

ORIGINAL PLAN

DATE

SURVEY PLOTTED BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

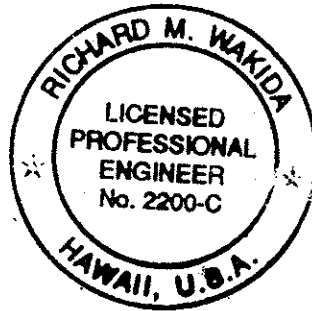
NOTE BOOK

No.

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	77	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																						
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603			
					2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010	
			FROM	TO	STRUCTURE EXCAVATION FOR INLET & OUTLET, 48" X 48" K	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11' X 8' AND 11' X 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, CULVERT ROAD "A"	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, CULVERT ROAD "A"	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III	
UNITS USED		C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.				
-	--	H-3 @ 479+90 (O/S 34.65 LT.)	(-)0+30 D.L. "1"	0+00 D.L. "1"																		30					
-	--	H-3 @ 480+20	0+00 D.L. "1"	2+45 D.L. "1"																		245					
3	D.I. TYPE II	H-3 @ 482+50 (O/S 37.67' LT.)	2+45 D.L. "1"	4+95 D.L. "1"																		250					
6	D.I. TYPE II	H-3 @ 485+00 (O/S 38.00' LT.)	4+95 D.L. "1"	7+45 D.L. "1"																		250					
9	D.I. TYPE II	H-3 @ 487+50 (O/S 38.00' LT.)	7+45 D.L. "1"	9+45 D.L. "1"																		200					
12	D.I. TYPE II	H-3 @ 489+50 (O/S 38.00' LT.)	9+45 D.L. "1"	10+93 D.L. "1"																		148					
14	D.I. TYPE II	H-3 @ 490+98 (O/S 38.00' LT.)	10+93 D.L. "1"	12+13 D.L. "1"													10	110									
-	--	H-3 @ 492+18 (ON BRIDGE)	12+13 D.L. "1"	28+90 D.L. "1"														1677									
-	--	H-3 @ 508+95± (ON BRIDGE)	28+90 D.L. "1"	29+20 D.L. "1"															20	10							
16	D.I. TYPE II	H-3 @ 509+25 (O/S 38.00' LT.)	29+20 D.L. "1"	30+65 D.L. "1"																		145					
18	D.I. TYPE II	H-3 @ 510+70 (O/S 38.00' LT.)	30+65 D.L. "1"	32+07 D.L. "1"																		142					
20	D.I. TYPE II	I.B. @ 512+12 (O/S 16.00' LT.)	32+07 D.L. "1"	33+50 D.L. "1"																		143					
23	D.I. TYPE II	I.B. @ 513+55 (O/S 16.00' LT.)	33+50 D.L. "1"	34+00 D.L. "1"																		50					
2	DMH TYPE "D"	I.B. @ 514+05 (O/S 16.00' LT.)	34+00 D.L. "1"	34+30 D.L. "1"																		30					
3	DMH TYPE "D"	I.B. @ 514+35 (O/S 18.00' RT.)	34+30 D.L. "1"	35+07 D.L. "1"														17	60								
-	--	I.B. @ 515+12 (ON BRIDGE)	35+07 D.L. "1"	44+82 D.L. "1"															975								
-	--	I.B. @ 524+87± (ON BRIDGE)	44+82 D.L. "1"	45+30 D.L. "1"																42	6						
25C	D.I. TYPE I	I.B. @ 525+35 (O/S 16.67' RT.)	45+30 D.L. "1"	46+05 D.L. "1"																		75					
27	D.I. TYPE III	I.B. @ 526+10 (O/S 18.00' RT.)	46+05 D.L. "1"	46+75 D.L. "1"																		70					
SUBTOTAL SHEET C74					0	0	0	0	0	0	0	0	0	0	0	0	27	2822	62	16	0	1778	0	0	0		
TOTAL SHEET C74					0	0	0	0	0	0	0	0	0	0	0	0	27	2822	62	16	0	1778	0	0	0		



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
SIGNATURE DATE

10-21-93	DELETED DECIPTION
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE ESTIMATED QUANTITIES	
INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1(69) & (70)	
SCALE: NO SCALE	DATE: MARCH 1992
SHEET No. C74 OF 95 SHEETS	

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	78	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																									
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640			
					4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001		
			FROM	TO	TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND GRATE	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 - FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6-FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2-FEET WIDE	LINED DITCH, 4-FEET WIDE		
					UNITS USED		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.
-	--	H-3 @ 479+85 (O/S 37.00' LT.)	(-)0+10 D.L. "1"	0+00 D.L. "1"															1											
-	--	H-3 @ 480+05 (O/S 37.01' LT.)	0+00 D.L. "1"	2+45 D.L. "1"																										
3	D.I. TYPE II	H-3 @ 482+50 (O/S 37.67' LT.)	2+45 D.L. "1"	4+95 D.L. "1"			1																							
6	D.I. TYPE II	H-3 @ 485+00 (O/S 38.00' LT.)	4+95 D.L. "1"	7+45 D.L. "1"			1																							
9	D.I. TYPE II	H-3 @ 487+50 (O/S 38.00' LT.)	7+45 D.L. "1"	9+45 D.L. "1"				1																						
12	D.I. TYPE II	H-3 @ 489+50 (O/S 38.00' LT.)	9+45 D.L. "1"	10+93 D.L. "1"			1																							
14	D.I. TYPE II	H-3 @ 490+98 (O/S 38.00' LT.)	10+93 D.L. "1"	12+13 D.L. "1"				1																						
-	--	H-3 @ 492+18 (ON BRIDGE)	12+13 D.L. "1"	28+90 D.L. "1"										9	7															
-	--	H-3 @ 508+95± (ON BRIDGE)	28+90 D.L. "1"	29+20 D.L. "1"											1															
16	D.I. TYPE II	H-3 @ 509+25 (O/S 38.00' LT.)	29+20 D.L. "1"	30+65 D.L. "1"			1																							
18	D.I. TYPE II	H-3 @ 510+70 (O/S 38.00' LT.)	30+65 D.L. "1"	32+07 D.L. "1"			1																							
20	D.I. TYPE II	I.B. @ 512+12 (O/S 16.00' LT.)	32+07 D.L. "1"	33+50 D.L. "1"				1																						
23	D.I. TYPE II	I.B. @ 513+55 (O/S 16.00' LT.)	33+50 D.L. "1"	34+00 D.L. "1"				1																						
2	DMH TYPE "D"	I.B. @ 514+05 (O/S 16.00' LT.)	34+00 D.L. "1"	34+30 D.L. "1"														1												
3	DMH TYPE "D"	I.B. @ 514+35 (O/S 18.00' RT.)	34+30 D.L. "1"	35+07 D.L. "1"														1												
-	--	I.B. @ 515+12 (ON BRIDGE)	35+07 D.L. "1"	44+82 D.L. "1"										14	5															
-	--	I.B. @ 524+87± (ON BRIDGE)	44+82 D.L. "1"	45+30 D.L. "1"											1															
25C	D.I. TYPE I	I.B. @ 525+35 (O/S 16.67' RT.)	45+30 D.L. "1"	46+05 D.L. "1"		1																								
27	D.I. TYPE III	I.B. @ 526+10 (O/S 18.00' RT.)	46+05 D.L. "1"	46+75 D.L. "1"					1																					
SUBTOTAL SHEET C75					0	1	5	4	0	1	0	0	0	0	23	14	0	2	0	0	1	0	0	0	0	0	0			
TOTAL SHEET C75					0	1	5	4	0	1	0	0	0	0	23	14	0	2	0	0	1	0	0	0	0	0	0			

