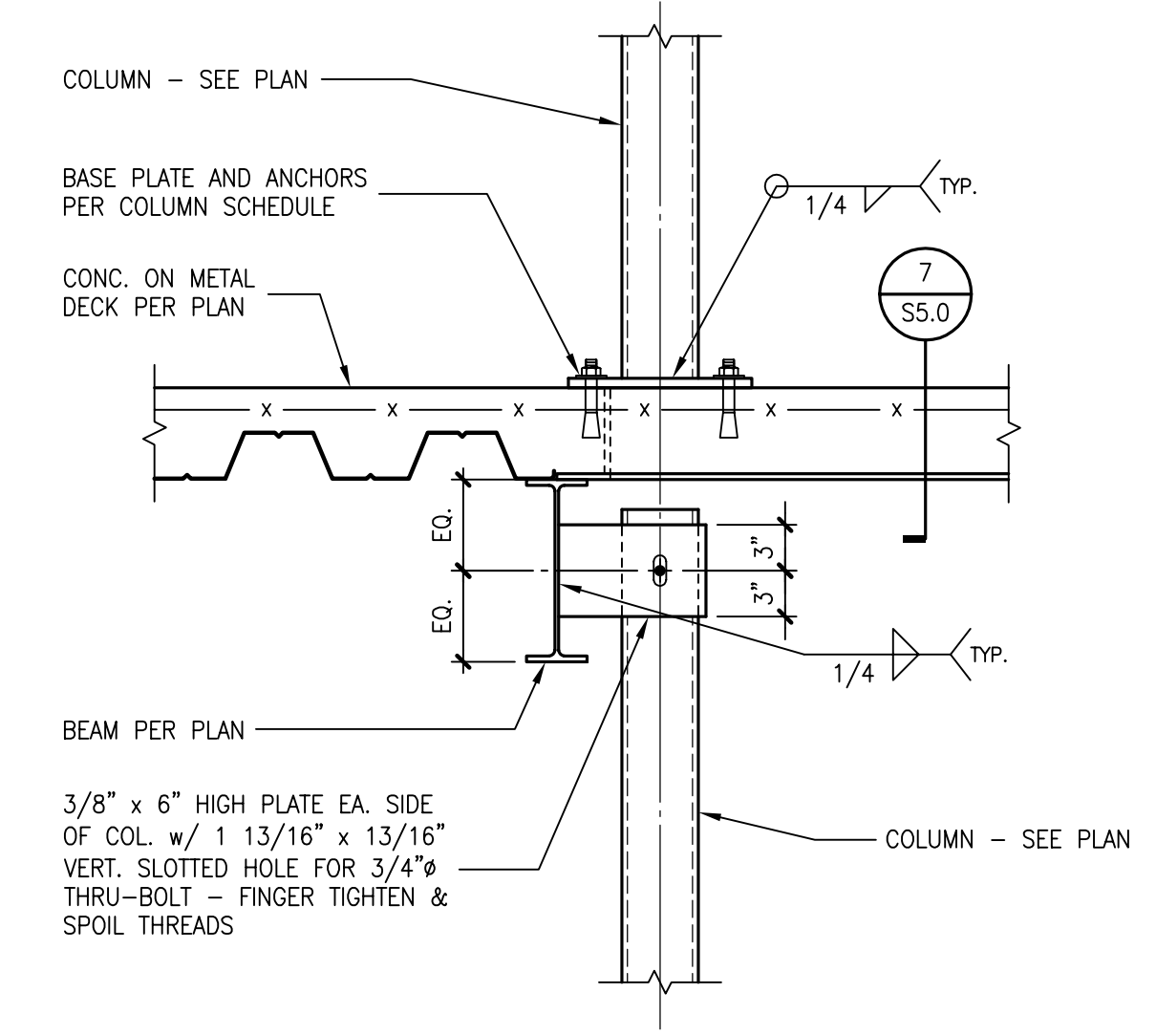
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SCALE VARIES

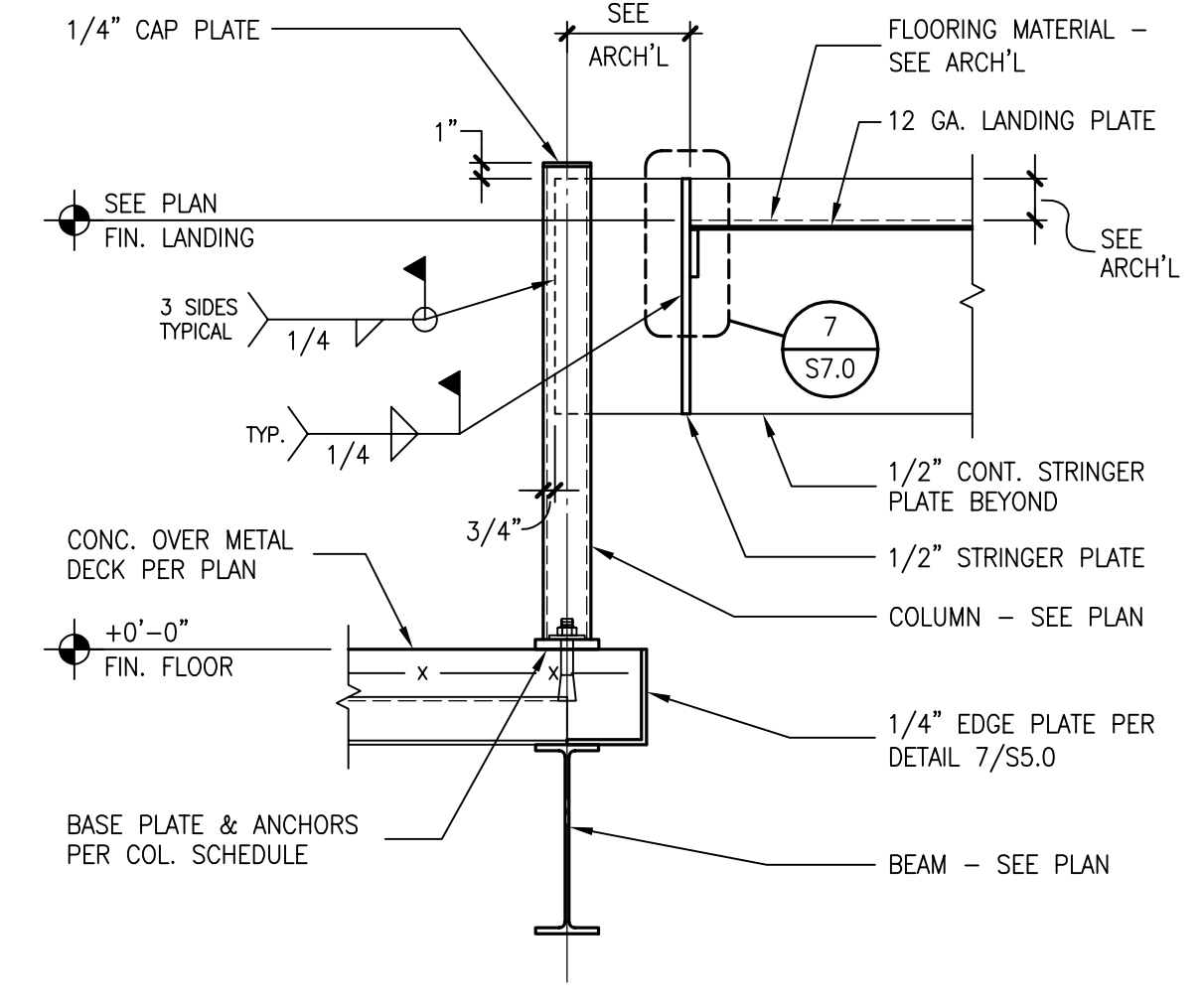
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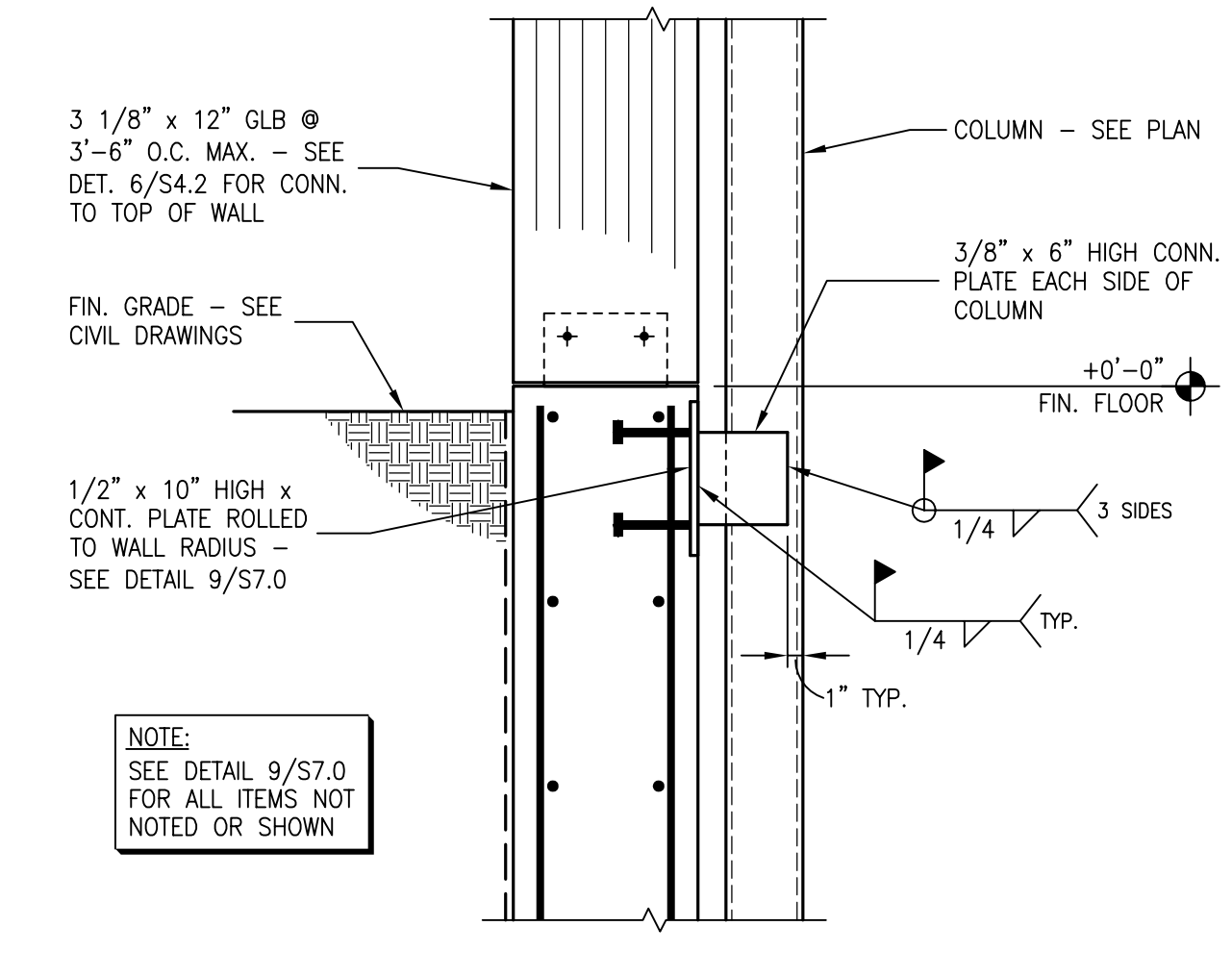
