

GENERAL NOTES

14022

ISSUED:  
DWG BY: HMH  
CKD BY: HMH  
REVISIONS  
10/10/14 PERMIT SET

SHEET NO.  
**S0.0**  
OF

**STRUCTURAL ABBREVIATIONS:**

ABBREV. DEFINITION	ANCHOR BOLTS
AB	ADJACENT
ADJ	ABOVE FINISHED FLOOR
AFF	ALTERNATE
ALT	ARCHITECT
ARCH	BOTTOM CHORD EXTENSION
BCX	BELOW FINISHED FLOOR
BFF	BOTTOM
BOT	BOTTOM OF x
B.O.xx	BOTTOM OF STEEL
BOS	BUILDING
BLDG	BEAM
BM	BEARING
BRG	CANTILEVER
CANT	CENTERLINE
CL	CONTROL JOINT
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
CP	COMPLETE PENETRATION
CJ	CORNER
DBA	DEFORMED BAR ANCHOR
DBL	DOUBLE
DEG	DEGREE
DET.DTL	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DK	DECK
DN	DOWN
DWGS	DRAWINGS
DWEL	DWELL
EA	EACH
EF	EACH FACE
EJ	EXPANSIONAL JOINT
EL.ELEV	ELEVATION
EMBED	EMBEDDED / EMBEDMENT
ENG	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF STEEL
EQU	EQUAL
EQUIP	EQUIPMENT
EXP	EXPANSION
EXIST	EXISTING
EXT	EXPANSION EXTERIOR
FIN	FINISH
FLR	FLOOR
FDR	FLOOR DRAIN
FND	FOUNDATION
FOM	FACE OF MASONRY
FW	FACE OF WALL
FS	FOOTING STEP
FTG	FOOTING
FLD	FIELD VERIFY
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
HI	HIGH
HORIZ	HORIZONTAL
HSE	HIGH STRENGTH EPOXY
HSS	HOLLOW STRUCTURAL SECTION
IF	INSIDE FACE
INT	INTERIOR
JOINT	JOINT
J	KIPS - 1000 LBS
KB	KNEE BRACE
KSI	KIPS PER SQUARE INCH
KLF	KIPS PER LINEAR FOOT
LBS	POUNDS
LH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LO	LOW
LOC	LOCATIONS
LSL	LAMINATED STRAND LUMBER
LW	LAMINATED VENEER LUMBER
LWC	LONG WAY
MAS	MASONRY
MAX	MAXIMUM
MC	MECHANICAL
MECH	MOMENT CONNECTION
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MTL	MASONRY PILASTER
MTL	METAL
No / #	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
PAF	POWDER ACTUATED FASTENER
PC	PRECAST
PE	PRE-ENGINEERED
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
R	RADIUS
REF	REFERENCE
REIN	REINFORCEMENT
REQD	REQUIRED
REV	REVISION
SC	SLIP CRITICAL
SCHD	SCHEDULE
SOS	SELF DRILLING SCREW
SECT	SECTION
SIM	SIMILAR
SL	SHEET
SL	SLAB
SOG	SLAB ON GRADE
SP	SPECIAL JOIST
SPEC	SPECIFICATION
SQ	SQUARE
STD	STANDARD
STL	STEEL
SW	SHORT WAY
SYM	SYMMETRICAL
T&B	TOP CHORD EXTENSION
TOC	TOP AND BOTTOM
TCC	TOP OF CONCRETE
TOS	TOP OF STEEL
TOW	TOP OF WALL
T.O.xx	TOP OF xx
THK	THICKNESS
TJ	TIE JOIST
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH

- SPECIAL INSPECTION AND TESTING:**
- SPECIAL INSPECTION AND MINIMUM TESTING SHALL BE PERFORMED IN ACCORDANCE WITH 2012 NCSBC, TABLES 1704.3 (STEEL), 1704.4 (CONCRETE), AND 1704.5 (MASONRY).
  - INSPECTION & TESTING SHALL BE PROVIDED BY AN INDEPENDENT TESTING AGENCY HIRED AT THE OWNER'S EXPENSE. AGENCY INSPECTION PERSONNEL SHALL MEET THE INSPECTOR QUALIFICATIONS FOR EACH MATERIAL ITEM AS INDICATED IN THE SPECIFICATIONS. ALL RE-TESTING DUE TO FAILURE OF ORIGINAL TEST SHALL BE PAID FOR BY THE GENERAL CONTRACTOR.
  - ANY MATERIAL OR PLACEMENT DEVIATIONS FROM MINIMUMS SHOWN ON THE DRAWINGS OR IN SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- PRE-ENGINEERED METAL BUILDING:**
- THE PRE-ENGINEERED METAL BUILDING SHALL CONSIST OF ROOF DECK, RIGID FRAMES, METAL WALL PANELS ON FRAMING, CANOPY FRAMING, GUTTERS AND DOWNSPOUTS, AND FLASHING. DEVIATION FROM BAY SPACING SHOWN ON THE PLANS SHALL NOT BE PERMITTED TO SUIT MANUFACTURERS STANDARDS.
  - THE SYSTEM SHALL BE DESIGNED AND DETAILED BY THE MANUFACTURER TO SUSTAIN THE DESIGN LOADS SPECIFIED. THE DESIGN SHALL BE IN ACCORDANCE TO AISI AND AISI SPECIFICATIONS AND MBMA "METAL BUILDING SYSTEMS MANUAL" DESIGN PRACTICES, LATEST ISSUES.
  - ROOF X-BRACING LOCATIONS TO BE DETERMINED BY PEMI MANUFACTURER. X-BRACING MUST BE BELOW LINER PANELS IN ALL LOCATIONS.
  - ALL PEMB MEMBERS (MAIN & SECONDARY) WHICH MUST PASS THRU LINER PANELS (IE BRACES, ETC.) MUST BE INSTALLED IN SUCH A WAY THAT LINER PANELS WILL HAVE ONLY A MINIMAL HOLE CUT AROUND PENETRATIONS. LINER PANELS PIECED AROUND PENETRATIONS ARE NOT ACCEPTABLE.
  - THE MANUFACTURER SHALL BE REGULARLY ENGAGED IN METAL BUILDING DESIGN AND MANUFACTURING. MANUFACTURER MUST BE AISI CERTIFIED IN MB CATEGORY OR CSA A660 CERTIFIED.
  - ALL COLUMNS SHALL BE DESIGNED AS UNBRACED BY THE MASONRY. LONGITUDINAL WIND BRACING SHALL BE DESIGNED TO TRANSFER LOADS TO THE LOW SIDE MASONRY WALLS.
  - SHOP DRAWINGS AND A LETTER OF CERTIFICATION SHALL BE SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO FABRICATION, AND SHOP DRAWINGS SHALL BEAR THE SIGNATURE AND SEAL OF A REGISTERED PROFESSIONAL ENGINEER IN THE STATE WHERE THE BUILDING WILL BE LOCATED. SHOP DRAWINGS SHALL INDICATE THE DESIGN LOADS AND JOB NAME AND NUMBER. THEY SHALL INCLUDE DRAWINGS OF THE FRAMING MEMBERS WITH THE CONNECTIONS, THE ANCHOR BOLT PLANS AND REACTIONS, STANDARD CUT SHEETS OF THE ABOVE ARE NOT ACCEPTABLE. STANDARD CUT SHEETS MAY BE SUBMITTED FOR SECONDARY FRAMING CONNECTION DETAILS, FLASHINGS AND SHEETING DETAILS, ETC.
  - STRUCTURAL DESIGN OF ALL PRE-ENGINEERED METAL BUILDING COMPONENTS ARE TO BE DONE BY PRE-ENGINEERED METAL BUILDING MANUFACTURER. STRUCTURAL DESIGN TO BE COMPLETED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE BUILDING WILL BE LOCATED.

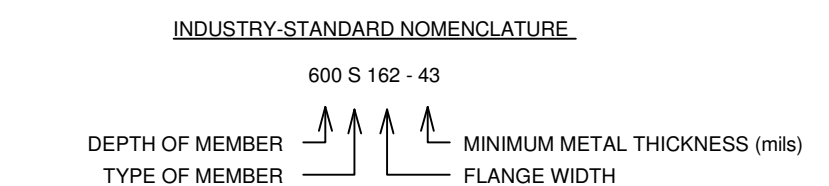
- STRUCTURAL STEEL:**
- STEEL SHALL CONFORM TO ASTM A992 (Fy=50 ksi) FOR ALL W-SHAPES, AND ASTM A572 (Fy=36 ksi) FOR ALL OTHER MISCELLANEOUS SHAPES AND PLATES. STRUCTURAL TUBING SHALL CONFORM TO ASTM A500, GRADE B (Fy=46 ksi). STRUCTURAL PIPE SHALL CONFORM TO ASTM A53, GRADE B, TYPE "E" OR "S" (Fy=45 ksi).
  - STEEL SHALL CONFORM TO THE LATEST EDITION OF "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION, INC. (AISC).
  - ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR SHALL BE HOT-DIPPED GALVANIZED.
  - ALL SHOP CONNECTIONS TO BE WELDED (UTILIZING E70XX ELECTRODES) AND FIELD CONNECTIONS TO BE BOLTED, UNLESS OTHERWISE NOTED. STEEL TO RECEIVE ONE SHOP COAT AND ONE FIELD TOUCH UP COAT OF APPROVED PAINT, EXCEPT WHERE GALVANIZED IS INDICATED ON THE DRAWINGS.
  - WELDS FOR ALL EXPOSED STRUCTURAL STEEL SHALL BE GROUND SMOOTH UNLESS NOTED OTHERWISE.
  - ALL BOLTED CONNECTIONS SHALL CONSIST OF 3/4" DIAMETER (MIN.) ASTM A325 HIGH STRENGTH BOLTS, UNLESS NOTED OTHERWISE. BEAM CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR TO SUPPORT AN END REACTION OF W<sub>o</sub>/2L KIPS IN ACCORDANCE WITH PART 2 "BEAM AND GIRDER DESIGN" OF THE MANUAL OF STEEL CONSTRUCTION (9th EDITION), BUT CONNECTIONS SHALL NOT HAVE LESS THAN 2 ROWS OF BOLTS. SEE ALSO DOUBLE ANGLE AND SHEAR TAB CONNECTION SCHEDULE(S) WHERE APPLICABLE.
  - CONTRACTOR TO FURNISH AND INSTALL 500 lbs. OF ADDITIONAL MISCELLANEOUS STEEL TO BE USED AT ENGINEER'S DISCRETION.
- STEEL JOISTS:**
- STEEL JOISTS SHALL BE THE SIZE AND SPACING AS SHOWN ON THE STRUCTURAL DRAWINGS. JOISTS SHALL BE DESIGNED, FABRICATED, INSTALLED AND BRIDGED IN ACCORDANCE WITH THE STEEL JOIST INSTITUTE (SJI) SPECIFICATIONS.
  - STEEL ROOF JOISTS SHALL BE DESIGNED TO WITHSTAND NET UPLIFT AS SHOWN ON THE STRUCTURAL DRAWINGS.
  - STEEL ROOF JOISTS HAVE BEEN DESIGNED FOR SNOW DRIFT LOADS BY EQUIVALENT MOMENT-SHEAR METHOD (WHERE APPLICABLE). JOIST FABRICATOR SHALL VERIFY ADEQUACY FOR SNOW DRIFT LOADS AS INDICATED ON THE STRUCTURAL DRAWINGS. DRIFT LOADS INDICATED ON DRAWINGS ARE IN ADDITION TO UNIFORM SNOW LOADS.
  - ENDS OF ALL BRIDGING LINES TERMINATING AT WALLS OR BEAMS SHALL BE ANCHORED BOLTED AT TOP AND BOTTOM CHORDS. BRIDGING SHALL BE WELDED OR THREADED AT ALL POINTS OF CONTACT. CROSS BRIDGING SHALL BE WELDED OR BOLTED AT ITS CENTER POINT. WELDS FOR BRIDGING SHALL BE IN ACCORDANCE WITH FABRICATOR'S SHOP DRAWINGS AND SHALL NOT DAMAGE JOISTS.
  - UNLESS NOTED OTHERWISE, JOISTS SHALL BEAR A MINIMUM OF 2 1/2" ON MASONRY OR CONCRETE. JOIST BEARING PLATES SHALL BE 3/8"x6" WITH ONE 1/2" DIAMETER x5" HEADED STUD CENTERED ON PLATE. BEARING PLATES FOR BACK-TO-BACK JOISTS SHALL BE 3/8"x7 1/2"x2" WITH TWO 1/2" DIAMETER x5" HEADED STUDS, 4" GAGE, CENTERED ON PLATE. WELD JOISTS TO STEEL BEAM PER SJI SPECIFICATIONS.
  - SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION. SHOP DRAWING SUBMITTAL SHALL INCLUDE LAYOUT, COMPONENT DESIGNATION, BRIDGING AND PERTINENT SECTIONS AND DETAIL. SUBMITTALS FOR JOISTS SHALL BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHERE THE BUILDING WILL BE LOCATED.

- COMPOSITE STEEL FORM DECK:**
- COMPOSITE FORM DECK SHALL BE THE SIZE INDICATED ON STRUCTURAL DRAWINGS, GAGE 60 CORRUGATED STEEL COMPOSITE DECK AND SHALL CONFORM TO THE PROVISIONS OF THE STEEL DECK INSTITUTE (SDI) SPECIFICATIONS FOR COMPOSITE STEEL DECK.

- STEEL ROOF DECK:**
- STEEL ROOF DECK SHALL BE THE SIZE INDICATED ON STRUCTURAL DRAWINGS, PAINTED WIDE RIBBED STEEL ROOF DECK AND SHALL CONFORM TO THE PROVISIONS OF THE STEEL DECK INSTITUTE (SDI) SPECIFICATIONS FOR STEEL ROOF DECK.
  - STEEL ROOF DECKS ARE DESIGNED AS HORIZONTAL DIAPHRAGMS AND SHALL BE ATTACHED TO SUPPORTS IN SDI PATTERNS AS INDICATED ON THE DRAWINGS.

