

**NOTES**

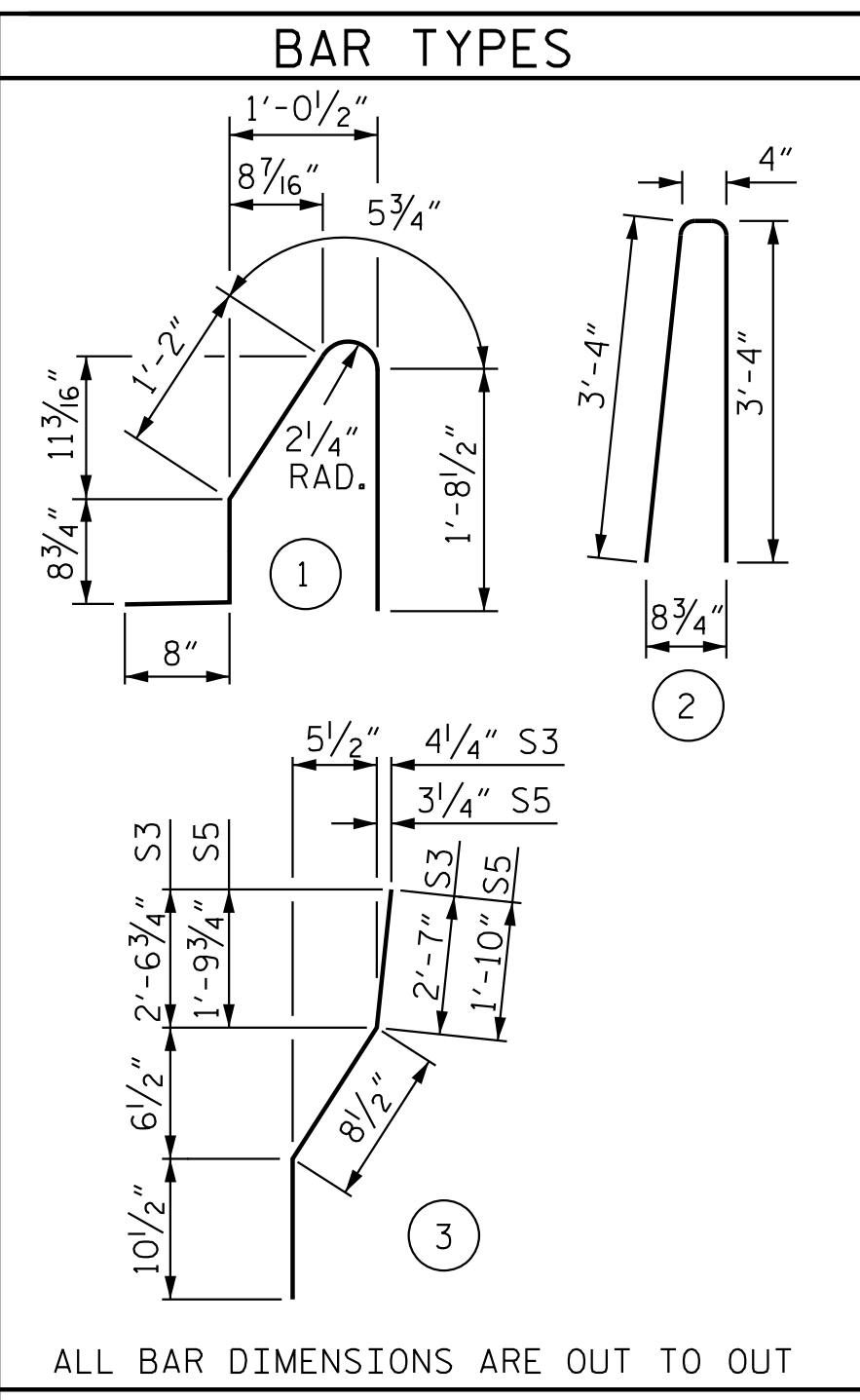
THE BARRIER RAIL IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

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.

