

**NOTES**

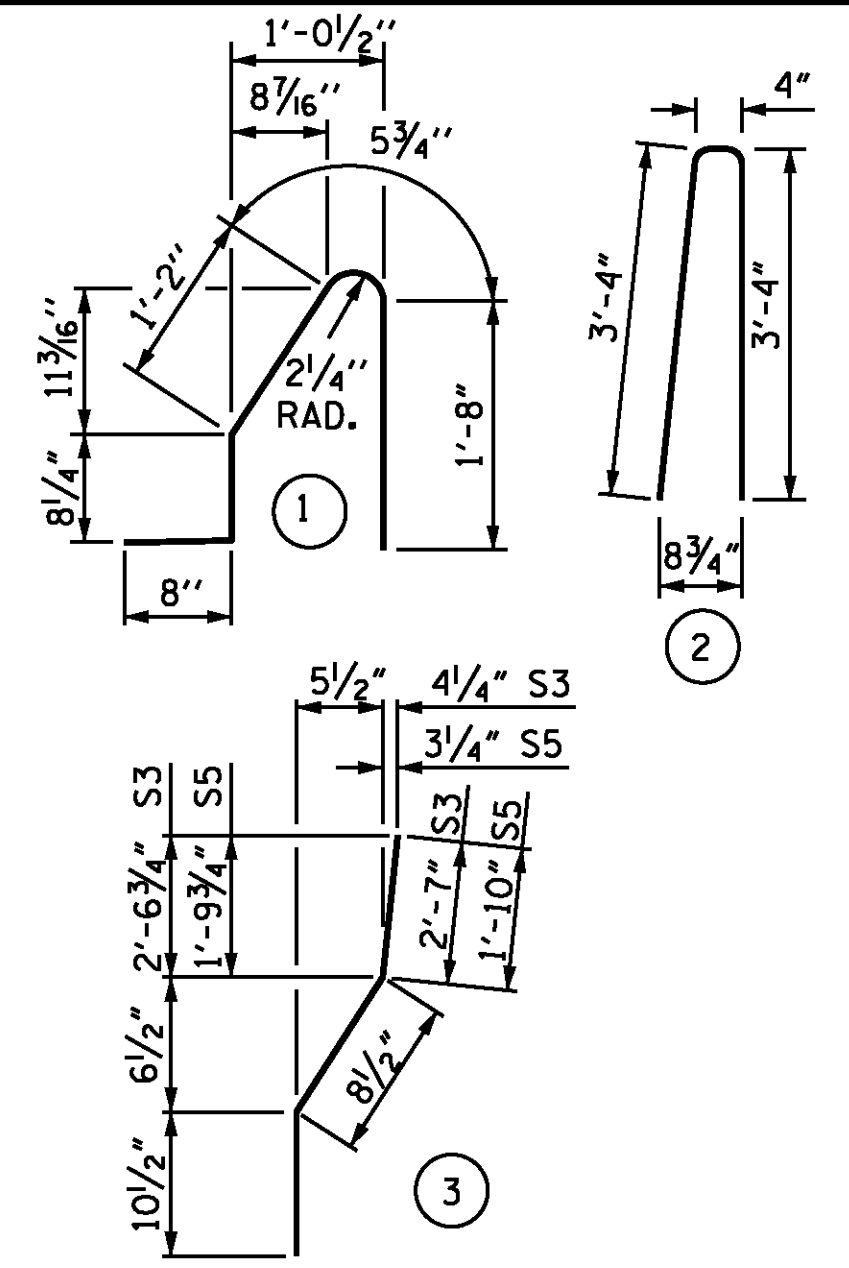
THE BARRIER RAIL IN THE SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3, S4, S5 AND S6 BARS SHALL BE INSTALLED, USING AN ADHESIVE ANCHORING SYSTEM, AFTER SAWING THE JOINT. THE YIELD LOAD FOR THE #5 S3, S4, S5 AND 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**



