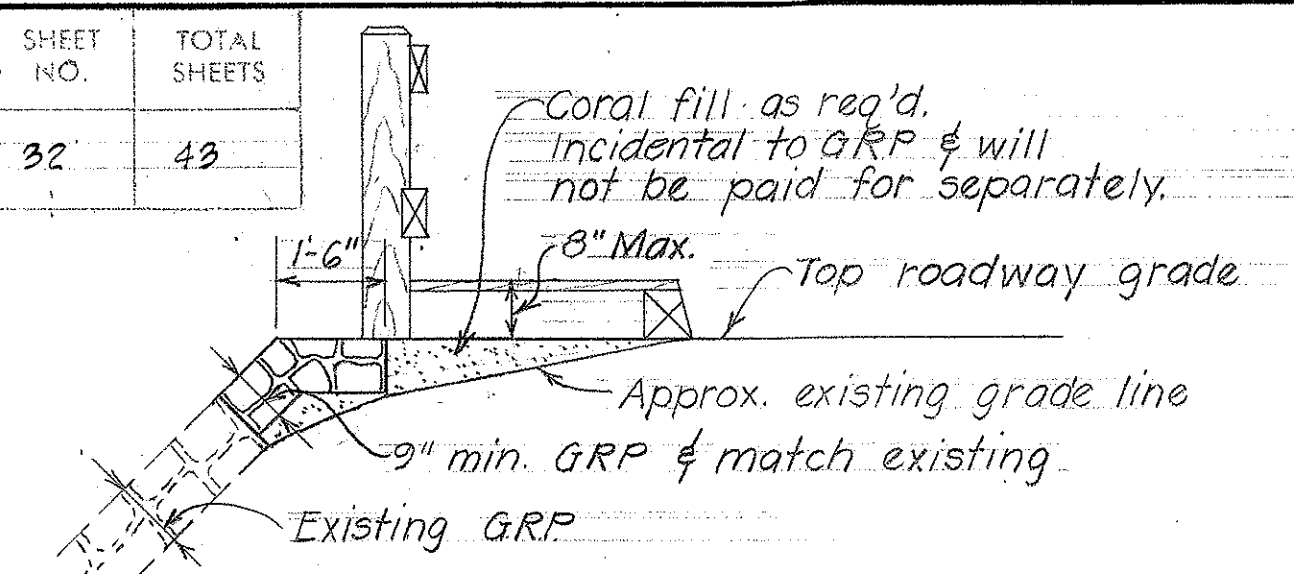


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	WPSO 236	1937	5	17



Technical drawing of a bridge structure, likely a girder bridge, showing a cross-section. The drawing includes the following components and dimensions:

- Dimensions:**
 - Overall width: 3'-10"
 - Top flange width: 7 1/2"
 - Top flange thickness: 1/2"
 - Top flange length: 3'-0 1/2"
 - Top flange height: 3'-6"
- Structural Components:**
 - 2-4'x8" solid bridging:** Two solid bridging members.
 - 6'x18" stringer:** A horizontal stringer member.
 - 12'x14" block:** A vertical block member.
 - 3'x8" bolted to 8'x8" rail post:** A vertical member bolted to a rail post.
 - 4'x8" bolted to 8'x8" post:** A vertical member bolted to a post.
 - 1/2" bolts with cut washers:** Bolts used for the 4'x8" member.
 - 6'x18" stringer:** A horizontal stringer member.
 - 3/4" bolts with C.I. washers:** Bolts used for the 6'x18" stringer.
 - 3/4" drift bolts:** Drift bolts used for the 6'x18" stringer.
 - 3/4" bolts with C.I. washers:** Bolts used for the 12'x14" block.

