FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1938	21	60

Right of Way

Toe of fill

2'-0"

SECT. "B-B" Scale 1"=1'-0"

C.R.M. paved gutter of four corners of br. to be paid for by Extra Work Order

Abutment No. 1 Exp. Bearing

18'-0"

End of haunches

Boring No. 1-B

El. 12.72

El. 12.69

El. 11.84

Beg. of Bridge Sta. 258+32.32

El. 11.55

El. 11.66

El. 11.76

20'-0"

40'-0"

Sta. 257+00 El. 11.43

El. 11.88

El. 11.95

El. 12.07

El. 11.81

1" Conduit underground

E 11.76

El. 11.79

El. 12.25

20'-0"

Curb Line Drain El. 12.63

Boring No. 1-A

El. 12.48

15'-6⅞"

1'-6"

34'-6"

A

A

18'-0"

20'-0"

CONTRACTORS NOTE

For General Notes, name and date detail, expansion joint, etc. see "Standard Bridge Details" sheet.

NOTE! FOR BORING DATA SEE SHEET No. 10

Right of Way

Revision: May 1938
Grades changed.
Pipe hanger inserts &
C.R.M. Paved gutter added.

El. 12.90

El. 13.01

℄ of Girder #1

Drain

Curb Line

℄ of Girder #2

Drain

El. 12.28

El. 12.43

El. 12.35

El. 12.20

El. 12.11

12'-0"

8'-6"

3'-9"

3'-9"

12'-0"

℄ of Road

El. 12.34

Boring No. 2

El. 12.39

El. 12.33

℄ of Girder #3

El. 13.08

Drain

3" G.I. Drain

El. 12.46

El. 12.45

El. 12.18

El. 12.59

El. 12.50

Sta. 259+50

El. 12.48

El. 12.60

El. 12.48

℄ of Girder #4

Light outlet in top of Post.

El. 13.24

1" Conduit in bottom rail

El. 13.24

℄ of Pier No. 1 Sta. 258+18 Fixed Bearing

33'-6⅞"

1'-6"

Flow of Stream

Expansion Bearing

1'-3½"

24'-0"

℄ of Bridge Sta. 259+75

1'-3⅝"

24'-0"

℄ of Pier No. 2 Sta. 260+32 Fixed Bearing

1'-3½"

16'-6"

1'-6"

34'-6"

1'-6"

34'-6"

1'-6"

15'-6⅞"

Pipe hanger inserts sp. as shown See Std. detail sheet.

Pipe hanger inserts sp. as shown See Std. detail sheet.

Sta. 259+00 El. 11.43

Beg. of Bridge Sta. 258+32.32

Sta. 259+75

Sta. 260+32

Sta. 261+07.32

Sta. 261+75

Commenced about ℄

Fixed Bearing

Exp. Joint

45°

45°

Boring No. 3

El. 12.65

El. 12.43

El. 12.45

El. 12.48

El. 12.43

El. 12.23

51'-0"

25'-6"

25'-6"

℄ of Road

Boring No. 4

Face of Abut.

℄ of Bearing

78'-0"

29'-4½"

3'-7¾"

Sta. 261+53.21

End of Bridge Sta. 261+75

20'-0"

1'-6"

34'-6"

1'-6"

34'-6"

1'-6"

25'-0"

18'-0"

CANTILEVER SPAN

SUSPENDED SPAN

CANTILEVER SPAN

Abutment No. 2 Exp. Bearing

Note! Weep holes in Abuts. & Wing Walls located by Res. Engr.

Note! On right hand half of bridge elevations of girders No. 1 & No. 2 are the same as those shown for girders No. 4 & No. 3 respectively on left hand half.

LAYOUT PLAN

Scale 1" = 10'

ITEMIZED QUANTITIES

LOCATION		STR. EXC.	CONC. P. CLASS A	CONC. P. CLASS B	STEEL	UNTREATED TIMBER PILES
Bridge	Abut. Ftg.	694.0	176.9		16,882	
	Pier Ftg.	140.3		135.4	1,081	
	Abuts.		133.4		10,850	
	Piers			63.8		
	Superstr.		691.0		211,003	
	Railing		44.3		3,773	
Wing Walls			87.6		4,959	
Total		834.3	1083.2	199.2	248,550	7,720.0
		c.y.	c.y.	c.y.	lbs.	lin. ft.

Concr. Rockers See Details

℄ of Bearing Sta. 259+40

B.C. Grade

℄ of Pier #1 Sta. 258+18

B.C. Gr.

℄ of Bridge Sta. 259+75

B.C. Gr.

78'-0"

57'-0"

32'-0"

25'-0"

26'-0"

26'-0"

26'-0"

Expansion Plates See Details.

High Water Elev. 7.0

Elev. 0.0 Av. Water Level

Ground Line at ℄

Elev. -6.0

Untreated timber piling

Elev. -6.0

Untreated timber piling

Elev. -6.0

See Std. Br. Sheet for Railing

HALF LONGITUDINAL SECTION ALONG ℄ OF ROAD.

Scale 1" = 10'

PART UPSTREAM ELEVATION.

Scale 1" = 10'

Note! Backfilling of abutments must be done before placing of superstructure.

EQ. -8.63'

13.90

1:1.0

ENC. 257+78

B.V.C.

258+40

+1.40%

-1.40%

2.59'-1.75

C.S.

℄ Pier #1 258+18

℄ Pier #2 260+32

℄ Abut. #2 261+40

EQ. -74.47'

261+64.11

1:1.0

ENC. 262+49.47

B.V.C.

0.0%

300' V.C.

300' V.C.

0.0%

9.00

9.00

VERTICAL CURVE DATA.

Hor. Scale 1" = 50' Ver. Scale 1" = 5'-0"

NORMAL CROSS SECTION, A-A.

3/8" Scale.

1" elec. conduit

1" elec. conduit

12'-0"

5'-0"

2'-0" 2'-0" 2'-0" 2'-0" 2'-0" 2'-0"

1/16 1/8 1/4 3/32 3/8 1/2 24"

0.0

0.6

1'-6"

1'-6"

11'-10"

11'-4"

9"

1'-3"

1'-6"

1'-6"

9'

8'-6"

8'-6"

8'-6"

9'

