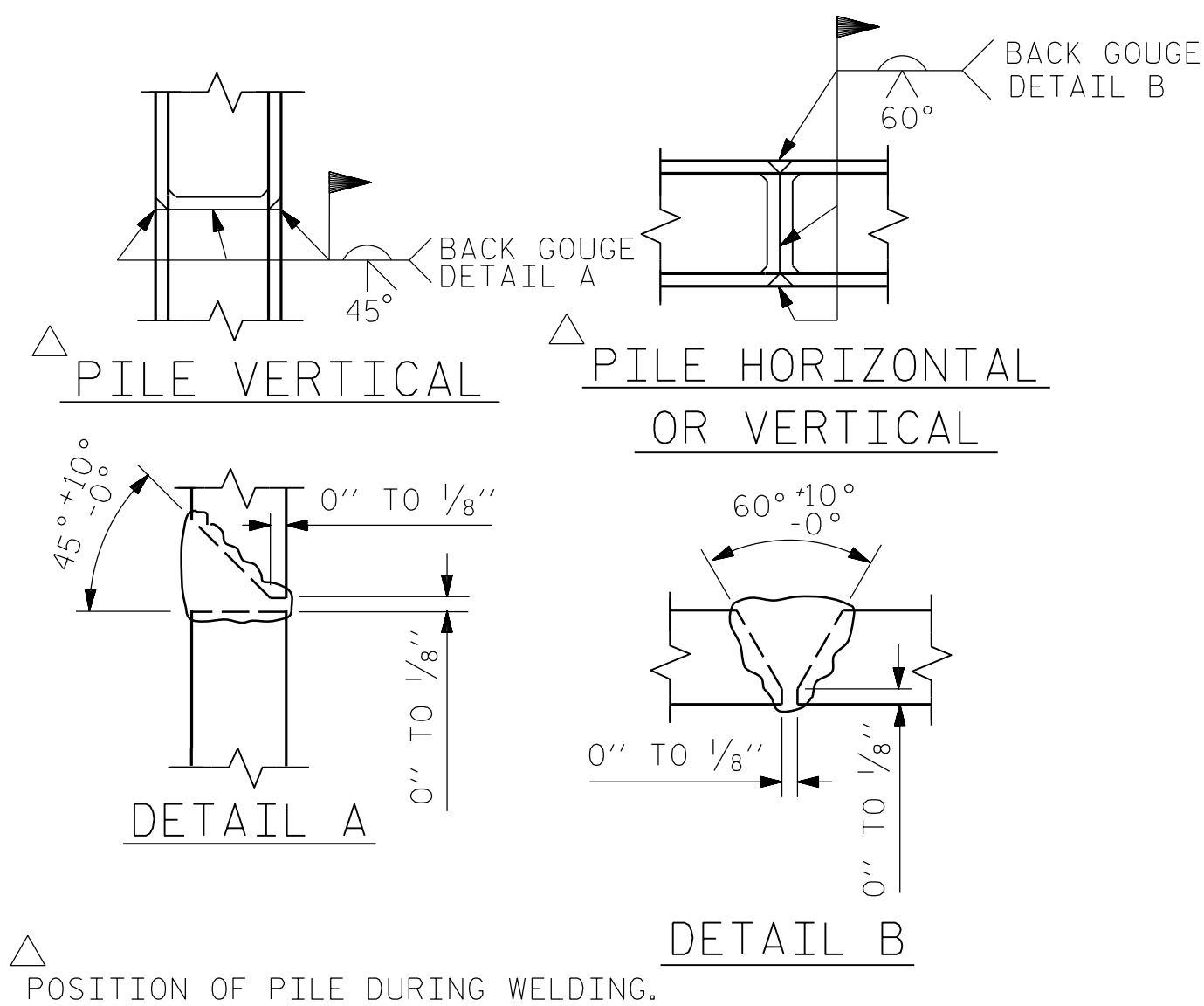


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

BAGGED STONE SHALL REMAIN IN PLACE UNTIL THE ENGINEER DIRECTS THAT IT BE REMOVED. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF SILT ACCUMULATIONS AT BAGGED STONE WHEN SO DIRECTED BY THE ENGINEER. BAGS SHALL BE REMOVED AND REPLACED WHENEVER THE ENGINEER DETERMINES THAT THEY HAVE DETERIORATED AND LOST THEIR EFFECTIVENESS.

