



1627 MAIN STREET, SUITE 600  
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100  
KANSAS CITY, MO 64108



PEC AUTHORITY NUMBER: EGC 000465F

1100 MAIN ST, STE 1800  
KANSAS CITY, MO 64105



1301 BURLINGTON  
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172



MARK	DATE	DESCRIPTION
ISSUED FOR:		FINAL REVIEW
PROJECT NO:	250104-000	
REVIT FILE:	250104-000_STRUCT_R24.rvt	
DESIGNED BY:	JSH	
DRAWN BY:	DGC	
CHECKED BY:	WTL	
APPROVED BY:	WTL	
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SHEET TITLE		

STRUCTURAL COVER  
SHEET

S-000

## DESIGN CRITERIA

1. BUILDING CODE: INTERNATIONAL BUILDING CODE (IBC), 2018 EDITION, INCLUDING LOCAL SUPPLEMENTS. THE STRUCTURE IS CLASSIFIED AS A RISK CATEGORY II FACILITY.

2. DEAD AND LIVE LOADS:

LOCATION	UNIFORM LIVE LOAD	CONCENTRATED LIVE LOAD	TOTAL DEAD LOAD*
ROOF	20 PSF	-----	20 PSF
HIGH ROOF (W/ PV PANELS)	20 PSF	-----	30 PSF
SLAB ON GRADE	100 PSF	2,000 LB	-----
MEZZANINE	100 PSF	65 PSF	-----
STAIRS	100 PSF	300 LB	-----
ROOF (ABOVE RESTROOM)	100 PSF	-----	75 PSF

FLOOR LIVE LOADS ON SUPPORTING ELEMENTS CAN BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE. ROOF LIVE LOADS ON SUPPORTING ELEMENTS SHALL NOT BE REDUCED  
\*TOTAL DEAD LOAD INCLUDES WEIGHT OF STRUCTURAL ELEMENTS.

3. SNOW LOADS

GROUND SNOW LOAD, $P_g$ :	20 PSF
FLAT ROOF SNOW LOAD, $P_f$ :	14 PSF
MINIMUM SNOW LOAD, $P_m$ :	20 PSF
SNOW EXPOSURE FACTOR, $C_e$ :	1.0
SNOW IMPORTANCE FACTOR, $I_s$ :	1.0
THERMAL FACTOR, $C_t$ :	1.0
ROOF SLOPE FACTOR, $C_s$ :	1.0

DRIFTING OF SNOW AND UNBALANCED SNOW SHALL BE IN ACCORDANCE WITH THE CODE. FOR SNOW DRIFT INFORMATION SUCH AS DRIFT SURCHARGE LOAD,  $P_d$ , AND WIDTH OF SNOW DRIFTS,  $w$ , REFERENCE SNOW DRIFT TABLE.

4. WIND:

BASIC WIND SPEED, $V$ :	109 MPH (3 SECOND GUST)
ALLOWABLE STRESS DESIGN WIND SPEED, $V_{asd}$ :	85 MPH (3 SECOND GUST)
WIND EXPOSURE:	C
INTERNAL PRESSURE COEF.:	+/-0.18

COMPONENTS AND CLADDING PRESSURE SHALL BE USED FOR DESIGN OF EXTERIOR WALLS, WINDOWS, DOORS, AND MISCELLANEOUS MATERIALS NOT SPECIFICALLY SHOWN ON THE PLANS.  
FOR COMPONENTS AND CLADDING DESIGN WIND PRESSURES, REFERENCE COMPONENT AND CLADDING TABLE.

5. SEISMIC:

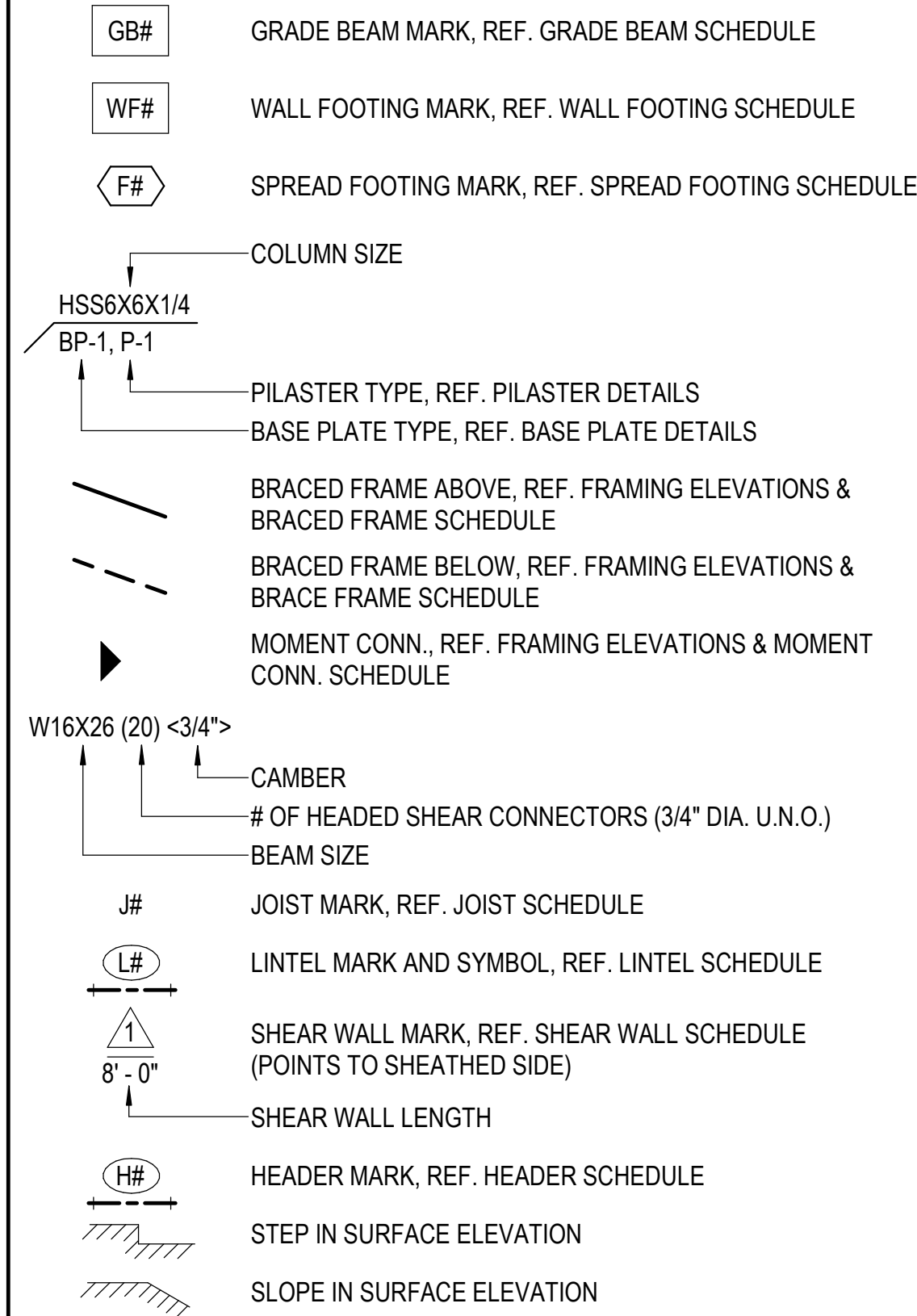
SITE CLASS:	C
SEISMIC DESIGN CATEGORY:	B
SEISMIC IMPORTANCE FACTOR:	1.0
$S_s$ :	0.099
$S_1$ :	0.068
$S_{ps}$ :	0.106
$S_{m1}$ :	0.108
SEISMIC FORCE RESISTING SYSTEM:	STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE
RESPONSE MODIFICATION COEF., $R$ :	3
METHOD OF ANALYSIS:	EQUIVALENT LATERAL FORCE
$C_s$ :	0.035
BASE SHEAR:	20 KIPS

6. RAIN INTENSITY (DURATION/100 YEAR MEAN RECURRENCE):

15 MINUTE:	7.36 INCHES PER HOUR
60 MINUTE:	3.53 INCHES PER HOUR

7. NO AREA WITHIN THIS BUILDING HAS BEEN DESIGNED TO MEET THE REQUIREMENTS OF FEMA P-361 OR ICC 500.

## PLAN MARKS



## MATERIAL LEGEND

	LOAD BEARING CMU (NON-LOAD BEARING CMU HALFTONED)
	EARTH
	EXISTING
	GROUT/SAND/GRANULAR FILL
	PRECAST CONCRETE
	CONCRETE
	NOT IN SCOPE (E.G. VENEER, PAVING, ETC.)
	STEEL (IN SECTION)
	GRATING

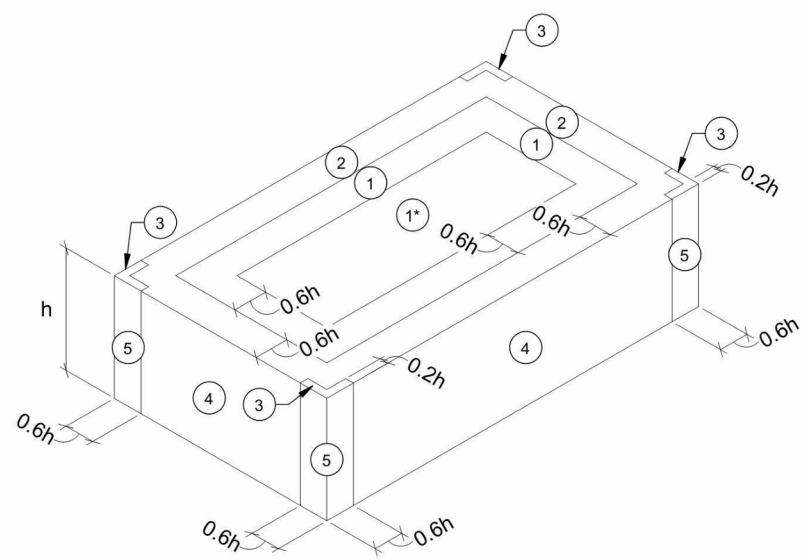
## ABBREVIATIONS

#	NUMBER OR POUNDS	I.J.	ISOLATION JOINT
(E)	EXISTING	IN	INCH(ES)
@	AT	INT.	INTERIOR
ADD'L	ADDITIONAL	K	KIPS
ALT.	ALTERNATE	L(L)	LIVE (LOAD)
APPROX.	APPROXIMATE	LBS	POUNDS
ARCH.	ARCHITECTURAL	LLH	LONG LEG HORIZONTAL
B.O.	BOTTOM OF	LLV	LONG LEG VERTICAL
BLDG.	BUILDING	LOC.	LOCATION
BOT.	BOTTOM	MANUF.	MANUFACTURER
BRG.	BEARING	MAX.	MAXIMUM
C.J.	CONTROL JOINT	MECH.	MECHANICAL
CFS	COLD-FORMED STEEL	MIN.	MINIMUM
CL	CENTERLINE	MISC.	MISCELLANEOUS
CLR.	CLEAR	MTL	METAL
CMU	CONCRETE MASONRY UNIT	N.A	NOT APPLICABLE
COL	COLUMN	N.S.	NEAR SIDE
COMP.	COMPOSITE	N.T.S.	NOT TO SCALE
CONC.	CONCRETE	O.C.	ON CENTER
CONN.	CONNECTION	O.D.	OUTSIDE DIAMETER
CONST.	CONSTRUCTION	O.H.	OVERHEAD
CONT.	CONTINUOUS	OPP.	OPPOSITE
COORD.	COORDINATE	P.A.F.	POWDER ACTUATED FASTENER
CTR.	CENTER	PCF	POUNDS PER CUBIC FOOT
D(L)	DEAD (LOAD)	PEMB	PRE-ENGINEERED METAL BUILDING
DBA	DEFORMED BAR ANCHOR	PERP.	PERPENDICULAR
DEMO.	DEMOLITION / DEMOLISH	PL	PLATE
DIA.	DIAMETER	PLF	POUNDS PER LINEAR FOOT
DIM.	DIMENSION	PSF	POUNDS PER SQUARE FOOT
DWG.	DRAWING	PSI	POUNDS PER SQUARE INCH
DWL.	DOWEL	QTY.	QUANTITY
E(L)	EARTHQUAKE/SEISMIC (LOAD)	RAD.	RADIUS
E.G.	FOR EXAMPLE	REF.	REFERENCE
E.J.	EXPANSION JOINT	REINF.	REINFORCING
E.O.R.	ENGINEER OF RECORD	REQD	REQUIRED
EA.	EACH	REV.	REVISION/REVISED
EL.	ELEVATION	S.J.	SAWN JOINT
ELEC.	ELECTRICAL	S.S.	STAINLESS STEEL
ELEV.	ELEVATOR	SCHED.	SCHEDULE
EQ.	EQUAL	SF	SQUARE FEET/FOOT
EQUIP.	EQUIPMENT	SIM.	SIMILAR
ETC.	ET CETERA	SPA.	SPACE(S)
EXIST.	EXISTING	SQ.	SQUARE
EXP.	EXPANSION	SSE	SPECIALTY STRUCTURAL ENGINEER
EXT.	EXTERIOR	STD.	STANDARD
F.S.	FAR SIDE	STIFF.	STIFFENER
F.V.	FIELD VERIFY	STRUCT.	STRUCTURAL
FDN.	FOUNDATION	T.O.	TOP OF
FT	FEET / FOOT	T/C	TENSION/COMPRESSION
FTG.	FOOTING	TEMP.	TEMPORARY
G.C.	GENERAL CONTRACTOR	TYP.	TYPICAL
GA.	GAUGE	U.N.O.	UNLESS NOTED OTHERWISE
GALV.	GALVANIZED	VERT.	VERTICAL
GEN.	GENERAL	W(L)	WIND (LOAD)
H.D.G.	HOT-DIP GALVANIZED	W/	WITH
HD. ST.	HEADED STUD	W/C	WATER / CEMENT RATIO
HORIZ.	HORIZONTAL	WP	WORKING POINT
I.D.	INSIDE DIAMETER	WT.	WEIGHT
I.E.	INVERT ELEVATION	WWF	WELDED WIRE FABRIC

## STRUCTURAL SHEET INDEX

SHEET NO.	SHEET TITLE
S-000	STRUCTURAL COVER SHEET
S-001	STRUCTURAL GENERAL NOTES
S-002	GENERAL NOTES AND IBC INSPECTION TABLES
S-101	FOUNDATION PLAN
S-102	MEZZANINE AND LOW ROOF FRAMING PLAN
S-103	HIGH ROOF FRAMING PLAN
S-201	ENLARGED PLAN
S-301	SCHEDULES AND DETAILS
S-302	SCHEDULES AND DETAILS
S-303	BRACE FRAME SCHEDULE AND DETAILS
S-304	MOMENT FRAME ELEVATIONS AND DETAILS
S-501	TYPICAL FOUNDATION DETAILS
S-502	FOUNDATION DETAILS
S-503	FOUNDATION DETAILS
S-550	TYPICAL FRAMING DETAILS
S-551	TYPICAL FRAMING DETAILS
S-552	FRAMING DETAILS
S-553	FRAMING DETAILS
S-554	FRAMING DETAILS
S-801	TYPICAL CMU DETAILS

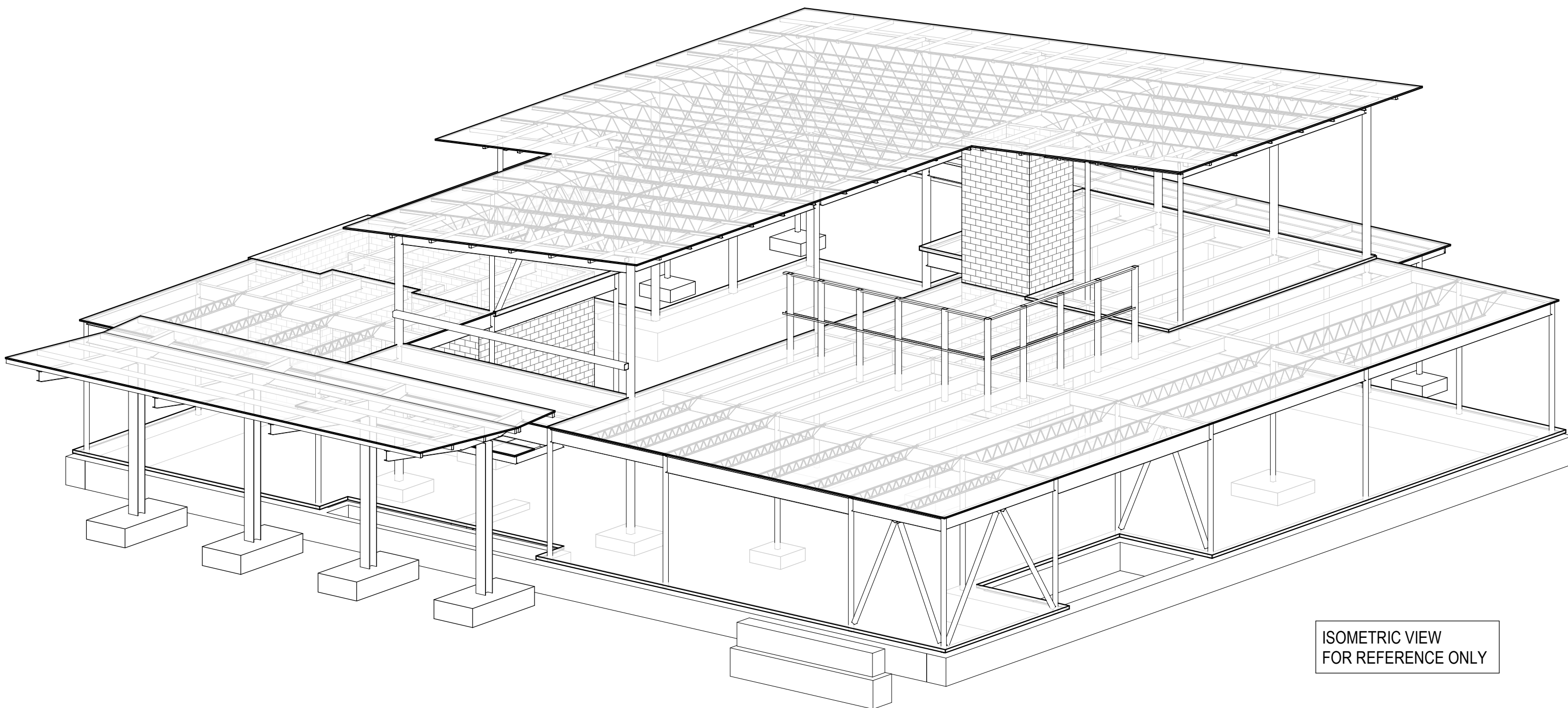
## COMPONENTS AND CLADDING TABLE



NOTES:

- ALL WIND PRESSURES AND LOAD COMBINATIONS SHALL BE PROVIDED AND APPLIED PER ASCE 7-16.
- PRESSURES SHOWN ARE APPLIED NORMAL TO THE SURFACE.
- PLUS AND MINUS SIGNS SIGNIFY PRESSURES ACTING TOWARD AND AWAY FROM THE SURFACES, RESPECTIVELY.
- FOR EFFECTIVE WIND AREAS BETWEEN THOSE GIVEN, STRAIGHT LINE INTERPOLATION MAY BE USED; OTHERWISE, USE THE VALUE ASSOCIATED WITH THE LOWER EFFECTIVE WIND AREA.
- IF OVERHANGS EXIST, THE LESSER HORIZONTAL DIMENSION OF THE BUILDING SHALL NOT INCLUDE ANY OVERHANG DIMENSION, BUT THE EDGE DISTANCE, 'a', SHALL BE MEASURED FROM THE OUTSIDE EDGE OF THE OVERHANG.
- $h$  = MEAN ROOF HEIGHT IN FT., EXCEPT THAT EAVE HEIGHT SHALL BE USED FOR ROOF ANGLES  $< 10^\circ$ .
- A NET ROOF DEAD LOAD OF 15 PSF MAY BE ASSUMED TO RESIST JOIST UPLIFT FORCES.
- C&C LOADS SHALL BE USED BY THE STEEL JOIST SUPPLIER AND ANY OTHER MANUFACTURER TO DETERMINE WALL DESIGNS, ROOF DESIGNS, CONNECTION DESIGNS, ETC.

PRESSURE (PSF)	WALL AND ROOF C&C PRESSURE										PARAPET C&C PRESSURE					
	KEY AREA 1		KEY AREA 1*		KEY AREA 2		KEY AREA 3		KEY AREA 4		KEY AREA 5		INTERIOR ZONE		CORNER ZONE	
	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF	< 10 SF	> 100 SF
POSITIVE	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	27.6	23.6	27.6	23.6	72.4	56.8	92.8	65.2
NEGATIVE	-48.1	-37.5	-27.6	-27.6	-63.4	-49.9	-86.4	-59.3	-29.9	-25.9	-36.8	-28.7	-42.8	-35.6	-48.9	-38.1
OVERHANG	-48.1	-40.9	-43.5	-40.9	-58.8	-40.9	-81.8	-50.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A





DELEGATED ENGINEERING OF STRUCTURAL COMPONENTS & SYSTEMS

2. ALL STRUCTURAL COMPONENTS & SYSTEMS SPECIFIED TO BE DELEGATED SHALL BE DESIGNED AND SEALED BY A SPECIALTY STRUCTURAL ENGINEER (SSE) AND SHALL MEET THE GUIDELINES PUBLISHED BY THE COUNCIL OF AMERICAN STRUCTURAL ENGINEERS (CASE) FOR DELEGATED SPECIALTY STRUCTURAL ENGINEERING.
3. REFERENCE THE GENERAL NOTES & DRAWINGS FOR BUILDING CODE, SERVICE CRITERIA, AND DESIGN LOADS.
4. SUBMITTALS FOR DELEGATED COMPONENTS & SYSTEMS SHALL INCLUDE THE FOLLOWING:
- A. A FULL DESIGN ANALYSIS, INCLUDING CALCULATIONS FOR GRAVITY AND LATERAL LOADS, WITH A SEALED COVER SHEET IDENTIFYING THE PROJECT NAME AND ADDRESS.
- B. THE SSE THAT SEALED THE CALCULATIONS SHALL ALSO SEAL THE FABRICATION, PLACING, AND ERECTION PLANS. EACH PLAN SHALL IDENTIFY THE PROJECT NAME AND ADDRESS.
- C. IF THE SSE THAT SEALED THE CALCULATIONS AND PLANS IS AN EMPLOYEE OF A COMPANY, THE COMPANY'S CERTIFICATE OF AUTHORIZATION NUMBER SHALL BE INCLUDED ON THE SUBMITTALS. BOTH THE SSE SEAL AND THE CERTIFICATE OF AUTHORIZATION SHALL BE ISSUED BY THE STATE IN WHICH THE PROJECT IS LOCATED, INCLUDING PROJECTS ON FEDERAL LAND.
5. THE CONTRACTOR SHALL REVIEW THE SUBMITTAL FOR QUANTITIES AND DIMENSIONS AND VERIFY THAT THE ABOVE INFORMATION HAS BEEN INCLUDED IN THE SUBMITTAL.
6. NO SUBMITTAL WILL BE REVIEWED UNLESS ALL OF THE ABOVE INFORMATION IS INCLUDED. THE ENGINEER OF RECORD SHALL NOT BE RESPONSIBLE FOR DELAYS CAUSED BY INCOMPLETE SUBMITTALS.
7. STEEL JOISTS / JOIST GIRDERS
- A. STEEL JOISTS SHALL MEET THE LATEST STEEL JOIST INSTITUTE (SJI) AND AISC JOIST SPECIFICATIONS, AND SHALL BE FABRICATED BY A MEMBER OF THE SJI.
- B. DESIGN ALL STEEL ROOF JOISTS, JOIST GIRDERS, AND BRIDGING FOR A NET UPLIFT PRESSURE PER THE JOIST SCHEDULE AND COMPONENTS AND CLADDING TABLE. BRIDGING LOCATIONS TO BE DETERMINED BY JOIST SUPPLIER PER SJI RECOMMENDATIONS.
- C. WHERE JOIST BEARING CONDITIONS REQUIRE NON-STANDARD BEARING ENDS, JOIST FABRICATOR SHALL PROVIDE SPECIAL BEARING ENDS AS REQUIRED TO ACCOMMODATE SUCH CONDITIONS.
- D. PROVIDE STABILIZER PLATES AND ERECTION BOLTS AT LOCATIONS REQUIRED PER SJI SPECIFICATIONS AND OSHA REGULATIONS.
- E. UNLESS SPECIFICALLY NOTED, JOIST SIZES INDICATED ARE FOR UNIFORMLY APPLIED LOADS. MANUFACTURER SHALL PROVIDE JOIST CAPACITY TO SUPPORT SPECIAL LOADS AS NOTED ON PLANS.
- F. SUSPENSION OF ANY MISCELLANEOUS ITEMS FROM JOISTS SHALL BE ONLY AT TOP OR BOTTOM CHORD PANEL POINTS UNLESS INDICATED OTHERWISE.
- G. GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ROUTING OF MECHANICAL OR ELECTRICAL COMPONENTS WITH JOIST BRIDGING AND/OR JOIST WEB MEMBERS PRIOR TO JOIST FABRICATION.
- H. STEEL JOISTS
- a. ALL STEEL JOIST BEARING CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE.
- b. JOIST SHALL BE DESIGNED BY THE MANUFACTURER FOR ALL LOADING CONDITIONS AND TABLES PER SJI AND, IN ADDITION, ANY SPECIAL OR APPLIED LOADS AS MAY BE INDICATED IN THE DRAWINGS. JOIST MANUFACTURER SHALL NOT DESIGN JOISTS FOR LESS THAN LOADS SPECIFIED IN SJI CAPACITY TABLES FOR JOIST DESIGNATION SHOWN ON PLANS.
- c. JOIST EXTENSIONS SHALL BE DESIGNED FOR THE SAME LOADS AS THE MAIN JOIST SPAN UNLESS NOTED OR DETAILED OTHERWISE.
8. COLD-FORMED STEEL (CFS) FRAMING
- A. COLD-FORMED STEEL COMPONENTS AND CONNECTIONS SHALL BE DESIGN IN ACCORDANCE WITH THE LATEST AISI DESIGN STANDARDS AND ARE THE RESPONSIBILITY OF THE CFS SUPPLIER AND CFS SSE.
- B. PRODUCTS SHALL BE FORMED FROM STEEL MEETING THE REQUIREMENTS OF AISI, SPECIFICATIONS FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, UNLESS NOTED OTHERWISE.
- C. ALL COLD-FORMED STEEL STUDS, PURLINS, AND TRUSS SYSTEMS SHALL BE GALVANIZED PER AISI STANDARDS. APPLY ZINC-RICH PAINT TO ALL AREAS WHERE FINISH IS DAMAGED DUE TO WELDING.
- D. ALL FRAMING COMPONENTS SHALL BE CUT SQUARELY FOR ATTACHMENT TO PERPENDICULAR MEMBERS.
- E. PROVIDE ALL ACCESSORIES INCLUDING, BUT NOT LIMITED TO, TRACKS, CLIPS, WEB STIFFENERS, FASTENERS, ANCHORAGE DEVICES, CONNECTION ANGLES, BRIDGING, AND MISCELLANEOUS HARDWARE REQUIRED TO COMPLETE ALL CONNECTIONS AND INSTALLATION.
- F. FASTENING OF FRAMING COMPONENTS SHALL BE WITH SELF-TAPPING SCREWS OR WELDING OF SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. WELDS SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST AWS D1.3 CODE.
- G. COLD-FORMED STEEL STUD PRODUCTS SHALL BE MANUFACTURED BY A CURRENT MEMBER OF THE STEEL STUD MANUFACTURER ASSOCIATION (SSMA) OR THE STEEL FRAMING INDUSTRY ASSOCIATION (SFIA).
- a. THE PHYSICAL AND STRUCTURAL PROPERTIES SHALL BE EQUIVALENT TO THOSE LISTED BY THE SSMA "PRODUCT TECHNICAL INFORMATION" AND ICC-ES ECR-3064P FOR "S" AND "T" SECTIONS.
- b. PROVIDE WALL STUD BRIDGING SPACES AT 4'-0" ON CENTER, MAXIMUM IN ALL EXTERIOR WALLS AND INTERIOR, LOAD BEARING WALLS.
- c. PROVIDE DEFLECTION TRACK AT THE TOP OF ALL NON-LOAD BEARING STUD WALLS WHERE THE TOP OF WALL ABUTS THE BOTTOM OF THE STRUCTURE.
- d. DEFLECTION TRACK SHALL CONFORM TO GUIDELINES IN SSMA TECH NOTE NO. 1 AND SHALL ACCOMMODATE A DEFLECTION DESCRIBED UNDER CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT.
- e. ATTACH STUDS TO TRACK WITH A MINIMUM OF ONE SCREW IN EACH STUD FLANGE, UNLESS NOTED OTHERWISE.
- H. STUD TRACK SECTIONS SHALL MEET OR EXCEED THICKNESS OF STUD MEMBERS, UNLESS NOTED OTHERWISE.
8. HANDRAILS/GUARDRAILS
- A. HANDRAILS/GUARDRAILS SHALL BE DESIGNED, DETAILED, AND ERECTED IN ACCORDANCE WITH IBC/OSHA/NAAMM AMP 510 AND NAAMM AMP 521.

SOIL PREPARATION AND FOUNDATIONS

1. THE FOUNDATION SYSTEM IS DESIGNED AS RECOMMENDED IN THE GEOTECHNICAL INVESTIGATION PREPARED BY KRUGER TECHNOLOGIES, INC., JOB NO. 224081G DATED MAY 30, 2024. A COPY IS IN THE SPECIFICATIONS OR IS AVAILABLE FOR INSPECTION AT THE ARCHITECT'S PLACE OF BUSINESS.
2. REMOVE TOP SOIL CONTAINING ORGANIC MATERIAL AND PREPARE THE BUILDING PAD IN ACCORDANCE WITH THE CIVIL ENGINEERING PLANS, SPECIFICATIONS, AND GEOTECHNICAL INVESTIGATION.
3. REMOVE SOIL AS REQUIRED TO ALLOW FOR A LOW VOLUME CHANGE ZONE THICK UNDER THE FLOOR SLAB AND DRAINAGE MATERIAL. FILL TO SUBGRADE ELEVATION SHOWN ON THE DRAWINGS WITH NON-EXPANSIVE FILL OR STABILIZED SOIL PER SPECIFICATION.
4. DO NOT BACKFILL FOUNDATIONS/BASEMENT WALLS UNTIL THE RESTRAINING SLABS OR ADEQUATE BRACING ARE IN PLACE. ALL BACKFILL SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH THE SPECIFICATION.
5. EXTERIOR SLABS SHALL SLOPE AWAY FROM THE STRUCTURE A MINIMUM OF 1/4" PER FOOT UNLESS NOTED OTHERWISE.
6. SOIL SUPPORTED FOUNDATIONS:
- A. DESIGN BEARING PRESSURE (NET) IS 3,000 PSF FOR FOUNDATIONS BEARING ON UNDISTURBED SOIL OR APPROVED ENGINEERED FILL MATERIAL. BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED GEOTECHNICAL ENGINEER.
- B. ALL FOUNDATIONS ARE DESIGNED WITH EARTH FORMED SIDES; THE TOP 7-1/4" OF THE FOUNDATION SHALL BE FORMED TO THE DESIGN DIMENSION WHEN VISIBLE AFTER CONSTRUCTION IS COMPLETE. THE CONSTRUCTED FOUNDATION DIMENSION SHALL BE NO LESS THAN THE DESIGN DIMENSION, AND NO MORE THAN 6" GREATER THAN THE DESIGN DIMENSION.

CONCRETE

1. ALL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH ACI 318 AND THE BUILDING CODE, AND IN CONFORMANCE WITH THE CURRENT "ACI MANUAL OF CONCRETE PRACTICE."
2. THE CONCRETE REQUIREMENTS ARE:
- A. FINE AGGREGATE FOR NORMAL WEIGHT CONCRETE SHALL MEET ASTM C33.
- B. COARSE AGGREGATES FOR NORMAL WEIGHT CONCRETE SHALL CONFORM TO ASTM C33. COARSE AGGREGATES SHALL BE NO LESS THAN 50% OF THE TOTAL AGGREGATE BY WEIGHT, UNLESS APPROVED BY THE ENGINEER PRIOR TO MIX DESIGN SUBMITTAL.
- C. THE CONTRACTOR OR MIX DESIGNER SHALL SPECIFY AN APPROPRIATE SLUMP PER ACI 117 FOR THE APPLICATION AS NEEDED FROM PUMPING, WORKABILITY, AND FINISHING. IF CONCRETE IS PLACED THROUGH A FUNNEL HOPPER AT THE TOP OF A DEEP FOUNDATION ELEMENT, THE MIX SHALL HAVE A SLUMP BETWEEN 4" AND 8".
- D. FOR EACH MIX DESIGN, THE MATERIAL SUPPLIER SHALL INCLUDE AN ENVIRONMENTAL PRODUCT DECLARATION (EPD) IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS. THE THIRD-PARTY-VERIFIED EPD WILL BE USED TO DOCUMENT THE ESTIMATED GLOBAL WARMING POTENTIAL (GWP). ALL GWP INFORMATION SUBMITTED SHALL BE IN THE FORM OF kgCO<sub>2</sub>e/CY.
- E. THE CONCRETE COMPRESSIVE STRENGTH, f<sub>c</sub>, SHALL BE BASED ON 28-DAY TESTS UNLESS NOTED OTHERWISE.
- F. REFER TO CONCRETE MIX DESIGN REQUIREMENTS TABLE FOR MIX DESIGN.
3. ADMIXTURES, HARDENERS, & CURING COMPOUNDS
- A. ALL CONCRETE ADMIXTURES SHALL, WHEN MIXED INTO CONCRETE, BE NON-CHLORIDE AND NON-CHLORIDE FORMING.
- B. ALL ADMIXTURES MUST CONFORM TO ASTM C 494 AND C 260.
- C. CONCRETE CURING COMPOUND AND SEALERS SHALL MEET ASTM C 309 TYPE 1 OR 1D.
- D. USE OF "SELF CONSOLIDATING" CONCRETE MUST BE SUBMITTED FOR APPROVAL WITH THE CONCRETE MIX DESIGN.
- E. CONCRETE PENETRATING HARDENER SEALERS SHALL BE USED ON ALL EXPOSED CONCRETE FLOORS UNLESS OTHER COATINGS ARE REQUIRED BY THE ARCHITECT.
4. MISCELLANEOUS CONCRETE DETAILS:
- A. ALL EXPOSED EDGES OF CONCRETE SHALL BE CHAMFERED 3/4" INSIDE THE FORMS OR TOOLED TO 3/4" RADIUS UNLESS NOTED OTHERWISE.
- B. SLABS ON GRADE SHALL HAVE CONSTRUCTION JOINTS AND/OR CONTROL JOINTS (SAWN JOINTS) TO DIVIDE THE SLAB INTO PANELS, NOT TO EXCEED 256 SQUARE FEET. THE LONG DIMENSION SHALL NOT EXCEED THE SHORT DIMENSION BY MORE THAN 20%. CONTRACTOR TO SUBMIT PROPOSED LOCATIONS FOR APPROVAL.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING AND SHORING. SCREEDS SHALL ALSO INCORPORATE THIS CAMBER TO CREATE A FINISHED SLAB OF UNIFORM THICKNESS. ELEVATED SLABS SHALL NOT HAVE THE FORMS REMOVED WITHOUT PLACING RESHORES. IF ADDITIONAL ELEVATED SLABS WILL BE SHORED ON TOP OF PREVIOUSLY CAST ELEVATED SLABS, THE SLABS SHALL BE RESHORED IN ACCORDANCE WITH ACI.
- D. NO ALUMINUM SHALL BE EMBEDDED IN CONCRETE. CONDUITS AND PIPING EMBEDDED IN CONCRETE WALLS, SLABS, OR BEAMS SHALL BE SPACED A MINIMUM OF FOUR DIAMETERS AND THE OUTSIDE DIAMETER SHALL BE LESS THAN 30% OF THE MEMBER THICKNESS AND PLACED BETWEEN LAYERS OF REINFORCING.
- E. NO CONDUIT MAY BE EMBEDDED IN SLABS ON METAL DECK OR TOPPING SLABS ON PRECAST CONCRETE UNLESS SPECIFICALLY DETAILED OR NOTED OTHERWISE ON STRUCTURAL PLANS.
5. WHEN THE CONCRETE WILL HAVE MOISTURE SENSITIVE FLOOR COVERING, THE CONTRACTOR SHALL COORDINATE THE CURING TIME TO ALLOW THE MOISTURE VAPOR TRANSMISSION TO REDUCE THE LEVEL THAT THE ADHESIVE MANUFACTURER WILL GUARANTEE THE INSTALLATION. THE CONTRACTOR SHALL HAVE THE FLOOR COVERING INSTALLER TEST THE MOISTURE VAPOR TRANSMISSION OR USE AN ADHESIVE DESIGNED FOR THE RATE OF VAPOR TRANSMISSION OCCURRING AT THE TIME OF INSTALLATION.

CONCRETE MIX DESIGN REQUIREMENTS									
LOCATION	COMPRESSIVE STRENGTH, f <sub>c</sub> (PSI)	TARGET AIR CONTENT	EXPOSURE CLASSES				NOTES		
			F	C	S	W			
GRADE BEAMS/SPREAD FOOTINGS	4500	6%	F2	C1	S0	W1			
PILASTERS	4000	NR	F0	C0	S0	W0			
INTERIOR SLAB ON GRADE	4000	NR	F0	C0	S0	W0	FLEXURAL STRENGTH OF 650 PSI WHERE SUBJECT TO VEHICLE TRAFFIC.		
SLAB ON DECK	4000	NR	F0	C0	S0	W0			

CONCRETE REINFORCING

1. MATERIALS
- |                            |       |     |
|----------------------------|-------|-----|
| PLATE & ANGLE:             | A36   | --- |
| REINFORCING STEEL:         | A615  | 60  |
| WELDABLE REINFORCING STEEL | A706  | 60  |
| DEFORMED BAR ANCHORS:      | A706  | 60  |
| ANCHOR RODS (BOLTS):       | F1554 | 36  |
2. DETAILS:
- A. WELDING OF REINFORCING STEEL IS PROHIBITED UNLESS NOTED OTHERWISE. WHEN WELDING IS APPROVED, WELDING SHALL BE IN ACCORDANCE WITH AWS D1.4 "WELDING REINFORCING STEEL, ETC."
- B. SHOP DRAWINGS SHALL BE SUBMITTED WITH REINFORCING STEEL IN ACCORDANCE WITH ACI 315.
3. PLACEMENT:
- A. ALL REINFORCING AND EMBEDMENTS SHALL BE SUPPORTED ON CHAIRS/BOLSTERS TO THE DESIGN DIMENSIONS. SPACING SHALL BE SUFFICIENTLY CLOSE TO PREVENT DISPLACEMENT OR PERMANENT DEFORMATION DUE TO CONCRETE PLACEMENT, FOOT TRAFFIC, OR VIBRATION. "PUDDLING IN" OR "PULLING UP" REINFORCING IS NOT AN ACCEPTABLE METHOD FOR PLACING REINFORCING. CHAIRS/BOLSTERS SHALL HAVE PLASTIC COATED FEET OR BE MADE OF STAINLESS STEEL. CHAIRS/BOLSTERS IN CONTACT WITH EARTH SHALL HAVE BOTTOM PLATES AND BE COATED TO PREVENT CORROSION. ANCHOR RODS SHALL BE HELD IN PLACE WITH TEMPLATES SUFFICIENTLY STRONG TO PREVENT DISPLACEMENT OR TILTING.
- B. MAINTAIN ACI CLEAR COVER ON REINFORCING AS LISTED BELOW UNLESS NOTED OTHERWISE.
- |   |      |
|---|------|
| CAST AGAINST EARTH (BOTTOM OR SIDES):         | 3"   |
| FORMED - EXPOSED TO SOIL, WEATHER OR LIQUIDS: | 2"   |
| SLABS ON GRADE (FROM TOP OF SLAB):            | 1.5" |
- C. PROVIDE CORNER BARS OF THE SAME SIZE AND SPACING AS ADJACENT REINFORCING.
- D. OPENINGS IN WALLS OR SLABS SHALL BE REINFORCED PER TYP. CONC. OPENING REINF. DETAIL.
- E. REINFORCING STEEL SHALL BE LAPPED PER CONCRETE REINFORCEMENT LAP TABLE.
- F. WELDED WIRE FABRIC SHALL BE LAPPED ONE FULL SQUARE PLUS 2".

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL MEET THE LATEST "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGE," AND HAS BEEN DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AND THE LATEST EDITION OF AISC "MANUAL OF STEEL CONSTRUCTION".
2. STRUCTURAL STEEL SHALL BE NEW AND MEET THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE ON THE DRAWINGS:
- | TYPE                       | ASTM | GRADE                      |
|----------------------------|------|----------------------------|
| W & WT SHAPES              | A992 | -----                      |
| PLATES, CHANNELS, & ANGLES | A36  | -----                      |
| RECTANGULAR HSS SECTIONS   | A500 | C (F <sub>y</sub> =50 KSI) |
| STRUCTURAL BOLTS           | A325 | ----- (ASTM F 1852)        |
| ERECTION BOLTS             | A307 | -----                      |
| HEADED ANCHOR STUDS        | A108 | 1015/1025                  |
3. ALL BOLTED CONNECTIONS SHALL BE STANDARD AISC BEARING TYPE FRAMING CONNECTIONS. BOLTS SHALL BE TENSION-INDICATING FOR INSPECTION PURPOSES.
- A. BOLTED MOMENT CONNECTIONS INDICATED ON DRAWINGS SHALL USE FRICTION TYPE PRETENSIONED BOLTS AND INDICATED AS SLIP CRITICAL (SC).
4. ALL CONNECTIONS NOT DETAILED OR OTHERWISE NOTED SHALL BE PROVIDED BY THE FABRICATOR AND HIGHLIGHTED FOR THE ENGINEER OF RECORD'S REVIEW.
- A. SLIP CRITICAL (SC) CONNECTIONS SHALL HAVE UNCOATED CLASS A FAYING SURFACES.
5. ALL WELDING SHALL BE IN ACCORDANCE WITH LATEST AWS CODE, SECTION D1.1. ALL WELD MATERIAL SHALL BE 70 KSI TENSILE STRENGTH.
6. STEEL FRAMING MEMBERS SHALL NOT BE SPLICED.
7. OPENINGS SHALL NOT BE FIELD-CUT IN THE FLANGE OR WEBS OF STEEL MEMBERS.
8. PACK GROUT SOLIDLY BETWEEN BEARING SURFACES AND BASE PLATES WITH FACTORY-PACKAGED, NON-METALLIC, NON-SHRINK, NON-CORROSIVE GROUT COMPLYING WITH ASTM C1107. GROUT TO HAVE A MINIMUM COMPRESSIVE 28 DAY STRENGTH OF 7,500 PSI.
9. GALVANIZED STRUCTURAL STEEL SHALL CONFORM TO ASTM A123 FOR MEMBERS AND ASTM A153 FOR CONNECTION ELEMENTS. REPAIR ANY DAMAGED GALVANIZING COATING IN ACCORDANCE WITH ASTM A780.
10. ALL STEEL BEAMS USED IN COMPOSITE SYSTEMS HAVE BEEN DESIGNED FOR UNSHORED CONSTRUCTION.
- A. COMPOSITE SLAB SHEAR CONNECTORS SHALL BE OF SIZE AND QUANTITY INDICATED ON THE DRAWINGS AND SPACED EQUALLY ALONG THE CENTERLINE OF THE BEAM. WHERE SHEAR CONNECTORS ARE NOT CALLED FOR ON DRAWINGS, PROVIDE SHEAR CONNECTORS FOR ALL BEAMS SUPPORTING COMPOSITE SLABS AT 3'-0" O.C. MAX.
- B. THE DESIGN IS BASED ON THE CONTRACTOR PLACING THE CONCRETE TO A UNIFORM THICKNESS OVER THE DECK BY HAVING THE SCREED FOLLOWING THE CAMBER OF THE BEAM. POURING THE CONCRETE TO A UNIFORM ELEVATION MAY CAUSE EXCESSIVE ACCUMULATION OF CONCRETE AT THE MID-SPAN OF THE BEAMS AND REDUCE DESIGN CAPACITY.

STEEL DECKING

1. DECK SHALL BE ATTACHED TO ALL SUPPORTING MEMBERS.
- A. ATTACH METAL DECK TO STEEL MEMBERS WITH 5/8" DIAMETER PUDDLE WELDS. USE WELDING WASHERS FOR DECKS THINNER THAN 22 GAUGE. WELDS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AWS. REFERENCE THE DECK ATTACHMENT DETAIL. (IF MECHANICAL FASTENERS ARE PREFERRED, CONTRACTOR MAY SUBMIT A REPLACEMENT THAT IS SHOWN TO HAVE EQUAL OR GREATER CAPACITY THAN THE DECK ATTACHMENT SHOWN)
- B. SIDE LAPS OF METAL DECK SHALL BE FASTENED TOGETHER WITH #10 TEK SCREWS WITH METAL IN FULL CONTACT. REFERENCE THE DECK ATTACHMENT DETAIL.
2. STEEL ROOF DECK SHALL BE 1-1/2" DEEP, 22 GAUGE, WIDE RIB METAL DECKING WITH THE FOLLOWING PROPERTIES:
- |                           |                       |
|---------------------------|-----------------------|
| MINIMUM F <sub>y</sub> :  | 50 KSI                |
| MINIMUM t <sub>e</sub> :  | 0.155 IN"             |
| MINIMUM S <sub>xx</sub> : | 0.169 IN <sup>3</sup> |
| MINIMUM I <sub>xx</sub> : | 0.178 IN <sup>4</sup> |
| MINIMUM S <sub>xx</sub> : | 0.179 IN <sup>3</sup> |
- ROOF DECK SHALL CONFORM TO ASTM A653 WITH G60 FINISH. DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. EACH DECK UNIT SHALL BE ATTACHED TO SUPPORTING MEMBERS AND ADJACENT PANELS PER THE DIAPHRAGM ATTACHMENT DETAIL.
3. COMPOSITE FLOOR DECK SHALL BE 2" DEEP, 20 GAUGE, COMPOSITE METAL DECK WITH THE FOLLOWING PROPERTIES:
- |                           |                       |
|---------------------------|-----------------------|
| MINIMUM F <sub>y</sub> :  | 50 KSI                |
| MINIMUM t <sub>e</sub> :  | 0.409 IN"             |
| MINIMUM S <sub>xx</sub> : | 0.326 IN <sup>3</sup> |
| MINIMUM I <sub>xx</sub> : | 0.407 IN <sup>4</sup> |
| MINIMUM S <sub>xx</sub> : | 0.337 IN <sup>3</sup> |
- COMPOSITE DECK SHALL [CONFORM TO ASTM A653 WITH G60 FINISH/RECEIVE FINISH PER SPECIFICATION]. DECK SHALL BE CONTINUOUS OVER A MINIMUM OF THREE SPANS. WHEN THE COMPOSITE DECKING EXCEEDS THE MAXIMUM SAFE CONSTRUCTION SPAN AS DEFINED BY SDI, THE CONTRACTOR SHALL SHORE THE DECKING. DECK SHORING SHALL CONSIST OF A SINGLE HORIZONTAL SHORE MIDWAY BETWEEN BEAMS SUPPORTED BY SHORES THAT SPAN FROM BEAM TO BEAM. THIS ALLOWS THE SHORES/DECKING TO DEFLECT WITH THE BEAMS. DO NOT SHORE DECK FROM GRADE OR FLOOR BELOW.
4. PROVIDE ANGLE FRAME TO SUPPORT METAL DECK AT ALL ROOF DRAINS AND OTHER OPENINGS GREATER THAN 8" X 8". OPENINGS SMALLER THAN 8" REQUIRE NO REINFORCEMENT.
- MASONRY
1. MASONRY HAS BEEN DESIGNED IN ACCORDANCE WITH THE TMS 402/602 AND THE BUILDING CODE.
2. MATERIALS:
- A. ALL CONCRETE MASONRY UNITS (CMU) SHALL BE TWO-CELL, LIGHTWEIGHT AGGREGATE UNITS WITH A SPECIFIED MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI ON NET AREA AT 28 DAYS CONFORMING TO ASTM C90.
- B. ALL MORTAR SHALL BE TYPE "S" CONFORMING TO ASTM C270.
- C. THE MINIMUM COMPRESSIVE STRENGTH (f<sub>m</sub>) OF A PRISM ASSEMBLED OF CMU AND FULL MORTAR BEDDING SHALL BE 2000 PSI AT 28 DAYS ON THE NET AREA.
- D. ALL GROUT SHALL CONFORM TO ASTM C476 WITH A MINIMUM GROUT COMPRESSIVE STRENGTH (f<sub>g</sub>) OF 2500 PSI.
- E. REINFORCING STEEL SHALL MEET THE REQUIREMENTS OF ASTM A615, GR. 60.
- F. CMU LOCATED BELOW GRADE SHALL BE NORMAL-WEIGHT AGGREGATE UNITS WITH ALL CELLS GROUTED SOLID.
- G. ALL CMU SHALL BE IN RUNNING BOND.
3. HORIZONTAL WALL REINFORCING:
- A. PROVIDE CONTINUOUS HORIZONTAL REINFORCING AT THE TOP OF THE WALL AND AT A MAXIMUM OF 4'-0" ON CENTER IN KNOCK-OUT BOND BEAMS UNLESS NOTED OTHERWISE. REINFORCING STEEL SHALL BE LAPPED PER THE CMU REINFORCING LAP TABLE.
- B. PROVIDE HORIZONTAL REINFORCING AT THE HEAD OF ALL OPENINGS IN A "U" SHAPED SOLID BOTTOM LINTEL BLOCK. CUT OFF THE BOTTOM SHELL OF THE LINTEL BLOCKS AT VERTICAL REINFORCING LOCATION FOR JAMBS. PROVIDE HORIZONTAL REINFORCING AT THE SILL OF ALL OPENINGS IN A KNOCK-OUT BOND BEAM. REINFORCING STEEL SHALL EXTEND BEYOND OPENING PER TYPICAL DETAILS.
- C. MINIMUM HORIZONTAL REINFORCING IN ALL LINTELS AND BOND BEAMS SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
- | THICKNESS | REINFORCING |  |
|-----------|-------------|--|
| 8"        | (2) #4      |  |
4. VERTICAL REINFORCING:
- A. PROVIDE VERTICAL REINFORCING (NORMAL REINFORCING) IN FULLY GROUTED CELLS. CENTERED AND HELD IN PLACE BY REINFORCING STEEL GUIDES IN ALL WALLS AS FOLLOWS, UNLESS NOTED OTHERWISE:
- | THICKNESS | INTERIOR NON-LOAD BRG. WALLS | EXTERIOR & LOAD BRG. WALLS |
|-----------|------------------------------|----------------------------|
| 8"        | #5 AT 8" O.C.                | #5 AT 8" O.C.              |
- B. PROVIDE VERTICAL FULLY GROUTED REINFORCED CELLS AT EACH SIDE OF AN ISOLATION JOINT, AT INTERSECTIONS OF WALLS, EACH SIDE OF A WALL OPENING, AT EACH BEAM BEARING, AND AT THE END OF A WALL.
- C. VERTICAL REINFORCING SHALL EXTEND CONTINUOUSLY FROM THE TOP OF THE SUPPORTING MEMBER TO THE TOP BOND BEAM. THERE SHALL BE A DOWEL, CAST INTEGRAL WITH THE SUPPORTING MEMBER, FOR EACH VERTICAL REINFORCING BAR EXCEPT AS NOTED. ALL VERTICAL REINFORCING STEEL SHALL BE HOOKED INTO TOP BOND BEAM. ALL HOOKS, STRAIGHT EMBEDMENTS AND LAPS SHALL BE PER TABLE.
5. LOCATION AND DETAILS OF CONTROL AND ISOLATION JOINTS IN MASONRY WALLS SHALL BE PER THE ARCHITECTURAL DRAWINGS. IF NOT SHOWN OR NOTED ON THE ARCHITECTURAL DRAWINGS, THE MAXIMUM SPACING OF CONTROL OR ISOLATION JOINTS SHALL BE AT A LENGTH TO HEIGHT RATIO OF 2:1 OR 30'-0" O.C., WHICHEVER IS LESS. REINFORCING IN ALL BOND BEAMS, INCLUDING THE TOP BOND BEAM, SHALL BE DISCONTINUOUS AT CONTROL AND ISOLATION JOINTS. CONTRACTOR SHALL SUBMIT A JOINT LAYOUT PLAN FOR APPROVAL PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING WALL ELEVATIONS AS PART OF THE SUBMITTAL. WALL ELEVATIONS SHALL INCLUDE HORIZONTAL AND VERTICAL REINFORCING, EMBEDS, CONTROL JOINTS, OPENINGS, ETC. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR ALL OPENING LOCATION.
7. EMBEDDED CONDUIT, PIPES OR SLEEVES SHALL BE NO CLOSER THAN 3 DIAMETER ON CENTER OR DISPLACE MORE THAN 2% OF THE NET AREA.
8. LOOSE LINTELS SUPPORTING MASONRY VENEERS, UNLESS NOTED OTHERWISE, SHALL BE:
- |               |                    |
|---------------|--------------------|
| OPENING WIDTH | LINTEL             |
| < 4'-0"       | L3 1/2X3 1/2X3/8   |
| 6'-4" > 4'-0" | L6X3 1/2X3/8 (LLV) |
| 8'-8" > 6'-4" | L7X4X3/8 (LLV)     |
- ALL LINTELS SHALL BEAR A MINIMUM OF 8" ON EACH END. EXTERIOR LINTELS SHALL BE GALVANIZED UNLESS NOTED OTHERWISE BY ARCHITECT.



1627 MAIN STREET, SUITE 600  
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100  
KANSAS CITY, MO 64108



PEC AUTHORITY NUMBER: EGC 000465F

1100 MAIN ST, STE 1800  
KANSAS CITY, MO 64105



1301 BURLINGTON  
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172



MARK	DATE	DESCRIPTION
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ISSUED FOR: FINAL REVIEW

PROJECT NO: 250104-000

REVIT FILE: 250104-000\_STRUCT\_R24.rvt

DESIGNED BY: JSH

DRAWN BY: DGC

CHECKED BY: MWK

APPROVED BY: WTL

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SHEET TITLE

STRUCTURAL  
GENERAL NOTES

S-001



POST INSTALLED ANCHORING SYSTEMS

1. SUBSTITUTION OF POST INSTALLED ANCHORS FOR EMBEDDED ANCHORS SHOWN ON THE DRAWINGS WILL NOT BE PERMITTED UNLESS APPROVED BY THE ENGINEER OF RECORD IN ADVANCE.
2. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S PRINTED INSTALLATION INSTRUCTIONS (MPI) AND THE EVALUATION REPORT (ER/ESR) SPECIFIED INCLUDING HOLE PREPARATION, TEMPERATURE AND MOISTURE CONDITIONS.
3. ADHESIVE ANCHORS:

A. THE CONTRACTOR SHALL ARRANGE AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL ANCHOR PRODUCTS SPECIFIED. THE CONTRACTOR MUST MAINTAIN TRAINING RECORDS OF ALL CONTRACTOR PERSONNEL INSTALLING ANCHORS AND SUBMIT TO THE ENGINEER OF RECORD PRIOR TO INSTALLING ANCHORS UPON REQUEST.