PARABOLIC CURVE ORDINATES

MIDDLE SPAN										END SPAN									
G1 Left Half G4 Right Half		G1 Right Half G4 Left Half		G2 Left Half G3 Right Half		G2 Right Half G3 Left Half				G1 Left End G4 Right End		G1 Right End G4 Left End		G2 Left End G3 Right End		G2 Right End G3 Left End			
x	y	x	y	x	y	x	y			x	y	x	y	x	y	x	y		
0'	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0		
5'-0"	0'-0½"	5'-0"	0'-0½"	5'-0"	0'-0½"	5'-0"	0'-0½"			5'-0"	0'-0 7/16"	5'-0"	0'-0 7/16"	5'-0"	0'-0 7/16"	5'-0"	0'-0 7/16"		
10'-0"	0'-2"	10'-0"	0'-2 1/16"	10'-0"	0'-2 1/16"	10'-0"	0'-2 1/16"			10'-0"	0'-1 13/16"	10'-0"	0'-1 13/16"	10'-0"	0'-1 13/16"	10'-0"	0'-1 13/16"		
15'-0"	0'-4 9/16"	15'-0"	0'-4 5/8"	15'-0"	0'-4 9/16"	15'-0"	0'-4 5/8"			15'-0"	0'-4"	15'-0"	0'-3 15/16"	15'-0"	0'-4"	15'-0"	0'-4"		
20'-0"	0'-8 1/8"	20'-0"	0'-8 1/4"	20'-0"	0'-8 1/16"	20'-0"	0'-8 1/4"			20'-0"	0'-7 1/8"	20'-0"	0'-7"	20'-0"	0'-7 1/8"	20'-0"	0'-7 1/16"		
25'-0"	1'-0 1/16"	25'-0"	1'-0 15/16"	25'-0"	1'-0 3/4"	25'-0"	1'-0 7/8"			25'-0"	0'-11 3/4"	25'-0"	0'-10 7/8"	25'-0"	0'-11 1/8"	25'-0"	0'-11"		
30'-0"	1'-6 1/4"	30'-0"	1'-6 3/16"	30'-0"	1'-6 3/8"	30'-0"	1'-6 1/2"			30'-0"	1'-4 1/8"	30'-0"	1'-3 11/16"	30'-0"	1'-4"	30'-0"	1'-3 7/8"		
35'-0"	2'-0 1/16"	35'-0"	2'-1 7/16"	35'-0"	2'-1"	35'-0"	2'-1 1/4"			35'-0"	1'-9 15/16"	35'-0"	1'-9 7/8"	35'-0"	1'-9 3/4"	35'-0"	1'-9 7/8"		
40'-0"	2'-5 7/8"	40'-0"	2'-9 1/16"	40'-0"	2'-8 11/16"	40'-0"	2'-8 15/16"			40'-0"	2'-4 7/8"	40'-0"	2'-3 15/16"	40'-0"	2'-4 7/16"	40'-0"	2'-4 1/2"		
45'-0"	3'-1 5/16"	45'-0"	3'-5 7/16"	45'-0"	3'-5 3/8"	45'-0"	3'-5 1/16"			45'-0"	3'-0 1/4"	45'-0"	2'-11 3/8"	45'-0"	3'-0"	45'-0"	2'-11 3/4"		
50'-0"	4'-2 5/8"	50'-0"	4'-3 5/8"	50'-0"	4'-3"	50'-0"	4'-3 1/16"			50'-0"	3'-6 3/4"	50'-0"	3'-7 7/8"	50'-0"	3'-6 1/16"	50'-0"	3'-8 8"		
54'-9"	5'-0 1/4"	54'-9"	5'-1 1/16"	54'-9"	5'-1 1/4"	54'-9"	5'-1 1/16"			54'-9"	4'-5 7/8"	54'-9"	4'-4 3/16"	54'-9"	4'-5 7/16"	54'-9"	4'-4 3/16"		

LEFT HALF ℄ RIGHT HALF

l/2 x

d y

PARABOLIC CURVE ORDINATES MIDDLE SPAN.

l x y d

PARABOLIC CURVE ORDINATES END SPAN.

Left end

Right end

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.

DATE DEC. 1937 SCALES AS NOTED

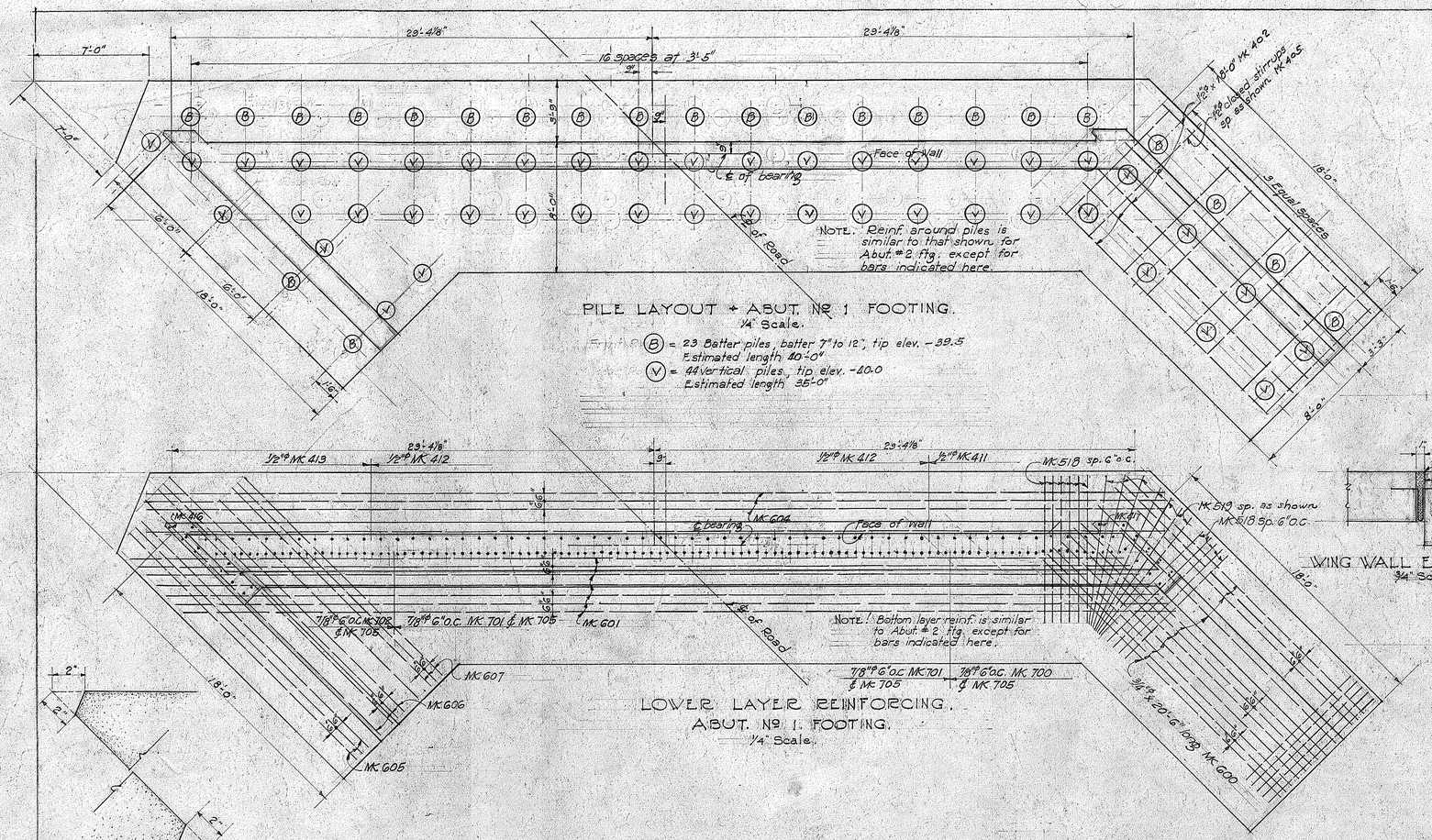
SHEET No. 1 OF 13 SHEETS.

ORIGINAL TRACING BY	DATE
BLUE PRINTS BY	Oct. 1937
TRACINGS BY	V.E. Battels Dec. "
QUANTITIES BY	C.F. Vagner Jan. 1938
CHECKED BY	" "
NOTE BOOK	
No.	

4438.21

443821

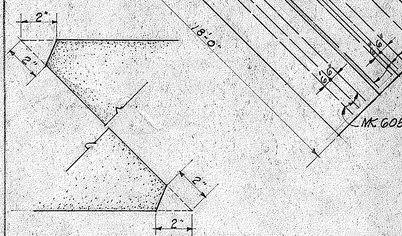
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	22	60



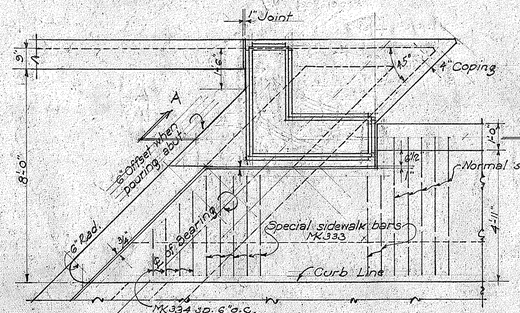
PILE LAYOUT + ABUT. Nº 1 FOOTING.
¼" Scale.

