FIXED END (TYPE I - 26 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT						
	ASPHALT OVERLAY THICKNESS RAIL HEIGH					
	@ MID-SPAN @ MID-SP.					
70' UNITS	2″	3′-8″				

'2″CL. | MIN.

∕—#5 S13

	BI	LL OF	MATE	RIAL FO	OR ONE	70' CORE	ED SLAB	UNIT	
		EXTERIOR UNITS C.S.U. #1 & #13		INTERIOR UNITS C.S.U. #2-#6 & #8-#12		INTERIOR UNIT C.S.U. #7			
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	24'-6"	98	24'-6"	98	24'-6"	98
S10	8	#5	3	4'-9"	40	4'-9"	40	4'-9"	40
S11	144	#4	3	5′-10″	561	5′-10″	561	5′-10″	561
* S12	79	#5	1	5′-7″	460				
S14	4	#4	3	5′-7″	15	5′-7″	15	5′-7″	15
S15	4	#5	3	7′-1″	30	7'-1"	30	7′-1″	30
REINFORCING STEEL LBS			S. 744		744		744		
* EPOXY COATED REINFORCING STEEL LBS. 460									
8000	P.S.I.CO	NCRETE	CU. YDS) _n	11.9		11.8		12.9
0.6"Ø	L.R. STR	ANDS	No),	27		27		27

CORED SLABS REQUIRED						
STAGE NUMBER			LENGTH	TOTAL LENGTH		
	EXTERIOR C.S.	1	70′-0″	70′-0″		
1	INTERIOR C.S.	5	70′-0″	350′-0″		
	INTERIOR C.S. W/ 10"Ø VOIDS	1	70′-0″	70'-0"		
	TOTAL	7	—	490'-0"		
	EXTERIOR C.S.	1	70′-0″	70′-0″		
2	INTERIOR C.S.	5	70′-0″	350′-0″		
	TOTAL	6		420'-0"		

GRADE 270 STRANDS					
	0.6″Ø L.R.				
AREA (SQUARE INCHES)	0.217				
ULTIMATE STRENGTH (LBS.PER STRAND)	58,600				
APPLIED PRESTRESS (LBS.PER STRAND)	43,950				

DEAD LOAD DEFLECTION AN	ND CAMBE	:R
	3'-0" × 2'	-0"
70'CORED SLAB UNIT	0.6″Ø L.I STRAND	
CAMBER (SLAB ALONE IN PLACE)	2″	A
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	5/8″	ţ
FINAL CAMBER	13/8"	A
** INCLUDES FUTURE WEARING SURF	ACE	

BAR TYPES

6"

S15 1'-81/2"

S11 2'-8"

2′-7″

<u>1'-9"</u>

ALL BAR DIMENSIONS ARE OUT TO OUT

73/4"

BILL OF MATERIAL FOR VERTICAL CONCRETE BARRIER RAIL						
BAR	BARS PER PAIR OF EXTERIOR UNITS	TOTAL NO.	SIZE	TYPE	LENGTH	WEIGHT
	70' UNIT					
 ₩B25	60	60	#5	STR	22'-11"	1434
 ★S13	158	158	#5	2	7′-2″	1181
* EPOXY COATED REINFORCING STEEL				LBS.		2615
CLASS AA CONCRETE				CU.YDS.	1	18.1
TOTAL VERTICAL CONCRETE BARRIER RAIL				LN. FT.		140.13

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

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

PRESTRESSED CONCRETE CORED SLABS.

THE 21/2" Ø DOWEL HOLES AT FIXED ENDS OF SLAB SECTIONS SHALL BE FILLED WITH NON-SHRINK GROUT.

BOND BREAKER. SEE SECTION 1028 OF THE STANDARD SPECIFICATIONS.

THE BACKER RODS SHALL CONFORM TO THE REQUIREMENTS OF TYPE M

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.

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 5500 PSI.

ALL REINFORCING STEEL IN VERTICAL CONCRETE 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.

GROOVED CONTRACTION JOINTS, $\frac{1}{2}$ " 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 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.

FLAME CUTTING OF THE TRANSVERSE POST-TENSIONING STRAND IS NOT ALLOWED.

THE #4 S11 STIRRUPS MAY BE SHIFTED AS NECESSARY TO MAINTAIN 1" CLEAR TO THE GROUTED RECESS.

