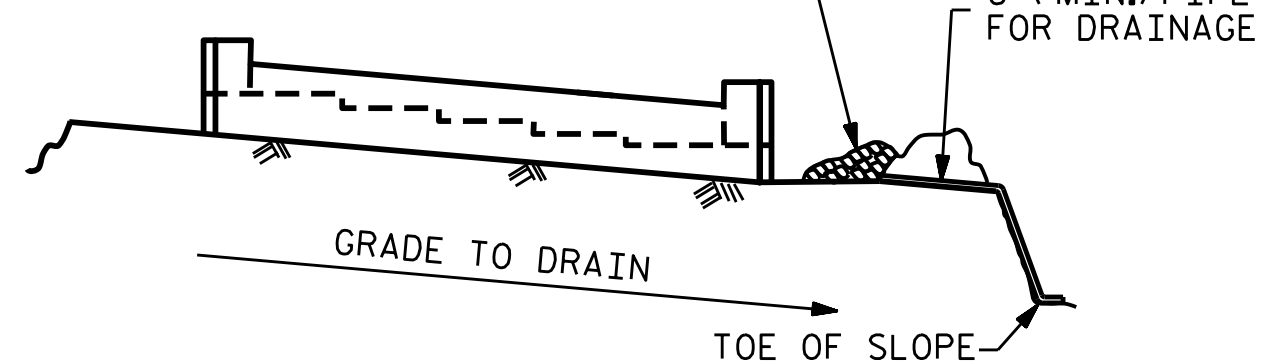


SECTION A-A

MINIMUM OF 3- ONE CUBIC FOOT BAGS OF #78M STONE. BAGS SHALL BE OF POROUS FABRIC, SECURELY TIED.