(B) = 23 Batter piles, batter 7" to 12", tip elev. −39.5
Estimated length 40'-0"
(V) = 44 vertical piles, tip elev. −40.0
Estimated length 35'-0"

LOWER LAYER REINFORCING.
ABUT. Nº 1. FOOTING.
¼" Scale.



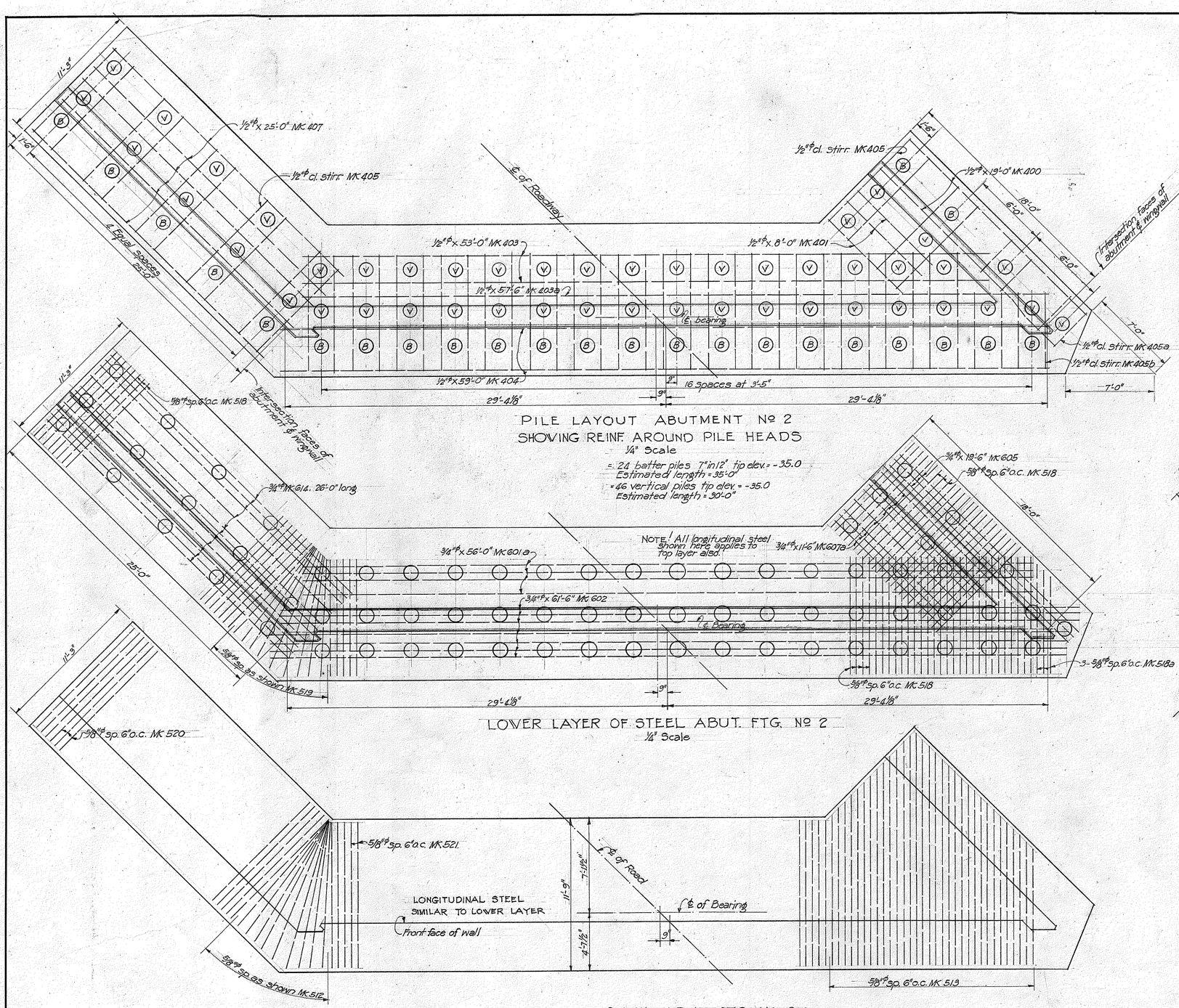
DETAIL OF CHAMFER FOR ALL 45° CORNERS & REENTRANT ANGLES.


1" Joint
1'-6"
1'-5"
1'-7"
1'-4"
1'-0"
1'-3"
1'-6"
1'-5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	12-J	1935	23	60

REVISION May, 1938
Site plan revised
Reinf. in abut footings changed

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE Oct. 1937
	DRAWN BY E. C. Nagata & S. Yamashita	" "
	TRACED BY	" "
	CHECKED BY	" "
NOTE BOOK	QUANTITIES BY	" "
	QUANTITIES CHECKED BY	" "
No.	CHECKED BY	" "

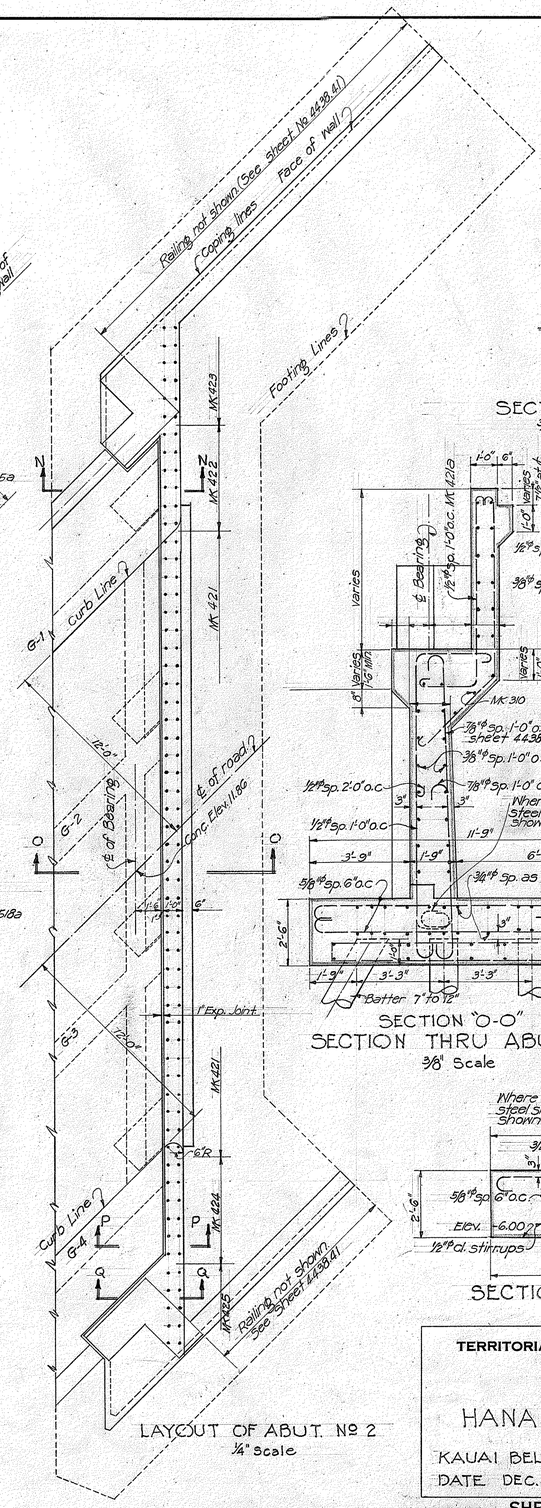


PILE LAYOUT ABUTMENT Nº 2
SHOWING REINF. AROUND PILE HEADS
¼" Scale

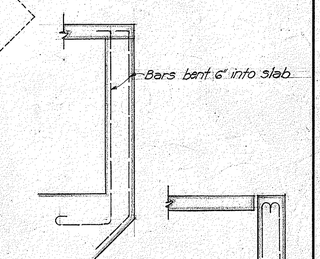
= 24 batter piles 7" in 12" tip elev. = -35.0
Estimated length = 35'-0"
= 46 vertical piles tip elev. = -35.0
Estimated length = 30'-0"

