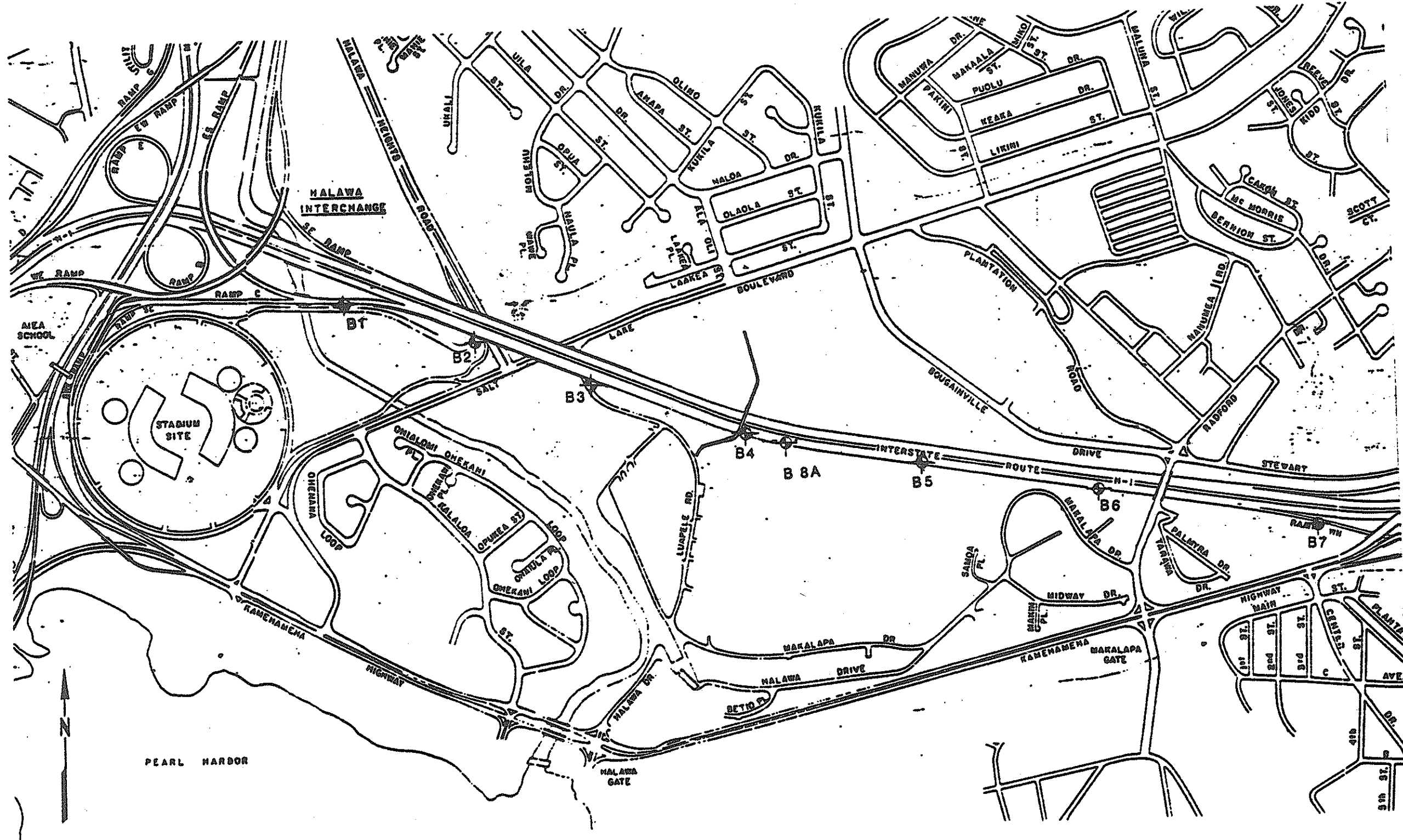
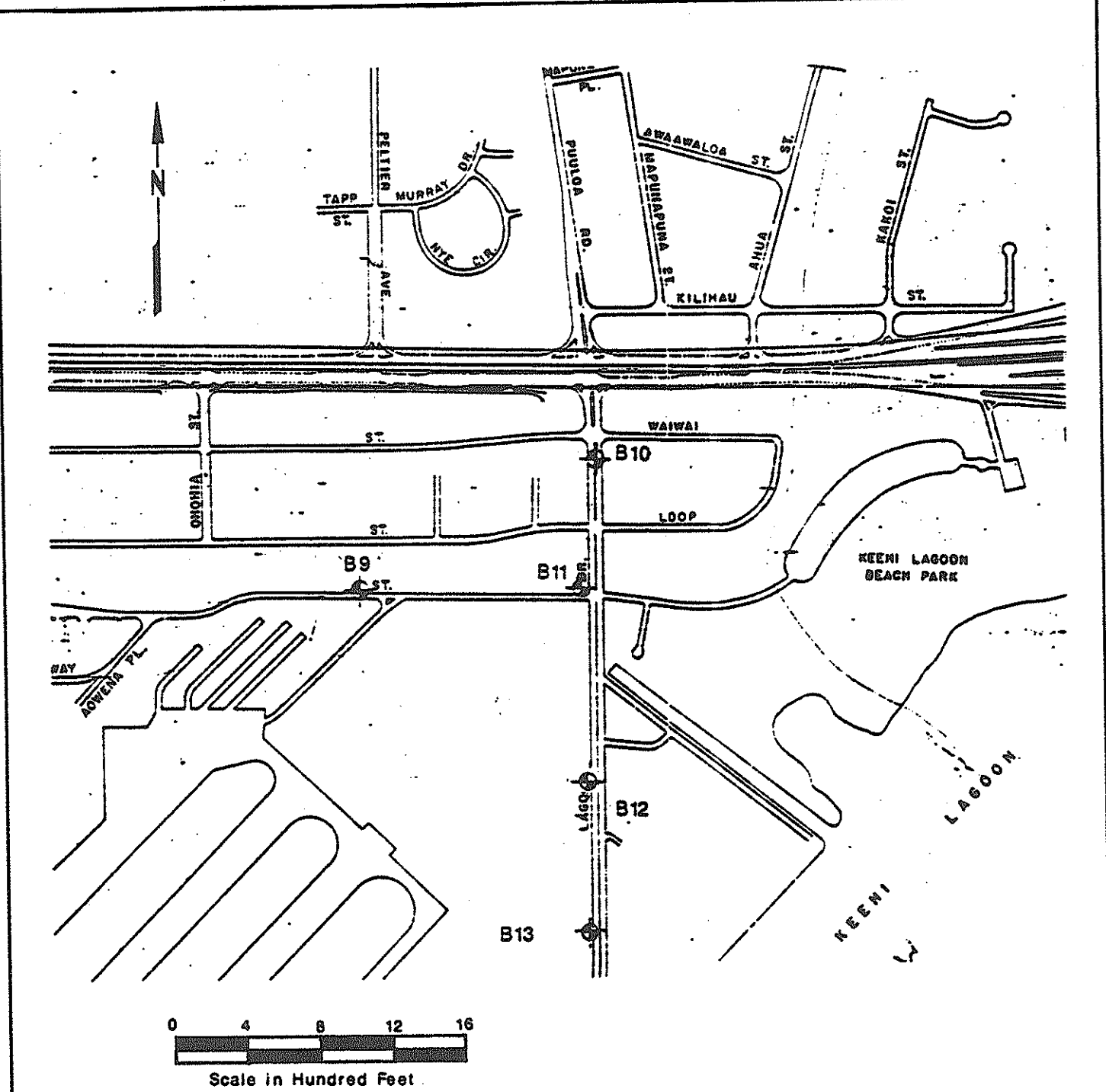


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(211)	1989	8	53




Approximate Location of Borings - Halawa Interchange to Pearl Harbor Interchange



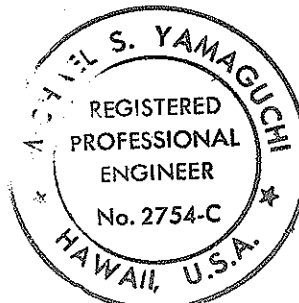
Approximate Location of Borings - Aolele Street/ Lagoon Drive

### BORING LOCATION PLAN

BORING NO. B1		DRIVING WT. 140 LB.		DATE OF DRILLING 9-1-88			
SURFACE ELEV. 35.2 *		DROP 30 IN.		WATER LEVEL NONE			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		GM	36	92	14		SILTY GRAVELS - PURPLISH BROWN, SLIGHTLY MOIST, MEDIUM DENSE TO DENSE. COVERED BY 3 INCHES OF ASPHALTIC CONCRETE.
5		CL-ML	18/6" 39	82 84	21 30		SILTY CLAY - MOTTLED REDDISH BROWN, MOIST, MEDIUM STIFF TO STIFF, SANDY, WITH GRAVELS. GRADING TO BROWN COLOR FROM 6 TO 8 FEET.
			24	57	25		
10			42	88	27		
							END BORING AT 10.5 FEET.

BORING NO. B2		DRIVING WT. 140 LB.		DATE OF DRILLING 9-6-88			
SURFACE ELEV. 17+		DROP 30 IN.		WATER LEVEL NONE			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWF.T.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		CL-ML	93	81	24		SILTY CLAY - BROWN, SLIGHTLY MOIST, STIFF, WITH SAND AND GRAVELS.
5			43	88	29		
10			45	88	26		
							GRADING TO LIGHT BROWN COLOR FROM 8 FEET.
							END BORING AT 10.5 FEET.