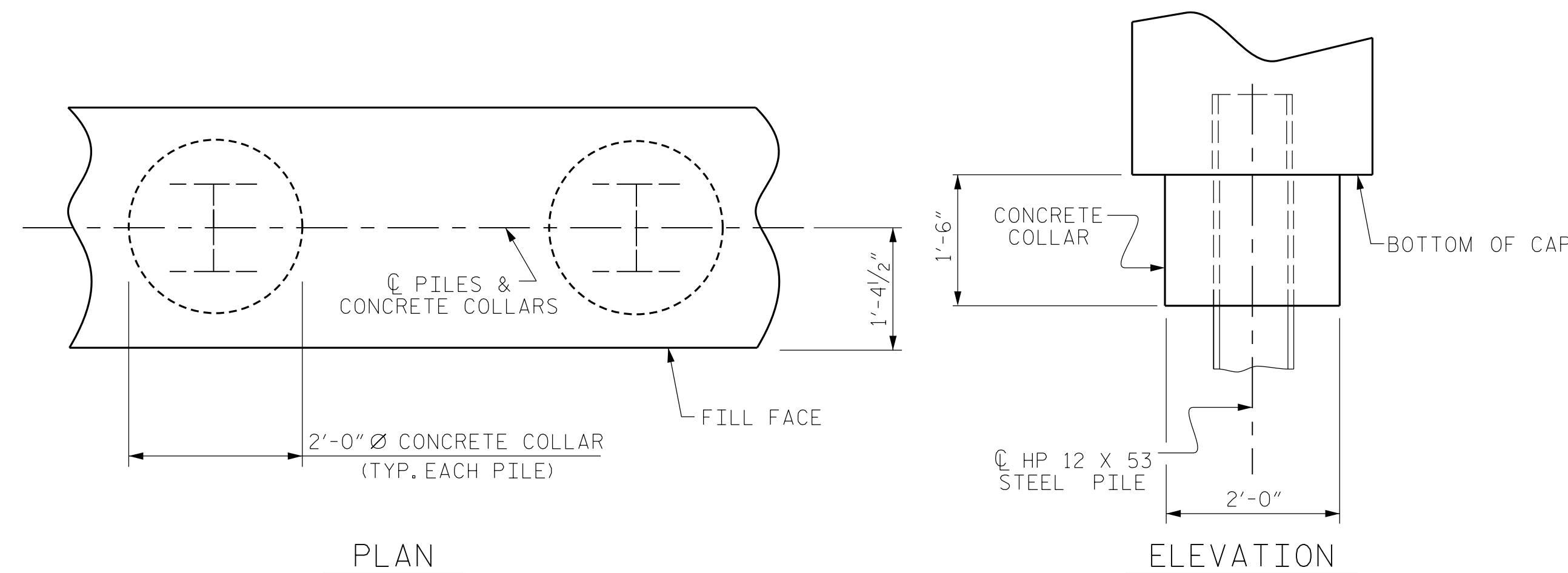
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

