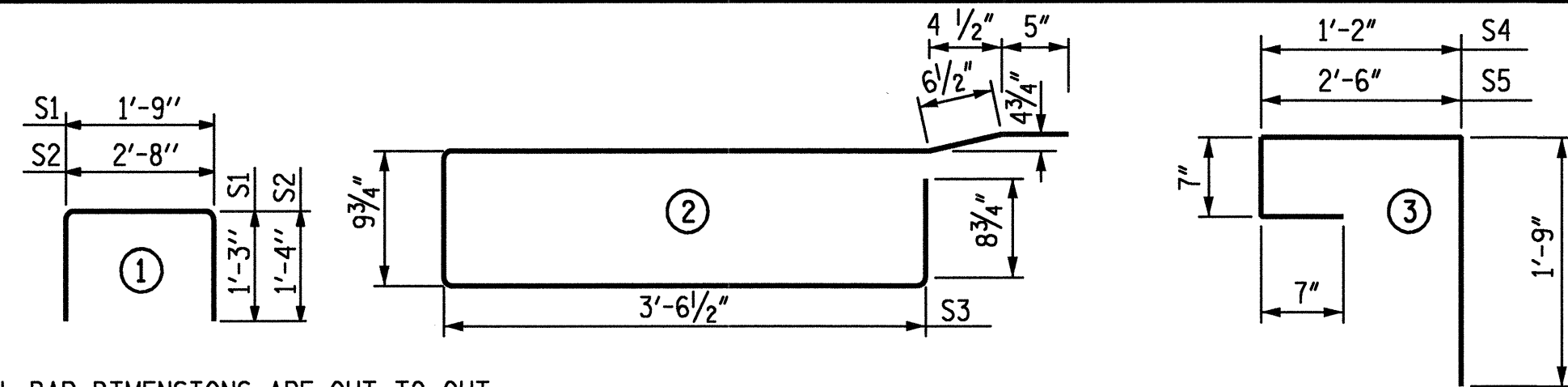


BAR TYPES

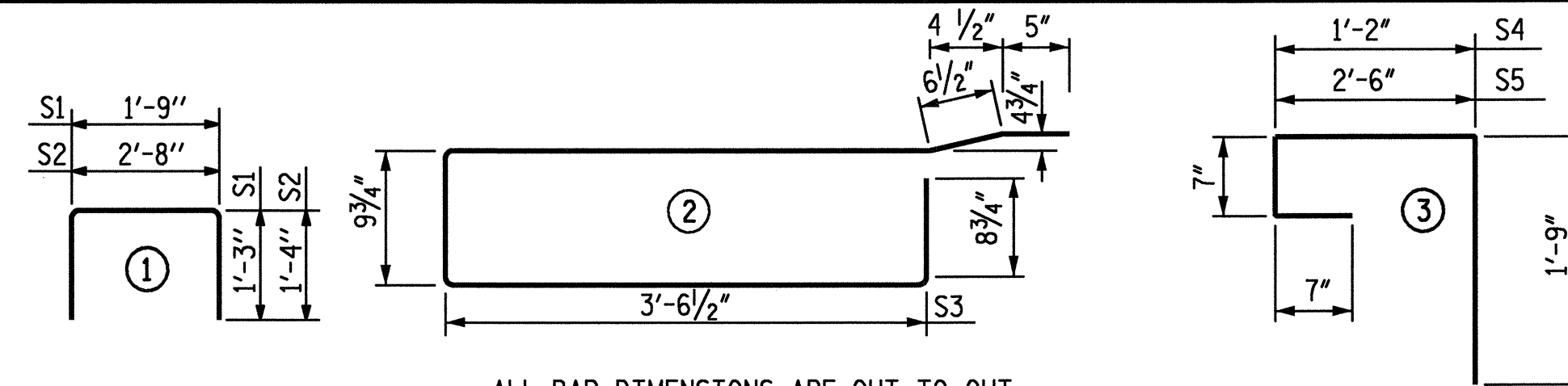


ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR NUMBER	SIZE	TYPE	SPAN A & C							
			UNIT 1	UNIT 2	UNITS 3 THRU 17	UNIT 18				
B1	4	#4 STR	20'-10"	56	20'-10"	56	20'-10"	56	20'-10"	56
S1	8	#4	4'-3"	23	4'-3"	23	4'-3"	23	4'-3"	23
S2	78	#4	5'-4"	278	5'-4"	278	5'-4"	278	5'-4"	278
* S3	78	#5	9'-7"	390			9'-7"	390		
* S4	7	#4	4'-1"	19						
* S5	7	#4			5'-5"	25				
REINFORCING STEEL			357 LBS.		357 LBS.		357 LBS.		357 LBS.	
* EPOXY COATED REINF. STEEL			409 LBS.		25 LBS.		0 LBS.		390 LBS.	
5000 P.S.I. CONCRETE			5.5 CU. YDS.		5.5 CU. YDS.		5.5 CU. YDS.		5.5 CU. YDS.	
1/2" L.R. STRANDS	NO.		14		14		14		14	