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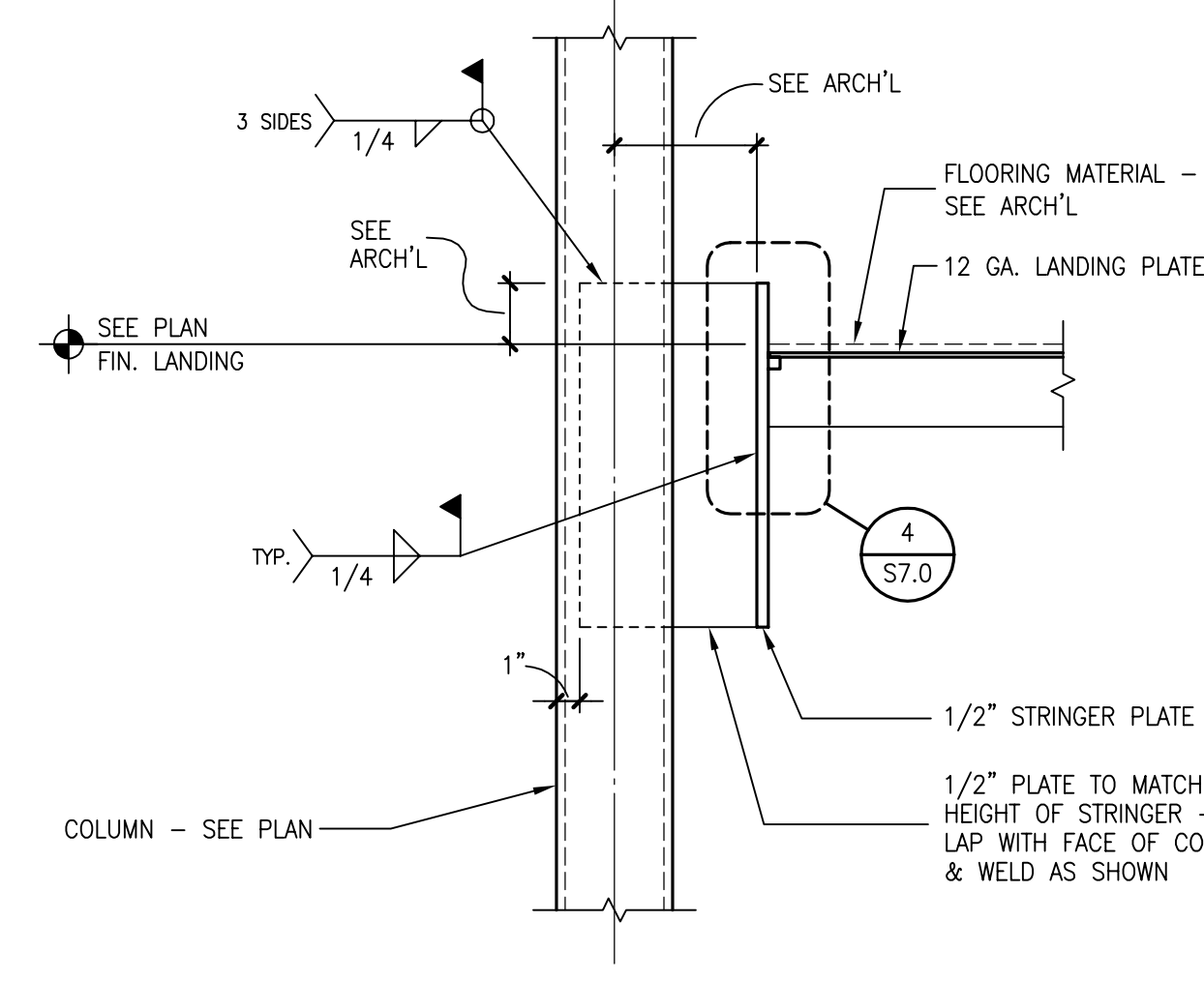
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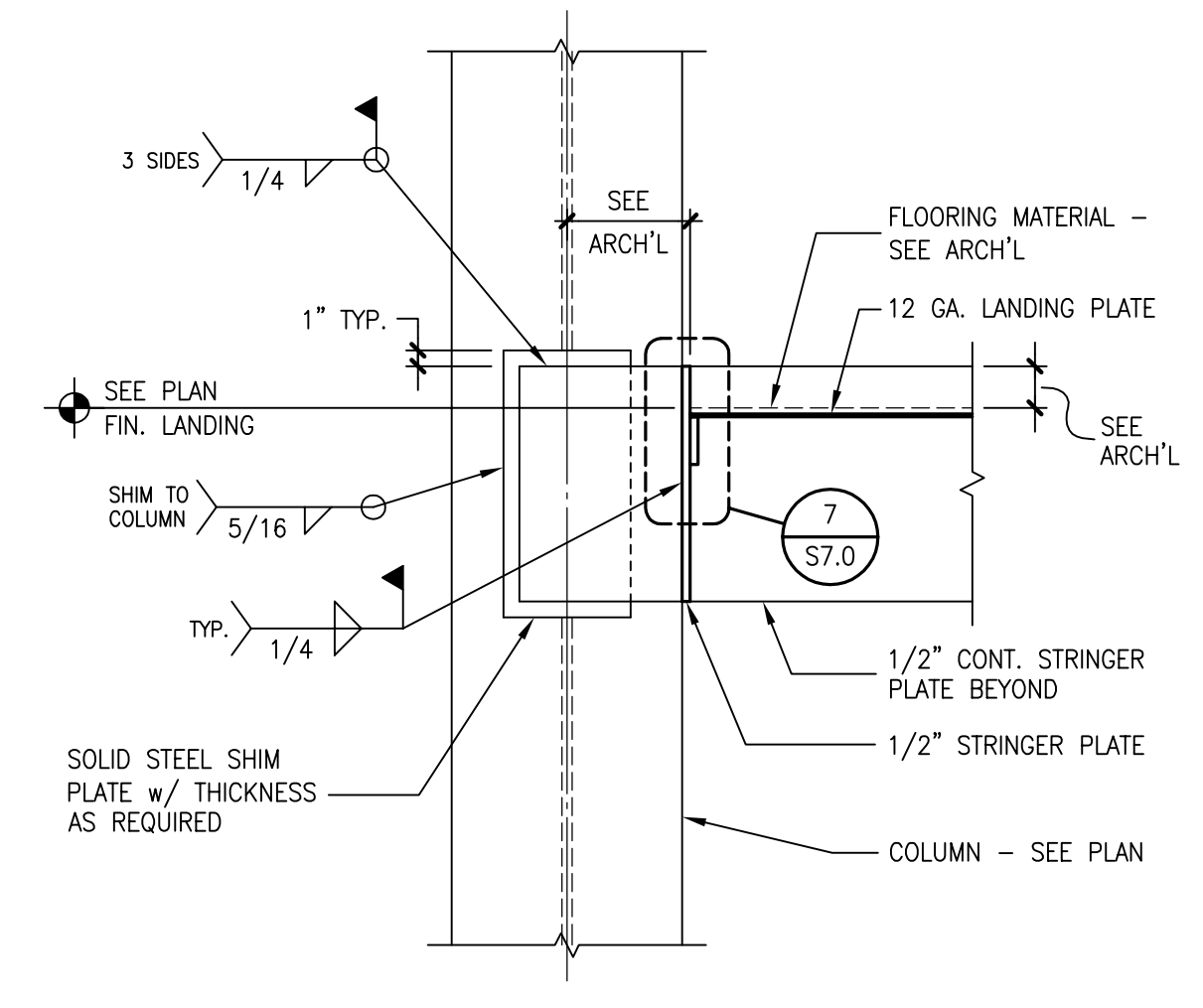


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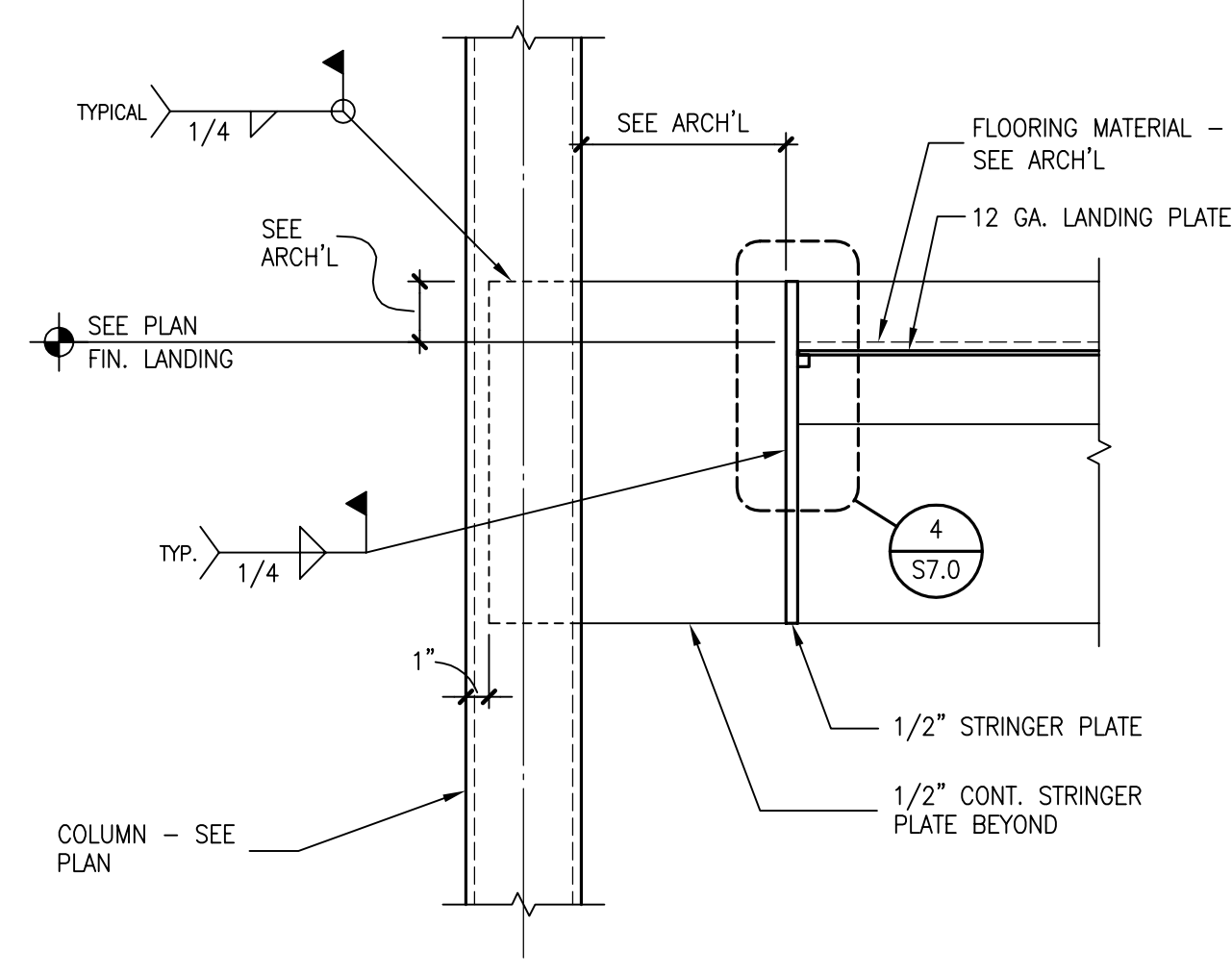