LOWER LAYER OF STEEL ABUT. FTG. Nº 2
¼" Scale

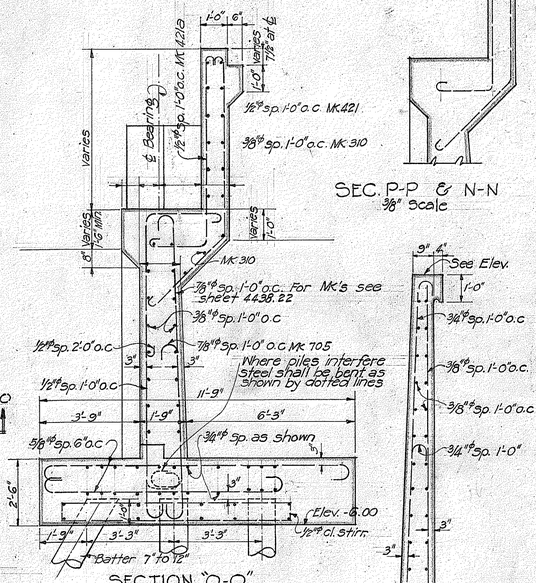
TOP LAYER OF STEEL ABUT. FTG. Nº 2
¼" Scale



LAYOUT OF ABUT. Nº 2
¼" Scale



SECTION Q-Q
⅜" Scale



SECTION "O-O"
SECTION THRU ABUTMENT
⅜" Scale

SECTION THRU WING WALL
⅜" Scale

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P 12-J
DATE DEC. 1937 SCALES AS NOTED

SHEET Nº 3 OF 13 SHEETS

4438.23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12 J	1938	24	60

Note / All elevations shown are to ℄ of bearing except those marked thus ☐ which refer to the rear face of the rear wall

℄ of Girder #1 · ℄ of Girder #2 · ℄ of Road · ℄ of Girder #3 · ℄ of Girder #4

25'-0" · 20'-11½" · 1" · 3'-11⅞" · 23'-4⅛" · 16'-11½" · 23'-4⅛" · 18'-0" · 6'-2½" · 11'-8⅛"

El. 12.85 · Elev. 12.44 · Elev. 12.48 · Elev. 11.55 · El. 11.76 · Elev. 11.79 · El. 11.81 · Elev. 11.86 · El. 11.84 · Elev. 11.88 · Elev. 11.79 · El. 12.69 · Elev. 12.72 · Elev. 12.82

Concrete sway blocks to be poured monolithically with the abutment.

3'-0½" · Elev. 6.07 · Elev. 5.65 · Elev. 5.70 · Elev. 6.28 · 1'-6" · El. 4.13 (Level)

¾" ℄ sp. 1'-0" o.c. Mk 617 b
⅞" ℄ sp. 1'-0" o.c. Mk 316 (front face)
¾" ℄ sp. 1'-0" o.c. Mk 616
⅞" ℄ sp. 1'-0" o.c. Mk 706
⅝" ℄ sp. 1'-0" o.c. Mk 317 (both faces)

⅞" ℄ sp. 1'-0" o.c. Mk 314

Note / Reinf. similar to L. side Abut. #1.

⅝" ℄ sp. 1'-0" o.c. Mk 315 both faces.

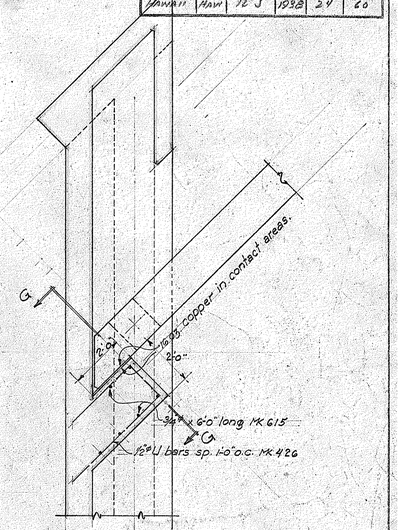
Note / 4" ℄ weep holes located by Res. Engr.

Elev. 6.00

PART REAR FACE REINF. ⊕ L. SIDE.

PART FRONT FACE REINF. ⊕ R. SIDE.

ABUTMENT NO 2 & WING WALL ELEVATION.
¼" Scale.



SWAY BLOCK DETAIL
⅜" Scale.

Revised May 1938
Abut. elevations changed

8'-0" · ⅝" ℄ sp. 6" o.c. Mk 326 · 6" offset when pouring abut. · ⅝" ℄ sp. 1'-0" o.c. Mk 328 · Mk 327 · Wing Wall 25'-0" long · 1" Joint · ℄ of Bearing · Mk 329 · SLAB REINF.

LEFT CORNER PLAN ⊕ ABUT. Nº 2.
⅜" Scale.

6" offset when pouring abutment · ⅝" ℄ sp. 6" o.c. Mk 322 · Wing Wall 19'-0" long · Mk 324 · ℄ Road · ℄ of Bearing · ⅝" ℄ sp. 1'-0" o.c. Mk 325 · Mk 323 sp. 6" o.c. · SLAB REINF.

RIGHT CORNER PLAN ⊕ ABUT. Nº 2.
⅜" Scale.

Joint · 6'-2½"

END POST
⅜" Scale.

Normal W.W. Reinf. is not shown · Concrete sway block to be poured monolithically with the abutment. (See Detail) · ⅝" ℄ sp. 1'-0" o.c. Mk 308 · Mk 417 · 3'-11½" · ⅝" ℄ sp. 1'-0" o.c. Mk 307 · ℄ of Bearing · Normal W.W. bars · 2-1½" ℄ Mk 417 · ½" ℄ sp. 1'-0" o.c. Mk 420

SECTION B-B ⊕ L. SIDE
⅜" Scale.

Normal W.W. Reinf. is not shown · 6'-2½" · D · ½" ℄ sp. 1'-0" o.c. Mk 416 · Mk 418 · 5" Cover · ⅝" ℄ sp. 1'-0" o.c. Mk 308 · ℄ of Bearing · Mk 420 · 2-1½" ℄ Mk 416 · ⅝" ℄ sp. 1'-0" o.c. Mk 309 · D

SECTION B-B ⊕ R. SIDE
⅜" Scale.

Mk 419 · Mk 302 · Mk 417 sp. 1'-0" o.c. · 3'-11½" · ℄ of Bearing · Mk 303 sp. 1'-0" o.c. · 2-1⅛" ℄ Mk 417 · ⅜" U bars sp. 1'-0" o.c. Mk 300

SECTION C-C ⊕ L. SIDE
⅜" Scale.

Normal W.W. bars · ⅝" ℄ sp. 1'-0" o.c. Mk 301 · ⅝" ℄ sp. 1'-0" o.c. · Mk 305 sp. 1'-0" o.c. · ½" ℄ sp. 1'-0" o.c. Mk 416 · ⅝" ℄ sp. 1'-0" o.c. Mk 304 · ⅝" ℄ sp. 1'-0" o.c. Mk 301 · ½" ℄ sp. 1'-0" o.c. · ⅜" U bars sp. 1'-0" o.c. Mk 306 · 2-1⅛" ℄ Mk 416

SECTION C-C ⊕ R. SIDE.
⅜" Scale.