B. ADHESIVE ANCHORS SHALL BE USED IN CONJUNCTION WITH THE APPROPRIATE ADHESIVE SYSTEM. STANDARD REINFORCING STEEL REBAR ANCHORED IN CONCRETE SHALL BE IN ACCORDANCE WITH ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. ALL THREADED ANCHORS SHALL BE IN ACCORDANCE TO ASTM F1554 GRADE 36 (OR BETTER) OR STAINLESS STEEL 304/316.
- C. APPROVED ADHESIVES FOR PREVIOUSLY CAST CONCRETE:

MANUFACTURER/PRODUCT	EVALUATION REPORT
HILTI HIT-HY200	ICC-ES ESR-3963
HILTI HIT-HY270 SAFE SET INSTALLATION	ICC-ES ESR-3187
HILTI HIT-RE 500 V3 SAFE SET INSTALLATION	ICC-ES ESR-2322/3814
SIMPSON STRONG-TIE SPEED CLEAN SET-3G	ICC-ES ESR-4057
SIMPSON STRONG-TIE SPEED CLEAN AT-3G	ICC-ES ESR-5026

- D. APPROVED ADHESIVES FOR GROUTED MASONRY:

MANUFACTURER/PRODUCT	EVALUATION REPORT
HILTI HIT-HY 200 SAFE SET	ICC-ES ESR-4143
SIMPSON STRONG-TIE SPEED CLEAN SET-3G	ICC-ES ESR-4844

4. POWDER ACTUATED FASTENERS:

- A. APPROVED ANCHORS FOR STEEL OR PREVIOUSLY CAST CONCRETE:

MANUFACTURER AND PRODUCT	EVALUATION REPORT
HILTI X-U (0.157" DIA., 1" EMBED)	ICC-ES ESR-2269

CONSTRUCTION DETAILS FOR STRUCTURAL MOVEMENT

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ACCOMMODATIONS IN GLAZING, ARCHITECTURAL FINISHES, PLUMBING, HVAC, AND ELECTRICAL ELEMENTS TO PREVENT DAMAGE DUE TO DEFLECTION OF ROOF, WALL AND FLOOR MEMBERS.
2. VERTICAL DEFLECTIONS DUE TO GRAVITY LOADS:

	LIVE/SNOW/WIND	TOTAL
OPEN WEB ROOF JOISTS	L/360	L/240
WIDE FLANGE ROOF BEAMS & GIRDERS	L/360	L/240
SUPPORTING VERTICAL BRICK OR STONE		L/600 (0.3" MAX)
SUPPORTING VERTICAL GLASS		L/480
COMPOSITE FLOOR WIDE FLANGE BEAMS*	L/360	L/240

\*AFTER THE FLOOR CONCRETE IS POURED. DO NOT ATTACH ANY ELEMENT TO A FLOOR SYSTEM BEFORE THE FLOOR SLAB IS POURED AND SHORING IS REMOVED.
3. HORIZONTAL DEFLECTIONS OF INDIVIDUAL MEMBERS:

A. EXTERIOR WALLS

WIND OR SEISMIC

WITH PLASTER OR STUCCO FINISHES	L/360
WITH BRICK OR STONE VENEER	L/600
WITH GLASS FINISHES	L/175 (MAX 3/4")
WITH METAL PANEL FINISHES	L/180

B. INTERIOR WALLS

WITH PLASTER OR STUCCO FINISHES	L/360
ALL OTHERS	L/240
5. VIBRATION

A. THIS STRUCTURE HAS NOT BEEN ANALYZED FOR VIBRATION CAUSED BY FOOTFALL, EQUIPMENT, ETC.

CONTRACT/CONSTRUCTION DOCUMENTS

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN A FULL SET OF THE MOST RECENT REVISIONS OF EACH DOCUMENT INCLUDING ALL PLANS, SPECIFICATIONS, ADDENDA, AND SUPPLEMENTAL INSTRUCTIONS.
2. THE CONTRACTOR SHALL REVIEW THE DOCUMENTS PRIOR TO FABRICATION AND/OR INSTALLATION OF ANY MATERIALS FOR CONFLICTS. IF CONFLICTS OCCUR THE CONTRACTOR SHALL USE THE MOST STRINGENT REQUIREMENT OR REQUEST A CLARIFICATION THROUGH A REQUEST FOR INFORMATION (RFI).
3. THE DOCUMENTS MAY NOT BE REPRODUCED IN WHOLE OR IN PART FOR USE ON PROJECTS OTHER THAN IDENTIFIED IN THE TITLE BLOCK. SHOULD THE CONTRACTOR USE THE DOCUMENTS AS A PORTION OF A SHOP DRAWING SUBMITTAL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONSEQUENCES RESULTING FROM ERRORS IN THE REPRODUCED DOCUMENTS.
4. DETAILS LABELED TYPICAL ARE INTENDED TO REPRESENT A CONDITION THAT OCCURS AT SEVERAL LOCATIONS IN THE PLANS WHETHER OR NOT THE DETAIL IS REFERENCED.
5. DO NOT SCALE THE PLANS AND DETAILS FOR THE PURPOSE OF ESTABLISHING DIMENSIONS.

CONTRACTOR'S RESPONSIBILITY

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING ALL SUB-CONTRACTOR SUBMITTALS AND NOTING ALL DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS PRIOR TO SUBMITTING TO THE ENGINEER FOR REVIEW.
2. SUBSTITUTION REQUESTS SHALL BE SUBMITTED IN WRITING WITH THE COST REDUCTION AMOUNT AND THE SCHEDULE IMPACT FOR THE OWNER (SUBMITTALS WITHOUT THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED). A COMPARISON OF THE DATA WITH THE MATERIAL SPECIFIED INCLUDING CODE APPROVALS SHALL BE PROVIDED.
3. REQUESTS FOR INFORMATION (RFI) SHALL BE SUBMITTED IN WRITING WITH COST, SCHEDULE IMPACT, AND SUGGESTED SOLUTION INCLUDED. AN RFI THAT DOES NOT INCLUDE THE COST AND SCHEDULE IMPACT WILL NOT BE REVIEWED.
4. DEFECTIVE WORK REPORT (DWR) SHALL BE SUBMITTED TO THE ENGINEER. THE DWR SHALL REPORT THE DEFECT AND PROPOSE A REMEDIATION OF THE DEFECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDIATION OF THE DEFECT INCLUDING ENGINEERING COSTS, IF ANY.
5. WHEN THE CONTRACTOR BECOMES AWARE OF WHAT MAY BE AN UNFORESEEN CONDITION THAT COULD AFFECT COST OR SCHEDULE, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING. AFTER REVIEW AND ENGINEER'S DETERMINATION THAT AN UNFORESEEN CONDITION EXISTS, THE CONTRACTOR SHALL SUBMIT A CHANGE ORDER REQUEST FOR APPROVAL WITH BOTH COST AND SCHEDULE IMPACT ATTACHED.
6. THE CONTRACTOR'S SCHEDULE MUST PROVIDE A REASONABLE TIME ALLOWANCE FOR THE ENGINEERING REVIEW AND APPROVAL.
7. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR SITE SAFETY. THE ENGINEER IS RESPONSIBLE FOR FOLLOWING THE CONTRACTOR'S CONSTRUCTION SITE SAFETY INSTRUCTIONS PROVIDED IN WRITING. ALTERNATELY, THE CONTRACTOR SHALL ASSIGN AN ESCORT TO ADVISE THE ENGINEER OF SITE SAFETY ISSUES DURING SITE VISITS. THE ENGINEER'S PURPOSE OF A SITE VISIT IS SOLELY TO BECOME FAMILIAR WITH THE GENERAL PROGRESS AND QUALITY OF THE PROJECT. THE ENGINEER'S SITE VISIT IS NOT A QUALITY CONTROL FUNCTION.

CONSTRUCTION MEANS AND METHODS ISSUES

1. SLAB ON GRADE AND ELEVATED SLABS ARE NOT DESIGNED TO SUPPORT CRANES, FORKLIFTS, TRUCKS, MANLIFTS, OR OTHER CONSTRUCTION RELATED EQUIPMENT UNLESS NOTED AS SUCH. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE IF CONSTRUCTION EQUIPMENT CAN BE SAFELY OPERATED ON THESE SLABS AND TO REPAIR ANY DAMAGE THE EQUIPMENT MAY CAUSE.
2. THE CONSTRUCTION DOCUMENTS REPRESENT A STABLE STRUCTURE IN THE COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ANY TEMPORARY BRACING AND/OR SHORES TO SAFELY CONSTRUCT THE BUILDING AND PREVENT DAMAGE DURING CONSTRUCTION.
3. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION THAT MAY AFFECT THE PROJECT AND REPORT DISCREPANCIES TO THE ENGINEER. ANY DIMENSIONS FOR ELEVATIONS THAT IMPACT NEW WORK SHALL BE VERIFIED PRIOR TO FABRICATION OF ANY MATERIAL. EXISTING BUILDING ELEMENTS THAT ARE TO BE ABANDONED THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.
4. WHEN A PIECE OF EQUIPMENT (HVAC, ELECTRICAL, KITCHEN, ETC.) IS PROVIDED THAT IS DIFFERENT THAN THE EQUIPMENT THAT THE STRUCTURE WAS DESIGNED FOR EITHER BY SIZE, WEIGHT OR CONFIGURATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE REMEDY OF THE SITUATION. THOSE COSTS SHALL INCLUDE THE ENGINEERING COSTS TO REDESIGN PORTIONS OF THE STRUCTURE TO ACCOMMODATE THE SUBSTITUTED EQUIPMENT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE STRUCTURAL DESIGN AND MATERIALS FOR ATTACHING NON-STRUCTURAL ELEMENTS TO ANY PORTION OF THE STRUCTURE TO RESIST ALL LOADS, INCLUDING SEISMIC, IN A WAY THAT DOES NOT OVERSTRESS STRUCTURAL MEMBERS. NON-STRUCTURAL ELEMENTS CAN BE FOUND IN EACH OF THE OTHER DISCIPLINES (ARCHITECTURAL, MECHANICAL, ELECTRICAL, ETC.).

STRUCTURAL TESTS, INSPECTIONS, AND QUALITY ASSURANCE

1. ALL STRUCTURAL TESTS AND INSPECTIONS SHALL BE PERFORMED PER CHAPTER 17 OF THE BUILDING CODE WITH LOCAL SUPPLEMENTS, UNLESS MORE STRINGENT REQUIREMENTS ARE SPECIFIED.

INSPECTION OF STEEL ELEMENTS OF COMPOSITE CONSTRUCTION PRIOR TO CONC. PLACEMENT

Inspection of Steel Elements of Composite Construction Prior to Concrete Placement	QUALITY CONTROL	QUALITY ASSURANCE
Placement and installation of steel deck	P	P
Placement and installation of steel headed stud anchors	P	P
Document acceptance or rejection of steel elements	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.  
Quality Assurance - Requirements on the part of the project owner's representative.  
P Perform these tasks for each weld joint or member.  
O Observe these items on a random basis. Operations need not be delayed pending these inspections

REQUIRED SPECIAL INSPECTIONS OF STEEL CONSTRUCTION OTHER THAN STRUCT STEEL		
TYPE	FREQUENCY	REFERENCED STANDARD
1. Material verification of cold-formed steel deck: <div>a. Identification markings to conform to ASTM standards specified in the approved construction documents.</div> <div>b. Manufacturer's certified test reports.</div>	Periodic	ASTM standards
2. Inspection of welding: <div>a. Cold-formed steel deck:</div> <div>1. Floor and roof deck welds.</div>	Periodic	AWS D1.3

REQUIRED QUALITY ASSURANCE PROTOCOL FOR MASONRY CONSTRUCTION

MINIMUM VERIFICATION REQUIREMENTS					
Minimum Verification	REQUIRED FOR QUALITY ASSURANCE <sup>(a)</sup>			REFERENCE FOR CRITERIA	
	Level 1	Level 2	Level 3		
Prior to construction, verification of compliance of submittals.	R	R	R		TMS 602
Prior to construction verification of $f_m$ and $f_{m,c}$ except where specifically exempted by the Code.	NR	R	R		Art. 1.4 B
During construction, verification of Slump flow and Visual Stability Index (VSI) when self-consolidating grout is delivered to the project site.	NR	R	R		Art. 1.5 & 1.6.3
During construction, verification of $f_m$ and $f_{m,c}$ for every 5,000 sq. ft (465 sq. m).	NR	NR	R		Art. 1.4 B
During construction verification of proportions of materials as delivered to the project site for premixed or preblended mortar, prestressing grout, and grout other than self-consolidation grout.	NR	NR	R		Art. 1.4 B
MINIMUM SPECIAL INSPECTION					
Inspection Task	FREQUENCY <sup>(a)</sup>			REFERENCE FOR CRITERIA	
	Level 1	Level 2	Level 3		
1. As masonry construction begins, verify that the following are in compliance: <div>a. Proportions of site-prepared mortar</div> <div>b. Grade and size of prestressing tendons and anchorages</div> <div>c. Grade, type and size of reinforcement, connectors, anchor bolts, and prestressing tendons and anchorages</div> <div>d. Prestressing technique</div> <div>e. Properties of thin-bed mortar for AAC masonry</div> <div>f. Sample panel construction</div>	NR	P	P		TMS 402
2. Prior to grouting, verify that the following are in compliance: <div>a. Grout space</div> <div>b. Placement of prestressing tendons and anchorages</div> <div>c. Placement of reinforcement, connectors, and anchor bolts</div> <div>d. Proportions of site-prepared grout and prestressing grout for bonded tendons</div>	NR	P	C		TMS 602
3. Verify compliance of the following during construction: <div>a. Materials and procedures with the approved submittals</div> <div>b. Placement of masonry units and mortar joint construction</div> <div>c. Size and location of structural members</div> <div>d. Type, size and location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction</div> <div>e. Welding reinforcement</div> <div>f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F (4.4°C)) or hot weather (temperature above 90°F (32.2°C))</div> <div>g. Application and measurement of prestressing force</div> <div>h. Placement of grout and prestressing grout for bonded tendons is in compliance</div> <div>i. Placement of AAC masonry units and construction of thin-bed mortar joints</div>	NR	P	C		Art. 2.1, 2.6 A & 2.6 C
4. Observe preparation of grout specimens, mortar specimens, and/or prisms	NR	P	C		Art. 2.4B & 2.4 H

- (a) R = Required, NR = Not Required  
(b) Frequency refers to the frequency of inspection, which may be continuous during the task listed or periodically during the listed task, as defined in the table.  
NR = Not Required, P = Periodic, C = Continuous  
(c) Required for the first 5000 square feet (465 square meters) of AAC masonry  
(d) Required after the first 5000 square feet (465 square meters) of AAC masonry

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION

TYPE	FREQUENCY	REFERENCED STANDARD	IBC REFERENCE
1. Inspect reinforcement, including prestressing tendons, and verify placement.	Periodic	ACI 318 Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4
2. Reinforcing bar welding: <div>a. Verify weldability of reinforcing bars other than ASTM A706</div> <div>b. Inspect single-pass fillet welds, maximum 5/16"; and</div> <div>c. Inspect all other welds.</div>	Periodic Periodic Continuous	AWS D1.4 ACI 318: 26.5.4	
3. Inspect anchors cast in concrete.	Periodic	ACI 318: 17.8.2	
4. Inspection of anchors post installed in hardened concrete members. <sup>1</sup> <div>a. Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads.</div> <div>b. Mechanical anchors and adhesive anchors not defined in 4.a.</div>	Continuous Periodic	ACI 318: 17.8.2.4 ACI 318: 17.8.2	
5. Verify use of required design mix.	Periodic	ACI318: Ch.19, 26.4.3, 26.4.4 ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	1904.1, 1904.2 1908.2, 1908.3
6. Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of the concrete.	Continuous		1908.10
7. Inspection of concrete and shotcrete placement for proper application techniques.	Continuous	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques.	Periodic	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspection of prestressed concrete for: <div>a. Application of prestressing forces; and</div> <div>b. Grouting of bonded prestressing tendons.</div>	Continuous Continuous	ACI 318: 26.10 ACI 318: 26.10	
10. Inspect erection of precast concrete members.	Periodic	ACI 318: Ch. 26.9	
11. Verify in-situ concrete strength, prior to stressing of tendons in post-tensioned concrete and prior to removal of shores and forms from beams and structural slabs.	Periodic	ACI 318: 26.11.2	
12. Inspect formwork for shape, location and dimensions of the concrete member being formed.	Periodic	ACI 318: 26.11.1.2(b)	

- (a) Where applicable, see Section 1705.12, Special inspections for seismic resistance.  
(b) Specific requirements for special inspection shall be included in the research report for the anchor issued by an approved source in accordance with 17.8.2 in ACI 318, or other qualification procedures. Where specific requirements are not provided, special inspection requirements shall be specified by the registered design professional and shall be approved by the building official prior to the commencement of the work.

REQUIRED SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS		
TYPE	FREQUENCY	REFERENCED STANDARD
1. Installation of open-web steel joists and joist girders. <div>a. End connections - welding or bolted.</div> <div>b. Bridging - horizontal or diagonal.</div>	Periodic	SJI spec listed in Section 2207.1.
1. Standard bridging	Periodic	SJI spec listed in Section 2207.1.
2. Bridging that differs from the SJI specifications listed in Section 2207.1.	Periodic	

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL FOR WELDING PROCESS

Inspection Tasks Prior to Welding	QUALITY CONTROL	QUALITY ASSURANCE
Welding procedure specifications (WPSs) available	P	P
Manufacturer certifications for welding consumables available	P	P
Material identification (type/grade)	O	O
Welder identification system <sup>1</sup>	O	O
Fit-up of groove welds (including joint geometry) <ul style="list-style-type: none"><li>Joint preparation</li><li>Dimensions (alignment, root opening, root face, bevel)</li><li>Cleanliness (condition of steel surfaces)</li><li>Tacking (tack weld quality and location)</li><li>Backing type and fit (if applicable)</li></ul>	O	O
Configuration and finish of access holes	O	O
Fit-up of fillet welds <ul style="list-style-type: none"><li>Dimensions (alignment, gaps at root)</li><li>Cleanliness (condition of steel surfaces)</li><li>Tacking (tack weld quality and location)</li></ul>	O	O
Check welding equipment	O	--
Inspection Tasks During Welding	QUALITY CONTROL	QUALITY ASSURANCE
Use of qualified welders	O	O
Control and handling of welding consumables <ul style="list-style-type: none"><li>Packaging</li><li>Exposure Control</li></ul>	O	O
No welding over cracked tack welds	O	O
Environmental conditions <ul style="list-style-type: none"><li>Wind speed within limits</li><li>Precipitation and temperature</li></ul>	O	O
WPS followed <ul style="list-style-type: none"><li>Settings on welding equipment</li><li>Travel speed</li><li>Selected welding materials</li><li>Shielding gas type/flow rate</li><li>Preheat applied</li><li>Interpass temperature maintained (min/max)</li><li>Proper position (F, V, H, OH)</li></ul>	O	O
Welding Techniques <ul style="list-style-type: none"><li>Interpass and final cleaning</li><li>Each pass within profile limitations</li><li>Each pass meets quality requirements</li></ul>	O	O
Inspection Tasks After Welding	QUALITY CONTROL	QUALITY ASSURANCE
Welds cleaned	O	O
Size, length and location of welds	P	P
Welds meet visual acceptance criteria <ul style="list-style-type: none"><li>Crack prohibition</li><li>Weld/base-metal fusion</li><li>Crater cross section</li><li>Weld profiles</li><li>Weld size</li><li>Undercut</li><li>Porosity</li></ul>	P	P
Arc strikes	P	P
k-area <sup>2</sup>	P	P
Backing removed and weld tabs removed (if required)	P	P
Repair activities	P	P
Document acceptance or rejection of welded joint or member	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.  
Quality Assurance - Requirements on the part of the project owner's representative.  
P Perform these tasks for each weld joint or member.  
O Observe these items on a random basis. Operations need not be delayed pending these inspections  
1 The fabricator or erector, as applicable, shall maintain a system by which a welder who has welded a joint or member can be identified. Stamps, if used, shall be the low-stress type.  
2 When welding of doubler plates, continuity plates or stiffeners has been performed in the k-area, visually inspect the web k-area for cracks within 3 inches (75 mm) of the weld.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF STRUCTURAL STEEL FOR BOLTING PROCESS

Inspection Tasks Prior to Bolting	QUALITY CONTROL	QUALITY ASSURANCE
Manufacturer certifications available for fastener materials	O	P
Fasteners marked in accordance with ASTM requirements	O	O
Proper fasteners selected for the joint detail (grade, type, bolt length if threads are to be excluded from shear plane)	O	O
Proper bolting procedure selected for joint detail	O	O
Connecting elements, including the appropriate faying surface condition and hole preparation, if specified, meet applicable requirements	O	O
Pre-installation verification testing by installation personnel observed and documented for fastener assemblies and methods used	P	O
Proper storage provided for bolts, nuts, washers and other components	O	O
Inspection Tasks During Bolting	QUALITY CONTROL	QUALITY ASSURANCE
Fastener assemblies, of suitable condition, placed in all holes and washers (if required) are positioned as required	O	O
Joint brought to the snug-tight condition prior to the pretensioning operation	O	O
Fastener component not turned by the wrench prevented from rotating	O	O
Fasteners are pretensioned in accordance with the RCSC Specification, progressing systematically from the most rigid point toward the free edges	O	O
Inspection Tasks After Bolting	QUALITY CONTROL	QUALITY ASSURANCE
Document acceptance or rejection of bolted connections	P	P

Quality Control - Requirements on the part of the steel fabricator and erector.  
Quality Assurance - Requirements on the part of the project owner's representative.  
P Perform these tasks for each weld joint or member.  
O Observe these items on a random basis. Operations need not be delayed pending these inspections

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS	
TYPE	FREQUENCY
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Periodic
2. Verify excavations are extended to proper depth and have reached proper material.	Periodic
3. Perform classification and testing of compacted fill materials.	Periodic
4. Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill.	Continuous
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Periodic

- Special Inspection Additional Requirements:**  
• Additional items that need special inspection, in the opinion of the building official, shall be inspected.  
• Coordination of Special Inspections with construction of the inspected items shall be the responsibility of the contractor.  
• If Special Inspection is waived by the Authority having Jurisdiction, the general contractor shall provide the designer for record with a copy of the written exemption for each item that has been waived.  
• The building official may perform inspections in addition to and/or concurrently with the Special Inspection's outlined in the tables.  
• The general contractor is responsible for implementing a quality control program. The quality control program is in addition to the Special Inspection requirements and must meet or exceed those responsibilities required as part of the contract drawings and specifications.



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NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT

LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172




MARK	DATE	DESCRIPTION
ISSUED FOR:	FINAL REVIEW	
PROJECT NO:	250104-000	
REVIT FILE:	250104-000_STRUCT_R24.rvt	
DESIGNED BY:	JSH	
DRAWN BY:	DGC	
CHECKED BY:	MWK	
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GENERAL NOTES AND IBC INSPECTION TABLES

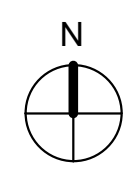
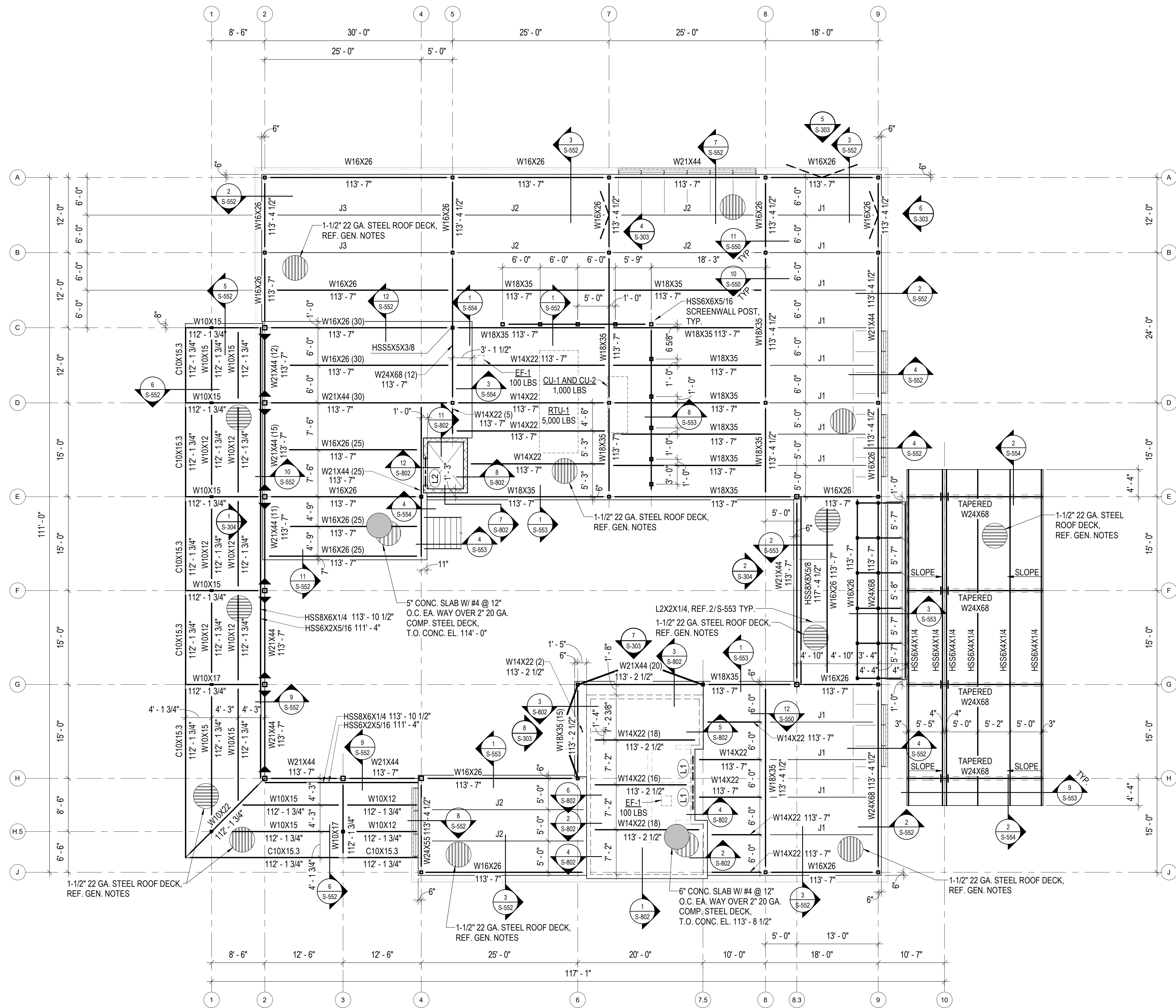
S-002







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**A**

**MEZZANINE AND LOW ROOF FRAMING PLAN**

0' 4' 8' 12' 1/8" = 1'-0"



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**MEZZANINE AND LOW  
ROOF FRAMING PLAN**

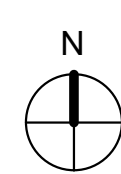
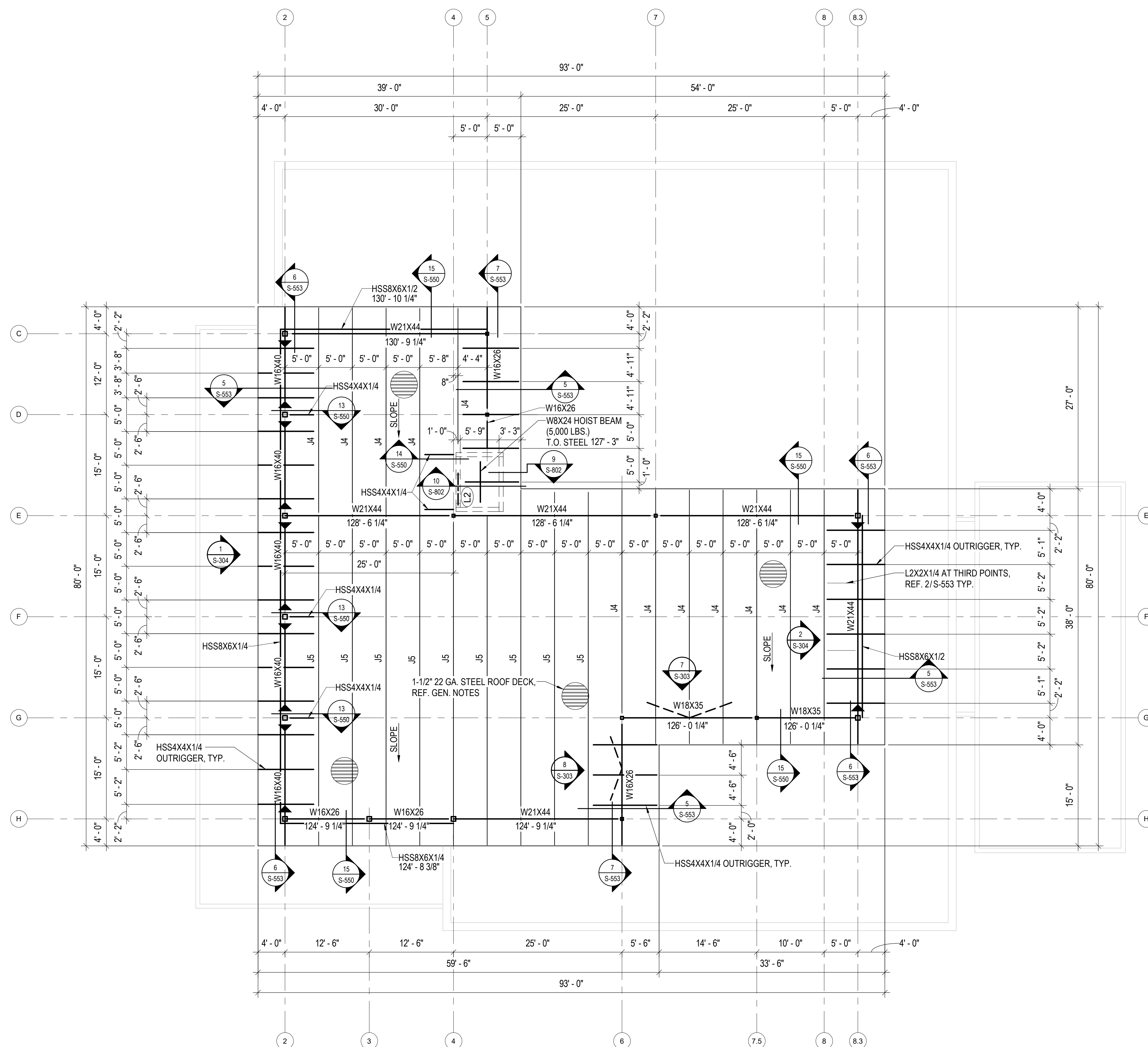




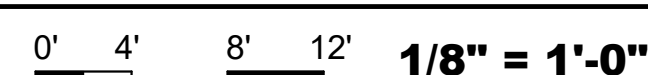
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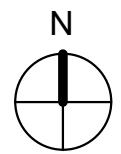
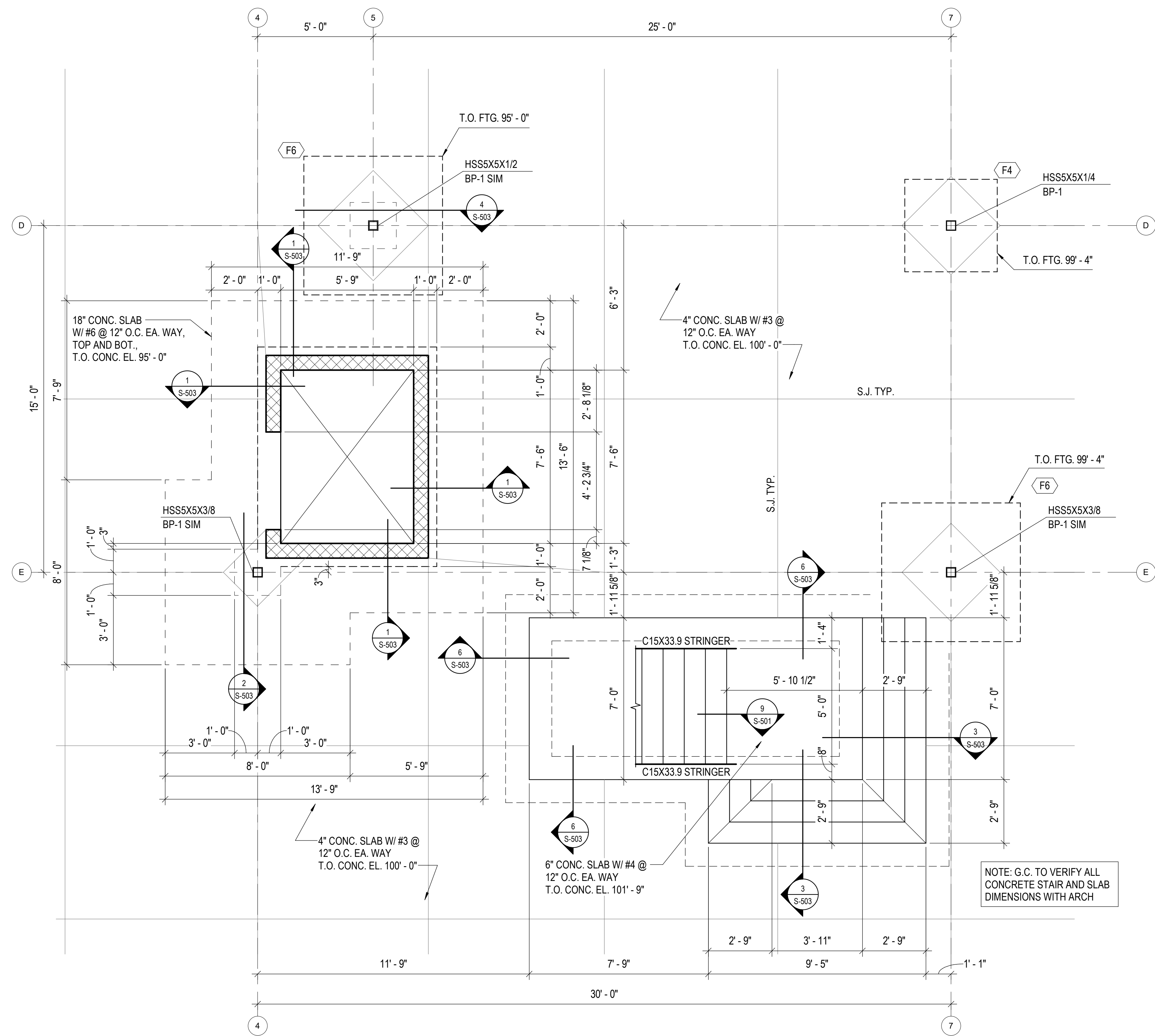
S-103



## HIGH ROOF FRAMING PLAN



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**A**

**ENLARGED FOUNDATION PLAN AT STAIRS AND ELEVATOR**

0' 4' 8' 12' 3/8" = 1'-0"



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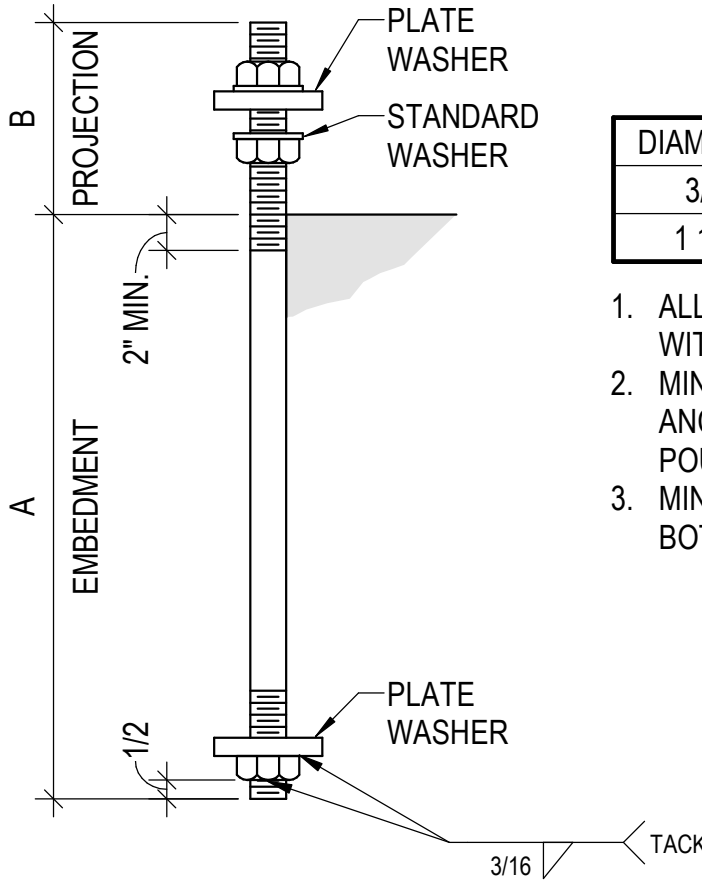
**ENLARGED PLAN**

**S-201**



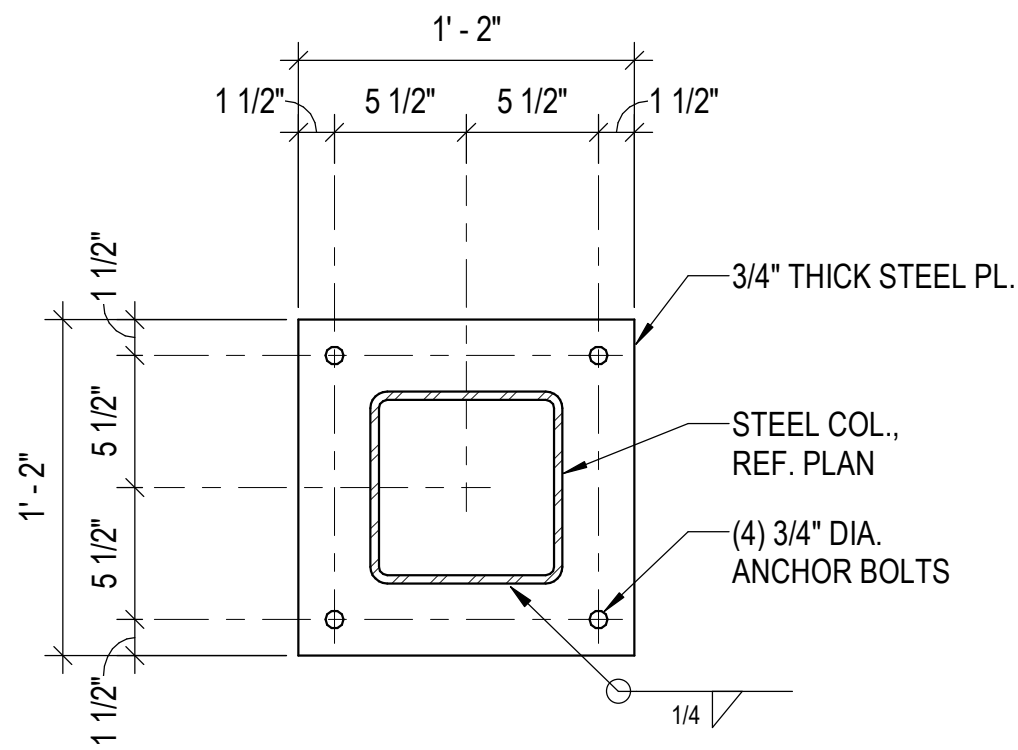
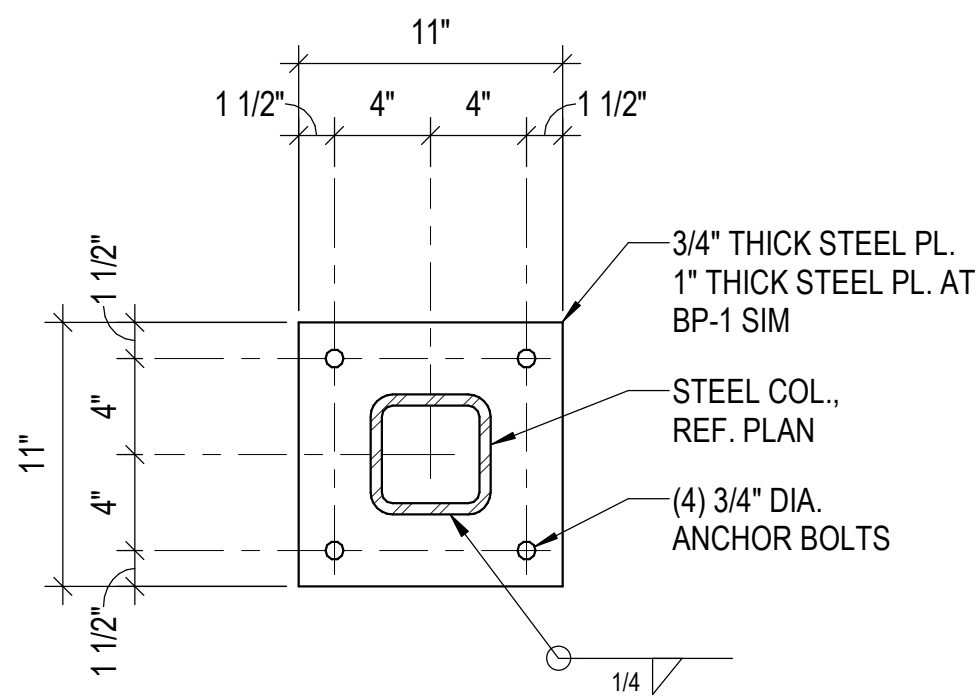
FOOTING SCHEDULE					
MARK	WIDTH	LENGTH	THICKNESS	REINFORCING	NOTES
F4	4'-0"	4'-0"	1'-4"	#6 @ 12" O.C. EA. WAY, BOT.	
F5	5'-0"	5'-0"	1'-4"	#6 @ 12" O.C. EA. WAY, BOT.	
F6	6'-0"	6'-0"	1'-4"	#6 @ 12" O.C. EA. WAY, BOT.	
F9	5'-0"	10'-0"	2'-0"	#6 @ 9" O.C. EA. WAY, TOP & BOT.	

GRADE BEAM SCHEDULE					
MARK	WIDTH	HEIGHT	REINFORCING	NOTES	
GB1	2'-0"	3'-0"	(3) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		
GB2	2'-6"	3'-0"	(4) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		
GB3	3'-0"	3'-0"	(5) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		
GB4	1'-0"	3'-0"	(2) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		
GB5	3'-0"	1'-4"	(4) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		
GB6	4'-0"	1'-4"	(5) #5 CONT. TOP & BOT. W/ #3 STIRRUPS @ 12" O.C.		



DIAMETER	A	B	PLATE SIZE
3/4"	1'-0"	6"	1/4"X2"
1 1/4"	1'-9"	8"	1/2"X3"

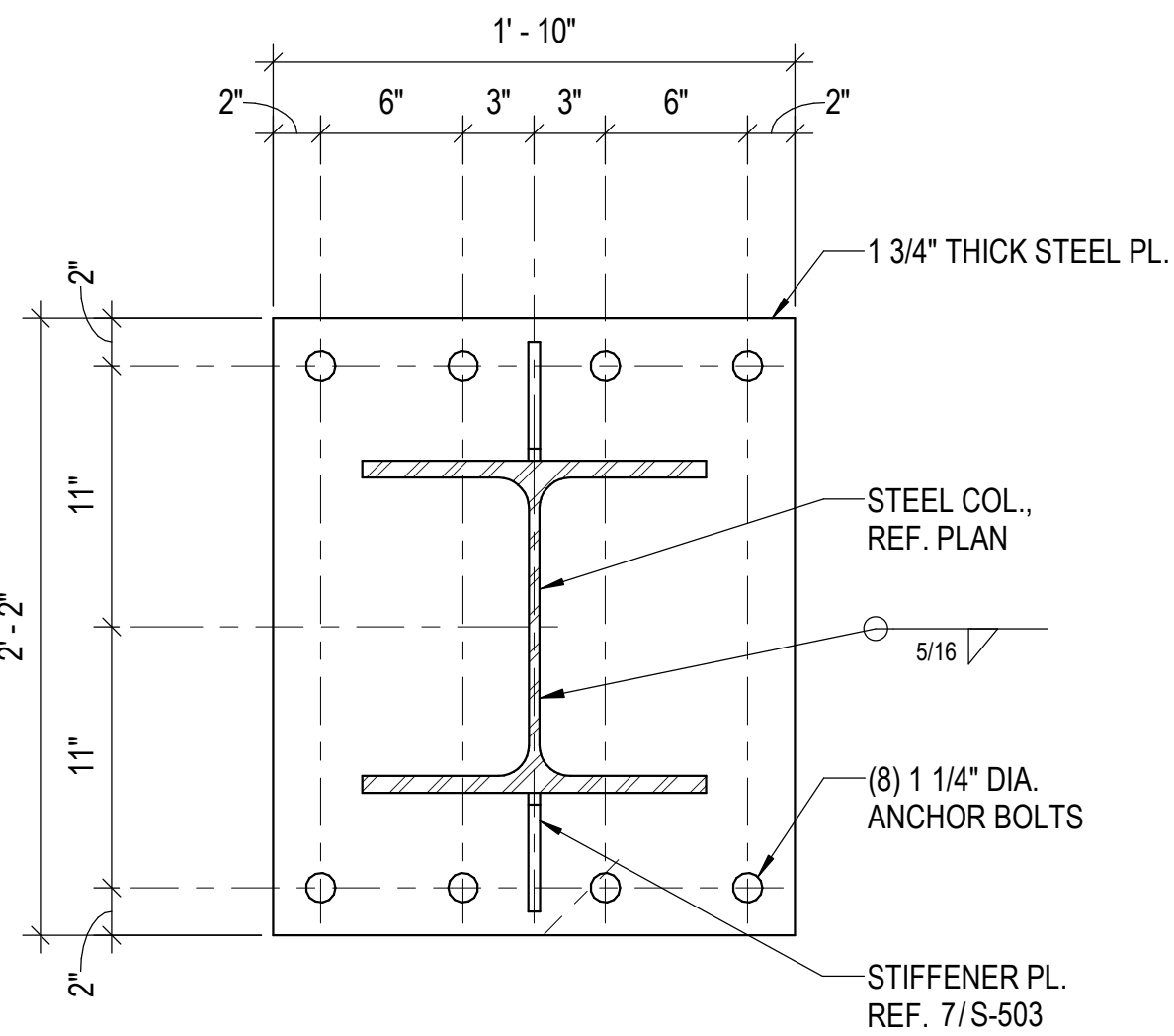
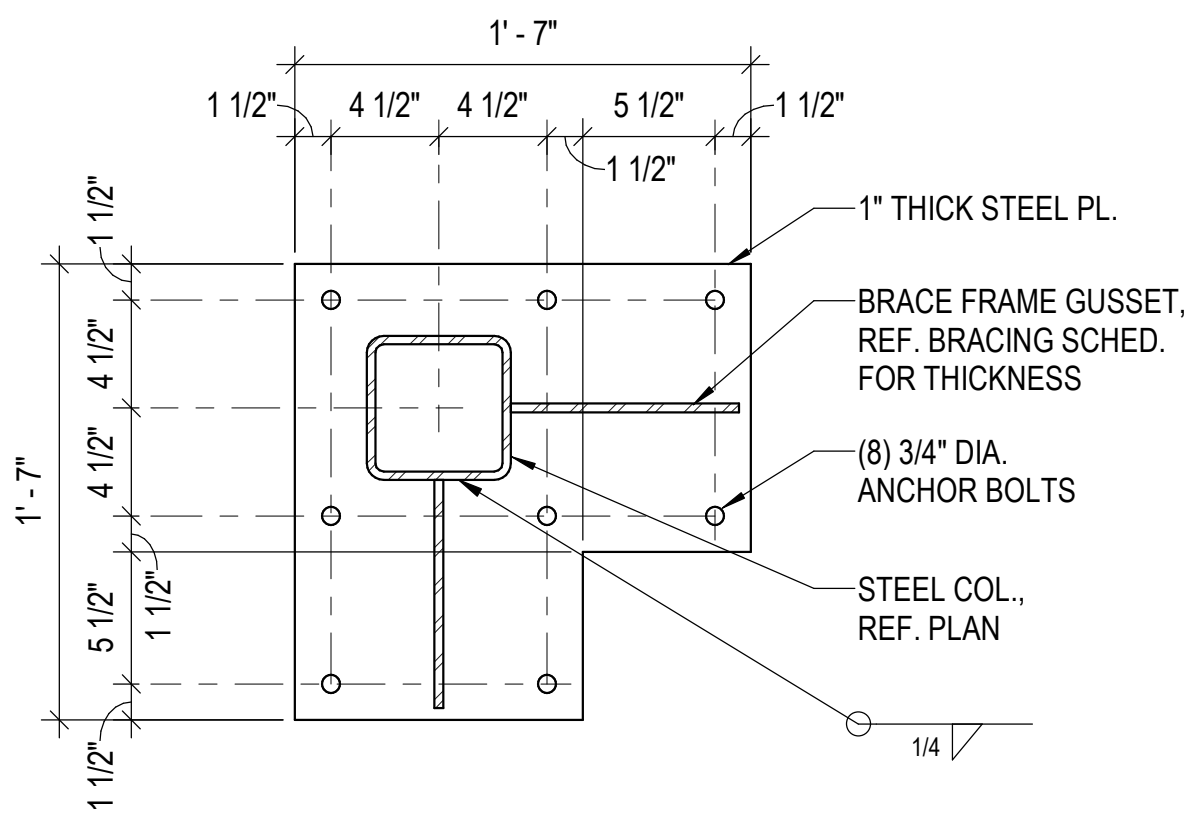
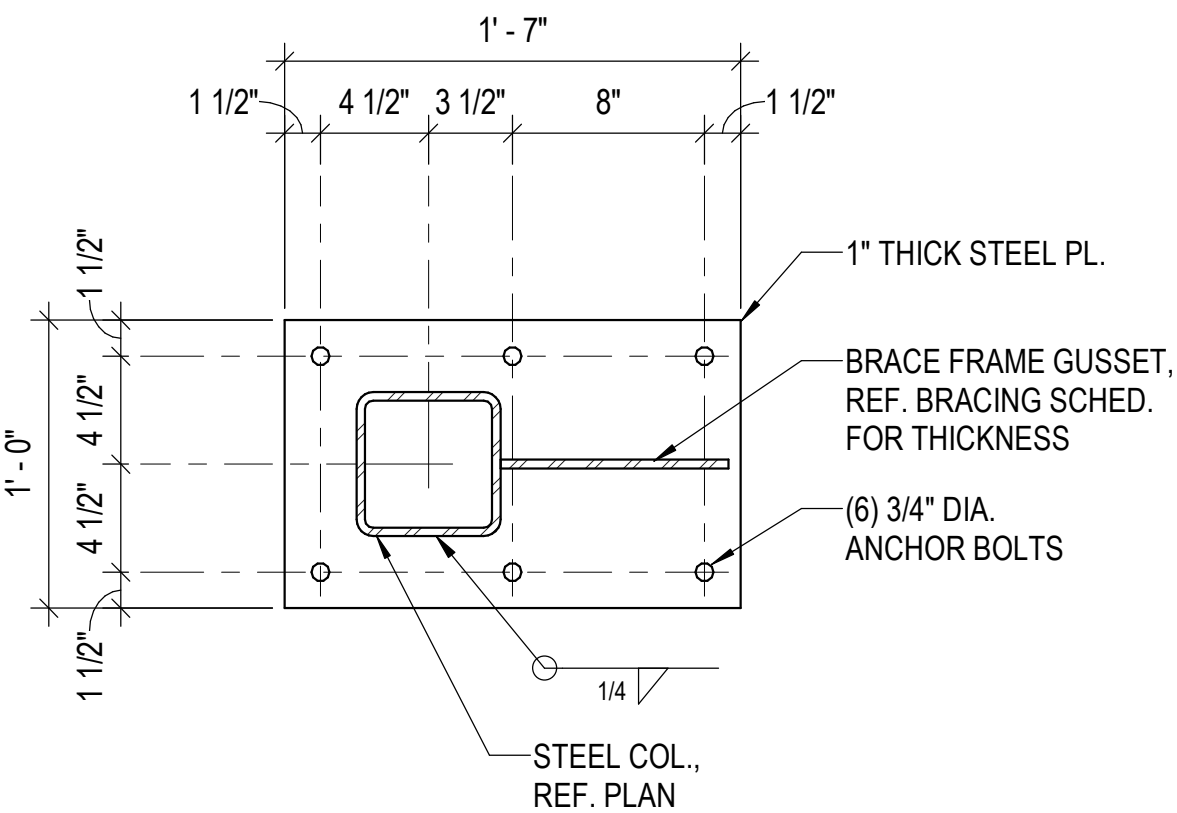
1. ALL ANCHOR BOLTS ARE TO BE SUPPLIED WITH 3 NUTS.
2. MINIMUM EMBEDMENT LENGTH OF ANCHOR MUST BE PLACED INTO A SINGLE POUR OF CONCRETE.
3. MINIMUM OF 3" CLEAR COVER TO BOTTOM OF FOUNDATION.



1 TYPICAL ANCHOR BOLT DETAIL  
3/4" = 1'-0"

2 BP-1  
1 1/2" = 1'-0"

3 BP-2  
1 1/2" = 1'-0"



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

5 BP-4  
1 1/2" = 1'-0"

6 BP-5  
1 1/2" = 1'-0"



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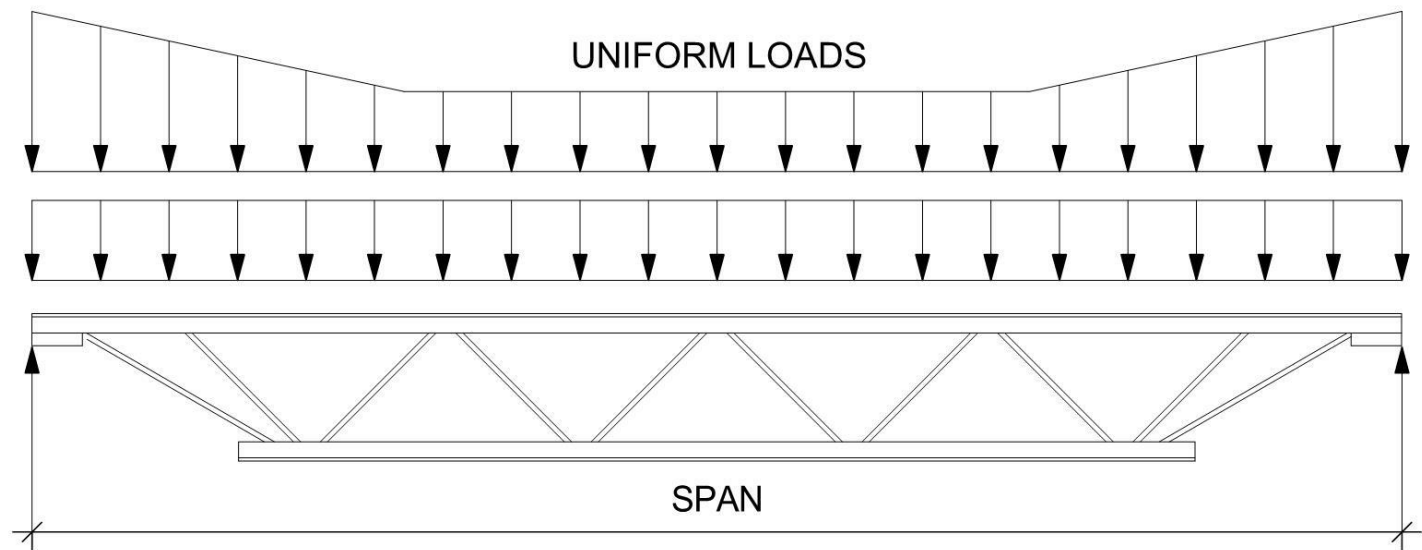
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SCHEDULES AND  
DETAILS

S-301



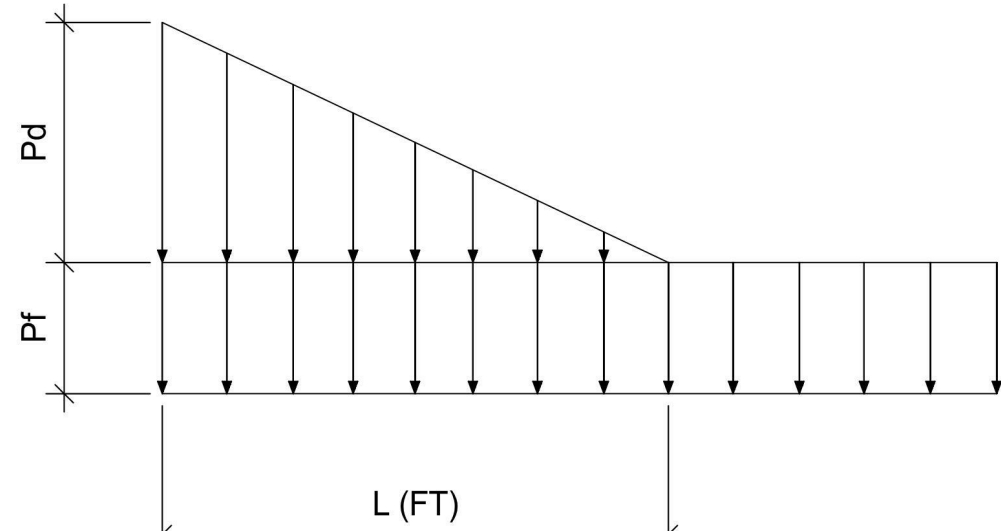
JOIST SCHEDULE



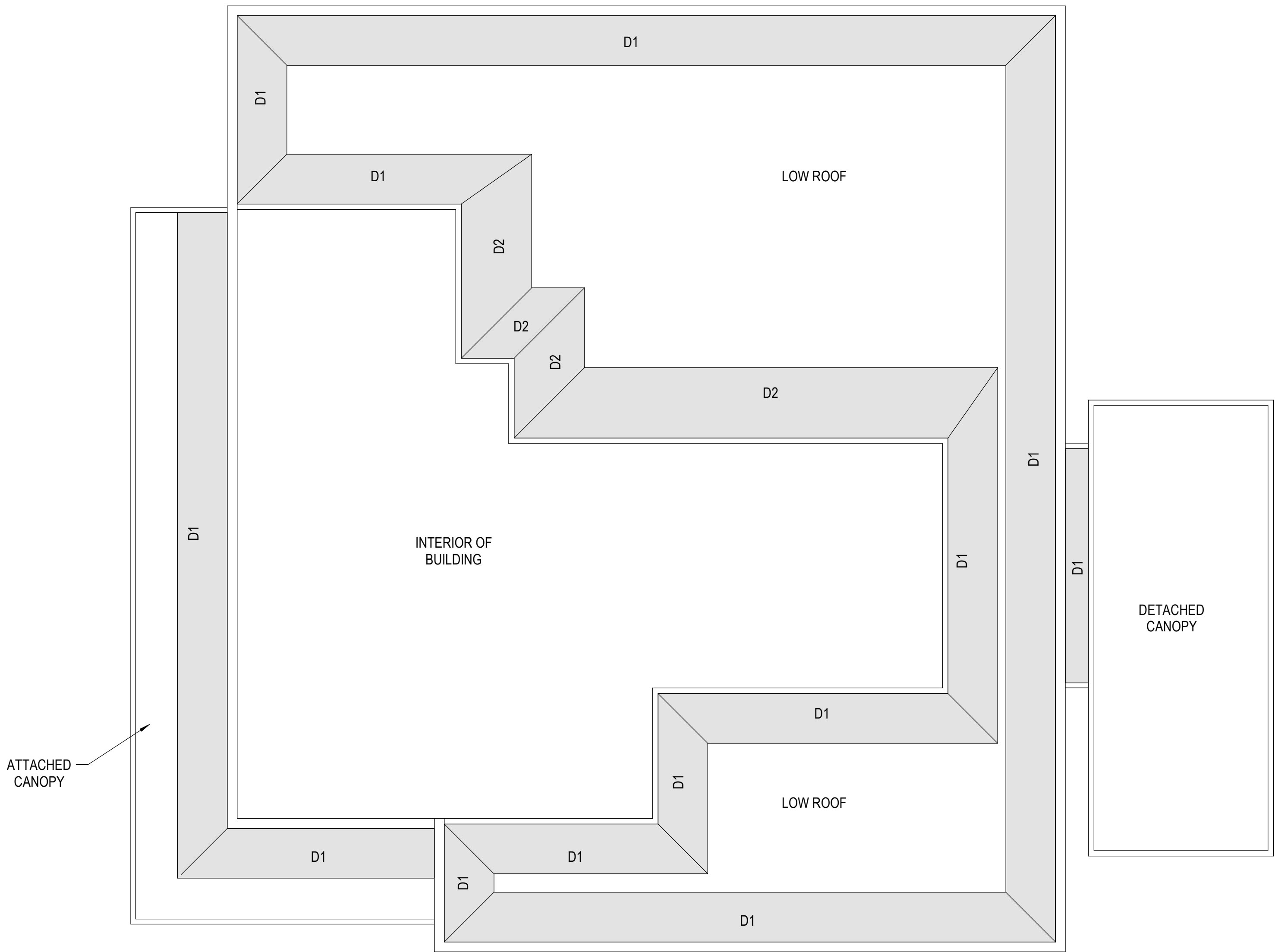
- NOTES:
- 1. REF. THE DELEGATED ENGINEERING OF STRUCTURAL COMPONENTS & SYSTEMS SECTION OF THE GENERAL NOTES FOR ADDITIONAL JOIST REQUIREMENTS.
  - 2. DESIGN JOISTS FOR THE CODE MANDATED GRAVITY AND LATERAL LOADS, REF. GENERAL NOTES, PLANS, AND DETAILS FOR LOADING CRITERIA.
  - 3. DESIGN JOISTS FOR SNOW DRIFT, REF. GENERAL NOTES AND SNOW DRIFT TABLE.
  - 4. DESIGN JOISTS FOR POSITIVE AND NEGATIVE (UPLIFT) WIND LOADS, REF. GENERAL NOTES AND COMPONENTS & CLADDING TABLE.
  - 5. DESIGN JOISTS FOR A 2250# ALLOWABLE ROLLOVER FORCE ACROSS THE JOIST SEAT.
  - 6. DESIGN JOISTS FOR TOP CHORD UNFACTORED ALLOWABLE (1.0W U.N.O.) AXIAL TENSION/COMPRESSION AS NOTED ON THE PLANS (T/C=?7K).
  - 7. REF. ALL PROJECT DESIGN PLANS AND DETAILS FOR ADDITIONAL POINT LOADS ON JOISTS (ARCH., MECH., ELEC., ETC.).
  - 8. JOIST DESIGNER MAY CAMBER FOR THE DEAD LOAD OF THE JOIST ONLY. NO ADDITIONAL CAMBER MAY BE USED.
  - 9. REF. THE MOVEMENT AND SERVICEABILITY SECTION OF THE GENERAL NOTES FOR MINIMUM JOIST DEFLECTION REQUIREMENTS.
  - 10. REF. PLAN AND DETAILS FOR JOIST CHORD EXTENSIONS, WHERE APPLICABLE.