**BARRIER RAIL PLAN**

NOTE: ALL HORIZONTAL DIMENSIONS ARE MEASURED ALONG OUTSIDE EDGE OF SLAB



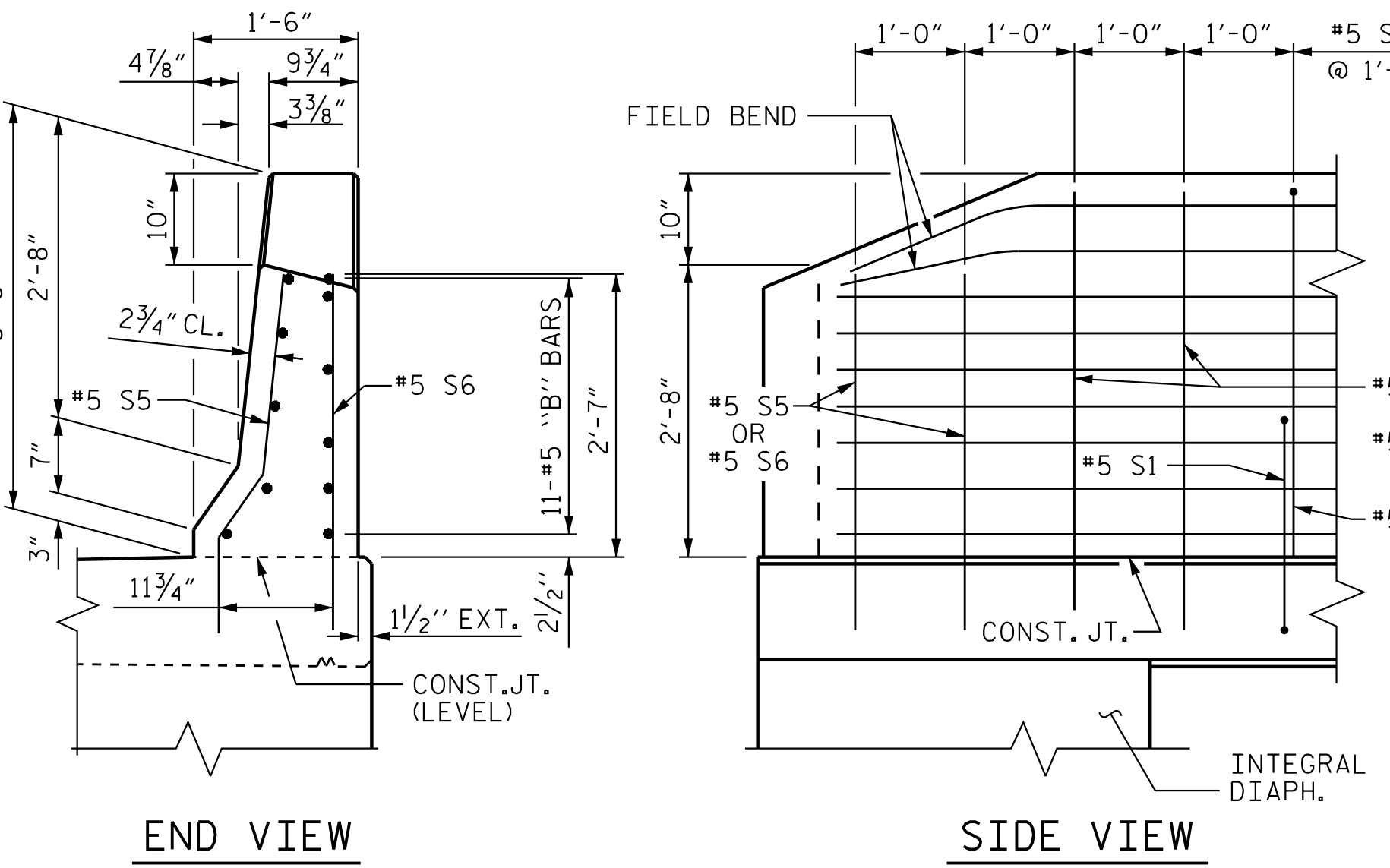
ALL BAR DIMENSIONS ARE OUT TO OUT

**BILL OF MATERIAL**

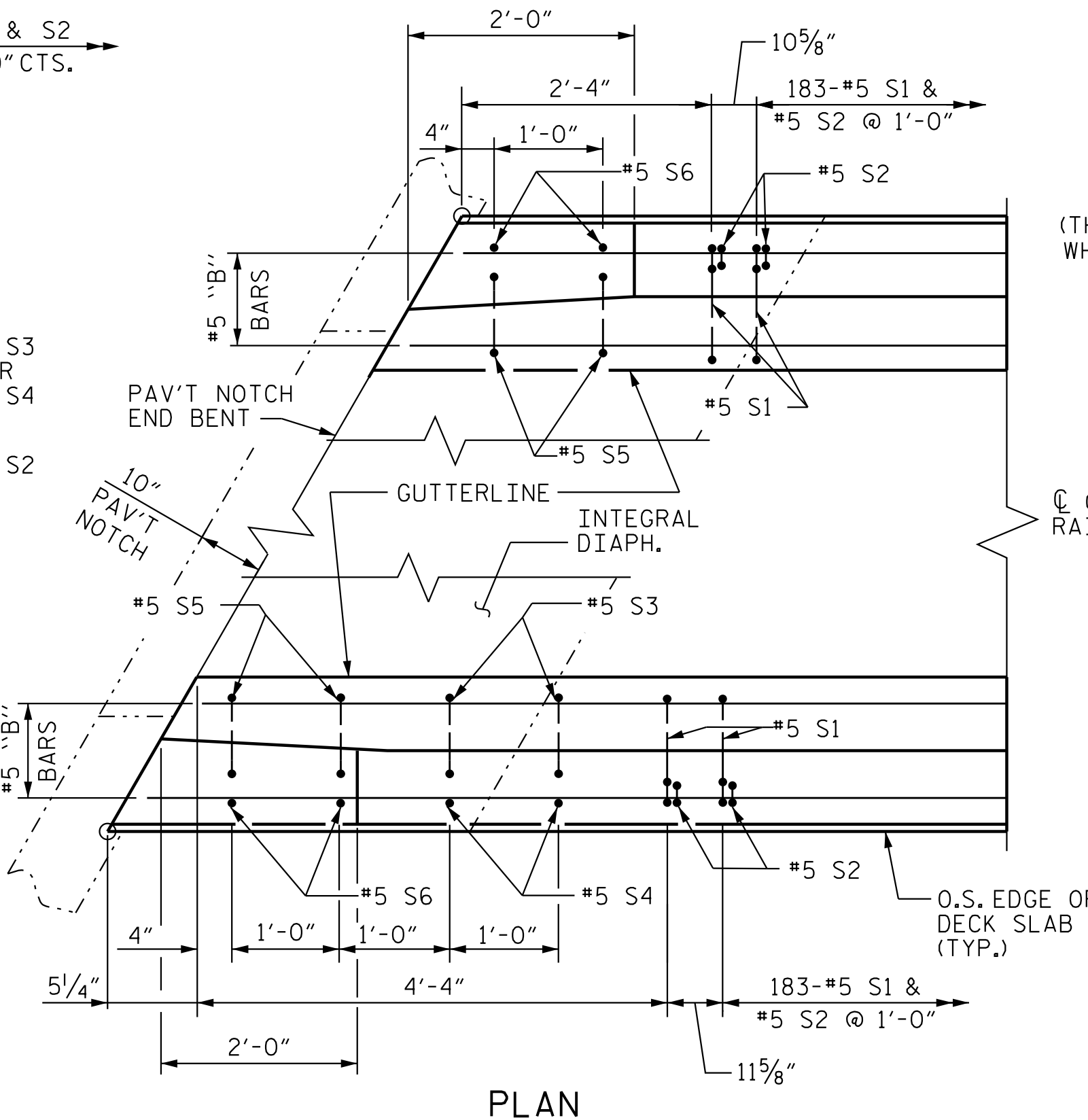
FOR CONCRETE BARRIER RAIL ONLY

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	88	#5	STR	29'-7"	2716
* B2	22	#5	STR	28'-1"	645
* B3	10	#5	STR	21'-5"	224
* B4	12	#5	STR	21'-1"	264
* B5	10	#5	STR	20'-3"	211
* B6	12	#5	STR	20'-6"	257
* S1	370	#5	1	4'-9"	1834
* S2	370	#5	2	7'-0"	2702
* S3	4	#5	3	4'-2"	18
* S4	4	#5	STR	4'-0"	17
* S5	8	#5	3	3'-5"	29
* S6	8	#5	STR	3'-3"	28

