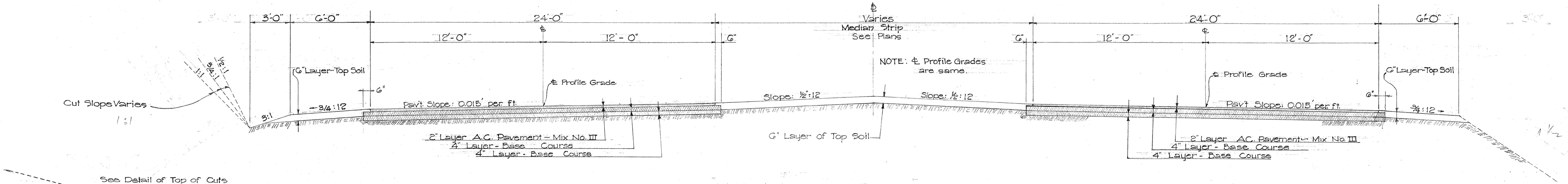
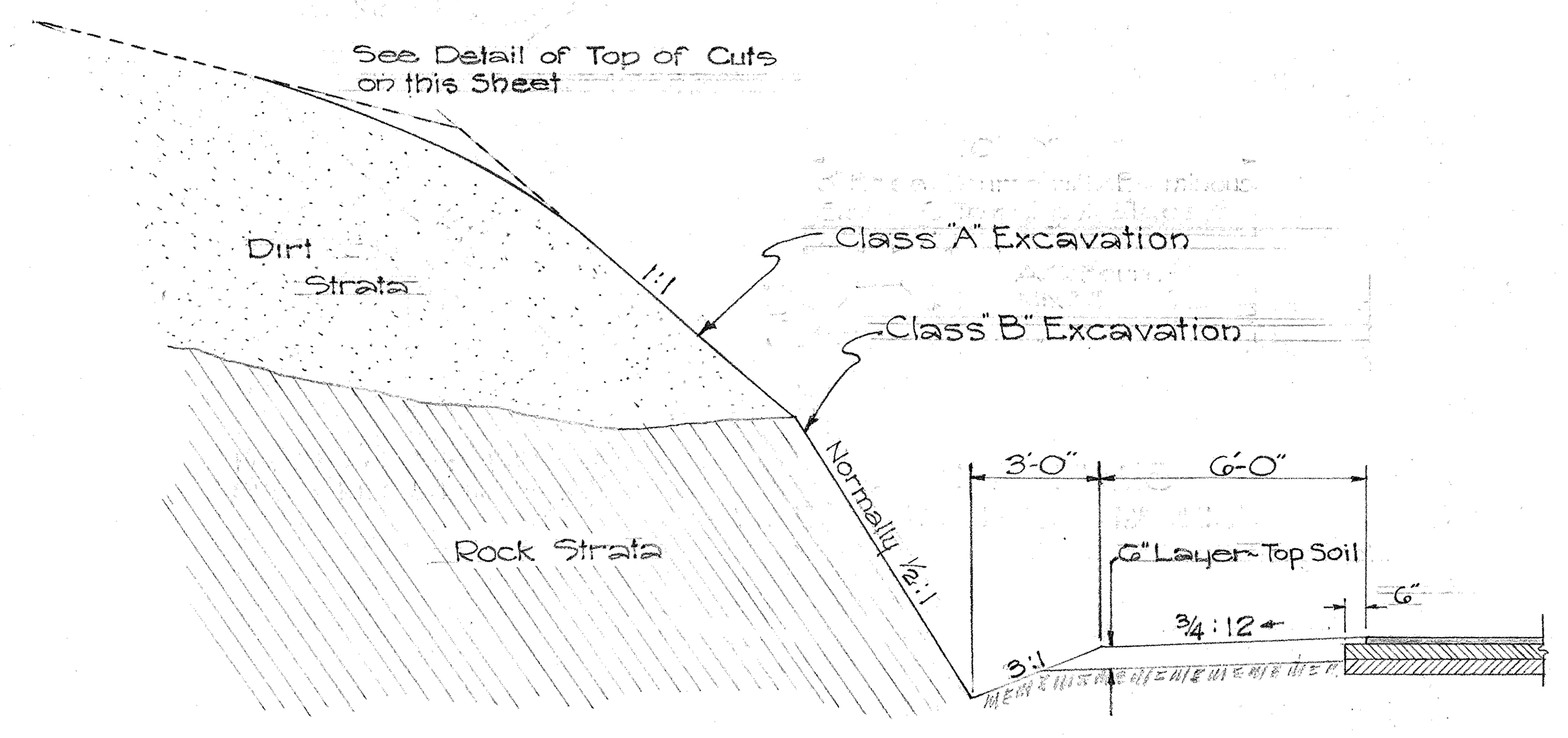
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S219(4)	1952	2	109

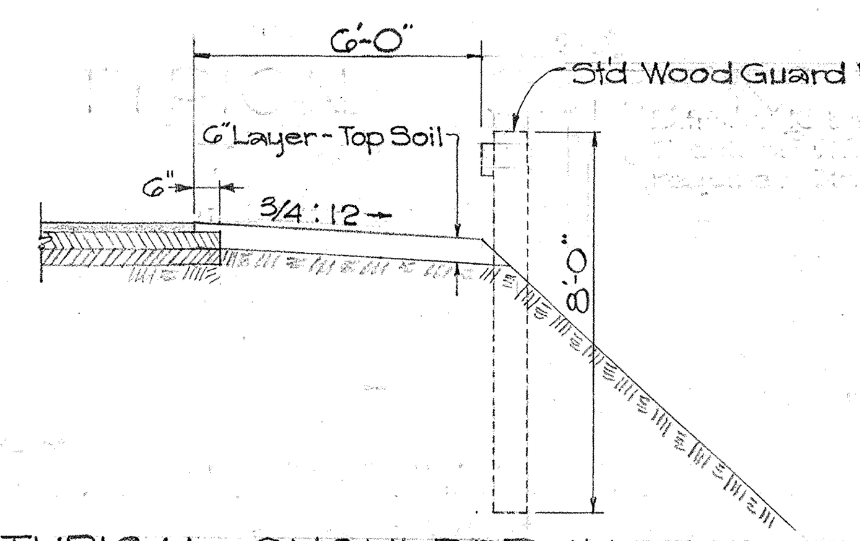


TYPICAL SECTION ON TANGENTS
Scale: ¼" = 1'-0"



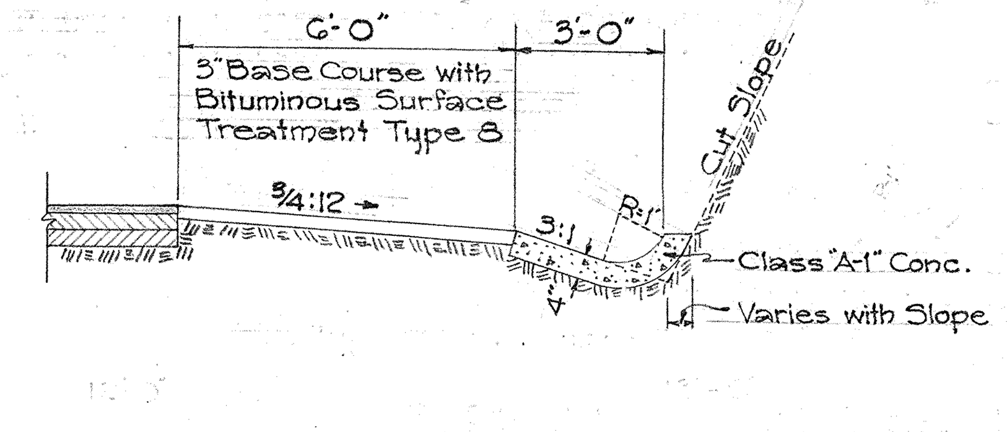
NOTE: See Cross Sections for actual Cut Slopes.

