

**NOTES**

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

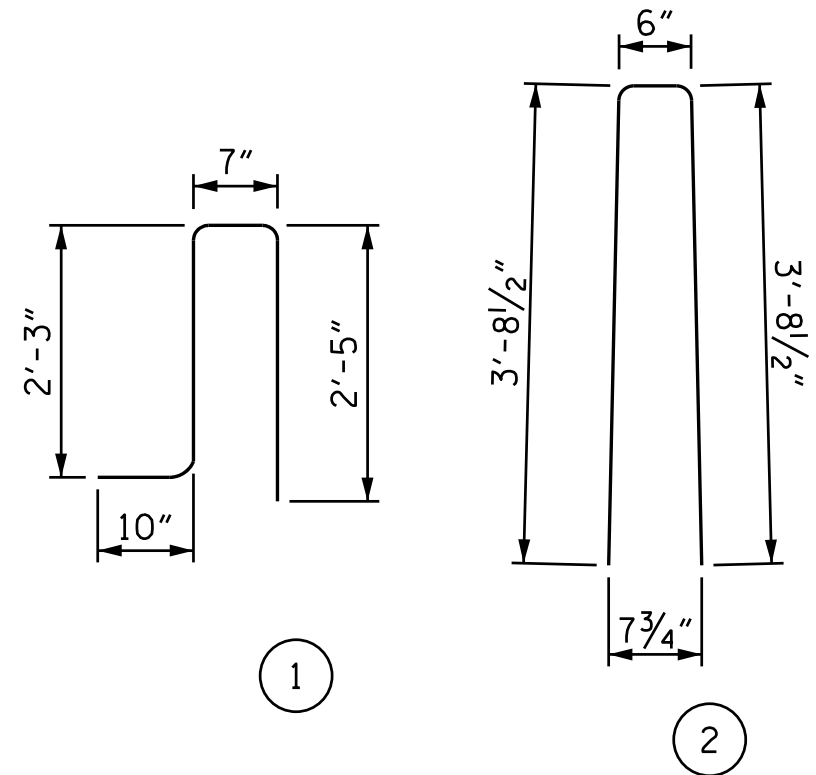
WHEN FOAM JOINT SEAL IS REQUIRED, THE JOINT IN THE DECK SHALL BE SAWED PRIOR TO THE CASTING OF VERTICAL CONCRETE BARRIER RAIL.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3 THRU S6 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5 S3 THRU S6 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.

