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User: sncPW

PlotScale: 1:1

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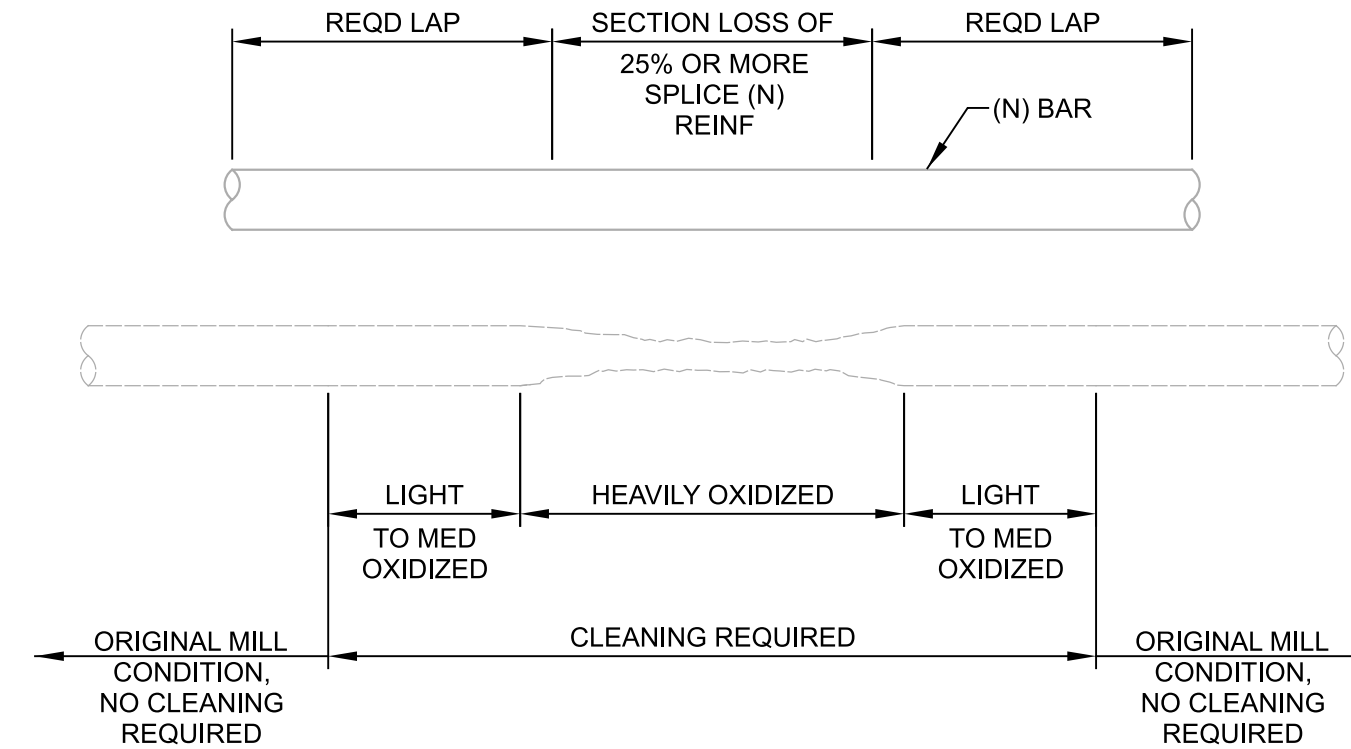
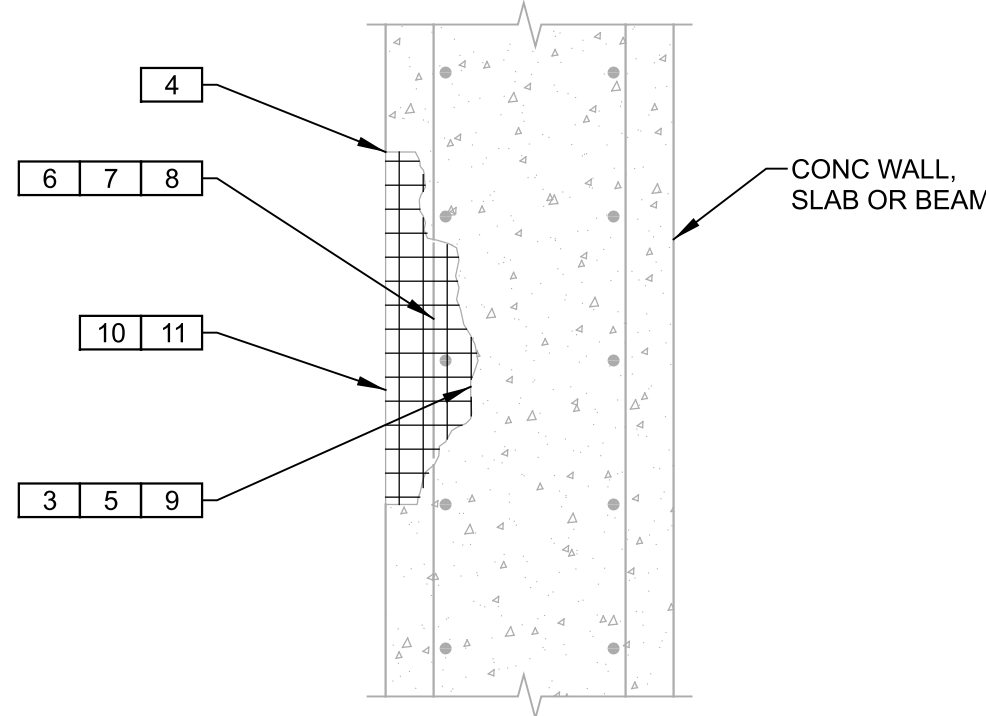
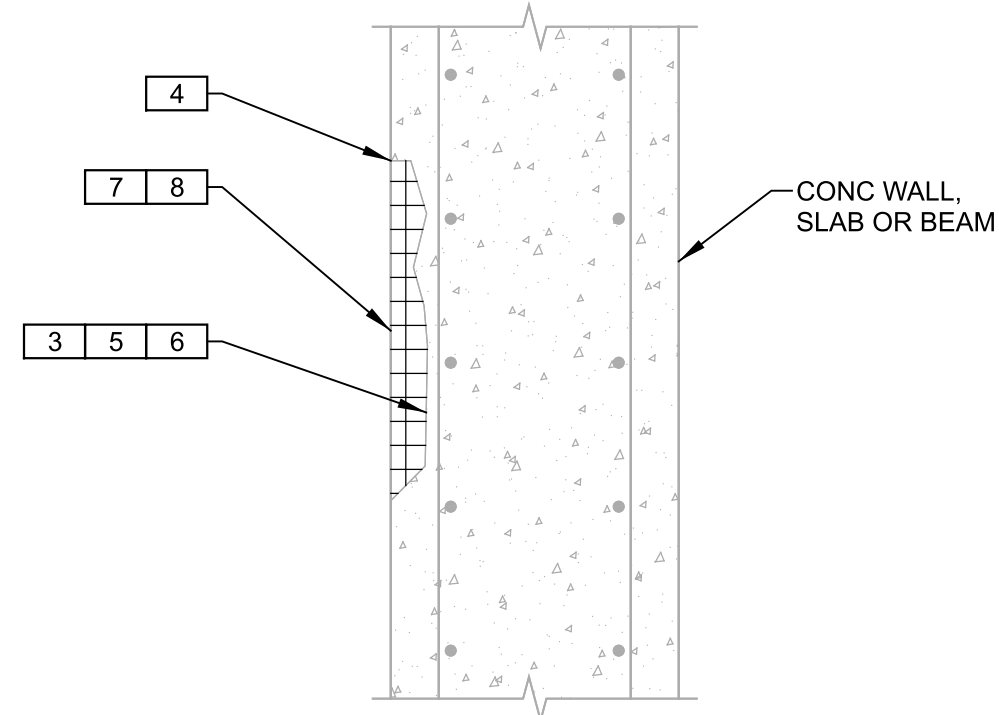
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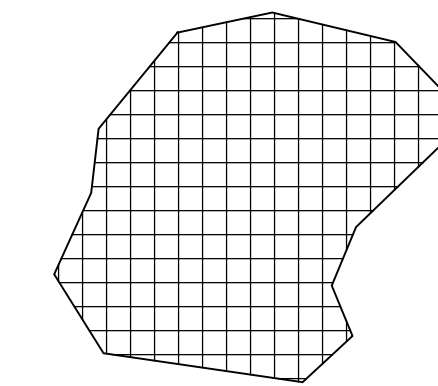
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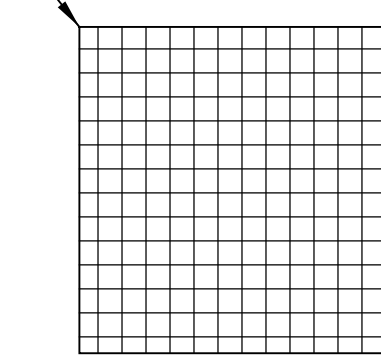
NOTES:

- LAP #5 BARS 30" & #6 BARS 40".
- IN LIEU OF LAP, BARS MAY BE MECHANICALLY COUPLED.