TYPICAL CUT SECTION IN DIRT AND ROCK
Scale: ¼" = 1'-0"

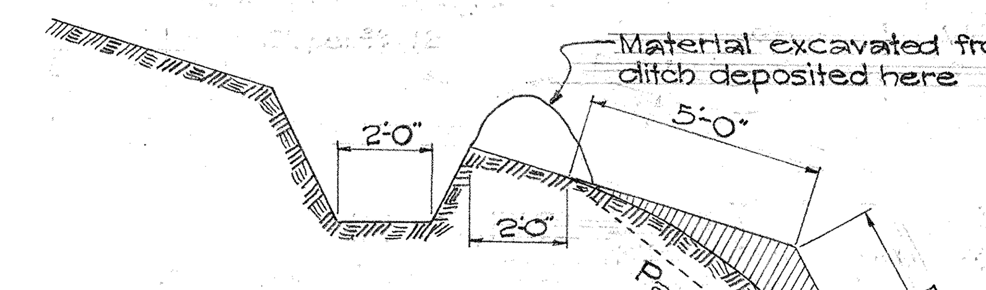


TYPICAL SHOULDER IN FILLS
Scale: ¼" = 1'-0"

NOTE:
3" Base Course with Bituminous Surface Treatment Type 8 at
Sta. 200+00 to Sta. 205+50 (Left)
Sta. 207+00 to Sta. 207+90 (Right)
Sta. 232+60 to Sta. 237+00 (Right)

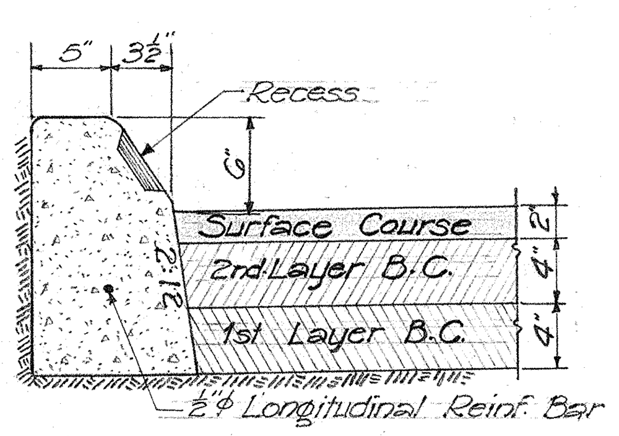


TYPICAL SHOULDER IN CUTS WITH TYPE "A" CONC. GUTTER
Scale: ¼" = 1'-0"

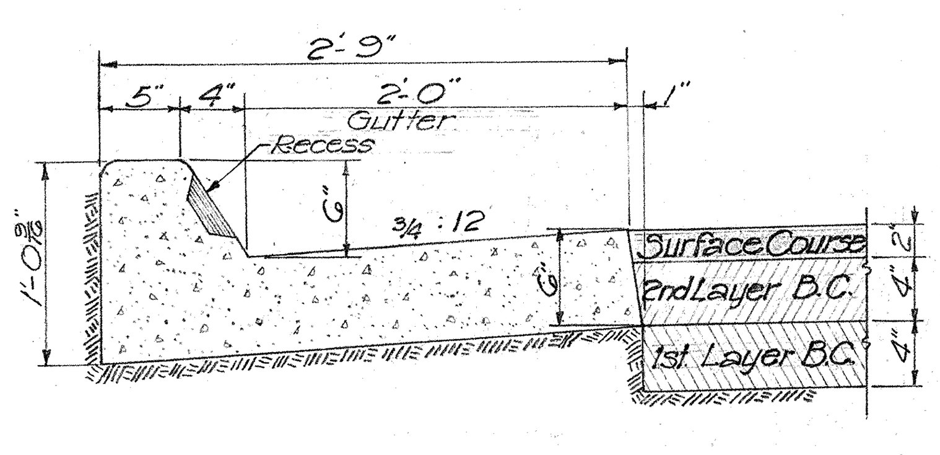


NOTE: Tops of Cut slopes are to be rounded as shown at the places indicated by the Engineer. He will require that this be done in all sand, earth and conglomerate material, but not in such material that will remain in a cemented state. Hand trimming rounded top of cuts shall be paid for on the linear foot basis as per specifications.
Material excavated in shaded area will be paid for under the items of Unclassified Excavation and Overhaul.

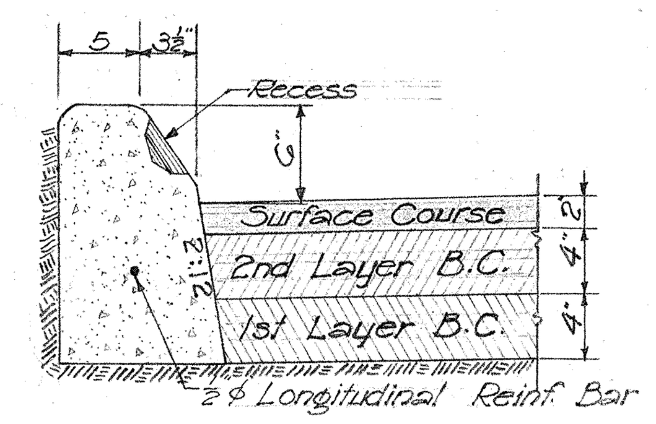
FURROW DITCH AT TOP OF CUT
Scale: ¼" = 1'-0"



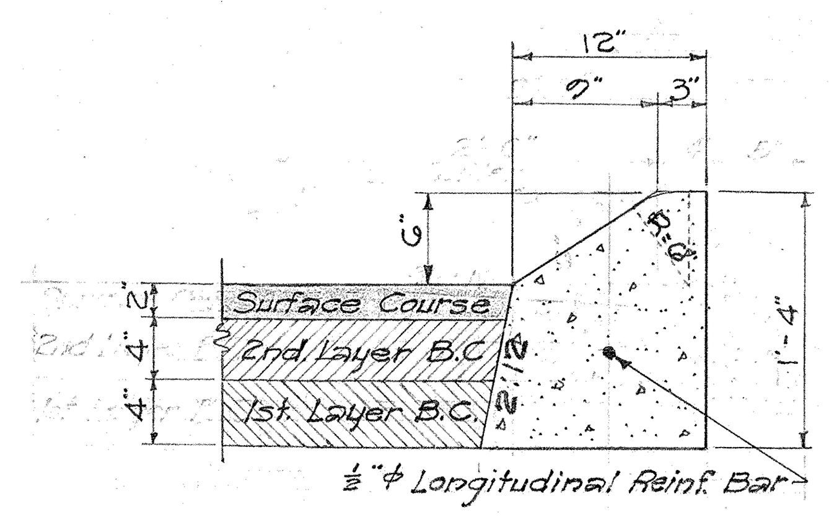
TYPE "A" & "B" CURB
Scale: 1" = 1'-0"



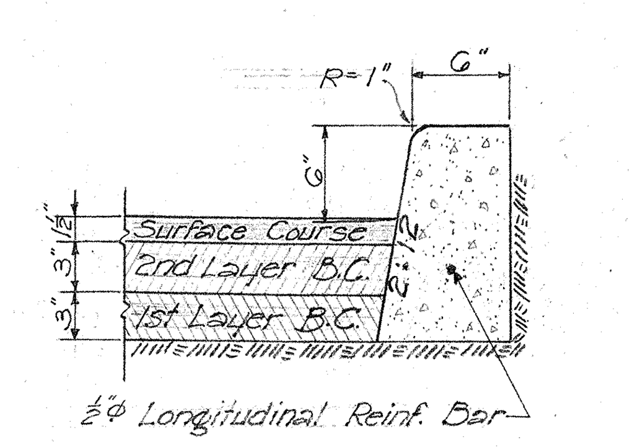
TYPE "AG" & "BG" CURB & GUTTER
Scale: 1" = 1'-0"



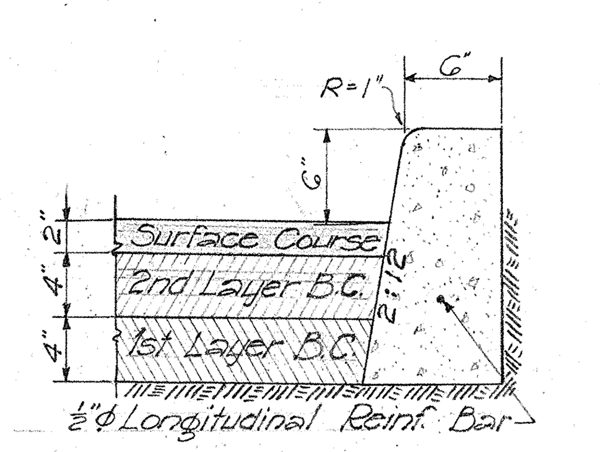
TYPE "C" CURB
Scale: 1" = 1'-0"



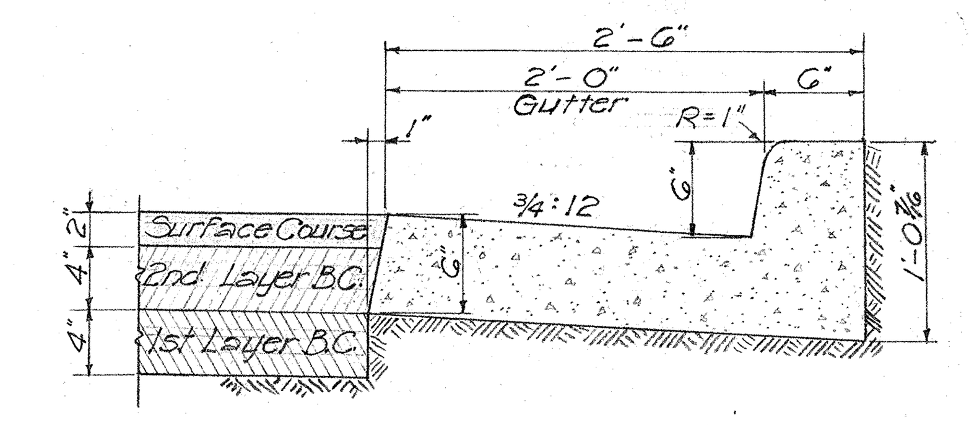
TYPE "E" CURB
Scale 1" = 1'-0"



