121-0119-0

BRIDGE FOUNDATION INVESTIGATION

APD-F-056-1 (5) FULTON
SBL OVER RAMP 2
BRIDGE #2

1. LOCATION - This structure is to be located in the proposed interchange of the Atlanta Perimeter Highway and the North Fulton Expressway in the northern section of Atlanta. It is geologically sited in the Carolina Formation of the Georgia Piedmont.

2. SUBSURFACE CONDITIONS - Reference should be made to the attached boring logs and soil profile. Some pertinent details are as follows:

a) This site is underlain by weathered rock. This wetahered or soft rock is undoubtedly overlying hard rock but only one boring (#1) reached refusal on hard rock.

b) Ground water level was quite variable at the site. It was encountered at various borings between elevation 992 and 1013.

c) The soils overlying weathered rock at this site are generally, medium dense, micaceous silty sand and stiff red clay.

3. FOUNDATION RECOMMENDATIONS - Bent 1 of this structure offers somewhat of a problem. The bottom of cap elevation furnished for this bent was 1045.0. The existing ground elevation is approximately 998.0 and the indicated bearing point for steel "H" piles is approximately 958. With this much fill, steel "H" piles are the only appropriate pile type for use without predrilling. This gives an indicated pile length of 87 feet for this bent. Considering these facts, it appears that two general foundation plans are available for this site.

a) Plan 1 would include the use of a long waiting period for fill settlement and spread footings with a low design bearing at all bents. The end bents would be placed on spread footings on the completed fills. With this plan, the end bent foundations should be designed with a bearing not to exceed 2500 psf and with a minimum of 2 feet cover and 4 feet berm width in front of the cap.

The intermediate bent footings should be placed as follows:

Bent 2	1005.0	3.5 ksf
Bent 3	1007.0	3.5 ksf

BRIDGE FOUNDATION INVESTIGATION

APD-F-056-1 (5) FULTON
SBL OVER RAMP 2
BRIDGE #2

A necessary waiting period of 6 months is indicated by consolidation tests. This should be verified by elevations taken on the completed end fill. No footings should be placed before 90% of primary consolidation has occurred.

b) Plan Two will be more costly but will be more resistant to fill settlement. It includes the use of steel "H" pile end bents and steel "H" pile footings for the intermediate bents. Maximum recommended bearing for "H" piles at this site are as follows:

10 BP 42	55 Tons
12 BP 53	70 Tons

Estimated pile tip elevations for these bearings are as follows:

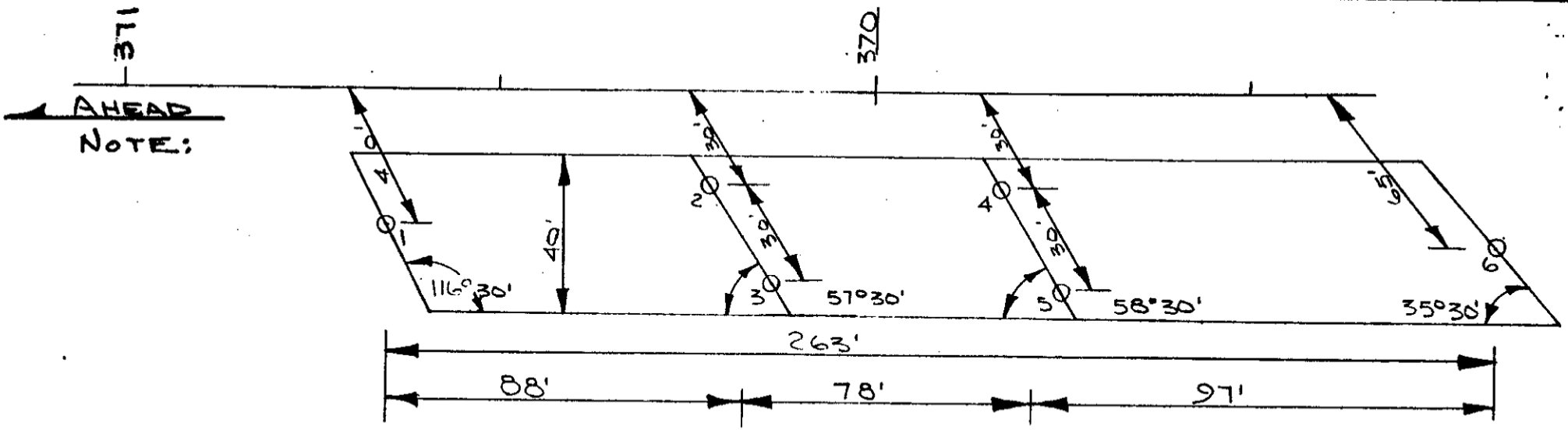
Bent 1	955 to 965
Bent 2	965 to 975
Bent 3	970 to 985
Bent 4	990 to 1000

Piles may be driven to bearing as determined by the dynamic driving formula but reference should be made to the boring logs during driving and all pile tips should be seated in weathered rock. With this plan, a shorter waiting period will be necessary. It is the opinion of the undersigned that piles may be driven after 75% of primary consolidation. Consolidation tests indicate this will require a waiting period of approximately 4 months at bents 1 and 2 and 2 months at bent 4. No waiting period will be necessary at bent 3 with this plan.