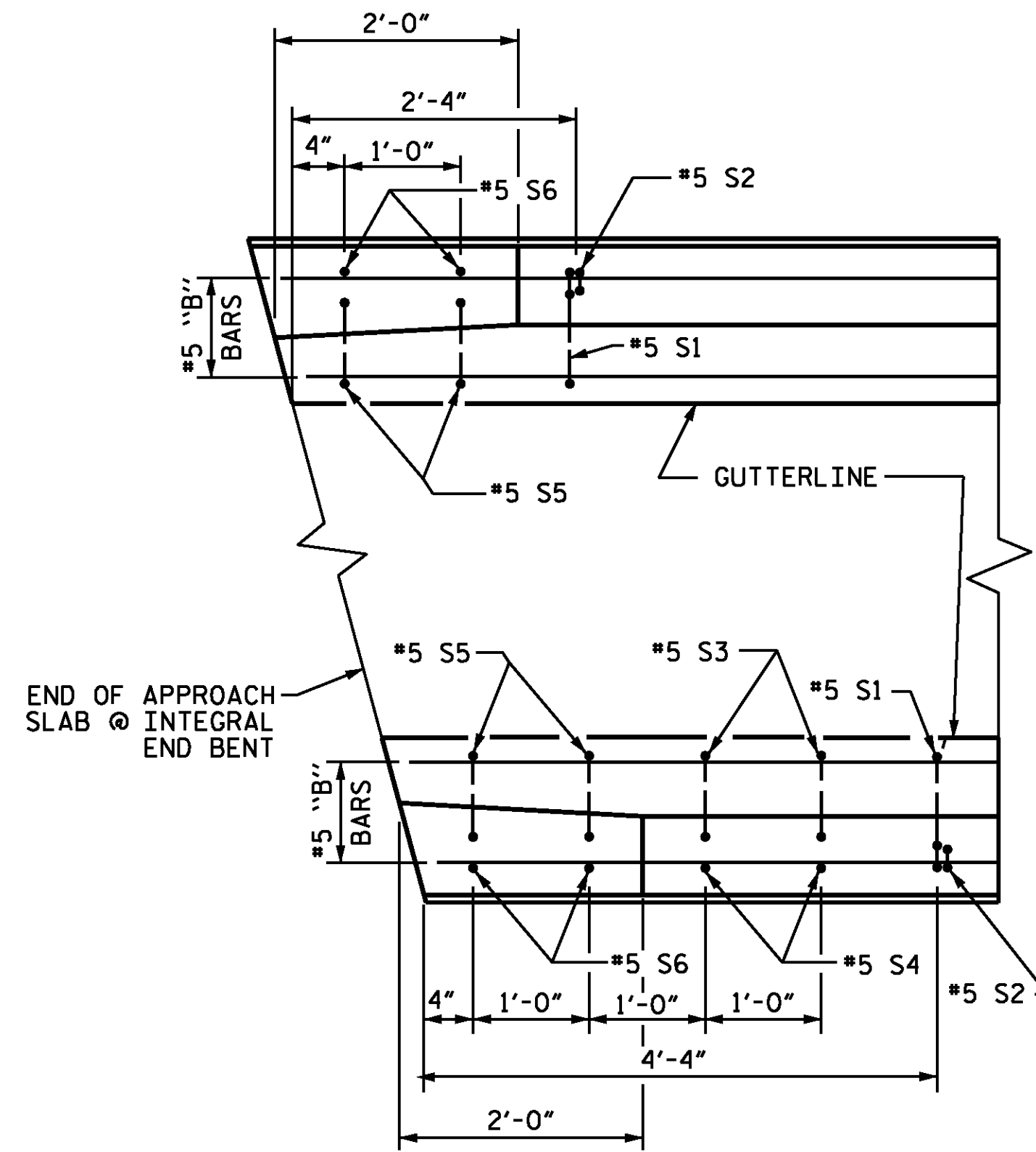
ALL BAR DIMENSIONS ARE OUT TO OUT

**BILL OF MATERIAL**

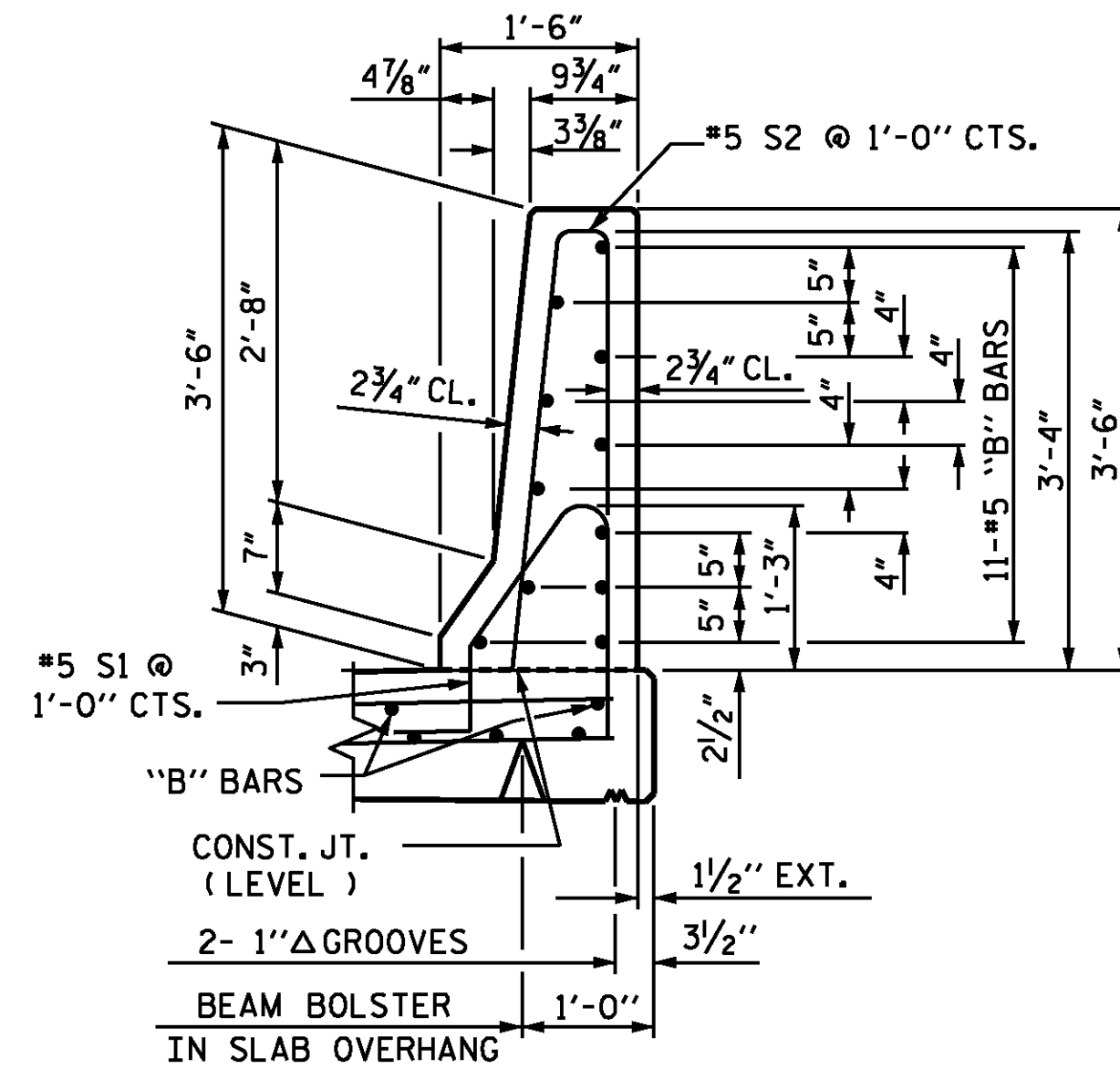
FOR CONCRETE BARRIER RAIL ONLY

BAR NO.	SIZE	TYPE	LENGTH	WEIGHT
* B1	88	#5 STR	15'-5"	1,415
* B2	44	#5 STR	27'-8"	1,270
* S1	212	#5	4'-8"	1,032
* S2	212	#5	7'-0"	1,548
* S3	4	#5	4'-2"	17
* S4	4	#5 STR	4'-0"	17
* S5	8	#5	3'-5"	29
* S6	8	#5 STR	3'-3"	27

