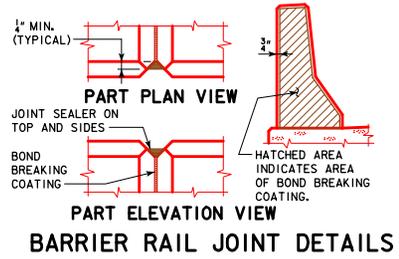
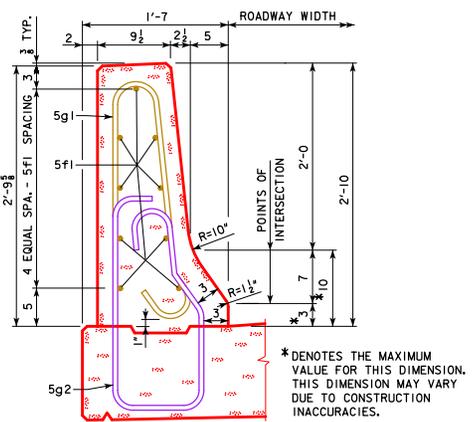
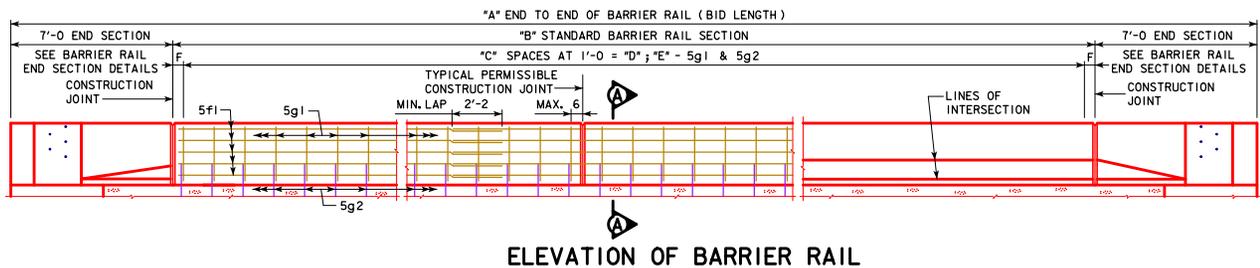


REVISED 08-2020: UPDATED BRIDGE ENGINEER SIGNATURE. REMOVED NOTE STATING "ALL BARRIER RAIL REINFORCING STEEL IS TO BE INCLUDED WITH THE SUPERSTRUCTURE REINFORCING STEEL".

TABLE OF BARRIER RAIL DIMENSIONS AND NUMBERS

| BRIDGE LENGTH OR NUMBER | 70'-0" | | | | 80'-0" | | | | 90'-0" | | | | 100'-0" | | | | 110'-0" | | | | 120'-0" | | | | 130'-0" | | | | 140'-0" | | | | 150'-0" | | | |
|----------------------------|--------|-----------|-----------|-------|--------|-----------|-----------|-------|--------|------------|------------|--------|---------|------------|------------|--------|---------|------------|------------|--------|---------|------------|------------|--------|---------|------------|------------|--------|---------|------------|------------|--------|---------|------------|------------|--------|
| | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° | 0° | 15° | 30° | 45° |
| A (FT.-IN.) | 81'-0 | 81'-1 1/4 | 81'-5 1/2 | 82'-3 | 91'-0 | 91'-1 1/4 | 91'-5 1/2 | 92'-3 | 101'-0 | 101'-1 1/4 | 101'-5 1/2 | 102'-3 | 111'-0 | 111'-1 1/4 | 111'-5 1/2 | 112'-3 | 121'-0 | 121'-1 1/4 | 121'-5 1/2 | 122'-3 | 131'-0 | 131'-1 1/4 | 131'-5 1/2 | 132'-3 | 141'-0 | 141'-1 1/4 | 141'-5 1/2 | 142'-3 | 151'-0 | 151'-1 1/4 | 151'-5 1/2 | 152'-3 | 161'-0 | 161'-1 1/4 | 161'-5 1/2 | 162'-3 |
| B (FT.-IN.) | 67'-0 | 67'-1 1/4 | 67'-5 1/2 | 68'-3 | 77'-0 | 77'-1 1/4 | 77'-5 1/2 | 78'-3 | 87'-0 | 87'-1 1/4 | 87'-5 1/2 | 88'-3 | 97'-0 | 97'-1 1/4 | 97'-5 1/2 | 98'-3 | 107'-0 | 107'-1 1/4 | 107'-5 1/2 | 108'-3 | 117'-0 | 117'-1 1/4 | 117'-5 1/2 | 118'-3 | 127'-0 | 127'-1 1/4 | 127'-5 1/2 | 128'-3 | 137'-0 | 137'-1 1/4 | 137'-5 1/2 | 138'-3 | 147'-0 | 147'-1 1/4 | 147'-5 1/2 | 148'-3 |
| C | 66 | 66 | 66 | 67 | 76 | 76 | 76 | 77 | 86 | 86 | 86 | 87 | 96 | 96 | 96 | 97 | 106 | 106 | 106 | 107 | 116 | 116 | 116 | 117 | 126 | 126 | 126 | 127 | 136 | 136 | 136 | 137 | 146 | 146 | 146 | 147 |
| D (FT.-IN.) | 66'-0 | 66'-0 | 66'-0 | 67'-0 | 76'-0 | 76'-0 | 76'-0 | 77'-0 | 86'-0 | 86'-0 | 86'-0 | 87'-0 | 96'-0 | 96'-0 | 96'-0 | 97'-0 | 106'-0 | 106'-0 | 106'-0 | 107'-0 | 116'-0 | 116'-0 | 116'-0 | 117'-0 | 126'-0 | 126'-0 | 126'-0 | 127'-0 | 136'-0 | 136'-0 | 136'-0 | 137'-0 | 146'-0 | 146'-0 | 146'-0 | 147'-0 |
| E | 67 | 67 | 67 | 68 | 77 | 77 | 77 | 78 | 87 | 87 | 87 | 88 | 97 | 97 | 97 | 98 | 107 | 107 | 107 | 108 | 117 | 117 | 117 | 118 | 127 | 127 | 127 | 128 | 137 | 137 | 137 | 138 | 147 | 147 | 147 | 148 |
| F (IN.) | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 | 6 | 6 5/8 | 8 1/2 | 7 1/2 |



