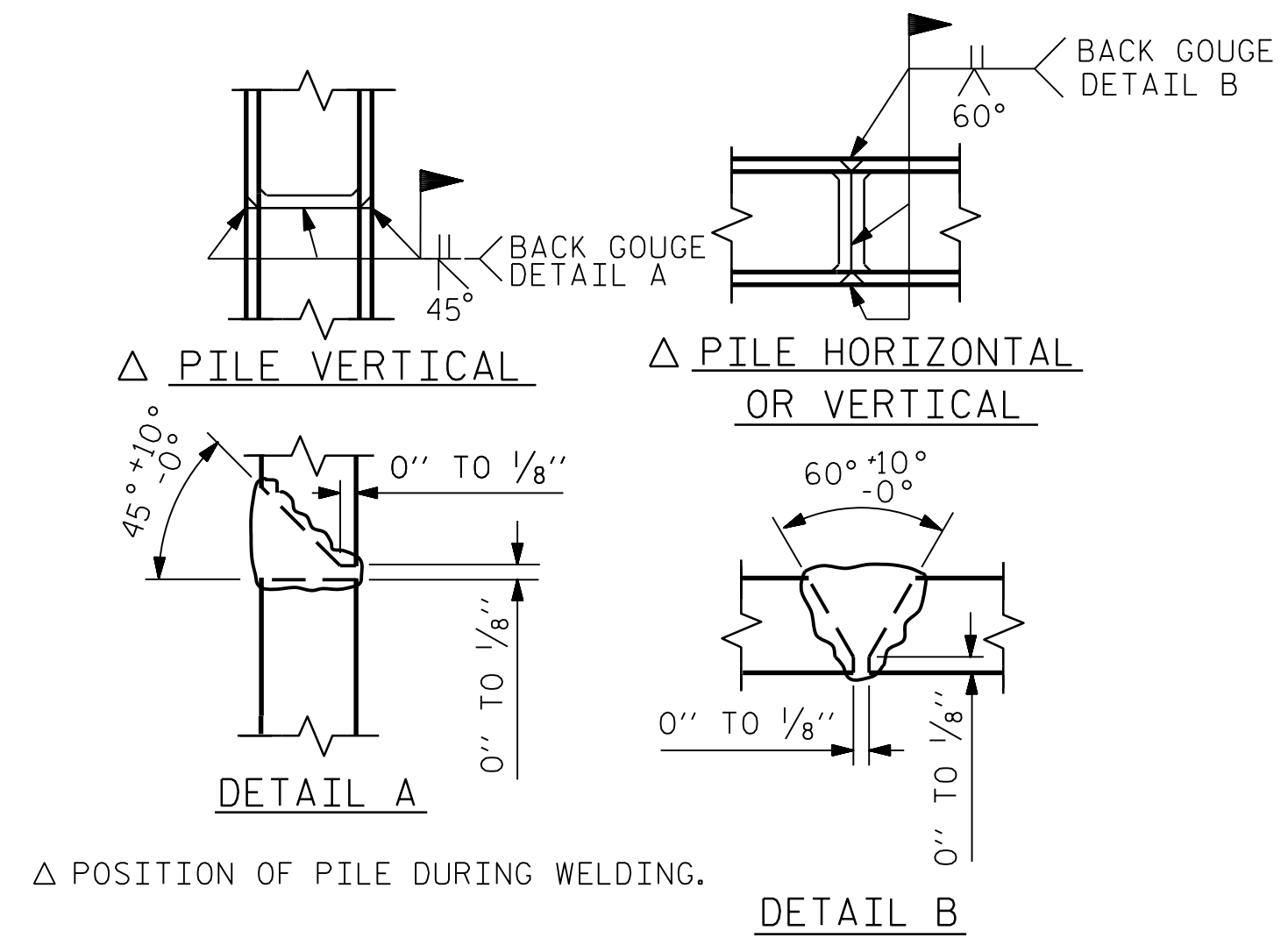


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