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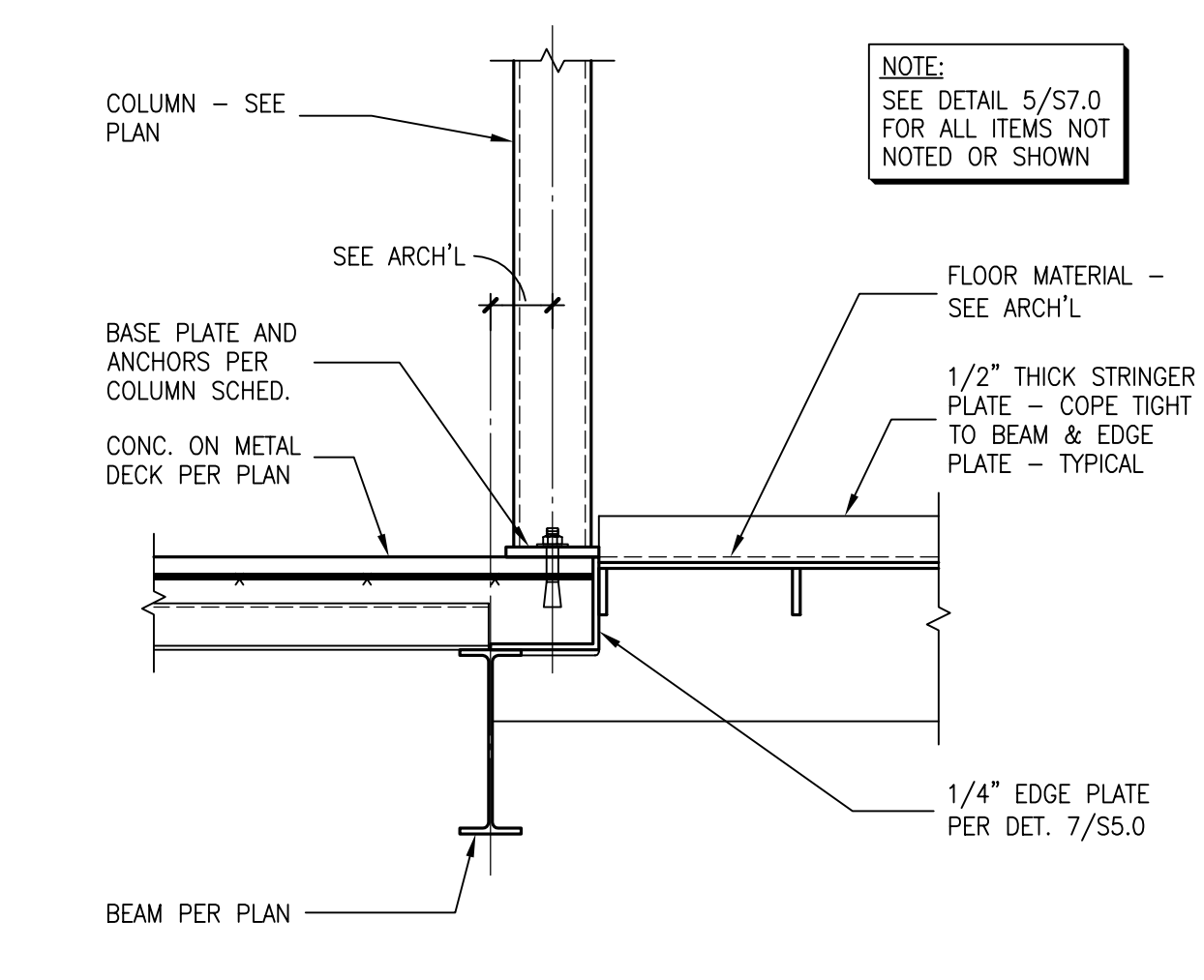
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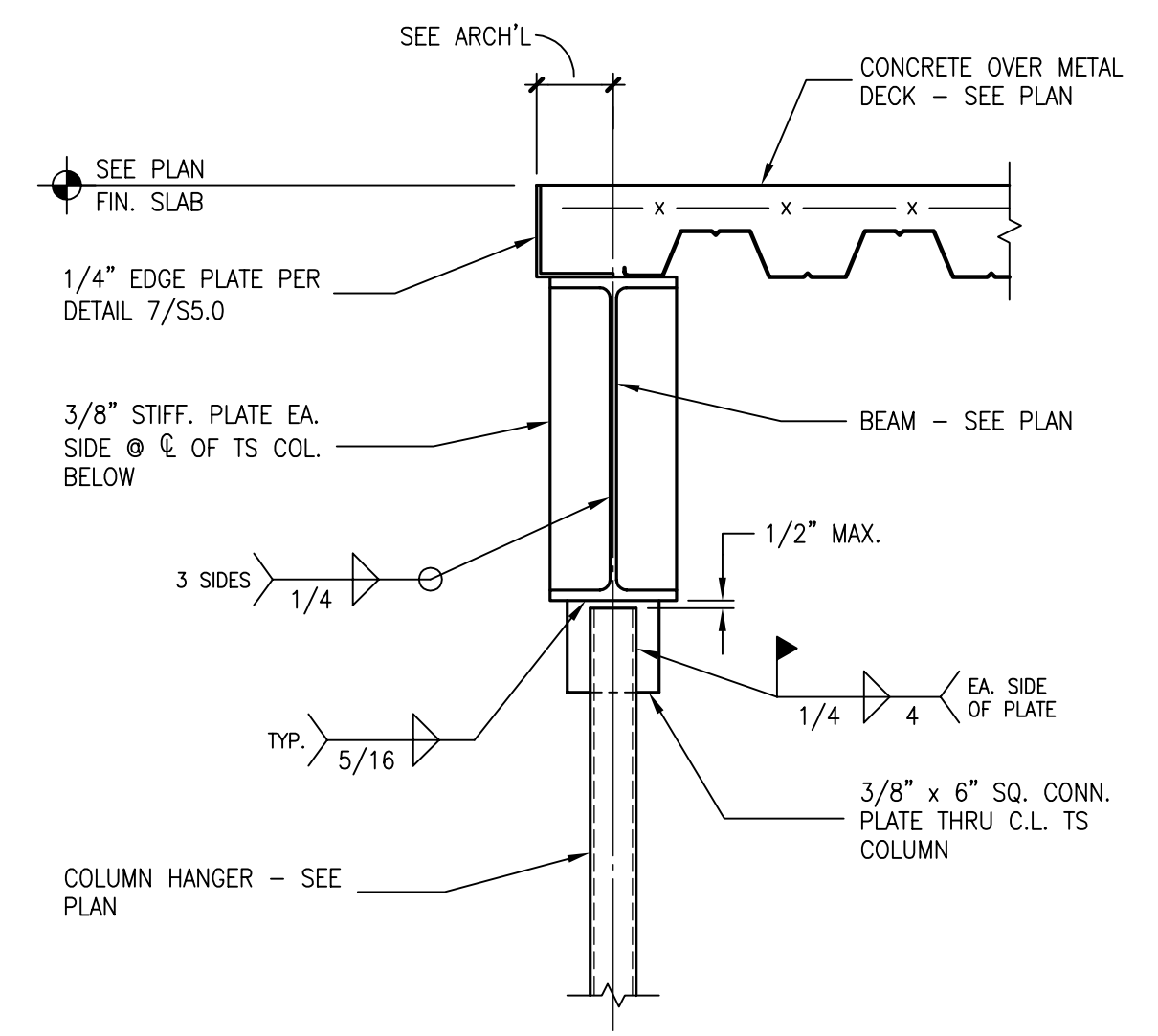
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