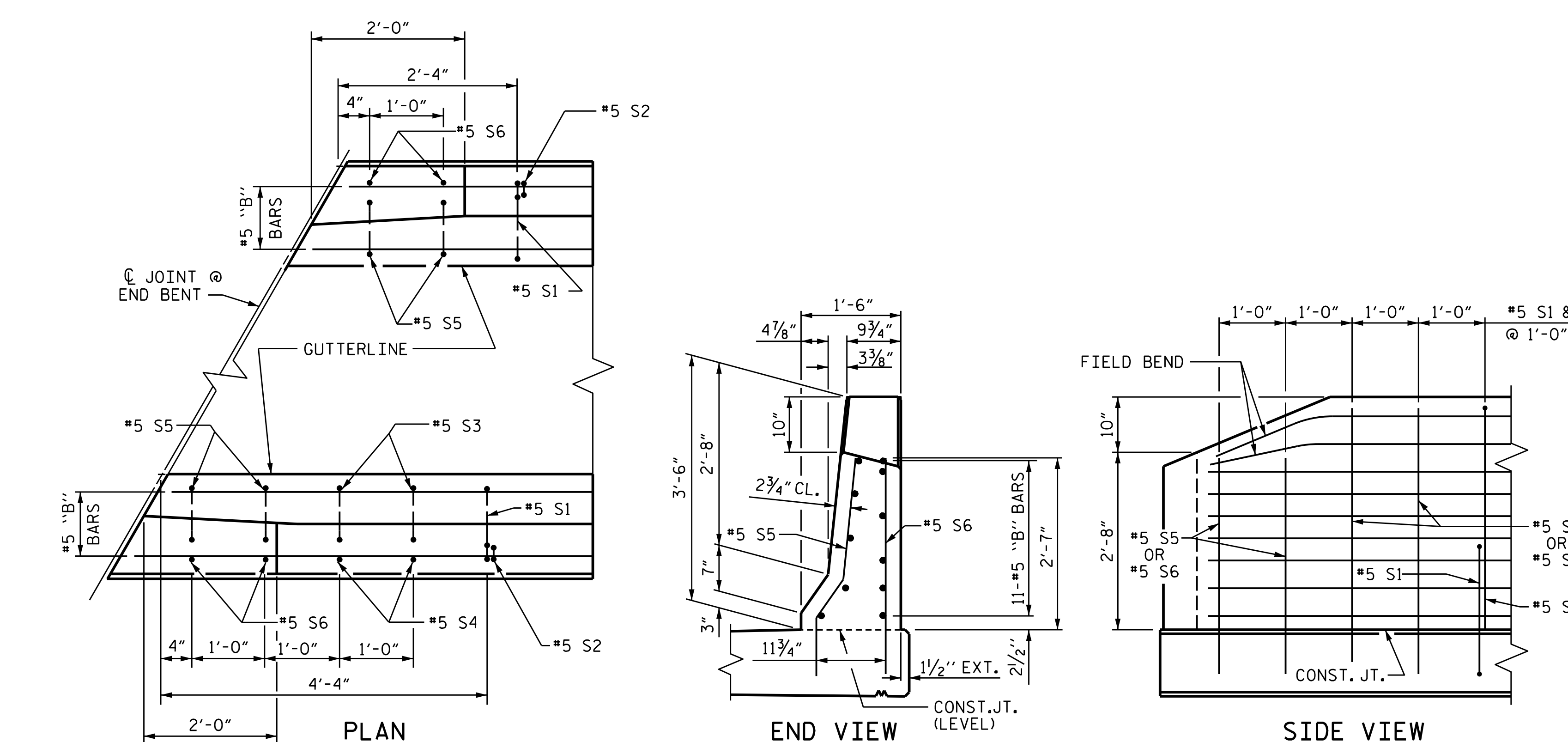


NOTE: ALL DIMENSIONS ARE MEASURED ALONG OUTSIDE FACE OF CONCRETE PARAPET



END OF RAIL DETAILS  
FOR ADHESIVE ANCHORING AT SAWED JOINTS

NOTES