**TEMPORARY DRAINAGE AT END BENT**



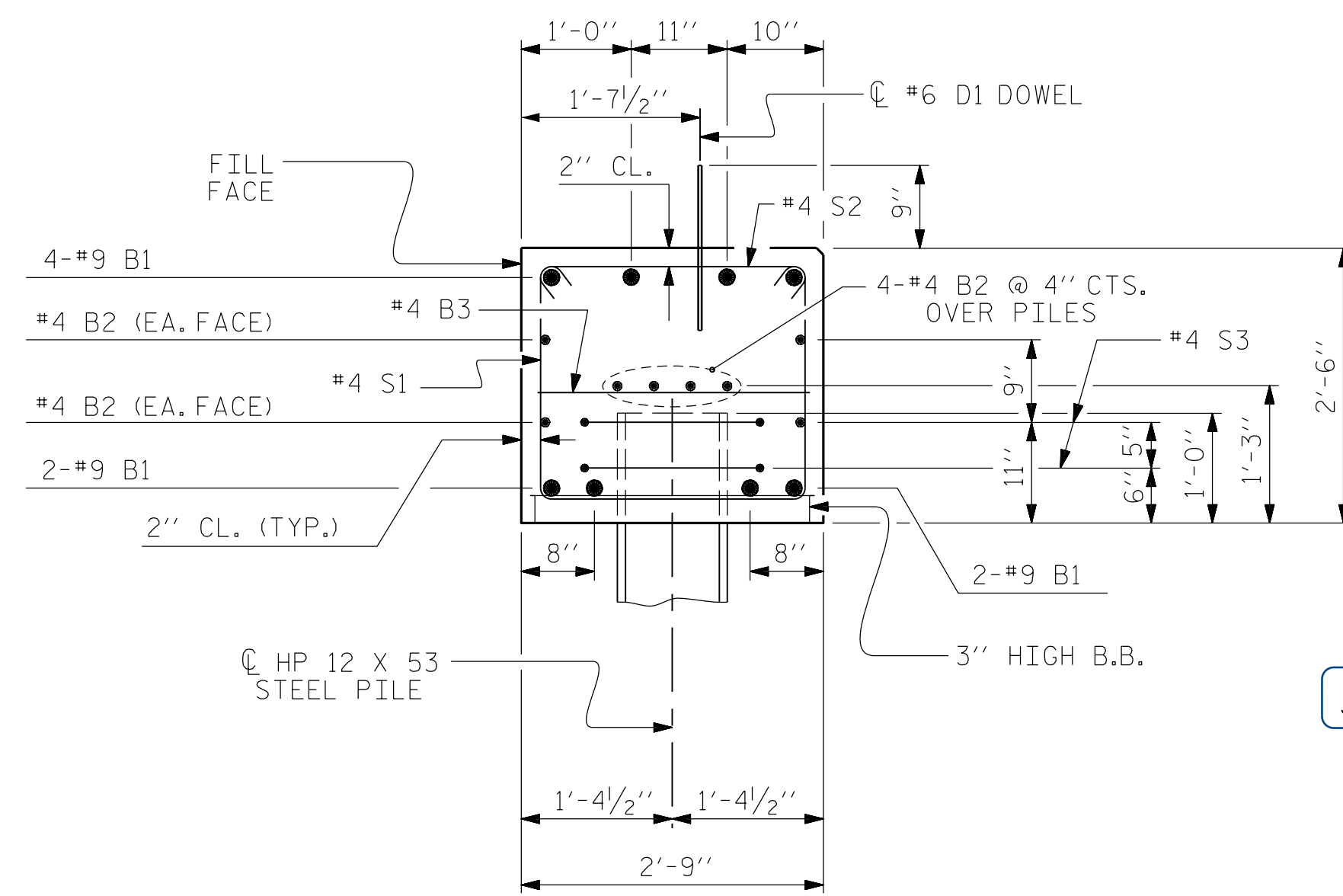
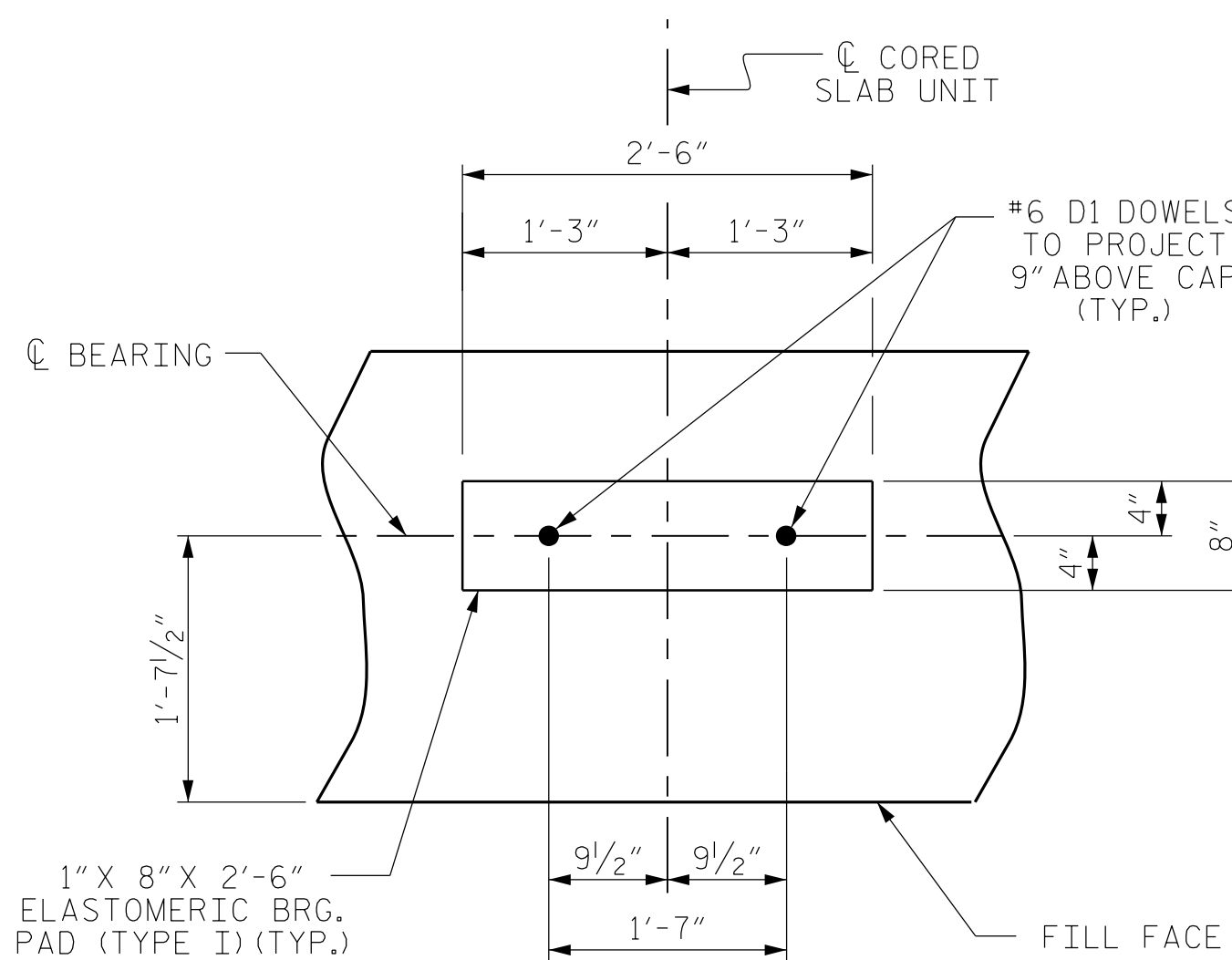
**PILE SPLICE DETAILS**