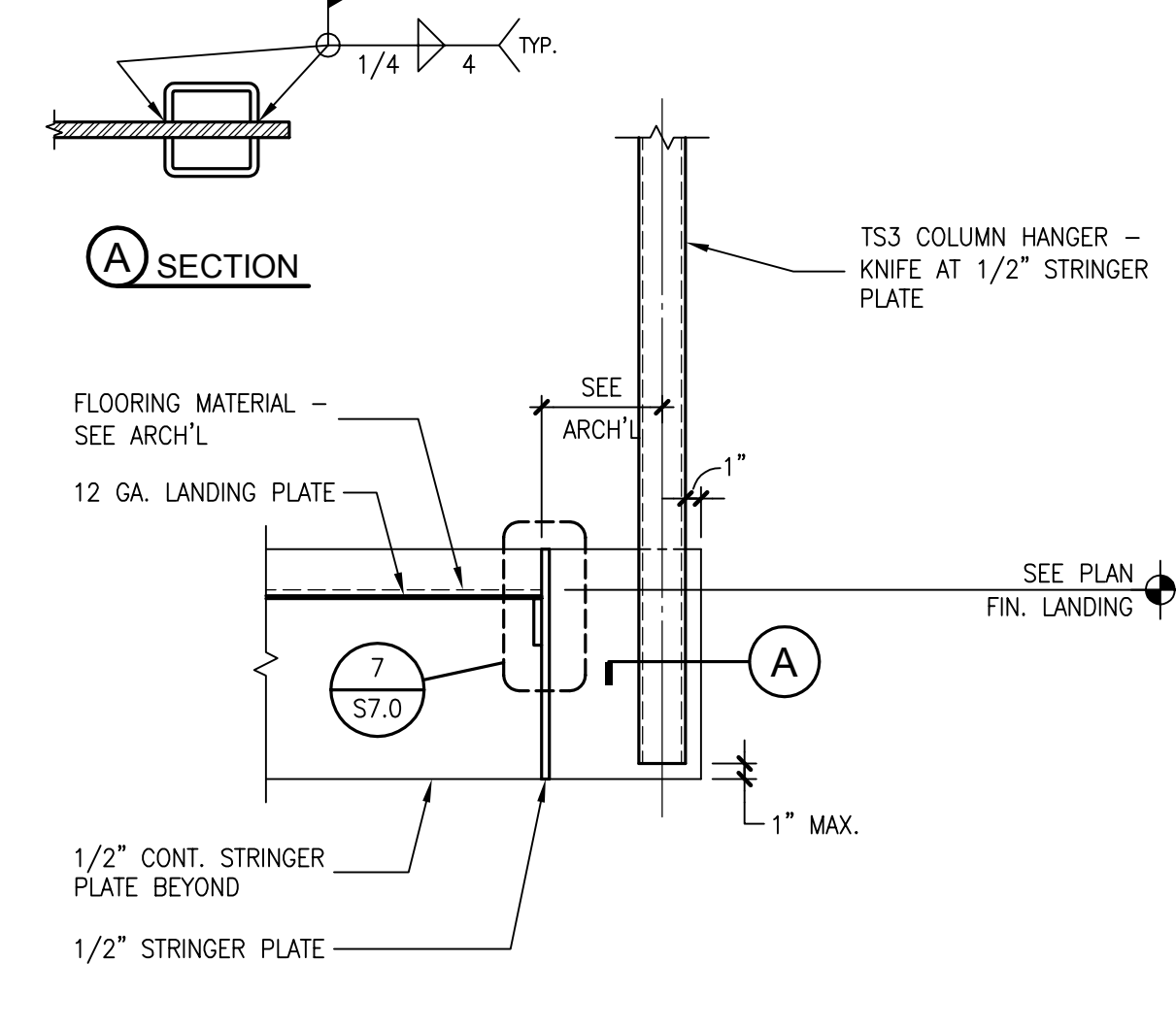
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11



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5

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Construction Documents