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE CORED SLAB SECTION

BAR NUMBER	SIZE	TYPE	SPAN B							
			UNIT 1	UNIT 2	UNITS 3 THRU 17	UNIT 18				
B2	4	#4 STR	25'-10"	69	25'-10"	69	25'-10"	69	25'-10"	69
S1	8	#4	4'-3"	23	4'-3"	23	4'-3"	23	4'-3"	23
S2	98	#4	5'-4"	349	5'-4"	349	5'-4"	349	5'-4"	349
* S3	98	#5	9'-7"	490			9'-7"	490		
* S4	8	#4	4'-1"	22						
* S5	8	#4			5'-5"	29				
REINFORCING STEEL			441 LBS.		441 LBS.		441 LBS.		441 LBS.	
* EPOXY COATED REINF. STEEL			512 LBS.		29 LBS.		0 LBS.		490 LBS.	
5000 P.S.I. CONCRETE			6.8 CU. YDS.		6.8 CU. YDS.		6.8 CU. YDS.		6.8 CU. YDS.	
1/2" L.R. STRANDS	NO.		21		21		21		21	

GRADE 270 STRANDS

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

CORED SLAB REQUIRED

SPAN A & C			
UNITS	NO.	LENGTH	TOTAL LENGTH
1	2	40'-0"	80'-0"
2	2	40'-0"	80'-0"
3 - 17	30	40'-0"	1200'-0"
18	2	40'-0"	80'-0"
TOTAL	36	—	1440'-0"

CORED SLAB REQUIRED

SPAN B			
UNITS	NO.	LENGTH	TOTAL LENGTH
1	1	50'-0"	50'-0"
2	1	50'-0"	50'-0"
3 - 17	15	50'-0"	750'-0"
18	1	50'-0"	50'-0"
TOTAL	18	—	900'-0"

DEAD LOAD DEFLECTION AND CAMBER

SPAN A & C	
3'-0" x 1'-9"	
1/2" L.R. STRAND	
CAMBER (SLAB ALONE IN PLACE)	0.891" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	0.119" ↓
FINAL CAMBER	0.772" ↑