BILL OF MATERIAL FOR ONE END BENT					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	8	#9		38'-0"	1034
B2	16	#4	STR	19'-1"	204
B3	9	#4	STR	2'-5"	15
D1	20	#6	STR	1'-6"	45
H1	24	#4		7'-10"	126
K1	12	#4	STR	2'-11"	23
S1	46	#4		7'-5"	228
S2	46	#4		3'-2"	97
S3	10	#4		6'-6"	43
V1	48	#4	STR	4'-8"	150
REINFORCING STEEL (FOR ONE END BENT)					1965 LBS.
CLASS A CONCRETE BREAKDOWN (FOR END BENT 1)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					11.2 C.Y.
POUR #2 UPPER PART OF WINGS					1.8 C.Y.
TOTAL CLASS A CONCRETE					13.0 C.Y.
CLASS A CONCRETE BREAKDOWN (END BENT 2)					
POUR #1 CAP, LOWER PART OF WINGS & COLLARS					11.2 C.Y.
POUR #2 UPPER PART OF WINGS					2.0 C.Y.
TOTAL CLASS A CONCRETE					13.2 C.Y.



**CORROSION PROTECTION FOR STEEL PILES DETAIL**

(END BENT No. 1 SHOWN, END BENT No. 2 SIMILAR BY ROTATION)



PROJECT NO. BR-0117  
 NORTHAMPTON COUNTY  
 STATION: 14+26.35 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

SUBSTRUCTURE

END BENT No. 1 & 2  
 DETAILS

Seal of Jacob H. Duke, Professional Engineer, License No. 043777, State of North Carolina.

2/21/2020

**KCA**  
 KISINGER CAMPO & ASSOCIATES  
 301 FAYETTEVILLE ST., SUITE 1500  
 RALEIGH, NC 27601 (919) 882-7839  
 NC FIRM LICENSE: C-1506

DESIGN ENGINEER OF RECORD:	JACOB H. DUKE	DATE:	01/2020
ASSEMBLED BY:	DIEGO A. AGUIRRE	DATE:	01/2020
CHECKED BY:	FIDEL L. FLORES	DATE:	01/2020
DRAWN BY:	DGE	12/09	
CHECKED BY:	MKT	01/10	
REV.	4/17	MAA/THC	

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-15
1			3			TOTAL SHEETS
2			4			19