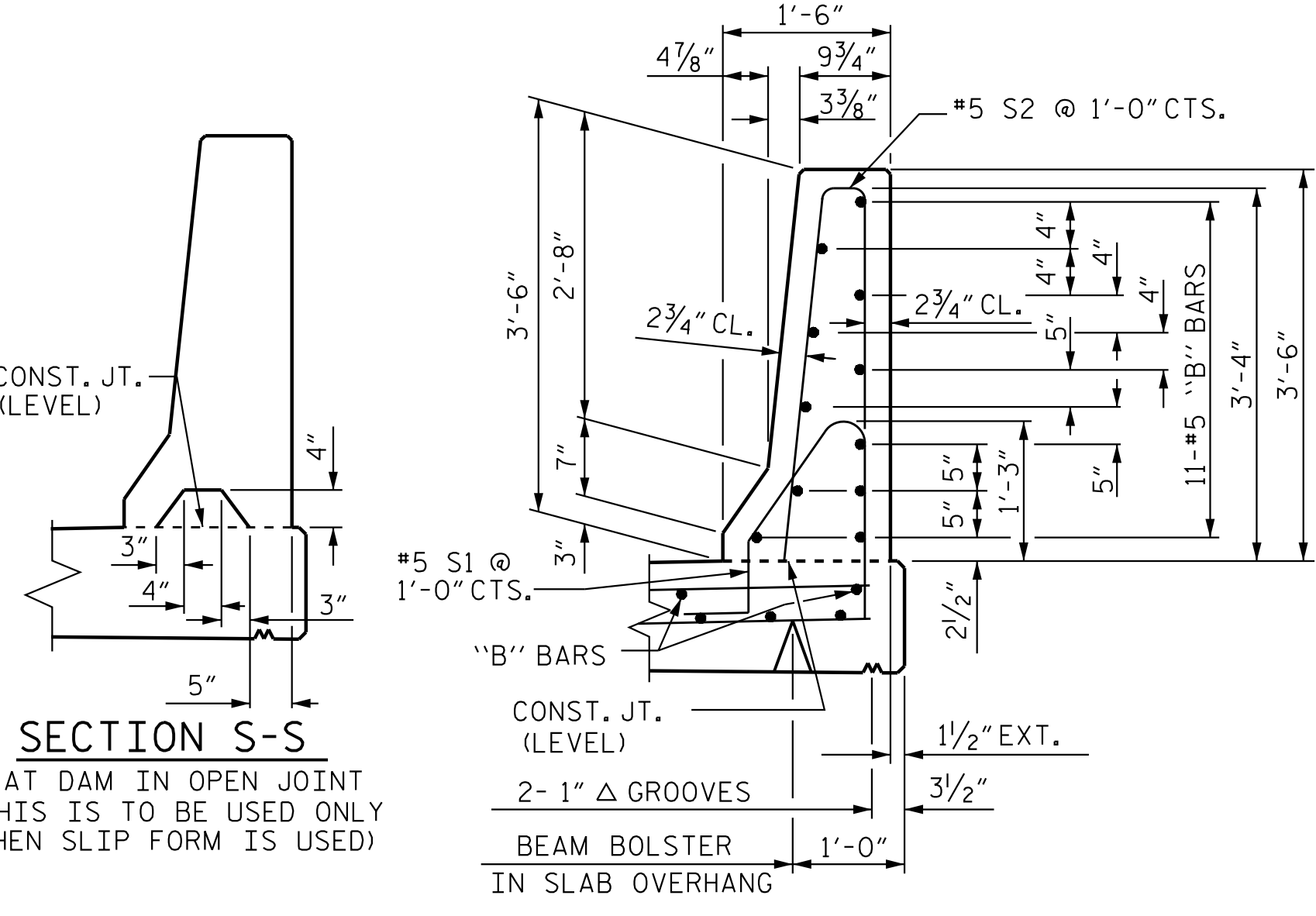
\* EPOXY COATED REINFORCING STEEL 8,945 LBS.  
 CLASS AA CONCRETE 51.9 CU. YDS.  
 CONCRETE BARRIER RAIL 381.87 LIN. FT.



