

QUANTITIES FOR ONE 12" PRESTRESSED PILE						
LENGTH	CONCRETE CU. YDS.	PILE WT. TONS	ONE PICK-UP POINT		TWO PICK-UP POINT	
			0.300L	0.700L	0.207L	0.586L
25'-0"	0.91	1.85	7'-6"	17'-6"		
30'-0"	1.10	2.22	9'-0"	21'-0"		
35'-0"	1.28	2.59	10'-6"	24'-6"		
40'-0"	1.46	2.96	12'-0"	28'-0"		
45'-0"	1.64	3.33	13'-6"	31'-6"		
50'-0"	1.83	3.70	15'-0"	35'-0"		
55'-0"	2.01	4.07			11'-4 1/2"	32'-3"
60'-0"	2.19	4.44			12'-5"	35'-2"
65'-0"	2.37	4.81			13'-5 1/2"	38'-1"
70'-0"	2.56	5.18			14'-6"	41'-0"

**NOTES**

CONCRETE DESIGN DATA :  $f'_c = 5,000$  PSI ;  $f_c = 2,000$  PSI  
 IMPACT IN HANDLING = 50%  
 THE TRANSFER OF LOAD FROM THE ANCHORAGES TO THE PILE SHALL BE DONE WHEN THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF NOT LESS THAN 3,500 PSI.  
 IN DRIVING PILES, A METHOD APPROVED BY THE ENGINEER SHALL BE USED, WHEREBY THE HEAD OF THE PILE IS NOT DAMAGED.  
 PROPOSED DEVICES FOR LIFTING PILES, RECESS DETAILS, AND PATCHING MATERIAL SHALL BE DETAILED IN SHOP DRAWINGS. AFTER ATTACHMENTS HAVE BEEN REMOVED, OPENINGS SHALL BE REPAIRED SUCH THAT THE APPEARANCE OF THE PILE IS UNIFORM.  
 WHERE CAST-IN-PLACE LIFTING DEVICES ARE NOT USED, PICK-UP POINTS TO BE INDICATED WITH A BLACK MARK 2" WIDE.  
 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 STANDARD SPECIFICATIONS.  
 THE CONTRACTOR MAY USE EITHER OF THE FOLLOWING STRAND CONFIGURATIONS:

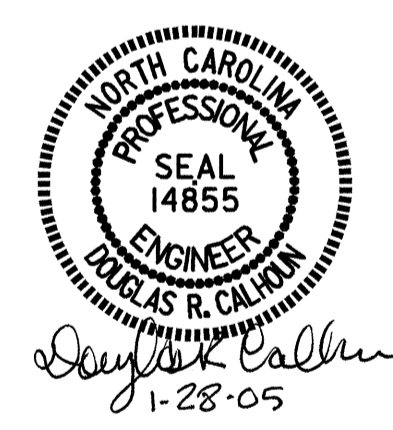
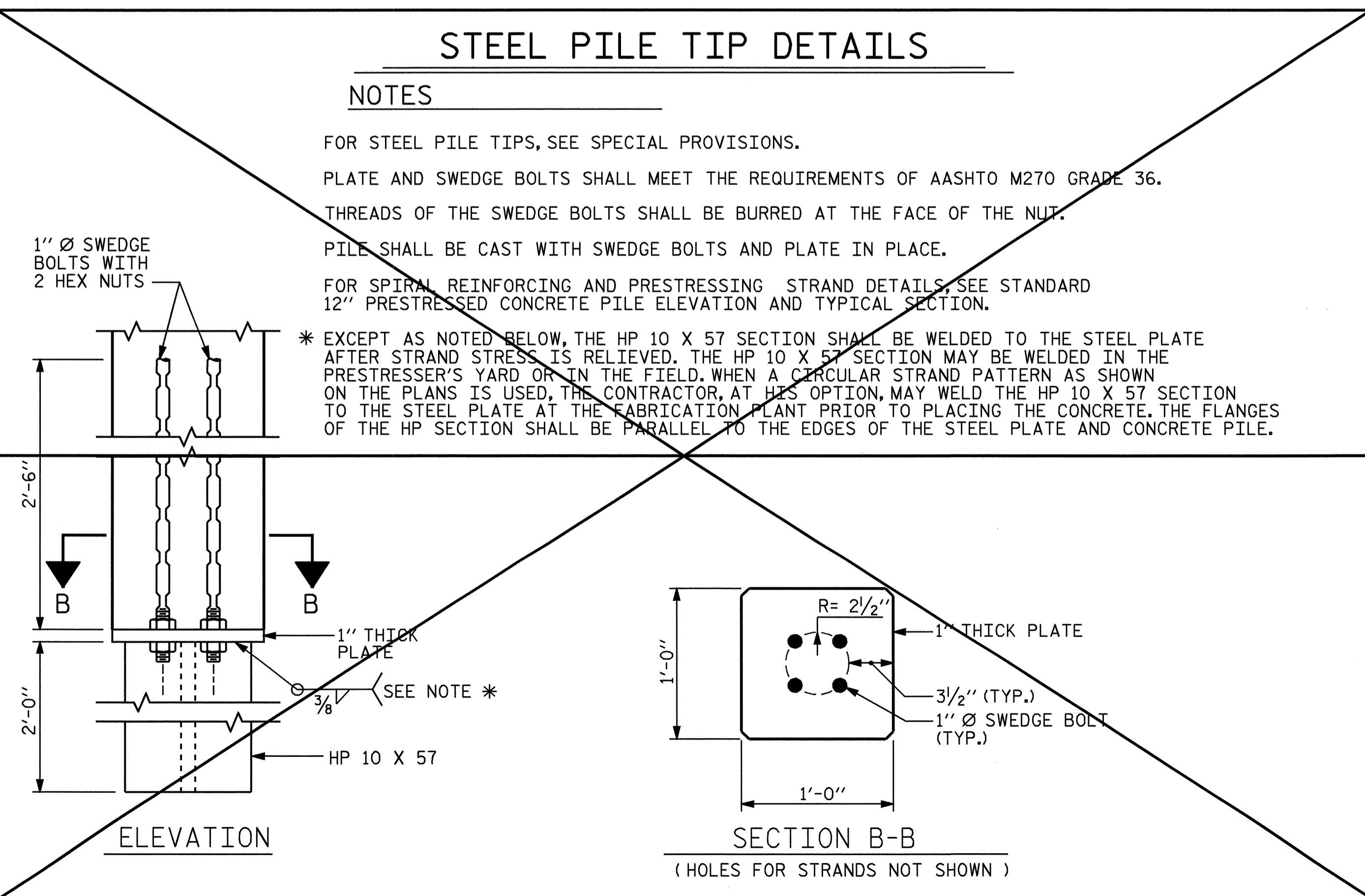
SIZE	GRADE	NUMBER OF STRANDS	AREA	ULTIMATE STRENGTH	APPLIED PRESTRESS FORCE
1/2"	270 L.R.	4	0.153	41,300* PER STRAND	30,980* PER STRAND
1/2"	270 L.R.	5	0.153	41,300* PER STRAND	30,980* PER STRAND