Constr. Joint · 1'-0" · 6" · 1'-1" · 2'-0" · 3'-0" · ½" ℄ sp. 1'-0" o.c. Mk 460 bent 6" into slab · ⅝" ℄ closed stirrups Mk 340 · Steel from wall to be bent into slab 1'-0" · B · C · Front face steel to go straight thru.

SEC. THRU ℄ OF END POST.
⅜" Scale.

SECTION D-D.
⅜" Scale.

Bot. of Cross Beam · Open Joint · 2'-0" · 16oz Copper · Bot. of Girder · 3'-0½" · 2'-1½" · ½" U bars sp. 1'-0" o.c. Mk 426 · ¾" x 6'-0" long Mk 615 · Bar in outside corner bent in, other bars straight.

SECTION G-G.
⅜" Scale.

ORIGINAL PLAN

SURVEY PLOTTED BY — DATE Oct. 1937.
TRACED BY — Dec. 1937.
DESIGN BY C. E. Wagner
NOTE BOOK — QUANTITIES BY
CHECKED BY

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

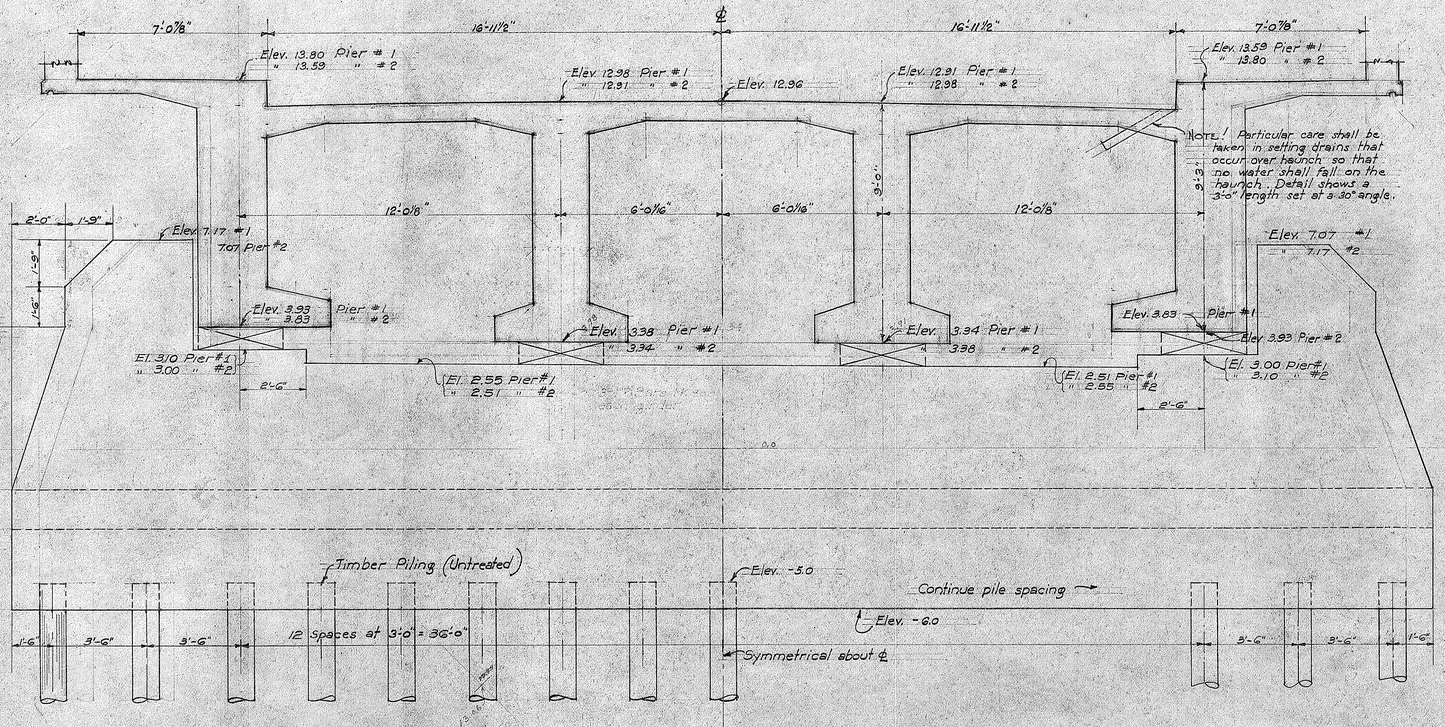
KAUAI BELT ROAD — F.A.P. 12-J.
DATE DEC. 1937 — SCALES AS NOTED.

SHEET Nº 4 OF 13 SHEETS

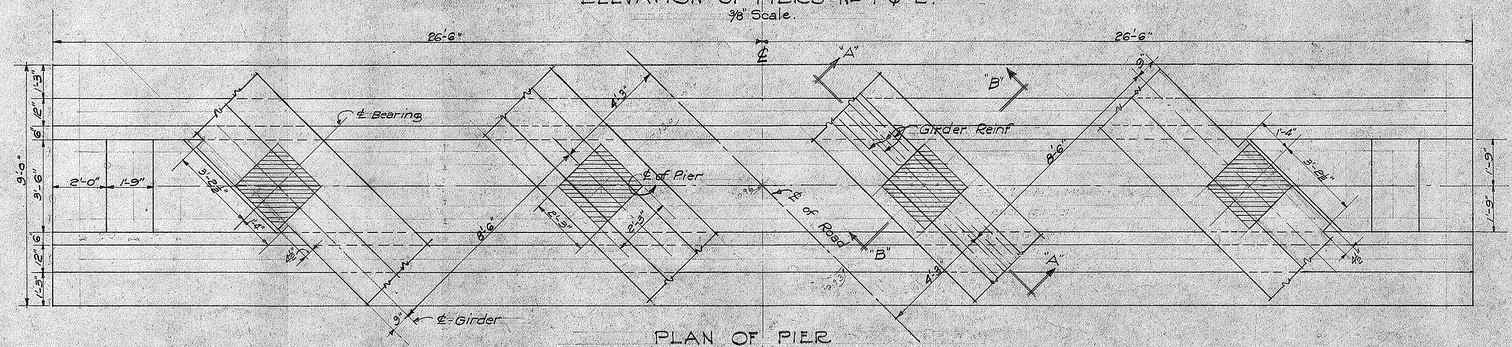
4438.24

4438.24

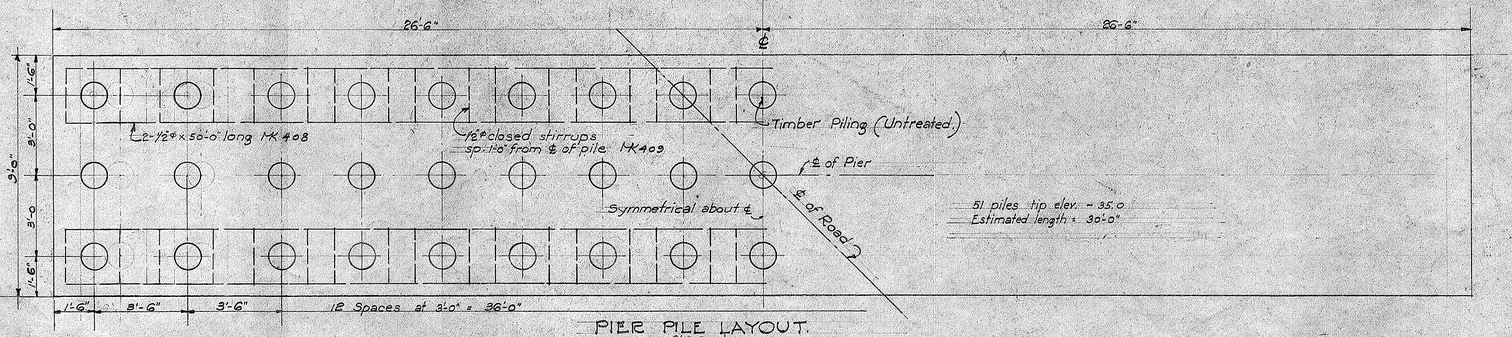
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	25	68



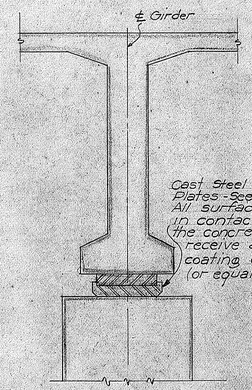
ELEVATION OF PIERS Nº 1 & 2.
⅜" Scale.