** INCLUDES FUTURE WEARING SURFACE

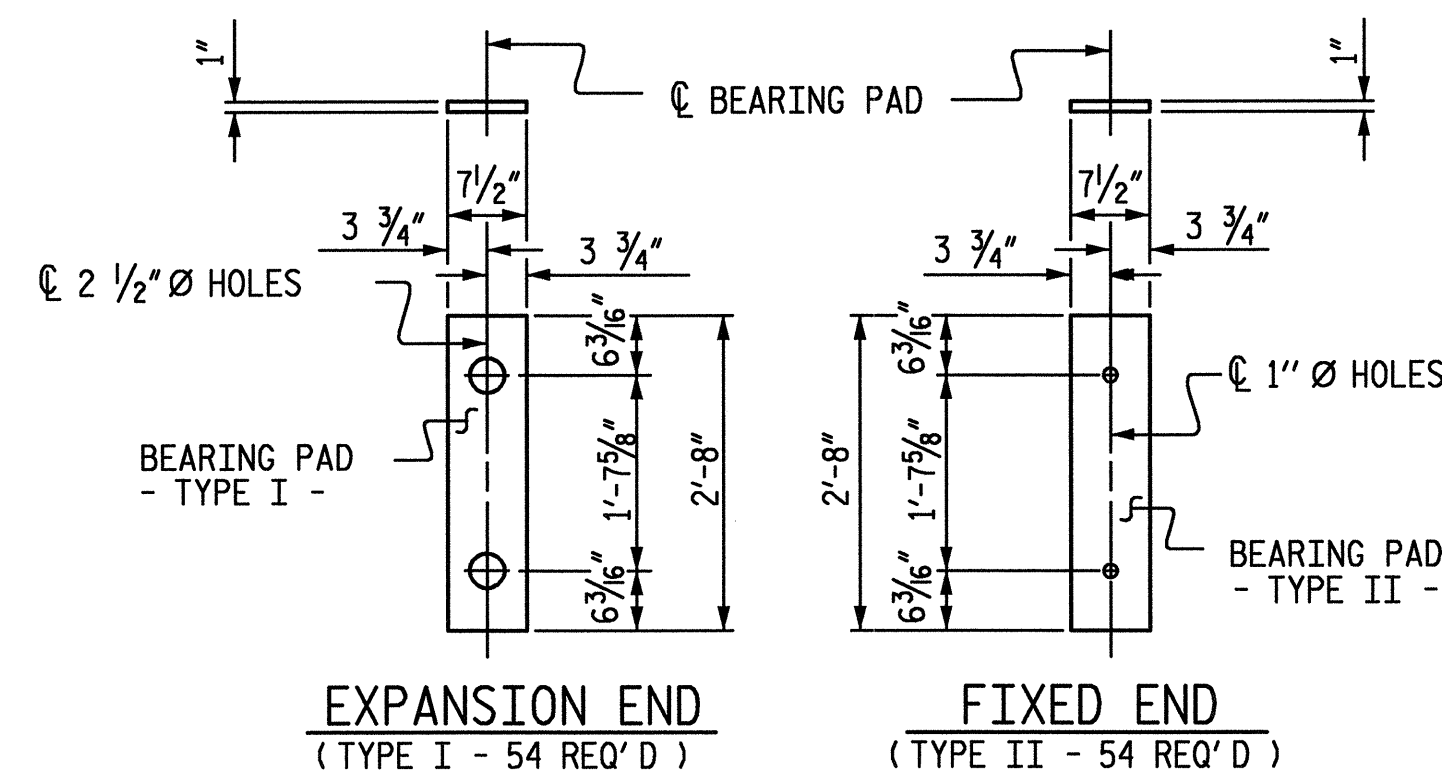
DEAD LOAD DEFLECTION AND CAMBER

SPAN B	
3'-0" x 1'-9"	
1/2" L.R. STRAND	
CAMBER (SLAB ALONE IN PLACE)	1.980" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	0.318" ↓
FINAL CAMBER	1.662" ↑

** INCLUDES FUTURE WEARING SURFACE

BILL OF MATERIAL FOR SIDEWALK

BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
* B3	10	#4	STR	20'-9"	139
* B4	10	#4	STR	25'-9"	172
* EPOXY COATED REINFORCING STEEL					311 LBS.
SIDEWALK CONCRETE VOLUME					19.7 CU. YDS.



ELASTOMERIC BEARING DETAILS

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DRAWN BY: J. PENDERGRAFT DATE: 2/05
CHECKED BY: J. DILWORTH DATE: 2/05

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 NCDOT 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 1/2" ABOVE THE TOP OF DOWELS AND THEN FILLED WITH GROUT.

THE JOINT SEALER MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF TYPE B LOW MODULUS SILICONE SEALANT. THE 2" Ø BACKER ROD SHALL CONFORM TO THE REQUIREMENTS OF TYPE M BOND BREAKER. THE 12" WIDE BOND BREAKING TAPE SHALL BE CENTERED OVER THE JOINT AND CONFORM TO THE REQUIREMENTS OF TYPE N BOND BREAKER. SEE SECTION 1028 OF THE NCDOT 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 BAR SUPPORTS AND REINFORCING STEEL IN PARAPETS AND SIDEWALKS AND ALL INCIDENTAL REINFORCING STEEL SHALL BE EPOXY COATED IN ACCORDANCE WITH THE NCDOT STANDARD SPECIFICATIONS.

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.

FOR ELASTOMERIC BEARINGS, SEE SPECIAL PROVISIONS.

ALL REINFORCING STEEL AND CONCRETE CAST WITH SIDEWALK SHALL BE GRADE 60 AND CLASS AA CONCRETE AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED CONCRETE CORED SLABS.

WBS. NO. 37017

WAKE COUNTY

STATION: 14+04.00 -L-

REPLACES BRIDGE NO. 133

SHEET OF

ETHERILL ENGINEERING
559 Jones Franklin Rd, Suite 164
Raleigh, N.C. 27606
Bus: 919 851 8077
Fax: 919 851 8107

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

STANDARD
3'-0" x 1'-9"
PRESTRESSED CORED
SLAB UNIT

REVISIONS						SHEET NO. S-13
NO.	BY	DATE	NO.	BY	DATE	
1			1			TOTAL SHEETS 23
2			2			