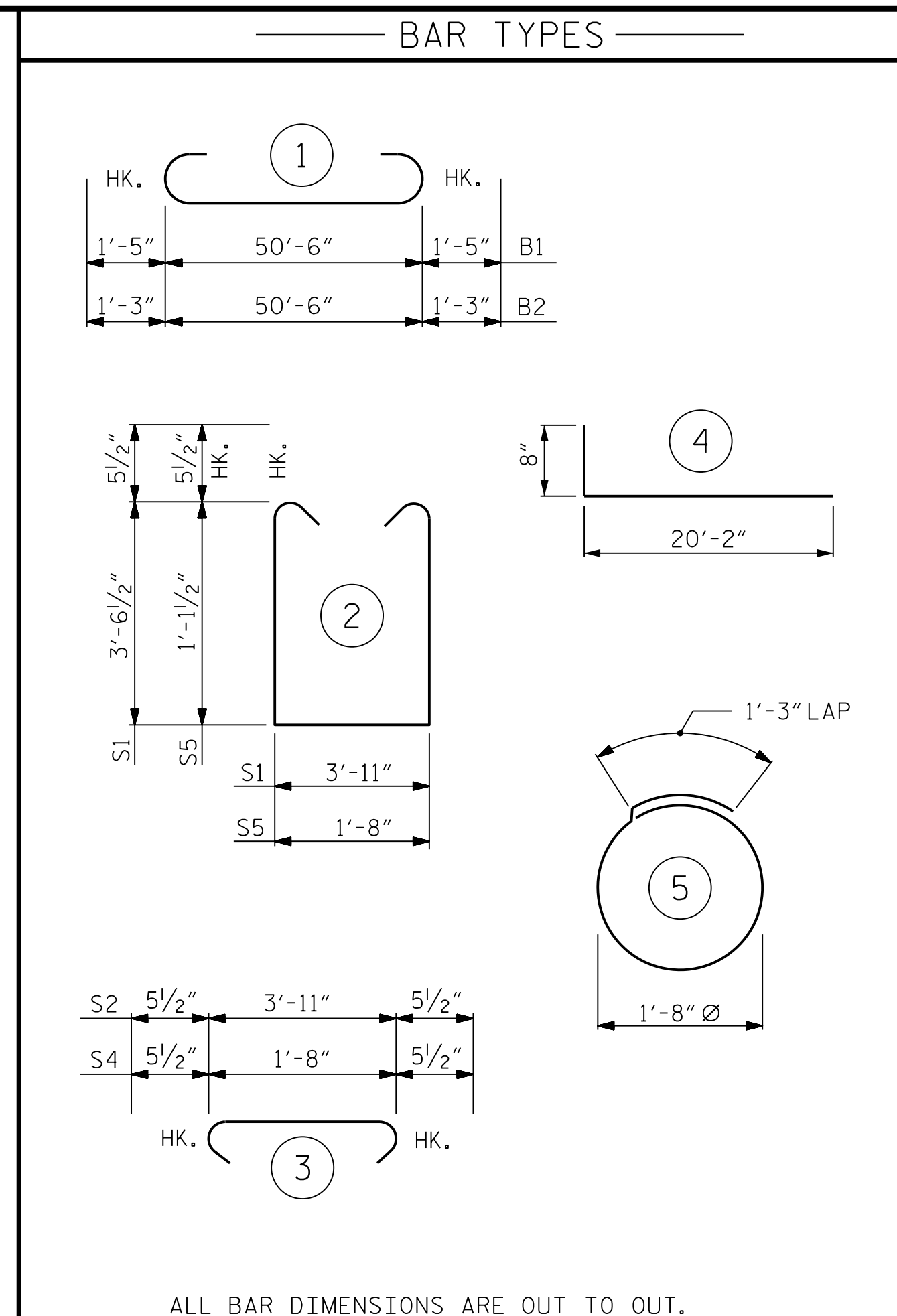
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