- COLD FORMED LIGHT GAGE STRUCTURAL STEEL:**
- ENGINEER, FABRICATE AND INSTALL COLD-FORMED STRUCTURAL STEEL FRAMING TO THE FOLLOWING: EXTERIOR AND INTERIOR LOAD-BEARING WALL, EXTERIOR NON-LOAD BEARING WALLS, FLOOR JOIST FRAMING, ROOF TRUSS AND RAFTER FRAMING.
  - COLD-FORMED METAL FRAMING SHALL BE CAPABLE OF WITHSTANDING DEAD, LIVE, WIND, & SEISMIC DESIGN LOADS LISTED ON THE STRUCTURAL DRAWINGS.
  - DEFLECTION LIMITS: DESIGN FRAMING SYSTEMS TO WITHSTAND DESIGN LOADS WITHOUT HORIZONTAL DEFLECTIONS GREATER THAN THE FOLLOWING FOR THE HEIGHT OF THE WALL:  
INTERIOR WALL FRAMING: 1/360 (HORIZONTAL LOAD OF 5 psf)  
EXTERIOR WALL FRAMING: 1/600 BACKING BRICK VENEER  
1/360 BACKING OTHER MATERIALS

- ASSUME NON-STRUCTURAL SHEATHING PROVIDES NO LATERAL BRACING TO FRAMING MEMBERS.
- COLD-FORMED STEEL SHALL SATISFY ASTM A653 WITH HOT-DIPPED GALVANIZED COATING CONFORMING TO ASTM A525, CLASS 60.
- DESIGN NON-LOAD BEARING FRAMING SYSTEM TO MAINTAIN CLEARANCES AT OPENINGS, TO ALLOW FOR CONSTRUCTION TOLERANCES, AND TO ACCOMMODATE LIVE LOAD DEFLECTION OF PRIMARY BUILDING STRUCTURE OF 3/4" UPWARD OR DOWNWARD.
- DESIGN ALL MEMBERS ACCORDING TO AMERICAN IRON & STEEL INSTITUTE (AISI) "NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".
- SUBMITTALS:  
A. PRODUCT DATA: FOR EACH TYPE OF COLD-FORMED METAL FRAMING PRODUCT AND ACCESSORY INDICATED.  
B. SHOP DRAWINGS: SHOW LAYOUT, SPACINGS, SIZES, THICKNESSES, AND TYPES OF COLD-FORMED METAL FRAMING, FABRICATION, AND FASTENING AND ANCHORAGE DETAILS, INCLUDING MECHANICAL FASTENERS. SHOW REINFORCING CHANNELS, OPENING FRAMING, SUPPLEMENTAL FRAMING, STRAPPING, BRACING, BRIDGING, SPLICES, ACCESSORIES, CONNECTION DETAILS, AND ATTACHMENT TO ADJOINING WORK. SHOP DRAWINGS MUST BE PREPARED UNDER THE SUPERVISION OF AND SEALED BY A QUALIFIED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.  
C. STRUCTURAL DESIGN CALCULATIONS: COMPLETE STRUCTURAL DESIGN CALCULATIONS SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED, RESPONSIBLE FOR THEIR PREPARATION.
- ALL COLD-FORMED FRAMING SHOWN ON THE STRUCTURAL DRAWINGS IS MINIMUM CONCEPT ONLY. FINAL DESIGN AND DETAILING SHALL BE DONE BY A QUALIFIED PROFESSIONAL ENGINEER, REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
- LIGHT GAGE STRUCTURAL STEEL FRAMING AS SHOWN ON THESE PLANS CONFORMS TO THE INDUSTRY STANDARD NOMENCLATURE. EXPLANATION OF THIS NOMENCLATURE IS SHOWN BELOW FOR REFERENCE:



- CONCRETE TESTING:**
- CONCRETE TESTING SHALL BE PAID FOR BY THE OWNER. TESTING LABORATORY SHALL PERFORM THE FOLLOWING TESTS ON CAST-IN-PLACE CONCRETE:  
A) ASTM C143 - "STANDARD TEST METHOD FOR SLUMP OF PORTLAND CEMENT CONCRETE."  
B) ASTM C1017 - "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF CYLINDRICAL CONCRETE SPECIMENS." A SEPARATE TEST SHALL BE CONDUCTED FOR EACH CLASS. FOR EVERY 50 CUBIC YARDS (OR FRACTION THEREOF), PLACED PER DAY, REQUIRED CYLINDERS, QUANTITIES AND TEST AGE AS FOLLOWS:  
1 AT 7 DAYS  
2 AT 28 DAYS
  - PROVIDE ONE ADDITIONAL RESERVE CYLINDER TO BE TESTED UNDER THE DIRECTION OF THE ENGINEER, IF REQUIRED. IF 28 DAY STRENGTH IS ACHIEVED, THE ADDITIONAL CYLINDER(S) MAY BE DISCARDED.
- PENETRATIONS:**
- NO PENETRATIONS SHALL BE MADE IN ANY STRUCTURAL MEMBERS OTHER THAN THOSE LOCATED ON THESE DRAWINGS WITHOUT PREVIOUS APPROVAL OF THE ENGINEER.
- CONCRETE MIX DESIGN:**
- SHALL BE MIX DESIGN BY A RECOGNIZED TESTING LABORATORY TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:  
4,000 psi - FOUNDATION WALLS AND FOOTINGS  
3,000 psi - INTERIOR SLABS-ON-GRADE  
4,000 psi - ALL OTHER CONCRETE
  - SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. CONCRETE SHALL COMPLY WITH ALL THE REQUIREMENTS OF ASTM STANDARD OR FOR MEASURING, MIXING, TRANSPORTING, ETC. CONCRETE TICKETS SHALL BE TIME STAMPED WHEN CONCRETE IS BATCHED. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1 1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCONFORMANCE WITH THE ABOVE. ALL SLABS SHALL BE CURED USING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1 AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. ALL SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY. CALCIUM CHLORIDES SHALL NOT BE UTILIZED. OTHER ADJUTIVES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.
  - CONCRETE SHALL UTILIZE TYPE III CEMENT UNLESS OTHERWISE DIRECTED BY THE GEOTECHNICAL ENGINEER OR GEOTECHNICAL REPORT.
  - THE CONCRETE STRENGTHS SHOWN IN THE SECTION ABOVE AND IN THE SPECIFICATIONS ARE MINIMUM COMPRESSIVE STRENGTHS. THE ENGINEER SHALL DETERMINE IF THE CONCRETE IS ACCEPTABLE OR TO BE REMOVED, OR TO RECEIVE SPECIAL CURING IF THE COMPRESSIVE STRENGTHS ARE LESS THAN SPECIFIED.
  - ALL CONCRETE EXPOSED TO WEATHER OR EARTH SHALL BE AIR ENTRAINED TO 5% TO 7%.
  - WATER REDUCING AGENTS MAY BE USED IN THE CONCRETE MIX. PLASTICIZERS AND SUPER-PLASTICIZERS MAY BE USED ONLY WHEN WRITTEN PERMISSION OF THE ENGINEER IS GIVEN.
  - NO SALTS OF ANY KIND MAY BE USED IN CONCRETE BEFORE OBTAINING THE ENGINEER'S WRITTEN PERMISSION FOR THEIR USE.
  - CONCRETE FOR TROWEL-FINISHED INTERIOR CONCRETE FLOORS SHALL NOT INCLUDE AN AIR-ENTRAINING ADMIXTURE; THE MAXIMUM AIR CONTENT IN THESE SLABS SHALL NOT EXCEED 3 %.
- CONCRETE AND REINFORCING PLACEMENT:**
- ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 301 AND ACI 117 EXCEPT AS MODIFIED BELOW:  
ACI 117 ITEM 4.3.1.1  
ELEVATIONS OF SLABS-ON-GRADE TOP OF SLAB ELEVATION SHALL BE WITHIN A 3/8" ENVELOPE EITHER SIDE OF THE THEORETICAL DESIGN SURFACE.  
ACI 117 ITEM 4.5.1  
FLOOR FINISH TOLERANCES AS MEASURED BY PLACING A FREESTANDING (UNLEVELLED) 10 FT. STRAIGHTEDGE ANYWHERE ON THE SLAB AND ALLOWING IT TO REST UPON TWO HIGH SPOTS WITHIN 28 DAYS AFTER SLAB CONCRETE PLACEMENT. THE GAP AT ANY POINT BETWEEN THE STRAIGHTEDGE AND THE FLOOR SHALL NOT EXCEED 1/4".
  - ALL REINFORCING STEEL TO BE ASTM A615, GRADE 60 (#4 AND LARGER), EXCEPT WHERE NOTED OTHERWISE. REINFORCING SHALL NOT BE WELDED.
  - WELDED WIRE FABRIC TO CONFORM TO ASTM A185 AND SHALL BE FREE FROM OIL, SCALE AND RUST. PLACE WWF IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND THE SPECIFICATIONS. MINIMUM LAPS SHALL BE ONE SPACE PLUS 2".
  - ALL REINFORCING STEEL BARS TO BE DETAILED AND PLACED IN ACCORDANCE WITH THE LATEST ACI MANUALS.
  - LAP ALL REINFORCING SPLICES IN CONCRETE A MINIMUM OF 48 BAR DIAMETERS OR 24 INCHES, WHICHEVER IS GREATER, UNLESS NOTE OTHERWISE ON DRAWINGS (CLASS B SPLICE).
  - PROVIDE CORNER BARS OF SAME BAR DIAMETER AS SPECIFIED FOR THE WALL, BEAM OR FOOTING. PROVIDE MINIMUM OF 40 BAR DIAMETER LAP FOR ALL CORNER BARS, UNLESS NOTED OTHERWISE.
  - PROVIDE FOUNDATION DOWELS AS SHOWN. MINIMUM SIZE DOWELS TO BE # 4 UNLESS OTHERWISE NOTED. ALL VERTICAL REINFORCING STEEL IN COLUMNS AND PIERS, OR VERTICAL REINFORCING IN WALLS, SHALL BE DOWELED INTO THE FOOTINGS WITH SAME SIZE AND QUANTITY DOWEL AS THE VERTICAL REINFORCING.
  - WHERE SHOWN ON THE DRAWINGS, PROVIDE WELD PLATES, WELDMENTS, OR CONCRETE INSERTS FOR FASTENING AND SECURING OTHER COMPONENTS. CONCRETE INSERTS SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM AND INSTALLED BY THE CONTRACTOR CASTING THE CONCRETE AROUND THEM. CLIP ANGLES SHALL BE FURNISHED BY THE CONTRACTOR REQUIRING THEM.
  - REINFORCING STEEL SHALL RECEIVE CONCRETE COVER AS FOLLOWS:
- | DESCRIPTION  | MINIMUM COVER |
|--|---------------|
| CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH                                  | 3"            |
| EXPOSED TO EARTH OR WEATHER  |               |
| #6 THROUGH #18 BARS  | 2"            |
| #5 BARS OR SMALLER   | 1 1/2"        |
| NOT EXPOSED TO EARTH OR WEATHER OR IN CONTACT WITH THE GROUND, SLABS AND WALLS |               |
| #11 BARS OR SMALLER  | 3/4"          |
| #14 AND #18  | 1 1/2"        |
| BEAMS AND COLUMNS  | 1 1/2"        |
- PROVIDE TWO (2) #5'S, ONE AT EACH FACE, UNLESS NOTED OTHERWISE, AROUND ALL OPENINGS GREATER THAN 12"x12" IN CAST-IN-PLACE CONCRETE. EXTEND REINFORCING 2'-0" BEYOND OPENINGS IN BOTH DIRECTIONS. CONTACT ENGINEER FOR ALL OPENINGS GREATER THAN 12"x12" FOR DESIGN.
  - COLD WEATHER AND HOT WEATHER PROVISIONS OF ACI 308 AND 305 (CURRENT EDITIONS), RESPECTIVELY, SHALL BE MAINTAINED.
  - CONTRACTOR TO FURNISH AND INSTALL 500 LINEAR FT. EACH OF ADDITIONAL #4 & #5 REINFORCING STEEL TO BE USED AT ENGINEER'S DISCRETION.

- FORMWORK AND SHORING:**
- NO STRUCTURAL CONCRETE SHALL BE STRIPPED UNTIL IT HAS REACHED AT LEAST TWO-THIRDS OF THE 28 DAY DESIGN STRENGTH. DESIGN, ERECTION AND REMOVAL OF ALL FORMWORK, SHORES AND RESHORES SHALL MEET THE REQUIREMENTS SET FORTH IN ACI STANDARDS 301 AND 347.

- STRUCTURAL NOTES:**
- GENERAL NOTES:**
- STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH JOB SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR SLEEVES, DEPRESSIONS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
  - ALL DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD AND WITH ALL OTHER DRAWINGS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
  - THE STRUCTURE IS DESIGNED TO BE SELF SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO ENSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING (AND ACCOMPANYING FOOTINGS), GUYS OR TIEDOWNS.
  - ADDITIONAL OBSERVATIONS AS A RESULT OF REJECTION OF WORK COMPLETED AND/OR ADDITIONAL OBSERVATIONS DUE TO THE DEFICIENCIES IN WORK OBSERVED WILL BE AT THE EXPENSE OF THE CONTRACTOR.
  - ALL STRUCTURAL SHOP DRAWINGS TO BE REVIEWED BY JOB SUPERINTENDENT IN ADDITION TO ALL PERSONNEL DEEMED NECESSARY BY CONTRACTOR PRIOR TO SUBMITTAL TO ENGINEER FOR APPROVAL.
  - ALL SHOP DRAWING RESUBMITTALS SHALL INCLUDE A WRITTEN DETAILED LIST OF LOCATIONS AND DESCRIPTIONS OF ALL CHANGES MADE FROM PREVIOUS SUBMITTAL. LIST SHALL BE SPECIFIC AND GENERAL NOTES SUCH AS "DIMENSIONS CORRECTED" ARE NOT ACCEPTABLE.

- DESIGN CODES:**
- 2012 NORTH CAROLINA STATE BUILDING CODE.  
ACI 318-05 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE AND COMMENTARY.  
AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN.  
SJI STANDARD SPECIFICATIONS, LOAD TABLES AND WEIGHT TABLES FOR STEEL JOISTS AND JOIST GIRDERS.  
SDI DESIGN MANUAL FOR COMPOSITE DECKS, FORM DECKS AND ROOF DECKS (PUBLICATION No. 30).  
2005 NATIONAL DESIGN SPECIFICATIONS (NDS) FOR WOOD CONSTRUCTION

- DESIGN LOADS:**
- THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED WITH THE FOLLOWING SUPERIMPOSED LOADINGS:
- |   |  |
|---|--|
| GROUND SNOW LOAD,<br>DESIGN ROOF SNOW LOAD,<br>SNOW EXPOSURE FACTOR,<br>SNOW LOAD IMPORTANCE FACTOR,<br>THERMAL FACTOR,<br>ROOF LIVE LOAD | Pg = 10 psf<br>Pf = 10 psf<br>Ce = 0.8<br>Ie = 1.0<br>Ct = 1.0<br>20 psf |
|---|--|
- |  |                     |
|--|---------------------|
| WIND:<br>BASIC WIND SPEED (3 SEC GUST)<br>EXPOSURE CATEGORY<br>IMPORTANCE FACTOR | 130 mph<br>B<br>1.0 |
|--|---------------------|

- COMPONENT & CLADDING PRESSURES:**
- ALL BUILDING COMPONENTS AND CLADDING ENGINEERED BY THE COMPONENT MANUFACTURER ARE TO BE DESIGNED BY THE MANUFACTURER'S ENGINEER FOR WIND LOADS DETERMINED PER THE NORTH CAROLINA STATE BUILDING CODE FOR THE BASIC DESIGN WIND VELOCITY, IMPORTANCE FACTOR AND EXPOSURE LISTED ABOVE.