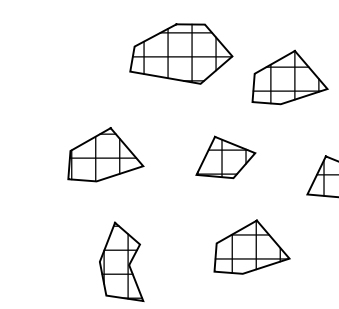
SAW CUT PERIMETER AS SHOWN & REPAIR PER DETAILS



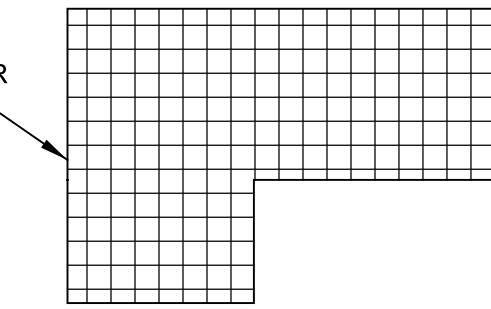
ACTUAL DETERIORATED AREA



PREFERRED REPAIR AREA



ACTUAL DETERIORATED AREA



PREFERRED REPAIR AREA

NOTE:

- DEPTH AND EXTENT OF REPAIR AREA MAY REQUIRE TEMPORARY SHORING. ALL REPAIRS SHALL BE PERFORMED UNDER THE SUPERVISION AND DIRECTION OF A REGISTERED PROFESSIONAL ENGINEER RETAINED BY CONTRACTOR.

CONCRETE REPAIR AREA LAYOUT

GENERAL NOTES:

- FOR GENERAL STRUCTURAL NOTES SEE DWG 00GS01.
- ALL DETAILS ARE TYPICAL EVEN IF NOT EXPLICITLY CALLED OUT.
- IT IS SOLELY THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE REPAIR SEQUENCE TO ENSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING CONSTRUCTION, DEMOLITION AND REPAIR. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE-DOWNS MAY BE NECESSARY. WHERE NECESSARY, PROVIDE SHORING DESIGNED BY A PROFESSIONAL ENGINEER. SHORING SHOP DRAWINGS BEARING THE ENGINEER'S SEAL SHALL BE SUBMITTED FOR REFERENCE ONLY. ANY DAMAGE TO THE EXISTING STRUCTURE CAUSED BY THE ACTIONS OF THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.
- ALL DIMENSIONS AND ELEVATIONS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE VERIFIED BY THE CONTRACTOR AND SHALL CONFORM TO THOSE SHOWN ON THE STRUCTURAL DRAWINGS. REPORT ALL DISCREPANCIES TO THE ENGINEER FOR RESOLUTION BEFORE PROCEEDING.
- THE CONTRACTOR SHALL SUPPORT, BRACE AND SHORING EXISTING STRUCTURES. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE SAFETY OF EXISTING STRUCTURES DURING CONSTRUCTION. FIELD VERIFY ALL EXISTING DIMENSIONS WHICH AFFECT THE NEW CONSTRUCTION PRIOR TO FINAL DETAILING AND FABRICATION OF NEW STRUCTURAL ELEMENTS.
- THE STRUCTURAL DRAWINGS DOCUMENT THE FINDINGS OF A PRELIMINARY SITE VISIT FINDING OF THE STRUCTURE CONDUCTED IN THE SUMMER OF 2023. ALL FORMS OF DETERIORATION NOTED ON THE DRAWINGS AND ENCOUNTERED IN THE FIELD SHALL BE REPAIRED BY THE CONTRACTOR IN COORDINATION WITH THE ENGINEER AND THE OWNER. THE ACTUAL SIZE AND EXTENT OF REPAIR REQUIRED MAY BE MORE OR LESS THAN THAT SHOWN ON THE DRAWINGS. THE REPAIR LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE. THE CONTRACTOR SHALL SOUND THE CONCRETE STRUCTURE TO IDENTIFY THE EXACT LOCATION AND EXTENT OF EACH TYPE OF DETERIORATION. THE CONTRACTOR SHALL COMPLETELY REMOVE ALL UNSOUND CONCRETE AT EACH REPAIR. UNDER NO CIRCUMSTANCES SHALL LOOSE, DETERIORATED CONCRETE OR CORRODED REBAR BE COVERED WITH PATCHING MATERIAL.
- PRIOR TO PERFORMING ANY TYPE OF RESTORATION OR REPAIR IN ANY AREAS NOT NOTED TO BE DAMAGED ON THESE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER AND AWAIT WRITTEN PERMISSION TO PROCEED. THIS INCLUDES REPAIR WORK IDENTIFIED ON THE DRAWINGS WHEN IT IS DETERMINED THAT THE REQUIRED REPAIR WILL EXCEED THE SIZE OF THE INDICATED REPAIR BY MORE THAN 50%. FOR EXAMPLE, THE CONTRACTOR NEEDS PERMISSION FROM THE ENGINEER AND OWNER TO PROCEED WHEN IT IS DETERMINED THAT A 2x3' WALL PATCH IS REQUIRED EVEN THOUGH THE DRAWINGS INDICATED THAT ONLY A 2x2' PATCH WAS NEEDED.
- REPAIR FINISHES SHALL MATCH THE FINISHED SURFACE FINISH ADJACENT TO THE REPAIR.
- WHERE ACCESS TO DETERIORATED CONCRETE REQUIRING REPAIR IS LIMITED BY UTILITIES OR OTHER OBSTRUCTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO TEMPORARILY RELOCATE THE OBSTRUCTION. AFTER THE CONCRETE REPAIR IS COMPLETED, THE CONTRACTOR SHALL RESTORE THE RELOCATED OBJECT TO ITS ORIGINAL POSITION.

1 SHALLOW SURFACE REPAIR DETAIL

SCALE: NTS

STRUCTURE	REPAIR QUANTITIES			REMARKS
	EPOXY INJECTION	SURFACE REPAIR SQ.FT		
		SHALLOW	DEEP	
FLOCCULATION BASIN	200 LIN FT	NA	NA	SEE NOTES
FLOCCULATION BASIN	NA	100	100	SEE NOTES

NOTES:

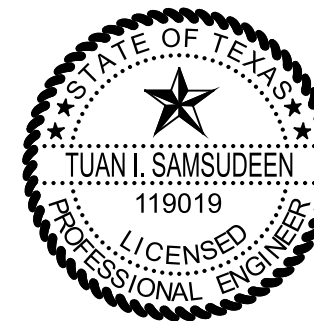
- EPOXY INJECTION CRACK REPAIR AND SURFACE REPAIR SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- FOR THE SHALLOW AND DEEP SURFACE REPAIR SEE DETAIL 1.2/00S06.

