

SEE UNITED STATES NATIONAL CAD STANDARD FOR ANY ABBREVIATIONS NOT LISTED BELOW
SEE BUILDING CODE FOR REFERENCED DEFINITIONS AND MATERIALS SYMBOLS, ACRONYMS & NOTATIONS.

&	AND	JH	JOIST HANGER
@	AT	JT	JOINT
(E)	EXISTING	L	ANGLE, LONG, LENGTH
	FOOT, FEET	LL	LIVE LOAD
	INCH, INCHES	LLH	LONG LEG HORIZONTAL
#	NUMBER, NUMBER	LLV	LONG LEG VERTICAL
AE	ARCHITECT / ENGINEER	LONG	LONGITUDINAL
AB	ANCHOR BOLT	LS	LAS SCORED
ABV	ABOVE	LWC	LIGHT WEIGHT CONCRETE
ADDL	ADDITIONAL	MAX	MAXIMUM
AF	ABOVE FINISHED FLOOR	MB	MACHINE BOLT
AFG	ABOVE FINISHED GRADE	MCJ	MASONRY CONTROL JOINT
AFS	ABOVE FINISHED SLAB	MDJ	MASONRY DOWEL JOINT
ALT	ALTERNATE	MECH	MECHANICAL
ALUM	ALUMINUM	MEJ	MASONRY EXPANSION JOINT
APPROX	APPROXIMATE	MFR	MANUFACTURER
ARCH	ARCHITECT	MIN	MINIMUM
ATR	ALL THREAD ROD	MISC	MISCELLANEOUS
BFG	BELOW FINISH FLOOR	MKJ	MASONRY KEY JOINT
BKK	BACKING	MKJ	MASONRY RAKE JOINT
BLDG	BUILDING	NA	NOT APPLICABLE
BLKG	BLKING	NF	NEAR FACE
BLWG	BELONG	NIC	NOT IN CONTRACT
BM	BEAM	NTS	NOT TO SCALE
BMU	BRICK MASONRY UNIT	NWC	NORMAL WEIGHT CONCRETE
BN	BOUTHRY NAIL	OVER	OVER
BOS	BOTTOM OF STEEL	OC	ON CENTER
BT	BOTTOM	OD	OUTSIDE DIAMETER
BTWN	BETWEEN	OPH	OPPOSITE HAND
C	CAMBER, CHANNEL	OPNG	OPENING
C	CARGES BOLT	OR	OUTSIDE RADII
CBC	CALIFORNIA BUILDING CODE	PAC	POWER ACTUATED FASTENER
CFSF	COLD-FORMED STEEL FRAMING	PCF	PRECAST CONCRETE
CG	CENTER OF GRAVITY	PCF	POUNDS PER CUBIC FOOT
CJ	CONSTRUCTION JOINT	PD	PARTIAL JOINT PENETRATION
CJP	COMPLETE JOINT PENETRATION	PL	PLATE, PROPERTY LINE
CL	CENTER LINE	PLF	POUNDS PER LINEAR FOOT
CLR	CLEAR	PREFAB	PREFABRICATE
CMU	CONCRETE MASONRY UNIT	PSF	POUNDS PER SQUARE FOOT
COL	COLUMN	PSI	POUNDS PER SQUARE INCH
CONC	CONCRETE	PTW	PRESERVATIVE TREATED WOOD
CONN	CONNECTION, CONNECTION	QTY	QUANTITY
CONT	CONTINUE, CONTINUOUS	R	RADIUS, RISER
CO	COLD-ROLLED STEEL	REBAR	REINFORCING STEEL BAR
CSK	CENTER SUNK	REIN	REINFORCE, REINFORCE
CTR	CENTER	REQ	REQUIRE, REQUIRED
D	PENNY (NAIL), DEEP, DEPTH	RND	ROUND
DBL	DOUBLE	RO	ROUGH OPENING
DCW	DEMAND CRITICAL WELD	RS	ROUGH SAWN
DEG	DEGREE	RWD	REDWOOD
DEMO	DEMOLITION	S	SPACED, SPACING, SPLICE, STEP
DET	DETAIL	SEE	SEE ARCHITECTURAL DRAWINGS
DI	DIAMETER	SCHED	SCHEDULE
DIAG	DIAGONAL	SAD	SELF-DRILLING SELF-TAPPING
DM	DIMENSION	SDT	STRUCTURAL ENGINEER
DJ	DOWEL JOINT	SEC	SECTION
DL	DEAD	SEISMIC	SEISMIC FORCE RESISTING SYSTEM
DO	DITTO, DO OVER	SHIM	SHIMMING
DOUG FIR	DOUGLAS FIR	SHTG	SIMILAR
DWG	DRAWING	SL	SHRINKAGE JOINT
DWL	DOWEL	SJ	SNOW LOAD
E	EACH	SP	STRUCTURAL PANEL
EE	EACH END	SPEC	SPECIFICATION
EF	EACH FACE	SQ	SQUARE
EJ	EXPANSION JOINT	SST	STAINLESS STEEL
EL	ELEVATION	STAG	STAGGERED
ELEC	ELECTRIC, ELECTRICAL	STD	STANDARD
ELEV	ELEVATOR	STIF	STIFFENER
EMBED	EMBEDMENT	STIR	STIRRUP
EDG	EDGE NAIL	STL	STEEL
ES	EDGE OF SLAB	STRUCT	STRUCTURAL
EQ	EQUAL, EQUALLY	SYMM	SYMMETRICAL
ES	EACH SIDE	T	TREAD, THICKNESS
EW	EACH WAY	T&B	TOP & BOTTOM
EXT	EXTERIOR	T&G	TONGUE & GROOVE
F	FACE TO FACE	THK	THICKNESS
FA	FRAMING ANGLE	THRU	THROUGH
FB	FLAT BAR	TJ	TOE JOINT
FDTN	FOUNDATION	TN	TOE NAIL
FIN	FINISH	TB	TOP OF BEAM
FLR	FLANGE	TOC	TOP OF CURB/CONCRETE
FLR	FLOOR	TOF	TOP OF FRAMING/FOOTING/FLOOR
FN	FIELD NAIL	TOJ	TOP OF JOIST
FCC	FACE OF CONCRETE/CURB	TOM	TOP OF MASONRY
FOF	FACE OF FINISH	TOP	TOP OF PARAPET
FOM	FACE OF MASONRY	TOS	TOP OF STEEL
FOS	FACE OF STUD	TOSP	TOP OF STRUCTURAL PANEL
FW	FACE OF WALL	TOT	TOP OF TRUSS
FRMG	FRAMING	TOW	TOP OF WALL
FRTW	FIRE RETARDANT TREATED WOOD	TS	TUBE STEEL
FS	FEET	TPC	TYPICAL
FT	FEET, FOOT	UND	UNDERCUT
FTG	FOOTING	UNO	UNLESS NOTED OTHERWISE
FURG	FURRING	UN	UNLESS OTHERWISE NOTED
G	GAGE	US	UNITED STATES OF AMERICA
GALV	GALVANIZED	US	DEPARTMENT OF VETERAN AFFAIRS
GLB	GLUED LAMINATED BEAM	VERT	VERTICAL
GR	GRADE	VIF	VERIFY IN FIELD
H	HIGH, HEIGHT	VR	VAPOR RETARDER
HDR	HEADER	W	WIDE, WIDTH, WELD
HGR	HANGER	WI	WITH
HLDN	HOLD-DOWN	WO	WITHOUT
HORIZ	HORIZONTAL	WF	WIDE FLANGE
HS	HIGH STRENGTH	WHS	WELDED HEADED STUD
HSS	HIGH STRENGTH BOLT	WL	WIND LOAD
HSS	HOLD-DOWN STRUCTURAL SECTION	WO	WHERE OCCURS
HT	HEIGHT	WP	WORKING POINT
ICC	INTERNATIONAL CODE COUNCIL	WT	WEIGHT
ID	INSIDE DIAMETER	WTS	WEIGHTED THREADED STUD
IJ	ISOLATION JOINT	WWR	WELDED WIRE REINFORCEMENT
INFO	INFORMATION		
INT	INTERIOR		
IR	INSIDE RADIUS		

350 / 1000-09

DETAIL INDICATOR - REFERENCE &
DETAIL INDICATOR - ITEM

DETAIL INDICATOR - SECTION &
DETAIL INDICATOR - SECTION ITEM

SECTION INDICATOR -
PARTIAL BUILDING WALL
DETAIL INDICATOR - AREA

SECTION INDICATOR - BUILDING

ELEVATION INDICATOR - EXTERIOR

ELEVATION INDICATOR - INTERIOR,
SINGLE & MULTIPLE VIEW

MATCH LINE
SEE XX / X-XXX

MATCH LINE INDICATOR

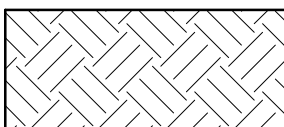
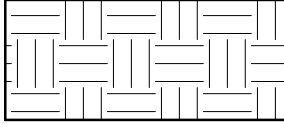
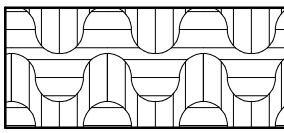
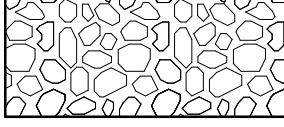
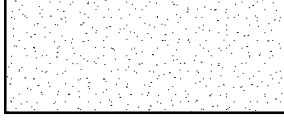

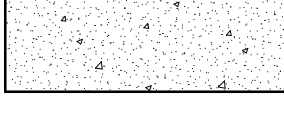



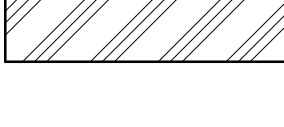
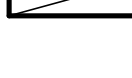
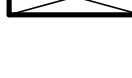
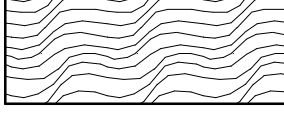
REFERENCE GRID WITH REFERENCE GRID LINES

REVISION INDICATOR & REVISION CLOUD

ELEVATION INDICATOR - LEVEL & SPOT

KEYNOTE INDICATOR

PLAN NORTH & TRUE NORTH INDICATOR

	EARTH
	EARTH, COMPACT FILL
	EARTH, ROCK
	GRAVEL, ROCK FILL
	SAND, MORTAR, GROUT
	CONCRETE, CAST IN PLACE
	CONCRETE, PRE-CAST OR TILT UP
	MASONRY, CLAY BRICK
	MASONRY, CONCRETE
	STEEL
	ALUMINUM
	WOOD BLOCKING OR SHIM
	WOOD FRAMING CONTINUOUS
	WOOD

1. THE STRUCTURAL NOTES AND TYPICAL DETAILS, WHETHER SPECIFICALLY REFERENCED OR NOT, SHALL BE CONSIDERED TO BE PART OF THE SUBMITTALS FOR EACH STRUCTURAL ELEMENTS INDICATED IN THE STRUCTURAL NOTES AND TYPICAL DETAILS AS REQUIRED TO CONFORM TO THE FINISHED PROJECT AS INDICATED IN OTHER CONSTRUCTION DOCUMENTS.
2. ALL STRUCTURAL ELEMENTS SHALL BE CONSTRUCTED TO MEET THE DESIGN REQUIREMENTS OF THE STRUCTURAL CONSTRUCTION DOCUMENTS. SEE OTHER CONSTRUCTION DOCUMENTS FOR COMPLETE PROJECT REQUIREMENTS.
3. REFERENCES TO CONSTRUCTION DOCUMENTS ARE TO THE VA APPROVED DRAWINGS AND SPECIFICATIONS FOR THIS PROJECT. SUPPLEMENTAL DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ADDENDA, REVISED DRAWINGS, FIELD INSTRUCTIONS AND MODIFICATIONS PRODUCED FOR THIS PROJECT, SHALL BE USED TO DEVELOP THE CONSTRUCTION DOCUMENT. ALL REQUIREMENTS OF THE INITIALLY APPROVED CONSTRUCTION DOCUMENTS SHALL APPLY TO ANY SUPPLEMENTAL DOCUMENTS.
4. WHERE THE CONSTRUCTION DOCUMENTS INDICATE TO NOTIFY THE STRUCTURAL ENGINEER, THE CONTRACTOR SHALL SUBMIT A WRITTEN RESPONSE TO THE ENGINEER'S REQUEST FOR A REASONABLE TIME PERIOD FOR REVIEW. DESIGN, VA APPROVAL AS REQUIRED AND WRITTEN RESPONSE SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. OBTAIN ENGINEER'S COMMENTS BEFORE PROCEEDING WITH THE WORK.
5. CAREFULLY EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER OF ANY CONFLICTS OR DISCREPANCIES WITHIN THE STRUCTURAL CONSTRUCTION DOCUMENTS AND BETWEEN ALL OTHER CONSTRUCTION DOCUMENTS. DEVIATIONS SHALL NOT BE MADE WITHOUT THE REQUIREMENTS INDICATED IN THE STRUCTURAL CONSTRUCTION DOCUMENTS.
6. PORTIONS OF THESE CONSTRUCTION DOCUMENTS ARE DIAGRAMMATIC ONLY. ITEMS INCLUDING, BUT NOT LIMITED TO, LOCATIONS, SIZES, QUANTITIES, ACCESSORIES AND CONNECTIONS ARE INDICATED IN A REPRESENTATIONAL MANNER AND MAY NOT BE FULLY KNOWN. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE PROJECT AS REPRESENTED IN THE CONSTRUCTION DOCUMENTS.
7. DIMENSIONS AND ELEVATIONS INDICATED ARE FOR STRUCTURAL ELEMENTS ONLY. COORDINATE WITH ALL OTHER CONSTRUCTION DOCUMENTS FOR DIMENSIONS AND ELEVATIONS INDICATED ON THE STRUCTURAL CONSTRUCTION DOCUMENTS. DO NOT SCALE DRAWINGS.
8. CONSTRUCTION SHALL COMPLY WITH ALL BUILDING, HEALTH AND SAFETY STANDARDS, CODES AND REGULATIONS APPLICABLE TO THIS PROJECT. NOTHING IN THE CONSTRUCTION DOCUMENTS SHALL BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE STANDARDS, CODES AND REGULATIONS.
9. REFERENCES TO STANDARDS, CODES AND REGULATIONS INCLUDING, BUT NOT LIMITED TO, ICC, IBC, ACI, ASTM, ASSE, ANSI, AWS, AISI, ASTM AND AISI SHALL BE BASED ON THE REFERENCED IBC BUILDING CODE AND ADOPTED REFERENCED STANDARDS LISTED IN THE IBC CHAPTER 35.
10. FEATURES OF CONSTRUCTION INDICATED ARE TYPICAL, WHERE FEATURES ARE NOT FULLY OR CLEARLY IDENTIFIED BY THE INDICATOR, THE CONTRACTOR SHALL DETERMINE HOW THEY SHALL BE AS INDICATED FOR IDENTICAL OR SIMILAR FEATURES ELSEWHERE IN THE CONSTRUCTION DOCUMENTS. IF ANY CONDITIONS REQUIRE CONSTRUCTION DIFFERENT THAN THAT INDICATED IN THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER.
11. STRUCTURAL ELEMENTS SHALL NOT BE REMOVED OR MODIFIED UNLESS INTERFERE WITH THE STRUCTURAL CONSTRUCTION DOCUMENTS. IF STRUCTURAL ELEMENTS INTERFERE WITH THE WORK INDICATED IN ANY OTHER CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER.
12. THE CONSTRUCTION DOCUMENTS AND THE DESIGNS INCORPORATED THEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, ARE NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT.
13. STRUCTURAL ELEMENTS REPRESENTED IN THE CONSTRUCTION DOCUMENTS ARE INDICATED IN THEIR COMPLETED CONFIGURATION. THE CONSTRUCTION DOCUMENTS DO NOT INDICATE METHODS OR SEQUENCES OF CONSTRUCTION. THE CONTRACTOR SHALL DETERMINE OTHERWISE. PROVIDE ALL MEASURES NECESSARY AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY AND TO ASSURE THE CORRECT AND ACCURATE STRUCTURE GEOMETRY AND STABILITY DURING CONSTRUCTION. MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, PROVIDING ADEQUATE FORMING, SHORING AND BRACING. MEASURES SHALL REMAIN IN PLACE UNTIL THE STRUCTURAL ELEMENTS AND ALL OTHER STRUCTURAL ELEMENTS USED TO SUPPORT THEM HAVE BEEN COMPLETED. THE CONTRACTOR SHALL MAINTAIN THEIR OWNED PROTECTIVE STRATEGIES.
14. PROTECT ALL ELEMENTS, WHETHER CONCEALED OR NOT, INCLUDING, BUT NOT LIMITED TO, PROPERTIES, STRUCTURES, FINISHES, STREETS, LANDSCAPING AND UTILITIES ADJACENT TO OR OVERLAPPING THE CONSTRUCTION AREA. THE CONTRACTOR SHALL TAKE THE PRECAUTIONS TO ANY ELEMENTS, THEY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE VA. CONTROL ITEMS SUCH AS, BUT NOT LIMITED TO, DUST, DIRT, WATER, VIBRATES, SHOCK, TRASH, NOISE AND VIBRATION CREATED AS A RESULT OF ANY OPERATIONS DURING CONSTRUCTION IN CONFORMANCE WITH APPLICABLE STANDARDS, CODES AND REGULATIONS.
15. THE STRUCTURAL DESIGN LOADS, STRENGTHS, CAPACITIES AND CRITERIA INDICATED ON THE CONSTRUCTION DOCUMENTS ARE FOR THE VA PROVIDE THE ADEQUATE DESIGN CAPACITY FOR ANY PART OR PARTS OF THE INCOMPLETE OR COMPLETED STRUCTURE FOR THE SUPPORT OF CONSTRUCTION ITEMS INCLUDING, BUT NOT LIMITED TO, OTHER PORTIONS OF THE STRUCTURE, PERSONNEL, MATERIALS AND EQUIPMENT IS LIMITED TO THE SAFE CAPACITY OF THE STRUCTURE AT THE TIME IT IS TO BE USED FOR SUCH SUPPORT. PROVIDE ALL MEASURES NECESSARY TO PREVENT OVERLOADING, EXCESSIVE MOVEMENT AND DAMAGE TO ANY PART OR PARTS OF THE STRUCTURE.
16. IF SUBSTITUTIONS ARE REQUESTED FOR STRUCTURAL ELEMENTS INDICATED IN THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER. SUBMIT DATA AND DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, COMPARATIVE QUALITY, SUITABILITY, PERFORMANCE, DURABILITY, STRUCTURAL ANALYSIS, AND STRENGTH. SUBMITTIMALS SUBSTANTIATING THE COMPLETE COMPLIANCE OF EACH PROPOSED SUBSTITUTION. CONSULTATION WITH THE CONTRACTOR SHALL BE REQUIRED. A REQUEST FOR SUBSTITUTION WILL BE ALLOWED FOR EACH STRUCTURAL ELEMENT. SUBSTITUTIONS WILL NOT BE CONSIDERED WHEN SUBMITTALS ARE INCOMPLETE OR ACCEPTANCE WOULD REQUIRE THE CONTRACTOR TO RECONSTRUCT THE STRUCTURE. THE CONTRACTOR SHALL OBTAIN SERVICES REQUIRED TO OBTAIN APPROVAL OF SUBSTITUTIONS. IF A PROPOSED SUBSTITUTION SUBMITTAL IS NOT COMPLETE, NOT ACCEPTABLE TO THE STRUCTURAL ENGINEER, OR NOT APPROVED BY THE CONTRACTOR, THE CONTRACTOR SHALL OBTAIN THE SERVICES REQUIRED TO OBTAIN APPROVAL OF SUBSTITUTIONS. THE STRUCTURAL ENGINEER WILL BE THE SOLE JUDGE OF THE PROBABILITY OF THE PROBABILITIES OF THE PROBABILITIES OF THE PROBABILITIES. ACCEPTANCE OF A SUBSTITUTION SHALL NOT BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
17. SCHEDULES, LEGENDS, ABBREVIATIONS, TYPICAL NOTES AND TYPICAL DETAILS ON THE STRUCTURAL CONSTRUCTION DOCUMENTS MAY REFERENCE STRUCTURAL ELEMENTS OR REQUIREMENTS NOT SPECIFICALLY INDICATED OR REQUIRED ELSEWHERE IN THE CONSTRUCTION DOCUMENTS.
18. THE STRUCTURAL CONSTRUCTION DOCUMENTS ARE NOT COMPLETE AND READY FOR CONSTRUCTION UNTIL THEY ARE APPROVED BY THE VA AND SIGNED BY THE STRUCTURAL ENGINEER.

BUILDING CODE: 2009 IBC

ENFORCEMENT ACTION: US DEPARTMENT OF VETERAN AFFAIRS (VA)

A. VERTICAL DESIGN CRITERIA (UNLESS OTHERWISE SHOWN OR NOTED)

ROOF LIVE LOADS:

- TYP ROOF AREA 20 PSF (REDUCIBLE)
- MECHANICAL & ELECTRICAL AREA 50 PSF (NON-REDUCIBLE)

FLOOR LIVE LOADS:

- EXIT FACILITIES (STAIRS, CORRIDORS, ETC.) 100 PSF (NON-REDUCIBLE)

GROUND SNOW LOAD: N/A

B. LATERAL DESIGN CRITERIA

SEISMIC:

SITE CRITERIA: $SS=0.51g$, $SI=0.22g$, $SDS=0.47g$, $SD1=0.29g$, SITE CLASS: D

DESIGN CRITERIA: OCC CATEGORY = IV, $I = 1.5$

SEISMIC DESIGN CATEGORY = D

SEISMIC FORCE RESISTING SYSTEM: SPECIAL REINFORCED MASONRY SHEAR WALLS (SFRS), R=5

DESIGN BASE SHEAR: $0.14w$

ANALYSIS CRITERIA: $Cs=0.09$, EQUIVALENT LATERAL FORCE

BUILDING DISPLACEMENT (AMPLIFIED):

LEVEL	INTERSTORY DISPLACEMENT	TOTAL DISPLACEMENT
GROUND	0.00 IN	0.00 IN
ROOF	0.01 IN	0.01 IN
MECH PLATFORM	0.03 IN	0.04 IN

WIND:

SPEED 85 MPH, EXPOSURE C, $h_w=1.15$, $GCP1=+0.18$

C. SOIL DESIGN CRITERIA

SOIL INFO IS BASED ON GEOTECHNICAL REPORT BY:
EARTH SYSTEMS PACIFIC / SH-12159-04
DATED: OCTOBER 16, 2013

MAT FOUNDATIONS:

ALLOWABLE BEARING PRESSURE:

DL = 1500 PSF

DL + LL = 2000 PSF

DL + LL + LATERAL = 2500 PSF

- HORIZONTAL FRICTION = 0.4

- SUBGRADE MODULUS (k_{30}) = 250 PSI / IN

THE INTENT OF THE CONSTRUCTION DOCUMENTS IS TO CONSTRUCT THE BUILDING IN ACCORDANCE WITH VA SEISMIC DESIGN REQUIREMENTS (H-18-8), ASCE 7, AND IBC. SHOULD ANY CONDITIONS DEVELOP NOT COVERED BY THE CONSTRUCTION DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH SAID VA SEISMIC DESIGN REQUIREMENTS (H-18-8), ASCE 7 AND IBC, A CHANGE ORDER DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY THE VA BEFORE PROCEEDING WITH THE WORK.

2. ALL WORK SHALL COMPLY WITH VA SEISMIC DESIGN REQUIREMENTS (H-18-8), ASCE 7, AND IBC.

3. ALL PIPES, DUCTS AND CONDUTS SHALL BE SUPPORTED AND BRACED PER OSHDP ANCHORAGE PRE-APPROVALS:

- 0010 SAKMACH "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPE SYSTEMS"
- 0114 BLANE "SEISMIC RESTRAINTS"
- 0127 INTERTR "SEISMIC BRACING SYSTEM"
- 0485 TOMARCO "ISAT SEISMIC RESTRAINT SYSTEM"

EXCEPT FOR THE FOLLOWING (DO NOT REQUIRE SEISMIC BRACING):

- GAS AND MECHANICAL PIPING LESS THAN ONE INCH INSIDE DIAMETER.
- PIPING IN BOILER AND MECHANICAL EQUIPMENT ROOMS LESS THAN 1/4 INCH INSIDE DIAMETER.
- ALL OTHER PIPING LESS THAN 2 1/2 INCH INSIDE DIAMETER EXCEPT FOR AUTOMATIC FIRE SUPPRESSION SYSTEMS.
- ALL ELECTRICAL CONDUITS LESS THAN 2 1/2 INCH INSIDE DIAMETER.
- ALL RECTANGULAR AIR HANDLING DUCTS LESS THAN FOUR SQUARE FEET IN CROSS SECTIONAL AREA.
- ALL ROUND AIR HANDLING DUCTS LESS THAN 28 INCHES IN DIAMETER.
- ALL DUCTS SUSPENDED BY HANGERS 12 INCH OR LESS IN LENGTH FROM TOP OF THE DUCT TO THE BOTTOM OF SUPPORT FOR THE HANGER

4. WHEN INSTALLING DRILLED-IN ANCHORS AND/OR POWDER ACTUATED FASTENERS IN EXISTING NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE EXISTING REINFORCEMENT.

5. ANCHORAGE OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THIS PROJECT SHALL BE DESIGNED AND DETAILED BY THE CONTRACTOR'S ENGINEER, EXCEPT FOR THE FOLLOWING:

- EQUIPMENT WEIGHING LESS THAN 400 POUNDS SUPPORTED DIRECTLY ON THE FLOOR OR ROOF.
- FURNITURE (NON-FIXED AND MOVABLE)
- TEMPORARY OR MOVABLE EQUIPMENT (NON-FIXED AND MOVABLE)
- EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUPPORTED BY VIBRATION ISOLATORS.
- EQUIPMENT WEIGHING LESS THAN 20 POUNDS SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

PERMANENT EQUIPMENT IN ITEMS 1, 4, AND 5 MUST BE SUPPORTED AND ANCHORED TO RESIST THE FORCES PRESCRIBED BY CHAPTER 13 OF ASCE 7 AND THE ANCHORAGE SHALL BE APPROVED BY THE APPROPRIATE VA DIVISION OF RECORD AND VA AS A PART OF ALL VISUAL SURVEY OBSERVATIONS. THE INSPECTOR OF RECORD SHALL ENSURE THAT THE ABOVE REQUIREMENTS ARE ENFORCED.

6. COPY OF THE OSHDP PRE-APPROVED DOCUMENTS MUST BE MADE AVAILABLE AT THE JOB SITE AT ALL TIMES. THE INSTALLATION OF THIS ITEM MUST BE DONE IN STRICT ACCORDANCE WITH THE PRE-APPROVED DOCUMENTS. IDENTIFY MANUFACTURER'S NAME & MODEL NO., IF APPLICABLE.

CP-19-0569 1/30/2019

1. THE FOLLOWING ITEMS SHALL BE SUBMITTED FOR DEFERRED APPROVAL BY THE VA PRIOR TO FABRICATION OR INSTALLATION:

SEE THE SPECIFICATIONS AND STRUCTURAL DESIGN CRITERIA FOR REQUIRED PERFORMANCE AND LOADING CRITERIA.

3. DEFERRED SUBMITTALS ARE SUBJECT TO ALL THE REQUIREMENTS OF OTHER SUBMITTALS.

4. SUBMITTAL DOCUMENTS AND SUPPORTING DESIGN CALCULATIONS SHALL BE STAMPED AND SIGNED BY A CALIFORNIA REGISTERED PROFESSIONAL ENGINEER.

5. DOCUMENTS AND CALCULATIONS FOR DEFERRED SUBMITTAL ITEMS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR GENERAL CONFORMANCE WITH THE DESIGN OF THE PROJECT PRIOR TO SUBMITTAL TO THE VA.

6. DEFERRED SUBMITTAL ITEMS SHALL NOT BE FABRICATED OR INSTALLED UNTIL THEIR DESIGN AND SUBMITTAL DOCUMENTS HAVE BEEN APPROVED BY THE VA.

LIST OF DEFERRED SUBMITTALS:

- 1. PREFABRICATED STAIR
- 2. INSULATED ACQUISITIONAL SCREEN WALL

S:\00000\000001

CAREFULLY EXAMINE THE CONSTRUCTION DOCUMENTS AND NOTIFY THE STRUCTURAL ENGINEER IMMEDIATELY OF ANY DISCREPANCIES WITHIN THE STRUCTURAL CONSTRUCTION DOCUMENTS AND BETWEEN ALL OTHER CONSTRUCTION DOCUMENTS AND THE EXISTING CONSTRUCTION.

2. EXISTING CONSTRUCTION INDICATED IN THE CONSTRUCTION DOCUMENTS IS BASED UPON INFORMATION SHOWN ON AVAILABLE EXISTING DRAWINGS AND MATERIAL VISUAL INSPECTION. THE EXISTING CONSTRUCTION SHALL BE AS SHOWN AND INDICATED IN THE CONSTRUCTION DOCUMENTS. PROVIDE ALL WORK AND MATERIALS NECESSARY TO COMPLETE THE PROJECT AS REPRESENTED IN THE CONSTRUCTION DOCUMENTS.

3. VERIFY ALL DIMENSIONS AND ELEVATIONS OF THE EXISTING CONSTRUCTION PRIOR TO STARTING CONSTRUCTION OR FABRICATION. DO NOT SCALE EXISTING DRAWINGS.

4. PROVIDE AND MAINTAIN A COMPLETE AND LEGIBLE COPY OF THE EXISTING CONSTRUCTION DOCUMENTS WITHIN THEIR AVAILABLE SPACE AND WHERE THEY WILL BE REQUIRED.

5. EXISTING STRUCTURAL ELEMENTS SHALL NOT BE REMOVED OR MODIFIED UNLESS INDICATED IN CONSTRUCTION DOCUMENTS. IF EXISTING STRUCTURAL ELEMENTS INTERFERE WITH THE WORK INDICATED IN ANY CONSTRUCTION DOCUMENT, OR IF UNCERTAIN THAT AN ELEMENT IS STRUCTURAL, NOTIFY THE STRUCTURAL ENGINEER.

6. PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF THE EXISTING STRUCTURE AND SITE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT SHALL NOT BE LIMITED TO, PROVIDING ADEQUATE SHORING, BRACING, WEATHER PROTECTION AND DUST PROTECTION. THE REMOVAL OR MODIFICATION OF EXISTING STRUCTURAL ELEMENTS SHALL BE PERFORMED IN A MANNER TO PREVENT DAMAGE TO THOSE ELEMENTS TO REMAIN. SHOULD DAMAGE OCCUR TO ANY EXISTING ELEMENTS, THEY SHALL BE RESTORED TO THEIR ORIGINAL CONDITION AT THE VEIN OF THE ORIGINAL CONTRACT PRICE.

7. EXISTING FOUNDATIONS THAT MAY BE AFFECTED BY ANY EXCAVATIONS REQUIRED FOR THIS PROJECT SHALL BE UNDERPINNED, SHORED OR SUPPORTED ADEQUATELY TO PREVENT SETTLEMENT AND LATERAL MOVEMENT.

8. IF EXISTING STRUCTURAL ELEMENTS NOT INDICATED FOR REPLACEMENT OR REPAIR ARE DISCOVERED TO BE DAMAGED OR DIFFERENT THAN INDICATED ON THE CONSTRUCTION DOCUMENTS, NOTIFY THE STRUCTURAL ENGINEER. SUCH DAMAGE OR DIFFERENCE SHALL INCLUDE, BUT NOT BE LIMITED TO, DRY-ROT, WATER DAMAGE, INSECT DAMAGE, POOR CONSTRUCTION OR FIT-UP, BUCKLING, CORROSION, CRACKING, SPLITTING, SPOILING, WARPING, AND DIFFERENT SIZE, ORIENTATION, GRADE, QUALITY OR MATERIAL.

9. WHEN INSTALLING ANCHORS (POST-INSTALLED EXPANSION AND CHEMICAL ANCHORS OR POWDER ACTUATED FASTENERS) OR DRILLING/CORING HOLES AT EXISTING CONCRETE OR OTHER MATERIAL, DO NOT DAMAGE OR CUT THROUGH EXISTING REINFORCING (TENSIONED STRANDS) UNLESS SPECIFICALLY NOTED OTHERWISE. LOCATE ALL EXISTING REINFORCING AT AFFECTED AREAS USING NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING ANCHORS OR DRILLING/CORING HOLES. LOCATE CORING HOLES, LOCATING OR HOLES NO CLOSER THAN 1" FROM FACE OF EXISTING REINFORCING.


10. WHEN SAW-CUTTING EXISTING STRUCTURAL ELEMENTS, DO NOT OVERTURN. INTERSECTING SAW-CUTS SHALL NOT OVERLAP. SAW-CUTS MAY INTERSECT AT SMALL DIAMETER CORED/DRILLED HOLES. SAW-CUTS SHALL BE TANGENT TO AND SHALL NOT EXTEND BEYOND CORED/DRILLED HOLES. CAREFULLY REMOVE REMAINING MATERIAL TO EDGE OF SAW-CUT LINE.

11. ALL CONSTRUCTION INDICATED IS NEW UNLESS SPECIFICALLY DENOTED AS EXISTING.

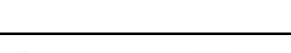
SHEET NUMBER	SHEET NAME
22A-S-001	GENERAL NOTES
22A-S-011	TYPICAL NOTES
22A-S-012	TYPICAL NOTES
22A-S-531	DETAILS - TYPICAL CONCRETE
22A-S-532	DETAILS - TYPICAL CONCRETE
22A-S-541	DETAILS - TYPICAL MASONRY
22A-S-542	DETAILS - TYPICAL MASONRY
22A-S-551	DETAILS - TYPICAL STRUCTURAL STEEL
22A-S-552	DETAILS - STRUCTURAL STEEL
22A-S-553	DETAILS - STRUCTURAL STEEL
22A-S-571	DETAILS - TYPICAL STEEL DECKING
22A-SB-100	FOUNDATION PLAN
22A-SF-300	ROOF FRAMING PLAN
22A-SF-301	PLATFORM FRAMING PLAN
22A-SF-400	BUILDING SECTIONS
22A-SF-401	BUILDING SECTIONS
22A-SF-450	ELEVATIONS

100% CONSTRUCTION DOCUMENT SUBMITTAL

CONSULTANTS:



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Drawing Title	
GENERAL NOTES	
Approved: Project Director	
-	

Scale: As indicated

STRUCTURAL SUBMITTALS

S- 013300 N002A

- SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO, SHOP DRAWINGS, FABRICATION DRAWINGS, PLACEMENT DRAWINGS, CALCULATIONS, DESIGNS, TEST DATA, PRODUCT DATA, SAMPLES, CERTIFICATIONS AND REPORTS AS REQUIRED BY THE CONSTRUCTION DOCUMENTS.
- SUBMITTALS, AS A MINIMUM, SHALL CONSIST OF TWO (3) COPIES OF EACH SHEET.
- SUBMITTALS SHALL NOT CONTAIN NOR CONSIST OF REPRODUCTIONS OF THE CONSTRUCTION DOCUMENTS. SUBMITTALS CONTAINING REPRODUCTIONS OF ANY PORTION OF THE CONSTRUCTION DOCUMENTS ARE SUBJECT TO REJECTION.
- EACH SUBMITTAL SHALL HAVE A COVER SHEET IDENTIFYING THE CONTENTS BY SPECIFICATION SECTION AND LISTING EACH ITEM AND SHEET NUMBER. EACH SUBMITTAL SHALL HAVE A UNIQUE IDENTIFICATION NUMBER.
- PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER, STAMP SUBMITTALS INDICATING THEY HAVE BEEN REVIEWED AND APPROVED FOR COMPLETENESS AND CONFORMANCE WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS. SUBMITTALS THAT ARE DETERMINED TO BE INCOMPLETE, IN THE JUDGMENT OF THE STRUCTURAL ENGINEER, WILL BE RETURNED WITHOUT REVIEW SO THEY CAN BE COMPLETED. THE STRUCTURAL ENGINEER SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OF CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
- PRIOR TO SUBMISSION TO THE STRUCTURAL ENGINEER, THE CONTRACTOR'S TESTING LABORATORY SHALL STAMP THE FOLLOWING MARKED SUBMITTALS INDICATING THEY HAVE BEEN REVIEWED AND APPROVED FOR COMPLETENESS AND CONFORMANCE WITH THE INTENT OF THE CONSTRUCTION DOCUMENTS:
 - CONCRETE MIX DESIGNS AND SUBSTITUTING TEST DATA
 - MASONRY GROUT MIX DESIGNS AND SUBSTITUTING TEST DATA
 - WELDING PROCEDURE SPECIFICATIONS
- SUBMITTALS SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER PRIOR TO UTILIZATION, INSTALLATION, FABRICATION OR CONSTRUCTION OF ITEMS CONTAINED WITHIN THE SUBMITTALS.
- SUBMITTALS SHALL BE DELIVERED TO THE STRUCTURAL ENGINEER TO ALLOW SUFFICIENT TIME, IN THE STRUCTURAL ENGINEER'S JUDGMENT, FOR A REASONABLE PERIOD FOR ADEQUATE REVIEW, VA APPROVAL AS REQUIRED AND RESPONSE SO AS NOT TO AFFECT THE CONSTRUCTION SCHEDULE. ALLOW THE STRUCTURAL ENGINEER THE GREATER SUBMITTAL REVIEW PERIOD OF TEN (10) WORK DAYS, OR FIVE (5) WORK DAYS FOR EACH 100 SHEETS, OR PORTION THEREOF, FOR EACH SUBMITTAL. SUBMITTAL REVIEW PERIOD COMMENCES THE NEXT WORK DAY AFTER SUBMITTAL RECEIPT BY THE STRUCTURAL ENGINEER. CONCURRENT SUBMITTALS OF MULTIPLE PORTIONS OF THE SAME SUBMITTAL ITEM WILL BE REVIEWED IN THEIR ENTIRETY AS ONE SUBMITTAL SUBJECT TO THE REVIEW PERIOD LIMITATION ABOVE. SCHEDULE SUBMITTAL REVIEWS AND CONSTRUCTION ACCORDINGLY.
- REVIEW OF SUBMITTALS BY THE STRUCTURAL ENGINEER WILL INCLUDE CHECKING FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONSTRUCTION DOCUMENTS. IT WILL NOT INCLUDE REVIEW OF THE ACCURACY OR COMPLETENESS OF ITEMS SUCH AS QUANTITIES, DIMENSIONS, WEIGHTS OR GAUGES, FABRICATION PROCESSES, CONSTRUCTION MEANS OR METHODS, COORDINATION WITH THE WORK OF OTHER TRADES, OR CONSTRUCTION SAFETY PRECAUTIONS. REVIEW OF THE SPECIFIC ITEM SHALL NOT INDICATE THAT THE STRUCTURAL ENGINEER HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE STRUCTURAL ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE STRUCTURAL ENGINEER'S ATTENTION IN WRITING.
- SUBMITTALS PROCESSED BY THE STRUCTURAL ENGINEER ARE NOT CHANGE ORDERS.
- SUBMITTALS THAT WILL REQUIRE ADDITIONAL REVIEW, IN THE STRUCTURAL ENGINEER'S JUDGMENT, WILL BE MARKED "RESUBMIT". THE SUBMITTAL SHALL BE REVISED AND RESUBMITTED FOR RE-REVIEW AND IS SUBJECT TO ALL THE REQUIREMENTS OF THE INITIAL SUBMITTAL. PROVIDE VA REIMBURSEMENT FOR STRUCTURAL ENGINEER COSTS INCURRED TO RE-REVIEW SUBMITTALS.
- SUBMITTALS THAT HAVE BEEN REVIEWED AND RETURNED BY THE STRUCTURAL ENGINEER, REGARDLESS OF THE MARKINGS ON THE SUBMITTALS, SHALL NOT BE CONSIDERED TO PERMIT WORK NOT CONFORMING TO THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS.
- THE MINIMUM REQUIRED STRUCTURAL SUBMITTALS INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING MARKED ITEMS:
 - FILE FABRICATION DRAWINGS AND CALCULATIONS
 - CONCRETE MIX DESIGNS AND SUBSTITUTING TEST DATA
 - CONCRETE REINFORCING PLACEMENT DRAWINGS
 - CONCRETE PRODUCT CERTIFICATION AND DATA SHEETS
 - CONCRETE SLAB JOINT LAYOUT
 - MASONRY REINFORCING PLACEMENT DRAWINGS
 - MASONRY GROUT MIX DESIGNS AND SUBSTITUTING TEST DATA
 - MASONRY MORTAR MIX DESIGNS
 - MASONRY PRODUCT CERTIFICATION AND DATA SHEETS
 - STRUCTURAL STEEL SHOP DRAWINGS
 - STEEL DECK AND GRATING PLACEMENT DRAWINGS AND DATA SHEETS
 - WELDING PROCEDURE SPECIFICATIONS
 - METAL-PLATE-CONNECTED WOOD TRUSS PLACEMENT DRAWINGS AND CALCULATIONS
 - WOOD JOIST PLACEMENT DRAWINGS AND CALCULATIONS
 - METAL WEB WOOD JOIST PLACEMENT DRAWINGS AND CALCULATIONS
 - GLUED-LAMINATED TIMBER FABRICATION AND PLACEMENT DRAWINGS AND CERTIFICATIONS
 - PRE-ENGINEERED LUMBER CERTIFICATIONS AND DATASHEETS
 - OPEN WEB STEEL JOIST PLACEMENT DRAWINGS AND CALCULATIONS
 - PRE-ENGINEERED STEEL STAIR SHOP DRAWINGS AND CALCULATIONS
 - COLD-FORMED STEEL FRAMING PRODUCTS, ACCESSORIES, DATA SHEETS AND CALCULATIONS

STRUCTURAL TESTING & INSPECTION

S- 014500 N002A

- SPECIAL INSPECTION IS DEFINED AS THE INSPECTION OF THE MATERIALS, INSTALLATION, FABRICATION, ERECTION OR PLACEMENT OF COMPONENTS AND CONNECTIONS REQUIRING SPECIAL EXPERTISE TO ENSURE COMPLIANCE WITH APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS.
- THE CONTRACTOR SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPES OF WORK MARKED IN THE LIST BELOW IN CONFORMANCE WITH THE REGULATORY REQUIREMENTS. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS REQUIRED BY THE VA.
 - TESTING
 - COMPACTED FILL
 - CONCRETE
 - MASONRY
 - MORTAR & GROUT
 - EXPANSION, EPOXY, SCREW ANCHORS
 - SHOT-IN ANCHORS
 - SPECIAL INSPECTIONS
 - EXCAVATION, GRADING & FILLING FOR ALL FOUNDATION WORK
 - PILE DRIVING & TESTING
 - PLACEMENT OF CONCRETE & REINFORCEMENT
 - PLACEMENT OF MASONRY & REINFORCEMENT & DURING GROUTING OPERATIONS
 - SHOP WELDS NOT DONE IN FABRICATOR'S SHOP REGISTERED & APPROVED BY THE BUILDING OFFICIAL
 - FIELD WELDING
 - HIGH-STRENGTH BOLTING
 - EXPANSION, EPOXY, SCREW ANCHORS
 - SPRAY-APPLIED FIRE PROOFING
 - SHOTCRETE
 - GLU-LAM FABRICATION
 - JOIST FABRICATION
 - WELDED SHEAR STUDS
- THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE, TO THE SATISFACTION OF THE VA AND THE ARCHITECT/STRUCTURAL ENGINEER, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION.
- SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE VA, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS.
- DISCREPANCIES IN THE INSPECTED WORK SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE VA, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.
- A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED TO THE VA, CONTRACTOR AND ARCHITECT/STRUCTURAL ENGINEER AT THE COMPLETION OF THE WORK INCLUDED IN THE CONSTRUCTION DOCUMENTS.
- SCHEDULE AND COORDINATE ALL STRUCTURAL TESTS AND SPECIAL INSPECTIONS. NOTIFY THE SPECIAL INSPECTOR 48 HOURS MINIMUM PRIOR TO PERFORMING ANY WORK REQUIRING THE SPECIAL INSPECTOR'S PRESENCE. COORDINATE WITH THE SPECIAL INSPECTOR SO THAT THE WORK REQUIRING THE TESTS AND INSPECTIONS NOTED ABOVE IS ACCESSIBLE AND EXPOSED FOR TESTING AND INSPECTION PURPOSES. REMOVE AND/OR REPLACE MATERIALS AS REQUIRED AT NO ADDITIONAL COST TO THE VA TO ALLOW TESTS AND INSPECTIONS.

STRUCTURAL OBSERVATION

S- 014500 N002A

- STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE STRUCTURAL SYSTEM BY THE STRUCTURAL OBSERVER (THE STRUCTURAL ENGINEER OR WAS DESIGNATED REPRESENTATIVE) FOR GENERAL CONFORMANCE TO THE APPROVED CONSTRUCTION DOCUMENTS AT SIGNIFICANT CONSTRUCTION STAGES AND AT COMPLETION OF THE STRUCTURAL SYSTEM.
- STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY THE VA OR BY OTHER SECTIONS OF THE BUILDING CODE. REQUIRED INSPECTIONS DO NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR STRUCTURAL OBSERVATION.
- STRUCTURAL OBSERVATION DOES NOT INCLUDE THE SUPERVISION OF CONSTRUCTION FOR PROPER EXECUTION OF THE WORK SHOWN IN THE CONSTRUCTION DOCUMENTS.
- THE FOLLOWING COMPLETED CONSTRUCTION STAGES MARKED ARE SUBJECT TO STRUCTURAL OBSERVATION IF DEEMED NECESSARY DURING CONSTRUCTION BY THE STRUCTURAL OBSERVER:
 - FOUNDATION AND REINFORCEMENT PRIOR TO CONCRETE PLACEMENT
 - FORMWORK CONSTRUCTION AND REINFORCEMENT PRIOR TO CONCRETE PLACEMENT
 - CONCRETE TILT-UP PANEL INSTALLATION
 - CONCRETE PRE-CAST ELEMENT PANEL INSTALLATION
 - MASONRY INSTALLATION AND REINFORCEMENT PRIOR TO GROUT PLACEMENT
 - STEEL FRAMING ERECTION
 - STEEL DECK INSTALLATION AND REINFORCEMENT PRIOR TO CONCRETE FILL PLACEMENT
 - STEEL DECK INSTALLATION ON FRAMING
 - WOOD FRAMING ERECTION
 - WOOD STRUCTURAL PANEL INSTALLATION ON FRAMING
 - WOOD HARDWARE AND CONNECTOR INSTALLATION ON STRUCTURAL FRAMING
 - COLD-FORMED STEEL FRAMING ERECTION
 - PRE-FABRICATED STRUCTURAL ELEMENT INSTALLATION
 - STRUCTURAL SYSTEM COMPLETION
- NOTIFY THE VA TO REQUEST STRUCTURAL OBSERVER 48 HOURS MINIMUM IN ADVANCE OF THE COMPLETION OF THE ABOVE CONSTRUCTION STAGES TO FACILITATE STRUCTURAL OBSERVATIONS BY THE STRUCTURAL OBSERVER. COORDINATE WITH THE STRUCTURAL OBSERVER SO THAT THE WORK FOR THE CONSTRUCTION STAGES MARKED IS ACCESSIBLE AND EXPOSED FOR STRUCTURAL OBSERVATION PURPOSES. REMOVE AND/OR REPLACE MATERIALS AS REQUIRED AT NO ADDITIONAL COST TO THE VA TO ALLOW STRUCTURAL OBSERVATION.
- DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOTED DURING STRUCTURAL OBSERVATIONS SHALL BE CORRECTED AT NO ADDITIONAL COST TO THE VA.
- PROVIDE VA REIMBURSEMENT FOR DESIGN PROFESSIONAL COSTS INCURRED TO CORRECT DEVIATIONS AND TO MAKE REVISIONS TO THE CONSTRUCTION DOCUMENTS, INCLUDING OBTAINMENT OF APPROVAL AS REQUIRED.
- CORRECTIVE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE VA APPROVED CONSTRUCTION DOCUMENTS AND THE BUILDING CODE.
- AT THE COMPLETION OF THE WORK INCLUDED IN THE CONSTRUCTION DOCUMENTS, THE STRUCTURAL OBSERVER WILL SUBMIT TO THE VA A WRITTEN STATEMENT THAT THE STRUCTURAL OBSERVATIONS HAVE BEEN MADE AND IDENTIFY ANY REPORTED DEFICIENCIES THAT, TO THE BEST OF THE STRUCTURAL OBSERVER'S KNOWLEDGE, HAVE NOT BEEN RESOLVED.

