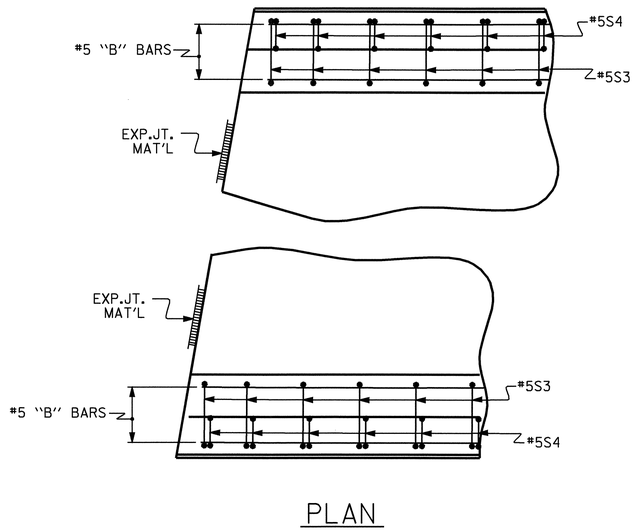
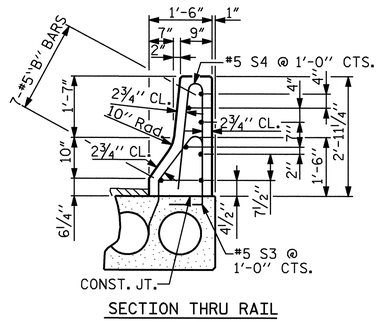
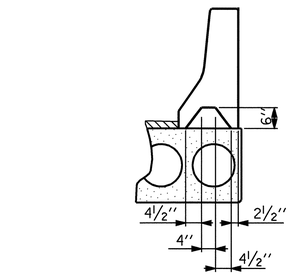
GRADE 270 STRANDS	
	1/2" Ø L.R.
AREA (SQUARE INCHES)	0.153
ULTIMATE STRENGTH (LBS. PER STRAND)	41,300
APPLIED PRESTRESS (LBS. PER STRAND)	30,980



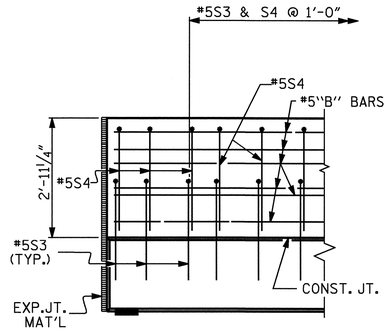
PLAN



SECTION THRU RAIL

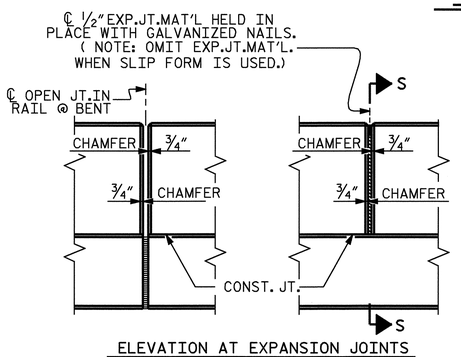


SECTION S-S
AT DAM IN OPEN JOINT
(THIS IS TO BE USED ONLY WHEN SLIP FORM IS USED)



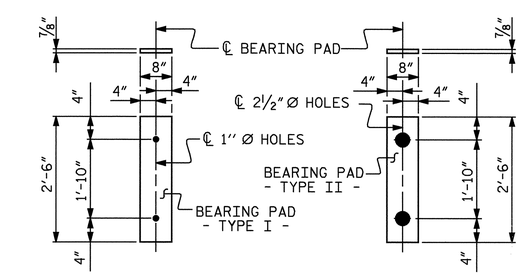
SIDE VIEW

BARRIER RAIL - END OF RAIL DETAILS



ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS



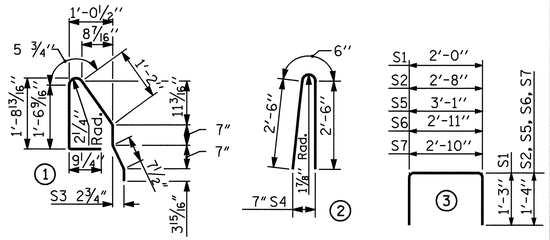
FIXED END
(TYPE I - 33 REQ'D)

EXPANSION END
(TYPE II - 33 REQ'D)

ELASTOMERIC BEARING DETAILS

ASSEMBLED BY : H.T.BARBOUR	DATE : 7-16-04
CHECKED BY : D. A. DAVENPORT	DATE : 7-04
DRAWN BY : WJH 4/89	REV. 6/16/95 EEM/RGW
CHECKED BY : FCJ 5/89	REV. 2/6/97 EEM/RGW
	REV. 8/16/99 RWW/LES