PLAN OF PIER.
⅜" Scale.

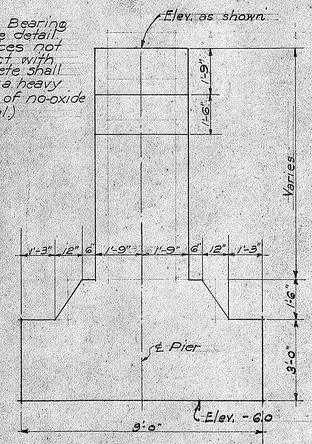


PIER PILE LAYOUT.
⅜" Scale.

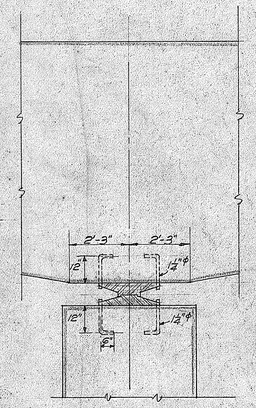


SECT. "B-B"
Scale ⅜"=1'-0"

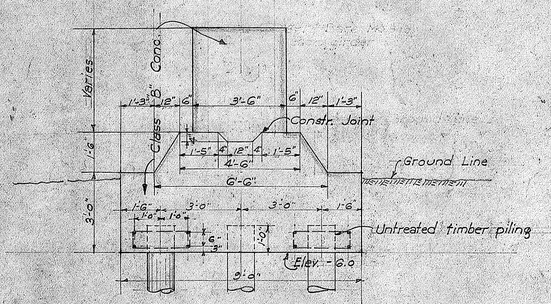
Note:- See Sheet No. 14 for Details of Bearing Plates.



END ELEVATION
⅜" Scale.



SECT. "A-A"
Scale ⅜"=1'-0"



SECTION THRU PIER.
⅜" Scale.

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE
	TRACED BY V.B. Daniels	" Oct. 1937
	DESIGN BY C.E. Wagner	" Dec. "
NOTE BOOK	QUANTITIES BY	" "
No.	CHECKED BY	" "

REVISION May 1938
Piers lengthened
Bearing plates added

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE DEC. 1937. SCALES AS NOTED.
SHEET Nº 5 OF 13 SHEETS

4438.25

4438.25

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	26	60

SECTION B-B.
3/8 Scale.

SECTION A-A.
3/8 Scale.

SECTION C-C.
3/8 Scale.

SECTION D-D.
3/8 Scale.

SECTION E-E.
3/8 Scale.

SECTION F-F.
3/8 Scale.

INTERIOR GIRDER REINFORCING.
1/4" Scale

GIRDER DEPTHS		
GIRDER No.	ABUT. No 1	ABUT. No 2
GIRDER No 1	4'-3 7/8"	4'-3 1/8"
" " 2	4'-0 3/4"	4'-0 1/2"
" " 3	4'-0 1/2"	4'-0 3/4"
" " 4	4'-3 1/2"	4'-3 7/8"

BOTTOM REINFORCING & TOP LAYER.
1/4" Scale.

BOTTOM REINFORCING & BOTTOM LAYER.
1/4" Scale

SIDEWALK GIRDER REINFORCING.
1/4" Scale

BOTTOM REINFORCING & TOP LAYER.
1/4" Scale

BOTTOM REINFORCING & BOTTOM LAYER.
1/4" Scale.

SECT 'G-G'
Scale 3/8"

REVISION May 1938
Parabolic girder haunches at ends of girders at end spans changed from 37'-3" to 54'-9"
Stirrups at Sect 'G-G' changed

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE Dec. 1937
	DRAWN BY C.E. Wagner	" "
NOTEBOOK	TRACED BY	" "
No.	CHECKED BY	" "

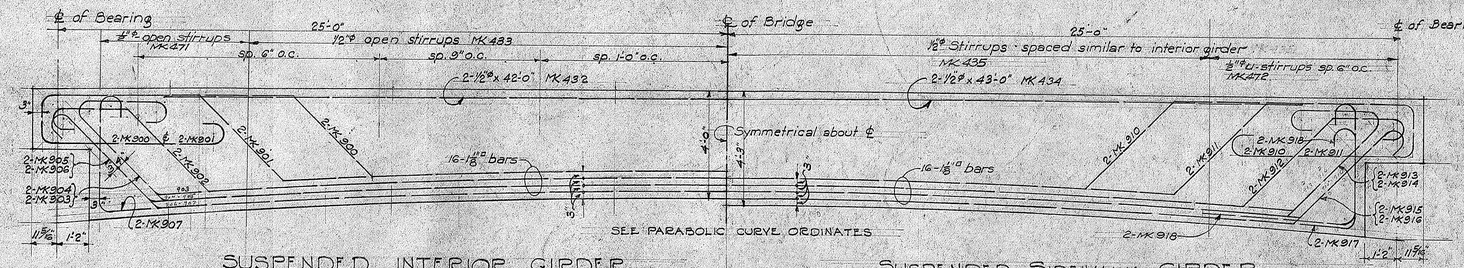
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE: DEC. 1937 SCALES AS NOTED.
SHEET No. 6 OF 13 SHEETS

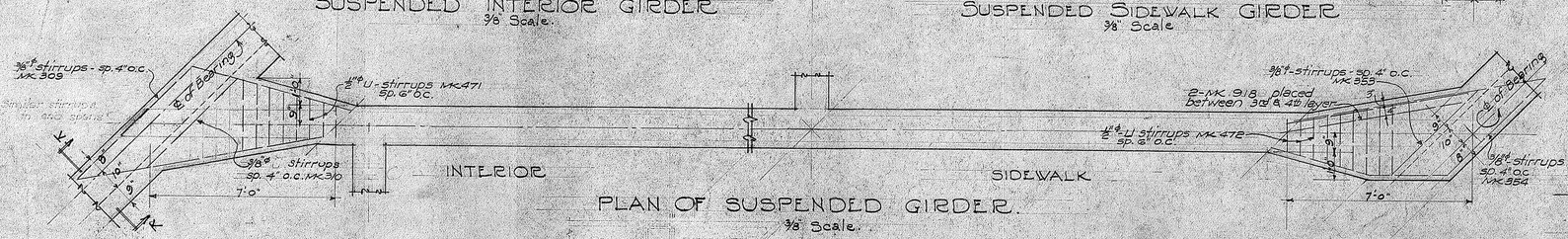
4438.26

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	27	60

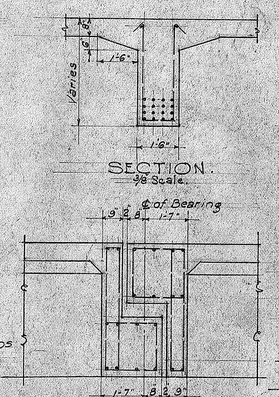


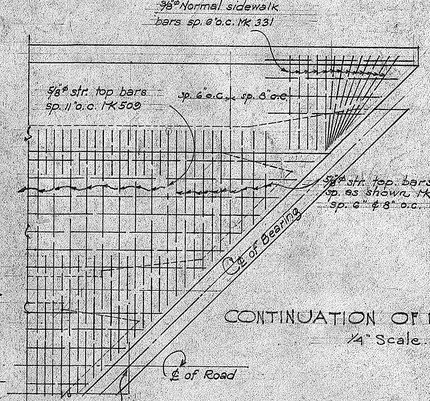
SUSPENDED INTERIOR GIRDER
3/8" Scale.