Thomas D. Moreland
Civil Engineer IV

TDM:sev

9-7-66



STATE HIGHWAY DEPARTMENT OF GEORGIA Bridge Foundation Investigation	
DRW. RT	APD-F-056-1(5) FULTON S.B.L. OVER RAMP 2
CKD. LM	BRIDGE #2
APP.	NO SCALE 7-19-66

H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

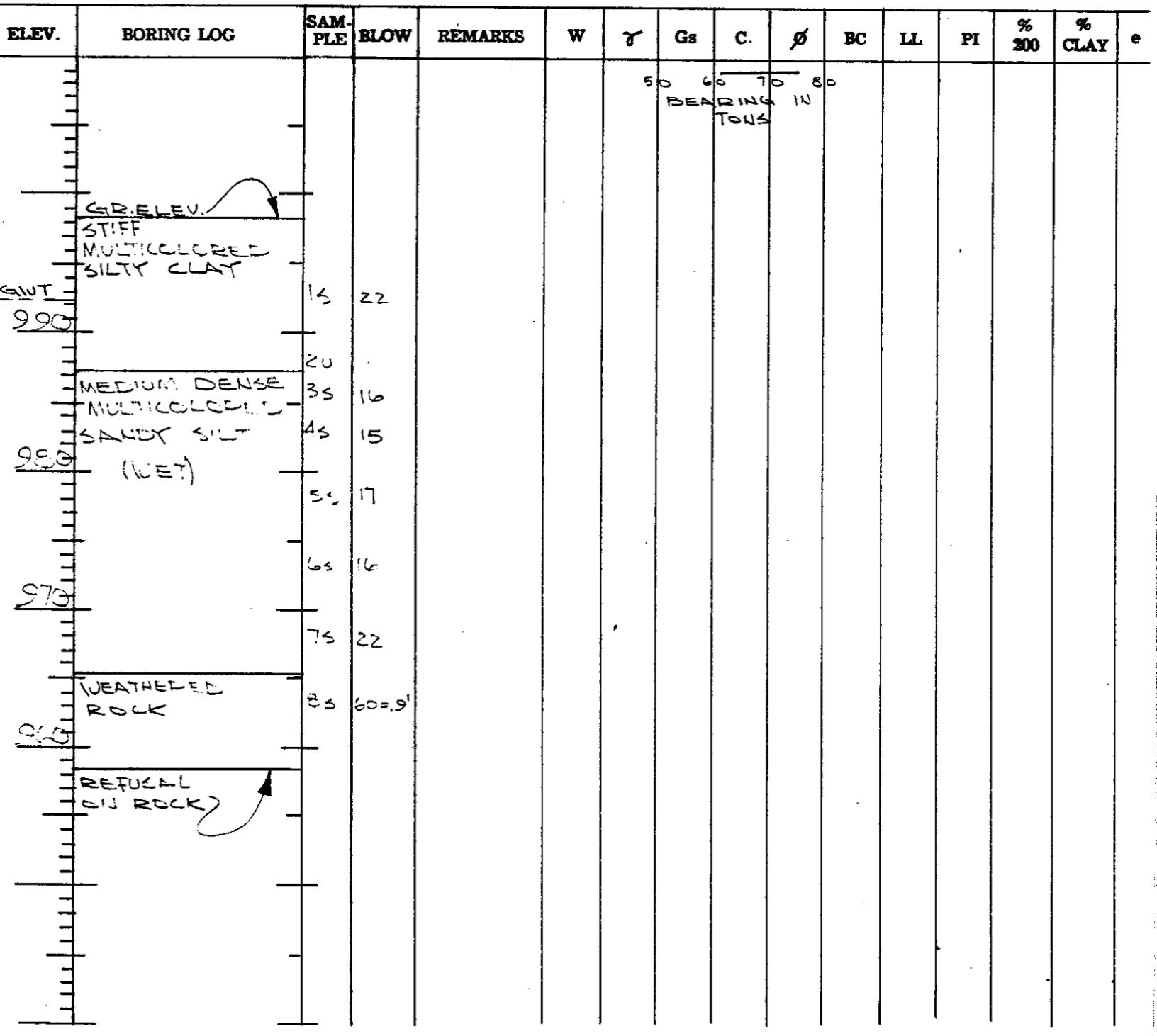
BRIDGE SUBSURFACE INVESTIGATION

PROJECT APD-F-056-1(5) COUNTY FULTON DATE 6-14-66

LOCATION SBL OVER RAMP 2 BR #2 BORING NO. 1

BENT NO. 1 FOOTING ℄ GROUND ELEV. 998.22

PROPOSED FOOTING ELEV. _____ PARTY CHIEF STONE



H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

BRIDGE SUBSURFACE INVESTIGATION

PROJECT APD-F-056-1(5) COUNTY FULTON DATE 7-14-66

LOCATION SBL OVER RAMP 2 BR.#2 BORING NO. 2

BENT NO. 2 FOOTING LT. GROUND ELEV. 1007.2

PROPOSED FOOTING ELEV. 1013.0 PARTY CHIEF PORTER

ELEV.	BORING LOG	SAMPLE	BLOW	REMARKS	W	γ	Gs	C.	ø	BC	LL	PI	% 200	% CLAY	e
	GR. ELEV.														
	STIFF RED SILTY CLAY (MOIST)	1U			24.5	113.9	2.72				28.5	11.9	73.8	38.5	
1000		2S	28												
		3U			23.3	112.1	2.66				40.7	16.2	60.7	27.7	
	MEDIUM DENSE BROWN SANDY CLAYEY SILT (MOIST)	4S	14												
994		5U			31.2	117.6	2.62				—	—	35.9	5.4	
		6S	14												
990		7S	19												
	WEATHERED ROCK	8S	60=.5'												
985		9S	60=.5'												
970		10S	60=.2'												
	END DRILLING														

10" BP 42

50 60 70 80

BEARING IN TONS

H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

BRIDGE SUBSURFACE INVESTIGATION

PROJECT APD-F-056-1(5) COUNTY FULTON DATE 6-10-66

LOCATION SBL OVER RAMP 2 BR.#2 BORING NO. 3

BENT NO. 2 FOOTING RT. GROUND ELEV. 1007.2

PROPOSED FOOTING ELEV. 1007.0 PARTY CHIEF MAXWELL

ELEV.	BORING LOG	SAMPLE	BLOW	REMARKS	W	γ	Gs	C.	ø	BC	LL	PI	% 200	% CLAY	e
	GR. ELEV.														
	STIFF RED SILTY CLAY	1S	22		27.5						51.0	28.6	23		
		2S	19		27.2						31.5	—	18		
1006		3S	19		21.7								15		
	MEDIUM DENSE MULTICOLORED CLAYEY SILT	4S	15		28.0								15		
SLIT		5S	10		36.9								22		
999		6S	21		22.1								20		
	WEATHERED ROCK	7S	60:7"		16.4								20		
988		8S	60:2"		18.6								19		
		9S	60:4"		18.8								18		
	END DRILLING														

