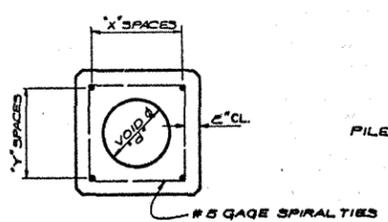
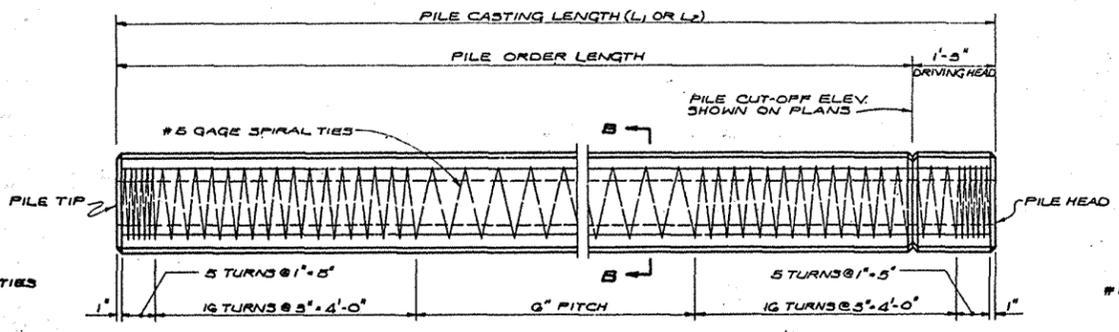


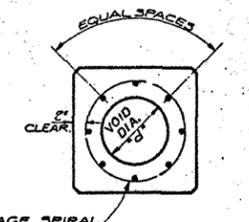
DETAILS OF 12-36 INCH SQUARE PRECAST P.C. FILES  
(SHOWING SQUARE SPIRAL LAYOUT)



SECTION A-A  
NOTE: VOID FOR 24", 30" & 36" PILES ONLY



DETAILS OF 12-36 INCH SQUARE PRECAST P.C. FILES  
(SHOWING CIRCULAR SPIRAL LAYOUT)



SECTION B-B  
NOTE: VOID FOR 24", 30", & 36" PILES ONLY

PILE SIZE	N° OF STRAND		STRAND LAYOUT								INITIAL PRESTRESS P.S.I.					
			STANDARD				HIGH STRENGTH				STANDARD		HIGH 30TH.			
			1/16" φ		1/8" φ		1/16" φ		1/8" φ		1/16" φ		1/8" φ			
	STANDARD	HIGH 30TH.	X <sup>3</sup> SP	Y <sup>3</sup> SP	1/16" φ	1/8" φ	1/16" φ	1/8" φ								
12" SOLID	8	6	-	-	2	2	2	1	-	-	-	-	1058	1058	-	-
14" SOLID	10	8	-	-	3	3	3	2	-	-	-	-	970	1035	-	-
16" SOLID	14	10	12	10	4	3	3	2	3	3	3	2	1038	989	1022	1134
18" SOLID	16	12	14	12	4	4	3	3	4	3	3	3	937	937	941	1074
20" SOLID	22	16	18	14	6	5	4	4	5	4	4	3	1051	1018	988	1023
24" HOLLOW	24	18	22	16	6	6	5	4	6	5	4	4	990	990	1041	1009
30" HOLLOW	32	24	28	22	8	8	6	6	7	7	6	5	974	974	979	1024
36" HOLLOW	42	32	36	28	11	10	8	8	9	9	7	7	984	1000	969	1004

PILE SIZE	N° OF STRANDS		SPIRAL DIA. (OUT TO OUT)	INITIAL PRESTRESS P.S.I.					
				STANDARD		HIGH 30TH.			
			1/16" φ		1/8" φ				
	STANDARD	HIGH 30TH.	1/16" φ	1/8" φ	1/16" φ	1/8" φ			
12" SOLID	8	6	-	-	8	1058	1058	-	-
14" SOLID	10	8	9	7	10	970	1035	1002	1038
16" SOLID	14	10	12	9	12	1038	989	1022	1021
18" SOLID	16	12	14	11	14	937	937	941	995
20" SOLID	21	16	18	14	16	1004	1019	988	1023
24" HOLLOW	24	18	21	16	20	990	990	994	1009
30" HOLLOW	32	24	28	21	26	974	974	979	976
36" HOLLOW	42	32	36	28	32	984	1000	969	1004

**GENERAL NOTES:**

**CONSTRUCTION SPECIFICATIONS:** LA. DEPT. OF HWYS. STD. SPECS. FOR ROADS AND BRIDGES, OCTOBER, 1966, AND SPECIAL PROVISIONS.

