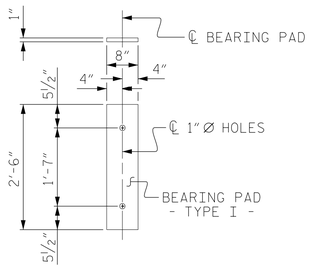


FIXED END
(TYPE I - 64 REQ'D)

ELASTOMERIC BEARING DETAILS

ELASTOMER IN ALL BEARINGS SHALL BE 50 DUROMETER HARDNESS.

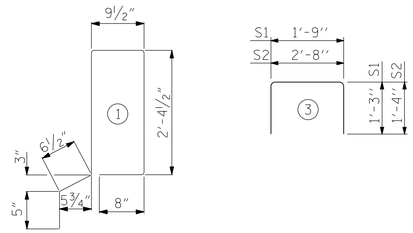
DEAD LOAD DEFLECTION AND CAMBER	
	3'-0"x 1'-9"
45' CORED SLAB UNIT	0.6"Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	¾" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	¼" ↓
FINAL CAMBER	½" ↑

** INCLUDES FUTURE WEARING SURFACE

DEAD LOAD DEFLECTION AND CAMBER	
	3'-0"x 1'-9"
50' CORED SLAB UNIT	0.6"Ø L.R. STRAND
CAMBER (SLAB ALONE IN PLACE)	1½" ↑
DEFLECTION DUE TO SUPERIMPOSED DEAD LOAD **	⅜" ↓
FINAL CAMBER	1⅛" ↑

** INCLUDES FUTURE WEARING SURFACE

BAR TYPES



ALL BAR DIMENSIONS ARE OUT TO OUT

BILL OF MATERIAL FOR ONE 45' CORED SLAB UNIT

				TYPE IV UNIT		TYPE III UNIT		TYPE II UNIT		TYPE I UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B5	4	#4	STR	23'-3"	62	23'-3"	62	23'-3"	62	23'-3"	62
S1	8	#5	3	4'-3"	35	4'-3"	35	4'-3"	35	4'-3"	35
S2	94	#4	3	5'-4"	335	5'-4"	335	5'-4"	335	5'-4"	335
* S3	54	#5	1	7'-2"	404						
* S5	8	#4	5	4'-4"	23						
* S6	8	#4	4			5'-9"	31				
* S7	8	#4	5					3'-10"	20		
REINFORCING STEEL			LBS.		432		432		432		432
* EPOXY COATED REINFORCING STEEL			LBS.		427		31		20		
6500 P.S.I. CONCRETE			CU. YDS.		6.5		6.5		6.5		6.5
0.6"Ø L.R. STRANDS			No.		13		13		13		13

BILL OF MATERIAL FOR ONE 50' CORED SLAB UNIT

				TYPE IV UNIT		TYPE III UNIT		TYPE II UNIT		TYPE I UNIT	
BAR	NUMBER	SIZE	TYPE	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT	LENGTH	WEIGHT
B6	4	#4	STR	25'-9"	69	25'-9"	69	25'-9"	69	25'-9"	69
S1	8	#5	3	4'-3"	35	4'-3"	35	4'-3"	35	4'-3"	35
S2	104	#4	3	5'-4"	371	5'-4"	371	5'-4"	371	5'-4"	371
* S3	58	#5	1	7'-2"	434						
* S5	9	#4	5	4'-4"	26						
* S6	9	#4	4			5'-9"	35				
* S7	9	#4	5					3'-10"	23		
REINFORCING STEEL			LBS.		475		475		475		475
* EPOXY COATED REINFORCING STEEL			LBS.		460		35		23		
6500 P.S.I. CONCRETE			CU. YDS.		7.1		7.1		7.1		7.1
0.6"Ø L.R. STRANDS			No.		19		19		19		19

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
45' UNIT			
TYPE I	10	45'-0"	450'-0"
TYPE II	2	45'-0"	90'-0"
TYPE III	2	45'-0"	90'-0"
TYPE IV	2	45'-0"	90'-0"
TOTAL	16		720'-0"

CORED SLABS REQUIRED			
	NUMBER	LENGTH	TOTAL LENGTH
50' UNIT			
TYPE I	10	50'-0"	500'-0"
TYPE II	2	50'-0"	100'-0"
TYPE III	2	50'-0"	100'-0"
TYPE IV	2	50'-0"	100'-0"
TOTAL	16		800'-0"

CONCRETE RELEASE STRENGTH	
UNIT	PSI
45' & 50' UNITS	4900

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

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 2½"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 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.

ALL REINFORCING STEEL IN THE CONCRETE PARAPETS AND END POSTS 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, ½" IN DEPTH, SHALL BE TOOLED IN ALL EXPOSED FACES OF THE PARAPET AND IN ACCORDANCE WITH ARTICLE 825-10(B) OF THE STANDARD SPECIFICATIONS. A CONTRACTION JOINT SHALL BE LOCATED AT EACH THIRD POINT BETWEEN PARAPET EXPANSION JOINTS. ONLY ONE CONTRACTION JOINT IS REQUIRED AT MIDPOINT OF PARAPET 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.

PRESTRESSED CONCRETE CORED SLAB UNITS ARE DESIGNED FOR 0 PSI TENSION IN THE PRECOMPRESSED TENSILE ZONE UNDER ALL LOADING CONDITIONS.

PRESTRESSED CONCRETE CORED SLAB UNITS SHALL CONTAIN CALCIUM NITRITE CORROSION INHIBITOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

GROUT THE SHEAR KEYS BETWEEN THE LEVEL AND SLOPED CORED SLAB UNIT PRIOR TO TENSIONING THE TRANSVERSE STRANDS.

PROJECT NO. B-5610

DARE COUNTY

STATION: 15+42.50 -L-

SHEET 5 OF 5

NORTH CAROLINA PROFESSIONAL SEAL 040384 ENGINEER JEFFREY C. WILSON

DocuSigned by: Jeffrey C. Wilson 4/8/2024
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DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

STEWART

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STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

3'-0" X 1'-9" PRESTRESSED CONCRETE CORED SLAB UNIT 90° SKEW

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-11
1			3			TOTAL SHEETS
2			4			29

DRAWN BY: G. RAMBOULI DATE : 1/24
CHECKED BY: J. WILSON DATE : 1/24
DESIGN ENGINEER OF RECORD: J. WILSON DATE : 1/24

B-5610

4/4/2024
...\B-5610_SMU_CS5_270008.dgn
USER:jwilson