H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

BRIDGE SUBSURFACE INVESTIGATION

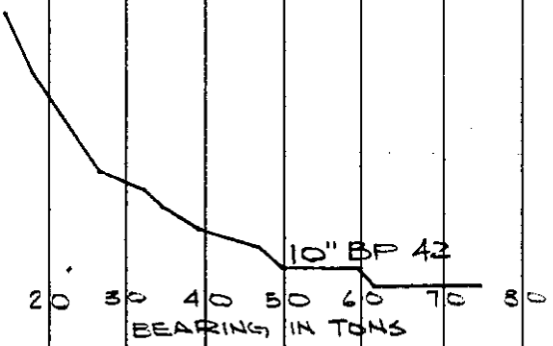
PROJECT APD-F-056-1(5) COUNTY FULTON DATE 6-9-66

LOCATION SRL OVER RAMP 2 BR.#2 BORING NO. 4

BENT NO. 3 FOOTING LT. GROUND ELEV. 1014.82

PROPOSED FOOTING ELEV. 1007.0 PARTY CHIEF MAXWELL

ELEV.	BORING LOG	SAMPLE	BLOW	REMARKS	W	γ	Gs	C.	ø	BC	LL	PI	% 200	% CLAY	e
	GR. ELEV.														
1015	MEDIUM DENSE MULTICOLORED SILTY SAND														
		1S	15												
		2S	24												
1000		3S	21												
GW.T.		4S	13												
		5S	21												
	DENSE (CLAY)	6S	33												
900		7S	37												
	WEATHERED ROCK	8S	6" 5.5'												
990		9S	HAMMER BOUNCED												
975															
965	END DRILLING														



H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

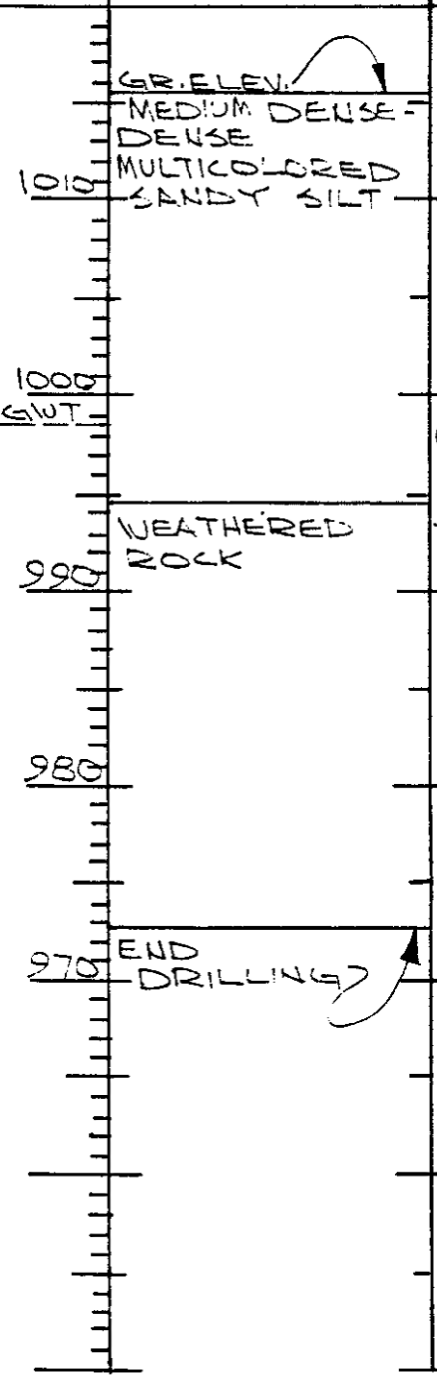
BRIDGE SUBSURFACE INVESTIGATION

PROJECT APD-F-056-1(5) COUNTY FULTON DATE 6-14-66

LOCATION SBL OVER RAMP 2 BR# 2 BORING NO. 5

BENT NO. 3 FOOTING RT. GROUND ELEV. 1015.40

PROPOSED FOOTING ELEV. 1007.0 PARTY CHIEF STONE



ELEV.	BORING LOG	SAMPLE	BLOW	REMARKS	W	γ	Gs	C.	ø	BC	LL	PI	% 200	% CLAY	e
		1S	33												
		2S	19												
		3S	23												
		4S	17												
		5S	22												
		6S	35												
		7S	60=.6'												
		8S	HAMMER BOUNCED												