SUSPENDED SIDEWALK GIRDER
3/8" Scale



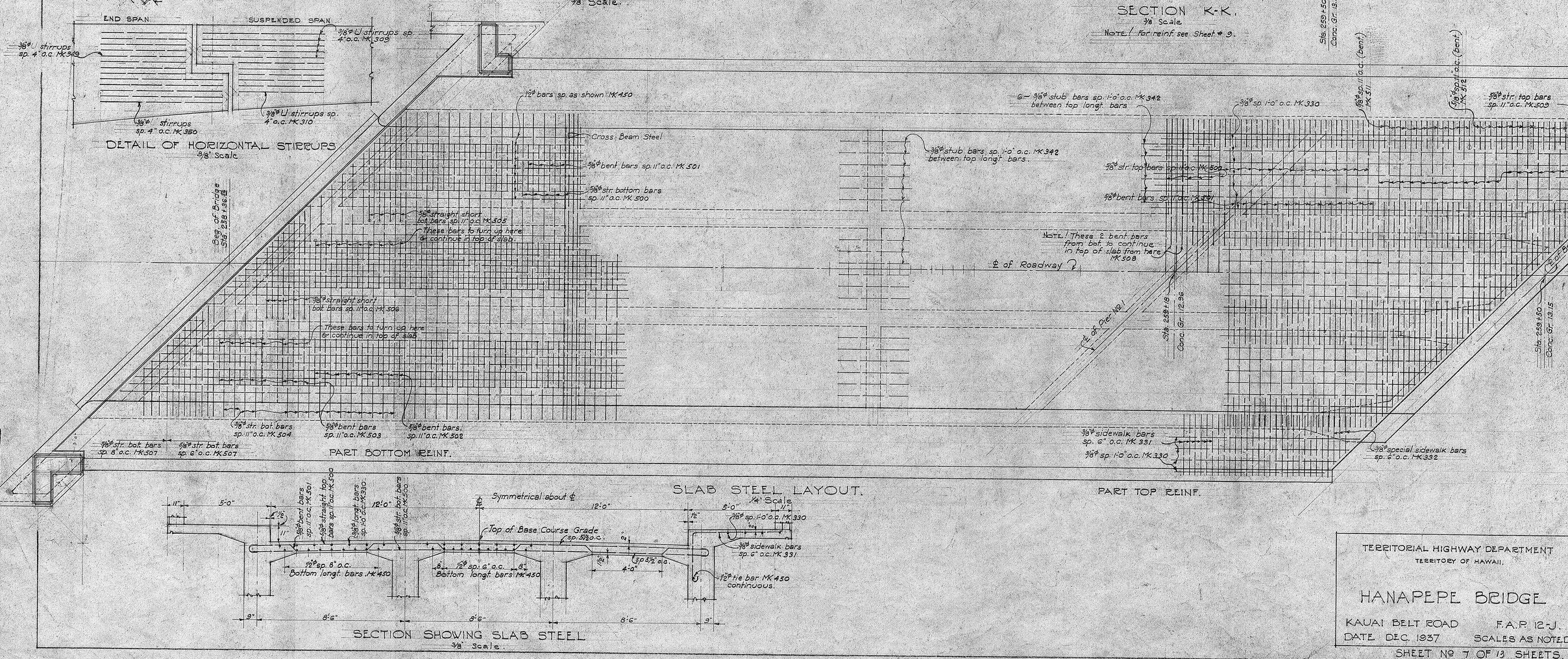
PLAN OF SUSPENDED GIRDER.
3/8" Scale.





CONTINUATION OF PLAN BELOW.
¼" Scale.

DETAIL OF HORIZONTAL STIRRUPS
3/8" Scale



PART BOTTOM REINF.

PART TOP REINF.

SECTION SHOWING SLAB STEEL
3/8" Scale.

SLAB STEEL LAYOUT.
¼" Scale

REVISION May 1938
Stirrups at ends of suspended girders changed

ORIGINAL PLAN
SURVEY PLOTTED BY
DESIGNED BY C.E.K. & C.E.W.
DRAWN BY "
TRACED BY "
QUANTITIES BY "
CHECKED BY "
DATE Dec. 1937
NOTATIONS
No.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

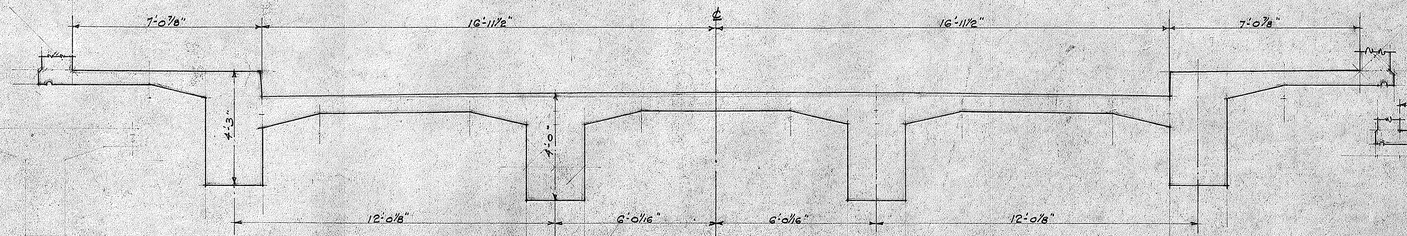
HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE DEC. 1937 SCALES AS NOTED
SHEET No 7 OF 13 SHEETS.