TYPE	DEPTH	SERIES	SEAT DEPTH		NOTES
			LEFT	RIGHT	
J1	12"	K	2 1/2"	2 1/2"	
J2	18"	K	2 1/2"	2 1/2"	
J3	22"	K	2 1/2"	2 1/2"	
J4	22"	K	4"	4"	
J5	30"	K	4"	4"	

SNOW DRIFT SCHEDULE



MARK	Pd MAX. (PSF)	Pf (PSF)	LENGTH (L)	NOTES
D1	35.0	20.0	6'-0"	
D2	48.0	20.0	8'-6"	



1 SNOW DRIFT PLAN  
NO SCALE



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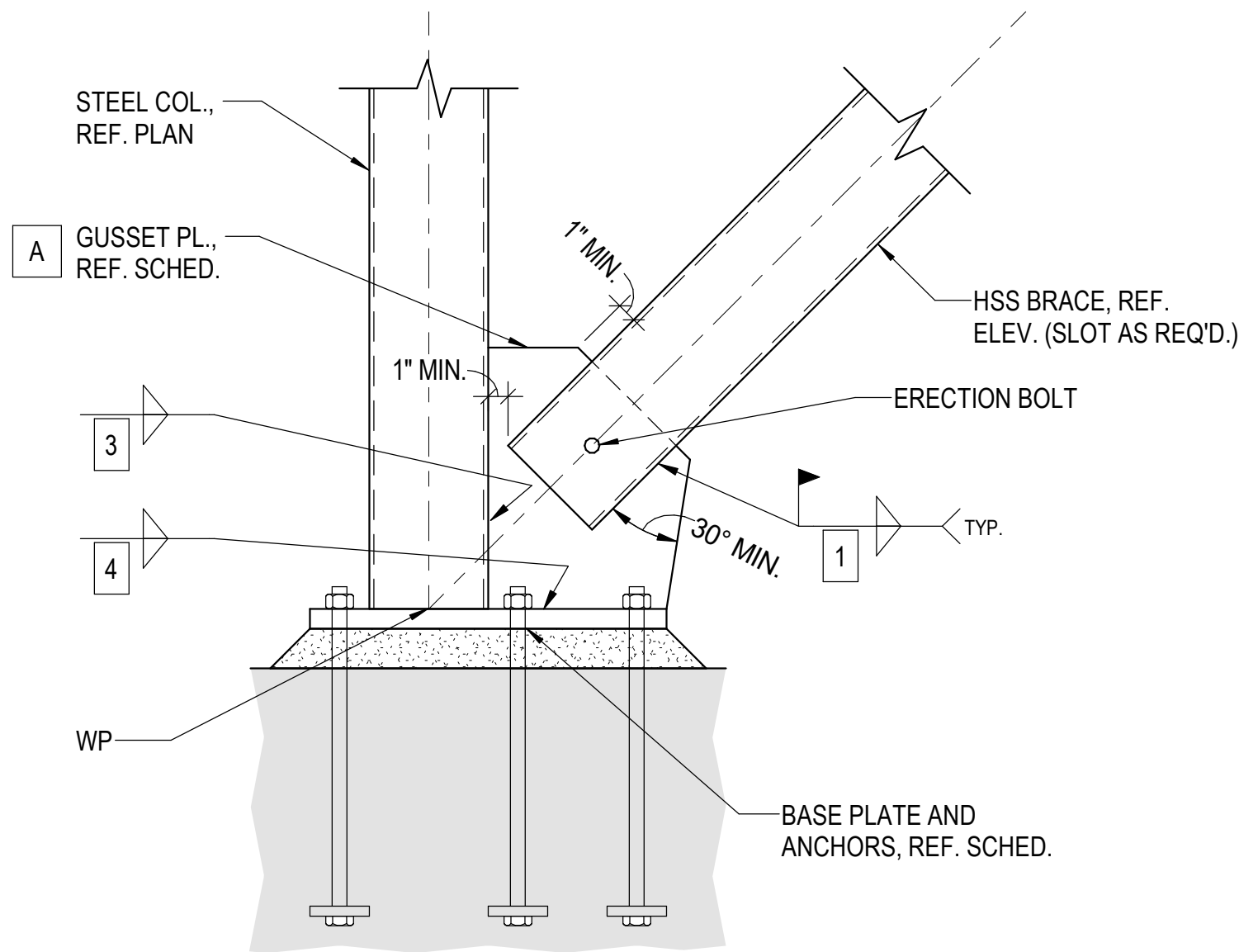


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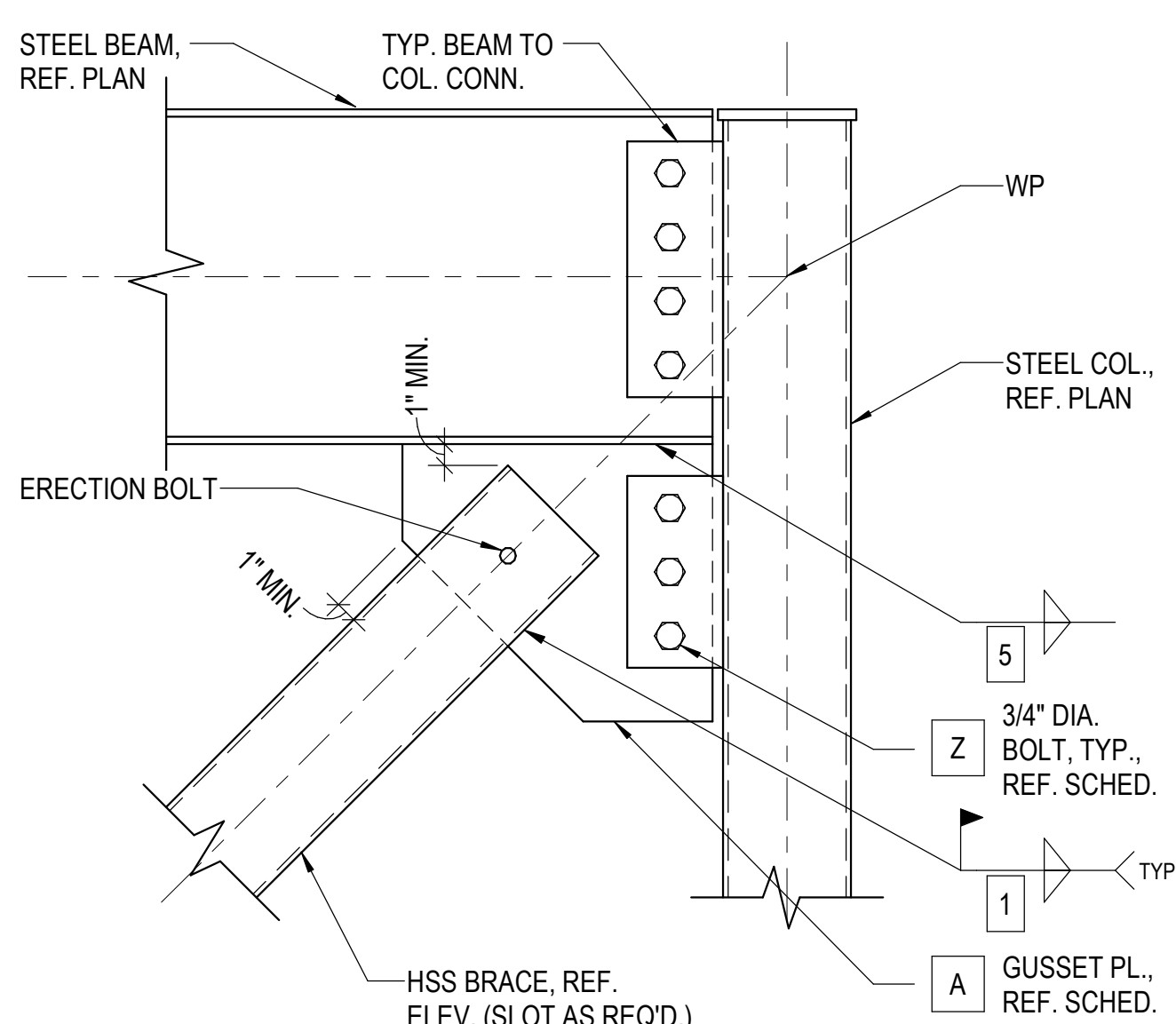
SCHEDULES AND  
DETAILS



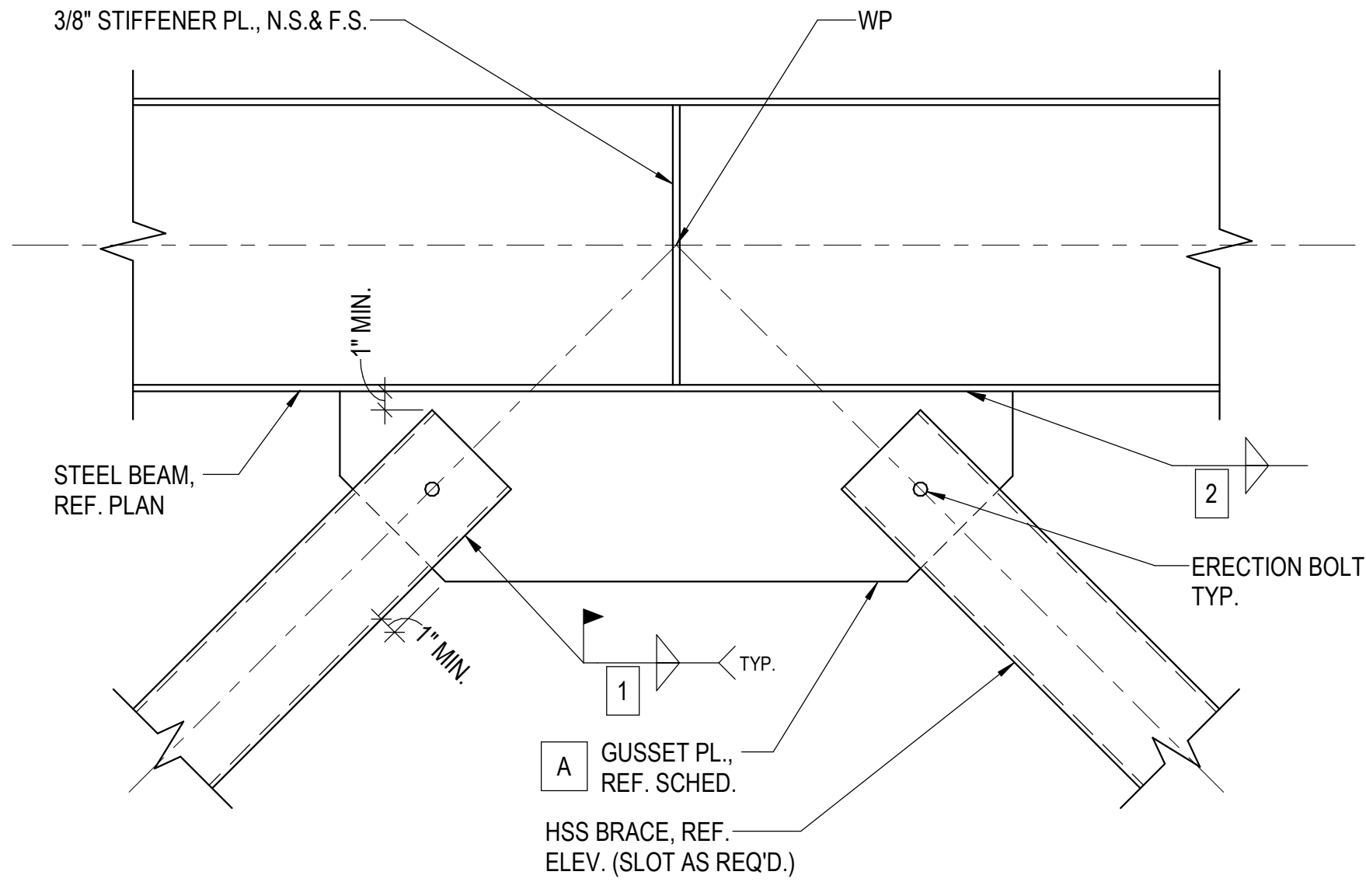
BRACING SCHEDULE													
FRAME ELEVATION	LEVEL	GUSSET THICKNESS [A]	BRACE TO GUSSET		CHEVRON GUSSET TO BEAM		GUSSET TO COLUMN			GUSSET TO BASE PLATE		GUSSET TO BEAM	
			WELD SIZE [1]	MIN. LENGTH	WELD SIZE [2]	MIN. LENGTH	WELD SIZE [3]	MIN. HEIGHT	# OF BOLTS [Z]	WELD SIZE [4]	MIN. LENGTH	WELD SIZE [5]	MIN. LENGTH
1	LOW ROOF	3/8"	1/4"	6"	1/4"	20"	1/4"	14"	N/A	1/4"	10"	N/A	N/A
2	LOW ROOF	3/8"	1/4"	6"	1/4"	24"	1/4"	18"	N/A	1/4"	10"	N/A	N/A
3	LOW ROOF	3/8"	1/4"	6"	1/4"	20"	1/4"	14"	N/A	1/4"	10"	N/A	N/A
4	HIGH ROOF	3/8"	1/4"	6"	1/4"	36"	1/4"	10"	3	N/A	N/A	1/4"	16"
5	HIGH ROOF	3/8"	1/4"	6"	1/4"	22"	1/4"	20"	5	N/A	N/A	1/4"	10"



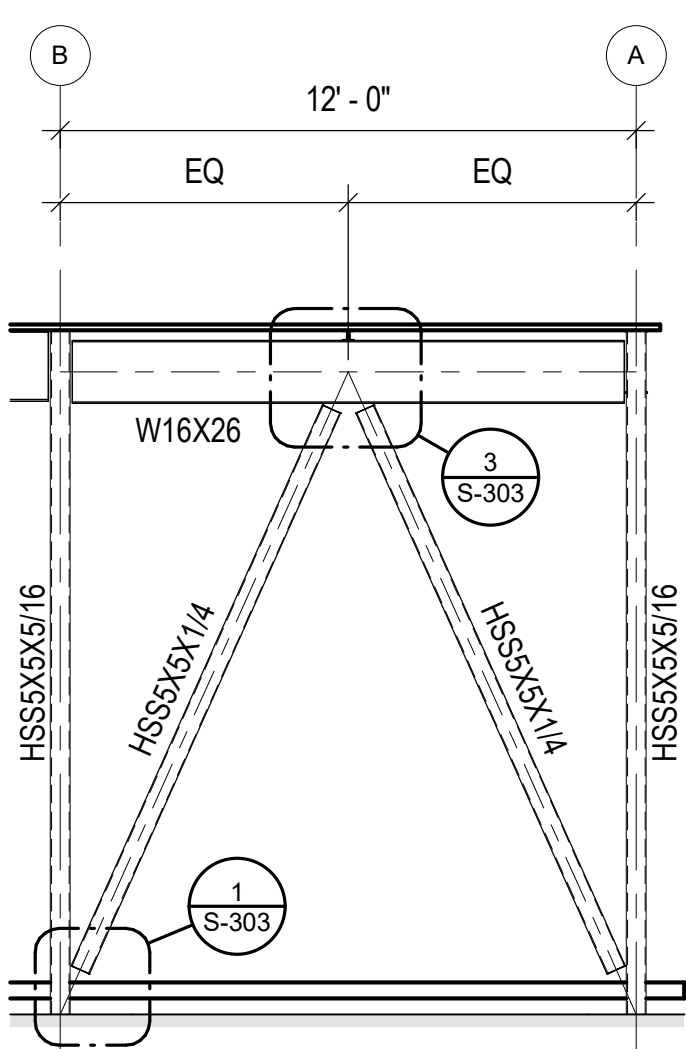
**1 BRACE FRAME AT BASE PLATE**  
NO SCALE



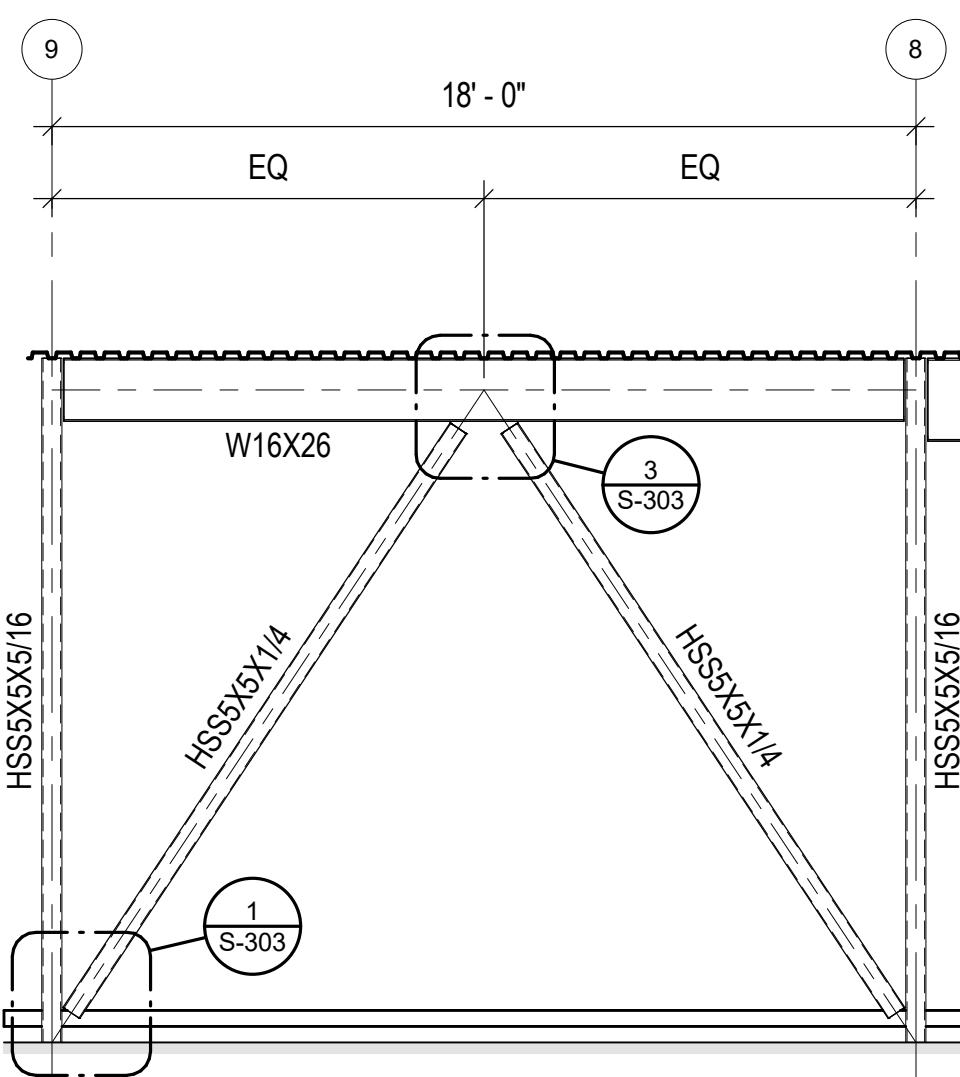
**2 BRACE FRAME AT COL./BEAM**  
NO SCALE



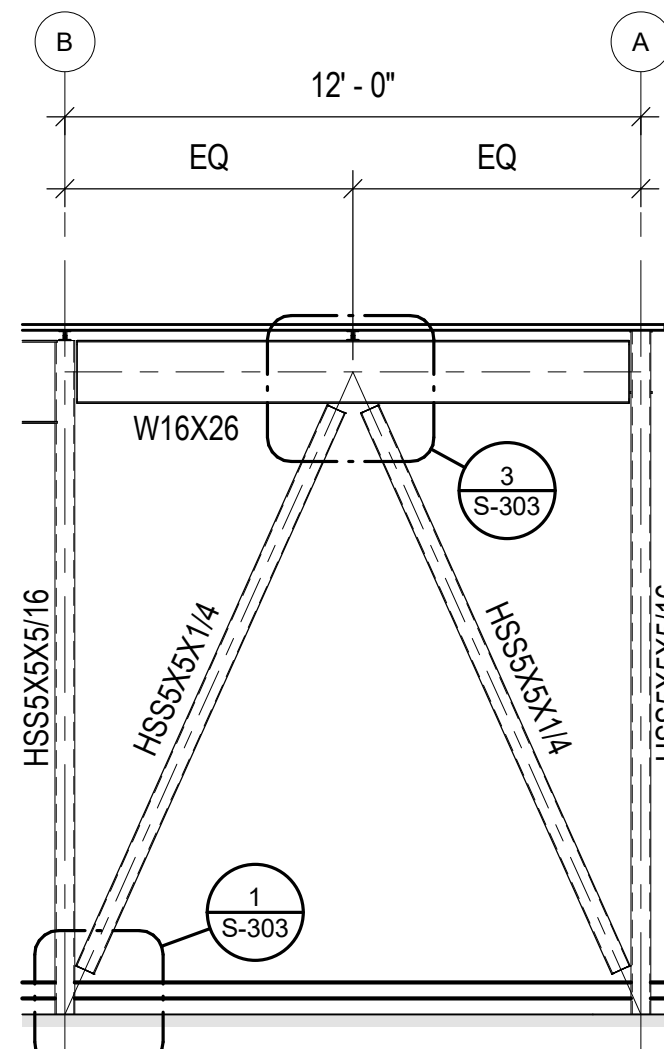
**3 BRACE FRAME AT BEAM**  
NO SCALE



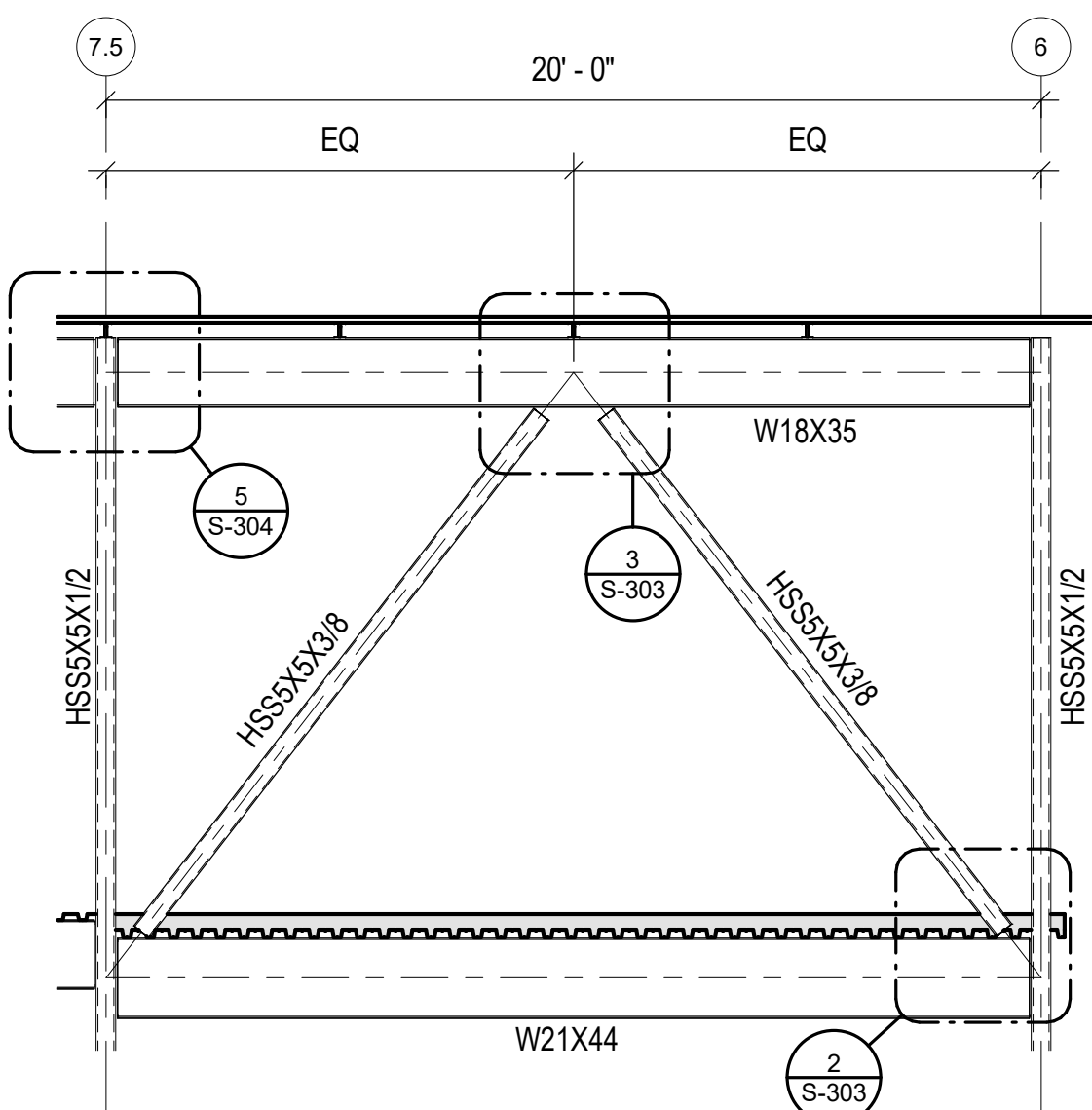
**4 BRACE FRAME ELEVATION 1 - GRID 7**  
1/4" = 1'-0"



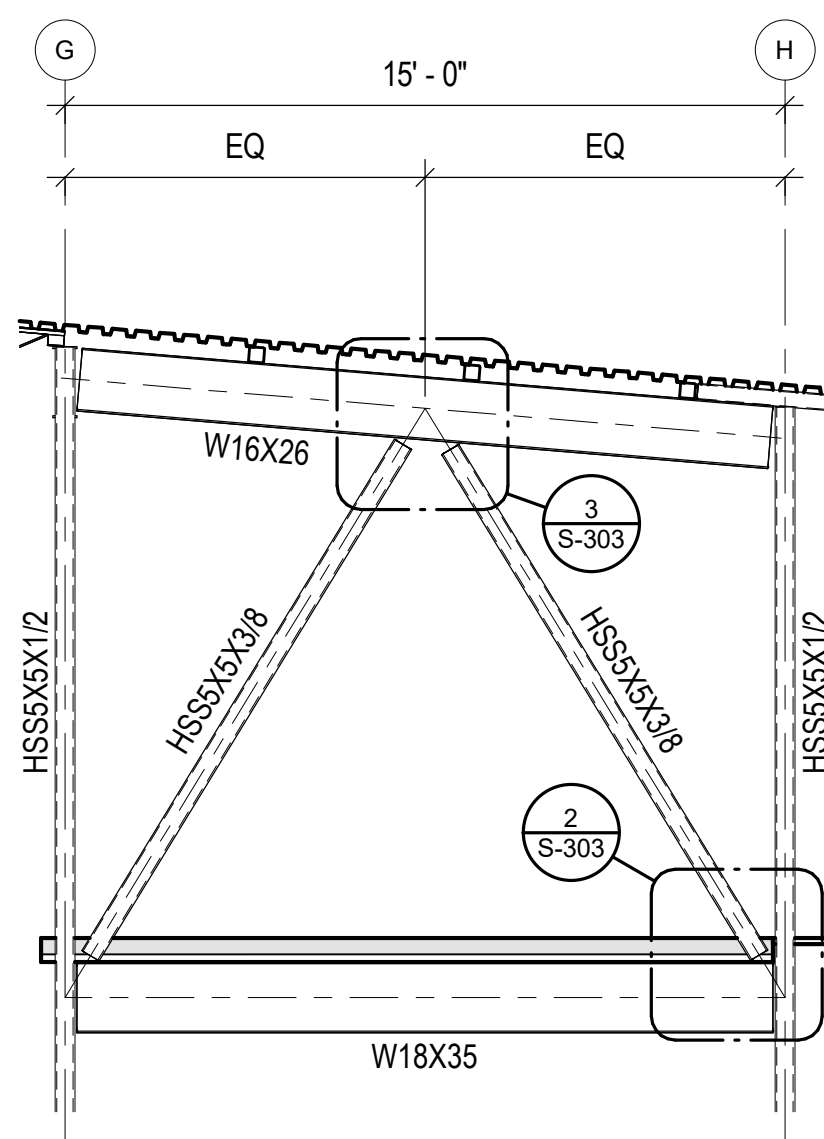
**5 BRACE FRAME ELEVATION 2 - GRID A**  
1/4" = 1'-0"



**6 BRACE FRAME ELEVATION 3 - GRID 9**  
1/4" = 1'-0"



**7 BRACE FRAME ELEVATION 4 - GRID G**  
1/4" = 1'-0"



**8 BRACE FRAME ELEVATION 5 - GRID 6**  
1/4" = 1'-0"



1627 MAIN STREET, SUITE 600  
KANSAS CITY, MO 64108



1627 MAIN STREET, SUITE 100  
KANSAS CITY, MO 64108



PEC AUTHORITY NUMBER: EGC 000465F

1100 MAIN ST, STE 1800  
KANSAS CITY, MO 64105



1301 BURLINGTON  
NORTH KANSAS CITY, MO 64116

LEE'S SUMMIT MUNICIPAL AIRPORT

LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172

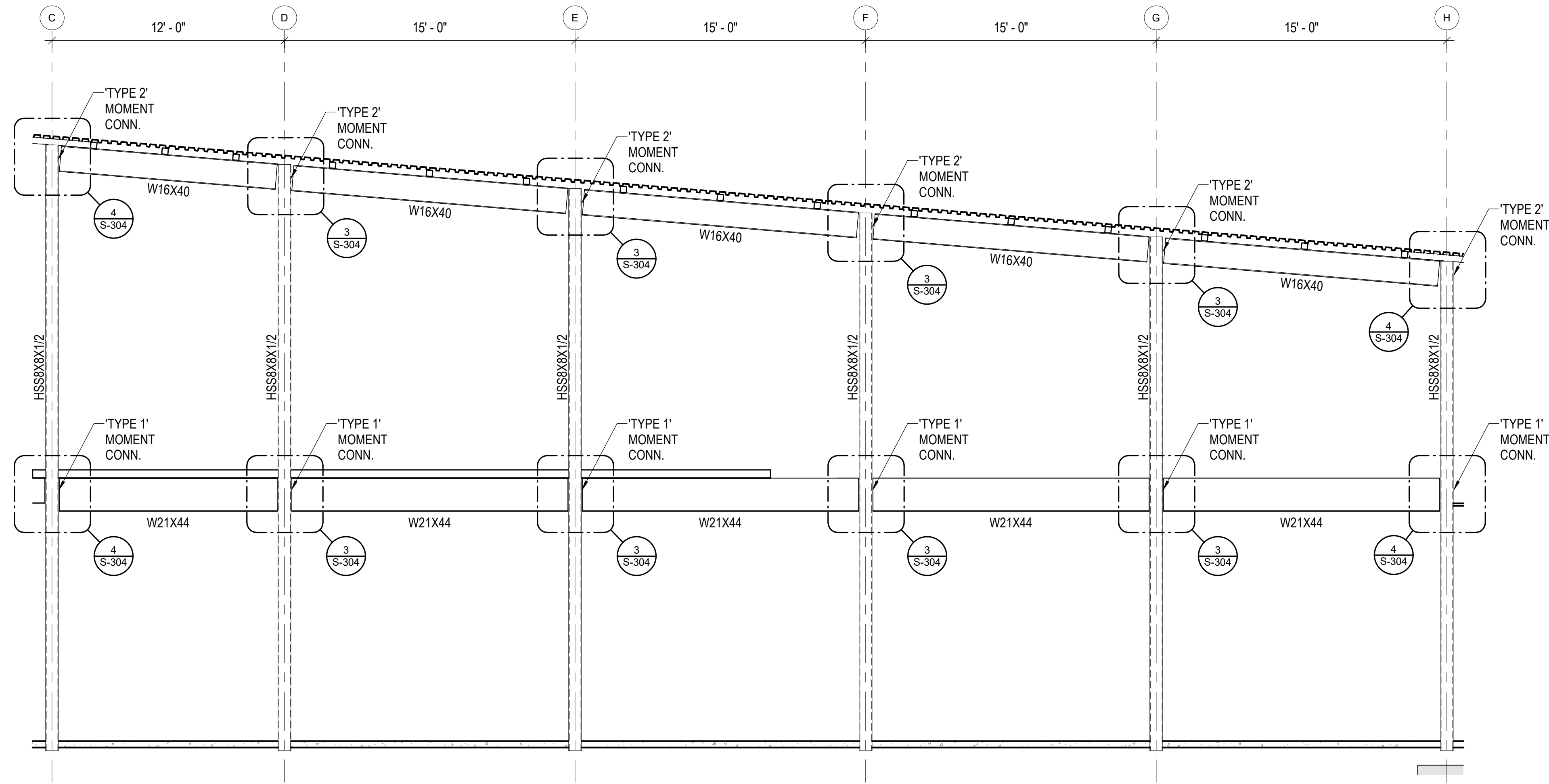


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PROJECT NO:		250104-000
REVIT FILE:		250104-000_STRUCT_R24.rvt
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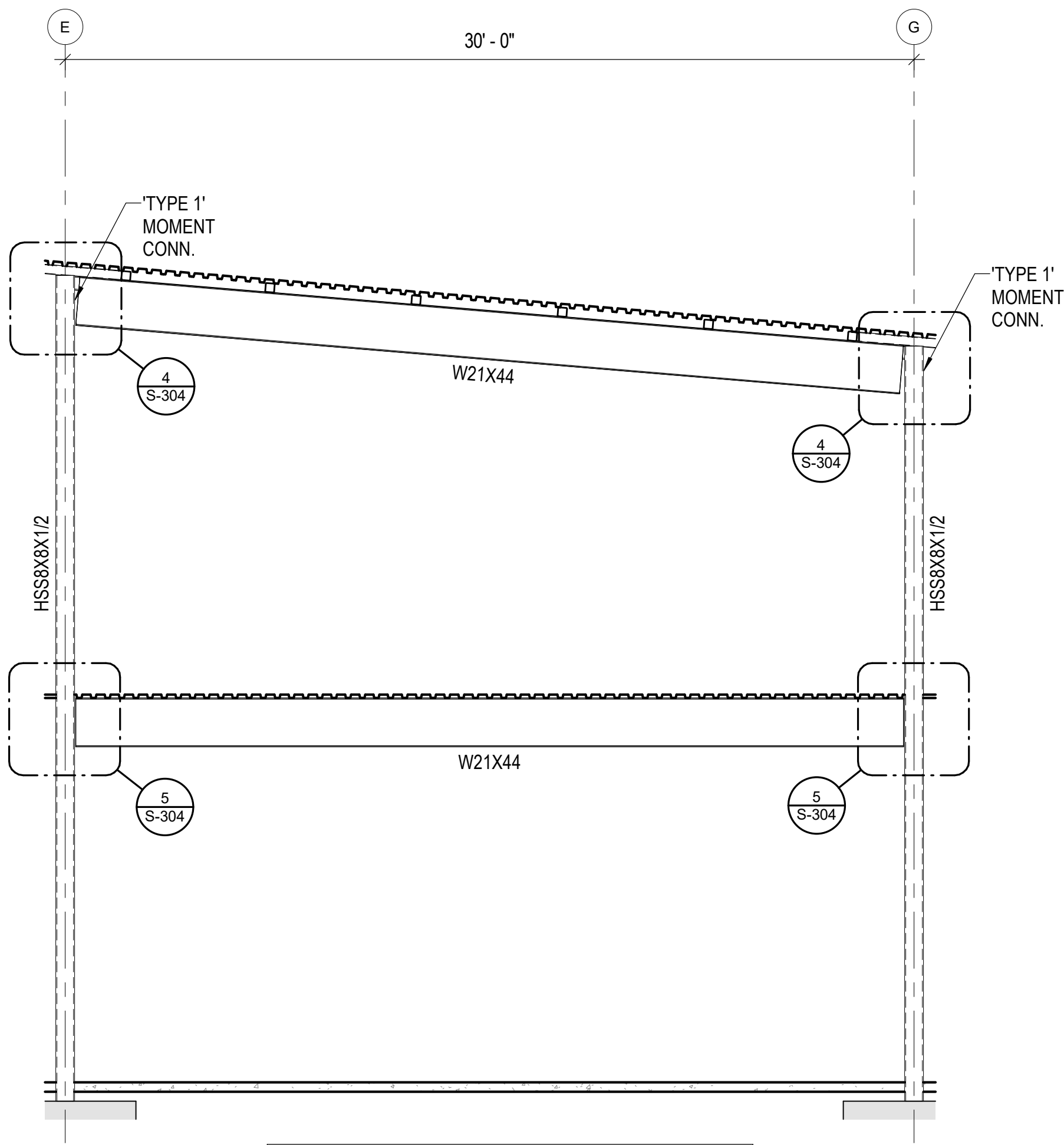
BRACE FRAME  
SCHEDULE AND  
DETAILS

S-303





NOTE:  
HSS GLAZING SUPPORT TUBES NOT SHOWN FOR CLARITY



NOTE:  
HSS GLAZING SUPPORT TUBES NOT SHOWN FOR CLARITY

1 GRID 2 MOMENT FRAME (LOOKING EAST)

1/4" = 1'-0"

2 GRID 8.3 MOMENT FRAME (LOOKING EAST)

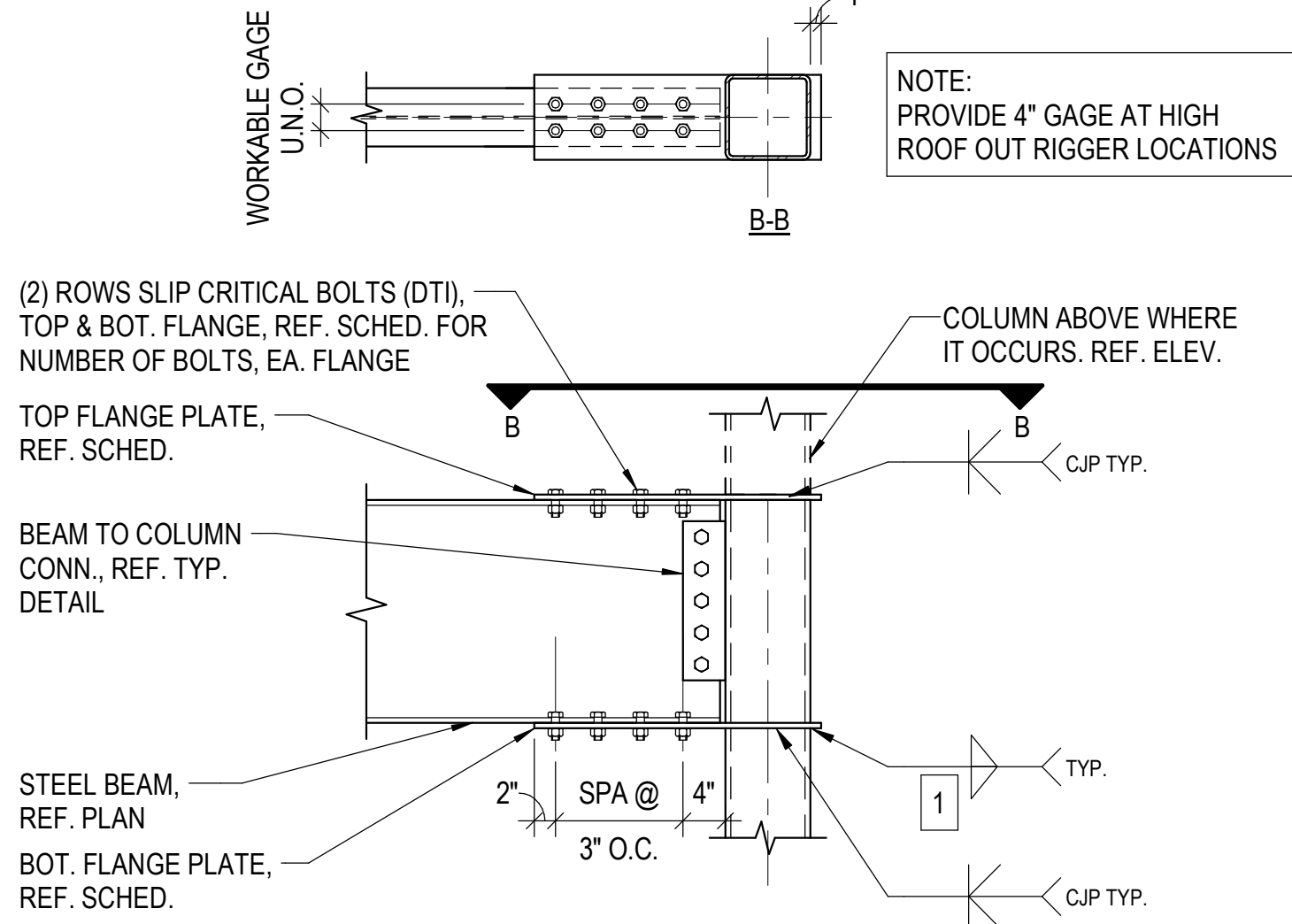
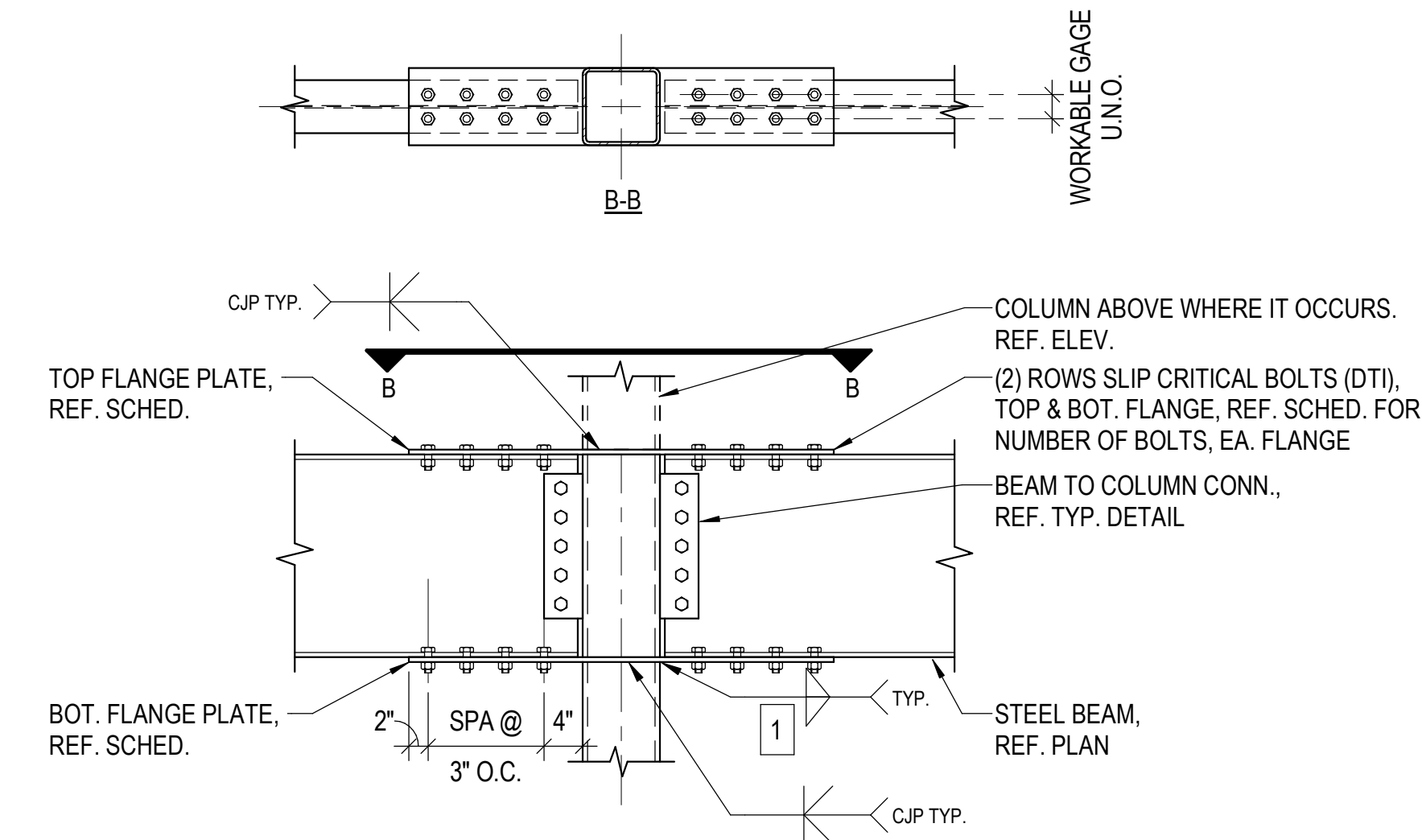
1/4" = 1'-0"

MOMENT CONNECTION SCHEDULE

NOTES:

- PROVIDE CLASS A FAYING SURFACE AT ALL MOMENT CONNECTIONS.
- CONNECTING BOLTS SHALL BE SLIP-CRITICAL (SC) AND SHALL BE PRE-TENSIONED TO ASTM STANDARDS
- NUMBER OF BOLTS LISTED IN TABLE IS PER ONE FLANGE PLATE. PROVIDE SAME QUANTITY AND SIZE OF BOLTS FOR BOTH TOP AND BOTTOM FLANGE PLATE CONNECTIONS AND EACH SIDE OF COLUMN, WHERE APPLICABLE.
- REFERENCE MOMENT CONNECTION DETAIL FOR BOLT SPACING AND EDGE DISTANCE/MINIMUM REQUIREMENTS.

MARK	COLUMN SIZE	BEAM SIZE	MIN. PLATE THICKNESS	MIN. PLATE WIDTH	PLATE TYPE	BOLT DIA.	BOLT QUANTITY	BOLT TYPE	WELD SIZE [1]
TYPE 1	HSS8X8	W21X	1/2"	8"	A36 (36 KSI)	3/4"	8	A325-SC	5/16"
TYPE 2	HSS8X8	W16X	1/2"	8"	A36 (36 KSI)	3/4"	8	A325-SC	5/16"
TYPE 3	W14X	W24X	1"	8"	A36 (36 KSI)	3/4"	10	A325-SC	5/16"



BEAM CONNECTION SCHEDULE

BEAM DEPTH	NUMBER OF BOLTS	BOLT DIAMETER
W8	2	3/4" DIA.
W10		
W12	3	3/4" DIA.
W14		
W16	4	3/4" DIA.
W18		
W21	5	3/4" DIA.
W24	6	3/4" DIA.
W27	7	3/4" DIA.
W30	8	3/4" DIA.
W33	9	3/4" DIA.

3 MOMENT CONN. AT HSS COL.

NO SCALE

4 MOMENT CONN. AT HSS COL.

NO SCALE

5 TENSION CONNECTION (SINGLE ROW)

NO SCALE



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LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172



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MOMENT FRAME  
ELEVATIONS AND  
DETAILS

S-304



LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT AIRPORT  
GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172



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TYPICAL FOUNDATION  
DETAILS

S-501

## CONCRETE REINFORCEMENT LAP, EMBEDMENT, AND HOOK LENGTHS

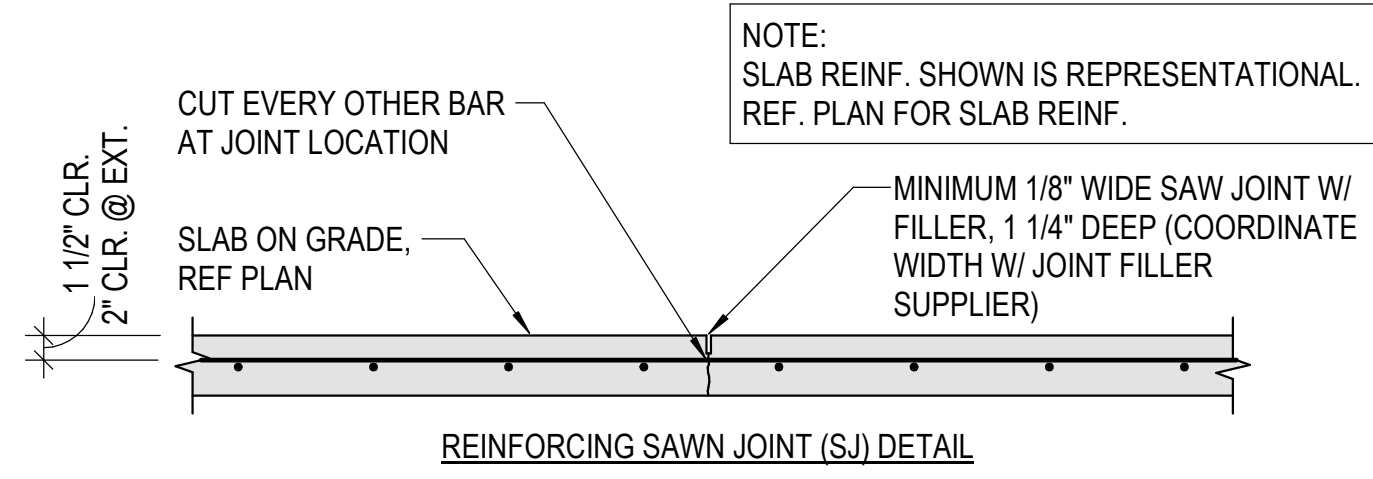
$f_y = 60,000 \text{ PSI}$

$f_c = 4,000 \text{ PSI}$

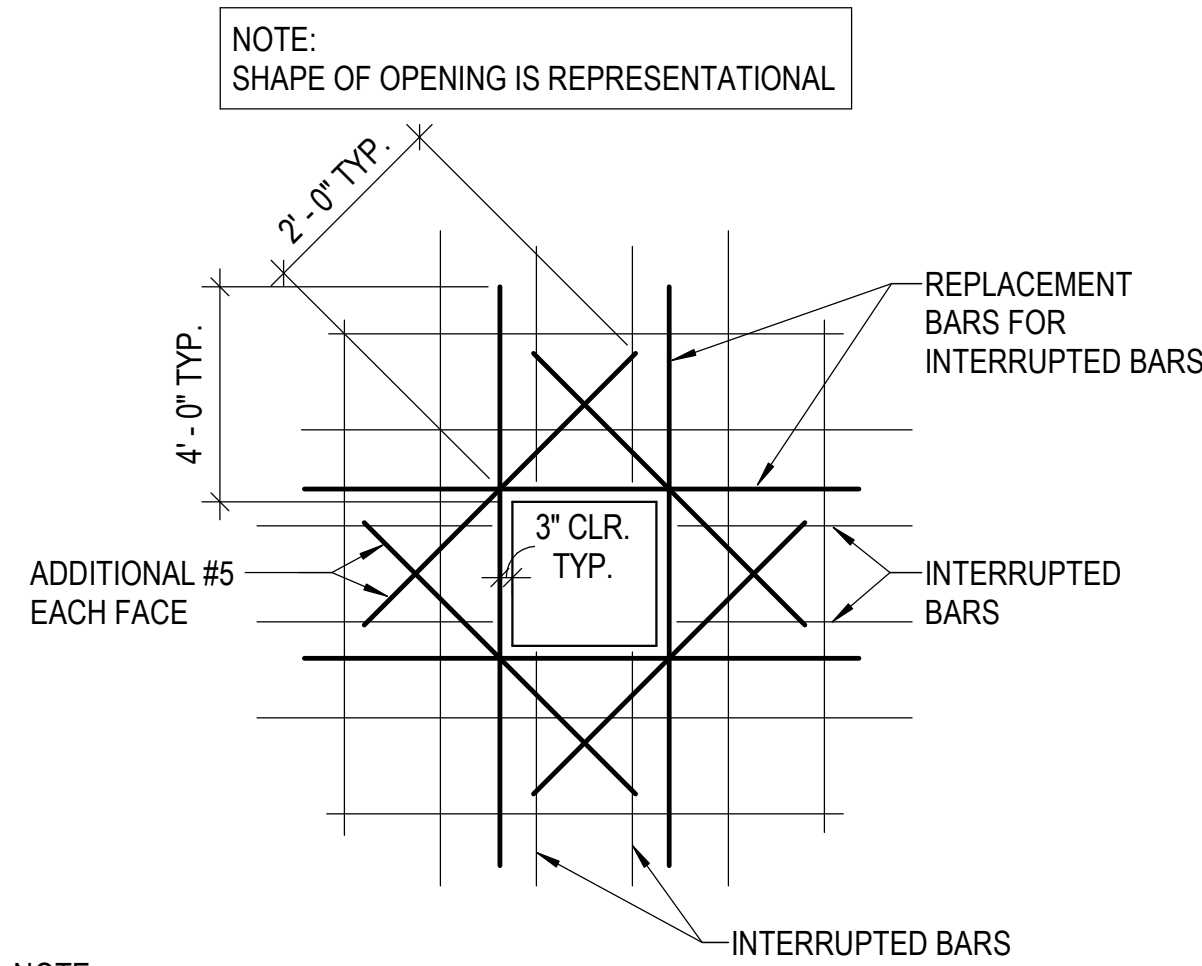
### NOTES:

- LENGTHS SHOWN CONFORM WITH NON-SEISMIC PROVISIONS OF ACI 318 FOR UNCOATED BARS.
- BAR CLEAR SPACING IS THE CENTER TO CENTER BAR SPACING MINUS ONE BAR DIAMETER.
- CLASS A LAP LENGTHS APPLY WHEN BAR LAPS ARE STAGGERED TO LAP HALF THE BARS AT THE SAME LOCATION. USE CLASS B LAP FOR ALL OTHER CASES.
- TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12 INCHES OF CONCRETE IS CAST BELOW THE REINFORCEMENT.
- MULTIPLY LENGTHS GIVEN BY 2.0 FOR BARS WITH CLEAR SPACING OF TWO BAR DIAMETERS OR LESS, OR CONCRETE COVER OF ONE BAR DIAMETER OR LESS.