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LABORATORY OF TREE-RING RESEARCH
BRYANT BANNISTER TREE-RING BUILDING
The University of Arizona - Tucson, Arizona

OWNER REVIEW
08/25/11

STAIR DETAILS
S7.1
SCALE VARIES

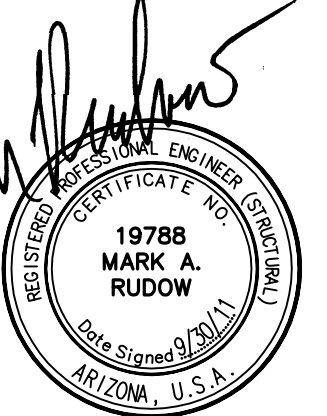
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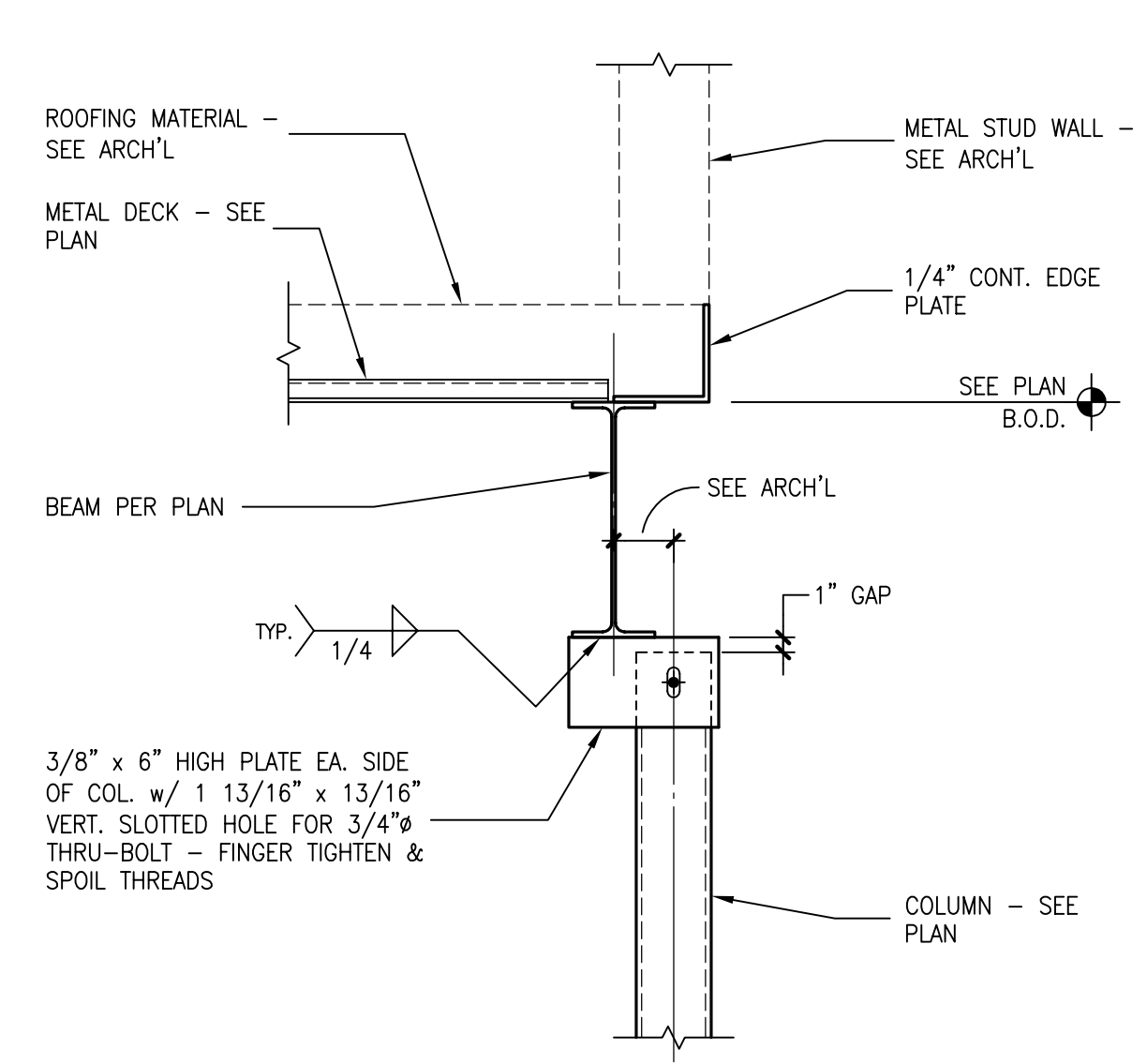
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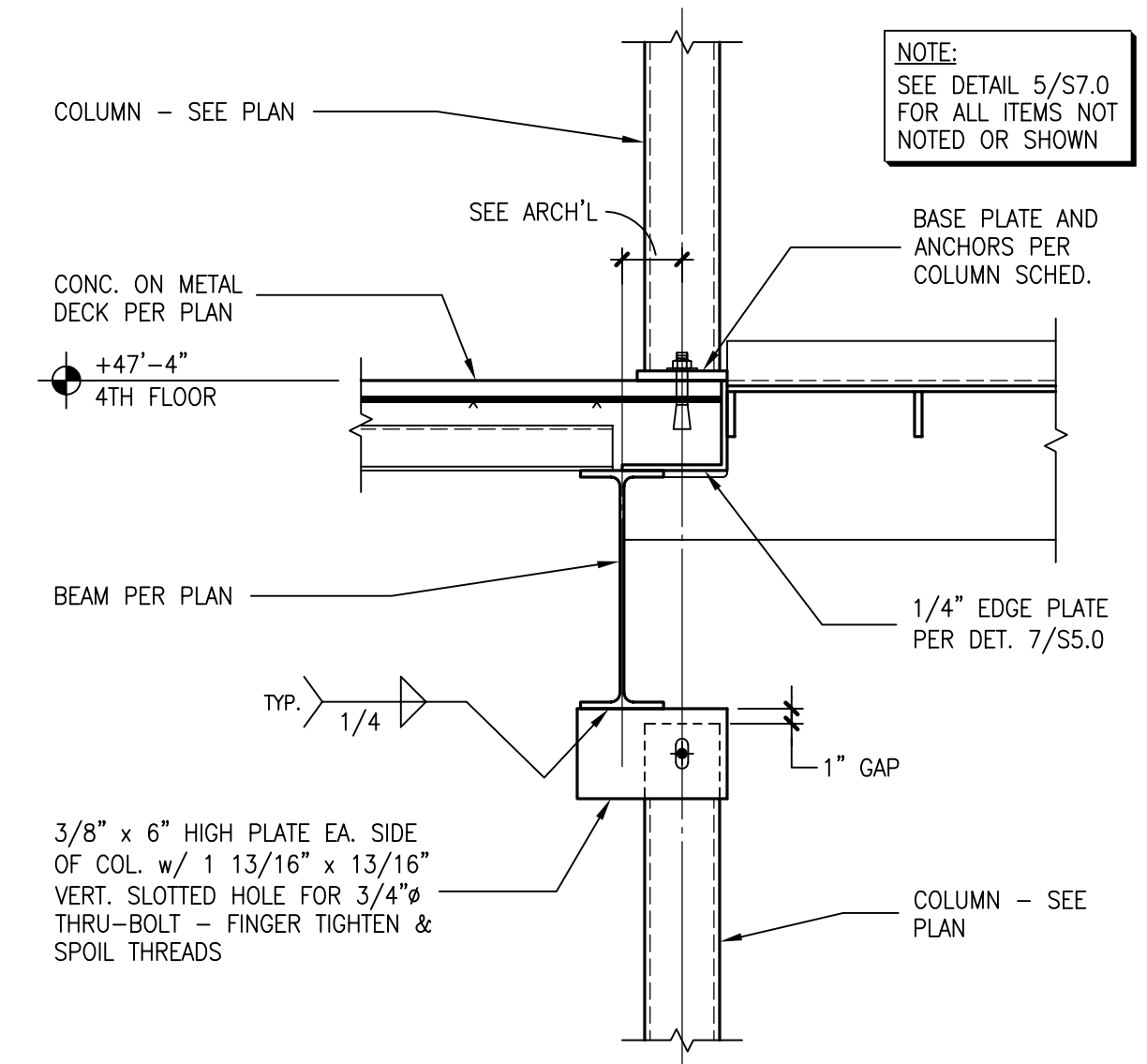
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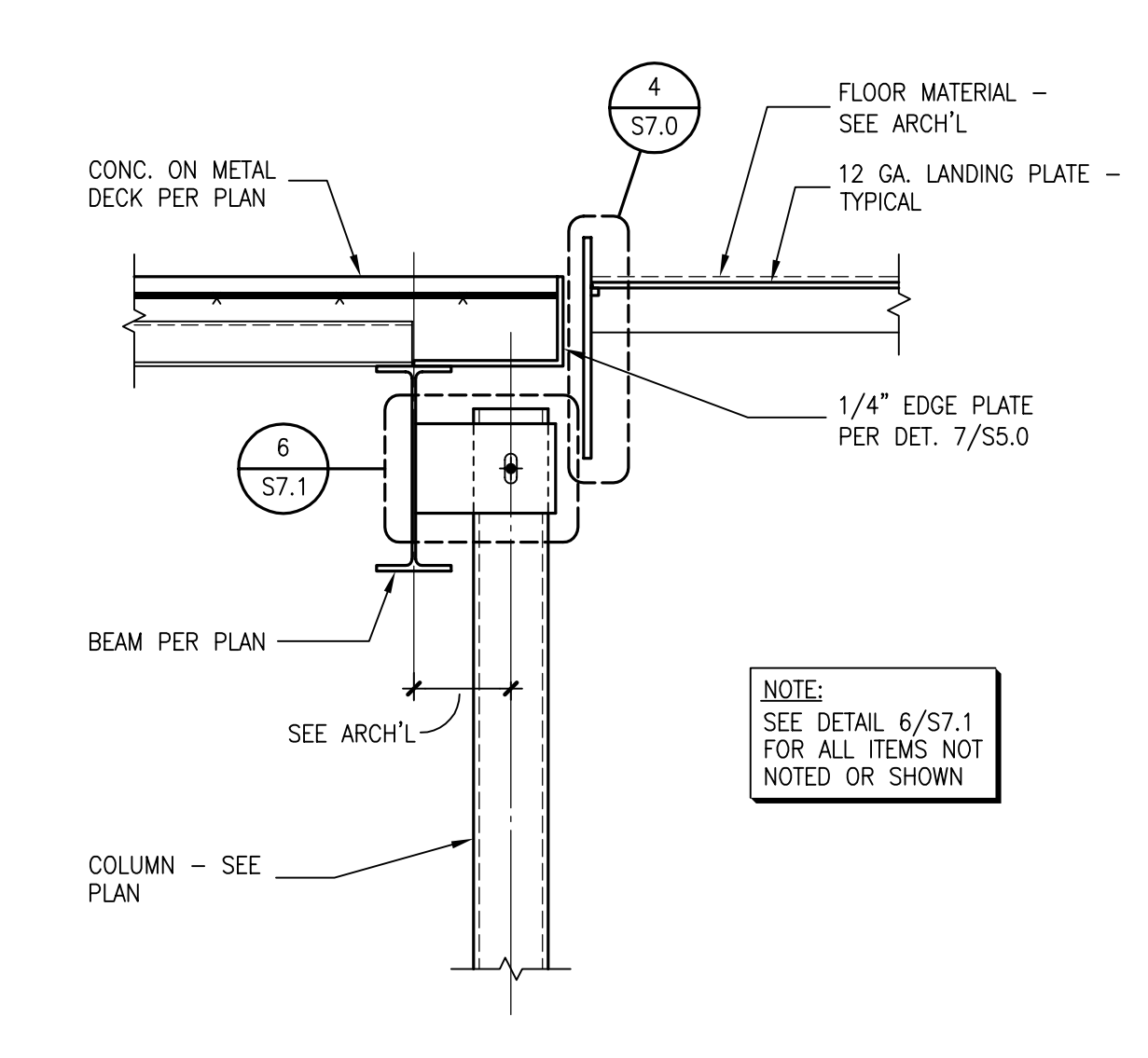