HALF ELEV. OF BRIDGE
 Scale $\frac{1}{4}" = 1'-0"$

Plan View (Left):

- Overall length: $19'-3"$
- Left side dimension: $12'-3"$
- Right side dimension: $15'-4"$
- Bottom width: $2'-6"$
- Label: $\text{Batter } \frac{1}{2}" \text{ in } 12"$
- Label: $\text{C. Bent No. 2 Sta. 933+73.42}$

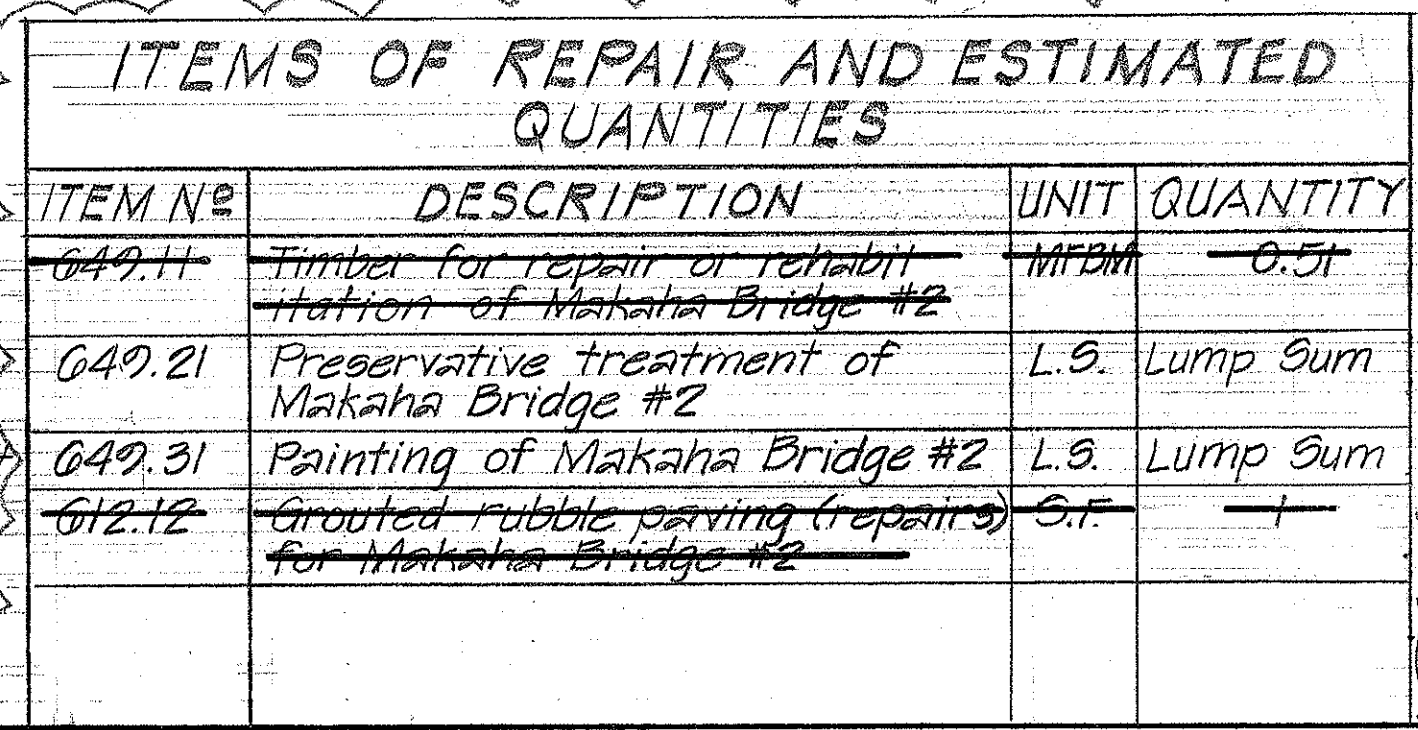
Elevation View (Right):

- Overall height: $16'-5\frac{1}{2}"$
- Top section height: $2'-3"$
- Top section width: $3'-10"$
- Top section depth: $2'-10"$
- Bottom section height: $1'-10\frac{1}{2}"$
- Bottom section width: $3'-10"$
- Bottom section depth: $32'-10\frac{1}{2}"$
- Label: $\text{End of Bridge Sta. 933+93.84 Elev. 108.1}$

Other Labels:

- C. Road
- $\text{Groove for drain sp. } 5'-0" \pm \text{ o.c.}$

HALF FOUNDATION PLAN



THIS DRAWING IS IN PART
ORIGINAL CONTRACT PLANS OF
EXISTING MAKAHA BRIDGE #2
FOR INFORMATION & GUIDANCE
TO REPAIR WORKS.

PROJ. NO HWY-0-01-72 NOV., 1971
SHEET NO 1 OF 3 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DESIGNED BY <i>N.R. Bertels</i>	<i>June '36</i>
	DRAWN BY <i>W.S. Fung</i>	" "
	TRADED BY <i>Wm. Vandenath</i>	" "
	QUANTITIES BY <i>C.F.W.</i>	<i>Sept. '36</i>
	CHECKED BY <i>C.F.W.</i>	" "
NOTE BOOK		
No.		

FED. ROAD DIST NO.	STATE	FED. AID PROJ NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	WPSO 238	1937	6	17

Bridge floor shall have a mineral asphalt plank wearing surface 1" thick.
2"x6" laminated flooring, 26'-0" long, S1S, E rough edge up.
12 lines 6"x18" stringers to be sized to uniform depth of 1 7/8"
at points of bearing and each piece toenailed to cap with 4-20d
nails. Outside stringers & stringer under sidewalk wheel guard to have butt joints with
end cut on taper; inside stringers to have lap joints, lap'd ends to be separated by 1/2" separators
& solid bridging over caps and at ends of bridge.
2"x4" cross bridging at middle of span, entire width, to be securely
toe-nailed with two nails at each end.

Scale $3/4" = 1'-0"$

Scale $3/4" = 1'-0"$

3/4" ϕ x 20' drift bolts

3/4" ϕ bolts with C.I. Washers

[illegible]

HALE SECT AT MIDDLE OF SPAN

Scale $3/8" = 1'-0"$

$14^{\circ}3'$
 $34^{\circ}0''$
 $36^{\circ}6''$
 $1^{\circ}3''$

PLAN OF FOUNDATION

Scale $3/8" = 1'-0"$

DETAIL OF WHEEL GUARD SPLICE

DETAIL HOOK BOLT

DETAIL HANDRAIL SPLICE

Scale 1" = 1'-0"

PLAN OF ABUTMENT

N OF ABU
6000000

ELEV. OF ABUTMENT
Scale 1/2" = 1' 0"

Scale $1/2"=1'-0"$

3/4" ϕ 18" bolts ctsk

PLAN OF SIDEWALK AT END OF BRIDGE

Scale $3/4" = 1' 0"$

SECT TURN FOOTING

5. 1 36" 12'

Hand-drawn technical drawing of a bridge repair showing two cross-sections. The left section shows a 3x8 S4S plank on 1x8 sub-flooring, with a 2-4x18 plank and a 6x6 post. The right section shows a 1x18 plank and a 2-4x18 plank. Labels include "3x8 S4S", "Existing 2x8 plank on 1x8 sub-flooring at post", "2-4x18 Solid Bridging", "6x6 Post S4S", "1x18 Solid Bridging", and "2-4x18 Solid Bridging".

SECTION X-Y

SECTION

SECT 1 1

SECT. A-A
"DOMINGTREN"

SECT "A-A"