BARRIER RAIL NOTES:

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

THE PERMISSIBLE CONSTRUCTION JOINTS ARE TO BE PLACED BETWEEN VERTICAL BARS AT A MINIMUM SPACING OF 20 FEET. CONSTRUCTION JOINT CONTACT SURFACES ARE TO BE COATED WITH AN APPROVED BOND BREAKER.

COST OF THE JOINT SEALER AND BOND BREAKER SHALL BE CONSIDERED INCIDENTAL TO OTHER CONSTRUCTION.

THE CONCRETE BARRIER RAIL IS TO BE BID ON A LINEAL FOOT BASIS. THE NUMBER OF LINEAL FEET OF BARRIER RAIL INSTALLED WILL BE PAID FOR AT THE CONTRACT PRICE PER LINEAL FOOT BASED ON PLAN QUANTITIES. PRICE BID FOR "CONCRETE BARRIER RAILING" SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIAL, EXCLUDING REINFORCING STEEL, AND ALL OF THE EQUIPMENT AND LABOR REQUIRED TO ERECT THE RAIL IN ACCORDANCE WITH THESE PLANS AND CURRENT SPECIFICATIONS.

IF CONDUIT IS REQUIRED IN THIS PLAN THE RIGID STEEL CONDUIT, JUNCTION BOXES AND FITTINGS INCLUDING LABOR AND ANY ADDITIONAL WORK TO DO THE INSTALLATION IS CONSIDERED INCIDENTAL TO THE COST OF THE RAILING.

THE JOINT SEALER SHALL BE LIGHT GRAY NONSAG LATEX CAULKING SEALER MARKETED FOR OUTDOOR USE. NO TESTING OR CERTIFICATION IS REQUIRED.

TOP OF THE BARRIER RAIL IS TO BE PARALLEL TO THE THEORETICAL $\frac{1}{2}$ GRADE.

CROSS SECTIONAL AREA OF THE STANDARD SECTION OF THE BARRIER RAIL = 2.84 SQUARE FEET.

ALL BARRIER RAIL REINFORCING STEEL IS TO BE EITHER EPOXY COATED OR STAINLESS STEEL AS SHOWN OR NOTED. THE STAINLESS STEEL REINFORCING STEEL SHALL BE DEFORMED BAR GRADE 60 MEETING THE REQUIREMENTS OF MATERIALS 1M.452.

CONCRETE BARRIER RAILS PLACED USING THE SLIPFORM METHOD WILL REQUIRE THE USE OF A CLASS BR CONCRETE IN ACCORDANCE WITH ARTICLE 2513.03, A, 2, OF THE STANDARD SPECIFICATION. CAST-IN-PLACE BARRIER RAILS SHALL USE CLASS C MIX. CLASS D CONCRETE IS NOT PERMITTED FOR CONCRETE BARRIER RAILS (CAST-IN-PLACE OR SLIPFORMED METHOD).

| | | |
|---------------------------------|---------------------------------|--|
| 08-2020 LATEST REVISION DATE | APPROVED BY BRIDGE ENGINEER | STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES <h2 style="margin: 0;">CONTINUOUS CONCRETE SLAB BRIDGES</h2> JULY, 2014 |
| BARRIER RAIL DETAILS | | J40-45-14 |