**DESIGN SPECIFICATIONS:** A.A.S.H.O. STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 1961, WITH THE LATEST AMENDMENTS.

**CONCRETE:** CONCRETE IN THE PRECAST PRESTRESSED PILES SHALL BE CLASS "B" CONCRETE. CONCRETE IN BUILD-UPS WITHOUT DRIVING SHALL BE CLASS "A" CONCRETE.

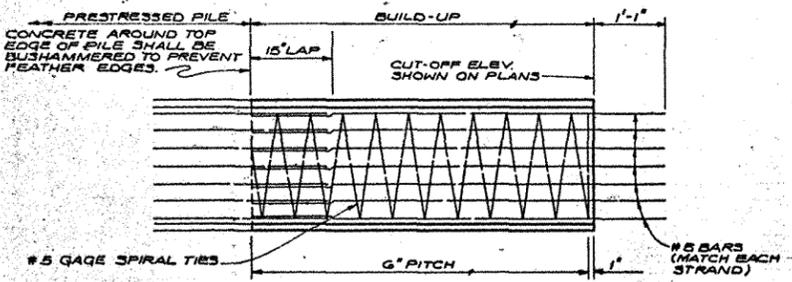
**PRESTRESSING REINFORCEMENT:** HIGH STRENGTH STANDARDS SHALL BE TYPE 270 K, SEVEN-WIRE, UNCOATED, STRESS-RELIEVED STEEL STRANDS & SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-191 AS MODIFIED BY THE SPECIAL PROVISIONS. AN INITIAL TENSILE FORCE OF 21,700 LBS. SHALL BE APPLIED TO EACH 1/16" φ STRAND AND AN INITIAL TENSILE FORCE OF 28,910 LBS. SHALL BE APPLIED TO EACH 1/8" φ STRAND. UNCOATED STRESS-RELIEVED STEEL STRANDS & SHALL CONFORM TO THE REQUIREMENTS OF A.S.T.M. DESIGNATION A-191 AS MODIFIED BY THE SPECIAL PROVISIONS. AN INITIAL TENSILE FORCE OF 18,500 LBS. SHALL BE APPLIED TO EACH 1/16" φ STRAND AND AN INITIAL TENSILE FORCE OF 25,200 LBS. SHALL BE APPLIED TO EACH 1/8" φ STRAND.

**DEFORMED REINFORCING STEEL:** REINFORCING BARS SHALL BE INTERMEDIATE OR HARD GRADE A.S.T.M. A15 OR A.S.T.M. A16 OR RAIL STEEL A.S.T.M. A16 AND SHALL CONFORM TO A.S.T.M. A305.

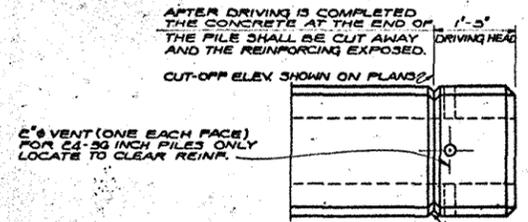
**SPIRAL REINFORCING STEEL:** #5 GAGE SPIRAL REINFORCEMENT SHALL BE PLAIN BARS AND MAY BE EITHER INTERMEDIATE, HARD, OR STRUCTURAL GRADE CONFORMING TO A.S.T.M. DESIGNATION A15, OR COLD DRAWN WIRE CONFORMING TO A.S.T.M. DESIGNATION A92 AS AMENDED IN THE SPECIAL PROVISIONS. IT WILL BE PERMISSIBLE TO SUBSTITUTE 1/4" INCH ROUND PLAIN REINFORCING OF THE SAME GRADE AND AT THE SAME SPACING FOR THE #5 GAGE SPIRAL TIES.