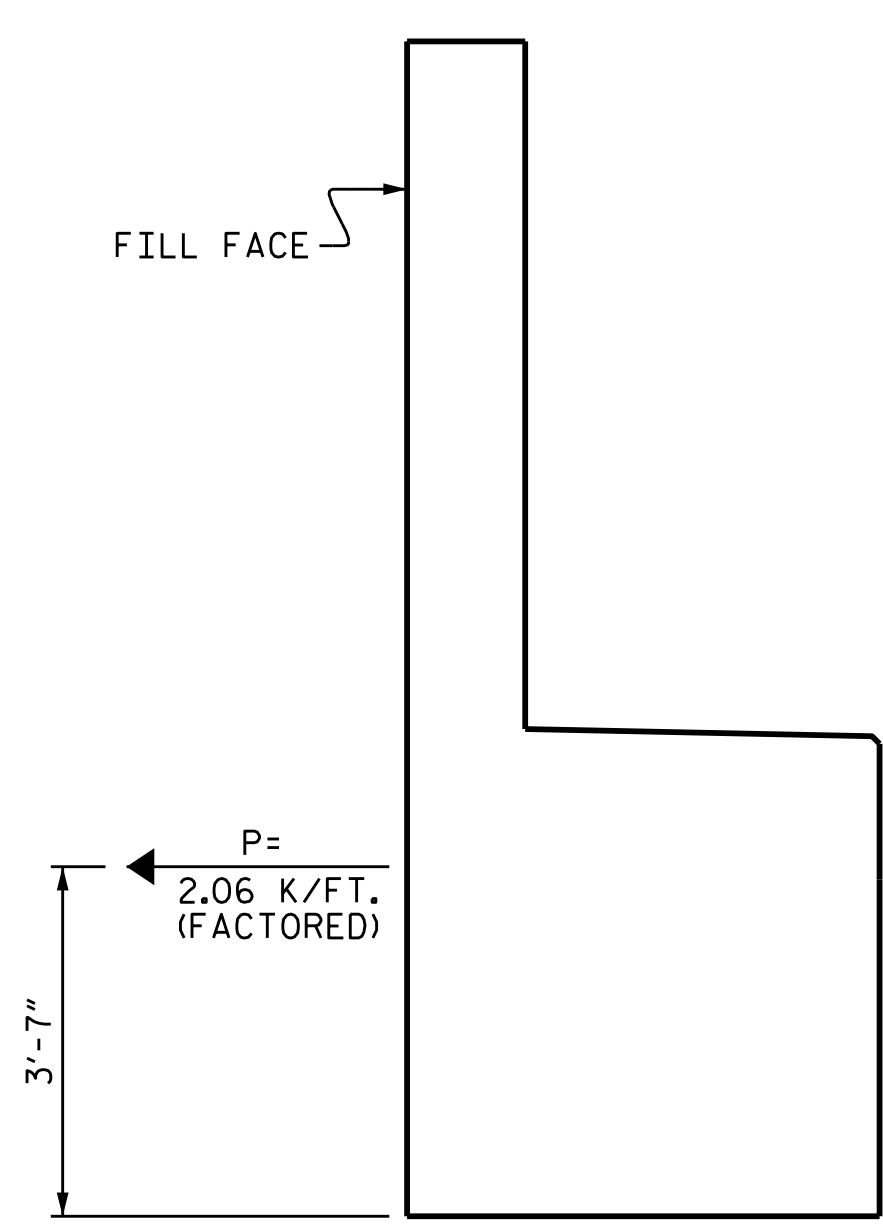


BAGGED STONE AND PIPE SHALL BE PLACED IMMEDIATELY AFTER COMPLETION OF END BENT EXCAVATION. PIPE MAY BE EITHER CONCRETE, CORRUGATED STEEL, CORRUGATED ALUMINUM ALLOY, OR CORRUGATED PLASTIC. PERFORATED PIPE WILL NOT BE ALLOWED.

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.

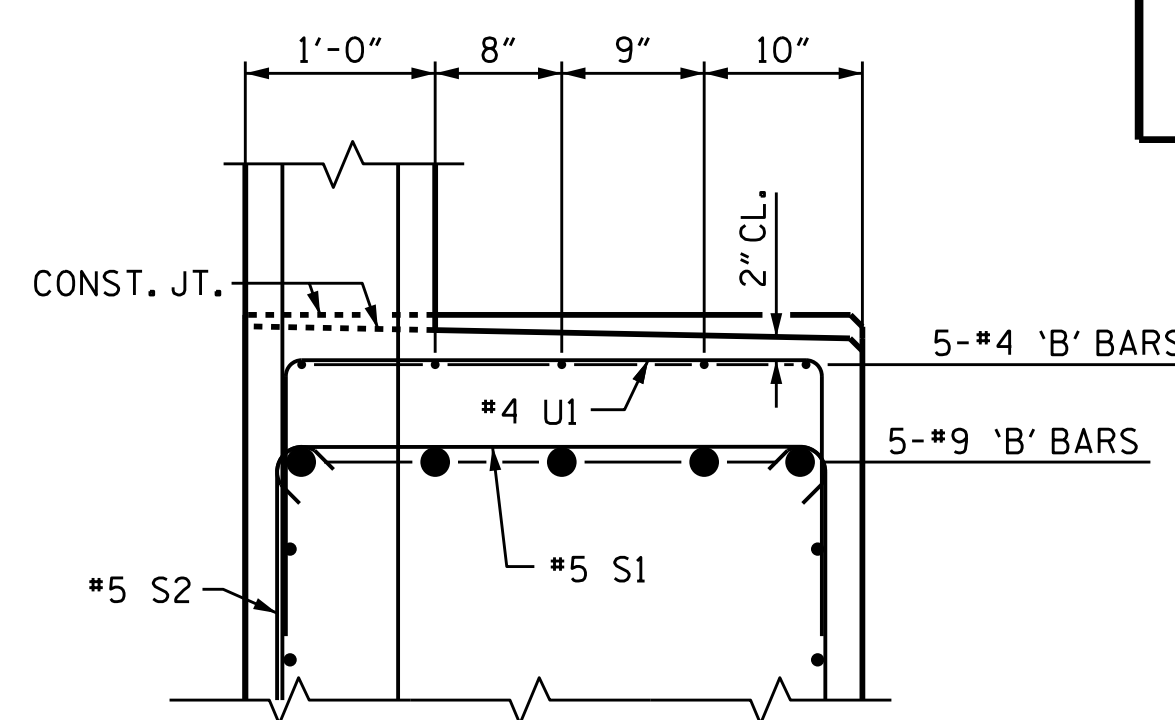
NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK AND THE ENTIRE COST OF THIS WORK SHALL BE INCLUDED IN THE UNIT CONTRACT PRICE BID FOR THE SEVERAL PAY ITEMS.