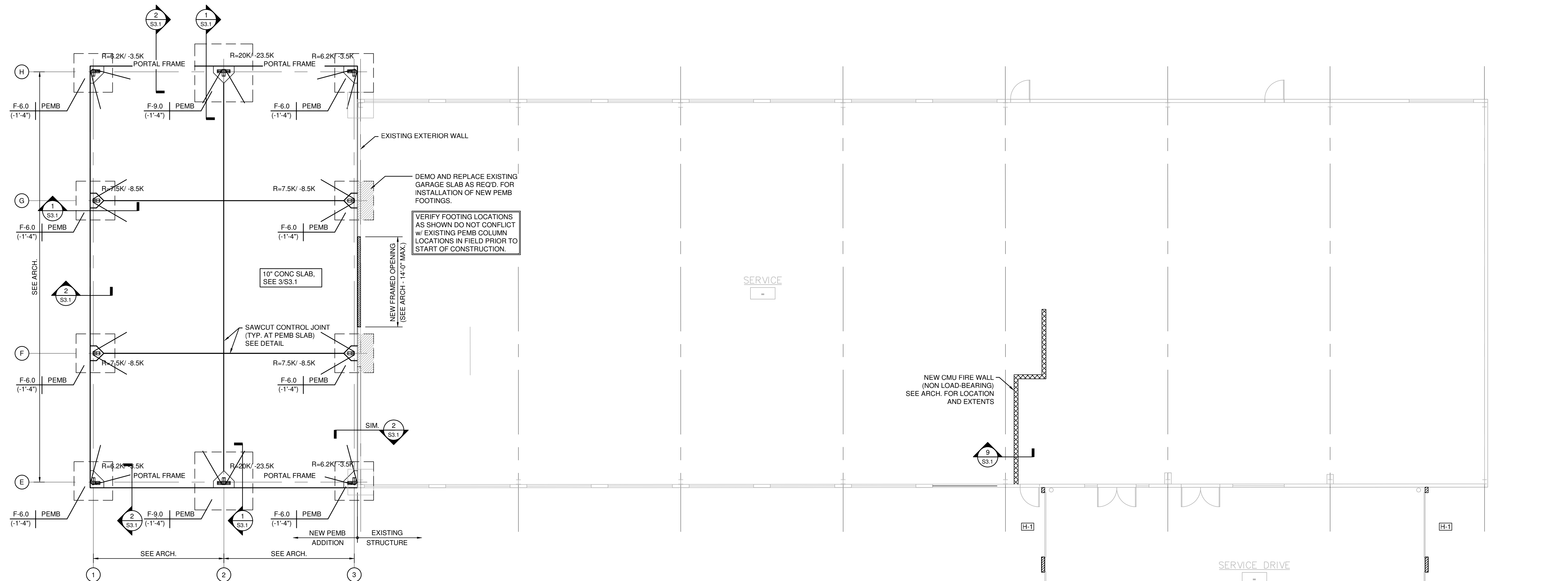
- SEISMIC:**
- |  |  |
|--|--|
| IMPORTANCE FACTOR<br>OCCUPANCY CATEGORY<br>MAPPED SPECTRAL RESPONSE ACCELERATIONS, | Ie = 1.0<br>II<br>Sa = 0.133g<br>S1 = 0.055g |
|--|--|

- FOUNDATIONS:**
- FOUNDATIONS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2,000 psf ON EXISTING SOILS. BEFORE CONSTRUCTION COMMENCES, SOIL BEARING CAPACITY SHALL BE VERIFIED BY A SUBSURFACE INVESTIGATION, A CERTIFIED TESTING LABORATORY, WHOSE REPORT SHALL INCLUDE ANALYSIS AND RECOMMENDATIONS FOR SITE PREPARATION IN ORDER TO BEAR THE FOUNDATION LOADS. ABOVE REPORT SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE FOUNDATION CONSTRUCTION BEGINS.

- PLUMBING SLEEVES:**
- MINIMUM SLEEVE SPACING SHALL BE TWO DIAMETERS CENTER TO CENTER TO THE LARGER SLEEVE OR 6" CLEAR BETWEEN SLEEVES, WHICHEVER IS GREATER. PRIOR TO CONSTRUCTION SLEEVE LOCATIONS AND SIZES SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

- CHEMICAL ANCHORS:**
- SHALL BE A POLYMER INJECTION SYSTEM SUCH AS RAMSET "EPOON", MOLLY "PARAMOUNT HVC", SIKKA "SIKADUR INJECTION SEAL", "MILTI-HIGH STRENGTH EPOXY", OR APPROVED EQUAL, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. INSTALLERS SHALL BE TRAINED BY THE MANUFACTURER'S REPRESENTATIVE.

- ANCHOR BOLTS:**
- SHALL BE A36 THREADED ROD, PROVIDE HOT DIP GALVANIZED FINISH ON ALL ANCHOR BOLTS PERMANENTLY EXPOSED TO EXTERIOR.



**PRE-ENGINEERED METAL BUILDING FOUNDATION NOTES:**

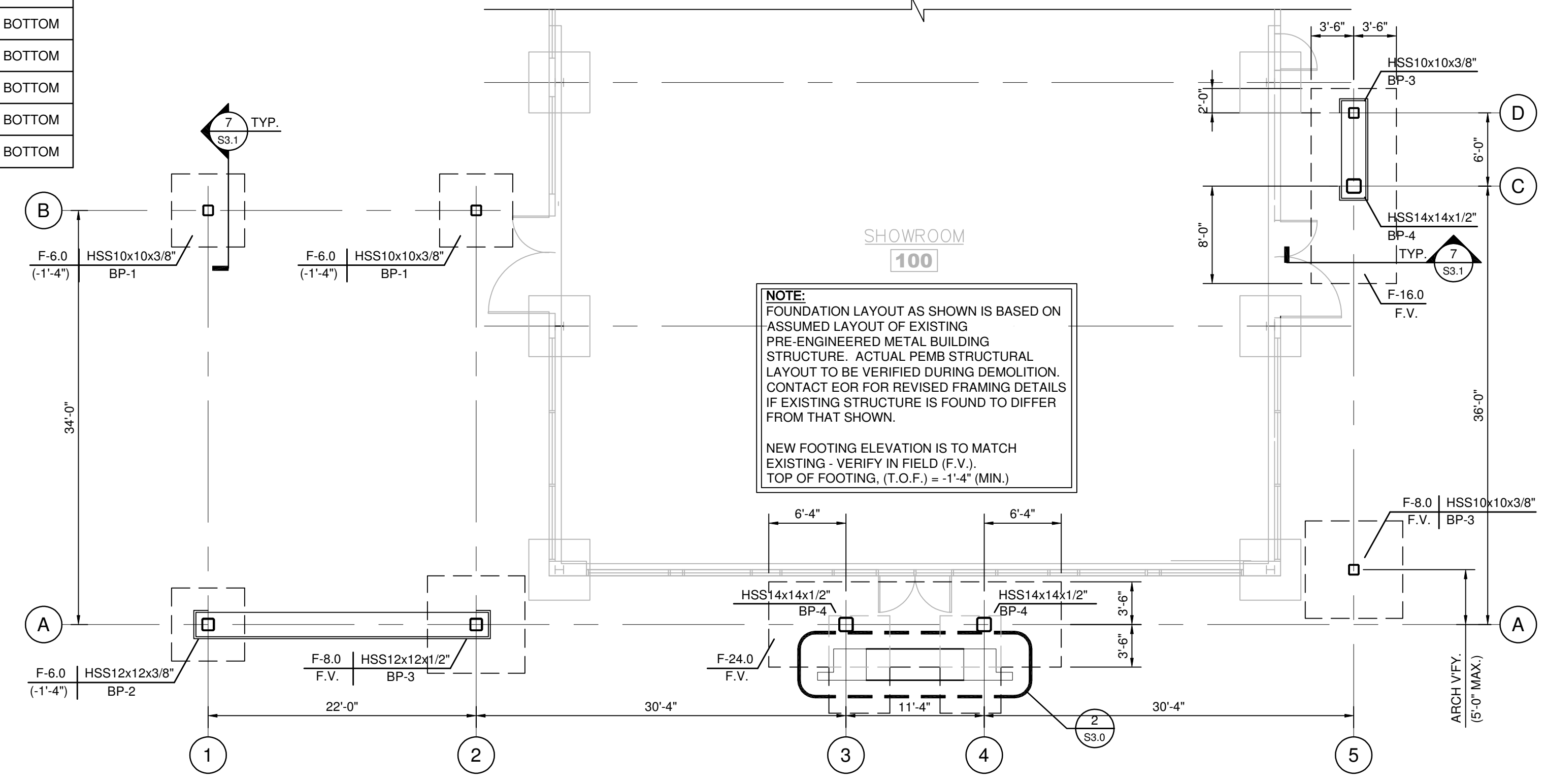
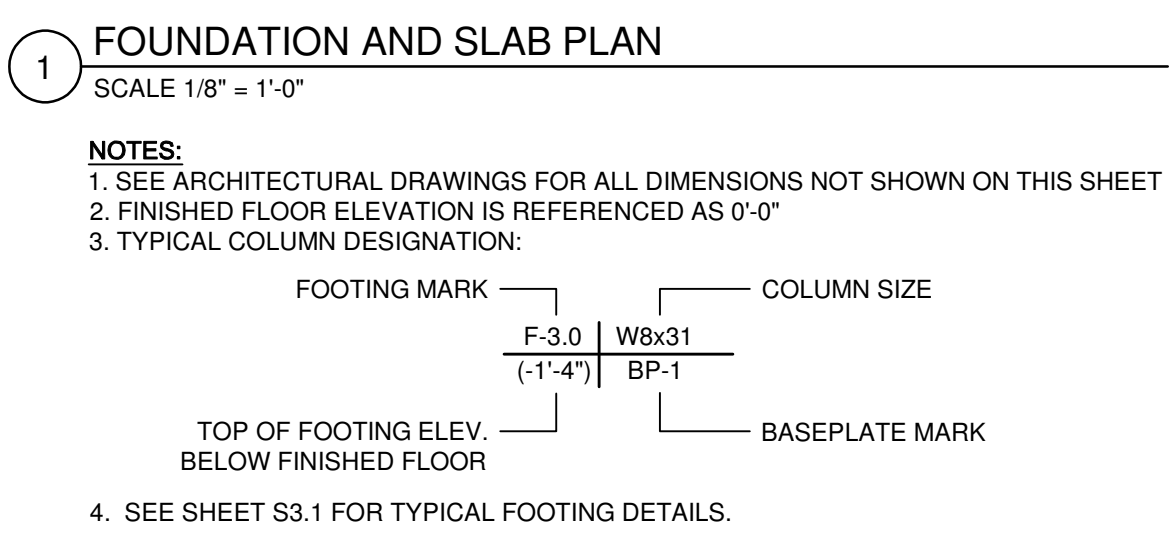
1. VERIFY ALL DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL DRAWINGS AND PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS PRIOR TO START OF CONSTRUCTION. TOP OF SLAB IS REFERENCED AS 0'-0".
2. CENTERLINE OF FOOTING SHALL COINCIDE WITH CENTERLINE OF COLUMN UNLESS NOTED OTHERWISE.
3. MECHANICAL AND EQUIPMENT PADS NOT SHOWN FOR CLARITY. REFER TO MECHANICAL DRAWINGS AS APPLICABLE.
4. PRE-ENGINEERED METAL BUILDING SHOP DRAWINGS WERE NOT AVAILABLE AT THE TIME OF THIS FOUNDATION DESIGN. CONCRETE PIER SIZES AS SHOWN ARE BASED ON ASSUMED COLUMN BASE PLATE DIMENSIONS AND ANCHOR BOLT LAYOUT. THE GC SHALL ENSURE THAT BASEPLATES BEAR ON PIERS W/ 6" MINIMUM CLEARANCE AS DETAILED. PIER DIMENSIONS SHALL BE INCREASED AS NEEDED.

MARK	DIMENSIONS			REINFORCING		
	WIDTH	LENGTH	THICKNESS	TRAVERSE	LONGITUDINAL	LOCATION
F-3.0	3'-0"	3'-0"	1'-0"	(4) #5	(4) #5	TOP & BOTTOM
F-5.8	5'-0"	8'-0"	1'-6"	(6) #5	(9) #5	TOP & BOTTOM
F-6.0	6'-0"	6'-0"	1'-6"	(7) #5	(7) #5	TOP & BOTTOM
F-7.0	7'-0"	7'-0"	1'-6"	(8) #5	(8) #5	TOP & BOTTOM
F-8.0	8'-0"	8'-0"	2'-0"	(9) #5	(9) #5	TOP & BOTTOM
F-9.0	9'-0"	9'-0"	1'-6"	(10) #5	(10) #5	TOP & BOTTOM
F-16.0	7'-0"	16'-0"	2'-0"	(8) #5	(17) #5	TOP & BOTTOM
F-24.0	7'-0"	24'-0"	2'-0"	(8) #5	(25) #5	TOP & BOTTOM

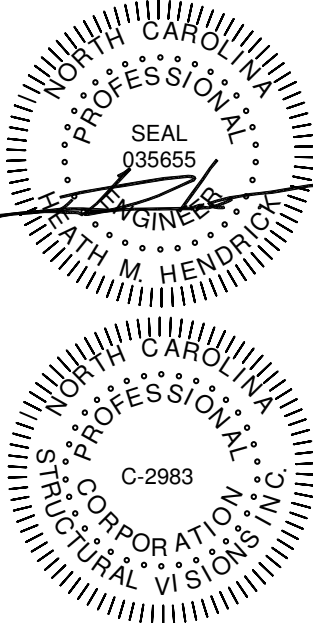
FOOTING CAPACITY SCHEDULE AT PEMB (SERVICE LOADS)			
FOOTING	MAX. DOWNWARD	MAX. UPLIFT	MAX. LATERAL
F-6.0	72 kips	12.1 kips	5.4 kips
F-9.0	162 kips	28 kips	7.2 kips

**NOTES:**

1. FOUNDATIONS SHOWN WERE BASED ON ASSUMED REACTIONS FROM THE PRE-ENGINEERED BUILDING COLUMNS. CONTRACTOR SHALL SUBMIT FINAL REACTIONS TO STRUCTURAL VISIONS, INC. FOR REVIEW AND POSSIBLE FOOTING MODIFICATIONS PRIOR TO CONSTRUCTING FOOTINGS



**NOTE:**  
FOUNDATION LAYOUT AS SHOWN IS BASED ON ASSUMED LAYOUT OF EXISTING PRE-ENGINEERED METAL BUILDING STRUCTURE. ACTUAL PEMB STRUCTURAL LAYOUT TO BE VERIFIED DURING DEMOLITION. CONTACT EOR FOR REVISED FRAMING DETAILS IF EXISTING STRUCTURE IS FOUND TO DIFFER FROM THAT SHOWN.  
NEW FOOTING ELEVATION IS TO MATCH EXISTING - VERIFY IN FIELD (F.V.).  
TOP OF FOOTING, (T.O.F.) = -1'-4" (MIN.)



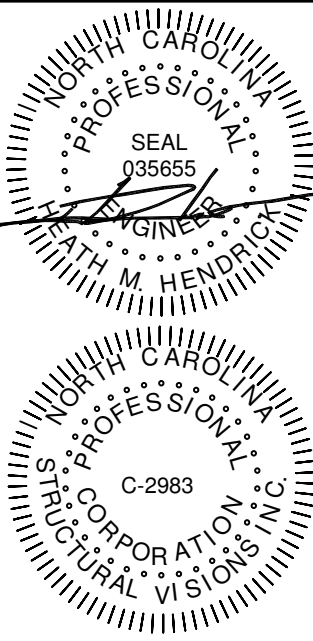
FOUNDATION PLAN

14022

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**S1.0**  
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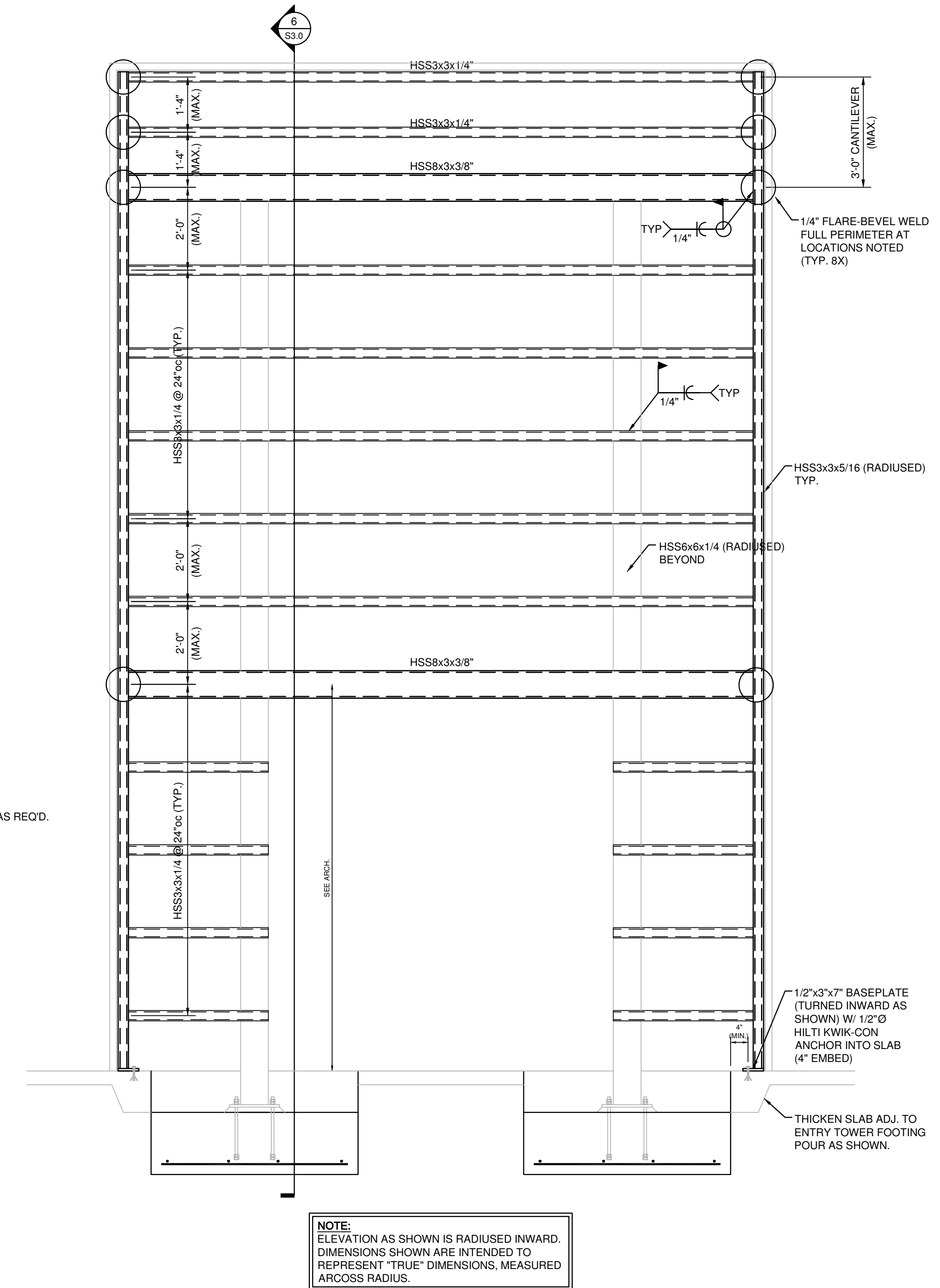


