

FIXED END  
(TYPE I - 60 REQ'D)

## ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 60 DUROMETER HARDNESS.

### DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-9"
30' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE )	1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/8" ↓
FINAL CAMBER	1/8" ↑

\*\* INCLUDES FUTURE WEARING SURFACE

### DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 1'-9"
35' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE )	3/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	1/8" ↓
FINAL CAMBER	5/8" ↑

\*\* INCLUDES FUTURE WEARING SURFACE

### DEAD LOAD DEFLECTION AND CAMBER

	3'-0" x 2'-0"
75' CORED SLAB UNIT	0.6" Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE )	2 1/4" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD**	3/4" ↓
FINAL CAMBER	1 1/2" ↑

\*\* INCLUDES FUTURE WEARING SURFACE



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DRAWN BY : C.P. MALAGON	DATE : 08/2025
CHECKED BY : E.C. PHELPS	DATE : 08/2025
DESIGN ENGINEER OF RECORD: W.K. FISCHER	DATE : 09/2025

9/15/2025  
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cmalagon

### BILL OF MATERIAL FOR ONE 30' CORED SLAB UNIT

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B2	2	#4	STR	29'-7"	40	29'-7"	40
S1	8	#5	2	4'-6"	38	4'-6"	38
S2	62	#4	2	5'-4"	221	5'-4"	221
* S3	39	#5	1	6'-0"	244		
S5	4	#4	2	5'-5"	14	5'-5"	14
S6	4	#4	2	5'-6"	15	5'-6"	15
S7	4	#4	2	5'-7"	15	5'-7"	15
S8	4	#4	2	5'-9"	15	5'-9"	15
REINFORCING STEEL				LBS.		358	
* EPOXY COATED REINFORCING STEEL				LBS.		244	
5000 P.S.I. CONCRETE				CU. YDS.		4.5	
0.6" Ø L.R. STRANDS				No.		9	

### BILL OF MATERIAL FOR ONE 35' CORED SLAB UNIT

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B3	4	#4	STR	18'-3"	49	18'-3"	49
S1	8	#5	2	4'-6"	38	4'-6"	38
S2	72	#4	2	5'-4"	257	5'-4"	257
* S3	44	#5	1	6'-0"	275		
S5	4	#4	2	5'-5"	14	5'-5"	14
S6	4	#4	2	5'-6"	15	5'-6"	15
S7	4	#4	2	5'-7"	15	5'-7"	15
S8	4	#4	2	5'-9"	15	5'-9"	15
REINFORCING STEEL				LBS.		403	
* EPOXY COATED REINFORCING STEEL				LBS.		275	
5000 P.S.I. CONCRETE				CU. YDS.		5.2	
0.6" Ø L.R. STRANDS				No.		13	

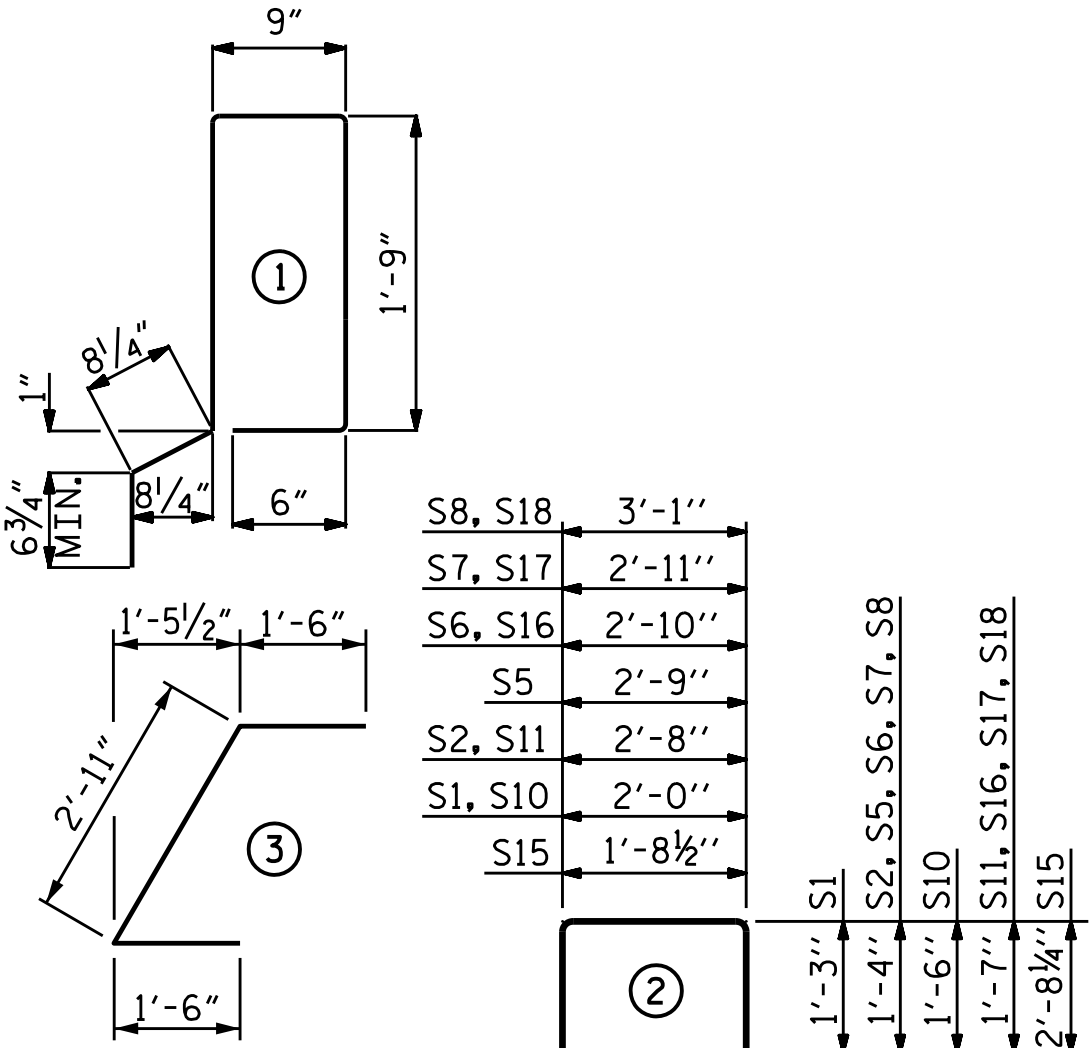
### BILL OF MATERIAL FOR ONE 75' CORED SLAB UNIT