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



THIS WORK WAS PREPARED BY ME
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SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C75 OF 95 SHEETS

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	79	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																											
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603	603							
					2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010						
			FROM	TO	STRUCTURE EXCAVATION FOR INLET & OUTLET, ACCESS ROAD "A"	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11'X8' AND 11' X 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, "A" CULVERT ROAD	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, "A" CULVERT ROAD	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III						
					UNITS USED		C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.				
28	D.I. TYPE III	I.B. @ 526+80 (O/S 18.00' RT.)	46+75 D.L. "1"	47+50 D.L. "1"																			75									
29	D.I. TYPE I	I.B. @ 527+55 (O/S 16.67' RT.)	47+50 D.L. "1"	48+32 D.L. "1"																			82									
31	D.I. TYPE III	I.B. @ 528+25 (O/S 18.00' RT.)	48+32 D.L. "1"	49+05 D.L. "1"																			73									
32	D.I. TYPE III	I.B. @ 529+10 (O/S 18.00' RT.)	49+05 D.L. "1"	49+79 D.L. "1"																			74									
33	D.I. TYPE I	I.B. @ 529+84 (O/S 16.67' RT.)	49+79 D.L. "1"	50+50 D.L. "1"																			71									
34	D.I. TYPE III	I.B. @ 530+55 (O/S 18.00' RT.)	50+50 D.L. "1"	51+28 D.L. "1"																			78									
36	D.I. TYPE III	I.B. @ 531+32 (O/S 18.00' RT.)	51+28 D.L. "1"	52+02 D.L. "1"																			74									
37	D.I. TYPE I	I.B. @ 532+05 (O/S 16.67' RT.)	52+02 D.L. "1"	52+75 D.L. "1"																			73									
38	D.I. TYPE III	I.B. @ 532+79 (O/S 18.00' RT.)	52+75 D.L. "1"	53+51 D.L. "1"																			76									
40	D.I. TYPE III	I.B. @ 533+55 (O/S 18.00' RT.)	53+51 D.L. "1"	54+28 D.L. "1"																			77									
41	D.I. TYPE I	I.B. @ 534+32 (O/S 16.67' RT.)	54+28 D.L. "1"	55+09 D.L. "1"																			81									
42	D.I. TYPE I	I.B. @ 535+13 (O/S 16.67' RT.)	55+09 D.L. "1"	55+18 D.L. "1"																			9									
-	PLUG	I.B. @ 535+22 (O/S 16.67' RT.)	55+18 D.L. "1"																													
-	--	H-3 @ 479+90 (O/S 37.43' RT.)	(-)0+30 D.L. "2"	0+00 D.L. "2"																			30									
-	--	H-3 @ 480+20	0+00 D.L. "2"	1+55 D.L. "2"																			155									
1	D.I. TYPE II	H-3 @ 481+60 (O/S 37.43' RT.)	1+55 D.L. "2"	2+05 D.L. "2"																			50									
2	D.I. TYPE IV	H-3 @ 482+10 (O/S 37.56' RT.)	2+05 D.L. "2"	2+95 D.L. "2"																			90									
4	D.I. TYPE V	H-3 @ 483+00 (O/S 3.33' RT.)	2+95 D.L. "2"	4+00 D.L. "2"																			105									
5	D.I. TYPE I	H-3 @ 484+05 (O/S 3.33' RT.)	4+00 D.L. "2"	5+15 D.L. "2"																			115									
SUBTOTAL SHEET C76					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1373	0	0	0						
TOTAL SHEET C76					0	0	0	0	0	0	0	0	0	0	0	0	0	27	2822	62	16	0	3166	0	0	0						

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
NOTED BY	_____
CHECKED BY	_____



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
SIGNATURE DATE

10-21-93 DATE	REVISED DESCRIPTION REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE ESTIMATED QUANTITIES	
INTERSTATE ROUTE H-3 F.A.I. PROJECT NO. I-H3-1(69) & (70)	
SCALE: NO SCALE	DATE: MARCH 1992
SHEET No. C76 OF 95 SHEETS	

SURVEY PLOTTED BY
DATE

DRAWN BY
DESIGNED BY
QUANTITIES BY
CHECKED BY

ORIGINAL
PLAN
NOTE BOOK
No.

DRAINAGE SUMMARY																												FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																												
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640							
			FROM	TO	4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001					
					TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND GRATE	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONRY HEADWALL	GROUTED RUBBLE PAVING	4 - FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6- FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2- FEET WIDE	LINED DITCH, 4- FEET WIDE					
UNITS USED			EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.								
28	D.I. TYPE III	I.B. @ 526+80 (O/S 18.00' RT.)	46+75 D.L. "1"	47+50 D.L. "1"					1																								
29	D.I. TYPE I	I.B. @ 527+55 (O/S 16.67' RT.)	47+50 D.L. "1"	48+32 D.L. "1"		1																											
31	D.I. TYPE III	I.B. @ 528+25 (O/S 18.00' RT.)	48+32 D.L. "1"	49+05 D.L. "1"					1																								
32	D.I. TYPE III	I.B. @ 529+10 (O/S 18.00' RT.)	49+05 D.L. "1"	49+79 D.L. "1"				1																									
33	D.I. TYPE I	I.B. @ 529+84 (O/S 16.67' RT.)	49+79 D.L. "1"	50+50 D.L. "1"	1																												
34	D.I. TYPE III	I.B. @ 530+55 (O/S 18.00' RT.)	50+50 D.L. "1"	51+28 D.L. "1"					1																								
36	D.I. TYPE III	I.B. @ 531+32 (O/S 18.00' RT.)	51+28 D.L. "1"	52+02 D.L. "1"				1																									
37	D.I. TYPE I	I.B. @ 532+05 (O/S 16.67' RT.)	52+02 D.L. "1"	52+75 D.L. "1"		1																											
38	D.I. TYPE III	I.B. @ 532+79 (O/S 18.00' RT.)	52+75 D.L. "1"	53+51 D.L. "1"					1																								
40	D.I. TYPE III	I.B. @ 533+55 (O/S 18.00' RT.)	53+51 D.L. "1"	54+28 D.L. "1"					1																								
41	D.I. TYPE I	I.B. @ 534+32 (O/S 16.67' RT.)	54+28 D.L. "1"	55+09 D.L. "1"	1																												
42	D.I. TYPE I	I.B. @ 535+13 (O/S 16.67' RT.)	55+09 D.L. "1"	55+18 D.L. "1"		1																											
-	PLUG	I.B. @ 535+22 (O/S 16.67' RT.)	55+18 D.L. "1"																														
-	--	H-3 @ 479+85 (O/S 37.00' RT.)	(-)-0+10 D.L. "2"	0+00 D.L. "2"														1															
-	--	H-3 @ 480+05 (O/S 37.01' RT.)	0+00 D.L. "2"	1+55 D.L. "2"																													
1	D.I. TYPE II	H-3 @ 481+60 (O/S 37.43' RT.)	1+55 D.L. "2"	2+05 D.L. "2"			1																										
2	D.I. TYPE IV	H-3 @ 482+10 (O/S 37.56' RT.)	2+05 D.L. "2"	2+95 D.L. "2"						1																							
4	D.I. TYPE V	H-3 @ 483+00 (O/S 3.33' RT.)	2+95 D.L. "2"	4+00 D.L. "2"							1																						
5	D.I. TYPE I	H-3 @ 484+05 (O/S 3.33' RT.)	4+00 D.L. "2"	5+15 D.L. "2"		1																											
SUBTOTAL SHEET C77					2	4	1	0	2	5	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0							
TOTAL SHEET C77					2	5	6	4	2	6	1	1	0	0	23	14	0	2	0	1	1	0	0	0	0	0							

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

RICHARD M. WAKIDA

LICENSED
PROFESSIONAL
ENGINEER
No. 2200-C

HAWAII, U.S.A.

Signature

DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C77 OF 95 SHEETS

80

ORIGINAL PLAN
DATE
DESIGNED BY
CHECKED BY
NOTE BOOK
QUANTITIES BY
No.

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	81	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																											
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603	603							
					2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010						
			FROM	TO	STRUCTURE EXCAVATION FOR INLET & OUTLET, ACCESS ROAD 1/4"	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11'X 8' AND 11' X 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, "A" CULVERT ROAD "A"	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, CULVERT ROAD "A"	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III						
UNITS USED			C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.								
7	D.I. TYPE I	H-3 @ 485+20 (O/S 3.33' RT.)	5+15 D.L. "2"	6+35 D.L. "2"																												
8	D.I. TYPE I	H-3 @ 486+40 (O/S 3.33' RT.)	6+35 D.L. "2"	7+55 D.L. "2"																			120									
10	D.I. TYPE I	H-3 @ 487+60 (O/S 3.33' RT.)	7+55 D.L. "2"	8+72 D.L. "2"																			117									
11	D.I. TYPE I	H-3 @ 488+77 (O/S 3.33' RT.)	8+72 D.L. "2"	9+95 D.L. "2"																			123									
13	D.I. TYPE I	H-3 @ 490+00 (O/S 3.33' RT.)	9+95 D.L. "2"	10+93 D.L. "2"																			98									
15	D.I. TYPE I	H-3 @ 490+98 (O/S 3.33' RT.)	10+93 D.L. "2"	13+20 D.L. "2"													46	181														
-	--	H-3 @ 493+20 (ON BRIDGE)	13+20 D.L. "2"	29+07 D.L. "2"														1587														
-	--	H-3 @ 509+25 (ON BRIDGE)	29+07 D.L. "2"	29+25 D.L. "2"															12	6												
1	DMH TYPE "D"	H-3 @ 509+30 (O/S 4.79' RT.)	29+25 D.L. "2"	29+43 D.L. "2"																			18									
17	D.I. TYPE VI	H-3 @ 509+48 (O/S 38.00' RT.)	29+43 D.L. "2"	30+85 D.L. "2"																			142									
19	D.I. TYPE II	H-3 @ 510+90 (O/S 38.00' RT.)	30+85 D.L. "2"	32+25 D.L. "2"																			140									
21	D.I. TYPE II	O.B. @ 512+30 (O/S 16.00' RT.)	32+25 D.L. "2"	33+35 D.L. "2"																			110									
22	D.I. TYPE II	O.B. @ 513+40 (O/S 16.00' RT.)	33+35 D.L. "2"	34+40 D.L. "2"																			105									
24	D.I. TYPE II	O.B. @ 514+35 (O/S 16.00' RT.)	34+40 D.L. "2"	36+25 D.L. "2"													31	154														
-	--	O.B. @ 516+43 (ON BRIDGE)	36+25 D.L. "2"	44+31 D.L. "2"														806														
-	--	O.B. @ 524+36 (ON BRIDGE)	44+31 D.L. "2"	45+45 D.L. "2"															108	6												
26	D.I. TYPE II	O.B. @ 525+50 (O/S 16.00' RT.)	45+45 D.L. "2"	47+90 D.L. "2"																			245									
30	D.I. TYPE II	O.B. @ 525+50 (O/S 16.00' RT.)	47+90 D.L. "2"	50+42 D.L. "2"																			252									
35	D.I. TYPE II	O.B. @ 530+47 (O/S 16.00' RT.)	50+42 D.L. "2"	52+95 D.L. "2"																			253									
SUBTOTAL SHEET C78					0	0	0	0	0	0	0	0	0	0	0	0	77	2728	120	12	0	1843	0	0	0							
TOTAL SHEET C78					0	0	0	0	0	0	0	0	0	0	0	0	104	5550	182	28	0	5009	0	0	0							



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C78 OF 95 SHEETS

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	82	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																										
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640				
					4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001			
			FROM	TO	TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND GRATE	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 - FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6-FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2-FEET WIDE	LINED DITCH, 4-FEET WIDE			
					UNITS USED		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.		
7	D.I. TYPE I	H-3 @ 485+20 (O/S 3.33' RT.)	5+15 D.L. "2"	6+35 D.L. "2"		1																									
8	D.I. TYPE I	H-3 @ 486+40 (O/S 3.33' RT.)	6+35 D.L. "2"	7+55 D.L. "2"		1																									
10	D.I. TYPE I	H-3 @ 487+60 (O/S 3.33' RT.)	7+55 D.L. "2"	8+72 D.L. "2"		1																									
11	D.I. TYPE I	H-3 @ 488+77 (O/S 3.33' RT.)	8+72 D.L. "2"	9+95 D.L. "2"		1																									
13	D.I. TYPE I	H-3 @ 490+00 (O/S 3.33' RT.)	9+95 D.L. "2"	10+93 D.L. "2"		1																									
15	D.I. TYPE I	H-3 @ 490+98 (O/S 3.33' RT.)	10+93 D.L. "2"	13+20 D.L. "2"		1																									
-	--	H-3 @ 493+20 (ON BRIDGE)	13+20 D.L. "2"	29+07 D.L. "2"										17	8																
-	--	H-3 @ 509+25 (ON BRIDGE)	29+07 D.L. "2"	29+25 D.L. "2"											1																
1	DMH TYPE "D"	H-3 @ 509+30 (O/S 4.79' RT.)	29+25 D.L. "2"	29+43 D.L. "2"													1														
17	D.I. TYPE VI	H-3 @ 509+48 (O/S 38.00' RT.)	29+43 D.L. "2"	30+85 D.L. "2"								1																			
19	D.I. TYPE II	H-3 @ 510+90 (O/S 38.00' RT.)	30+85 D.L. "2"	32+25 D.L. "2"			1																								
21	D.I. TYPE II	O.B. @ 512+30 (O/S 16.00' RT.)	32+25 D.L. "2"	33+35 D.L. "2"				1																							
22	D.I. TYPE II	O.B. @ 513+40 (O/S 16.00' RT.)	33+35 D.L. "2"	34+40 D.L. "2"				1																							
24	D.I. TYPE II	O.B. @ 514+35 (O/S 16.00' RT.)	34+40 D.L. "2"	36+25 D.L. "2"				1																							
-	--	O.B. @ 516+43 (ON BRIDGE)	36+25 D.L. "2"	44+31 D.L. "2"										5	4																
-	--	O.B. @ 524+36 (ON BRIDGE)	44+31 D.L. "2"	45+45 D.L. "2"											1																
26	D.I. TYPE II	O.B. @ 525+50 (O/S 16.00' RT.)	45+45 D.L. "2"	47+90 D.L. "2"			1																								
30	D.I. TYPE II	O.B. @ 525+50 (O/S 16.00' RT.)	47+90 D.L. "2"	50+42 D.L. "2"			1																								
35	D.I. TYPE II	O.B. @ 530+47 (O/S 16.00' RT.)	50+42 D.L. "2"	52+95 D.L. "2"				1																							
SUBTOTAL SHEET C79					0	6	3	4	0	0	0	0	1	0	22	14	0	1	0	0	0	0	0	0	0	0					
TOTAL SHEET C79					2	11	9	8	2	6	1	1	1	0	45	28	0	3	0	1	1	0	0	0	0	0					

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



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OR UNDER MY SUPERVISION.
Signature: [Signature] DATE: [Blank]

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C79 OF 95 SHEETS

ORIGINAL PLAN

NOTE BOOK

No.

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DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	83	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																								
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603	603				
			FROM	TO	2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010			
					UNITS USED		C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	
39	D.I. TYPE II	O.B. @ 533+00 (O/S 16.00' RT.)	52+95 D.L. "2"	54+92 D.L. "2"																									
43	D.I. TYPE II	O.B. @ 534+97 (O/S 16.00' RT.)	54+92 D.L. "2"	55+01 D.L. "2"																			197						
—	PLUG	O.B. @ 535+06 (O/S 16.00' RT.)	55+01 D.L. "2"																				9						
2	DMH TYPE "D"	I.B. @ 514+05 (O/S 16.00' LT.)	0+00 D.L. "3"	1+07 D.L. "3"												36	71												
—	D.I. TYPE "D1"	I.B. @ 515+12 (ON BRIDGE)	1+07 D.L. "3"																										
—	CRM STRUCTURE	O.B. @ 523+25 (O/S 12' LT.)	0+00 D.L. "AA"	0+75 D.L. "AA"																		75							
25	D.I. TYPE VII	O.B. @ 523+87 (O/S 32' RT.)	0+75 D.L. "AA"																										
—	OUTLET STRUCTURE CULVERT 1	H-3 @ 481+97	0+00 CULVERT 1	1+60 CULVERT 1	175																								
—	OUTLET STRUCTURE CULVERT 1	H-3 @ 481+34.48	0+00 CULVERT 1	1+60 CULVERT 1	2250		1																						
—	INLET STRUCTURE CULVERT 1	H-3 @ 481+97 (O/S 79' RT.)	2+00 CULVERT 1		136			1																					
—	OUTLET STRUCTURE CULVERT 2	H-3 @ 512+95 (O/S 95' LT.)	0+00 CULVERT 2	1+60 CULVERT 2	20																				480				
—	INLET STRUCTURE CULVERT 2	H-3 @ 513+03 (O/S 64.80' RT.)	1+60 CULVERT 2		31			1																					
—	OUTLET STRUCTURE CULVERT 3	H-3 @ 532+48 (O/S 99' LT.)	0+00 CULVERT 3	1+95 CULVERT 3	88																			585					
—	INLET STRUCTURE CULVERT 3	H-3 @ 532+53 (O/S 95.94' RT.)	1+95 CULVERT 3		88			1																					
SUBTOTAL SHEET C80					2788	0	1	1	1	1	0	1	1	1	0	36	71	0	0	0	0	75	206	585	480	0			
TOTAL SHEET C80					2788	0	1	1	1	1	0	1	1	1	0	36	71	1	1	1	1	75	525	585	480	0			

RICHARD M. WARD

LICENSED PROFESSIONAL ENGINEER

No. 2200-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

SIGNATURE

DATE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3

F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE

DATE: MARCH 1992

SHEET No. C80 OF 95 SHEETS

ORIGINAL PLAN

SURVEY PLOTTED BY

DATE

NO.

NOTE BOOK

DESIGNED BY

QUANTITIES BY

CHECKED BY

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(69)	1992	84	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																							
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640	
					4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001
			FROM	TO	TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND GRATE	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 - FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6- FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2- FEET WIDE	LINED DITCH, 4- FEET WIDE
UNITS USED			EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.		
39	D.I. TYPE II	O.B. @ 533+00 (O/S 16.00' RT.)	52+95 D.L. "2"	54+92 D.L. "2"				1																				
43	D.I. TYPE II	O.B. @ 534+97 (O/S 16.00' RT.)	54+92 D.L. "2"	55+01 D.L. "2"			1																					
—	PLUG	O.B. @ 535+06 (O/S 16.00' RT.)	55+01 D.L. "2"																									
2	DMH TYPE "D"	I.B. @ 514+05 (O/S 16.00' LT.)	0+00 D.L. "3"	1+07 D.L. "3"																								
—	D.I. TYPE "D1"	I.B. @ 515+12 (ON BRIDGE)	1+07 D.L. "3"											1														
—	CRM STRUCTURE	O.B. @ 523+25 (O/S 12' LT.)	0+00 D.L. "AA"	0+87 D.L. "AA"																1								
25	D.I. TYPE VII	O.B. @ 523+87 (O/S 32' RT.)	0+75 D.L. "AA"											1														
—	OUTLET STRUCTURE CULVERT 1	H-3 @ 481+97	0+00 CULVERT 1	1+60 CULVERT 1																								
—	OUTLET STRUCTURE CULVERT 1	H-3 @ 481+34.48	0+00 CULVERT 1	1+60 CULVERT 1																								
—	INLET STRUCTURE CULVERT 1	H-3 @ 481+97 (O/S 79' RT.)	2+00 CULVERT 1																									
—	OUTLET STRUCTURE CULVERT 2	H-3 @ 512+95 (O/S 95' LT.)	0+00 CULVERT 2	1+60 CULVERT 2																								
—	INLET STRUCTURE CULVERT 2	H-3 @ 513+03 (O/S 64.80' RT.)	1+60 CULVERT 2																									
—	OUTLET STRUCTURE CULVERT 3	H-3 @ 532+48 (O/S 99' LT.)	0+00 CULVERT 3	1+95 CULVERT 3																								
—	INLET STRUCTURE CULVERT 3	H-3 @ 532+53 (O/S 95.94' RT.)	1+95 CULVERT 3																									
SUBTOTAL SHEET C81					0	0	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	
TOTAL SHEET C81					2	11	10	9	2	6	1	1	1	1	46	28	0	3	0	1	1	1	0	0	0	0	0	



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Richard M. Nakao
SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. 1-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C81 OF 95 SHEETS

ORIGINAL
PLAN

NOTE BOOK
No.

SURVEY PLOTTED BY

DRAWN BY

DESIGNED BY

QUANTITIES BY

CHECKED BY

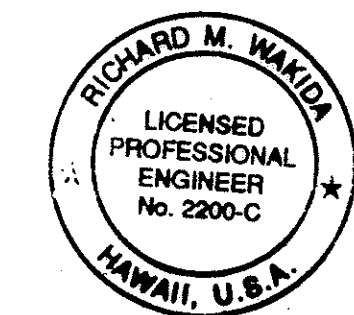
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DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	85	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																								
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603				
					2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010			
			FROM	TO	STRUCTURE EXCAVATION FOR INLET & OUTLET ACCESS ROAD "A"	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11'X 8' AND 11' X 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, CULVERT ROAD "A"	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, CULVERT ROAD "A"	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III			
					UNITS USED		C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	
—	OUTLET STRUCTURE CULVERT ACCESS ROAD "A"	ACC RD "A" @ 1+27 (O/S 25' LT.)	0+00 D.L. "A"	0+53 D.L. "A"	86									1											480	48			
—	INLET STRUCTURE CULVERT ACCESS ROAD "A"	ACC RD "A" @ 1+43 (O/S 20' RT.)	0+53 D.L. "A"		86					1																			
—	CRM STRUCTURE OUTLET	H-3 @ 497+55±	OUTLET	INLET																	48								
—	CRM STRUCTURE INLET	H-3 @ 497+55±	INLET																										
—	CRM STRUCTURE OUTLET	H-3 @ 498+45±	OUTLET	INLET																	50								
—	CRM STRUCTURE INLET	H-3 @ 498+45±	INLET																										
1	LINED DITCH	H-3 @ 482+52 (O/S 101' RT.)	0+00 L.D. "1"	1+10 L.D. "1"		71																							
1	LINED DITCH	— —	1+10 L.D. "1"	1+15 L.D. "1"		3																							
1	LINED DITCH	H-3 @ 483+65 (O/S 78' RT.)	1+15 L.D. "1"	2+60 L.D. "1"		132																							
2	LINED DITCH	H-3 @ 485+10 (O/S 78' RT.)	0+00 L.D. "2"	1+45 L.D. "2"		40																							
3	LINED DITCH	H-3 @ 485+10 (O/S 78' RT.)	0+00 L.D. "3"	1+85 L.D. "3"		120																							
3	LINED DITCH	H-3 @ 486+85 (O/S 122' RT.)	1+85 L.D. "3"	6+50 L.D. "3"		422																							
4	LINED DITCH	H-3 @ 492+14 (O/S 55' RT.)	0+00 L.D. "4"	1+43.3 L.D. "4"		130																							
5	LINED DITCH	H-3 @ 509+87 (O/S 102' RT.)	0+00 L.D. "5"	2+50 L.D. "5"		116																							
6	LINED DITCH	O.B. @ 523+87 (O/S 32' RT.)	0+00 L.D. "6"	4+48 L.D. "6"		132																							
7	LINED DITCH	O.B. @ 485+10 (O/S 78' RT.)	0+00 L.D. "7"	0+25 L.D. "7"		7																							
7	LINED DITCH	— —	0+25 L.D. "7"	2+20 L.D. "7"		1																							
7	LINED DITCH	O.B. @ 530+03 (O/S 64.5' RT.)	2+20 L.D. "7"	3+90 L.D. "7"		167																							
SUBTOTAL SHEET C82					180	1341	0	0	0	0	1	0	0	0	1	0	0	0	0	0	96	0	0	0	48				
TOTAL SHEET C82					2968	1341	1	1	1	1	1	1	1	1	1	36	71	104	5550	182	28	173	5215	585	480	48			



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C82 OF 95 SHEETS

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	86	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																								
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640		
			FROM	TO	4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001	
					TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND <i>GRAZE</i>	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 – FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6 – FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2 – FEET WIDE	LINED DITCH, 4 – FEET WIDE	
UNITS USED			EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.		
—	OUTLET STRUCTURE CULVERT ROAD "A"	ACC RD "A" @ 1+30 (O/S 20' LT.)	0+00 D.L. "A"	0+40 D.L. "A"																									
—	INLET STRUCTURE CULVERT ROAD "A"	ACC RD "A" @ 1+40 (O/S 20' RT.)	0+40 D.L. "A"																										
—	CRM STRUCTURE OUTLET	H-3 @ 497+55±	OUTLET	INLET																	1								
—	CRM STRUCTURE INLET	H-3 @ 497+55±	INLET																		1								
—	CRM STRUCTURE OUTLET	H-3 @ 498+45±	OUTLET	INLET																	1								
—	CRM STRUCTURE INLET	H-3 @ 498+45±	INLET																		1								
1	LINED DITCH	H-3 @ 482+52 (O/S 101' RT.)	0+00 L.D. "1"	1+10 L.D. "1"																		17					110		
1	LINED DITCH	— —	1+10 L.D. "1"	1+15 L.D. "1"																							5		
1	LINED DITCH	H-3 @ 483+65 (O/S 78' RT.)	1+15 L.D. "1"	2+60 L.D. "1"																							145		
2	LINED DITCH	H-3 @ 485+10 (O/S 78' RT.)	0+00 L.D. "2"	1+45 L.D. "2"																						145			
3	LINED DITCH	H-3 @ 485+10 (O/S 78' RT.)	0+00 L.D. "3"	1+85 L.D. "3"																							185		
3	LINED DITCH	H-3 @ 486+85 (O/S 122' RT.)	1+85 L.D. "3"	5+70 L.D. "3"																							385		
4	LINED DITCH	H-3 @ 492+14 (O/S 55' RT.)	0+00 L.D. "4"	1+66 L.D. "4"																							166		
5	LINED DITCH	H-3 @ 509+87 (O/S 102' RT.)	0+00 L.D. "5"	2+50 L.D. "5"																		43				250			
6	LINED DITCH	O.B. @ 524+97 (O/S 95' RT.)	0+00 L.D. "6"	4+48 L.D. "6"																						448			
7	LINED DITCH	O.B. @ 485+10 (O/S 78' RT.)	0+00 L.D. "7"	0+25 L.D. "7"																						25			
7	LINED DITCH	— —	0+25 L.D. "7"	2+20 L.D. "7"																						195			
7	LINED DITCH	O.B. @ 530+03 (O/S 64.5' RT.)	2+20 L.D. "7"	3+90 L.D. "7"																						170			
SUBTOTAL SHEET C83					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	60	0	0	0	1233	996		
TOTAL SHEET C83					2	11	10	9	2	6	1	1	1	1	46	28	0	3	0	1	1	5	60	0	0	0	1233	996	

SURVEY PLANNED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

RICHARD M. WAKIDA

LICENSED PROFESSIONAL ENGINEER

No. 2200-C

HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C83 OF 95 SHEETS

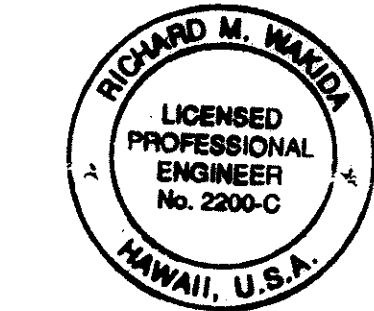
86

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	87	325

STRUCTURES			PIPE CULVERTS			ESTIMATED QUANTITIES																							
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603	603				
					2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010			
			FROM	TO	STRUCTURE EXCAVATION FOR INLET & OUTLET ACCESS ROAD "A"	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11'x8' AND 11' x 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, "A" CULVERT ROAD	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, CULVERT ROAD "A"	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III			
UNITS USED			C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.					
8	LINED DITCH	O.B. @ 532+98 (O/S 70' RT.)	0+00 L.D. "8"	0+15 L.D. "8"		18																							
8	LINED DITCH	O.B. @ 533+13 (O/S 69' RT.)	0+15 L.D. "8"	1+12 L.D. "8"		113																							
8	LINED DITCH	O.B. @ 534+05 (O/S 38' RT.)	1+12 L.D. "8"	2+05 L.D. "8"		109																							
—	6" CONC. SWALE	H-3 @ 486+50	H-3 @ 486+50	H-3 @ 491+65±																									
—	6" CONC. SWALE	H-3 @ 509+39	H-3 @ 509+39	H-3 @ 514+25																									
—	6" CONC. SWALE	I.B. @ 525+67±	I.B. @ 525+67±	I.B. @ 531+75																									
—	6" CONC. SWALE	O.B. @ 524+56±	O.B. @ 524+56±	O.B. @ 532+20																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ (-)0+80 (RT.)	ACC RD "A" @ (-)0+80 (RT.)	ACC RD "A" @ (-)0+15 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ 3+50 (RT.)	ACC RD "A" @ 3+50 (RT.)	ACC RD "A" @ 5+60 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ 8+40 (RT.)	ACC RD "A" @ 8+40 (RT.)	ACC RD "A" @ 10+73 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ 11+40 (LT.)	ACC RD "A" @ 11+40 (LT.)	ACC RD "A" @ 13+80 (LT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ 14+50 (LT.)	ACC RD "A" @ 14+50 (LT.)	ACC RD "A" @ 15+23 (LT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "A" @ 17+10 (RT.)	ACC RD "A" @ 17+10 (RT.)	ACC RD "A" @ 17+90 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "B" @ 3+90 (LT.)	ACC RD "B" @ 3+90 (LT.)	ACC RD "B" @ 5+70 (LT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "B" @ 6+30 (RT.)	ACC RD "B" @ 6+30 (RT.)	ACC RD "B" @ 6+75 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "B" @ 8+25 (LT.)	ACC RD "B" @ 8+25 (LT.)	ACC RD "B" @ 11+00 (LT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "B" @ 11+75 (RT.)	ACC RD "B" @ 11+75 (RT.)	ACC RD "B" @ 11+80 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "C" @ (-)0+05 (RT.)	ACC RD "C" @ (-)0+05 (RT.)	ACC RD "C" @ 0+95 (RT.)																									
—	4' WIDE SHOTCRETE GUTTER	ACC RD "C" @ 3+70 (RT.)	ACC RD "C" @ 3+70 (RT.)	ACC RD "C" @ 4+35 (RT.)																									
SUBTOTAL SHEET C84					0	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
TOTAL SHEET C84					2968	1581	1	1	1	1	1	1	1	1	36	71	104	5550	182	28	173	5215	585	480	48				

DATE	_____
DESIGNED BY	_____
TRACED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

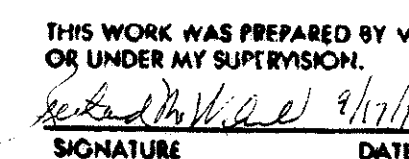
INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C84 OF 95 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(69)	1992	88	325

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY _____	" _____
	TRACED BY _____	" _____
	DESIGNED BY _____	" _____
	QUANTITIES BY _____	" _____
	CHECKED BY _____	" _____
No. _____		



DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	89	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																						HAWAII	HAW.	I-H3-1(69)	1992	89	325
NUMBER	TYPE	STATION	ITEM NO.		206	207	503	503	503	503	503	503	503	503	603	603	603	603	603	603	603	603	603	603								
			FROM	TO	2020	0100	9008	9010	9011	9012	9013	9014	9015	9016	9017	9000	9001	9002	9003	9004	9005	9006	9007	9008	9009	9010						
					STRUCTURE EXCAVATION FOR INLET & OUTLET, ACCESS ROAD "A"	DITCH AND CHANNEL EXCAVATION	CONCRETE FOR 11'X8' AND 11' X 11' BOX CULVERTS	CONCRETE IN INLET STRUCTURE, CULVERT 1	CONCRETE IN INLET STRUCTURE, CULVERT 2	CONCRETE IN INLET STRUCTURE, CULVERT 3	CONCRETE IN INLET STRUCTURE, CULVERT ROAD "A"	CONCRETE IN OUTLET STRUCTURE, CULVERT 1	CONCRETE IN OUTLET STRUCTURE, CULVERT 2	CONCRETE IN OUTLET STRUCTURE, CULVERT 3	CONCRETE IN OUTLET STRUCTURE, CULVERT ROAD "A"	18-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	18-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	30-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	30-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	36-INCH DUCTILE IRON PIPE, CLASS 52 IN GROUND	36-INCH DUCTILE IRON PIPE, CLASS 52 ON BRIDGE	24-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	60-INCH SPIRAL RIB METAL PIPE, THICKNESS, 0.105 INCH	36-INCH REINFORCED CONCRETE PIPE CL III	96-INCH REINFORCED CONCRETE PIPE CL III						
			UNITS USED		C.Y.	C.Y.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.S.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.							
-	D.I. TYPE "A"	ACC RD "A" @ (-)1+40 (13.5' RT.)	ACC RD "A" @ (-)1+40 (13.5' RT.)	ACC RD "A" @ (-)1+40 (13.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ (-)4+00 (13.5' RT.)	ACC RD "A" @ (-)4+00 (13.5' RT.)	ACC RD "A" @ (-)4+00 (13.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ (-)6+00 (13.5' RT.)	ACC RD "A" @ (-)6+00 (13.5' RT.)	ACC RD "A" @ (-)6+00 (13.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ 3+56 (13.5' RT.)	ACC RD "A" @ 3+56 (13.5' RT.)	ACC RD "A" @ 3+56 (23.5' LT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ 5+64 (13.5' RT.)	ACC RD "A" @ 5+64 (13.5' RT.)	ACC RD "A" @ 5+64 (31.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ 9+30 (20' RT.)	ACC RD "A" @ 9+30 (20' RT.)	ACC RD "A" @ 9+30 (30' RT.)																												
-	D.I. TYPE "A"	ACC RD "A" @ 17+10 (13.5' RT.)	ACC RD "A" @ 17+10 (13.5' RT.)	ACC RD "A" @ 17+10 (38.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "B" @ 13+75 (13.5' RT.)	ACC RD "B" @ 13+75 (13.5' RT.)	ACC RD "B" @ 13+75 (36.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "C" @ 0+00 (13.5' RT.)	ACC RD "C" @ 0+00 (13.5' RT.)	ACC RD "C" @ 0+00 (31.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "C" @ 1+60 (13.5' RT.)	ACC RD "C" @ 1+60 (13.5' RT.)	ACC RD "C" @ 1+60 (26.5' RT.)																												
-	D.I. TYPE "A"	ACC RD "C" @ 2+50 (13.5' RT.)	ACC RD "C" @ 2+50 (13.5' RT.)	ACC RD "C" @ 2+50 (26.5' RT.)																												
-	TYPE "A" DITCH	ACC RD "A" @ (-)5+30 (LT.)	ACC RD "A" @ (-)5+30 (LT.)	ACC RD "A" @ (-)2+55 (LT.)																												
-	TYPE "A" DITCH	ACC RD "A" @ (-)2+55 (RT.)	ACC RD "A" @ (-)2+55 (RT.)	ACC RD "A" @ (-)0+80 (RT.)																												
-	TYPE "A" DITCH	ACC RD "A" @ (-)0+15 (RT.)	ACC RD "A" @ (-)0+15 (RT.)	ACC RD "A" @ 3+56 (RT.)																												
-	TYPE "A" DITCH	ACC RD "A" @ 15+90 (RT.)	ACC RD "A" @ 15+90 (RT.)	ACC RD "A" @ 17+10 (RT.)																												
-	TYPE "A" DITCH	ACC RD "A" @ 15+25 (LT.)	ACC RD "A" @ 15+25 (LT.)	ACC RD "A" @ 15+90 (LT.)																												
-	TYPE "A" DITCH	BCC RD "B" @ 0+50 (LT.)	BCC RD "B" @ 0+50 (LT.)	BCC RD "B" @ 2+75 (LT.)																												
-	TYPE "A" DITCH	ACC RD "B" @ 1+50 (RT.)	ACC RD "B" @ 1+50 (RT.)	ACC RD "B" @ 2+20 (RT.)																												
-	TYPE "A" DITCH	ACC RD "B" @ 6+75 (RT.)	ACC RD "B" @ 6+75 (RT.)	ACC RD "B" @ 7+60 (RT.)																												
-	TYPE "A" DITCH	ACC RD "B" @ 12+35 (LT.)	ACC RD "B" @ 12+35 (LT.)	ACC RD "B" @ 13+75 (LT.)																												
-	TYPE "A" DITCH	ACC RD "C" @ 0+80 (LT.)	ACC RD "C" @ 0+80 (LT.)	ACC RD "C" @ 1+65 (LT.)																												
-	TYPE "A" DITCH	ACC RD "C" @ 1+65 (RT.)	ACC RD "C" @ 1+65 (RT.)	ACC RD "C" @ 3+70 (RT.)																												
-	TYPE "A" DITCH	ACC RD "C" @ 4+35 (RT.)	ACC RD "C" @ 4+35 (RT.)	ACC RD "C" @ 5+50 (RT.)																												
SUBTOTAL SHEET C86					0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	572	0	0	0	0							
TOTAL SHEET C86					2968	1581	65	1	1	1	1	1	1	1	36	71	104	5550	182	28	745	5215	585	480	48							

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTE BOOK: _____
No. _____



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
SIGNATURE: _____ DATE: _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C86 OF 95 SHEETS

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
NOTED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
No. _____

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	90	325

STRUCTURES			PIPE CULVERTS		ESTIMATED QUANTITIES																							
NUMBER	TYPE	STATION	ITEM NO.		604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	604	612	640	640	640	640	640		
			FROM	TO	4900	4901	4910	4911	4920	4921	4930	4940	4950	4960	4970	4980	4990	5070	5080	5081	5082	5130	0200	0112	5010	5011	8000	8001
					TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET, FRAME AND GRATE	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE, 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE, 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE, 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE, 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 - FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6-FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2-FEET WIDE	LINED DITCH, 4-FEET WIDE
UNITS USED			EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.		
-	D.I. TYPE "A"	ACC RD "A" @ (-)1+40 (13.5' RT.)	ACC RD "A" @ (-)1+40 (13.5' RT.)	ACC RD "A" @ (-)1+40 (13.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ (-)4+00 (13.5' RT.)	ACC RD "A" @ (-)4+00 (13.5' RT.)	ACC RD "A" @ (-)4+00 (13.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ (-)6+00 (13.5' RT.)	ACC RD "A" @ (-)6+00 (13.5' RT.)	ACC RD "A" @ (-)6+00 (13.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ 3+56 (13.5' RT.)	ACC RD "A" @ 3+56 (13.5' RT.)	ACC RD "A" @ 3+56 (23.5' LT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ 5+64 (13.5' RT.)	ACC RD "A" @ 5+64 (13.5' RT.)	ACC RD "A" @ 5+64 (31.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ 9+30 (20' RT.)	ACC RD "A" @ 9+30 (20' RT.)	ACC RD "A" @ 9+30 (30' RT.)												1												
-	D.I. TYPE "A"	ACC RD "A" @ 17+10 (13.5' RT.)	ACC RD "A" @ 17+10 (13.5' RT.)	ACC RD "A" @ 17+10 (38.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "B" @ 13+75 (13.5' RT.)	ACC RD "B" @ 13+75 (13.5' RT.)	ACC RD "B" @ 13+75 (36.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "C" @ 0+00 (13.5' RT.)	ACC RD "C" @ 0+00 (13.5' RT.)	ACC RD "C" @ 0+00 (31.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "C" @ 1+60 (13.5' RT.)	ACC RD "C" @ 1+60 (13.5' RT.)	ACC RD "C" @ 1+60 (26.5' RT.)												1												
-	D.I. TYPE "A"	ACC RD "C" @ 2+50 (13.5' RT.)	ACC RD "C" @ 2+50 (13.5' RT.)	ACC RD "C" @ 2+50 (26.5' RT.)												1												
-	TYPE "A" DITCH	ACC RD "A" @ (-)5+30 (LT.)	ACC RD "A" @ (-)5+30 (LT.)	ACC RD "A" @ (-)2+55 (LT.)																				275				
-	TYPE "A" DITCH	ACC RD "A" @ (-)2+55 (RT.)	ACC RD "A" @ (-)2+55 (RT.)	ACC RD "A" @ (-)0+80 (RT.)																				175				
-	TYPE "A" DITCH	ACC RD "A" @ (-)0+15 (RT.)	ACC RD "A" @ (-)0+15 (RT.)	ACC RD "A" @ 3+56 (RT.)																				371				
-	TYPE "A" DITCH	ACC RD "A" @ 15+90 (RT.)	ACC RD "A" @ 15+90 (RT.)	ACC RD "A" @ 17+10 (RT.)																				120				
-	TYPE "A" DITCH	ACC RD "A" @ 15+25 (LT.)	ACC RD "A" @ 15+25 (LT.)	ACC RD "A" @ 15+90 (LT.)																				65				
-	TYPE "A" DITCH	BCC RD "B" @ 0+50 (LT.)	BCC RD "B" @ 0+50 (LT.)	BCC RD "B" @ 2+75 (LT.)																				225				
-	TYPE "A" DITCH	ACC RD "B" @ 1+50 (RT.)	ACC RD "B" @ 1+50 (RT.)	ACC RD "B" @ 2+20 (RT.)																				70				
-	TYPE "A" DITCH	ACC RD "B" @ 6+75 (RT.)	ACC RD "B" @ 6+75 (RT.)	ACC RD "B" @ 7+60 (RT.)																				85				
-	TYPE "A" DITCH	ACC RD "B" @ 12+35 (LT.)	ACC RD "B" @ 12+35 (LT.)	ACC RD "B" @ 13+75 (LT.)																				140				
-	TYPE "A" DITCH	ACC RD "C" @ 0+80 (LT.)	ACC RD "C" @ 0+80 (LT.)	ACC RD "C" @ 1+65 (LT.)																				85				
-	TYPE "A" DITCH	ACC RD "C" @ 1+65 (RT.)	ACC RD "C" @ 1+65 (RT.)	ACC RD "C" @ 3+70 (RT.)																				205				
-	TYPE "A" DITCH	ACC RD "C" @ 4+35 (RT.)	ACC RD "C" @ 4+35 (RT.)	ACC RD "C" @ 5+50 (RT.)																				115				
SUBTOTAL SHEET C87					0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	1931	0	0		
TOTAL SHEET C87					2	11	10	9	2	6	1	1	1	1	46	28	11	3	0	1	1	5	60	1576	2373	1931	1233	1201



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Richard M. Walia 3/12/92
SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

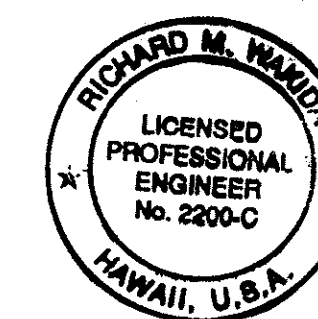
SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C87 OF 95 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	91	325

* PART OF THIS QUANTITY INCLUDED UNDER OTHER CONTRACT ITEMS.

⊛ DOES NOT INCLUDE TEMP. DRAINAGE SYSTEM



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DRAINAGE ESTIMATED QUANTITIES	
<u>INTERSTATE ROUTE H-3</u> <u>F.A.I. PROJECT NO. I-H3-1(69) & (70)</u>	
SCALE: NO SCALE	DATE: MARCH 1992
SHEET No. C88 OF 95 SHEETS	

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE _____
NOTE BOOK	DRAWN BY _____
	TRACED BY _____
	DESIGNED BY _____
	QUANTITIES BY _____
	CHECKED BY _____
No. _____	

SURVEY PLOTTED BY
DATE

ORIGINAL
PLAN

NO.

DRAWN BY

TRACED BY

QUANTITIES BY

CHECKED BY

DRAINAGE SUMMARY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(69)	1992	92	325

STRUCTURES			PIPE CULVERTS			ESTIMATED QUANTITIES																								
NUMBER	TYPE	STATION	ITEM NO.		TO	604 4900	604 4901	604 4910	604 4911	604 4920	604 4921	604 4930	604 4940	604 4950	604 4960	604 4970	604 4980	604 4990	604 5070	604 5080	604 5081	604 5082	604 5130	612 0200	640 0112	640 5010	640 5011	640 8000	640 8001	
			FROM			TYPE I DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE I DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE II DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE II DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE III DRAIN INLET 5.00 FEET TO 5.99 FEET	TYPE III DRAIN INLET 6.00 FEET TO 6.99 FEET	TYPE IV DRAIN INLET	TYPE V DRAIN INLET	TYPE VI DRAIN INLET	TYPE VII DRAIN INLET	TYPE 'D1' DRAIN INLET; FRAME AND <i>GRATE</i>	BRIDGE CLEANOUT COVER	TYPE "A" DRAIN INLET	TYPE "D" MANHOLE; 6.00 FEET TO 6.99 FEET	TYPE "F" MANHOLE; 6.00 FEET TO 6.50 FEET	TYPE "F" MANHOLE; 13.00 FEET TO 13.50 FEET	TYPE "F" MANHOLE; 15.50 FEET TO 16.00 FEET	CEMENT RUBBLE MASONARY HEADWALL	GROUTED RUBBLE PAVING	4 – FEET WIDE SHOTCRETE DITCH	CONCRETE SWALE, 6 – FEET WIDE	TYPE 'A' DRAINAGE DITCH	LINED DITCH, 2 – FEET WIDE	LINED DITCH, 4 – FEET WIDE	
						UNITS USED		EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	C.Y.	L.F.	L.F.	L.F.	L.F.
–	DMH, TYPE "F"	H-3 @ 479+85 (O/S 37.00' RT.)																												
–	DMH, TYPE "F"	H-3 @ 479+85 (O/S 37.00' RT.)	0+00 TD	0+74 TD																										
–	DMH, TYPE "F"	H-3 @ 479+85 (O/S 77.00' RT.)	0+74 TD	1+14 TD																1										
–	–	H-3 @ 481+09 (O/S 160' RT.)	1+14 TD	2+59 TD																										



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Richard M. Waijda 3/1/92
SIGNATURE DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE ESTIMATED QUANTITIES

INTERSTATE ROUTE H-3
F.A.I. PROJECT NO. I-H3-1(69) & (70)

SCALE: NO SCALE DATE: MARCH 1992

SHEET No. C89 OF 95 SHEETS