**REINFORCEMENT DIMENSIONS:** ALL DIMENSIONS TO REINFORCEMENT ARE TO BAR CENTERS EXCEPT AS NOTED.

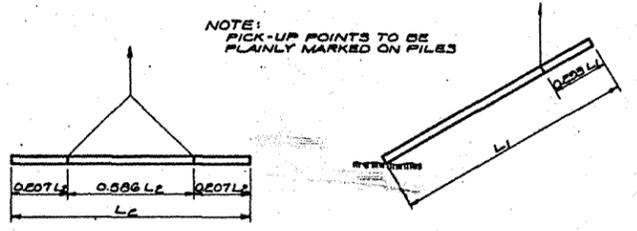
**FABRICATION TOLERANCES:** FABRICATION TOLERANCES OF THE PRESTRESSED CONCRETE PILE SHALL BE AS REQUIRED BY A.A.S.H.O. TENTATIVE STANDARDS FOR PRECAST CONCRETE I-BEAMS FOR BRIDGES.



TYPICAL BUILD-UP WHERE REDRIVING IS NOT REQUIRED



DETAIL OF PILE HEAD



NOTE: L<sub>1</sub> & L<sub>2</sub> = PILE CASTING LENGTH = PILE ORDER LENGTH + 1'-3"

PILE SIZE	WEIGHT PER LIN. FOOT	SECTION MODULUS OF CROSS SECTION	AREA OF NORMAL CROSS SECTION	VOID DIA. "d"	MAX. CASTING LENGTH	
					1 POINT PICK-UP L <sub>1</sub>	2 POINT PICK-UP L <sub>2</sub>
12" SOLID	150	208 IN <sup>3</sup>	144 IN <sup>2</sup>	0.00	51'-3"	72'-3"
14" SOLID	204	457 IN <sup>3</sup>	196 IN <sup>2</sup>	0.00	53'-3"	75'-3"
16" SOLID	267	623 IN <sup>3</sup>	256 IN <sup>2</sup>	0.00	57'-3"	81'-3"
18" SOLID	338	872 IN <sup>3</sup>	324 IN <sup>2</sup>	0.00	59'-3"	84'-3"
20" SOLID	417	1333 IN <sup>3</sup>	400 IN <sup>2</sup>	0.00	64'-3"	91'-3"
24" HOLLOW	482	2219 IN <sup>3</sup>	463 IN <sup>2</sup>	12.00	77'-3"	109'-3"
30" HOLLOW	651	4100 IN <sup>3</sup>	625 IN <sup>2</sup>	18.70	89'-3"	127'-3"
36" HOLLOW	845	6756 IN <sup>3</sup>	811 IN <sup>2</sup>	24.85	100'-3"	145'-3"

**CHAMFERS AND CORNERS:** ON PILES 18" OR SMALLER ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 3/4" CHAMFERS. ON PILES 20" OR LARGER ALL EXPOSED CONCRETE CORNERS ARE TO HAVE 1/2" CHAMFER.

**PICK-UP AND HANDLING:** MAXIMUM LENGTHS FOR PICK-UP HAVE BEEN DETERMINED USING THE FOLLOWING STRESS ASSUMPTIONS: 1. LOADING: 1 1/2 TIMES FULL DEAD LOAD. ALLOWABLE TENSILE STRESS EQUALS 0.4 X F<sub>y</sub>. THIS STRESS AND LOADING CRITERIA ARE BASED ON CAREFUL HANDLING OF THE PILE. ROTATION OF PILE IN THE SLINGS IS TO BE PREVENTED UNTIL PILE IS IN VERTICAL POSITION. PICK-UP POINTS FOR ALL PILES TO BE CLEARLY MARKED ON PILE. PILES MAY BE MADE AT A CENTRAL PLANT AND TRANSPORTED TO THE BRIDGE SITE IN TRUCKS.

PILES

STANDARD PLAN  
12-14-16-18, 20, 24, 30 & 36 INCH  
PRECAST PRESTRESSED CONCRETE PILES

DATED MARCH 17, 1966

STATE OF LOUISIANA  
DEPARTMENT OF HIGHWAYS

DESIGNED BY *W. Owen* DETAILED BY *G.B.W.* TRACED BY *M. Owen*  
CHECKED BY *James G. H.* CHECKED BY *F. Owen* CHECKED BY *E. Owen*

DATE DESCRIPTION BY REVISIONS IN CHARGE OF