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION- SPANS A & C

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B1	2	#4	STR	23'-2"	31	23'-2"	31
S1	8	#4	3	4'-6"	24	4'-6"	24
S2	38	#4	3	5'-4"	135	5'-4"	135
✳S3	24	#5	1	5'-6"	138		
S5	4	#4	3	5'-9"	15	5'-9"	15
S6	4	#4	3	5'-7"	15	5'-7"	15
S7	4	#4	3	5'-6"	15	5'-6"	15
REINFORCING STEEL				LBS.	235		235
✳EPOXY COATED REINFORCING STEEL				LBS.	138		
5,000 P.S.I. CONCRETE				CU. YDS.	3.5		3.5
½" Ø L.R. STRANDS			No.		12		12

BILL OF MATERIAL FOR ONE CORED SLAB SECTION- SPAN B

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	#4	STR	25'-8"	69	25'-8"	69
S1	8	#4	3	4'-6"	24	4'-6"	24
S2	90	#4	3	5'-4"	321	5'-4"	321
✳S3	50	#5	1	5'-6"	287		
S5	4	#4	3	5'-9"	15	5'-9"	15
S6	4	#4	3	5'-7"	15	5'-7"	15
S7	4	#4	3	5'-6"	15	5'-6"	15
REINFORCING STEEL				LBS.	390		390
✳EPOXY COATED REINFORCING STEEL				LBS.	287		
5,000 P.S.I. CONCRETE				CU. YDS.	7.2		7.2
½" Ø L.R. STRANDS			No.		23		23

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203 EXCEPT FOR SAMPLING REQUIREMENTS WHICH SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

ALL REINFORCING STEEL CAST WITH THE CORED SLAB SECTIONS SHALL BE GRADE 60 AND SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR CONSTRUCTION OF SUPERSTRUCTURE.

RECESSES FOR TRANSVERSE STRANDS SHALL BE GROUTED AFTER THE TENSIONING OF THE STRANDS.

THE 2½" DIA. DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 2 1/2" DIA. DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1 1/2" ABOVE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE SL LOW MODULUS SILICONE SEALANT. THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

WHEN CORED SLABS ARE CAST, A POSITIVE HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. THIS SYSTEM SHALL BE DESIGNED TO BE LEFT IN PLACE UNTIL THE CONCRETE HAS REACHED RELEASE STRENGTH. AT LEAST THREE WEEKS PRIOR TO CASTING CORED SLABS, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND COMMENT, DETAILED DRAWINGS OF THE PROPOSED HOLD-DOWN SYSTEM. IN ADDITION TO STRUCTURAL DETAILS, LOCATION AND SPACING OF THE HOLD-DOWNS SHALL BE INDICATED.

THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE CORED SLAB UNIT SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

PRESTRESSING STRANDS SHALL BE CUT FLUSH WITH THE CORED SLAB UNIT ENDS.

FOR ELASTOMERIC BEARING, SEE SPECIAL PROVISIONS.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

VERTICAL GROOVED CONTRACTION JOINTS, ½" 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. A VERTICAL 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.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

CORED SLABS REQUIRED

	NUMBER PER SPAN	LENGTH			TOTAL LENGTH
		SPAN A	SPAN B	SPAN C	
EXTERIOR C.S.	2	23'-7½"	49'-10¼"	23'-7½"	
INTERIOR C.S.	9	23'-7½"	49'-10¼"	23'-7½"	
TOTAL	11	259'-10½"	548'-4¾"	259'-10½"	1068'-1¾"

DEAD LOAD DEFLECTION AND CAMBER

	SPANS A & C		SPAN B	
	EXT.UNITS	INT. UNITS	EXT.UNITS	INT. UNITS
	3'-0" x 1'-9"	3'-0" x 1'-9"	3'-0" x 1'-9"	3'-0" x 1'-9"
	½" Ø L.R. STRAND	½" Ø L.R. STRAND	½" Ø L.R. STRAND	½" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	5/16" ↑	5/16" ↑	2 1/16" ↑	2 1/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	0	0	⅜" ↓	⅜" ↓
FINAL CAMBER	5/16" ↑	5/16" ↑	1¾" ↑	1¾" ↑

** INCLUDES FUTURE WEARING SURFACE

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL

BAR	BARS PER SPAN			TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	SPAN A	SPAN B	SPAN C					
✳B2	56		56	112	#5	STR	7'-4"	857
✳B4		56		56	#5	STR	13'-11"	813
✳S4	48	100	48	196	#5	2	5'-6"	1124
✳EPOXY COATED REINFORCING STEEL				LBS.				2794
CLASS AA CONCRETE				CU.YDS.				22.4
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								194.80

NORTH CAROLINA PROFESSIONAL SEAL 10730 ENGINEER D. ANDREW DAVENPORT, JR.

PROJECT NO. B-4260
RUTHERFORD COUNTY
STATION: 16+23.47-L-
SHEET 5 OF 5

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT

REVISIONS					SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-8
1			3			TOTAL SHEETS 22
2			4			

STR. #1