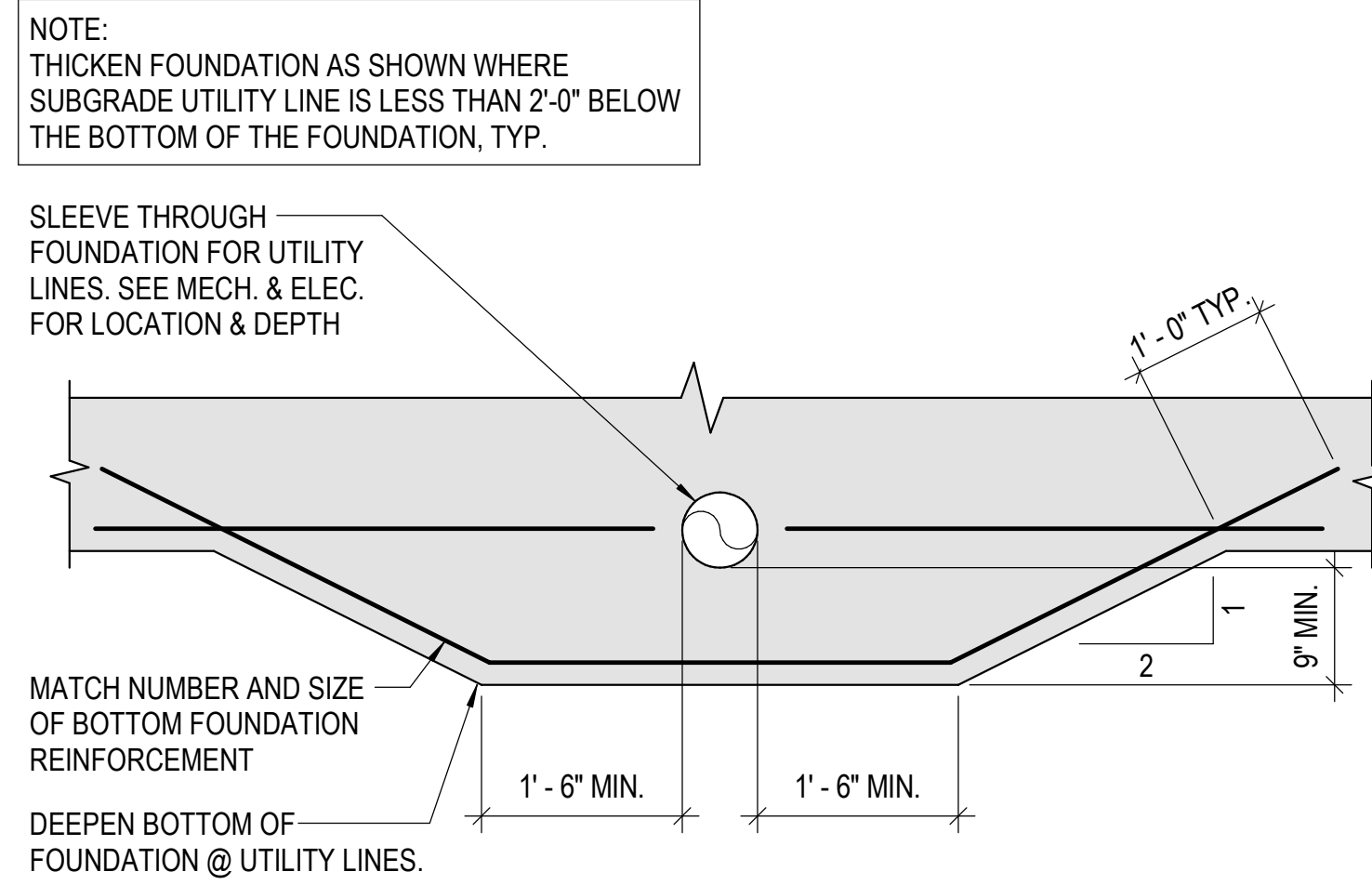
BAR SIZE	CLEAR SPACING (S)			EMBEDMENT & CLASS A LAP (IN)									CLASS B LAP (IN)						HOOK EMBED (IN)
	(IN)			TOP BAR			OTHER BARS			TOP BAR			OTHER BARS						
	2d	3d	5d	2d-3d	3d-5d	5d	2d-3d	3d-5d	5d	2d-3d	3d-5d	5d	2d-3d	3d-5d	5d				
3	3/4	1-1/8	1-7/8	28	18	12	21	14	12	36	24	14	28	18	12	8			
4	1	1-1/2	2-1/2	37	25	15	28	19	12	48	32	19	37	25	15	10			
5	1-1/4	1-7/8	3-1/8	46	31	18	36	24	14	60	40	24	46	31	18	12			
6	1-1/2	2-1/4	3-3/4	55	37	22	43	28	17	72	48	29	55	37	22	15			
7	1-3/4	2-5/8	4-3/8	81	54	32	62	42	25	105	70	42	81	54	32	18			
8	2	3	5	92	62	37	71	47	28	120	80	48	92	62	37	20			
9	2-1/4	3-3/8	5-5/8	104	70	42	80	54	32	136	90	54	104	70	42	22			
10	2-1/2	3-3/4	6-3/8	117	78	47	90	60	36	153	102	61	117	78	47	25			
11	2-7/8	4-1/4	7	130	87	52	100	67	40	170	113	68	130	87	52	27			



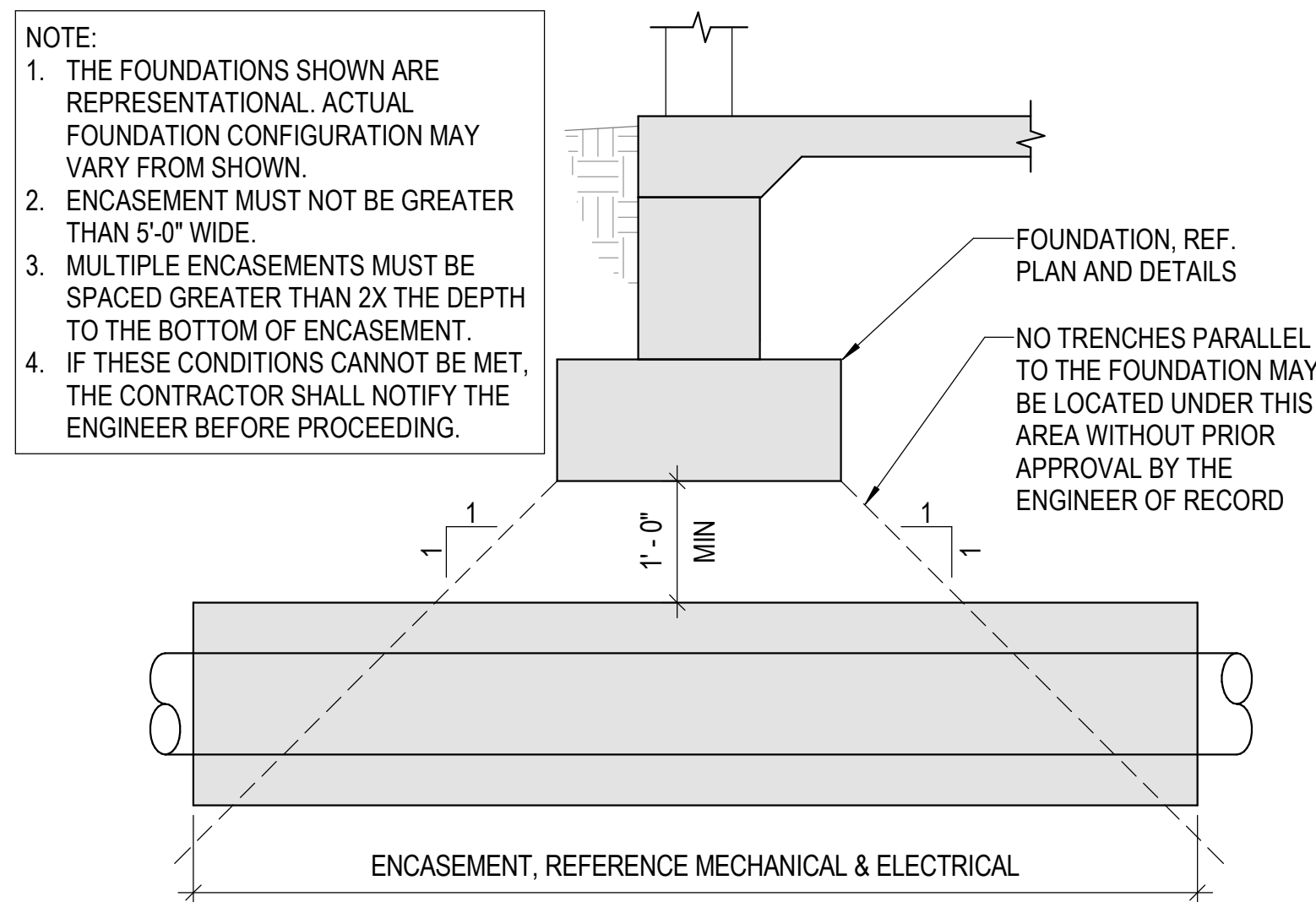
1 TYP. SLAB ON GRADE JOINT  
NO SCALE



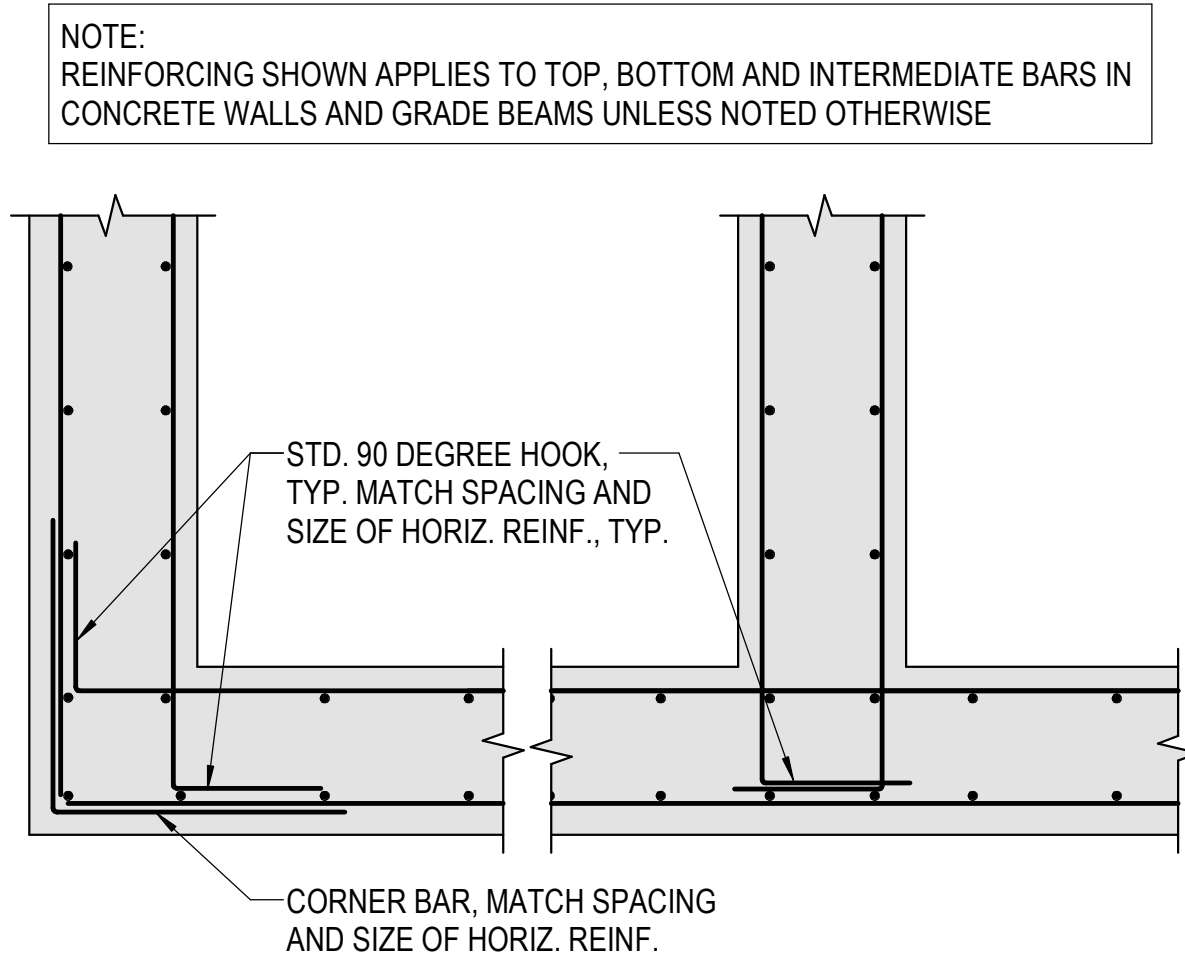
2 TYP. CONC. OPENING REINF.  
NO SCALE



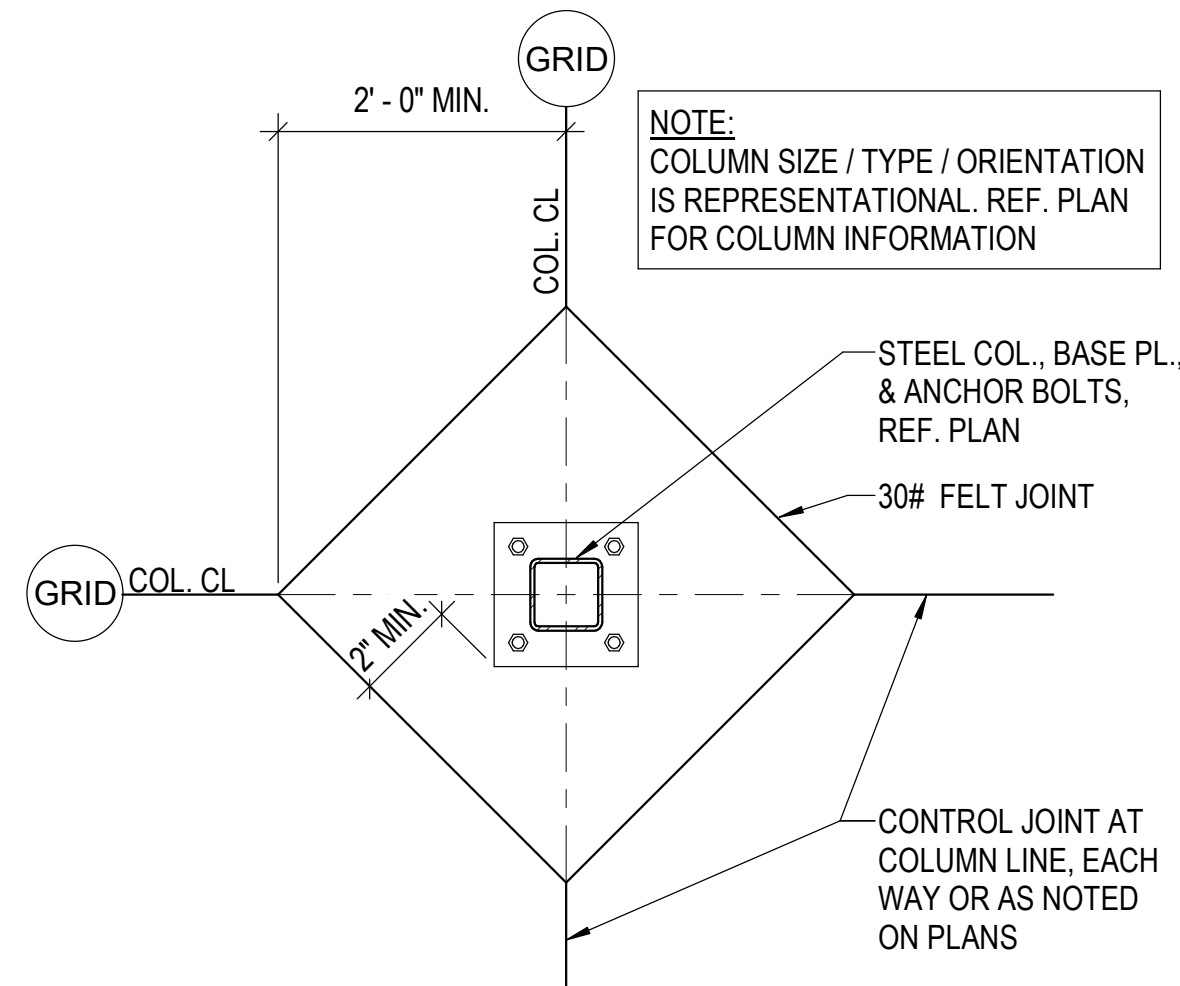
3 TYP. UTILITY THRU FTG.  
NO SCALE



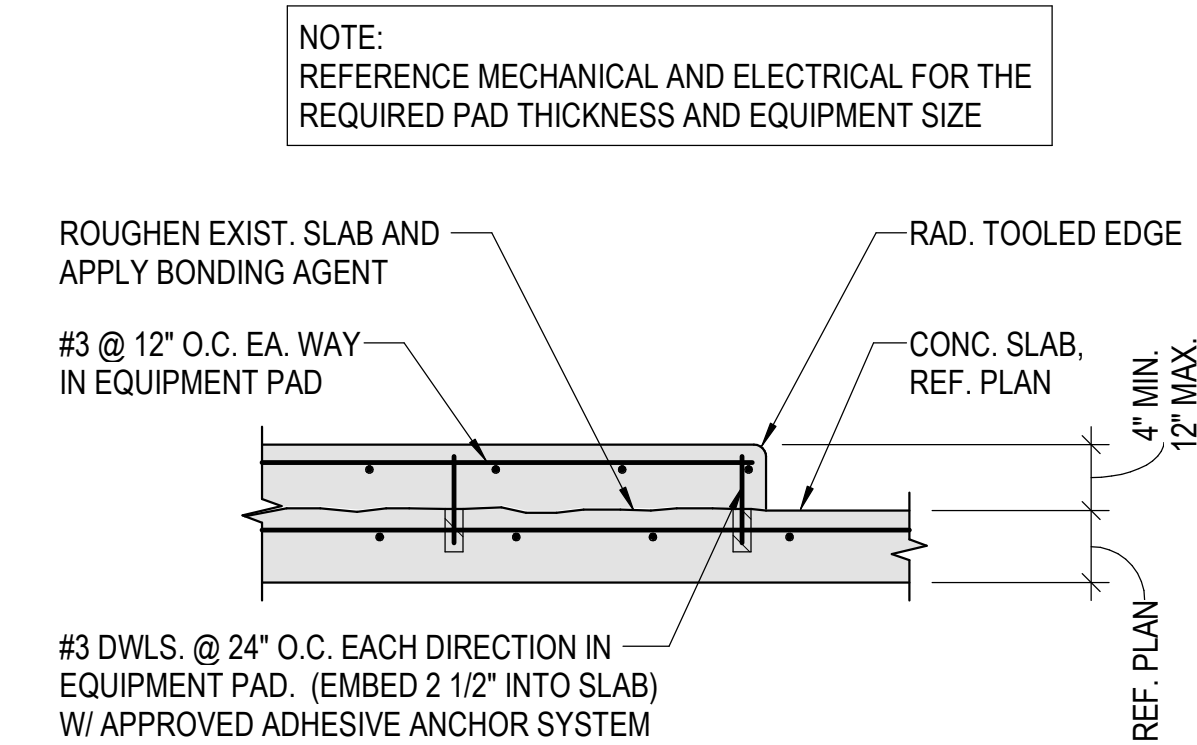
4 UTILITY ENCASEMENT UNDER FTG.  
NO SCALE



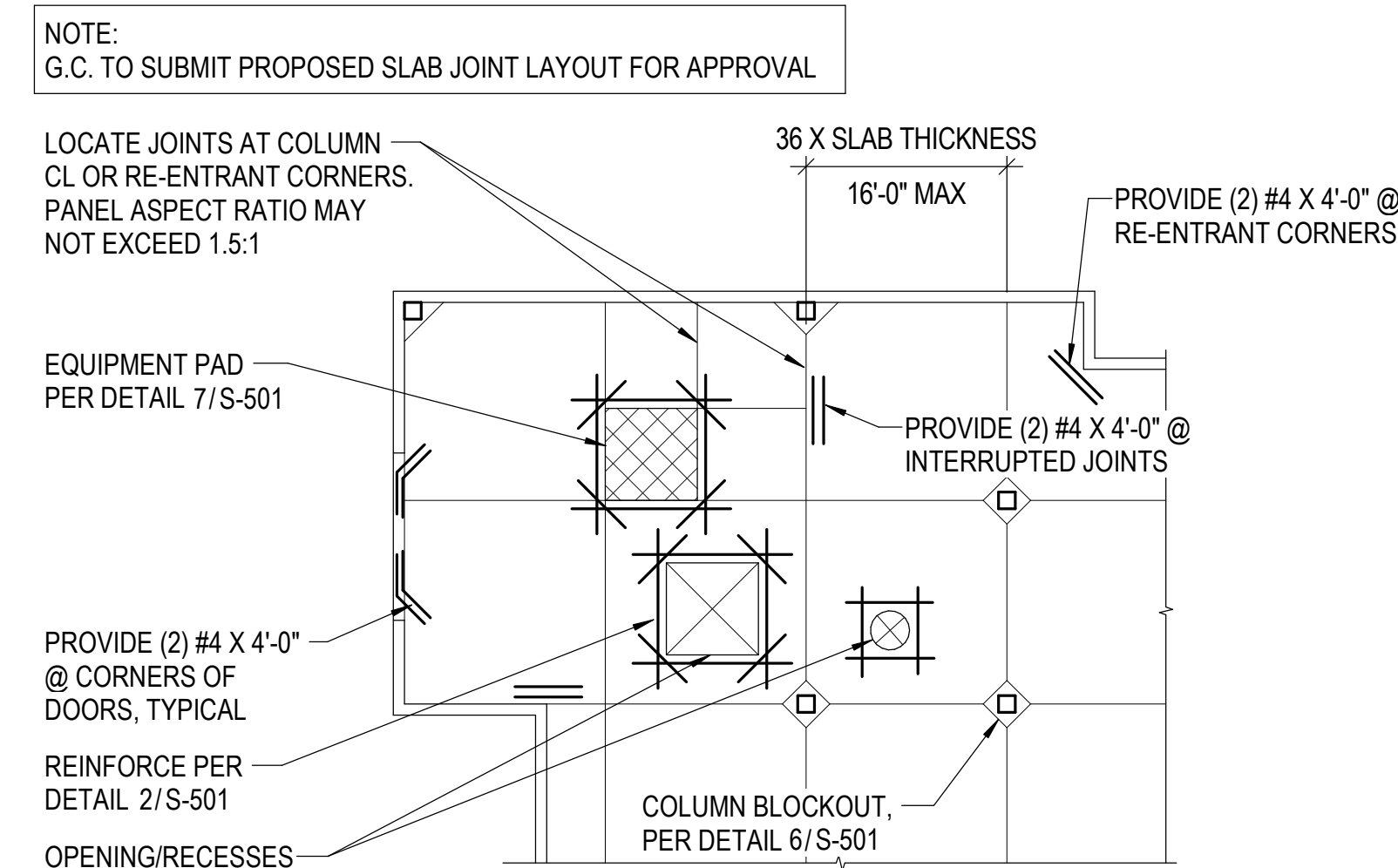
5 TYP. CORNER/INTERSECTION  
NO SCALE



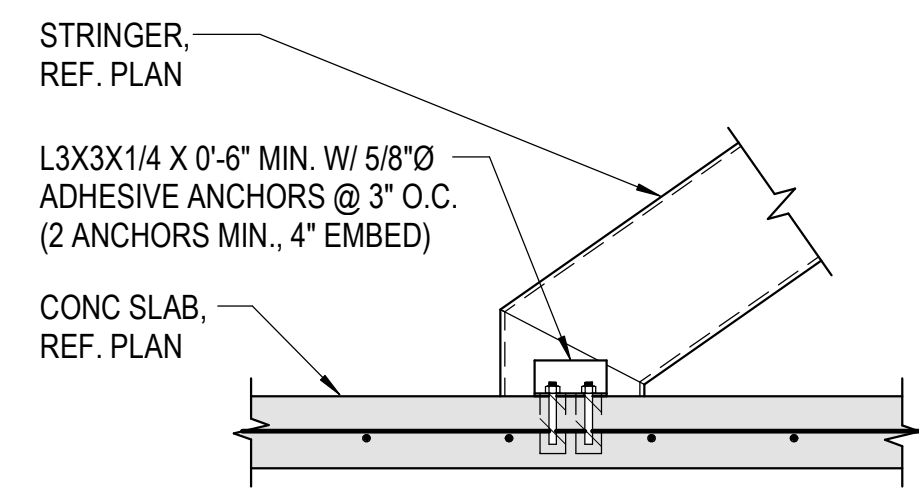
6 TYP. COL. ISOLATION JOINT  
NO SCALE



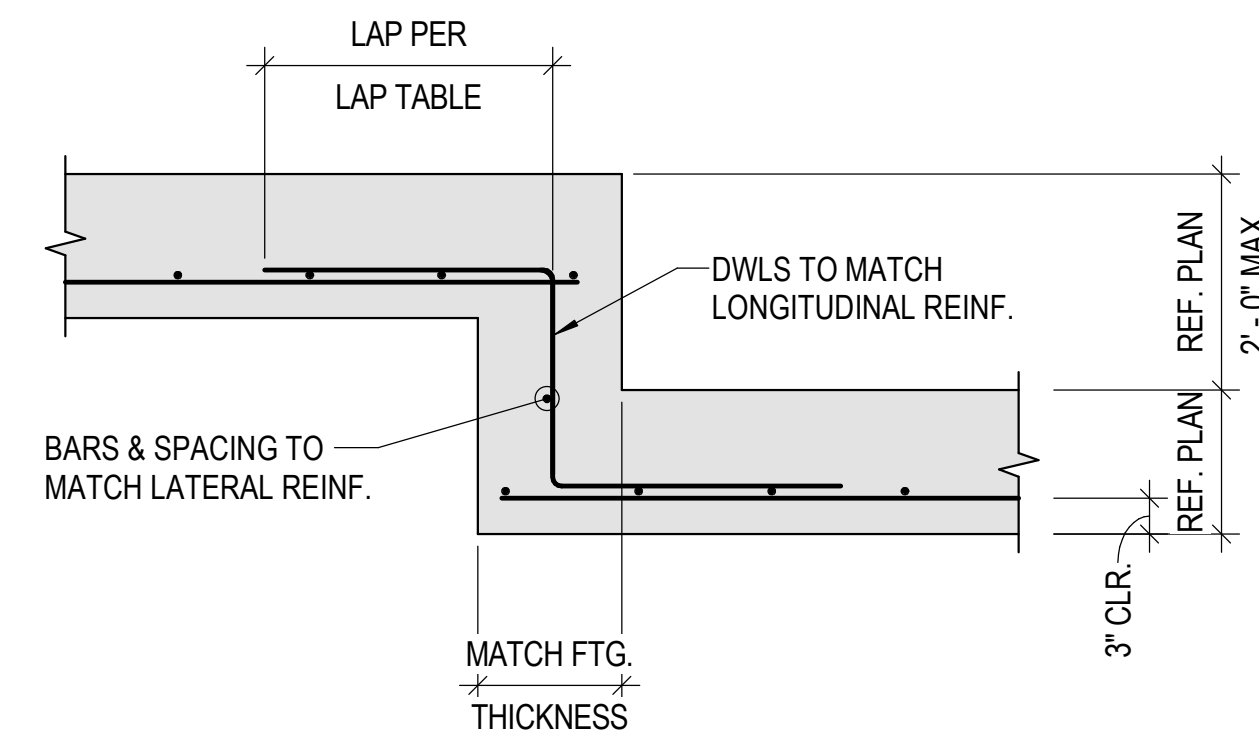
7 TYP. INTERIOR EQUIP. PAD  
NO SCALE



8 TYP. SLAB JOINT DETAIL  
NO SCALE

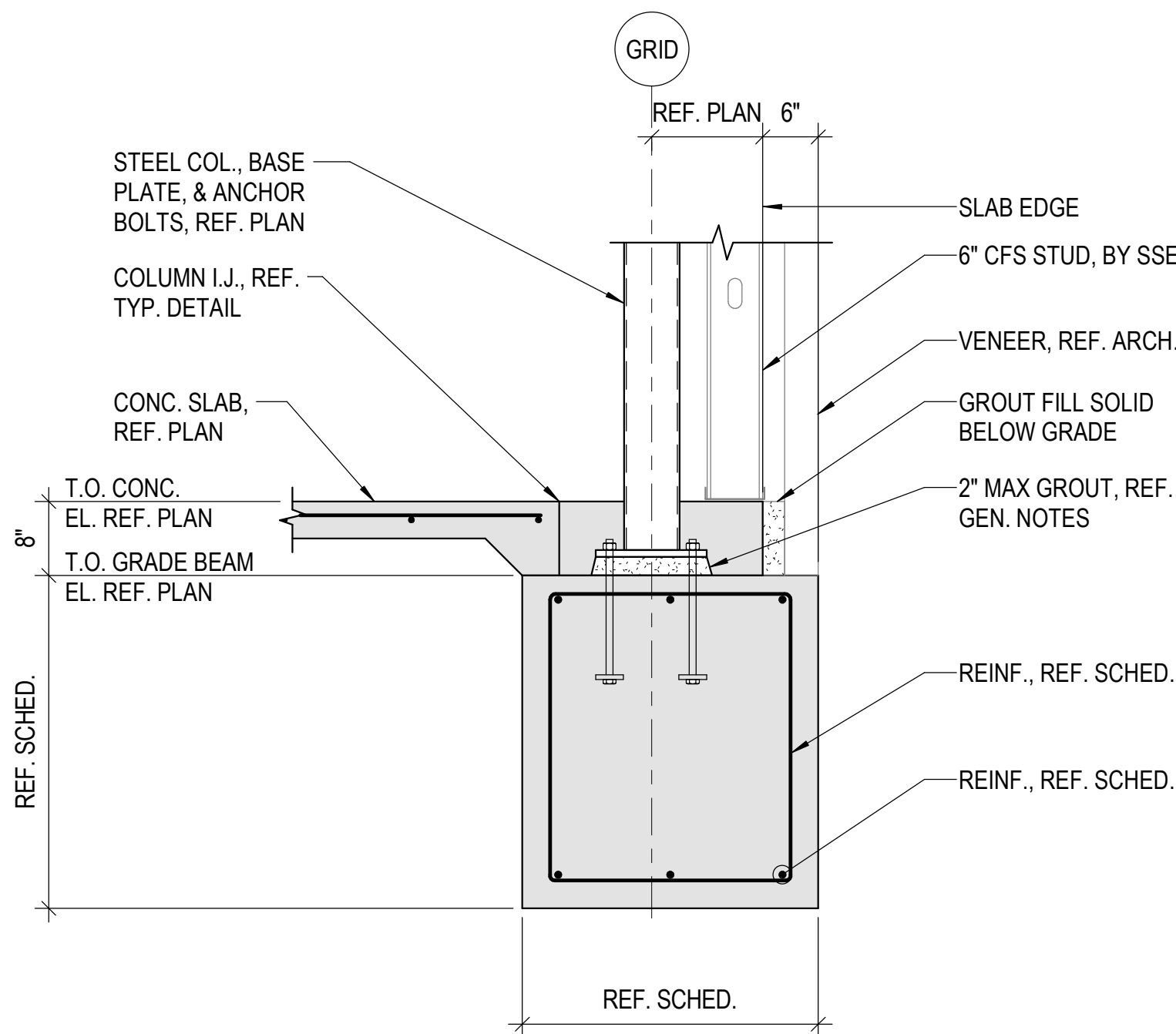


9 SECTION AT STAIR STRINGER  
NO SCALE

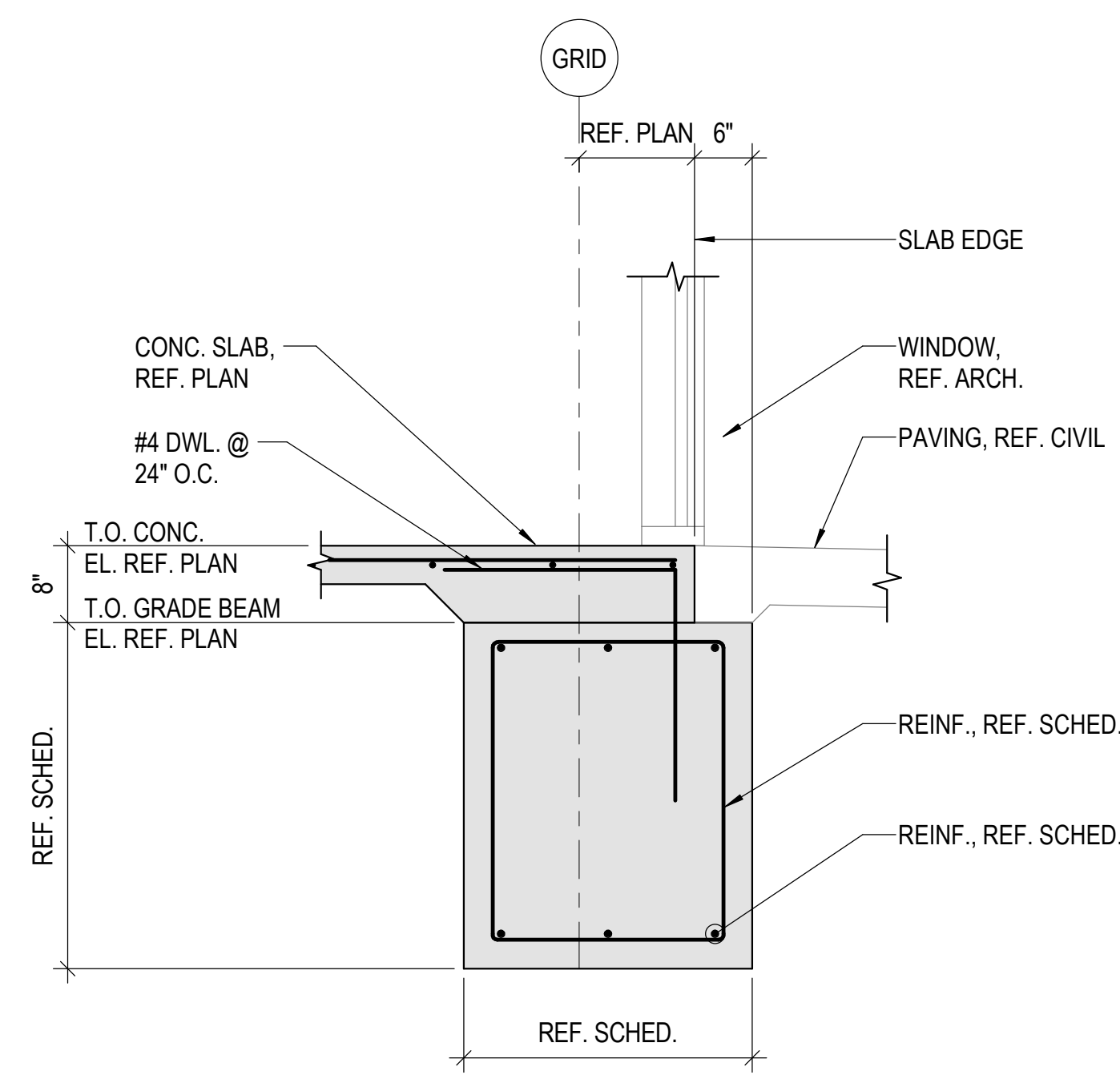


10 TYP. GRADE BEAM STEP  
NO SCALE

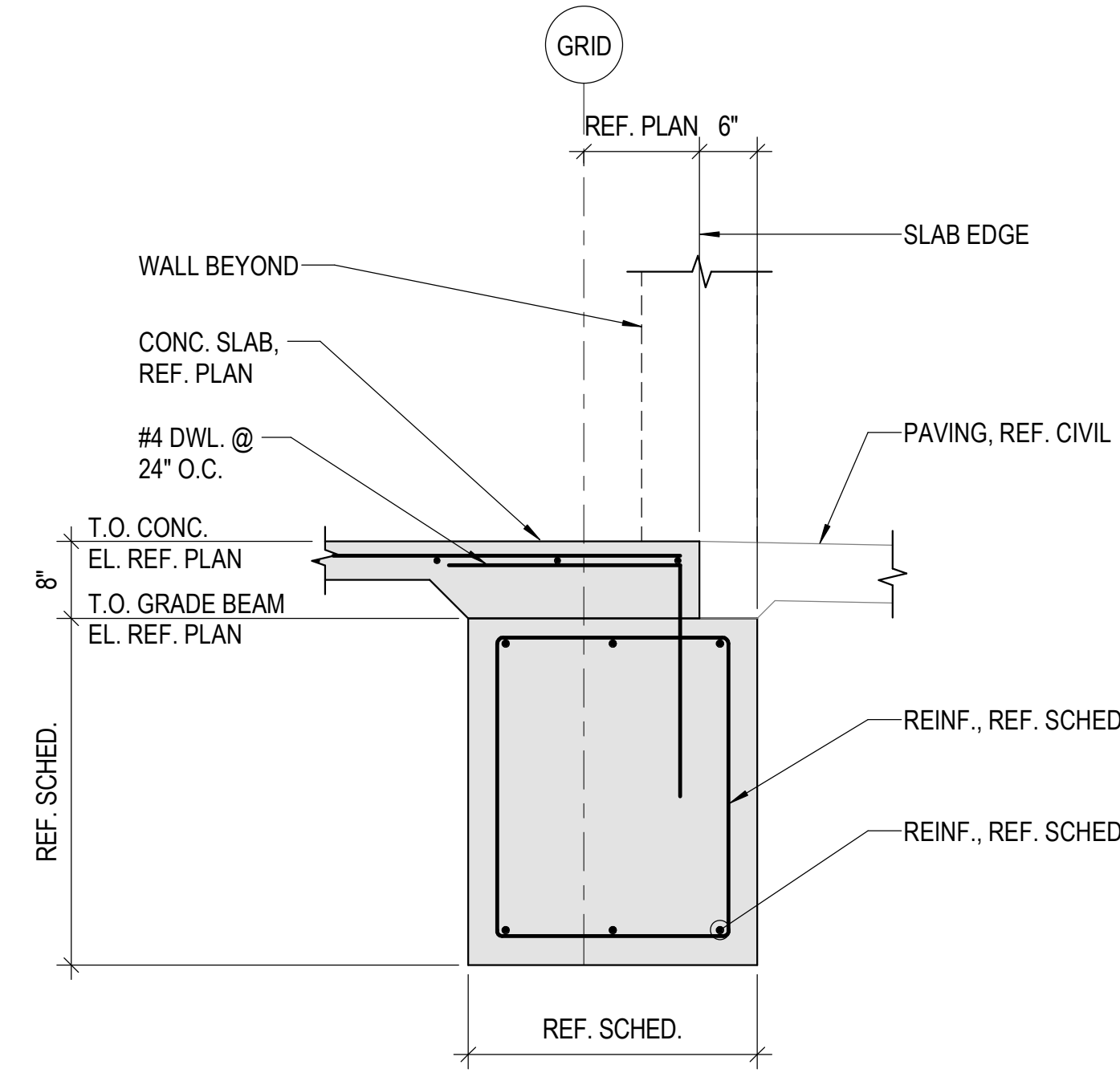




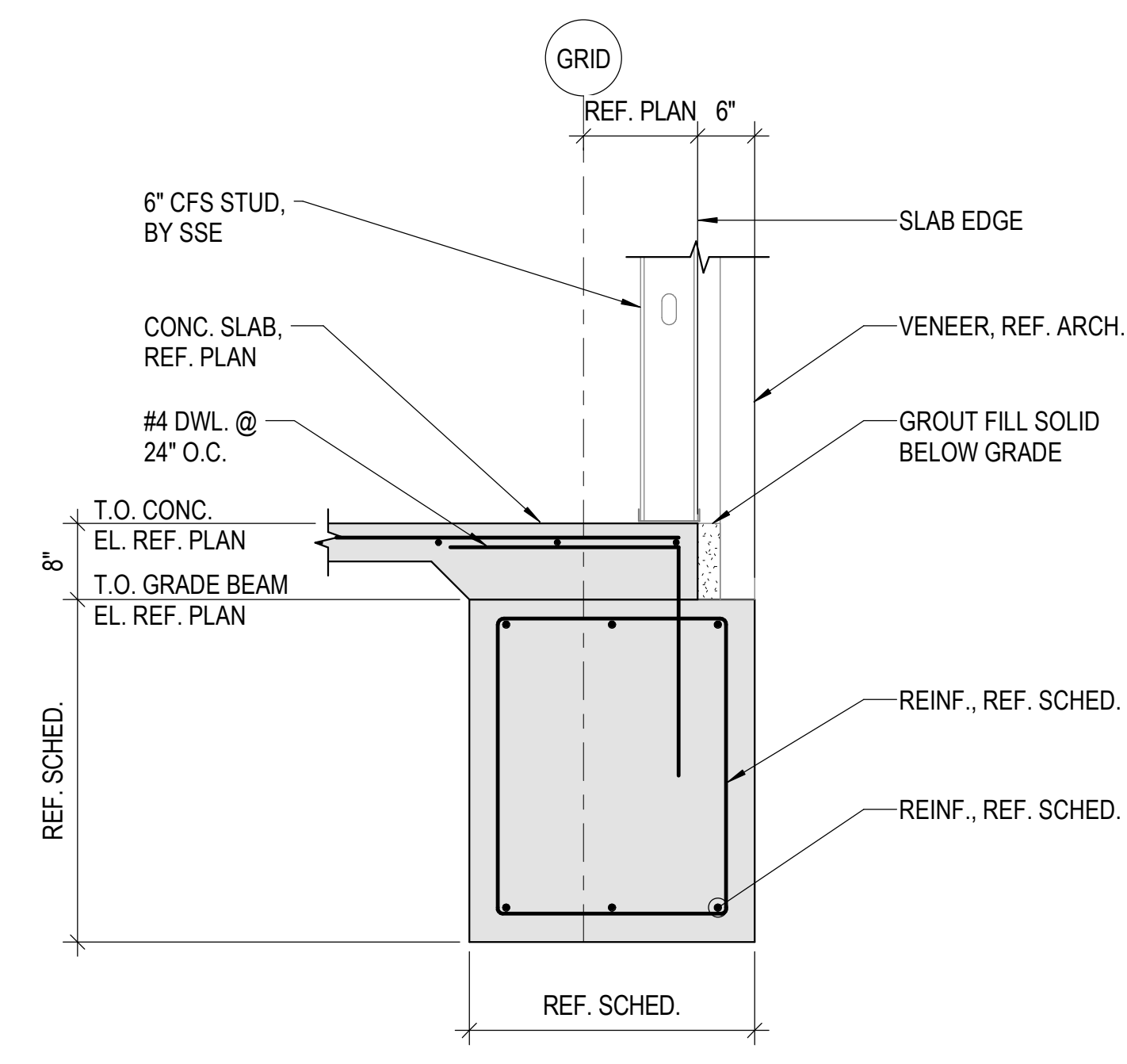
**1 GRADE BEAM AT COLUMN**  
3/4" = 1'-0"



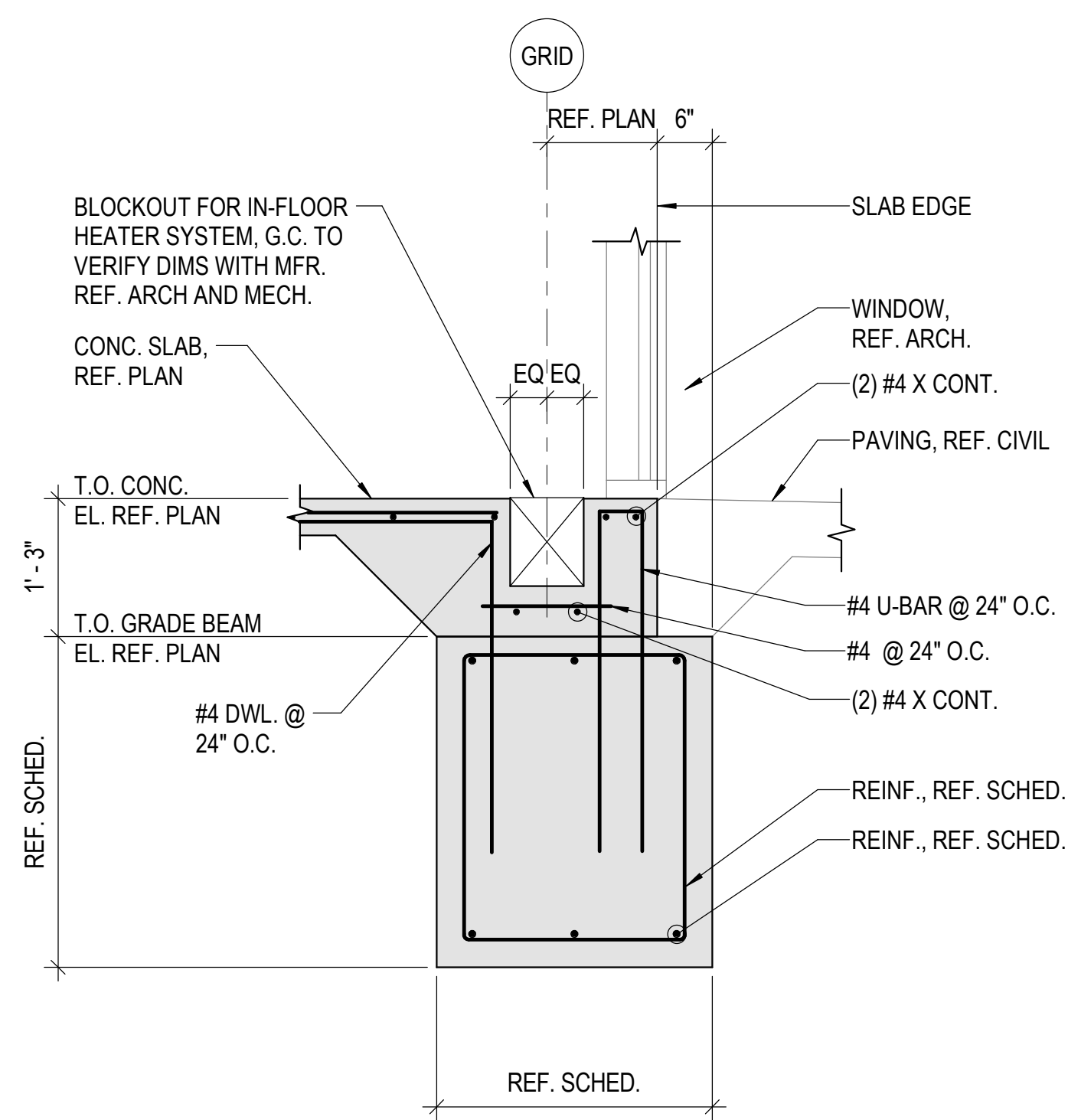
**2 GRADE BEAM AT GLAZING**  
3/4" = 1'-0"



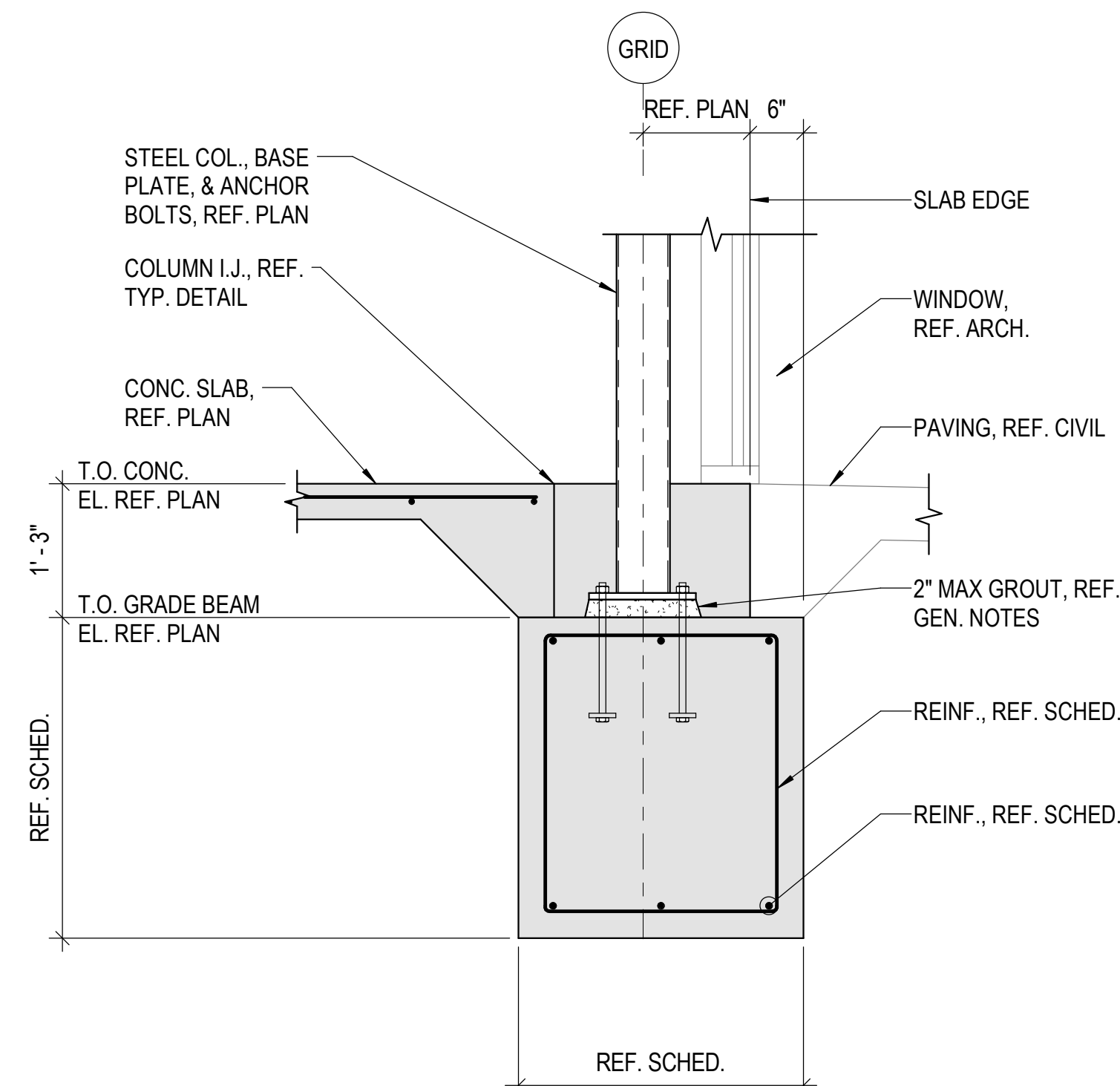
**3 GRADE BEAM AT OPENING**  
3/4" = 1'-0"



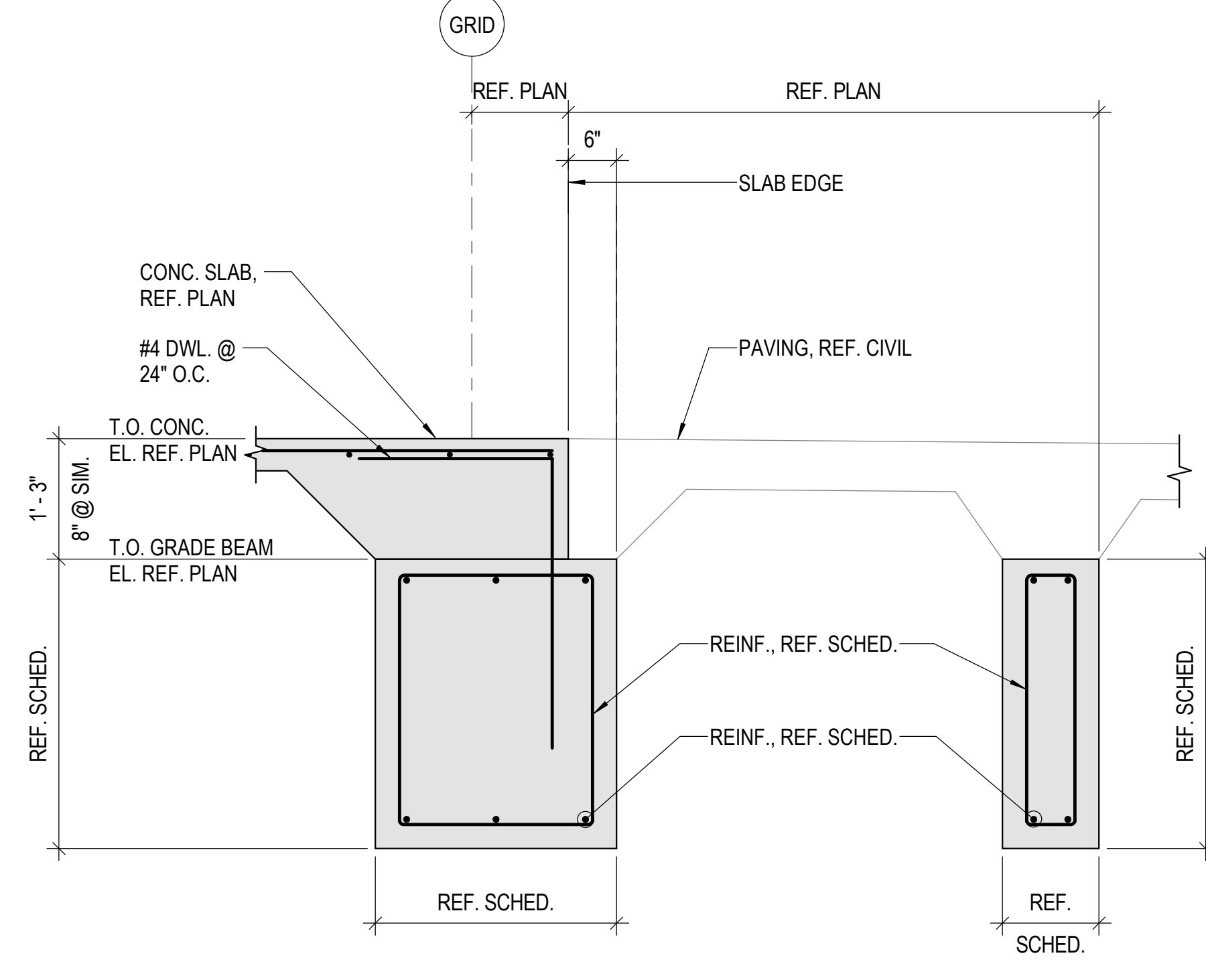
**4 GRADE BEAM AT STUD WALL**  
3/4" = 1'-0"



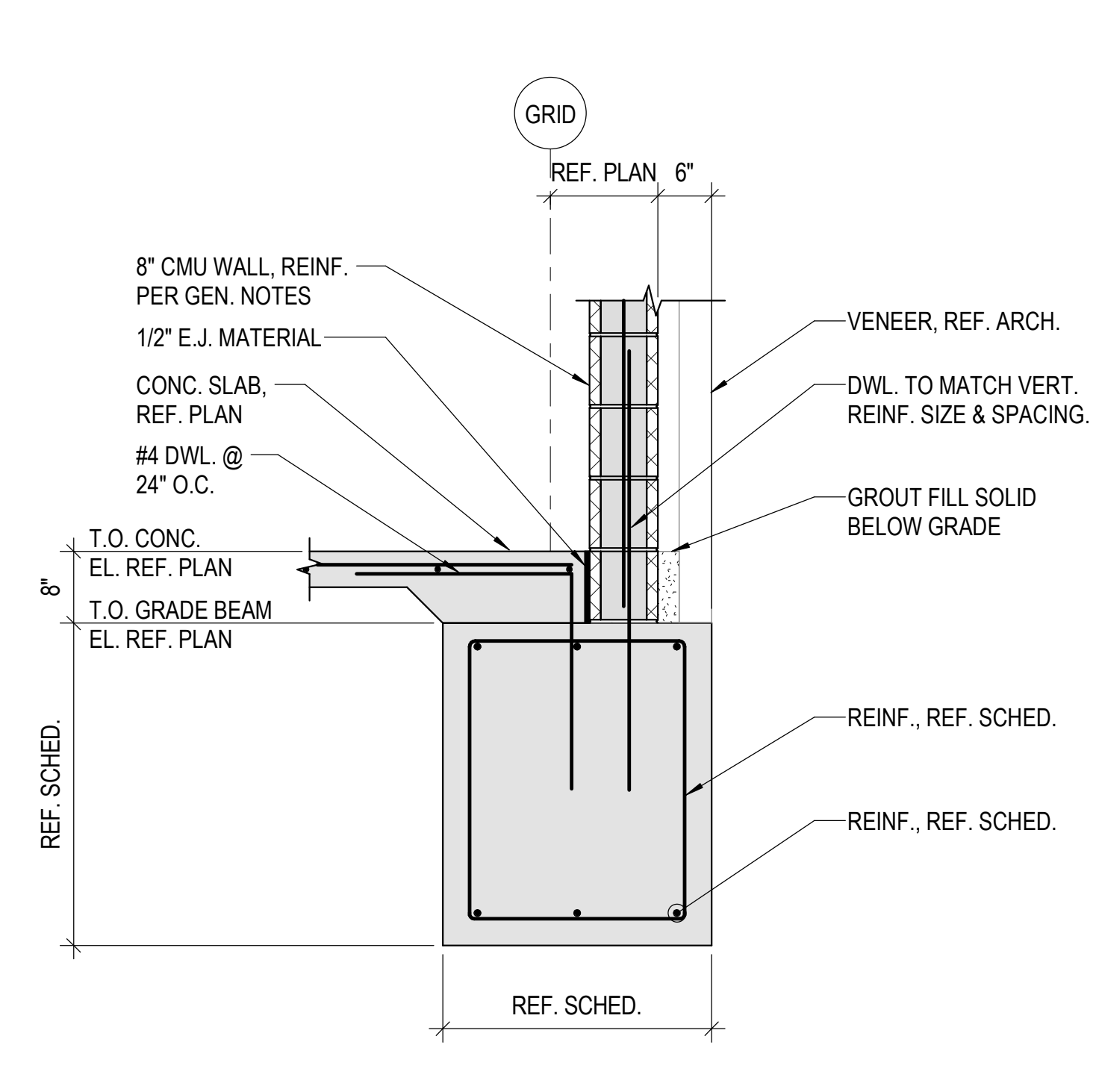
**5 GRADE BEAM AT IN-FLOOR HEATER**  
3/4" = 1'-0"



