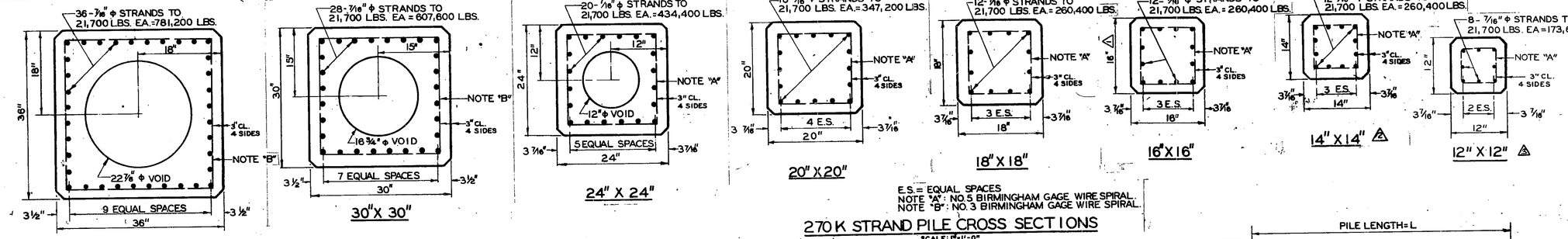
FED. ROAD DIV. NO.	STATE	FED. AID PROJ. NO.	STATE AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
3	GA.				118	167

BR000-0001-00(358)



E.S.= EQUAL SPACES
NOTE "A": NO.5 BIRMINGHAM GAGE WIRE SPIRAL.
NOTE "B": NO.3 BIRMINGHAM GAGE WIRE SPIRAL.

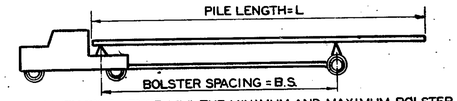
270 K STRAND PILE CROSS SECTIONS

SCALE: 1"=1'-0"

PILE SIZE	AREA IN²	WEIGHT LBS/FT.	S IN³	N P.S.I.	PICK-UP POINTS MAX. L END	0.293 L	0.207 L	0.153 L	PILE LENGTH (L)/BOLSTER SPACING (B.S.) IN FEET 25	30	35	40	45	50	55	60	65	70	75	80	85	90 *	95	L
12 X 12	144.00	150	288.00	940	28'	49'	70'	95'	13-25	16-28	21-29	26-30	30-33	35	---	---	---	---	---	---	---	---	---	B.S.
14 X 14	196.00	204	457.33	1036	30'	52'	73'	100'	16-25	19-30	22-31	25-32	30-34	35-36	---	---	---	---	---	---	---	---	---	
16 X 16	256.00	267	682.67	793	34'	58'	83'	112'	16-25	19-30	22-34	25-35	29-36	33-38	38-40	---	---	---	---	---	---	---	---	
18 X 18	324.00	338	972.00	627	33'	57'	80'	109'	16-25	19-30	22-33	25-34	29-35	34-37	39	---	---	---	---	---	---	---	---	
20 X 20	400.00	417	1333.33	677	36'	61'	87'	118'	16-25	19-30	22-35	25-36	29-37	32-39	37-41	42-43	---	---	---	---	---	---	---	
24 X 24	462.90	483	2219.17	731	44'	76'	107'	146'	16-25	19-30	22-35	25-40	29-44	32-45	35-46	38-47	43-49	48-51	53	---	---	---	---	
**	576.00	600	2304.00	588	37'	64'	91'	123'	16-25	19-30	22-35	25-37	29-38	32-40	37-42	42-44	---	---	---	---	---	---	---	
30 X 30	675.00	708	4242.40	697	50'	85'	121'	164'	16-25	19-30	22-35	25-40	29-45	32-50	35-50	38-51	41-53	45-54	50-56	55-58	60	---	---	
36 X 36	885.03	922	7029.31	689	56'	96'	136'	184'	16-25	19-30	22-35	25-40	29-45	32-50	35-55	38-56	41-57	44-58	47-60	52-61	57-63	62-65	67-68	

N=EFFECTIVE PRESTRESS.
** VALUES GIVEN ARE FOR 24" SQ. SOLID PILE WITH SAME NUMBER OF STRANDS, STRAND ARRANGEMENT AND INITIAL PRETENSION FORCE AS REQ'D. FOR 24" SQ. WITH 12" ϕ VOID PILE.

VALUES GIVEN IN THIS TABLE APPLY ONLY TO PILE SECTIONS USING 270K STRANDS.