				EXTERIOR UNIT		INTERIOR UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT
B22	6	#4	STR	26'-2"	105	26'-2"	105
S10	8	#5	2	5'-0"	42	5'-0"	42
S11	186	#4	2	5'-10"	725	5'-10"	725
* S12	82	#5	1	6'-0"	513		
S14	4	#4	3	5'-11"	16	5'-11"	16
S15	4	#5	2	7'-1"	30	7'-1"	30
S16	4	#4	2	5'-11"	16	5'-11"	16
S17	4	#4	2	6'-1"	16	6'-1"	16
S18	4	#4	2	6'-3"	17	6'-3"	17
REINFORCING STEEL				LBS.		967	
* EPOXY COATED REINFORCING STEEL				LBS.		513	
7000 P.S.I. CONCRETE				CU. YDS.		12.9	
0.6" Ø L.R. STRANDS				No.		28	

### GUTTERLINE ASPHALT THICKNESS & RAIL HEIGHT

	ASPHALT OVERLAY THICKNESS @ MID-SPAN	RAIL HEIGHT @ MID-SPAN
30' & 35' UNITS	2 5/8"	2'-8 5/8"
75' UNITS	2"	2'-8"

### BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

### CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
30' UNIT			
EXTERIOR C.S.	2	30'-0"	60'-0"
INTERIOR C.S.	8	30'-0"	240'-0"
TOTAL	10		300'-0"

### CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
35' UNIT			
EXTERIOR C.S.	2	35'-0"	70'-0"
INTERIOR C.S.	8	35'-0"	280'-0"
TOTAL	10		350'-0"

### CORED SLABS REQUIRED

	NUMBER	LENGTH	TOTAL LENGTH
75' UNIT			
EXTERIOR C.S.	2	75'-0"	150'-0"
INTERIOR C.S.	8	75'-0"	600'-0"
TOTAL	10		750'-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

### CONCRETE RELEASE STRENGTH

	PSI
UNIT	
30' UNITS	4000
35' UNITS	4000
75' UNITS	5500

## 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 NON-SHRINK GROUT.

THE BACKER RODS 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 SIDWAYS. 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.

ALL REINFORCING STEEL IN THE CONCRETE PARAPET 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, 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 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 THE REQUIRED STRENGTH SHOWN IN THE "CONCRETE RELEASE STRENGTH" TABLE.

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.

THE DRAIN OPENING AT THE GUTTERLINE SHALL BE 4" X 8". THE HEIGHT OF THE BLOCKOUT IN THE VERTICAL CONCRETE BARRIER RAIL SHALL EXTEND FROM THE TOP OF THE CORED SLAB UNIT TO THE TOP OF THE DRAIN OPENING.

APPLY EPOXY PROTECTIVE COATING TO EXTERIOR FACE OF THE EXTERIOR CORED SLAB UNITS THAT REQUIRE DRAINS IN THE BARRIER RAIL.

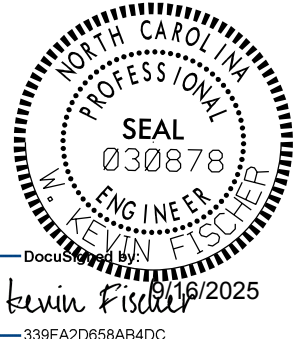
PROJECT NO. **BP14-R038**

**POLK**

COUNTY

STATION: **13+52.50 -L1-**

SHEET 6 OF 7



STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

STANDARD  
3'-0" X 2'-0" &  
3'-0" X 1'-9"  
PRESTRESSED CONCRETE  
CORED SLAB UNIT  
60° SKEW

DOCUMENT NOT CONSIDERED  
FINAL UNLESS ALL  
SIGNATURES COMPLETED

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	
1			3			S-13
2			4			TOTAL SHEETS 32

STD. NO. 21' PCS3\_30\_60S