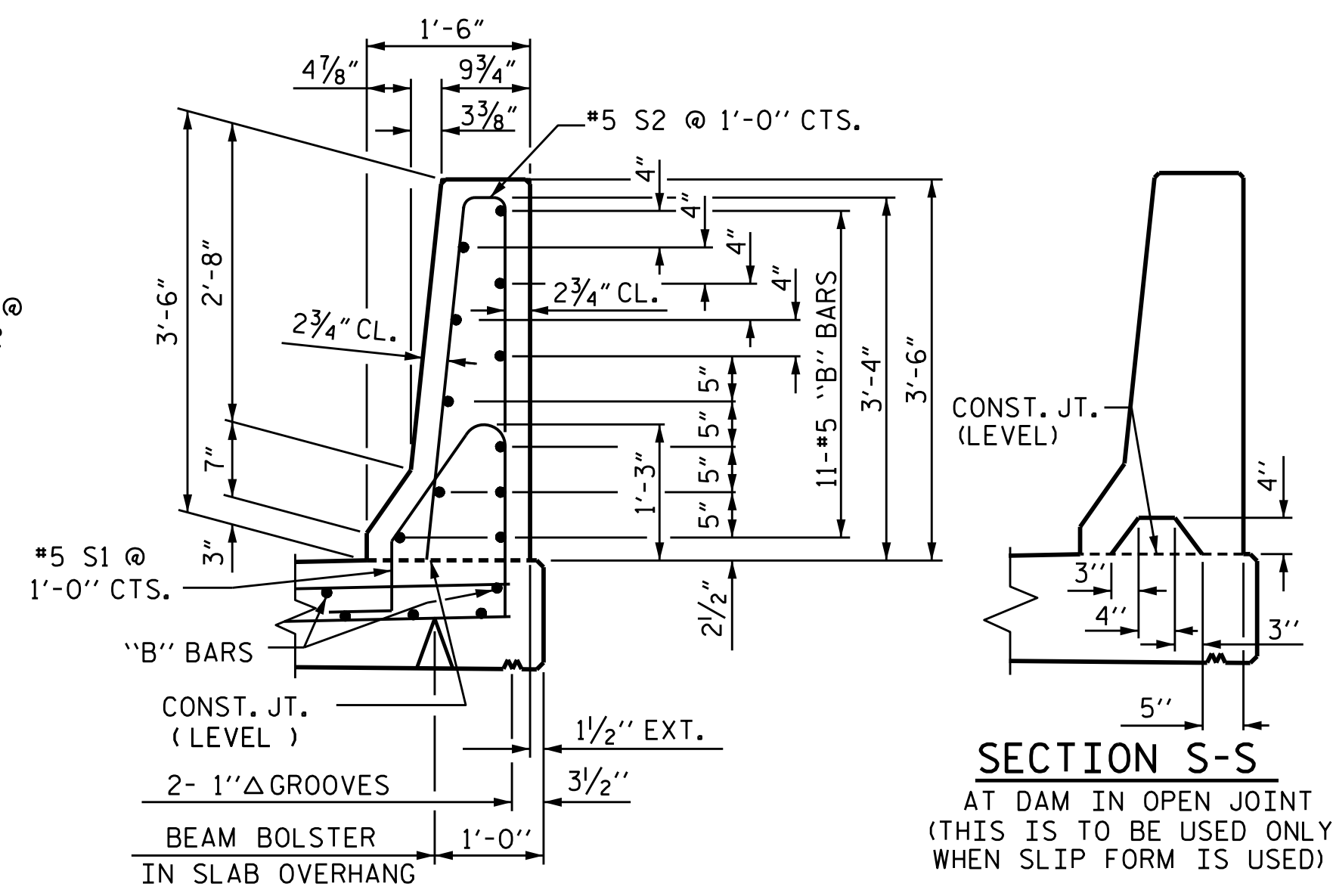
THE BARRIER RAIL IN EACH SPAN SHALL NOT BE CAST UNTIL ALL SLAB CONCRETE IN THAT SPAN HAS BEEN CAST AND HAS REACHED A MINIMUM COMPRESSIVE STRENGTH OF 3,000 PSI.