TEMPORARY DRAINAGE AT END BENT

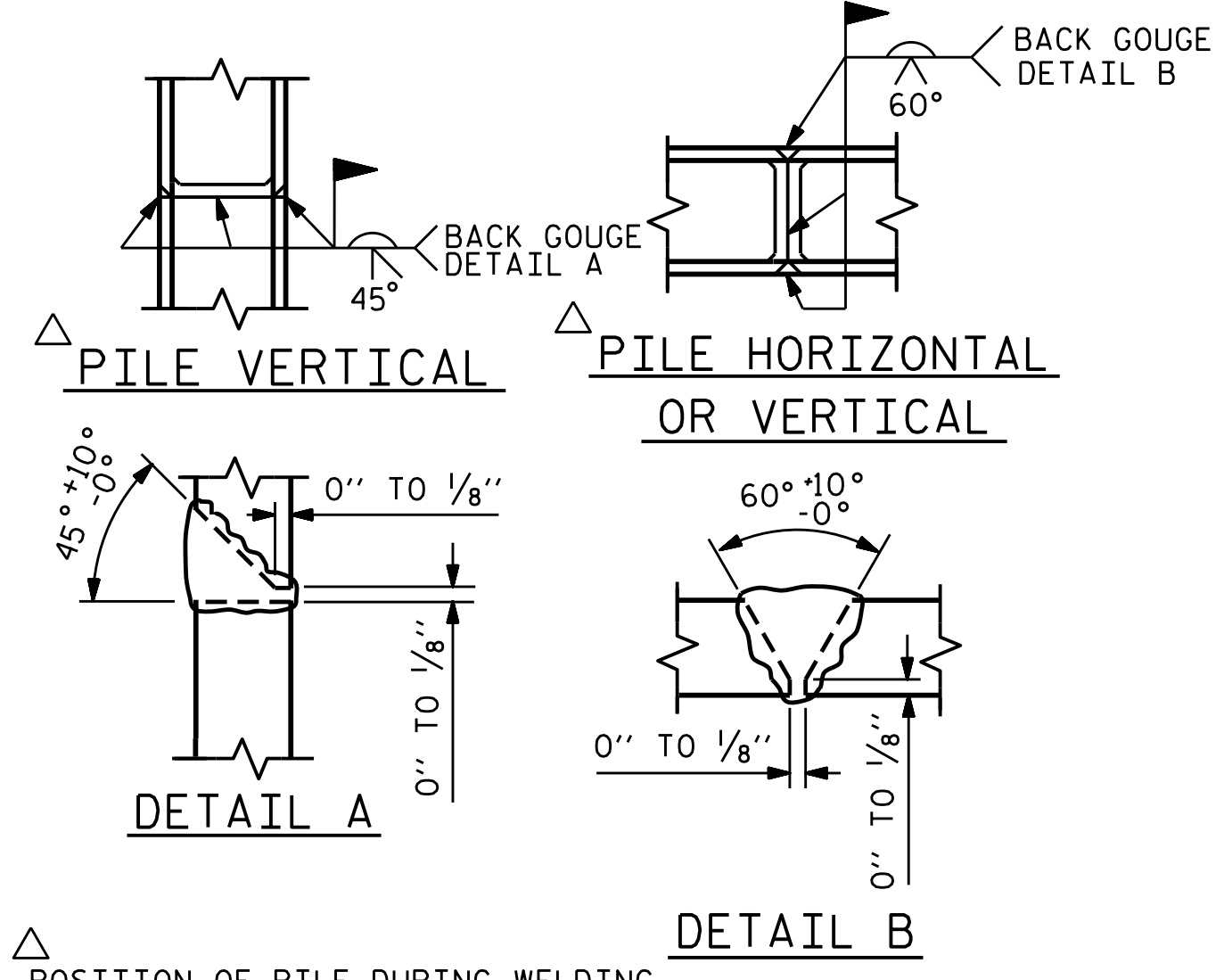


TIE BACK DETAILS

