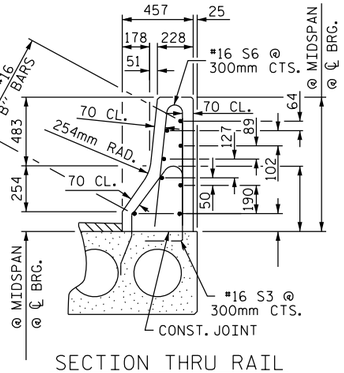
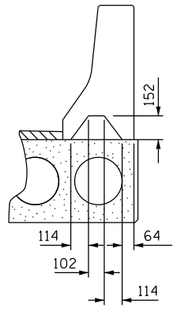
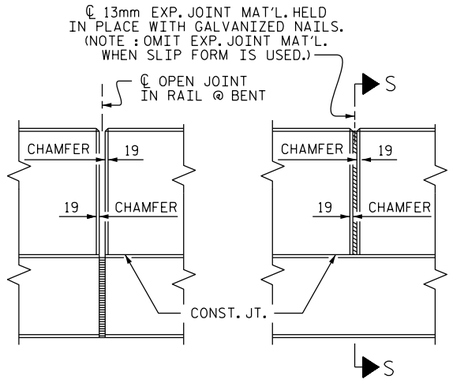


SECTION THRU RAIL



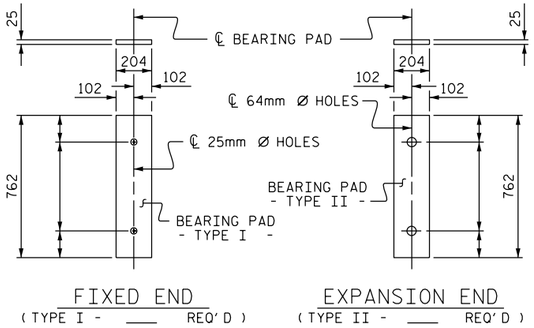
SECTION S-S

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



ELEVATION AT EXPANSION JOINTS

BARRIER RAIL DETAILS



FIXED END
(TYPE I - ___ REQ'D)

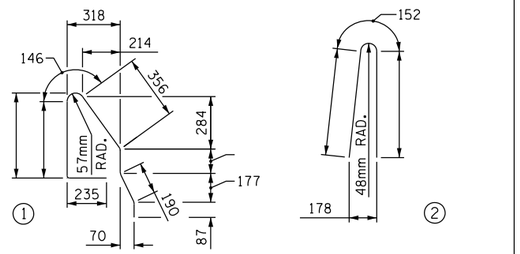
EXPANSION END
(TYPE II - ___ REQ'D)

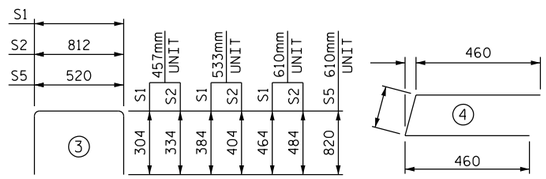
ELASTOMERIC BEARING DETAILS

ELASTOMER IN BEARINGS FOR 457mm & 533mm CSU SHALL BE 50 DUROMETER HARDNESS.
ELASTOMER IN BEARINGS FOR 610mm CSU SHALL BE 60 DUROMETER HARDNESS.

ASSEMBLED BY :	DATE :
CHECKED BY :	DATE :
DRAWN BY : WJH 4/89	REV. 7/10/01 RWW/LES
CHECKED BY : FCJ 5/89	REV. 5/7/03RR RWW/JTE
	REV. 5/1/06R TLA/GM

BAR TYPES





ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB UNIT

610mm UNIT

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT LENGTH	EXTERIOR UNIT WEIGHT	INTERIOR UNIT LENGTH	INTERIOR UNIT WEIGHT
B1		#13	STR				
S1	8	#16	3				
S2		#13	3				
* S3		#16	1				
S4	4	#13	4				
S5	4	#16	3	2160			
REINFORCING STEEL kg							
* EPOXY COATED REINFORCING STEEL kg							
____ MPa CONCRETE CU. METERS							
15.24mm Ø L.R. STRANDS No.							

BILL OF MATERIAL FOR CONCRETE BARRIER RAIL

BAR	BARS PER SPAN				TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
		SPAN A	SPAN B	SPAN C					
* S6						#16	2		
* EPOXY COATED REINFORCING STEEL kg									
CLASS AA CONCRETE CU. METERS									
TOTAL LENGTH OF CONCRETE BARRIER RAIL METERS									

DEAD LOAD DEFLECTION AND CAMBER

	914mm x 457mm 15.24mm Ø L.R. STRAND	914mm x 533mm 15.24mm Ø L.R. STRAND	914mm x 610mm 15.24mm Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)			
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **			
FINAL CAMBER			

** INCLUDES FUTURE WEARING SURFACE

CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
EXTERIOR C.S.			
INTERIOR C.S.			
TOTAL			

NOTES

ALL PRESTRESSING STRANDS SHALL BE 7-WIRE LOW-RELAXATION GRADE 270 STRANDS AND SHALL CONFORM TO AASHTO M203M 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 420 AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

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

THE 64mm Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 64mm Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 38mm ABOVE THE 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 51mm 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, AN INTERNAL HOLD-DOWN SYSTEM SHALL BE EMPLOYED TO PREVENT VOIDS FROM RISING OR MOVING SIDEWAYS. AT LEAST SIX 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.

WHEN A CONCRETE WEARING SURFACE IS DETAILED ON THE CORED SLAB BRIDGE TYPICAL SECTION, THE TOP SURFACE OF THE CORED SLAB UNITS SHALL HAVE A 10mm RAKED FINISH.

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 ____ MPa.

ALL REINFORCING STEEL IN BARRIER RAILS SHALL BE EPOXY COATED.

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

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS.

GROOVED CONTRACTION JOINTS, 12mm 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 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 6.1m IN LENGTH AND NO CONTRACTION JOINTS ARE REQUIRED FOR THOSE SEGMENTS LESS THAN 3.0m IN LENGTH.

TRANSVERSE POST TENSIONING OF THE CORED SLAB UNITS SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS, EXCEPT THAT THE STRANDS SHALL BE 15.24mm Ø AND TENSIONED TO 195.5 kN.

610mm UNIT

MAINTAIN A SYMMETRIC TENSION FORCE BETWEEN EACH PAIR OF TRANSVERSE POST TENSIONING STRANDS IN THE DIAPHRAGM.

THE #13 S2 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 25mm CLEAR TO GROUTED RECESS.

GRADE 270 STRANDS

	15.24mm Ø L.R.
AREA (mm^2)	140.00
ULTIMATE STRENGTH (kN PER STRAND)	260.7
APPLIED PRESTRESS (kN PER STRAND)	195.5

PROJECT NO. _____

_____ COUNTY

STATION: _____

SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD 914mm X mm PRESTRESSED CONCRETE CORED SLAB UNIT

REVISIONS NO.	BY:	DATE:	NO.	BY:	DATE:	SHEET NO.
1			3			TOTAL SHEETS
2			4			

STD. NO. PCS3SM