FOUNDATION AND EARTHWORK

S- 033000 N006A

- ALL FOUNDATION AND EARTHWORK INCLUDING, BUT NOT LIMITED TO, EXCAVATION, GRADING, FILLING, SUB-GRADE PREPARATION, SOIL TREATMENT, ASSOCIATED SITE WORK, TRENCHING AND BACKFILLING SHALL BE PERFORMED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS.
- THE GEOTECHNICAL INFORMATION PROVIDED IS BASED UPON A GEOTECHNICAL REPORT PROVIDED BY VA. THE REPORT IS NOT A DESIGN AND IS NOT A PART OF THE CONSTRUCTION DOCUMENTS. THE REPORT IS REFERENCED IN THE CONSTRUCTION DOCUMENTS FOR INFORMATION ONLY.
- THE GEOTECHNICAL INFORMATION PROVIDED IS NOT A WARRANTY OF THE SITE OR SUBSURFACE CONDITIONS. PRIOR TO BIDDING AND AT NO COST TO THE OWNER, SITE VISITS TO INVESTIGATE OR TO PERFORM ADDITIONAL SUBSURFACE INVESTIGATIONS MAY BE MADE TO DETERMINE THE EXISTING CONDITIONS. SUCH INVESTIGATIONS MAY BE PERFORMED ONLY UNDER TIME SCHEDULES AND ARRANGEMENTS APPROVED BY THE VA IN ADVANCE.
- A CONTRACTOR PAID FOR, VA APPROVED SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER SHALL PROVIDE TESTING AND INSPECTION SERVICES FOR FOUNDATION AND EARTHWORK. PRIOR TO REQUESTING A VA FOUNDATION INSPECTION, OBTAIN WRITTEN DOCUMENTATION FROM THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER THAT THE FOUNDATION AND EARTHWORK IS IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS.
- NOTIFY THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER 48 HOURS IN ADVANCE OF THE TIME WHEN THE REPORT IS TO BE PROVIDED. FOUNDATION AND EARTHWORK WILL BE COMPLETE AND READY FOR FORMS OR REINFORCING PLACEMENT. NO FORMS OR REINFORCING SHALL BE PLACED IN ANY FOUNDATION UNTIL THE EXCAVATION HAS BEEN INSPECTED AND APPROVED BY THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER.
- FOUNDATIONS SHALL EXTEND INTO FIRM BEARING IN UNDISTURBED SOIL, OR WHERE REQUIRED, IN COMPACTED FILL MATERIAL OR CONTROLLED LOW-STRENGTH MATERIAL, PER THE CONSTRUCTION DOCUMENTS. FOUNDATION DEPTHS SHOWN ON THE CONSTRUCTION DOCUMENTS ARE MINIMUM DEPTHS ONLY. FOUNDATION EXCAVATIONS MAY BE REQUIRED TO BE OVER-EXCAVATED TO REACH SUITABLE BEARING MATERIAL. WHERE THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER HAS DETERMINED OVER-EXCAVATION IS REQUIRED, THE REMOVED MATERIAL MAY BE REPLACED WITH COMPACTED FILL MATERIAL OR CONTROLLED LOW-STRENGTH MATERIAL, PER THE CONSTRUCTION DOCUMENTS.
- FOUNDATIONS BELOW GRADE SHALL BE FORMED UNLESS WRITTEN DOCUMENTATION PERMITTING UNFORMED FOOTINGS IS OBTAINED FROM THE SPECIAL INSPECTOR/GEOTECHNICAL ENGINEER. FORWARD WRITTEN DOCUMENTATION TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO THE START OF FOUNDATION EXCAVATIONS. THE SIDES OF UNFORMED FOUNDATION EXCAVATIONS MUST BE ABLE TO STAND WITHOUT CAVING OR SLOUGHING. PROVIDE FORMS OR PROTECTION AS REQUIRED TO PREVENT SLOUGHING OF SOIL INTO EXCAVATIONS. WHERE UNFORMED FOUNDATIONS ARE USED, COORDINATE AND COMPLY WITH THE CONCRETE PROTECTION REQUIREMENTS FOR REINFORCEMENT PLACED ADJACENT TO EARTH. FOUNDATIONS ABOVE GRADE SHALL BE FORMED. ALL FORMS SHALL BE REMOVED ABOVE OR BELOW GRADE, UNLESS OTHERWISE NOTED.
- THE TOP SURFACE OF FOUNDATIONS SHALL BE LEVEL. THE BOTTOM SURFACE OF FOUNDATIONS IS PERMITTED TO HAVE A SLOPE NOT EXCEEDING ONE UNIT VERTICAL IN TEN UNITS HORIZONTAL. FOOTINGS SHALL BE FORMED SUCH THAT IT IS NECESSARY TO CHANGE THE ELEVATION OF THE TOP SURFACE OF THE FOOTING OR WHERE THE SURFACE OF THE GROUND AND/OR BOTTOM SURFACE OF THE FOOTINGS SLOPES MORE THAN ONE UNIT VERTICAL IN TEN UNITS HORIZONTAL. STEP FOOTINGS AS REQUIRED PER TYPICAL DETAILS.
- THE TOP OF EXTERIOR FOOTINGS SHALL BE LOCATED 4 INCHES MINIMUM BELOW LOWEST ADJACENT EXTERIOR FINISHED GRADE OR SURFACE, UNLESS OTHERWISE NOTED. WHERE ADJACENT EXTERIOR FINISHED GRADE OR SURFACE SLOPES DOWN AND AWAY FROM THE FOUNDATION, THE TOP OF EXTERIOR FOOTINGS SHALL BE NO HIGHER THAN THE ELEVATION OF THE FINISHED GRADE OR SURFACE LOCATED 18 INCHES FROM THE FACE OF SUCH FOOTING, UNLESS OTHERWISE NOTED. STEP FOOTINGS AS REQUIRED PER TYPICAL DETAILS TO OBTAIN THE MINIMUM DIMENSIONS REQUIRED.
- FOUNDATION DEPTHS SHOWN ON THE CONSTRUCTION DOCUMENTS ARE MINIMUM DEPTHS ONLY AND DO NOT NECESSARILY ACCOUNT FOR ALL PIPES, CONDUITS, UTILITIES AND OTHERS ADJACENT TO OR CROSSING FOOTINGS AS REQUIRED BY ALL OTHER CONSTRUCTION DOCUMENTS. STEP FOOTINGS TO COMPLY WITH THE REQUIREMENTS OF TYPICAL DETAILS FOR PIPES AND CONDUITS AT FOOTINGS.
- FOR DAMP-PROOFING, WATER-PROOFING AND DRAINAGE SYSTEMS ADJACENT TO FOUNDATIONS, SEE ALL OTHER CONSTRUCTION DOCUMENTS.
- FOUNDATION ELEMENTS SHOWN ARE INDICATED IN THEIR COMPLETED LOCATION AND CONDITION. FILL AROUND FOUNDATION ELEMENTS SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE OR MOVE THE FOUNDATION. WATER-PROOFING OR DAMP-PROOFING, SHORE AND ADEQUATELY SUPPORT FOUNDATION ELEMENTS WHILE PLACING FILL UNTIL THE FOUNDATION ELEMENTS AND THEIR SUPPORTING STRUCTURAL ELEMENTS HAVE BEEN COMPLETED AND ATTAINED THEIR REQUIRED DESIGN STRENGTHS.
- FOUNDATION EXCAVATIONS SHALL BE CLEANED OF DEBRIS, LOOSE SOIL AND STANDING WATER DURING CONSTRUCTION AND IMMEDIATELY PRIOR TO CONCRETE PLACEMENT. PROVIDE FOR DE-WATERING IF WATER IS PRESENT IN THE EXCAVATIONS DUE TO ANY SOURCE.
- FOUNDATION EXCAVATIONS SHALL BE MADE TO THE SIZES AND SHAPES REQUIRED BY THE CONSTRUCTION DOCUMENTS. NO MATERIAL IS TO BE EXCAVATED UNNECESSARILY.
- EXTERIOR FINISHED GRADES OR SURFACES SHALL HAVE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS. GROUND SURFACES WITHIN TEN FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 5%. PAVED SURFACES WITHIN TEN FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF 2%. PLANTERS SHALL HAVE ADEQUATE SURFACE DRAINAGE TO PREVENT STANDING WATER ADJACENT TO THE FOUNDATIONS.
- WHERE EXCAVATIONS OCCUR ADJACENT TO EXISTING STRUCTURES, PROVIDE ADEQUATE UNDERPINNING, SHORING OR SUPPORT TO PREVENT SETTLEMENT AND LATERAL MOVEMENT OF THE EXISTING FOUNDATIONS. FOUNDATIONS ADJACENT TO EXISTING FOUNDATIONS SHALL PENETRATE A MINIMUM OF THE SAME DEPTH AS EXISTING, UNLESS OTHERWISE NOTED.
- FOUNDATION SIZES SHALL BE AS REQUIRED ON THE CONSTRUCTION DOCUMENTS. THE MINIMUM DEPTH NOTED SHALL BE BELOW THE ADJACENT UNDISTURBED GROUND SURFACE. THE MINIMUM DEPTH SHALL ALSO EXTEND BELOW THE FROST LINE OF THE LOCALITY. FOOTINGS SHALL NOT BEAR ON FROZEN SOIL.

REINFORCED CONCRETE

S- 033000 N002A

- CONCRETE MATERIALS, QUALITY CONTROL AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318.
- CONCRETE SHALL BE NORMAL-WEIGHT (150 PCF) AND ATTAIN 28-DAY COMPRESSIVE STRENGTHS AS FOLLOWS:
 - FOUNDATIONS - 3000 PSI (W/C = 0.50)
 - SLAB ON GRADE - 4000 PSI (W/C = 0.50)
 - EXCEPT THE FOLLOWING CONCRETE SHALL BE LIGHTWEIGHT (110 PCF):
 - CONCRETE FILL OVER STEEL DECK - 4000 PSI (W/C = 0.50)
- PORTLAND CEMENT SHALL CONFORM TO ASTM C150, TYPE II.
- AGGREGATES SHALL CONFORM TO ASTM C33 FOR NORMAL-WEIGHT AND ASTM C330 FOR LIGHTWEIGHT CONCRETE. MAXIMUM AGGREGATE SIZE USED IN MIXES SHALL BE APPROPRIATE FOR FORM AND REBAR CLEARANCES TO BE ENCOUNTERED.
- REINFORCING STEEL SHALL CONFORM TO ASTM A706, GRADE 60.
- REINFORCING STEEL TO BE WELDED SHALL CONFORM TO ASTM A706, GRADE 60. WELD FILLER METAL FOR REINFORCING STEEL SHALL COMPLY WITH AWS D1.4, F4-H80 KSI. WELDING SHALL CONFORM WITH AWS D1.4.
- WELDED WIRE REINFORCEMENT SHALL BE COMPOSED OF FLAT SHEETS AND CONFORM TO ASTM A185.
- DIMENSIONS LOCATING REINFORCING STEEL ARE TO THE FACE OF REINFORCING STEEL AND DENOTE CLEAR COVERAGE. MINIMUM CONCRETE COVER SHALL BE AS FOLLOWS, UNO:
 - CONCRETE CAST AGAINST EARTH (EXCEPT SLAB ON GRADE) - 3"
 - SLAB ON GRADE - CENTER REINFORCING IN SLAB, UNO.
 - CONCRETE FORMED & EXPOSED TO EARTH OR WEATHER:
 - #1 THRU #18 BARS - 2"
 - #5 BAR, W31 OR D31 WIRE, & SMALLER - 1 1/2"
 - CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH THE GROUND:
 - BEAMS & COLUMNS - 1 1/2"
 - SLABS & WALLS - #14 & #18 BARS - 1 1/2", #11 BAR & SMALLER - 3/4"
- SPLICES IN CONTINUOUS REINFORCING SHALL BE LAPPED AS NOTED IN THE TYPICAL DETAIL. UNO SPLICES IN ADJACENT BARS SHALL BE STAGGERED SO THERE IS NO OVERLAP. LAP SPLICES OF #14 & #18 REBAR IS NOT PERMITTED AND BARS SHALL BE CONTINUOUS ONE PIECE FOR THE FULL LENGTH SHOWN. LAP SPLICES OF REBAR IN A BUNDLE SHALL BE EQUAL TO THE LAP SPlice LENGTH REQUIRED FOR THE INDIVIDUAL BARS WITHIN THE BUNDLE MULTIPLIED BY 1.33. INDIVIDUAL BAR SPLICES WITHIN A BUNDLE SHALL NOT OVERLAP. ENTIRE BUNDLES SHALL NOT BE LAP SPICED.
- UNLESS DETAILLED OTHERWISE: REINFORCING IN CONTINUOUS BEAMS AND SPANDRELS SHALL HAVE THE TOP BARS SPLICED AT MID-SPAN AND THE BOTTOM BARS SPLICED AT THE CENTERLINE OF SUPPORTS. REINFORCING IN CONTINUOUS SOIL-BEARING GRADE BEAMS OR FOOTINGS SHALL HAVE THE TOP BARS SPLICED AT CENTERLINE OF COLUMN SUPPORTS AND THE BOTTOM BARS SPLICED AT MID-SPAN. AT DISCONTINUOUS ENDS, THE BARS SHALL BE TERMINATED WITH A STANDARD HOOK EXTENDED TO THE FAR FACE OF THE SUPPORT OR BEAM.
- PROVIDE FOUNDATION DOWELS TO MATCH GRADE, QUANTITY, SIZE & SPACING OF WALL/COLUMN REINFORCEMENT. EXTEND DOWELS INTO FOOTINGS AND TERMINATE WITH A STANDARD HOOK 3" ABOVE BOTTOM OF FOOTING, UNO. PROVIDE STANDARD LAP AT DOWELS TO EACH WALL/COLUMN REBAR.
- HOOKS SHALL BE STANDARD HOOKS, UNO.
- ITEMS TO BE EMBEDDED IN CONCRETE, SUCH AS REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC SHALL BE SECURELY TIED AND SUPPORTED PRIOR TO PLACING CONCRETE.
- THE LOCATION OF SLAB ON GRADE JOINTS SHALL BE AS INDICATED ON THE DRAWINGS. SLAB ON GRADE JOINT SPACINGS ARE NOT TO EXCEED 12'-0" IN EITHER DIRECTION, UNO. SUBMIT LOCATION PLAN FOR ALL PROPOSED JOINTS FOR REVIEW.
- CONSTRUCTION JOINTS SHALL BE CLEAN, FREE OF LAITANCE, AND ROUGHENED TO A 1/4" MINIMUM AMPLITUDE.
- FORM 3/4" CHAMFER AT ALL EXPOSED WALL AND COLUMN EDGES AND CORNERS, UNO.
- EXTERIOR SLABS INCLUDING SIDEWALKS SHALL BE 4" MIN THICKNESS AND HAVE 6x6 W1.4W11.4 WWF IN CENTER OF SLAB, UNO.
- NO CONDUIT, PIPE, OR SLEEVES LARGER THAN 1" OD SHALL BE PLACED IN OR THROUGH CONCRETE BEAMS OR SLABS UNLESS SPECIFICALLY DETAILED AND APPROVED BY THE STRUCTURAL ENGINEER. CONDUIT OR PIPES 1" OD AND SMALLER SHALL BE SPACED & POSITIONED SUCH THAT THE EFFECTIVENESS OF THE REBAR IS NOT REDUCED.
- WHEN INSTALLING ANCHORS (POST-INSTALLED EXPANSION AND CHEMICAL ANCHORS OR SPLICED BUT NOT OTHERWISE: LOCATE ALL REINFORCING AT AFFECTED AREAS USING NON-DESTRUCTIVE MEANS PRIOR TO INSTALLING ANCHORS OR DRILLING/CORING HOLES. LOCATE EDGE OF ANCHORS OR HOLES NO CLOSER THAN 1" FROM FACE OF REINFORCING.

POST INSTALLED ANCHORS

S- 056000 N002A

- THESE NOTES SHALL APPLY TO THE INSTALLATION, INSPECTION, AND TESTING OF EXPANSION, ADHESIVE, AND SCREW ANCHORS. USE SPECIFIC PRODUCTS WHERE INDICATED. IF A SPECIFIC PRODUCT / MANUFACTURER IS NOT NOTED, SELECT ANCHOR FROM THE PROVIDED TABLES BASED ON ANCHOR TYPE, DIAMETER AND BASE MATERIAL.
- INSTALLATION
- INSTALL PER REQUIREMENTS OF THE EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS FOR THE SPECIFIC ANCHOR.
 - ANCHOR INSTALLATION SHALL MEET THE MINIMUM EMBEDMENT, EDGE DISTANCE, SPACING, AND BASE MATERIAL THICKNESS CRITERIA ESTABLISHED BY THE RELEVANT EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
 - ANCHOR INSTALLATION & CURE TEMPERATURES SHALL FOLLOW EVALUATION AGENCY REPORT & MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS.
 - WHEN INSTALLING ANCHORS IN CONCRETE OR MASONRY, DO NOT CUT OR DAMAGE REINFORCING BARS. MAINTAIN A MINIMUM CLEARANCE OF ONE INCH BETWEEN THE REINFORCEMENT AND THE ANCHOR.
- INSPECTION
- PROVIDE SPECIAL INSPECTION AS REQUIRED BY THE EVALUATION AGENCY REPORT AND VA WHERE EVALUATION AGENCY REPORT PERMITS EITHER PERIODIC OR CONTINUOUS INSPECTION, USE PERIODIC.
- TESTING
- ANCHORS IN ACCORDANCE WITH THE EVALUATION AGENCY REPORT AND VA REQUIREMENTS FOR THE SPECIFIC ANCHOR AND IN ACCORDANCE WITH THE FREQUENCIES AND TEST METHODS LISTED BELOW.
 - TESTS SHALL BE PERFORMED IN THE PRESENCE OF THE PROJECT INSPECTOR AND A REPORT OF THE TEST RESULTS SHALL BE SUBMITTED TO THE VA AND STRUCTURAL ENGINEER.
 - REACTION LOADS FROM TEST FIXTURE(S) MAY BE APPLIED CLOSE TO THE ANCHOR BEING TESTED, PROVIDED THE ANCHOR IS NOT RESTRAINED BY THE FIXTURE(S) FROM WITHDRAWING.
 - TEST METHOD SHALL BE AS NOTED FOR SPECIFIC ANCHOR TYPES AND THE FOLLOWING CRITERIA APPLY FOR THE ACCEPTANCE OF INSTALLED ANCHORS:
 - HYDRAULIC RAM METHOD (TENSION TESTING):
 - THE ANCHOR SHALL MAINTAIN THE TEST LOAD FOR 15 SECONDS AND SHALL HAVE NO OBSERVABLE MOVEMENT AT THE APPLICABLE TEST LOAD. A PRACTICAL WAY TO DETERMINE OBSERVABLE MOVEMENT IS THAT THE WASHER UNDER THE NUT BECOMES LOOSE.
 - TORQUE WRENCH METHOD (TORQUE TESTING):
 - THE APPLICABLE TEST TORQUE MUST BE REACHED WITHIN THE FOLLOWING LIMITS:
 - ONE-HALF (1/2) TURN OF THE NUT, TYP UNO.
 - ONE-QUARTER (1/4) TURN OF THE NUT FOR THE 3/8" SLEEVE ANCHOR ONLY.
 - ONE-QUARTER (1/4) TURN OF THE SCREW AFTER INITIAL SEATING OF THE SCREW HEAD FOR SCREW ANCHORS.
 - TESTING FREQUENCIES SHALL BE AS INDICATED IN THE TABLE BELOW. WHEN MULTIPLE ANCHORS ARE USED IN A SINGLE GROUP OR CONNECTION, THE PERCENT OF ANCHORS TESTED AT EACH LOCATION SHALL BE AS INDICATED BELOW.
 - IF ANY ANCHOR FAILS TESTING, ALL ANCHORS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED SHALL BE TESTED UNTIL 10 CONSECUTIVE ANCHORS PASS, THEN THE INITIAL TESTING FREQUENCY SHALL BE RESUMED.

TESTING FREQUENCY	
APPLICATION	PERCENT OF ALL ANCHORS
SKILL PLATE BOLTING AND REBAR AT SLAB ON GRADE, UNO	5 PERCENT
STRUCTURAL EXCLUDING SKILL PLATE BOLTING	50 PERCENT
NON-STRUCTURAL INCLUDING EQUIPMENT ANCHORAGE	25 PERCENT

ADHESIVE ANCHORS IN CONCRETE

S- 056000 N006A

- REFERENCES TO "EPOXY" OR "CHEMICAL" ANCHORS EMBEDDED IN CONCRETE SHALL REFER TO THESE NOTES.
- ACCEPTABLE ADHESIVE PRODUCTS ARE:
 - "HILTI" HIT-RE 500-SD (ICC ESR 2322)
 - "HILTI" HIT-HY-200 (ICC ESR-3187)
 - "SIMPSON" SET-XP (ICC ESR-2698)
 - "SIMPSON" AT-XP (APMO ER-263)
- THREADED ROD AND REBAR USED W/ ADHESIVE ANCHORS SHALL MEET THE REQUIREMENTS OF THE EVALUATION AGENCY REPORT.
- EMBEDMENT DEPTHS SHALL BE 8 TIMES THE NOMINAL DIAMETER OF ANCHOR, UNO.
- TEST LOADS SHALL BE AS INDICATED IN DRAWINGS. IF NO TEST LOAD IS SPECIFIED, TEST LOAD SHALL BE 1000 LBS.

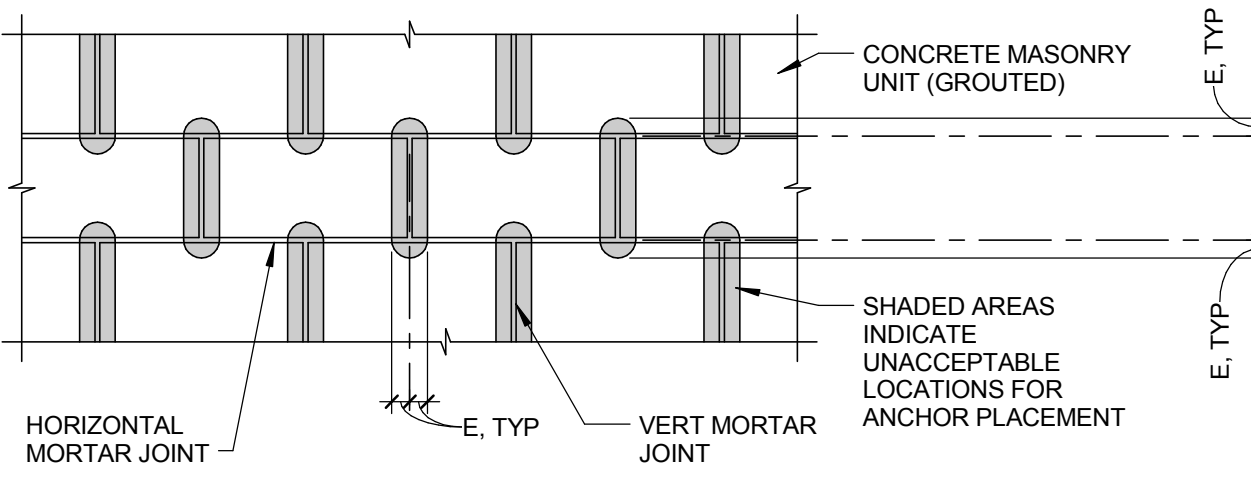
ADHESIVE ANCHORS IN MASONRY

S- 056000 N006A

- REFERENCES TO "EPOXY" OR "CHEMICAL" ANCHORS EMBEDDED IN MASONRY SHALL REFER TO THESE NOTES.
- THREADED ROD AND REBAR USED W/ ADHESIVE ANCHORS SHALL MEET THE REQUIREMENTS OF THE EVALUATION AGENCY REPORT.
- WHEN REBAR IS EMBEDDED USING AN ADHESIVE, ANCHOR DIA SHALL BE THE NOMINAL BAR DIAMETER.
- EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO.

ATR & REBAR WITH "HILTI" HIT HY-70 INSTALLED IN GROUT FILLED CONCRETE MASONRY (f _m = 1500 PSI MIN) (ICC REPORT ESR 2682)						
	IN FACE OF WALL (E= 0" ANCHORS MAY BE INSTALLED IN VERTICAL MORTAR JOINTS)				IN TOP OF WALL (INSTALL IN GROUT ONLY)	
ANCHOR DIA	3/8"	1/2"	5/8"	3/4"	1/2"	5/8"
STD EMBED, H _{min} (H _{ef} + H _{min})	3 3/8"	4 1/2"	5 5/8"	6 3/4"	4 1/2"	5 5/8"
TENSION TEST LOAD (LBS)	2480	4070	5680	7620	3250	3180

ATR & REBAR WITH "SIMPSON" SET-XP INSTALLED IN GROUT FILLED CONCRETE MASONRY (f _m = 1500 PSI MIN) (APMO REPORT ER 265)						
	IN FACE OF WALL (E = 1 1/2")				IN TOP OF WALL (INSTALL IN GROUT ONLY)	
ANCHOR DIA	3/8"	1/2"	5/8"	3/4"	1/2"	5/8" 7/8"
STD EMBED, H _{min} (H _{ef} = H _{min})	3 3/8"	4 1/2"	5 5/8"	6 3/4"	4 1/2"	5 5/8" 7 7/8"
TENSION TEST LOAD (LBS)	2980	3650	3790	3790	2970	3400 3220



- ANCHOR PLACEMENT NOTES:
- ANCHORS MUST BE INSTALLED A MINIMUM DISTANCE, E, FROM ANY VERTICAL MORTAR JOINT AS SHOWN.
 - ANCHOR LOCATIONS ARE LIMITED TO ONE PER MASONRY CELL WITH A MINIMUM SPACING OF 8" ON CENTER.

POWER ACTUATED FASTENERS

S- 056000 N002A

- NO "SHOT-IN" ANCHORS SHALL BE USED IN BUILDING 1 OR 2 DUE TO THE AGE OF CONCRETE.
- FASTENERS SHALL HAVE A CURRENT ICC-ES EVALUATION REPORT QUALIFIED BY ICC-ES AC-70 FOR THE BASE MATERIAL TO RECEIVE THE FASTENER.
- INSTALLATION OF FASTENERS SHALL BE IN ACCORDANCE WITH THE ICC-ES REPORT. UNO, INSTALL FASTENERS WITH SUFFICIENT EDGE DISTANCE AND SPACING TO ACHIEVE FULL CAPACITY.
- FASTENERS TO MASONRY ARE NOT PERMITTED UNLESS THE ICC-ES REPORT SPECIFICALLY STATES THE ANCHORS ARE APPROVED FOR SEISMIC LOADING IN MASONRY.
- FASTENERS TO CONCRETE SHALL BE 0 1/32" MIN DIAMETER WITH 1" MIN EMBEDMENT INTO CONCRETE, TYP UNO.
- FASTENERS TO STRUCTURAL STEEL SHALL BE 0.145" MIN DIAMETER WITH EMBEDMENT TO STEEL PER MANUFACTURER, TYP UNO.
- FASTENERS MAY NOT BE USED FOR TENSION LOADS EXCEPT FOR THE FOLLOW CONDITIONS:
 - VERTICAL EXPANSION WIRES FOR ACUSTICAL TILE OR LAY-IN CEILINGS
 - ANCHORING MECH DUCTS, CONDUITS, ETC WHERE THE TENSION LOAD ON EACH ANCHOR DOES NOT EXCEED 90 LBS FOR FASTENERS IN CONCRETE OR 250 LBS FOR FASTENERS IN STRUCTURAL STEEL
- THE OPERATOR, TOOL, & FASTENER SHALL BE PREQUALIFIED BY THE PROJECT INSPECTOR WHO SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENER INSTALLATIONS. THEREAFTER, RANDOM TESTS UNDER THE PROJECT INSPECTOR'S SUPERVISION SHALL BE MADE TO APPROXIMATELY 1 IN 10 PINS. IF ANY PIN FAILS, TEST ALL PINS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL 20 CONSECUTIVE PASS, THEN RESUME THE INITIAL TESTING FREQUENCY.
- TENSION TEST LOAD SHALL BE 1 1/4 TIMES THE TENSION CAPACITY LISTED IN THE ICC-ES REPORT.
- TEST LOAD SHALL BE APPLIED TO THE PIN IN SUCH A MANNER AS NOT TO RESIST THE SPALLING TENDENCY OF THE CONCRETE SURROUNDING THE PIN.
- TESTING IS NOT REQUIRED FOR FASTENERS USED AT SILLS OF INTERIOR NON-STRUCTURAL WALLS PROVIDED THERE ARE A MINIMUM OF (3) FASTENERS PER SEGMENT OF SILL.
- A REPORT OF TEST RESULTS SHALL BE SUBMITTED TO THE VA AND STRUCTURAL ENGINEER.

EXPANSION ANCHORS IN CONCRETE

S- 056000 N006A

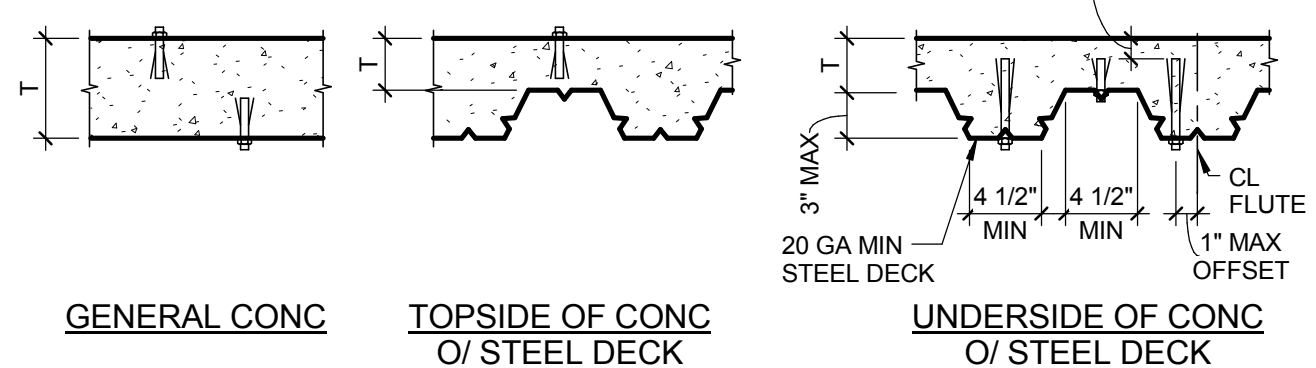
- EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO. ALL EMBEDMENTS SPECIFIED ARE NOMINAL EMBEDMENT DEPTHS. REFER TO EVALUATION AGENCY REPORT FOR EFFECTIVE EMBEDMENTS.

"HILTI" KWIK BOLT-TZ INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f _c = 3000 PSI MIN) (ICC REPORT ESR 1917)						
	GENERAL CONCRETE & TOPSIDE OF CONG O/ STEEL DECK				UNDERSIDE OF CONG O/ STEEL DECK	
ANCHOR DIA	3/8"	1/2"	5/8"	3/4"	3/8"	1/2" 5/8"
STD EMBED, H _{min} TYP UNO	2 5/16"	** 3 5/8"	4 1/2"	5 5/8"	2 3/8"	2 3/8" 3 5/8"
MIN CONG THICKNESS, T	4"	6"	6"	8"	SEE DIAGRAM BELOW T = 1 1/2" MIN, C = 5/8" MIN	
TORQUE TEST LOAD (LB-FT)	25	40	60	110	25	40 60

* T = 3 1/4" MIN AT TOPSIDE OF CONG O/ STEEL DECK
** STD EMBED = 2 3/8" AT TOPSIDE OF CONG O/ STEEL DECK

"SIMPSON" STRONG-BOLT 2 INSTALLED IN NORMAL WEIGHT OR LIGHT WEIGHT CONCRETE (f _c = 3000 PSI MIN) (ICC REPORT ESR 3037)							
	GENERAL CONCRETE & TOPSIDE OF CONG O/ STEEL DECK				UNDERSIDE OF CONG O/ STEEL DECK		
ANCHOR DIA	3/8"	1/2"	5/8"	3/4"	3/8"	1/2"	5/8"
STD EMBED, Min TYP UNO	2"	2 3/4"	3 3/8"	4 1/8"	2"	2 3/4"	3 3/8"
MIN CONG THICKNESS, T	3 1/4"	* 4 1/2"	5 1/2"	6 3/4"	SEE DIAGRAM BELOW T = 1 1/2" MIN, C = 1/2" MIN		
TORQUE TEST LOAD (LB-FT)	30	60	90	150	30	60	90

* T = 3 1/4" MIN AT TOPSIDE OF CONG O/ STEEL DECK



EXPANSION ANCHORS IN MASONRY

S- 056000 N006A

- EMBEDMENT SHALL BE AS INDICATED IN THE TABLE BELOW, TYP UNO.

"HILTI" KWIK BOLT-3 INSTALLED IN GROUT-FILLED MASONRY WALLS

1

2

3

4

5

6

7

8

9

STRUCTURAL STEEL

S- 051200 N001A

1. THE DESIGN, FABRICATION AND ERECTION OF STEEL SHALL BE IN ACCORDANCE WITH AISC 360 AND AISC 341 INCLUDING ANY VA AMENDMENTS.

2. STEEL MATERIALS SHALL CONFORM TO THE FOLLOWING UNO:

STEEL PRODUCT

ASTM SPECIFICATION, UNO

COMMENTS

W & WT SHAPES

A572, GRADE 50

Fy = 50ksi

HP SHAPES

A572, GRADE 50

Fy = 50ksi

M, MT, S & ST SHAPES

A36

Fy = 36ksi

CHANNELS (C & MC)

A36

Fy = 36ksi

ANGLES

A36

Fy = 36ksi

PLATES & BARS

A36, TYP. UNO

Fy = 50ksi

RODS, PLAIN & ALL-THREADED

A36

Fy = 36ksi

RAISED PATTERN FLOOR PLATE

A36, MEETING ASTM A36

Fy = 36ksi

PIPES

A53, GRADE B

Fy = 35ksi

ROUND HSS

A500, GRADE B

Fy = 42ksi

RECTANGULAR & SQUARE HSS

A500, GRADE B

Fy = 42ksi

HIGH-STRENGTH BOLTS

A325, HEAVY HEX, TYPE I

Fy = 92ksi

TWIST-OFF-TYPE TENSION-CONTROL BOLTS

F1552, TYPE 1

Fy = 92ksi

BOLTS

A307, GRADE A, HEX

Fy = 60ksi

WASHERS

F844

Fy = 36ksi

PLATE WASHERS

A36

Fy = 36ksi

HARDENED WASHERS

F436, TYPE I

Fy = 36ksi

DIRECT-TENSION INDICATOR WASHERS

F690, TYPE 325

Fy = 36ksi

NUTS FOR HS & TENSION CONTROL BOLTS

A563, GRADE C, HEAVY HEX

Fy = 36ksi

NUTS FOR BOLTS & RODS

GRADE DH IF GALVANIZED

Fy = 36ksi

ANCHOR BOLTS & RODS

GRADE DH IF GALVANIZED

Fy = 36ksi

(HEADED OR THREADED & NUTTED)

F1554, CLASS 2A, S3

Fy = 105ksi

WELDED HEADED STUDS, SHEAR STUDS,

GRADE 36 TYP. UNO

Fy = 55ksi

& WELDED THREADED STUDS

GRADE 55, S1 & S4

Fy = 105ksi

DEFORMED BAR ANCHORS

GRADE 105, S4 & S5

Fy = 105ksi

WELD FILLER METAL

A108, GRADES 1010 - 1020

Fy = 75ksi

TURNBUCKLES

A496

Fy = 70ksi

CLEVISSES, CLEVIS PINS, COTTER PINS

AWSS D1.1

Fy = 70ksi

EYEENUTS & EYEBOLTS

F1145 & AISI C-1035

Fy = 70ksi

SLEEVE NUTS

AISI C-1035

Fy = 70ksi

RECESSED NUTS & PINS

AISI C-1018, GRADE 2

Fy = 70ksi

COUPLING NUTS

A36

Fy = 70ksi

12.14 CARBON STEEL

A15

Fy = 70ksi

13. EXPOSED INTERIOR STEEL SHALL RECEIVE ONE COAT OF PRIMER PAINT, UNO. DO NOT PAINT SURFACES IN DIRECT CONTACT WITH CONCRETE OR MASONRY, WHERE FIELD WELDING IS REQUIRED. WHERE FIRE-PROOFING IS REQUIRED OR CONTACT SURFACES OF STEEL TO STEEL, AND DECK-TO-STEEL CONNECTIONS, CONCEALED STEEL DOES NOT REQUIRE PAINT, UNO.

14. EXPOSED EXTERIOR STEEL & FASTENERS SHALL BE HOT DIP GALVANIZED, UNO, PROVIDE FILL AND VENT HOLES AT ENCLOSED SPACES OF HOLLOW PIECES, SEAL HOLES WATER-TIGHT AFTER GALVANIZING. PROVIDE DRAIN HOLES AS REQUIRED AT SOLID PIECES. HOLE SIZES AND LOCATIONS SHALL NOT DETRIMENTALLY AFFECT THE PIECES STRUCTURAL CAPACITY AND ARE SUBJECT TO THE STRUCTURAL ENGINEERS REVIEW.

15. EXPOSED STEEL MEMBERS AND ELEMENTS SHALL BE FABRICATED AND ERECTED TO CONFORM TO THE REQUIREMENTS OF AISC ARCHITECTURALLY EXPOSED STRUCTURAL STEEL.

16. PROVIDE CONCRETE / MASONRY COVER AT STEEL BELOW GRADE. STEEL EMBEDDED IN CONCRETE CAST AGAINST EARTH SHALL HAVE 2" MIN COVER. STEEL EMBEDDED IN FORMED CONCRETE OR MASONRY SHALL HAVE 2" MIN COVER.

17. WELDING MATERIALS & PROCEDURES SHALL CONFORM WITH AWS D1.1.

18. MINIMUM SIZE OF FILLET WELDS: 1/8" FOR MATERIAL 1/8" TO 1/4" THICK, 3/16" FOR MATERIAL OVER 1/4" TO 1/2" THICK, 1/4" FOR MATERIAL OVER 1/2" TO 3/4" THICK, AND 5/16" FOR MATERIAL OVER 3/4" THICK. MATERIAL THICKNESS IS FOR THINNER PART JOINED. SINGLE PASS WELDS MUST BE USED FOR SIZES SHOWN. SIZE OF WELD IS LEG DIMENSION OF FILLET. MINIMUM EFFECTIVE LENGTH OF FILLET WELDS SHALL BE NOT LESS THAN FOUR TIMES THE FILLET SIZE. MINIMUM EFFECTIVE LENGTH OF INTERMITTENT FILLET WELDS SHALL BE 1' 1/2".

19. GROOVE WELDS SHALL BE COMPLETE JOINT PENETRATION WELDS, UNO. GROOVE WELDS SHALL BE TERMINATED AT THE END OF JOINTS IN A MANNER THAT WILL ENSURE SOUND WELDS. USE WELD TABS AND BACKING BARS ALIGNED TO PROVIDE AN EXTENSION OF THE JOINT PREPARATION. REMOVE EXTENSIONS UPON COMPLETION & COOLING OF THE WELD. GRIND ENDS OF THE WELD SMOOTH AND FLUSH WITH THE EDGES OF THE ABUTTING PARTS.

20. WHERE "ALL AROUND" FILLET WELDS ARE INDICATED AT CONCEALED/NOT-EXPOSED SQUARE OR RECTANGULAR HSS CONNECTIONS TO PLATES, FILLET WELDS ARE NOT REQUIRED AT RADIUSED CORNERS, UNO.

21. BOLTS FOR STEEL-TO-STEEL CONNECTIONS SHALL BE PLACED IN STANDARD SIZE HOLES, TYP UNO. BOLTS FOR STEEL-TO-CONCRETE/MASONRY CONNECTIONS SHALL BE PLACED IN ANCHOR ROD HOLES, TYP UNO. HOLE DIMENSIONS SHALL BE AS SHOWN IN TABLES BELOW. USE STANDARD AISC PITCH & GAUGE FOR BOLTED CONNECTIONS, UNO.

22. BOLTS AND RODS SHALL BE CUT-THREAD TYPE WITH FULL DIAMETER BODY STYLE MEETING REQUIREMENTS OF ASME B18.2.1. THE BODY DIAMETER SHALL NOT BE LESS THAN THE MINIMUM MAJOR DIAMETER WHEN THREADS ARE CUT. REDUCED DIAMETER BODY STYLE ROLLED THREAD BOLTS OR RODS ARE NOT PERMITTED.

23. STEEL-TO-STEEL BOLTED CONNECTIONS SHALL BE ASSEMBLED UTILIZING HIGH-STRENGTH OR TWIST-OFF-TYPE TENSION CONTROL BOLT ASSEMBLIES, UNO. A BOLT ASSEMBLY CONSISTS OF A MINIMUM OF A BOLT, A HARDENED WASHER AND A NUT. THE HARDENED WASHER SHALL BE PLACED UNDER THE TURNED ELEMENT OF THE BOLT ASSEMBLY. ALSO PROVIDE A HARDENED WASHER AT BOLT HEADS OR NUTS BEARING ON SHORT SLOTTED HOLES. ALSO PROVIDE A 5/16" MINIMUM THICKNESS PLATE WASHER OR CONTINUOUS BAR WITH STD HOLES AT BOLT HEADS OR NUTS BEARING ON LONG SLOTTED HOLES.

24. IF DIRECT-TENSION-INDICATOR (DTI) WASHERS ARE USED, A "DTI" BOLT ASSEMBLY CONSISTS OF A MINIMUM OF A HIGH STRENGTH BOLT, A HARDENED WASHER, A "DTI" WASHER AND A NUT. INSTALL THE "DTI" WITH THE BUMPS FACING THE UNDERSIDE OF THE BOLT HEAD OR NUT. THE HARDENED WASHER SHALL BE PLACED UNDER THE TURNED ELEMENT OF THE "DTI" BOLT ASSEMBLY. IF THE "DTI" IS PLACED UNDER THE TURNED ELEMENT OF THE BOLT ASSEMBLY, PLACE THE HARDENED WASHER BETWEEN THE "DTI" AND THE TURNED ELEMENT. ALSO PROVIDE A HARDENED WASHER AT "DTI" BOLT HEADS OR NUTS BEARING ON OVERSIZE OR SHORT SLOTTED HOLES. ALSO PROVIDE A 5/16" MINIMUM THICKNESS PLATE WASHER OR CONTINUOUS BAR W/ STD HOLES AT "DTI" BOLT HEADS OR NUTS BEARING ON LONG SLOTTED HOLES.

25. BOLT HEADS, NUTS OR "DTI" OF BOLTED STEEL-TO-STEEL AND STEEL-TO-CONCRETE/ MASONRY CONNECTIONS BEARING ON SLOPING SURFACES SHALL USE A BEVELED HARDENED WASHER IN THE BOLT ASSEMBLY AT THAT SURFACE.

26. HIGH-STRENGTH BOLT ASSEMBLIES SHALL BE PRE-TENSIONED. FAYING SURFACES OF HIGH-STRENGTH BOLT ASSEMBLIES SHALL BE PREPARED AS REQUIRED FOR CLASS A OR BETTER SLIP- CRITICAL JOINTS.

STEEL DECKING

S- 053100 N001A

1. DECK SHALL BE FABRICATED FROM SHEET STEEL CONFORMING TO ASTM A653, STRUCTURAL STEEL (SS) DESIGNATION, GRADE 33, Fy = 38 KSI, WITH GALVANIZED COATING ASTM G60.

2. ACCESSORIES SHALL BE FABRICATED FROM THE SAME GAUGE AND MATERIALS AS ADJACENT STEEL DECK UNO TO BE HEAVIER MATERIAL ON DRAWINGS.

3. CONCRETE FILLED STEEL DECK SHALL BE MANUFACTURED BY "ASC STEEL DECK" PER IAPMO ER 0320 (COMPOSITE STEEL FLOOR DECK).

4. DECK SHALL HAVE THE MINIMUM STRUCTURAL SECTION PROPERTIES AS GIVEN IN THE TYPICAL DETAILS. SEE PLAN FOR DECK TYPE AND GAUGE.

5. DECK SHALL BEAR 2" MINIMUM ON ALL SUPPORTS.

6. DECK SHALL BE CONTINUOUS OVER THREE SPANS MINIMUM WHERE FEASIBLE, UNO.

7. ALL WELDING MATERIALS & PROCEDURES SHALL CONFORM WITH AWS D1.3.

8. ALL CONCEALED FILLED STEEL DECK SHALL BE VENTED WITH FACTORY PUNCHED HOLES AT LOW FLUTES.

REINFORCED MASONRY

S- 042200 N001A

1. MASONRY WORK, MATERIALS, CONSTRUCTION, AND QUALITY SHALL COMPLY WITH THE REQUIREMENTS OF THE BUILDING CODE, TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6.

2. COMPLETED MASONRY ASSEMBLIES SHALL ATTAIN A 28 DAY COMPRESSIVE STRENGTH (F'M) OF 1,500 PSI MINIMUM. COMPRESSIVE STRENGTH SHALL BE VERIFIED BY THE UNIT STRENGTH METHOD.

3. HOLLOW AND SOLID CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, NORMAL WEIGHT CLASSIFICATION. UNITS SHALL HAVE A NET AREA COMPRESSIVE STRENGTH OF 1900 PSI MINIMUM.

4. MORTAR SHALL CONFORM TO ASTM C270-TYPE S.

5. MASONRY UNITS AND MORTAR SHALL CONFORM TO THE COLOR AND STYLE SPECIFIED BY ARCHITECT.

6. GROUT SHALL CONFORM TO ASTM C475 OR BE PROPORTIONED TO ATTAIN A 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI MINIMUM AS TESTED PER ASTM C1019. THOROUGHLY MIX GROUT MATERIALS AND WATER TO PROVIDE ADEQUATE FLUIDITY FOR PLACEMENT WITHOUT SEGREGATION OR SEPARATION. MIX GROUT TO A CONSISTENCY THAT HAS A SLUMP BETWEEN 9 AND 11 INCHES. GROUT PROVIDED FOR POURS OVER 4'-0" IN HEIGHT SHALL CONTAIN AN ADMIXTURE OF THE TYPE THAT REDUCES EARLY WATER LOSS TO THE MASONRY UNITS AND PRODUCES AN EXPANSIVE ACTION IN THE PLASTIC GROUT SUFFICIENT TO OFFSET INITIAL SHRINKAGE AND PROMOTE BONDING OF THE GROUT TO ALL INTERIOR SURFACES OF THE MASONRY UNITS.

7. ADDITIVES AND ADMIXTURES SHALL NOT BE USED FOR MORTAR OR GROUT UNLESS ACCEPTABLE TO THE VA. ADDITIVES AND ADMIXTURES SHALL BE USED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND EVALUATION REPORTS. EVALUATION REPORTS SHALL HAVE A CURRENT AND VALID LISTING ISSUED BY AN ACCEPTABLE EVALUATION AGENCY: ANTI-FREEZE OR AIR ENTRAINMENT SUBSTANCES SHALL NOT BE USED.

8. REINFORCING BARS SHALL CONFORM TO ASTM A615-GRADE 60 OR ASTM A706-GRADE 60. THE ACTUAL YIELD STRENGTH BASED ON MILL TESTS SHALL NOT EXCEED 1.3 TIMES THE SPECIFIED YIELD STRENGTH.

9. JOINT REINFORCEMENT SHALL CONFORM TO ASTM A651.

10. WIRE TIES/ANCHORS SHALL CONFORM TO ASTM A82.

11. SHEET METAL ANCHORS/TIES SHALL CONFORM TO ASTM A1008.

12. JOINT REINFORCEMENT, WIRE TIES/ANCHORS, AND SHEET METAL ANCHORS/TIES SHALL BE HOT-DIP GALVANIZED TO CONFORM TO ASTM A153.

13. ANCHOR BOLTS SHALL HAVE HEX HEADS AND CONFORM TO ASTM A307-GRADE A OR ASTM F1554-GRADE 36. ANCHOR RODS SHALL CONFORM TO ASTM F1554-GRADE 36 OR ASTM A36 WITH THREADED ENDS AND DOUBLE NUTS AT THE ANCHORED END. NUTS FOR BOLTS OR RODS SHALL CONFORM TO ASTM A563-GRADE A-HEX.

14. ROUGHEN CONCRETE BEARING SURFACES BY EXPOSING CLEAN AGGREGATE SOLIDLY EMBEDDED IN THE CEMENT MATRIX. BEFORE PLACING MASONRY UNITS CLEAN BEARING SURFACES AND HORIZONTAL CONSTRUCTION JOINTS OF ALL LOOSE MATERIAL, DEBRIS AND MORTAR DROPPINGS.

15. HOLLOW UNIT MASONRY SHALL BE BUILT TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE VERTICAL AND HORIZONTAL CELLS TO BE GROUTED. USE SINGLE OPEN END UNITS. ARRANGED SO THAT CLOSED ENDS OF ADJACENT UNITS DO NOT ABUT UNO. WHERE STACK BOND PATTERN IS NOTED, USE DOUBLE OPEN END UNITS.