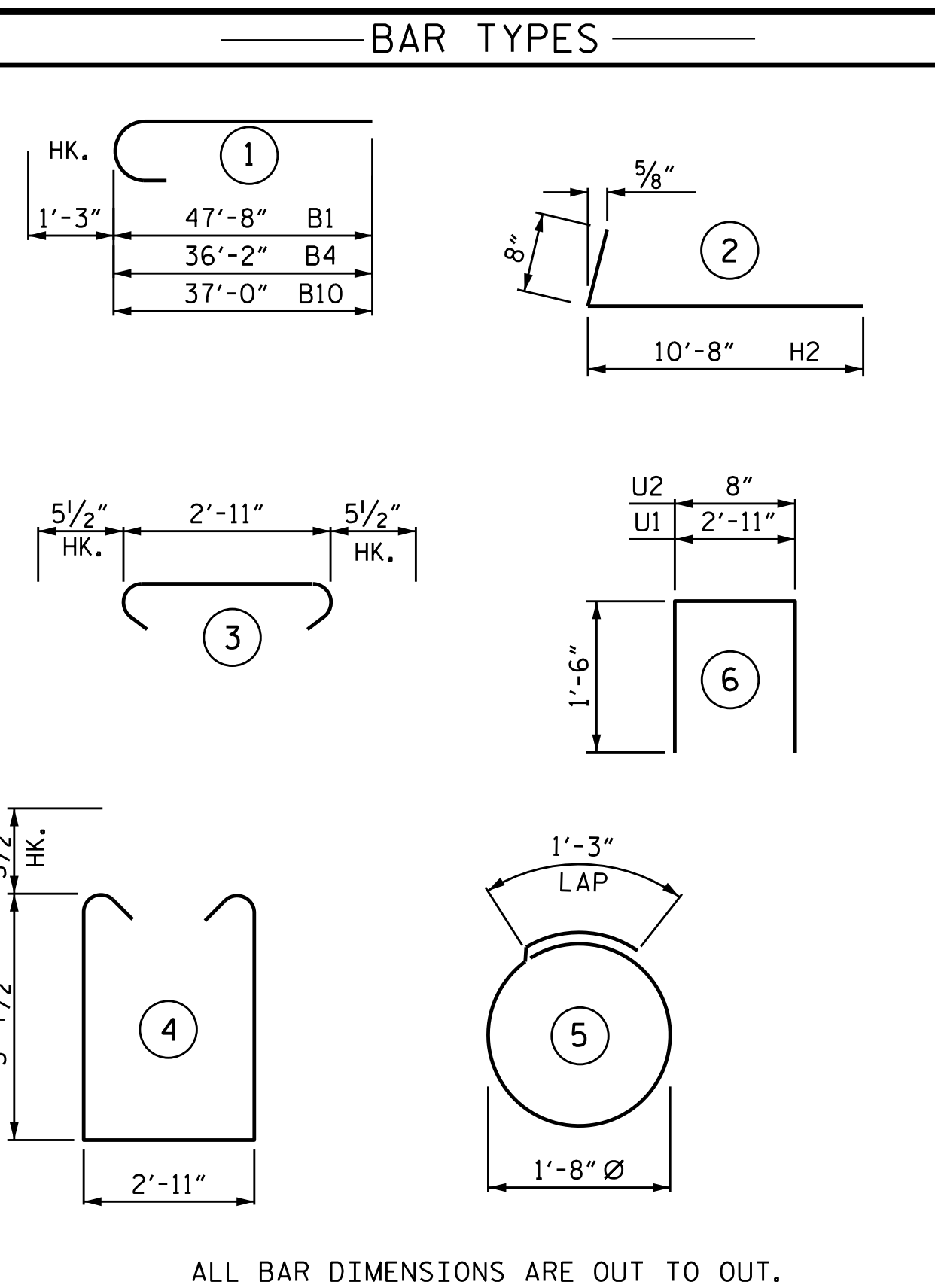
(DETAIL SHOWING TIE BACK RESTRAINT FOR END BENT)