**TEMPORARY DRAINAGE AT END BENT**

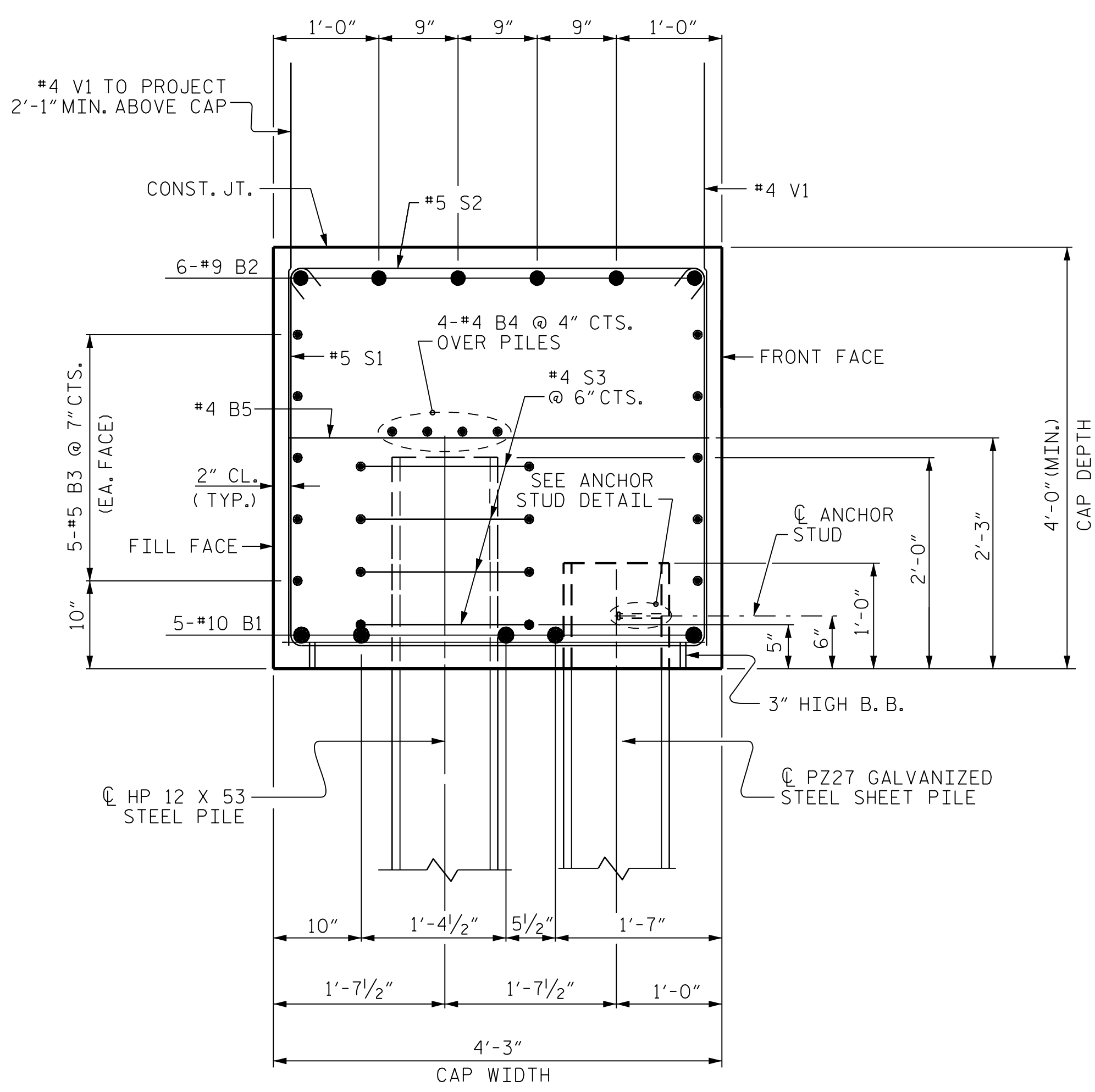


△ POSITION OF PILE DURING WELDING.