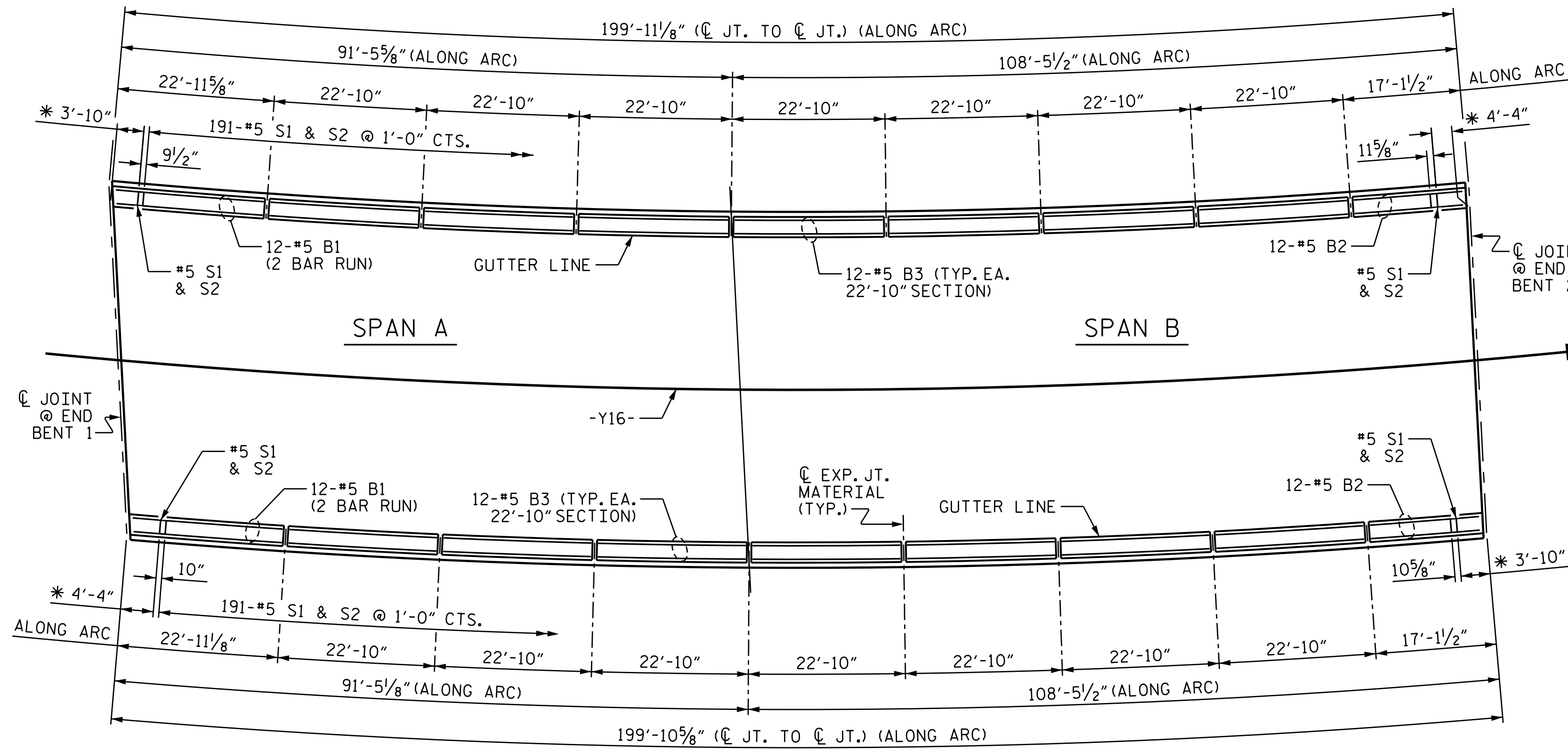
**BAR TYPES**



ALL BAR DIMENSIONS ARE OUT TO OUT

**BILL OF MATERIAL**

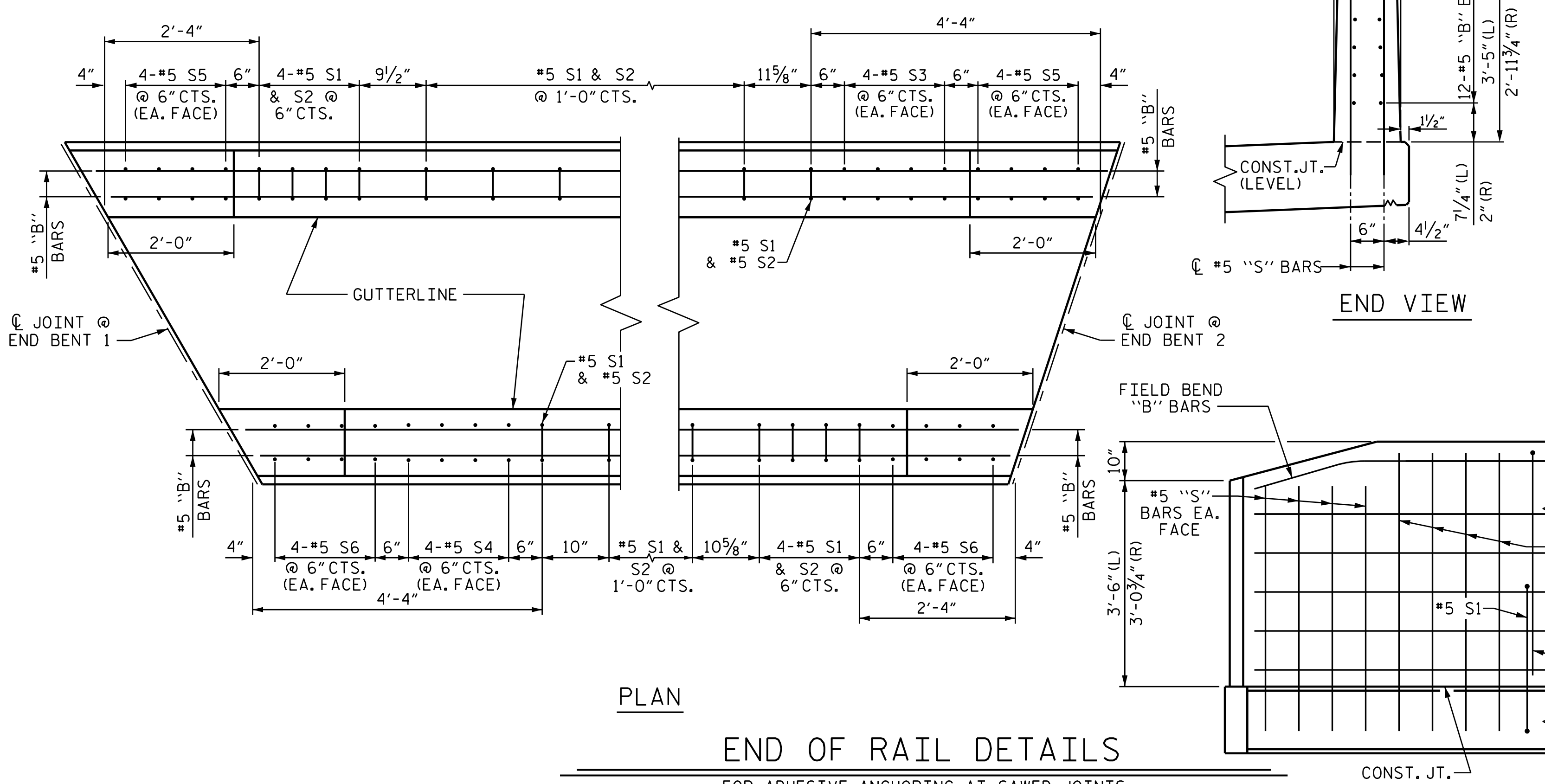
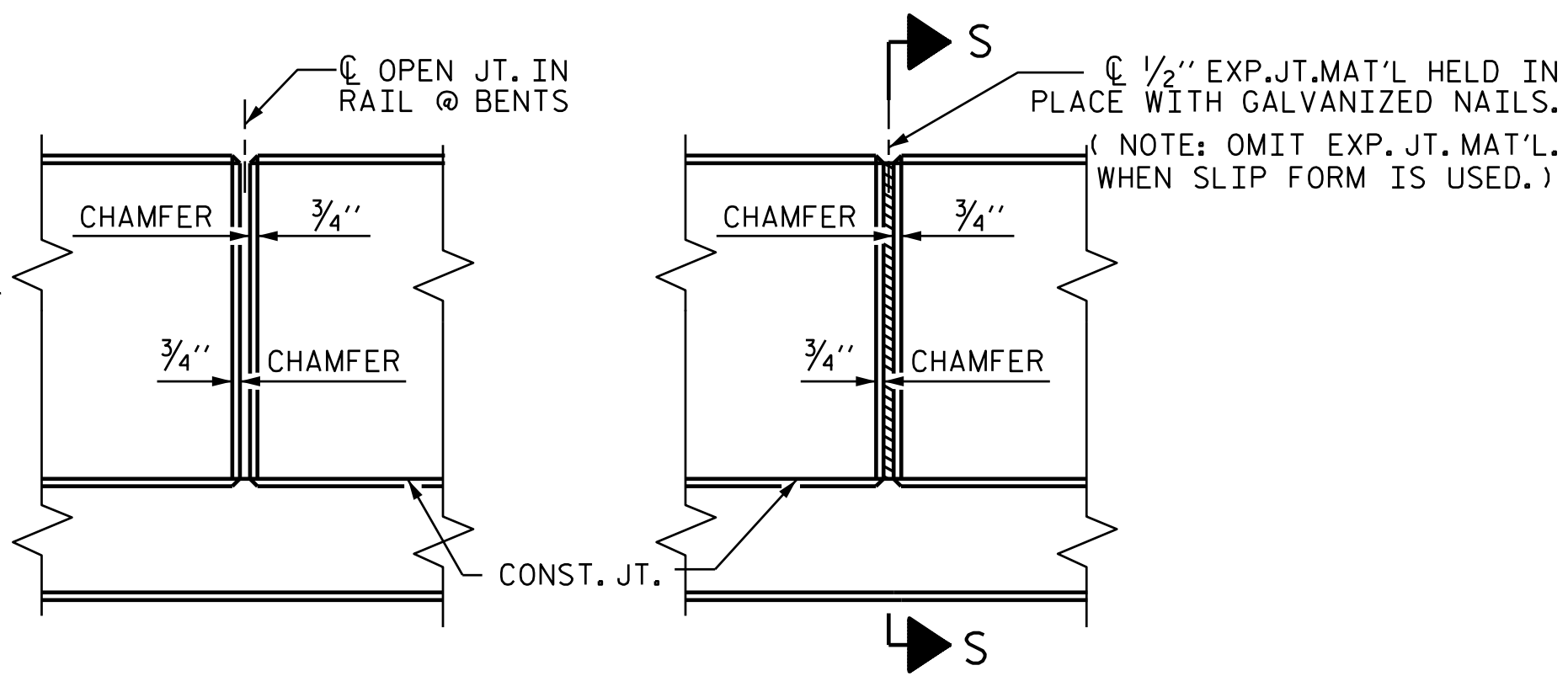
FOR VERTICAL CONCRETE BARRIER RAIL ONLY					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	48	#5	STR	13'-0"	651
* B2	24	#5	STR	16'-8"	417
* B3	168	#5	STR	22'-5"	3928
* S1	392	#5	1	6'-1"	2487
* S2	392	#5	2	7'-11"	3237
* S3	8	#5	STR	4'-10"	40
* S4	8	#5	STR	4'-5"	37
* S5	16	#5	STR	4'-1"	68
* S6	16	#5	STR	3'-8"	61
* EPOXY COATED REINFORCING STEEL				10,926	LBS.
CLASS AA CONCRETE				55.9	CU. YDS.
VERTICAL CONCRETE BARRIER RAIL				399.8	LIN. FT.