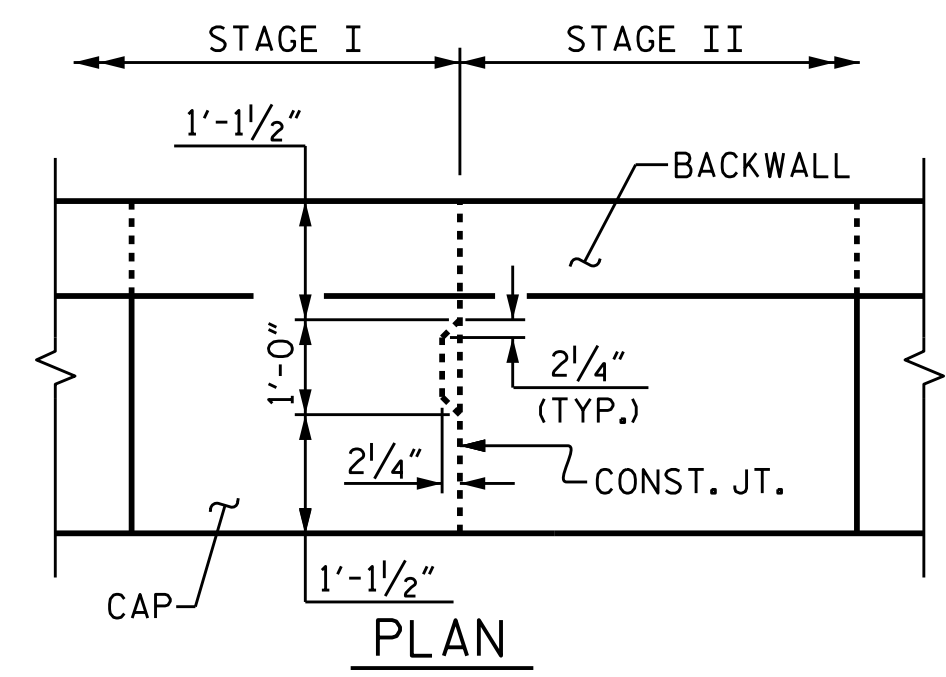
PARTIAL SECTION B



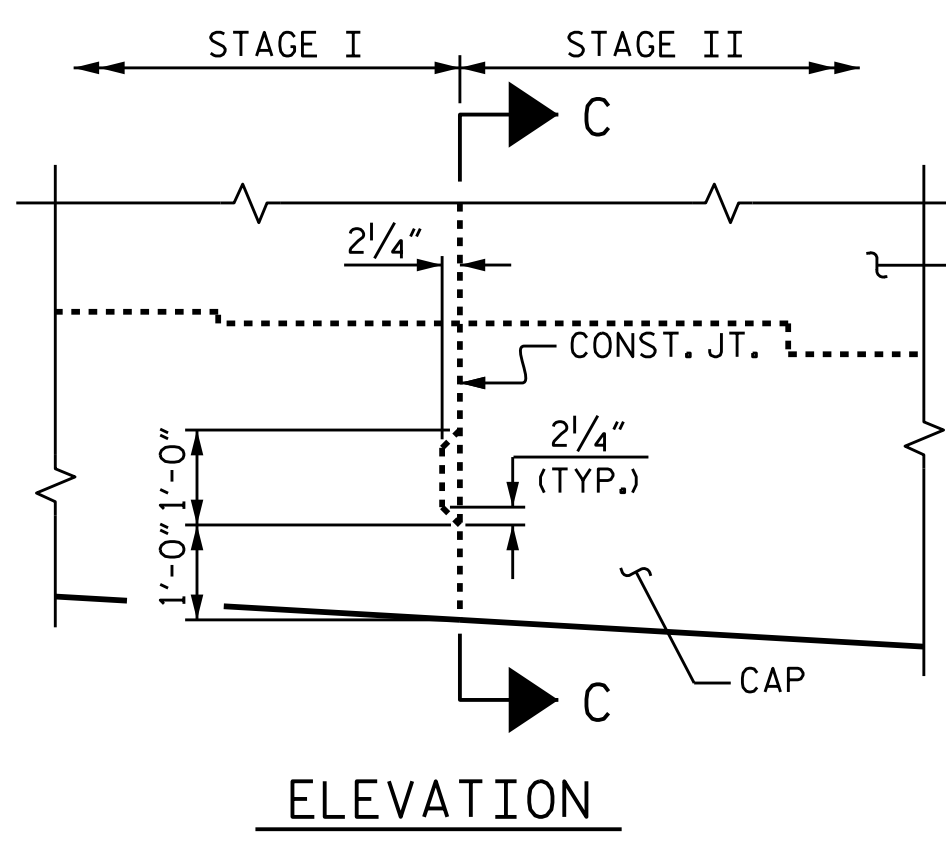