ENTRY TOWER  
FRAMING PLANS

14022

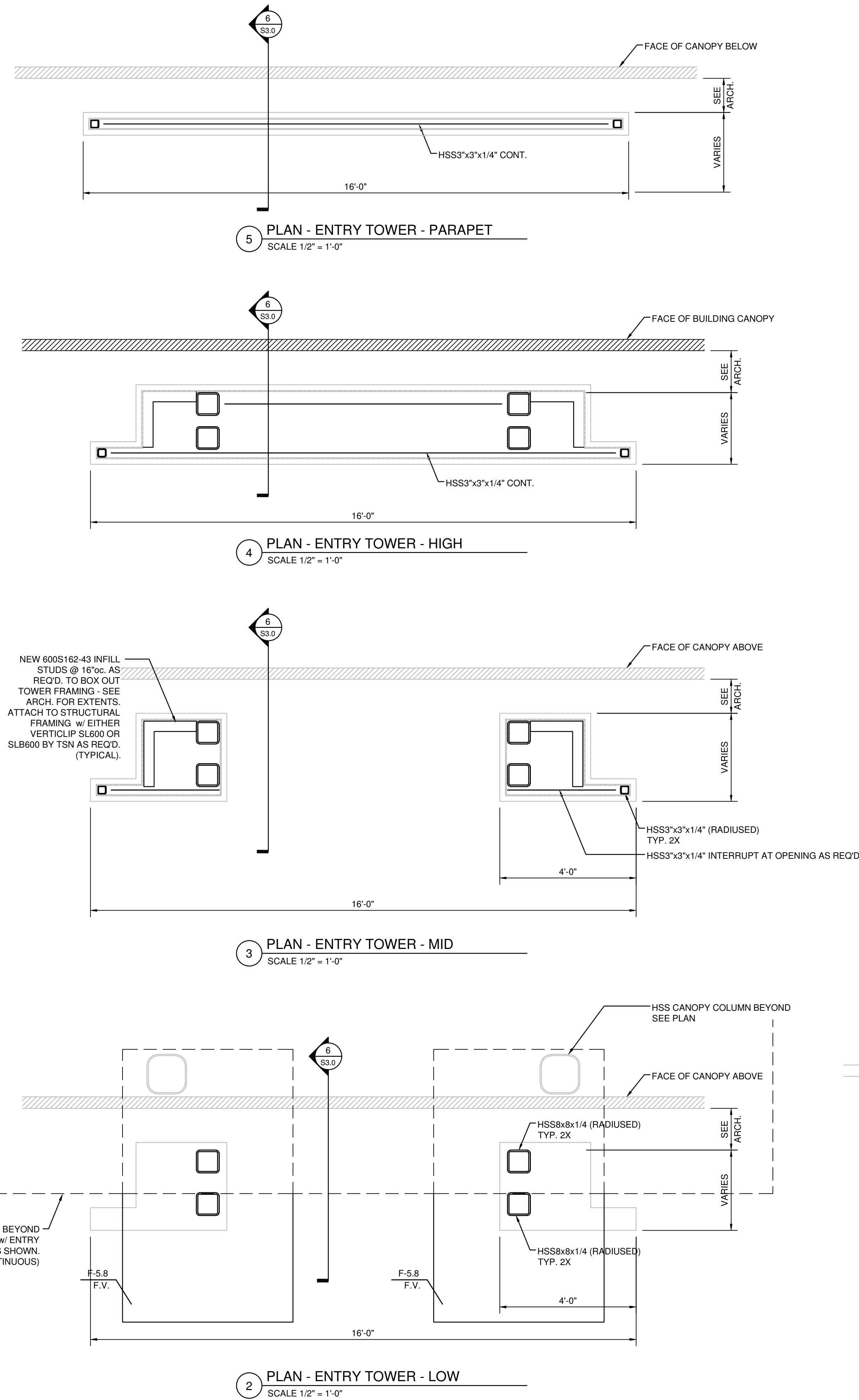
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1 ELEVATION - ENTRY TOWER FRAMING  
SCALE 1/2" = 1'-0"

NOTE:  
ELEVATION AS SHOWN IS RADIUSED INWARD.  
DIMENSIONS SHOWN ARE INTENDED TO  
REPRESENT "TRUE" DIMENSIONS, MEASURED  
ARCOSS RADIUS.



5 PLAN - ENTRY TOWER - PARAPET  
SCALE 1/2" = 1'-0"

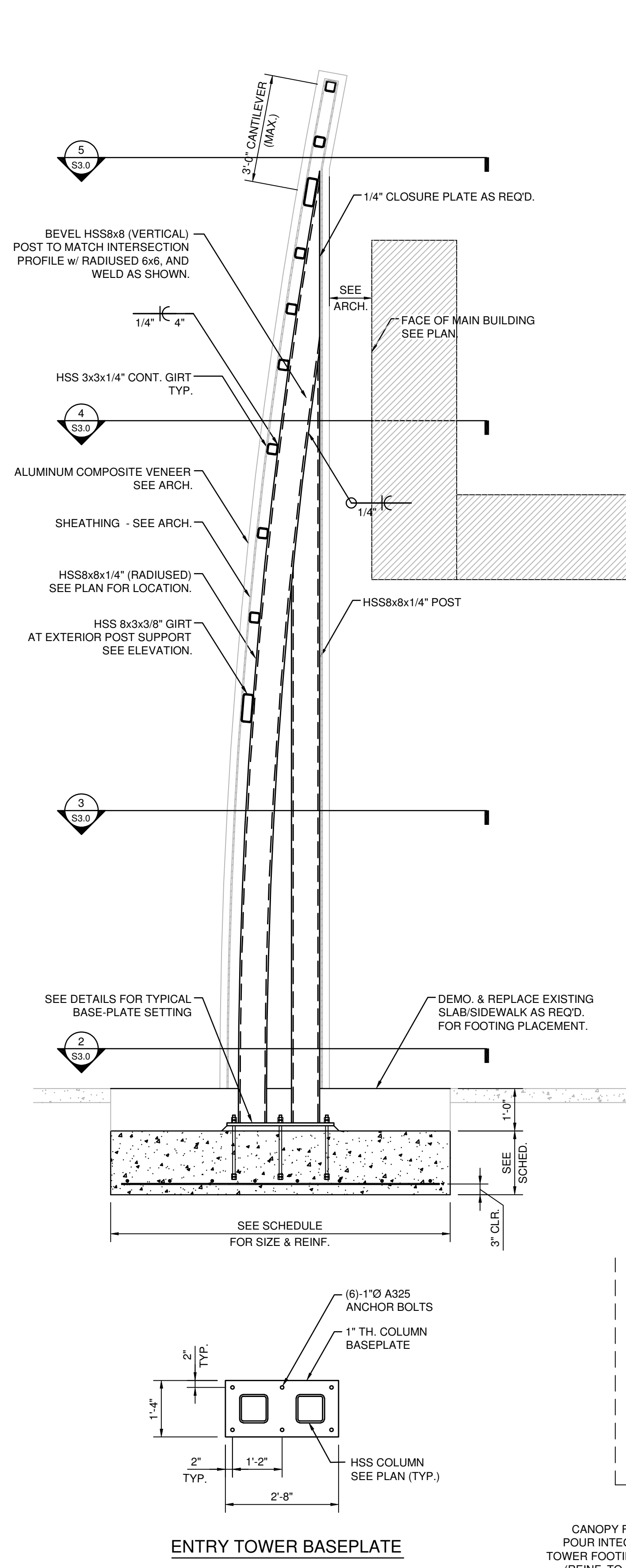
4 PLAN - ENTRY TOWER - HIGH  
SCALE 1/2" = 1'-0"

3 PLAN - ENTRY TOWER - MID  
SCALE 1/2" = 1'-0"

2 PLAN - ENTRY TOWER - LOW  
SCALE 1/2" = 1'-0"

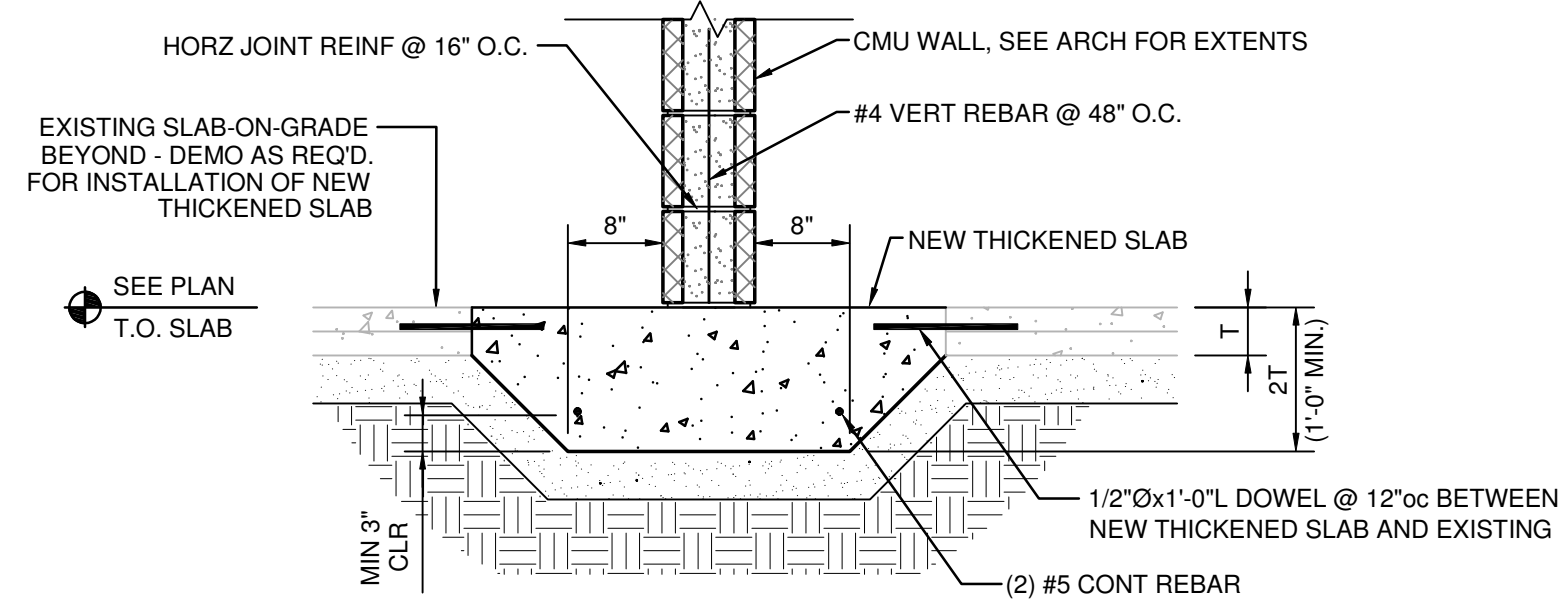
NEW 600S162-43 INFILL  
STUDS @ 16"oc. AS  
REQD. TO BOX OUT  
TOWER FRAMING - SEE  
ARCH. FOR EXTENTS.  
ATTACH TO STRUCTURAL  
FRAMING w/ EITHER  
VERTICLIP SL600 OR  
SLB600 BY TSN AS REQD.  
(TYPICAL).

CANOPY FOOTING BEYOND  
POUR INTEGRALLY w/ ENTRY  
TOWER FOOTING(S) AS SHOWN.  
(REINF. TO BE CONTINUOUS)

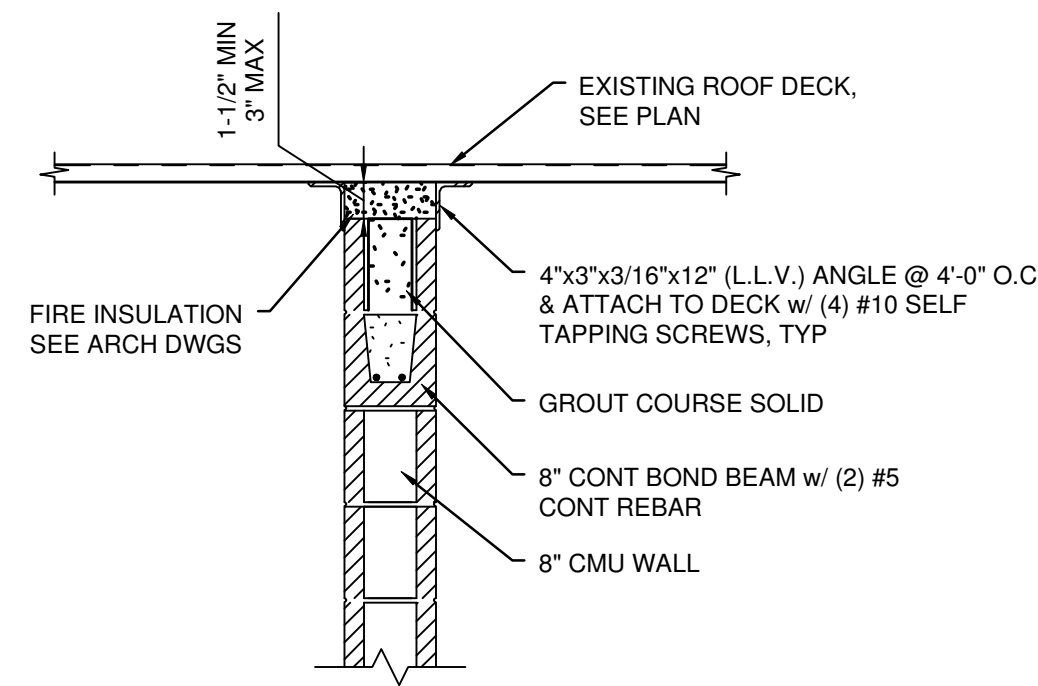


6 SECTION - ENTRY TOWER  
SCALE 1/2" = 1'-0"

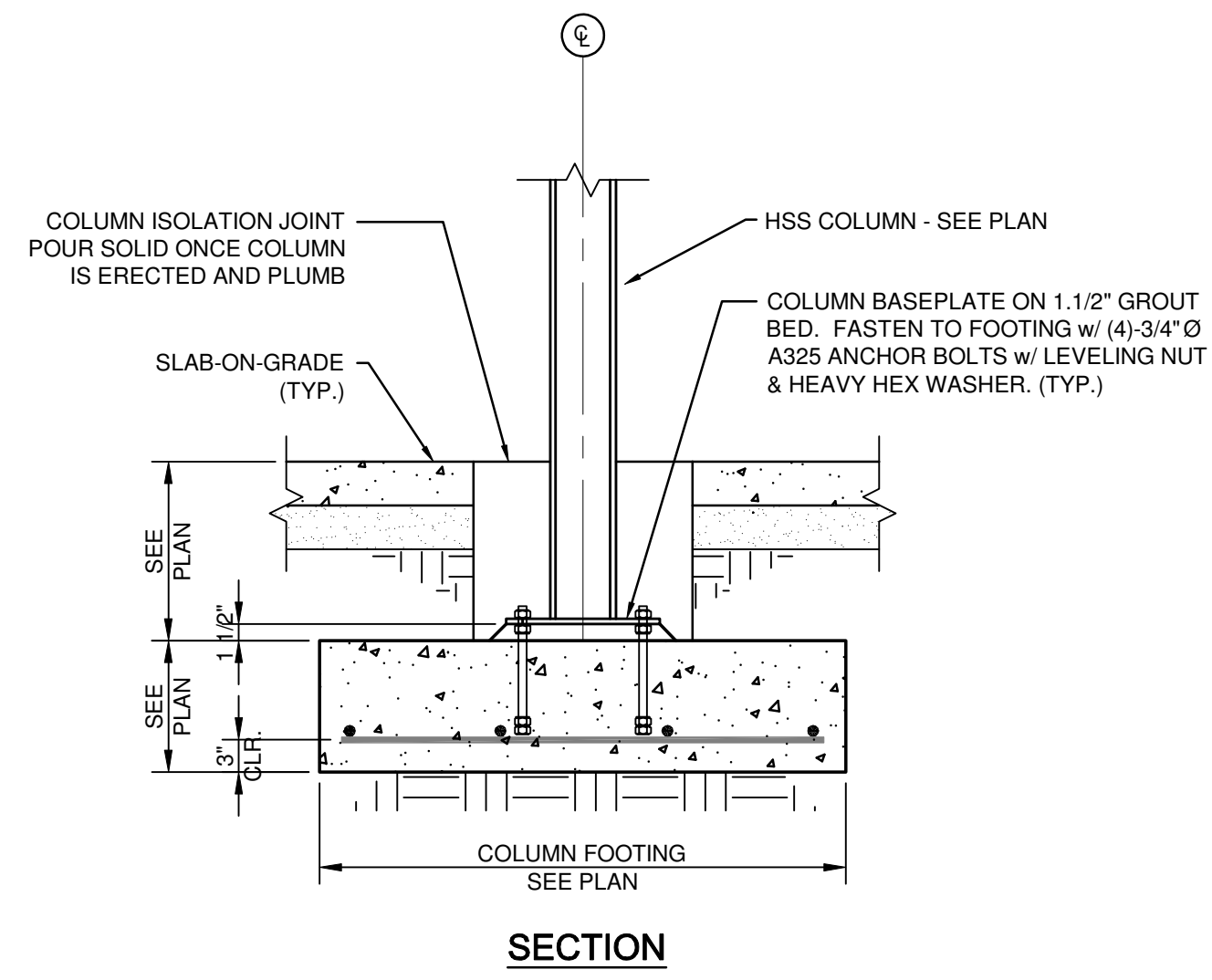




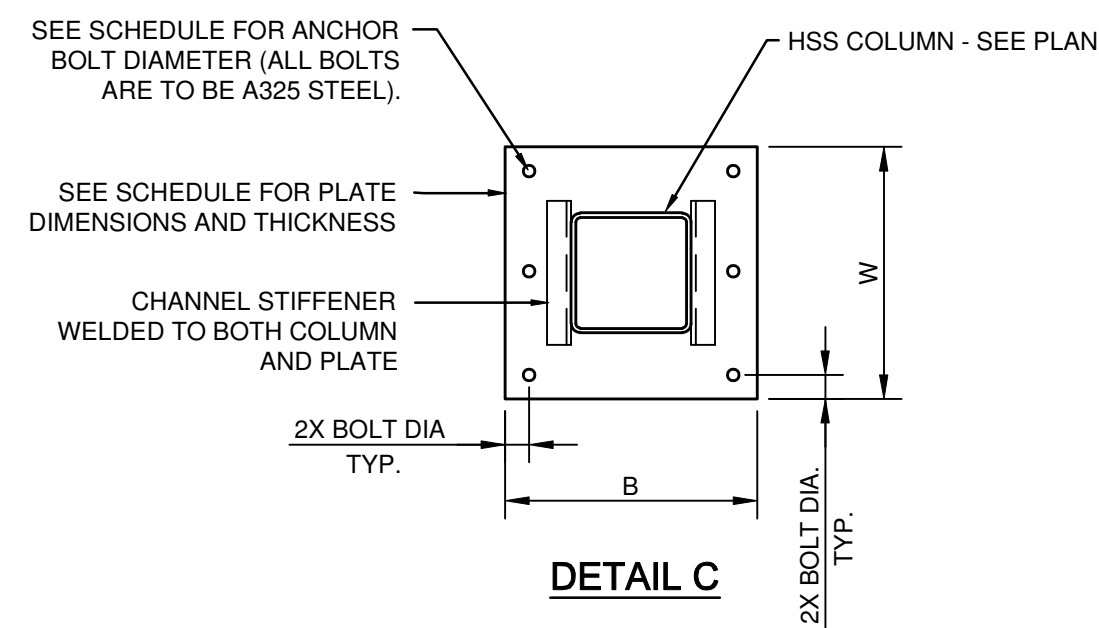
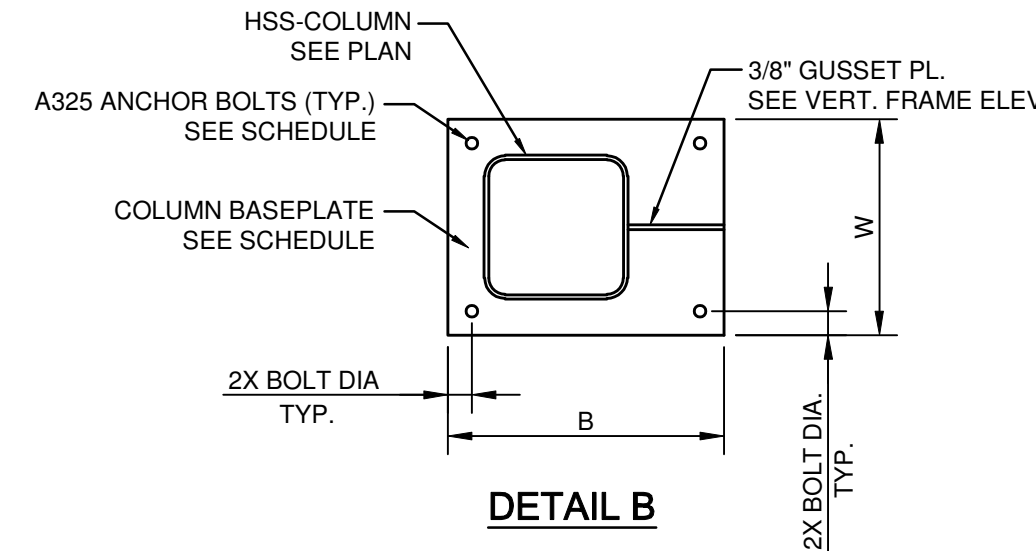
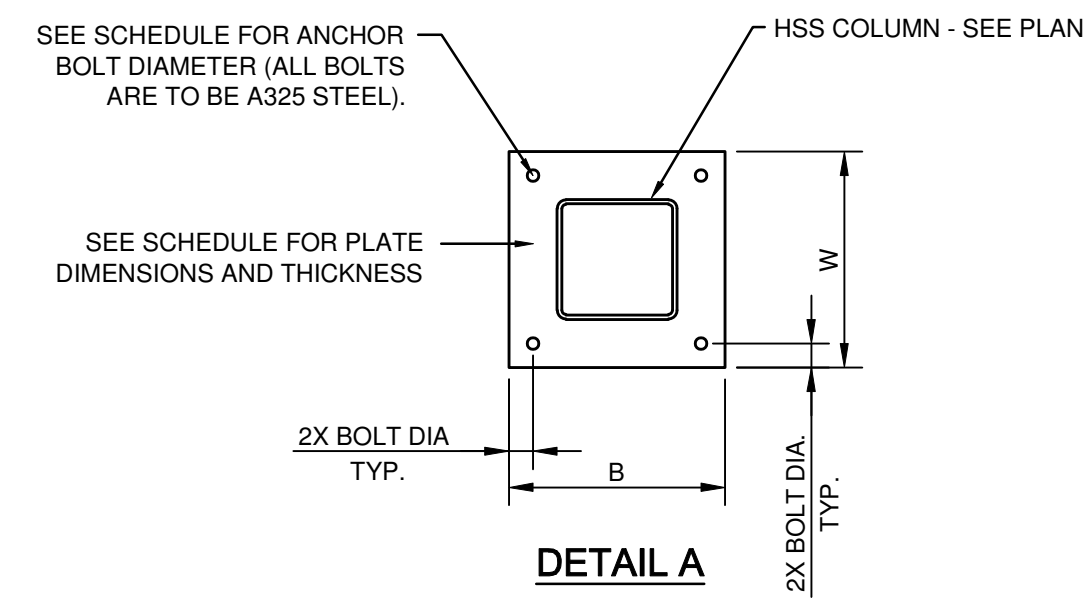
9 THICKENED SLAB AT INTERIOR CMU PARTITION WALL  
SCALE 3/4" = 1'-0"



10 TYP CMU FIRE SEPARATION WALL DETAIL  
SCALE 3/4" = 1'-0"



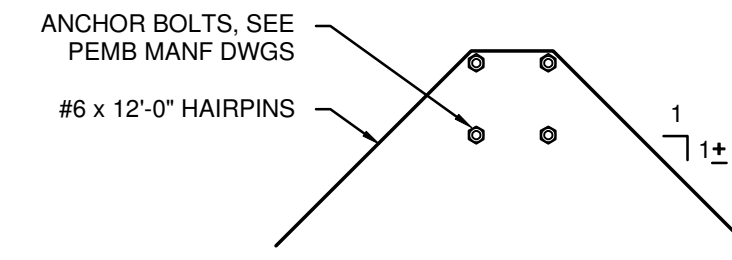
7 TYPICAL COLUMN SETTING DETAILS  
SCALE 3/4" = 1'-0"



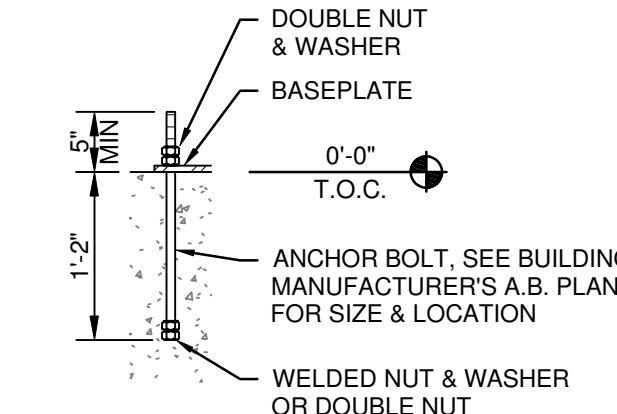
COLUMN BASEPLATE SCHEDULE						
MARK	PLATE DIMENSIONS			ANCHOR BOLTS	DETAIL	NOTES
	B	W	TH.			
BP-1	1'-4"	1'-4"	3/4"	(4)-3/4"Ø	A	-
BP-2	1'-11"	1'-6"	1"	(4)-3/4"Ø	B	-
BP-3	1'-8"	1'-8"	1"	(6)-1"Ø	C	CHANNEL STIFFENER
BP-4	2'-0"	2'-0"	1.1/4"	(6)-1.1/4"Ø	C	CHANNEL STIFFENER

\* COLUMNS ARE TO BE JOINED TO BASEPLATE w/ FULL PENETRATION WELD ALL SIDES SEE GENERAL NOTES FOR TYPICAL WELD SPECS.

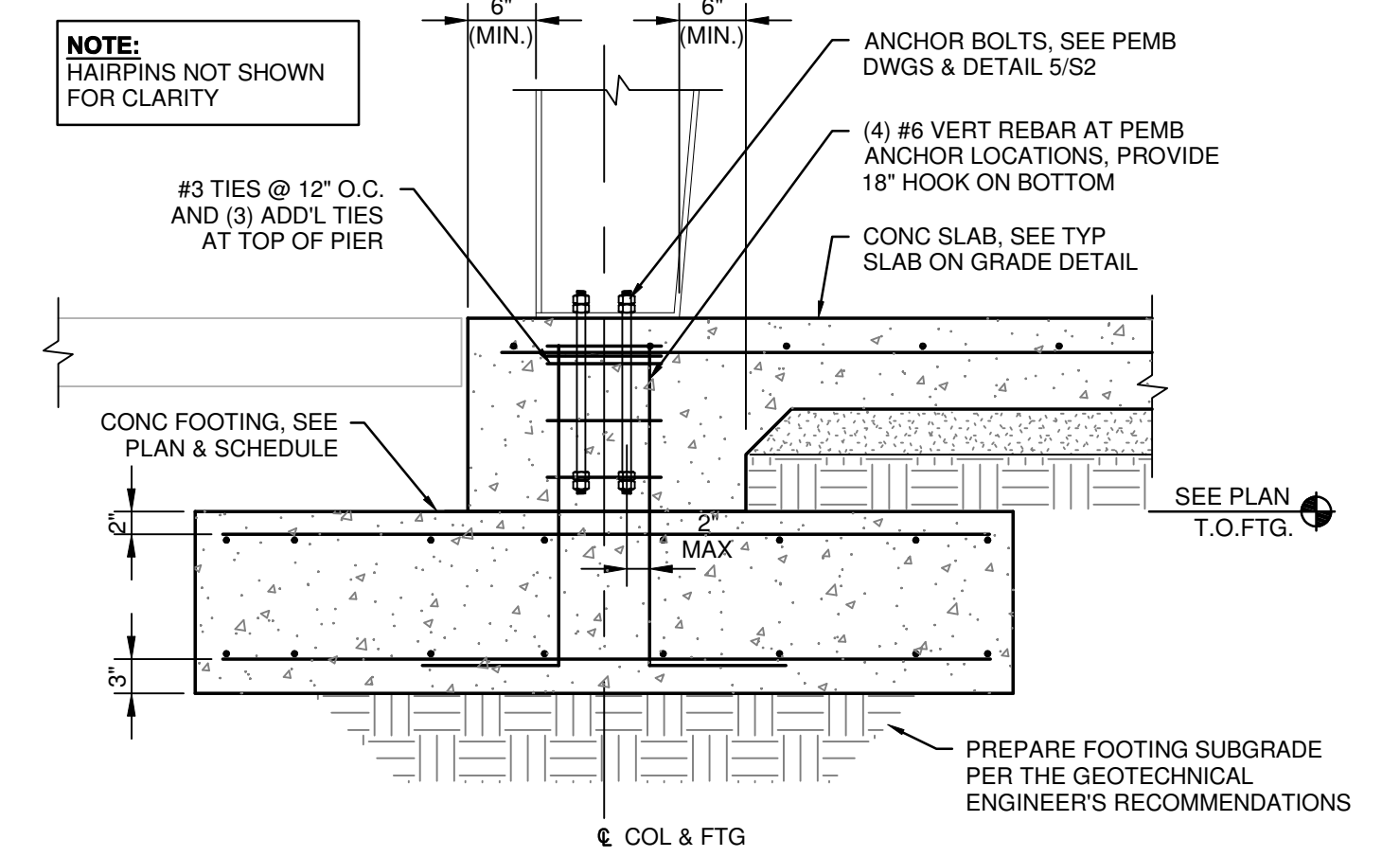
8 DETAIL - COLUMN BASE PLATE  
SCALE 3/4" = 1'-0"