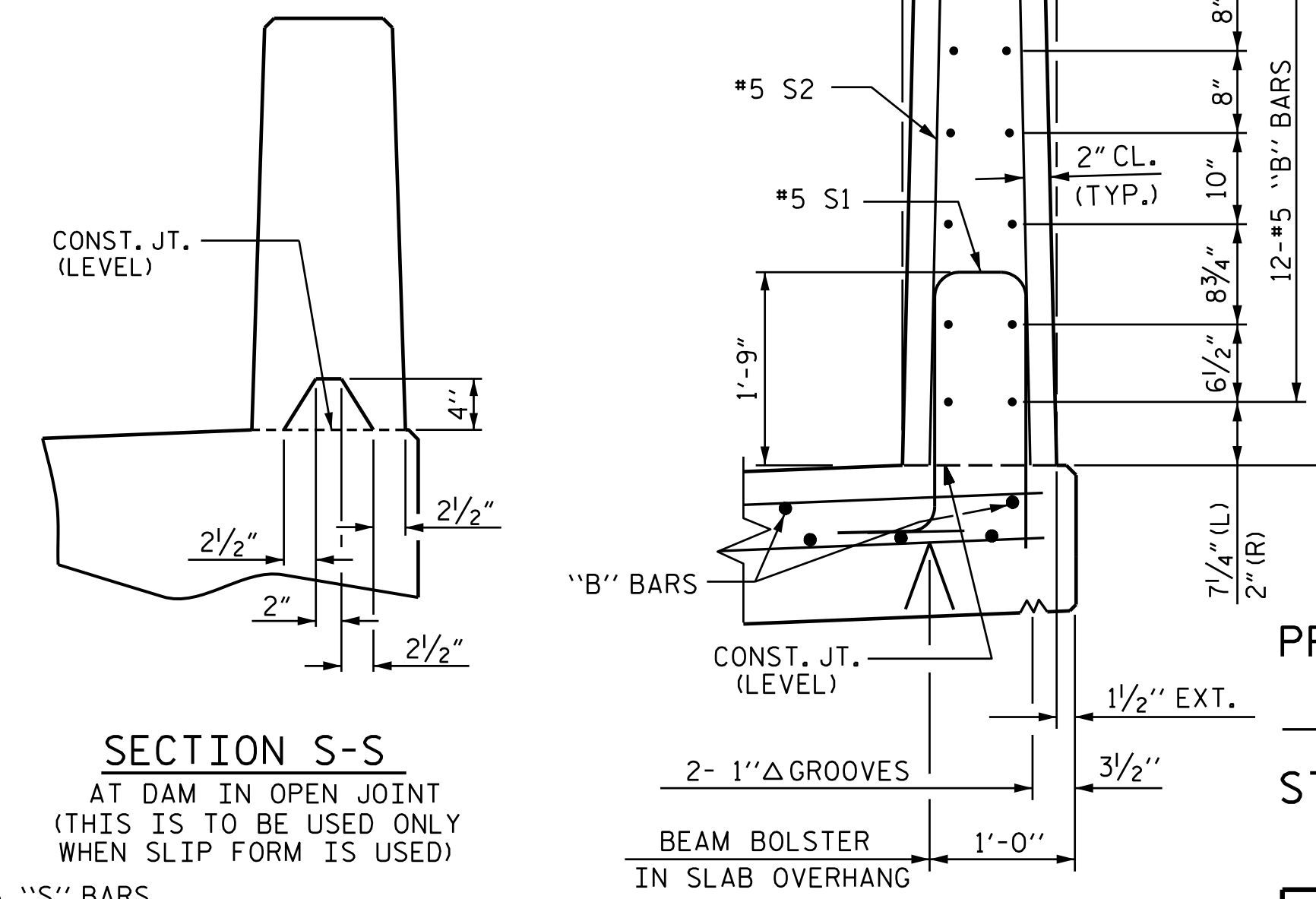
**PLAN OF CONCRETE BARRIER RAIL**

DIMENSIONS ARE ALONG THE OUTSIDE FACE OF THE BARRIER RAIL.  
\* FOR ADDITIONAL REINFORCING STEEL, SEE END OF RAIL DETAILS.

**ELEVATION AT EXPANSION JOINTS**



**END OF RAIL DETAILS**  
FOR ADHESIVE ANCHORING AT SAWED JOINTS

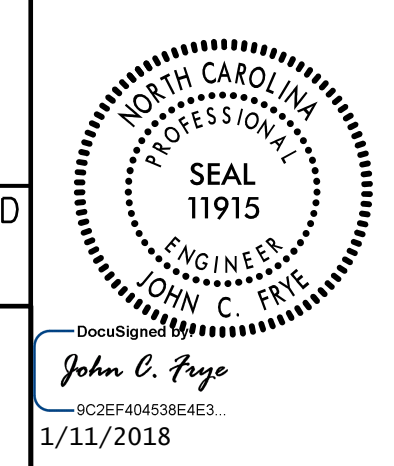


**BARRIER RAIL DETAILS**

PROJECT NO. U-2525C  
GUILFORD COUNTY  
STATION: 17+37.28 -Y16-

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

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



DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED  
PLANS PREPARED BY:  
MOTT MACDONALD  
PO Box 700  
Fuquay-Varina, NC 27526  
(919) 552-2253  
www.mottmac.com  
LICENSE NO. F-0669

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DRAWN BY: J. T. WILLIAMS DATE: 4-2017  
 CHECKED BY: J. E. MONDOLFI DATE: 8-2017  
 DESIGN ENGINEER OF RECORD: J. E. MONDOLFI DATE: 11-2017

SHEET NO.  
 S1-16  
 TOTAL SHEETS  
 29