16. MULTI-WYTHE MASONRY SHALL BE BUILT WITH SOLID UNITS IN THE OUTER WYTHES TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE SPACE TO BE GROUTED. THE TWO WYTHES SHALL BE BONDED TOGETHER WITH NO 9 WIRE RECTANGULAR WALL TIES 4" WIDE BY LENGTH EQUAL TO 2' LESS THAN OVERALL WALL THICKNESS. KINKS, WATER DRIPS, OR DEFORMATIONS ARE NOT PERMITTED IN THE WALL TIES.

17. CONSTRUCT MASONRY IN RUNNING BOND PATTERN UNO. MAINTAIN BOND PATTERNS AT CORNERS, INTERSECTIONS AND SURFACES USING FULL UNITS. PROVIDE SPECIALTY OR CUT MASONRY UNITS WHEN REQUIRED. GROUTED SPACES SHALL NOT BE VISIBLE AT EXPOSED MASONRY SURFACES. TOOTHING OF MASONRY WALLS IS PROHIBITED. RAKING IS TO BE HELD TO A MINIMUM.

18. PLACE UNITS AND MORTAR TO PROVIDE CONSISTENT THICKNESS BED AND HEAD JOINTS UNO. TOOL MORTAR JOINTS CONCAVE UNO. REMOVE MORTAR PROTRUSIONS EXTENDING 1/4" OR MORE INTO GROUTED SPACES. DURING PLACEMENT, REMOVE MORTAR DROPPINGS FROM HORIZONTAL CONSTRUCTION JOINTS, INTERIOR MASONRY SURFACES AND REINFORCING STEEL.

19. PLACE MORTAR AND MASONRY UNITS TO SOLIDLY FILL JOINTS AS FOLLOWS: BED JOINTS AT HOLLOW UNIT FACE SHELLS, END JOINTS AND FULL HEIGHT CROSS WEBS; HEAD AND END JOINTS AT OPEN ENDS OF HOLLOW UNITS FOR A MINIMUM DISTANCE FROM EACH FACE EQUAL TO THE FACE SHELL THICKNESS OF THE UNIT; HEAD AND END JOINTS AT CLOSED ENDS OF HOLLOW UNITS. JOINT LOCATIONS NECESSARY TO CONFINE GROUT; BED, HEAD AND 3/4" OR LESS COLLAR JOINTS AT SOLID UNITS.

20. PLACE JOINT REINFORCEMENT SO THAT LONGITUDINAL WIRES ARE EMBEDDED IN MORTAR JOINTS WITH MINIMUM 6" LAP SPICES. PROVIDE MINIMUM MORTAR COVER OF 1/2" FROM INTERIOR SURFACES AND 5/8" FROM EXTERNAL SURFACES.

21. MINIMUM REBAR COVER AT EXTERNAL MASONRY SURFACES SHALL BE 2" WHEN EXPOSED TO EARTH OR WEATHER AND 1 1/2" FOR ALL OTHER CONDITIONS UNO.

22. MINIMUM REBAR CLEARANCE TO INTERNAL MASONRY SURFACES SHALL BE THE GREATER OF ONE BAR DIAMETER OR 1/2" HORIZONTAL REBAR CAN BEAR ON THE CROSS WEBS OF BOND BEAM UNITS. REBAR WITH HOOKS OR BENDS SHALL BE SKEWED WITHIN CELLS TO MAINTAIN REQUIRED CLEARANCE. CONSTRUCT MASONRY AND CUT UNITS TO MAINTAIN REQUIRED CLEARANCE.

23. THE MINIMUM CLEAR DISTANCE BETWEEN PARALLEL REBAR SHALL BE THE GREATER OF ONE BAR DIAMETER OR 1". IN COLUMNS AND PILASTERS THE MINIMUM CLEAR DISTANCE BETWEEN VERTICAL REBAR SHALL BE THE GREATER OF TWO BAR DIAMETERS OR 2". THE SAME LIMITATIONS SHALL APPLY TO THE CLEAR DISTANCE BETWEEN A REBAR SPICE AND ADJACENT SPICES OR REBAR.

24. VERTICAL REINFORCING SHALL BE HELD IN POSITION AT TOP AND BOTTOM OF EACH GROUT POUR AND AT INTERVALS NOT TO EXCEED 192 BAR DIAMETERS. HORIZONTAL REINFORCING SHALL BE HELD IN POSITION AT EACH END AND AT INTERVALS NOT TO EXCEED 192 BAR DIAMETERS.

25. SPICE VERTICAL REBAR WITH FOUNDATION DOWELS THAT MATCH GRADE, QUANTITY, SIZE AND SPACING. EXTEND DOWELS INTO FOOTINGS AND TERMINATE WITH A STANDARD HOOK 3" ABOVE BOTTOM OF FOOTING UNO. DOWELS SHALL BE STRAIGHT AND PLUMB.

26. PLACE VERTICAL REBAR IN CONTINUOUS VERTICAL CELLS. PLACE HORIZONTAL REBAR IN CONTINUOUS HORIZONTAL BOND BEAM UNITS. CONSTRUCT MASONRY AND CUT UNITS TO MAINTAIN THE CLEAR AND UNOBSTRUCTED CONTINUITY OF THE REINFORCED VERTICAL AND HORIZONTAL CELLS.

27. REBAR BENDS AND HOOKS SHALL COMPLY WITH TYPICAL DETAILS UNO. HAIR PINS AND 180 DEGREE HOOKS SHALL COMPLY WITH TYPICAL DETAIL FOR STIRRUPS, HOOPS AND TIES. DO NOT BEND REBAR AFTER IT IS EMBEDDED IN GROUT OR MORTAR.

28. REBAR SPICES SHALL BE MADE BY FULL CONTACT LAP SPICES. SPICES FOR DIFFERENT REBAR SIZES SHALL BE THE LENGTH REQUIRED FOR THE LARGER REBAR. AT LOCATIONS OTHER THAN FOUNDATION DOWELS, STAGGER SPICES WITH NO OVERLAP AT MULTIPLE REBARS LOCATED IN THE SAME VERTICAL OR HORIZONTAL CELL UNO. REBAR SHALL BE LAP SPICED AS FOLLOWS UNO:
#3 BARS 40 DIA = 15"
#4 BARS 48 DIA = 24"
#5 BARS 56 DIA = 35"
#6 BARS 72 DIA = 54"
#7 BARS 72 DIA = 63"
#8 BARS 72 DIA = 72"

29. REINFORCEMENT AND EMBEDDED ITEMS SHALL BE PLACED AND ANCHORED TO PREVENT MOVEMENT PRIOR TO GROUTING. BOLTS SHALL BE SET WITH TEMPLATES OR EQUIVALENT MEANS. WHERE EMBEDDED ITEMS PASS THROUGH MASONRY SURFACES CUT A CLEAN HOLE TO PROVIDE A MINIMUM OF 1/2" GROUT ALL AROUND EMBEDDED ITEM.

30. LOW-LIFT AND HIGH-LIFT GROUTED CONSTRUCTION SHALL CONFORM TO BUILDING CODE REQUIREMENTS AND THE METHODS USED SHALL BE ACCEPTABLE TO THE VA. HIGH-LIFT GROUTING FOR GROUT POURS OVER 4'-0" IN HEIGHT MAY BE USED WHERE GROUT SPACE DIMENSIONS, OPENINGS, UNIT PATTERN ARRANGEMENTS, REINFORCING, AND EMBEDDED ITEMS DO NOT PREVENT THE FREE FLOW OF GROUT OR INHIBIT THE MECHANICAL CONSOLIDATION OF THE GROUT.

31. BEFORE GROUTING CLEAN SPACES TO BE GROUTED. REMOVE OVERHANGING MORTAR, MORTAR DROPPINGS, OBSTRUCTIONS AND DEBRIS FROM INSIDE OF SPACES TO BE GROUTED.

32. PROVIDE CLEANOUT OPENINGS IN THE BOTTOM COURSE OF MASONRY FOR EACH GROUT POUR OVER 4'-0" IN HEIGHT. CONSTRUCT OPENINGS OF SUFFICIENT SIZE AND SPACING TO PERMIT CLEANSING OF GROUT SPACES. REMOVAL OF DEBRIS AND INSPECTION. AFTER CLEANING AND INSPECTION, CLOSE CLEANOUTS WITH MORTARED MASONRY BRACED TO RESIST GROUTING PRESSURES.

33. GROUT SHALL BE PLACED SUCH THAT SPACES TO BE GROUTED DO NOT CONTAIN VOIDS. SPACES TO BE GROUTED INCLUDE ALL CELLS, BOND BEAMS, VOIDS AND SPACES CREATED BY THE MASONRY CONSTRUCTION. SPACES TO BE GROUTED SHALL BE FILLED SOLIDLY WITH GROUT UNO. PARTIAL GROUTING IS NOT PERMITTED UNLESS SPECIFICALLY NOTED. GROUTING SHALL BE PERFORMED UNDER THE CONTINUOUS OBSERVATION OF A QUALIFIED INSPECTOR.

34. THE GROUTING OF ANY SECTION OF WALL SHALL BE COMPLETED IN ONE DAY WITH NO INTERRUPTIONS GREATER THAN ONE HOUR. WHEN GROUTING IS STOPPED FOR ONE HOUR OR LONGER PROVIDE HORIZONTAL GROUT KEY CONSTRUCTION JOINTS. DO NOT FORM HORIZONTAL GROUT KEY CONSTRUCTION JOINTS IN BEAMS OR LINTELS.

35. THE SECTION OF WALL TO BE GROUTED IN ANY ONE POUR IS LIMITED TO A LENGTH IN WHICH SUCCESSIVE LIFTS CAN BE PLACED WITHIN ONE HOUR OF THE PRECEDING LIFTS. CONSTRUCT FULL-HEIGHT VERTICAL GROUT BARRIERS BETWEEN POUR SECTIONS TO CONTROL THE HORIZONTAL FLOW OF GROUT.

36. GROUT SHALL BE CONSOLIDATED BY MECHANICAL VIBRATION DURING PLACEMENT BEFORE LOSS OF PLASTICITY IN A MANNER TO FILL THE GROUT SPACE. GROUT POURS GREATER THAN 12" IN HEIGHT SHALL BE RECONSOLIDATED BY MECHANICAL VIBRATION TO MINIMIZE VOIDS DUE TO WATER LOSS. GROUT RECONSOLIDATION SHALL OCCUR AFTER EXCESS MOISTURE HAS BEEN ABSORBED BUT BEFORE WORKABILITY HAS BEEN LOST.

37. PREPARE, CONSTRUCT AND PROTECT MASONRY WORK FROM THE WEATHER UNTIL GROUTED AND CURED. IMPLEMENT COLD WEATHER CONSTRUCTION PROCEDURES WHEN THE AIR TEMPERATURE FALLS BELOW 40 DEG F. IMPLEMENT HOT WEATHER CONSTRUCTION PROCEDURES WHEN THE AIR TEMPERATURE EXCEEDS 80 DEG F.

38. CLEAN EXPOSED MASONRY SURFACES TO REMOVE STAINS, EFFLORESCENCE, MORTAR OR GROUT DROPPINGS, AND DEBRIS.

PRE-ENGINEERED STEEL STAIRS

S- 055100 N001A

1. PRE-ENGINEERED STEEL STAIRS SHALL INCLUDE DESIGN, SUPPLY AND INSTALLATION OF ALL COMPONENTS OF THE STAIRWAY SYSTEM INCLUDING, BUT NOT LIMITED TO, STRINGERS, TREADS, RISERS, PANS, FRAMING, LANDINGS, GUARD RAILS, INTERMEDIATE RAILS, PANEL FILLEES, HAND RAILS, SUPPORTS, CONNECTIONS, EMBEDS, BEARING PLATES, STRUTS, STEFFENERS, BRACING, FOUNDATIONS AND ANCHORAGE TO THE SUPPORTING BUILDING STRUCTURE.

2. STAIRWAY SYSTEMS SHALL BE DESIGNED, INCLUDING SUPPLEMENTAL STIFFENERS OR BRACING AS REQUIRED, SUCH THAT NO ECCENTRIC LOAD AND/OR TORSION IS INDUCED UPON ANY ELEMENTS OF THE SUPPORTING BUILDING STRUCTURE.

3. COMPONENTS OF THE STAIRWAY SYSTEM SHALL BE DESIGNED TO RESIST THE LOADS AND LOAD COMBINATIONS WITHIN THE LIMITATIONS SPECIFIED IN THE BUILDING CODE.

4. STAIRWAY SYSTEMS SHALL BE DESIGNED TO RESIST DEAD LOADS EQUAL TO THE SELF-WEIGHT OF THE STAIRWAY SYSTEM PLUS ANY SUPERIMPOSED DEAD LOADS INDICATED ON THE CONSTRUCTION DOCUMENTS. LIVE LOADS EQUAL TO 100 PSF UNIFORMLY APPLIED AND EARTHQUAKE LOADS USING THE CRITERIA INDICATED ON THE CONSTRUCTION DOCUMENTS.

5. EXTERIOR STAIRWAY SYSTEMS NOT COMPLETELY ENCLOSED WITHIN THE FINISHED BUILDING SHALL BE DESIGNED TO RESIST, IN ADDITION TO THE LOADS ABOVE, SNOW LOADS (INCLUDING DRIFT, SLIDING AND IMPACT LOADS) AND WIND LOADS USING THE CRITERIA INDICATED ON THE CONSTRUCTION DOCUMENTS.

6. STAIRWAY SYSTEMS SHALL BE DESIGNED TO RESIST EARTHQUAKE AND WIND LOADS. PROVIDE A COMPLETE LOAD PATH CAPABLE OF TRANSFERRING ALL LOADS GENERATED TO THE LOAD RESISTING ELEMENTS OF THE STAIRWAY SYSTEM OR SUPPORTING BUILDING STRUCTURE. DESIGN, SUPPLY AND INSTALL SUPPLEMENTAL STAIRWAY SYSTEM BRACING AS NEEDED TO RESIST THESE LOADS.

7. STAIRWAY SYSTEMS SHALL BE DESIGNED TO ALLOW UNIMPEDED HORIZONTAL MOVEMENT BETWEEN ADJACENT FLOORS EQUAL TO 0.020 x HEIGHT BETWEEN FLOORS UNLESS NOTED OTHERWISE ON THE CONSTRUCTION DOCUMENTS. STAIRWAY SYSTEMS SHALL BE ISOLATED OR INCORPORATE SLIP JOINTS AT FLOORS TO ACCOMMODATE THE HORIZONTAL MOVEMENT IN A DIRECTION PARALLEL TO THE STAIR STRINGERS.

8. HAND RAILS & GUARD RAILS, THEIR CONNECTIONS AND THE SUPPORTING STAIRWAY SYSTEM SHALL BE DESIGNED TO RESIST A CONCENTRATED LOAD OF 200 POUNDS APPLIED IN ANY DIRECTION AT ANY POINT ON THE RAIL.

9. HAND RAILS & GUARD RAILS, THEIR CONNECTIONS AND THE SUPPORTING STAIRWAY SYSTEM SHALL BE DESIGNED TO RESIST A UNIFORM LOAD OF 50 PLF APPLIED IN ANY DIRECTION ALONG THE RAIL. THESE LOADS NEED NOT BE COMBINED WITH THE CONCENTRATED LOADS ABOVE.

10. INTERMEDIATE RAILS, PANEL FILLEES, THEIR CONNECTIONS AND THE SUPPORTING STAIRWAY SYSTEM SHALL BE DESIGNED TO RESIST A LOAD OF 50 POUNDS ON AN AREA EQUAL TO 1 SQUARE FOOT APPLIED PERPENDICULAR TO THE SURFACE. INCLUDING OPENINGS AND SPACES BETWEEN RAILS. THESE LOADS NEED NOT BE COMBINED WITH THOSE APPLIED TO GUARD RAILS AND HAND RAILS.

11. INDIVIDUAL STAIR TREADS SHALL BE DESIGNED TO RESIST A CONCENTRATED LIVE LOAD OF 300 POUNDS APPLIED IN A POSITION THAT WOULD CAUSE MAXIMUM STRESS. THESE LOADS NEED NOT BE COMBINED WITH THE UNIFORM LIVE LOAD.

12. SEE ARCHITECTURAL DRAWINGS FOR STAIR DIMENSIONS, ORIENTATION, CONFIGURATION AND DETAILS NOT DENOTED ON THE STRUCTURAL DRAWINGS.

13. SUBMIT CALCULATIONS AND SHOP DRAWINGS STAMPED AND SIGNED BY A CALIFORNIA LICENSED CIVIL ENGINEER FOR REVIEW BY THE STRUCTURAL ENGINEER AND APPROVAL BY THE VA AS REQUIRED PRIOR TO FABRICATION.

14. ALL STAIRWAY SYSTEM SUPPORT REACTIONS ON THE BUILDING STRUCTURE SHALL BE CLEARLY IDENTIFIED ON THE SUBMITTED DOCUMENTS FOR EACH COMPONENT OF DEAD, LIVE, SNOW, WIND AND EARTHQUAKE LOADS.

100% CONSTRUCTION DOCUMENT SUBMITTAL

Revisions:

Date

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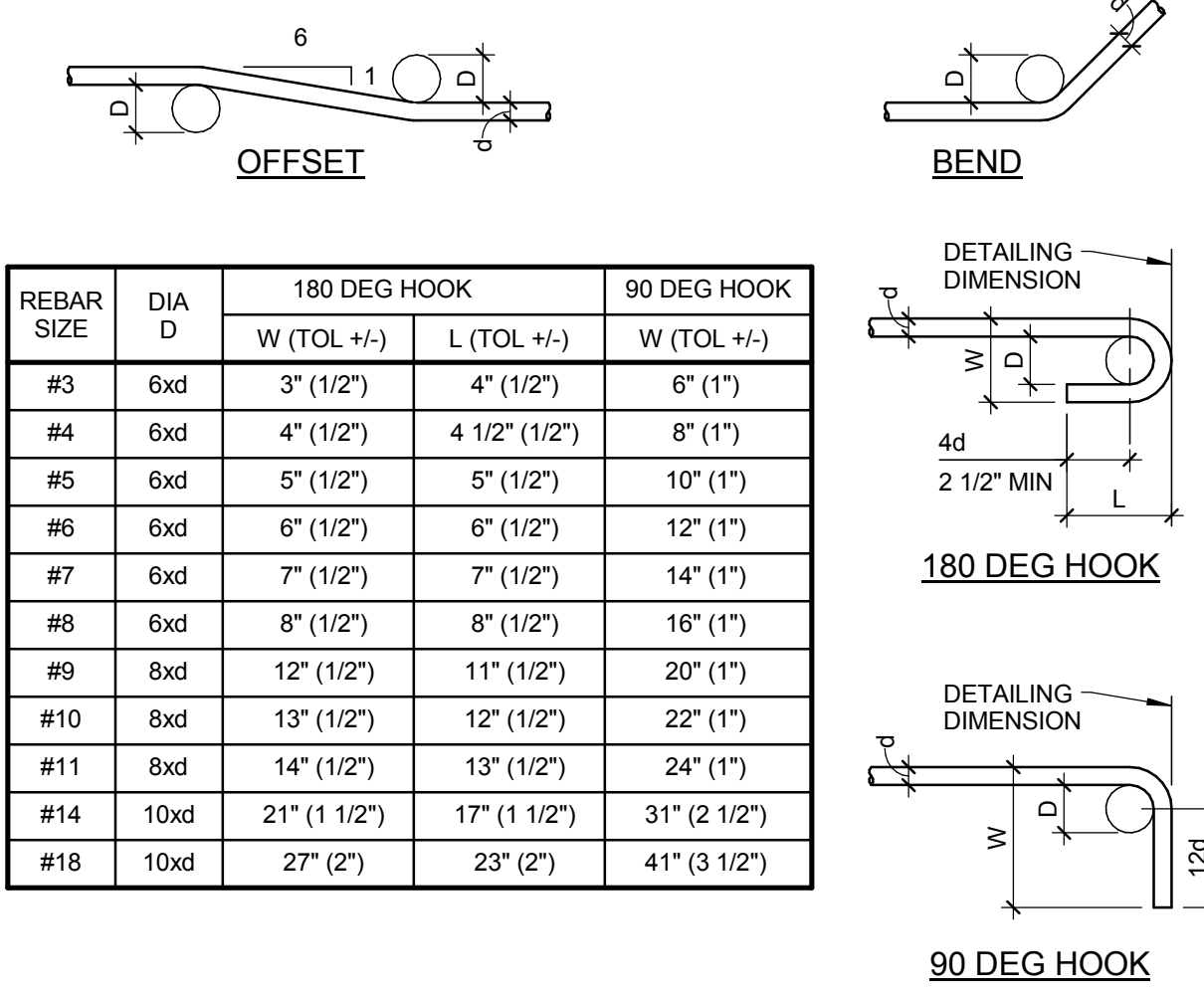
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Scale: 1" = 1'-0"

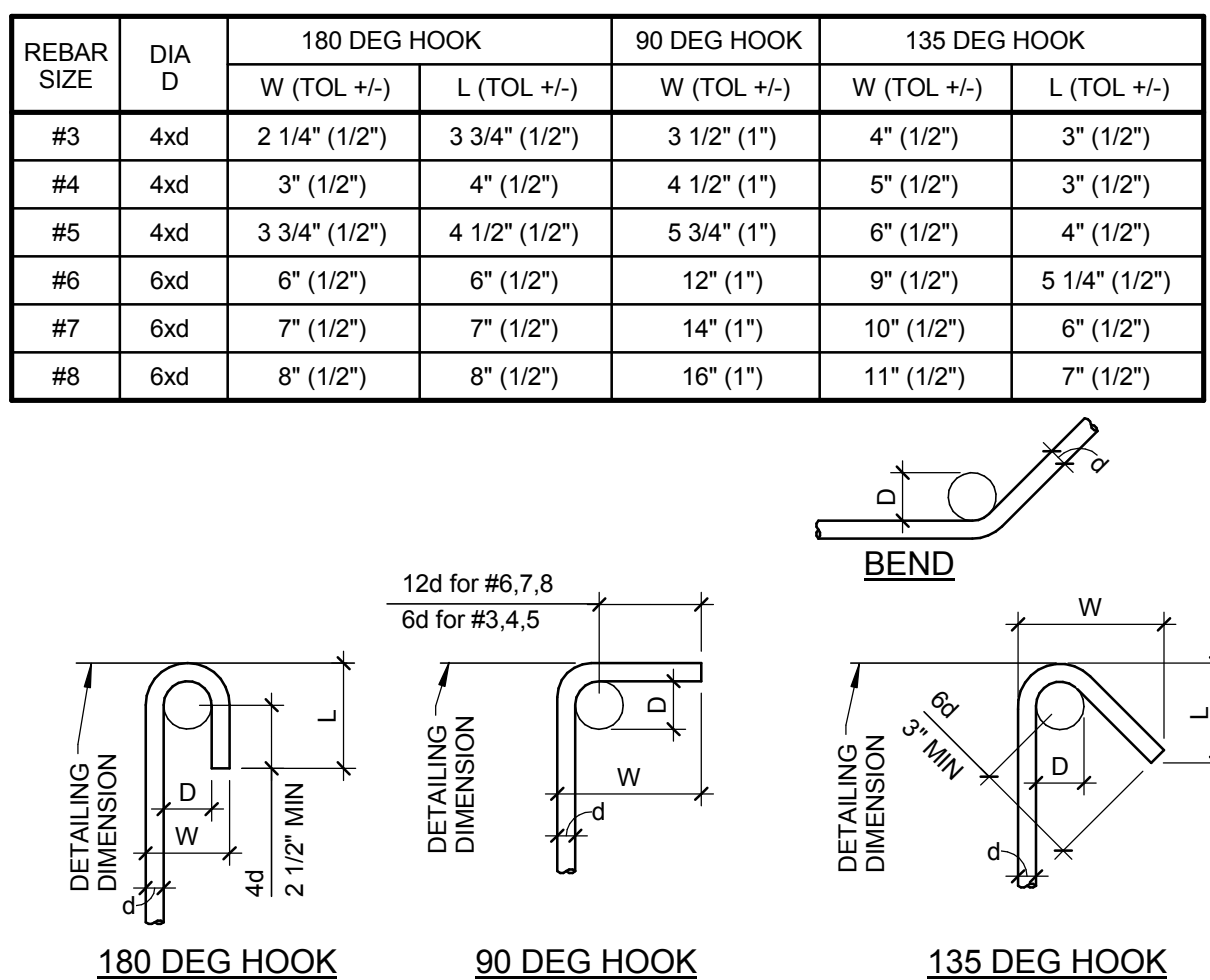
Office of
Construction
and Facilities
Management

Department of
Veterans Affairs

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



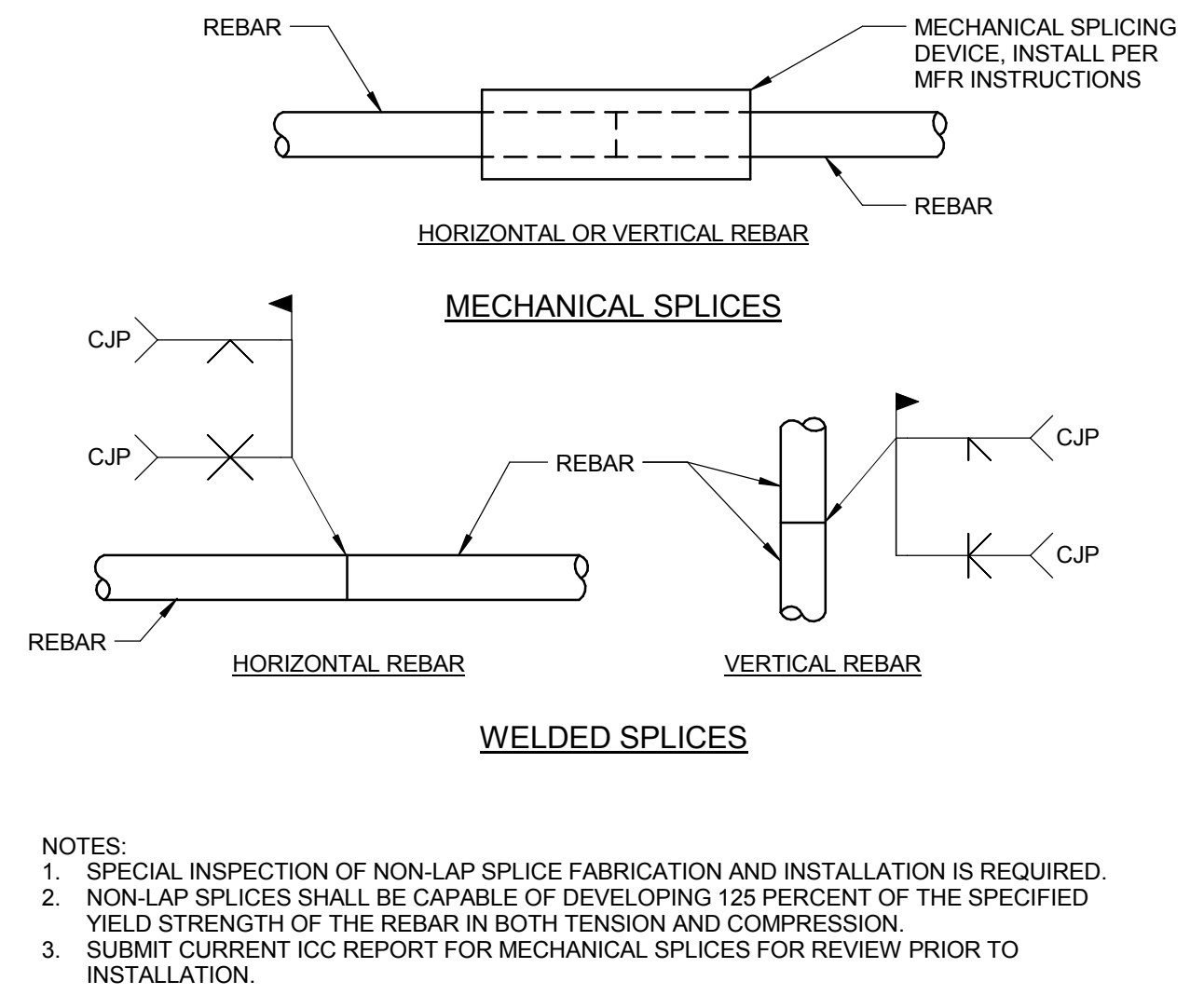
1 TYP REBAR BENDS AND HOOKS
1" = 1'-0"
S_032000_T001A 140127



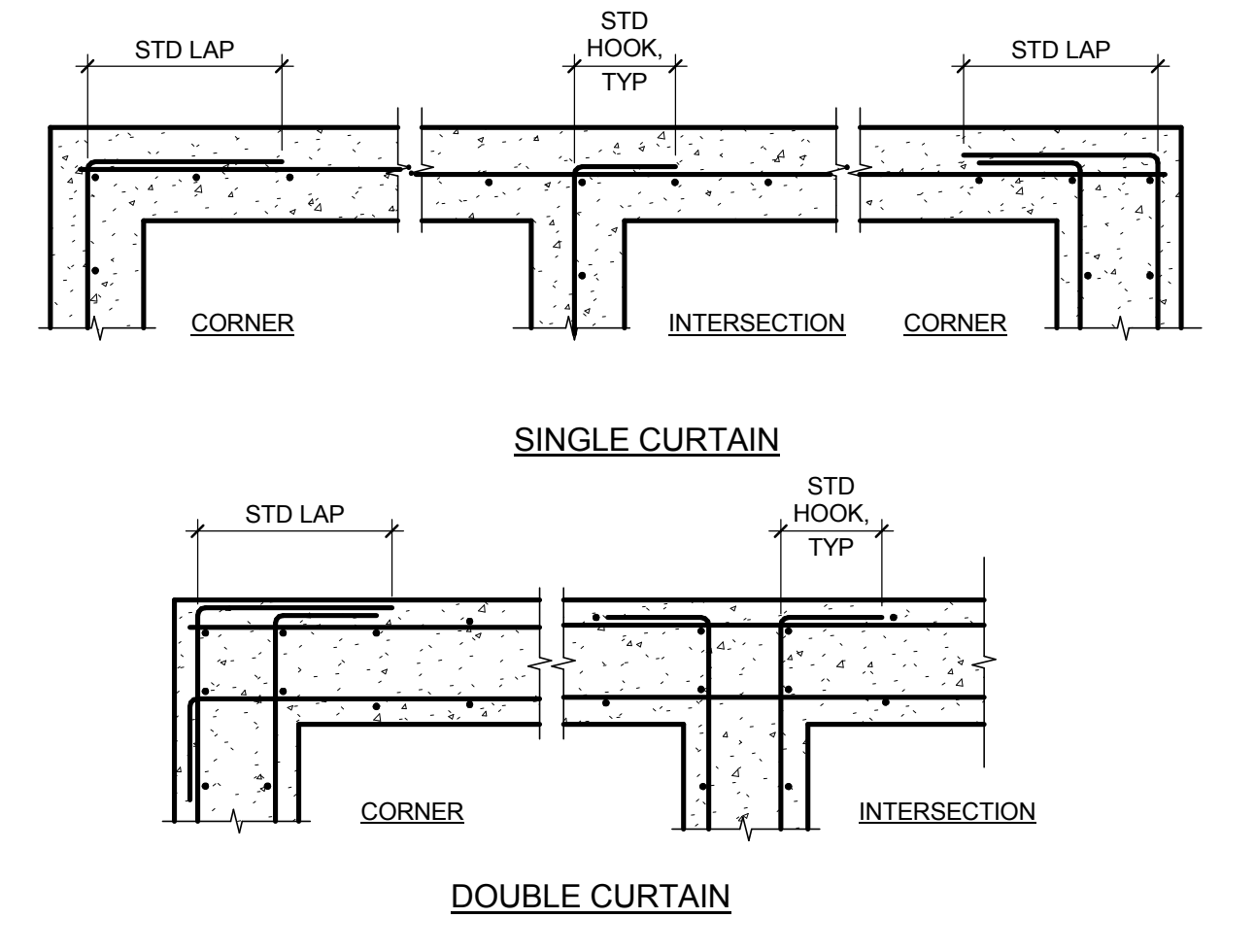
4 TYP REBAR NON-LAP SPLICES
1" = 1'-0"
S_032000_T004A 140127

fc (ft)		#3	#4	#5	#6	#7	#8	#9	#10	#11								
		NWCLW	WCLW	WCLW	WCLW	WCLW	WCLW	WCLW	WCLW	WCLW								
2.500	TOP	31	40	41	53	51	66	61	80	116	102	132	115	149	129	168	143	186
	BOT	24	31	32	41	39	51	47	61	69	89	78	102	88	115	100	129	110
3.000	TOP	28	37	38	49	47	61	56	73	81	106	93	121	105	136	118	153	131
	BOT	22	28	29	38	36	47	43	56	63	81	72	93	81	105	91	118	101
3.500	TOP	26	34	35	45	43	56	52	67	75	98	86	112	97	126	109	142	121
	BOT	20	26	27	35	33	43	40	52	58	75	66	86	75	97	84	109	93
4.000	TOP	25	32	33	42	41	53	49	63	71	92	81	105	91	118	102	133	114
	BOT	19	25	25	33	31	41	37	49	54	71	62	81	70	91	79	102	87
4.500	TOP	23	30	31	40	38	50	46	59	67	86	76	99	86	111	96	125	107
	BOT	18	23	24	31	30	38	35	46	51	67	59	76	68	86	74	96	82
5.000	TOP	22	28	29	38	36	47	44	56	63	82	72	94	81	106	92	119	102
	BOT	17	22	23	29	28	36	34	44	49	63	56	72	63	81	71	92	78

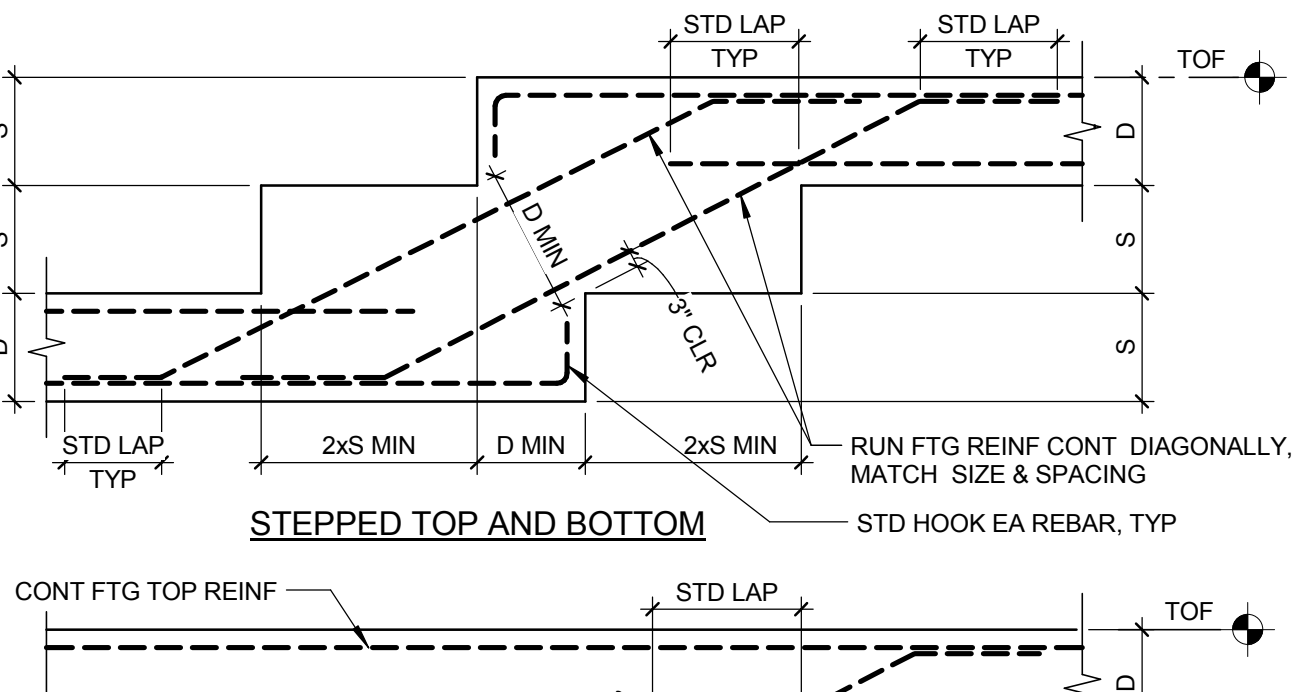
3 TYP CONCRETE REBAR LAP SPLICE LENGTHS (INCHES)
1" = 1'-0"
S_032000_T003A 140127



7 TYP CONSTRUCTION JOINT AT GRADE BEAM/CONTINUOUS FOOTING
3/4" = 1'-0"
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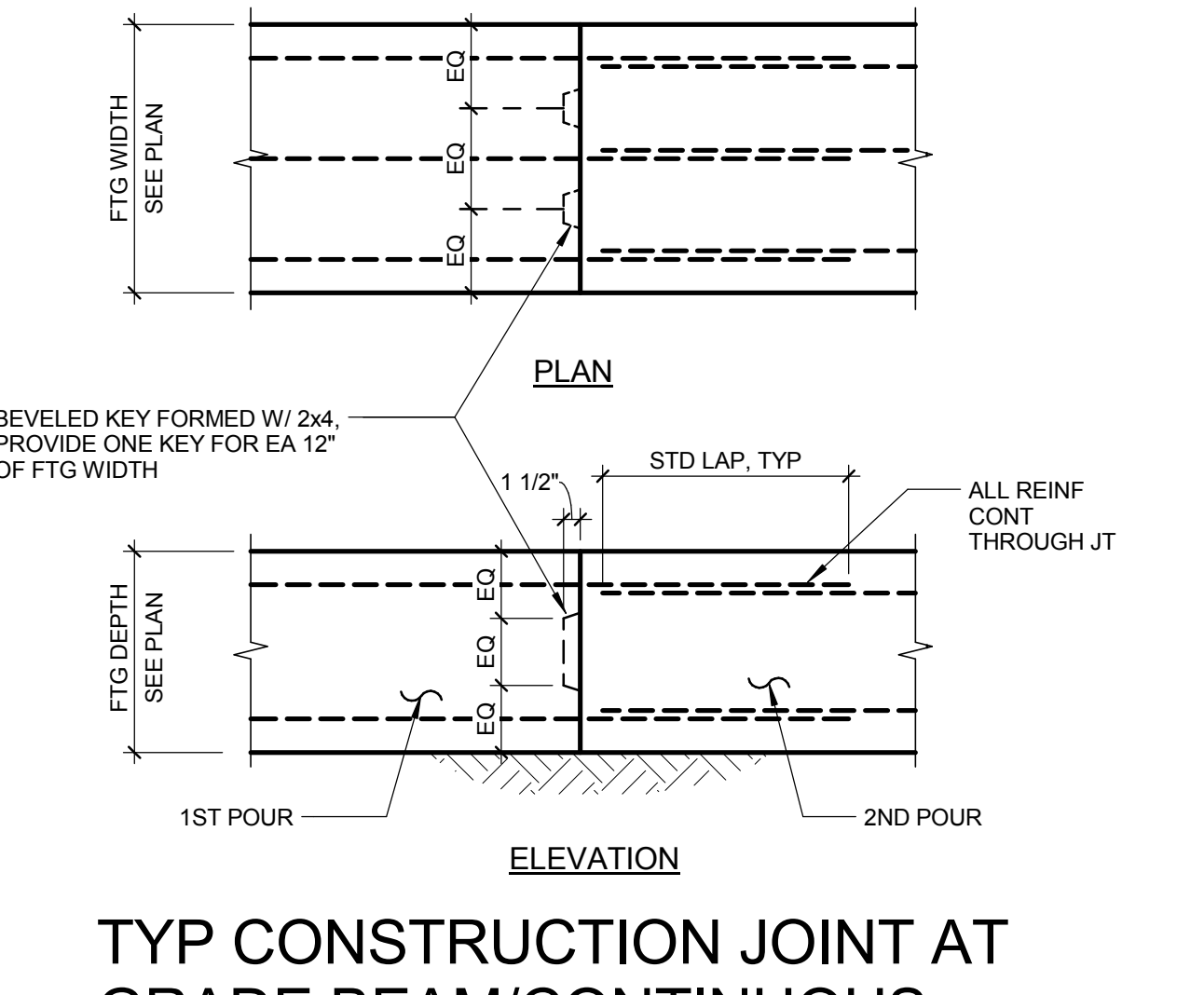


10 TYP SLAB JOINT LAYOUT
1/16" = 1'-0"
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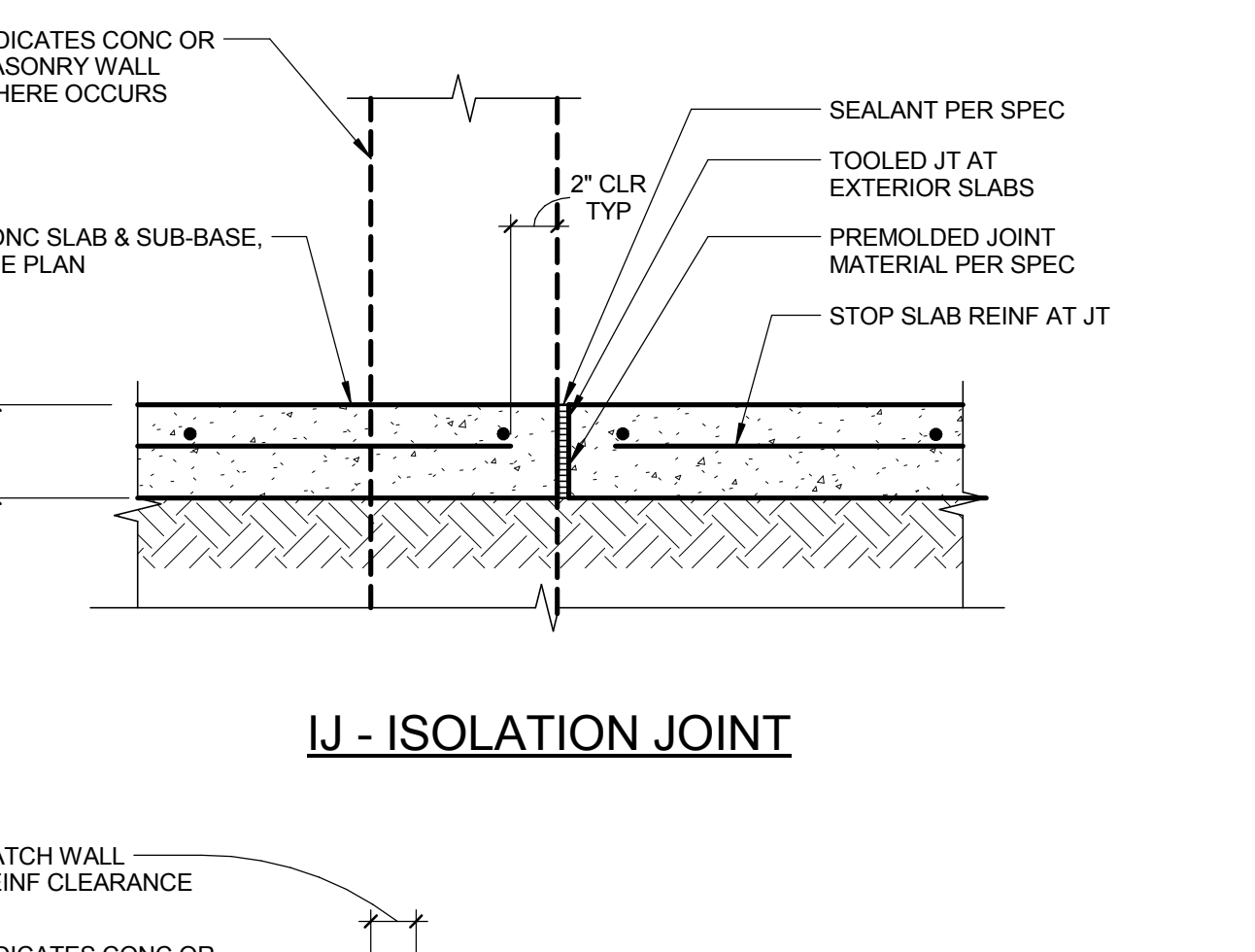


13 TYP DEPRESSION IN CONC SLAB
3/4" = 1'-0"
S_033000_T019A 140127

15 TYP HOUSEKEEPING PADS
3/4" = 1'-0"
S_033000_T025A 140127



1 TYP REBAR HOOP, STIRRUP, TIE HOOKS & BENDS
1" = 1'-0"
S_032000_T002A 140127



4 TYP REBAR NON-LAP SPLICES
1" = 1'-0"
S_032000_T004A 140127

STD LAP

DOWEL TO MATCH SIZE & SPACING OF SLAB REINF

CJ - CONSTRUCTION JOINT

SEALANT PER SPEC

TOOLED JT AT EXTERIOR SLABS

SLAB REINF CONT THROUGH JT

1/8" TO 1/4"

3 TYP CONCRETE REBAR LAP SPLICE LENGTHS (INCHES)
1" = 1'-0"
S_032000_T003A 140127

6 TYP STEPPED FOOTING
3/8" = 1'-0"
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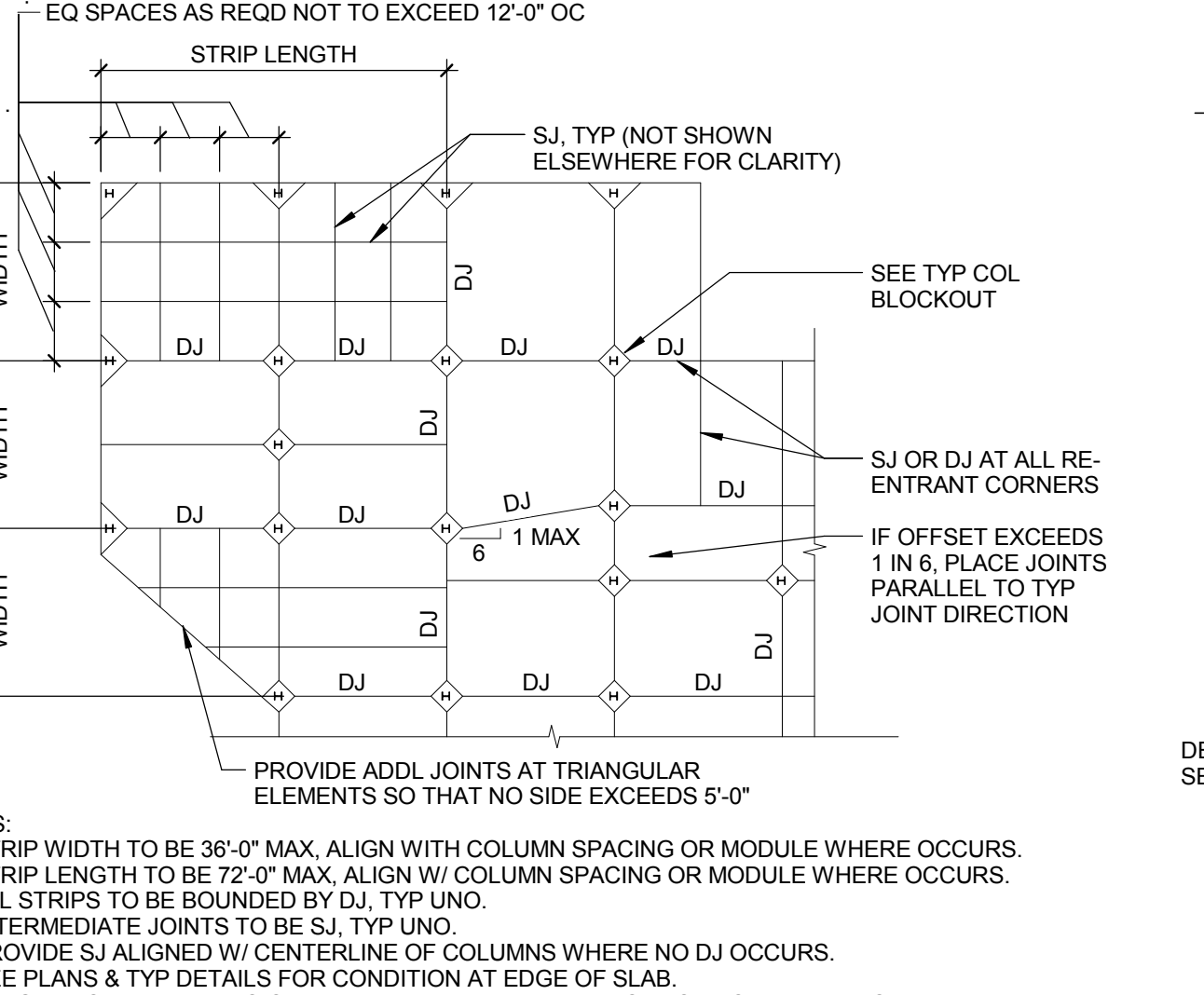
9 TYP JOINTS AT CONC SLAB
1 1/2" = 1'-0"
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CONSULTANTS:

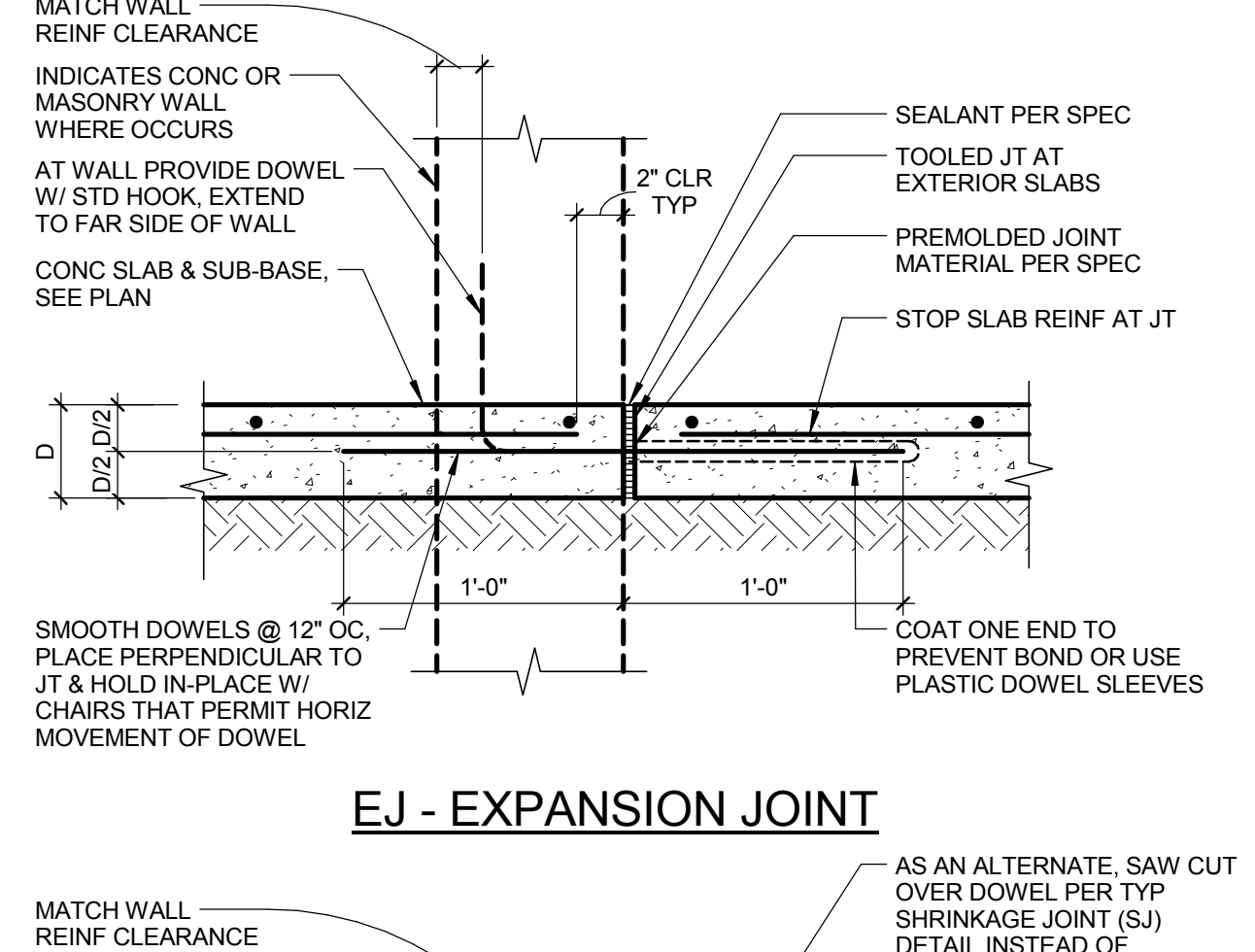
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1 TYP REBAR HOOP, STIRRUP, TIE HOOKS & BENDS
1" = 1'-0"
S_032000_T002A 140127



4 TYP REBAR NON-LAP SPLICES
1" = 1'-0"
S_032000_T004A 140127

Technical drawing of a DJ - Dowel Joint showing a cross-section of a concrete slab and sub-base. The drawing includes dimensions: D (total thickness), D/2 (slab thickness), and 1'-0" (dowel spacing). It shows smooth dowels at 12 inches on center, placed perpendicular to the joint and held in place by chairs. The drawing also shows a coat on one end to prevent bond or use of plastic dowel sleeves. The drawing is labeled DJ - DOWEL JOINT.