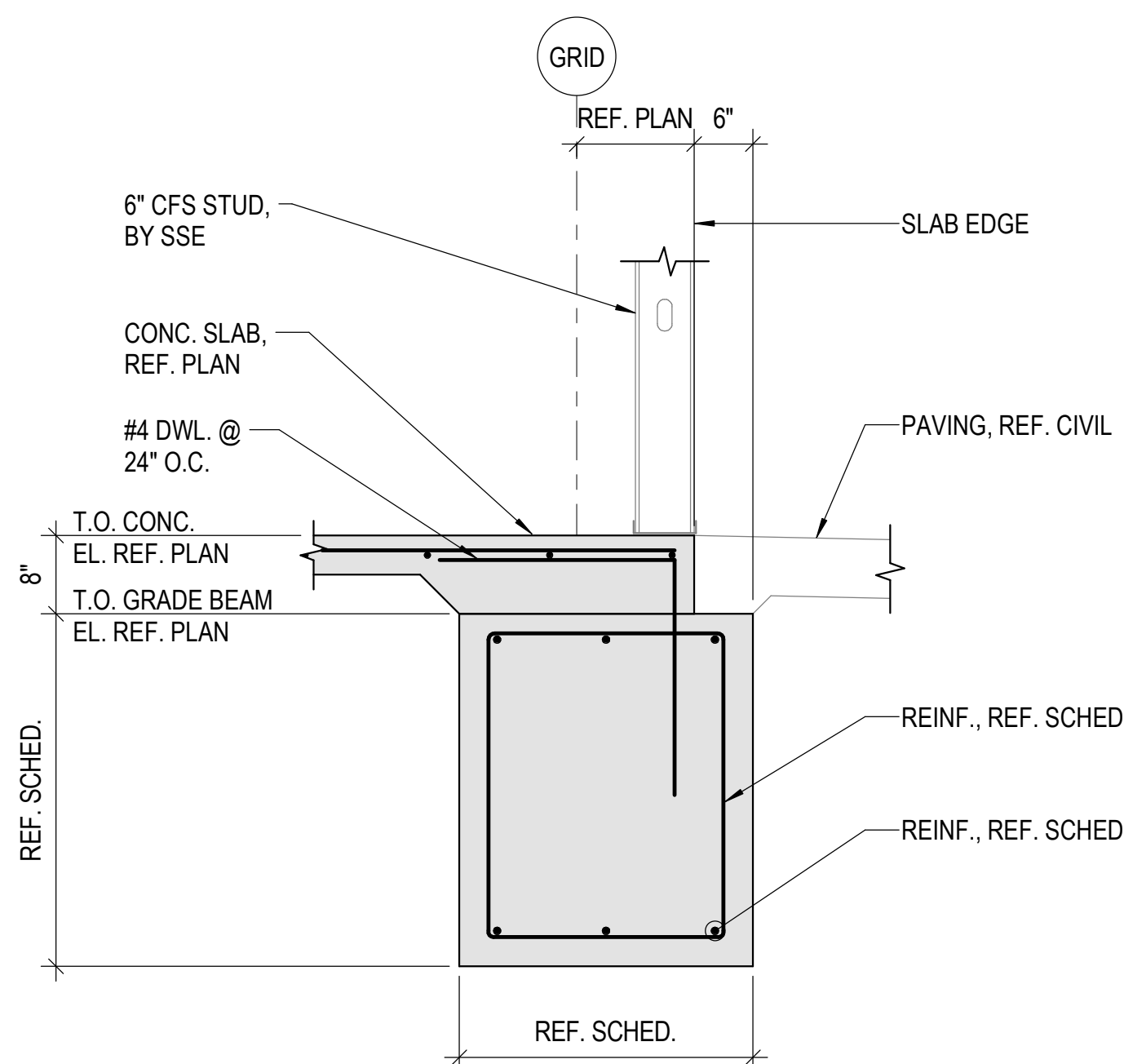
**6 GRADE BEAM AT COLUMN**  
3/4" = 1'-0"



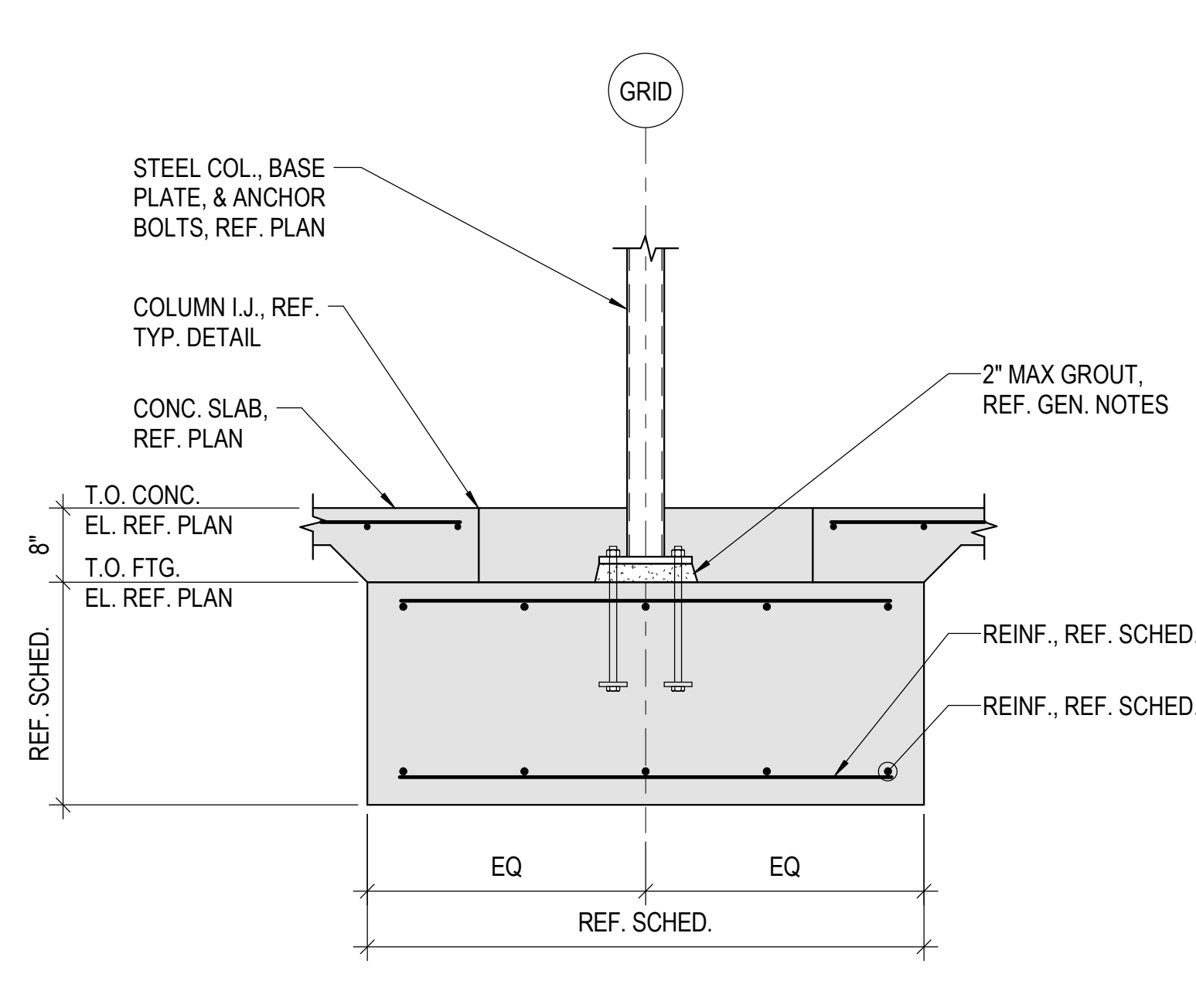
**7 STRUCTURAL STOOP**  
3/4" = 1'-0"



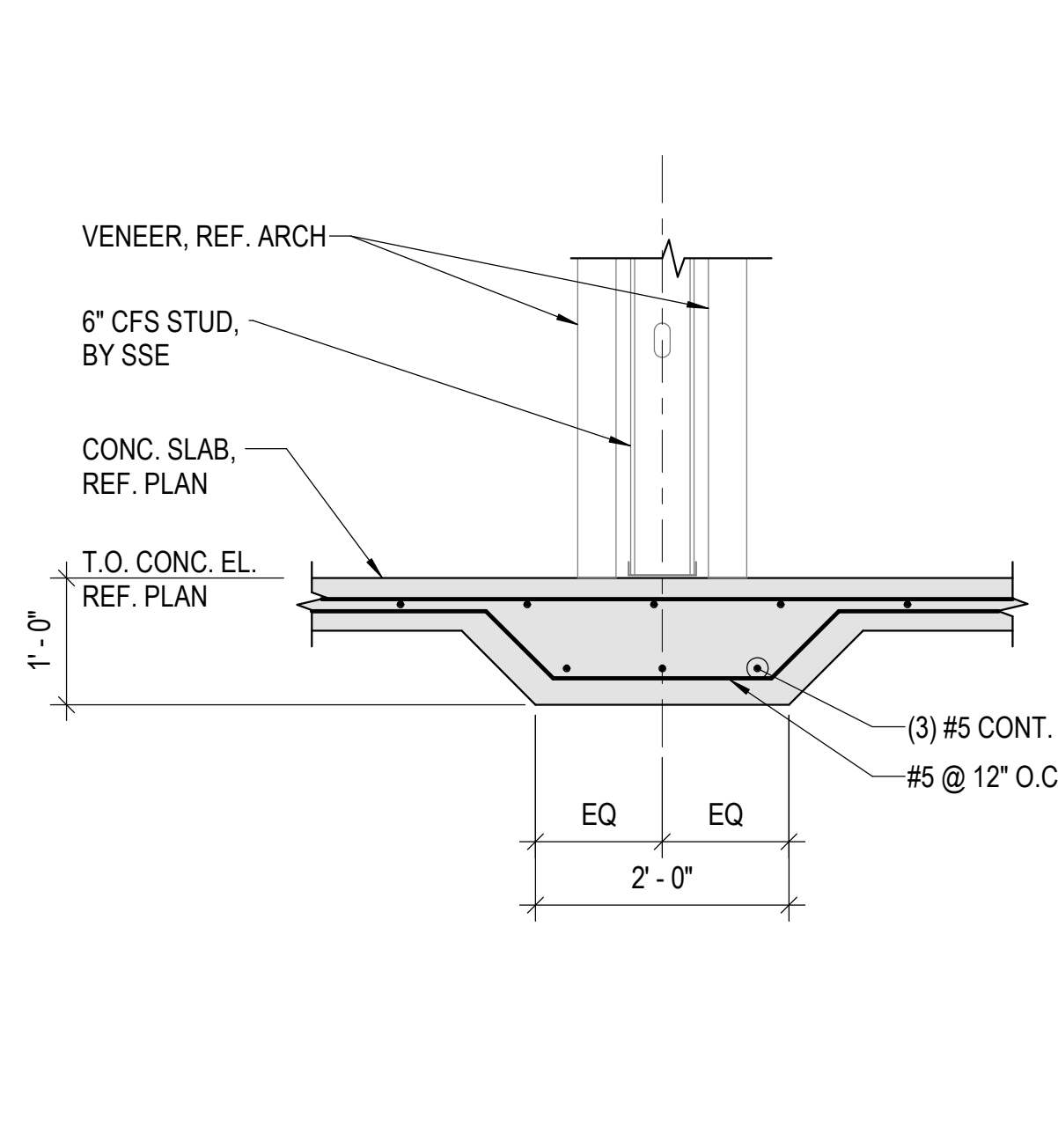
**8 GRADE BEAM AT CMU WALL**  
3/4" = 1'-0"



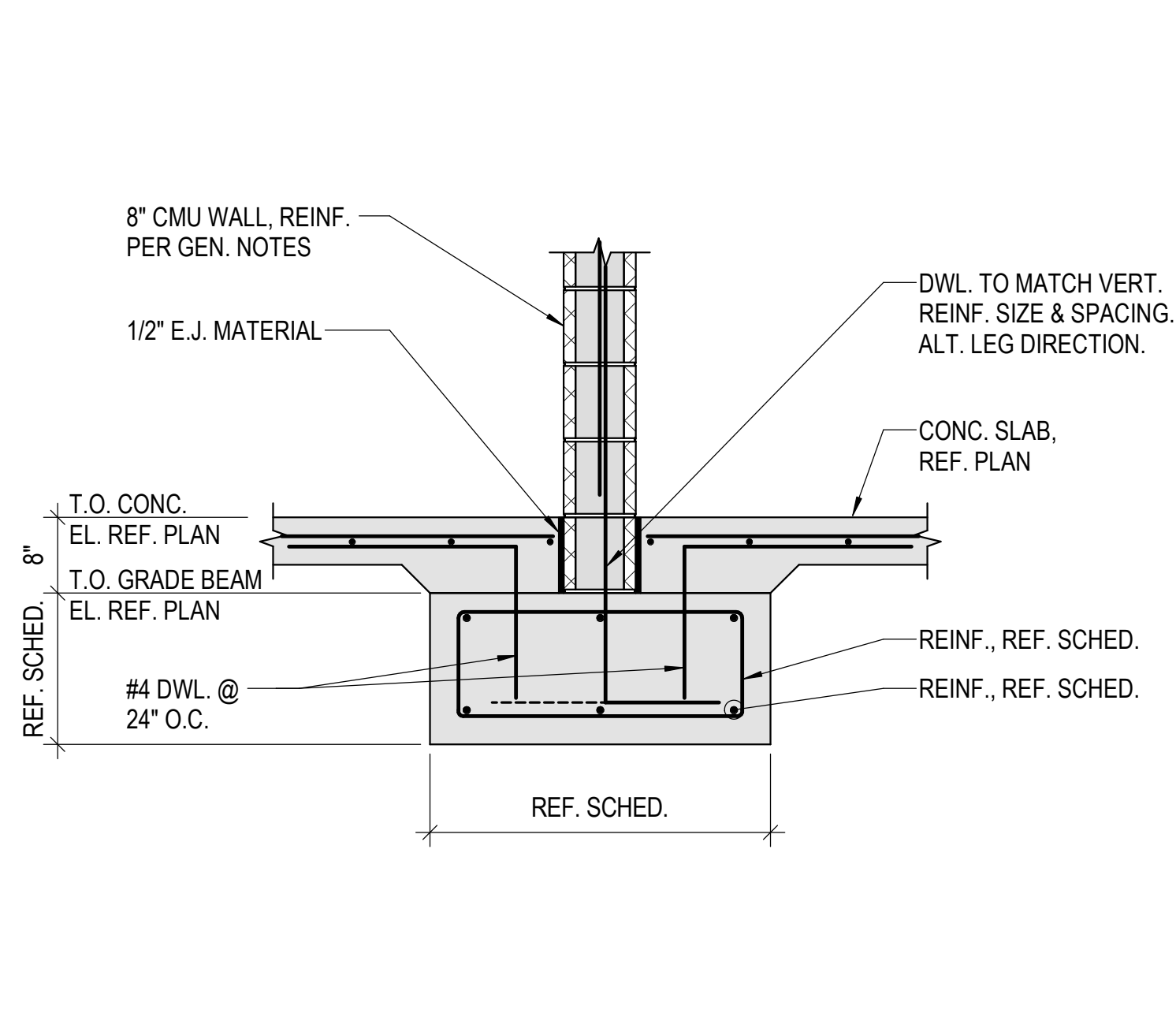
**9 GRADE BEAM STUD WALL**  
3/4" = 1'-0"



**10 INTERIOR COLUMN FTG.**  
3/4" = 1'-0"



**11 THICKENED SLAB AT ENTRY BRICK**  
3/4" = 1'-0"



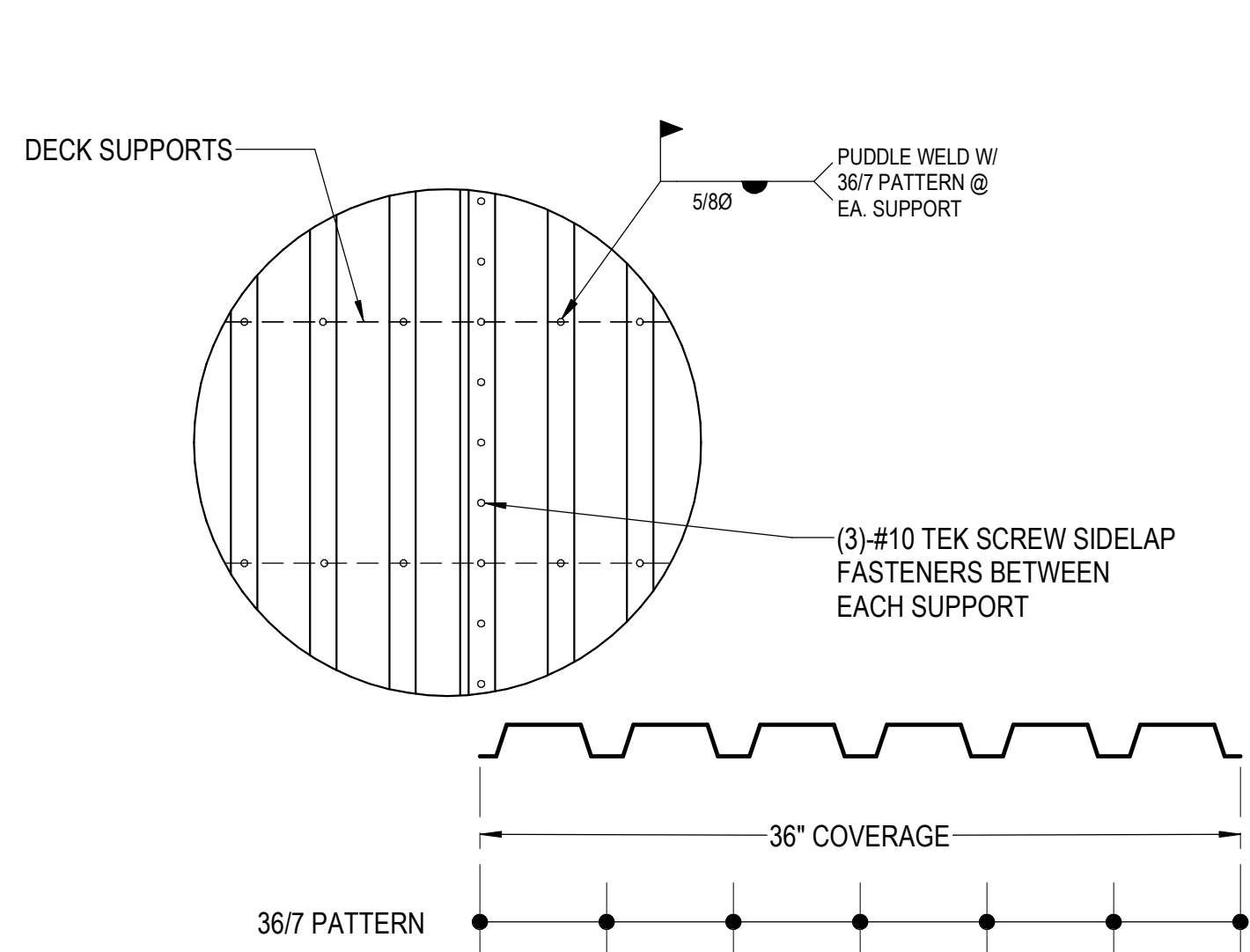
**12 GRADE BEAM AT CMU WALL**  
3/4" = 1'-0"

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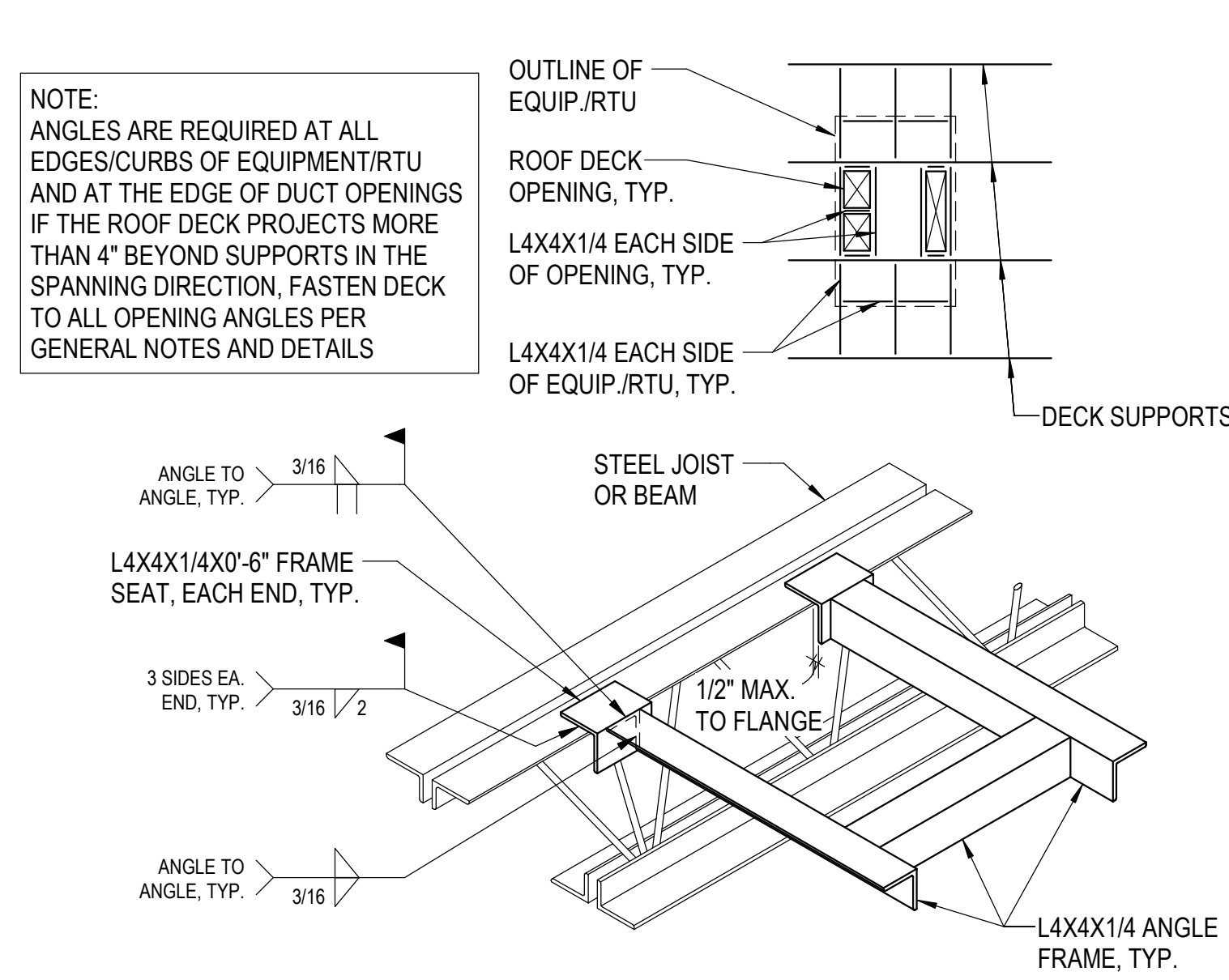




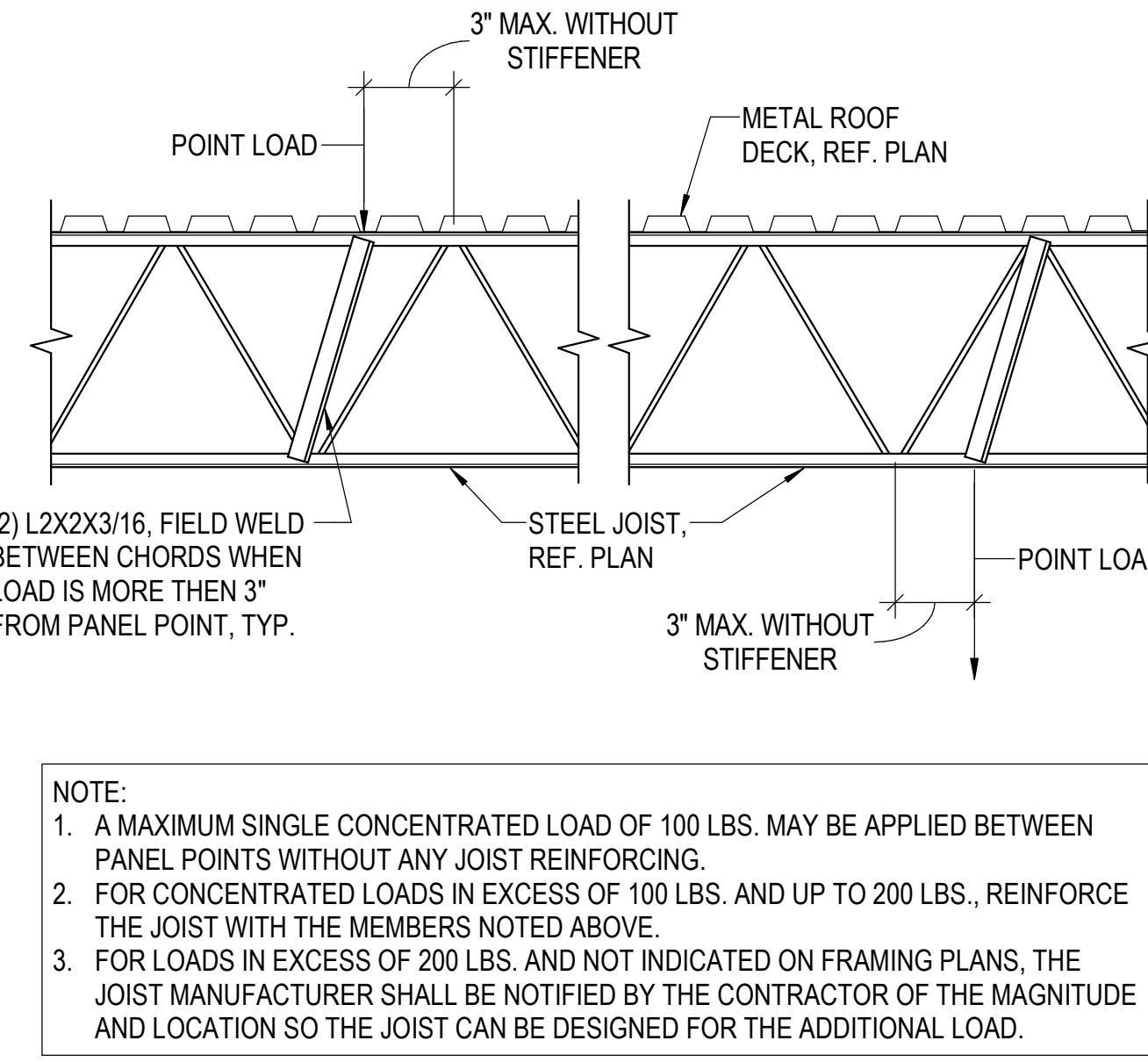




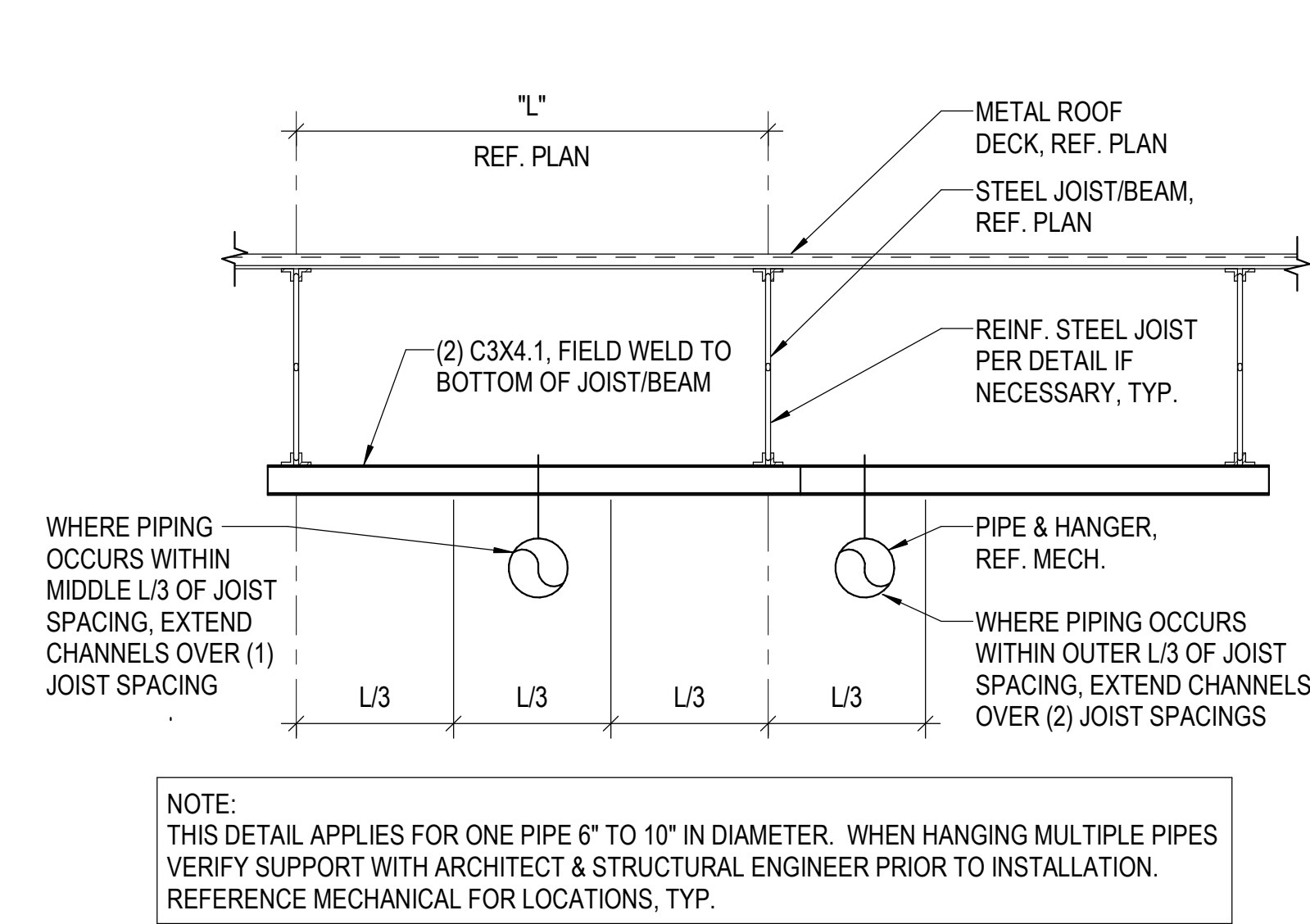
**1 1 1/2" METAL ROOF DECK ATTACH.**  
NO SCALE



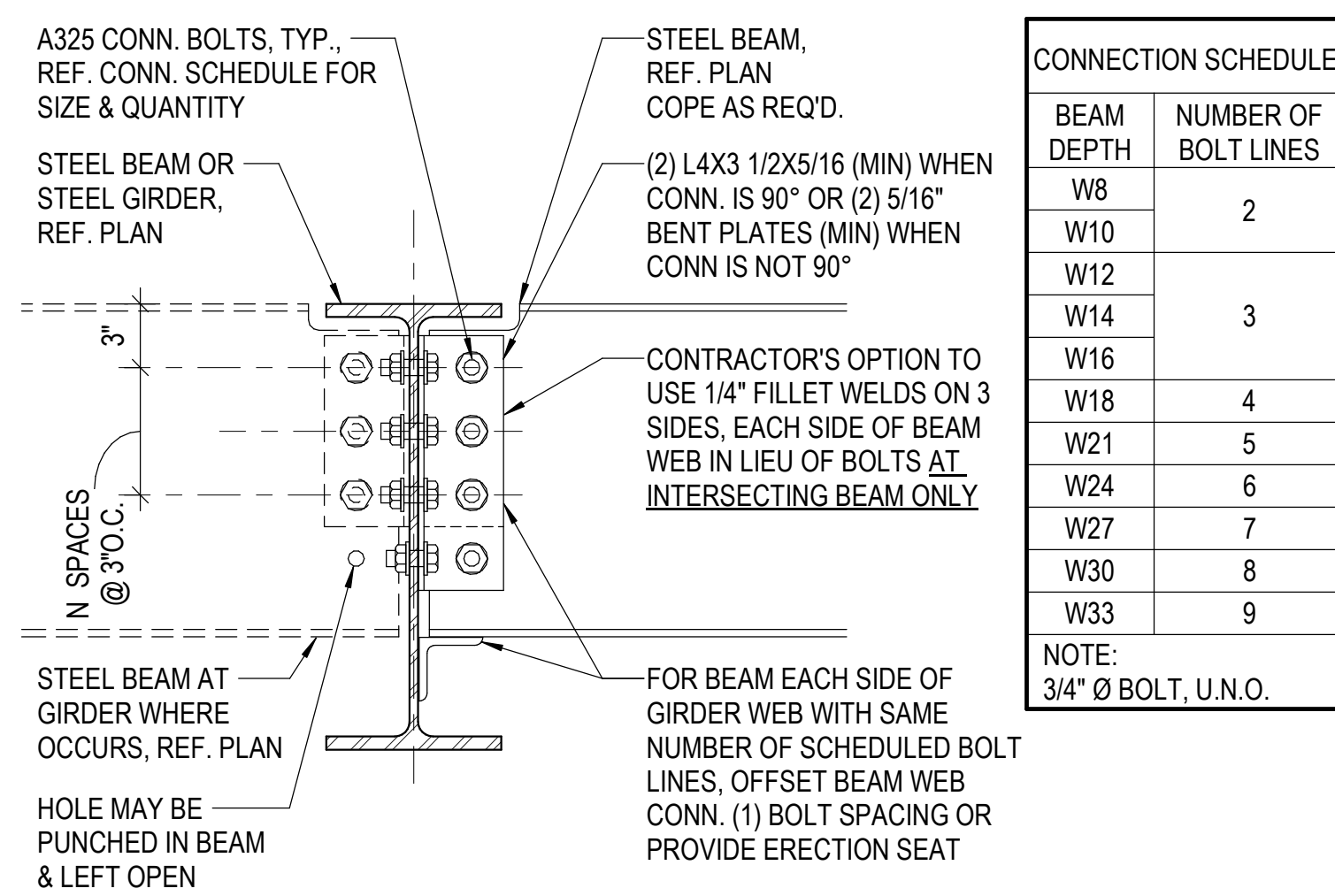
**2 TYP. METAL ROOF DECK OPENING**  
NO SCALE



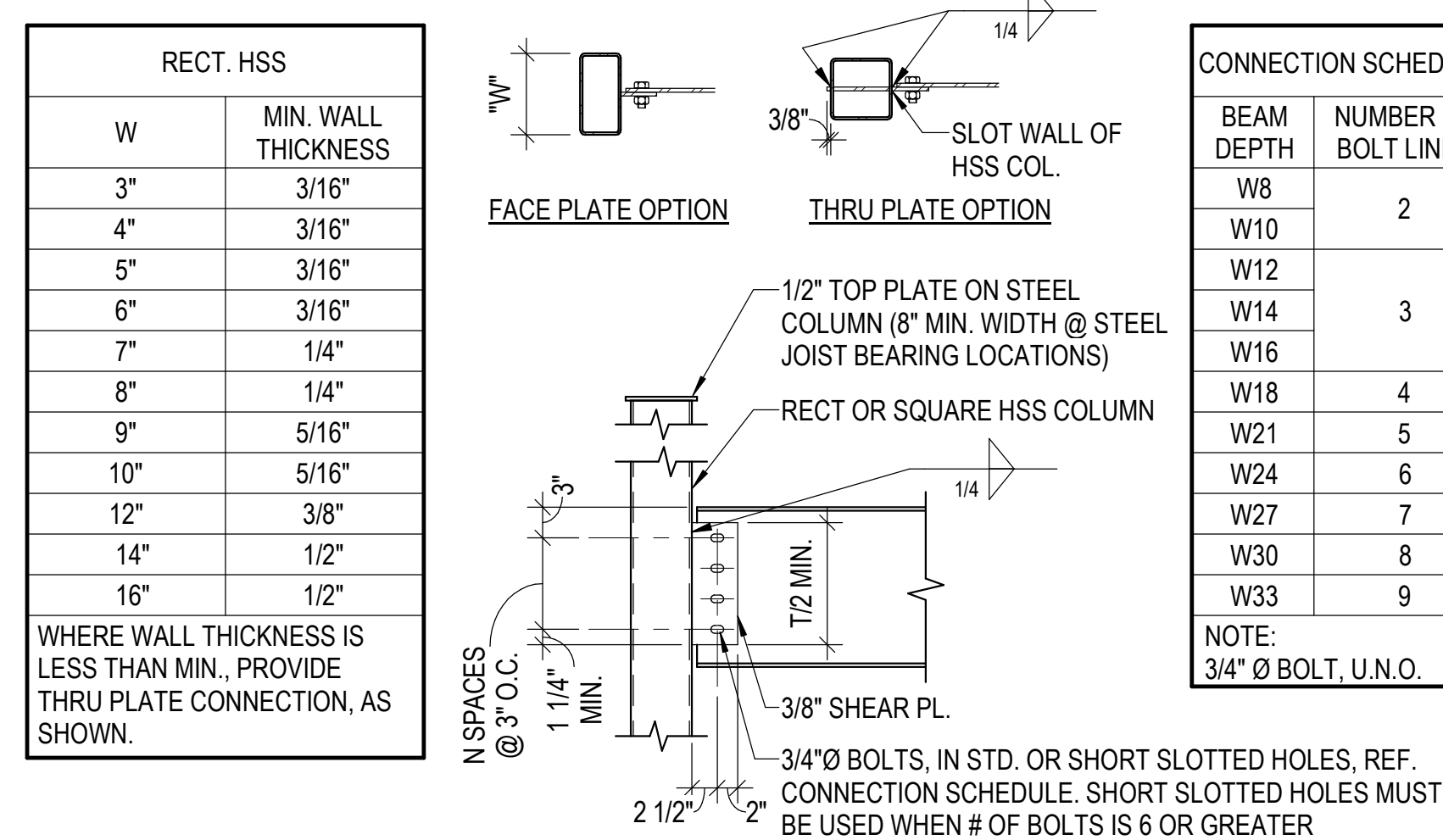
**3 TYP. MISC. JOIST LOADING**  
NO SCALE



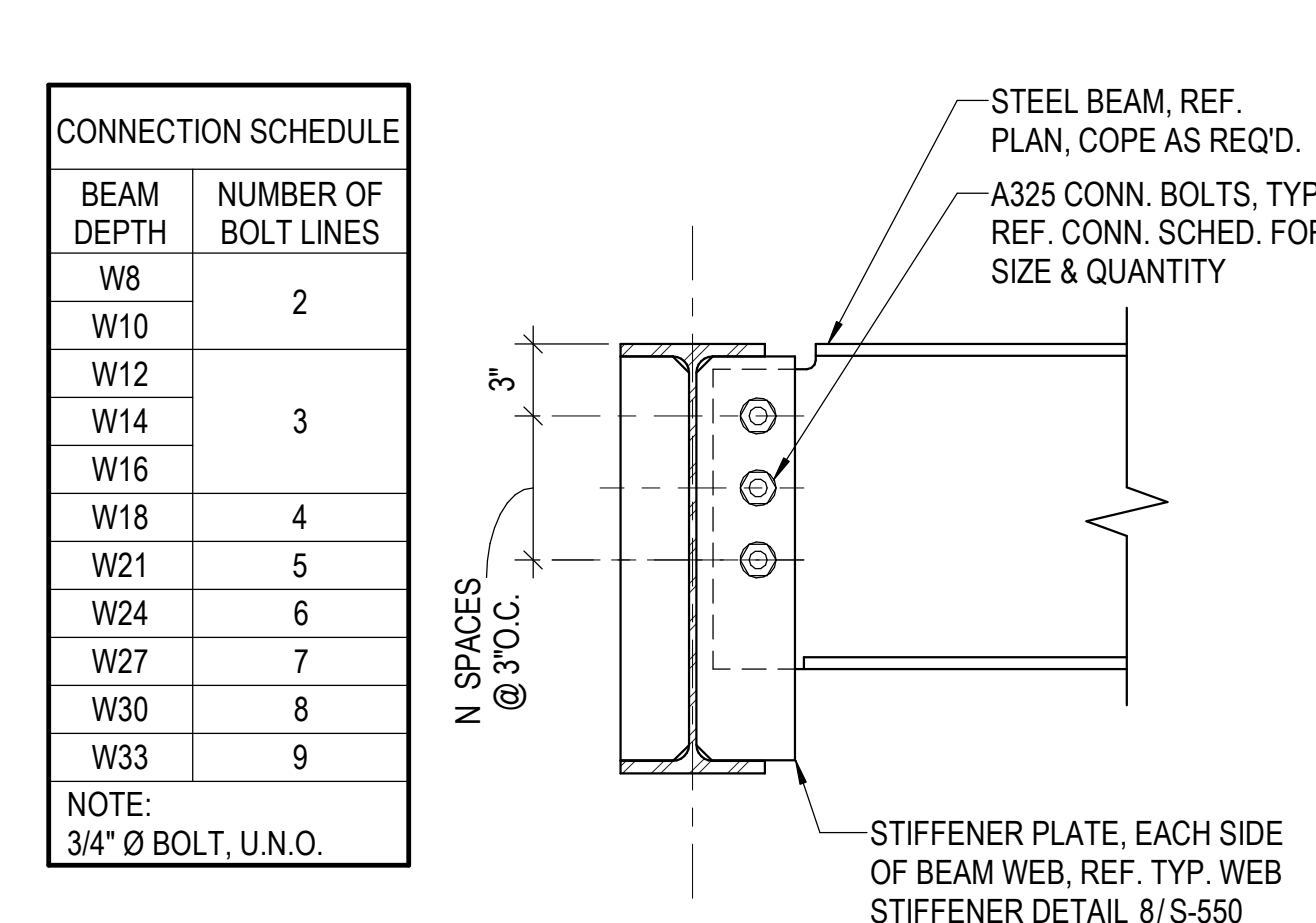
**4 TYP. PIPE SUPPORT DETAIL**  
NO SCALE



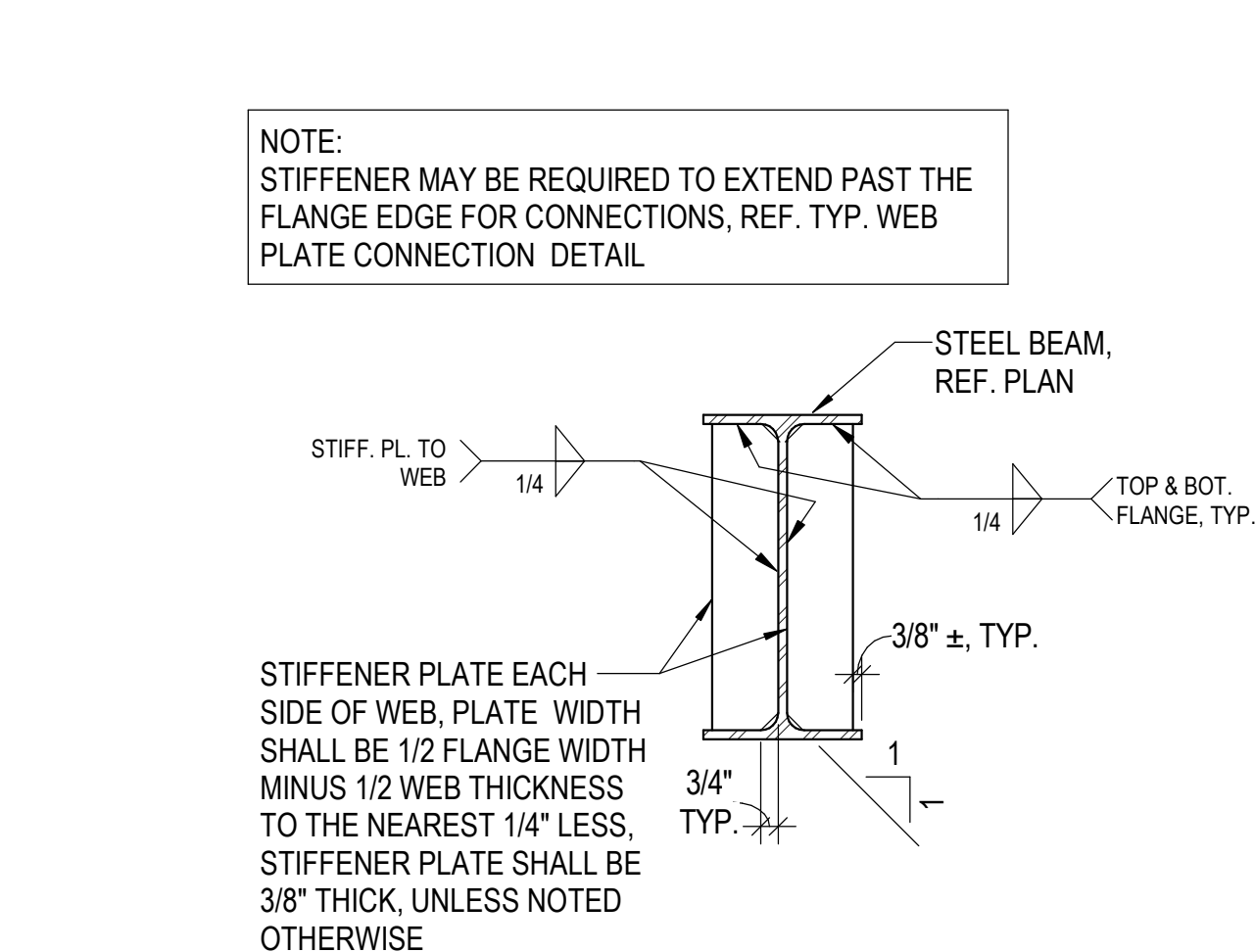
**5 TYP. DOUBLE ANGLE CONN.**  
NO SCALE



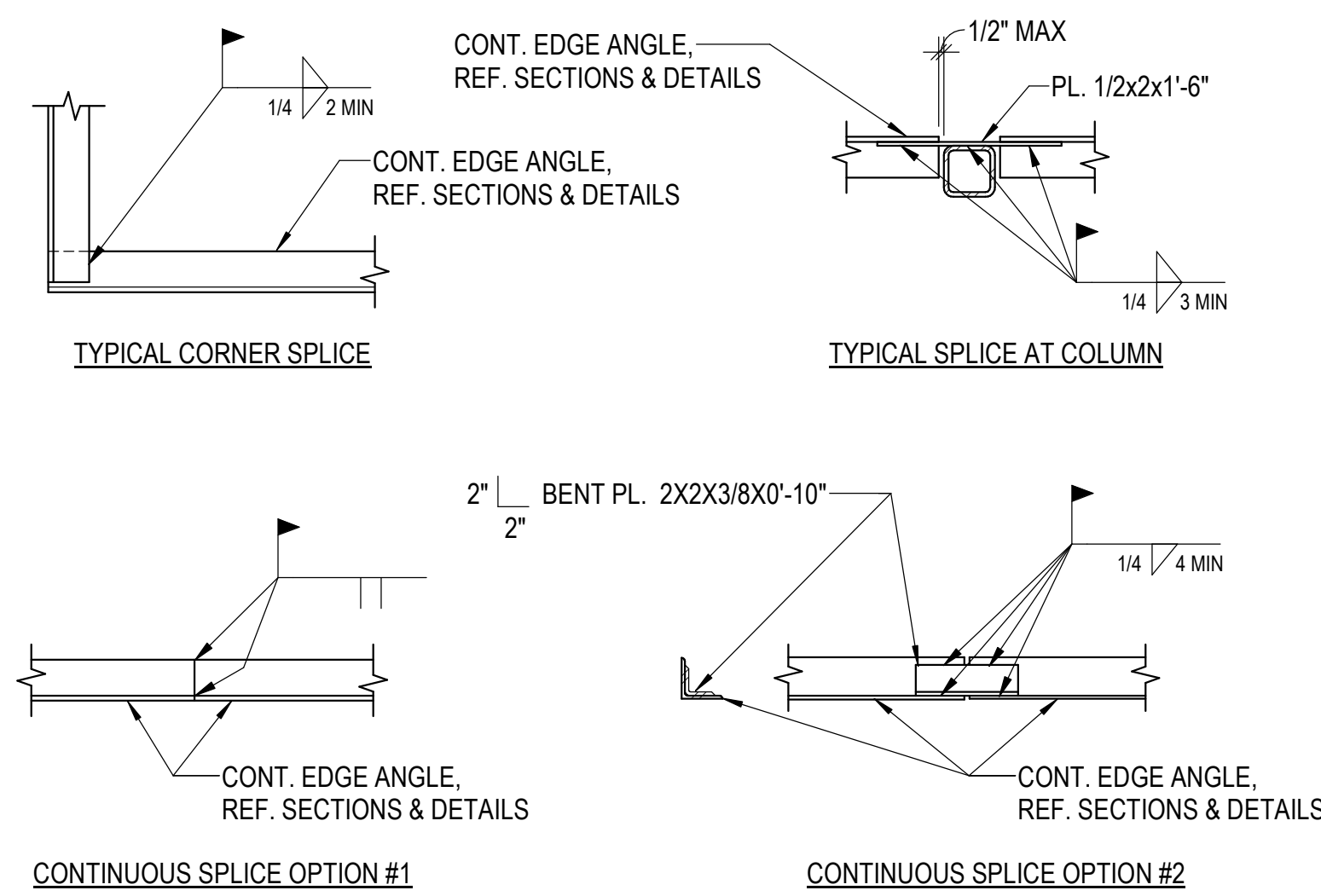
**6 TYP. BEAM TO HSS COLUMN CONN.**  
NO SCALE



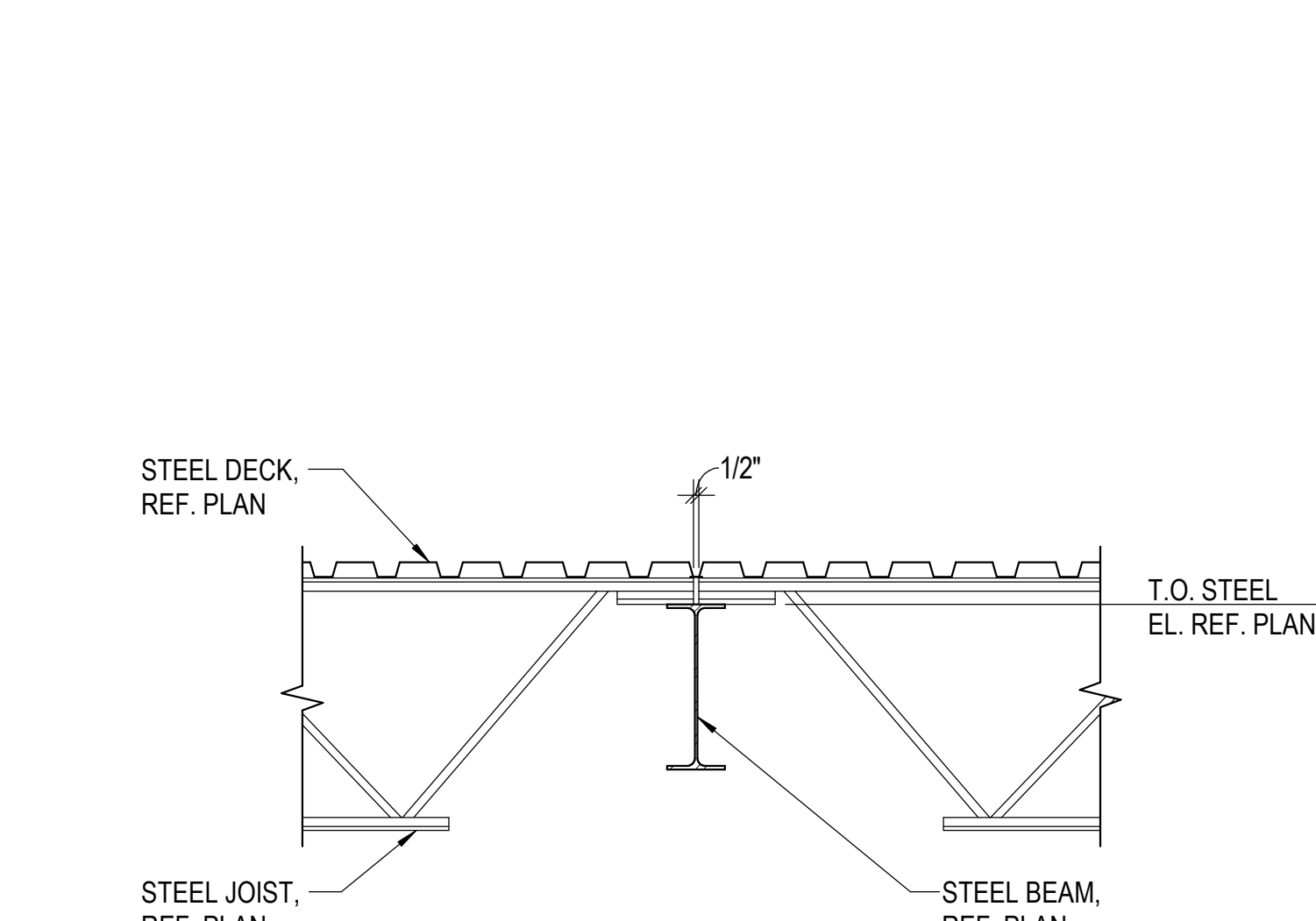
**7 TYP. WEB PLATE CONN.**  
NO SCALE



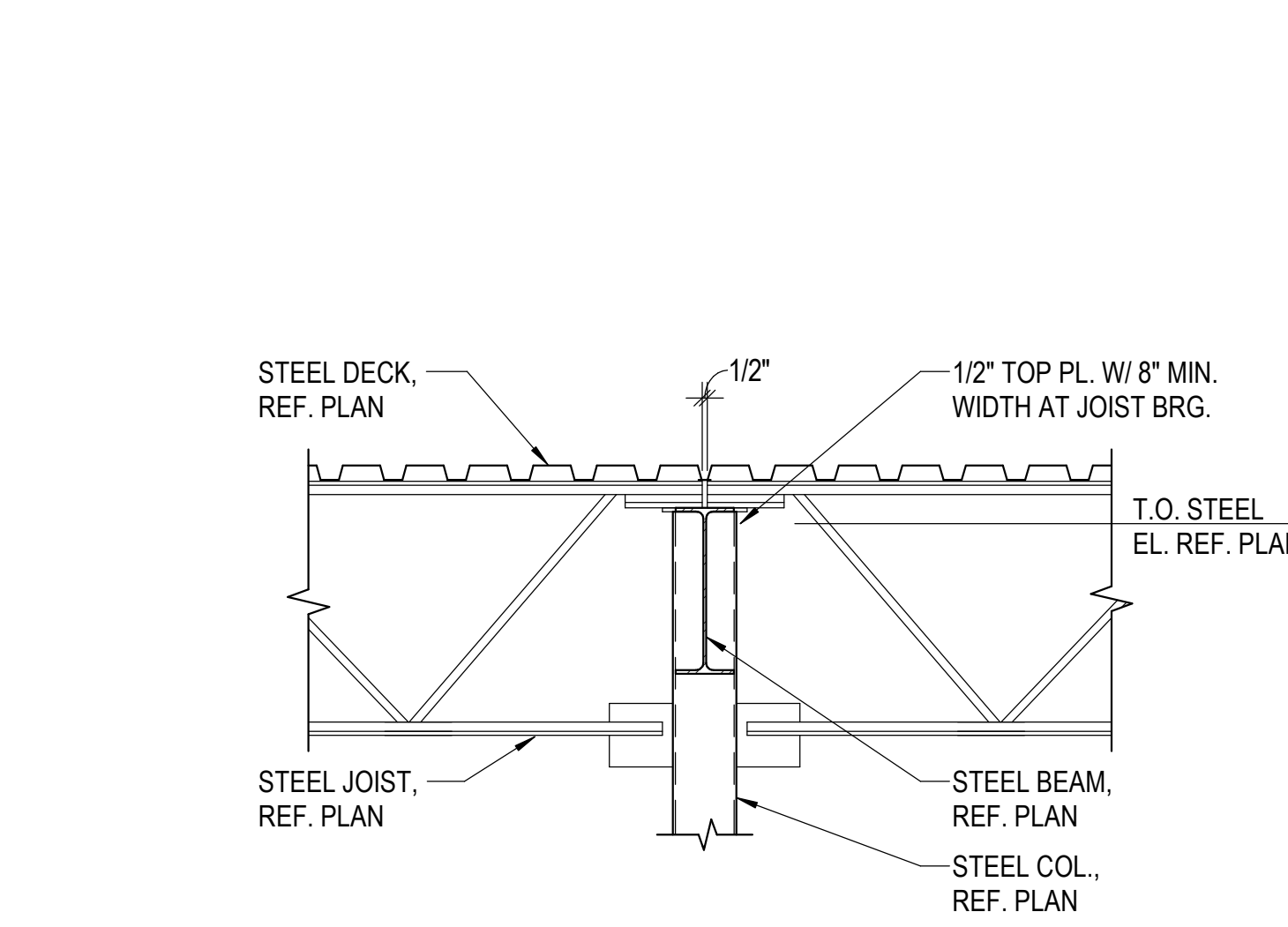
**8 TYP. WEB STIFFENER PLATE**  
NO SCALE