BORING NO.		B3	DRIVING WT.		140 LB.	DATE OF DRILLING		9-6-88
SURFACE ELEV.		30.2	DROP		30 IN.	WATER LEVEL		NONE
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWF.T.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION	
0		ML-SM	49/8"	98	23		SANDY SILT - GRAYISH BROWN, MOIST, STIFF, CLAYEY, WITH VOLCANIC TUFF FRAGMENTS. COVERED BY 18 INCHES OF SILTY GRAVELS.	
5			87/11"	93	25			
			47	58	26			
10		SM	50	106	9		SILTY SAND - MOTTLED BROWN, SLIGHTLY MOIST, DENSE, WITH GRAVELS.	
							END BORING AT 11.5 FEET.	
15								



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael S. Yamaguchi  
Signature

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOCATION PLANS  
AND BORING LOGS - I  
HI NONPOTABLE WATER SYSTEM  
HALAWA INTERCHANGE TO KEEHI INTERCHANGE  
F.A.I. PROJ. NO. IR-HI-1 (211)  
SCALE: AS NOTED DATE: 11/23/88  
SHEET NO. 66 OF 48 SHEETS

ORIGINAL PLAN  
DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK NO. \_\_\_\_\_

### BORING LOGS - I



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1 (211)	1989	2	53

BORING NO. <u>B4</u>		DRIVING WT. <u>140 LB.</u>		DATE OF DRILLING <u>9-1-88</u>			
SURFACE ELEV. <u>51.5±</u>		DROP <u>30 IN.</u>		WATER LEVEL <u>NONE</u>			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		ML-SM	90/10"	110	15		SANDY SILT - GRAYISH BROWN, SLIGHTLY MOIST, STIFF, CLAYEY, WITH VOLCANIC TUFF FRAGMENTS. COVERED BY 3 INCHES OF ASPHALTIC CONCRETE AND 9 INCHES OF BASE COURSE.
			73/8"	102	15		
5			60/4"	86	19		
		SM	38	96	18		SILTY SAND - MOTTLED BLACK, MOIST, MEDIUM DENSE, WITH GRAVELS, GLASS, AND METAL FRAGMENTS, DECOMPOSED WOOD, AND WIRE. (TRASH FILL) GRADING LOOSE FROM 9.5 FEET.
10			8	81	19		
END BORING AT 11.5 FEET.							

BORING NO. 88		DRIVING WT. 140 LB.		DATE OF DRILLING 9-7-88			
SURFACE ELEV. 52±		DROP 30 IN.		WATER LEVEL None			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		ML-SM					SANDY SILT - GRAYISH BROWN, SLIGHTLY MOIST, STIFF, CLAYEY, WITH VOLCANIC TUFF FRAGMENTS. COVERED BY 3 INCHES OF ASPHALTIC CONCRETE AND 15 INCHES OF BASE COURSE.
5			60/6"	81	20		
			67/11"	99	9		
10			68/8"	95	10		
							END BORING AT 11 FEET.

BORING NO. B12		DRIVING WT. 140 LB.		DATE OF DRILLING 9-7-88			
SURFACE ELEV. 7.5±		DROP 30 IN.		WATER LEVEL NONE			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		SM	21	86	5		SILTY SAND - TAN, SLIGHTLY MOIST, MEDIUM DENSE, WITH CORAL FRAGMENTS.
5			2	TIP RECOVERY			
			78/9"	96	25		CORAL - LIGHT GRAYISH TAN, DENSE, CLAYEY.
10							END BORING AT 9 FEET.

BORING NO.		85		DRIVING WT.		140 LB.		DATE OF DRILLING		9-1-88	
SURFACE ELEV.		46±		DROP		30 IN.		WATER LEVEL		NONE	
DEPTH (FEET)		GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION			
0			ML-SM	49/9"	102	19		SANDY SILT - GRAYISH BROWN, MOIST, STIFF, CLAYEY, WITH VOLCANIC TUFF FRAGMENTS. COVERED BY 3 INCHES OF ASPHALTIC CONCRETE AND 15 INCHES OF BASE COURSE.			
5				43/6"	77	20					
				75/7"	89	20					
10				63/10"	91	20					
								END BORING AT 10 FEET.			





BORING NO. B9		DRIVING WT. 140 LB.		DATE OF DRILLING 9-6-88			
SURFACE ELEV. 8±		DROP 30 IN.		WATER LEVEL NONE			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		SM					SILTY SAND - TAN, SLIGHTLY MOIST, MEDIUM DENSE TO DENSE, WITH CORAL FRAGMENTS.
			39	94	9		
			19	98	14		
5							SILTY SAND - GRAY, MOIST TO WET, MEDIUM DENSE TO DENSE, WITH CORAL FRAGMENTS.
			46	91	34		
10		SM					END BORING AT 10.5 FEET.