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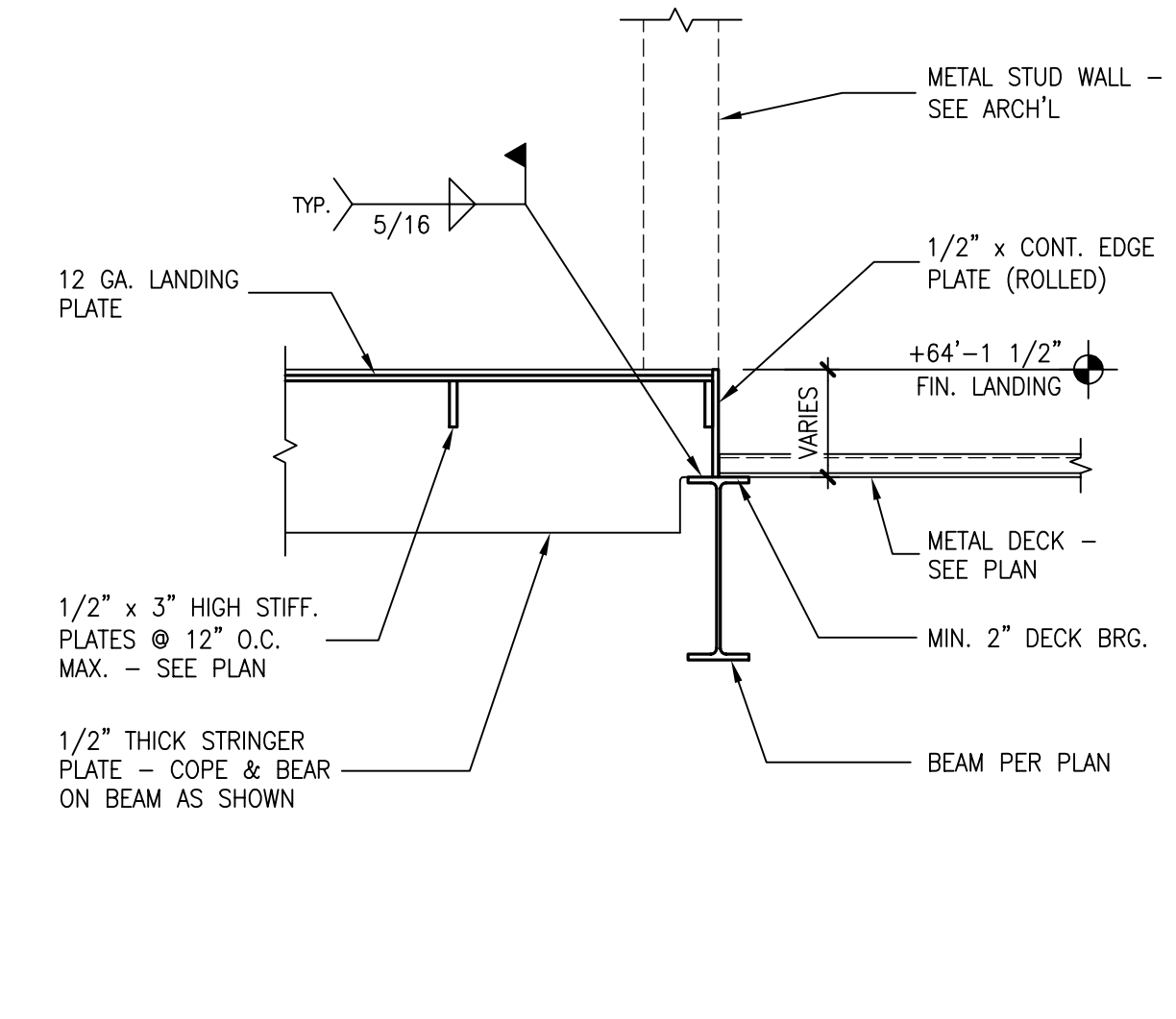
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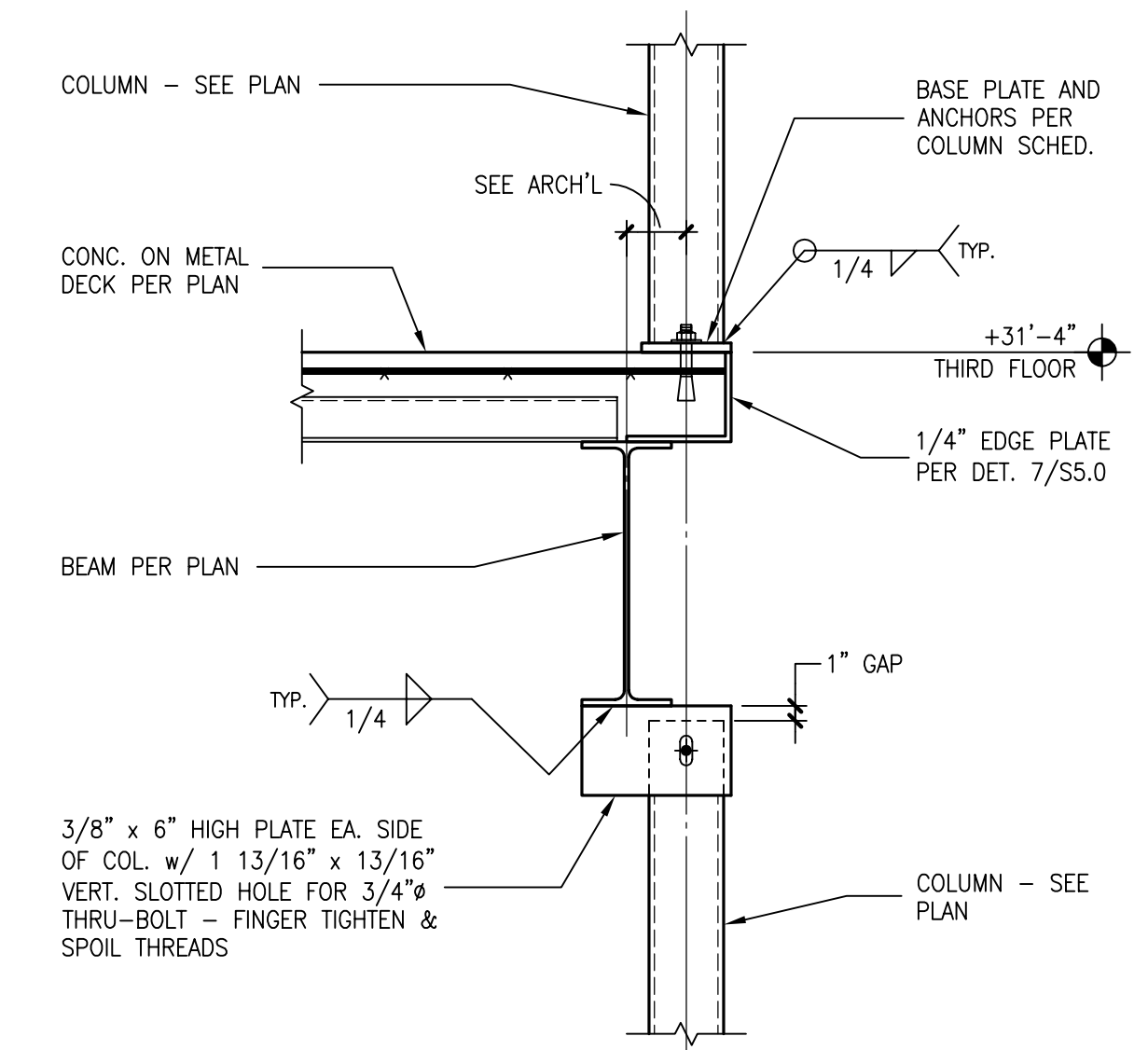
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