THE SLIP-FORM METHOD OF CASTING PILES WILL NOT BE PERMITTED.  
 IF STRAND STRESS IS RELIEVED BY BURNING, THE STRANDS SHALL BE BURNED IN PAIRS, EXCEPT WHERE 5 STRANDS ARE USED THE LAST STRAND MAY BE BURNED SINGLY, ACCORDING TO BURNING PATTERNS SHOWN. NOT MORE THAN 4 STRANDS MAY BE BURNED AT ANY ONE SECTION BEFORE THE SAME STRANDS ARE BURNED AT BOTH ENDS OF THE BED AND BETWEEN EACH PAIR OF PILES IN THE BED.  
 BUILD-UPS SHALL BE 'CLASS A' CONCRETE WITH 20% ADDITIONAL CEMENT. NO DRIVING OF THE BUILT-UP PILE WILL BE PERMITTED UNTIL THE CONCRETE HAS REACHED A COMPRESSIVE STRENGTH OF 3,000 PSI AND UNTIL A PERIOD OF SEVEN DAYS HAS ELAPSED SINCE CASTING OF THE BUILD-UP.  
 ALL CORNERS TO BE CHAMFERED 3/4 " .  
 FOR PRESTRESSED CONCRETE PILES, SEE SPECIAL PROVISIONS.

**STEEL PILE TIP DETAILS**

**NOTES**

FOR STEEL PILE TIPS, SEE SPECIAL PROVISIONS.  
 PLATE AND SWEDGE BOLTS SHALL MEET THE REQUIREMENTS OF AASHTO M270 GRADE 36.  
 THREADS OF THE SWEDGE BOLTS SHALL BE BURRED AT THE FACE OF THE NUT.  
 PILE SHALL BE CAST WITH SWEDGE BOLTS AND PLATE IN PLACE.  
 FOR SPIRAL REINFORCING AND PRESTRESSING STRAND DETAILS, SEE STANDARD 12" PRESTRESSED CONCRETE PILE ELEVATION AND TYPICAL SECTION.  
 \* EXCEPT AS NOTED BELOW, THE HP 10 X 57 SECTION SHALL BE WELDED TO THE STEEL PLATE AFTER STRAND STRESS IS RELIEVED. THE HP 10 X 57 SECTION MAY BE WELDED IN THE PRESTRESSER'S YARD OR IN THE FIELD, WHEN A CIRCULAR STRAND PATTERN AS SHOWN ON THE PLANS IS USED, THE CONTRACTOR, AT HIS OPTION, MAY WELD THE HP 10 X 57 SECTION TO THE STEEL PLATE AT THE FABRICATION PLANT PRIOR TO PLACING THE CONCRETE. THE FLANGES OF THE HP SECTION SHALL BE PARALLEL TO THE EDGES OF THE STEEL PLATE AND CONCRETE PILE.



PROJECT NO. **B-3866**  
 LENOIR / GREENE COUNTY  
 STATION: **19+21.50 -L-**

STATE OF NORTH CAROLINA  
 DEPARTMENT OF TRANSPORTATION  
 RALEIGH

**STANDARD 12" PRESTRESSED CONCRETE PILE**

OCT. 1977

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

ASSEMBLED BY : E. G. ALLEN DATE : 12-02-04  
 CHECKED BY : T. L. CLELLAND DATE : 12-15-04  
 DRAWN BY : FCJ 7/88 EEM/RGW  
 CHECKED BY : CRK 3/89 REV. 7/17/98 RWW/LES  
 REV. 2/6/97 REV. 8/16/99 RWW/LES