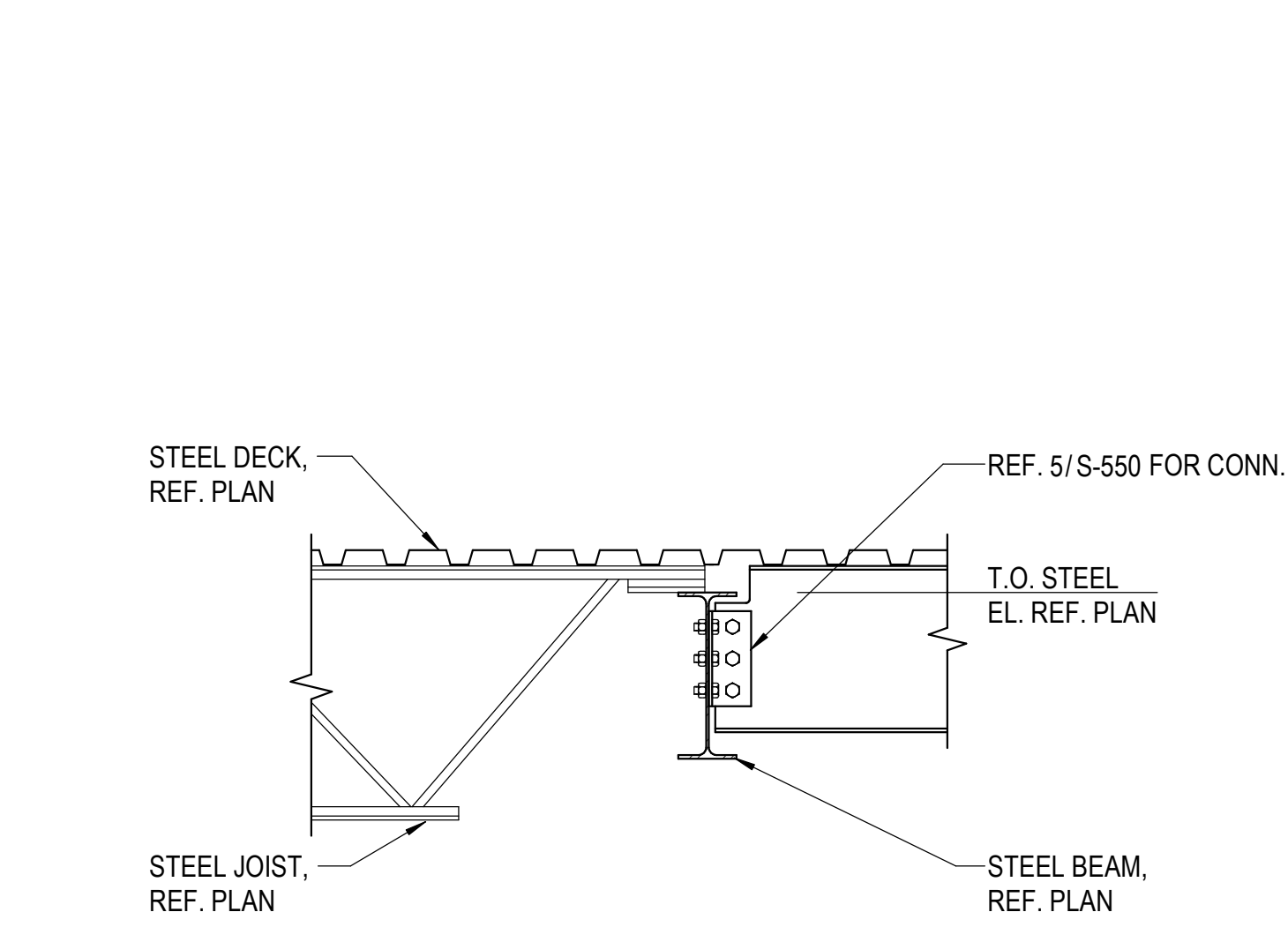
**9 TYP. EDGE ANGLE SPLICE**  
NO SCALE



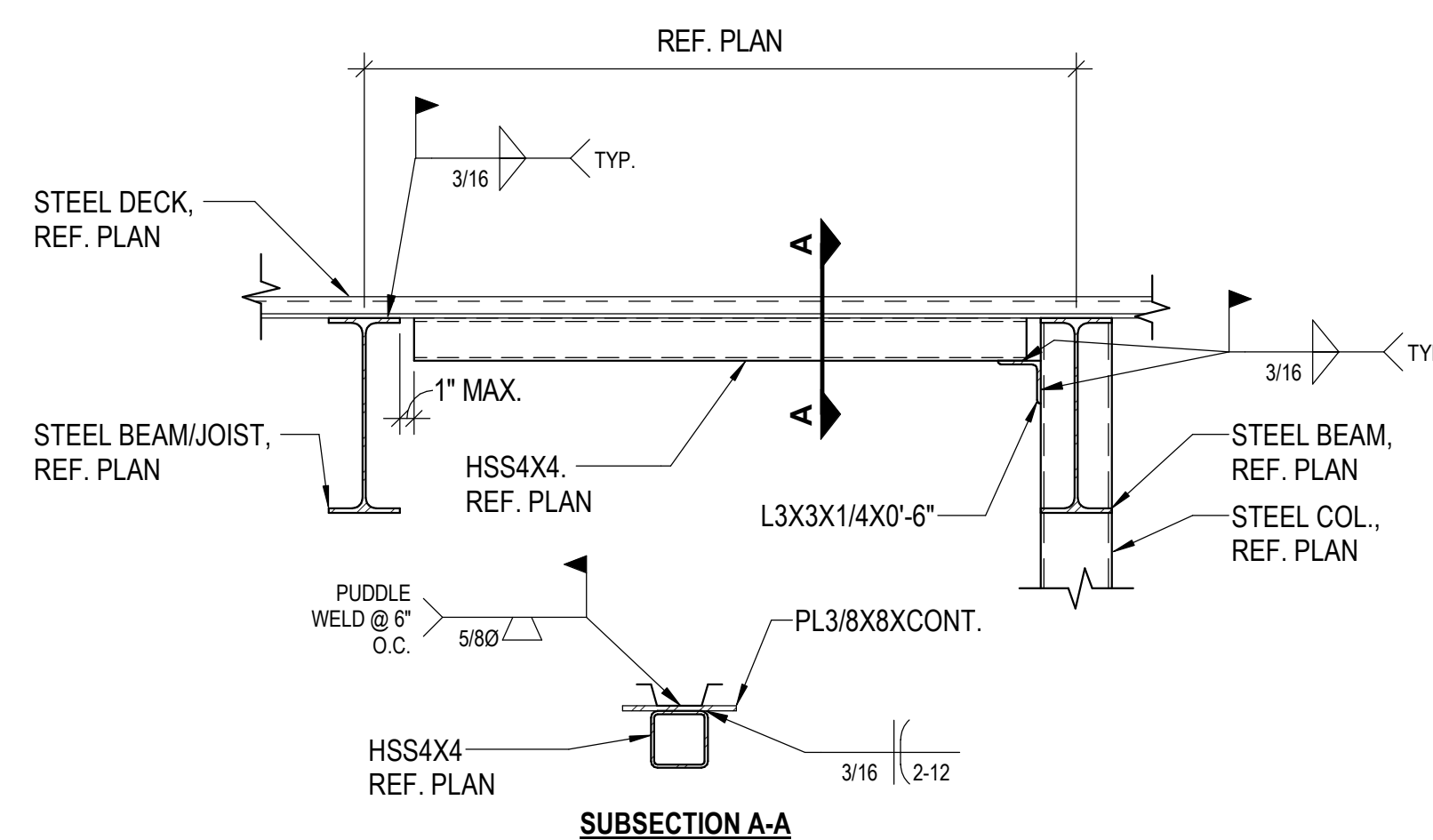
**10 JOIST BRG. AT BEAM**  
3/4" = 1'-0"



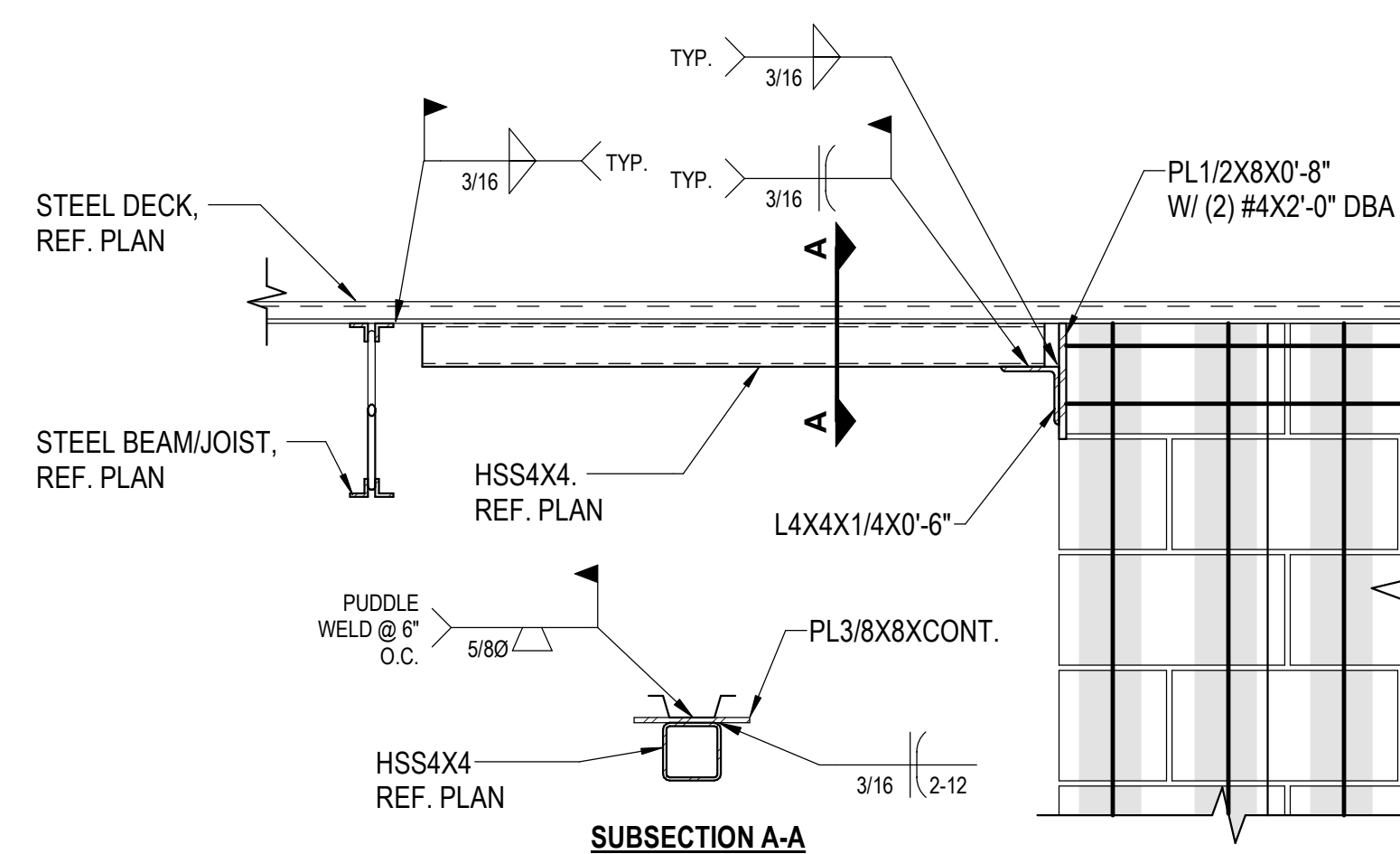
**11 JOIST BRG. AT COLUMN**  
3/4" = 1'-0"



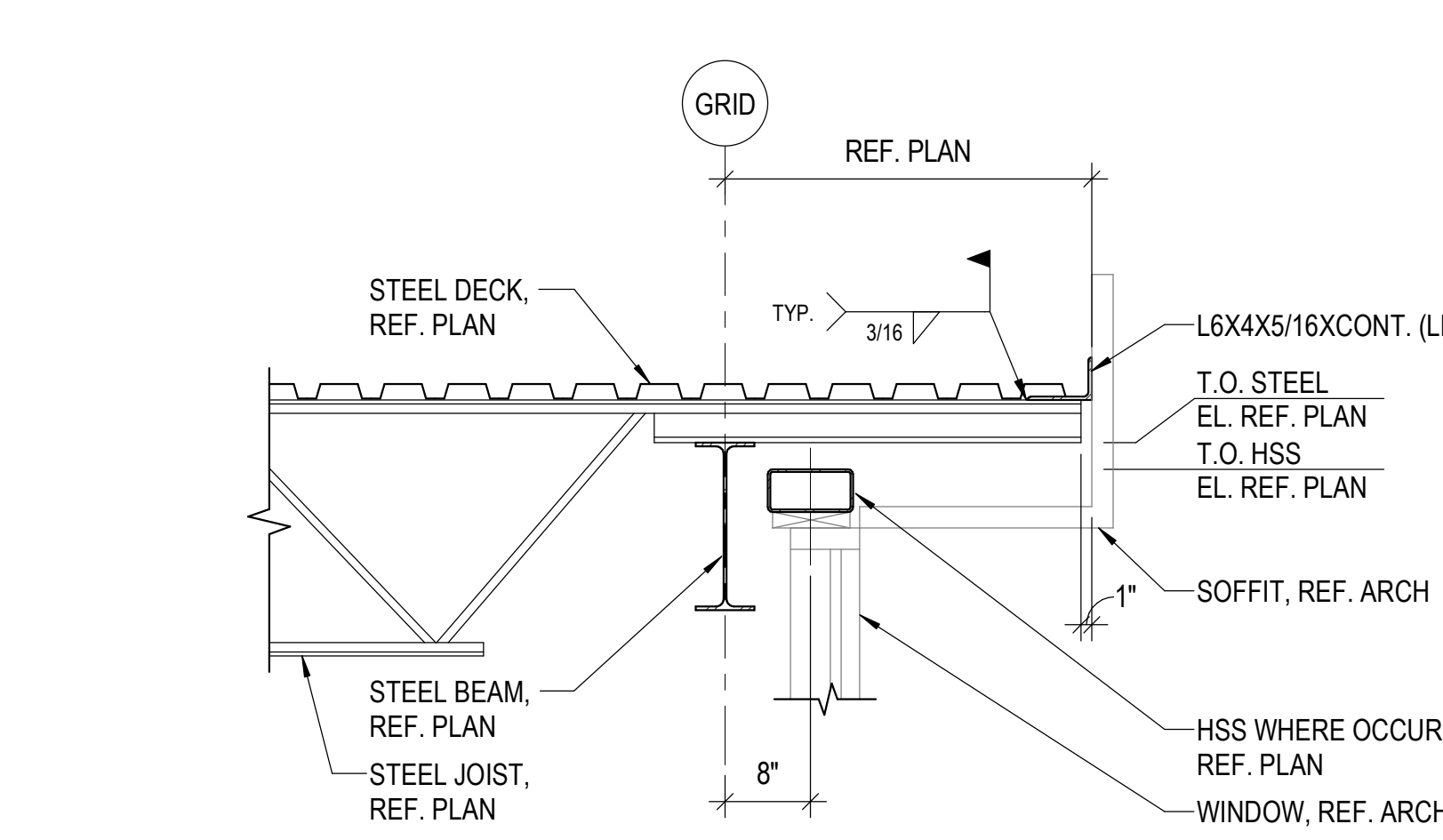
**12 JOIST BRG. AT BEAM**  
3/4" = 1'-0"



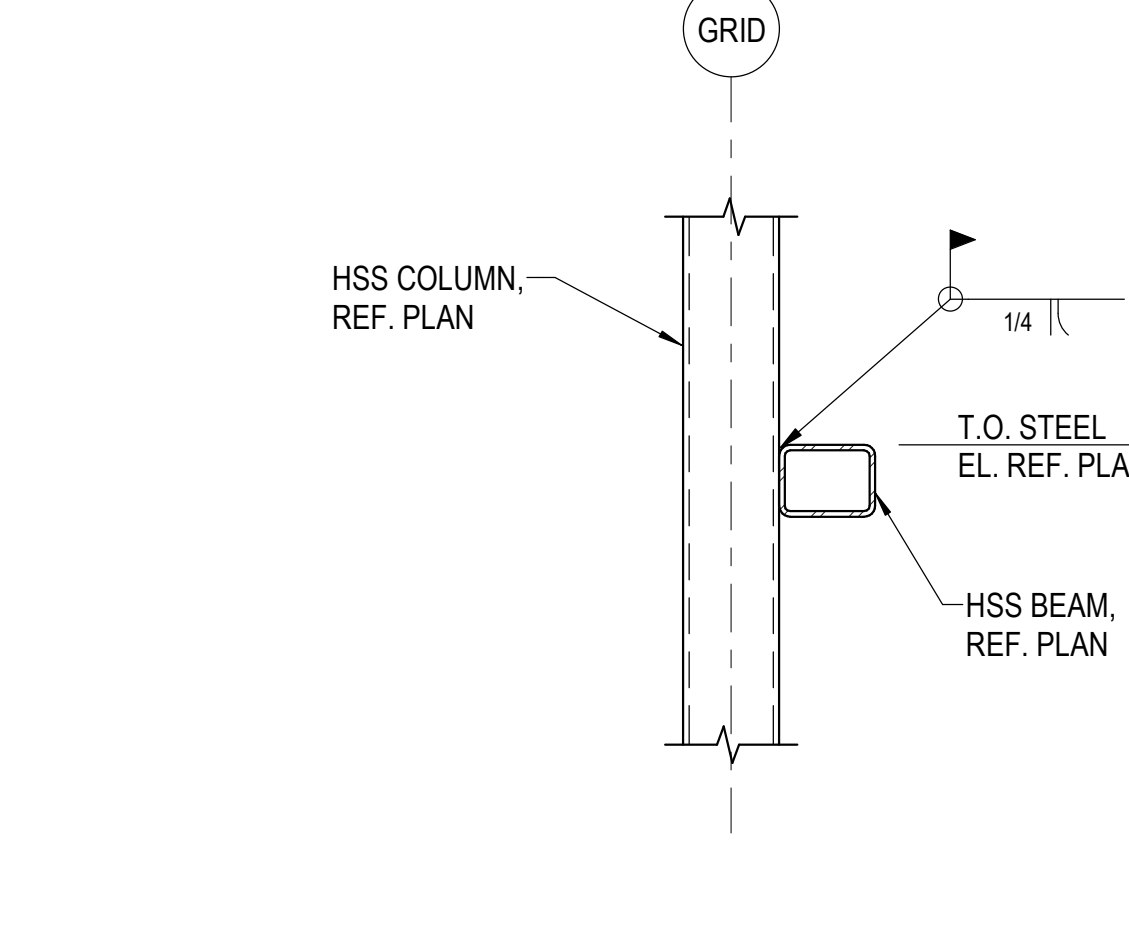
**13 TYP. DRAG AT STEEL COLUMN**  
NO SCALE



**14 TYP. DRAG AT CMU**  
NO SCALE



**15 JOIST EXTENSION AT BEAM**  
3/4" = 1'-0"



**16 TYP. HSS BEAM TO HSS COLUMN CONN.**  
NO SCALE



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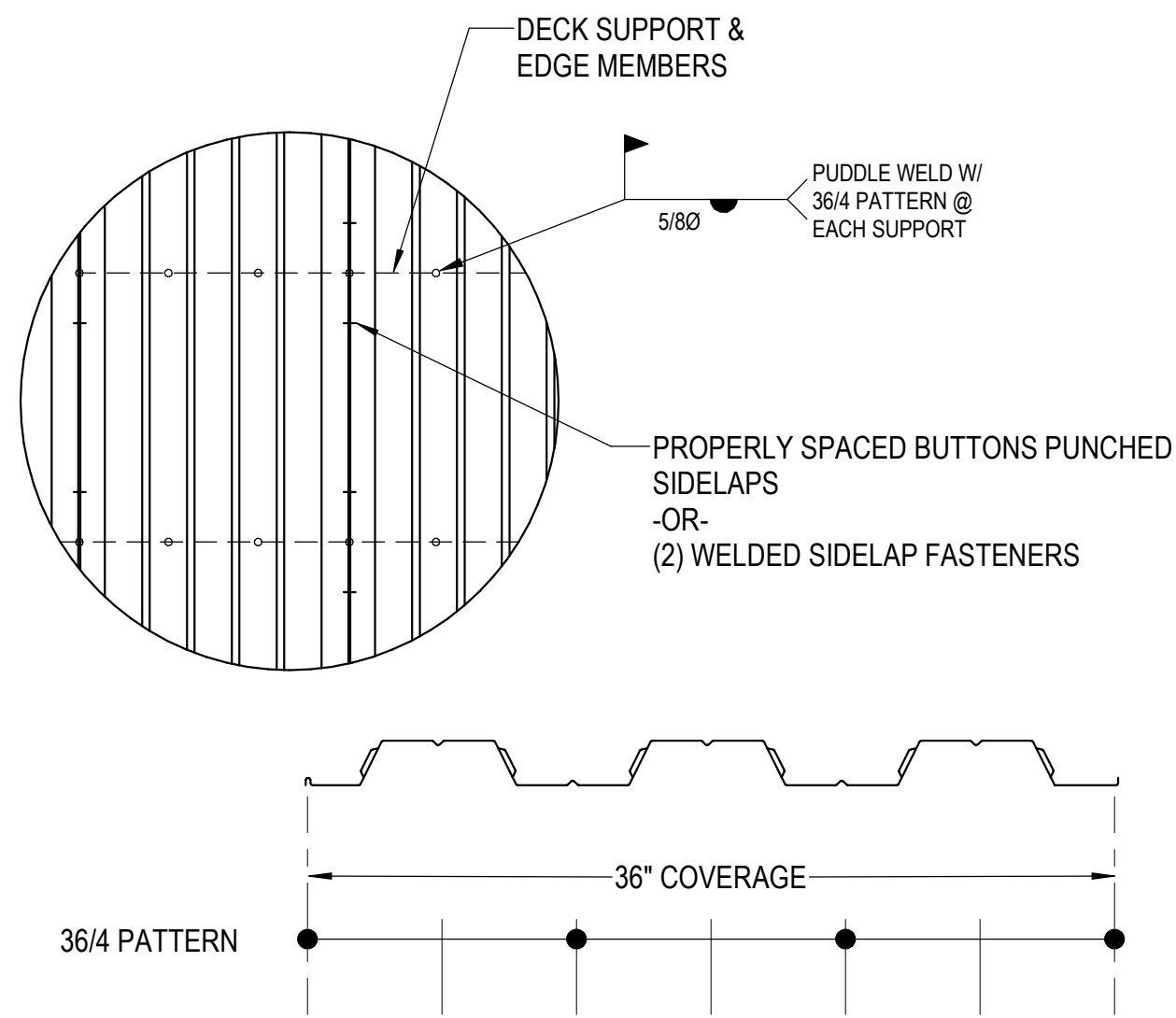


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TYPICAL FRAMING  
DETAILS

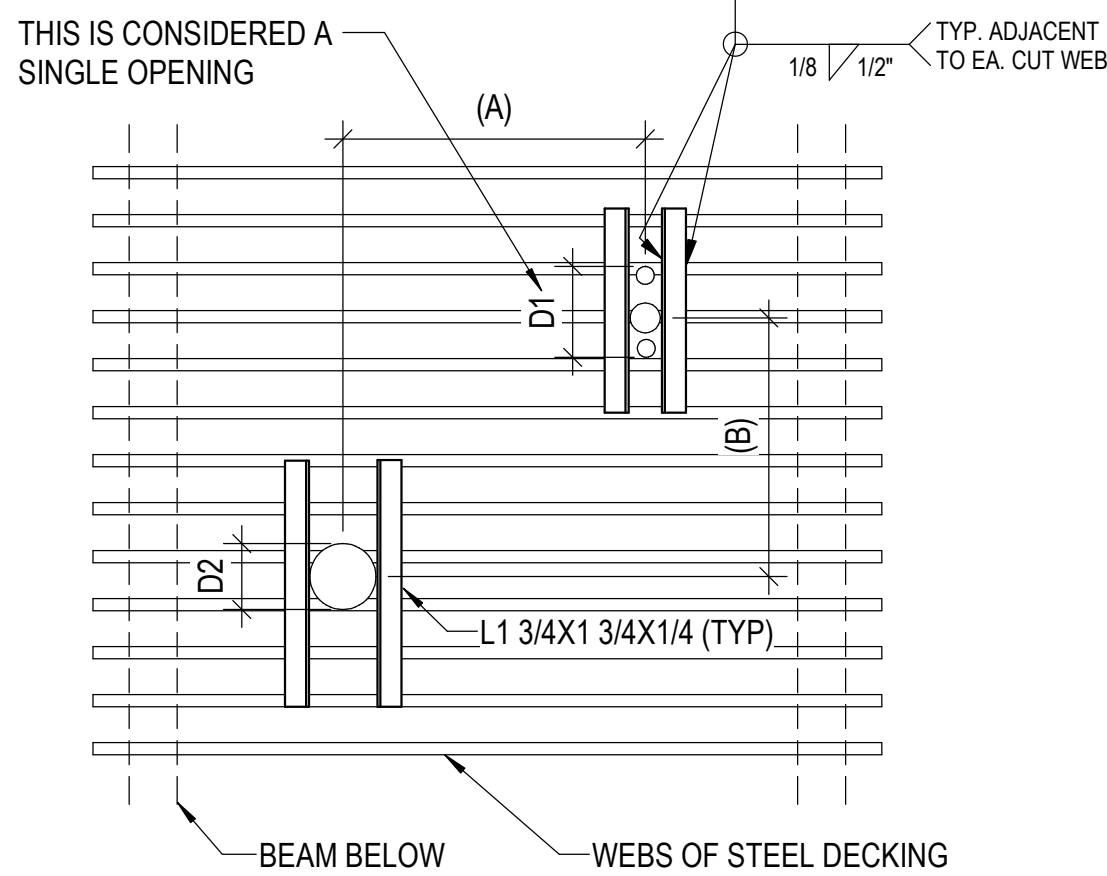
S-550





1 2" COMPOSITE DECK ATTACHMENT  
NO SCALE

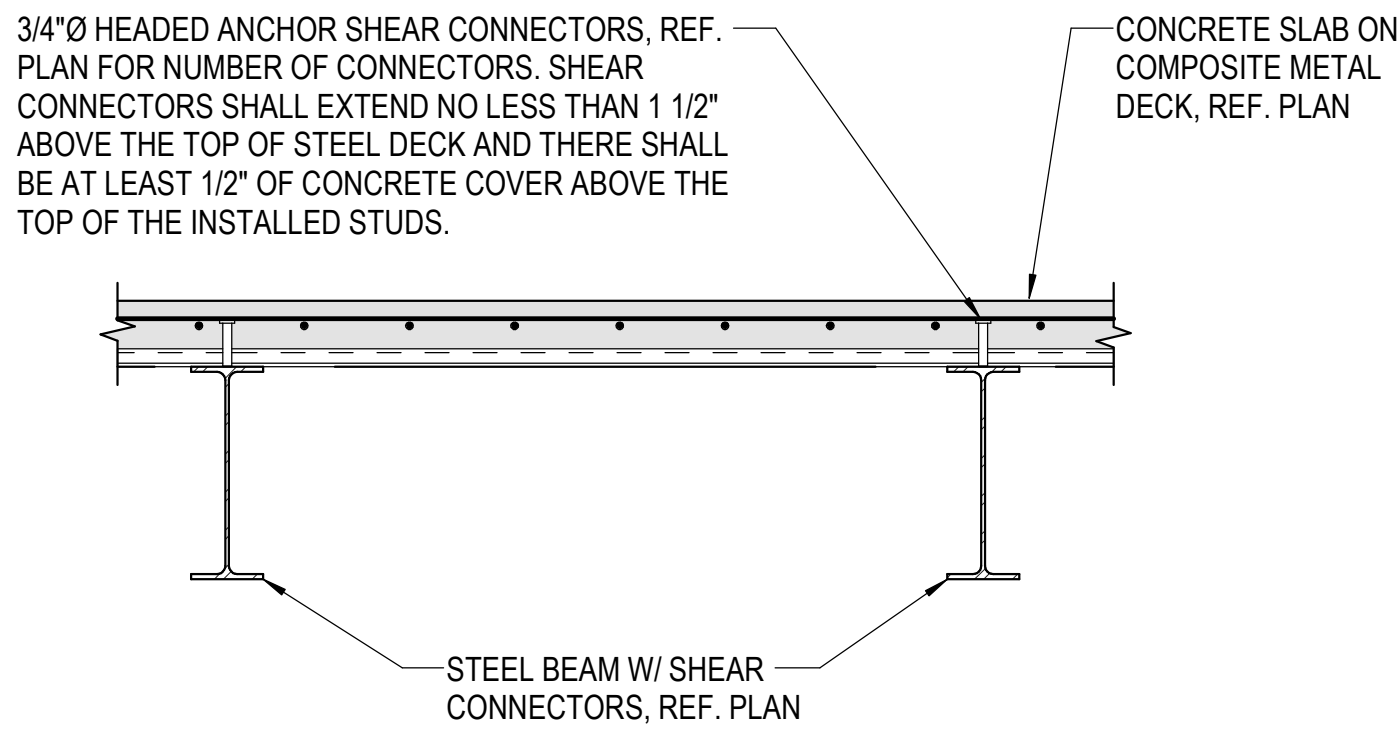
HOLES CUTTING NO MORE THAN:  
\* 3 ADJACENT WEBS FOR 6" & 8" MODULE DECK  
\* 2 ADJACENT WEBS FOR 12" MODULE DECK



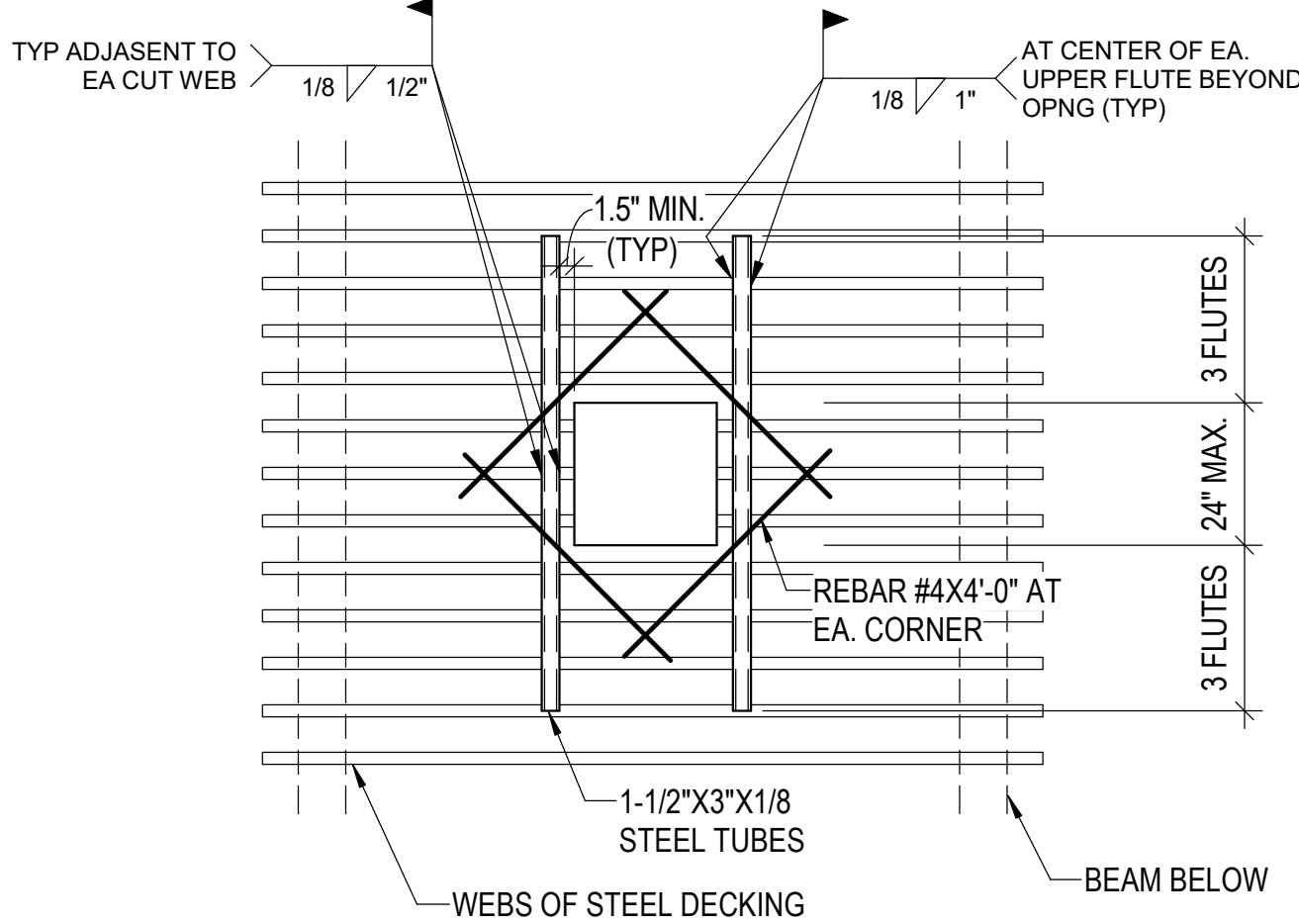
- NOTES:
- ANGLES SHALL BE PLACED ON TOP OF THE DECK.
  - ANGLES SHALL EXTEND 3 WEBS PAST THE DECK OPENING (TYP).
  - IF DIMENSION (A) IS GREATER THAN 4D1, OR 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION (B).
  - IF DIMENSION (B) IS GREATER THAN 4D1, 4D2 OR 32" WHICHEVER IS LARGER, THERE IS NO RESTRICTION ON DIMENSION (A).
  - IF DIMENSION (A) AND (B) ARE LESS THAN 4D1, 4D2 OR 32" WHICHEVER IS LARGER, THE OPENING GROUP SHALL BE CONSIDERED AS A SINGLE HOLE, AND SHALL BE REINFORCED AS REQUIRED FOR THE LARGER OPENING AS SHOWN IN 6/S-551

5 COMPOSITE DECK OPENING  
NO SCALE

COMPOSITE SLAB DETAIL NOTES:  
1. METAL DECK SHALL BE CONTINUOUS OVER THREE OR MORE SPANS.  
2. COMPOSITE DECK IS DESIGNED AS UNSHORED.  
3. CONDUIT SHALL NOT BE EMBEDDED IN THE SLAB.  
4. SHEAR CONNECTORS IN COMPOSITE SLABS SHALL BE EQUALLY SPACED ALONG THE LENGTH OF THE BEAM. THE NUMBER AND SPACING OF CONNECTORS SHALL BE APPROXIMATELY SYMMETRICAL ABOUT THE BEAM CENTERLINE.

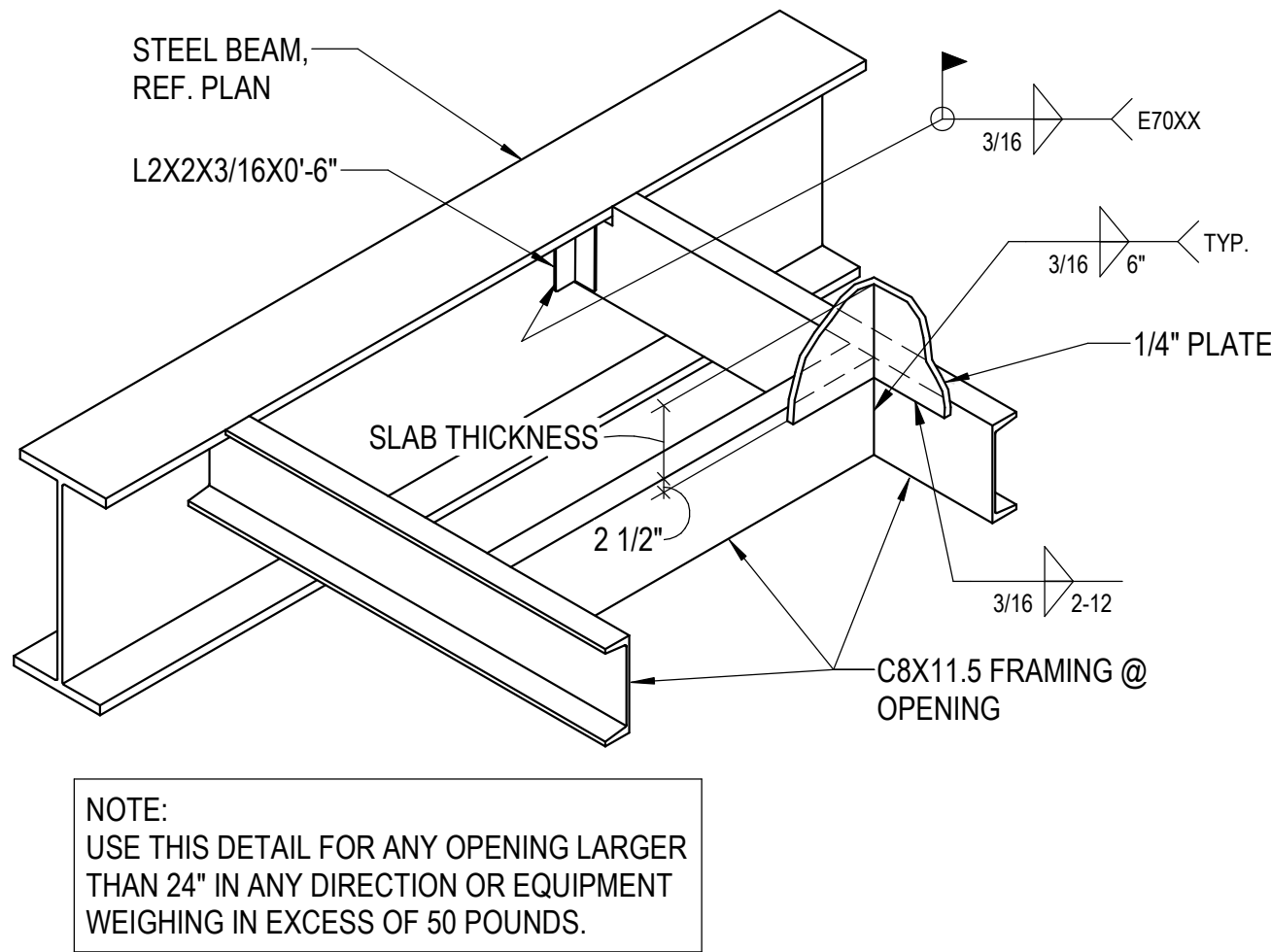


2 TYP. COMPOSITE SLAB DETAIL  
NO SCALE

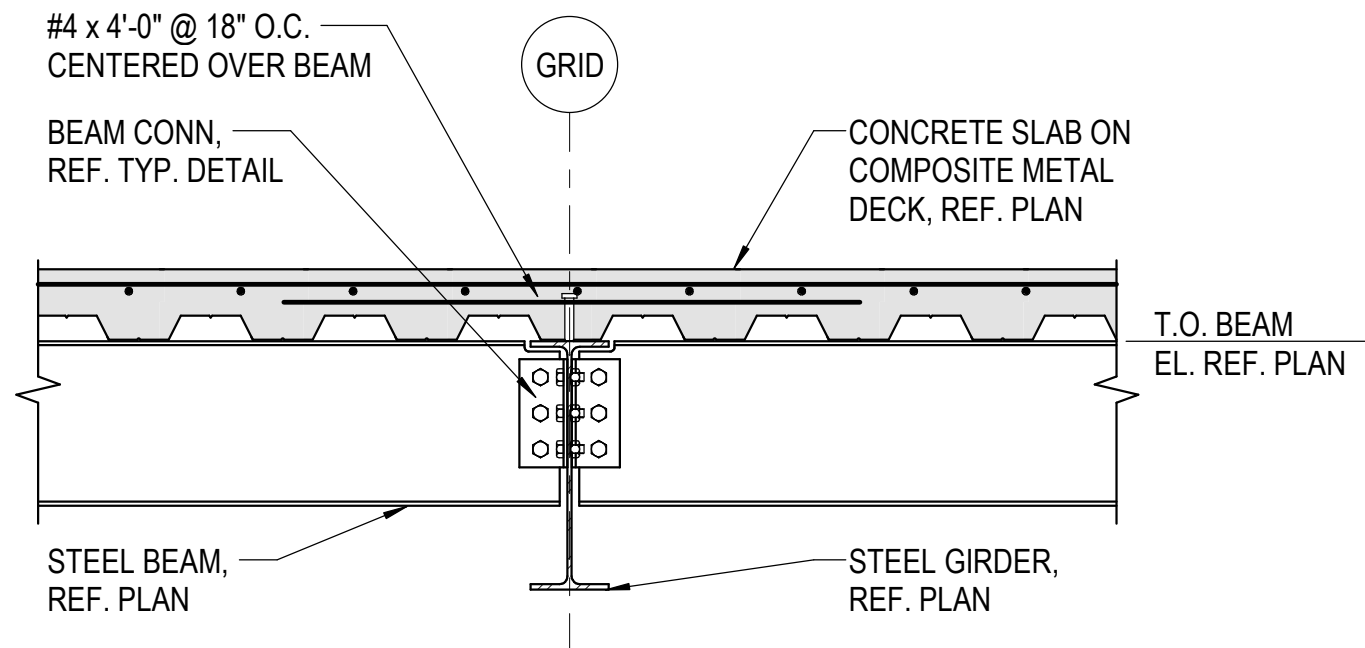


- NOTES:
- TUBES SHALL BE PLACED ON TOP OF THE DECK.
  - ADD REBARS AT CORNERS OF OPENING ABOVE THE TUBES.
  - IF THE OPENING OR GROUP OF OPENINGS CUTS THROUGH ONE DECK FLUTE, THE OPENING OR OPENING GROUPS MAY BE CUT BEFORE POURING CONCRETE.
  - IF THE OPENING OR GROUP OF OPENINGS CUTS THROUGH TWO DECK FLUTES, THE DECK SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED. AT THE TIME OF OPENING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
  - WHEN THE MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 24", PLACE BEAMS AROUND OPENING PER 3/S-551

6 COMPOSITE DECK OPENING  
NO SCALE



3 TYP. COMP. SLAB OPENING DETAIL  
NO SCALE



4 TYP. SLAB REINF. AT GIRDER  
NO SCALE



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LEE'S SUMMIT MUNICIPAL AIRPORT  
LEE'S SUMMIT AIRPORT

GENERAL AVIATION TERMINAL  
CITY PROJECT NO. - 17932172

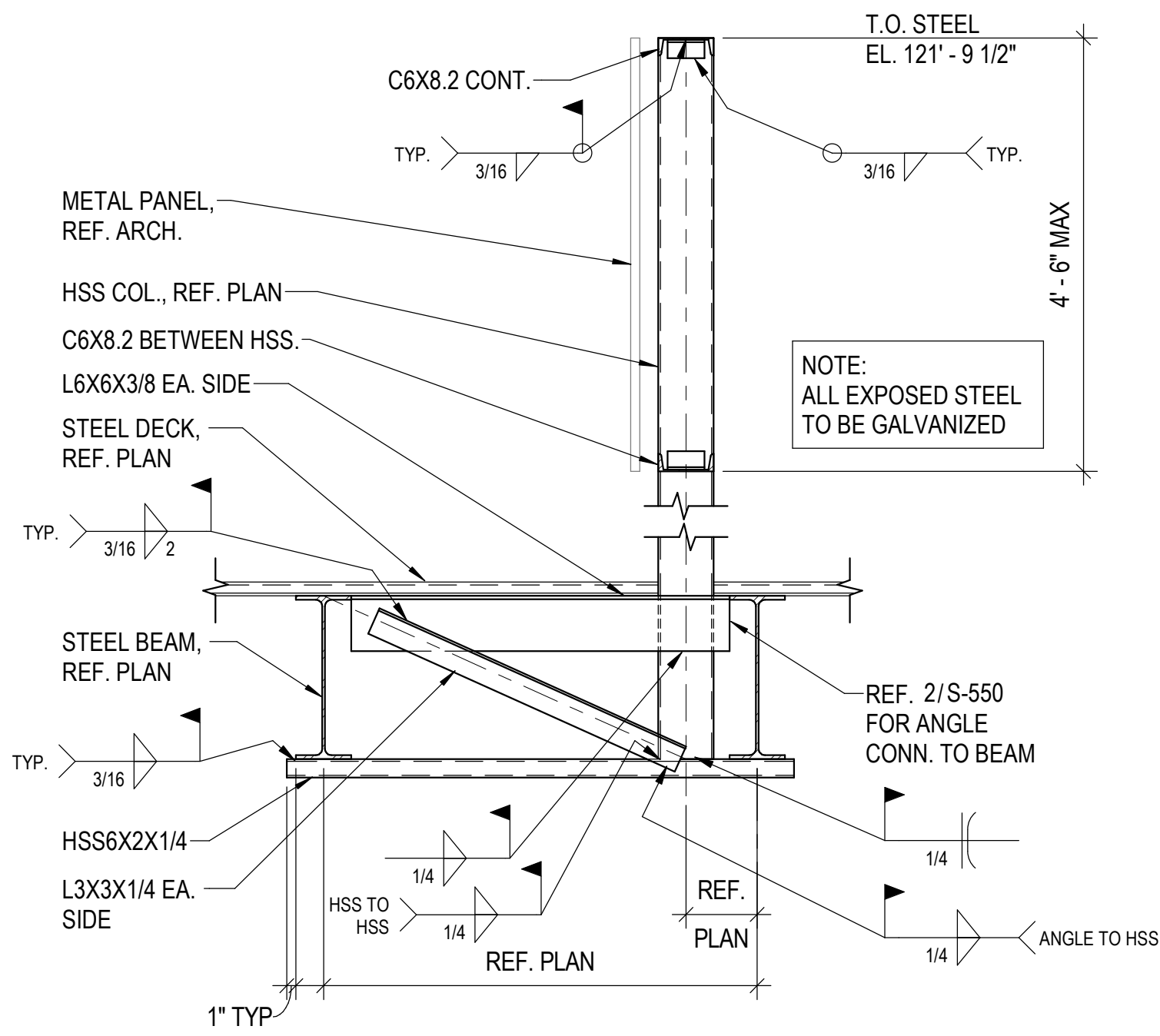


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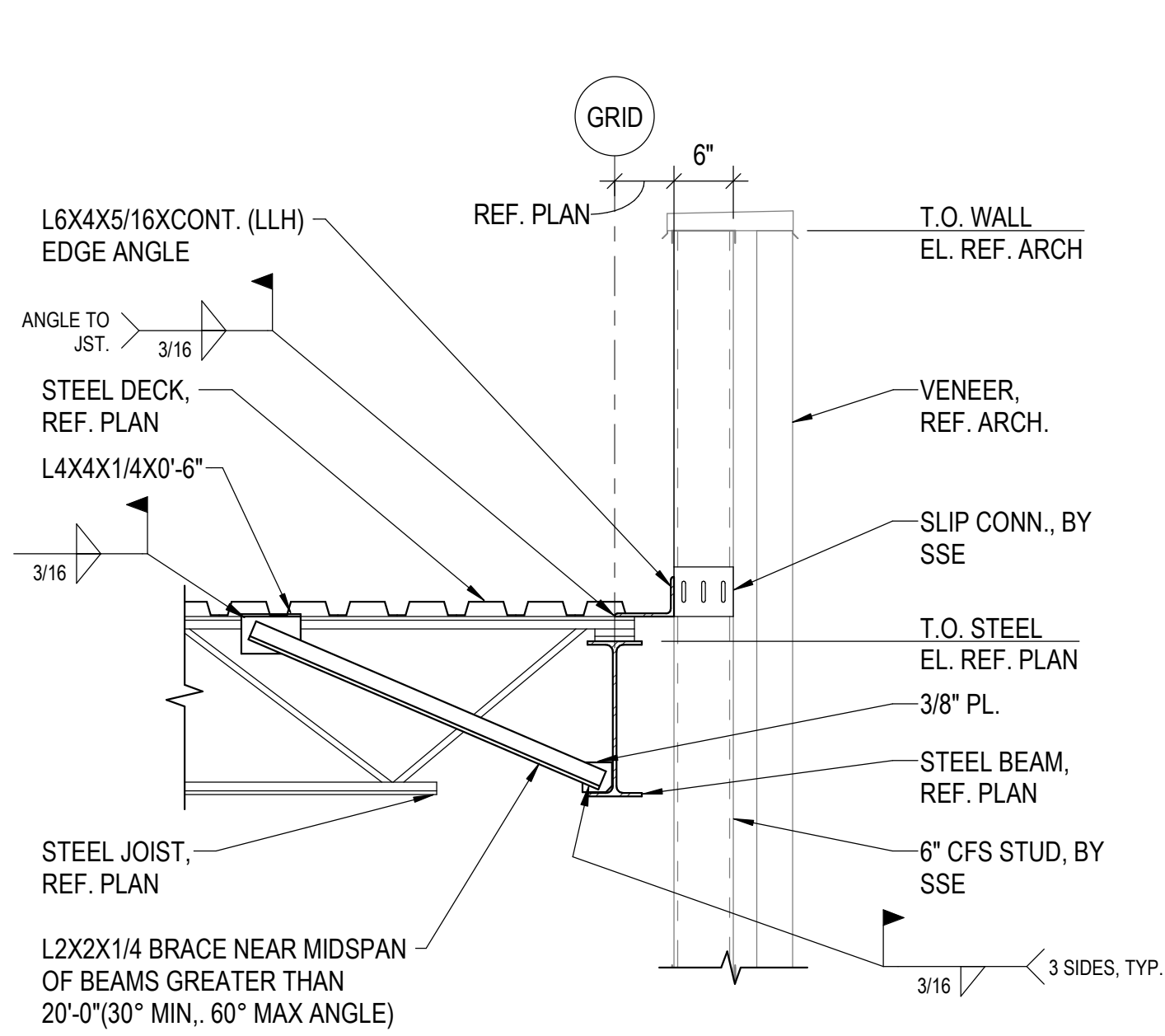
TYPICAL FRAMING  
DETAILS

S-551

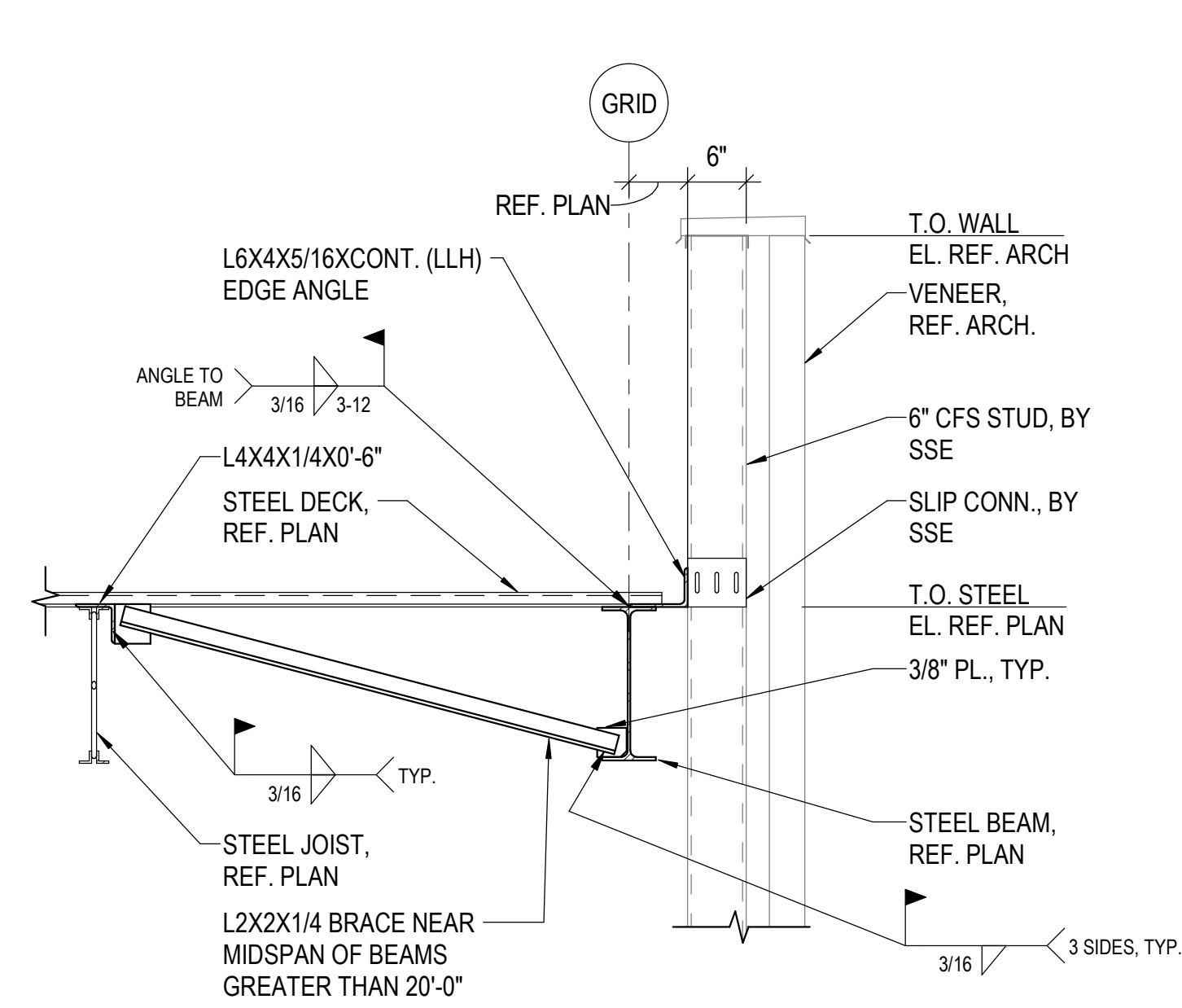




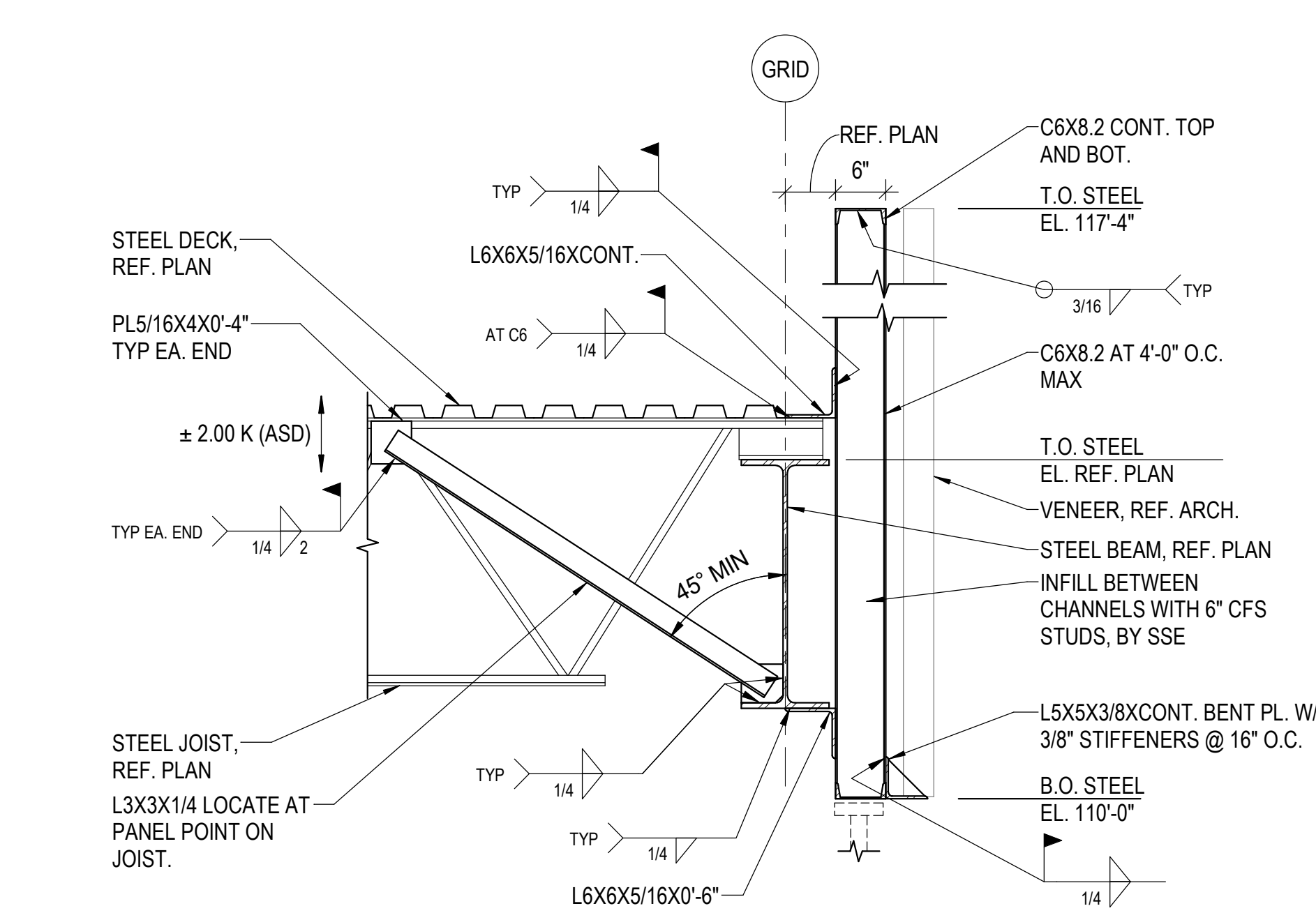
**1 FRAMING AT SCREEN WALL**  
3/4" = 1'-0"