BORING NO. <u>B13</u>		DRIVING WT. <u>140 LB.</u>		DATE OF DRILLING <u>9-7-88</u>			
SURFACE ELEV. <u>8±</u>		DROP <u>30 IN.</u>		WATER LEVEL <u>@ 7.5 FT.</u>			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		SM					SILTY SAND - TAN, MOIST, MEDIUM DENSE TO DENSE, WITH CORAL FRAGMENTS.
5			33	88	6		
			27	71	13		
10		SM	4	79	39		SILTY SAND - GRAY, LOOSE, CLAYEY, WITH FEW CORAL FRAGMENTS.
END BORING AT 10.5 FEET.							

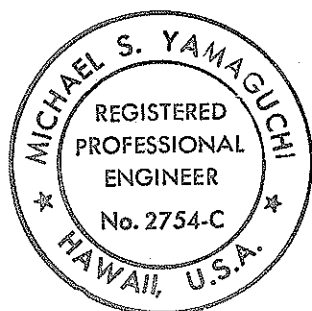
BORING NO. <u>B6</u>		DRIVING WT. <u>140 LB.</u>		DATE OF DRILLING <u>9-1-88</u>			
SURFACE ELEV. <u>33±</u>		DROP <u>30 IN.</u>		WATER LEVEL <u>None</u>			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		ML-SM	52	98	14		CLAYEY SILT - MOTTLED BROWN, MOIST, MEDIUM STIFF TO STIFF, SANDY, WITH VOLCANIC TUFF AND CORAL FRAGMENTS. COVERED BY 4 INCHES OF ASPHALTIC CONCRETE AND 8 INCHES OF BASE COURSE.
			25	87	22		
5			23	95	15		
			68/7"	89	17		
10							END BORING AT 10 FEET.

BORING NO. B10		DRIVING WT. 140 LB.		DATE OF DRILLING 9-6-88			
SURFACE ELEV. 10±		DROP 30 IN.		WATER LEVEL @ 10 FT.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		SM	22	86	16		SILTY SAND - TAN, SLIGHTLY MOIST, MEDIUM DENSE TO DENSE, WITH CORAL FRAGMENTS. COVERED BY 12 INCHES OF TOPSOIL.
5			19	76	11		
				25	70	22	
10			54/8"	NO RECOVERY			CORAL - MOTTLED TAN, MEDIUM DENSE TO DENSE, CLAYEY.
							GRADING MEDIUM HARD FROM 9 FEET.
							END BORING AT 11 FEET.

BORING LOGS - 2

BORING NO. 87		DRIVING WT. 140 LB.		DATE OF DRILLING 9-6-88			
SURFACE ELEV. 33.5±		DROP 30 IN.		WATER LEVEL None			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (pcf)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		ML-SM	30	94	22		SANDY SILT - GRAYISH BROWN, MOIST, MEDIUM STIFF TO STIFF, CLAYEY, WITH VOLCANIC TUFF FRAGMENTS. COVERED BY 3 INCHES OF ASPHALTIC CONCRETE AND 9 INCHES OF BASE COURSE.
5			11/6" 10 / NO PENETRATION	94	25		
			40/3"	91	22		VOLCANIC TUFF - DARK GRAYISH BROWN, DENSE TO MEDIUM HARD, WITH WEATHERED SEAMS.
10			40/2"				
							TIP RECOVERY
END BORING AT 10.5 FEET.							

BORING NO. B11		DRIVING WT. 140 LB.		DATE OF DRILLING 9-7-88			
SURFACE ELEV. 8±		DROP 30 IN.		WATER LEVEL @ 7.2 FT.			
DEPTH (FEET)	GRAPH SYMBOL	UNIFIED SOIL CLASSIFICATION	BLOWS/FT.	DRY DENSITY (PCF)	MOISTURE CONTENT (%)	RELATIVE COMPACTION (%)	DESCRIPTION
0		SM					SILTY SAND - TAN, SLIGHTLY MOIST, MEDIUM DENSE TO DENSE, WITH CORAL FRAGMENTS. GRADING LOOSE FROM 3 FEET.
5			2	76	10		
			85/9"	93	29		CORAL - MOTTLED TAN, DENSE TO MEDIUM HARD.
10			66	100	20		
END BORING AT 11.5 FEET.							



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Michael S. Yamaguchi  
Signature

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

BORING LOGS - 2

H-1 NONPOTABLE WATER SYSTEM  
HALAWA INTERCHANGE TO KEEHI INTERCHANGE  
FAI. PROJ. NO. IR-HI-1 (211)

SCALE: NONE DATE: 11/23/88

SHEET No. 07 OF 48 SHEETS