

GUARDRAIL SCHEDULE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STO-019-1(25)	1997	5	13

ROUTE NO.	SITE NO.	STATION		MILEPOST		MAKAI	MAUKA	PAY ITEM GUARDRAIL (L. F.) *	OFFSET TO E.P. (L. F.)	GUARDRAIL POST LENGTH (L. F.)	REPLACEMENT GUARDRAIL END TREATMENTS				BRIDGE NAME	GUARDRAILS/ POSTS TO BE REMOVED			REFLECTORS AND OBJECT MARKERS					SHDLR. RECON. (S.Y.)	REMARKS
																			RM-2 W/STEEL POST	RM-3 W/STEEL POST	RM-3 W/STEEL POST (BI-DIR)	RM-3/2 W/STEEL POST (BI-DIR)	RM-4 W/STEEL POST		
		FROM	TO	FROM	TO						LEAD	RADIUS	TRAIL	RADIUS		M.R.	C.P.	M.P.							
19F	1	880+50	874+58	42.99	43.10		●	737.5	8'	8'	C	— —	G	— —	— —	250.0	22	—	5		4			666	
	2	880+30	872+35	42.99	43.14	●		825.0	8.5'	8'	G+	45'	G+	25'	— —	375.0	31	—	6			4		936	
	3	871+80	863+68	43.15	43.31	●		837.5	9'	8'	G+	25'	G+	25'	— —	275.0	23	—	7			4		1,002	
	4	862+30	860+30	43.33	43.37		●	212.5	8.5'	6'	C	— —	G+	25'	— —	100.0	9	—	1			2		242	
	5	862+30	858+18	43.33	43.41	●		437.5	8.5'	8'	G+	25'	G+	25'	— —	112.5	10	—	2			4		489	
	6	831+91	830+03	43.91	43.94	●		150.0	4'	6'	G+	25'	BRIDGE	— —	NIENTIE	50.0	5	—		4		2	1	130	
	7	831+91	830+03	43.91	43.94		●	150.0	6'	6'	BRIDGE	— —	G+	25'	NIENTIE	—	—	—		2		2	1	173	
	8	828+32	827+45	43.98	43.99	●		37.5	4'	6'	BRIDGE	— —	F	— —	NIENTIE	—	—	—		2			1	63	
	9	828+32	827+45	43.98	43.99		●	37.5	6'	6'	C	— —	BRIDGE	— —	NIENTIE	62.5	4	—		4			1	84	
	10	824+18	820+80	44.06	44.12	●		350.0	8'	8'	C	— —	G+	25'	— —	50.0	5	—	3			2		383	
	11	820+25	813+85	44.13	44.25	●		675.0	8'	8'	G+	25'	G+	40'	— —	550.0	45	—	5			4		719	
	12	816+75	812+88	44.20	44.27		●	350.0	9'	8'	C	— —	SRT	— —	— —	250.0	21	—	5	1				482	
	13	808+00	806+50	44.36	44.39	●		150.0	8.5'	8'/6'	C	— —	F	— —	— —	50.0	5	—	2					183	
	14	787+38	784+50	44.75	44.81		●	300.0	9'	8'	G+	25'	F	— —	— —	212.5	19	—	3			2		360	
	15	788+50	778+30	44.73	44.92	●		1,037.5	9'	8'	C	— —	G+	45'	— —	825.0	73	—	9			2		1,255	
	16	784+10	778+23	44.81	45.93		●	600.0	8.5'	8'	G+	25'	G+	25'	— —	450.0	36	—	4			4		694	
	17	777+80	774+60	44.93	45.99	●		337.5	9'	8'	G+	45'	F	— —	— —	125.0	27	—	5			2		400	
	18	774+60	771+35	44.99	45.06		●	325.0	8'	8'	C	— —	F	— —	— —	150.0	7	—	3					369	
	19	761+75	758+50	45.24	45.30	●		362.5	8'	8'	C	— —	G+	80'	— —	287.5	24	—	3			2		369	
	20	761+90	754+78	45.25	45.37		●	625.0	8'	8'	C	— —	G+	25'	— —	350.0	34	—	6			2		688	
	21	758+10	753+80	45.31	45.39	●		450.0	8.5'	6'	G+	35'	G+	25'	— —	262.5	24	—	3			4		510	
	22	753+30	745+10	45.40	45.55	●		825.0	8.5'	8'	G+	25'	G+	25'	— —	400.0	34	—	7			4		965	
	23	752+40	751+40	45.41	45.43		●	112.5	8.5'	6'	G+	25'	F	— —	— —	50.0	5	—	2			1		125	
	24	749+48	745+10	45.47	45.55		●	450.0	8.5'	8'	G+	25'	F	— —	— —	125.0	11	—	4			2		519	
	25	744+85	739+48	45.56	45.66		●	562.5	8.5'	8/6'	G+	25'	G+	25'	— —	162.5	9	11	4			4		635	
	26	744+90	739+40	45.56	45.66	●		575.0	8.5'	6'	G+	25'	G+	25'	— —	350.0	30	—	4			4		650	

LEGEND :

M.R. - Metal Rail
C.P. - Concrete Post
M.P. - Metal Post

* Guardrail length excludes 50 l.f. for bridge end connections and 37.5 l.f. for SRT-350 end treatments.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**GUARDRAIL AND REFLECTOR
MARKER SCHEDULE**
GUARDRAIL AND SHOULDER IMPROVEMENTS,
HAWAII BELT ROAD, HONOKAA TO WAIMEA
F.A. PROJECT NO. STP-019-1(25)
Scale: None Date: Sept., 1996
SHEET No. 1 OF 3 SHEETS

SURVEY PLOTTED BY	DATE	8/96
DRAWN BY	J. Kozma	
CHECKED BY		
DESIGNED BY	S. Chow	
QUANTITIES BY		
CHECKED BY		
ORIGINAL PLAN		
NOTE BOOK		
librgr/mel		
Nc. .dgn		

GUARDRAIL SCHEDULE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-1(25)	1997	6	13

ROUTE NO.	SITE NO.	STATION		MILEPOST		MAKAI	MAUKA	PAY ITEM GUARDRAIL (L. F.) *	OFFSET TO E.P. (L. F.)	GUARDRAIL POST LENGTH (L. F.)	REPLACEMENT GUARDRAIL END TREATMENTS				BRIDGE NAME	GUARDRAILS/ POSTS TO BE REMOVED			REFLECTORS AND OBJECT MARKERS					SHDLR. RECON. (S.Y.)	REMARKS
											LEAD	RADIUS	TRAIL	RADIUS		M.R.	C.P.	M.P.	RM-2 W/STEEL POST	RM-3 W/STEEL POST	RM-3 W/STEEL POST (BI-DIR)	RM-3/2 W/STEEL POST (BI-DIR)	RM-4 W/STEEL POST		
		FROM	TO	FROM	TO						LEAD	RADIUS	TRAIL	RADIUS		M.R.	C.P.	M.P.	RM-2 W/STEEL POST	RM-3 W/STEEL POST	RM-3 W/STEEL POST (BI-DIR)	RM-3/2 W/STEEL POST (BI-DIR)	RM-4 W/STEEL POST		
19F	27	738+80	736+43	45.67	45.72	●		237.5	8.5'	8'	C	---	F	---	---	25.0	3	---	3					285	
	28	738+20	735+70	45.68	45.73		●	250.0	8.5'	8'	C	---	F	---	---	50.0	5	---	3					300	
	29	731+00	726+75	45.82	45.90		●	387.5	8.5'	8'	C	---	SRT	---	---	50.0	5	---	5	1				504	
	30	717+15	712+90	46.08	46.16	●		437.5	8'	8'	C	---	G+	25'	---	125.0	11	---	4			2		480	
	31	712+50	702+25	46.17	46.36	●		1037.5	8'	8'	G+	25'	F	---	---	325.0	27	---	9			2		1,147	
	32	708+30	702+05	46.25	46.37		●	625.0	8.5'	8'	C	---	F	---	---	400.0	32	1	6					737	
	33	690+95	684+20	46.58	46.71	●		687.5	8.5'	8'	C	---	G+	25'	---	100.0	8	1	5			2		796	
	34	689+00	687+00	46.62	46.65		●	200.0	8.5'	8'	C	---	F	---	---	75.0	7	---	3					242	
	35	683+70	672+20	46.72	46.93	●		1162.5	8.5'	8'	G+	25'	F	---	---	325.0	26	5	10			2		1,350	
	36	682+23	670+85	46.74	46.96		●	1137.5	8.5'	8'	C	---	F	---	---	125.0	8	11	12					1,335	
	37	667+60	662+60	47.02	47.12	●		425.0	8.5'	8'	C	---	F	---	---	150.0	13	---	5					592	
	38	667+20	663+70	47.03	47.09		●	325.0	8.5'	8'	C	---	F	---	---	100.0	9	---	4					417	
	39	658+48	653+10	47.19	47.30	●		500.0	8'	8'	C	---	SRT	---	---	300.0	25	---	6	1				605	
	40	658+88	651+25	47.19	47.33		●	762.5	9.5'	8'	C	---	F	---	---	350.0	29	---	7					983	
	41	644+10	639+73	47.47	47.55	●		437.5	8'	8'	C	---	F	---	---	225.0	19	---	5					494	
	42	643+75	638+63	47.47	47.57		●	512.5	8.5'	8'	C	---	F	---	---	200.0	15	4	6					606	
	43	630+93	618+25	47.72	47.96	●		1262.5	8.5'	8'	C	---	F	---	---	625.0	48	8	13					1,487	
	44	622+03	616+78	47.88	47.98		●	500.0	8.5'	6'	SRT	---	G+	25'	---	162.5	14	---	3	1		2		621	
	45	598+35	587+10	48.33	48.55	●		1150.0	8'	8'	G+	25'	G+	25'	---	600.0	50	---	9			4		1,258	
	46	598+59	587+47	48.33	48.54		●	1137.5	8.5'	8'	G+	25'	G+	25'	---	450.0	38	---	9			2		1,306	
	47	550+60	544+85	49.24	49.35		●	575.0	8.5'	8'/6'	G	8:1 flare	F	---	---	150.0	13	---	7					679	
	48	550+35	542+98	49.24	49.38	●		750.0	8'	8'	C	---	G+	25'	---	400.0	33	---	7			2		827	
	49	542+80	538+30	49.38	49.47		●	462.5	8.5'	8'	C	---	G+	25'	---	250.0	21	---	4			2		533	
	50	542+80	537+80	49.38	49.48	●		512.5	8.5'	8'	G+	25'	F	---	---	350.0	29	---	5			2		592	
	51	529+65	525+40	49.63	49.71	●		425.0	8.5'	8'	C	---	G+	25'	---	75.0	13	---	1			2		504	
	52	522+20	518+20	49.77	49.85	●		412.5	8.5'	8'	G	8:1 flare	G+	25'	---	275.0	23	---	3			2		475	

LEGEND :

M.R. - Metal Rail
C.P. - Concrete Post
M.P. - Metal Post

* Guardrail length excludes 50 l.f. for bridge end connections and 37.5 l.f. for SRT-350 end treatments.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**GUARDRAIL AND REFLECTOR
MARKER SCHEDULE**
GUARDRAIL AND SHOULDER IMPROVEMENTS,
HAWAII BELT ROAD, HONOKAA TO WAIMEA
F.A. PROJECT NO. STP-019-1(25)
Scale: None Date: Sept., 1996
SHEET No. 2 OF 3 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY J. Kawa	8/96
librag/mc2	DESIGNED BY S. Chow	
No. dgn	QUANTITIES BY	
	CHECKED BY	

GUARDRAIL SCHEDULE

FED. ROAD DIST.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-019-1(25)	1997	7	13

ROUTE NO.	SITE NO.	STATION		MILEPOST		MAKAI	MAUKA	PAY ITEM GUARDRAIL (L. F.) *	OFFSET TO E.P. (L. F.)	GUARDRAIL POST LENGTH (L. F.)	REPLACEMENT GUARDRAIL END TREATMENTS				BRIDGE NAME	GUARDRAILS/ POSTS TO BE REMOVED			REFLECTORS AND OBJECT MARKERS					SHDLR. RECON. (S.Y.)	REMARKS
		FROM	TO	FROM	TO						LEAD	RADIUS	TRAIL	RADIUS		RM-2 W/STEEL POST	RM-3 W/STEEL POST	RM-3 W/STEEL POST (BI-DIR)	RM-3/2 W/STEEL POST (BI-DIR)	RM-4 W/STEEL POST					
																					M.R.	C.P.	M.P.		
19F	53	521+20	518+20	49.79	49.85		●	312.5	8.5'	8'	G+	25'	G	10:l flare	— —	175.0	13	2	2			2		358	
	54	509+10	501+85	50.02	50.16	●		737.5	8.5'	8'	G+	25'	F	— —	— —	125.0	11	—	7			2		854	
	55	508+65	502+40	50.03	50.15		●	625.0	8.5'	8'	C	— —	F	— —	— —	50.0	5	—	6					737	
	56	481+35	478+48	50.55	50.60		●	287.5	8'	8'	C	— —	F	— —	— —	50.0	5	—	4					327	
	57	480+60	475+60	50.56	50.66	●		462.5	8'	8'	C	— —	SRT	— —	— —	50.0	5	—	5	1				563	
	58	472+80	467+80	50.71	50.80		●	500.0	8.5'	8'	C	— —	G	10:l flare	— —	325.0	27	—	5	1				592	
TOTALS								30,750.0			Bridge Conn = 4 (50' Pay Limit)		SRT = 5 (37.5' Pay Limit)			12,913	1,103	43	276	18	4	87	4	35,677	

* Guardrail length excludes 50 l.f. for bridge end connections and 37.5 l.f. for SRT-350 end treatments.

LEGEND :

M.R. - Metal Rail
C.P. - Concrete Post
M.P. - Metal Post

Abbreviations:

SRT = SRT-350 end treatment
G+ = Modified Type G end treatment
M.R. = Metal Guardrail (l.f.)
C.P. = Concrete Post (each)
M.P. = Metal Post (each)

ORIGINAL PLAN

DATE 8/26

SURVEY PLOTTED BY

DRAWN BY H. KEMME

DESIGNED BY S. CHOW

CHECKED BY

NOTE BOOK

INTEGRITY

NO. 1

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

GUARDRAIL AND REFLECTOR MARKER SCHEDULE

GUARDRAIL AND SHOULDER IMPROVEMENTS, HAWAII BELT ROAD, HONOKAA TO WAIMEA

F.A. PROJECT NO. STP-019-1(25)

Scale: None Date: Sept., 1996

SHEET No. 3 OF 3 SHEETS

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