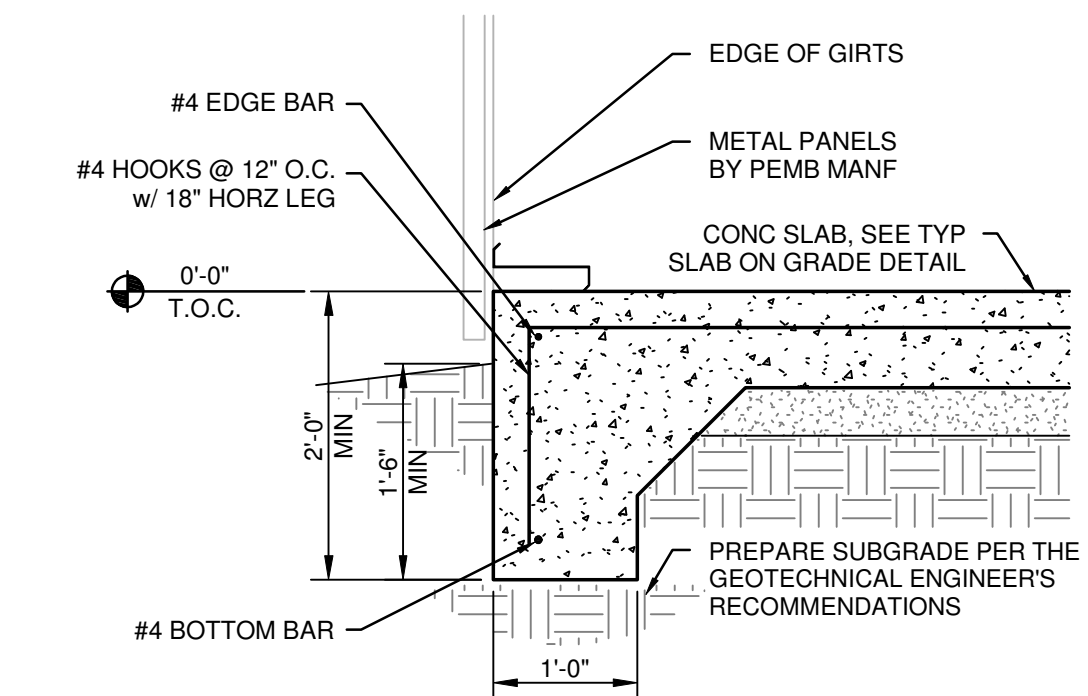
5 TYPICAL HAIRPIN DETAIL  
SCALE 3/4" = 1'-0"



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

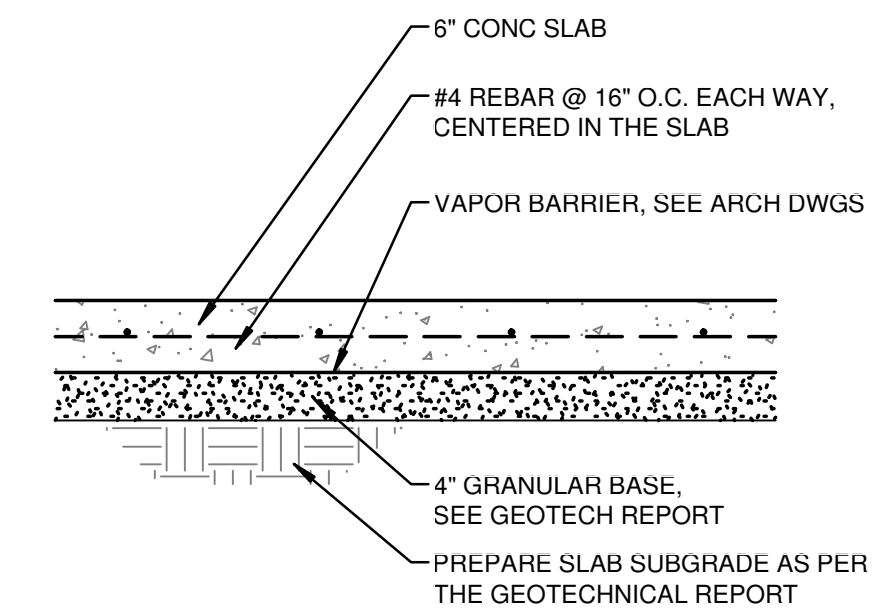


1 FOUNDATION AT PEMB COLUMN  
SCALE 3/4" = 1'-0"



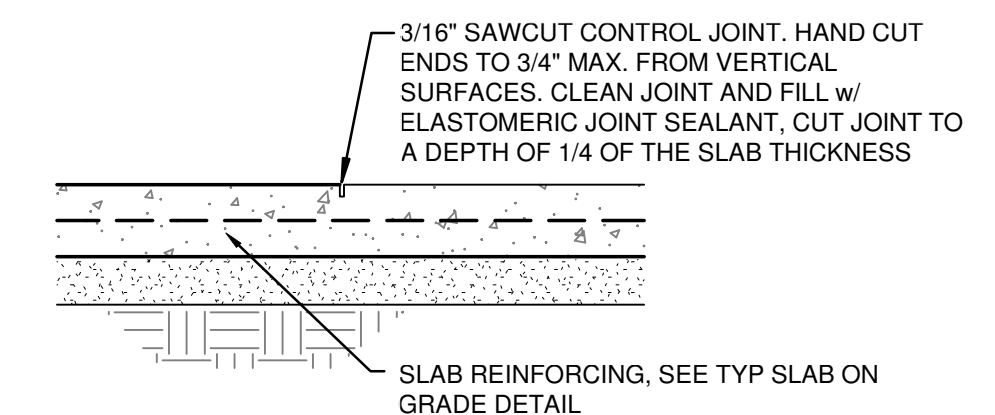
2 THICKENED EDGE DETAIL  
SCALE 3/4" = 1'-0"

NOTES:  
1. SEE ARCHITECTURAL DRAWINGS FOR SLOPES, DROPS, AND DRAIN LOCATIONS IN FLOOR SLABS.

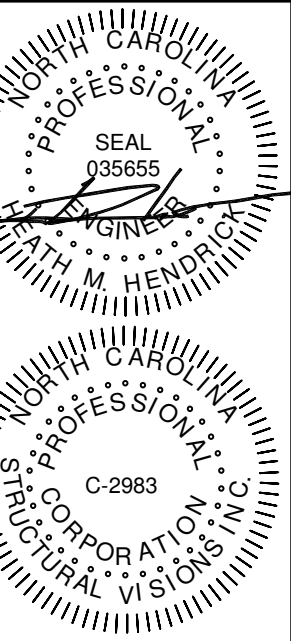


3 6" SLAB ON GRADE DETAIL  
SCALE 3/4" = 1'-0"

NOTES:  
1. CONTRACTORS OPTION - USE REMOVABLE CONTROL JOINT MATERIAL SUCH AS "ZIP STRIP", "STRESSLOCK", OR APPROVED EQUAL  
2. SLAB ON GRADE CONTROL JOINTS SHALL BE TOOLED OR SAWCUT. THE JOINT PATTERN SHALL BE APPROXIMATELY SQUARE AND LIMITED TO AN AREA NOT TO EXCEED 225 S.F. JOINTS SHALL BE CUT WITHIN 12 HOURS OF POURING SLAB. SEE PLAN FOR PROPOSED JOINT LAYOUT. FINAL JOINT LAYOUT TO BE DETERMINED BY THE GENERAL CONTRACTOR.



4 6" SLAB ON GRADE CONTROL JOINT  
SCALE 3/4" = 1'-0"

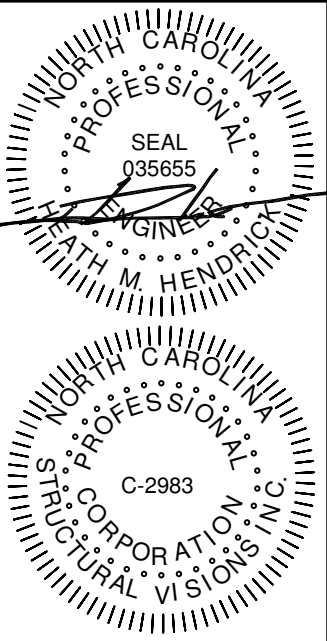


FOUNDATION DETAILS

14022

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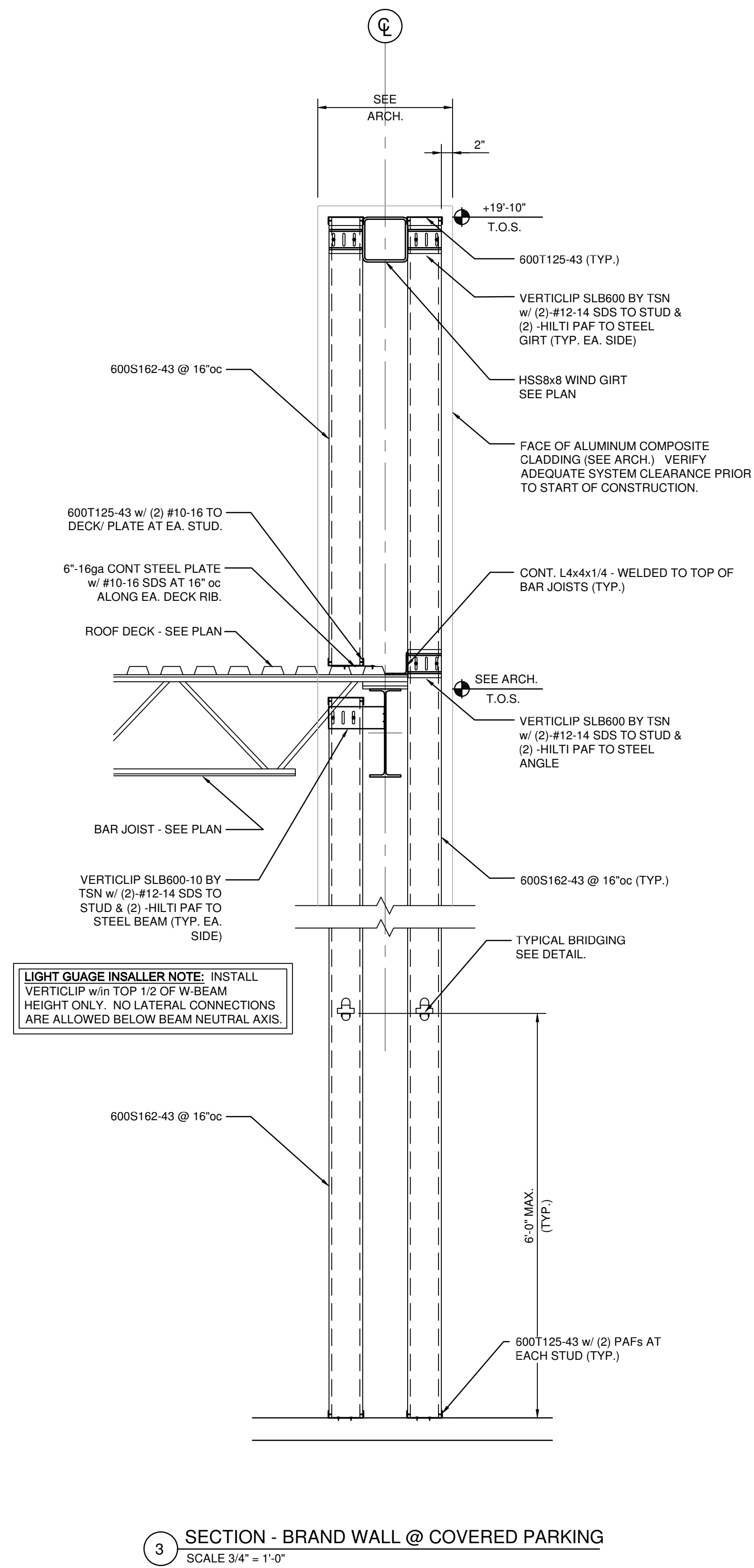


