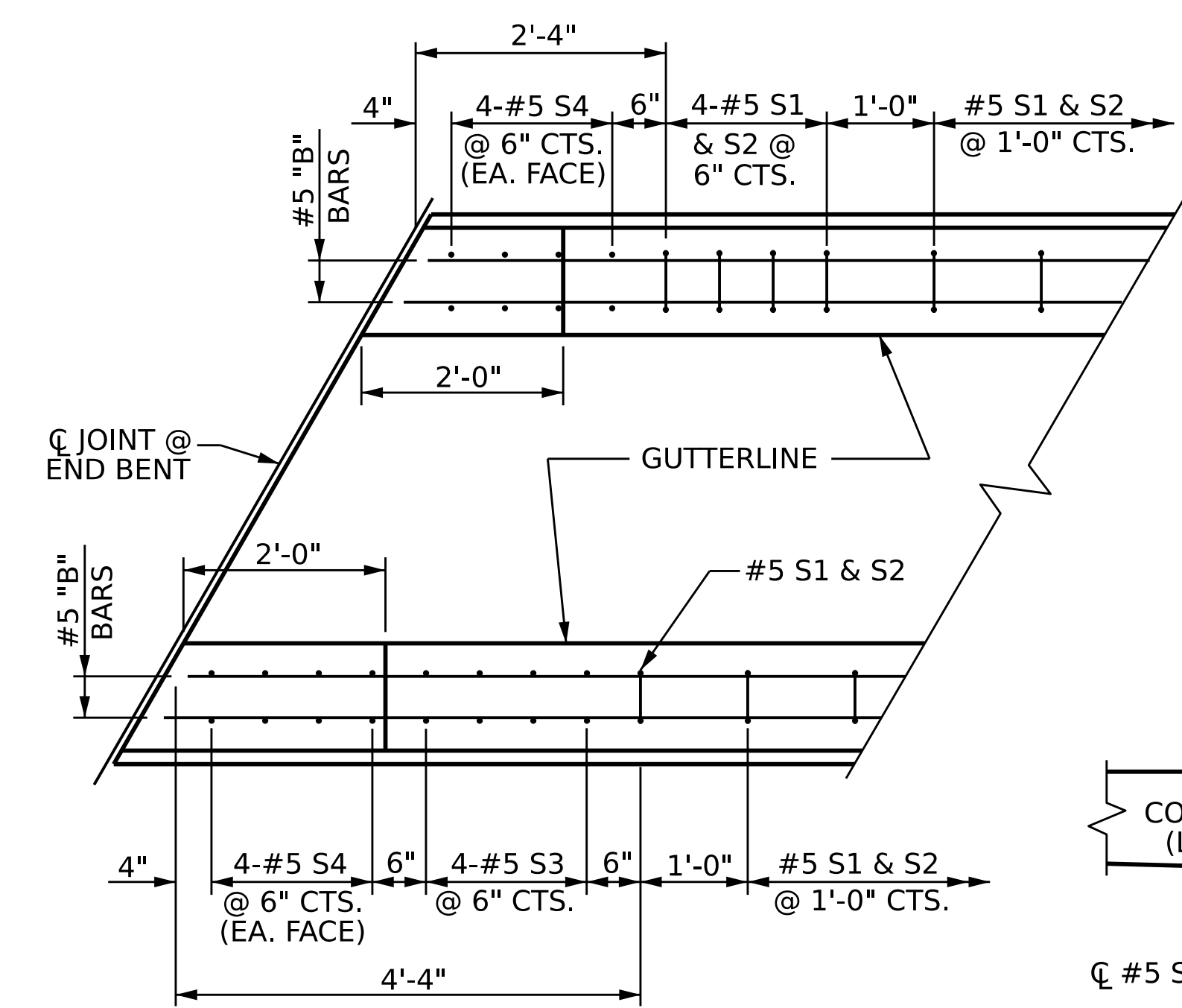