H.D.490

STATE HIGHWAY DEPARTMENT OF GEORGIA

DIVISION OF MATERIALS AND TEST, ATLANTA, GEORGIA

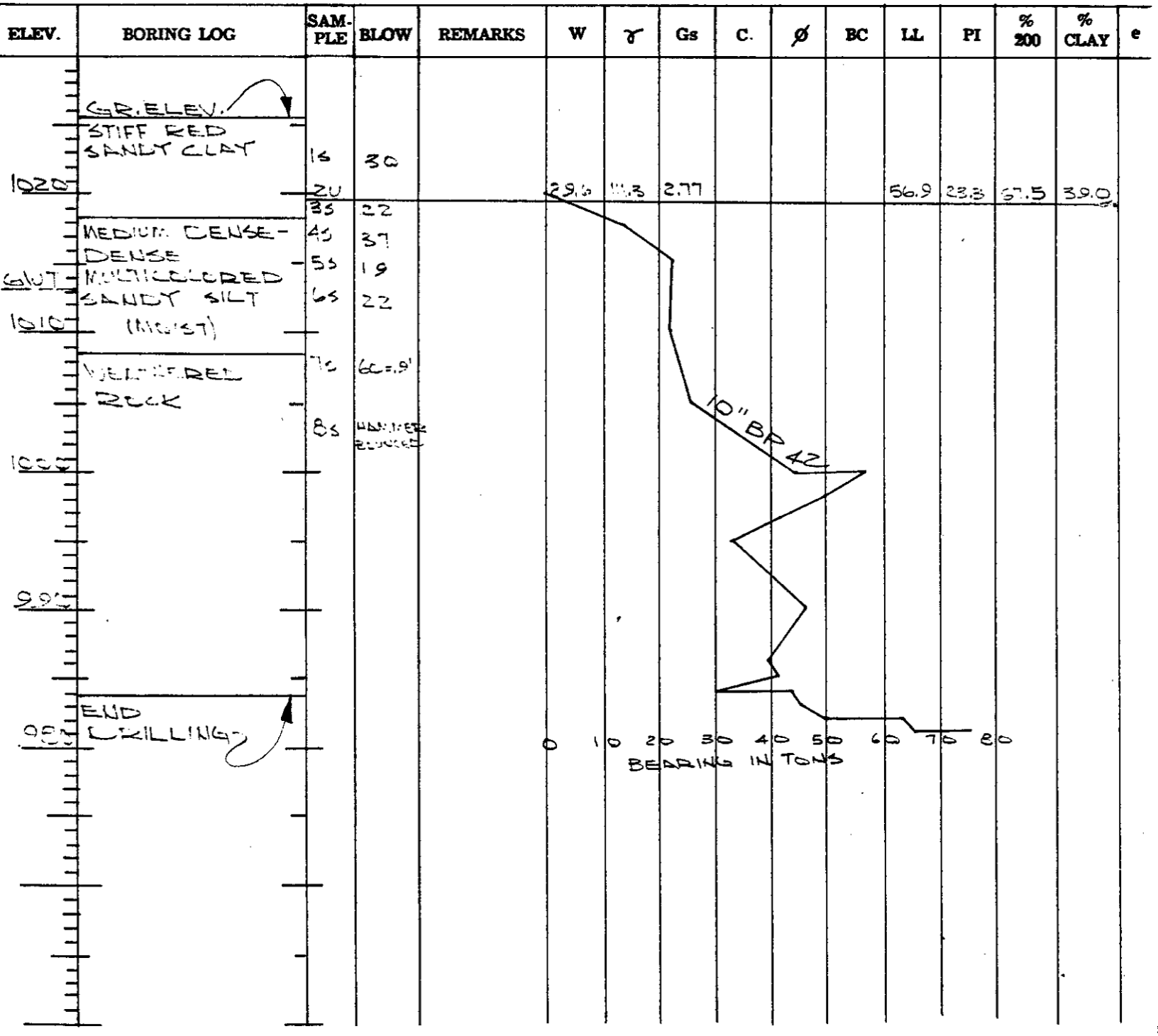
BRIDGE SUBSURFACE INVESTIGATION

PROJECT APD-F-056-1(5) COUNTY FULTON DATE 6-14-66

LOCATION SBL OVER RAMP 2 BR. #2 BORING NO. 6

BENT NO. 4 FOOTING ℄ GROUND ELEV. 1025.62

PROPOSED FOOTING ELEV. 1045.0 PARTY CHIEF STONE



F-056-1 (11) Ct. 2 Fulton County
Rogers Bridge Company, Inc.

Atlanta 30334

May 24, 1968

R. L. Chapman, Jr., State Highway Bridge Engineer

Mark M. Johnson, Field Division Engineer, Cartersville, Georgia

Pile Order Lengths - Bridge No. 2
South Bound Lane Over Ramp 2

This letter acknowledges receipt of Test Pile Driving Data for Test Pile No. 1 at Bent No. 2, Test Pile No. 2 at Bent No. 3, Test Pile No. 3 at Bent No. 4, and Test Pile No. 4 at Bent No. 1.

The Bridge Division concurs in the use of the following Pile Order Lengths:

Bent No.	Order Length-Ft.	Pile Type
1	37.0	10 BP 42
2	30.0	10 BP 42
3	30.0	10 BP 42
4	60.0	10 BP 42

COPY

LRP

R. L. Chapman, Jr.

LRPJr:frb

cc: J. T. Kratzer
T. D. Moreland, State Highway Materials Engineer
McKay Newsom, Assistant Field Division Engineer, Atlanta, Ga.

H.D. 500-A
(10-66)

TEST PILE DRIVING DATA

DATE: 3-15-68

PROJECT NO. F056-1-(11)CTZ COUNTY FULTON

BRIDGE AT RAMP NO. 2 STATION 368+51.66 TO STATION 371+17.19

PILING

UT . . . . . x ____'
TT . . . . . x ____'
H. 10" BP 42# x ____'
C-I-P ____ IN. O.D. x ____'
PSC ____ IN. ____ x ____'
PCC ____ IN. ____ x ____'
OTHER: ____

PLAN DRIVING OBJECTIVE (PDO)

- ☐ PRACTICAL REFUSAL
- ☒ REFUSAL ☒ ROCK
- ☐ TONS. MIN 55 TONS

LOCATION

TEST PILE NO.	BRIDGE NO.	BENT NO.	PILE NO.
1	2	2	26

HAMMER

GRAVITY. ____ LB.
MKT DE - ____
DELMAG D - ____
VULCAN NO. 1-15000 EPLS 031
LINK-BELT MODEL ____
OTHER: ____

SUMMARY

ELEVATIONS. IN WHOLE FEET ONLY

(1) CUT-OFF 1013
GROUND 1012
(2) TIP. FINAL 989
(3) TIP. ACCEP. 988
(1) – (2) = 25
(1) – (3) = 25

NAME: Sam OGLETREE

DID BRIDGE FOUNDATION INVESTIGATION REPORT RECOMMEND. SPECIFY. OR ESTIMATE . . . ? (INSERT)

A MIN. PILE TIP ELEV.? NONE
A PILE TIP ELEV.? 990
ANY PILE LENGTHS? ~~-~~ 23
DRIVING TO A STRATUM? Rock
DRIVING TO AN "N" OF?
OTHER?