PILE SPLICE DETAILS



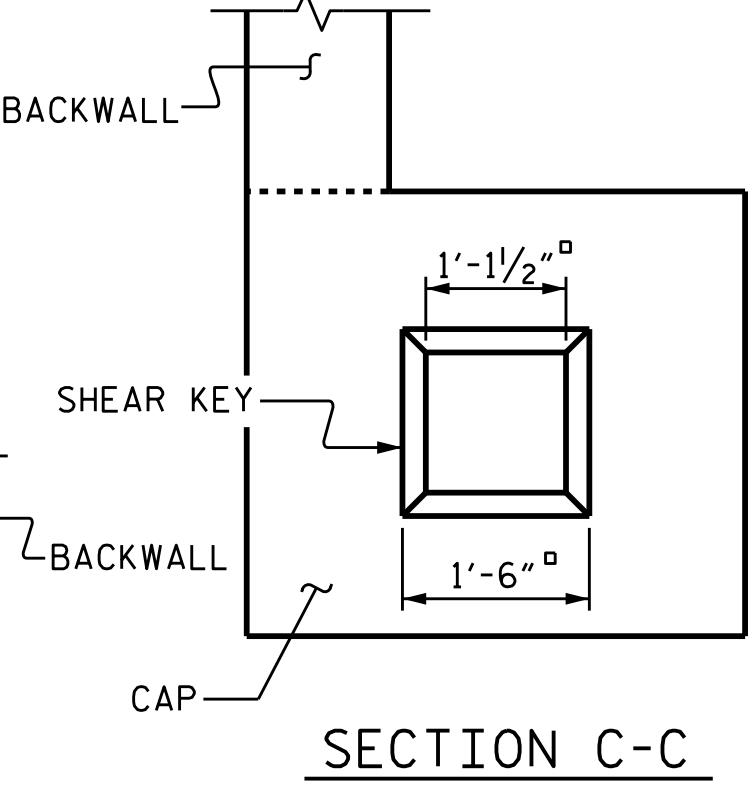
ALL BAR DIMENSIONS ARE OUT TO OUT.