**PILE SPLICE DETAILS**

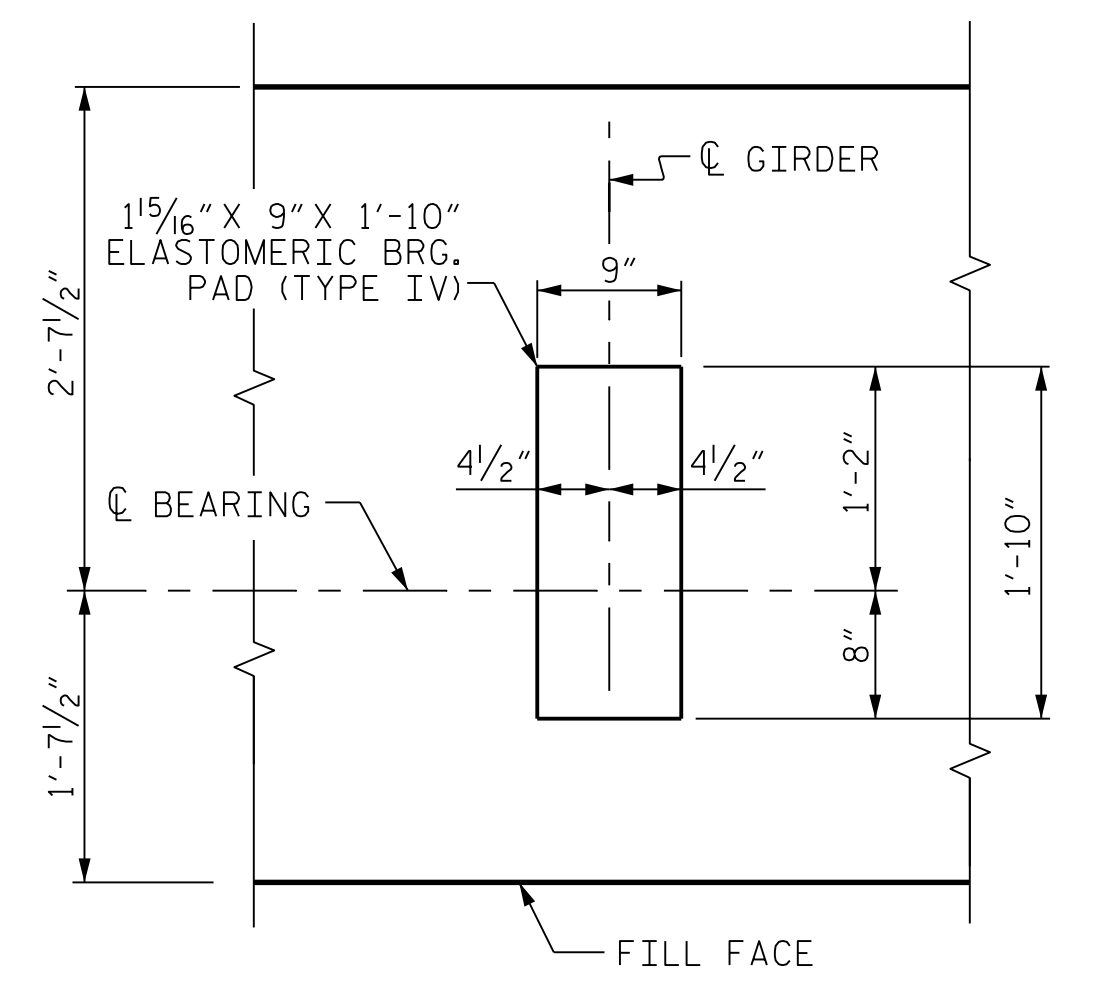


BILL OF MATERIAL					
FOR ONE END BENT (2 REQUIRED)					
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT
B1	5	#10	1	53'-4"	1147
B2	6	#9	1	53'-0"	1081
B3	10	#5	STR	50'-8"	528
B4	8	#4	STR	26'-7"	142
B5	13	#4	STR	3'-11"	34
H1	10	#4	4	20'-10"	139
K1	24	#4	STR	4'-6"	72
S1	92	#5	2	12'-1"	1159
S2	92	#5	3	4'-10"	464
S3	32	#4	5	6'-6"	139
S4	40	#4	3	2'-7"	69
S5	40	#4	2	4'-10"	129
V1	72	#4	STR	6'-2"	305
V2	24	#4	STR	8'-4"	134
REINFORCING STEEL				LBS.	5,543
CLASS A CONCRETE BREAKDOWN :					
POUR #1 - CAP				C.Y.	32.8
POUR #2 - WINGS				C.Y.	1.7
POUR #3 - COPINGS				C.Y.	4.3
TOTAL CLASS A CONCRETE				C.Y.	38.8
HP 12 x 53 STEEL PILES				NO. = 8	LIN. FT. 520
PILE DRIVING EQUIPMENT				SETUP FOR HP 12x53 STEEL PILES	EA. 8
PDA TESTING				EA.	1
PILE REDRIVES				EA.	4
18" STEEL SHEET PILE SYSTEM:					
PZ27 - NO: 62		SQ. FT. = 2,384			
PZ90 - NO: 2		SQ. FT. = 41			
TOTAL NO: 64		SQ. FT. = 2,425			