SMOOTH DOWELS @ 12" OC, PLACE PERPENDICULAR TO JT & HOLD IN PLACE W/ CHAIRS THAT PERMIT HORIZ MOVEMENT OF DOWEL

COAT ONE END TO PREVENT BOND OR USE PLASTIC DOWEL SLEEVES

DJ - DOWEL JOINT

1/8" to 1/4"

SEALANT PER SPEC

SAWCUT, USE EARLY ENTRY SAW WITH ANTI-RAVEL SKID PLATE

SLAB REINF CONT THROUGH JOINT

CONC SLAB & SUB-BASE, PLACE PLAN

3 TYP CONCRETE REBAR LAP SPLICE LENGTHS (INCHES)
1" = 1'-0"
S_032000_T003A 140127

6 TYP STEPPED FOOTING
3/8" = 1'-0"
S_033000_T003A 140127

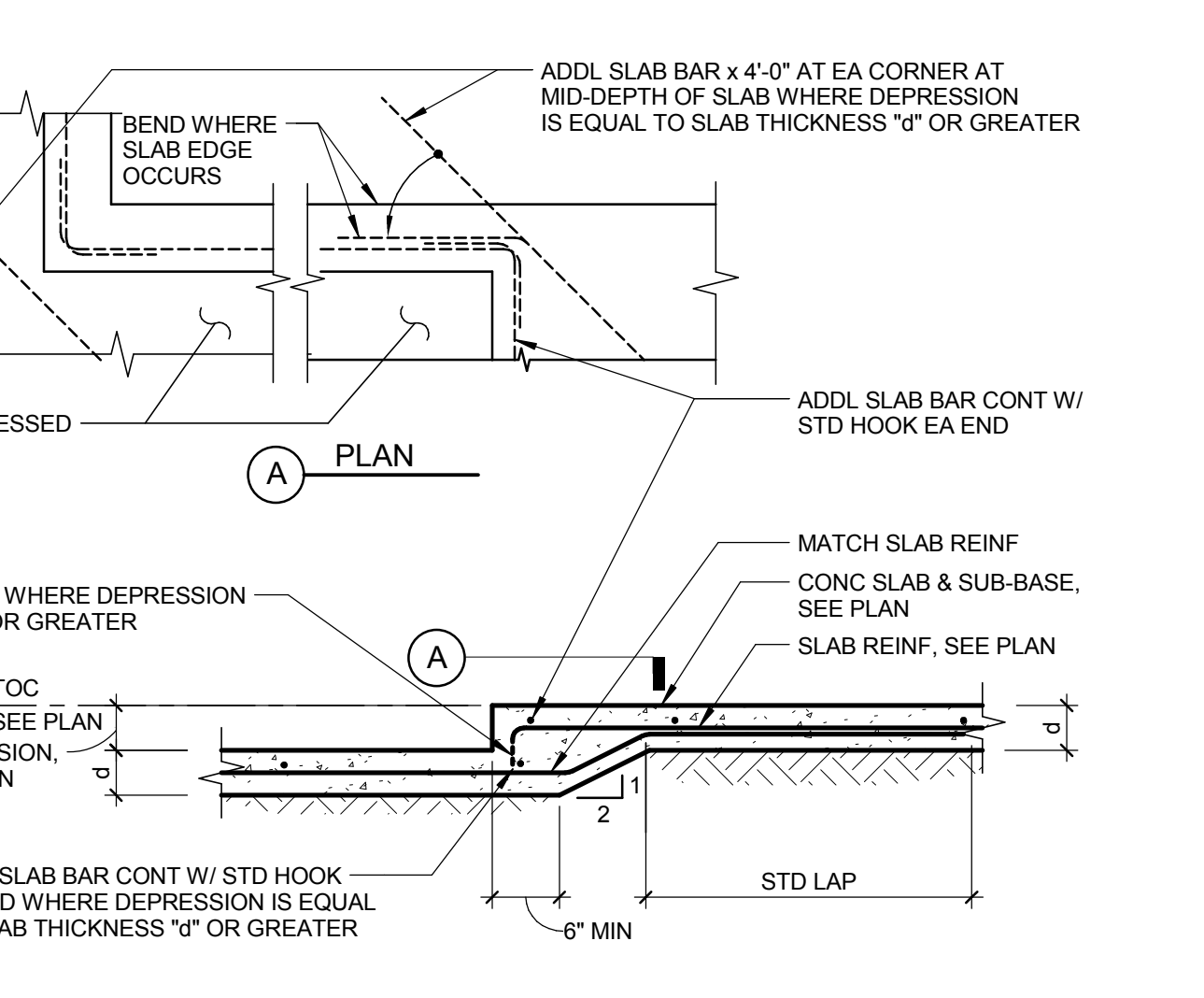
9 TYP JOINTS AT CONC SLAB
1 1/2" = 1'-0"
S_033000_T025A 140127

CONSULTANTS:

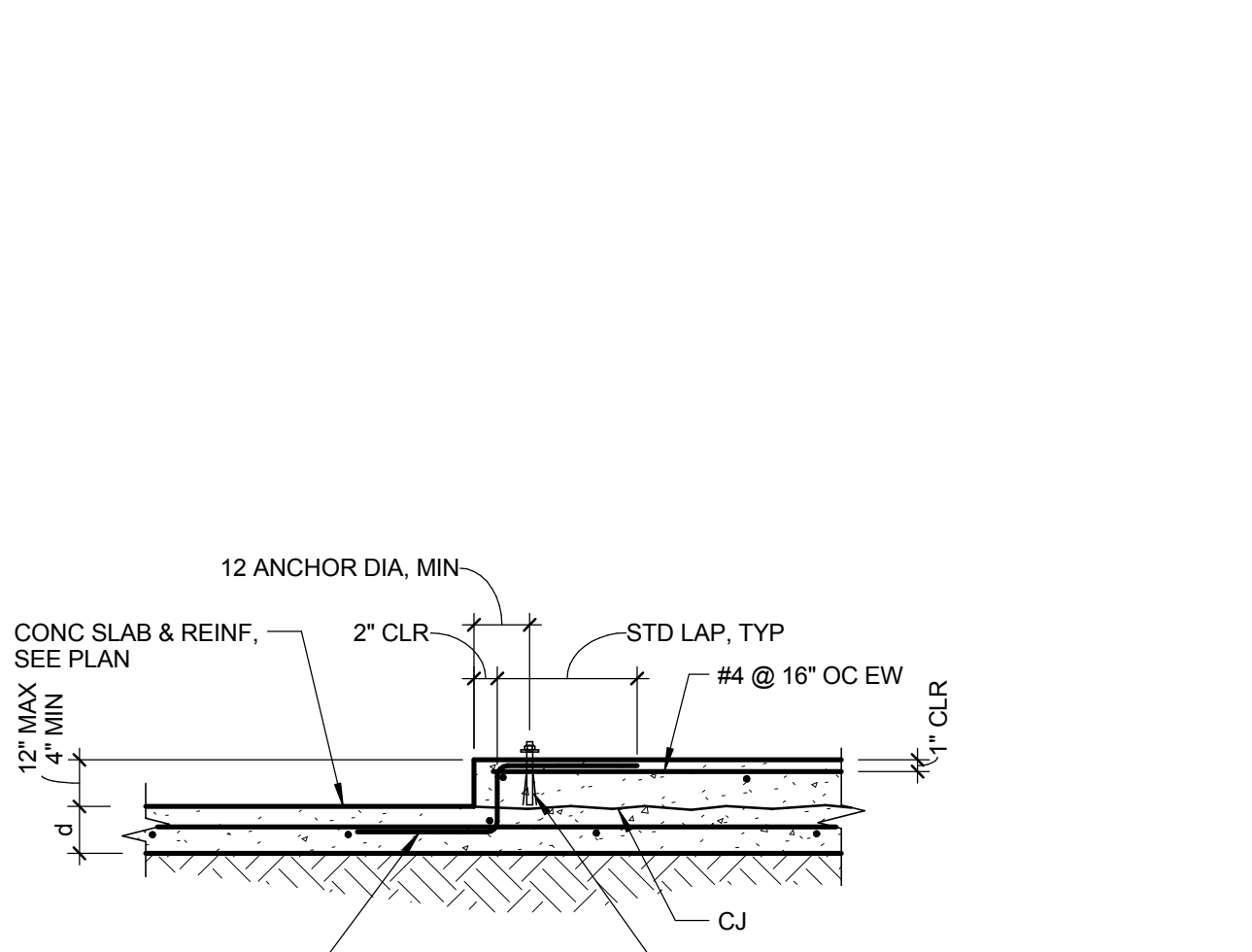
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1 TYP REBAR HOOP, STIRRUP, TIE HOOKS & BENDS
1" = 1'-0"
S_032000_T002A 140127



4 TYP REBAR NON-LAP SPLICES
1" = 1'-0"
S_032000_T004A 140127

CONC SLAB & REINF., SEE PLAN

2 1/2" CLR

EQUIP DETAIL

#4 @ 16" OC EW TOP & BOTTOM

1 1/2" MAX 4" MIN

d

EXPANSION JOINT

ISOLATED PAD

STD HOOK SKEWED, TYP

1 1/2" CLR

12 ANCHOR DIA. MIN

2" CLR

STD LAP, TYP

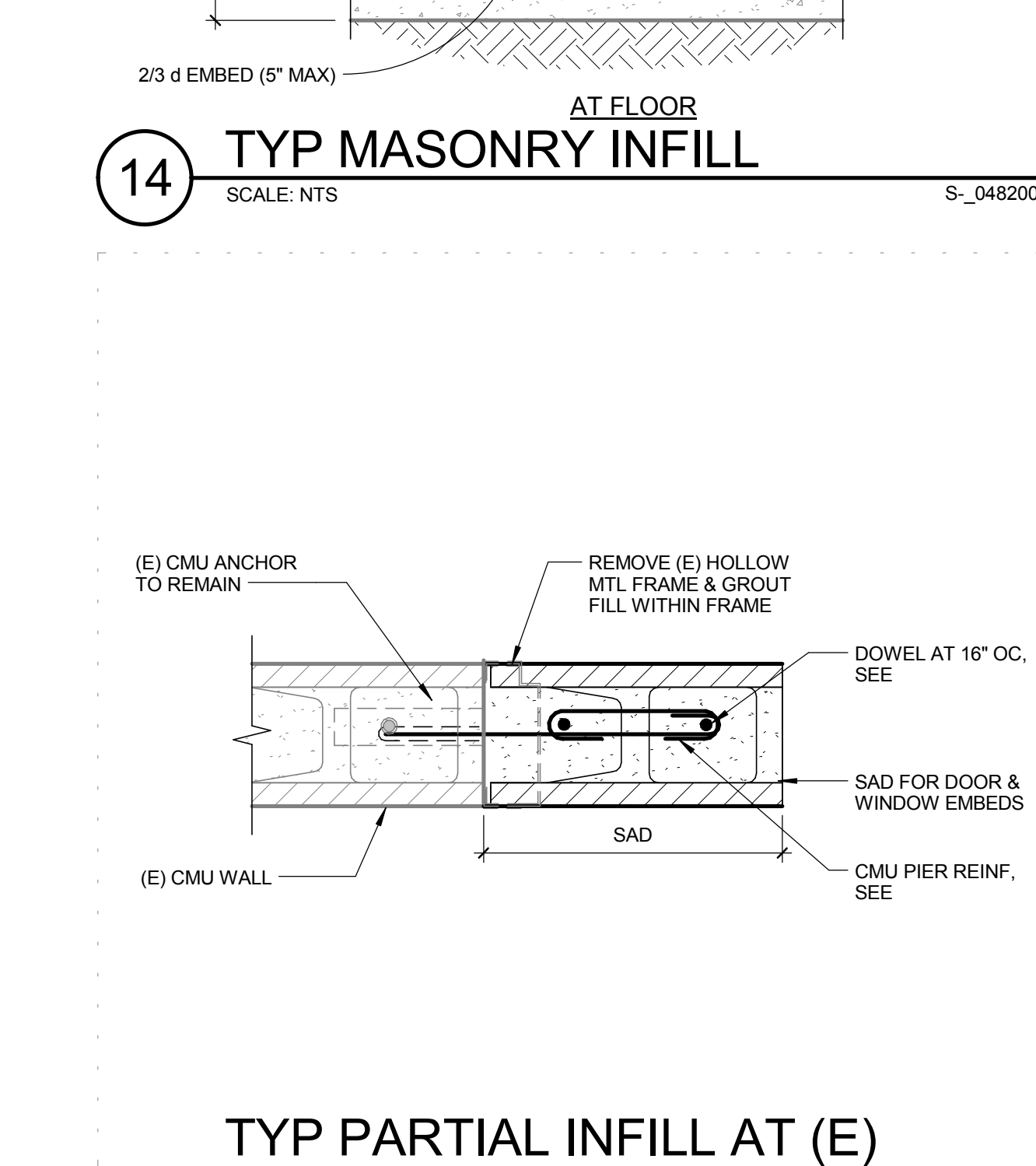
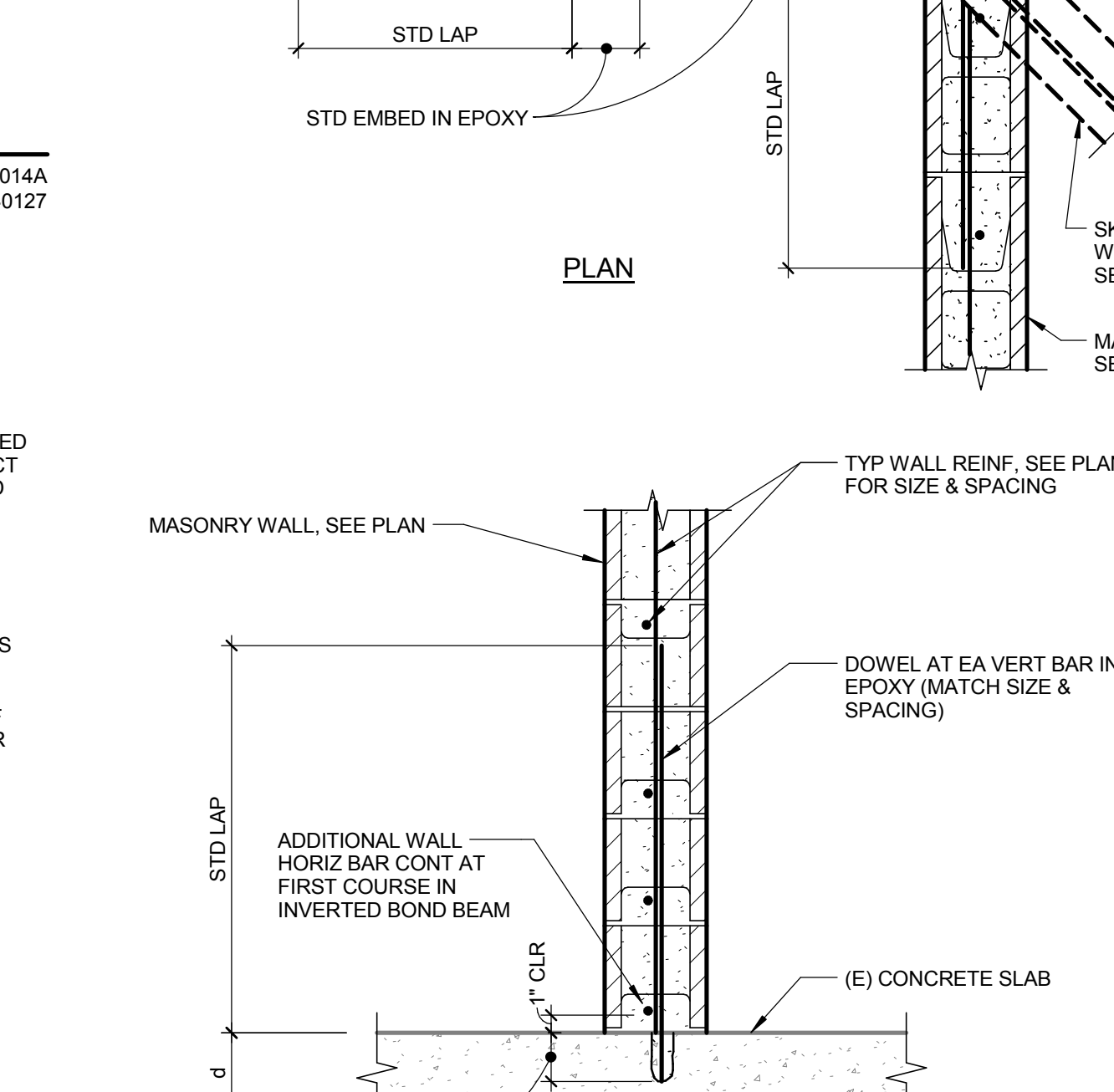
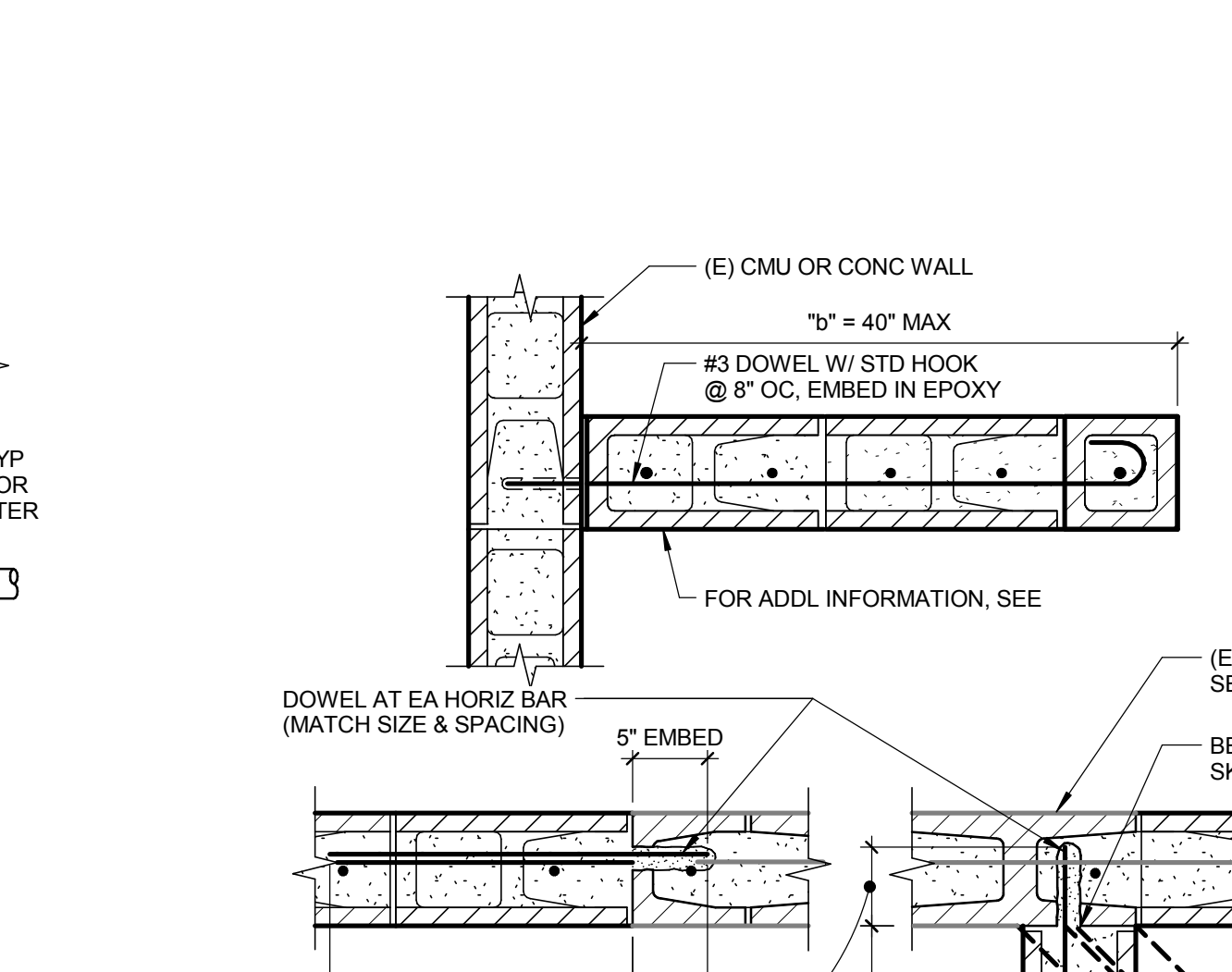
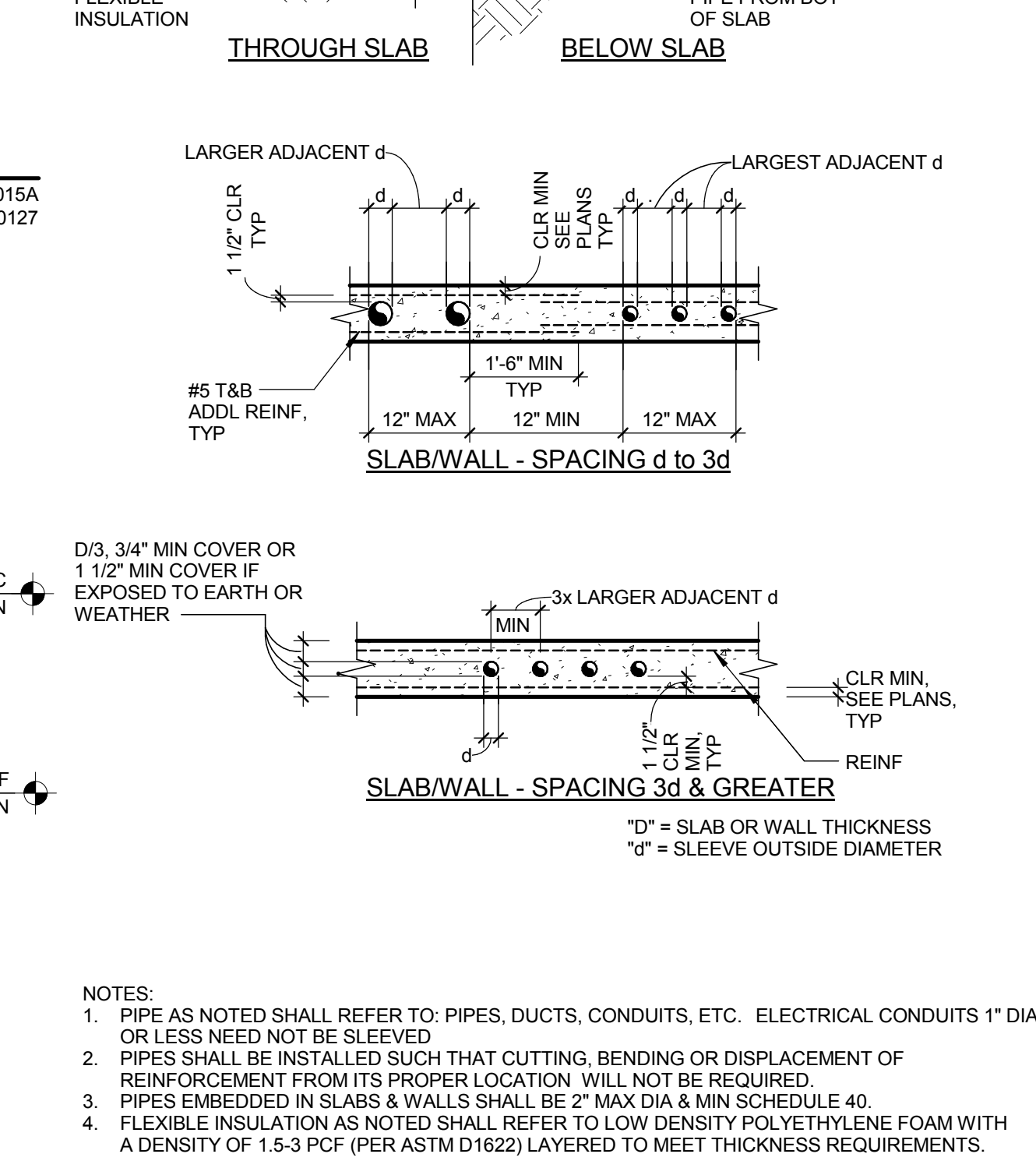
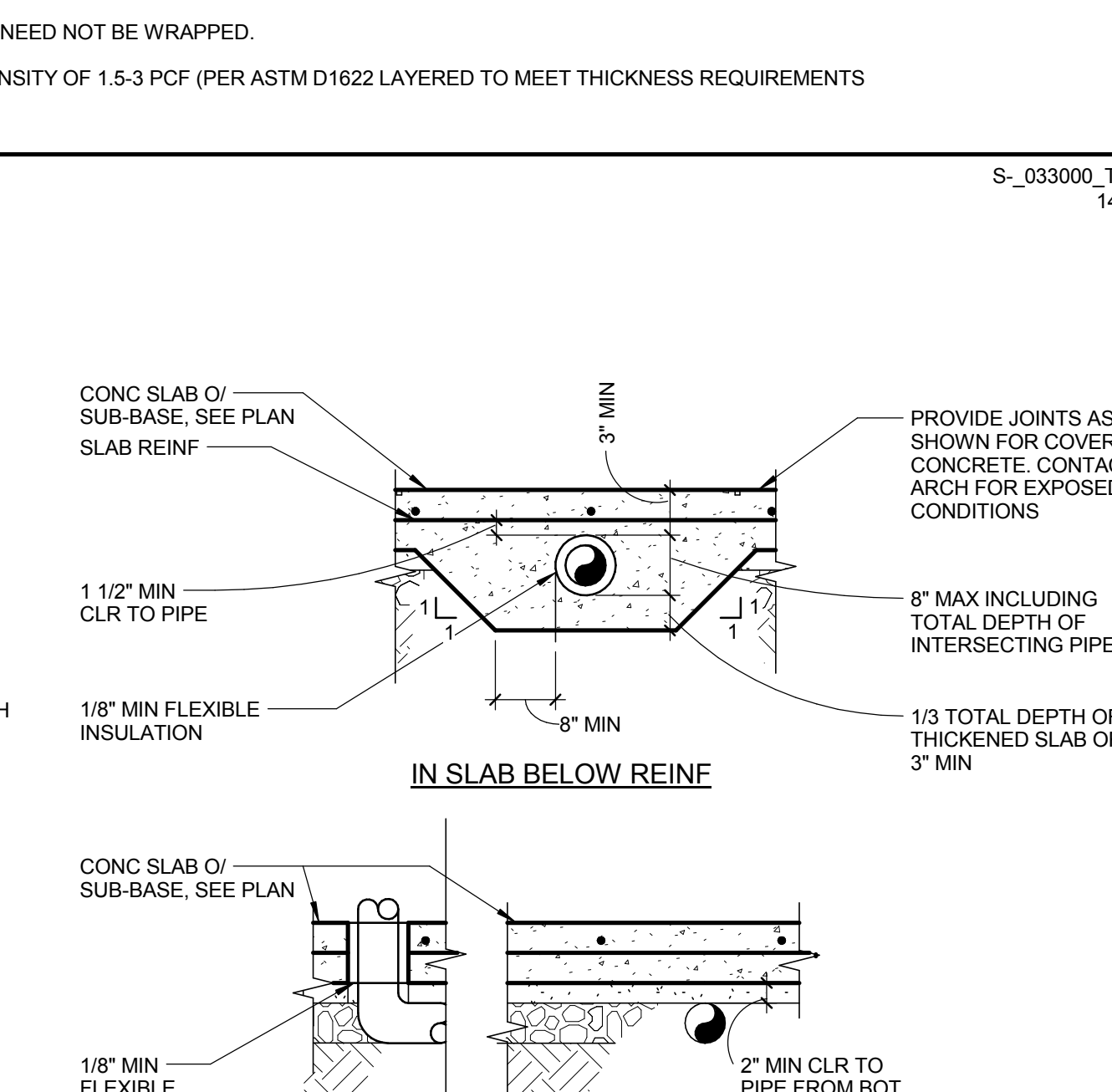
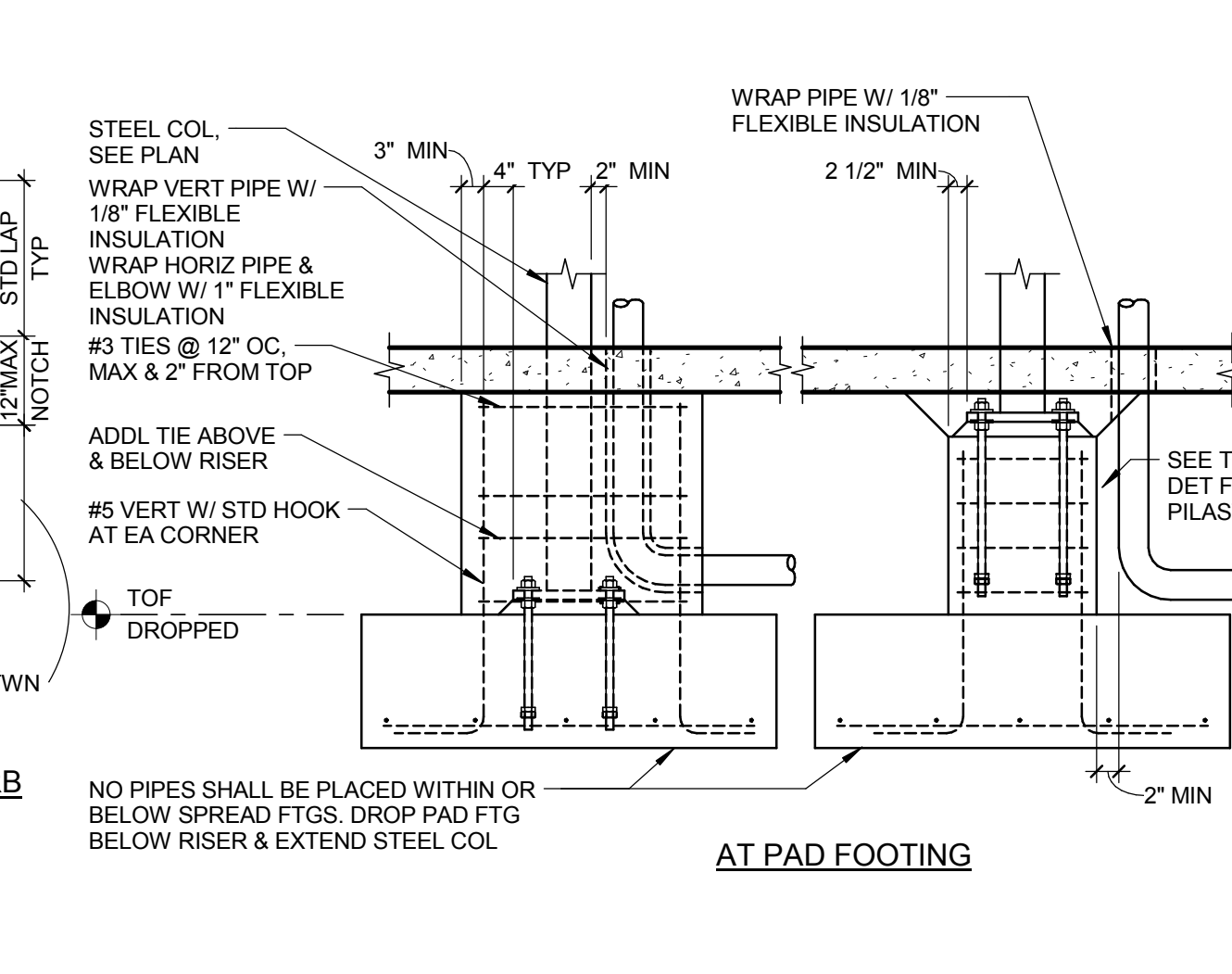
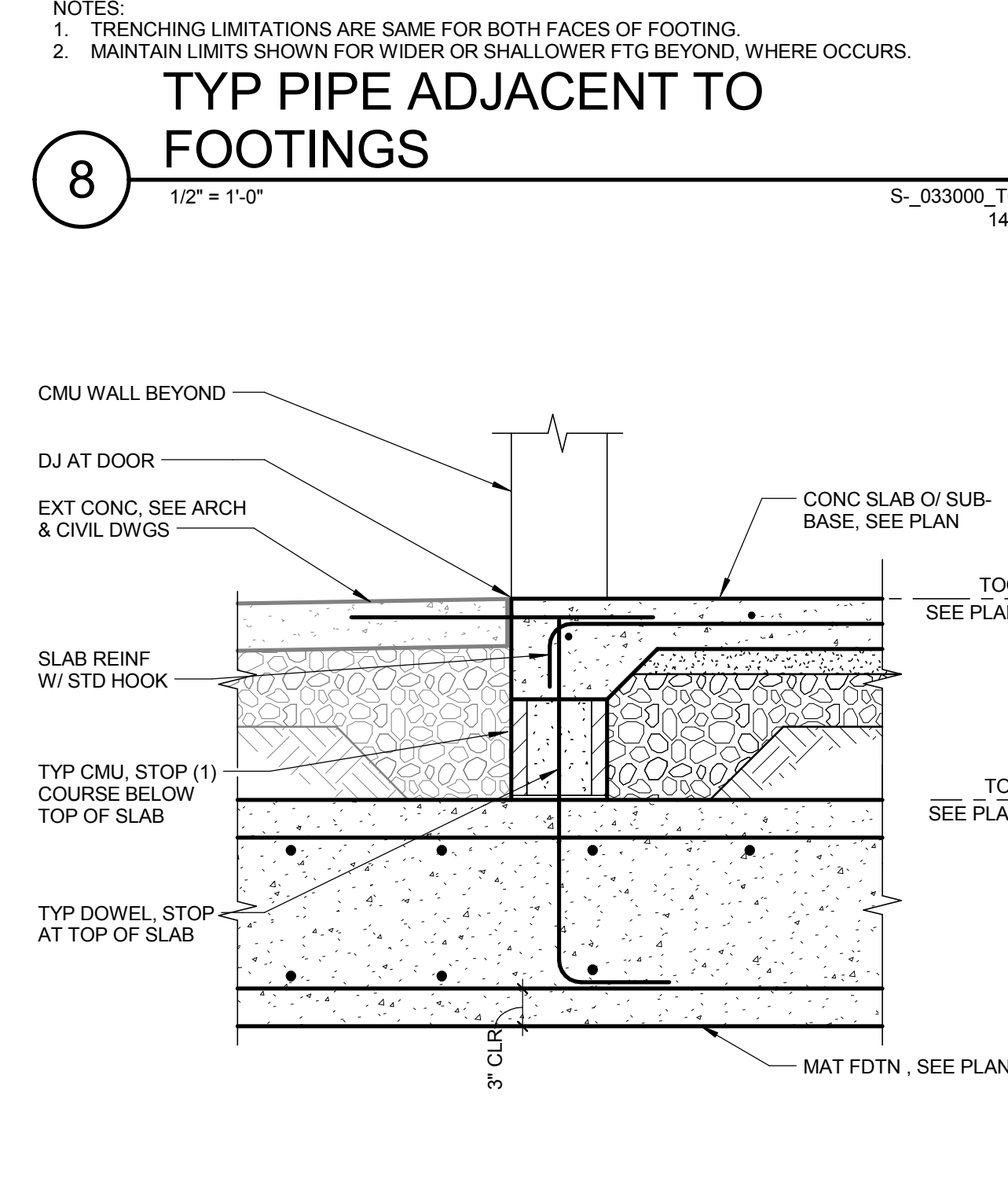
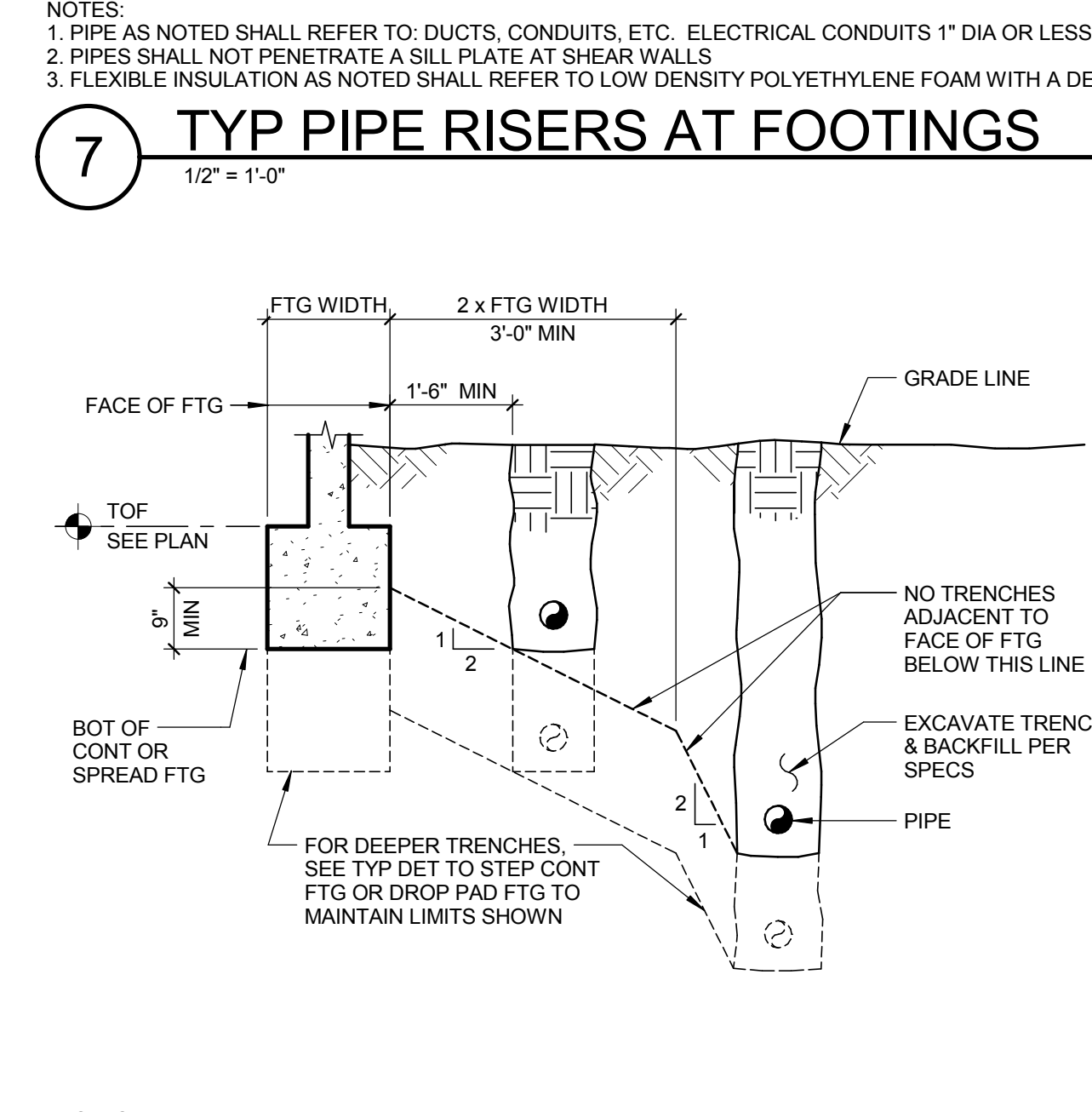
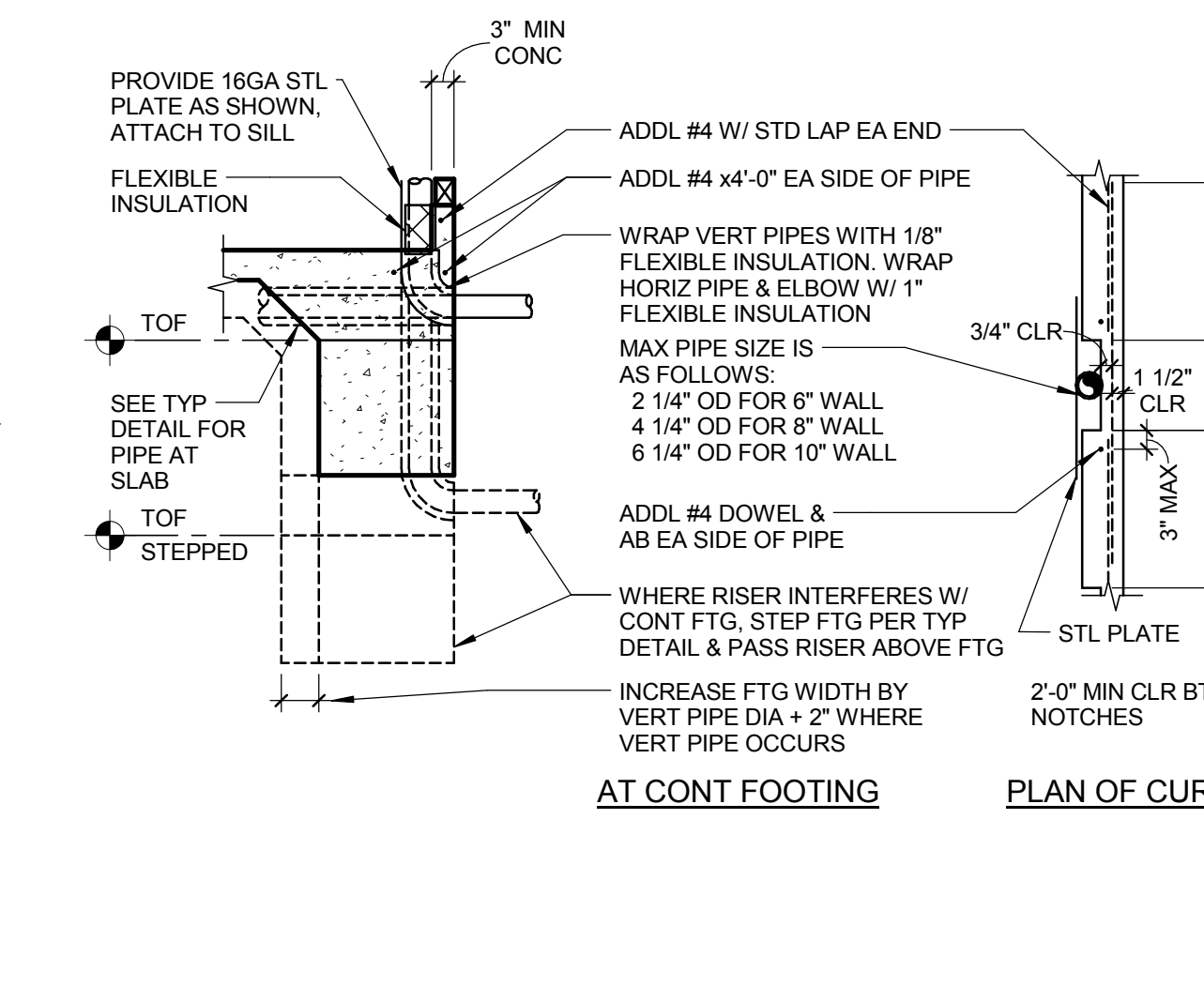
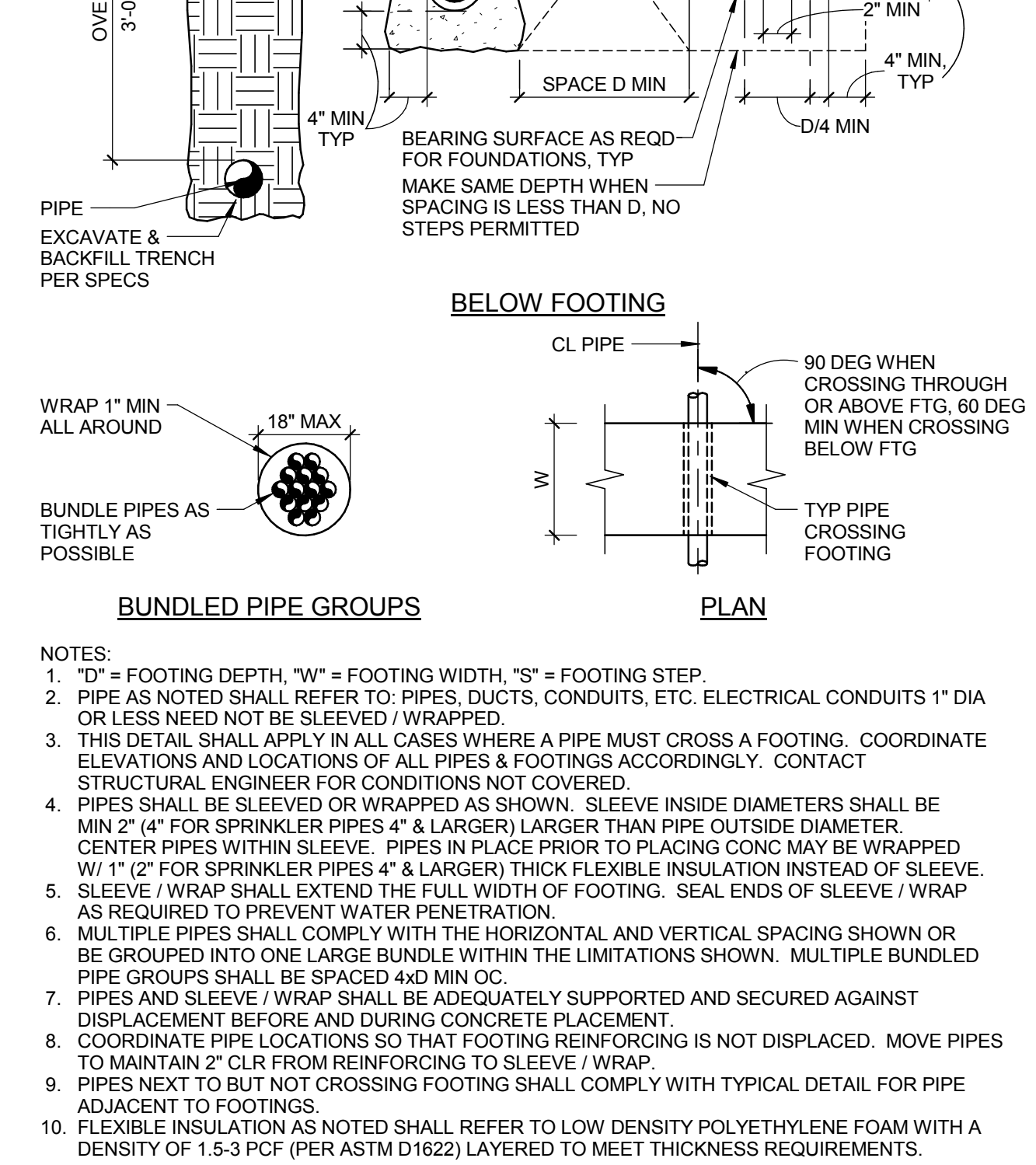
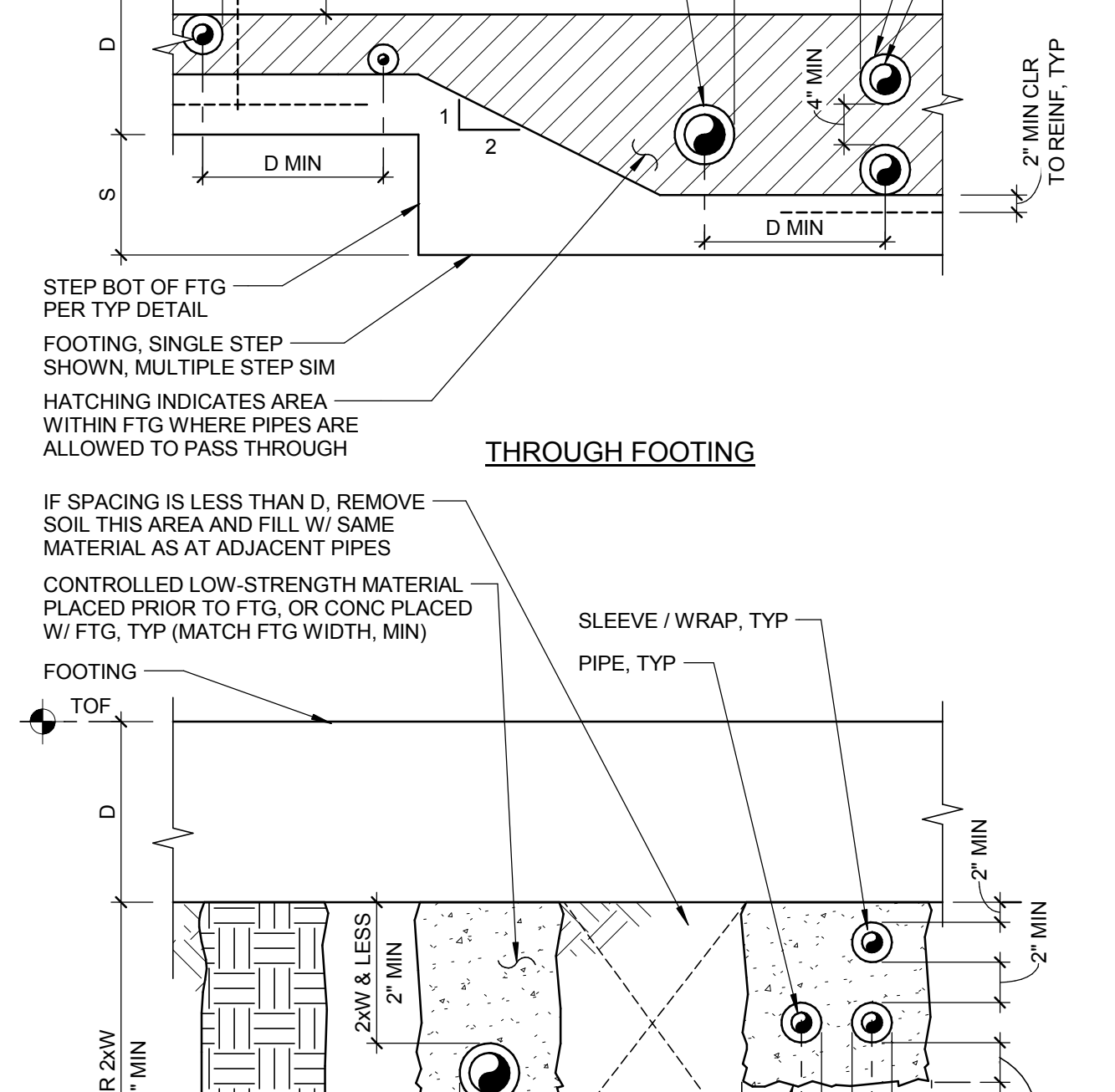
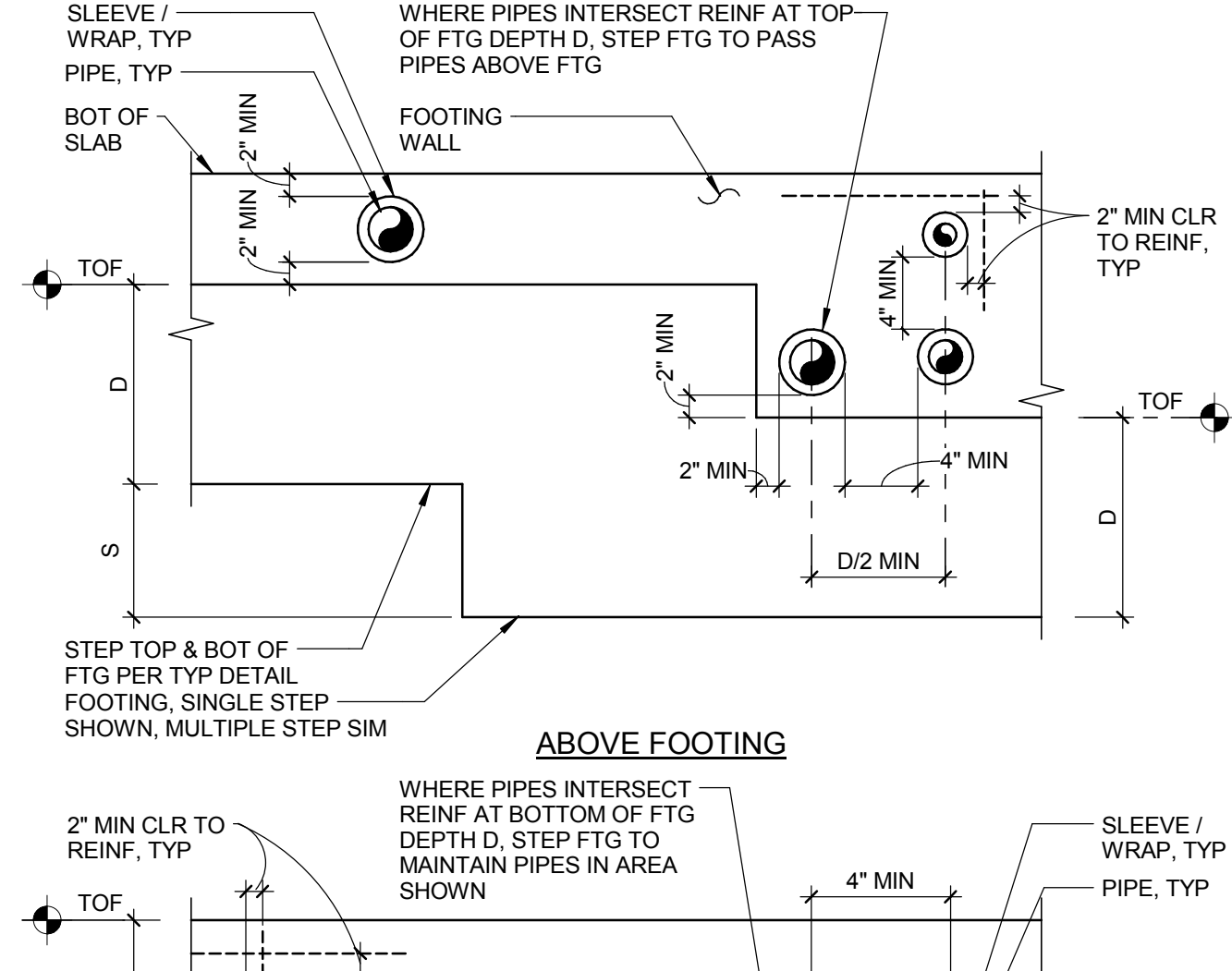
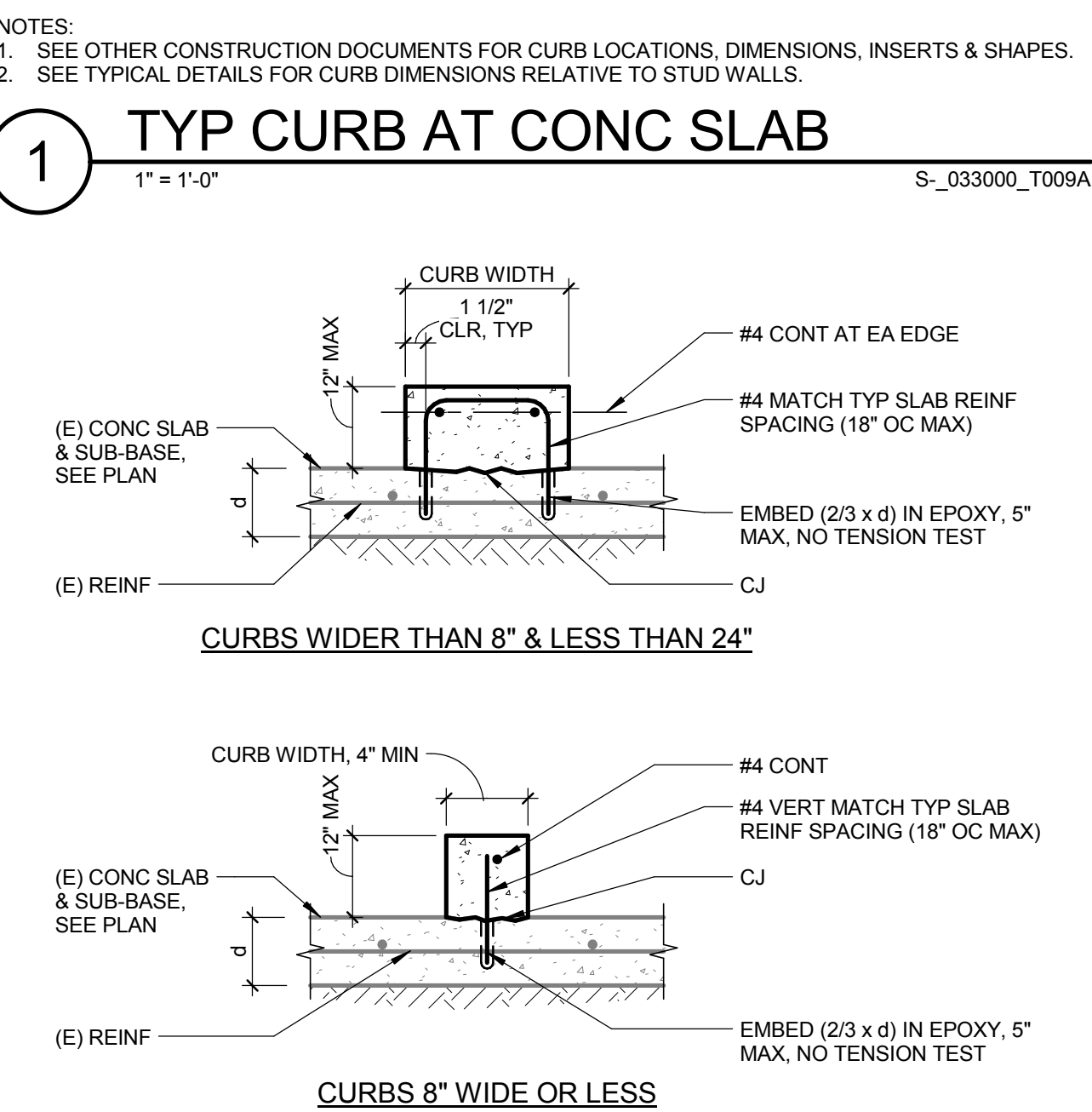
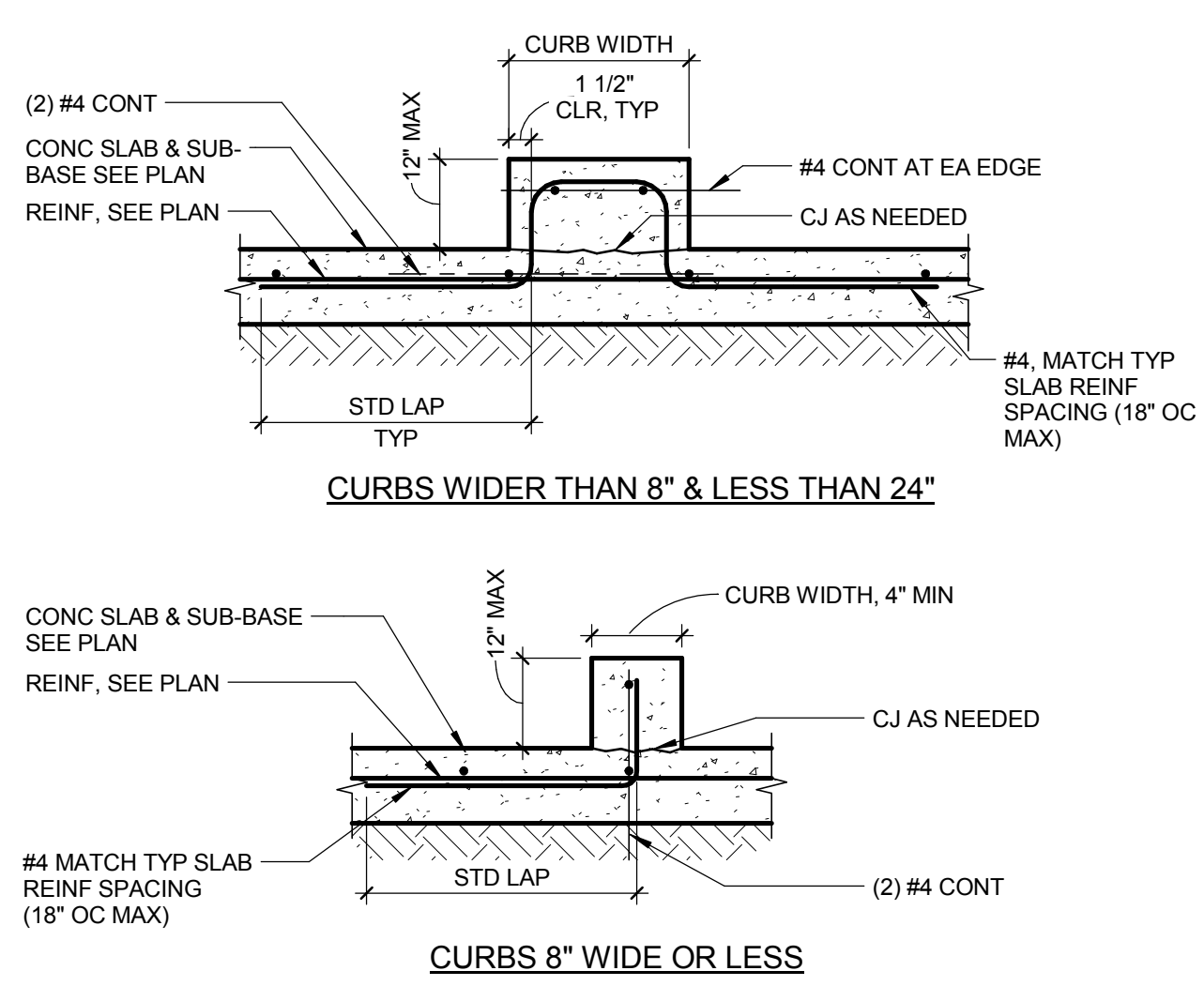
ANCHORAGE, SEE EQUIP DETAIL