FRAMING DETAILS

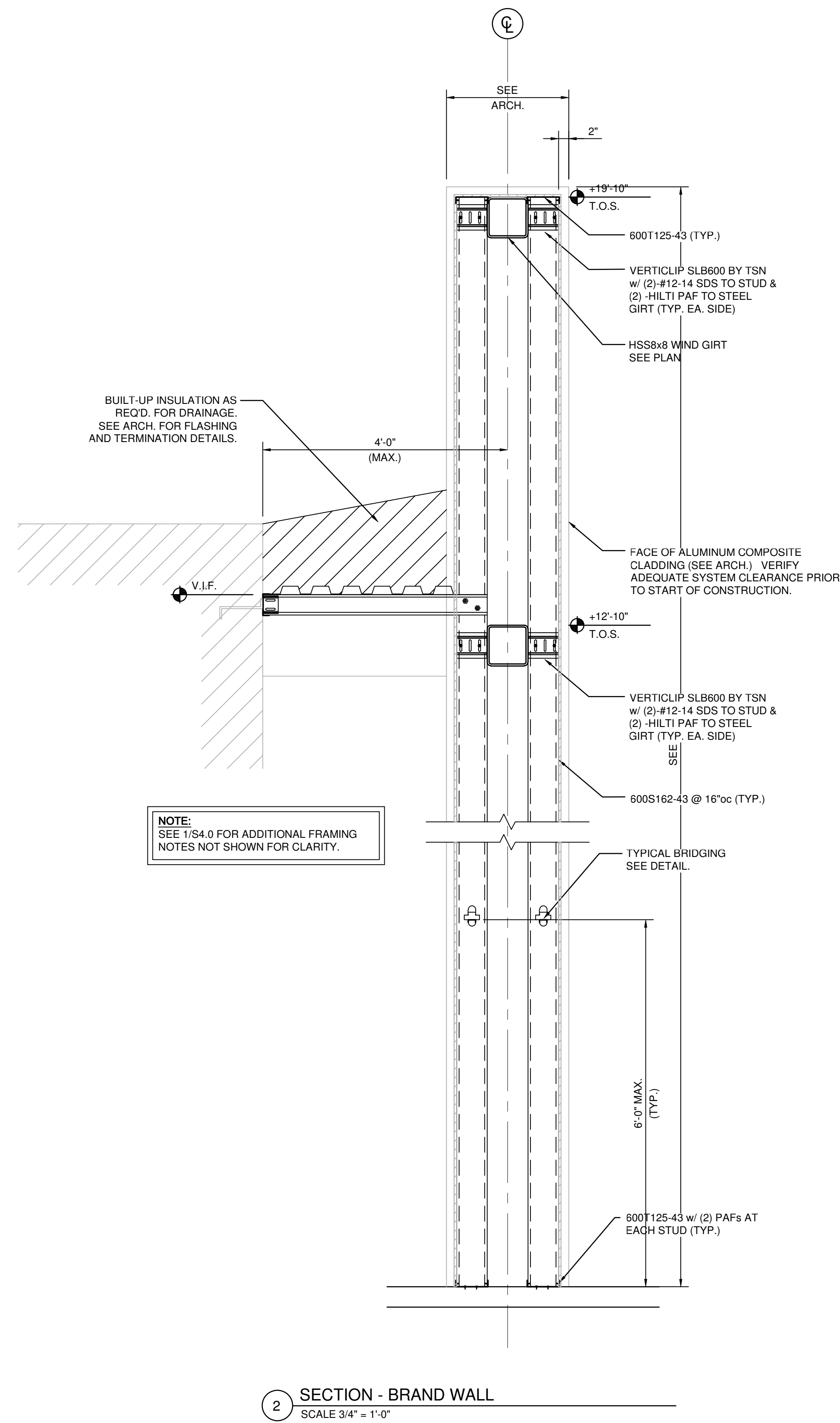
14022

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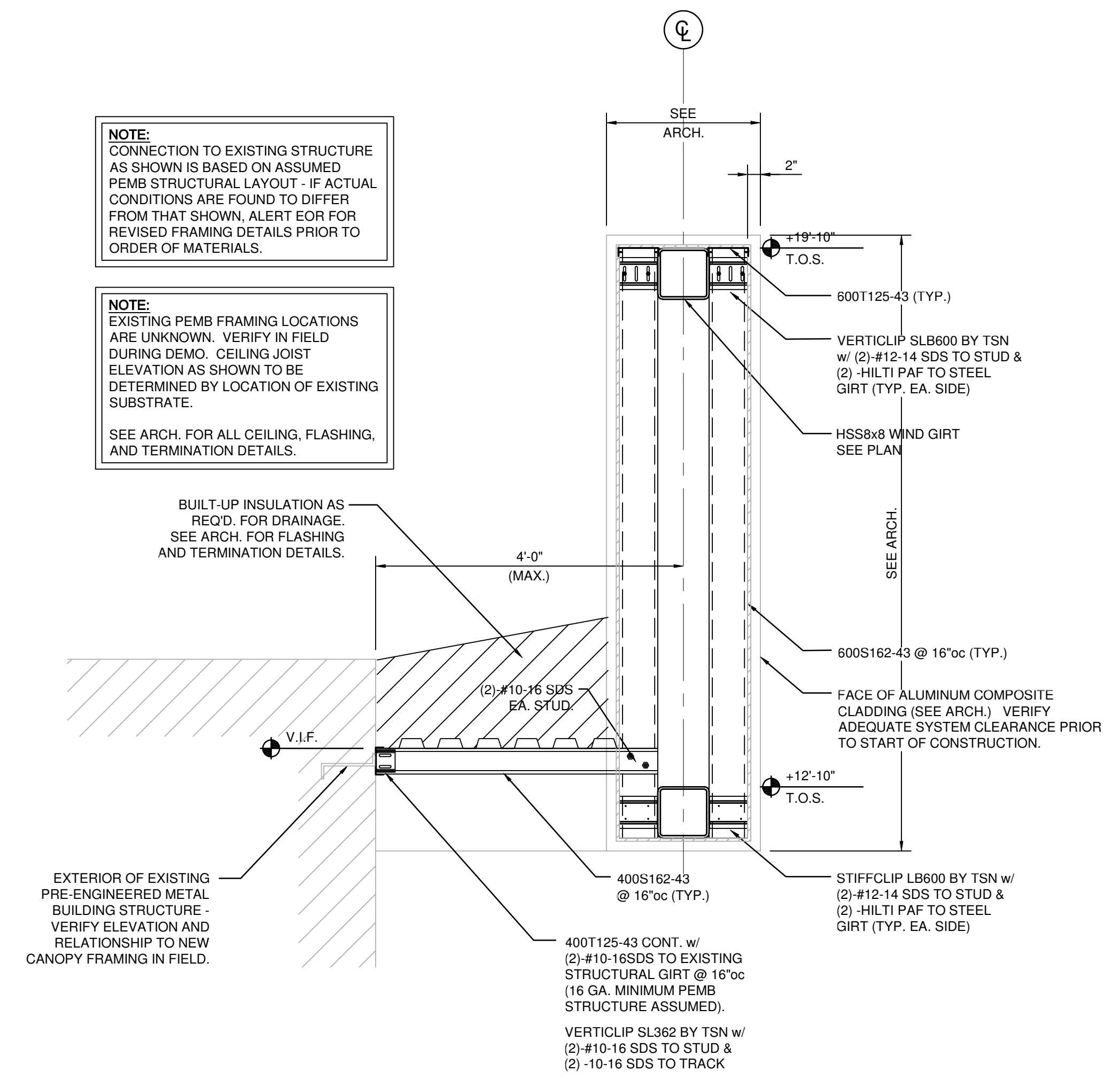
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**S4.0**  
OF



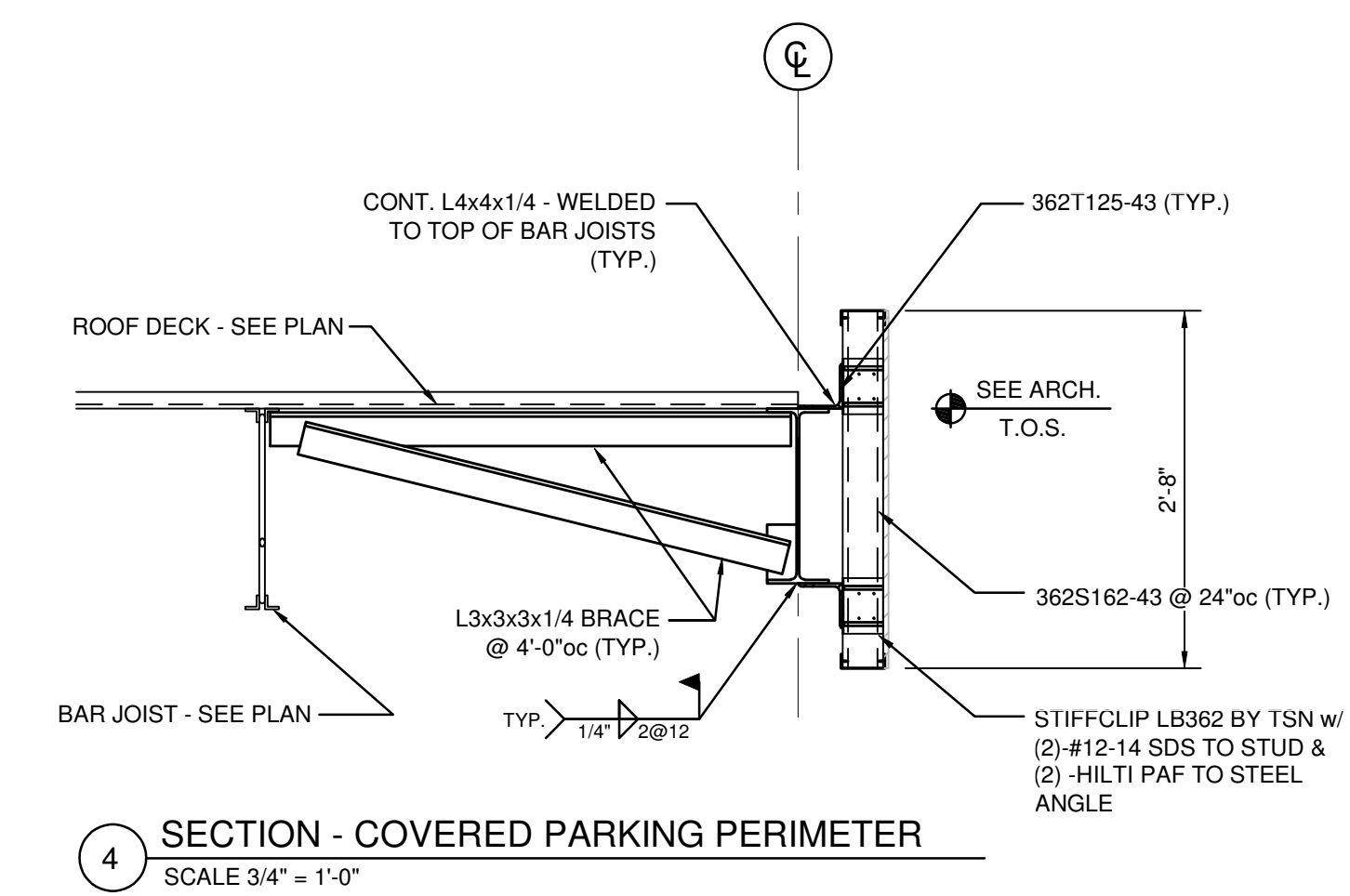
3 SECTION - BRAND WALL @ COVERED PARKING  
SCALE 3/4" = 1'-0"



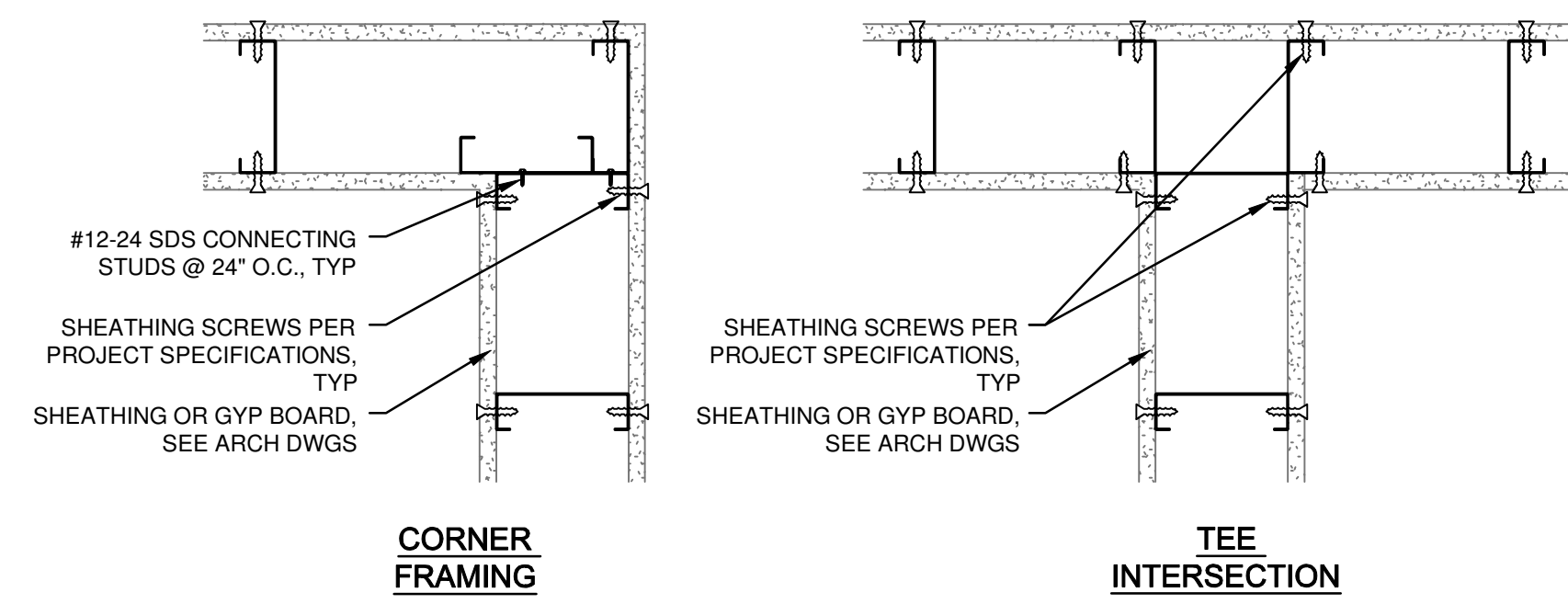
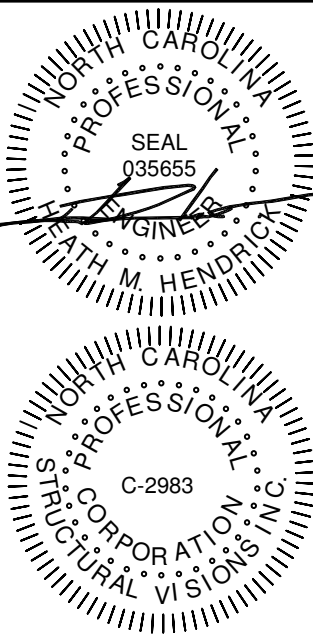
2 SECTION - BRAND WALL  
SCALE 3/4" = 1'-0"



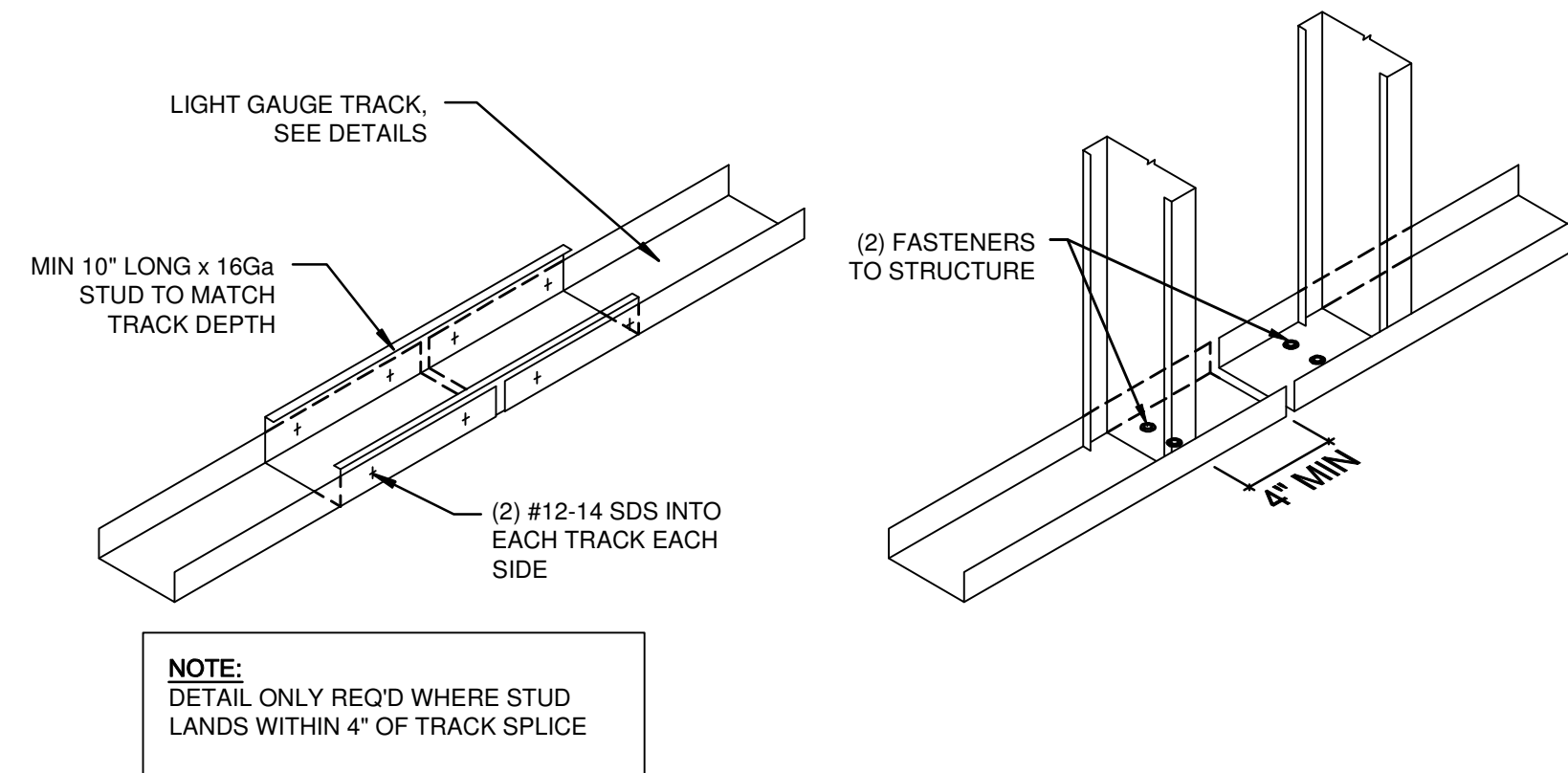
1 SECTION - TYPICAL CANOPY FASCIA  
SCALE 3/4" = 1'-0"