PLAN



ELEVATION



SECTION C-C

SHEAR KEY DETAIL

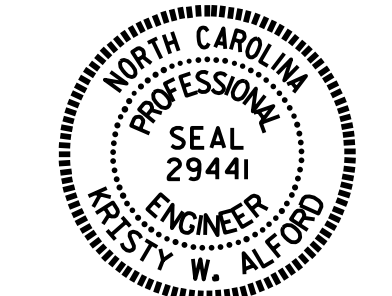
REINFORCING STEEL NOT SHOWN

BILL OF MATERIAL										BILL OF MATERIAL									
END BENT 2 - STAGE I										END BENT 2 - STAGE II									
BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT	BAR	NO.	SIZE	TYPE	LENGTH	WEIGHT								
B1	10	#9	1	48'-11"	1663	B4	5	#9	1	37'-5"	636								
B2	5	#9	STR	30'-10"	524	B6	28	#4	STR	19'-10"	371								
B3	5	#9	STR	33'-10"	575	B7	15	#4	STR	2'-4"	23								
B5	42	#4	STR	25'-4"	711	B8	5	#4	STR	7'-6"	25								
B7	35	#4	STR	2'-4"	55	B9	10	#4	STR	2'-11"	19								
B9	17	#4	STR	2'-11"	33	B10	5	#9	1	38'-3"	650								
H1	32	#6	STR	10'-7"	509	H2	48	#5	2	11'-4"	567								
K1	36	#4	STR	25'-5"	611	K2	24	#4	STR	19'-10"	318								
						K4	6	#4	STR	4'-0"	16								
S1	68	#5	3	3'-10"	272	S1	37	#5	3	3'-10"	148								
S2	68	#5	4	11'-1"	786	S2	37	#5	4	11'-1"	428								
S3	40	#4	5	6'-6"	174	S3	20	#4	5	6'-6"	87								
U1	21	#4	6	5'-11"	83	U1	14	#4	6	5'-11"	55								
U2	64	#4	6	3'-8"	157	U2	33	#4	6	3'-8"	81								
V1	128	#5	STR	9'-0"	1202	V1	66	#5	STR	9'-0"	620								
V2	12	#5	STR	10'-10"	136	V6	16	#5	STR	11'-2"	186								
V3	6	#5	STR	11'-0"	69	V7	6	#5	STR	10'-11"	68								
V4	6	#5	STR	11'-3"	70	V8	6	#5	STR	10'-8"	67								
						V9	4	#5	STR	10'-6"	44								
REINFORCING STEEL =					7,630 LBS	REINFORCING STEEL =					4,409 LBS								
CLASS A CONCRETE:						CLASS A CONCRETE:													
POUR 1						POUR 1													
CAP, LOWER WING = 36.2 C.Y.						CAP, LOWER WING = 20.7 C.Y.													
POUR 2						POUR 2													
BACKWALL, UPPER WING = 15.7 C.Y.						BACKWALL, UPPER WING = 10.0 C.Y.													
TOTAL:					51.9 C.Y.	TOTAL:					30.7 C.Y.								
HP 12 X 53 STEEL PILES						HP 12 X 53 STEEL PILES													
NO. 11 LIN. FT. 660						NO. 4 LIN. FT. 240													

TOTAL QUANTITIES STAGE I & II					
	REINFORCING STEEL	CLASS A CONCRETE	HP 12 x 53 STEEL PILES	PILE REDRIVES	
	LBS.	C.Y.	NO.	LIN. FT.	EACH
STAGE I	7,630	51.9	11	660	-
STAGE II	4,409	30.7	4	240	-
TOTAL	12,039	82.6	15	900	7

PROJECT NO. B-4490
CUMBERLAND COUNTY
STATION: 35+23.40 -L-

SHEET 4 OF 4



DocuSigned by:
Kristy W. Alford
F24583890BF40E
3/29/2016

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

SUBSTRUCTURE
END BENT 2

DRAWN BY :	D. SHACKELFORD	DATE :	02/2015
CHECKED BY :	J.P. ADAMS	DATE :	07/2015
DESIGN ENGINEER OF RECORD:	P.K. NEWTON	DATE :	09/2015

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS						SHEET NO.	
NO.	BY:	DATE:	NO.	BY:	DATE:	S-81	
1			3			TOTAL SHEETS	
2			4			84	