TEST BEGAN WITH A PENT. OF 3 FEET BELOW CUT-OFF AND A TIP ELEVATION OF 1010 (WHOLE NO.'S ONLY)

*HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	48	4.8	1010.		1010.03
↑	↑	30	3.0	1006		
		30	3.0	1003		
		24	2.4	1001		
		24	2.4	999		
		6½	.65	997		
		7	.7	996		
		5	.5	995		
		6	.6	995		
		5.75	.57	994		
		5.25	.52	994		
		4.75	.47	994		
		4.5	.45	994		
		4	.4	993		993.31
		2.76	.27	993		
		2.50	.25	993		
		2.25	.22	993		
		2	.2	992		
		1.75	.175	992		
		1.25	.12	992		
		1	.1	992		
		.75	.075	992		
		.75	.075	992		
		.5	.05	992		
		.75	.075	992		
		.75	.075	992		
		.75	.075	991		
		.875	.087	991		
↓	↓	.875	.087	991		
3	10	.75	.075	991		991.39

*FOR GRAVITY AND POWER HAMMERS.
FOR DIFFERENTIAL OR DOUBLE ACTING STEAM OR AIR HAMMERS. USE MANUFACTURER'S ENERGY RATING.
FOR LINK-BELT. CONVERT BOUNCE CHAMBER PRESSURE READING TO "WH" VALUE BY MEANS OF CHART. USE IN S. A. FORMULA.

Refusal of 55 Tons 10BP42

H.D. 506-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 26 CONTINUED. PAGE NO. 2 OF 3

PROJECT NO. F056-1-(11) CT2 COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	.75	.075	991	55	991.32 - 991.45 ?
↑	↑	.87	.087	991	57	
		"	"	991	"	
		"	"	991	"	
		.75	.075	991	55	
		.875	.087	991	52	
		1.12	.112	992	48	
		"	"	991	"	
		"	"	991	"	
		"	"	991	"	
		"	"	991	"	
		1.00	.10	990	50	990.47
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		.75	.075	990	55	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		"	"	990	"	
		.875	.087	990	52	989.59
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		.625	.062	989	57	
		"	"	989	"	
		"	"	989	"	
		.5	.05	989	66	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		.375	.037	989	63	988.59
		"	"	989	"	
		"	"	989	"	
		"	"	988	"	
		"	"	988	"	
		"	"	988	"	
↓	↓	"	"	988	"	
3	10	"	"	988	"	988.38

H.D. 503-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 26 CONTINUED. PAGE NO. 3 OF 3

PROJECT NO. F056-1-(11) CT2 COUNTY Fulton

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	.25	.025	988	-	988.35
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		.125	.012	988		988.19
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
		"	"	988		
3	10	0	0	988.00	75	988.00

ORDER LENGTH - 30'

HEAT NO. 54764

H.D. 500-A (10-66)

TEST PILE DRIVING DATA

DATE: 3-20-68

PROJECT NO. [illegible] COUNTY Fulton

BRIDGE AT Ramp NO. 2 STATION 368+51.66 TO STATION 371+17.19

PILING

UT . . . . . x ,
TT . . . . . x ,
H. 10" BP 42# x ,
C-I-P ____ IN. O.D. x ,
PSC ____ IN ____ x ,
PCC ____ IN. ____ x ,
OTHER: ____

PLAN DRIVING OBJECTIVE (PDO)

☑ PRACTICAL REFUSAL
☐ REFUSAL ☐ ROCK
☐ TONS. ____

LOCATION

TEST PILE NO. 2
BRIDGE NO. 2
BENT NO. 3
PILE NO. 39

HAMMER

GRAVITY. ____ LB.
MKT DE — ____
DELMAG D — ____
VULCAN NO. 1 WH = 15,000 FTLBS
LINK-BELT MODEL ____
OTHER: ____

SUMMARY

ELEVATIONS. IN WHOLE FEET ONLY

(1) CUT-OFF 1009
GROUND 1009
(2) TIP. FINAL 979
(3) TIP. ACCEP. 979
(1) — (2) = 30
(1) — (3) = 30

NAME: Joe Chalker

DID BRIDGE FOUNDATION INVESTIGATION REPORT RECOMMEND. SPECIFY. OR ESTIMATE . . . ? (INSERT)

A MIN. PILE TIP ELEV.? NONE
A PILE TIP ELEV.? 979
ANY PILE LENGTHS? 40
DRIVING TO A STRATUM? Rock
DRIVING TO AN "N" OF? ____
OTHER? ____

TEST BEGAN WITH A PENT. OF 3 FEET BELOW CUT-OFF AND A TIP ELEVATION OF 1006 (WHOLE NO.'S ONLY)

*HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP, WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	64	6.4	1006	0	1006.24
↑	↑	13	1.3	1001		
		13	1.3	1000		
		13	1.3	999		
		13	1.3	998		
		12	1.2	997		
		7	.7	996		
		10	1.0	995		
		10	1.0	994		
		9	.9	993		
		9	.9	993	15	
		9	.9	992	16	
		7.75	.77	992	16	991.26
		7.	.7	991	17	
		6.5	.65	991	18	
		7.	.7	990	17	
		7.	.7	990	17	
		5.5	.55	989	20	
		5.	.5	989	21	
		5.	.5	989	21	
		4.5	.45	989	23	
		4.	.40	987	25	
		4.	.40	986	25	
		3.5	.35	986	27	
		3.5	.35	986	27	
		3.5	.35	986	27	
		3.75	.38	986	26	
		3.	.3	985	30	
↓	↓	3.	.3	985	34	984.99
3	10					

*FOR GRAVITY AND POWER HAMMERS.
FOR DIFFERENTIAL OR DOUBLE ACTING STEAM OR AIR HAMMERS. USE MANUFACTURER'S ENERGY RATING.
FOR LINK-BELT, CONVERT BOUNCE CHAMBER PRESSURE READING TO "WH" VALUE BY MEANS OF CHART. USE IN S.A. FORMULA.