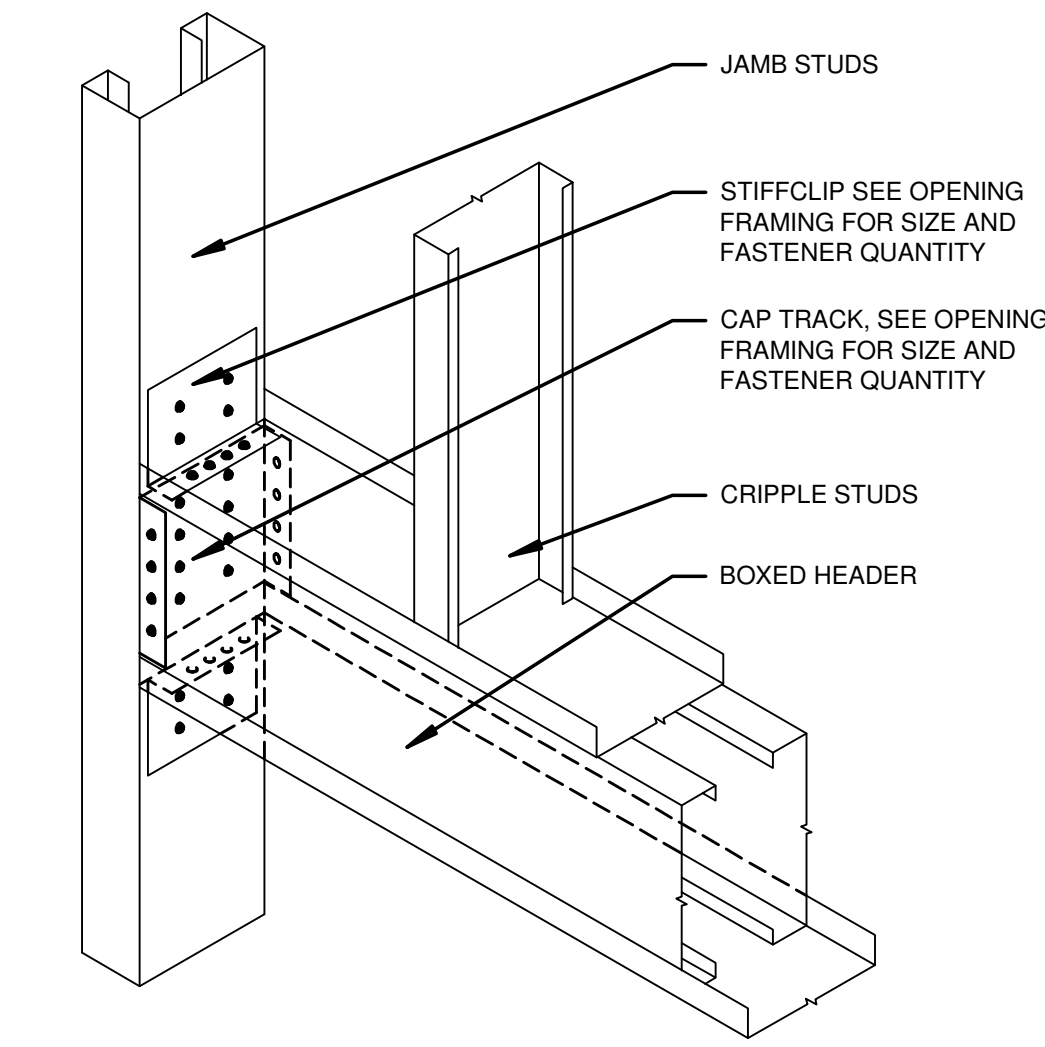
4 SECTION - COVERED PARKING PERIMETER  
SCALE 3/4" = 1'-0"



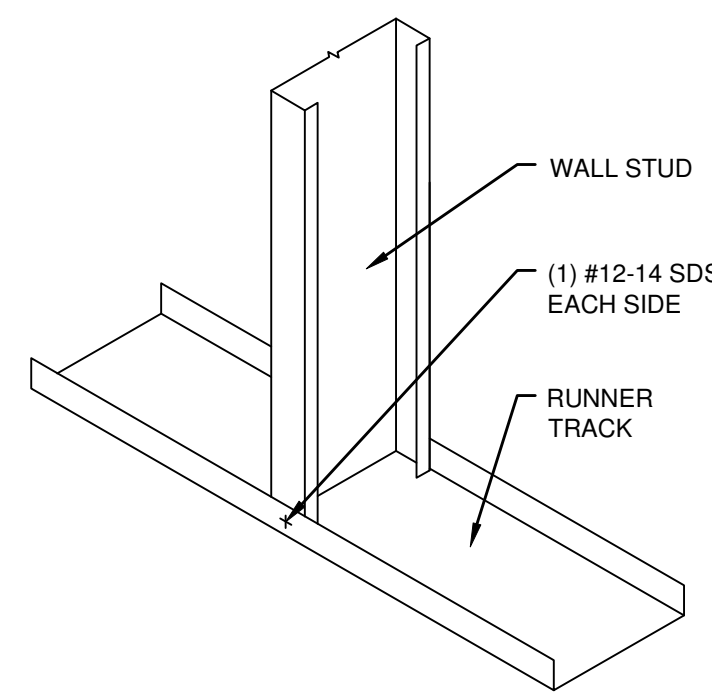
1 TYP INTERSECTING WALLS CONSTRUCTION DETAIL  
SCALE 1-1/2" = 1'-0"



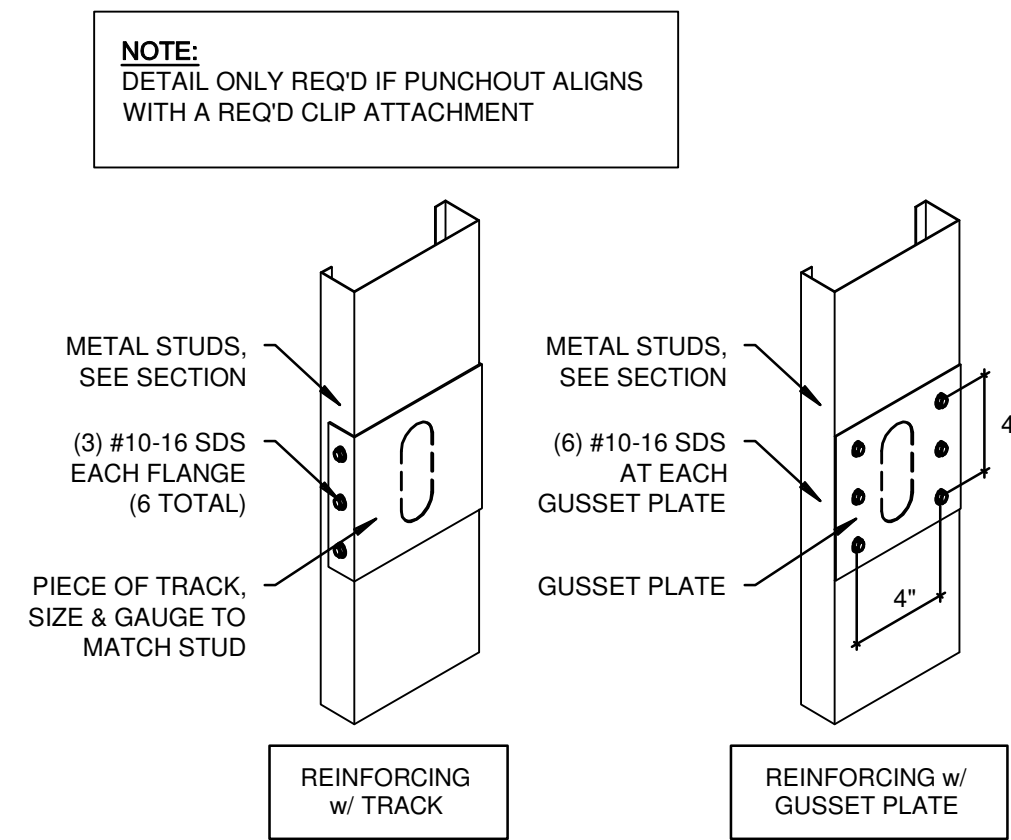
2 TYP BOTTOM TRACK SPLICE DETAIL  
SCALE 1-1/2" = 1'-0"



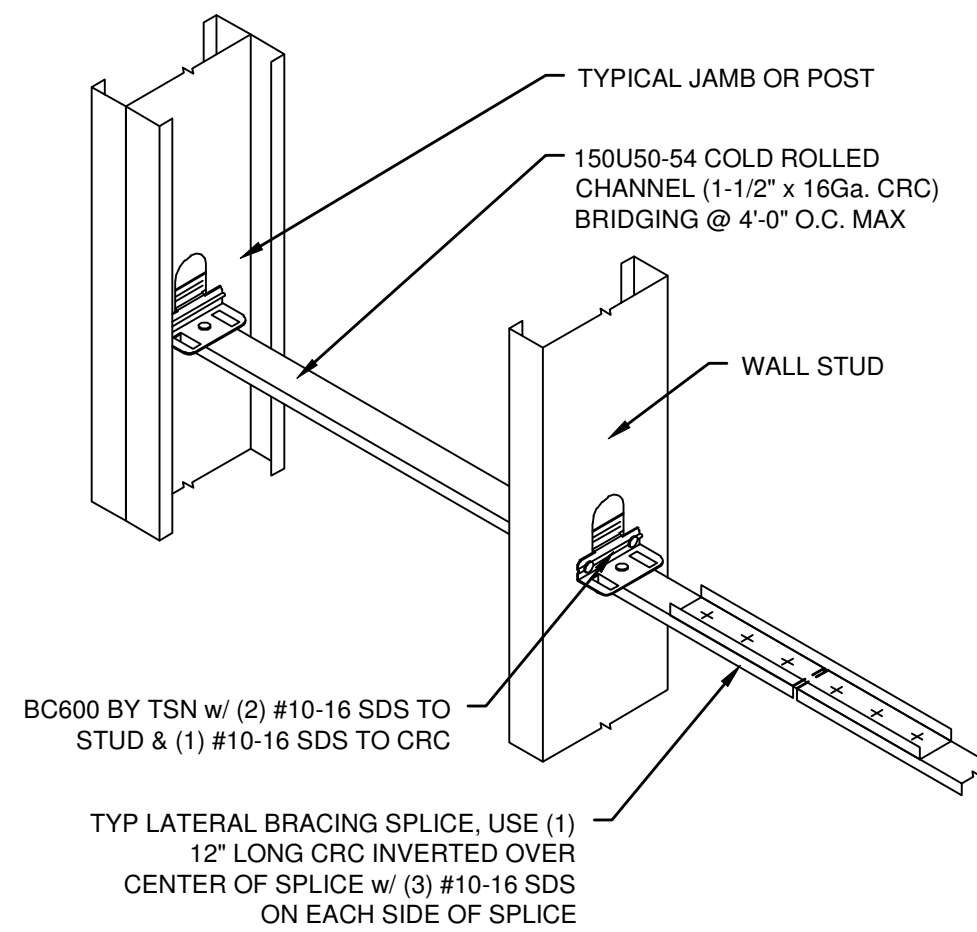
3 TYP BOTTOM TRACK SPLICE DETAIL  
SCALE 1-1/2" = 1'-0"



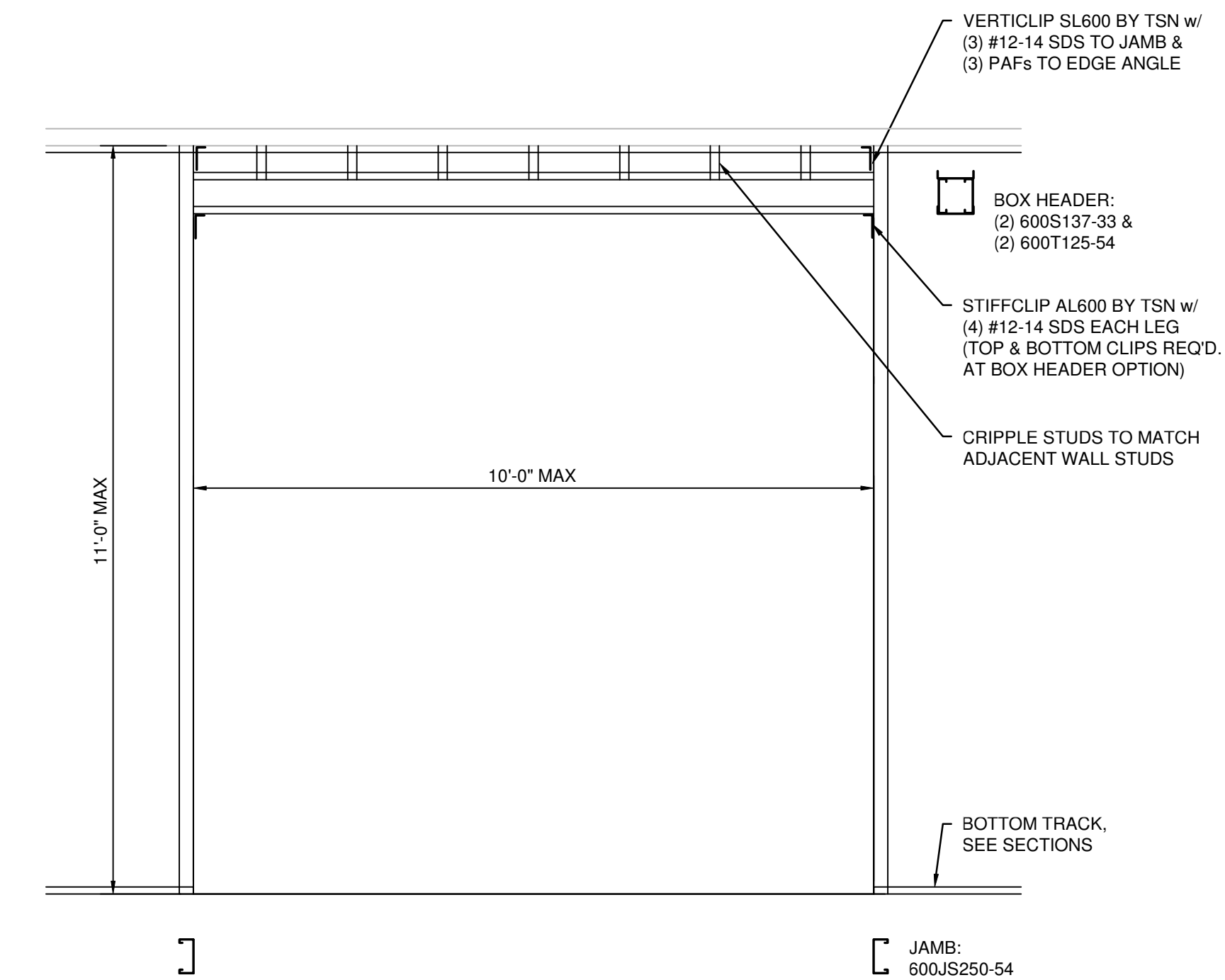
4 TYP STUD TO TRACK CONNECTION  
SCALE 1-1/2" = 1'-0"



5 TYP PUNCHOUT REINFORCING DETAIL  
SCALE 1-1/2" = 1'-0"



5 TYP WALL BRIDGING DETAIL  
SCALE 1-1/2" = 1'-0"



H1 OPENING FRAMING  
SCALE 1/2" = 1'-0"