2 DEEP SURFACE REPAIR DETAIL

SCALE: NTS

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1			
2			
3			

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DATE
DECEMBER 2023



Digitally signed by Tuani I. Samsudeen
Contact Info: Carollo Engineers, Inc.
Date: 2023.12.06 14:59:46-0500

Tuani Samsudeen



BROWNSVILLE PUBLIC UTILITIES BOARD
FLOCCULATION TRAIN STRUCTURAL IMPROVEMENTS
STRUCTURAL
MODIFICATION SECTIONS AND DETAILS

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
202284
DRAWING NO.
00S06
SHEET NO.
12 OF 14

Plot Date: 5-DEC-2023 4:07:34 PM

User: svcpw

Model: Layout1 ColorTable: gshade.ctb DesignScript: Carollo_Sig_Pen_v0905.pen PlotScale: 1:1

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- SEE DIVISION 03 SPECIFICATION FOR REQUIREMENTS FOR CONCRETE CONSTRUCTION.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, MINIMUM REINFORCEMENT OF CONCRETE WALLS OR SLABS SHALL BE AS FOLLOWS. CONTACT ENGINEER FOR LOCATIONS INSIDE CONCRETE.
 - 10" THICK OR LESS: #5 @ 12" EACH WAY.
 - MORE THAN 10" THICK: #5 @ 12" EACH WAY, EACH FACE.
- WALL REINFORCEMENT AT CORNERS OR JUNCTIONS OF WALLS SHALL BE CONTINUOUS. LAP SPliced, OR TERMINATED IN AN ACI STANDARD 90 DEGREE HOOK. SEE DETAIL S144/TYP.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, DOWELS BETWEEN ADJACENT CONCRETE PLACEMENTS SHALL BE THE SAME SIZE AND SPACING AS THE REINFORCEMENT WHICH IS SPliced TO THE DOWELS.
- SLAB, BEAM AND COLUMN REINFORCING BARS SHALL HAVE A MINIMUM EXTENSION OR ANCHORAGE INTO SUPPORTS IN ACCORDANCE WITH ACI 318 AND ACI 350.
- PROVIDE STIRRUP SUPPORT BARS SHALL BE TO SECURE TOP BARS AGAINST DISPLACEMENT AS REQUIRED.
- UNLESS OTHERWISE INDICATED ON THE DRAWINGS, CONCRETE COVER OVER #11 AND SMALLER REINFORCING BARS SHALL BE AS FOLLOWS:
 - A. SLABS AND JOISTS:
 - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES FOR DRY CONDITIONS
 - #7 BARS AND SMALLER: 1"
 - #8 BARS AND LARGER: 1 1/2"
 - FORMED CONCRETE SURFACES AND UNFORMED TOP SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR LOCATED OVER FLUIDS: 2"
 - B. BEAMS AND COLUMNS:
 - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
 - STIRRUPS, SPIRALS, AND TIES: 1 1/2"
 - PRINCIPAL REINFORCEMENT: 2"
 - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, IN CONTACT WITH SOIL OR FLUIDS, OR IN BEAMS LOCATED OVER FLUIDS:
 - STIRRUPS AND TIES: 2"
 - PRINCIPAL REINFORCEMENT: 2 1/2"
 - C. WALLS:
 - FORMED CONCRETE SURFACES FOR DRY CONDITIONS:
 - #7 BARS AND SMALLER: 1"
 - #8 BARS AND LARGER: 1 1/2"
 - FORMED CONCRETE SURFACES EXPOSED TO WEATHER, OR IN CONTACT WITH SOIL OR FLUIDS: 2"

S101 REINFORCED CONCRETE NOTES

TYP SHEET 1 OF 3 07/07/23

- FOOTINGS AND SLABS ON GRADE:
 - FORMED VERTICAL CONCRETE SURFACES: 2"
 - AT UNFORMED CONCRETE SURFACES CAST AGAINST SOIL, ROCK, OR CONCRETE WORK MATS: 3"
 - TOP SURFACE OF FOOTINGS AND SLABS: SAME AS SLABS
- WATERSTOPS:
 - A. PROVIDE WATERSTOPS AT JOINTS IN SLABS AND WALLS OF LIQUID-CONTAINING STRUCTURES, AND PORTIONS OF STRUCTURES BELOW THE DESIGN GROUNDWATER LEVEL. MAKE WATERSTOPS CONTINUOUS THROUGH STRUCTURE, SPlicing WATERSTOPS IN SLABS WITH WATERSTOPS IN WALLS.
 - B. END WATERSTOPS 3" BELOW TOP OF WALLS. WHERE TOP OF WALL IS COVERED BY A SLAB WITHOUT WATERSTOPS, CONTINUE WATERSTOP TO WALL/SLAB JOINT. WHERE TOP OF WALL IS COVERED BY A SLAB WITH WATERSTOPS, MAKE WATERSTOPS CONTINUOUS, SPlicing WATERSTOPS IN WALLS WITH WATERSTOPS IN SLAB.
- CURE CONCRETE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. WHERE WATER CURING IS SPECIFIED, MEMBRANE CURING IS NOT ALLOWED.
 - A. THE CONTRACTOR IS WARNED THAT WATER CURING IS DIFFICULT AT TIMES DUE TO WIND AND DRY CONDITIONS. STUDY SPECIFICATION REQUIREMENTS AND FURNISH ADEQUATE SYSTEMS TO PROVIDE WATER CURING WHERE REQUIRED.
 - B. KEEP WATER CURED SURFACES VISIBLY MOIST AT ALL TIMES. FLOOD TOPS OF WALLS NOT LESS THEN 3 TIMES DAILY.
- DO NOT PLACE BACKFILL AGAINST WALLS UNTIL:
 - A. WALLS HAVE BEEN CAST TO FULL HEIGHT OF STRUCTURE AND CONCRETE HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f_c).
 - B. CONNECTING SLABS AND BEAMS HAVE BEEN CAST AND CONCRETE IN THOSE ELEMENTS HAS REACHED THE MINIMUM SPECIFIED COMPRESSIVE STRENGTH (f_c).
- LAP SPICES:
 - A. SEE TABLE 1 OF THIS DETAIL FOR LAP SPICE LENGTHS.
 - B. WHEN MULTIPLE BARS ARE SPliced AT THE SAME SECTION, THE "CLEAR BAR SPACING" IS DEFINED AS THE MINIMUM CLEAR DISTANCE BETWEEN THE BARS OUTSIDE THE SPlice LENGTH MINUS ONE BAR DIAMETER.
 - C. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, BARS AT A LAP SPlice SHALL BE IN CONTACT WITH EACH OTHER.
 - D. "TOP BARS" ARE HORIZONTAL REINFORCEMENT AT LOCATIONS WHERE MORE THAN 12 INCHES OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE BAR.
- FORM EXPOSED CONCRETE CORNERS AND EDGES WITH 3/4" CHAMFER UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

S101 REINFORCED CONCRETE NOTES

TYP SHEET 2 OF 3 07/07/23

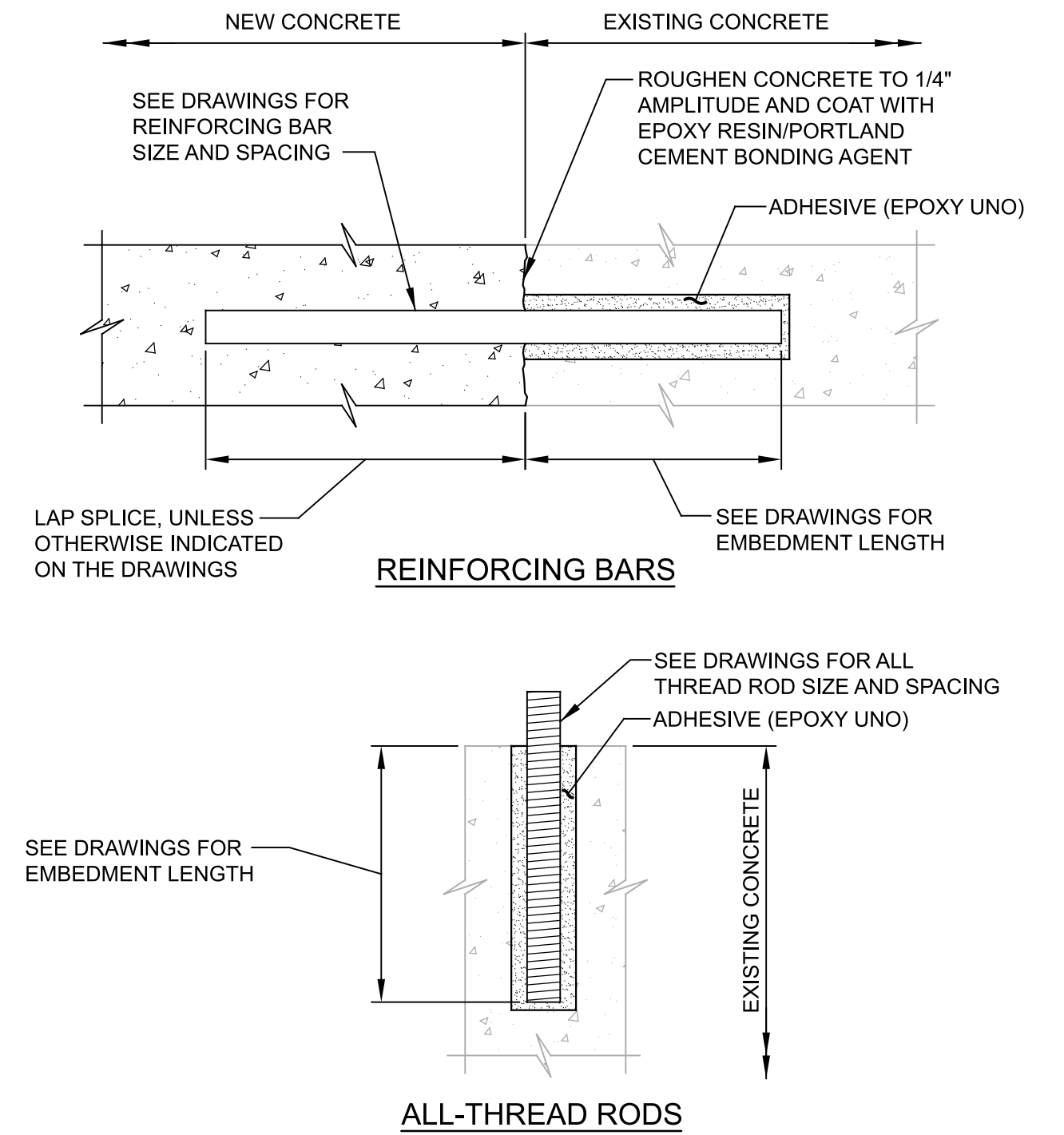
BAR SIZE	MINIMUM COVER (BAR DIA)	MINIMUM CLEAR BAR SPACING (BAR DIA)	LAP SPICE LENGTH (INCHES)	
			TOP BARS	OTHER BARS
#4	MORE THAN 1	MORE THAN 2	32 *	25 *
	MORE THAN 2	MORE THAN 4	20	16
#5	MORE THAN 1	MORE THAN 2	40 *	31 *
	MORE THAN 2	MORE THAN 4	26	20
#6	MORE THAN 1	MORE THAN 2	48 *	37 *
	MORE THAN 2	MORE THAN 4	30	24
#7	MORE THAN 1	MORE THAN 2	70 *	54 *
	MORE THAN 2	MORE THAN 4	43	33
#8	MORE THAN 1	MORE THAN 2	81 *	62 *
	MORE THAN 2	MORE THAN 4	50	38
#9	MORE THAN 1	MORE THAN 2	90 *	70 *
	MORE THAN 2	MORE THAN 4	56	42
#10	MORE THAN 1	MORE THAN 2	104 *	81 *
	MORE THAN 2	MORE THAN 4	62	48
#11	MORE THAN 1	MORE THAN 2	114 *	88 *
	MORE THAN 2	MORE THAN 4	69	54