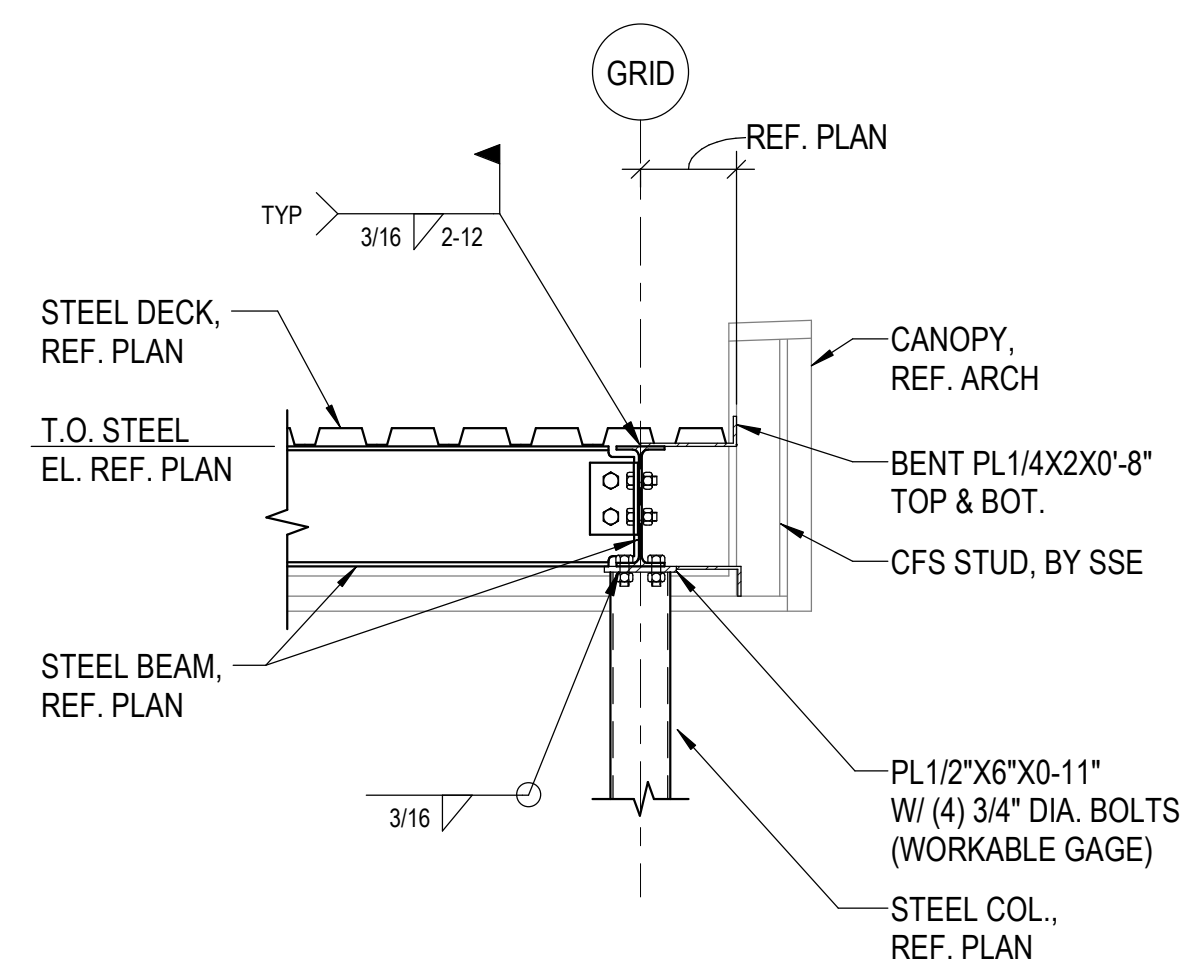
**2 JOIST BRG. DETAIL**  
3/4" = 1'-0"



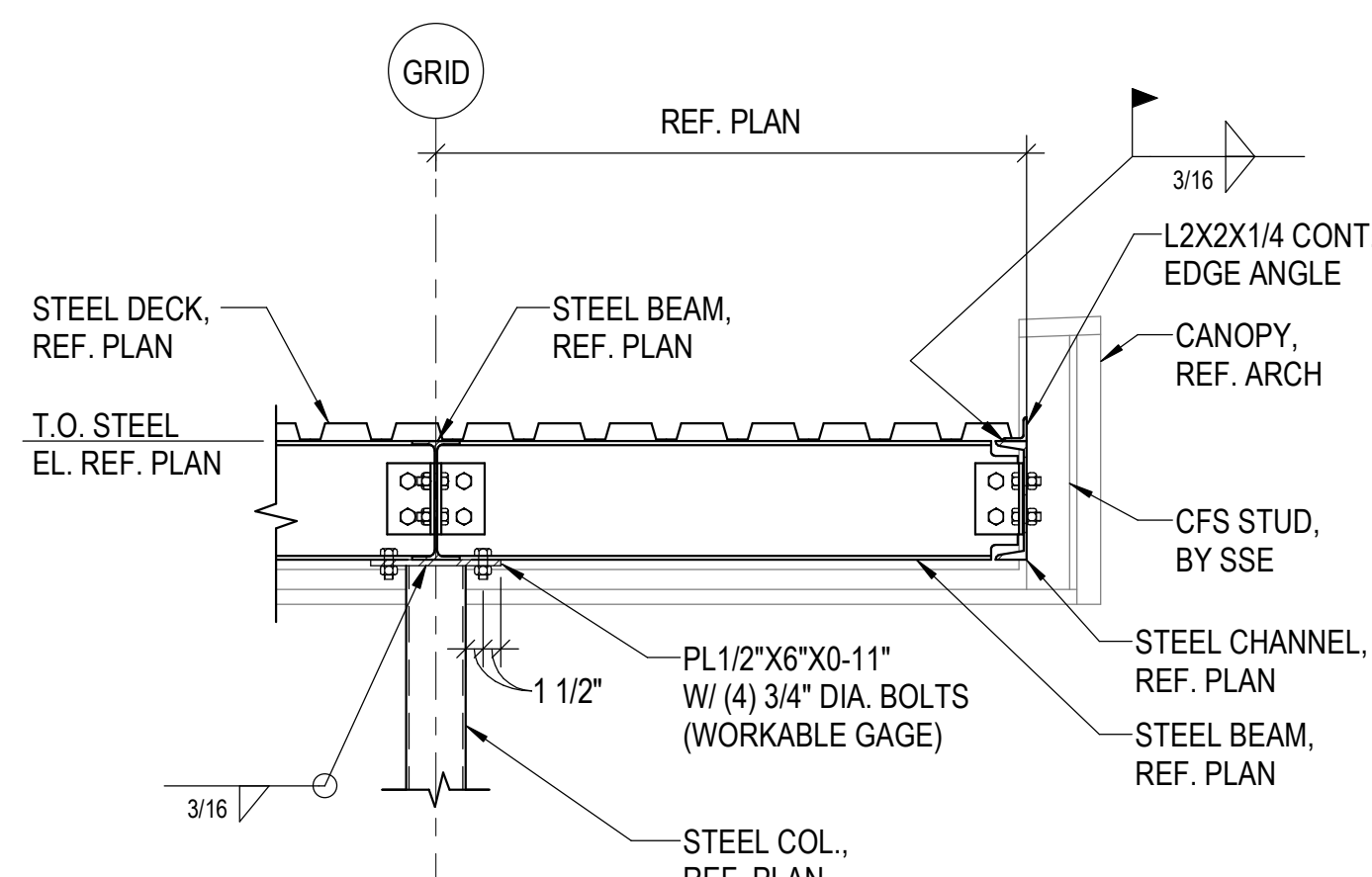
**3 DECK BRG. DETAIL**  
3/4" = 1'-0"



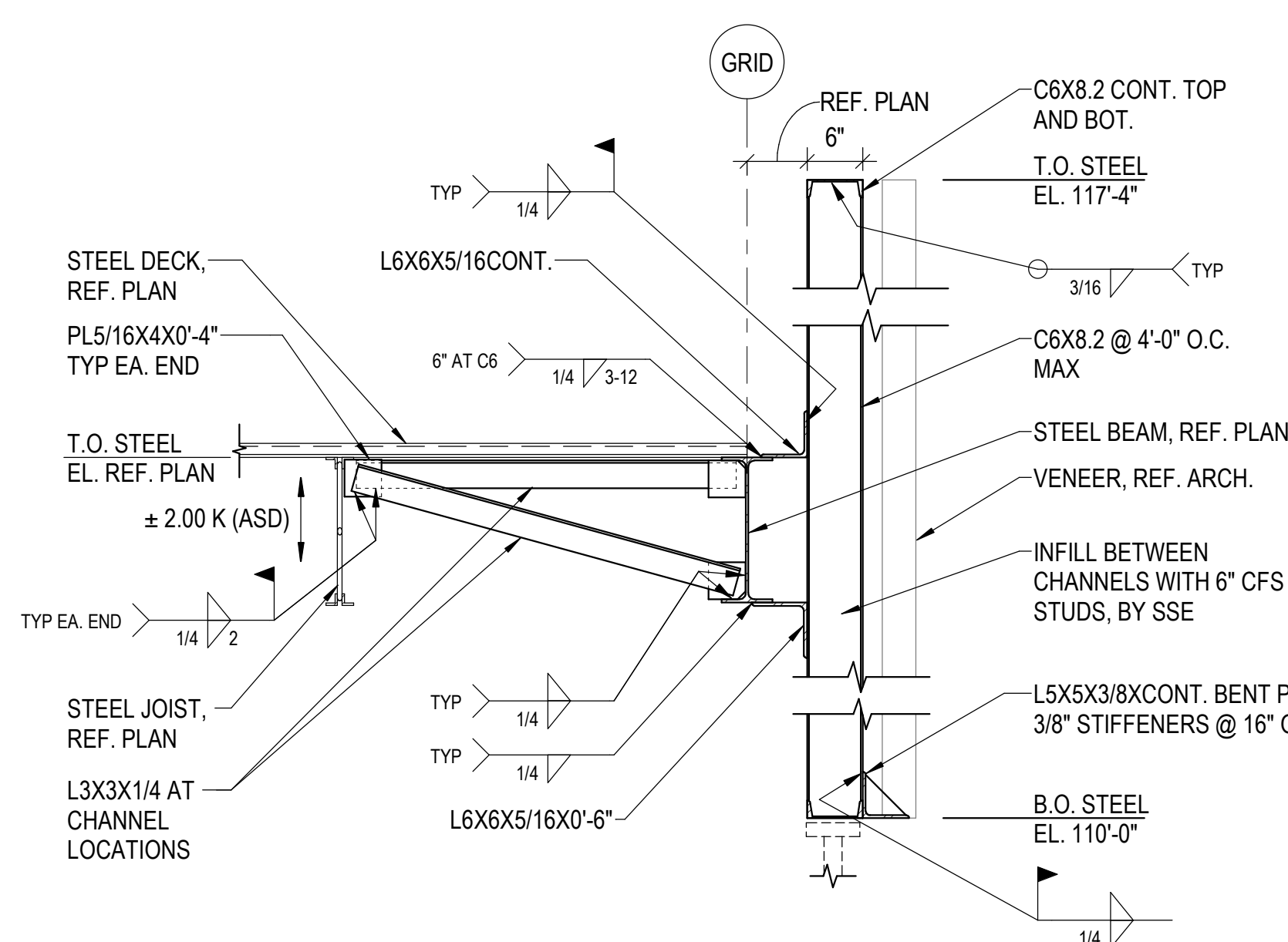
**4 BRICK SUPPORT SECTION**  
3/4" = 1'-0"



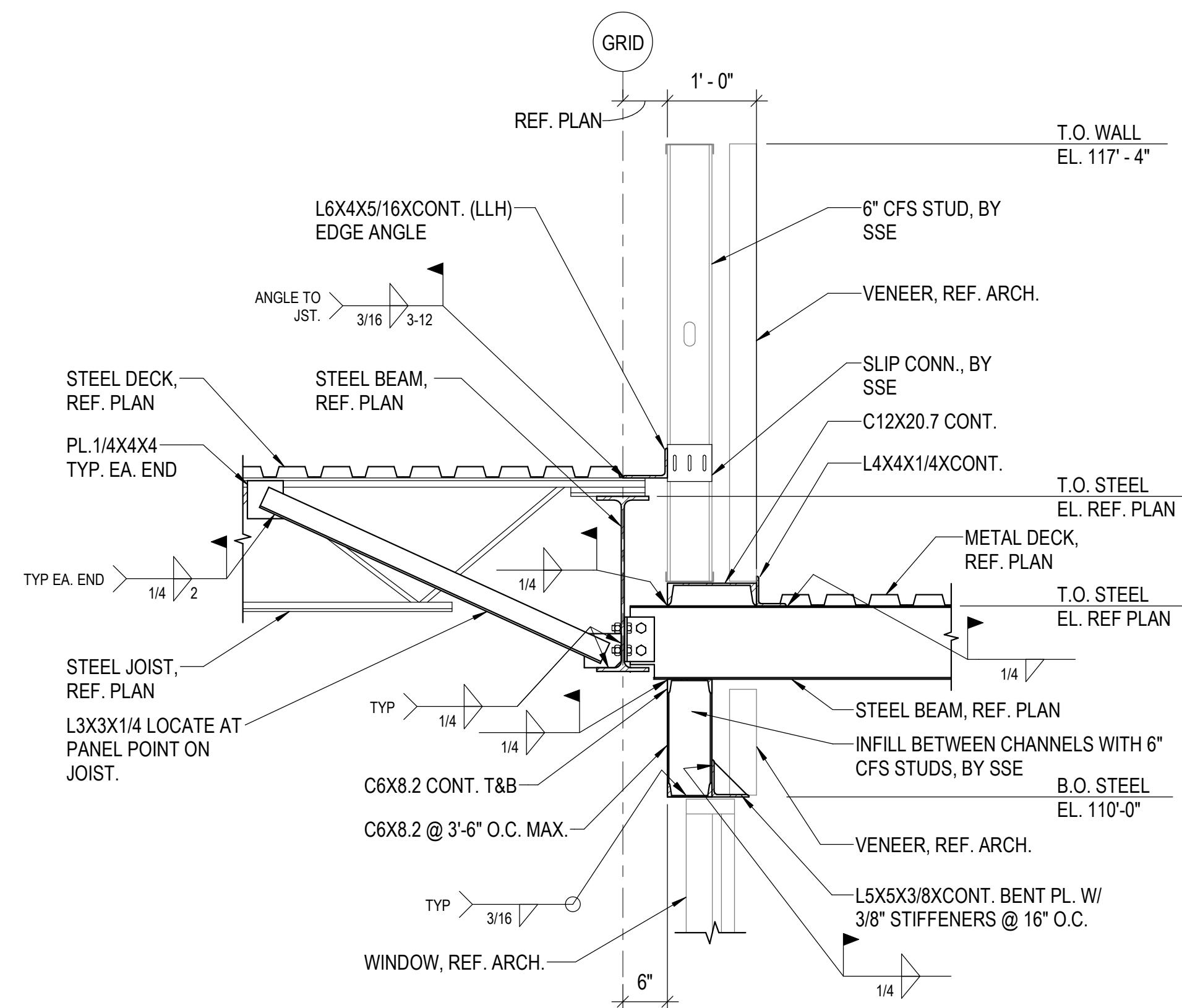
**5 SECTION AT CANOPY COLUMN**  
3/4" = 1'-0"



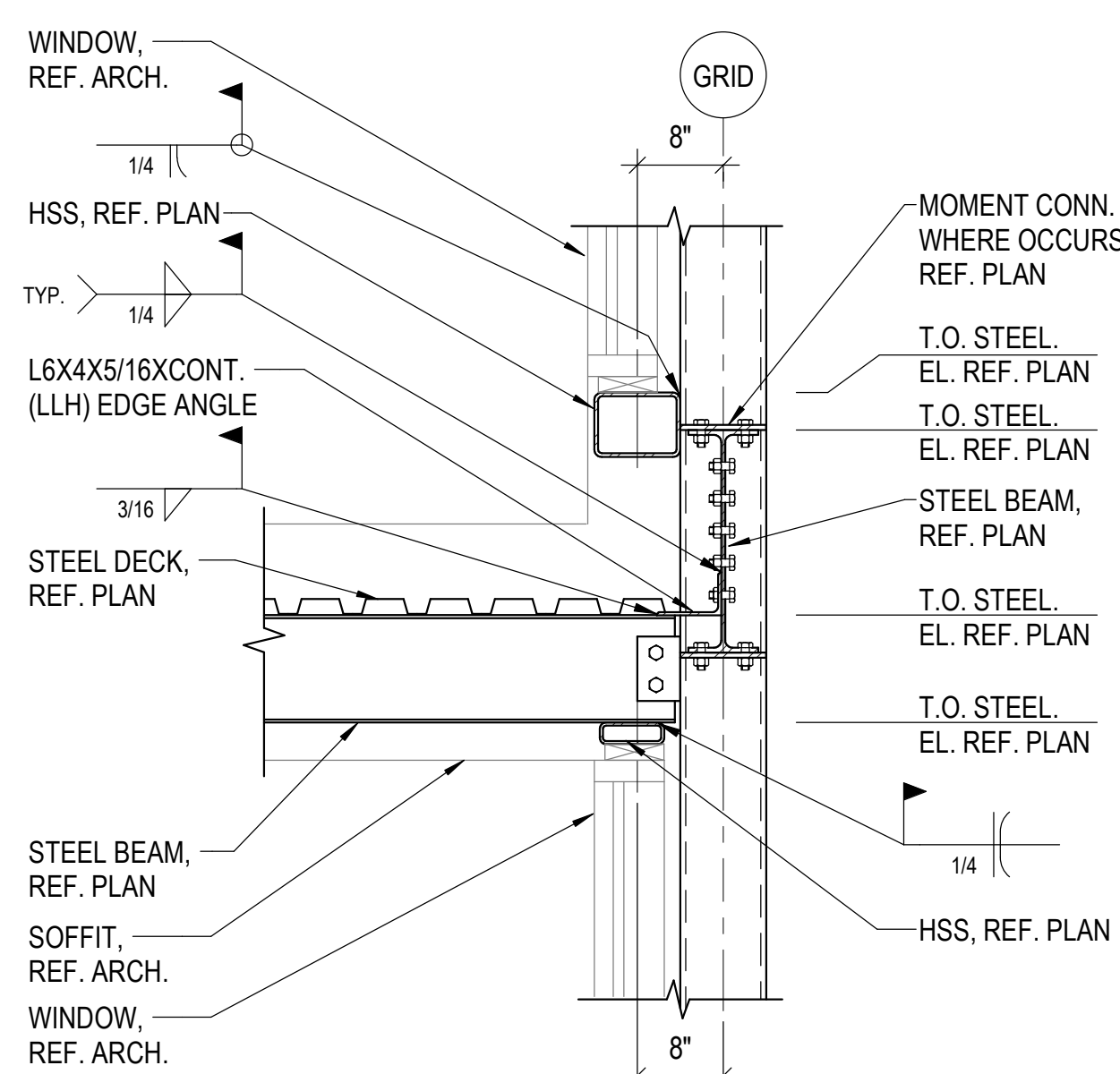
**6 SECTION AT CANOPY DECK EDGE**  
3/4" = 1'-0"



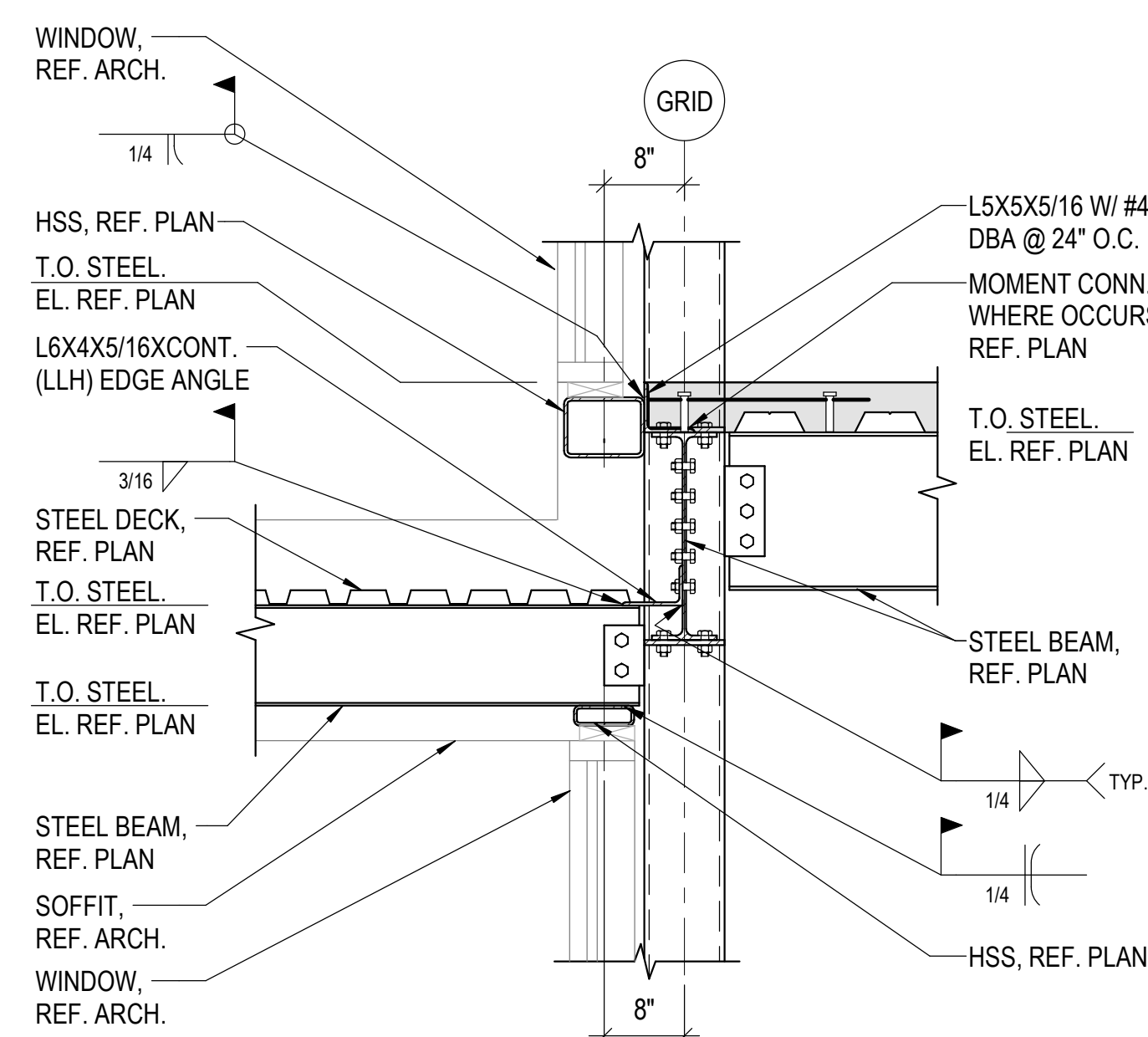
**7 BRICK SUPPORT SECTION**  
3/4" = 1'-0"



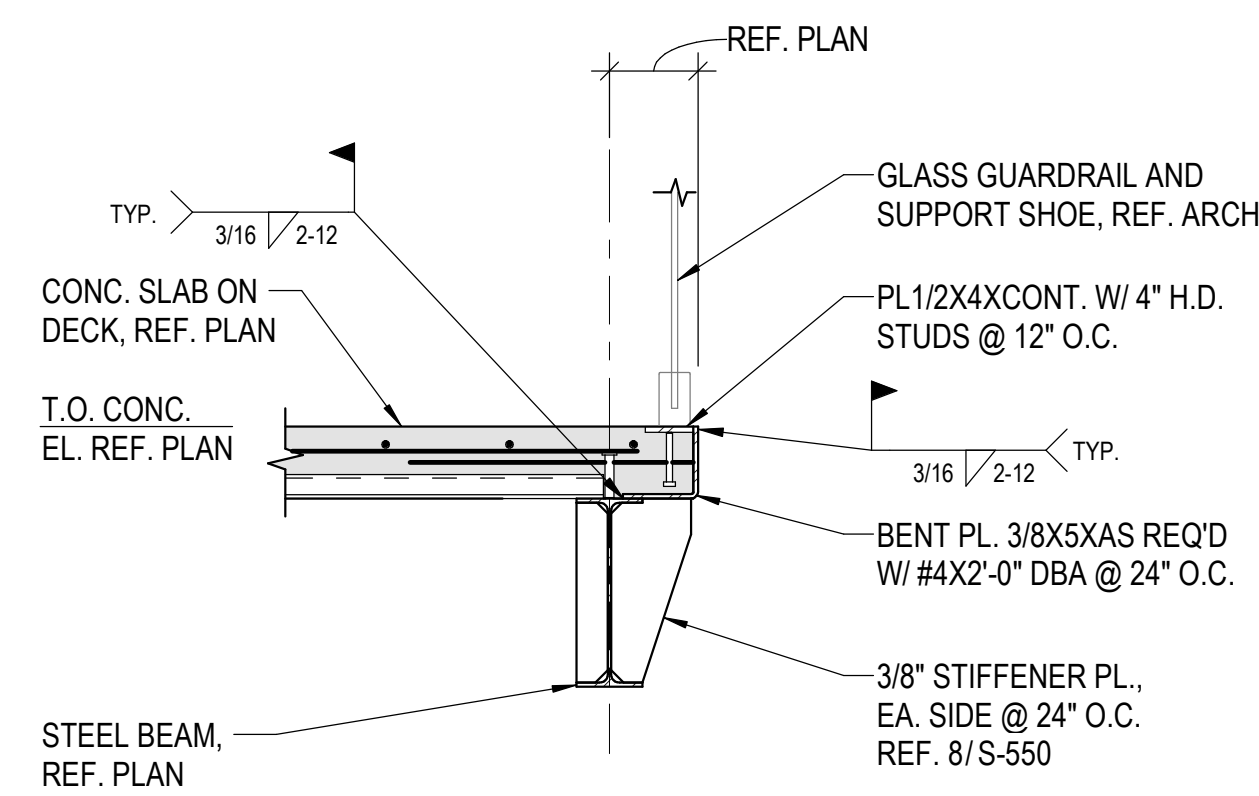
**8 FRAMING SECTION**  
3/4" = 1'-0"



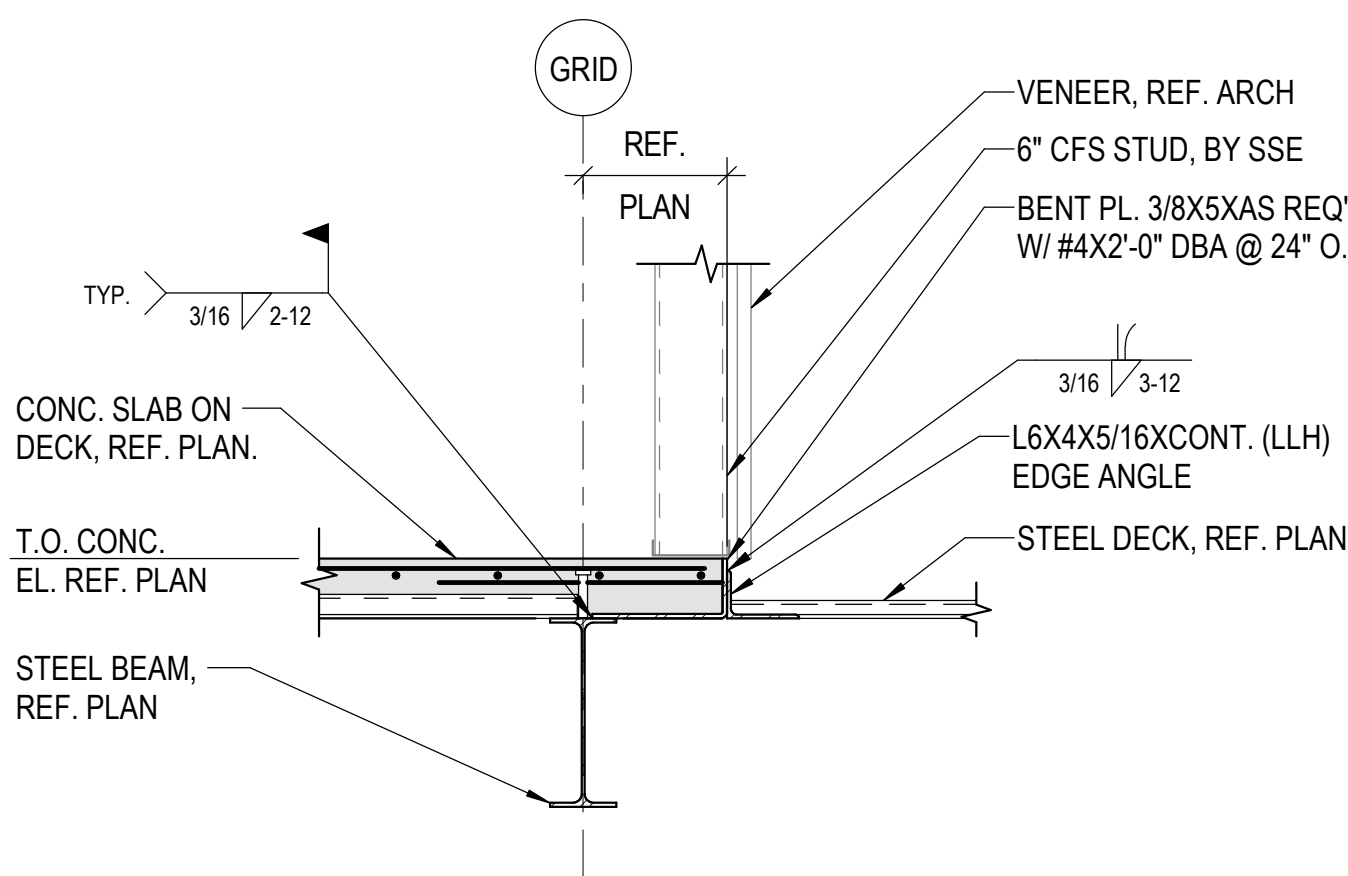
**9 FRAMING SECTION AT CANOPY**  
3/4" = 1'-0"



**10 FRAMING SECTION AT CANOPY**  
3/4" = 1'-0"



**11 COMPOSITE DECK EDGE**  
3/4" = 1'-0"



**12 COMPOSITE DECK EDGE**  
3/4" = 1'-0"



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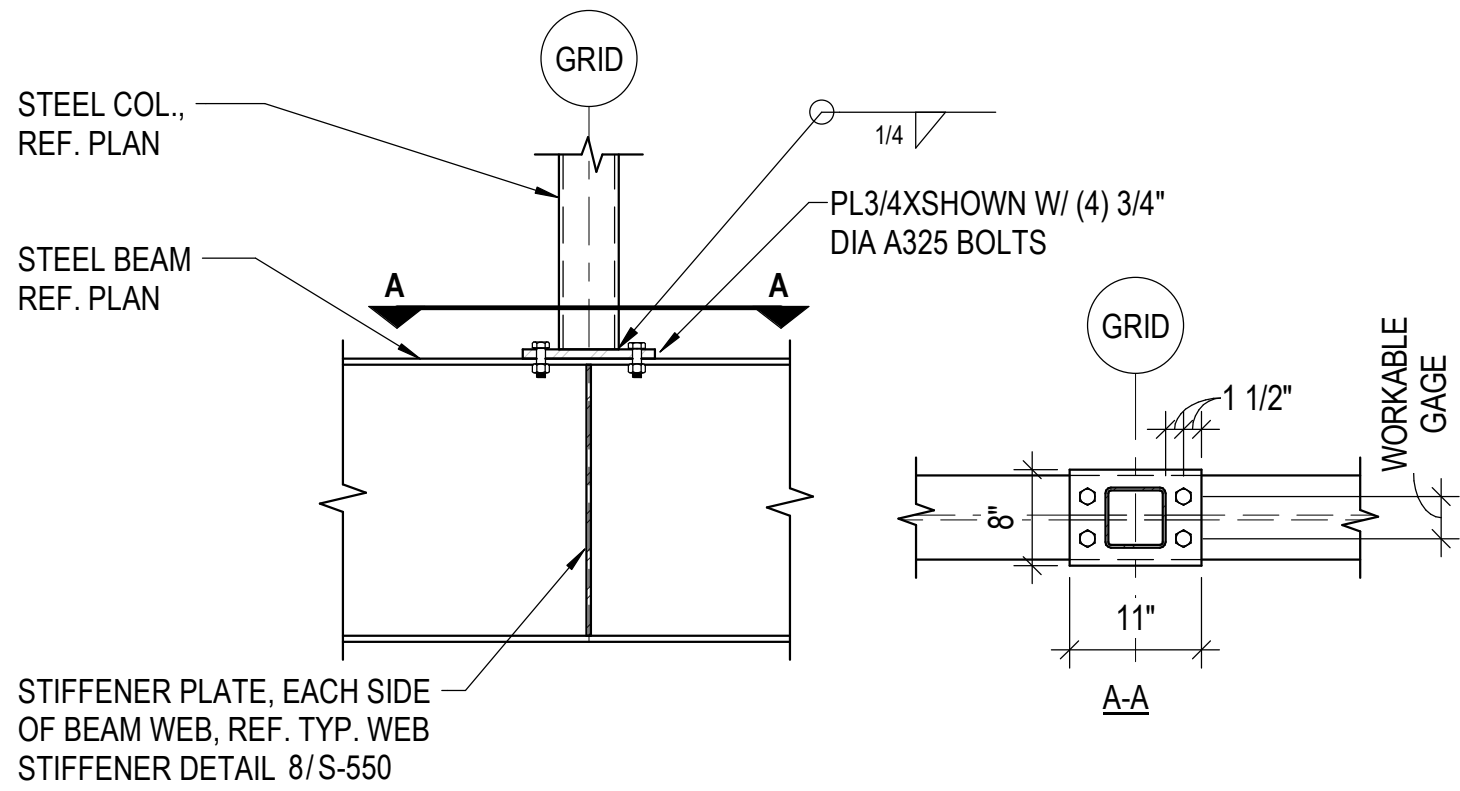
FRAMING DETAILS

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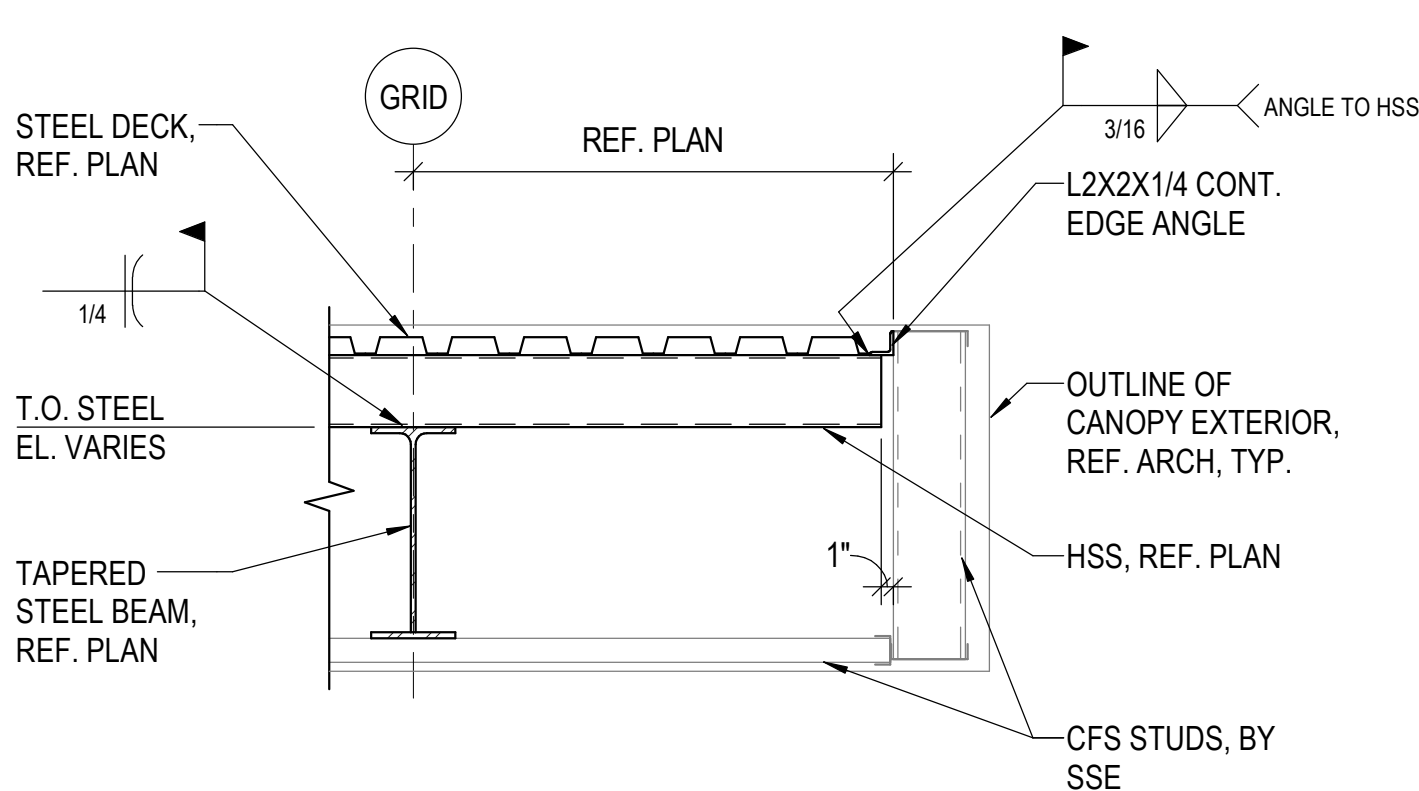




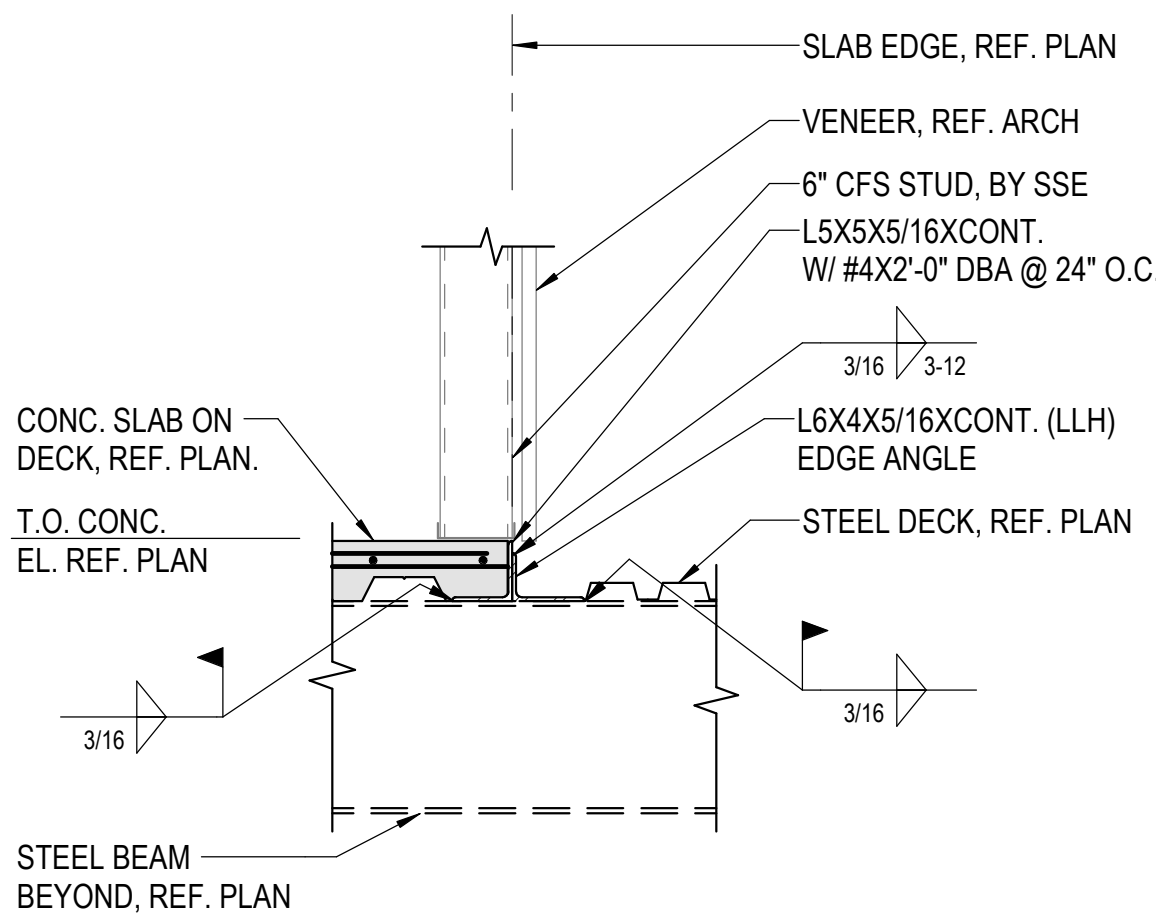




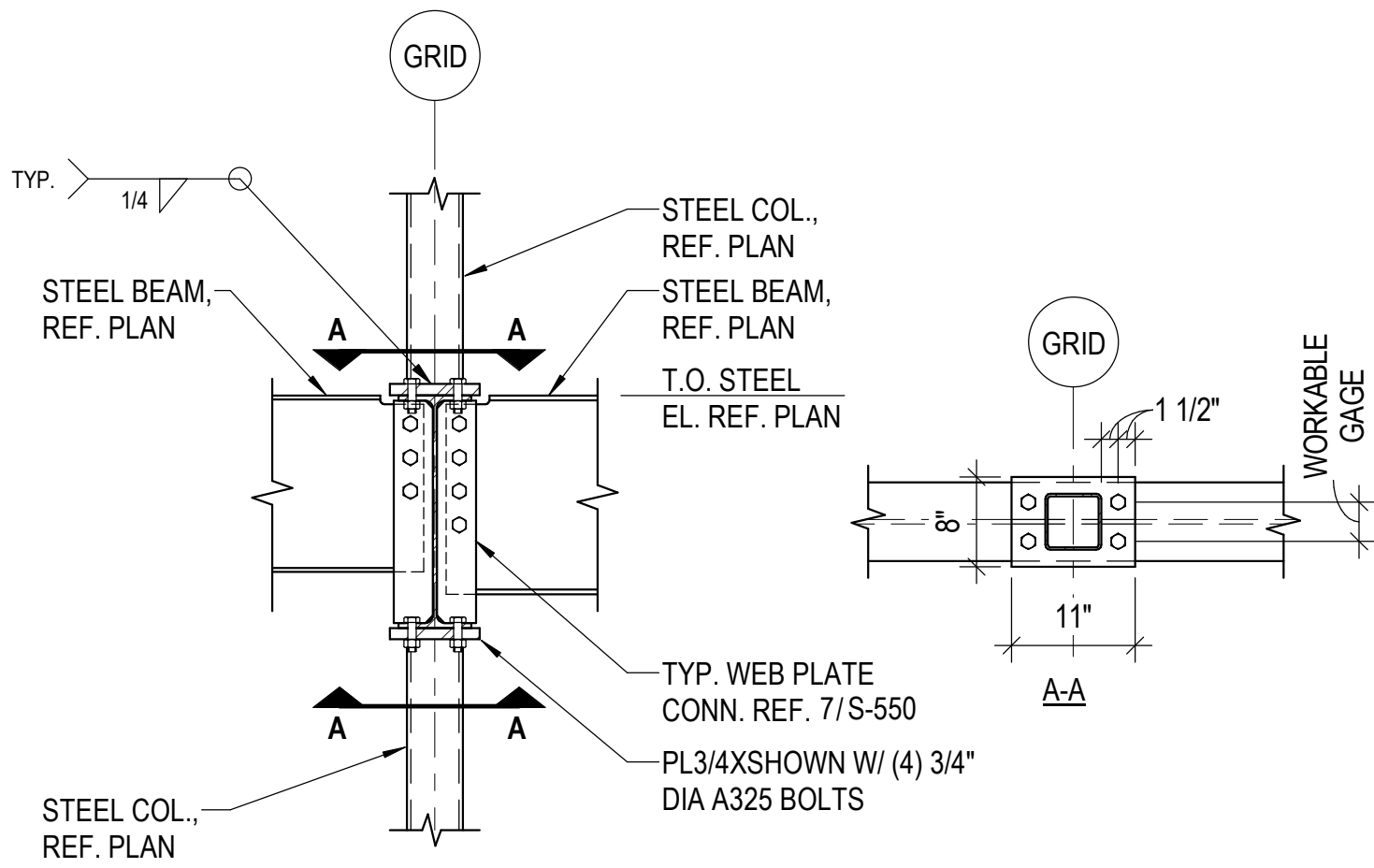
1 **TRANSFER BEAM**  
3/4" = 1'-0"



2 **SECTION AT DROP-OFF CANOPY**  
3/4" = 1'-0"



3 **COMPOSITE DECK EDGE**  
3/4" = 1'-0"



4 **FRAMING SECTION AT COLUMN**  
3/4" = 1'-0"



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FRAMING DETAILS

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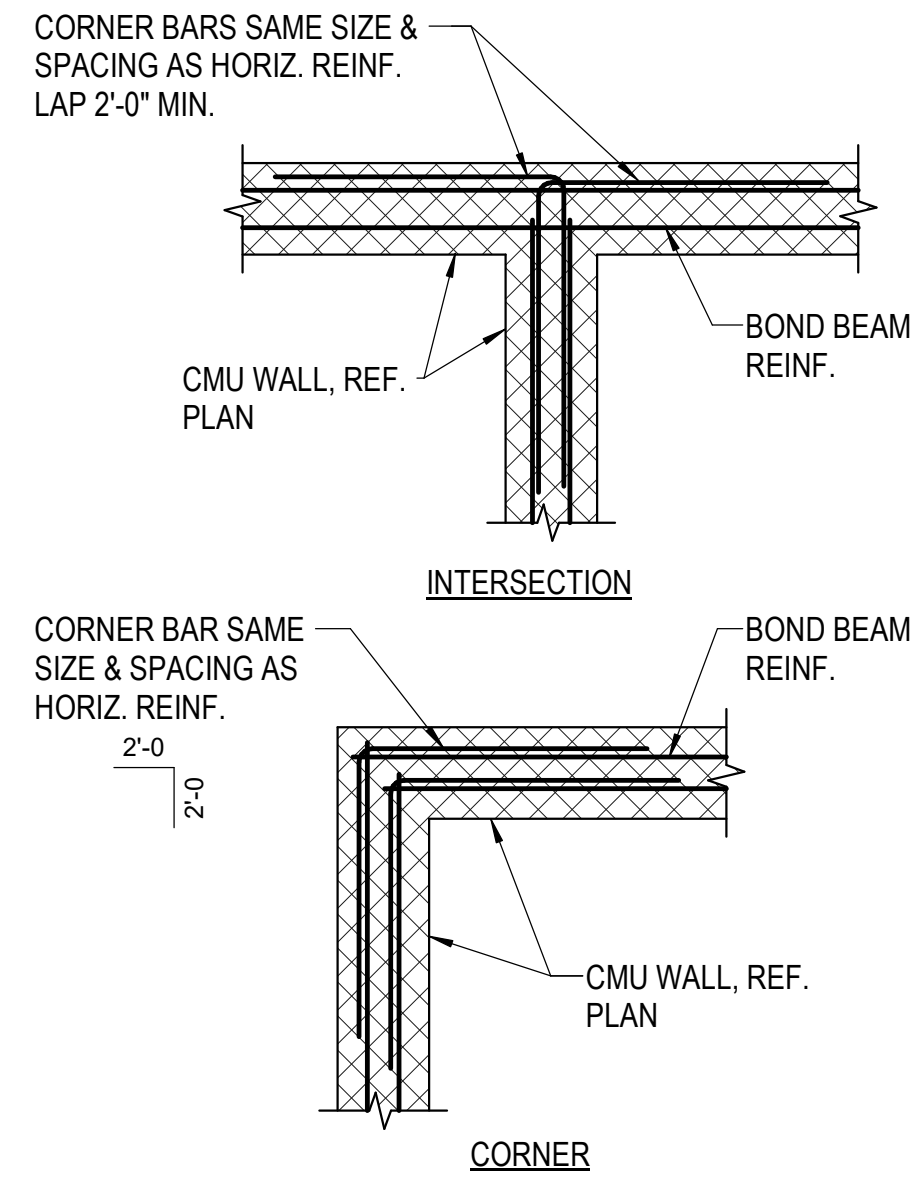
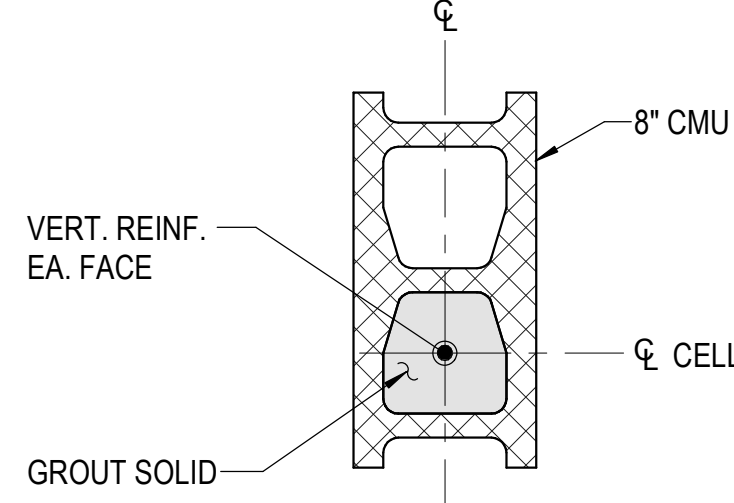
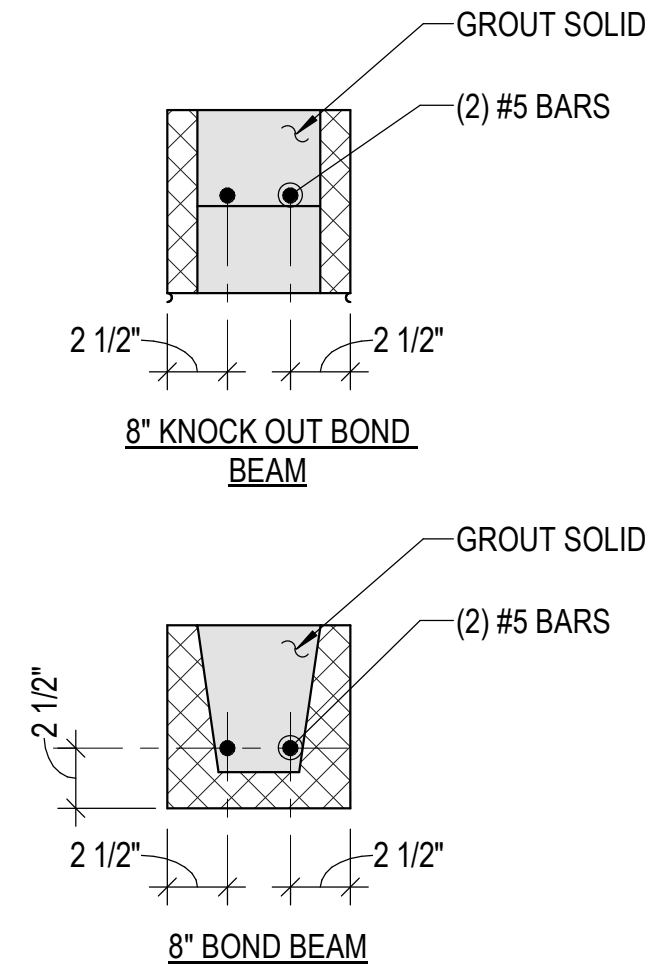
## CMU REINFORCEMENT LAP...

$f_y = 60,000 \text{ PSI}$   $f_m = 1,500 \text{ PSI}$

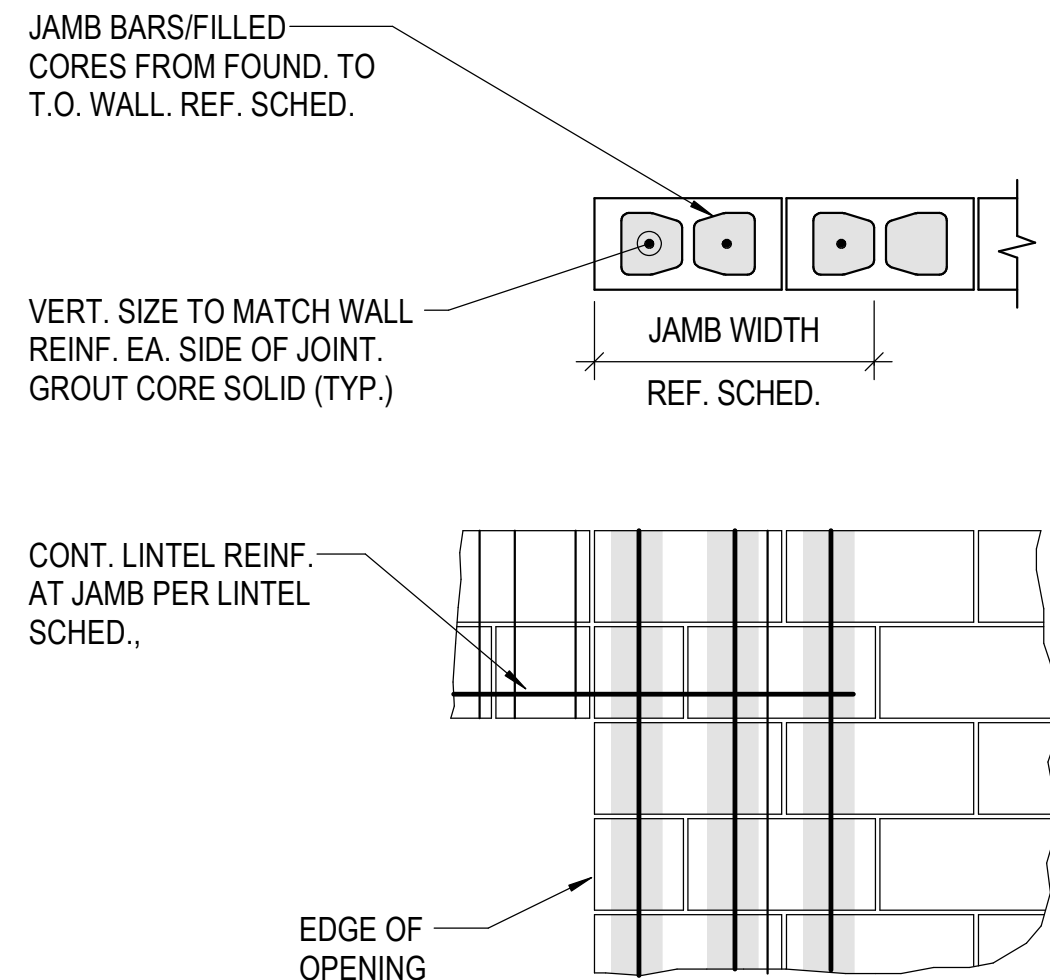
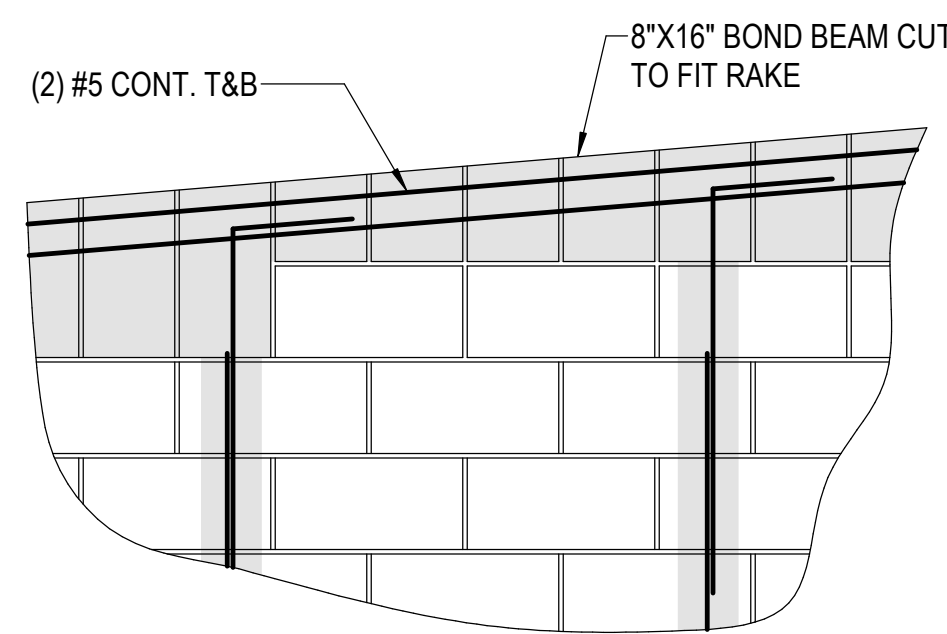
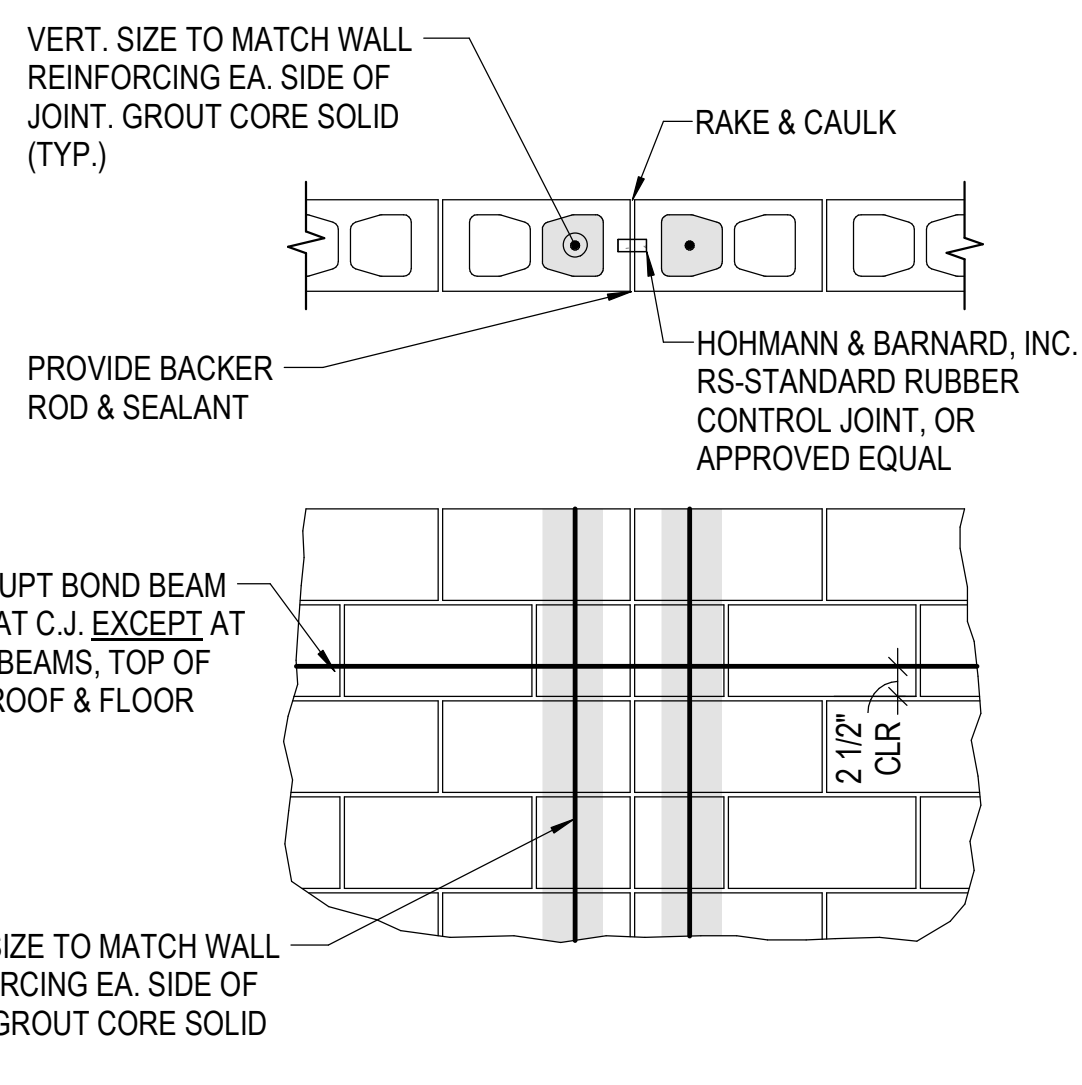
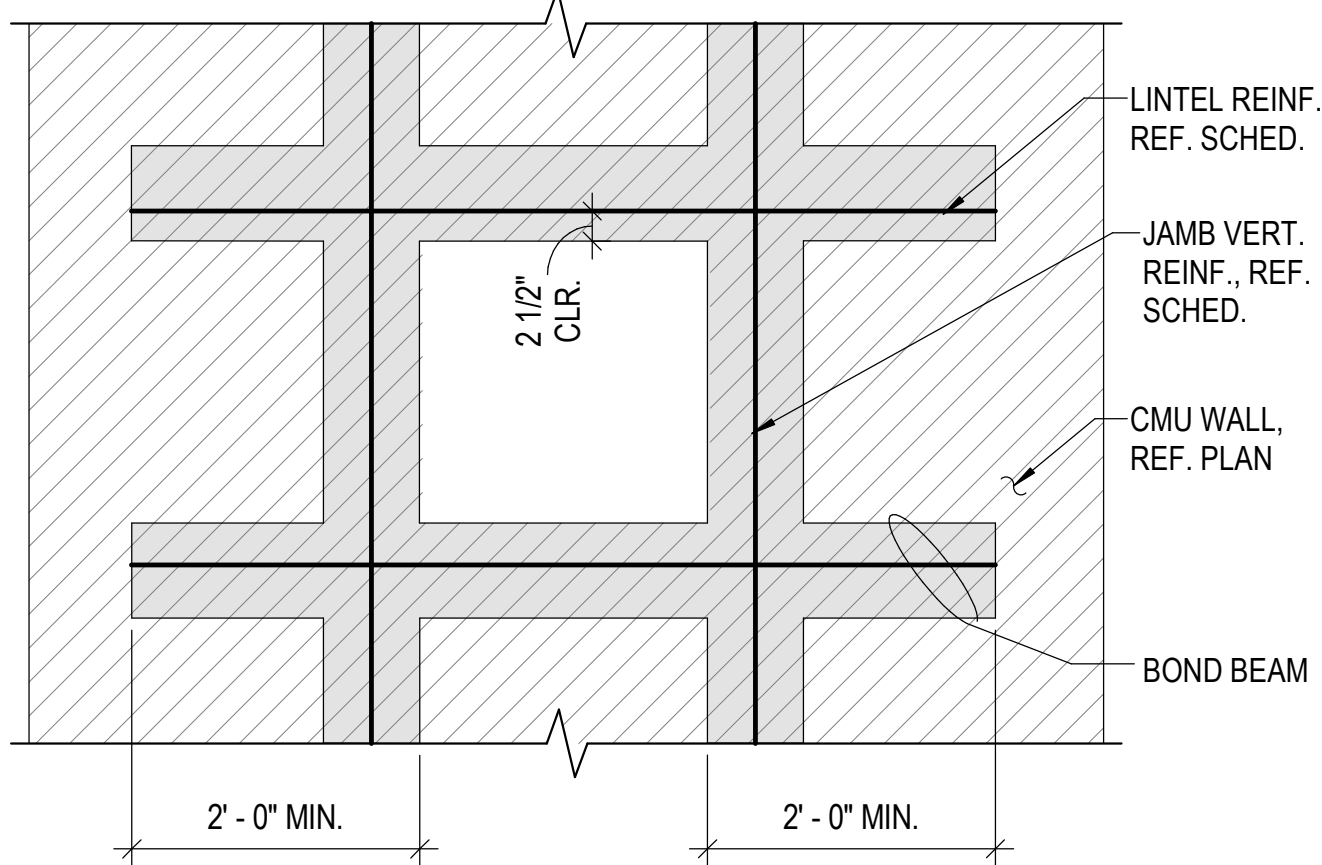
### NOTES:

- THE LAP LENGTH LISTED IS THE SAME FOR HORIZ. & VERT. BARS.
- MULTIPLY LAP LENGTHS GIVEN BY 1.5 FOR EPOXY COATED BARS.
- FOR CMU W/ (2) BARS PER CELL,  $d$  ASSUMED AS 2-1/2".