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

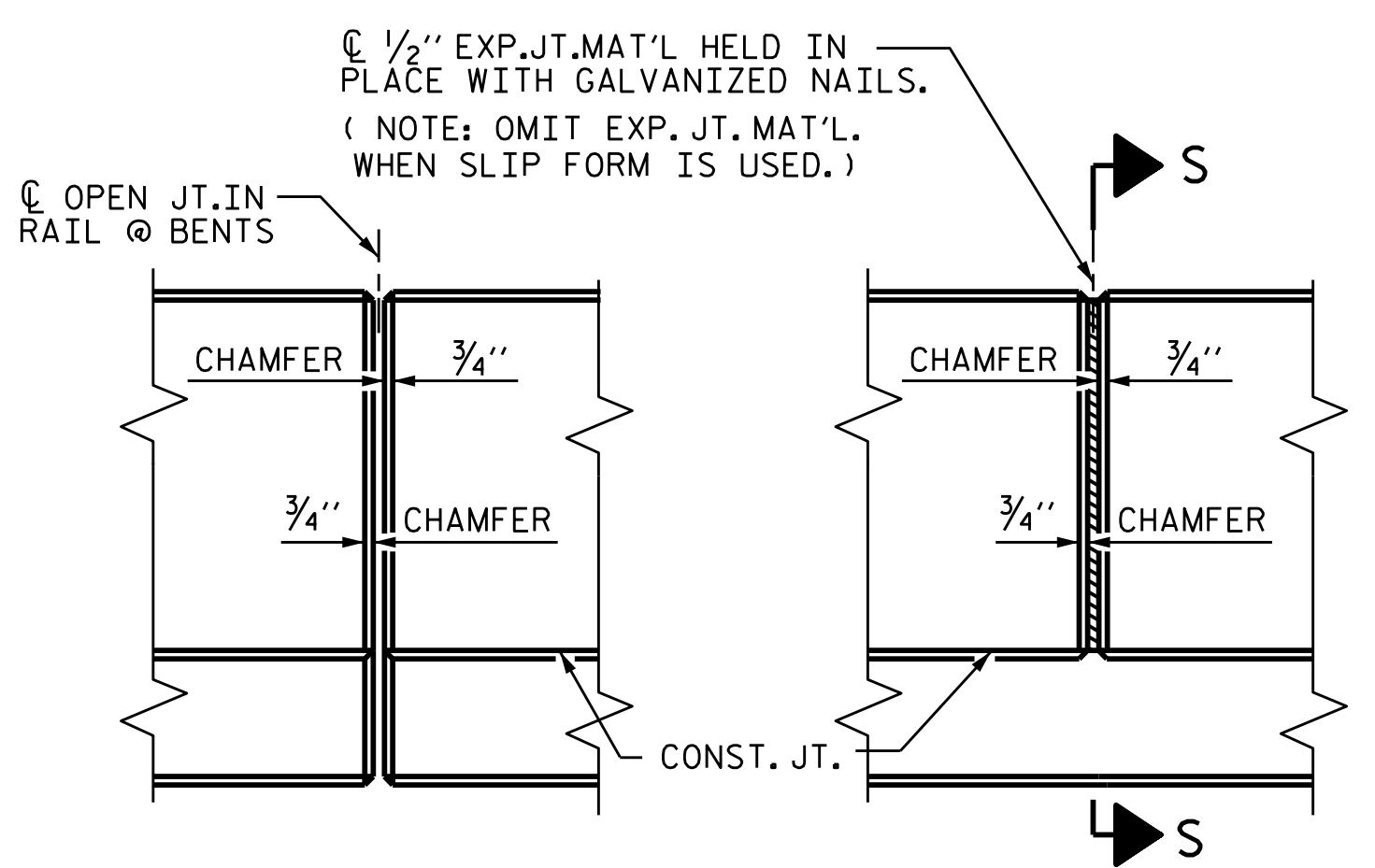
ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

THE #5 S3, 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.

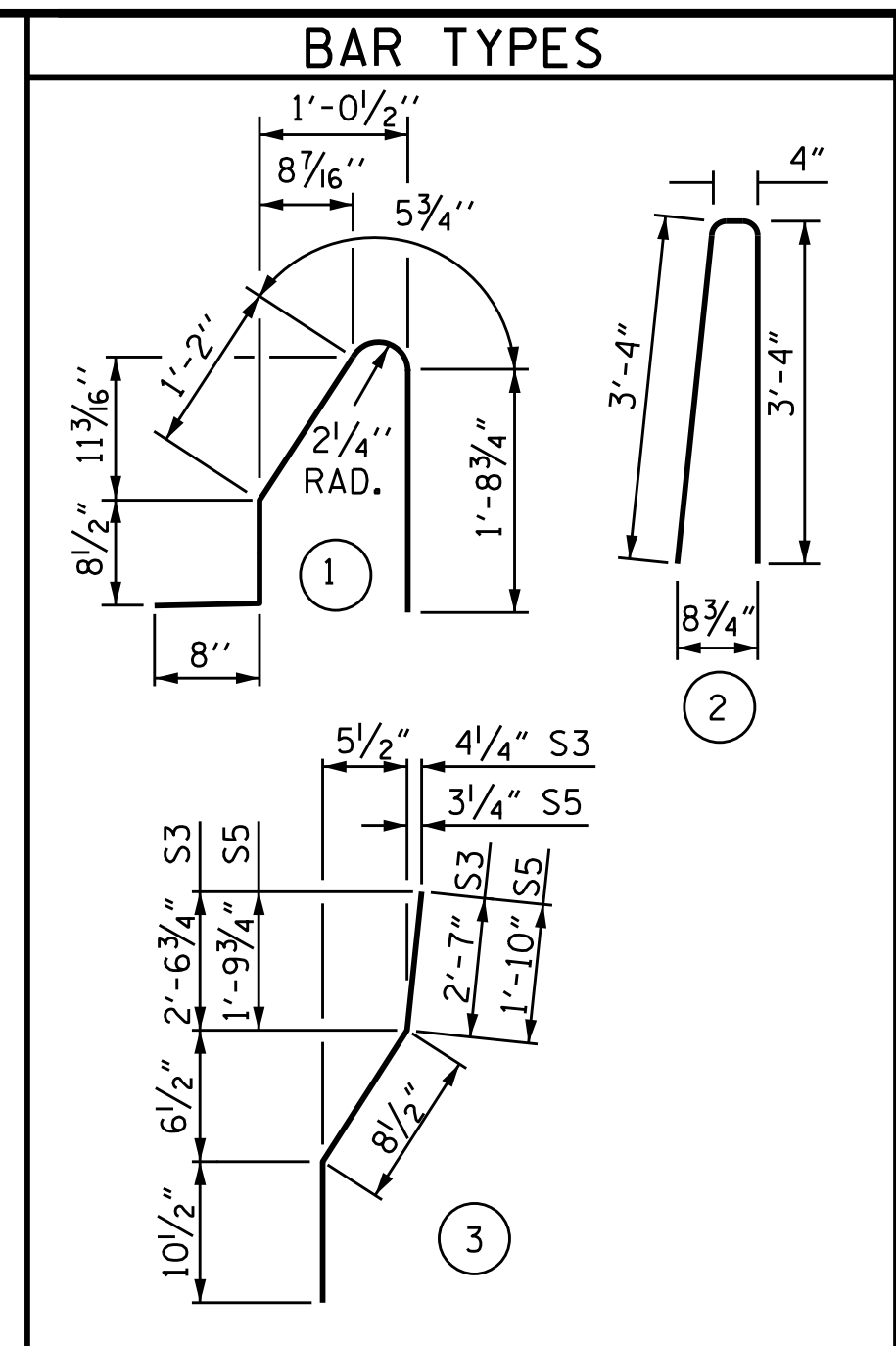
GROOVED CONTRACTION JOINTS, 1/2" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE BARRIER RAIL AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. THE CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN BARRIER RAIL EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS 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.