#5 @ 16" OC 1EM



(E) CONC SLAB & REINF., SEE PLAN

AX N

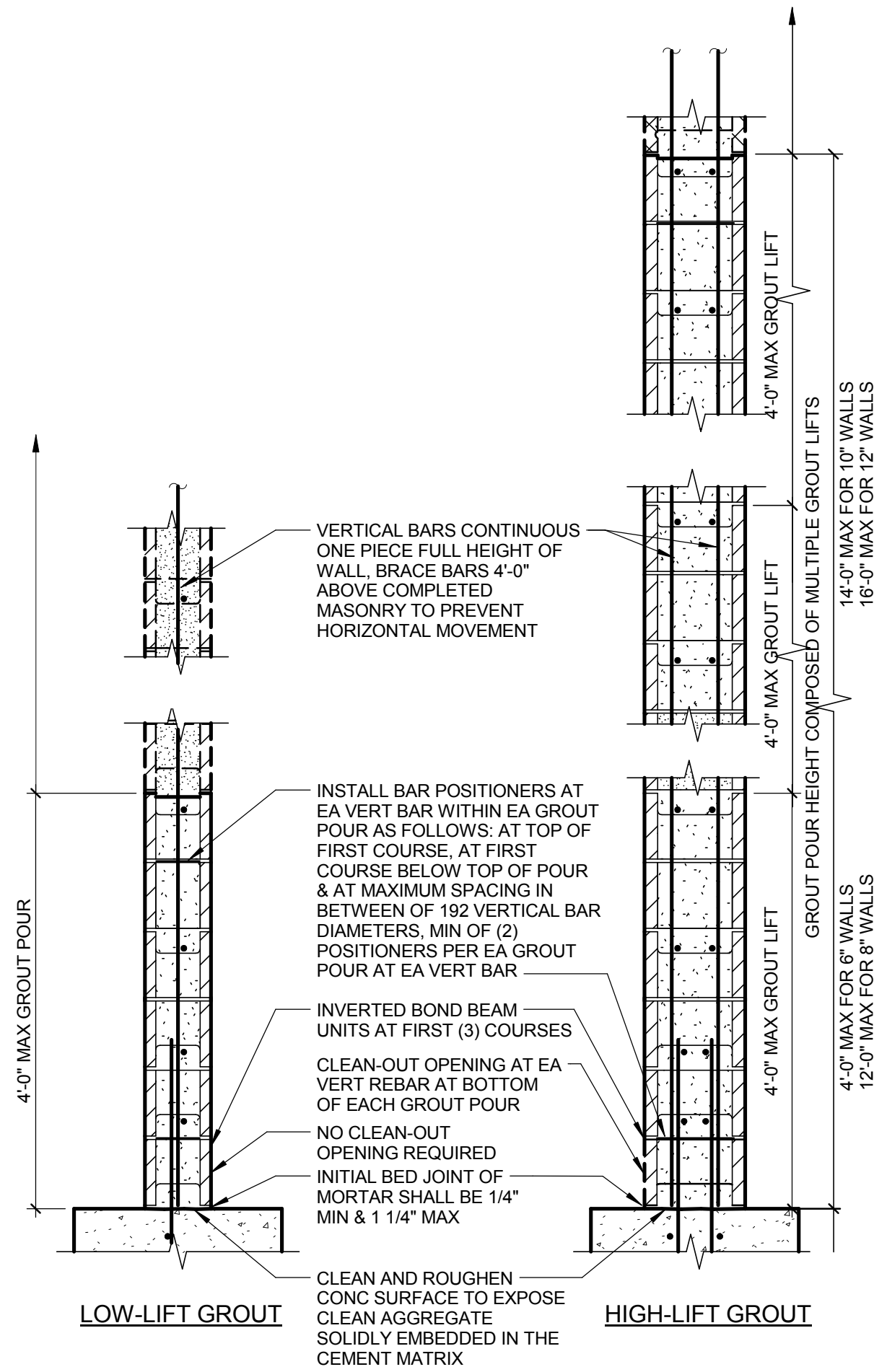
three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
one half inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



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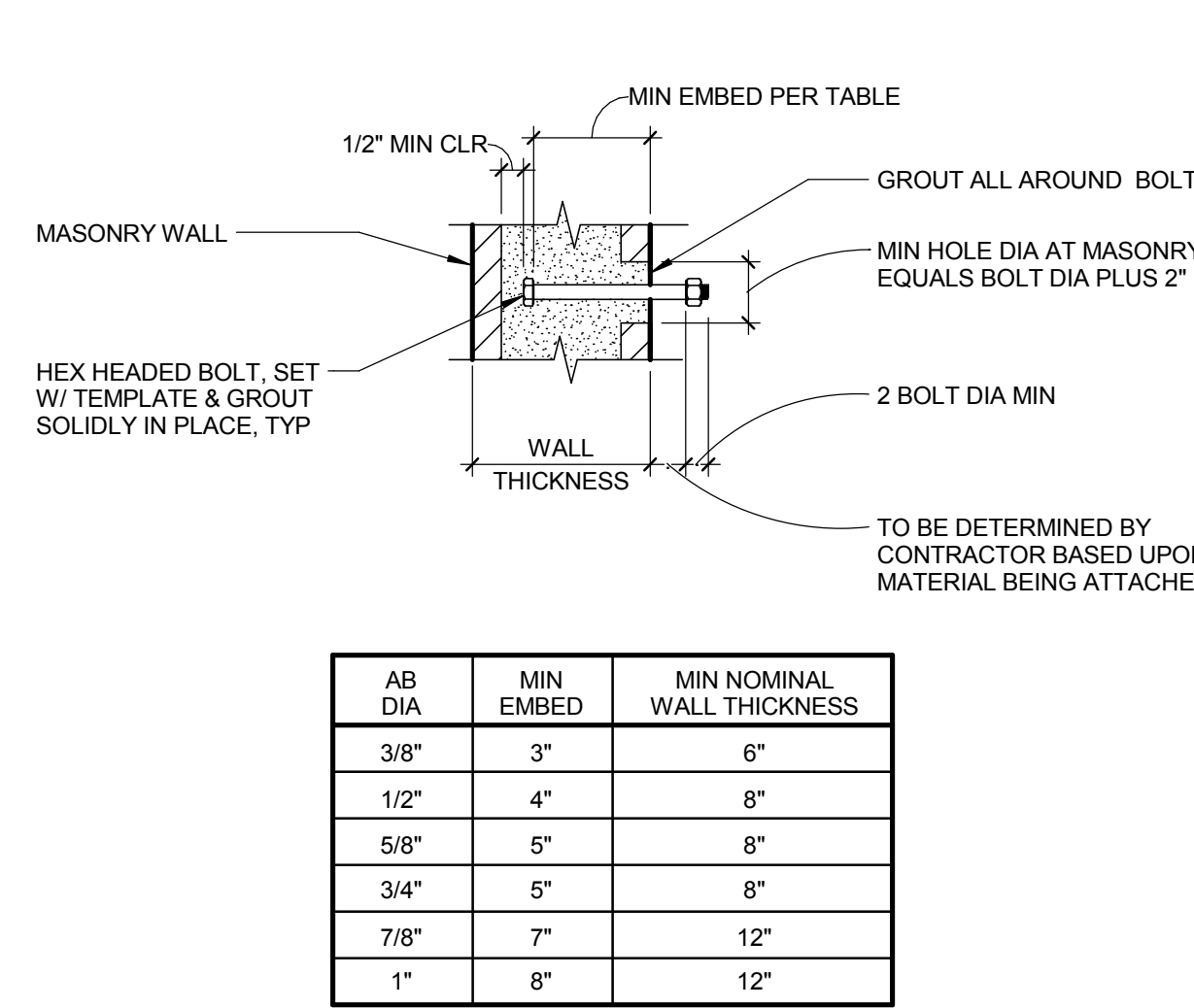
CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management Department of Veterans Affairs	
 Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148		 hfp architects 745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148		DETAILS - TYPICAL CONCRETE		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE		570-13-300			
Revisions:				Approved: Project Director		Location FRESNO, CA		Building Number 22A			
Date						Date 5/08/2015		Checked DEH		Drawing Number 22A-S-532	
								Dwg 38 of 86			

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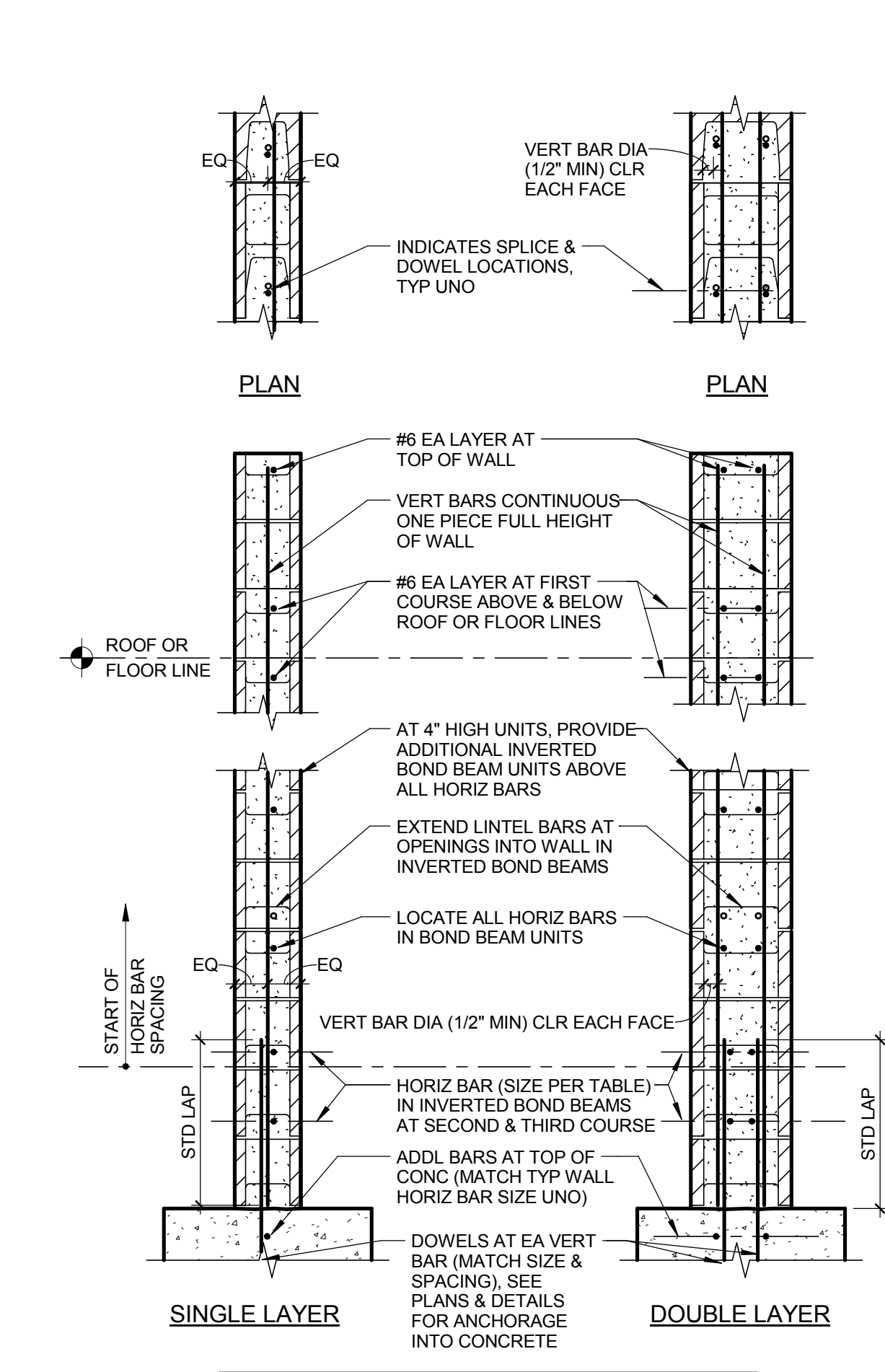
- NOTES:
- SINGLE AND DOUBLE LAYER REINFORCED WALLS MAY BE CONSTRUCTED USING LOW-LIFT OR HIGH-LIFT GROUTING METHOD.
 - GROUT MAY NOT BE PLACED UNTIL ALL MASONRY UNITS, TIES, REBAR, BOLTS, EMBEDDED ITEMS & CLEAN-OUT CLOSURES ARE IN PLACE & SECURED IN POSITION TO THE TOP OF EACH GROUT POUR. GROUT ALL CELLS.
 - PROVIDE GROUT CONSTRUCTION JOINT AT TOP OF EACH POUR. SEE TYP DETAIL.
 - AFTER LOWER SECTION IS GROUTED AND PROPERLY CURED, LAY-UP & GROUT NEXT SECTION OF WALL TO HEIGHT LIMITATIONS BELOW.
 - WHERE STACK BOND IS SPECIFIED, ALL UNITS SHALL BE BOND BEAM UNITS.

2 TYP MASONRY WALL CONST
3/4" = 1'-0" S_048200_T021A 140127.Q2



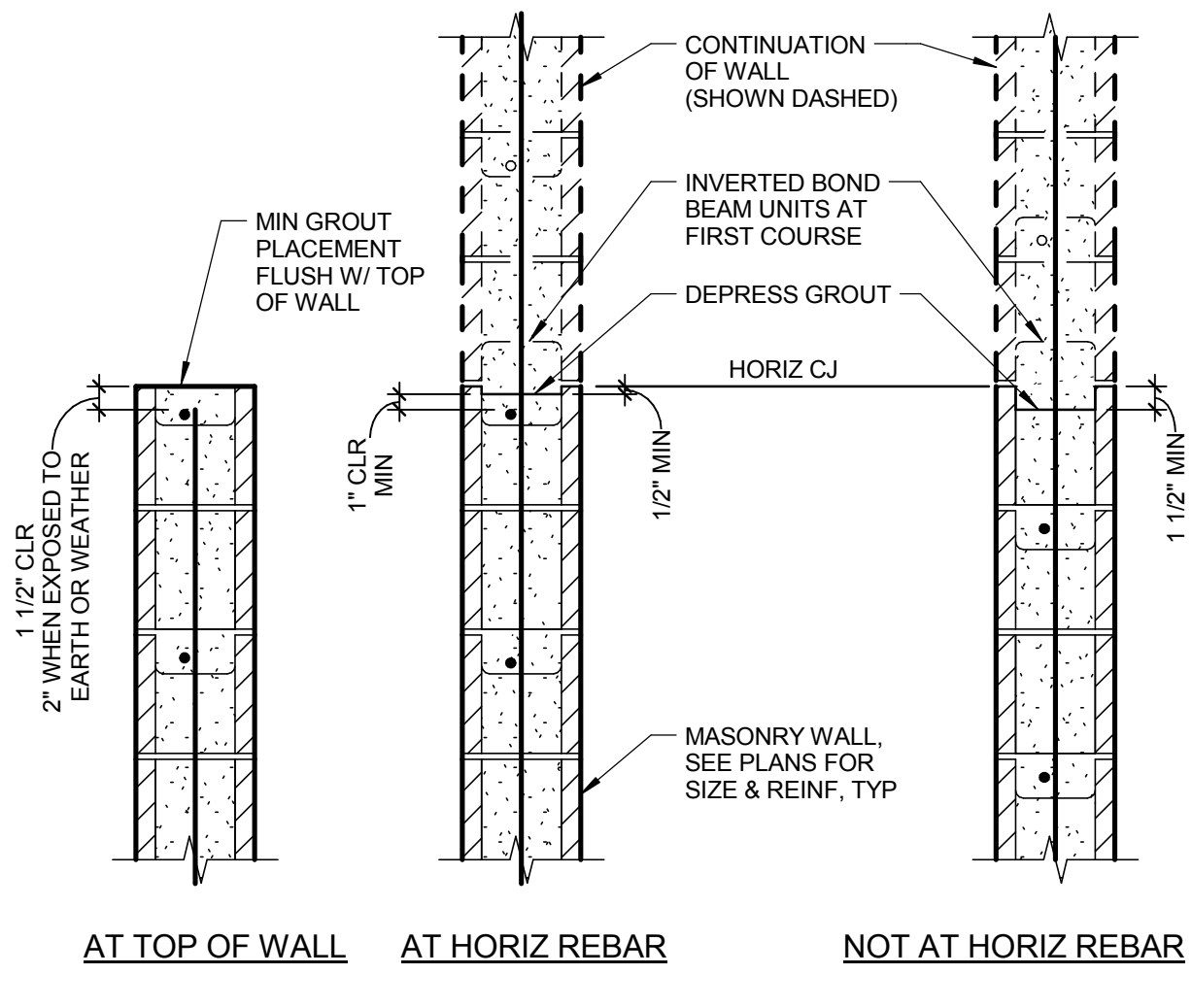
AB DIA	MIN EMBED	MIN NOMINAL WALL THICKNESS
3/8"	3"	6"
1/2"	4"	8"
5/8"	5"	8"
3/4"	5"	8"
7/8"	7"	12"
1"	8"	12"

3 TYP BOLT EMBED IN MASONRY
1 1/2" = 1'-0" S_048200_T004A 140127.Q2

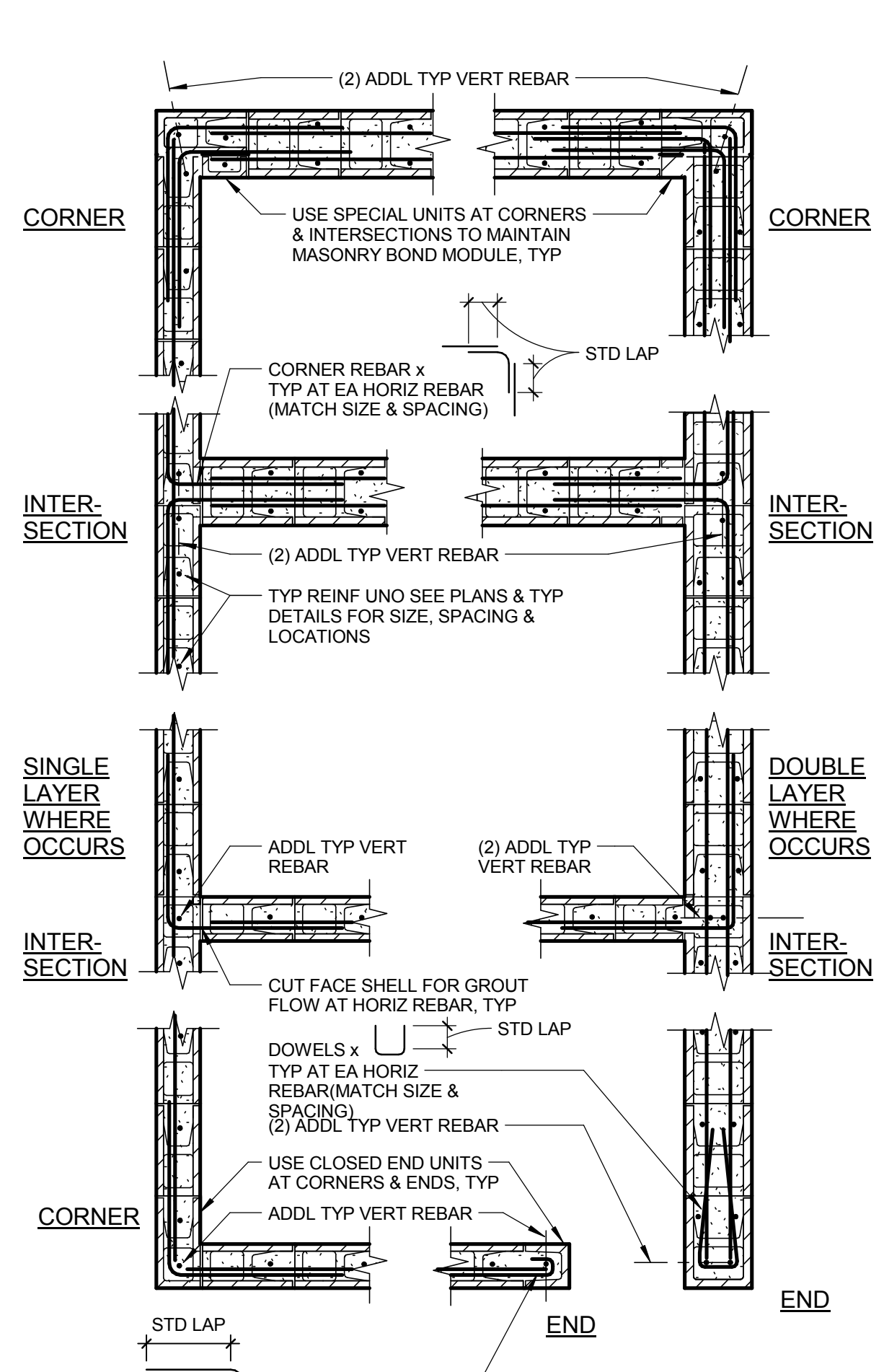


NOMINAL WALL THICKNESS	MINIMUM REINFORCING UNO	
	VERTICAL	HORIZONTAL
SINGLE LAYER	6"	#4 @ 16" OC
	8"	#5 @ 16" OC

5 TYP MASONRY WALL REINFORCEMENT
3/4" = 1'-0" S_048200_T021A 140127.Q2

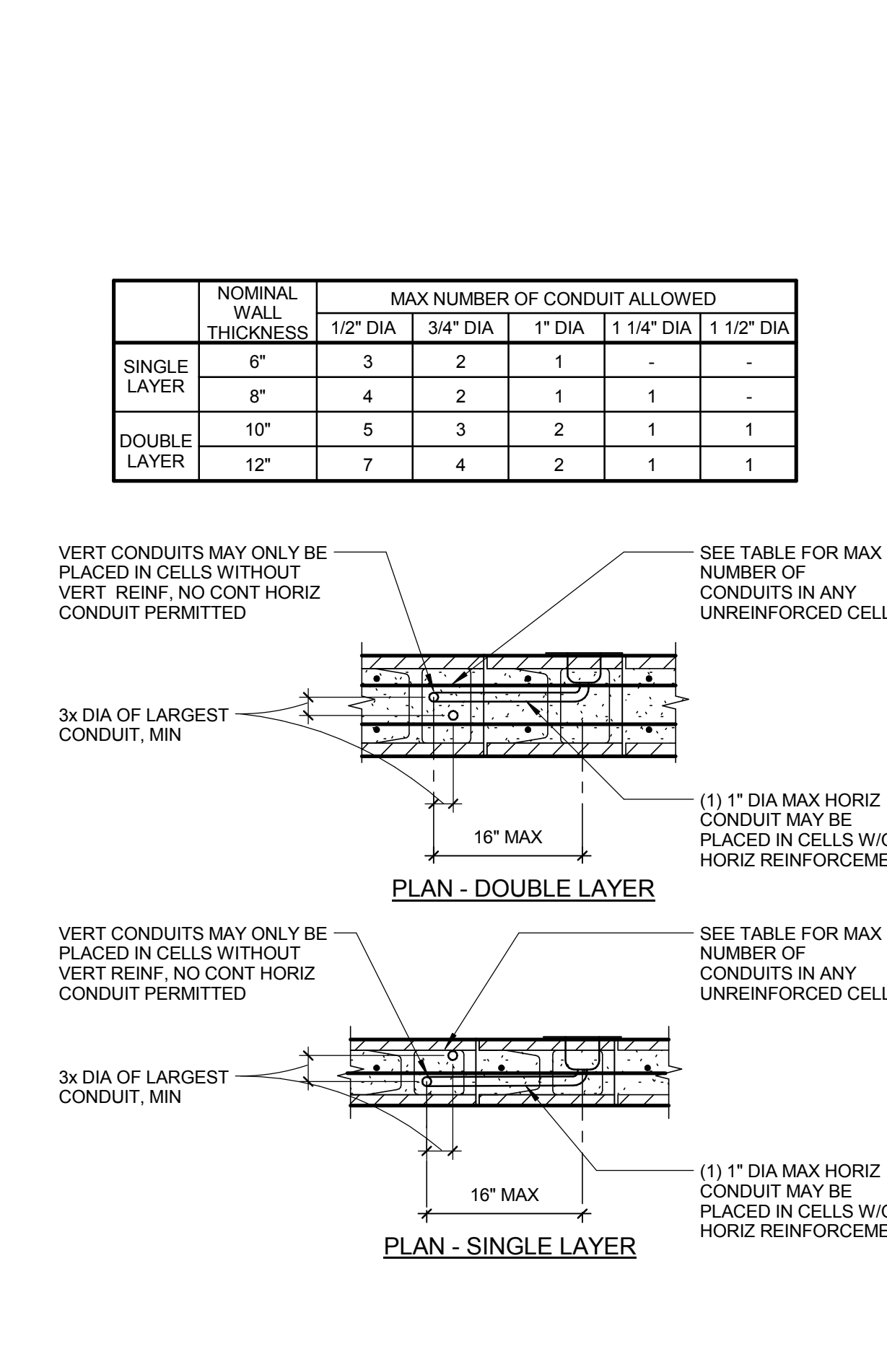


6 TYP MASONRY GROUT CJ
1" = 1'-0" S_048200_T004A 140127.Q1



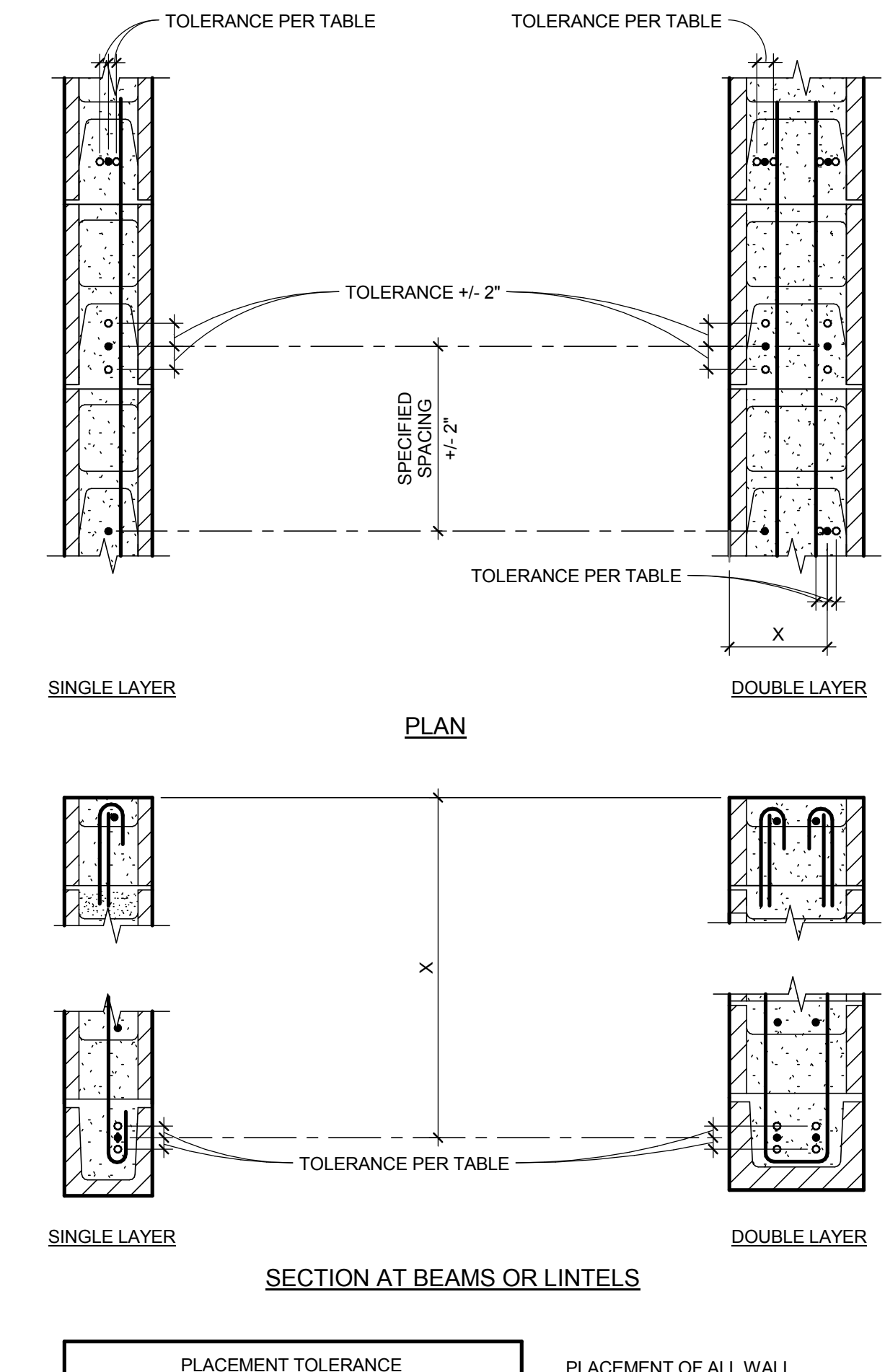
- NOTES:
- ALL VERT REBAR SHALL HAVE MATCHING DOWELS AT FOOTING W/ STD LAP, TYP.
 - END OF WALL HORIZ REBAR DOWELS NOT REQ AT SITE WALLS, UNO.