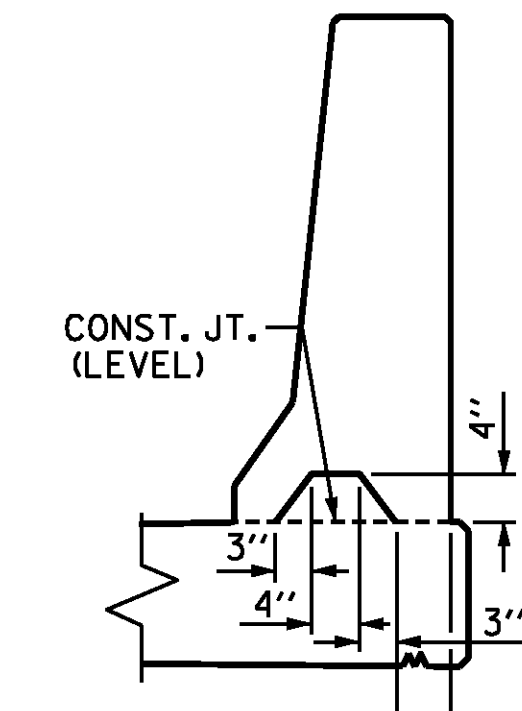
\* EPOXY COATED REINFORCING STEEL 5,355 LBS.  
 CLASS AA CONCRETE 30.1 CU. YDS.  
 CONCRETE BARRIER RAIL 221.38 LIN. FT.