SECTION THRU RAIL



ELEVATION AT EXPANSION JOINTS  
BARRIER RAIL DETAILS



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL  
FOR CONCRETE BARRIER RAIL ONLY

| BAR NO. | SIZE | TYPE    | LENGTH  | WEIGHT |
|---------|------|---------|---------|--------|
| * B1    | 132  | #5 STR. | 27'-6"  | 3786   |
| * B2    | 11   | #5 STR. | 10'-10" | 124    |
| * B3    | 11   | #5 STR. | 10'-6"  | 120    |
| * B4    | 11   | #5 STR. | 27'-0"  | 310    |
| * B5    | 11   | #5 STR. | 27'-4"  | 314    |
| * S1    | 403  | #5      | 1 4'-9" | 1997   |
| * S2    | 403  | #5      | 2 7'-0" | 2942   |
| * S3    | 4    | #5      | 3 4'-2" | 17     |
| * S4    | 4    | #5 STR. | 4'-0"   | 17     |
| * S5    | 8    | #5      | 3 3'-5" | 29     |
| * S6    | 8    | #5 STR. | 3'-3"   | 27     |

\* EPOXY COATED REINFORCING STEEL 9,683 LBS.  
CLASS AA CONCRETE 56.3 CU. YDS.  
CONCRETE BARRIER RAIL 413.6 LIN. FT.

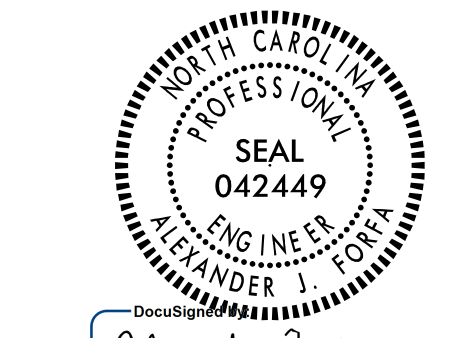
PROJECT NO. BR-0033  
McDOWELL COUNTY  
STATION: 16+11.51 -L-

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

ASSEMBLED BY : N. ROHBAUGH DATE : 05/21  
CHECKED BY : A. FORFA DATE : 07/21  
DRAWN BY : ARB 5/87 REV. 7/12 MAA/GM  
CHECKED BY : SJD 9/87 REV. 6/13 MAA/GM  
REV. 12/17 MAA/THC



8000 Regency Parkway  
Suite 175  
Cary, NC 27518  
984-275-2490  
benesch.com  
NC License No. F-1320



DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

| REVISIONS |     |       |     |     |       | SHEET NO.       |
|-----------|-----|-------|-----|-----|-------|-----------------|
| NO.       | BY: | DATE: | NO. | BY: | DATE: | S-18            |
| 1         |     |       | 3   |     |       | TOTAL SHEETS 32 |
| 2         |     |       | 4   |     |       |                 |