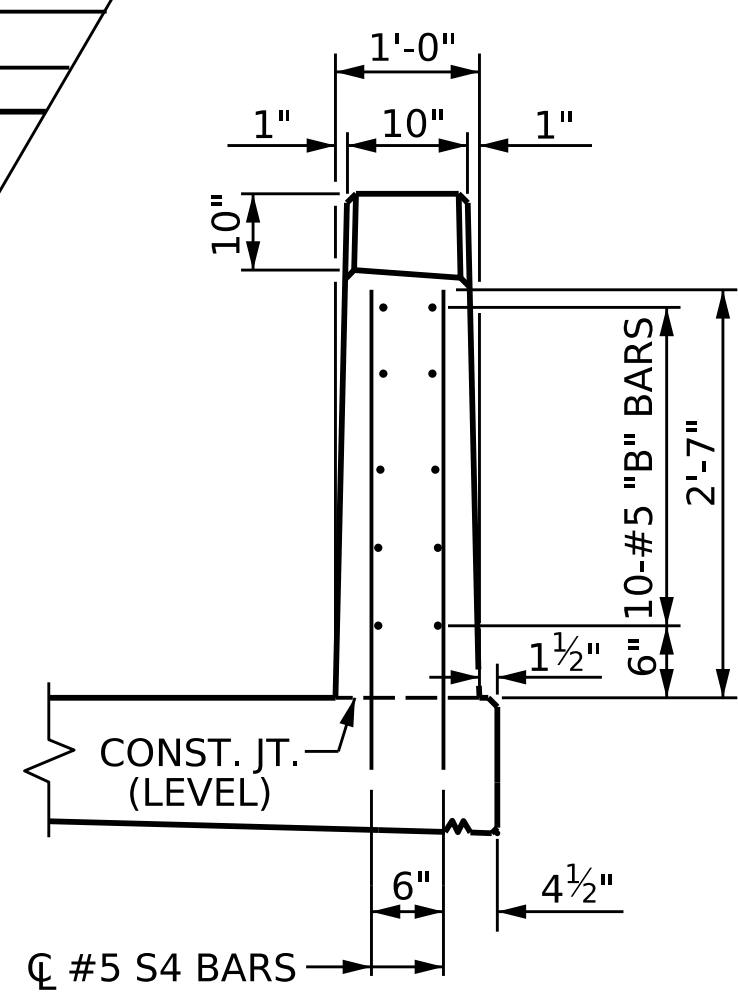