8 TYP MASONRY WALL REINF AT INTERSECTIONS, CORNERS & ENDS
1/2" = 1'-0" S_048200_T021A 140127.Q1



- NOTES:
- ONLY ELECTRICAL RIGID STEEL CONDUIT OR INTERMEDIATE METALLIC CONDUIT ARE ALLOWED TO BE EMBEDDED. NO WATER, GAS, STEAM OR ANY OTHER LINES ARE ALLOWED.
 - WRAP ALL CONDUIT SWEEPS, FITTINGS AND COUPLERS W/ 1/8" MIN TO 1/4" MAX THICK FOAM TAPE AND EXTEND WRAP 12" MIN ALONG HORIZ AND VERT CONDUIT RUN.
 - MAX OF (1) JUNCTION BOX IS ALLOWED PER CELL. DO NOT INSTALL JUNCTION BOXES IN CELLS CONTAINING VERT OR HORIZ REINF. WHERE JUNCTION BOX LOCATION CANNOT BE ADJUSTED VERTICALLY TO OCCUR IN UNREINFORCED CELLS, PROVIDE CONT BOND BEAM ABOVE AND BELOW. DO NOT CUT REINF.
 - NOTIFY THE STRUCTURAL ENGINEER AND OBTAIN DIRECTION BEFORE PROCEEDING SITUATIONS THAT ARE NOT SPECIFICALLY DETAILED.
 - PLACE ALL CONDUIT & FORM TAPES 1/2" MIN CLR FROM ALL REINF & MASONRY

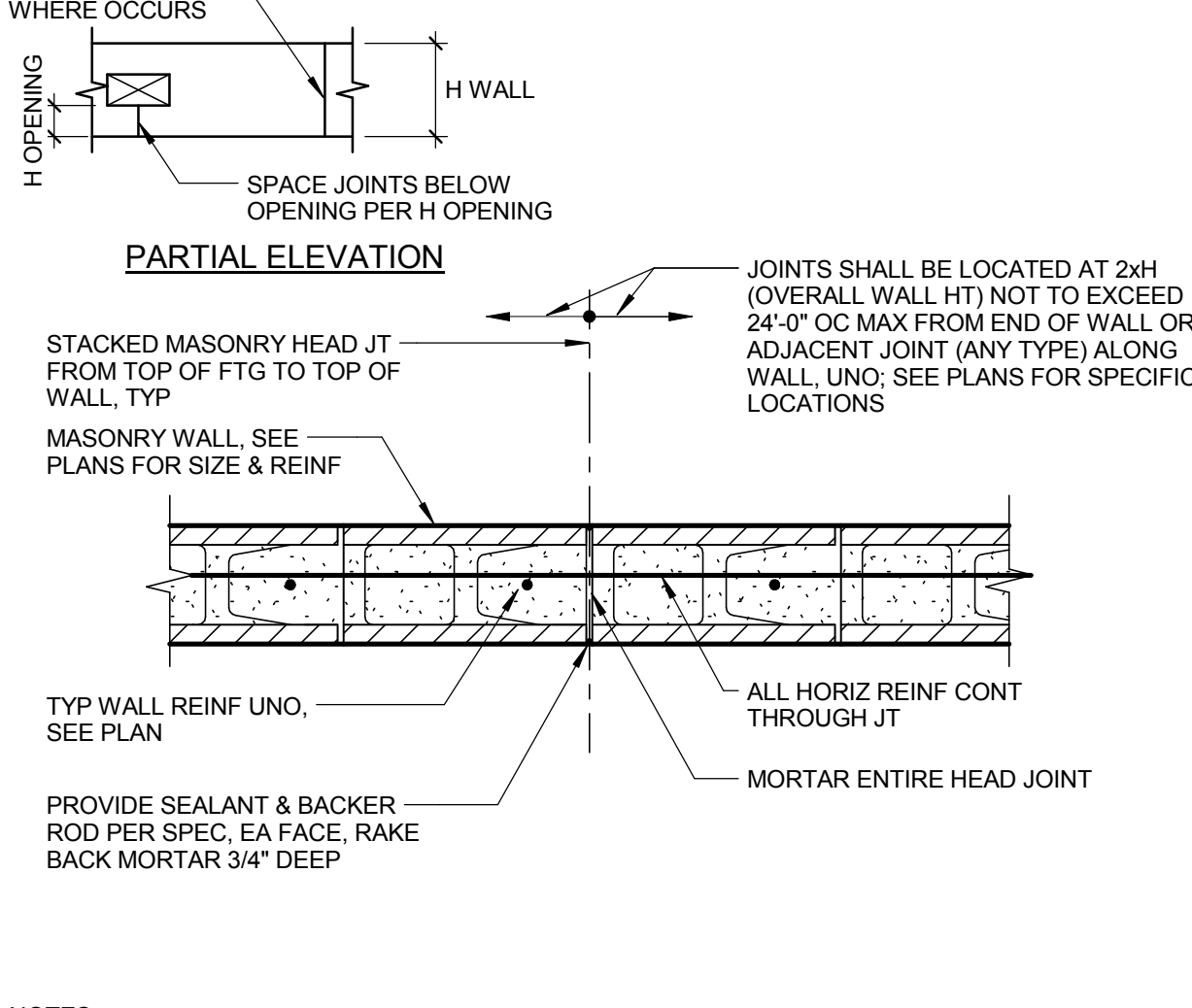
11 TYP CONDUIT EMBEDDED IN MASONRY WALL
3/4" = 1'-0" S_048200_T021A 140127.Q2



PLACEMENT TOLERANCE	
X EQUALS 8" OR LESS	+/- 1/2"
X BETWEEN 8" & 24"	+/- 1"
X GREATER THAN 24"	+/- 1 1/4"

PLACEMENT OF ALL WALL DOWELS SHALL BE HELD TO THE SAME TOLERANCE

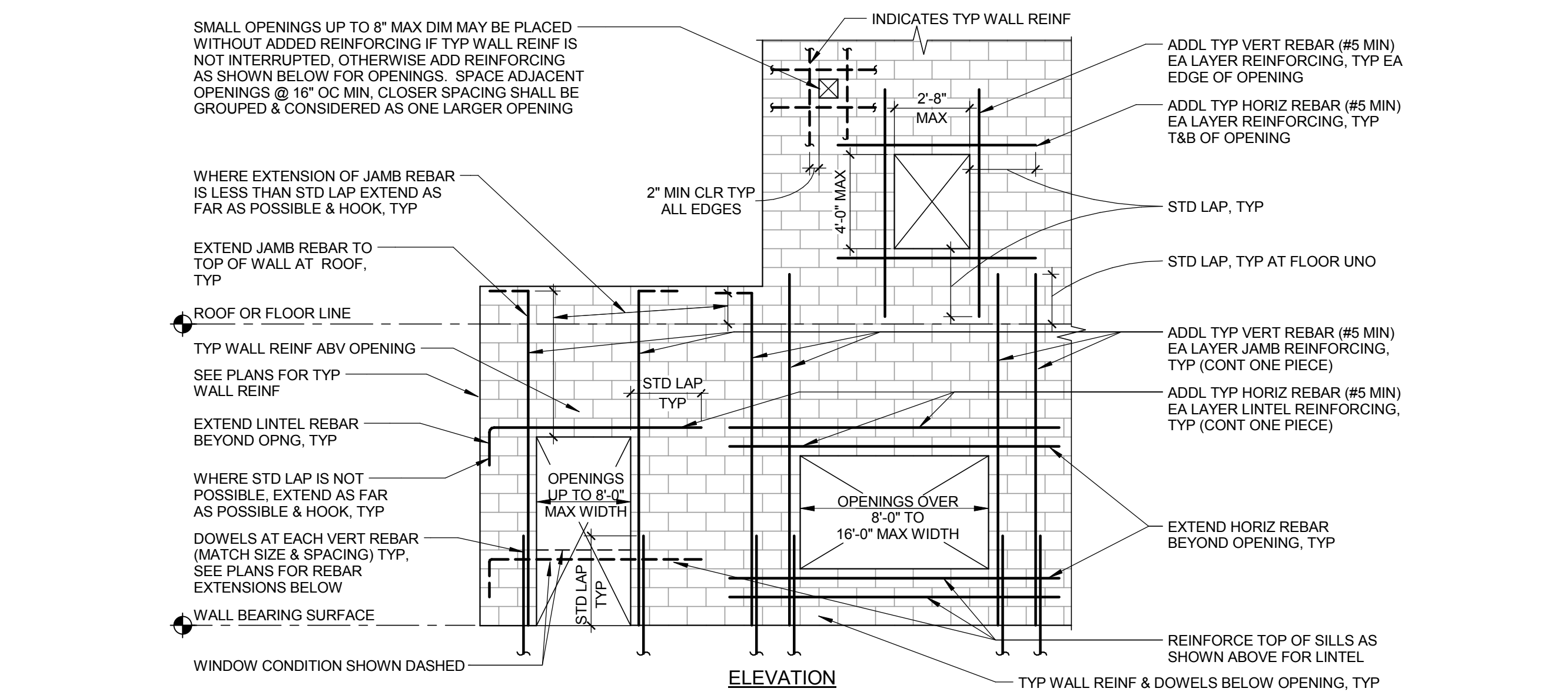
14 TYP MASONRY WALL REINF PLACEMENT TOLERANCE
1" = 1'-0" S_048200_T021A 140127.Q2



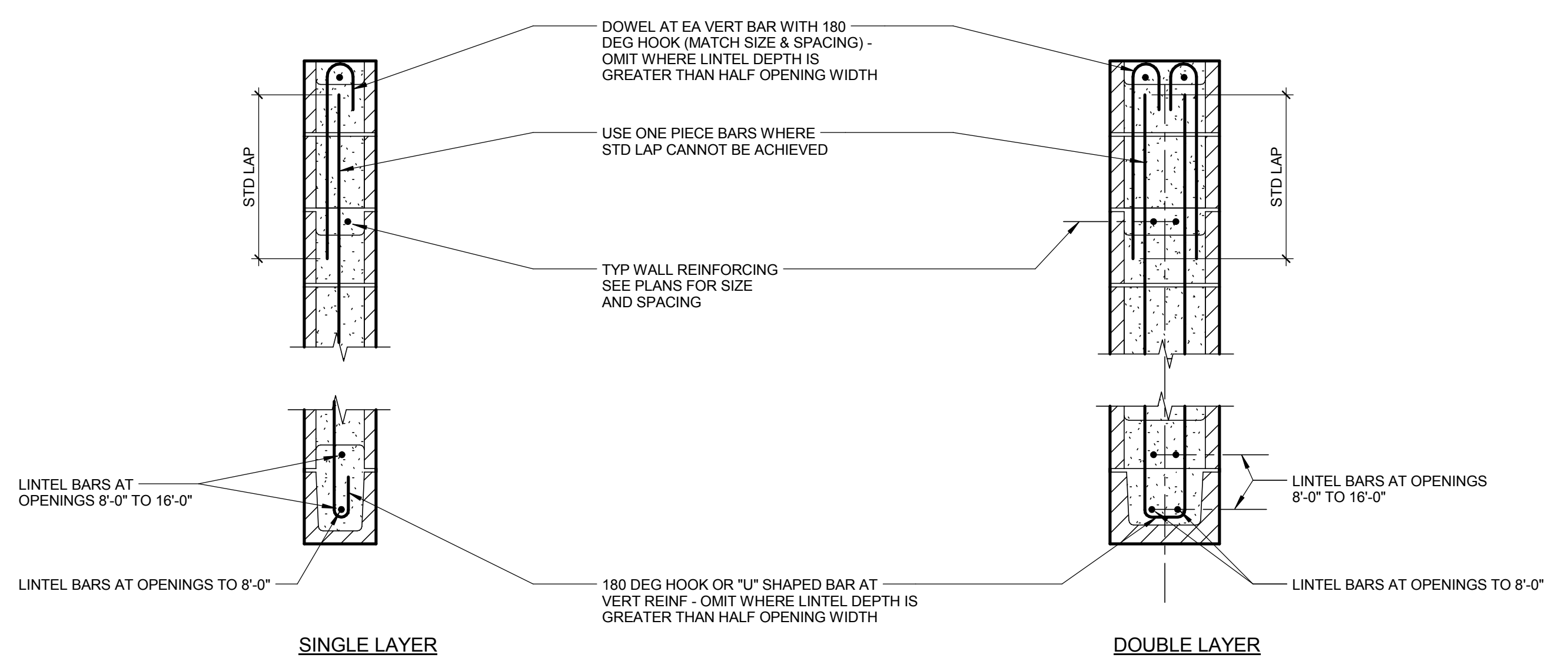
15 TYP MASONRY RAKE JOINT
1" = 1'-0" S_048200_T010A 140127.Q1

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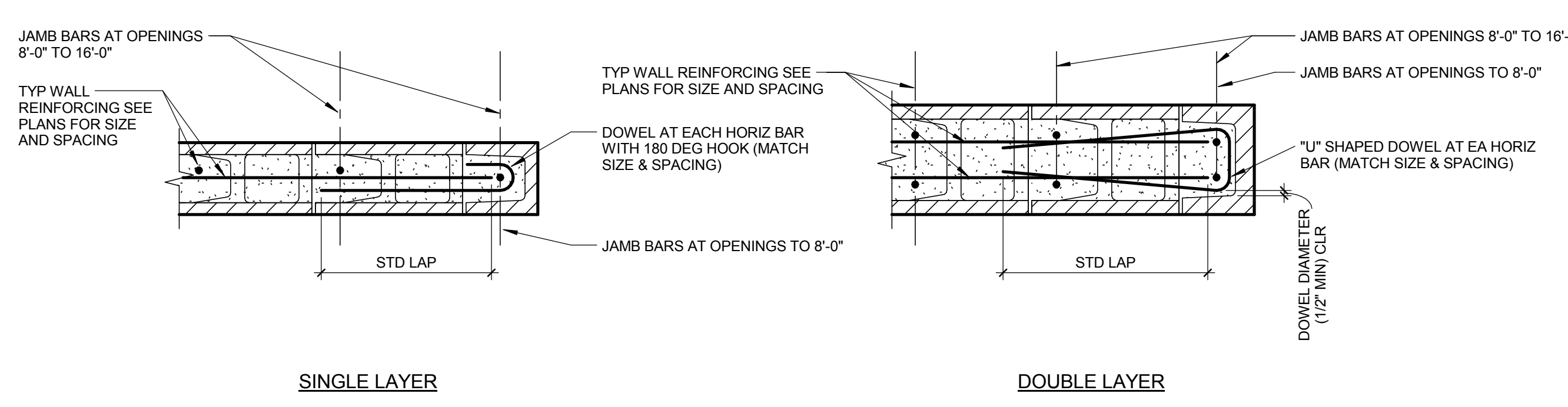
CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management Department of Veterans Affairs			
 Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148		 hfp architects 745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148		DETAILS - TYPICAL MASONRY		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE		570-13-300					
				Approved: Project Director		FRESNO, CA		Building Number 22A					
Revisions:		Date		Date		Checked DEH		Drawn PB		Drawing Number 22A-S-541			
						Dwg 39 of 86							



1 TYP MASONRY WALL REINF AT OPENINGS
1/4" = 1'-0"
S_048200_T002A 140127.Q2

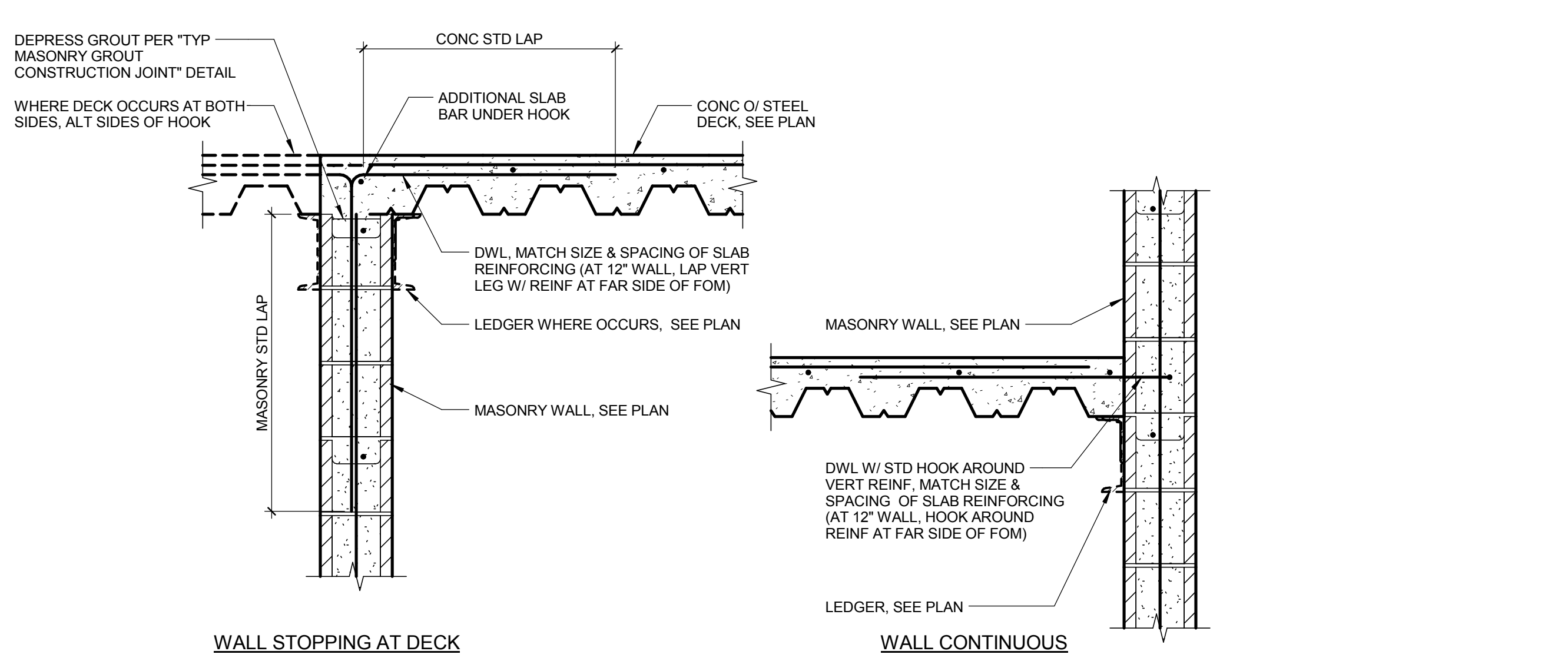


SECTION AT LINTEL BEAM

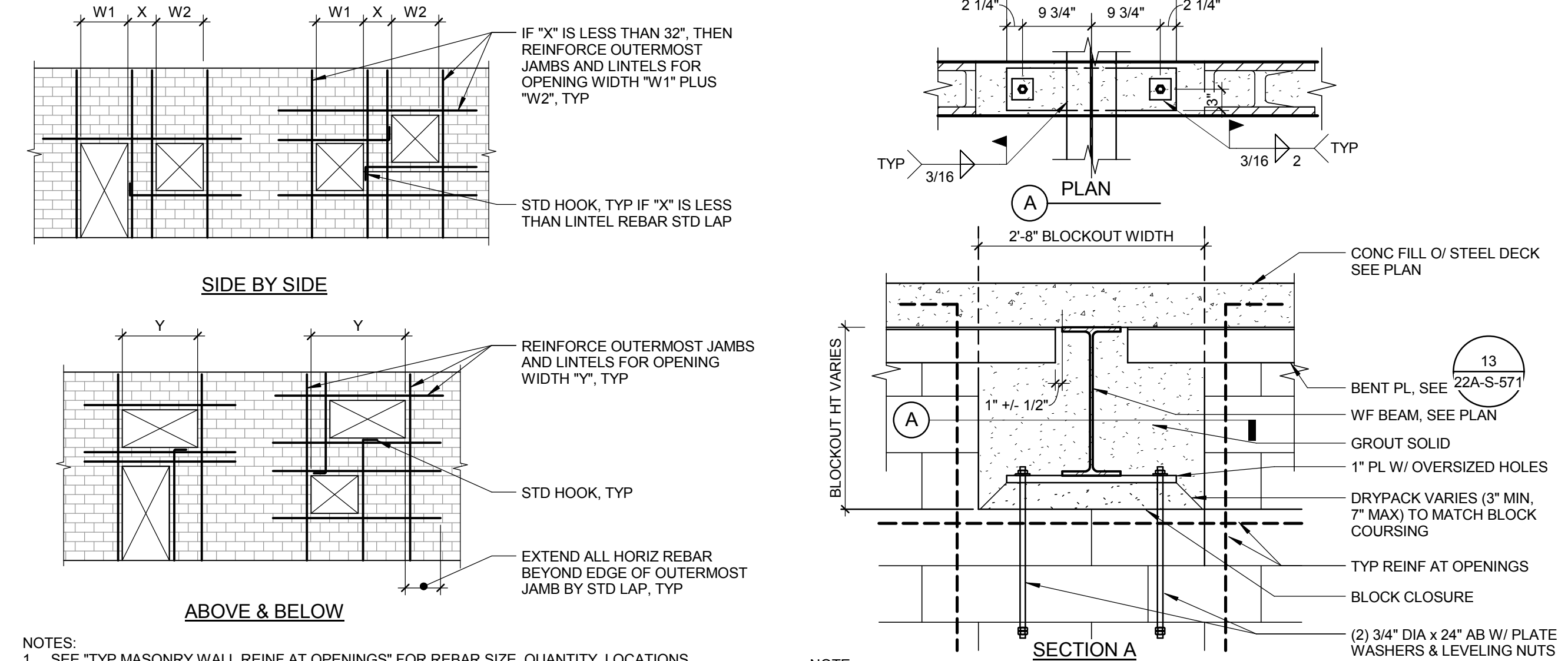


PLAN AT JAMBS

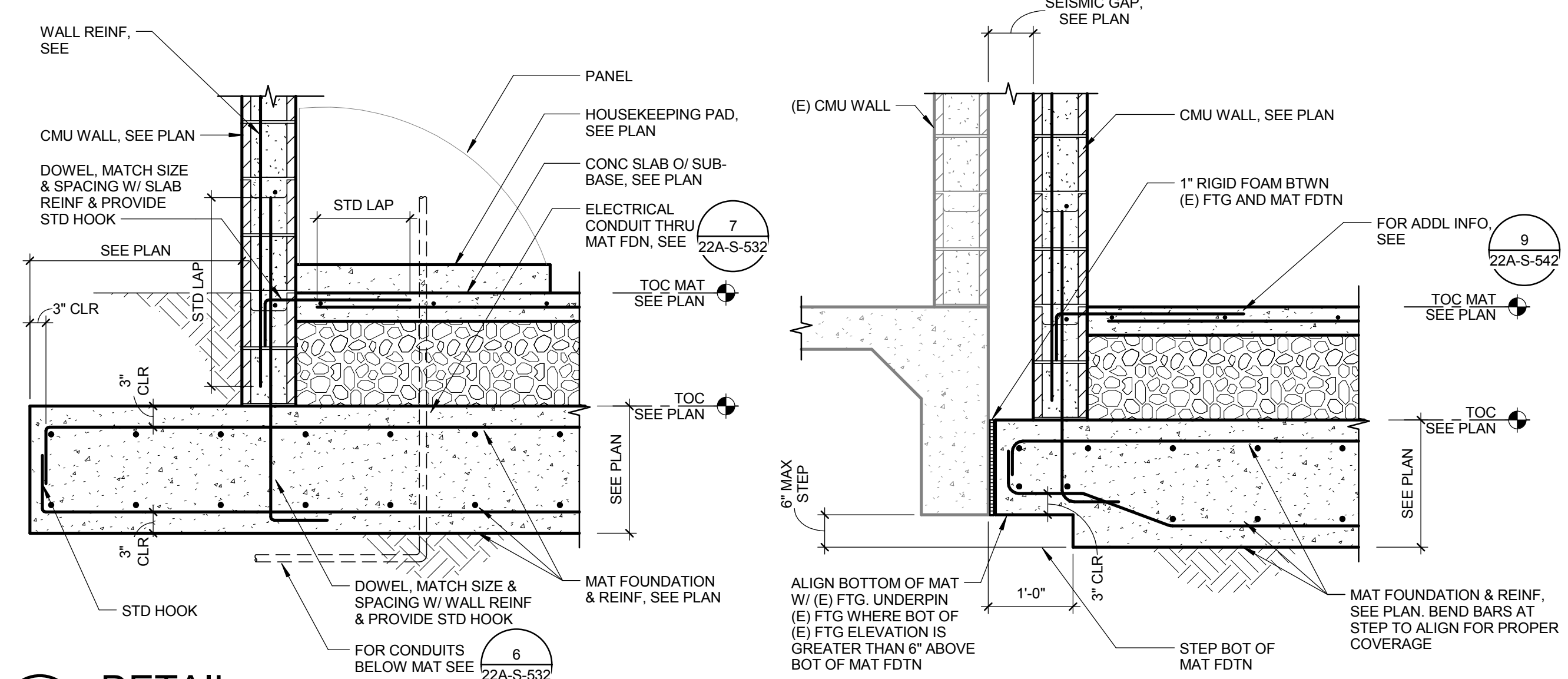
3 TYP MASONRY WALL REINF AT OPENINGS
1" = 1'-0"
S_048200_T002B 140127.Q2



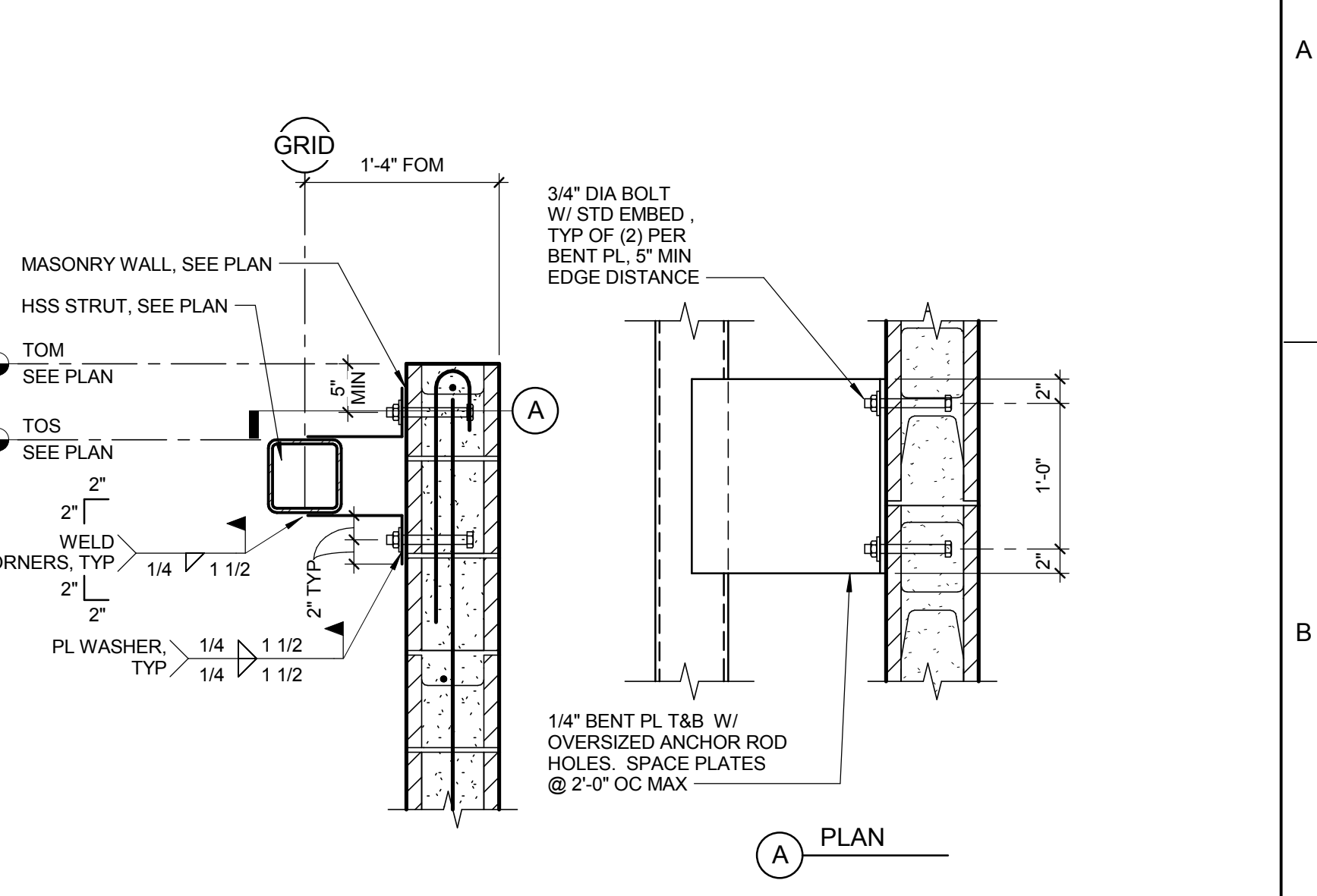
7 TYP CONCRETE DECK DOWEL AT MASONRY WALL
1" = 1'-0"
S_048200_T002A 140127.Q2



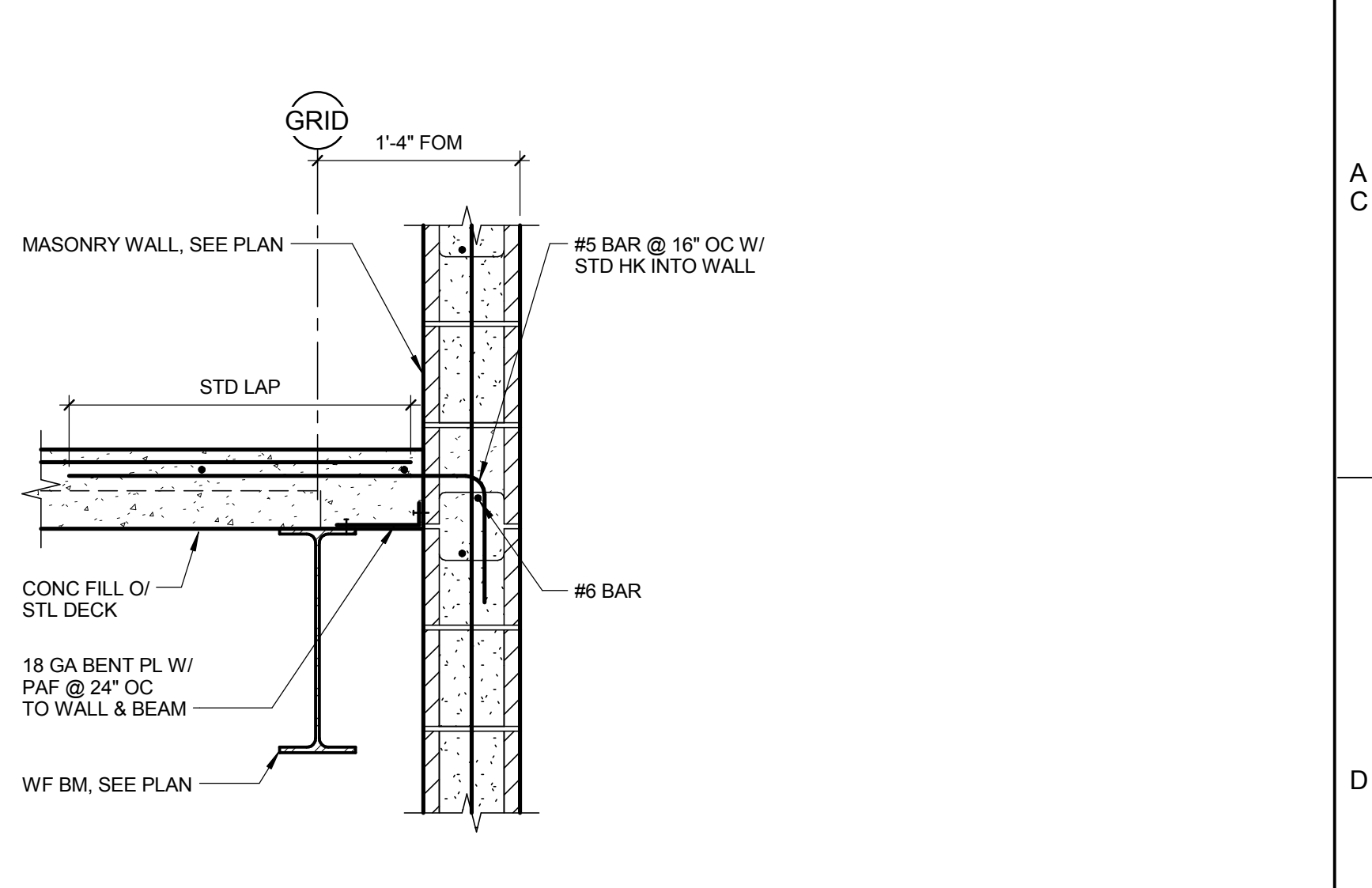
8 TYP MASONRY ADJACENT OPNG
1/8" = 1'-0"
S_048200_T042A 140127.Q1



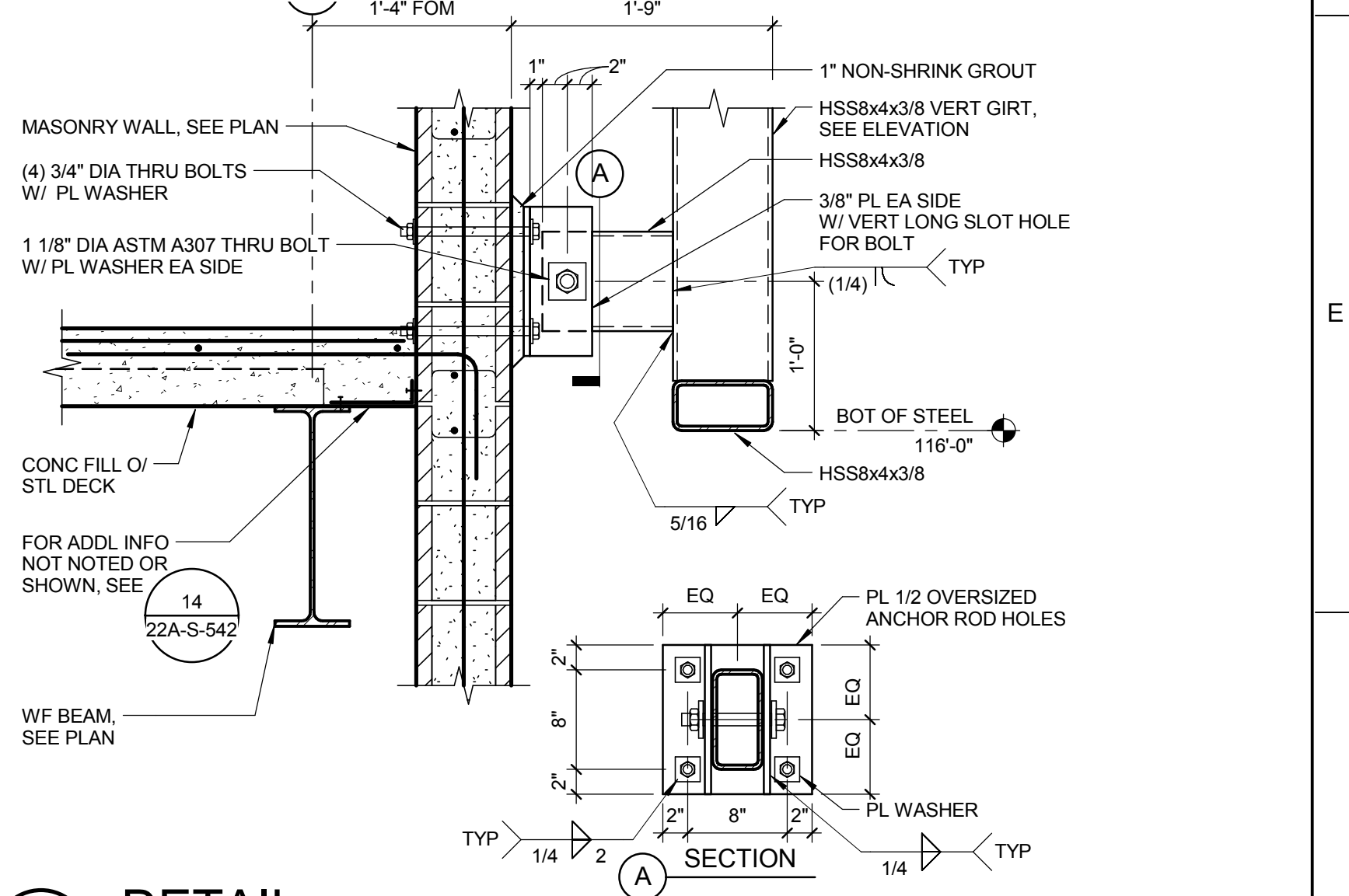
9 DETAIL
3/4" = 1'-0"
S_048200_T002B 140127.Q2



13 DETAIL
1" = 1'-0"
S_048200_T002A 140127.Q2



14 DETAIL
1" = 1'-0"
S_048200_T042A 140127.Q2

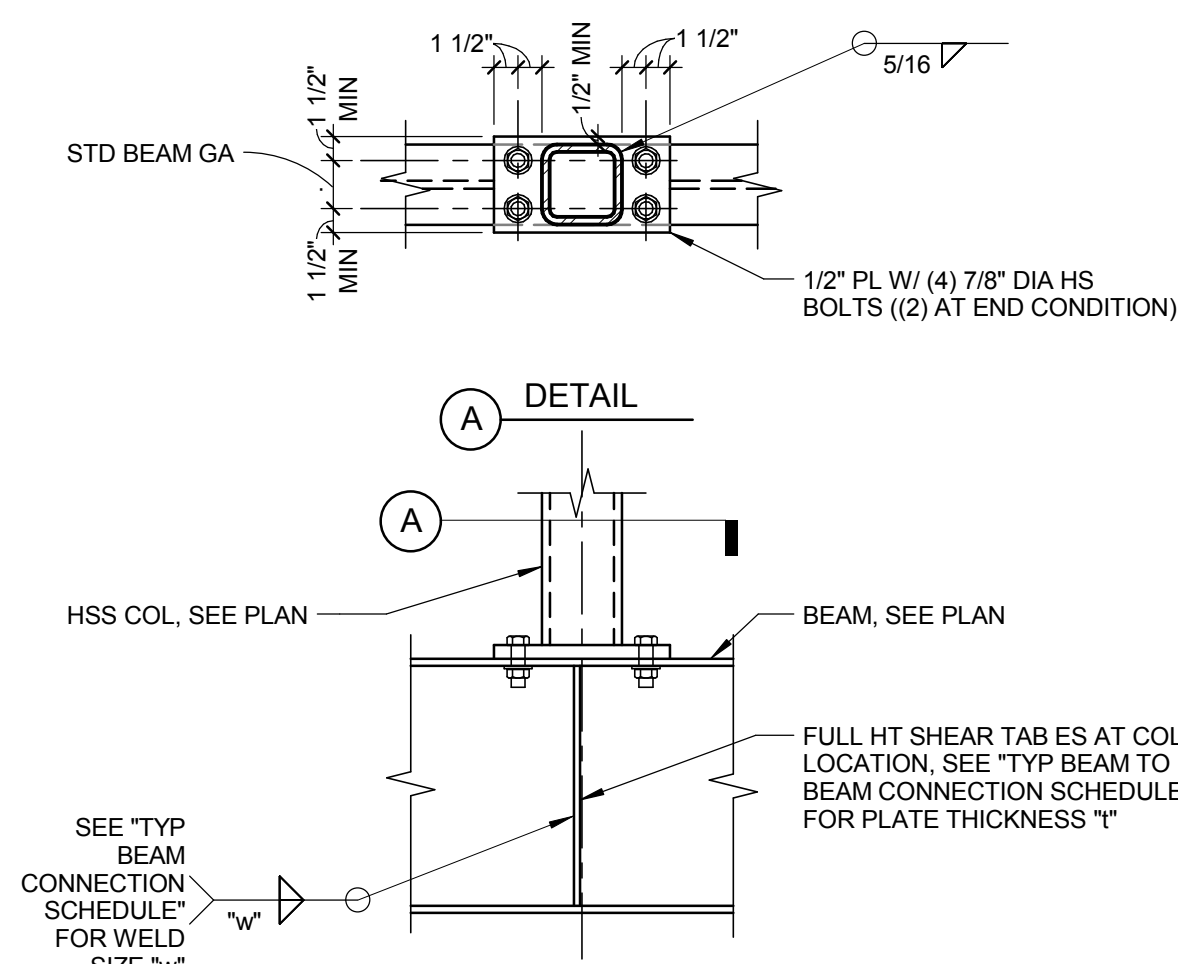
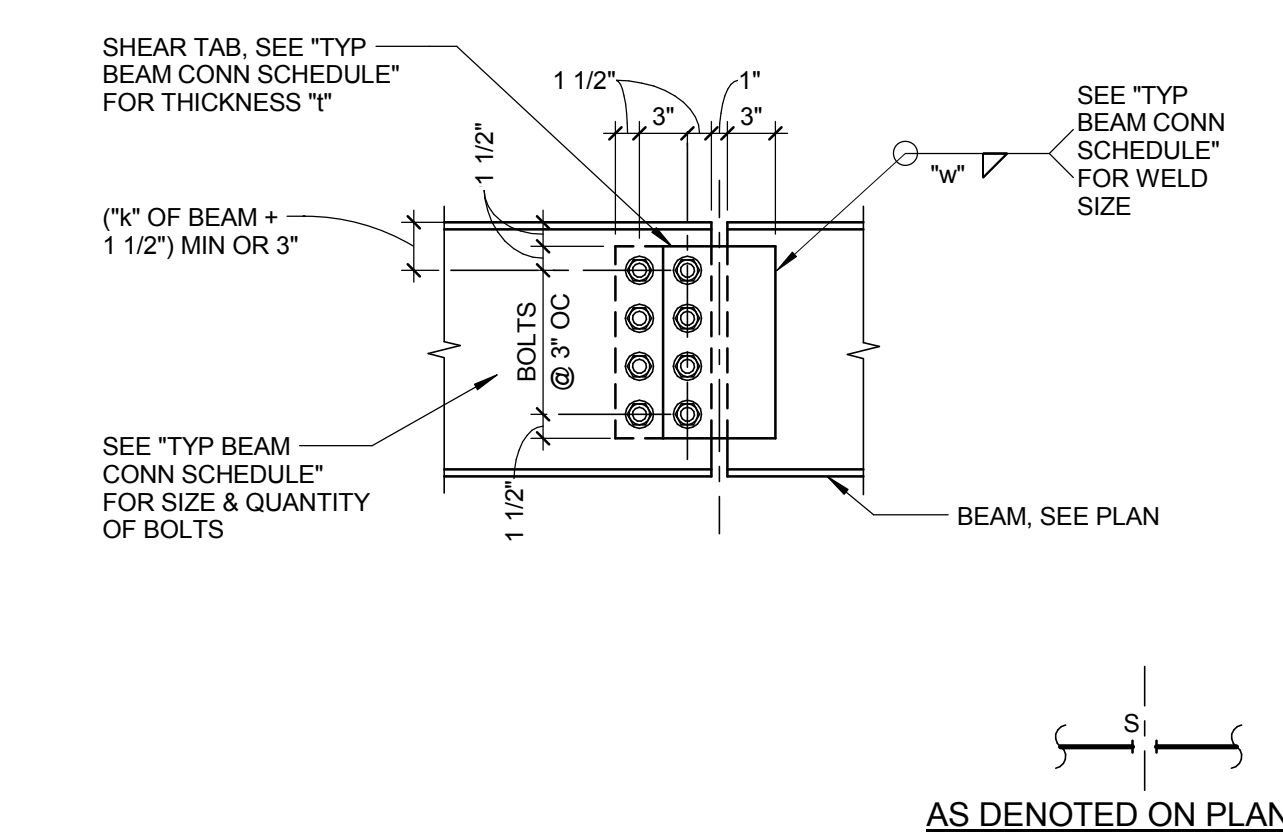


15 DETAIL
1" = 1'-0"
S_048200_T002B 140127.Q2

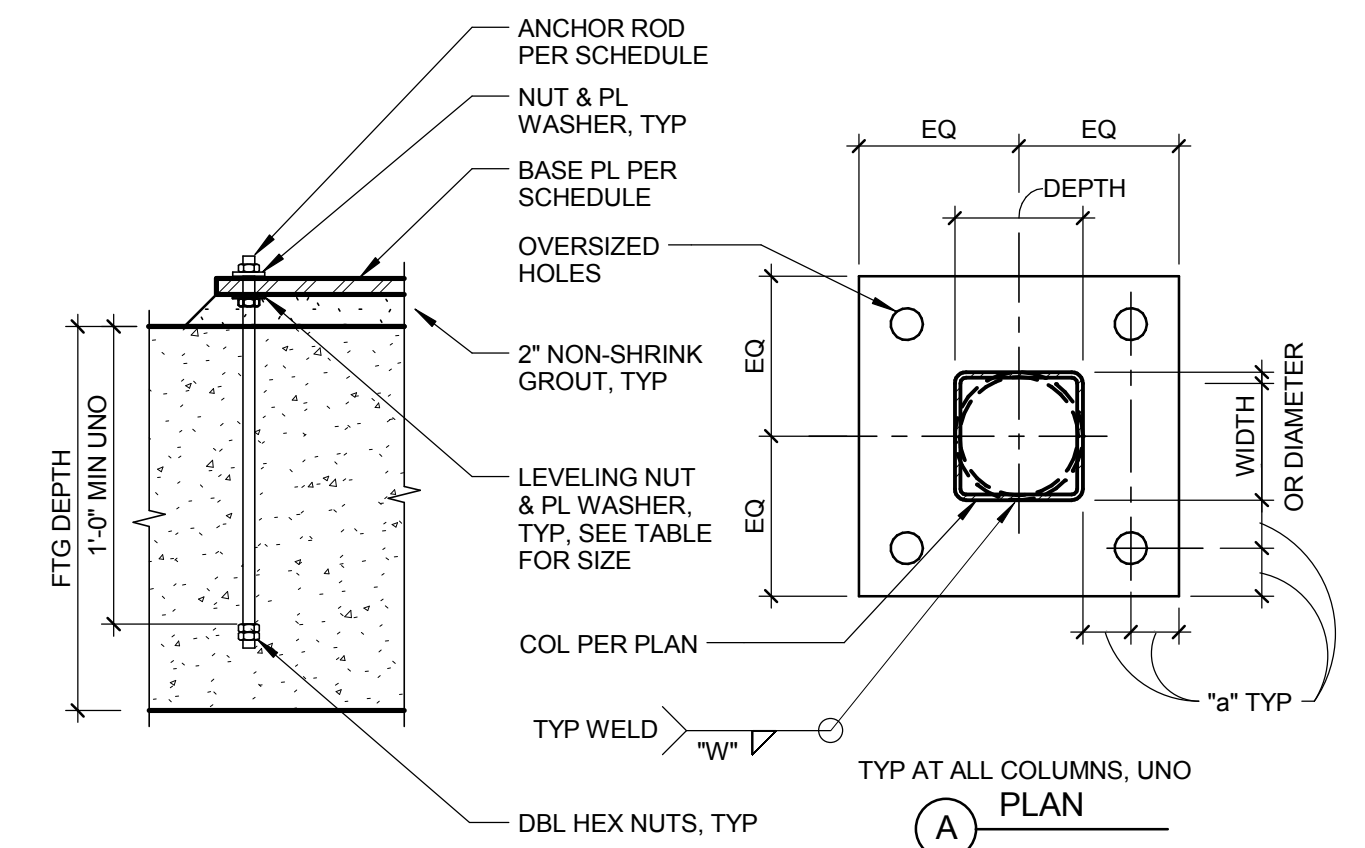
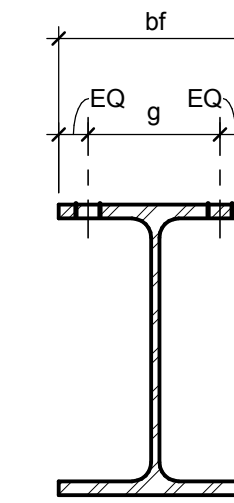
100% CONSTRUCTION DOCUMENT SUBMITTAL

CONSULTANTS: <div>  Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148 </div> <div>  </div>		ARCHITECT/ENGINEERS: <div> hfp architects 745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148 </div> <div>  </div>		Drawing Title DETAILS - TYPICAL MASONRY Approved: Project Director		Project Title VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE Location FRESNO, CA Date 5/08/2015		Project Number 570-13-300 Building Number 22A Drawing Number 22A-S-542 Dwg 40 of 86		Office of Construction and Facilities Management 	
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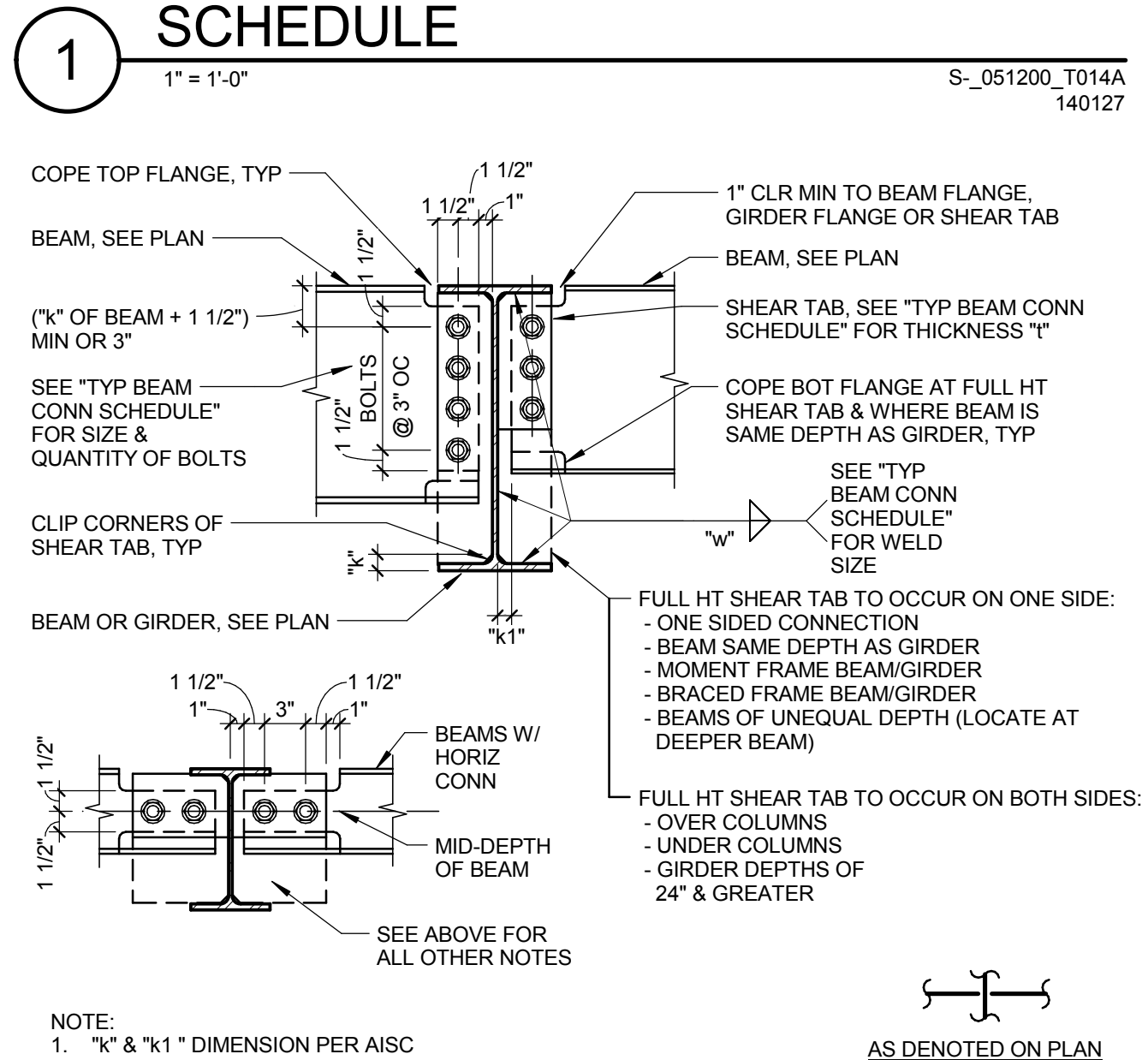
NOMINAL BEAM OR CHANNEL DEPTH	A325 BOLTS (QUANTITY) DIA	WELD SIZE	SHEAR TAB THICKNESS "I"
5, 6, 7	(2) 7/8" HORIZ	3/16"	1/4"
8, 9, 10	(2) 7/8"	3/16"	1/4"
12, 13, 14	(3) 7/8"	5/16"	3/8"
15, 16	(4) 7/8"	5/16"	3/8"
18, 20	(5) 7/8"	5/8"	3/8"
21, 24	(6) 7/8"	3/8"	1/2"
27	(7) 7/8"	3/8"	1/2"
30	(8) 7/8"	3/8"	1/2"
33	(9) 7/8"	3/8"	1/2"
36	(10) 7/8"	1/2"	5/8"
40	(11) 7/8"	1/2"	5/8"
44	(12) 7/8"	1/2"	5/8"