REINFORCING BAR LAP SPICE TABLE NOTES:

- TABULATED SPICE LENGTHS ARE APPLICABLE ONLY WHEN BOTH REQUIREMENTS FOR MINIMUM COVER AND FOR MINIMUM CLEAR BAR SPACING ARE SATISFIED.
- * = IF THE CLEAR BAR SPACING IS LESS THAN OR EQUAL TO TWO BAR DIAMETERS, OR THE COVER IS LESS THAN OR EQUAL TO ONE BAR DIAMETER, THE LAP SPICE LENGTH SHALL BE INCREASED BY 50 PERCENT.

S101 REINFORCED CONCRETE NOTES

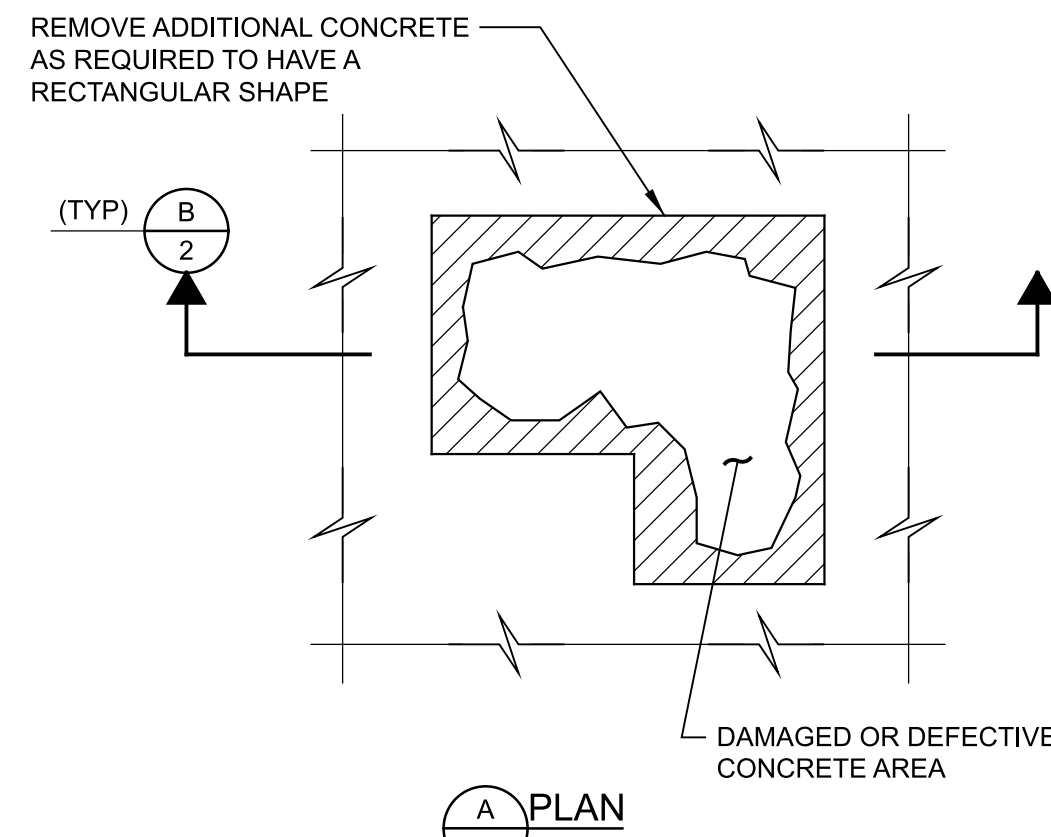
TYP SHEET 3 OF 3 07/07/23



- NOTE:**
- INSTALLATION OF REINFORCING BARS AND ALL THREAD RODS AS INDICATED IN THE SPECIFICATIONS.

S194 ADHESIVE BONDED REINFORCING BARS OR ALL THREAD RODS

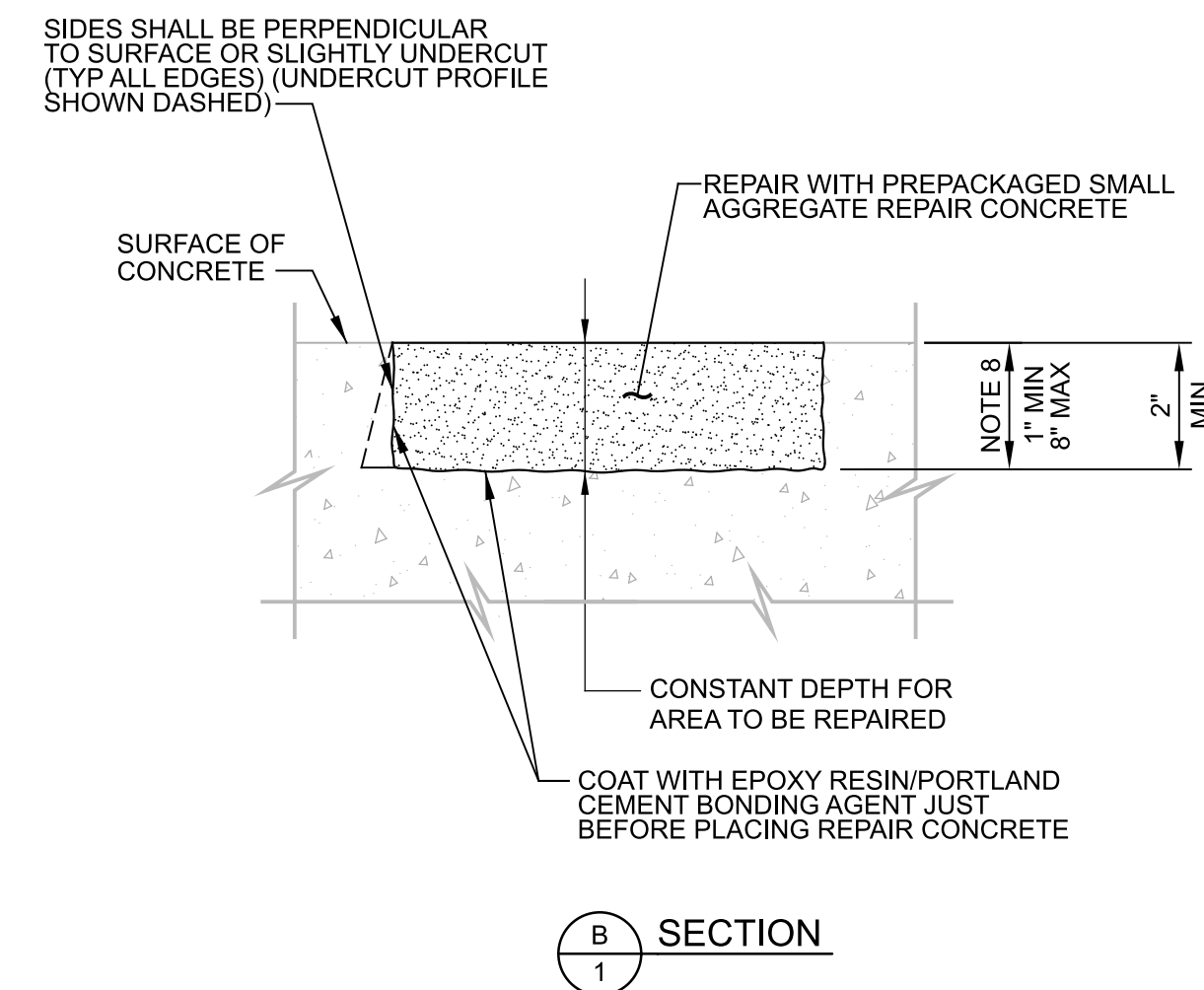
TYP 08/29/23



- NOTES:**
- SAW CUT EDGES OF AREA WHERE CONCRETE WILL BE REMOVED A MINIMUM OF 1/2" DEEP. DO NOT CUT REINFORCING BARS. DO NOT SAW CUT PAST OUTSIDE CORNERS.
 - CHIP OUT DAMAGED OR DEFECTIVE CONCRETE WITH HAND HELD PNEUMATIC CHIPPING GUN. DO NOT CUT OR DAMAGE REINFORCING BARS.
 - IF MORE THAN 1/3 OF BAR DIAMETER IS EXPOSED DURING REMOVAL OF DAMAGED OR DEFECTIVE CONCRETE, REMOVE ADDITIONAL CONCRETE TO A MINIMUM 1" BEHIND/AROUND THE EXPOSED BARS.
 - CONCRETE SURFACES TO BE REPAIRED SHALL BE CLEANED AND ROUGHENED TO ICRI SURFACE PROFILE CSP 7 (±1/8") UNLESS OTHERWISE RECOMMENDED BY REPAIR CONCRETE MANUFACTURER.
 - SOAK CONCRETE IN REPAIR AREA AND MIN 2" BEYOND WITH WATER FOR MIN 24 HOURS JUST BEFORE PLACING REPAIR CONCRETE. CONCRETE IN REPAIR AREA TO BE REPAIRED SHALL BE "SATURATED SURFACE DRY" WHEN REPAIR CONCRETE IS PLACED.
 - FOR THE REPAIR OF VERTICAL CONCRETE SURFACES, SLOPE TOP EDGE OF REMOVAL TOWARD FORMS TO ALLOW AIR TO ESCAPE DURING PLACEMENT OF REPAIR CONCRETE.
 - WATER CURE REPAIR FOR MINIMUM OF 7 DAYS AFTER PLACEMENT. KEEP REPAIRED AREA CONTINUOUSLY MOIST.
 - SEE DRAWINGS FOR ESTIMATED REPAIR DEPTH. REQUIRED REPAIR DEPTH MAY BE ADJUSTED FOR FIELD CONDITIONS. PROVIDE REPAIR DEPTH WITHIN REPAIR CONCRETE MANUFACTURER'S RECOMMENDED LIMITS FOR MAX/MIN THICKNESS.

S204 CONCRETE REPAIR - SURFACE - PREPACKAGED SMALL AGGREGATE REPAIR CONCRETE

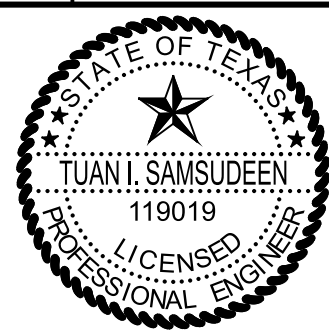
TYP SHEET 1 OF 2 09/12/23



S204 CONCRETE REPAIR - SURFACE - PREPACKAGED SMALL AGGREGATE REPAIR CONCRETE

TYP SHEET 2 OF 2 09/12/23

DESIGNED
CE
DRAWN
CE
CHECKED
KMD
DATE
DECEMBER 2023



Digitally signed by Tuani I. Samsudeen
Contact Info: Carollo Engineers, Inc.
Date: 2023.12.16 14:59:40-0500
Tuani Samsudeen



BROWNSVILLE PUBLIC UTILITIES BOARD
FLOCCULATION TRAIN STRUCTURAL IMPROVEMENTS
TYPICAL DETAILS
STRUCTURAL 1

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO.
202284
DRAWING NO.
00TS01
SHEET NO.
13 OF 14

Plot Date: 5-DEC-2023 4:07:33 PM

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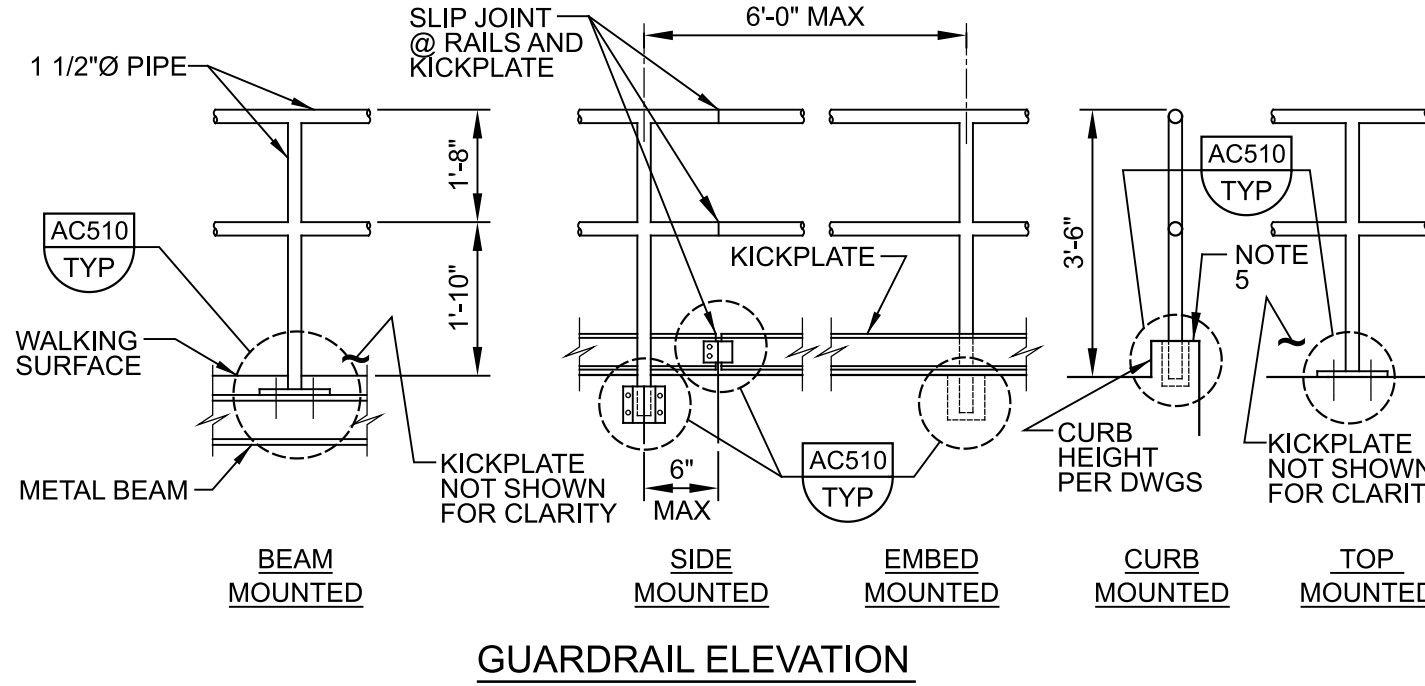
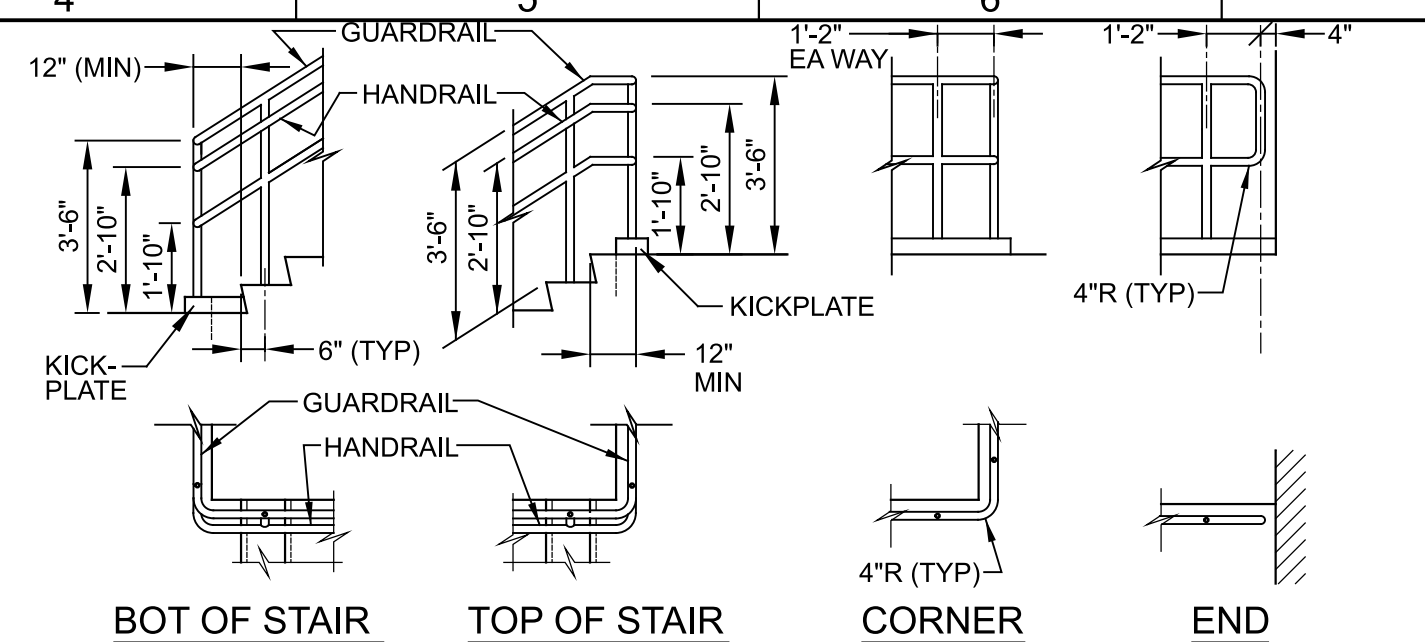
- NOTES:**
- PROVIDE GUARDRAILS AT STAIRS AND AT OPEN SIDED WALKING SURFACES THAT ARE ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION.
 - WHERE EQUIPMENT IS LOCATED LESS THAN 10' FROM EDGE OF ROOF AND ELEVATED MORE THAN 30" ABOVE GRADE OR ADJACENT CONSTRUCTION, PROVIDE 42" HIGH GUARDRAIL FORMING A PROTECTIVE BARRIER. PARAPET WALL 42" OR MORE IN HEIGHT MAY BE THE GUARDRAIL AT ROOF LOCATIONS.
 - SEE DRAWINGS AND SPECIFICATIONS FOR GUARDRAIL MATERIAL TYPE(S).
 - PROVIDE HANDRAIL AT BOTH SIDES OF EVERY STAIR HAVING 2 OR MORE RISERS.
 - PROVIDE CONTINUOUS HANDRAIL GRIPPING SURFACES FOR THE FULL LENGTH OF THE STAIR.
 - PROVIDE HANDRAIL EXTENSIONS AT BOTH SIDES OF STAIRS AT TOP AND BOTTOM. HANDRAIL EXTENSION ON STAIR MOUNTED GUARDRAIL MAY BE OMITTED WHERE IT IS PERPENDICULAR TO AND IMPEDES EXIT FLOW.
 - MAKE INSIDE HANDRAIL ON SWITCHBACK STAIRS CONTINUOUS.
 - FOR WALL MOUNTED HANDRAILS, PROVIDE SINGLE RAIL WITH TOP OF RAIL AT 2'-10" HEIGHT ABOVE LANDINGS OR TREAD NOSINGS. PROVIDE MATCHING HANDRAIL ON OPPOSITE SIDE.
 - GUARDRAIL SHALL BE FIXED UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - PLACE CENTER OF EMBEDDED POSTS 6" FROM EDGE OF CONCRETE AND 6" FROM FRONT EDGE OF CONCRETE STAIR NOSINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
 - PLACE GUARDRAIL POSTS OPPOSITE EACH OTHER WHERE RAILINGS ARE PARALLEL.
 - FOR GUARDRAIL POSTS MOUNTED TO BEAM OR STAIR CHANNEL, PROVIDE MANUFACTURERS REINFORCED CONNECTION FROM POST TO PLATE. PLATE AND REINFORCED INSERTS SHALL BE ALUMINUM OR STAINLESS STEEL.
 - PROVIDE SLIDING JOINTS AT 24" MAX SPACING FOR EXPANSION OF RAIL AND KICKPLATE. LOCATE SLIDING JOINTS NEAR FACE OF POST. GAP AT TIME OF INSTALLATION SHALL BE BASED ON TEMPERATURE OF GUARDRAIL. PROVIDE 1/4" GAP AT 100°F AND 5/8" GAP AT 0°F. INTERPOLATE GAP FOR OTHER INSTALLATION TEMPERATURES. AT CONCRETE EXPANSION JOINTS, PROVIDE MINIMUM 1" GAP IN SLIDING JOINTS BUT NOT LESS THAN WIDTH OF CONCRETE EXPANSION JOINT. MAKE INSERT SLEEVES IN RAILS LONG ENOUGH TO ALLOW FOR THE FULL RANGE OF MOVEMENT.
 - MATERIAL FOR KICKPLATE CHANNEL SLIDING JOINT PLATES, SHALL BE OF THE SAME MATERIAL AS THE GUARDRAIL.
 - JOINTS FOR STAINLESS STEEL GUARDRAIL AND HANDRAIL SHALL BE COPED, WELDED, AND GROUND SMOOTH.
 - PROVIDE KICKPLATE AT ALL LOCATIONS EXCEPT AT SLOPING GUARDRAIL ON STAIRS AND WHERE GUARDRAIL IS MOUNTED ON A 4" MIN CURB. KICKPLATE MAY BE EXTRUDED OR BENT PLATE AND SHALL BE ATTACHED WITH SST BOLTS IN 3/16" x 3/4" SLOTTED HOLES. BOLT KICKPLATE TO POST WITH 1/4" CLEAR ABOVE FLOOR. FOR SIDE MOUNTED GUARDRAIL, PROVIDE STANDARD SPACER BLOCK BETWEEN POST AND KICKPLATE TO MAINTAIN 1/4" MAX CLEAR SPACING. HAND TIGHTEN AND CENTER PUNCH BOLT THREADS TO LOCK.
 - COAT SURFACES OF ALUMINUM IN CONTACT WITH CONCRETE AS SPECIFIED. PROVIDE NEOPRENE GASKET BETWEEN ALUMINUM AND STEEL.

AC500 GUARDRAIL - HANDRAIL - NOTES
TYP NS

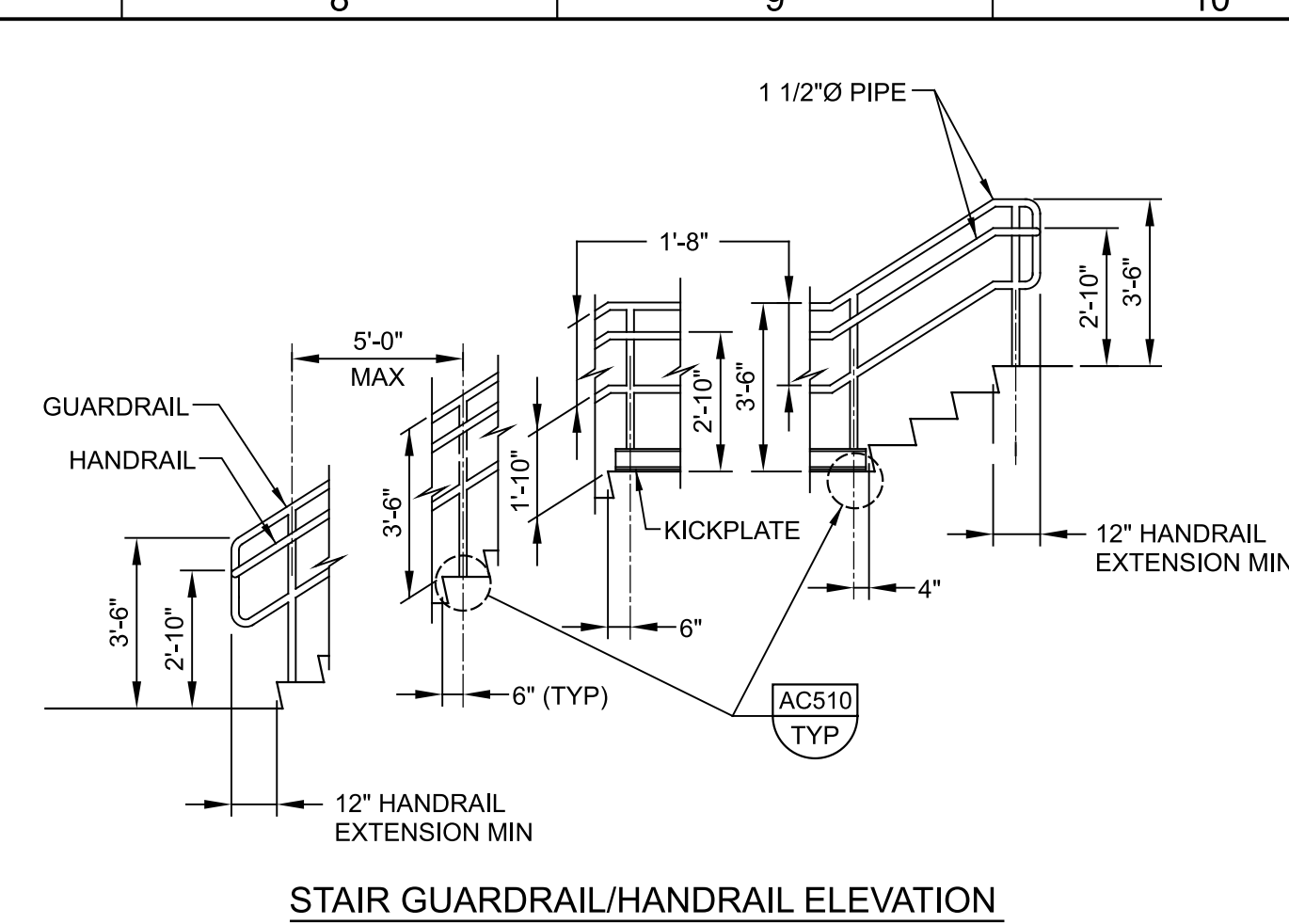
AC502 GUARDRAIL - TWO RAIL
TYP NS

AC502 GUARDRAIL - TWO RAIL
TYP NS

AC502 GUARDRAIL - TWO RAIL
TYP NS

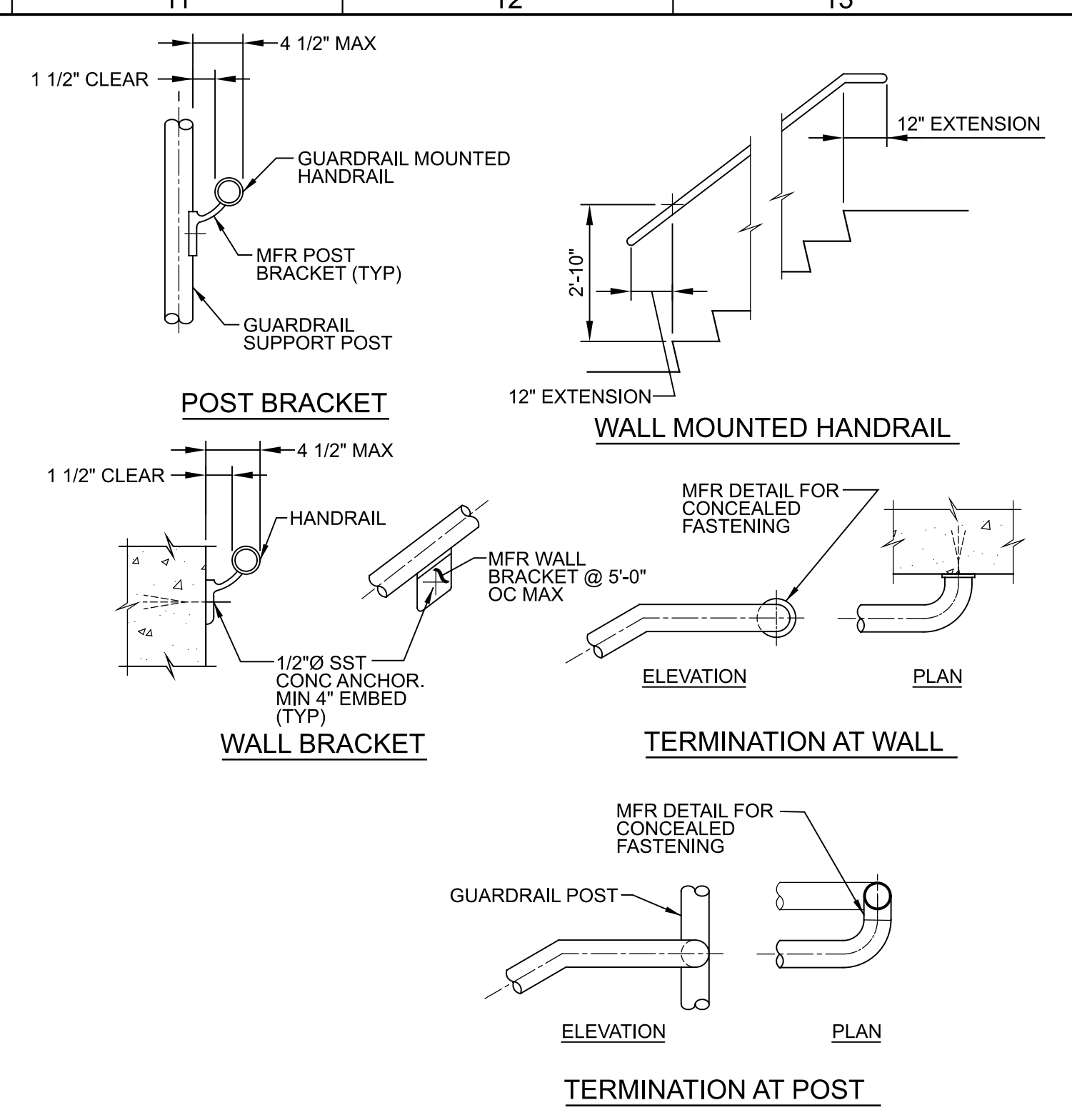


AC502 GUARDRAIL - TWO RAIL
TYP NS

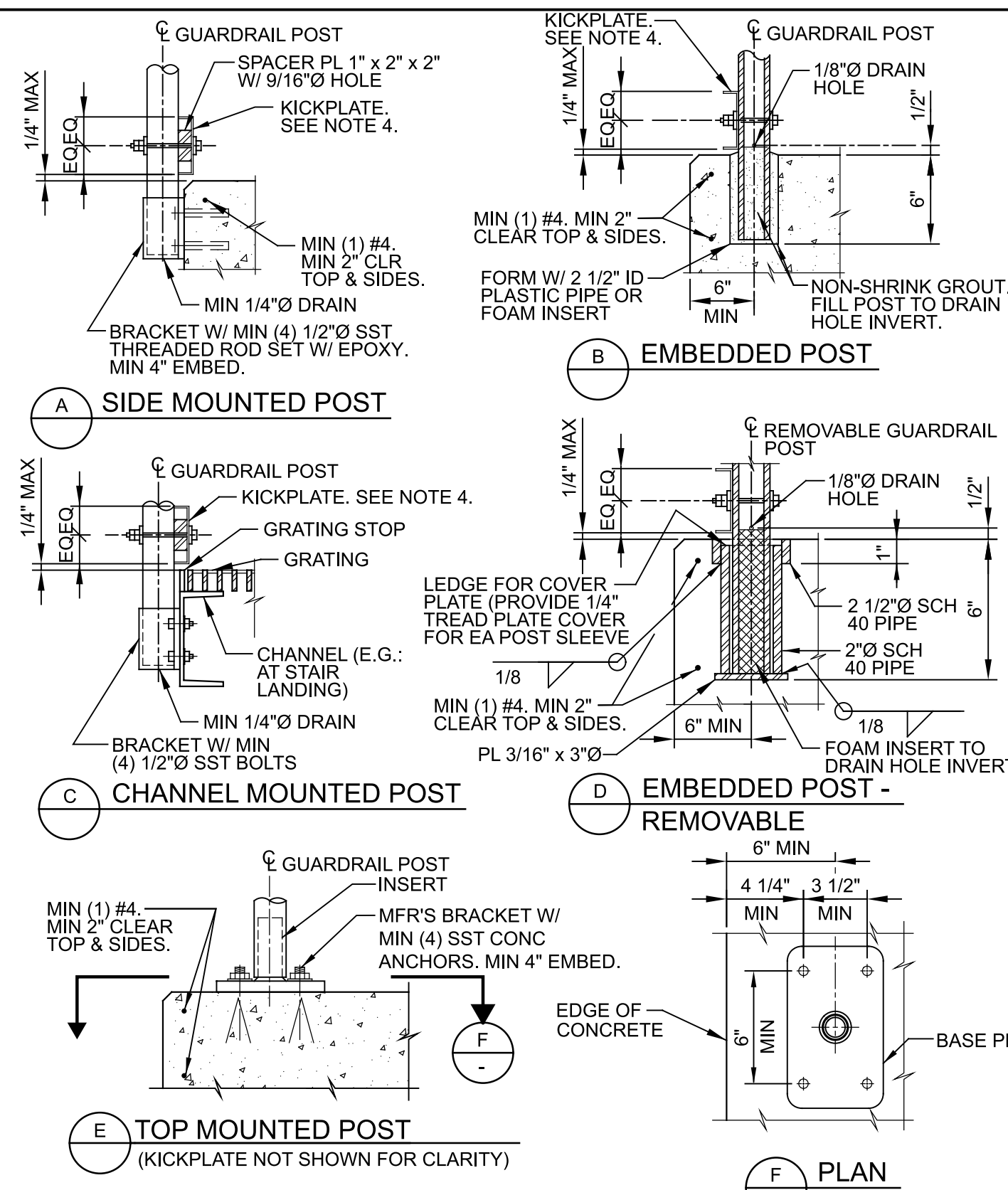


- NOTES:**
- THIS DETAIL IS APPLICABLE AT PRIVATE STAIRS IN F, H, AND S OCCUPANCIES WHERE OPERATOR ONLY ACCESSIBILITY IS REQUIRED. DETAILS AND INSTALLATION SHALL COMPLY WITH THE BUILDING CODE.
 - SEE SPECIFICATIONS AND DETAIL AC500/TYP FOR ADDITIONAL REQUIREMENTS.
 - VARIOUS POST MOUNTING DETAILS ARE ILLUSTRATED. SEE DRAWINGS AND DETAIL AC510/TYP FOR SPECIFIC MOUNTING REQUIREMENTS.
 - HANDRAIL EXTENSIONS ARE REQUIRED AT BOTH SIDES OF STAIR, EXCEPT WHERE INSIDE HANDRAIL IS CONTINUOUS AT SWITCHBACK STAIR.
 - AT CURB, USE EMBEDDED OR TOP MOUNTED POST AS INDICATED ON THE DRAWINGS.

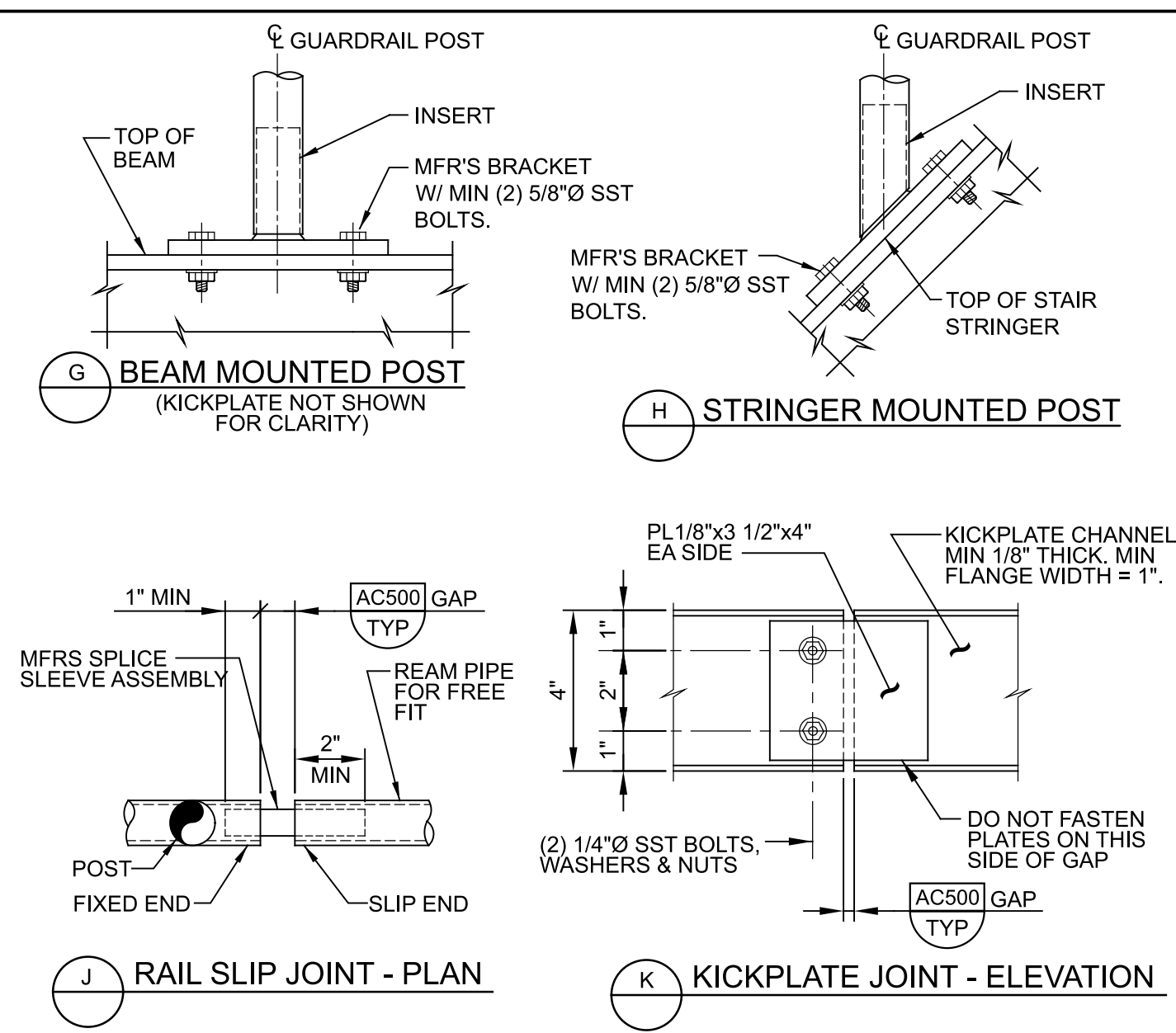
AC502 GUARDRAIL - TWO RAIL
TYP NS



AC502 GUARDRAIL - TWO RAIL
TYP NS



AC510 GUARDRAIL - MOUNTING
TYP NS



AC510 GUARDRAIL - MOUNTING
TYP NS

- NOTES:**
- FOR ADDITIONAL REQUIREMENTS, SEE DETAIL AC500/TYP.
 - SEE DRAWINGS FOR MATERIAL TYPES.
 - COAT ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR DISSIMILAR METALS AS SPECIFIED.
 - KICKPLATE CONNECTION AT POST: MIN 3/4" HORIZONTAL SLOTTED HOLE IN CHANNEL W/ MIN 1/4" Ø BOLT. PROVIDE WASHER AND DOUBLE NUTS. INSIDE NUT FINGER-TIGHT TO PERMIT EXPANSION AND CONTRACTION.

REV	DATE	BY	DESCRIPTION

DESIGNED CE
DRAWN CE
CHECKED KMD
DATE DECEMBER 2023

State of Texas
Professional Engineer
TUANI I. SAMSUDEEN
119019

Digitally signed by Tuani I. Samsudeen
Contact info: Carollo Engineers, Inc.
Date: 2023.12.16 14:58:49-0500
Antiga Samsudeen



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FLOCCULATION TRAIN STRUCTURAL IMPROVEMENTS
STRUCTURAL DETAILS
STRUCTURAL 2

VERIFY SCALES
JOB NO. 202284
DRAWING NO. 00TS02
SHEET NO. 14 OF 14

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY