

**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 UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

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

THE 2 1/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH GROUT. THE 2 1/2" Ø DOWEL HOLES AT EXPANSION ENDS OF SLAB SECTIONS SHALL BE FILLED WITH JOINT SEALER MATERIAL TO 1/2" 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 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.

APPLY EPOXY PROTECTIVE COATING TO CORED SLAB UNIT ENDS. FOR EPOXY PROTECTIVE COATING, SEE SPECIAL PROVISIONS.

VERTICAL 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. 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 ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

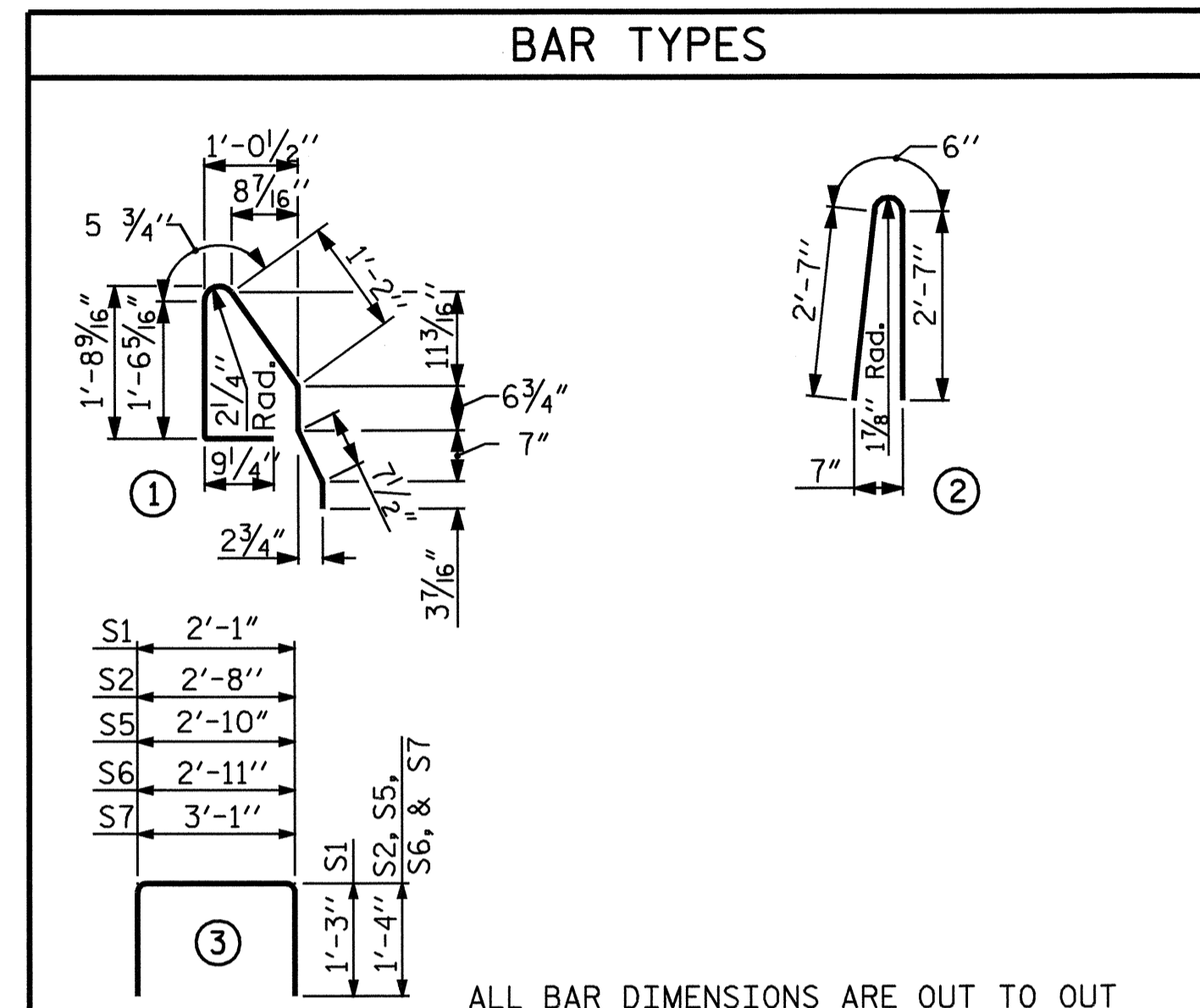
ALL ELASTOMERIC BEARINGS SHALL BE 60 DUROMETER HARDNESS.

FOR PRESTRESSED CONCRETE MEMBERS, SEE SPECIAL PROVISIONS.

DEAD LOAD DEFLECTION AND CAMBER		
	SPANS A & C	SPAN B
	3'-0" x 1'-9"	3'-0" x 1'-9"
	1/2" Ø L.R. STRAND	1/2" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1/16" ↑	2/16" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/16" ↓	5/16" ↓
FINAL CAMBER	3/8" ↑	1 3/4" ↑

\*\*INCLUDES FUTURE WEARING SURFACE

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



ALL BAR DIMENSIONS ARE OUT TO OUT

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			112	# 5	STR	9'-0"	1,051
* B4		56		56	# 5	STR	14'-4"	837
* S4	58	100	58	216	# 5	2	5'-8"	1,277
* EPOXY COATED REINFORCING STEEL LBS.								3,165
CLASS AA CONCRETE CU.YDS.								24.4
TOTAL LIN. FT. OF CONCRETE BARRIER RAIL								214.21

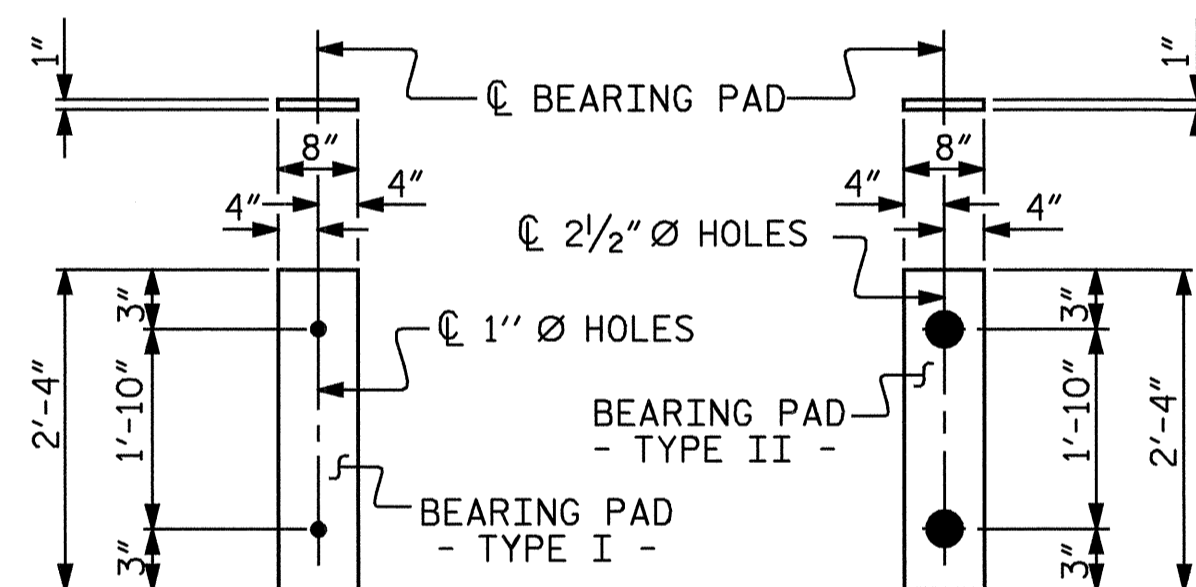
CORED SLABS REQUIRED				
		NUMBER	LENGTH	TOTAL LENGTH
SPAN A	EXTERIOR C.S.	2	28'-7 1/2"	57'-3"
	INTERIOR C.S.	7	28'-7 1/2"	200'-4 1/2"
SPAN B	EXTERIOR C.S.	2	49'-10 1/4"	99'-8 1/2"
	INTERIOR C.S.	7	49'-10 1/4"	348'-11 3/4"
SPAN C	EXTERIOR C.S.	2	28'-7 1/2"	57'-3"
	INTERIOR C.S.	7	28'-7 1/2"	200'-4 1/2"
TOTAL		27		963.94'

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

BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B1	2	# 4	STR	28'-3"	38	28'-3"	38
S1	8	# 5	3	4'-7"	38	4'-7"	38
S2	48	# 4	3	5'-4"	171		
S2	38	# 4	3			5'-4"	135
* S3	29	# 5	1	5'-5"	164		
S5	4	# 4	3	5'-6"	15	5'-6"	15
S6	4	# 4	3	5'-7"	15	5'-7"	15
S7	4	# 4	3	5'-9"	15	5'-9"	15
REINFORCING STEEL LBS.					292		256
* EPOXY COATED REINFORCING STEEL LBS.					164		
5,000 P.S.I. CONCRETE C.Y.					4.2		4.2
1/2" Ø L.R. STRANDS No.					12		12

**BILL OF MATERIAL FOR ONE CORED SLAB SECTION SPAN B**

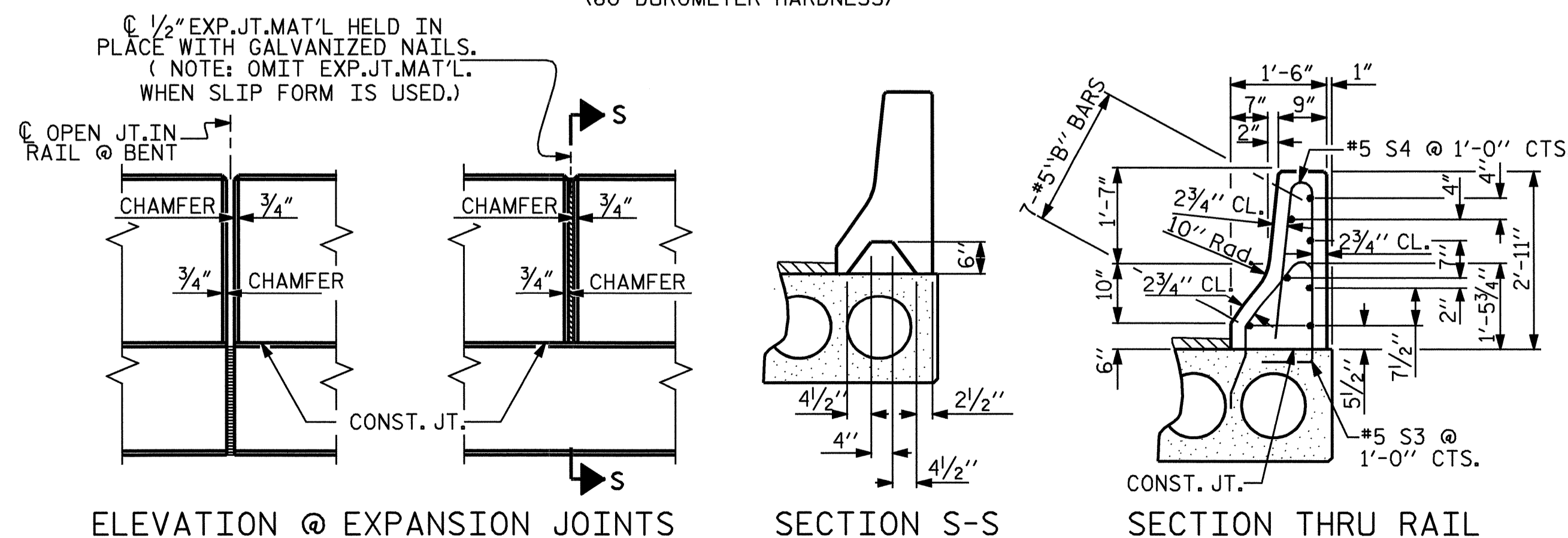
BAR	NUMBER	SIZE	TYPE	EXTERIOR UNIT		INTERIOR UNIT	
				LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	# 4	STR	26'-0"	69	26'-0"	69
S1	8	# 5	3	4'-7"	38	4'-7"	38
S2	90	# 4	3	5'-4"	321		
S2	72	# 4	3			5'-4"	257
* S3	50	# 5	1	5'-5"	282		
S5	4	# 4	3	5'-6"	15	5'-6"	15
S6	4	# 4	3	5'-7"	15	5'-7"	15
S7	4	# 4	3	5'-9"	15	5'-9"	15
REINFORCING STEEL LBS.					473		409
* EPOXY COATED REINFORCING STEEL LBS.					282		
5,000 P.S.I. CONCRETE C.Y.					8.1		8.1
1/2" Ø L.R. STRANDS No.					23		23



FIXED END (TYPE I - 27 REQ'D) EXPANSION END (TYPE II - 27 REQ'D)

**ELASTOMERIC BEARING DETAILS**

(60 DUROMETER HARDNESS)



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

**BARRIER RAIL DETAILS**

ASSEMBLED BY: A.R.CHESSON	DATE: 8-04
CHECKED BY: MIKE BRITT	DATE: 10-15-04
DRAWN BY: WJH 4/89	REV. 10/17/00 RWW/LES
CHECKED BY: FCJ 5/89	REV. 7/10/01 RWW/LES
	REV. 5/7/03R RWW/JTE

PROJECT NO. B-3709  
WATAUGA COUNTY  
 STATION: 16+99.00 -L-

SHEET 5 OF 5

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH  
**STANDARD**  
 3'-0" X 1'-9"  
 PRESTRESSED  
 CONCRETE CORED  
 SLAB UNIT

OCTOBER 1981

REVISIONS						SHEET NO. S-8
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			TOTAL SHEETS 23
2			4			