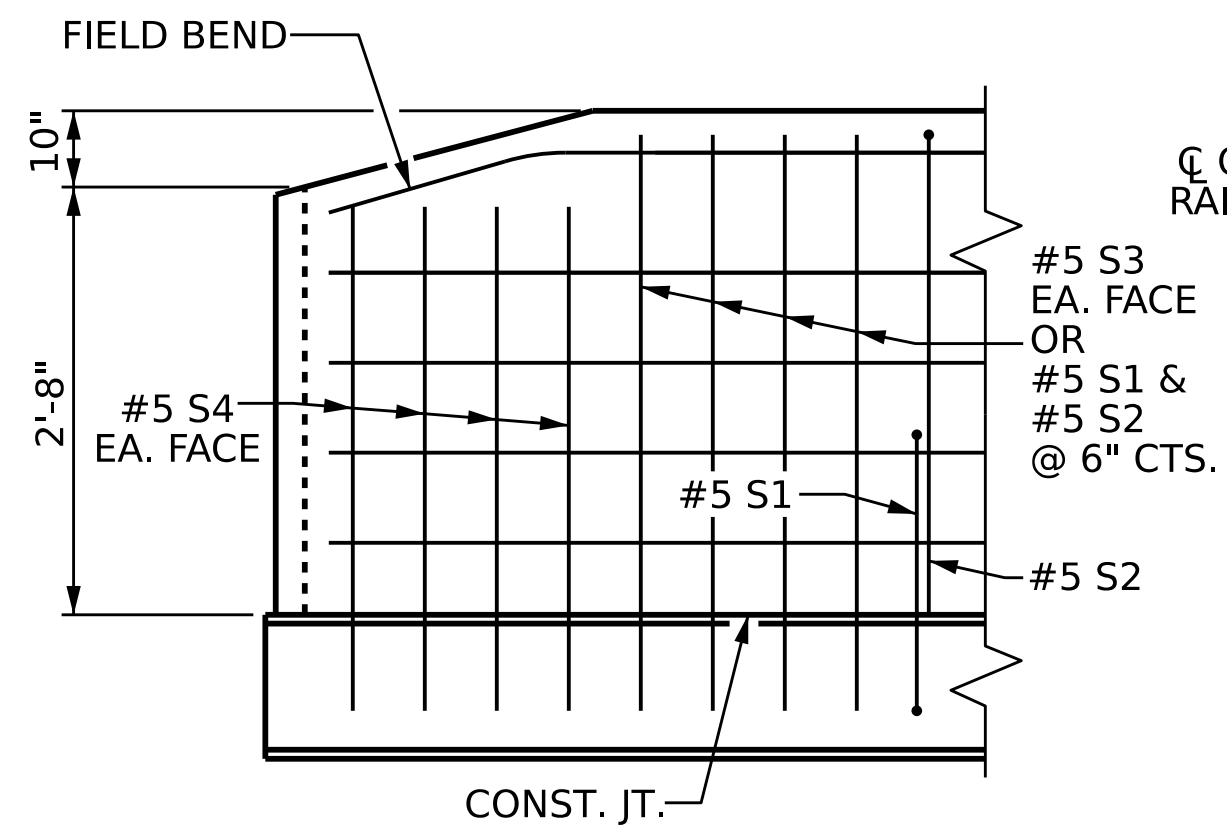
PLAN OF VERTICAL CONCRETE BARRIER RAIL



PLAN

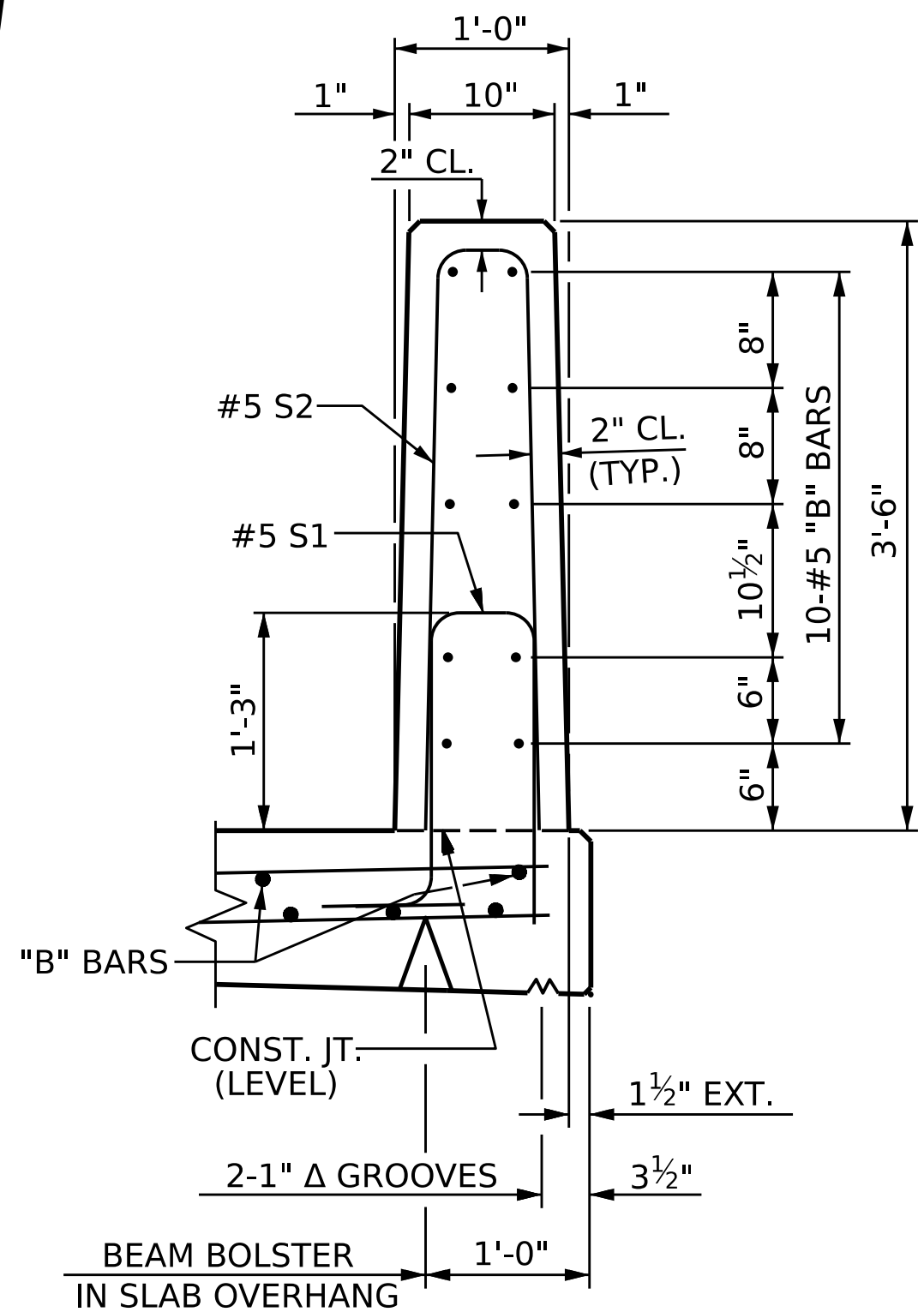


END VIEW