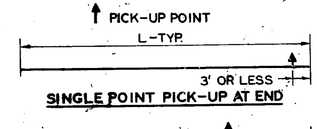
FOR A GIVEN PILE LENGTH "L", THE MINIMUM AND MAXIMUM BOLSTER SPACINGS ARE TABULATED ASSUMING ONLY ONE OVERHANG. WHEN LONGER PILES ARE INVOLVED, HAULING WILL BE LIMITED AS FOLLOWS:

1. UNEQUAL OVERHANGS
THE MAXIMUM PERMITTED PILE LENGTH SHALL BE EQUAL TO TWICE THE (TABULATED PILE LENGTH MINUS BOLSTER SPACING) PLUS THE BOLSTER SPACING USED IN THIS EQUATION. THE MAXIMUM OVERHANG SHALL BE 0.293 TIMES THE LENGTH TABULATED IN THE COLUMN HEADED "0.293 L".
*EXAMPLE: FOR 36" PILE (90-62)(2)+62=118', BOLSTER SPACING = 62'
MAXIMUM OVERHANG = 0.293 X 118' = 28.1'

2. EQUAL OVERHANGS
THE MAXIMUM PERMITTED PILE LENGTH SHALL BE BASED UPON THE DOUBLE POINT PICK-UP SYSTEM AND THE BOLSTER SPACING SHALL BE EQUAL TO 0.586L. THE MAXIMUM PILE LENGTH HAULED SHALL BE THAT TABULATED IN THE COLUMN HEADED "0.207 L"
EXAMPLE: FOR 36" PILE (135' LONG
EACH OVERHANG 0.207 X 135' = 27.945'
B.S. 0.586 X 135' = 79.11
MAXIMUM LENGTH = 136' > 135'

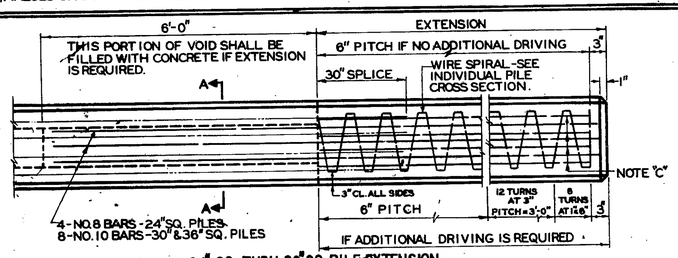
HAULING DIAGRAM

NO SCALE



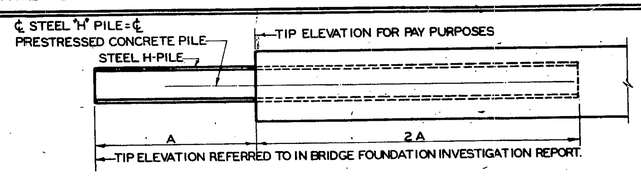
PICK-UP SKETCHES

NO SCALE



24" SQ. THRU 36" SQ. PILE EXTENSION

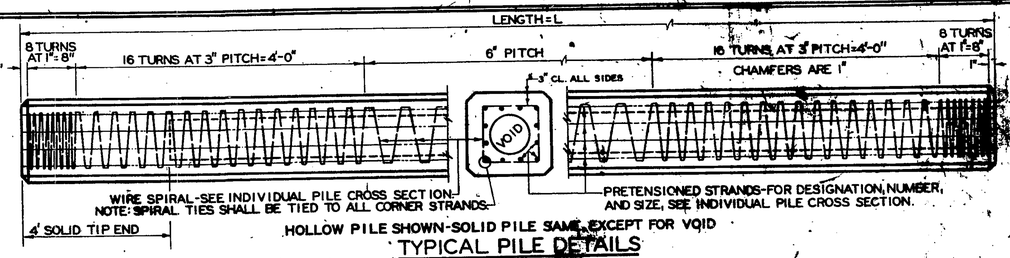
NO SCALE



TO BE USED WHEN REQUIRED BY SPECIAL PLANS. TEST PILE LENGTHS GIVEN ON SPECIAL PLANS DO NOT INCLUDE STEEL H-PILE IN TIP OF COMPOSITE PILES.

COMPOSITE PILE DETAILS

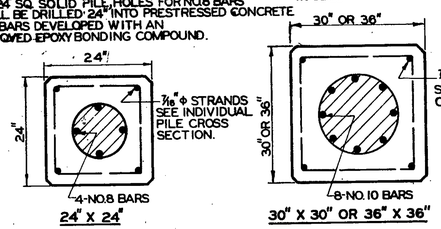
NO SCALE



TYPICAL PILE DETAILS

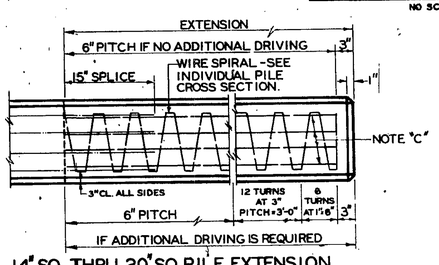
NO SCALE

FOR 24" SQ. SOLID PILE, HOLES FOR NO.8 BARS SHALL BE DRILLED 24" INTO PRESTRESSED CONCRETE AND BARS DEVELOPED WITH AN APPROVED EPOXY BONDING COMPOUND.