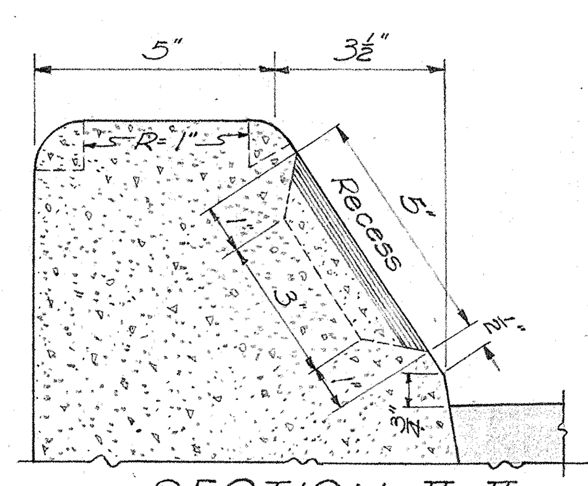
TYPE "D-1" CURB
Scale: 1" = 1'-0"



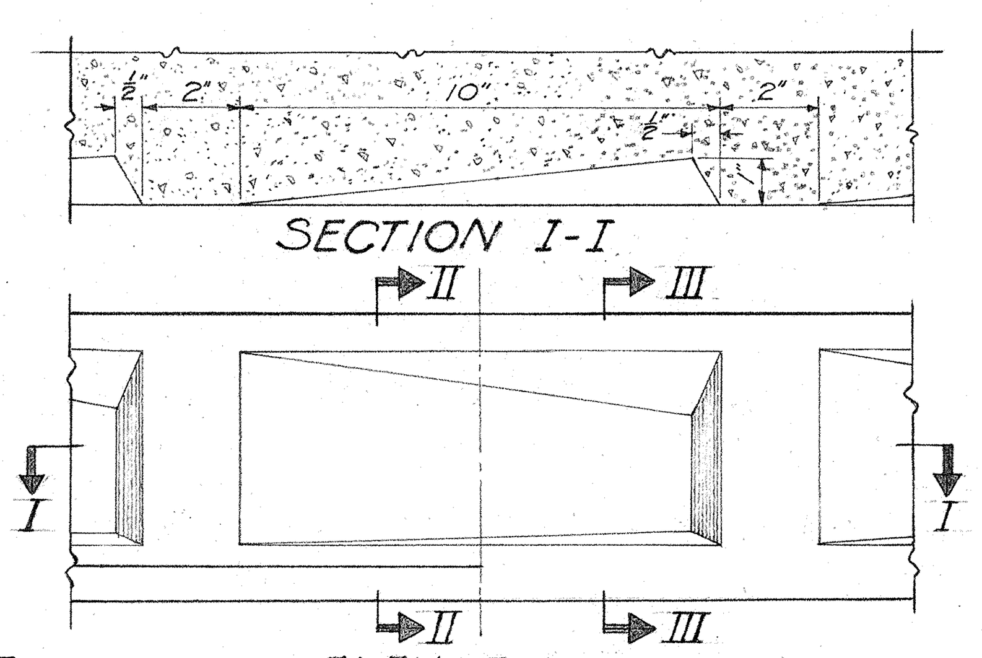
TYPE "D-2" CURB
Scale: 1" = 1'-0"



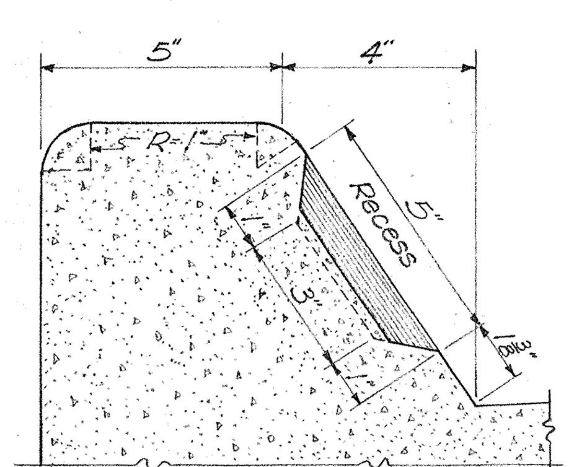
TYPE "DG" CURB & GUTTER
Scale: 1" = 1'-0"



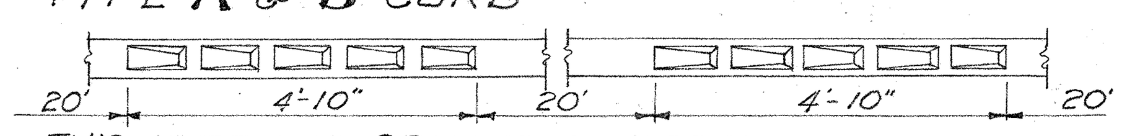
SECTION II-II
TYPE "A" & "B" CURB



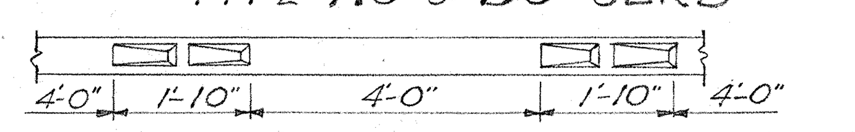
ELEVATION
Scale: 3" = 1'-0"



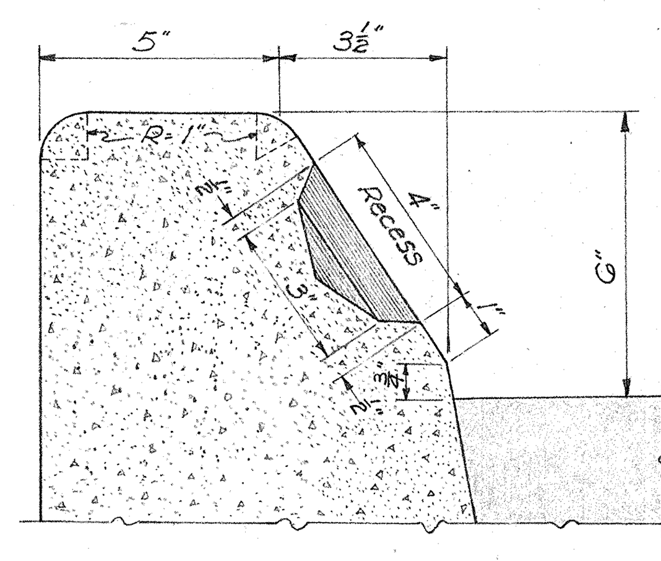
SECTION III-III
TYPE "AG" & "BG" CURB



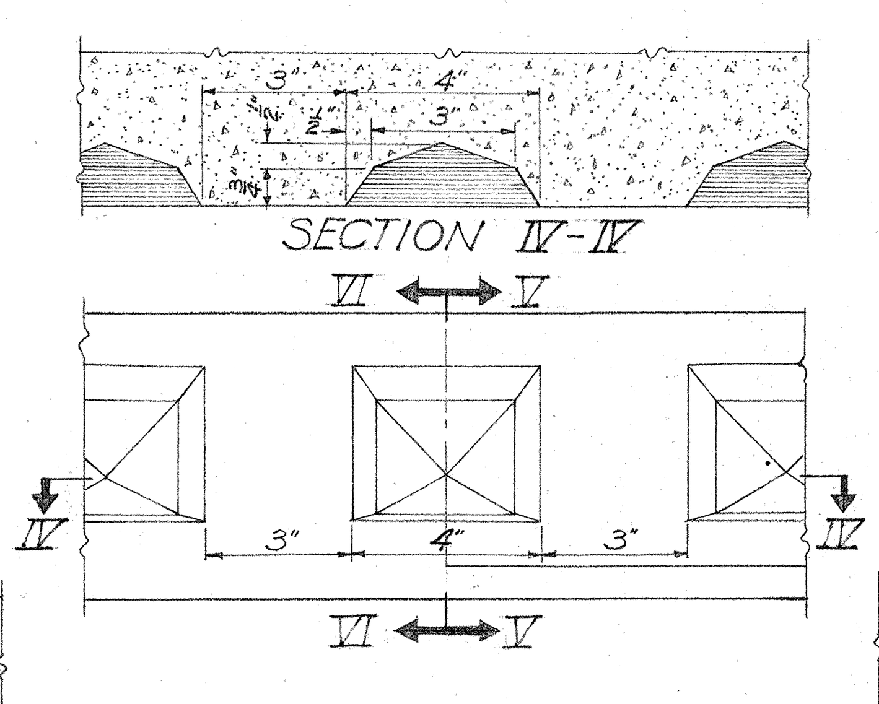
THIS TYPE AND SPACING OF RECESSES SHALL BE USED FOR TYPE "A" CURB & TYPE "AG" CURB & GUTTER



THIS TYPE AND SPACING OF RECESSES SHALL BE USED FOR TYPE "B" CURB & TYPE BG CURB & GUTTER

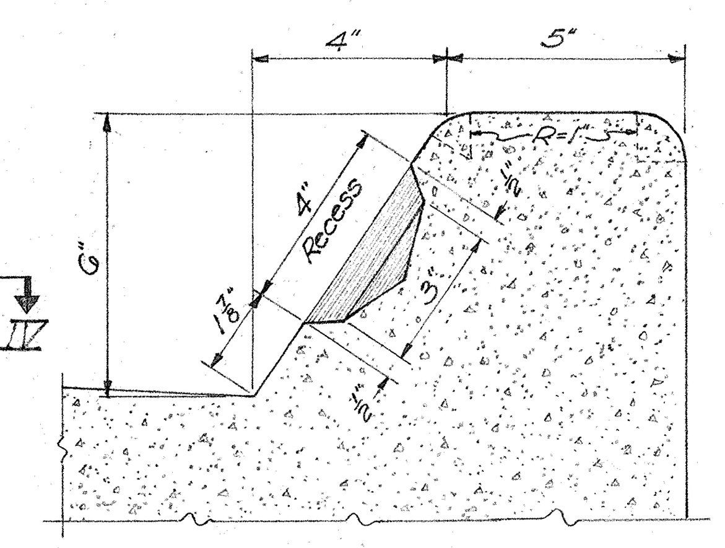


SECTION V-V
TYPE "C" CURB



ELEVATION
Scale: 3" = 1'-0"

THIS TYPE AND SPACING OF RECESSES SHALL BE USED FOR TYPE "C" CURB & TYPE "CG" CURB & GUTTER.



SECTION VI-VI
TYPE "CG" CURB

NOTE:
Types "AG","BG","CG" & "DG" Concrete Curb and Gutters shall be poured monolithically.
Types "A","B" & "C" Concrete Curbs and Types "AG","BG" & "CG" Concrete Curb and Gutters occur at Medial Strips and Traffic Islands.
Shaded Area in Curbs shall be painted with approved white laquer. (one Coat)
All Concrete Curbs and Gutters shown herein shall be of Class "A-1" Concrete and Cast in Place.
Where Catch Basins are to be constructed in median strips the face of conc. curbs adjacent to the catch basins shall have transition of not less than 10 feet. Top slab of conc. catch basin shall be sloped to the finished grades of sidewalk, shoulder or median strip.

DETAILS OF CAST-IN-PLACE CONCRETE CURB AND GUTTER

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

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

TYPICAL SECTIONS
MOANALUA ROAD
PROJECT NO. S 219 (4)

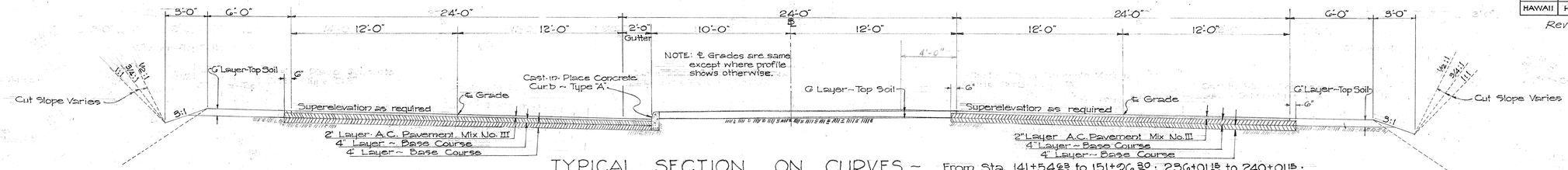
Scale: As Indicated February 1952

SHEET No. OF SHEETS

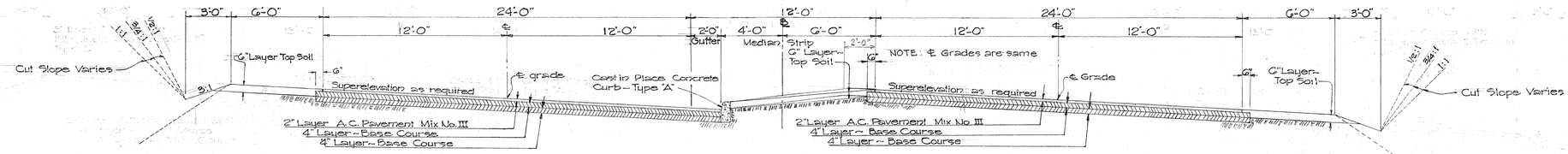
5491.2

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S 219 (4)	1952	3	109

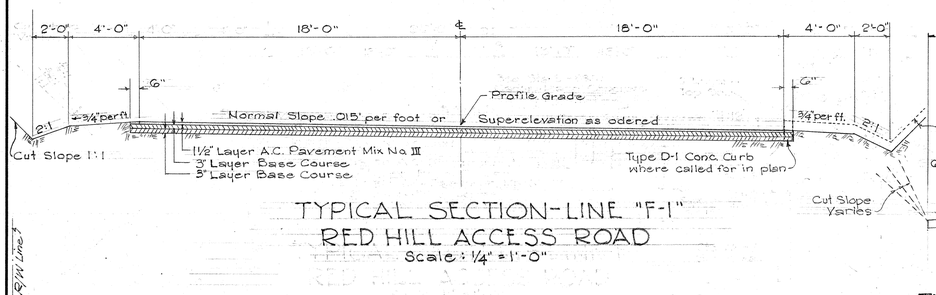
Revised 11-21-52



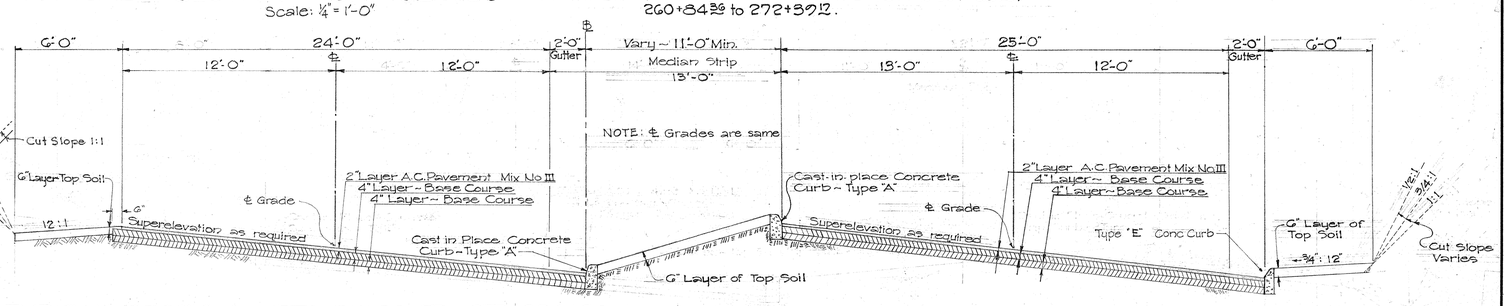
TYPICAL SECTION ON CURVES ~ From Sta. 141+54.23 to 151+06.32; 236+01.15 to 240+01.15; 246+10.23 to 253+42.32; 275+75.27 to 285+00.82.
Scale ¼"=1'-0"



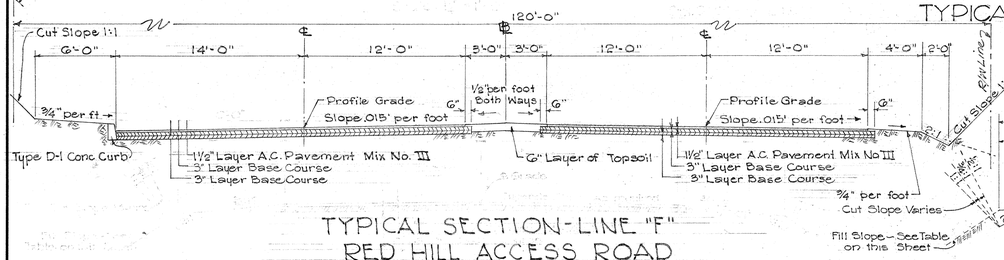
TYPICAL SECTION ON CURVES ~ From Sta. 162+36.28 to 172+62.33; 178+78.42 to 207+33.28; 260+84.26 to 272+39.12.
Scale: ¼" = 1'-0"



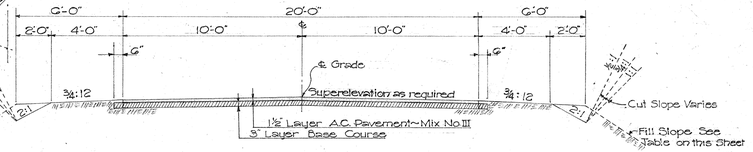
TYPICAL SECTION-LINE "F-1"
RED HILL ACCESS ROAD
Scale: ¼" = 1'-0"



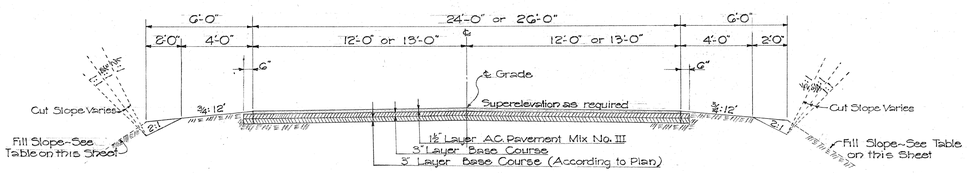
TYPICAL SECTION ~ STA. 211+50± TO STA. 224+00±
Scale: ¼" = 1'-0"



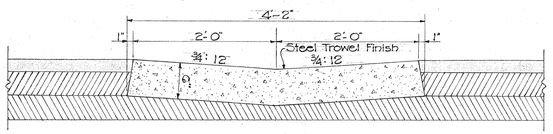
TYPICAL SECTION-LINE "F"
RED HILL ACCESS ROAD
Scale: 3/16" = 1'-0"



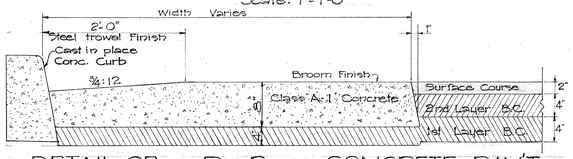
TYPICAL SECTION ~ 20' SIDEROADS
Scale: ¼" = 1'-0"



TYPICAL SECTION ~ 24' & 26' SIDEROADS
Scale: ¼" = 1'-0"



DETAIL OF TYPE "B" CONC. GUTTER
Scale: 1"=1'-0"



DETAIL OF P. C. CONCRETE PAV'T.
Scale: 1"=1'-0"

GENERAL NOTES

Asphalt Concrete Pavement shall be 2" or 1½" thick when fully compacted, laid in one course: Surface course using Mix No. III.

Prime Coat: Slow Curing Liquid Asphalt for Prime Coat shall be applied to the surface of the Base Course at the rate of 0.35 gal. per sq. yd. before placing Surface Course.

Portland Cement Concrete Pavement shall not be reinforced with bars or wire mesh except where bar reinforcement is required by the Engineer for protection of sub-structures. No longitudinal "Contact Joints" are permitted--pavement shall be paved full width. "Weakened Plane Joints" shall be installed on approximately 30 ft. centers. No "Expansion Joints" are required.

Excavation: All excavation in dirt shall be "Class A" Excavation. All Excavation in rock shall be "Class B" Excavation. Cut Slopes are 1:1 in dirt cuts and ½:1 or ¾:1 in rock cuts. The Engineer reserves the right to change the slopes shown in the Cross Sections.

Base Course: shall be laid in layers not exceeding 4" in thickness or as shown on Typical Section.

TABLE OF SIDEROADS

NAME	LOCATION	BASE COURSE	PAVEMENT WIDTH	PAVEMENT THICKNESS
Argonaut Ave.	B.L. Sta 141+73	3"	22'-0"	1½"
Naval Hosp. Road	B.L. Sta. 141+73 & B.L. Sta. 148+20	6"	26'-0"	1½"
Makalapa Ave.	B.L. Sta 148+20	6"	26'-0"	1½"
Plantation Rd.	B.L. Sta. 155+00 & B.L. Sta. 179+50	B.C. 4" STONE 8"	18'-0"	P.C. Conc. 8"
Powder Magazine	B.L. Sta 183+25	6"	As Shown	1½
Halawa Crusher and Halawa Dairy	along Halawa Stream	6" 3"	As Shown 20'-0"	1½ 1½
U.S. Navy Property	B.L. Sta 198+00	6"	26'-0"	1½
U.S. Navy Property	B.L. Sta. 210+00	6"	20'-0"	1½
Red Hill Access Rd.	B.L. Sta. 226+00	6"	50' Divid. 8'-0"	1½
North Access at B.L. Sta. 210+00	B.L. Sta. 210+00	To 2+00-6" From 2+00-8"	As Shown in Plan 20'-0"	1½ 1½
Army Undgd. Com. Post	B.L. Sta. 230+50	6"	26'-0"	1½
Aliamanu Crater Rd.	B.L. Sta. 245+00	6"	26'-0"	1½
Moanalua Golf Cse Rd.	B.L. Sta. 255+75	3"	20'-0"	1½
All others			As shown on Plan	1½

TABLE OF FILL SLOPES

Height of Fill	Slope
Up to 3'	4 : 1
3 to 6'	2 : 1
Over 6'	1½ : 1

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

TYPICAL SECTIONS
MOANALUA ROAD
PROJECT NO. S 219 (4)

Scale: As Indicated — February 1952

SHEET No. OF SHEETS

5491.3

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

ESTIMATED QUANTITIES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	S 219(6)	1952	35	

Revised 11-26-52

ITEM	TYPE	LOCATION	TOP CURB ELEV.	TOP & MANHOLE COVER ELEV.	FLOOR INV. ELEV.	STD. MANHOLE CASTING TYPE "A"	STD. MANHOLE CASTING TYPE "B"	EXTRA STRENGTH REINF. CONCRETE CULVERT PIPE WITH CONCRETE COLLARS LIN. FT. 24"	30"	36"	48"	STANDARD STRENGTH REINF. CONCRETE CULVERT PIPE WITH CONCRETE COLLARS LIN. FT. 18"	24"	30"	36"	STRUCT. EXC. C.Y.	CONCRETE C.Y. CLASS A-1	CLASS B-1	CRM C.Y.	GRP C.Y.	REINF. STEEL LBS.
Conc. Drop Intake No. 1	Std.	B. L. Sta. 169+50±			158.54											29		2.6			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 1 to Conc. Drop Intake No. 2											32			45.3					
Conc. Drop Intake No. 2	Std.	B. L. Sta. 169+50±			158.38											6.4		1.7			95
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 2 to Catch Basin No. 1						44								23.8					
C. B. No. 1	D	B. L. Sta. 169+50±	163.43	163.43	158.19		1									2.4	4.9				65
24" Conc. Culv't. Pipe		Catch Basin No. 1 to Conc. Headwall No. 1						44								24.4					
Conc. Headwall No. 1	Std.	B. L. Sta. 169+50±			155.00											5.0		1.4			42
Conc. Gate Box No. 1		B. L. Sta. 169+50±			153.50											6.1	1.0				
Conc. Headwall No. 2	Std.	B. L. Sta. 175+50±			158.00											7.6		2.7			60
36" Conc. Culv't. Pipe		Conc. Headwall No. 2 to Conc. Headwall No. 3							102						48	52.0					
Conc. Headwall No. 3	Std.	B. L. Sta. 176+50±			160.00											8.3		2.7			60
Conc. Gate Box No. 2		B. L. Sta. 180+40±														4.2	1.0				
Siphon No. 2		Line "A-3" Sta. -0+20±										112				67.7	3.6	5.2	13.6		208
Siphon No. 1		B. L. Sta. 180+65±						128					88			168.1	3.0		24.5		263
Conc. Drop Intake No. 3	Std.	Line "B" Sta. 0+20±			169.00											4.2		1.2			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 3 to Conc. Headwall No. 6						64					16			70.2					
Conc. Headwall No. 6	Std.	Line "B" Sta. 0+20±			167.00											4.0		1.4			42
C.R.M. Pavement		Halawa Streams														683.0			1650		
Conc. Headwall No. 7	Std.	B. L. Sta. 193+45			152.00											3.8		4.4			87
48" Conc. Culv't. Pipe		Conc. Headwall No. 7 to Conc. Headwall No. 8									234					10.0					
Conc. Headwall No. 8	Std.	B. L. Sta. 194+15±			154.00											3.8		4.4			87
Conc. Lined Ditch No. 1		B. L. Sta. 190+50±														60.5	12.4				
Conc. Headwall No. 9	Std.	B. L. Sta. 197+50±			122.26											2.4		2.2			31
30" Conc. Culv't. Pipe		Conc. Headwall No. 9 to Conc. Drop Intake No. 4							G2					36		89.5					
Conc. Drop Intake No. 4	Std.	B. L. Sta. 198+60±			128.74											5.0		1.7			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 4 to Catch Basin No. 2						84					28			76.8					
C. B. No. 2	"C"	B. L. Sta. 199+40±	139.42	139.48	134.29		1									9.6	6.3				95
24" Conc. Culv't. Pipe		Catch Basin No. 2 To Conc Drop Intake No. 5						60					16			7.9					
Conc. Drop Intake No. 5	Std.	B. L. Sta. 200+05±			137.84											0.0		1.4			
Conc. Lined Ditch No. 2		B. L. Sta. 207+90±														66.5	13.6				
Conc. Headwall No. 10	Std.	B. L. Sta. 209+50±			134.77											8.2		1.4			42
24" Conc. Culv't. Pipe		Conc. Headwall No. 10 to Catch Basin No. 3						100								72.4					
C. B. No. 3	"B"	B. L. Sta. 210+50±	206.08	206.14	200.14		1									22.1	6.8				95
24" Conc. Culv't. Pipe		Catch Basin No. 3 to Catch Basin No. 4						84					36			107.3					
C. B. No. 4	"B"	B. L. Sta. 211+75±	213.71	213.77	208.75		1									19.5	6.4				95
Conc. Drop Intake No. 6	Std.	B. L. Sta. 230+00±			235.52											9.6		2.7			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 6 to Catch Basin No. 5											12			9.4					
C. B. No. 5	"A"	B. L. Sta. 230+20±	238.91	238.97	234.12		1									22.3	7.8				125
24" Conc. Culv't. Pipe		Catch Basin No. 5 to Conc. Headwall No. 13						60					16			58.0					
Conc. Headwall No. 13	Std.	B. L. Sta. 231+05±			232.08											5.5		1.4			42
Conc. Lined Ditch No. 3		B. L. Sta. 231+05±														67.7	13.8				
CRM. Spillway		Line F-1 Sta. 4+50														8.1			6.3		
C.D.I. No. 5A		Line F-1 Sta. 4+50			228.50											9.8		2.7			
30" Conc. Culv't. Pipe		C.D.I. No. 5A to C.B. No. 5B							74							63.9					
C.B. No. 5B		Line F-1 Sta. 4+50	267.53	267.59	264.00		1									12.3	6.5				95
30" Conc. Culv't. Pipe		C.B. No. 5B to C.B. No. 5A												12	6	128.5					
C.B. No. 5C		B. L. Sta. 235+10±	217.72	217.78	212.00		1									3.2	6.6				95
36" Conc. Culv't. Pipe		C.B. No. 5C to C.B. No. 5D								42						11.6					
C.B. No. 5D		B. L. Sta. 235+60	217.72	217.78	211.00		1									6.0	7.2				95
Conc. Drop Intake No. 7	Std.	B. L. Sta. 237+00±			208.40											5.1		1.5			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 7 to Conc. Headwall No. 20						106								48.6					
Conc. Headwall No. 20	Std.	B. L. Sta. 237+00±			205.22											2.8		1.4			42
Conc. Headwall No. 21	Std.	B. L. Sta. 241+00±			172.8											6.5		2.7			60
36" Conc. Culv't. Pipe		Headwall No. 21 to Headwall No. 22								32					26	32.4					
Conc. Headwall No. 22	Std.	B. L. Sta. 241+50±			172.0											11.1		2.7			60
Conc. Drop Intake No. 8	Std.	B. L. Sta. 244+00±			180.50											6.6		1.8			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 8 to Conc. Headwall No. 23						96					32			90.0					
Conc. Headwall No. 23	Std.	B. L. Sta. 244+00±			171.00											2.5		1.4			42

ADDITION

ITEM	TYPE	LOCATION	TOP CURB ELEV.	TOP & MANHOLE COVER ELEV.	FLOOR INV. ELEV.	STD. MANHOLE CASTING TYPE "A"	STD. MANHOLE CASTING TYPE "B"	EXTRA STRENGTH REINF. CONCRETE CULVERT PIPE WITH CONCRETE COLLARS LIN. FT. 24"	30"	36"	48"	STANDARD STRENGTH REINF. CONCRETE CULVERT PIPE WITH CONCRETE COLLARS LIN. FT. 18"	24"	30"	36"	STRUCT. EXC. C.Y.	CONCRETE C.Y. CLASS A-1	CLASS B-1	CRM C.Y.	GRP C.Y.	REINF. STEEL LBS.
Conc. Drop Intake No. 9	Std.	B. L. Sta. 250+80±			150.90											5.5		1.6			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 9 to Catch Basin No. 6											8			6.8.2					
C. B. No. 6	"B"	B. L. Sta. 251+75±	147.43	147.70	142.40		1									20.2	6.3				95
24 Conc. Culv't. Pipe		Catch Basin No. 6 to Conc. Drop Intake No. 10							56						24	70.4					
Conc. Drop Intake No. 10	Std.	B. L. Sta. 252+30±			130.55											6.5		1.7			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 10 to Conc. Headwall No. 24													48	26.6					
Conc. Headwall No. 24	Std.	B. L. Sta. 252+83±			137.82											0.0		1.4			42
Conc. Headwall No. 25	Std.	B. L. Sta. 253+00			80.00											2.9		2.2			51
30" Conc. Culv't. Pipe		Conc. Headwall No. 25 to Conc. Drop Intake No. 11							208							182.0					
Conc. Drop Intake No. 11	Std	Line "1" Sta. 5+28±			80.62											5.4		1.3			
30" Conc. Culv't. Pipe		Conc. Drop Intake No. 11 to Conc. Headwall No. 26							32						8	24.2					
Conc. Headwall No. 26	Std.	Line "1" Sta. 5+23±			79.47											8.9		2.2			51
C. B. No. 7	"B"	B. L. Sta. 270+30±	63.84	63.72	58.73		1									10.9	6.4				95
24" Conc. Culv't. Pipe		Catch Basin No. 7 to Conc. Drop Intake No. 12							36							24.2					
Conc. Drop Intake No. 12	Std.	B. L. Sta. 270+30±			58.35											7.8		2.5			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 12 to Conc. Headwall No. 27							36						40	16.0					
Conc. Headwall No. 27	Std.	B. L. Sta. 271+00±			57.00											0.9		1.4			42
Conc. Headwall No. 28	Std.	B. L. Sta. 276+00±			33.00											0.0		2.2			51
30" Conc. Culv't. Pipe		Conc. Headwall No. 28 to Conc. Headwall No. 29							216							163.8					
Conc. Headwall No. 29	Std.	B. L. Sta. 276+75±			29.00											2.5		2.2			51
Conc. Drop Intake No. 13	Std.	B. L. Sta. 282+00±			33.05											4.4		1.3			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 13 to Catch Basin No. 8							32						24	54.5					
C. B. No. 8	"C"	B. L. Sta. 282+00±	38.06	38.32	32.50		1									9.9	6.6				95
24" Conc. Culv't. Pipe		Catch Basin No. 8 to Conc. Headwall No. 30							32						16	32.9					
Conc. Headwall No. 30	Std.	B. L. Sta. 282+00±			32.00											7.1		1.4			42
C. B. No. 9	"C"	B. L. Sta. 141+08±	73.85	73.91	68.35		1									19.0	6.5				95
24" Conc. Culv't. Pipe		Catch Basin No. 9 to Catch Basin No. 10							21							82.1					
C. B. No. 10	"B"	B. L. Sta. 141+00±	74.16	74.22	68.80		1									12.8	6.5				95
24" Conc. Culv't. Pipe		Catch Basin No. 9 to Conc. Headwall No. 31							88						56	88.3					
Conc. Headwall No. 31	Std.	B. L. Sta. 142+50±			67.50											7.8		1.4			42
C. B. No. 11	"B"	Line "A-2" Sta. 0+80±	54.80	54.86	50.00		1									13.6	6.5				95
24" Conc. Culv't. Pipe		Catch Basin No. 11 to Conc. Headwall No. 32							70						73	51.1					
Conc. Headwall No. 32	Std.	B. L. Sta. 149+25±			40.00											3.4		1.4			42
Conc. Drop Intake No. 14	Std.	B. L. Sta. 147+80±			54.00											3.2		1.2			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 14 to Conc. Headwall No. 33							40						88	30.8					
Conc. Headwall No. 33	Std.	B. L. Sta. 147+50±			44.00											2.5		1.4			42
Conc. Headwall No. 34	Std.	B. L. Sta. 151+00±			36.00											8.3		2.7			60
36" Conc. Culv't. Pipe		Conc. Headwall No. 34 to Conc. Headwall No. 35								128						152.9					
Conc. Headwall No. 35	Std.	B. L. Sta. 151+00±			31.00											7.4		2.7			60
Conc. Headwall No. 36	Std.	B. L. Sta. 154+85±			51.20											6.5		1.0			33
18 Conc. Culv't. Pipe		Conc. Headwall No. 36 to Conc. Headwall No. 37													32	21.0					
Conc. Headwall No. 37	Std.	B. L. Sta. 155+15±			51.20											6.2		1.0			33
Conc. Intake Box		B. L. Sta. 156+50±														10.0	0.7				
Siphon No. 3		B. L. Sta. 156+50±											80		56	124.3	3.0			7.2	263
Conc. Gate Box No. 3		B. L. Sta. 156+50±														4.9	0.8				
Conc. Drop Intake No. 15	Std.	B. L. Sta. 158+60±			48.00											6.2		1.3			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 15 to Conc. Headwall No. 38							66						42	45.9					
Conc. Headwall No. 38	Std.	B. L. Sta. 158+60±			31.50											5.6		1.4			42
C. B. No. 12	"D"	B. L. Sta. 161+50±	58.06	58.12	53.00		1									0.0	3.0				65
24 Conc. Culv't. Pipe		Catch Basin No. 12 to Conc. Headwall No. 30							48							0.0					
Conc. Headwall No. 39	Std.	B. L. Sta. 161+50±			52.00											0.0		1.4			42
C.R.M. Spillway		B. L. Sta. 161+50±														0.0			13.2		
C.R.M. Wingwall		Hulumanu Stream Sta. 1+50±														16.0			30.0		
6" Navy Water Line		B. L. Sta. 219+50±														60.0		1.0	16.0		
Navy Duct Lines		B. L. Sta. 212+00±														53.3	15.4				1164
C. B. No. 5A	"A"	B. L. Sta. 225+60±	261.37	261.43	256.50		1									23.1	7.5				125
30" Conc. Culv't. Pipe		Catch Basin No. 5A to Conc. Headwall No. 11								88					20	21.7					
Conc. Headwall No. 11	Std.	B. L. Sta. 226+50±			255.83											7.3		2.2			51
Conc. Gate Box No. 4		B. L. Sta. 181+25±			25.76											1.8	0.7				
Conc. Drop Intake No. 3A	Std.	"LINE B" Sta. 1+50±			77.00											10.2		2.5			
18" Conc. Culv't. Pipe		Conc. Drop Intake No. 3A to Conc. Gate Box No. 5													130	25.5					
Conc. Gate Box No. 5		"LINE B-1" Sta. 0+75±			74.50											0.5	0.7				
Reaction Block for Wood Staves Pipe		B. L. Sta. 187+75±			62.20											0.2	0.8				26
Conc. Outlet Box		B. L. Sta. 188+00±			61.00											5.1	0.7				
Conc. Drop Intake No. 3B	Std.	B. L. Sta. 187+50±			60.00											2.7		1.1			
24" Conc. Culv't. Pipe		Conc. Drop Intake No. 3B to Conc. Gate Box No. 6													160	33					
Conc. Gate Box No. 6		B. L. Sta. 187+50±			57.00											1.1	1.0				
18" Conc. Culv't. Pipe		B. L. Sta. 272+50±													40	0					

ADDITION

ORIGINAL PLAN

NOTE BOOK No.

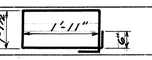
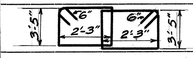
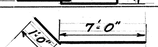
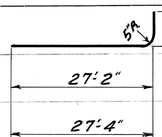
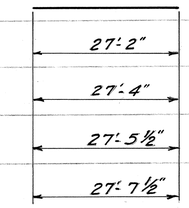
SURVEY PLOTTED BY
DESIGNED BY
DRAWN BY
TRACED BY
QUANTITIES BY
CHECKED BY
DATE

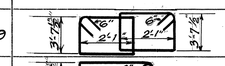
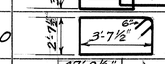
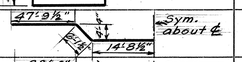
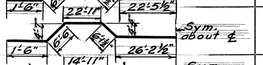
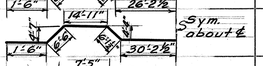
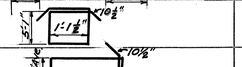
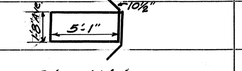
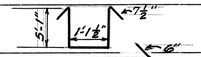
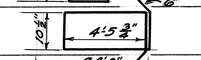
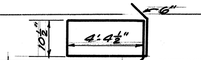
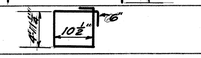
5491.3E

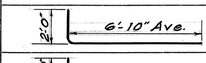
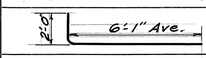
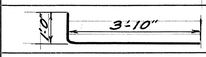
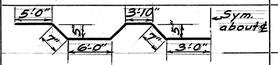
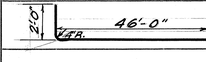
SK 10-7-52

STEEL SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S219(4)	1952	44	110

MK	DESCRIPTION	Location	Size	Length	No. of Bars in Ea. Unit	No. of Units	Total No. of Bars	Total Length	Wt. Per Ft.	Total Weight
4-8		Footing & Bent #1 & 2		19'-3"	19	4	76	1,463		
4-7	Straight	" "		2'-6"	4	16	64	160.0		
4-6	"	"		7'-6"	4	16	64	480		
4-31	"	"		3'-4"	6	16	96	320.0		
8-3	"	"		41'-6"	16	4	64	2,656		
5-5		"		25'-0"	13	16	208	5,200		
9-3		"		8'-0"	6	16	96	768		
10-1	Straight	"		7'-6"	6	16	96	720		
			#4					2,423	.668	1,619
			5					5,200	1.043	5,424
			8					2,656	2.67	7,092
			9					768	3.4	2,611
			10					720	4.303	3,098
	TOTAL FOOTING BENT NOS. 1 & 2									19,844 #
4-31	Straight	Bent 1 & 2		3'-4"	6	16	96	320		
4-7	"	" "		2'-6"	4	16	64	160		
11-14		" "								
		F-1 & F-8		28'-3"	10	4	40	1,130		
		F-2 & F-7		28'-5"	10	4	40	1,136.7		
		F-3 & F-6		28'-6½"	10	4	40	1,141.7		
		F-4 & F-5		28'-8½"	10	4	40	1,148.3		
11-15		Bent 1 & 2								
		F-1 & F-8		27'-2"	4	4	16	434.7		
		F-2 & F-7		27'-4"	4	4	16	437.3		
		F-3 & F-6		27'-5½"	4	4	16	439.3		
		F-4 & F-5		27'-7½"	4	4	16	442.		
11-13	Straight	Bent 1 & 2		15'-0"	14	16	224	3,360		

MK	DESCRIPTION	Location	Size	Length	No. of Bars in Ea. Unit	No. of Units	Total No. of Bars	Total Length	Wt. Per Ft.	Total Weight
4-9		Bent 1 & 2		25'-2"	9	16	144	3,624		
4-10		" "		13'-8"	17	16	272	3,717.3		
11-1		Frame		137'-3"	2	8	16	2,196		
11-2		"		113'-2"	2	8	16	1,810.7		
11-3		"		134'-8"	2	8	16	2,154.7		
11-4		"		126'-6	2	8	16	2,024		
11-5		"		118'-6"	2	8	16	1,896		
11-6		"		22'-0"	4	8	32	704		
11-7		"		13'-4½"	4	8	32	428		
4-29		"		15'-6"	66	8	528	8,184		
4-30		"		17'-1½" Ave.	50	8	400	6,850		
11-8	Straight	"		48'-0"	4	8	32	1,536		
11-9	"	"		104'-0"	2	8	16	1,664		
11-10	"	"		96'-0"	2	8	16	1,536		
11-16	"	"		8'-0"	4	8	32	256		
4-25	"	"		29'-0"	2	8	16	464		
4-40	"	"		16'-0"	4	8	32	512		
4-4		"		12'-7"	33	8	264	3,322		
4-91		Trans. Bm. A		12'-9½"	18	4	72	921		
9-1	"	" "		42'-8½"	3	4	12	512.5		
9-2	Straight	" "		33'-9"	3	4	12	405		
7-1	"	Trans. Bm. B		38'-2"	3	4	12	458		
7-2	"	" " "		33'-2"	3	4	12	398		
4-92		" " "		12'-7"	18	4	72	906		
7-4		End Beam		40'-8½"	6	4	24	977		
4-13		" "		12'-9½"	22	4	88	1,125.7		
4-14	Straight	" "		9'-2"	4	8	32	293.3		
4-11	"	" "		39'-0"	4	4	16	624		
4-12	"	" "		39'-0"	4	4	16	624		

MK	DESCRIPTION	Location	Size	Length	No. of Bars in Ea. Unit	No. of Units	Total No. of Bars	Total Length	Wt. Per Ft.	Total Weight
4-15		Wing		8'-10" Ave.	5	8	40	353.3		
4-16		"		8'-1" Ave.	5	8	40	323.3		
4-20		"		4'-10"	10	8	80	386.7		
4-21	Straight	"		5'-2"	4	8	32	165.3		
4-17	"	"		5'-6" Ave.	12	8	96	528		
5-12		Slab		39'-2"	127	2	254	9,948.3		
5-15	Straight	"		3'-6"	3	8	24	84		
5-4	"	"		38'-2"	127	2	254	9,694.3		
5-13	"	"		33'-6"	127	2	254	8,509		
5-10	133'-8" + 4-1'-3" laps	"		138'-8"	21	2	42	5,824		
8-1		"		47'-10¼"	14	4	56	2,679.8		
8-2	Straight	"		18'-0"	14	4	56	1,008		
4-28	"	"		46'-0"	17	2	34	1,564		
4-27	"	"		8'-0"	18	4	72	576		
4-23	"	"		3'-6"	3	8	24	84		
4-24	"	"		5'-0"	2	8	16	80		
4-22	"	Wing		4'-0"	8	4	32	128		
			#4				35,835.9		.668	23,938
			5				34,059.6		1.043	35,524
			7				1,833		2.044	3,747
			8				3,687.8		2.67	9,846
			9				917.5		3.4	3,120
			11				25,875.4		5.313	137,476
	TOTAL SUPERSTRUCTURE									213,651 #
	GRAND TOTAL									233,495 #

CONTRACTOR'S NOTE

This steel schedule is subordinate to details shown on the plans. In case of discrepancy between steel list and detail drawings the latter shall govern.

The Territorial Highway Dept. does not assume responsibility for any errors that may occur in the steel schedule. Contractor shall check steel before placing order.

All stirrup dimensions are to inside of stirrups; all other dimensions are figured to center line of bars.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

HALAWA BRIDGE
STA. 185+38 TO STA. 186+72
MOANALUA ROAD S219(4)
APRIL 1951

SHEET No. 1 OF 1 SHEETS

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

NO. 108 ARKWRIGHT TRACING CLOTH
K & E CO., N. Y.

5491.3F

FED ROAD DIST. No.	STATE	FED AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	S 219(4)	1953		

PLAN	
SURVEYED	
PLOTTED	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NOTE BOOK No.	

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

FIN. PAVT. GRADES
MOANALUA ROAD
PROJECT NO. S 219(4)

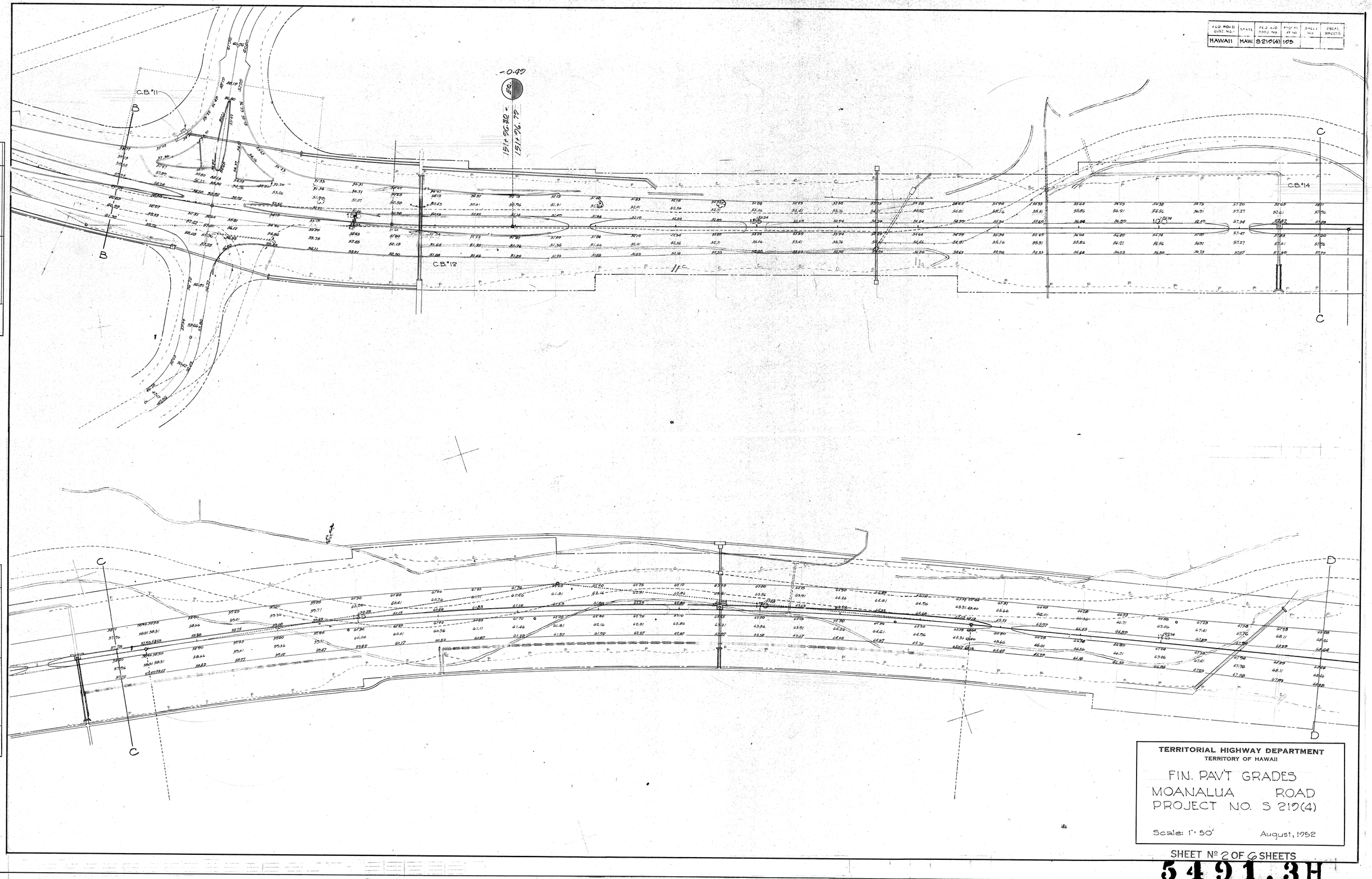
Scale: 1" = 50'
August, 1952

SHEET No 1 OF 6 SHEETS

5491.3G

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	TOTAL SHEETS	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S 219(4)	105		

PLAN		BY	DATE
NOTE BOOK NO.	SURVEYED PLOTTED ALIGNMENT CHECKED RT. OF WAY CHECKED		



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

FIN. PAV'T GRADES
MOANALUA ROAD
PROJECT NO. S 219(4)

Scale: 1" = 50' August, 1952

SHEET Nº 2 OF 6 SHEETS

5491.3H

NOTE:
FINISH GRADES
All grades as shown + 0.23'

MOANALUA ROAD
(TRUCK CLIMBING LANE)
F.A.P. No. U-072-1(21)

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

FIN. PAVT GRADES
MOANALUA ROAD
PROJECT NO S 219(4)

Scale: 1"=50'   August, 1952

SHEET No 3 OF 6 SHEETS

5491.31

NOTE:

FINISH GRADES

All grades as shown + 0.23'

MOANALUA ROAD

(TRUCK CLIMBING LANE)

F.A.P. No. U-072-1(21)

TERRITORIAL HIGHWAY DEPARTMENT

TERRITORY OF HAWAII

FIN. PAV'T GRADES

MOANALUA ROAD

PROJECT NO. S 19 (4)

Scale: 1"=50'   August, 1952

SHEET No. 4 OF 6 SHEETS

SURVEY PLOTTED BY / DESIGNED BY / DRAWN BY / TRACED BY / QUANTITIES BY / QUANTITIES CHECKED BY / CHECKED BY — DATE

ORIGINAL PLAN — NOTE BOOK No.

5491.37

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	S 219(4)	195		

PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

PLAN
NOTE BOOK NO.
SURVEYED
PLOTTED
ALIGNMENT CHECKED
RT. OF WAY CHECKED
BY
DATE

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

FIN PAV'T GRADES
MOANALUA ROAD
PROJ. NO. S 219 (4)

Scale: 1" = 50'

August, 1952

SHEET Nº 5 OF 6 SHEETS

5491.3K

(5)

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S 219 (4)	195		

PLAN		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

PLAN		BY	DATE
NOTE BOOK	SURVEYED		
NO.	PLOTTED		
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

FIN PAV'T. GRADES
MOANALUA ROAD
PROJ. NO. S 219 (4)

Scale: 1" = 50' August 1952

SHEET № 6 OF 6 SHEETS