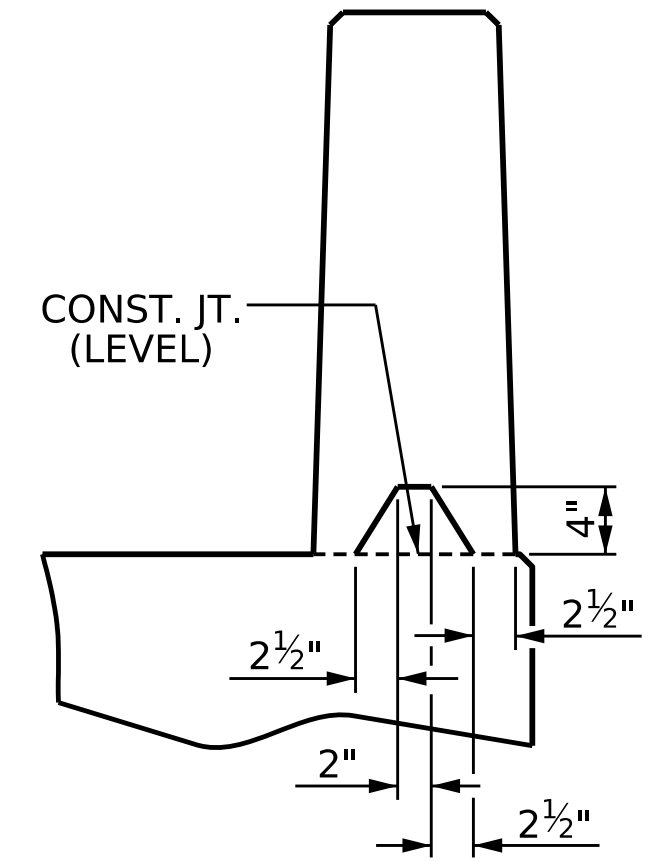


SIDE VIEW

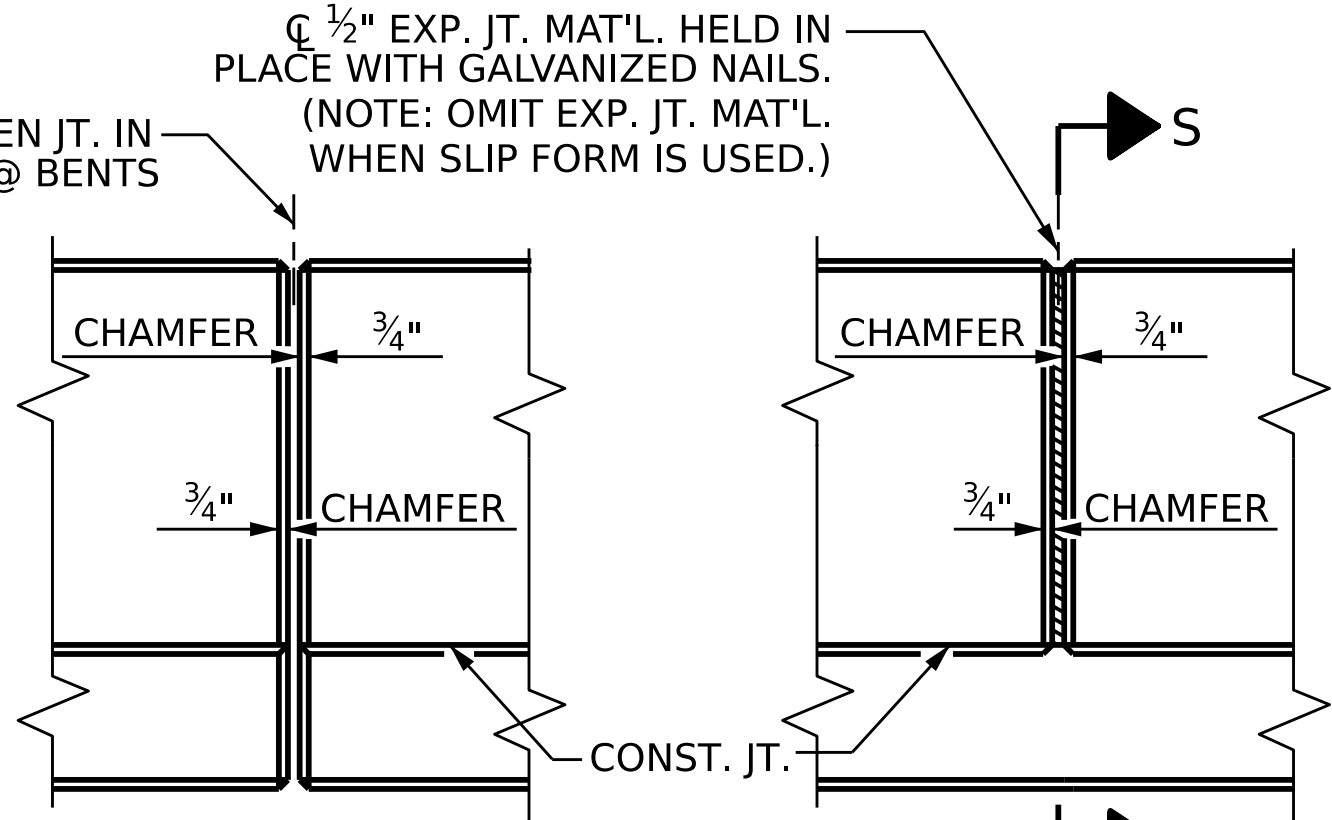
END OF RAIL DETAILS
 FOR ADHESIVE ACHORING AT SAWED JOINTS



SECTION THRU RAIL



SECTION S-S
 AT DAM IN OPEN JOINT
 (THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)



ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS

NOTES

THE BARRIER RAIL IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

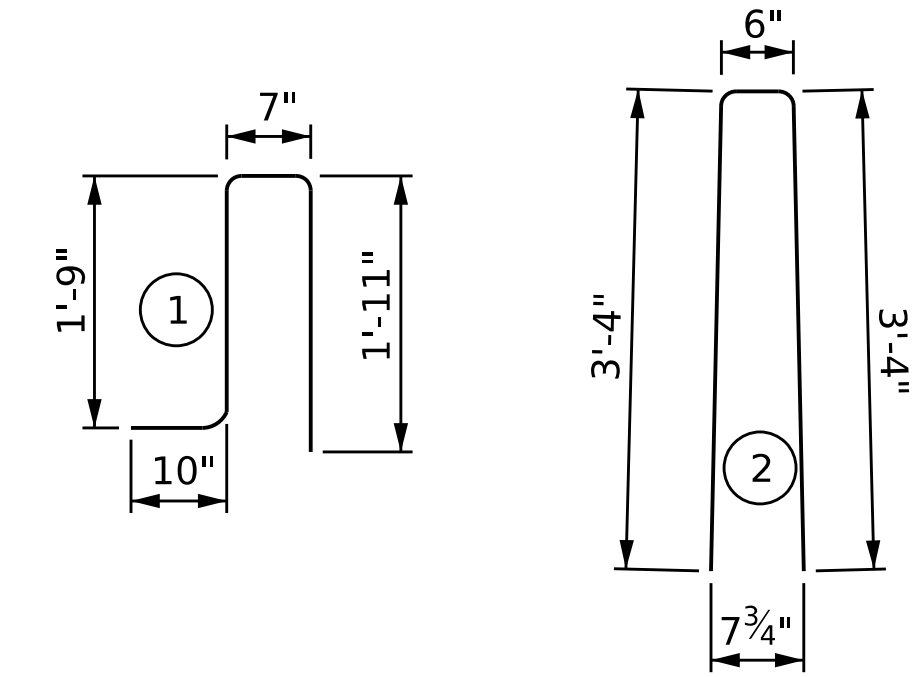
WHEN FOAM JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWED PRIOR TO THE CASTING OF BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3 AND S4 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5 S3 AND S4 BARS IS 18.6 KIPS. FIELD TESTING FOR THE ADHESIVE BONDING SYSTEM IS NOT REQUIRED.

GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF BARRIER RAIL SEGMENTS LESS THAN 20 FEET IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 10 FEET IN LENGTH.

BAR TYPES



BILL OF MATERIAL

FOR VERTICAL CONCRETE BARRIER RAIL ONLY

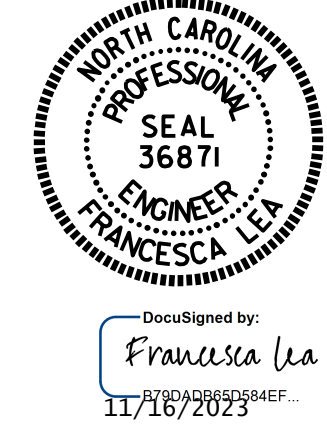
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	40	#5	STR	11'-5"	476
* B2	120	#5	STR	24'-7"	3077
* B3	40	#5	STR	12'-11"	539
* S1	376	#5	1	5'-1"	1994
* S2	376	#5	2	7'-2"	2811
* S3	16	#5	STR	4'-0"	67
* S4	32	#5	STR	3'-6"	117

* EPOXY COATED REINFORCING STEEL 9,081 LBS.
 CLASS AA CONCRETE 45.8 CU. YDS.
 VERTICAL CONCRETE BARRIER RAIL 385.43 LIN. FT.

ASSEMBLED BY: Q. T. NGUYEN DATE: 05/2023
 CHECKED BY: Z. MALIK DATE: 07/2023

DRAWN BY: MAA 5/10 REV. 6/13 MAA/GM
 CHECKED BY: GM 5/10 REV. 12/17 MAA/THC
 REV. 5/18 MAA/THC

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



PROJECT NO. BR-0095
 ROCKINGHAM COUNTY
 STATION: 16+91.66 -L-

STATE OF NORTH CAROLINA
 DEPARTMENT OF TRANSPORTATION
 RALEIGH
 VERTICAL CONCRETE BARRIER RAIL

REVISIONS				SHEET NO.
NO.	BY:	DATE:	NO.	DATE:
1			3	
2			4	

S-16
 TOTAL SHEETS 29