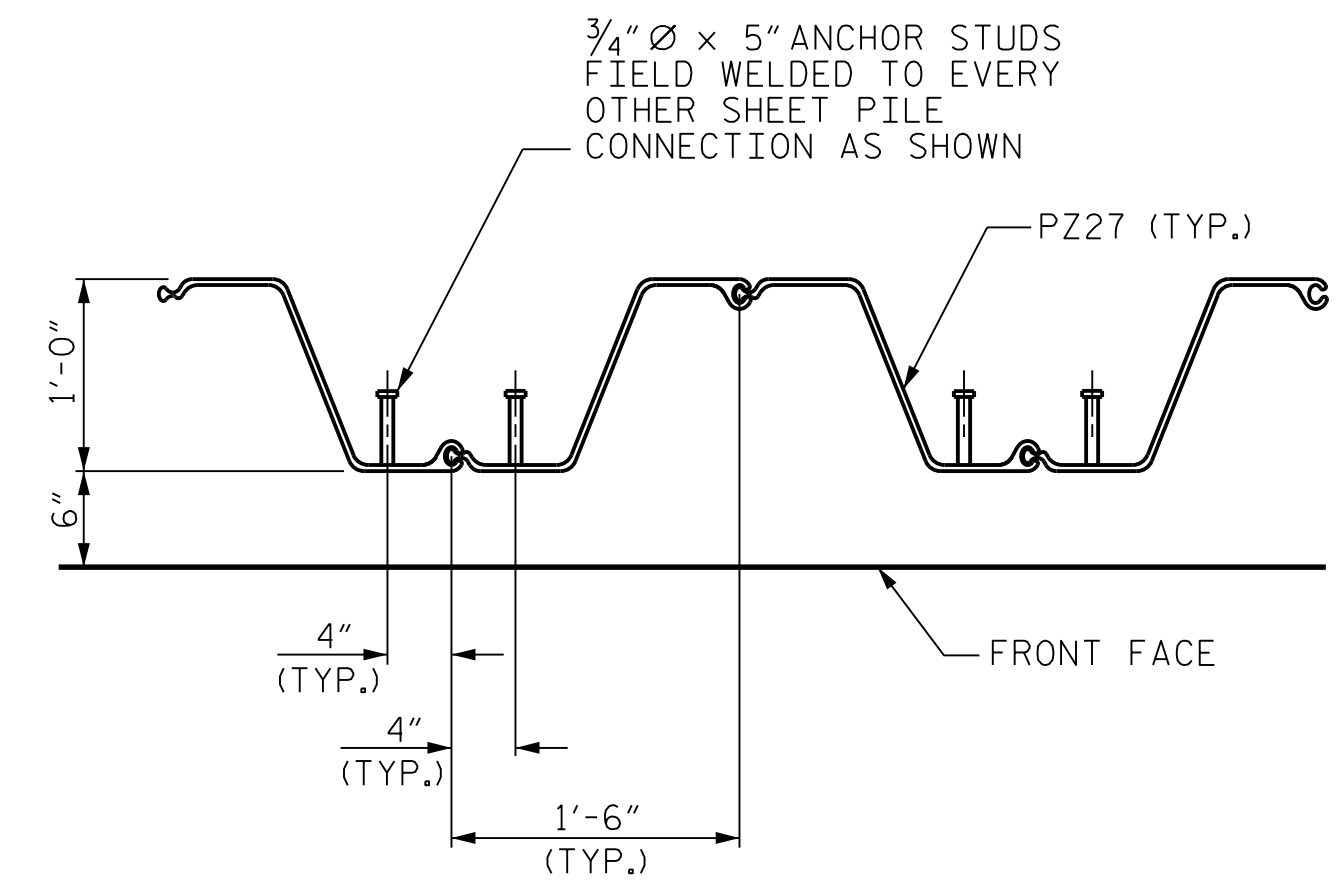
**SECTION A-A**

BURN 1/2" Ø MAX. HOLE IN SHEET PILE FOR #4 S1 BARS



**DETAIL "A"**

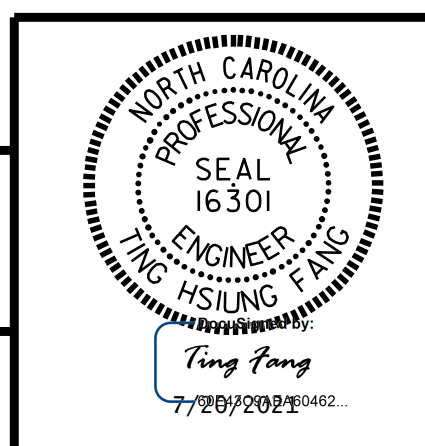
(END BENT 1 SHOWN, END BENT 2 SIMILAR BY ROTATION)



**ANCHOR STUD DETAIL**

**CDM Smith**

CDM SMITH  
5400 Glenwood Avenue, Suite 400  
Raleigh, NC 27612-3228  
NC COA No. F-1255



PROJECT NO. B-5624  
BRUNSWICK COUNTY  
STATION: 17+46.00 -L-

SHEET 4 OF 4

STATE OF NORTH CAROLINA  
DEPARTMENT OF TRANSPORTATION  
RALEIGH

SUBSTRUCTURE

END BENTS 1 & 2  
(INTEGRAL)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	S-17
1			3			TOTAL SHEETS
2			4			20

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

DRAWN BY: JJR DATE: 9/20  
CHECKED BY: THF DATE: 10/20  
DESIGN ENGINEER: VDK DATE: 11/20

DWG. No.