All 10" 42# Monofinal 21-55 Tons

H.D. 500-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 2 CONTINUED. PAGE NO. 2 OF 2

PROJECT NO. FCSG-1-C113CTZ COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC. 984.45+5
3	10	2.75	.27	984	32	984.37
↑	↑	2.50	.25	984	33	
		"	"	984	33	
		"	"	984	33	
		1.75	.17	984	40	
		2.25	.22	984	35	
		"	"	983	35	
		"	"	983	35	
		2.50	.25	983	33	
		2.00	.20	983	38	
		"	"	983	38	
		"	"	983	38	
		"	"	983	38	
		1.50	.15	982	43	981.91
		"	"	982	43	
		2.50	.25	982	33	
		2.00	.20	982	38	
		1.50	.15	982	43	
		"	"	981	43	
		"	"	981	43	
		1.00	.10	981	50	
		1.25	.12	981	46	
		1.00	.10	981	50	
		"	"	981	50	
		"	"	981	50	
		"	"	980	50	
		.75	.075	980	55	980.43
		"	"	980	55	
		"	"	980	55	
		"	"	980	55	
		1.00	.10	980	50	
		.75	.075	980	55	
		"	"	980	55	
		"	"	980	55	ORDER LENGTH
		.625	.062	980	57	
		.625	"	980	57	
		.50	.05	980	60	
		"	"	980	60	30
		"	"	980	60	
		"	"	980	60	Medley Lane
		"	"	980	60	
		"	"	980	60	
		"	"	980	60	
		"	"	980	60	
		"	"	980	60	
		.375	.037	979	63	
		"	"	979	63	
		"	"	979	63	
		"	"	979	63	
		.125	.012	979	71	
0	10	1.25	.12	979	71	979.33

.0 FOR 100 BLOWS 75

H.D. 500-A
(10-66)

TEST PILE DRIVING DATA

DATE 3-26-68

PROJECT NO. F-056-1-(11) CT 2 COUNTY FULTON

BRIDGE AT RAMP #2 STATION 368+51.66 TO STATION 371+83.10

BOR #6 5-20-68

PILING	LOCATION	SUMMARY
UT ..... x ___	TEST PILE NO. 3 / BRIDGE NO. 2 / BENT NO. 4 / PILE NO. 58	ELEVATIONS, IN WHOLE FEET ONLY
TT ..... x ___		(1) CUT-OFF 1041
H. 10" BP 42# x ___		GROUND 1040
C-I-P ___ IN. O.D. x ___	HAMMER	(2) TIP, FINAL 981
PSC ___ IN ___ x ___	GRAVITY ___ LB.	(3) TIP, ACCEP. 981
PCC ___ IN. ___ x ___	MKT DE —	(1) — (2) = 60
OTHER:	DELMAG D —	(1) — (3) = 60
PLAN DRIVING OBJECTIVE (PDO)	VULCAN NO. 1-15,000 [illegible] 3'	NAME: JOE CHALKER
☐ PRACTICAL REFUSAL	LINK-BELT MODEL	DID BRIDGE FOUNDATION INVESTIGATION REPORT ~~RECOMMEND, SPECIFY, OR~~ ESTIMATE . . . ? (INSERT)
☐ REFUSAL ☒ ROCK	OTHER:	A MIN. PILE TIP ELEV.? NONE
☒ TONS. MIN. 36 TONS		A PILE TIP ELEV.? ~~951~~ 965
		ANY PILE LENGTHS? ~~90~~ 75
		DRIVING TO A STRATUM? ROCK
		DRIVING TO AN "N" OF?
		OTHER?

TEST BEGAN WITH A PENT. OF 4 FEET BELOW CUT-OFF AND A TIP ELEVATION OF 1037 (WHOLE NO.'S ONLY)

*HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP, WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION, FINAL TIP ELEVATION, ORDER LENGTHS, ETC.
0	0	0	0	1037	0	1037.13
3	10	72	7.2	1037		
↑	↑	48	4.8	1031		
		"	"	1027		
		[illegible]	3.6	1023		
		8.5	.85	1020		
		8.5	.85	1019	14	1019.42
		8	.8	1018	14	
		7.5	.75	1018	15	
		6.5	.65	1017	16	
		6	.6	1017	18	
		5	.5	1016	19	
		4.5	.45	1016	21	
		4.25	.42	1015	23	
		4.5	.45	1015	24	
		"	"	1015	23	
		"	"	1014	23	
		4	.4	1014	25	1014.13
		"	"	1013	"	
		"	"	1013	"	
		"	"	1013	"	
		"	"	1012	"	
		"	"	1012	"	
		"	"	1012	"	
		"	"	1011	"	
		"	"	1011	"	
		"	"	1011	"	
		"	"	1010	"	
↓	↓		"	1010	"	
3	10	3.5	.35	1010	27	1010.17

*FOR GRAVITY AND POWER HAMMERS.
FOR DIFFERENTIAL OR DOUBLE ACTING STEAM OR AIR HAMMERS: USE MANUFACTURER'S ENERGY RATING.
FOR LINK-BELT, CONVERT BOUNCE CHAMBER PRESSURE READING TO "WH" VALUE BY MEANS OF CHART. USE IN S. A. FORMULA.

All 10 B742 [illegible] 36 Tons

H.D. 500-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 3 CONTINUED. PAGE NO. 2 OF 5

PROJECT NO. F 056-1-(11) CT2 COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	30	8	.266	1010	32	1009.88
↑	10	3	.30	1009	30	
	↑	〃	〃	1009	〃	
		〃	〃	1009	〃	
		〃	〃	1009	〃	
		〃	〃	1009	〃	
		〃	〃	1008	〃	
		〃	〃	1008	〃	
		〃	〃	1008	〃	
	↓	〃	〃	1008	〃	
	10	5	.5	1007	33	1006.96
	20	〃	.25	1007	33	
	20	2.25	.112	1006	35	
	10	2.25	.22	1006	〃	
	↑	2	.2	1006	38	
		〃	〃	1006	〃	
		〃	〃	1005	〃	
		〃	〃	1005	〃	
		2.5	.25	1005	33	
		〃	〃	1005	〃	1004.56
		2.25	.22	1005	35	
		〃	〃	1004	〃	
		2	.2	1004	38	
		〃	〃	1004	〃	
		〃	〃	1004	〃	
		〃	〃	1004	〃	
		〃	〃	1004	〃	
		〃	〃	1003	〃	
		〃	〃	1003	〃	
		〃	〃	1003	〃	
		〃	〃	1003	〃	
		〃	〃	1003	〃	
		1.75	.175	1003	40	1002.45
		〃	〃	1002	〃	
		〃	〃	1002	〃	
		1.60	.15	1002	43	
		〃	〃	1002	〃	
		〃	〃	1002	〃	
		1.25	.12	1002	48	
		〃	〃	1002	〃	
		1.5	.15	1002	43	
		1.25	.12	1001	48	
		〃	〃	1001	〃	
		〃	〃	1001	〃	
		1.5	.15	1001	43	
		〃	〃	1001	〃	
		1.25	.12	1001	48	
		〃	〃	1001	〃	
↓	↓	〃	〃	1001	〃	
3	↑	〃	〃	1000	〃	1000.44