BAR SIZE (d)	8" CMU W/ (1) BAR PER CELL (IN)	8" CMU W/ (2) BAR PER CELL (IN)	CMU HOOK (IN)
3	18	18	5
4	24	24	6
5	30	36	8
6	43	70	9
7	60	98	11
8	92	151	12
9	118	198	14



NOTE:  
1. PROVIDE CORNER BARS FOR LINTEL REINFORCING WHERE WALL SEGMENTS ADJACENT TO OPENINGS ARE LESS THE 24".  
2. BOND BEAM REINF. MAY BE CONTINUOUS TO ADJACENT OPENINGS.

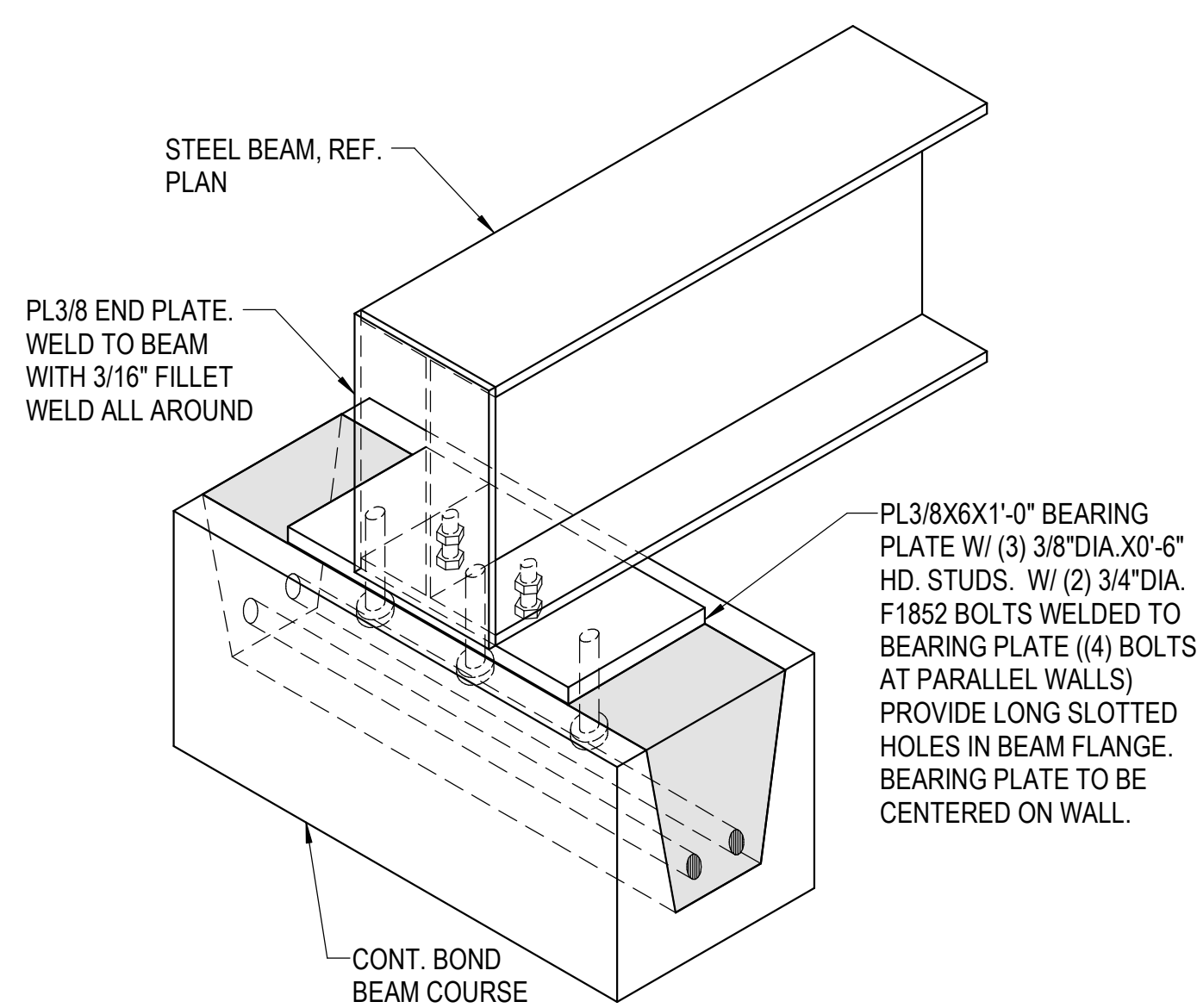


## 4 TYP. CMU OPENING REINF. NO SCALE

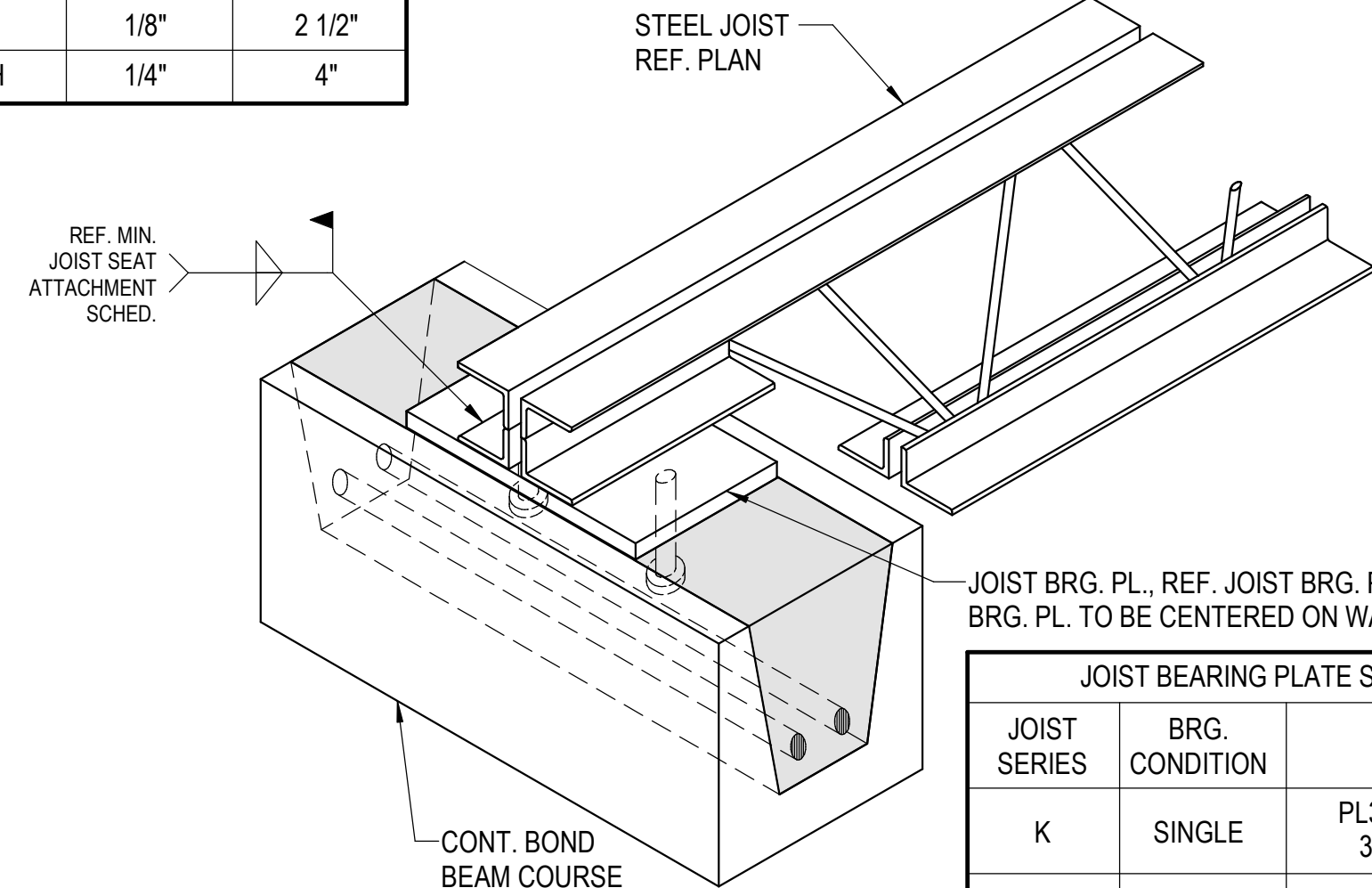
## 5 TYP. CMU CONTROL JOINT NO SCALE

## 6 TYP. CMU WALL RAKE DETAIL NO SCALE

## 7 TYP. CMU JAMB DETAIL 3/4" = 1'-0"



MINIMUM JOIST SEAT ATTACHMENT SCHEDULE (EACH SIDE OF JOIST)		
JOIST SERIES	MIN. WELD SIZE	MIN. WELD LENGTH
K	1/8"	2 1/2"
LH	1/4"	4"



JOIST BEARING PLATE SCHEDULE		
JOIST SERIES	BRG. CONDITION	BRG. PL. SIZE
K	SINGLE	PL3/8X5X0'-8" W/ (2) 3/8" DIA. HD. ST.
K	BACK-TO-BACK	PL3/8X6X1'-0" W/ (3) 3/8" DIA. HD. ST.
LH	SINGLE	PL3/8X6X1'-2" W/ (3) 3/8" DIA. HD. ST.

CMU LINTEL AND JAMB SCHEDULE					
MARK	SECTION	LINTEL SIZE AND REINF.	JAMB SIZE*	SILL SIZE	NOTES
L1		8"X8" W/ (2) #5 CONT.	8" W/ (1) #5 EA. CELL	8"X8" W/ (2) #5 CONT. (WHERE APPLICABLE)	
L2		8"X16" W/ (2) #5 CONT	16" W/ (1) #5 EA. CELL	8"X16" W/ (2) #5 CONT. (WHERE APPLICABLE)	
*JAMB CELLS SHALL BE FULL HEIGHT ADJACENT TO BEAM BEARING (WHERE OCCURS)					
LINTELS NOT CALLED OUT ON PLANS SHALL BE:					
OPENING WIDTH		LINTEL			
< 3' - 4"		8" DEEP CMU BOND BEAM W/ 2 - #5 CONT. & 8" BRG. EA. END			
> 3' - 4", < 7' - 4"		16" DEEP CMU BOND BEAM W/ 2 - #5 CONT. TOP & BOT. & 16" BRG. EA. END			

## 8 TYP. BEAM BRG. AT CMU NO SCALE

## 9 TYP. JOIST BRG. AT CMU 3/4" = 1'-0"

## 10 CMU LINTEL AND JAMB SCHEDULE 3/4" = 1'-0"



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TYPICAL CMU  
DETAILS

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# LEE'S SUMMIT MUNICIPAL AIRPORT

## LEE'S SUMMIT AIRPORT

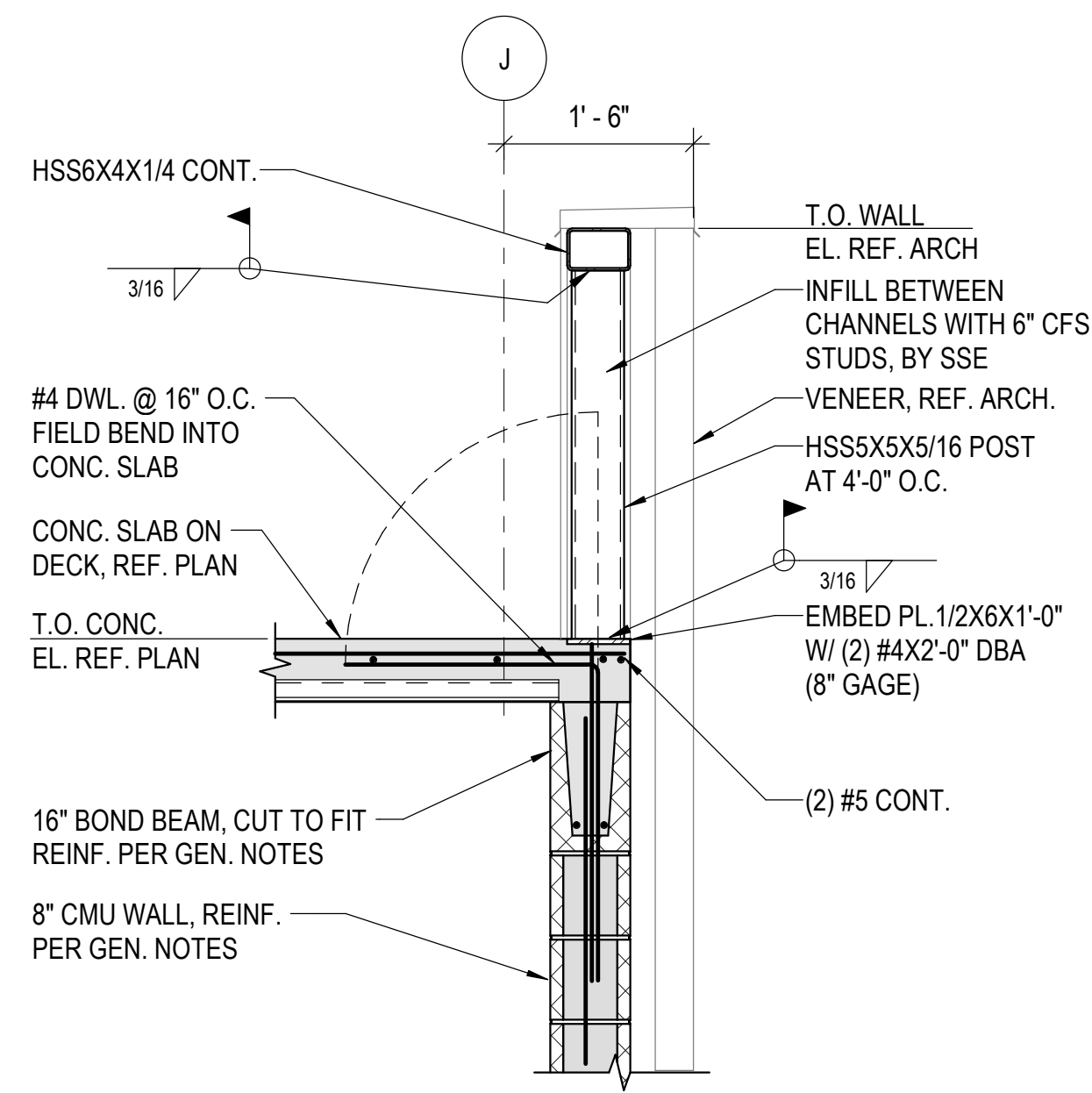
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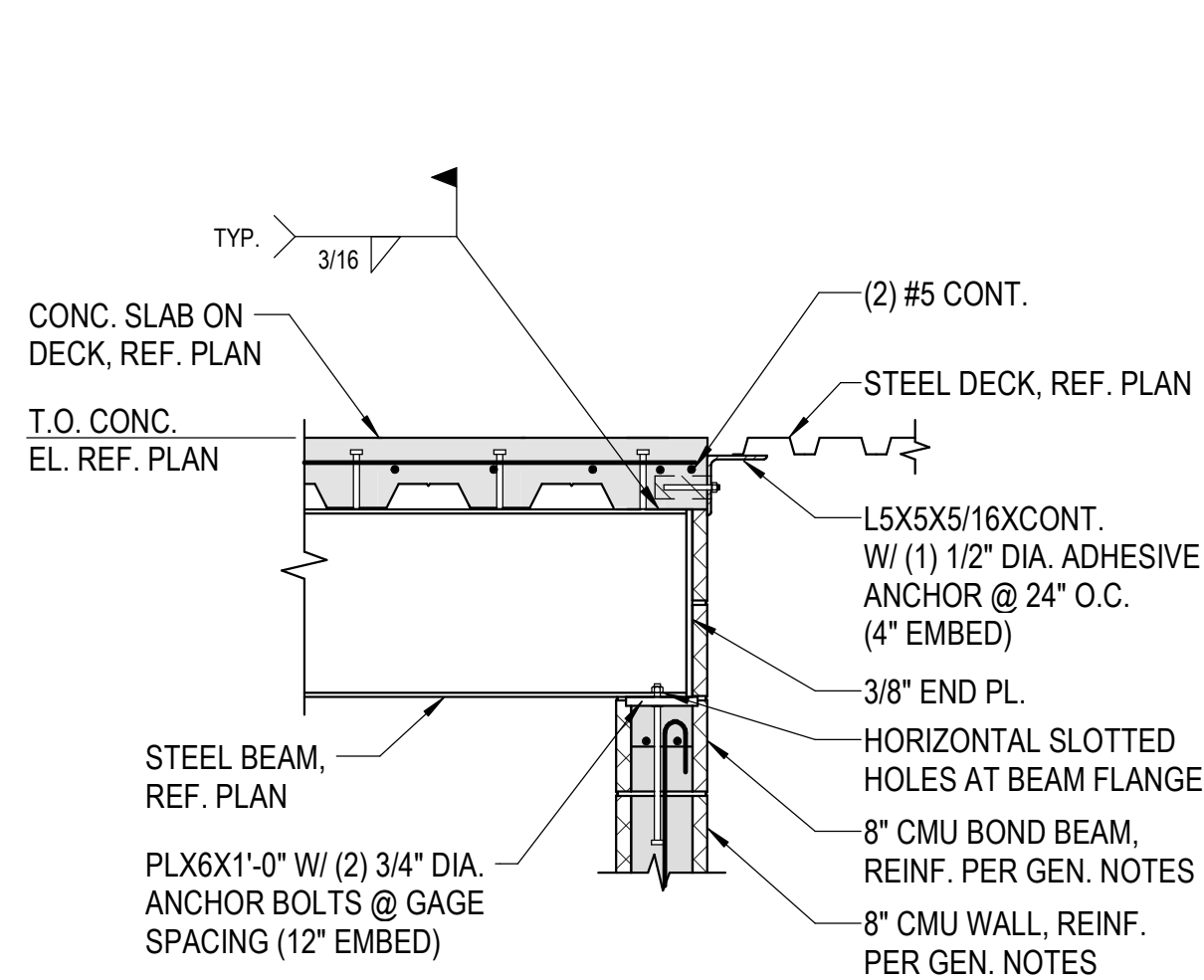
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CMU DETAILS

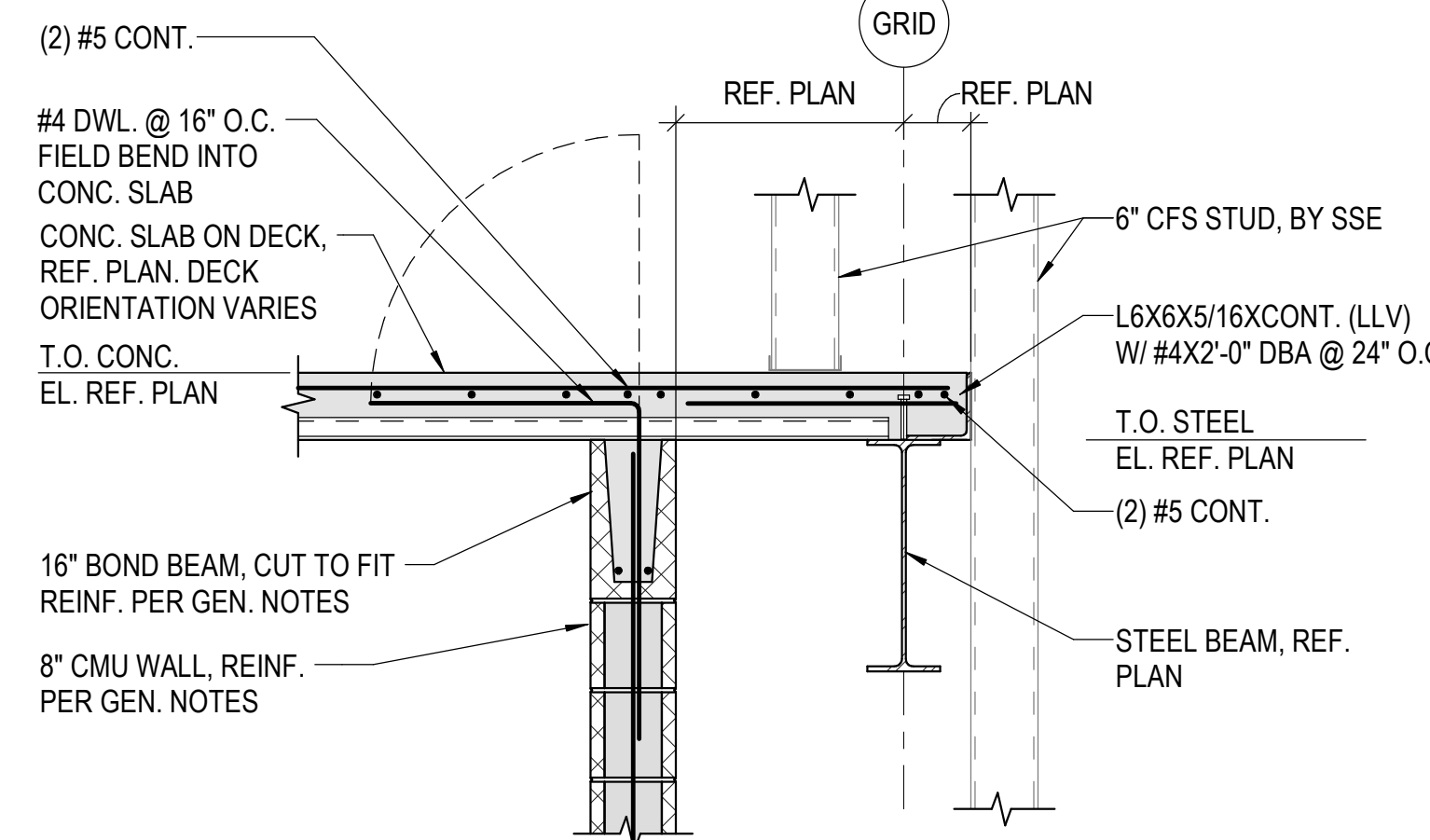
S-802



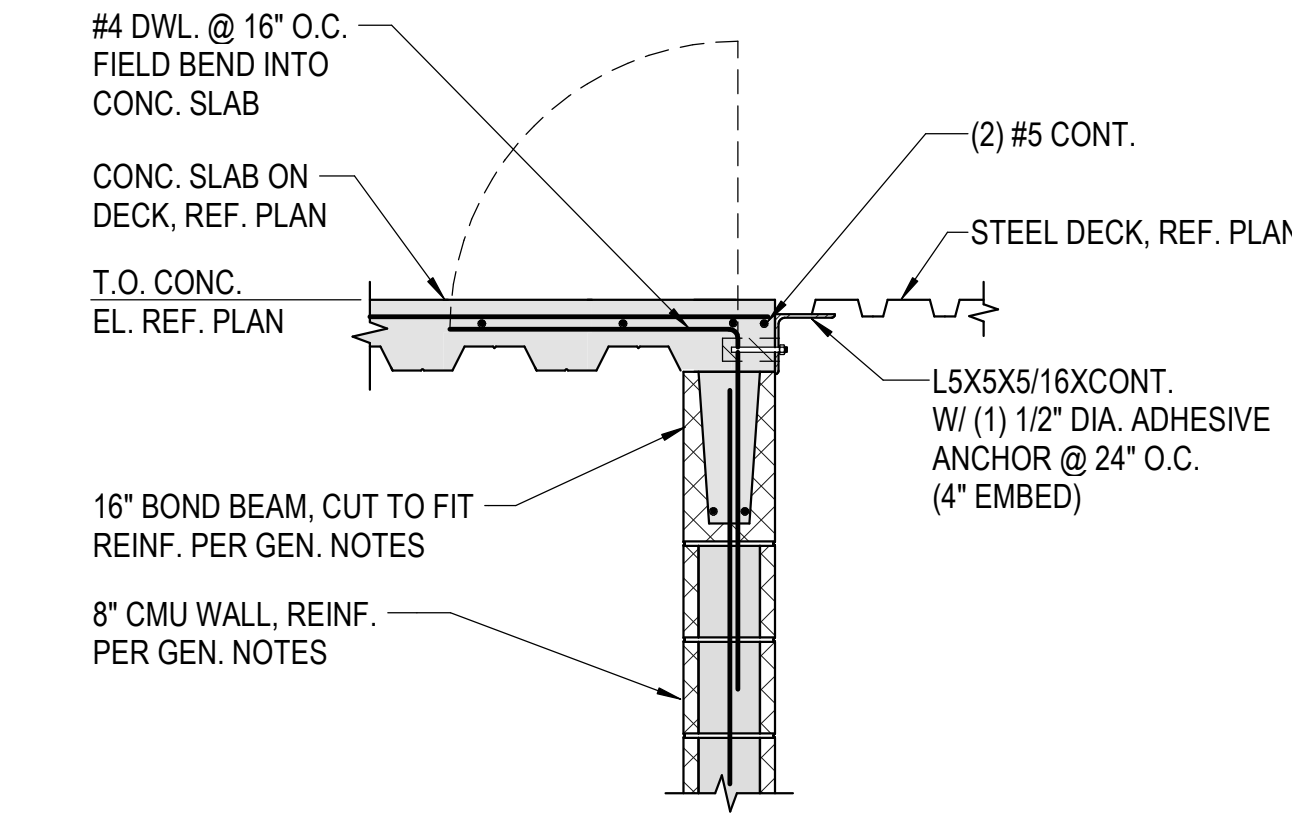
**1 COMP. FRAMING AT CMU WALL**  
3/4" = 1'-0"



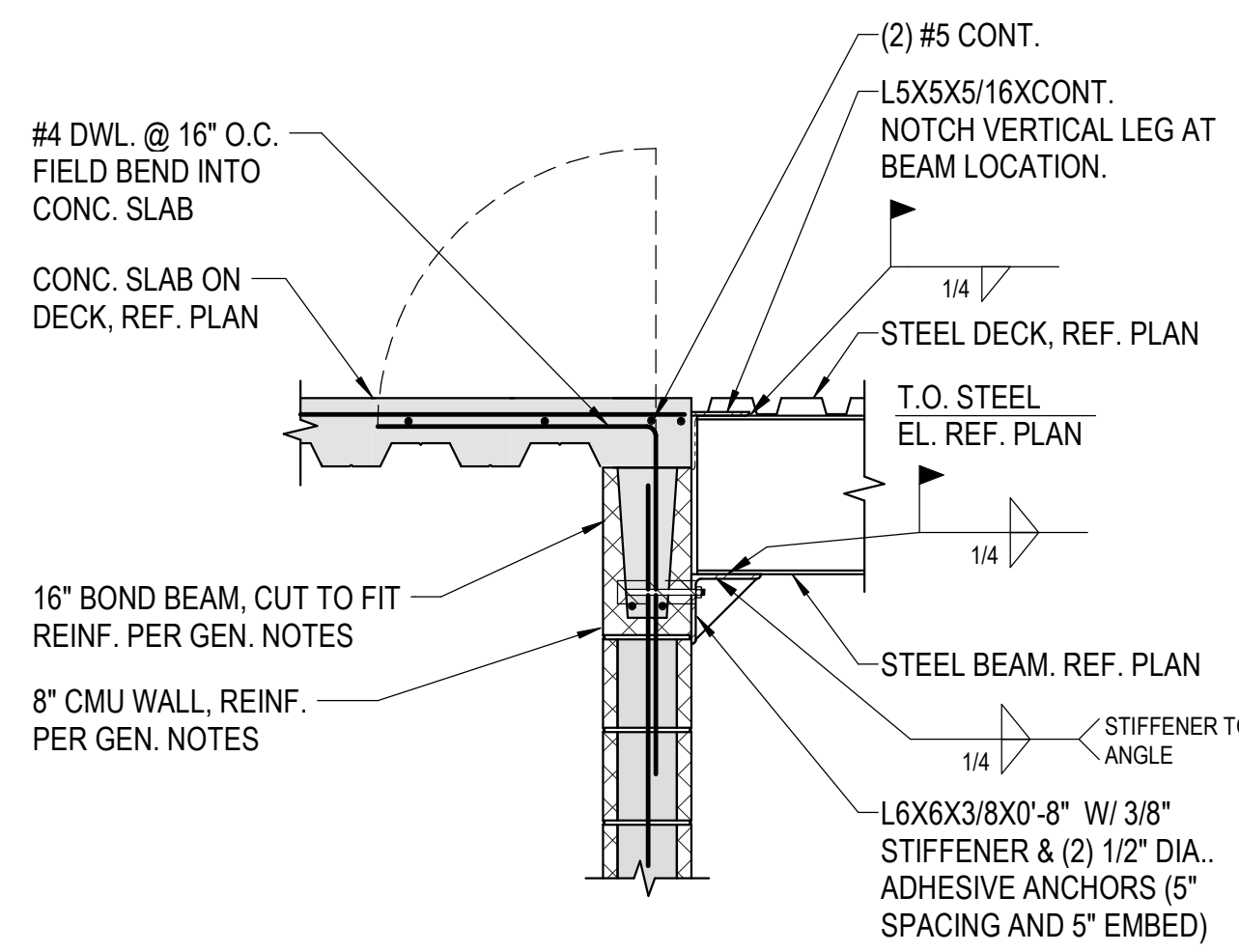
**2 COMP. FRAMING AT CMU WALL**  
3/4" = 1'-0"



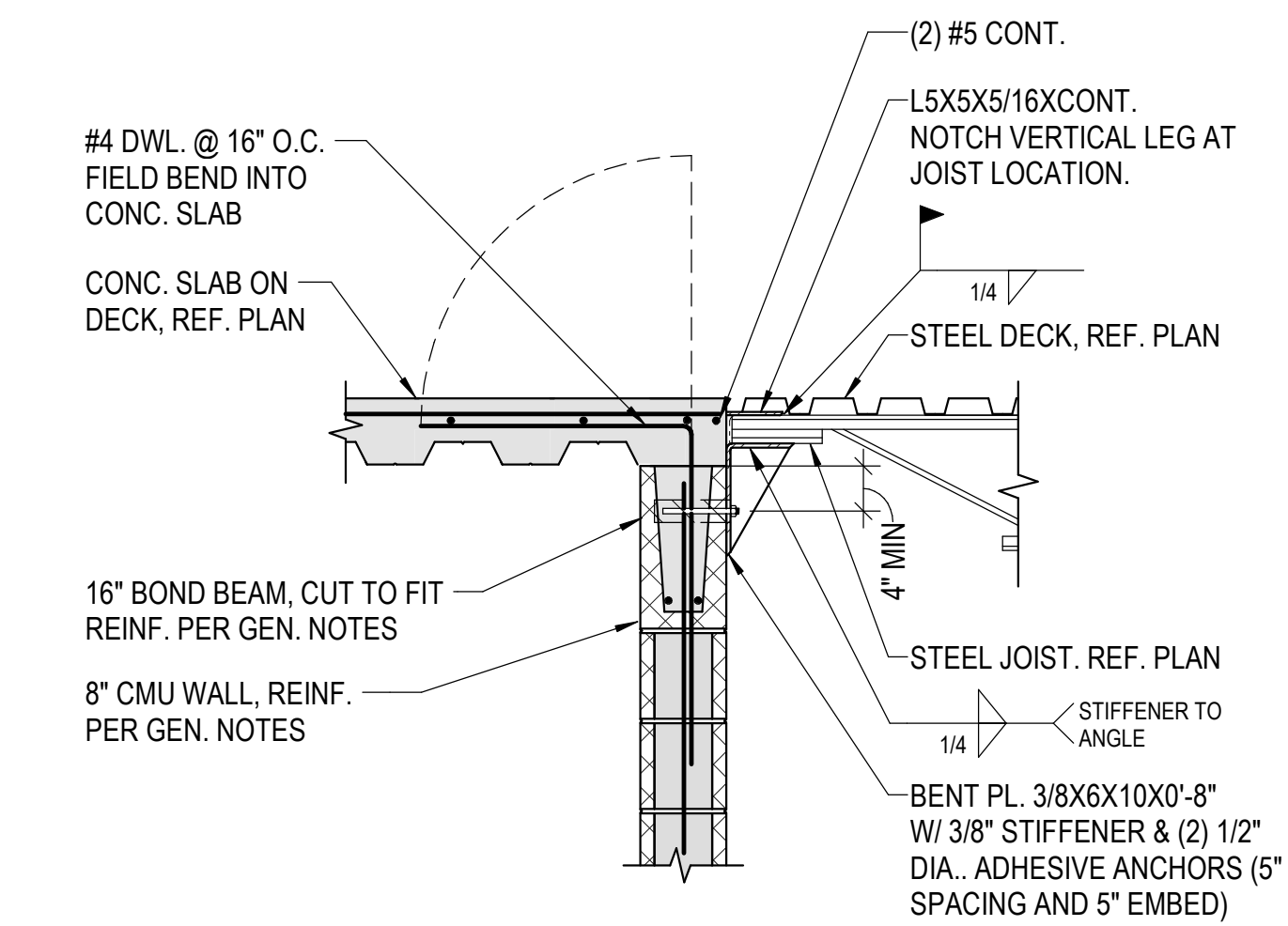
**3 FRAMING SECTION AT CMU**  
3/4" = 1'-0"



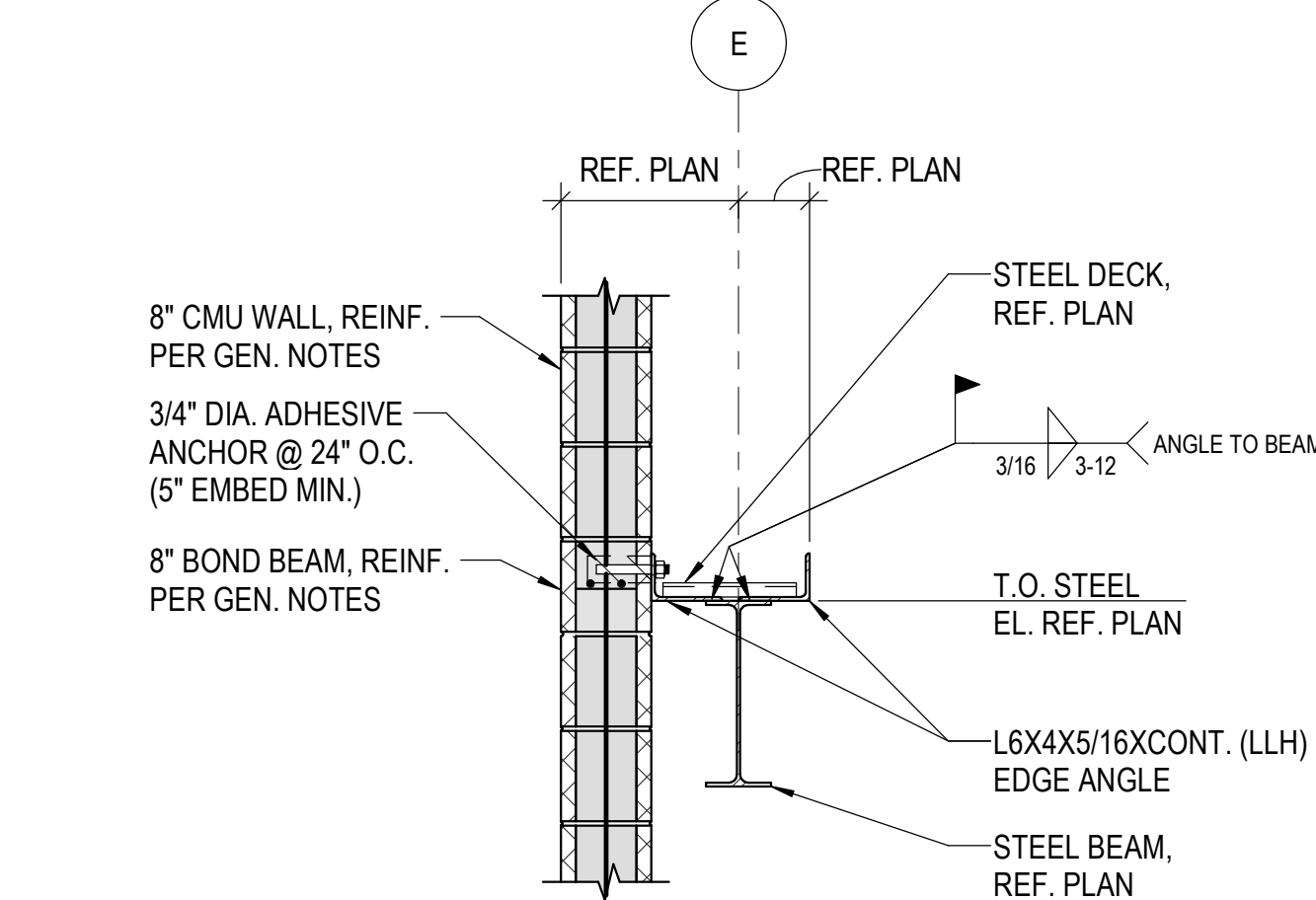
**4 COMP. FRAMING AT CMU WALL**  
3/4" = 1'-0"



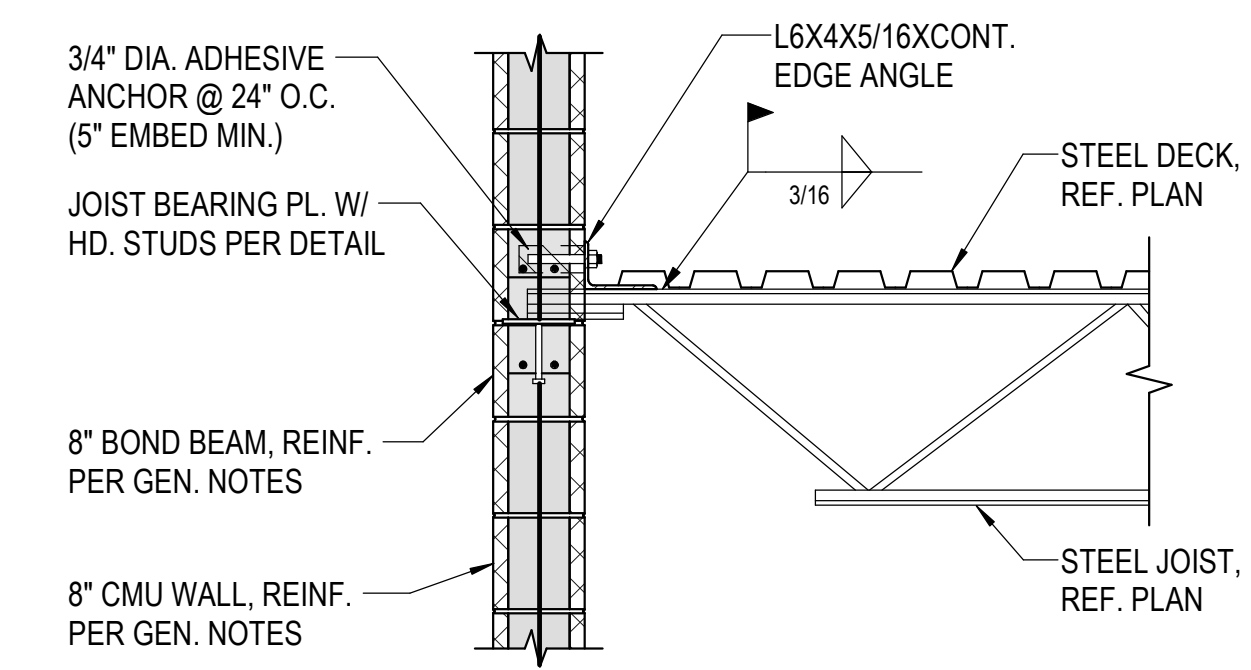
**5 BEAM FRAMING INTO CMU WALL**  
3/4" = 1'-0"



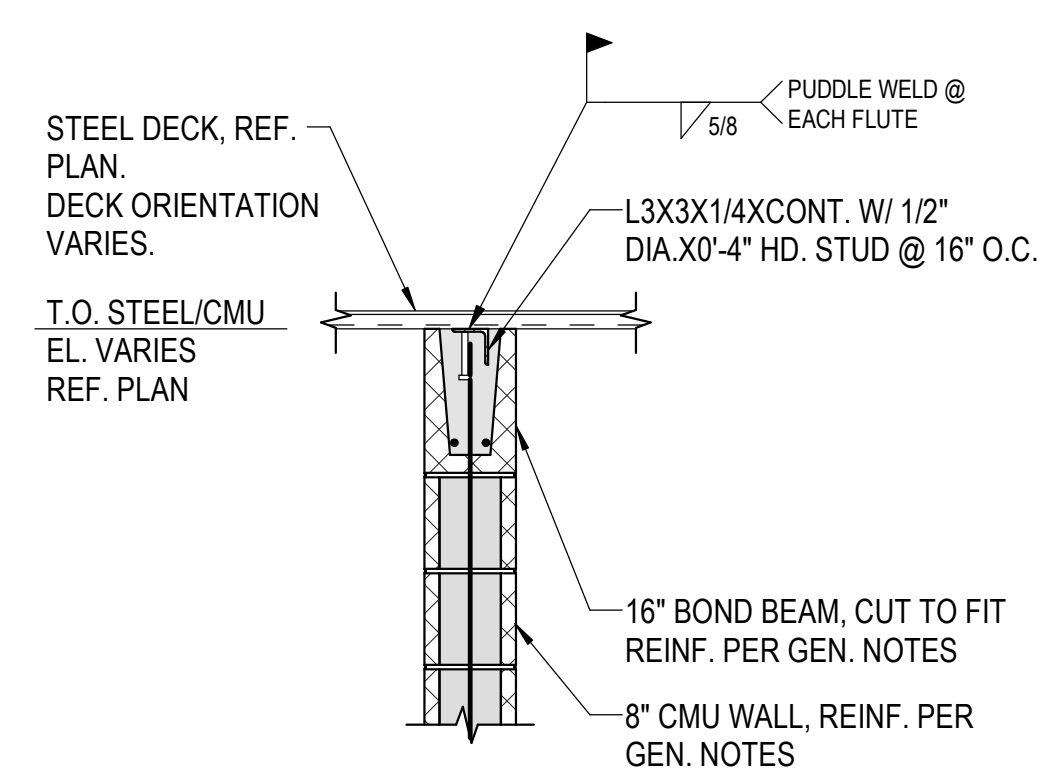
**6 JOIST FRAMING INTO CMU WALL**  
3/4" = 1'-0"



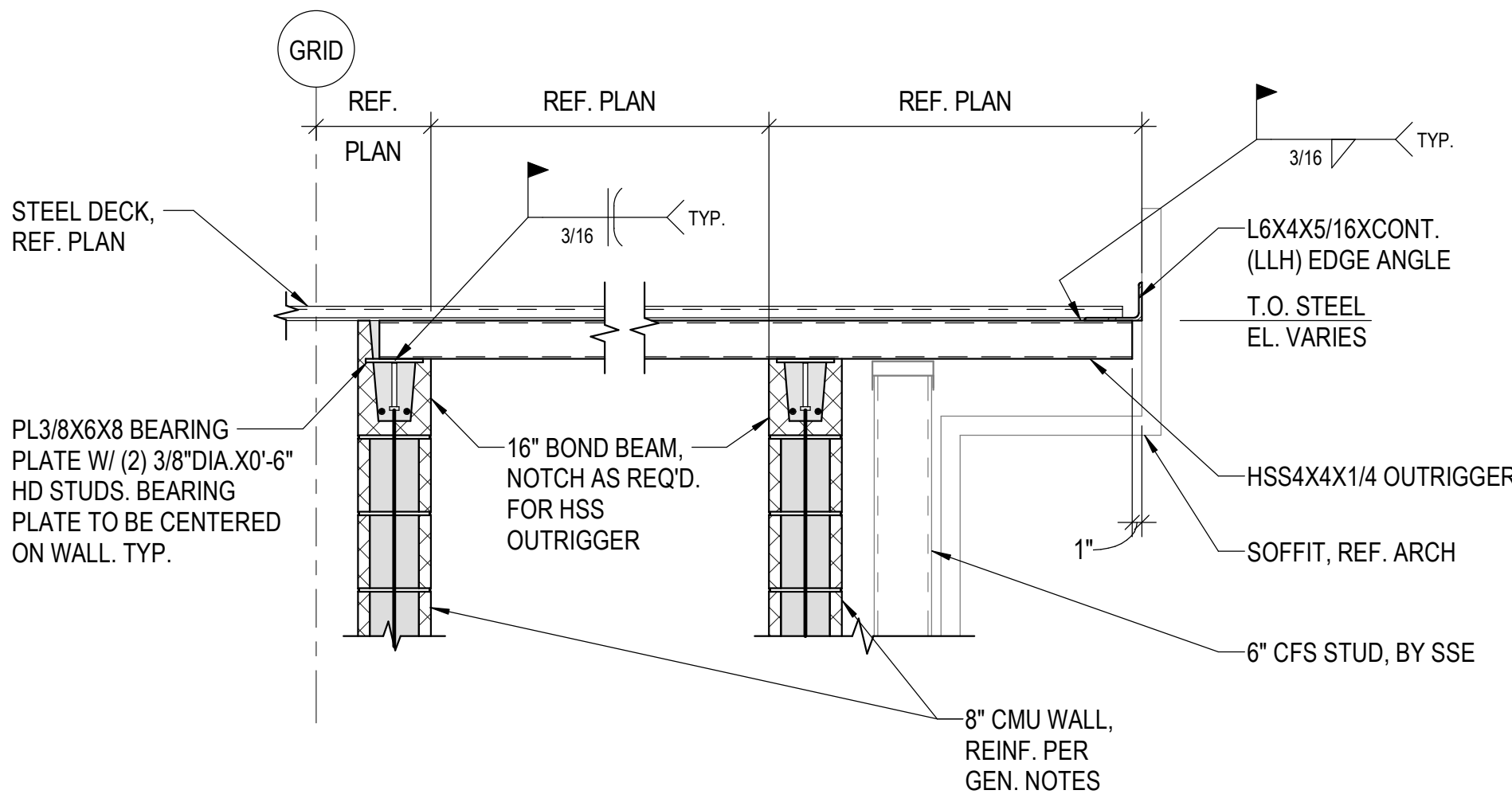
**7 DECK BRG. DETAIL**  
3/4" = 1'-0"



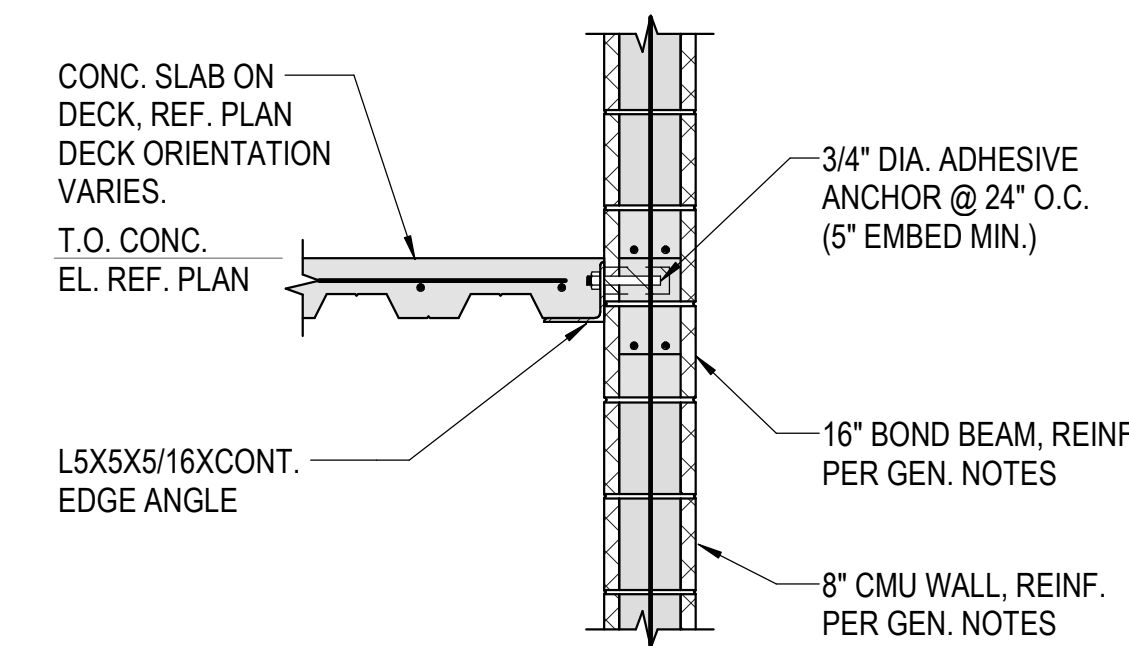
**8 JOIST BRG. AT 8" CMU WALL**  
3/4" = 1'-0"



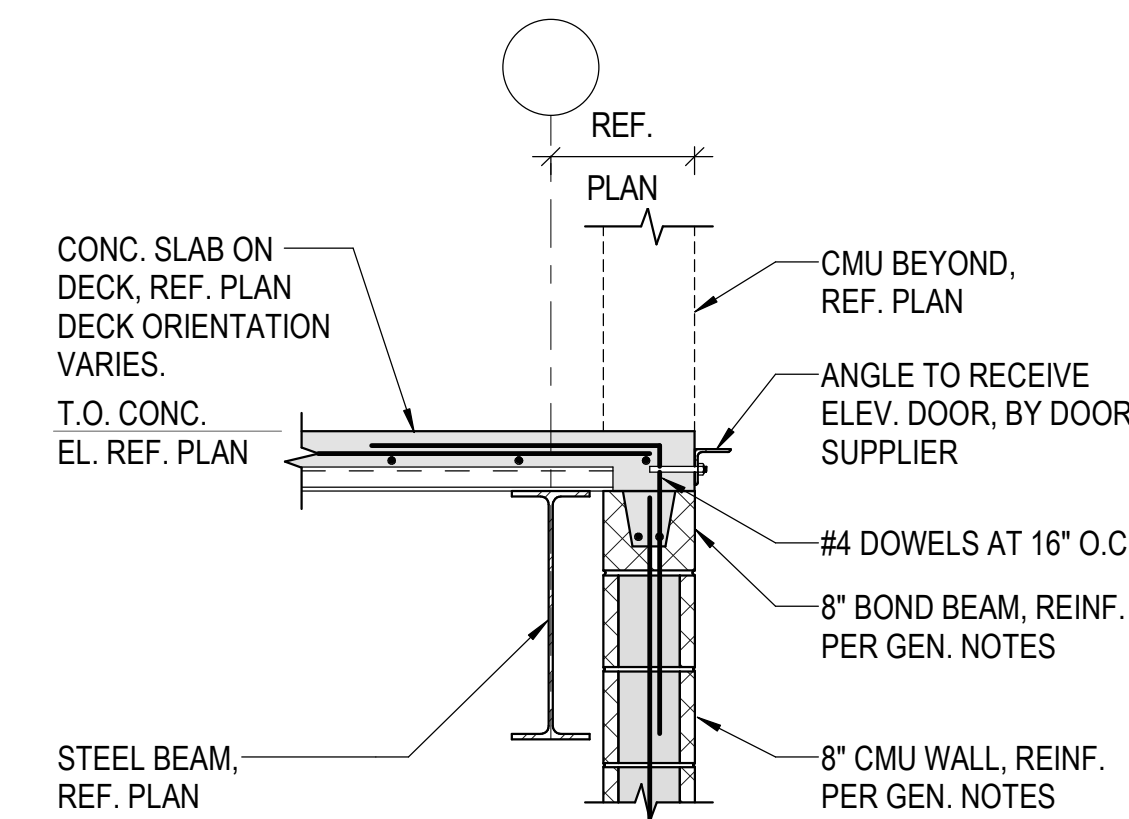
**9 DECK BRG. AT 8" CMU WALL**  
3/4" = 1'-0"



**10 HSS OUTRIGGER AT ELEVATOR**  
3/4" = 1'-0"



**11 FRAMING SECTION AT ELEVATOR**  
3/4" = 1'-0"



**12 FRAMING SECTION AT ELEVATOR**  
3/4" = 1'-0"