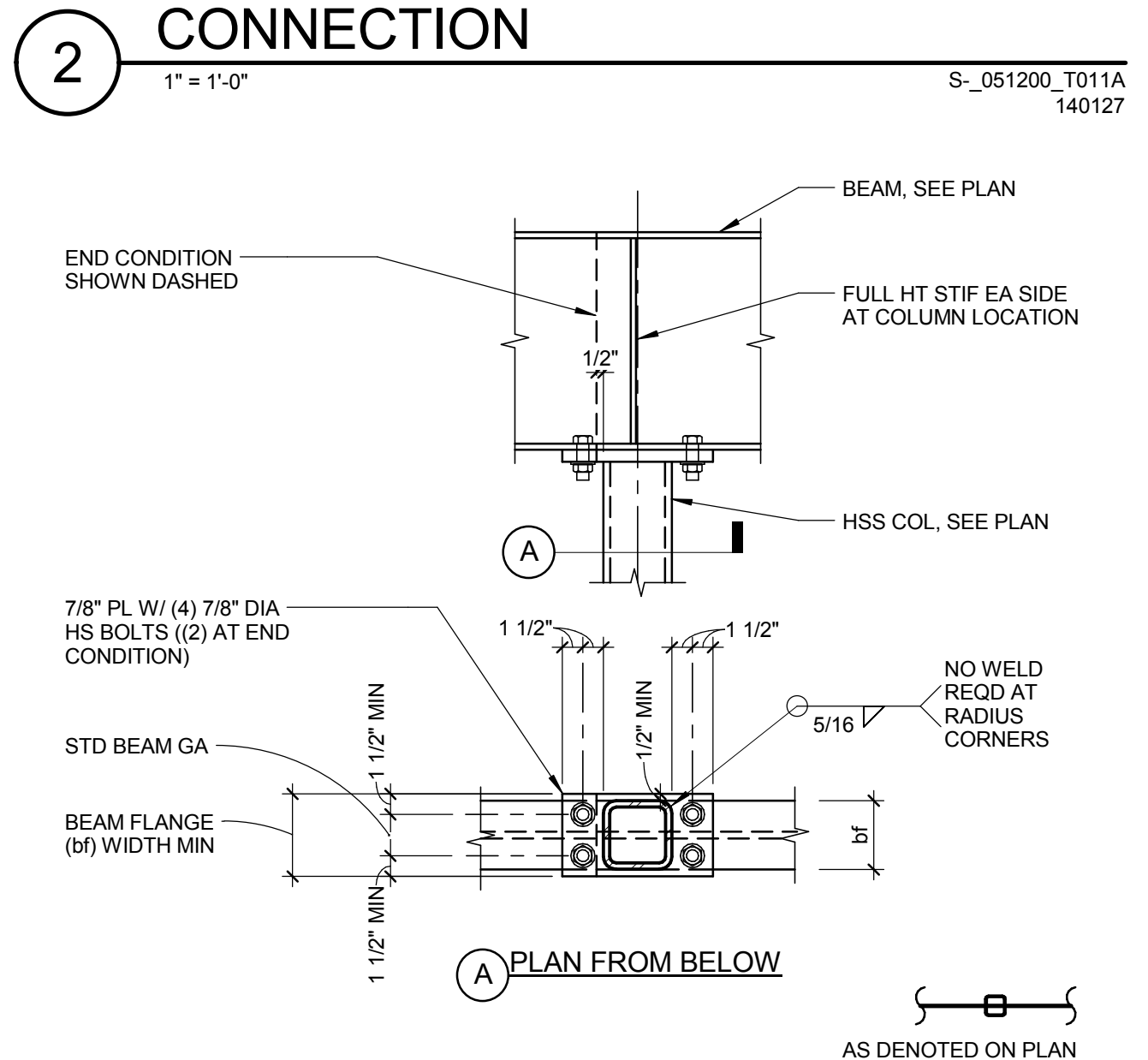
TYP BOLT GAGE FOR W SHAPES	
NOMINAL bf (IN)	g (IN)
$4 \leq bf < 5$	2 1/4
$5 \leq bf < 6$	2 3/4
$6 \leq bf < 8$	3 1/2
$8 \leq bf < 15$	5 1/2



TYP BEAM CONNECTION SCHEDULE



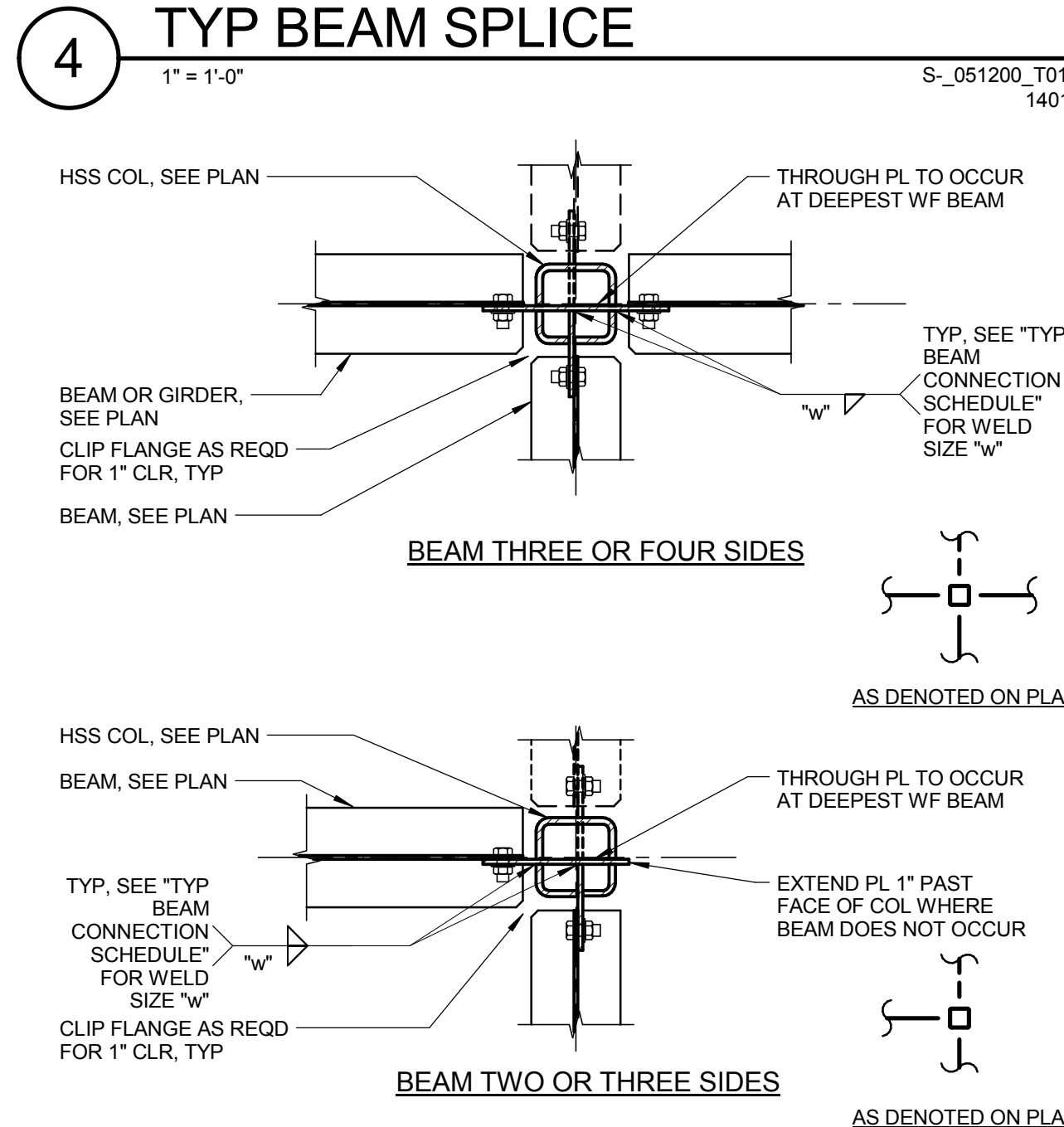
TYP BEAM TO BEAM OR GIRDER CONNECTION



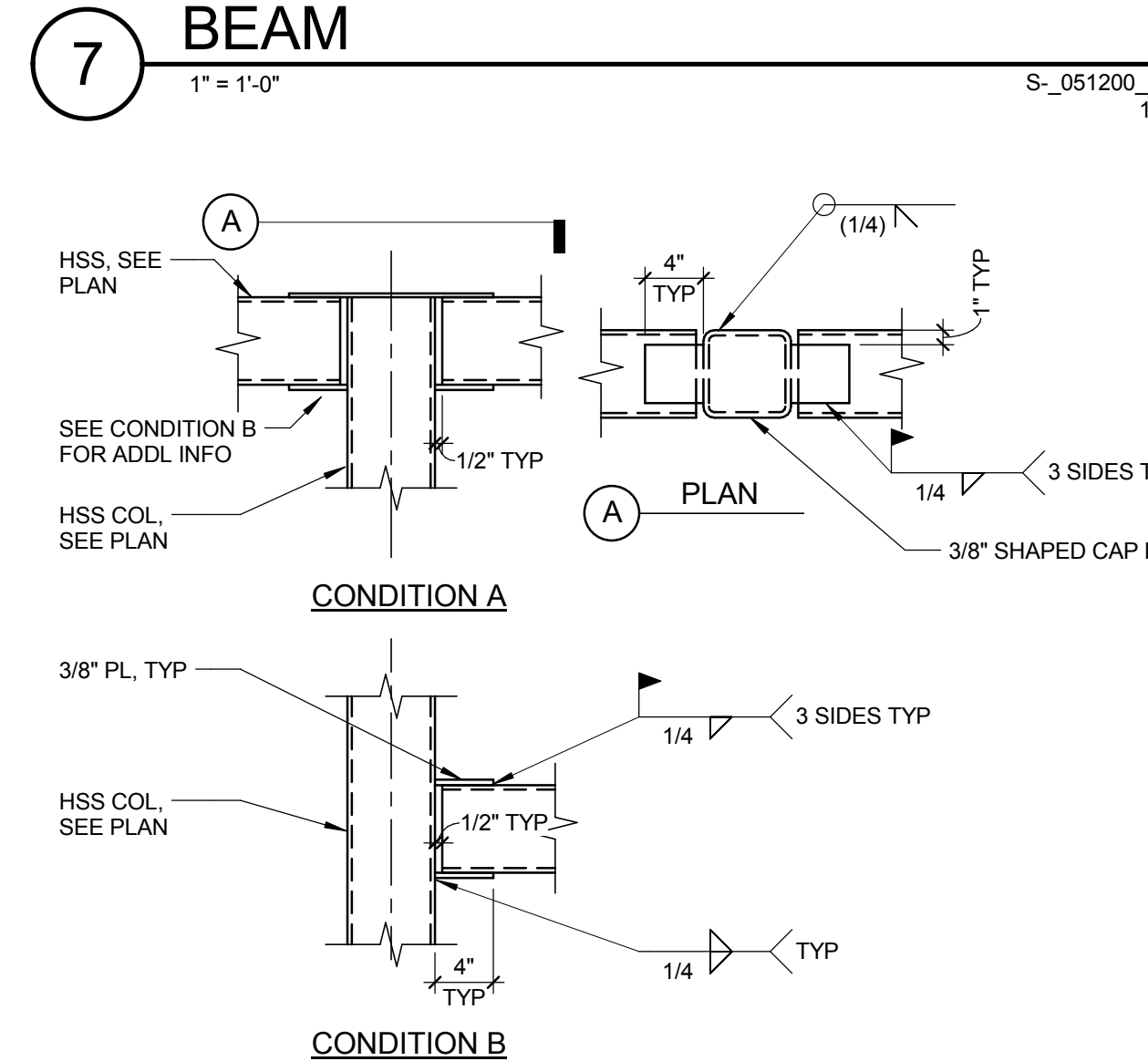
TYP BEAM OVER HSS COLUMN CONNECTION



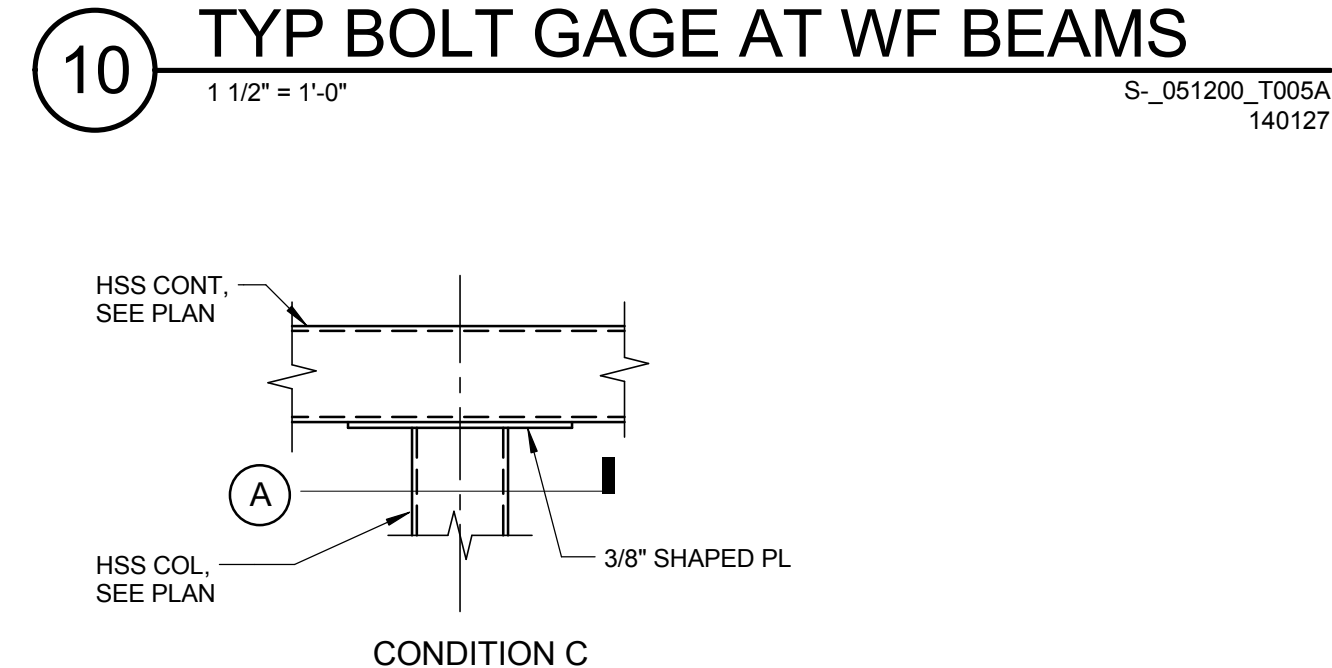
① TYP BEAM SPLICE



TYP HSS COLUMN OVER CONT BEAM



TYP SCREEN WALL HSS GIRT CONNECTION



COLUMN BASE PLATE SCHEDULE						
COLUMN SIZE	AB DIA	BASE PLATE THICKNESS "t"	"a"	"b"	"c"	WELD SIZE "w"
HSS4	3/4"	3/4"	2 1/4"	4"	5/16"	
HSS5	3/4"	3/4"	2 1/4"	4"	5/16"	
HSS6	1"	1"	3"	5"	3/8"	
HSS7	1"	1"	3"	5"	3/8"	
HSS8	1"	1"	3"	5"	3/8"	
HSS10	1"	1"	3"	5"	3/8"	
HSS12	1"	1"	3"	5"	3/8"	

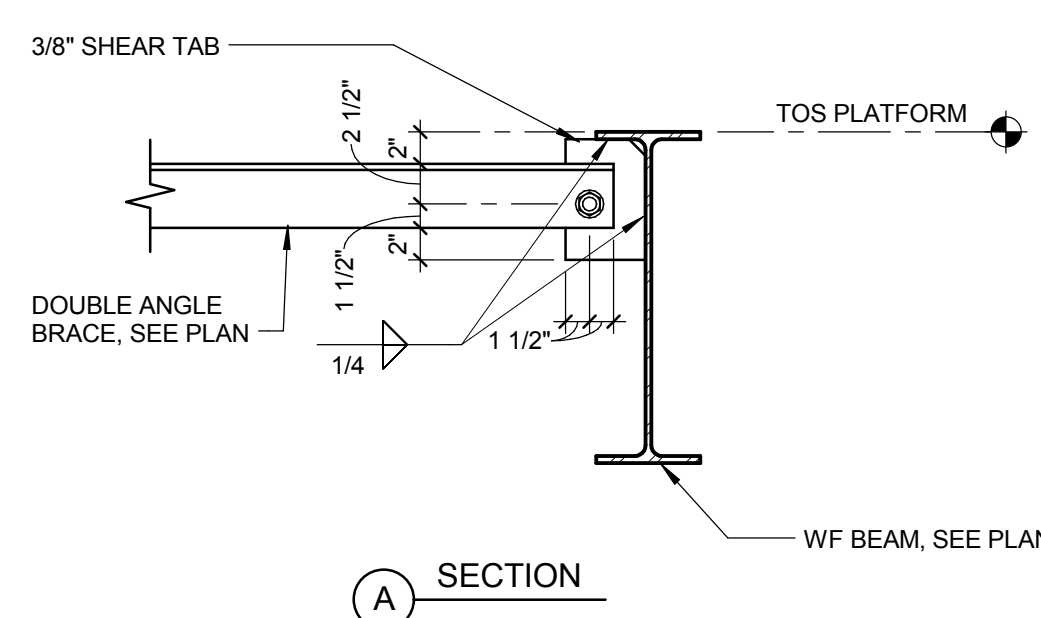
NOTES:
1. SEE STEEL NOTES & SCHEDULE FOR HOLE & PLATE WASHER INFORMATION
2. APPLIES TO SQUARE, RECTANGULAR (2 to 1 MAX DEPTH TO WIDTH RATIO), PIPE & ROUND HSS
3. WELD NOT REQUIRED AT RADIUS CORNERS OF SQUARE OR RECTANGULAR HSS

14 TYP HSS COLUMN BASEPLATE



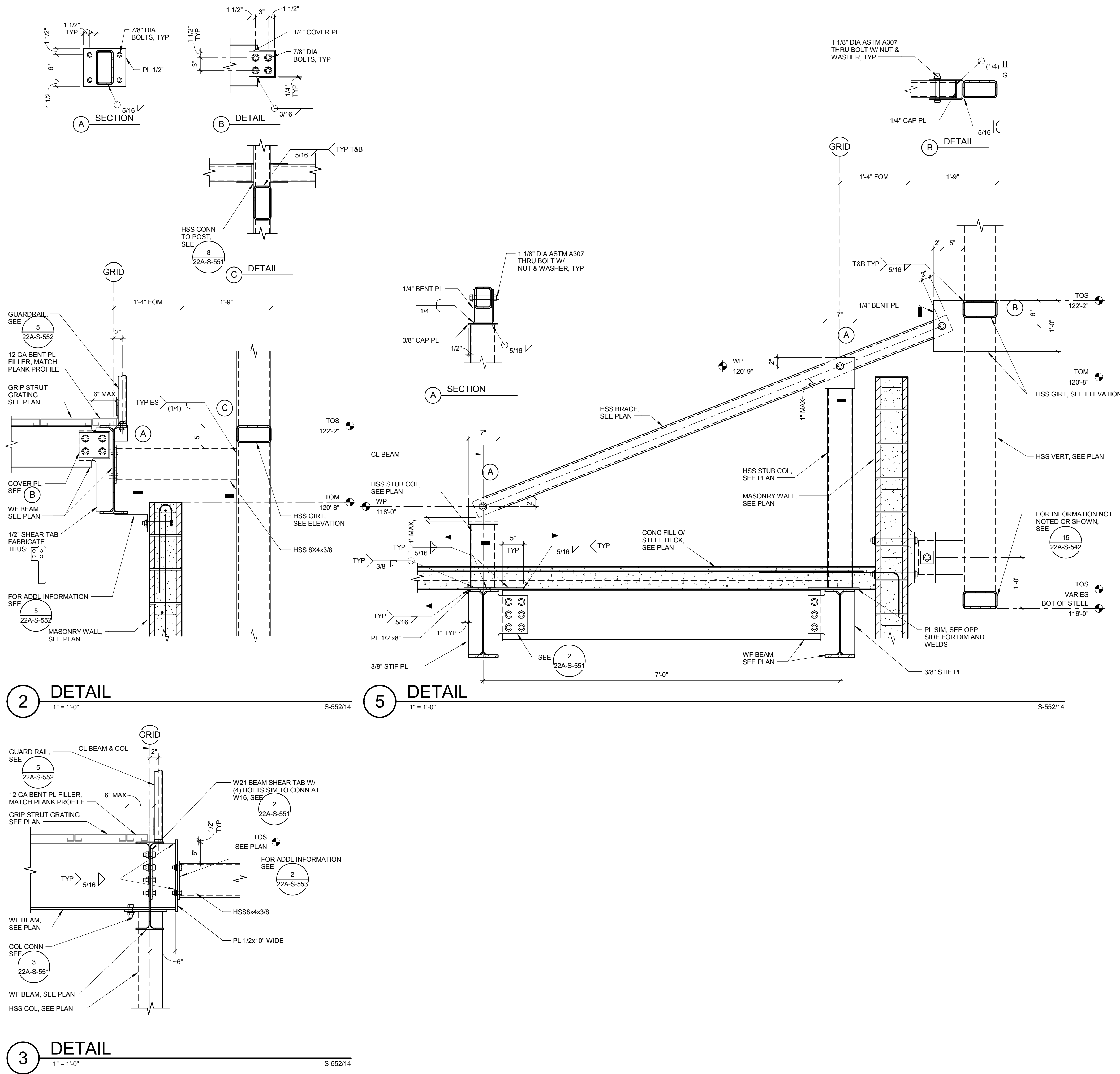
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[illegible]

 Department of
Veterans Affairs

Scale: 1" = 1'-0"

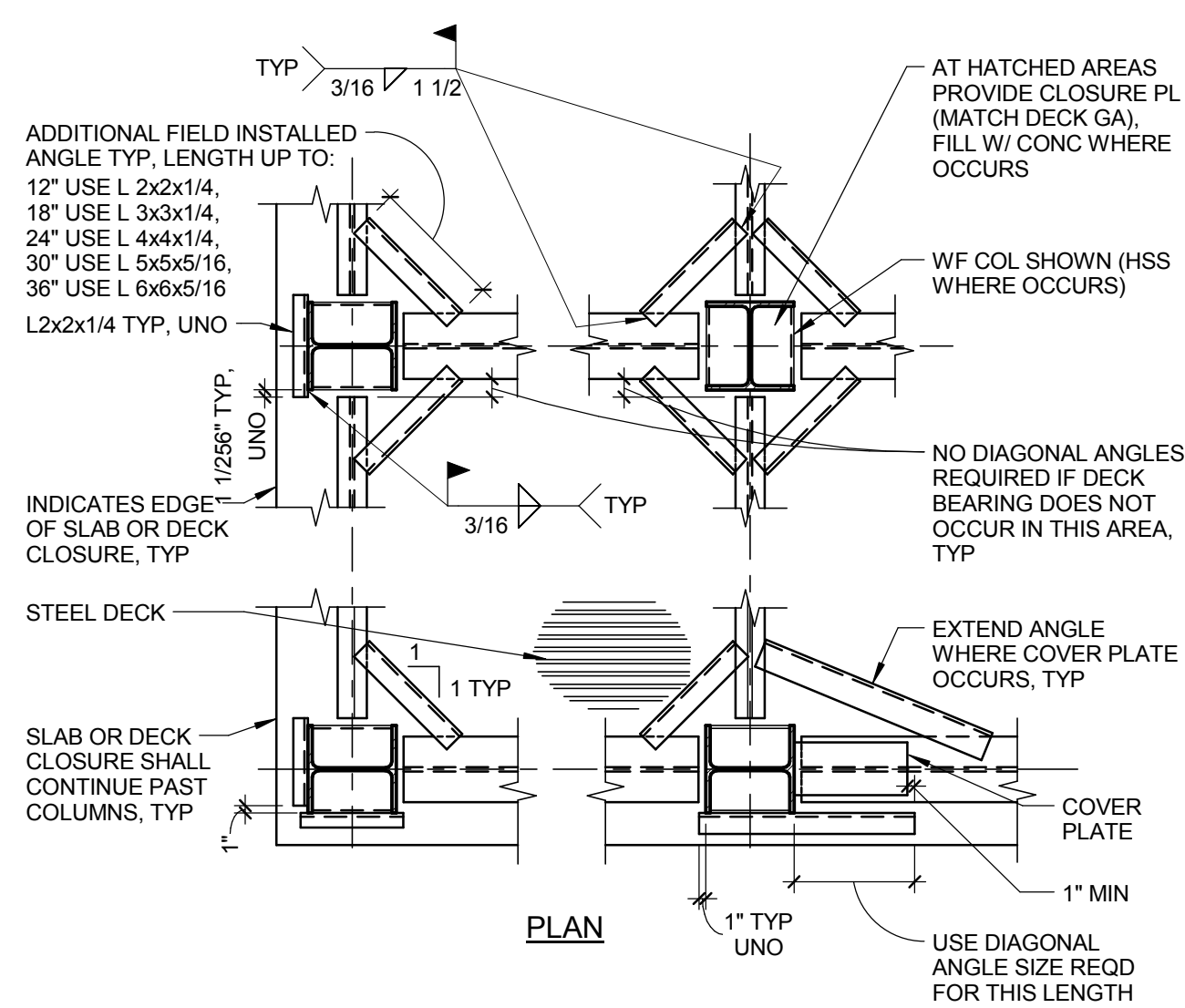
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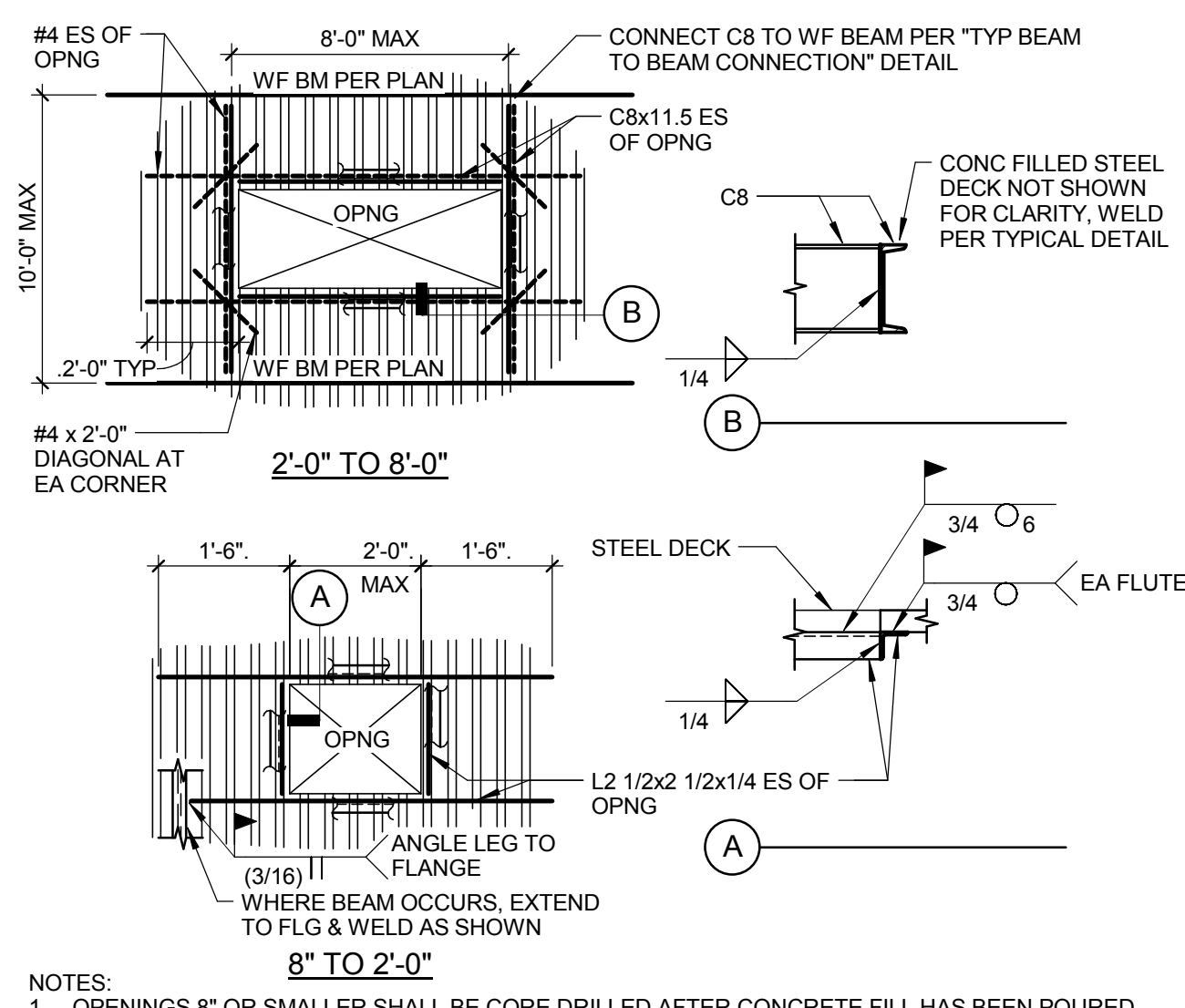
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Revisions:		Date	
CONSULTANTS:		ARCHITECT/ENGINEERS:	
<div><div>LTK ASSOCIATES Incorporated</div><div>Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148</div></div>		<div><div>hfp architects</div><div>745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148</div></div>	
Drawing Title		Project Title	
DETAILS - STRUCTURAL STEEL		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE	
Approved: Project Director		Location	
		FRESNO, CA	
Date		Checked	
5/08/2015		Checker	
		Drawn	
		PB	
Project Number		Building Number	
570-13-300		22A	
Drawing Number		Dwg	
22A-S-553		43 of 86	
Office of Construction and Facilities Management		Department of Veterans Affairs	

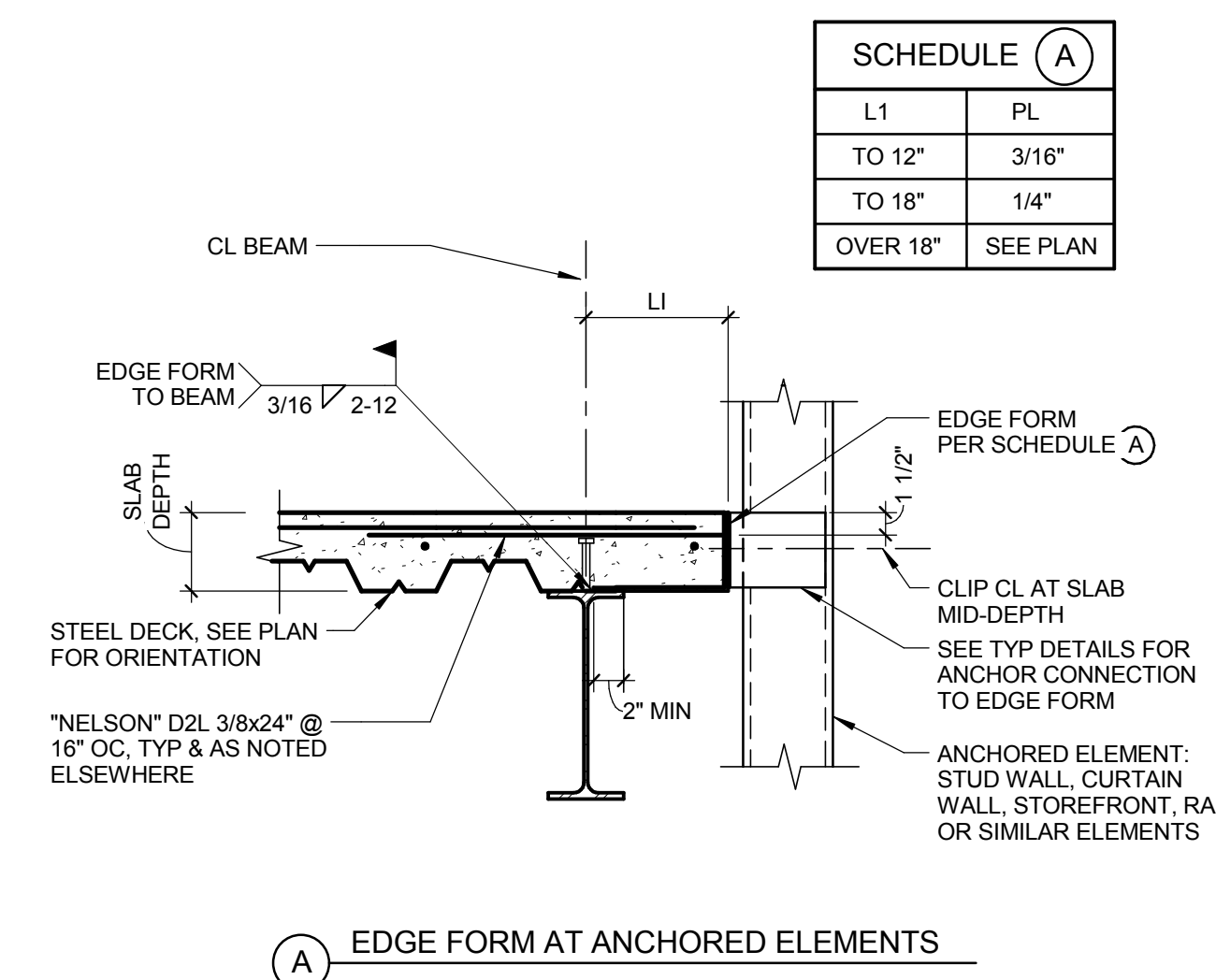
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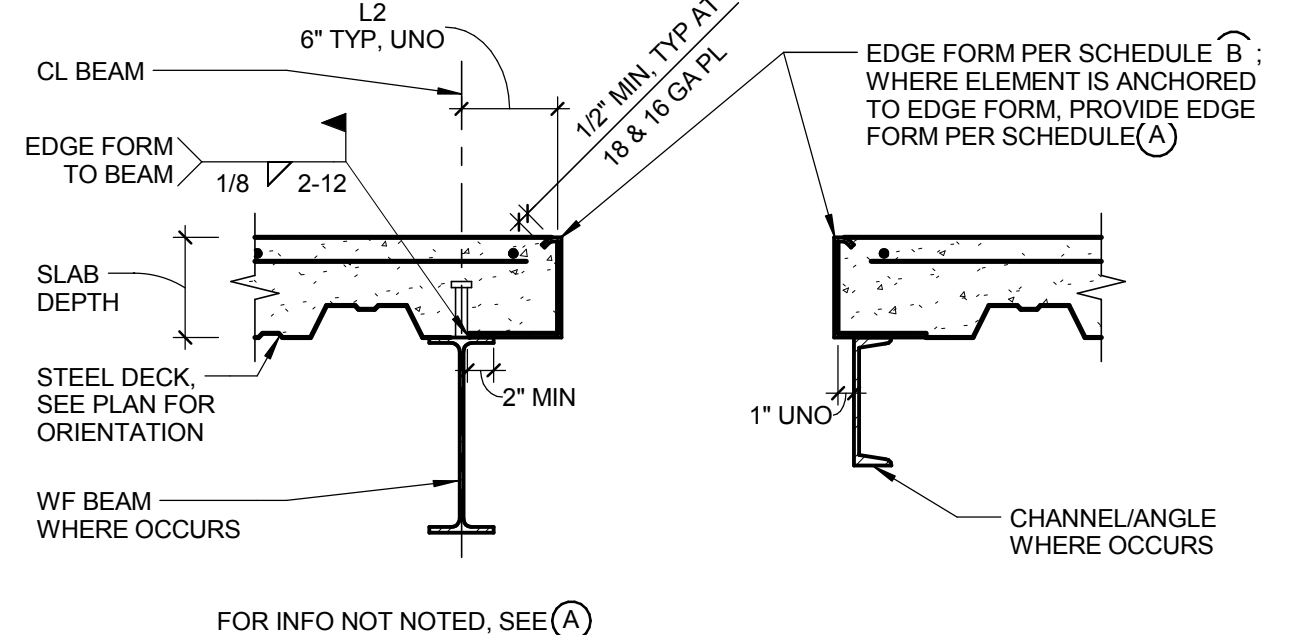
1 TYP STL DECK SUPPORT AT COL
1 1/2" = 1'-0"



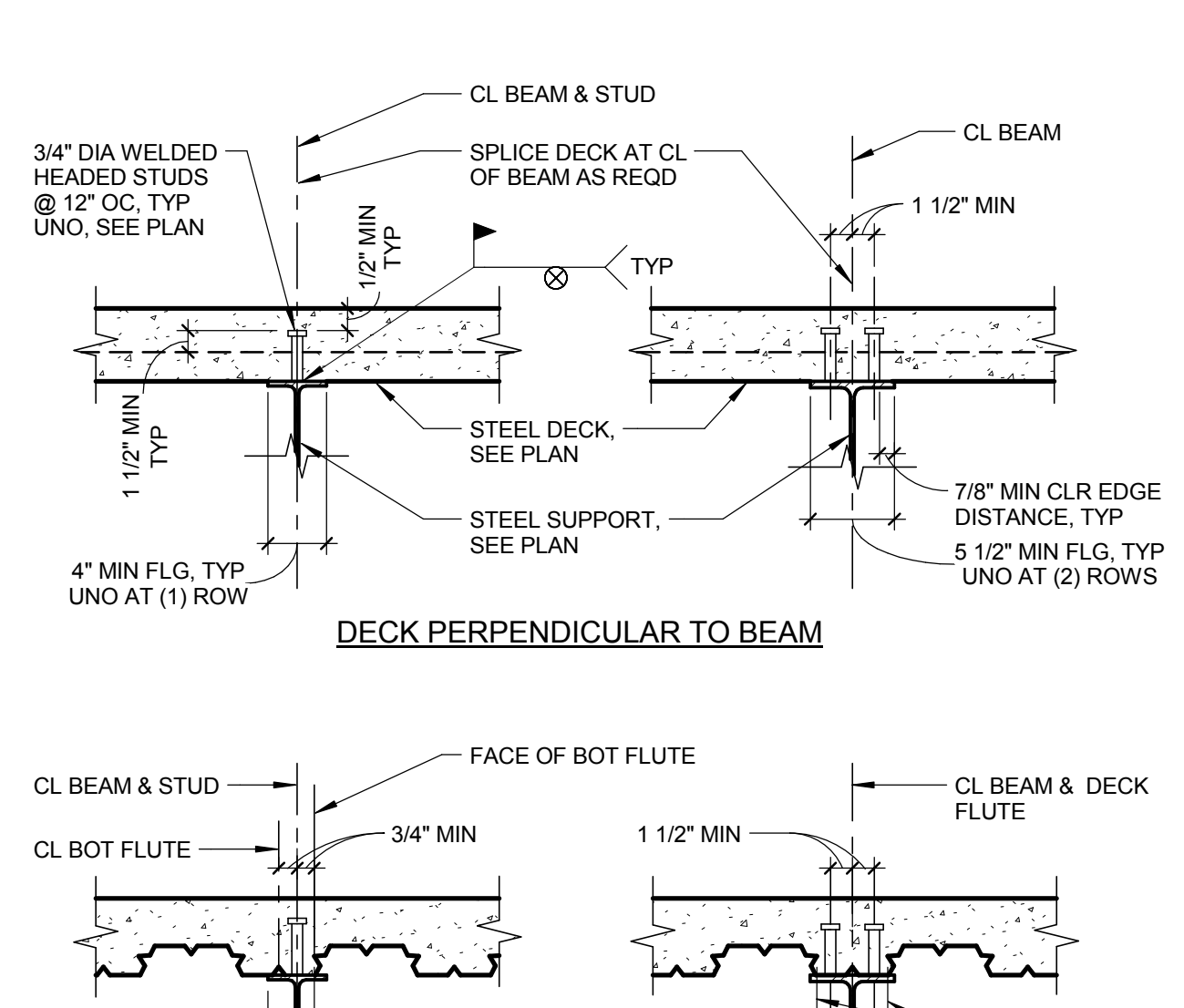
4 TYP OPENINGS IN CONC FILLED STEEL DECK
3/4" = 1'-0"



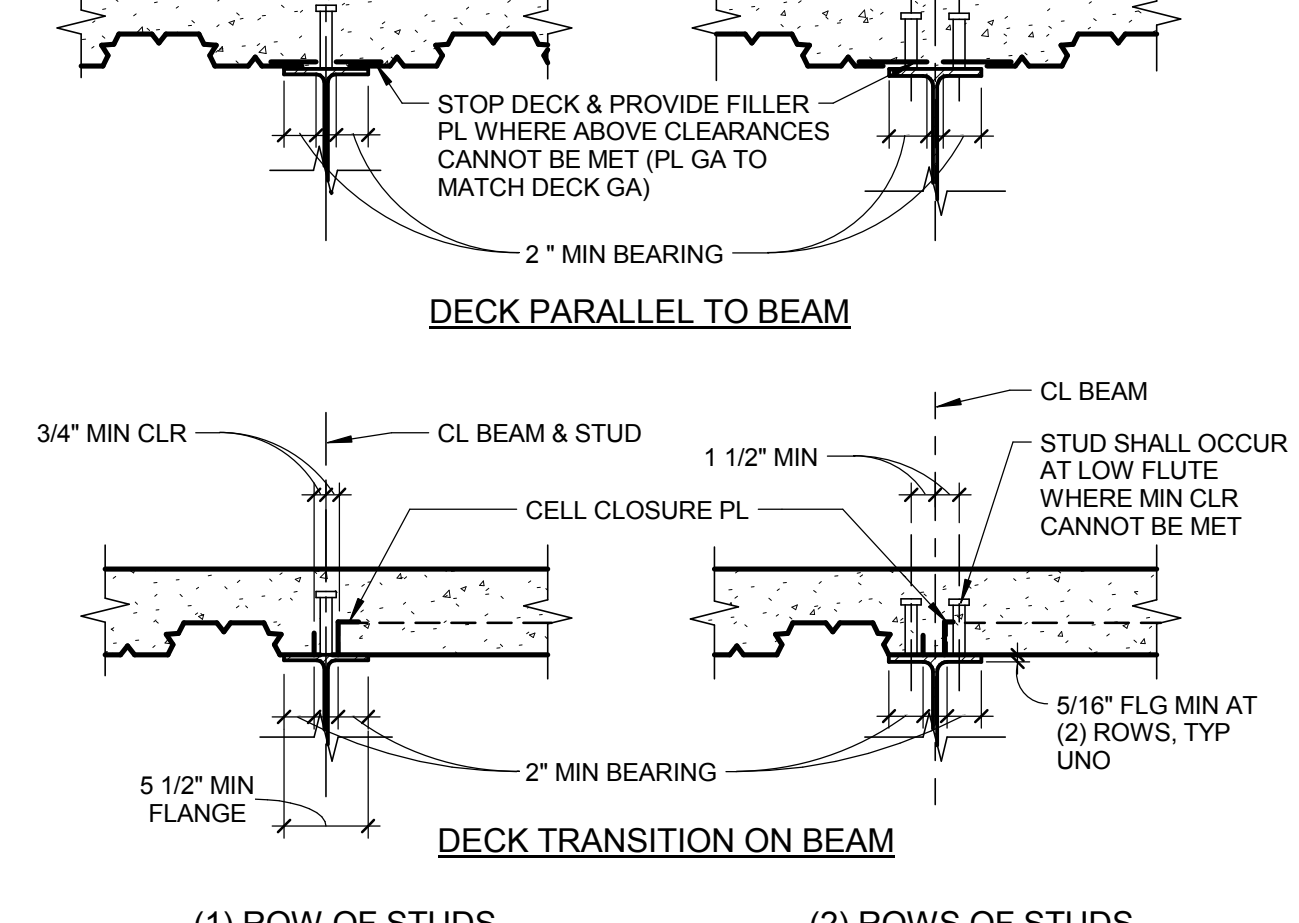
5 TYP CURB AT CONCRETE FILLED STEEL DECK
1" = 1'-0"



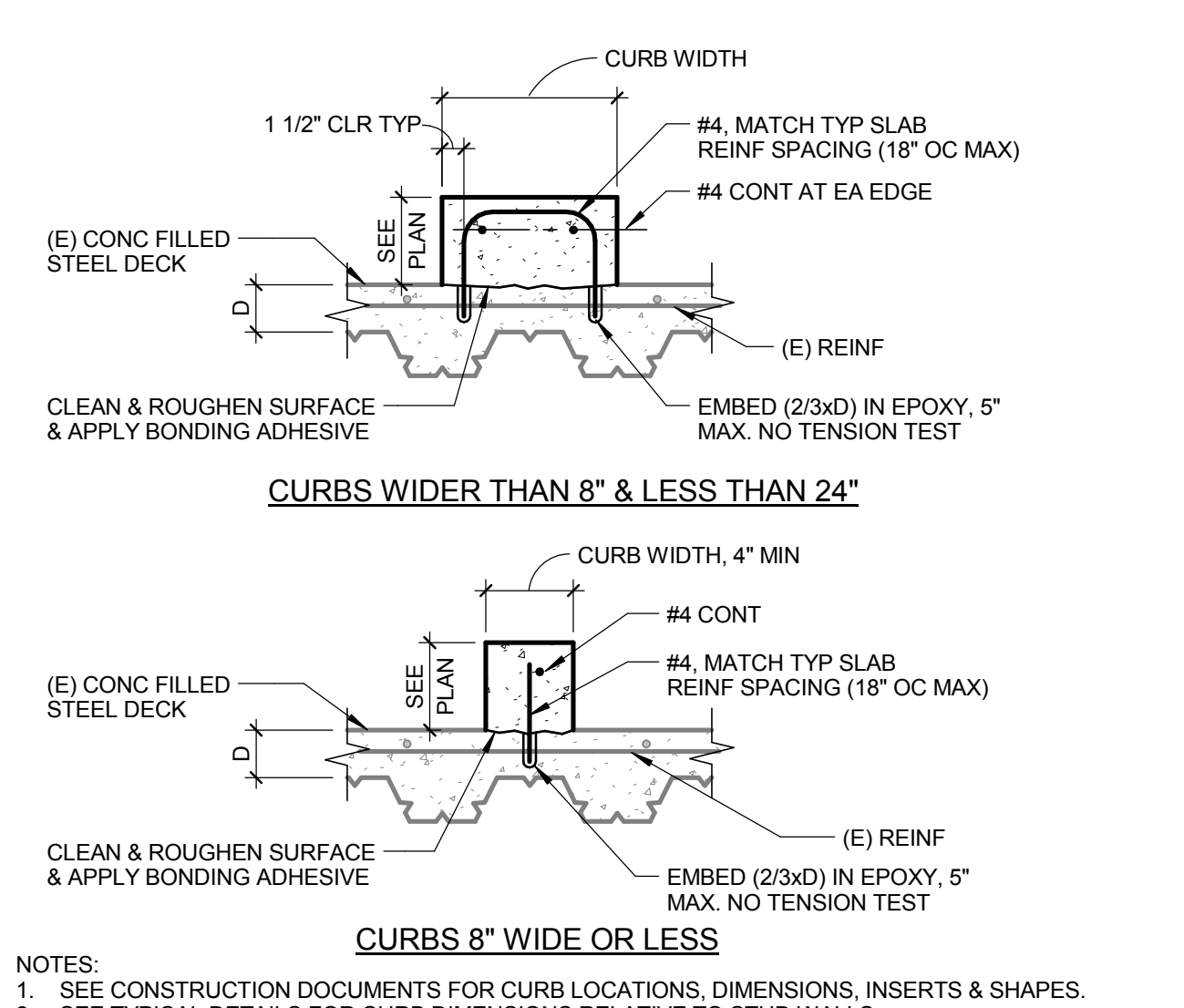
3 TYP EDGE FORM
1" = 1'-0"