H.D. 500-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 3 CONTINUED. PAGE NO. 3 OF 5

PROJECT NO. F056-1-(11)CT 2 COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	1.25	.12	1000	46	1000.34
↑	10	1	.10	1000	50	
	20	2	.10	1000	"	
	↑	1	.05	1000	66	
		1.5	.075	1000	55	
		1.37	.069	1000	57	
		1	.05	1000	60	
		1.25	.062	1000	57	
		1.25	"	1000	"	
		1.25	"	999	"	
		1.5	.075	999	55	
		2	.1	999	50	999.18
		"	"	999	"	
		"	"	999	"	
		"	"	999	"	
		2.25	.112	998	48	
		2.75	.137	998	44	
		3.25	.162	998	41	
		3.75	.187	997	39	
		4	.2	997	38	
		4.5	.22	997	35	
		K	.25	997	33	
		"	.25	996	"	996.70
		"	"	996	"	
		"	"	995	"	
		"	"	995	"	
		5.5	.275	994	32	
		"	.275	994	32	
		6	.30	993	30	
		4.5	.225	993	35	
		3.5	.175	993	40	
		2.5	.125	992	46	
		2.5	"	992	46	
	↓	2	.10	992	50	
	20	1.5	.075	992	43	
	10	2	.20	992	38	
	↑	2.5	.25	991	33	
		1.5	.15	991	43	
		1	.10	991	50	
		"	"	991	"	
		"	"	991	"	
		"	"	991	"	
		1.25	.125	991	46	
		1	.10	991	50	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	990	"	
↓	↓	2.5	.25	990	46	
3	10	1.5	.15	[illegible]	[illegible]	1000.23

H.D. 500-B
(10-66)

TEST PILE DRIVING DATA

TEST PILE NO. 3 CONTINUED. PAGE NO. 4 OF 5

PROJECT NO. F056-1-C11)CT2 COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	1.5	.15	990	43	990.08
↑	↑	"	"	990	"	
		2	.2	990	38	
		2.25	.22	990	35	
		2	.2	990	38	
		2.25	.22	989	35	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	989	"	
		"	"	988	"	
		2	.2	988	38	988.94
		"	"	988	"	
		"	"	988	.1	
		"	"	[illegible]	"	
		"	"	988	"	
		"	"	987	"	
		"	"	987	"	
		"	"	987	"	
		"	"	987	"	
		"	"	987	"	
		"	"	986	"	
		1.75	.17	986	40	986.28
		1.75	"	986	"	
		1.5	.13	986	43	
		"	"	986	"	
		"	"	986	"	
		"	"	986	"	
		"	"	986	"	
		"	"	985	"	
		"	"	[illegible]	"	
		1.25	.12	985	46	
		"	"	985	"	
		"	"	985	"	
		1.00	1/00	985	50	984.81
		"	"	985	"	
		"	"	985	"	
		"	"	[illegible]	"	
		"	"	985	"	
		"	"	985	"	
		"	"	984	"	
		"	"	[illegible]	"	
		"	"	984	"	
		"	"	984	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		"	"	[illegible]	"	
		1.25	.125	984	46	983.74
↓	↓	"	"	984	46	
10	3		"	[illegible]		

H.D. 500-B
(10-64)

TEST PILE DRIVING DATA

TEST PILE NO. 3 CONTINUED. PAGE NO. 5 OF 5

PROJECT NO. F056-1-(11)CT2 COUNTY FULTON

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	1.25	.125	983	46	983.44 (983.18 to)
〃	〃	〃	〃	983	〃	
〃	〃	〃	〃	983	〃	
〃	〃	1.00	.10	983	50	
〃	〃	1.25	.125	983	46	
〃	〃	〃	〃	983	46	
〃	〃	1.00	.10	983	50	982.84
〃	〃	〃	〃	983	〃	
〃	〃	〃	〃	983	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	.87	.087	982	52	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	.50	.05	982	60	982.01
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	981.69
〃	〃	.37	.037	982	63	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	〃	〃	982	〃	
〃	〃	.25	.035	981	67	
〃	〃	〃	〃	981	〃	
〃	〃	〃	〃	981	〃	
〃	〃	1.25	.012	981	71	
3	10	0	.00	981	75	981.47

ORDER LENGTH

[redacted] FT.