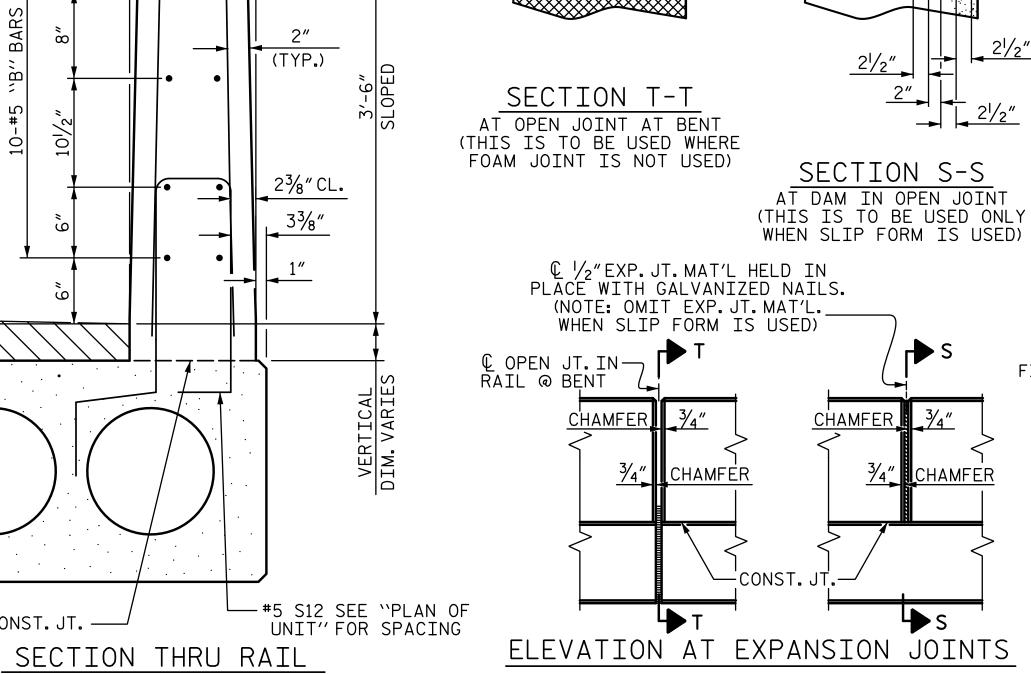
FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.

THE PERMITTED THREADED INSERTS ARE DETAILED AS AN OPTION FOR THE CONTRACTOR TO ATTACH FALSEWORK AND FORMWORK DURING CONSTRUCTION.

THE PERMITTED THREADED INSERTS IN THE EXTERIOR UNITS SHALL BE SIZED BY THE CONTRACTOR. SPACED AT 4'-0" CENTERS AND GALVANIZED IN ACCORDANCE WITH SECTION 1076 OF THE STANDARD SPECIFICATIONS. STAINLESS STEEL THREADED INSERTS MAY BE USED AS AN ALTERNATE.

THE PERMITTED THREADED INSERTS SHALL BE GROUTED BY THE CONTRACTOR IMMEDIATELY FOLLOWING REMOVAL OF THE FALSEWORK.

THE COST OF THE PERMITTED THREADED INSERTS SHALL BE INCLUDED IN THE PRICE BID FOR THE PRECAST UNITS.



GROUT-

VERTICAL CONCRETE BARRIER RAIL DETAILS

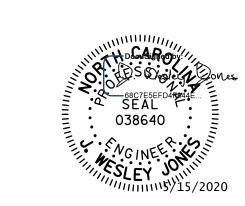
4-#5 S12 6" 4-#5 S12 #5 S12 & S13 & S13 @ & S13 @ FIELD BEND — "B" BARS 6"CTS. FIELD CUT FIELD CUT-#5 S13 #5 S12-FIELD-CUT #5 S13 CONST. JT.

2'-0"

END VIEW

SIDE VIEW

END OF RAIL DETAILS



STV ENGINEERS, INC.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

BR-0126 PROJECT NO._ WILKES COUNTY 16+62.00 -L-STATION:

SHEET 4 OF 4

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

3'-0" X 2'-0" PRESTRESSED CONCRETE CORED SLAB UNIT (SPAN A)

REVISIONS SHEET NO. S-10 DATE: DATE: NO. BY: NO. BY: TOTAL SHEETS 23

3'-9^l/2" 'GUTTERLINE / RAIL HEIGHT'

VARIES (THICKNE

DRAWN BY : LAH _ DATE : <u>11-19</u> ___ DATE : <u>3-20</u> JWJ DESIGN ENGINEER OF RECORD : JWJ DATE : 5-20

CONST. JT. ——