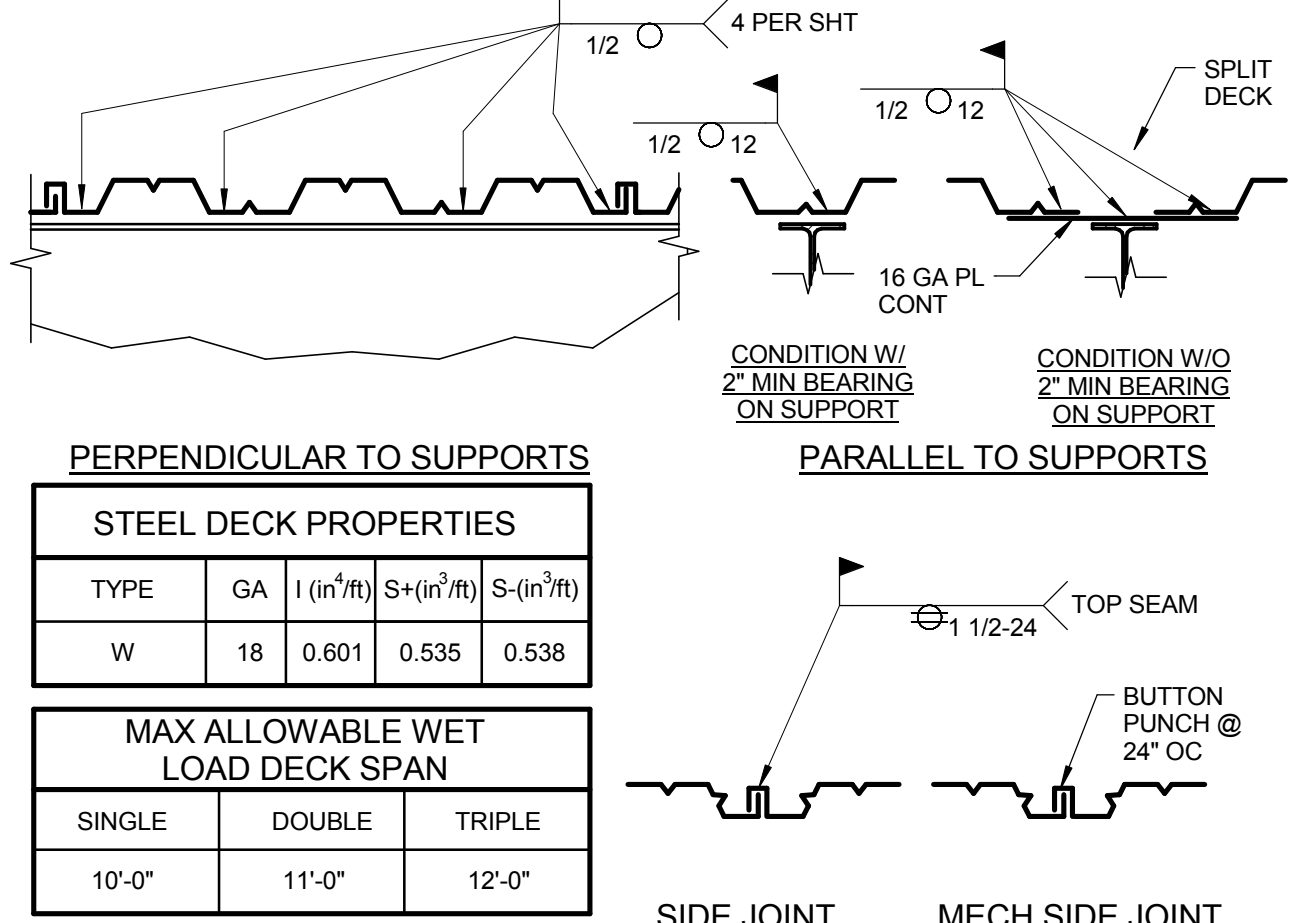
8 TYP SHEAR CONNECTOR STUDS
1" = 1'-0"



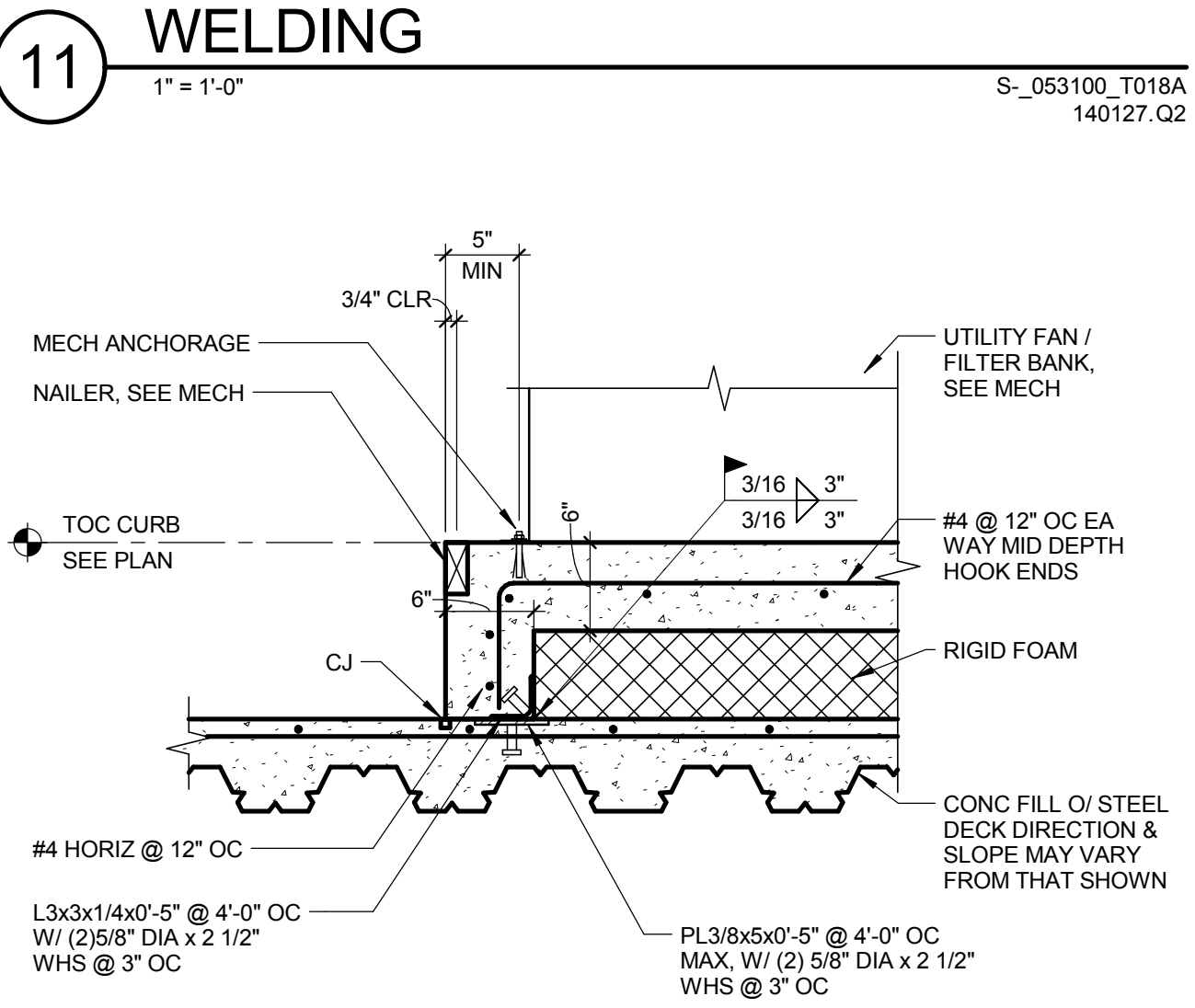
9 TYP CONSTRUCTION JOINT AT CONC FILLED STEEL DECK
1 1/2" = 1'-0"



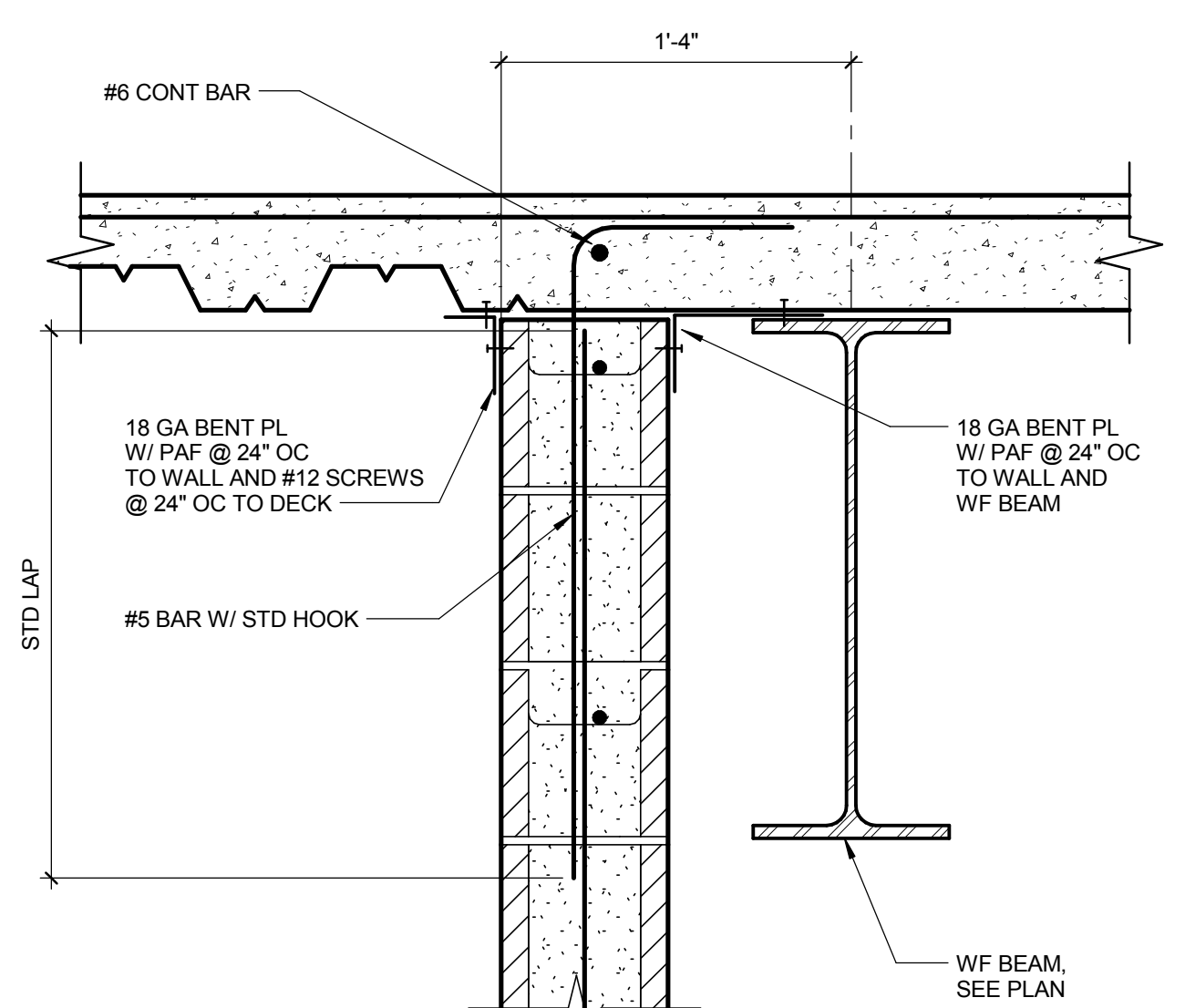
10 TYP CURB AT (E) CONCRETE FILLED STEEL DECK
1" = 1'-0"



11 TYP 2" TYPE 'W' STEEL DECK WELDING
1" = 1'-0"





12 TYP RAISED CONC EQUIPMENT PAD
1" = 1'-0"

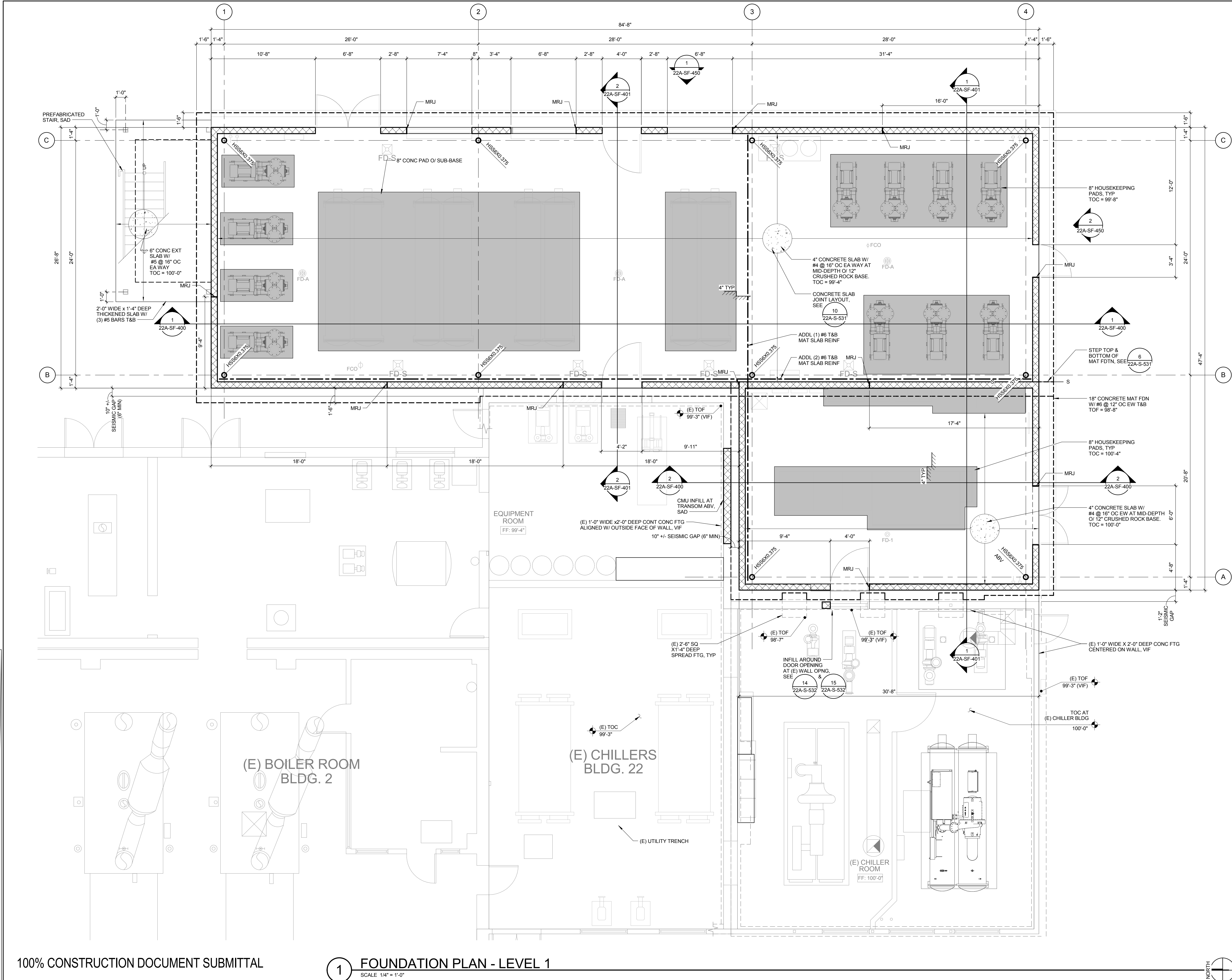


13 DETAIL
1 1/2" = 1'-0"

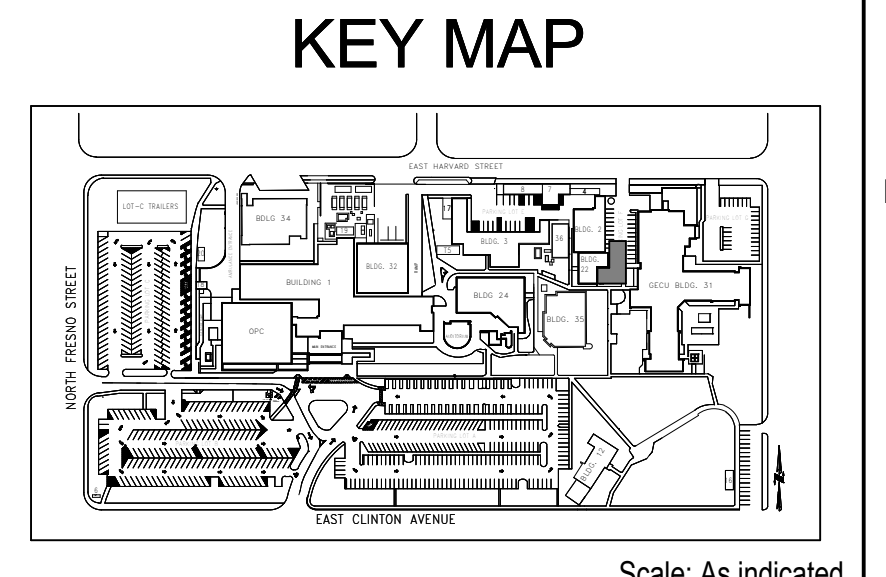
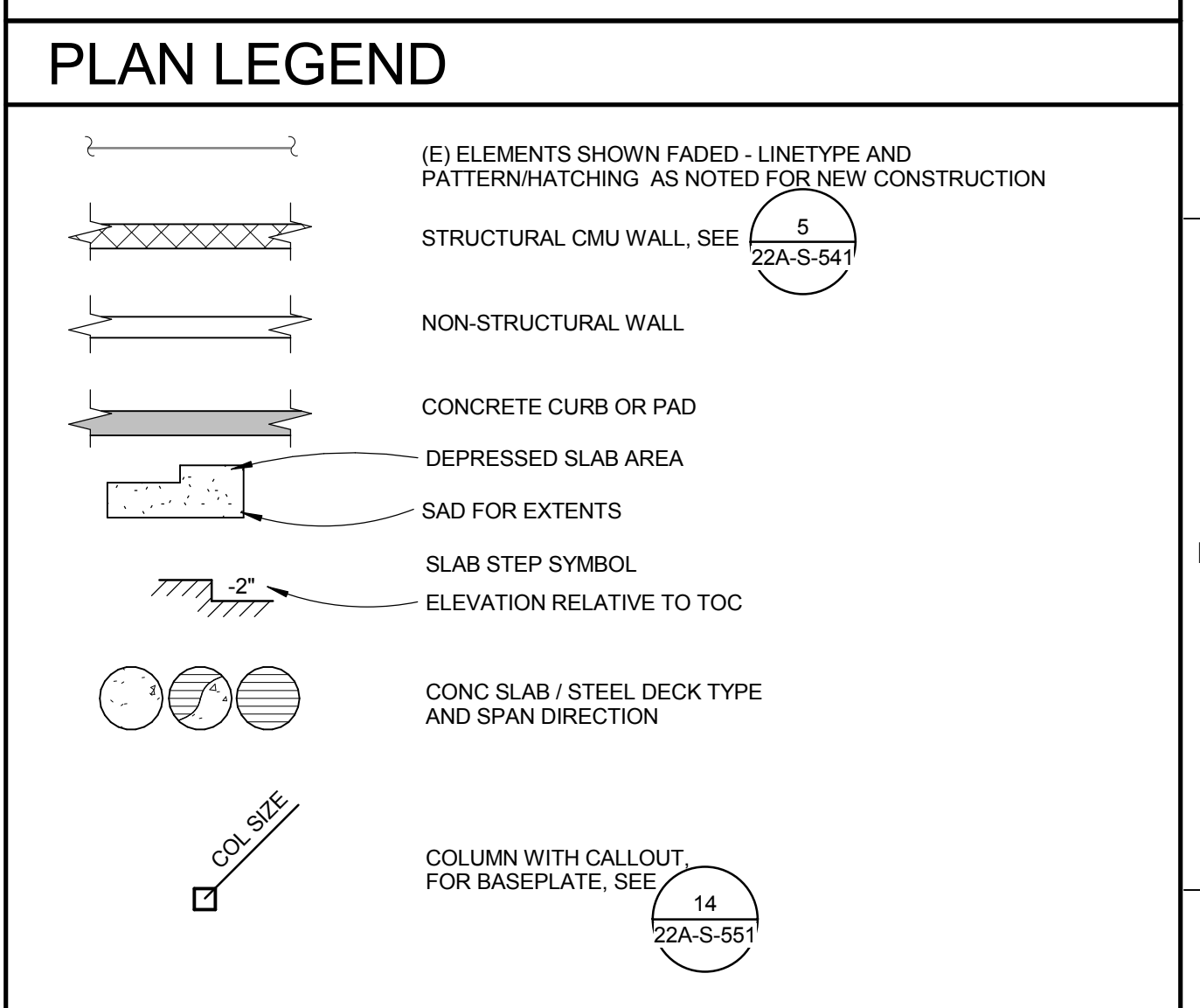
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CONSULTANTS:		ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management Department of Veterans Affairs	
 Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148		 hfp architects 745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148		DETAILS - TYPICAL STEEL DECKING		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE		570-13-300			
Revisions:				Approved: Project Director		Location FRESNO, CA		Building Number 22A			
Date						Date 5/08/2015		Checked DEH		Drawn PB	
								Drawing Number 22A-S-571		Dwg 44 of 86	

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ninety six inches = one foot
ninety seven inches = one foot
ninety eight inches = one foot
ninety nine inches = one foot
one hundred inches = one foot




- ### FOUNDATION NOTES
- SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
 - DIMENSIONS ARE TO FOM OR CENTERLINE OF COLUMNS/POSTS, UNO. SEE SECTIONS & DETAILS FOR FOC LOCATIONS RELATIVE TO FOM.
 - SEE ARCH & OTHER CONSULTANT DWGS FOR DIMENSIONS & LOCATIONS OF WALL OPENINGS.
 - SEE ARCH DWGS FOR DIMENSIONS OF SLAB DEPRESSIONS, HOUSEKEEPING PADS & SLOPED SLABS.
 - SEE ARCH & OTHER CONSULTANT DWGS FOR FLOOR PENETRATIONS NOT SHOWN. SAWCUT OR CORE DRILL CLEAN HOLES WITH NO OVERCUTTING. COMPLY WITH TYPICAL DETAILS.
 - SEE CIVIL DRAWINGS AND SPECIFICATIONS FOR ENGINEERED FILL.
 - EXTERIOR CONCRETE FLATWORK IS NOT SHOWN. SEE CIVIL & ARCH DWGS.
 - EXTERIOR WALLS ARE 8" CMU GROUTED SOLID W/ STD REINF. TYP UNO.
 - FINISH FLOOR TOC DATUM = 100'-0" AND MATCHES (E) CHILLER BUILDING FINISH FLOOR, ELEVATION = 313.07'

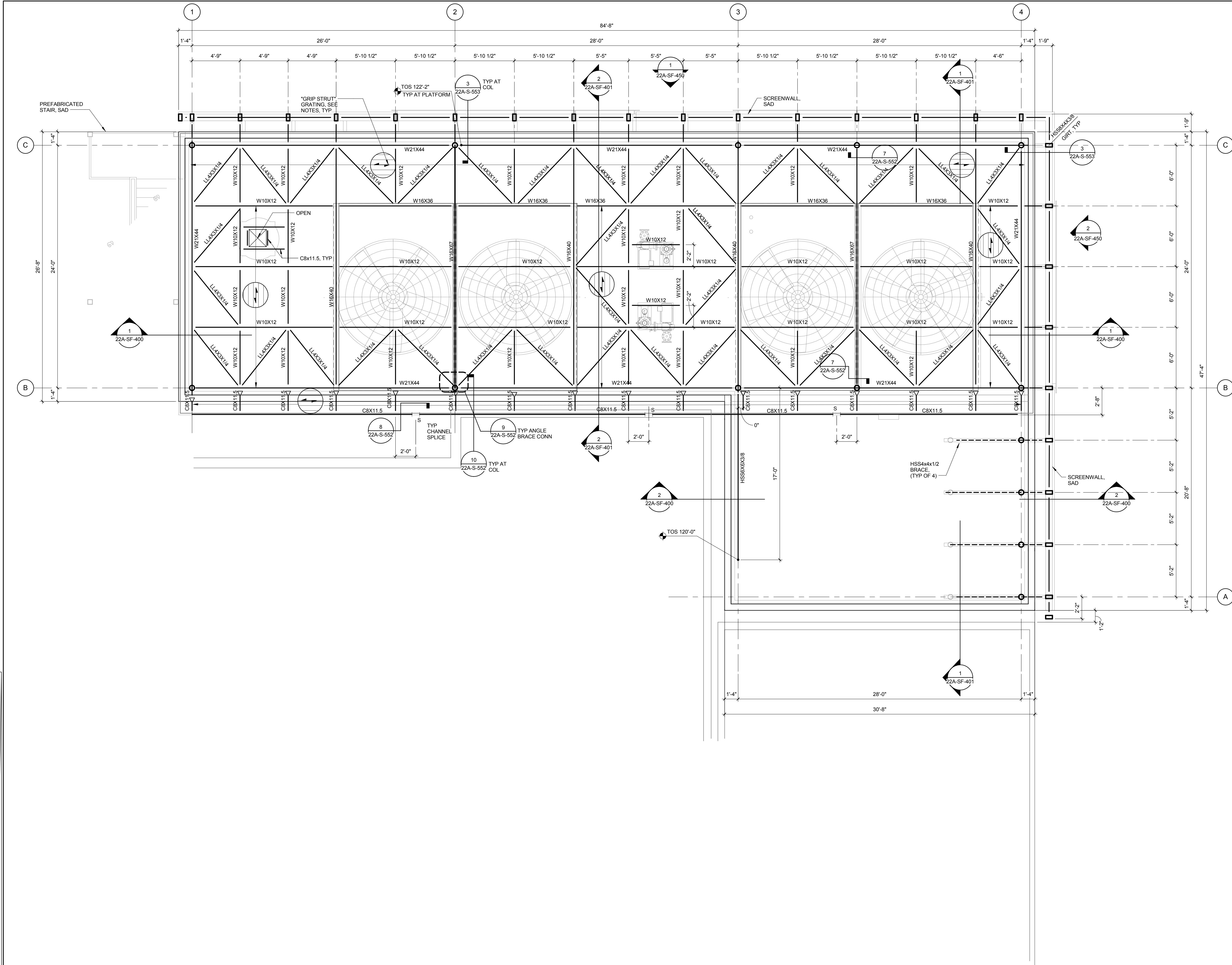


100% CONSTRUCTION DOCUMENT SUBMITTAL

1 FOUNDATION PLAN - LEVEL 1
SCALE 1/4" = 1'-0"

		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management Department of Veterans Affairs	
		<div><div>LTK ASSOCIATES Incorporated</div><div>Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8466 FAX (650) 967-5148</div></div>				<div><div>hfp architects</div><div>745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148</div></div>		FOUNDATION PLAN		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE		570-13-300			
		<div><div></div></div>						Approved: Project Director		Building Number 22A		Drawing Number 22A-SB-100			
								Location FRESNO, CA				Dwg 45 of 86			
								Date 5/08/2015		Checked DEH		Drawn PB			
Revisions:		Date													

three inches = one foot
one and one half inches = one foot
one inch = one foot
three quarters inch = one foot
three eighths inch = one foot
one quarter inch = one foot
one eighth inch = one foot



PLATFORM FRAMING NOTES

- SEE S-000 SERIES SHEETS FOR GENERAL NOTES & S-500 SERIES SHEETS FOR TYPICAL DETAILS.
- DIMENSIONS ARE TO FOM OR CENTERLINE OF COLUMNS/POSTS, UNO.
- BEAMS ARE EQUALLY SPACED BETWEEN COLUMNS, UNO.
- PLATFORM GRATING SHALL BE 1 1/2"x12GA "GRIP STRUT" 5 DIAMOND 11 3/4" WIDE PLANK RUN PLANK CONT OVER (3) SPANS MINIMUM. CONNECT PLANKS TO ALL SUPPORTING MEMBERS W/ J-BOLTS AND ANCHOR PLATE PER PLANK MFR.
- HOT DIP GALVANIZE ALL EXTERIOR EXPOSED STEEL AND CAP ALL VENT HOLES AT ENCLOSED HOLLOW STRUCTURAL STEEL SECTIONS AND SEAL HOLES WATER-TIGHT.

PLAN LEGEND

(E) ELEMENTS SHOWN FADED - LINETYPE AND PATTERNHATCHING AS NOTED FOR NEW CONSTRUCTION

STRUCTURAL CMU WALL BELOW

CONC SLAB / STEEL DECK GRATING TYPE AND SPAN DIRECTION

COLUMN WITH CALLOUT

BEAM SIZE
NUMBER OF WELDED HEADED STUDS, UNO

BEAM ELEVATION RELATIVE TO TOS

BEAM CAMBER

BEAM SPLICE

NON-FRAME MOMENT CONNECTION

KEY MAP

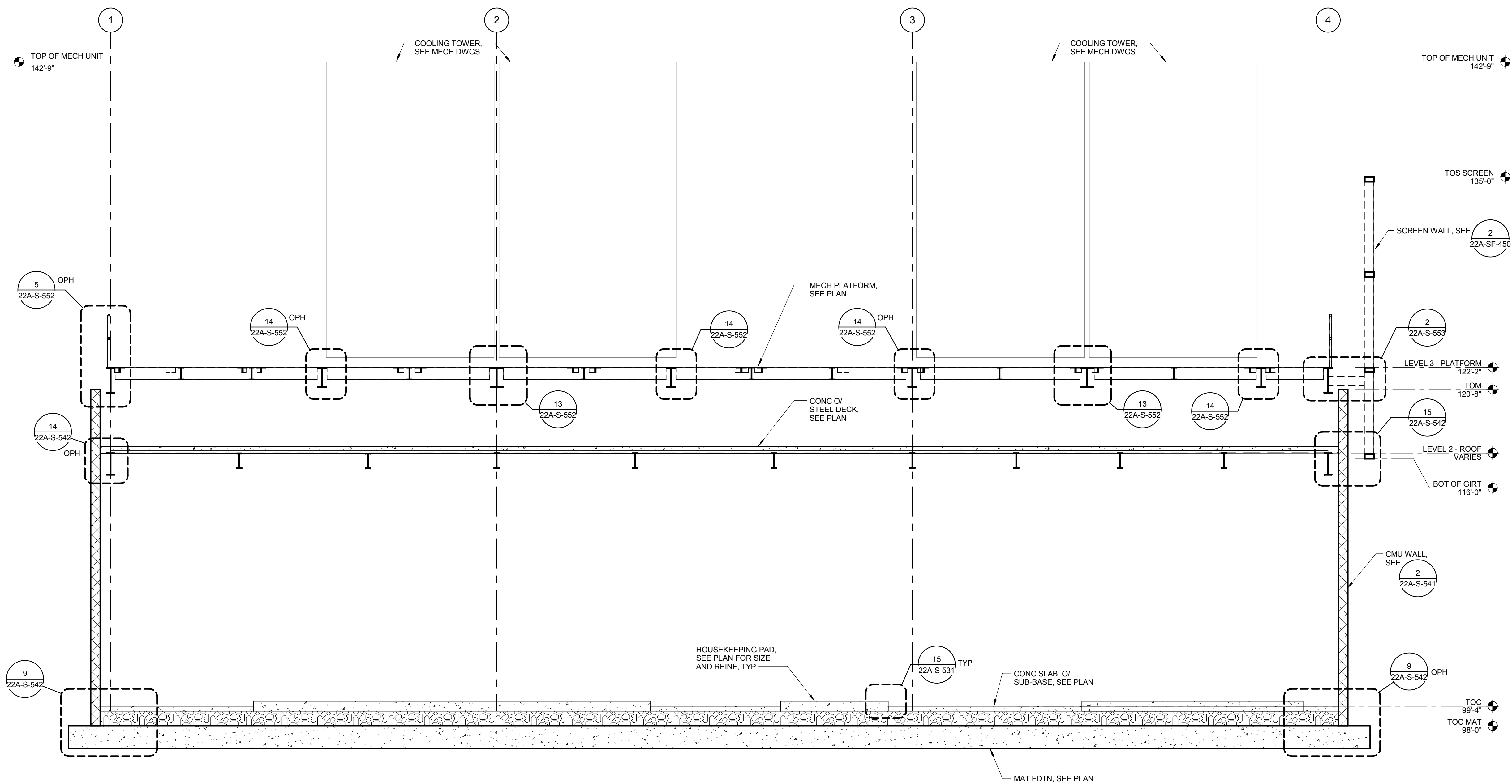
100% CONSTRUCTION DOCUMENT SUBMITTAL

1

PLATFORM FRAMING PLAN - LEVEL 3

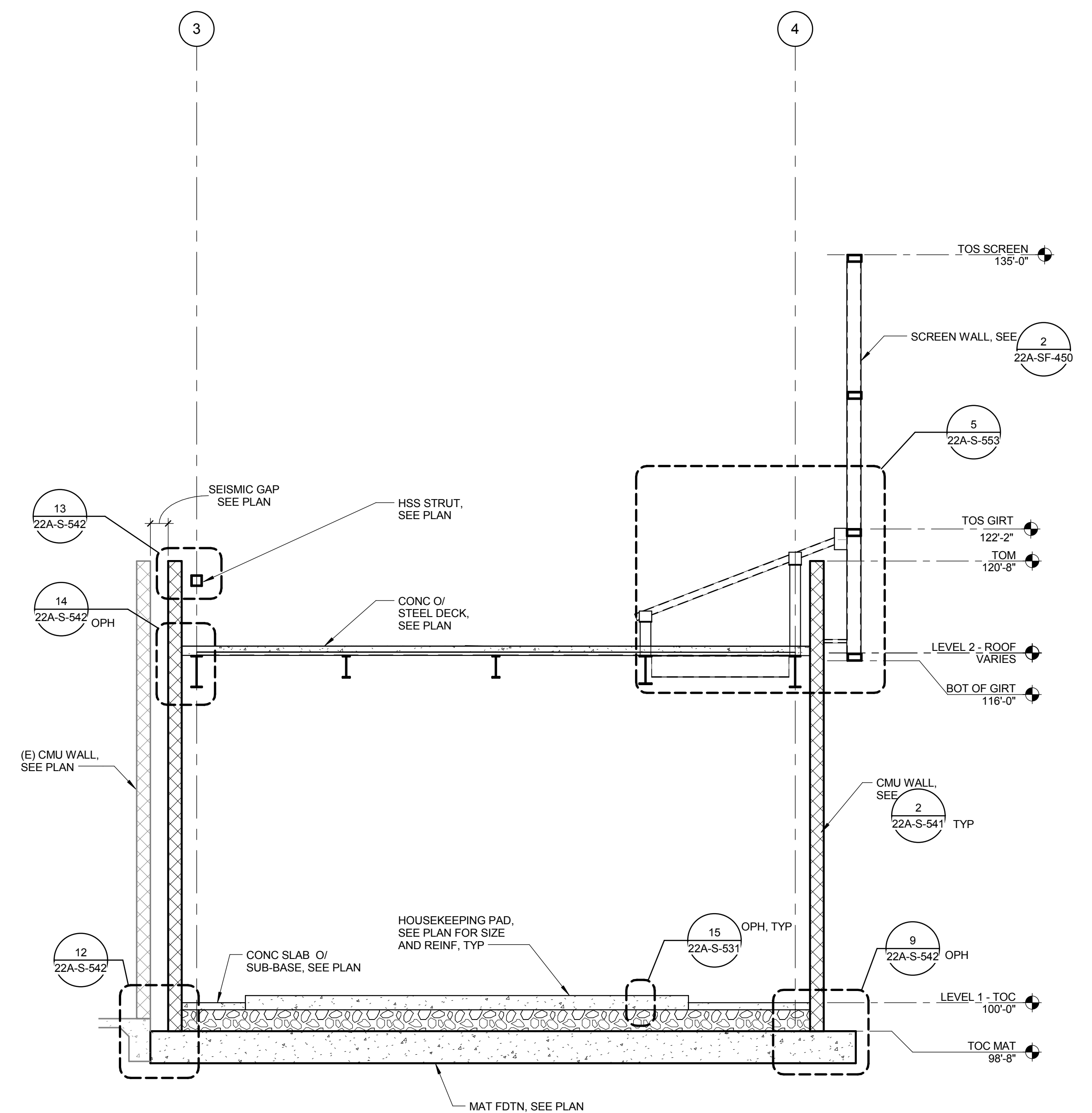
SCALE 1/4" = 1'-0"

		CONSULTANTS:				ARCHITECT/ENGINEERS:		Drawing Title		Project Title		Project Number		Office of Construction and Facilities Management Department of Veterans Affairs	
		<div><div>LTK ASSOCIATES Incorporated</div><div>Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-8465 FAX (650) 967-5148</div></div>		<div><div>hfp architects</div><div>745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148</div></div>		PLATFORM FRAMING PLAN		VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE		Building Number 22A		570-13-300			
Revisions:		Date				Approved: Project Director		Location FRESNO, CA		Drawing Number 22A-SF-301		Dwg 47 of 86			
								Date 5/08/2015		Checked DEH		Drawn PB			



1 BUILDING SECTION 1
SCALE 1/4" = 1'-0"

100% CONSTRUCTION DOCUMENT SUBMITTAL

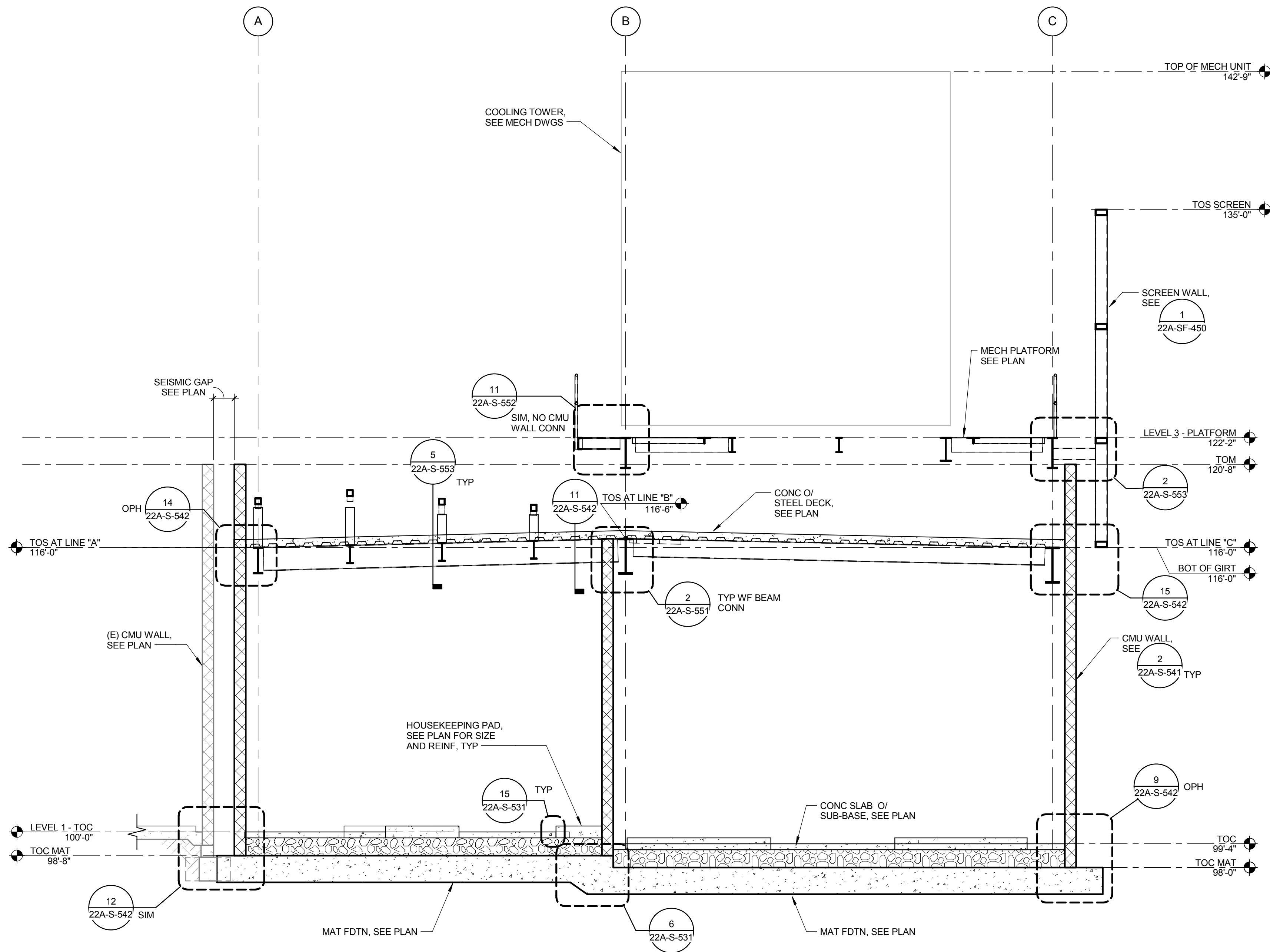


2 BUILDING SECTION 2
SCALE 1/4" = 1'-0"

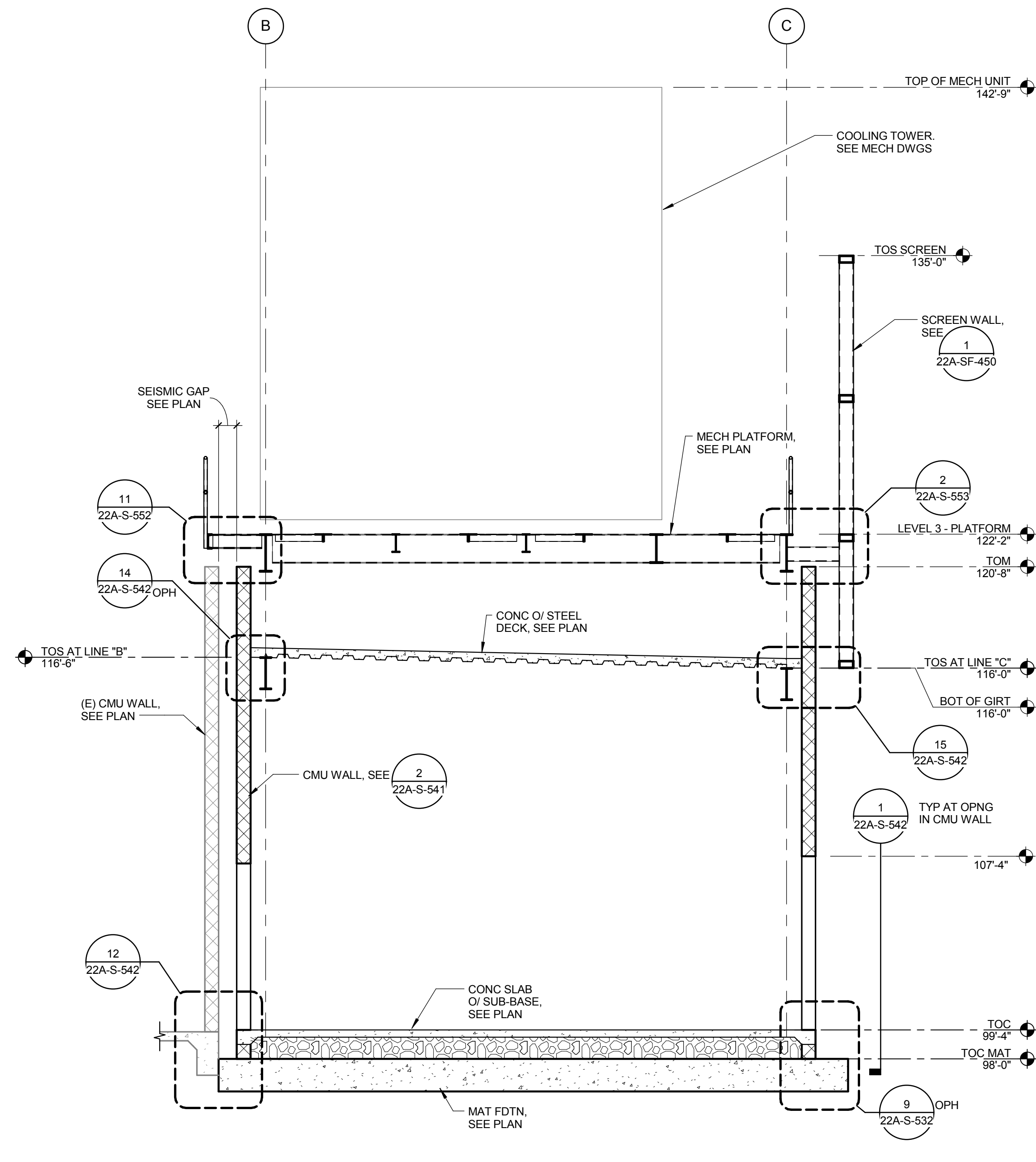
Scale: 1/4" = 1'-0"

		CONSULTANTS:				ARCHITECT/ENGINEERS:		<div> <div> <div>Drawing Title</div> <div>BUILDING SECTIONS</div> <div>Approved: Project Director</div> </div> <div> <div>Project Number</div> <div>VA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE</div> <div>Location</div> <div>FRESNO, CA</div> <div>Date</div> <div>5/08/2015</div> <div>Checked</div> <div>DEH</div> <div>Drawn</div> <div>PB</div> </div> </div>		<div> <div>Project Title</div> <div>570-13-300</div> <div>Building Number</div> <div>22A</div> <div>Drawing Number</div> <div>22A-SF-400</div> <div>Dwg 48 of 86</div> </div> <div> <div>Office of Construction and Facilities Management</div> <div>Department of Veterans Affairs</div> </div>	
		<div> <div>LTK ASSOCIATES Incorporated</div> <div>Structural Engineers 745 Distel Drive Los Altos, CA 94022 (650) 967-5485 FAX (650) 967-5148</div> </div>		<div> <div> <div>REGISTERED PROFESSIONAL ENGINEER</div> <div> <div>FRANCISCO Z. UNDER</div> <div>S2479</div> <div>Ren: 3/31/16</div> </div> <div> </div> </div> </div>		<div> <div>hfp architects</div> <div>745 distel dr. ste. 109 los altos, ca 94022 650 964 4514 fax: 650 967 5148</div> <div> </div> </div>					

one eighth inch = one foot
one quarter inch = one foot
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three quarters inch = one foot
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one hundred inches = one foot



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



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

100% CONSTRUCTION DOCUMENT SUBMITTAL



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Scale: 1/4" = 1'-0"



2 ELEVATION - SOUTH
1/4" = 1'-0"

CONSULTANTS:

	<p>Structural Engineers 745 Diestel Drive Los Altos, CA 94022 (650) 967-8485 FAX (650) 967-6148</p>	
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ARCHITECT/ENGINEERS:


hfp architects
745 distel dr. ste. 109
los altos, ca 94022
650 964 4514 fax: 650 967 5148

The logo for hfp architects features the lowercase letters 'hfp' in a white, stylized, sans-serif font. The letters are set against a solid black square background. The 'h' and 'p' are connected, and the 'f' is positioned between them. The letters have a modern, geometric feel.

Drawing Title
ELEVATIONS
Approved: Project Director

Project Title VIA CENTRAL CALIFORNIA HEALTH CARE SYSTEM PHASE 1: NEW BUILDING 22A + CHILLER INFRASTRUCTURE			Project Number 570-132-300		
Location FRESNO, CA			Building Number 22A		
Date 5/08/2015			Drawing Number 22A-SF-450		
Checked Checker		Drawn PB			
		Dwg 50 of 86			

Office of
Construction
and Facilities
Management

 Department of
Veterans Affairs