SECTION A-A

NO SCALE



14" SQ. THRU 20" SQ. PILE EXTENSION

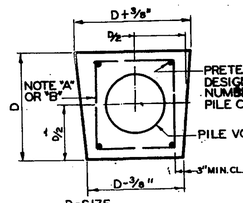
NO SCALE

VOIDS SHALL BE LOCATED WITHIN ½" OF POSITION SHOWN.

NOTE C: NO. 5 BARS FOR PILES 12" THRU 24" NO.6 BARS FOR 30" & 36" PILES. PLACE ONE BAR AT EACH PRETENSIONED STRAND. SEE INDIVIDUAL PILE CROSS SECTION FOR NUMBER OF STRANDS.

NOTE: 1" ϕ HOLES SHALL BE FORMED IN ONE FACE (AT 5 FT. ON CENTER) IN VOID-TYPE PILE. IN PILING CAST FOR A SPECIFIC PROJECT, THESE HOLES WILL BE REQUIRED ONLY FOR THAT PORTION EXPECTED TO REMAIN ABOVE GROUND.

GENERAL DETAILS 250K OR 270K PILING

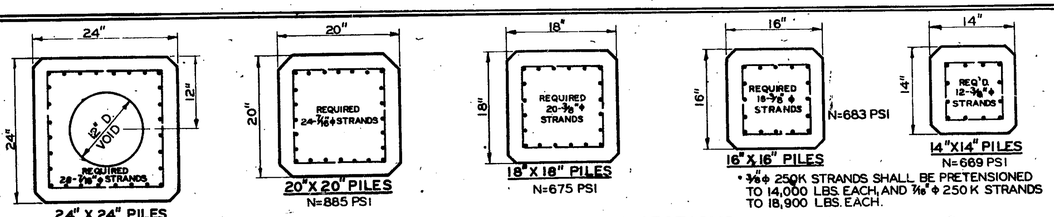


ALTERNATE PILE CROSS SECTION

NO SCALE

DESIGN DATA

CONCRETE ....5,000 PSI. CLASS AAA
PRETENSIONED STRANDS ....250K OR 270K
TOTAL LOSSES....22 % OF INITIAL PRETENSION FORCE
WIRE SPIRALS....A.S.T.M. A82 OR A.A.S.H.O. M32

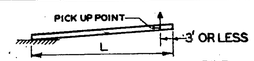


* 7/16" ϕ 250K STRANDS SHALL BE PRETENSIONED TO 14,000 LBS. EACH, AND 7/16" ϕ 250 K STRANDS TO 18,900 LBS. EACH.

WIRE SPIRALS SHALL BE NO. 5 BIRMINGHAM GAGE.

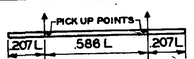
250K STRAND PILE CROSS SECTIONS

SCALE: 1"=1'-0"



MAX. PILE LENGTH	PILE SIZE
30 FT.	14" X 14"
38 FT.	16" X 16"
34 FT.	18" X 18"
39 FT.	20" X 20"
48 FT.	24" X 24"
27 FT.	12" X 12"

SINGLE POINT PICKUP



DOUBLE POINT PICKUP

NOTES

1. PILES SHALL BE PLAINLY MARKED TO INDICATE PROPER PICK-UP POINTS FOR ATTACHING HANDLING LINES.
2. THE TWO POINT PICK-UP SHALL BE USED FOR HANDLING AND TRANSPORTING PILES FROM CASTING YARD TO JOB SITE IN ALL CASES, AND FOR UNLOADING AND STORING AT JOB SITE.

REVISIONS	BY	DATE
CORRECTED 16"X16" PILES	J.E.T.	12-18-74
14" SQ. PILES	J.E.T.	2-4-81
ADDED 12" SQ. PILES	J.E.T.	2-22-84

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD SQUARE PRESTRESSED CONCRETE PILES

SCALE: AS SHOWN

OCTOBER 1974

DESIGNED W.B.L.-J.E.T.
DRAWN J.E.T.
TRACED M.V.W.
CHECKED J.W.P.

SUBMITTED R. L. Chapman Jr. BRIDGE ENGINEER
APPROVED Thomas D. Moreland STATE HIGHWAY ENGINEER

NUMBER 3215

41-12