HEAT NO. 54769

H.D. 800-A (10-66)

TEST PILE DRIVING DATA

DATE 4-1-68

PROJECT NO. F-056-1 (11) Ct. 2 COUNTY Fulton

BRIDGE AT Ramp # 2 STATION 368 + 51.66 TO STATION 371 + 17.20

5-28-68 BOR #1

PILING	LOCATION	SUMMARY
UT ..... x ___	TEST PILE NO. 4 / BRIDGE NO. 2 / BENT NO. 1 / PILE NO. 8	ELEVATIONS, IN WHOLE FEET ONLY
TT ..... x ___		(1) CUT-OFF 1046.00
H. 10 BP 42 x ___		GROUND 1045.00
C-I-P ___ IN. O.D. x ___	HAMMER	(2) TIP, FINAL 1009.00
PSC ___ IN ___ x ___	GRAVITY ___ LB.	(3) TIP, ACCEP. 1009.00
PCC ___ IN. ___ x ___	MKT DE —	(1) — (2) = 37.00
OTHER:	DELMAG D —	(1) — (3) = 37.00
PLAN DRIVING OBJECTIVE (PDO)	VULCAN NO. 1-15,000' lb.	NAME: D.C. Jones Joe Chalker
☐ PRACTICAL REFUSAL	LINK-BELT MODEL	
☒ REFUSAL ☒ ROCK	OTHER:	
☐ TONS. Min. 32 Tons		

DID BRIDGE FOUNDATION INVESTIGATION REPORT RECOMMEND, SPECIFY, OR ESTIMATE ? (INSERT)

A MIN. PILE TIP ELEV.? None

A PILE TIP ELEV.? ~~990~~ 990 To 1000

ANY PILE LENGTHS? ~~60~~ 50

DRIVING TO A STRATUM? Rock

DRIVING TO AN "N" OF?

OTHER?

TEST BEGAN WITH A PENT. OF 5.00 FEET BELOW CUT-OFF AND A TIP ELEVATION OF 1041.00 (WHOLE NO.'S ONLY)

*HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP, WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION, FINAL TIP ELEVATION, ORDER LENGTHS, ETC.
3	10	108	10.8	1041	0	1040.37 Heat No. 54764
"	"	60	6.0	1032	0	
"	"	36	3.6	1027	0	
"	"	3	.3	1023	30	1023.37
"	"	3½	.325		29	
"	"	3	.3		29	
"	"	3	.3		29	
"	"	23/4	.275		32	
"	"	2½	.250		33	1022.15
"	"	2½	.250	1022	33	Order length = 37'
"	"	2½	.250		33	
"	"	2½	.250		33	~~[illegible] ft.~~
"	"	2¼	.225		35	1021.12
"	"	2½	.250		33	
"	"	2½	.250	1021	33	Length in Plcae 36.75
"	"	2½	.250		33	
"	"	2¼	.225		35	
"	"	2¼	.225		35	
"	"	2¼	.225		35	
"	"	2¼	.225	1020	35	
"	"	23/8	.237		34	
"	"	23/8	.237		34	
"	"	2½	.250		33	1019.33
"	"	2½	.250		33	
"	"	2½	.250	1019	33	
"	"	2½	.250		33	
"	"	2½	.250		33	
"	"	2¼	.225		35	
"	"	2¼	.225	1018	35	
"	"	2¼	.225		35	1017.40

*FOR GRAVITY AND POWER HAMMERS.

FOR DIFFERENTIAL OR DOUBLE ACTING STEAM OR AIR HAMMERS USE MANUFACTURER'S ENERGY RATING.

FOR LINK-BELT, CONVERT BOUNCE CHAMBER PRESSURE READING TO "WH" VALUE BY MEANS OF CHART: USE IN S. A. FORMULA.

Refusal w 32 Tons 10 BP 42

H.D. 506-B
(12-86)

TEST PILE DRIVING DATA

TEST PILE NO. 4 CONTINUED. PAGE NO. 2 OF 2

PROJECT NO. F-056-1 (11) Ct. 2 COUNTY Fulton

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES)	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP. WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	10	2¼	.225		35	1017.71 – 10 17.62
"	"	2¼	.225		35	
"	"	2¼	.225		35	
"	"	2	.2		38	1017.14
"	"	2	.2	1017	38	
"	"	2	.2		38	
"	"	2	.2		38	
"	"	2	.2		38	
"	"	2	.2		38	
"	"	2	.2		38	
"	"	17/8	.187	1016	39	
"	"	17/8	.187		39	
"	"	17/8	.187		39	
"	"	13/4	.175		40	1015.47
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175	1015	40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175	1014	40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	13/4	.175		40	
"	"	2½	.150		43	1013.51
"	"	1½	.150		43	
"	"	1½	.150		43	
"	"	1½	.150		43	
"	"	1¼	.125	1013	46	1013.03
"	"	1¼	.125		46	
"	"	1¼	.125		46	
"	"	1¼	.125		46	
"	"	1¼	.125		46	
"	"	11/8	.112		48	
"	"	11/8	.112		48	
"	"	1	.1		50	
"	"	1	.1		50	
"	"	1	.1		50	
"	20	2	.1	1012	50	1011.94
"	"	2	.1		50	
"	"	13/4	.087		52	
"	"	1½	.075		55	
"	"	1½	.075		55	
"	"	13/8	.068		57	[illegible]
"	"	13/8	.063		57	
"	"	1¼	.062	1011	57	1011.00
"	"	1	.05		60	
"	"	1	.05		60	1010.82

H.D. 500-B
(11-66)

TEST PILE DRIVING DATA

TEST PILE NO. 4 CONTINUED. PAGE NO. 2 3 OF 3

PROJECT NO. R-056-1 (11) Ct. 2 COUNTY Fulton

HAMMER FALL (FEET)	NO. OF BLOWS	TOTAL PENT. (INCHES).	AVER. PENT. PER BLOW (INCHES)	ELEVATION OF TIP: WHOLE FEET	BEARING IN WHOLE TONS	OCCASIONAL CORRECTED TIP ELEVATION. FINAL TIP ELEVATION. ORDER LENGTHS. ETC.
3	20	1	.05	"	60	1010.74 -1010.74 OL
"	"	11/8	.056	"	60	
"	"	11/8	.056	"	60	
"	"	1	.05	"	60	
"	"	1	.05	1011	60	
"	"	7/8	.0435	"	63	
"	"	7/8	.0435	"	63	
"	"	3/4	.035	"	63	
"	"	3/4	.035	"	63	
"	"	3/4	.035	"	63	
"	"	5/8	.03125	1010	67	
"	"	3/4	.035	"	63	
"	"	3/4	.035	"	63	
"	"	3/4	.035	"	63	1010.77
"	"	0	.000	"	75	
"	"	0	.000	"	75	
"	"	0	.000	"	75	
"	"	0	.000	1009.77	75	1009.77