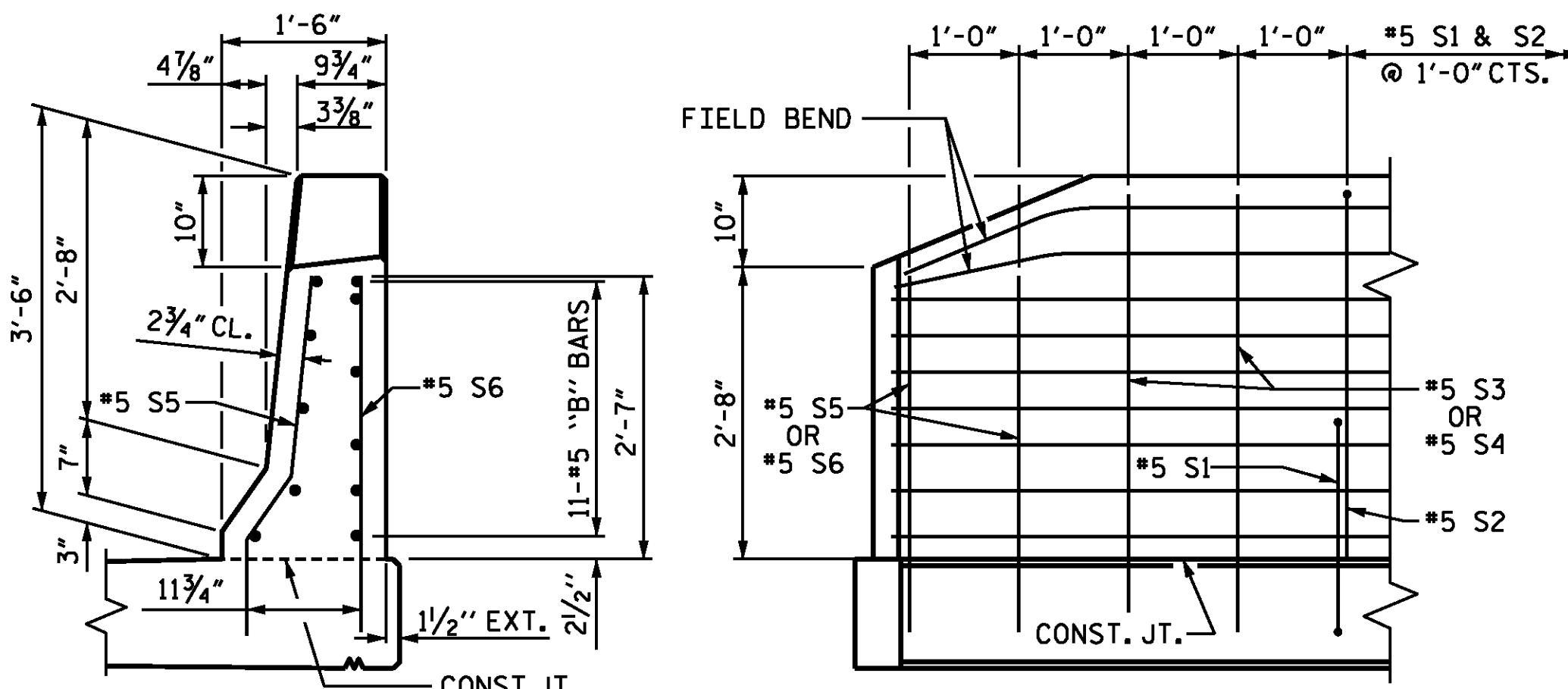
**PLAN**



**SECTION THRU RAIL**



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

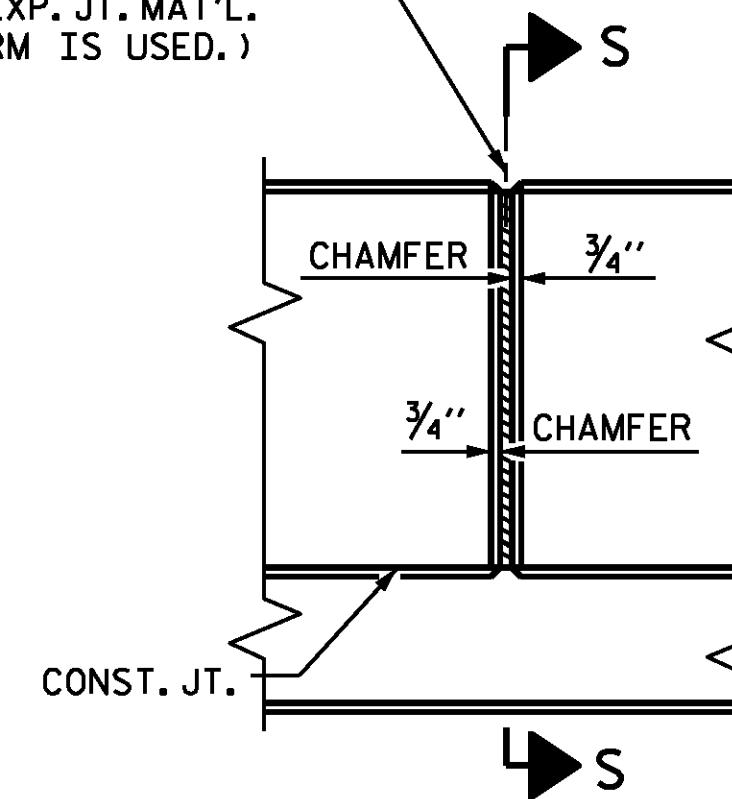


**END VIEW**

**SIDE VIEW**

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

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

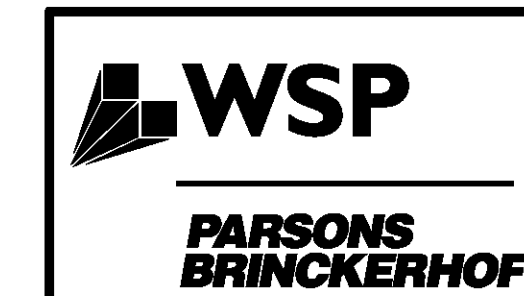


**ELEVATION AT EXPANSION JOINTS**  
**BARRIER RAIL DETAILS**

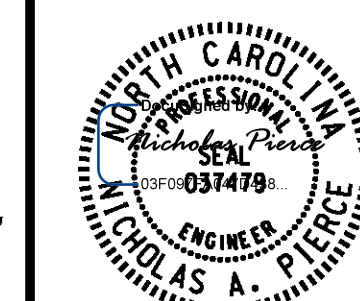
PROJECT NO. B-4616  
ROBESON COUNTY  
 STATION: 31+55.47 -L-

SHEET 2 OF 2

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



434 FAYETTEVILLE STREET  
 SUITE 1500  
 RALEIGH, NC 27601  
 LICENSE NO. F-0165



8/2/2016

**REVISIONS**

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

SHEET NO.  
**S1-16**  
 TOTAL SHEETS  
**25**

DESIGNED BY: C.J. HOWARD DATE: 04/2016  
 DRAWN BY: M.J. OSTRISHKO DATE: 04/2016  
 CHECKED BY: N.A. PIERCE DATE: 05/2016  
 DESIGN ENGINEER OF RECORD: N.A. PIERCE DATE: 06/2016

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**