364-1-28

THIS DRAWING IS IN PART
ORIGINAL CONTRACT PLANS OF
EXISTING MAKAHA BRIDGE #2
FOR INFORMATION & GUIDANCE
TO REPAIR WORKS

REHABILITATION - REPAIRS TO
EXISTING CHA #2

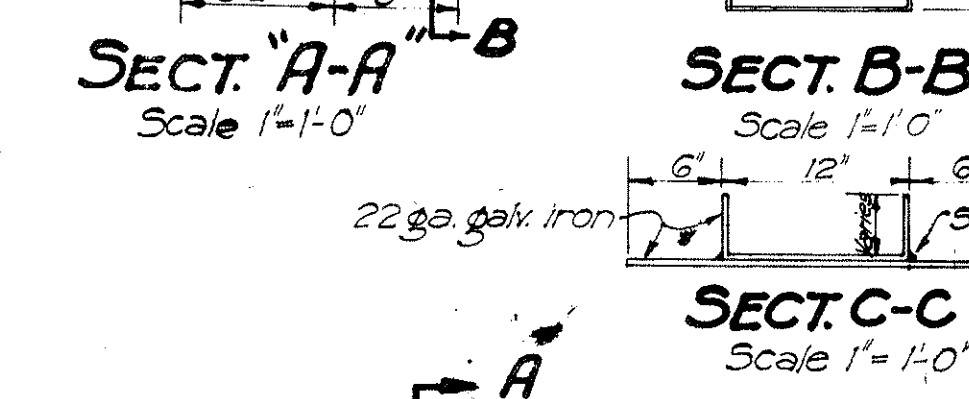
PROJ. NO HWY-0-01-72

NOV. 1971

SHEET No 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
11	PAW	WPSO 250	1951	7	17

MEMBER	NO REQD	SIZE & LENGTH	KIND OF LUMBER	MILL WORK	FT BM.
		DOUGLAS FIR	COAST REGION		
Sill	2	12"x12"x34'-0"	1200F 3" struct posts & timbers	515	816
Cap	2	12"x12"x34'-0"	"	515	816
Solid bridging	2	4"x18"x16'-0"	No. 1 Dimension	51E	192
"	6	4"x18"x10'-0"	"	51E	360
Stringers	36	6"x18"x20'-0"	1600F 2" struct & beam stringers	51E 1800	6,480
Decking (Floor)	426	2"x6"x26'-0"	1600F 2" struct plank	51S/51E	11,076
"	1	1"x6"x26'-0"	"	51S/51E	13
Wheel Guard	3	8"x8"x20'-0"	1100F 3" timbers	51S/51E	320
Wheel Guard	3	10"x12"x20'-0"	"	51S/51E	600
Deck Starter	2	6"x6"x26'-0"	1600F 2" struct posts	51S/51E	156
Railing Posts *	10	8"x8"x12'-0"	1600F 2" struct plank	51S	640
Sidewalk Joist Block	1	12"x14"x8'-0"	1100F 2" struct plank	51E	112
"	1	8"x14"x8'-0"	"	51E	75
Railing *	6	4"x8"x20'-0"	1600F 2" struct plank	51S	320
Railing *	6	3"x8"x20'-0"	"	51S	240
Guard Rail	1	3"x8"x18'-0"	"	51S	36
Guard Rail *	1	10"x12"x18'-0"	"	51S	120
Guard Rail	1	4"x8"x18'-0"	"	51S	48
Guard Rail Post *	2	12"x12"x10'-0"	"	51S	240
Cross Bridging	12	2"x4"x14'-0"	No. 1 dimension	Rough	112
Sidewalk Planking	22	2"x8"x16'-0"	"	51S	469
Bracing	16	3"x10"x12'-0"	1200F Joist & plank	Rough	480
Corner Blocking	1	2"x6"x10'-0"	"	51E	10
Splice Blocks	4	6"x18"x3'-0"	1200F Joist & Plank	51E	108
"	2	6"x18"x3'-0"	"	51E	54
Bearing Blocks	20	4"x12"x2'-0"	1600F 2" struct posts	51S	160
Rail Post Blocks	8	6"x8"x1-5/2"	1600F 2" struct plank	51E	48
Sidewalk Planking Posts	1	2'X8" 12'-0"	No. 1 Dimension	51S	19
"	2	12"x12"x14'-0"	1200F 2" struct post & timber	Rough	336
Wall plate	4	3"x8"x16'-0"	"	51S	128
Sidewalk end timber	1	8"x8"x8'-0"	1100F 3" timbers	51S/51E	48
			TOTAL		24,584



THIS DRAWING IS IN PART
ORIGINAL CONTRACT PLANS OF
EXISTING MAKAHA BRIDGE #2
FOR INFORMATION & GUIDANCE
TO REPAIR WORKS.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REPAIRS TO
EX

HA #2

PROJ. NO HWY-D-01-72 NOV. 1971

SHEET NO 3 OF 3 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY <i>H.R. Bartels</i>	DATE "June '36"
NOTE BOOK	DRAWN BY <i>M.S. Pump</i>	" " "
	TRACED BY <i>N.W. Knappe</i>	" " "
No.	QUANTITIES BY C.F.V.	"Sept. '36"
	CHECKED BY C.F.V.	" " "