**END OF RAIL DETAILS**



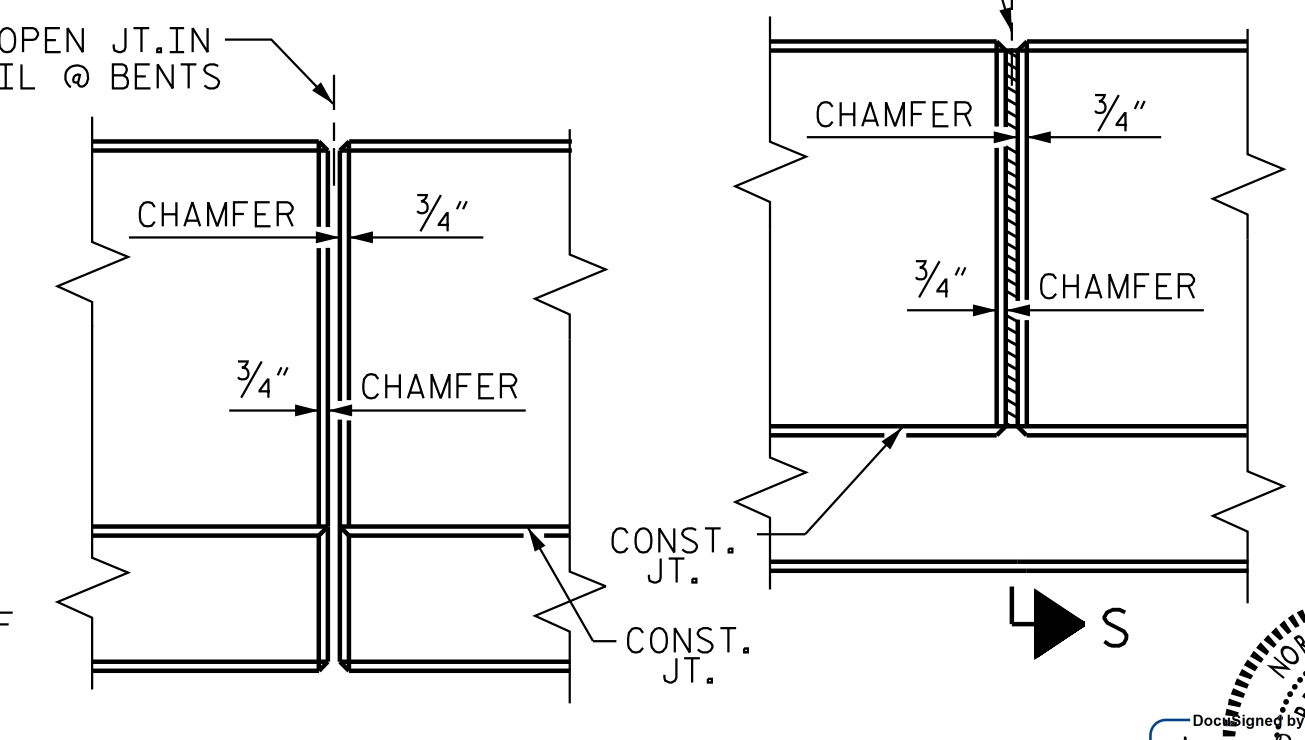
**PLAN**



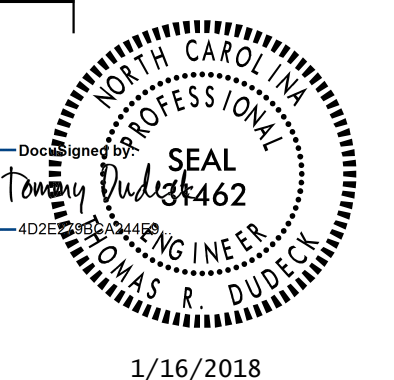
SECTION S-S  
 AT DAM IN OPEN JOINT (THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)

**SECTION THRU RAIL**

1/2" EXP. JT. MAT'L HELD IN PLACE WITH GALVANIZED NAILS. (NOTE: OMIT EXP. JT. MAT'L. WHEN SLIP FORM IS USED.)



**ELEVATION AT EXPANSION JOINTS BARRIER RAIL DETAILS**



PROJECT NO. U-2525C  
 GUILFORD COUNTY  
 STATION: 337+20.09 -L-  
 SHEET 1 OF 2

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**STANDARD CONCRETE BARRIER RAIL (LL)**

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S4-21
1			3			TOTAL SHEETS 39
2			4			

Stantec Consulting Services Inc.  
 801 Jones Franklin Road  
 Suite 300  
 Raleigh, NC 27606  
 Tel. (919) 851-8866  
 Fax. (919) 851-7024  
 www.stantec.com  
 License No. F-0672

ASSEMBLED BY : N.D'AIUTO	DATE : 01/26/17	DESIGN ENGINEER OF RECORD : T.R. DUDECK	DATE : 01/16/18
CHECKED BY : T.N. ENNIS	DATE : 03/07/17		
DRAWN BY : ARB 5/87	REV. 10/1/11	MAA/GM	
CHECKED BY : SJD 9/87	REV. 7/12	MAA/GM	
	REV. 6/13	MAA/GM	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED