

DRAINAGE SUMMARY

PROJECT: MILILANI INTERCHANGE SOUTH BOUND ON/OFF RAMP
F.A.I. PROJECT NO. : IM-H2-1(29)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	77	129

ITEM NO.		206.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	
		2021	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217
UNIT USED		C.Y.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
STRUCTURE	STATION	STRUCTURE EXCAVATION OTHER THAN AT BRIDGES	TYPE "C" CATCH BASIN 6.00 FT. TO 6.99 FT.	TYPE "C-1" CATCH BASIN 4.00 FT. TO 4.99 FT.	TYPE "C-1" CATCH BASIN 6.00 FT. TO 6.99 FT.	TYPE "C-1" CATCH BASIN 9.00 FT. TO 9.99 FT.	TYPE "X" MANHOLE 5.00 FT. TO 5.99 FT.	TYPE "X" MANHOLE MODIFIED 10.00 FT. TO 10.99 FT.	TYPE "A" MANHOLE 5.00 FT TO 5.99 FT.	TYPE "A" MANHOLE 11.00 FT. TO 11.99 FT.	TYPE "A" MANHOLE 12.00 FT. TO 12.99 FT.	TYPE "A" MANHOLE 13.00 FT. TO 13.99 FT.	TYPE "61614" GDI 4.00 FT. TO 4.99 FT.	TYPE "61614" GDI 5.00 FT. TO 5.99 FT.	TYPE "61614" GDI 11.00 FT TO 11.99 FT.	TYPE "61614" GDI INSIDE DIM 6X4 6.00 FT. TO 6.99	TYPE "61616" GDI 4.00 FT. TO 4.99 FT.	TYPE "61616" GDI 5.00 FT. TO 5.99 FT.	TYPE "61616" GDI 6.00 FT. TO 6.99 FT.	24-INCH PVC PIPE
TYPE "C-1" CATCH BASIN A-7	B.L. STA. 1+43 R-3 RT.	23		1																
TYPE "X" MANHOLE A-6	B.L. STA. 1+43 R-3 O/S 15' LT.	-					1													
TYPE "C-1" CATCH BASIN A-5	B.L. STA. 30+39 MEHEULA PARKW. O/S 36' RT.	18				1														
TYPE "X" "D-1" MANHOLE MODIFIED A-4	B.L. STA. 31+00 MEHEULA PARKW. O/S 36' RT.	-						1												
TYPE "61614" GDI A-3	B.L. STA. 1+79 R-2 O/S 38' LT.	25												1						
TYPE "A" DMH A-2	B.L. STA. 3+70 R-1 O/S 8' LT.	33									1									
TYPE "A" DMH A-1	B.L. STA. 4+05 R-1 O/S 445' LT.	35										1								
TYPE "61614" GDI A-2	B.L. STA. 3+70 R-1 O/S 62' LT.	9											1							
TYPE "61614" GDI C-2	B.L. STA. 5+00 R-3 O/S 10' RT	11												1						
TYPE "61614" GDI C-1	B.L. STA. 3+00 R-2 O/S 6' RT.	12												1						
TYPE "C-1" CATCH BASIN D-2	B.L. STA. 1+10 R-1 LT.	21			1															
TYPE "61614" GDI D-1	B.L. STA. 1+65 R-1 O/S 23' RT.	17														1				
TYPE "C" CATCH BASIN D-3	B.L. STA. 32+58 MEHEULA PARKW. O/S 40' RT.	22	1																	

ITEM NO.		206.	603.
UNIT USED		C.Y.	L.F.
BASELINE STATION FROM	BASELINE STATION TO	STRUCTURE EXCAVATION FOR DRAINAGE SYSTEM	24-INCH REINFORCED HDPE CONC. PIPE, CLASS III PIPE
24-INCH R.C.P. HDPE CULVERT SYSTEM			
B.L. STA. 1+43 R-3 RT. 3+00 A-7	B.L. STA. 1+43 R-3 RT. 3+00 O/S 15' LT. C-2	159 144	176 165
B.L. STA. 1+43 R-3 O/S 15' LT.	B.L. STA. 30+39 MEHEULA PARKWAY O/S 36' RT.	-	-
B.L. STA. 30+39 MEHEULA PARKWAY O/S 36' RT.	B.L. STA. 31+00 MEHEULA PARKWAY O/S 36' RT.	-	-
B.L. STA. 31+00 MEHEULA PARKWAY O/S 36' RT. A-4	B.L. STA. 1+79 R-2 O/S 38' LT. A-3	285 243	139 183
B.L. STA. 1+79 R-2 O/S 38' LT. A-3	B.L. STA. 3+70 R-1 O/S 8' LT. A-2	167 209	95 59
B.L. STA. 3+70 R-1 O/S 8' LT. A-2	B.L. STA. 4+05 R-1 O/S 45' LT. A-1	85 79	48 54
B.L. STA. 3+70 R-1 STA. O/S 62' LT. B-1	B.L. STA. 4+05 R-1 45' LT. A-1	14 33	25 32
B.L. STA. 5+00 R-3 O/S 10' RT. C-2	B.L. STA. 3+00 R-2 O/S 6' RT. C-1	33 42	40 50
B.L. STA. 3+00 R-2 O/S 6' RT. C-1	B.L. STA. 3+70 R-1 O/S 8' LT. A-2	53 65	60 53
B.L. STA. 1+10 R-1 LT. D-2	B.L. STA. 1+65 R-1 O/S 23' RT. D-1	87 76	61 63
B.L. STA. 1+65 R-1 O/S 23' RT. D-1	B.L. STA. 1+79 R-2 O/S 38' LT. A-3	233 220	127 129
B.L. STA. 32+58 MEHEULA PARKWAY O/S 40' RT. D-3	B.L. STA. 1+65 R-1 O/S 23' RT. D-1	71 102	83 85

ORIGINAL SURVEY PLOTTED BY _____ DATE _____

DRAWN BY _____

TRACED BY _____

NOTED BY _____

QUANTITIES BY _____

CHECKED BY _____

No. _____

DRAINAGE SUMMARY

PROJECT: MILILANI INTERCHANGE SOUTH BOUND ON/OFF RAMP
F.A.I. PROJECT NO. : IM-H2-1(29)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	78	129

ITEM NO.		206.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.	604.
UNIT USED		2021	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217
STRUCTURE	STATION	C.Y.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.	EA.
		STRUCTURE EXCAVATION OTHER THAN AT BRIDGES	TYPE "C" CATCH BASIN 6.00 FT. TO 6.99 FT.	TYPE "C-1" CATCH BASIN 4.00 FT. TO 4.99 FT.	TYPE "C-1" CATCH BASIN 6.00 FT. TO 6.99 FT.	TYPE "C-1" CATCH BASIN 9.00 FT. TO 9.99 FT.	TYPE "X" MANHOLE 5.00 FT. TO 5.99 FT.	TYPE "X" MANHOLE 10.00 FT. TO 10.99 FT	TYPE "A" MANHOLE 5.00 FT TO 5.99 FT.	TYPE "A" MANHOLE 11.00 FT. TO 11.99 FT.	TYPE "A" MANHOLE 12.00 FT. TO 12.99 FT.	TYPE "A" MANHOLE 13.00 FT. TO 13.99 FT.	TYPE "61614" GDI 4.00 FT. TO 4.99 FT.	TYPE "61614" GDI 5.00 FT. TO 5.99 FT.	TYPE "61614" GDI 11.00 FT TO 11.99 FT.	TYPE "61614" GDI INSIDE DIM 6X4 6.00 FT. TO 6.99	TYPE "61616" GDI 4.00 FT. TO 4.99 FT.	TYPE "61616" GDI 5.00 FT. TO 5.99 FT.	TYPE "61616" GDI 6.00 FT. TO 6.99 FT.	24-INCH PVC PIPE
TYPE "61614" GDI G-7	B.L. STA. 10+88 R-1 O/S 8' LT.	11												1						
TYPE "A" DMH G-6	B.L. STA. 10+88 R-1 O/S 21' RT.	31							1											
TYPE "A" DMH G-5	B.L. STA. 7+46 R-2 O/S 7' RT.	37								1										
TYPE "A" DMH G-4	B.L. STA. 5+83 R-2 O/S 7' RT.	15									1									
TYPE "61614" GDI G-3	B.L. STA. 6+60 R-3 O/S 10' RT.	12												1						
TYPE "61614" GDI G-2	B.L. STA. 7+68 R-3 O/S 10' RT.	11												1						
TYPE "61614" GDI G-1	B.L. STA. 9+03 R-3 O/S 13'±RT.	15												1						10
TYPE "61614" GDI H-2	B.L. STA. 5+67 R-1 O/S 8' LT.	11												1						
TYPE "61614" GDI H-1	B.L. STA. 4+46 R-2 O/S 6' RT	16												1						
TYPE "61614" GDI I-1	B.L. STA. 7+68 R-3 O/S 21' LT.	12											1							
TYPE "61614" GDI J-2	B.L. STA. 10+12 R-3 9.58' O/S 10' RT.	10											1							
TYPE "61614" GDI J-1	B.L. STA. 9+72 R-3 O/S 10' RT.	9											1							
TYPE "61614" GDI K-1	B.L. STA. 2+60 R-2 O/S 6' RT.	12												1						

ITEM NO.		206.	603.
UNIT USED		2020	0100
BASELINE STATION FROM	BASELINE STATION TO	C.Y.	L.F.
		STRUCTURE EXCAVATION FOR DRAINAGE SYSTEM	24-INCH REINFORCED HDPE CONG. PIPE, CLASS III
24-INCH RCP HDPE CULVERT SYSTEM			
B.L. STA. 10+88 R-1 O/S 8'±LT. G-7	B.L. STA. 10+88 R-1 O/S 21' RT. G-6	31 28	42 29
B.L. STA. 10+88 R-1 O/S 21' RT. G-6	B.L. STA. 7+46 R-2 7' RT. G-5	362 359	205 238
B.L. STA. 7+46 R-2 7' RT. G-5	B.L. STA. 5+83 R-2 O/S 7' RT. G-4	420 359	161 165
B.L. STA. 5+83 R-2 O/S 7' RT. G-4	B.L. STA. 6+60 R-3 10' RT. G-3	269 218	127 130
B.L. STA. 6+60 R-3 10' RT. G-3	B.L. STA. 7+68 R-3 O/S 10' RT. G-2	89	99 102
B.L. STA. 7+68 R-3 O/S 10' RT. G-2	B.L. STA. 9+03 R-3 O/S 13' ± RT. G-1	134 107	122 125
B.L. STA. 5+67 R-1 O/S 8' LT. H-2	B.L. STA. 4+46 R-2 O/S 6' RT. H-1	45 43	40 44
B.L. STA. 4+46 R-2 O/S 6' RT. H-1	B.L. STA. 6+60 R-3 O/S 8' RT. G-3	80 67	68 94
B.L. STA. 7+68 R-3 O/S 21' LT. I-1	B.L. STA. 7+68 R-3 O/S 10' RT. G-2	29 28	27 43
B.L. STA. 10+12 R-3 O/S 10' RT. J-2	B.L. STA. 9+72 R-3 10' RT. J-1	37 55	36 58
B.L. STA. 9+72 R-3 10' RT. J-1	B.L. STA. 9+03 R-3 O/S 13'±RT. G-1	67 60	63 65
B.L. STA. 2+60 R-2 O/S 6' RT. K-1	B.L. STA. 3+00 R-2 O/S 6' RT. C-1	43 40	36 40

ORIGINAL SURVEY PLOTTED BY: _____ DATE: _____
DRAWN BY: _____
CHECKED BY: _____
NOTE BOOK NO. _____

SUMMARY

F.A.I. PROJECT NO. : IM-H2-1(29)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	79	129

[illegible][illegible]

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

DRAINAGE SUMMARY

PROJECT: MILILANI INTERCHANGE SOUTH BOUND ON/OFF RAMP
F.A.I. PROJECT NO. : IM-H2-1(29)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	80	129

ITEM NO.		605.0000	605.0100	605.0101
UNIT USED		L.F.	L.F.	L.F.
BASELINE STATION FROM	BASELINE STATION TO	UNDERDRAIN	6-INCH PERFORATED UNDERDRAIN PIPE	6-INCH NON-PERFORATED UNDERDRAIN PIPE
EDGEDRAINS				
B.L. STA. (-)1+50 R-1	B.L. STA. 3+70 R-1 O/S 8' LT.	571 510	571 510	
B.L. STA. 97+80.74 MEHEULA PARKWAY O/S 50' ± LT.	B.L. STA. 97+07 MEHEULA PARKWAY O/S 48.50' LT.			26 72
B.L. STA. 5+69 R-1 O/S 8' LT.	B.L. STA. 10+86 R-1 O/S 8' LT.	521 517	521 517	
B.L. STA. 1+150 R-1	B.L. STA. (-)1+50 R-1 O/S 13.50' LT.	13.5	13.5	
B.L. STA. 0+44 R-2 O/S 35.75' LT.	B.L. STA. 1+79 R-2 O/S 38' LT.	111 135	111 135	
B.L. STA. 3+00 R-2 O/S 6' RT.	B.L. STA. 4+80 R-2 O/S 6' RT.	210 180	210 180	
B.L. STA. 0+00 R-3	B.L. STA. 10+65 R-3 O/S 12' ± RT.	1058 1050	1058 1050	
B.L. STA. 10+65 R-3 O/S 14' ± LT.	B.L. STA. 198+65 H-2 O/S 27' ± RT.	1024 925	1024 925	
B.L. STA. 198+65 H-2 O/S 27' ± RT.	B.L. STA. 198+65 H-2 O/S 45' RT.	17 18	17 18	
B.L. STA. 194+00 H-2 O/S 57' ± RT.	B.L. STA. 194+00 H-2 O/S 74' ± RT.	17	17	
B.L. STA. 192+00 H-2 O/S 57' ± RT.	B.L. STA. 192+00 H-2 O/S 74' ± RT.	17	17	
TOTAL		3559 3383	3559 3383	26 79

ITEM NO.		609.0102	609.0104
UNIT USED		L.F.	C.Y.
BASELINE STATION FROM	BASELINE STATION TO	GUTTER, TYPE 2 (61614)	BED COURSE MATERIAL FOR CURB AND/OR GUTTER
GUTTERS TYPE 2 (61614) GUTTER SYSTEM			
B.L. STA. 1+58 ± R-1 O/S 3.5' ± LT.	B.L. STA. 1+88 R-1 O/S 6' LT.	20 15	≠
B.L. STA. 5+64 R-1 O/S 6' LT.	B.L. STA. 10+90 R-1 O/S 6' LT.	526 521	39
B.L. STA. 188-30 R-1 O/S 6' LT.	B.L. STA. 3+60 R-1 O/S 6' LT.	169 171	10
B.L. STA. 1+57 R-1 O/S 21' RT.	B.L. STA. 2+80 R-1 O/S 21' RT.	154 123	5

ITEM NO.		609.0102	609.0104
UNIT USED		L.F.	C.Y.
BASELINE STATION FROM	BASELINE STATION TO	GUTTER, TYPE 2 (61614)	BED COURSE MATERIAL FOR CURB AND/OR GUTTER
GUTTERS			
B.L. STA. 1+16 R-2 O/S 4' RT.	B.L. STA. 4+80 R-2 O/S 4' RT.	367 560	15
B.L. STA. 1+16 R-2 O/S 36' LT.	B.L. STA. 1+76 R-2 O/S 36' RT.	84 60	≠
B.L. STA. 3+47.97 R-3 O/S 8' RT.	B.L. STA. 10+15 R-3 O/S 8' RT.	659 637	-
B.L. STA. 6+00 R-3 O/S 19' LT.	B.L. STA. 7+70 R-3 O/S 19' LT.	184 188	≠
B.L. STA. 0+76 R-2 O/S 4' RT.	B.L. STA. 1+16 R-2 O/S 4' RT.	40 20	≠
B.L. STA. 0+76 R-2 O/S 36' RT.	B.L. STA. 1+16 R-2 O/S 36' RT.	40 20	≠
B.L. STA. 1+05 R-1 O/S 21' RT.	B.L. STA. 1+58 ± R-1 O/S 21' RT.	50 30	-
B.L. STA. 3+24.50 R-3 O/S 5.8' ± RT.	B.L. STA. 3+47.97 R-3 O/S 8' RT.	22 11	≠
B.L. STA. 10+15 R-3 O/S 8' RT. DI J-2	B.L. STA. 11+15 R-3 O/S 6' RT.	71 50	≠
TOTAL		2386 2206	89

ORIGINAL SURVEY PLOTTED BY _____ DATE _____
DRAWN BY _____
CHECKED BY _____
NOTE BOOK NO. _____
QUANTITIES BY _____
No. _____

DRAINAGE SUMMARY

PROJECT: MILILANI INTERCHANGE SOUTH BOUND ON/OFF RAMP
F.A.I. PROJECT NO. : IM-H2-1(29)

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	81	129

ITEM NO.		609.	609.
UNIT USED		0103	0104
		L.F.	C.Y.
BASELINE STATION FROM	BASELINE STATION TO	GUTTER, TYPE 2 (61616)	BED COURSE MATERIAL FOR CURB AND/OR GUTTER
TYPE 2 (61616) GUTTER SYSTEM			
B.L. STA. 11+15 R-3 O/S 6' RT.	B.L. STA. 11+66.57 R-3 O/S 6' RT.	50 52	3
B.L. STA.189+59.36 H-2 O/S 74' RT.	B.L. STA.195+65.98 H-2 O/S 74' RT.	620 626	55
B.L. STA.195+65.98 H-2 O/S 74' RT.	B.L. STA. 198+65 ± H-2 O/S 45'± RT.	297 302	28
B.L. STA. 10+15 R-3 O/S 8' RT.	B.L. STA. 11+15 R-3 O/S 6' RT.	46 50	3
TOTAL		1013 1030	0 89

ITEM NO.		604.
UNIT USED		0100
		EA.
EXISTING DRAINAGE STRUCTURE TO BE COMPLETELY DEMOLISHED		EXISTING CATCH BASIN OR DORP INLET TO BE COMPLETELY DEMOLISHED
STRUCTURE	STATION	
EXISTING DROP INLET	B.L. STA. 9+09 R-1 O/S 8' LT.	1
EXISTING MANHOLE	B.L. STA. 9+09 R-1 O/S 24' LT.	1
EXISTING DROP INLET	B.L. STA. 5+82.5 ± R-2 O/S 22' RT.	1
EXISTING MANHOLE	B.L. STA. 6+12.5 ± R-1 O/S 6± RT.	1
EXISTING MANHOLE	B.L. STA. 1+37 ± R-2 O/S 42'± LT.	1
EXISTING MANHOLE	B.L. STA. 0+67 R-2 O/S 50' LT.	1
EXISTING DROP INLET	B.L. STA. 0+53 R-2 O/S 9' LT.	1
EXISTING CATCH BASIN	B.L. STA. 12+09 ± R-3 O/S 7'± RT.	1
EXISTING CATCH BASIN	B.L. STA. 192+00 H-2 O/S 77'± RT.	1
EXISTING CATCH BASIN	B.L. STA. 193+00 H-2 O/S 77'± RT.	1
EXISTING CATCH BASIN	B.L. STA.193+65± H-2 O/S 48'± RT.	1
TOTAL		11

ITEM NO.	605.
UNIT USED	0102
	EACH
CLEANOUTS	CLEANOUTS
B.L. STA. (-)0+10 R-1 LT.	1
B.L. STA. 3+60 R-1 LT.	1
B.L. STA. 4+80 R-2 RT.	1
B.L. STA. 0+00 R-3 RT.	1
B.L. STA. 3+43 R-3 RT.	1
B.L. STA. 10+65 R-3 RT.	1
B.L. STA. 10+65 R-3 LT.	1
B.L. STA. 190+00 H-2 RT.	1
B.L. STA. 196+20 H-2 RT.	1
B.L. STA. 198+65 H-2 RT.	1
B.L. STA. 4+80 R-2	1
B.L. STA. 1+67 R-2 LT.	1
TOTAL	12 10

ORIGINAL SURVEY PLOTTED BY _____ DATE _____

PLAN DRAWN BY _____

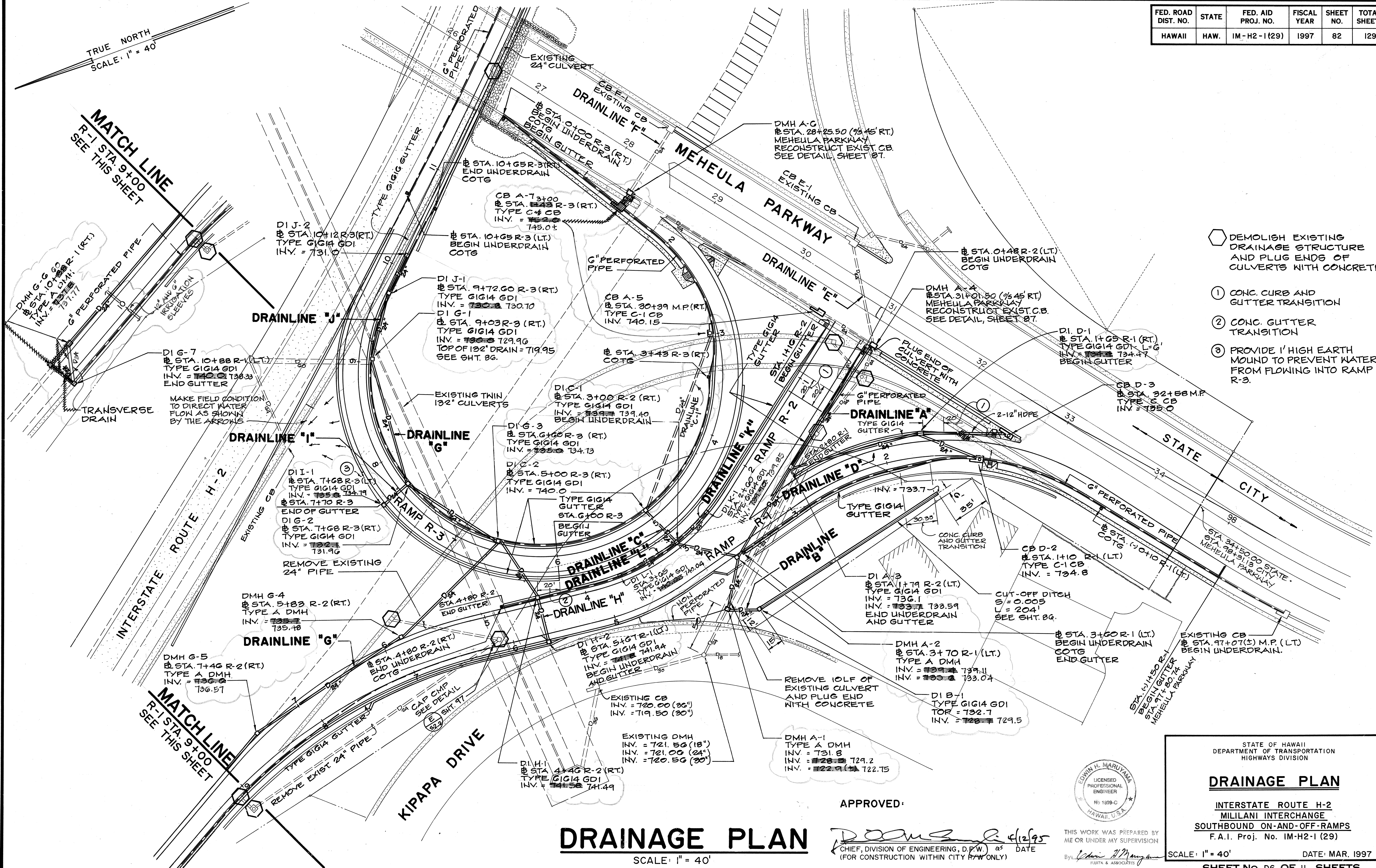
NOTE BOOK DESIGNED BY _____

QUANTITIES BY _____

CHECKED BY _____

No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	82	129

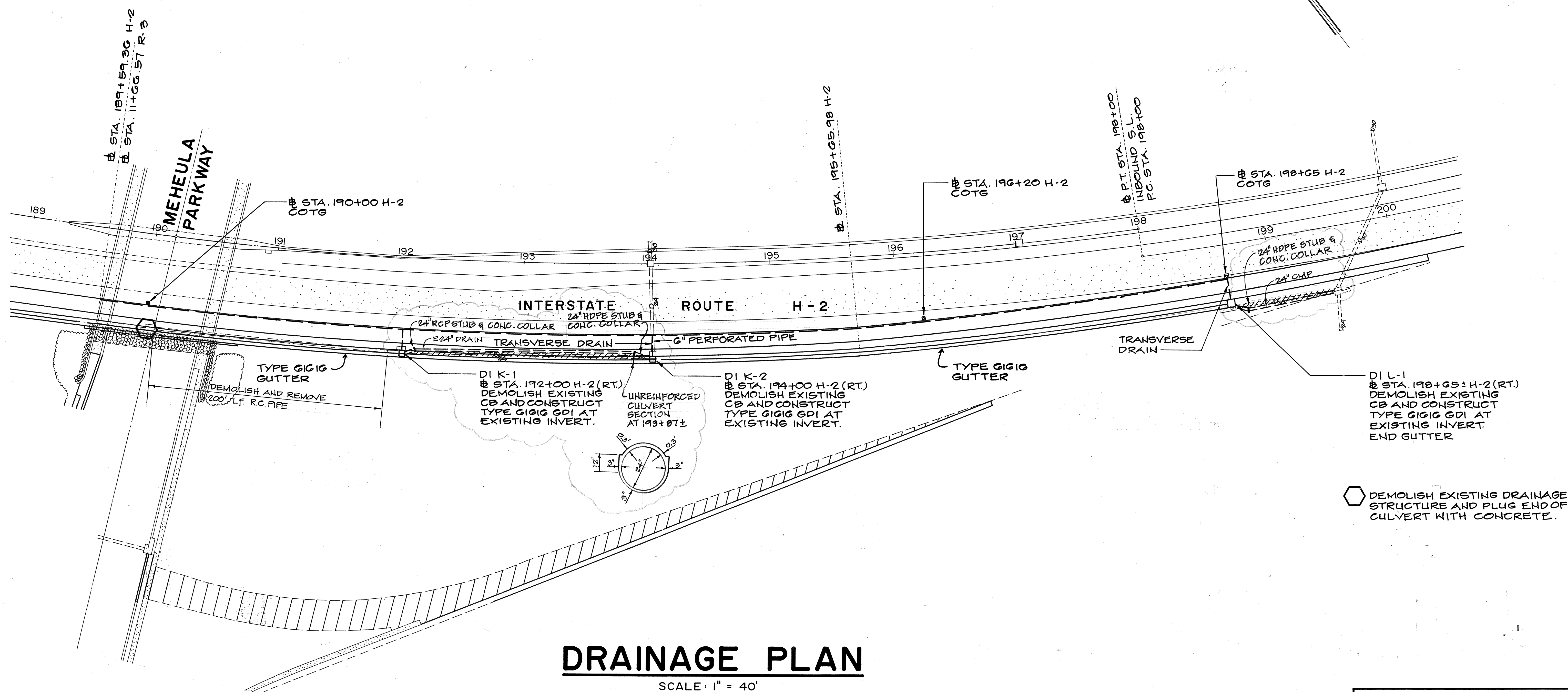


- ① DEMOLISH EXISTING DRAINAGE STRUCTURE AND PLUG ENDS OF CULVERTS WITH CONCRETE
- ② CONC. CURB AND GUTTER TRANSITION
- ③ CONC. GUTTER TRANSITION
- ④ PROVIDE 1' HIGH EARTH MOUND TO PREVENT WATER FROM FLOWING INTO RAMP R-3.

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1 (29)	1997	83	129

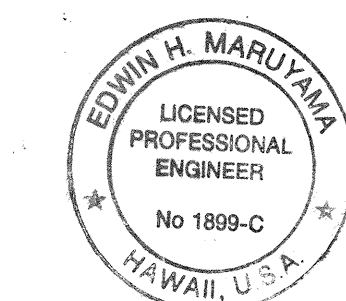
TRUE NORTH
SCALE: 1" = 40'



DRAINAGE PLAN

SCALE: 1" = 40'

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DESIGNED BY		
NOTED BY		
CHECKED BY		
NO.		



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION
By: *Edwin H. Maruyama*
FUTATA & ASSOCIATES

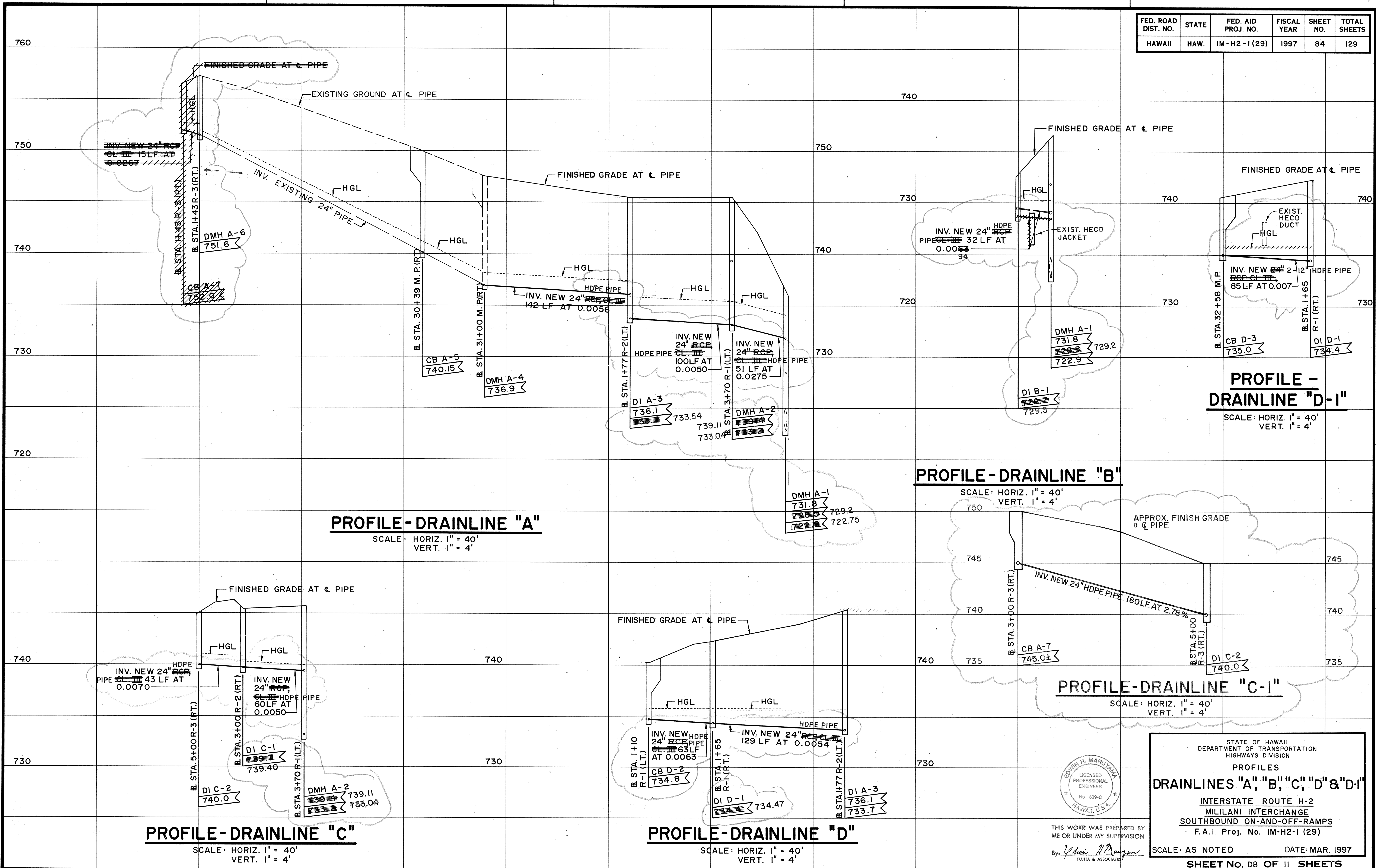
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLAN

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1 (29)

SCALE: 1" = 40'
DATE: MAR. 1997
SHEET No. D7 OF 11 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	84	129

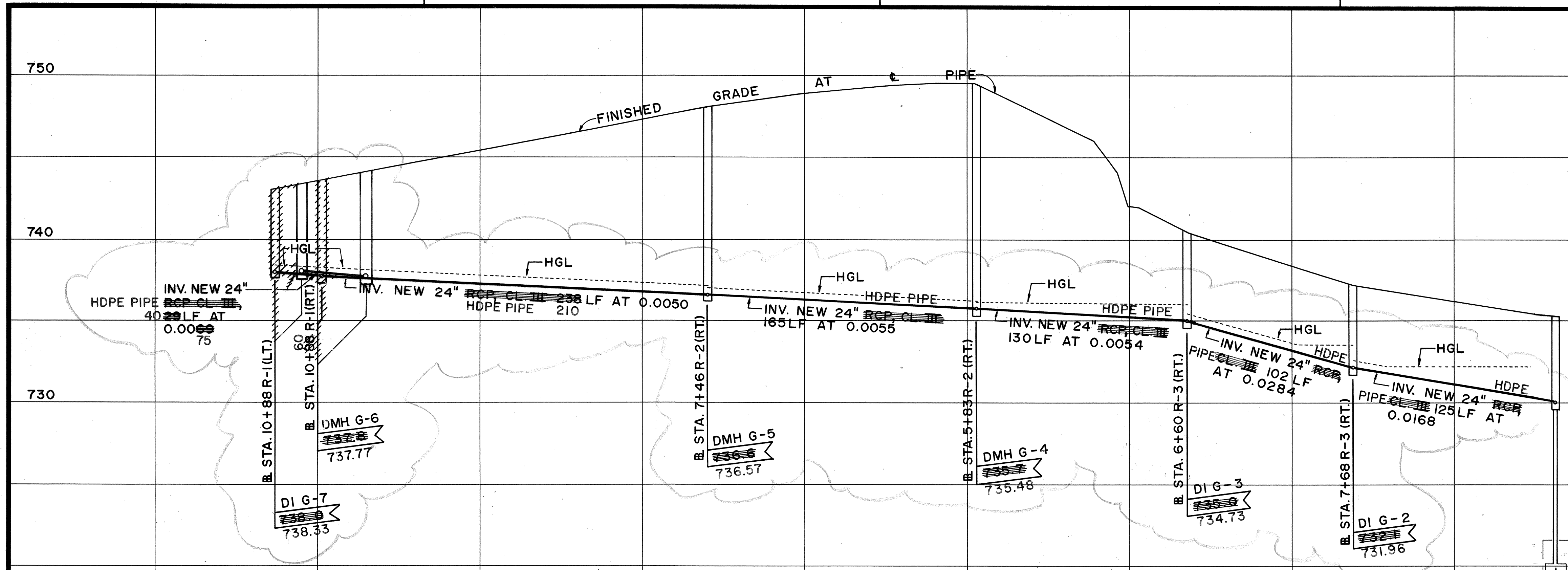


DATE: _____
 SURVEY PLOTTED BY: _____
 DRAWN BY: _____
 DESIGNED BY: _____
 CHECKED BY: _____
 ORIGINAL PLAN: _____
 NOTE BOOK: _____
 No. _____

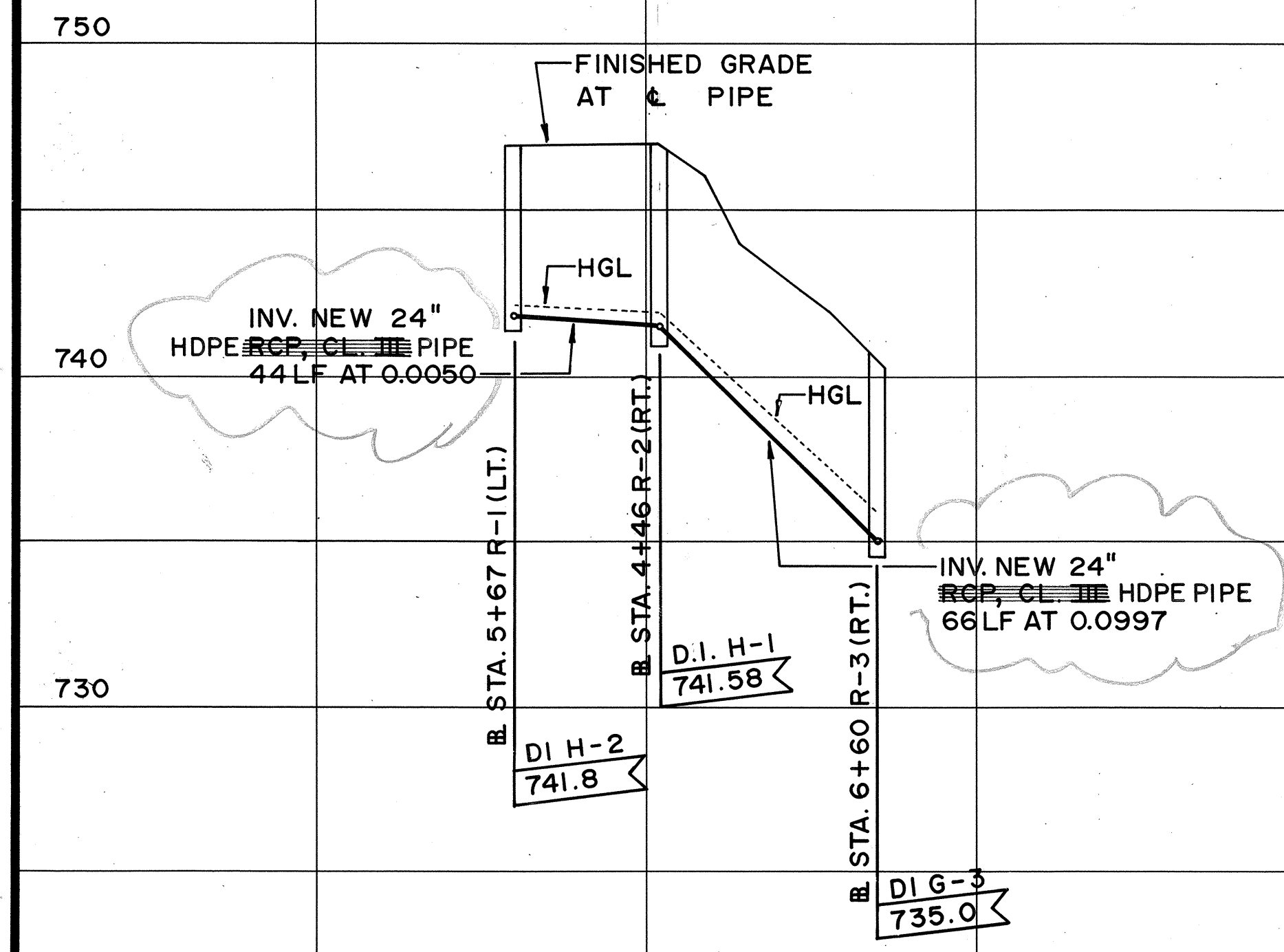
EDWIN H. MARUYAMA
 LICENSED PROFESSIONAL ENGINEER
 No. 1999-C
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
 By: *Edwin H. Maruyama*
 FUJITA & ASSOCIATES

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
PROFILES
DRAINLINES "A", "B", "C", "D" & "D-1"
 INTERSTATE ROUTE H-2
 MILILANI INTERCHANGE
 SOUTHBOUND ON-AND-OFF-RAMPS
 F.A.I. Proj. No. IM-H2-1 (29)
 SCALE: AS NOTED DATE: MAR. 1997
 SHEET NO. D8 OF 11 SHEETS

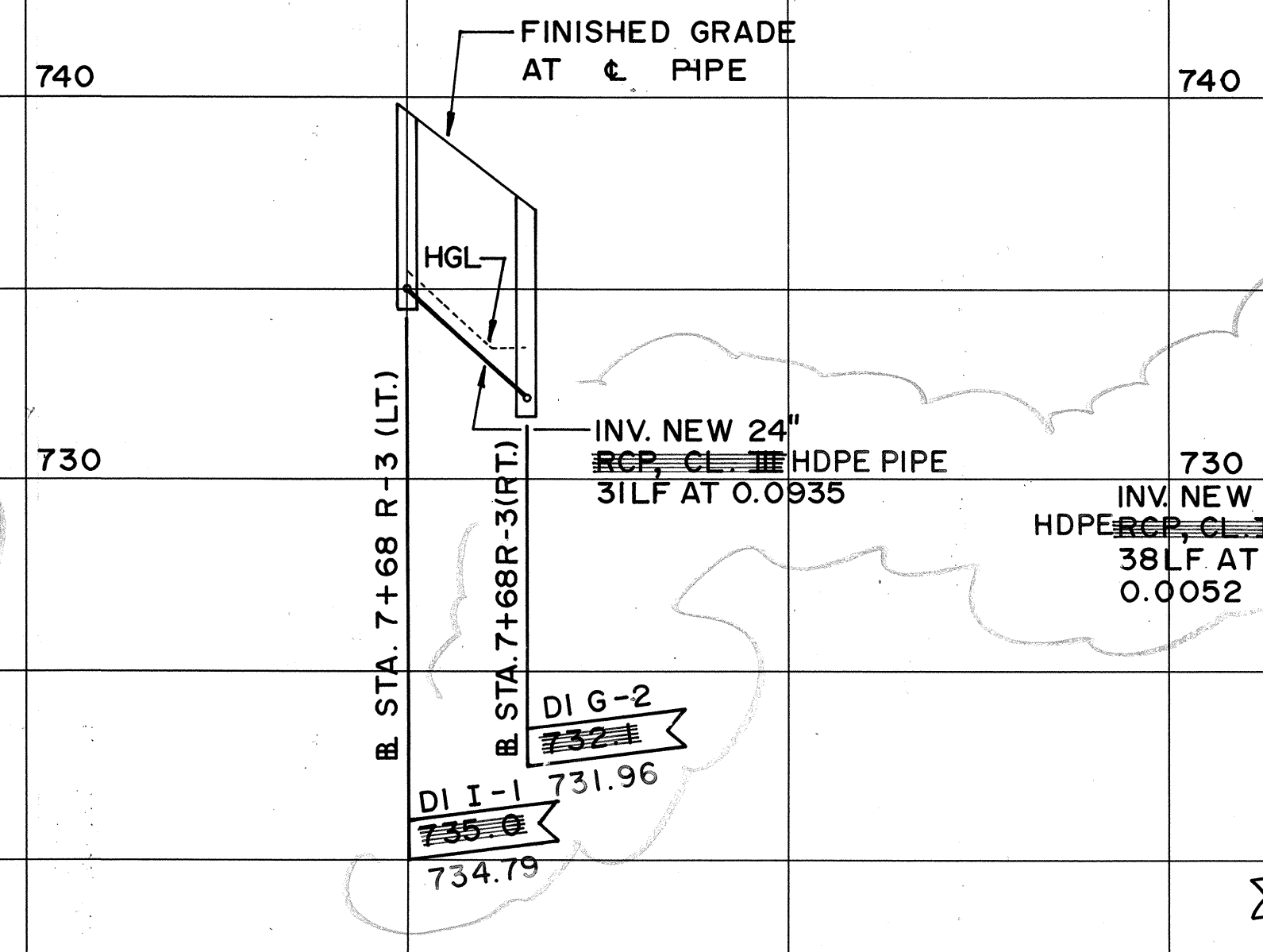
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(29)	1997	85	129



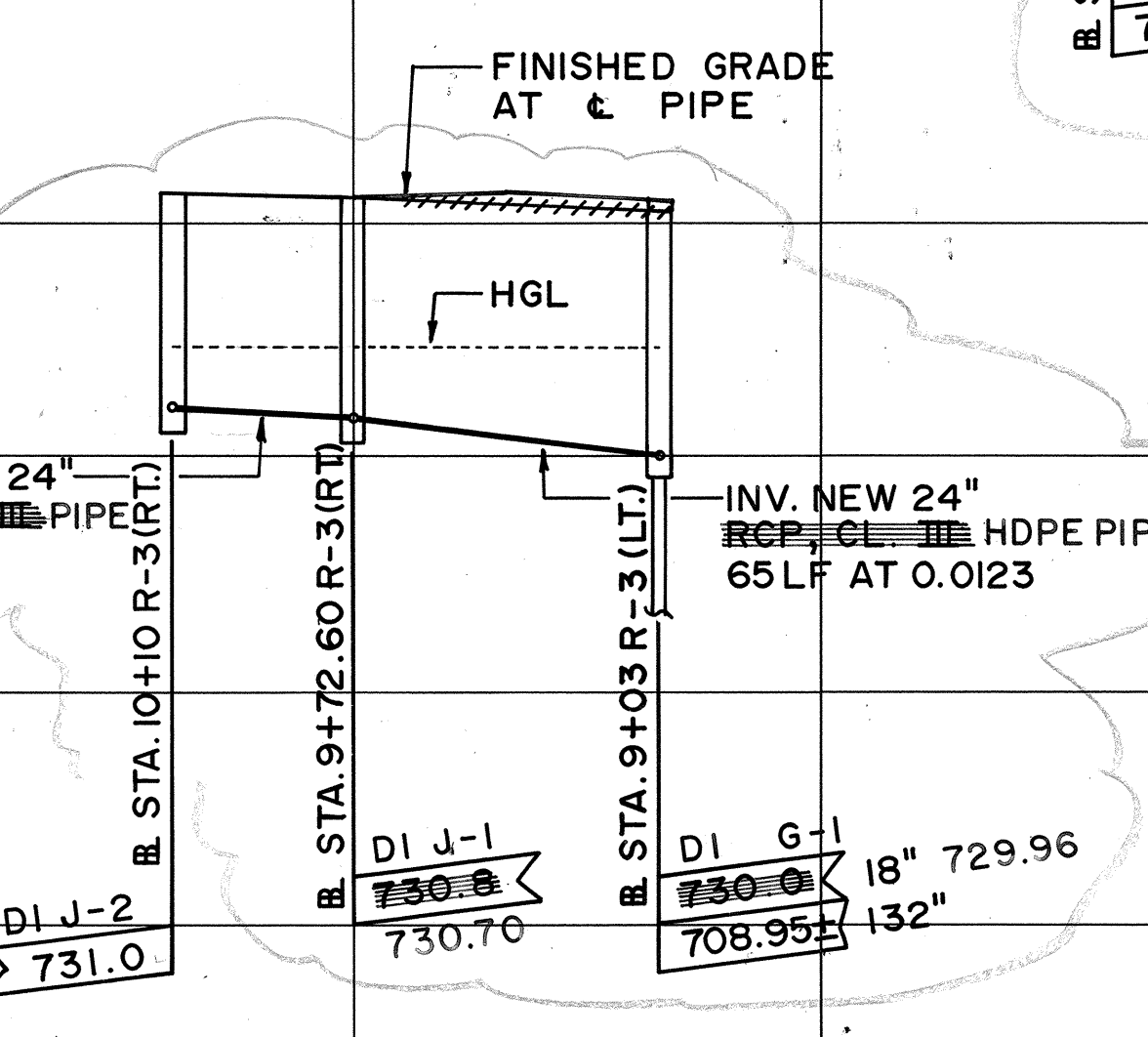
PROFILE - DRAINLINE "G"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



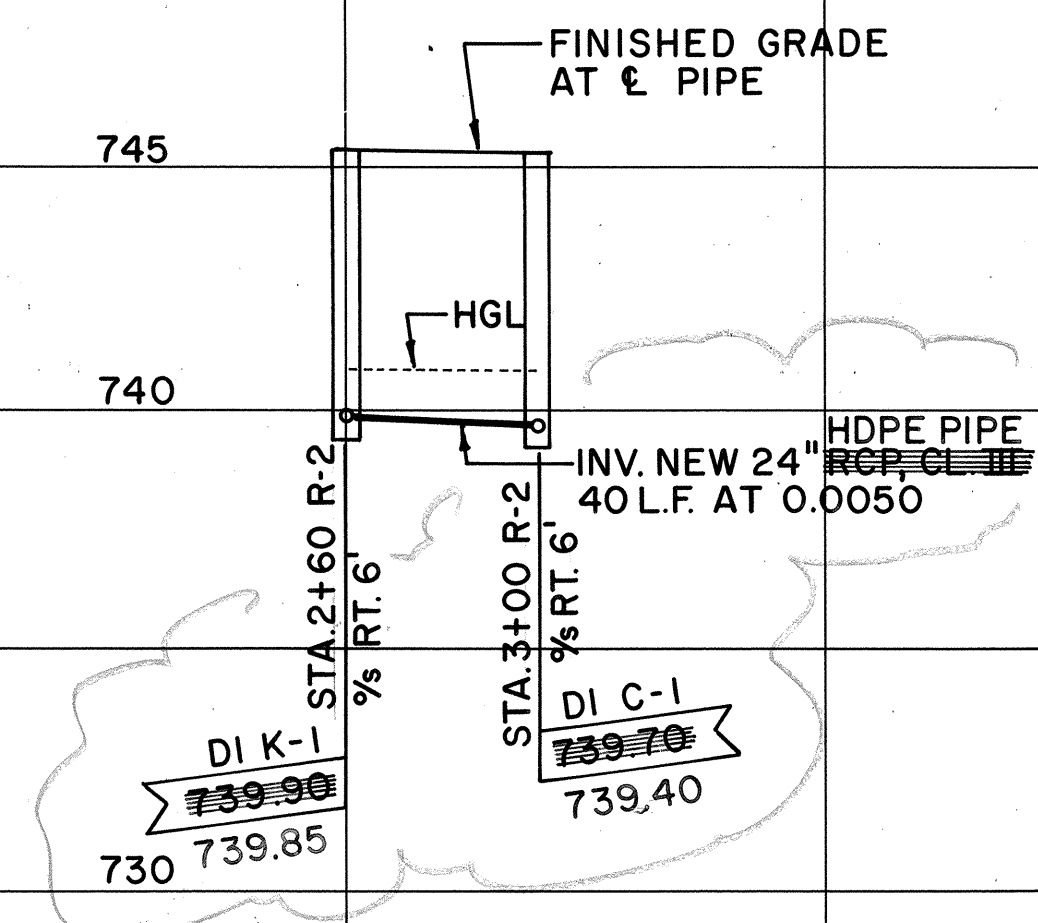
PROFILE - DRAINLINE "H"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



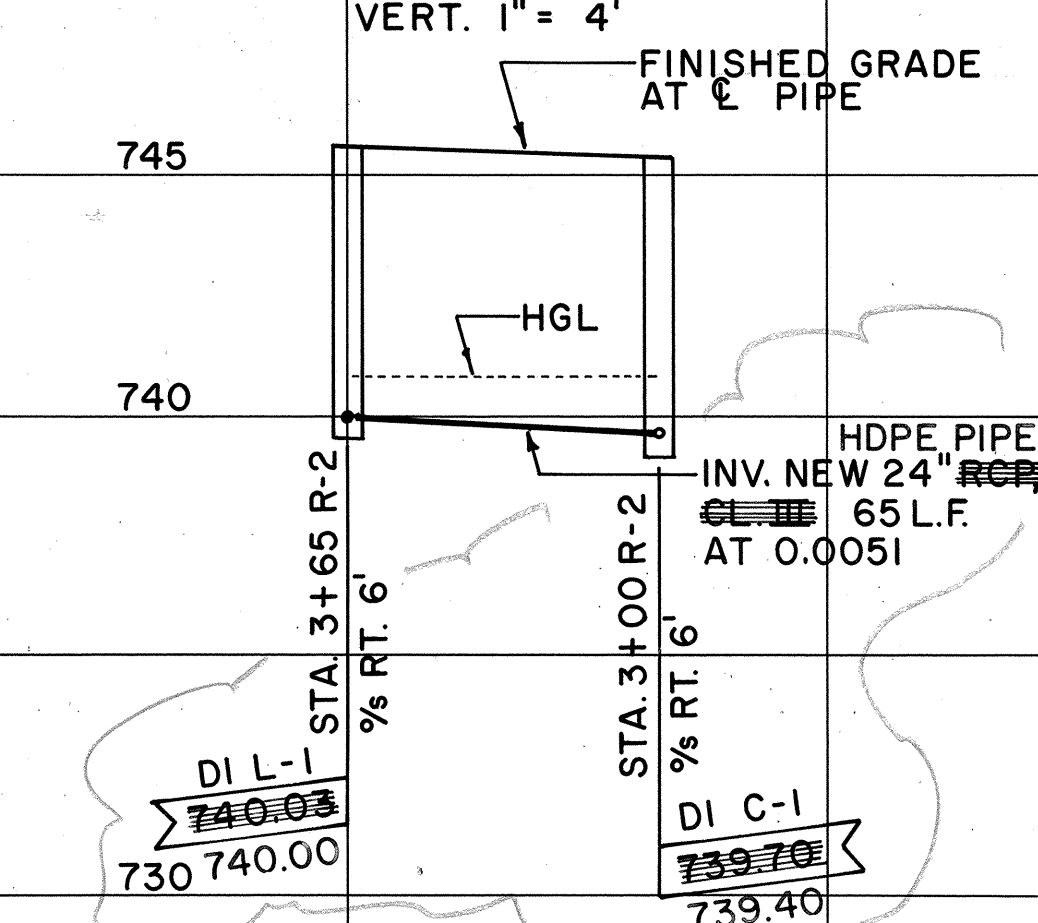
PROFILE - DRAINLINE "I"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



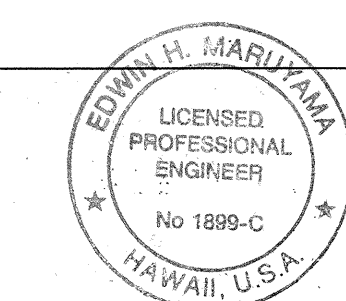
PROFILE - DRAINLINE "J"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



PROFILE - DRAINLINE "K"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



PROFILE - DRAINLINE "L"
SCALE: HORIZ. 1" = 40'
VERT. 1" = 4'



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FUTATA & ASSOCIATES

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

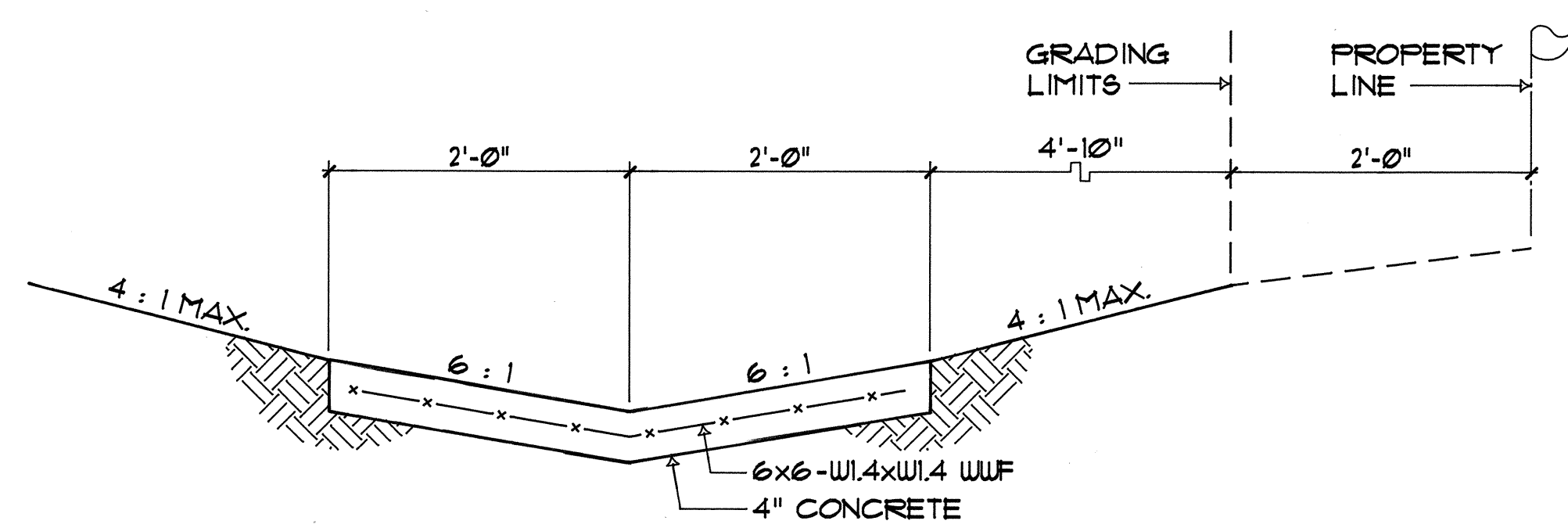
PROFILES
DRAINLINES "G", "H", "I", "J", "K" & "L"

INTERSTATE ROUTE H-2
MILILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1 (29)

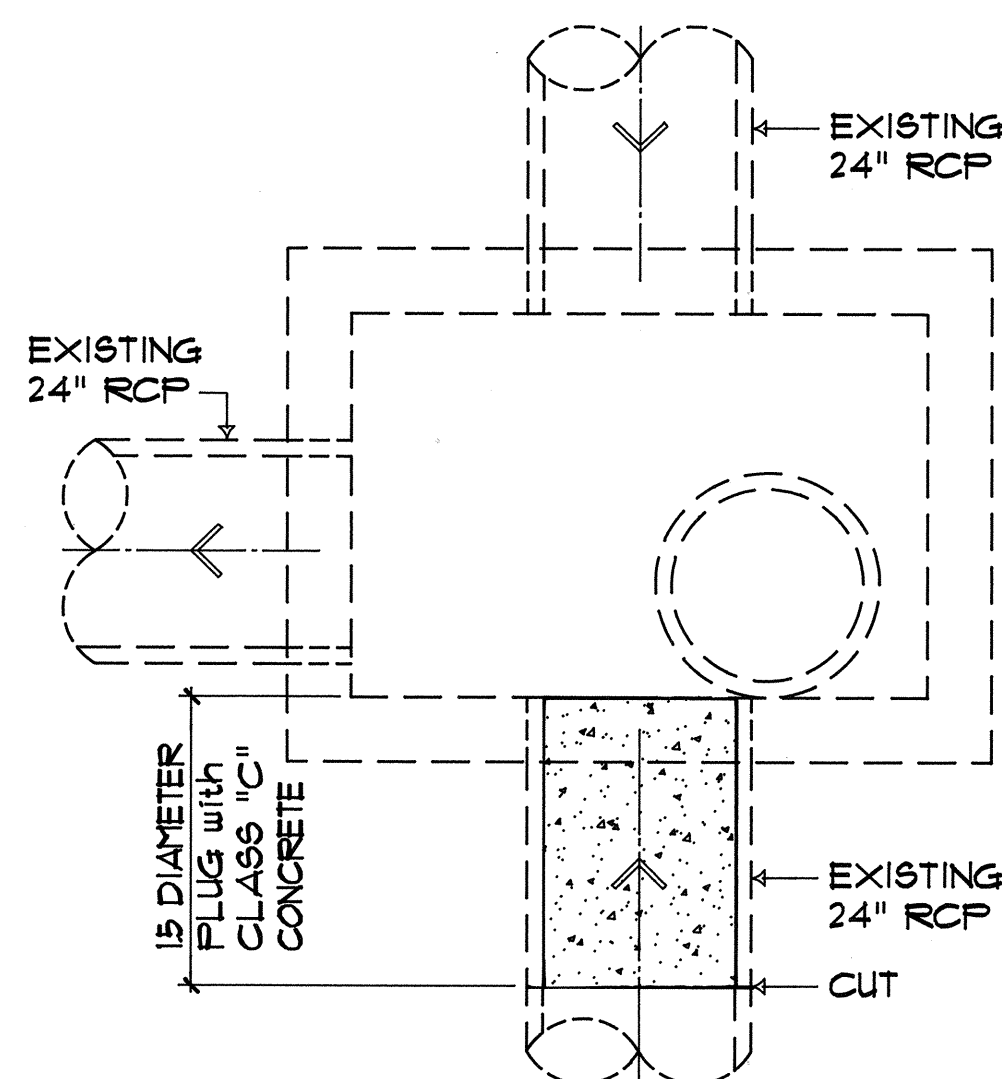
SCALE: AS NOTED DATE: MAR. 1997

SHEET NO. D9 OF 11 SHEETS

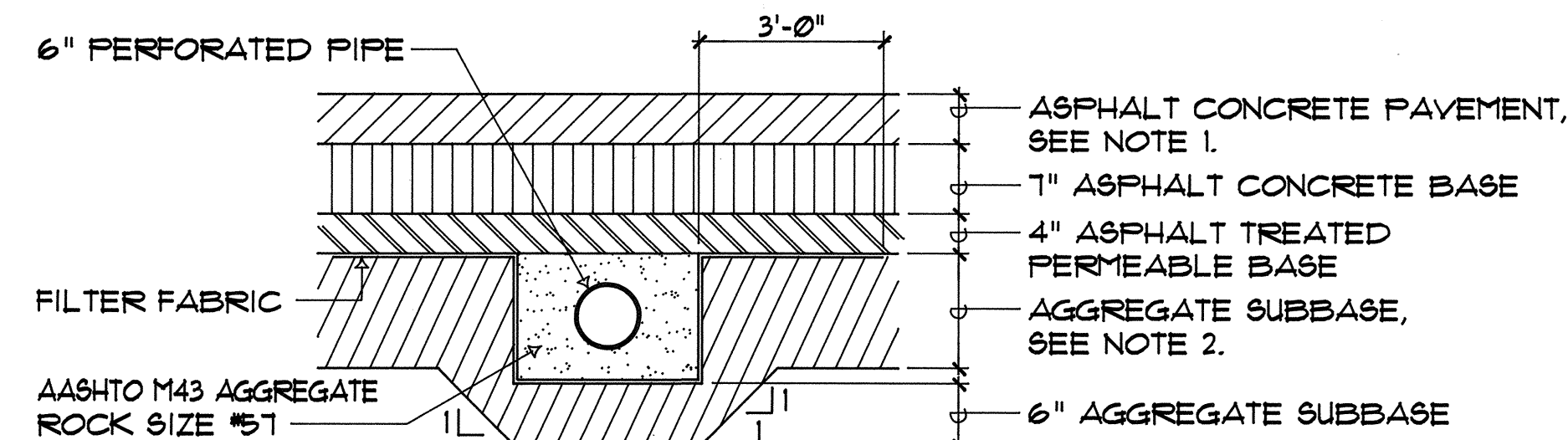
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1 (29)	1997	86	129



CUT-OFF DITCH DETAIL
SC: 1" = 1'-0"



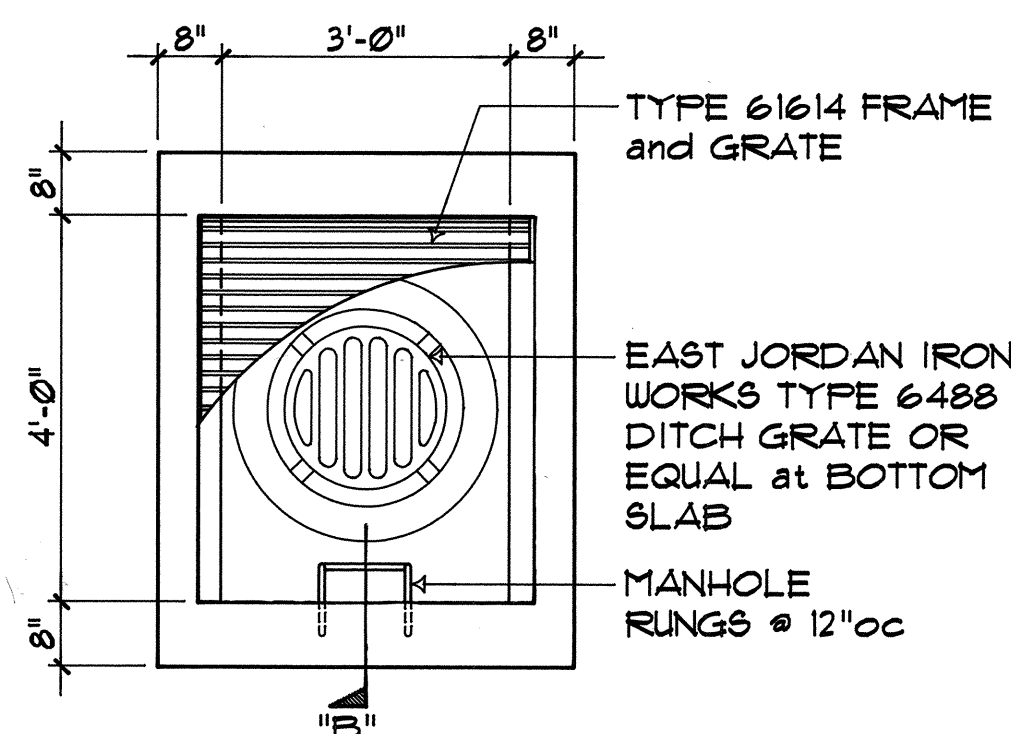
TYPICAL CONCRETE PLUG
NOT TO SCALE



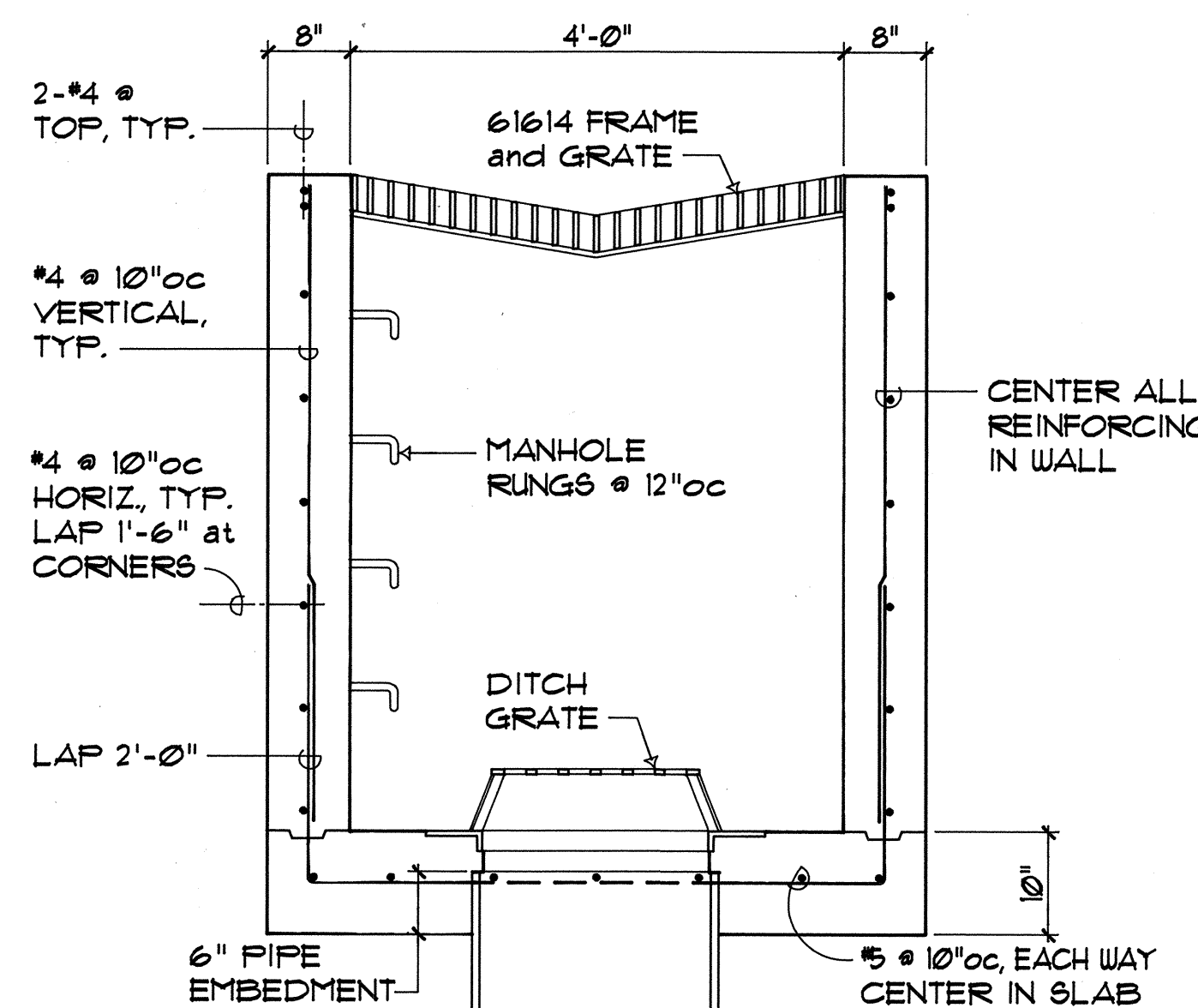
NOTES:

1. FOR RAMP R-1 AND R-2, ASPHALT CONCRETE PAVEMENT (ACP) SHALL BE 4.5" THICK. FOR RAMP R-3, ACP SHALL BE 5" THICK.
2. FOR RAMP R-1 AND R-2, AGGREGATE SUBBASE (ASB) SHALL BE 10" THICK. FOR RAMP R-3, ASB SHALL BE 11" THICK.
3. CONTRACTOR SHALL COORDINATE THE TRANSVERSE DRAIN AND LONGITUDINAL DRAIN TO ASSURE PROPER DRAINAGE.

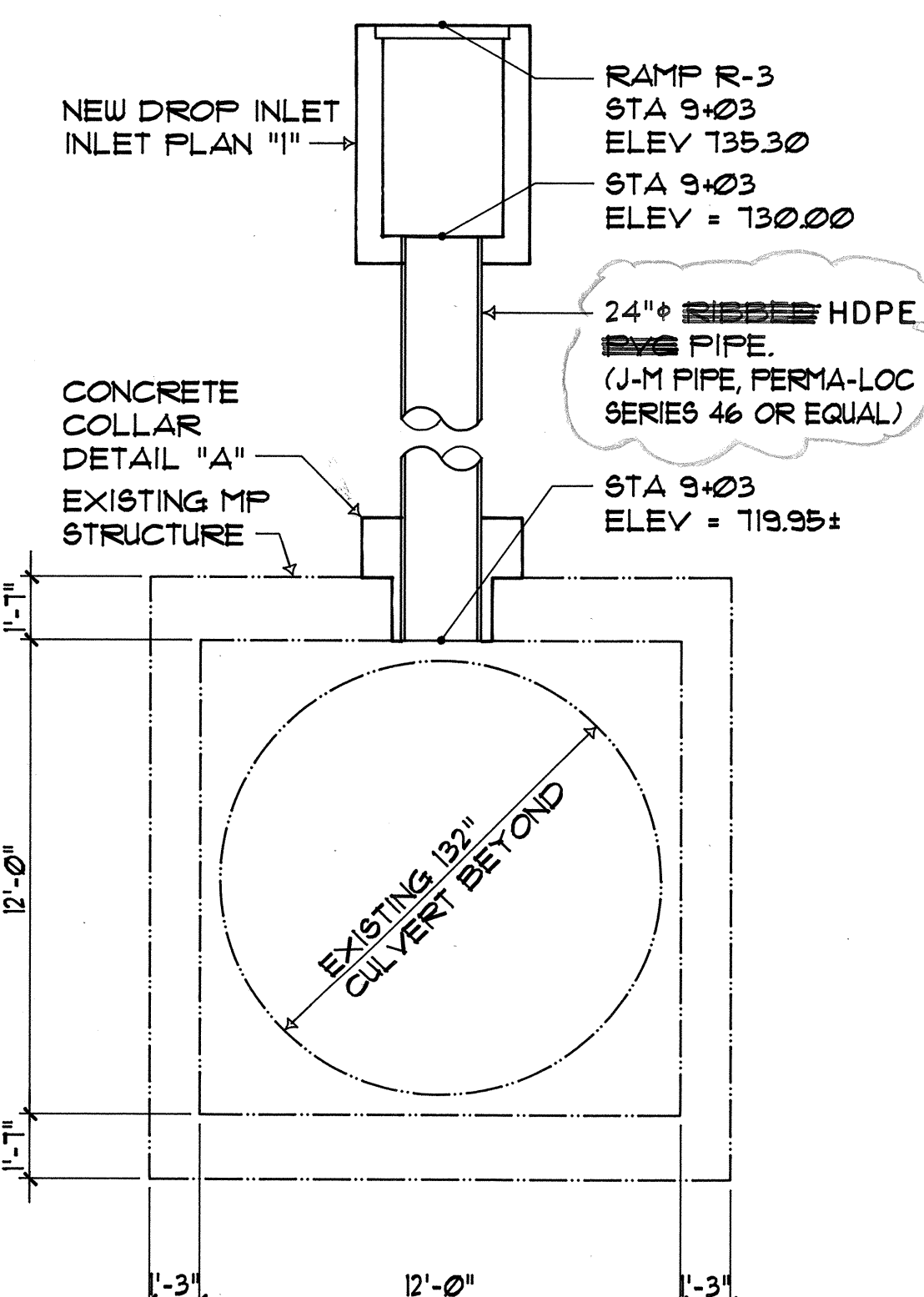
TYPICAL SECTION-TRANSVERSE SUBDRAIN
NOT TO SCALE



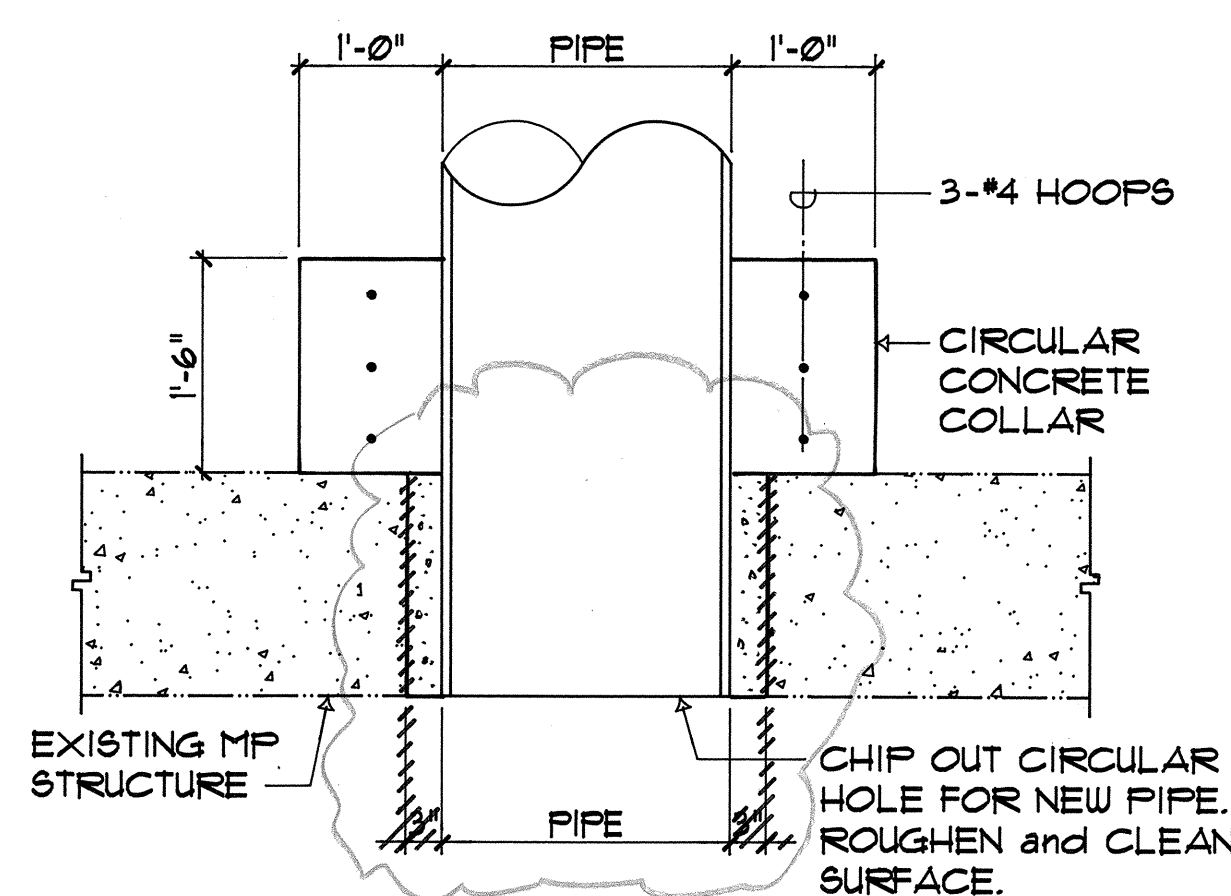
1" INLET PLAN
SC: 1/2" = 1'-0"



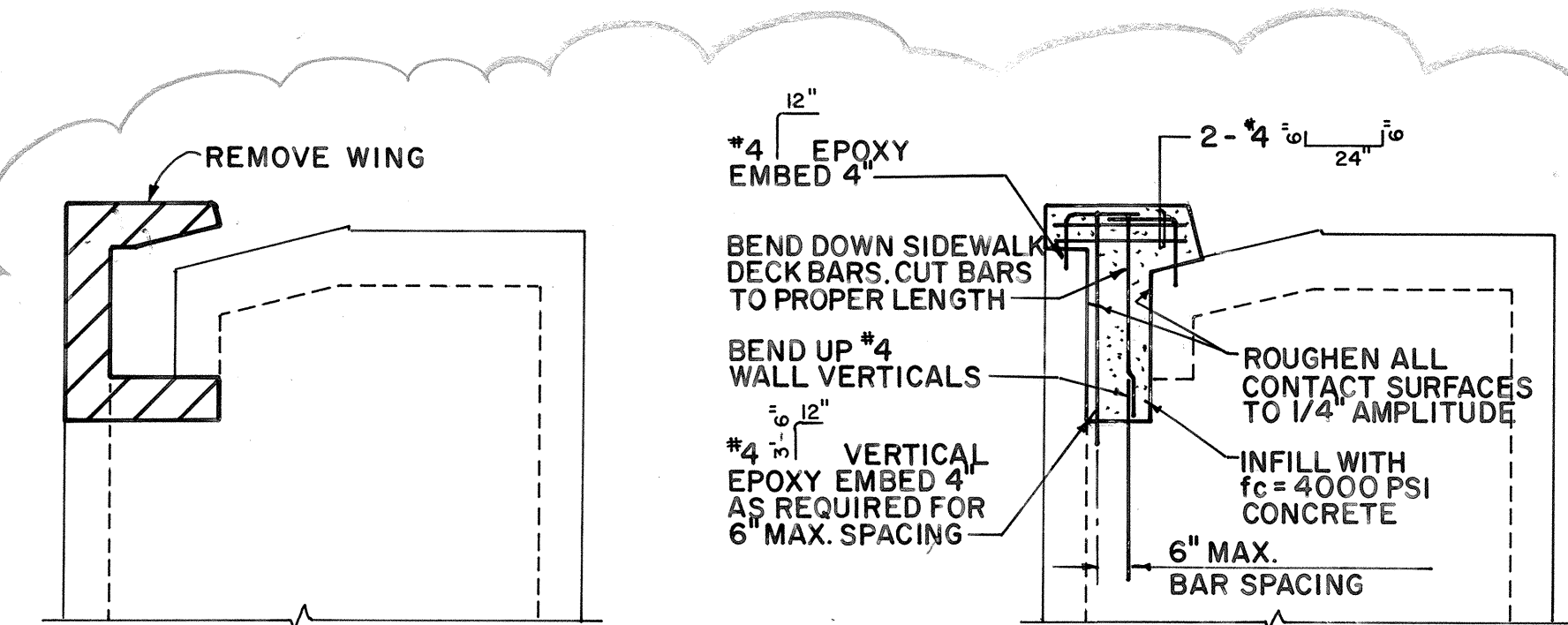
B" INLET SECTION
SC: 3/4" = 1'-0"



DETAIL OF TYPE A DMH at RAMP R-3 STA 9+03
SC: 1/4" = 1'-0"

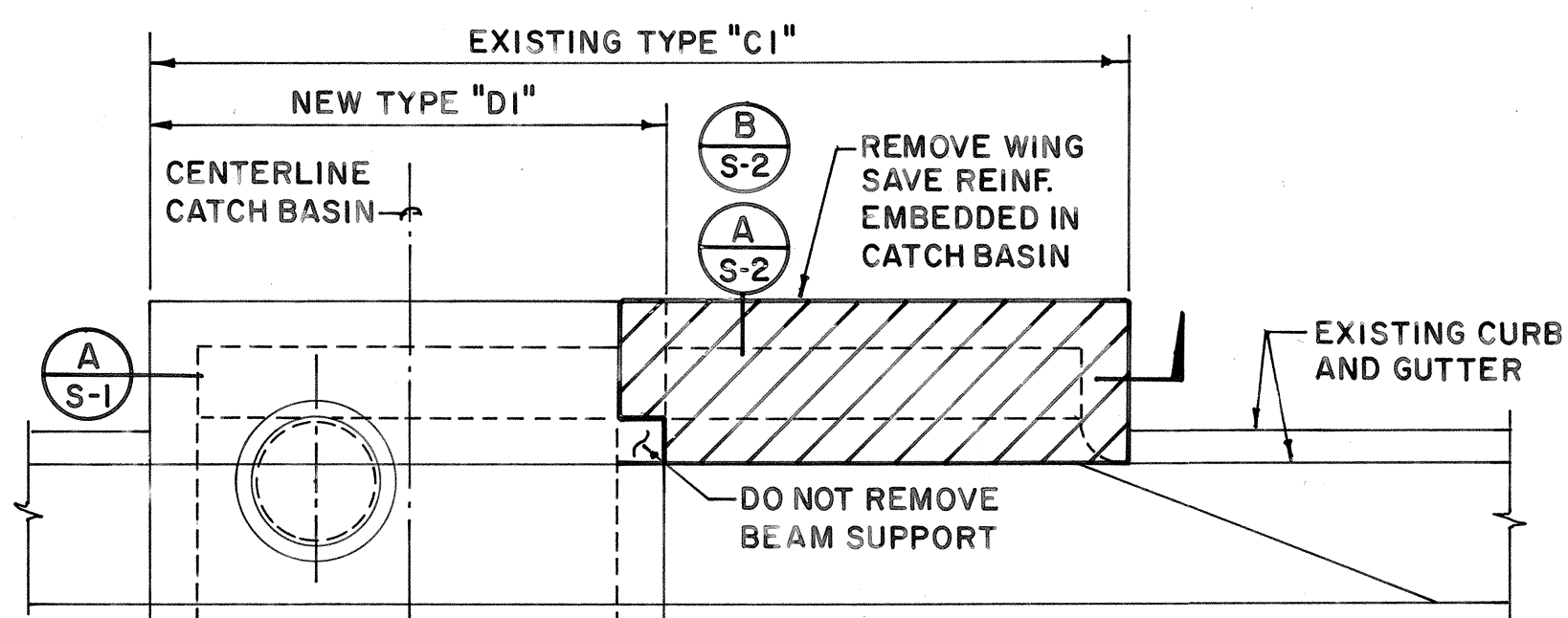


A" COLLAR DETAIL
SC: 3/4" = 1'-0"



DEMOLITION SECTION AT CATCH BASIN
S-2

REPLACEMENT SECTION AT CATCH BASIN
S-2



PLAN

NOTES:

- 1- CONCRETE $f_c = 4,000$ PSI REINFORCING $f_y = 60,000$ PSI
- 2- EPOXY - 2 COMPONENT, RAWL FOIL- FAST OR EQUAL, 10,000 PSI COMPRESSIVE STRENGTH. DRILL 5/8" Ø HOLES x 4" DEEP FOR 4 REBAR.
- 3- ROUGHEN ALL EXISTING CONCRETE SURFACES WHICH WILL BE IN CONTACT WITH NEW CONCRETE TO 1/4" AMPLITUDE. APPLY A BONDING AGENT BEFORE POURING INFILL CONCRETE.



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DEMOLITION SECTION AT WING-CB A-7
S-1 NOT TO SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

**INTERSTATE ROUTE H-2
MILLANI INTERCHANGE**
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1 (29)

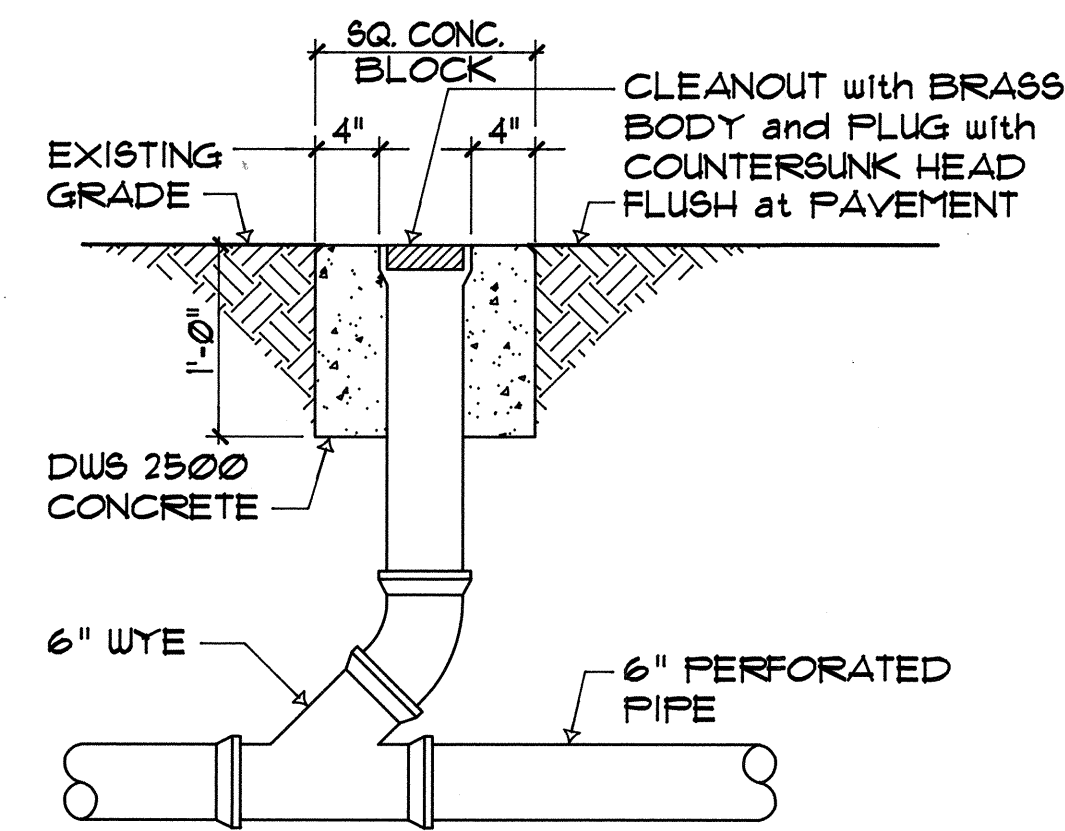
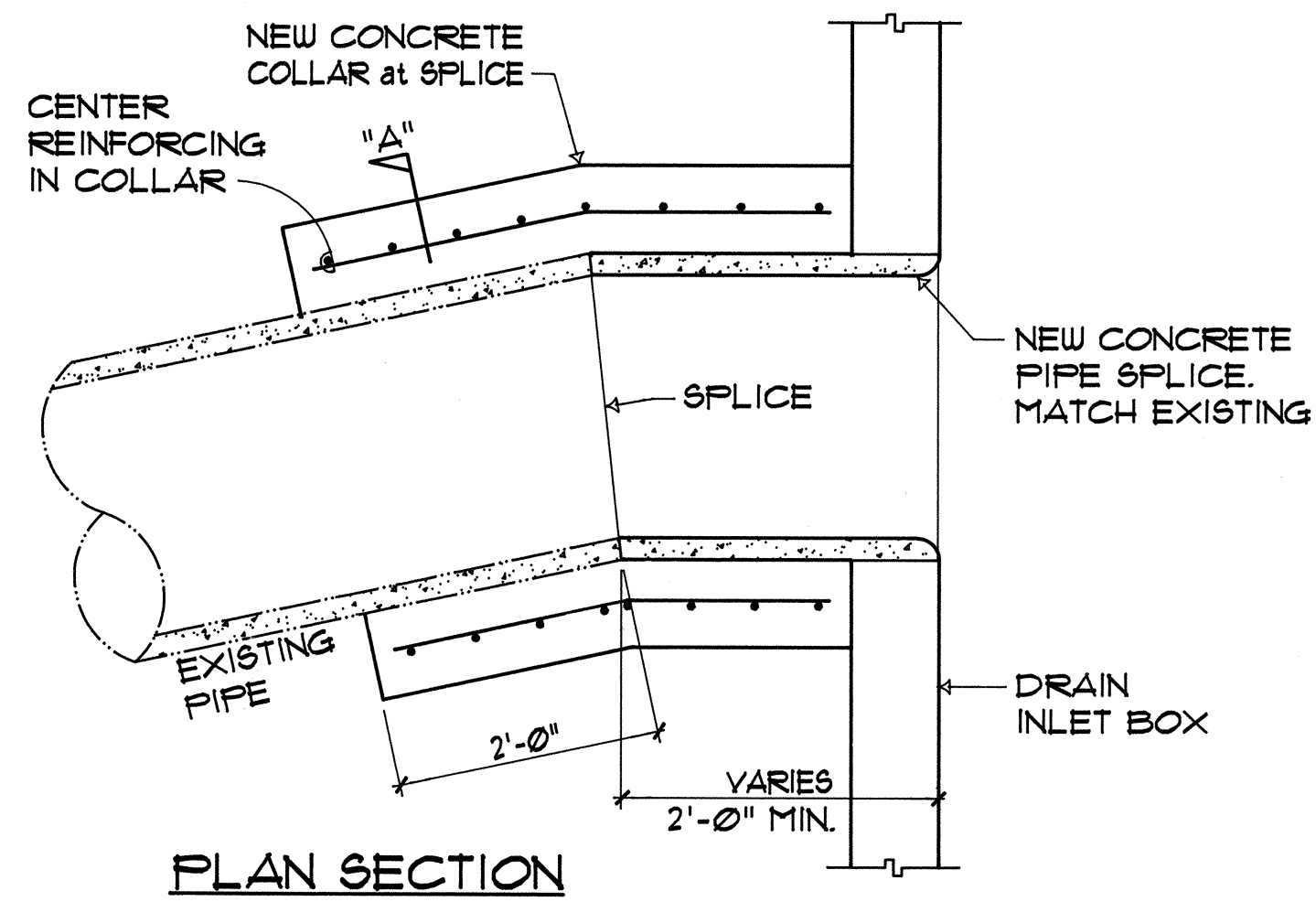
SCALE: AS NOTED DATE: MAR. 1997
SHEET No. D100F II SHEETS

Plan view of a bridge structure showing a new Type 616/6 GDI culvert and existing 24-inch culverts. The diagram includes dimensions for the bridge deck (6'-0" width, 1'-4" shoulder), culvert locations (STA. 192+00, 194+00), and a note about the concrete collar. A ramp R-3 is also indicated.

Dimensions and Labels:

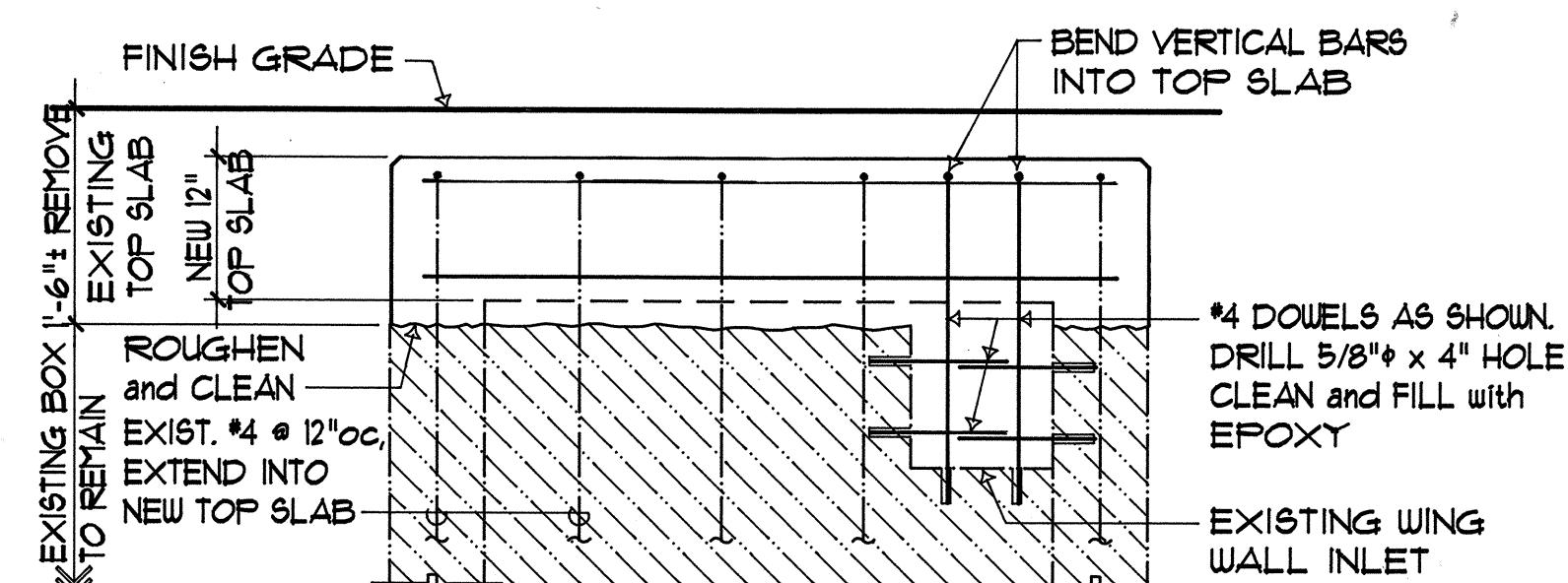
- Bridge Deck Width: 6'-0"
- Shoulder Width: 1'-4"
- Existing 24" Culvert (Left): STA. 192+00 and 193+65
- New Type 616/6 GDI Culvert: Located within the bridge deck.
- Existing 24" Culvert (Right): STA. 192+00 and 194+00
- Concrete Collar: Indicated for detail on this sheet.
- 2'-0" (±) New Culvert: Located below the bridge deck.
- Existing 24" Culvert: Located below the bridge deck.
- Edge of Ramp R-3: Indicated at the bottom right.

NOTE:
SEE STANDARD PLAN H-12
FOR DETAIL OF TYPE 616/6 GDI

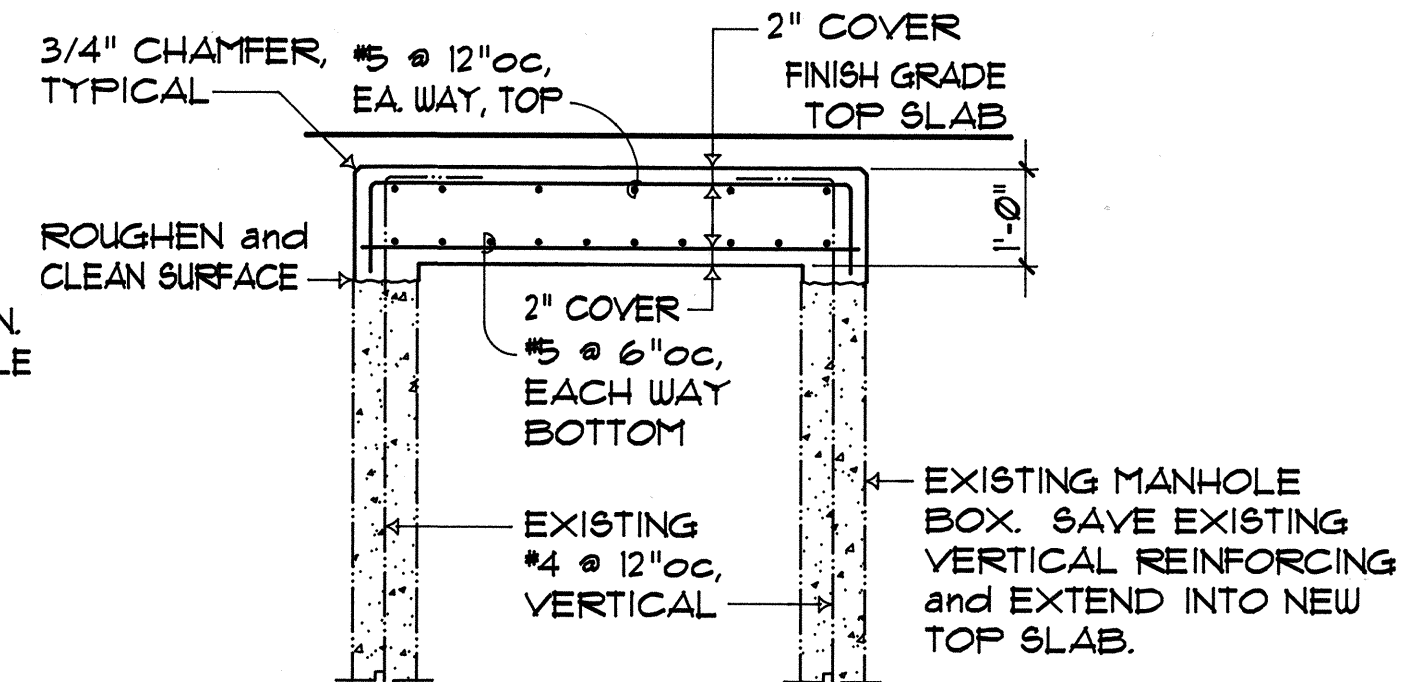


**REPLACEMENT OF CB's AT STA. 192+00, 194+00,
and 198+65 (±)(H-2) WITH TYPE 6/6/6 GD**

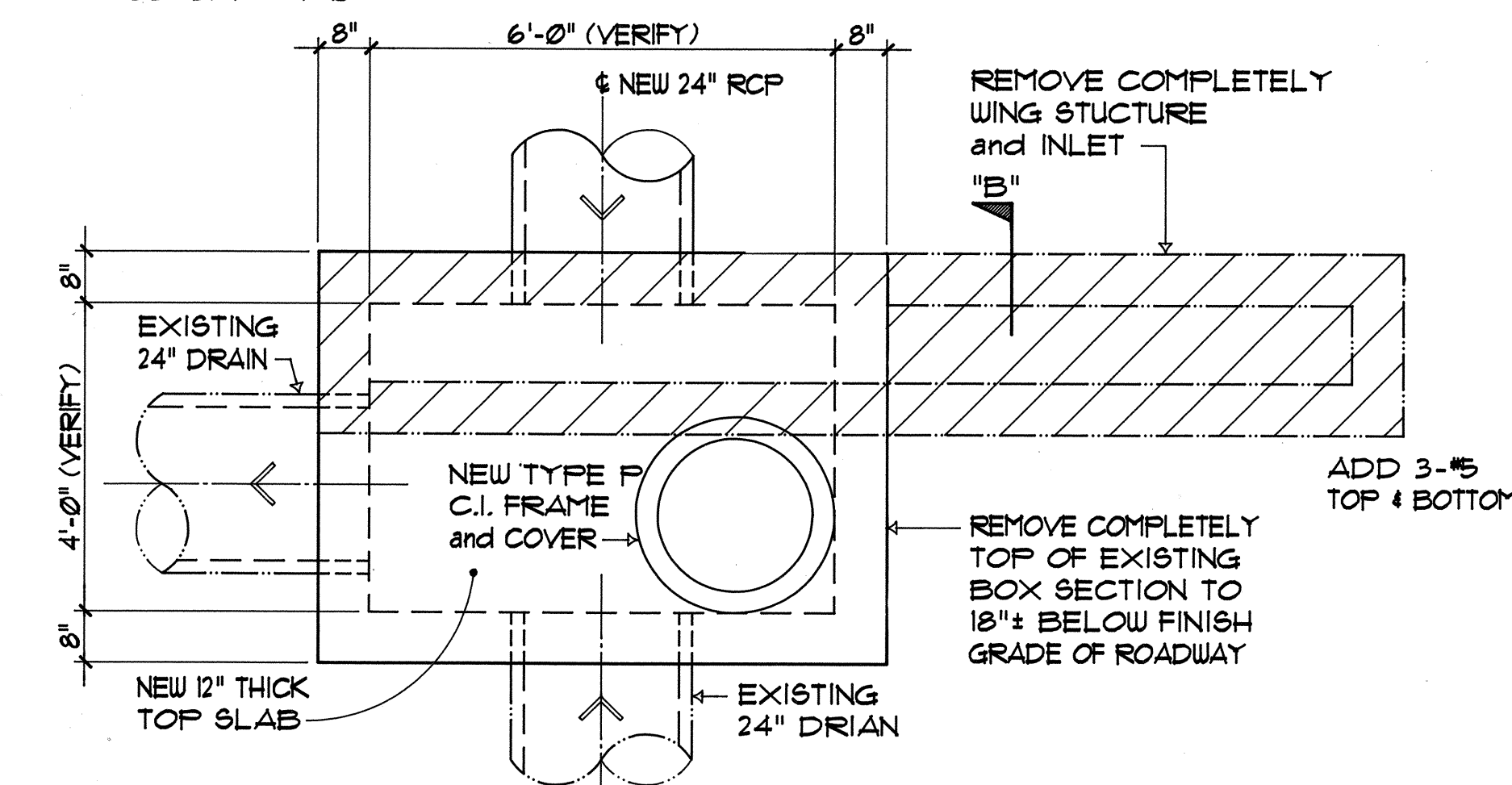
CONCRETE COLLAR at
CONCRETE PIPE SPLICE
SC: $\frac{3}{4}" = 1'-\emptyset"$



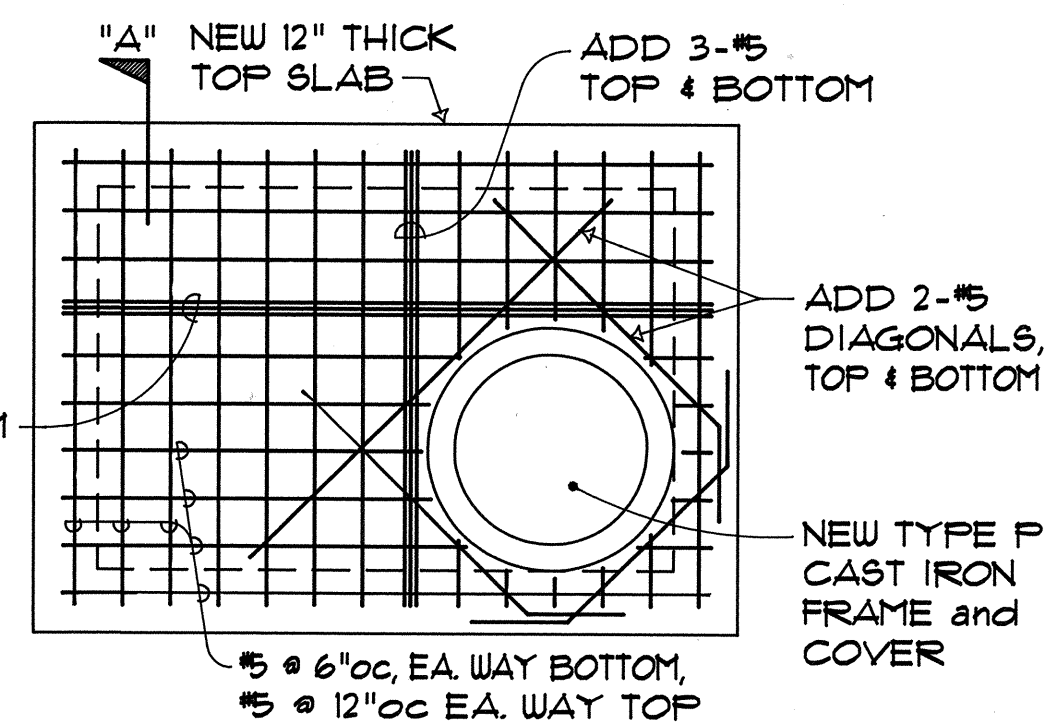
"B" PATCH DETAIL @ WINGWALL INLET
SC: 3/4" = 1'-0"



"A" SECTION

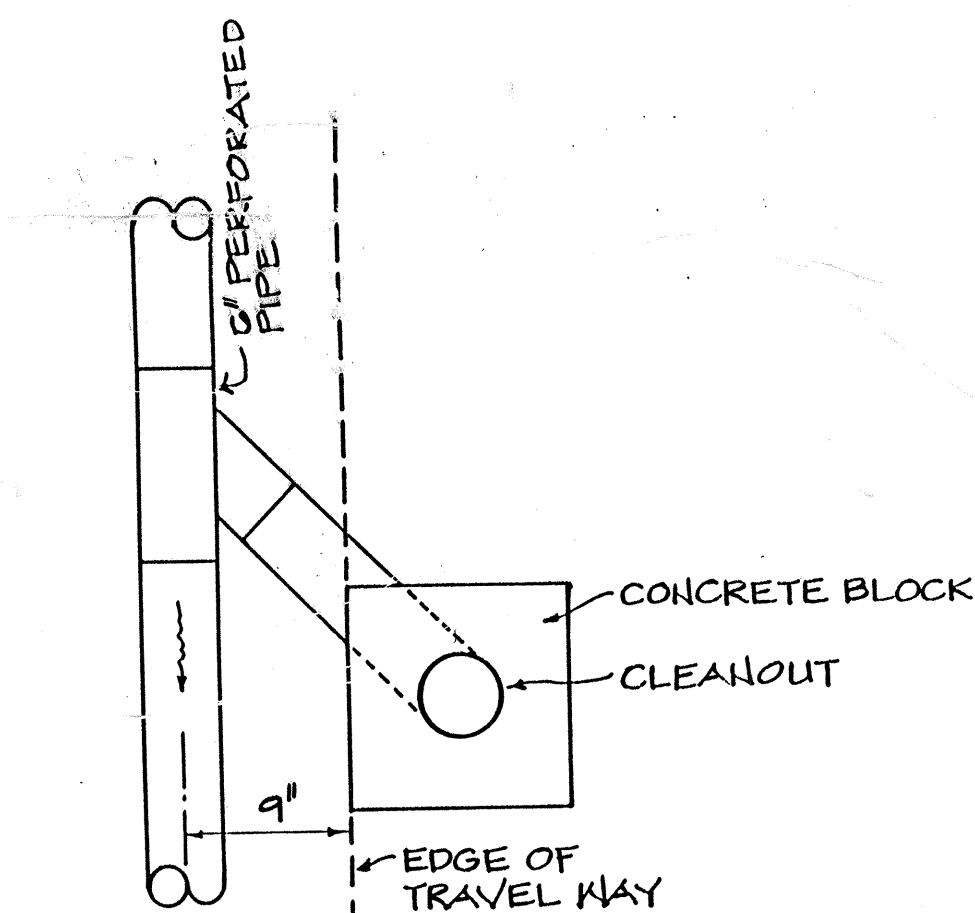


PLAN

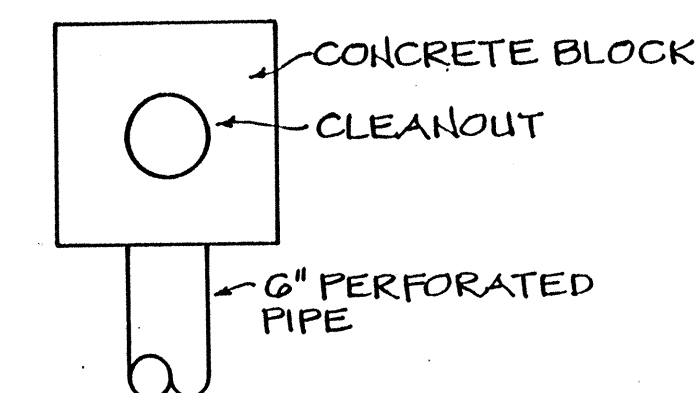


TOP SLAB REINFORCING PLAN

CONVERSION OF TYPE C1 CB TO DMH (MANHOLE TYPE X) SC. 1/2" = 1'-0"
MEHEULA PARKWAY BASE LINE STA. 28+25.50 O/S 45' RIGHT and MEHEULA PARKWAY BASE LINE STA. 31+05.50 O/S 45' RIGHT



PLAN VIEW
FOR COTG ALONG H-2
NOT TO SCALE



PLAN VIEW
FOR COTG ALONG RAMP R-1 & R-2
NOT TO SCALE

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



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SUPERVISION

DRAINAGE DETAILS

INTERSTATE ROUTE H-2
MILANI INTERCHANGE
SOUTHBOUND ON-AND-OFF-RAMPS
F.A.I. Proj. No. IM-H2-1 (29)

SCALE: AS NOTED

DATE: MAR. 1997

SHEET No. DII OF II SHEETS