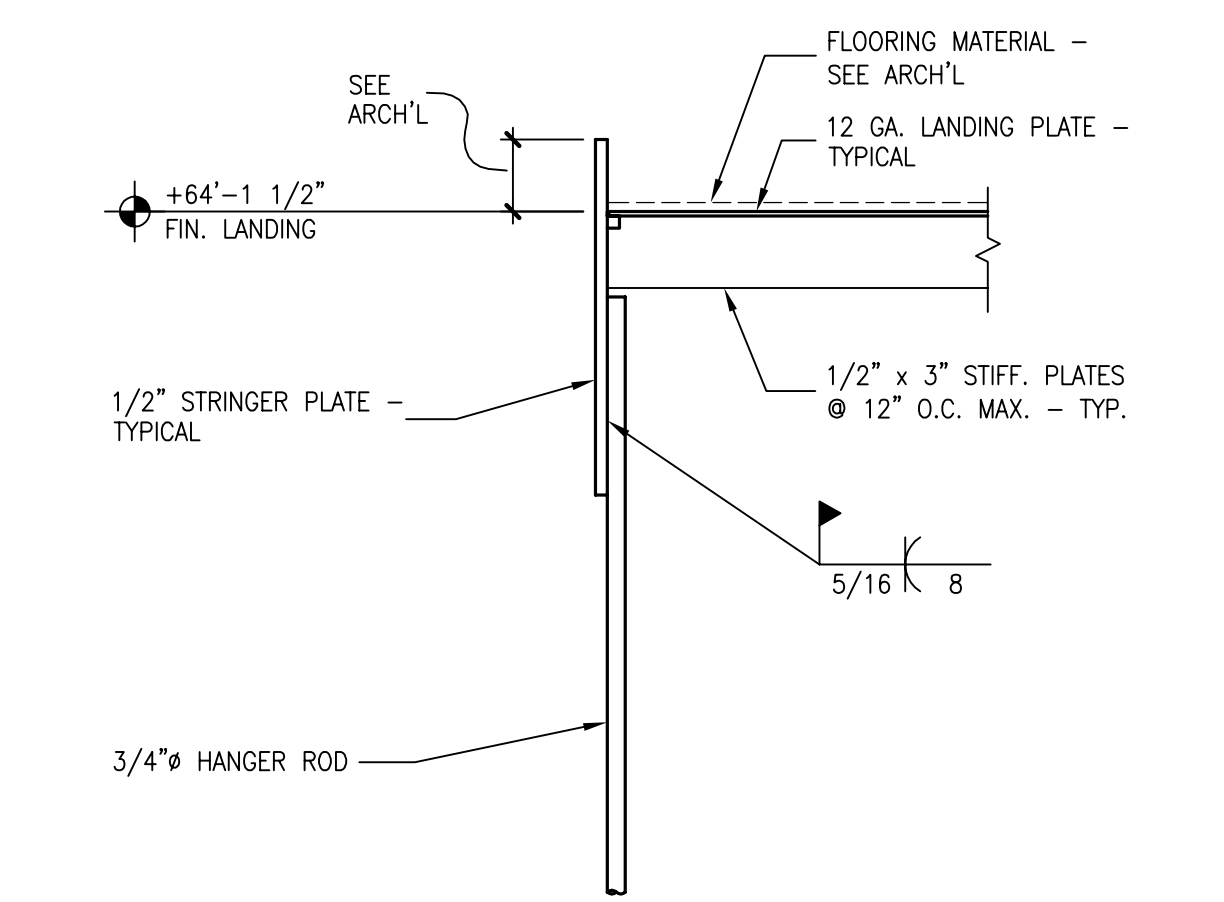
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5

r+b job #08108

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STAIR DETAILS

S7.2

SCALE VARIES

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