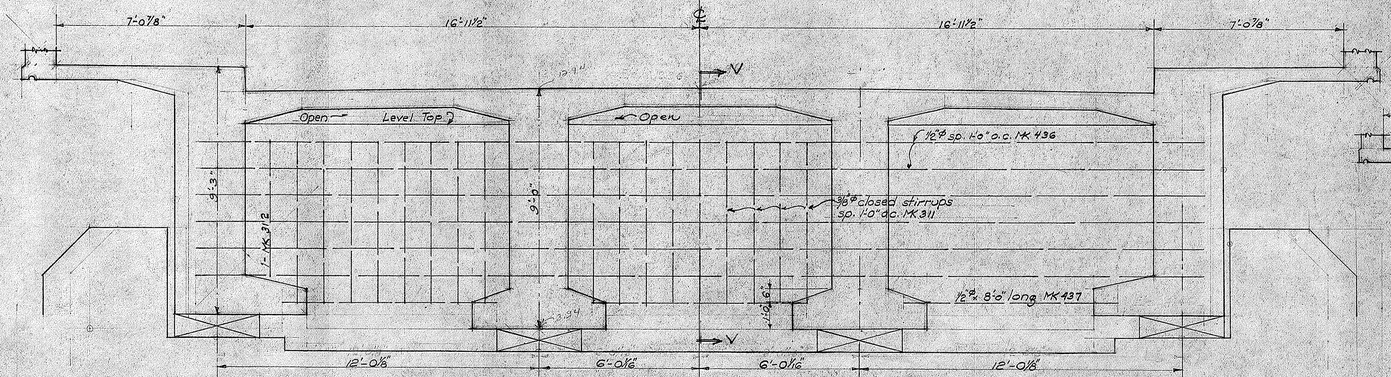
4438.27

4438.27

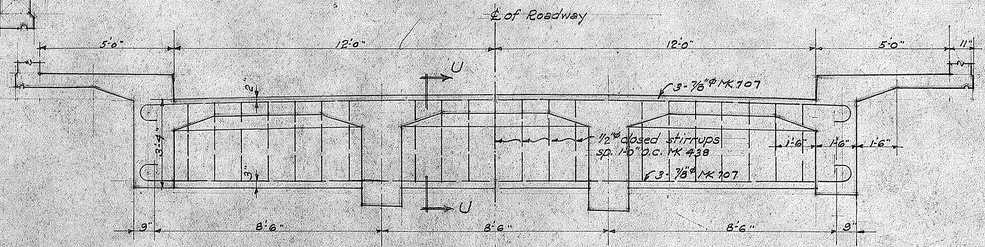
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	28	60



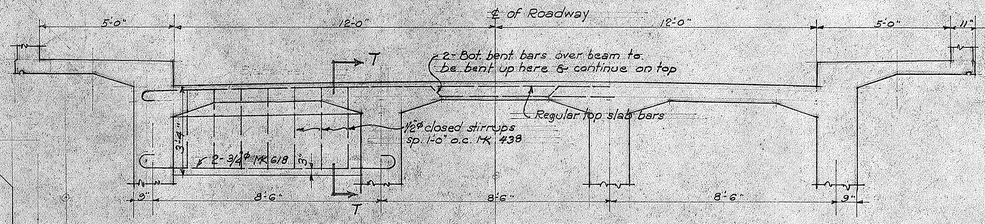
CROSS SECTION AT ℄ OF BRIDGE.
3/8" Scale.



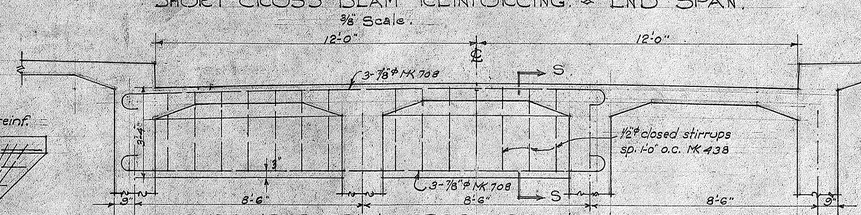
CROSS SECTION AT PIERS
3/8" Scale.



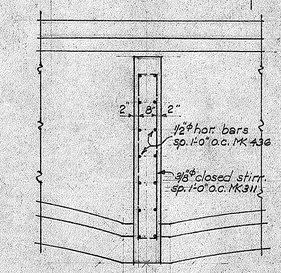
CROSS BEAM REINFORCING ⇔ END SPAN.
3/8" Scale.



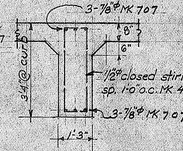
SHORT CROSS BEAM REINFORCING ⇔ END SPAN.
3/8" Scale.



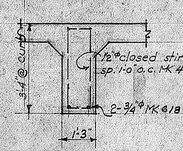
SUSPENDED SPAN CROSS BEAM REINFORCING.
3/8" Scale.



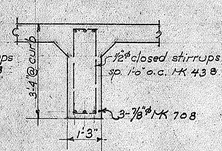
NORMAL SEC. AT V-V.
3/8" Scale.



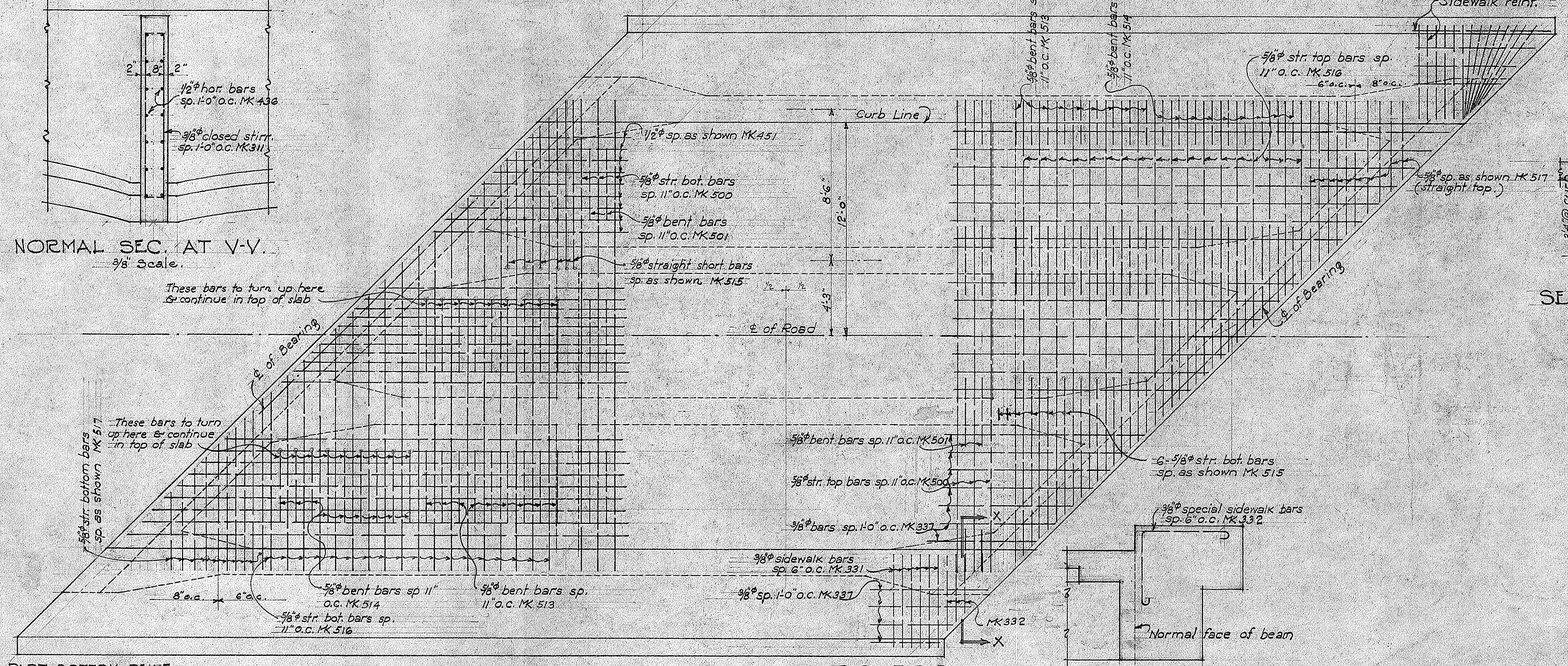
SECTION U-U.
3/8" Scale.



SECTION T-T.
3/8" Scale.



SECTION S-S.
3/8" Scale.



PART BOTTOM REINF. SUSPENDED SPAN SLAB REINF. PART TOP REINF.
1/4" Scale.

SECTION X-X.
3/8" Scale.

REVISION May 1938
Per lagstaned
Bearing plates added

ORIGINAL PLAN	STRUCTURE ACCEPTED BY	W.E. Bartels	DATE	Oct. 1937
	DESIGN BY	"	"	"
	DRAWN BY	C.F. Wagner	"	Dec. "
NOTE BOOK	QUANTITIES BY		"	"
	CHECKED BY		"	"
No.				

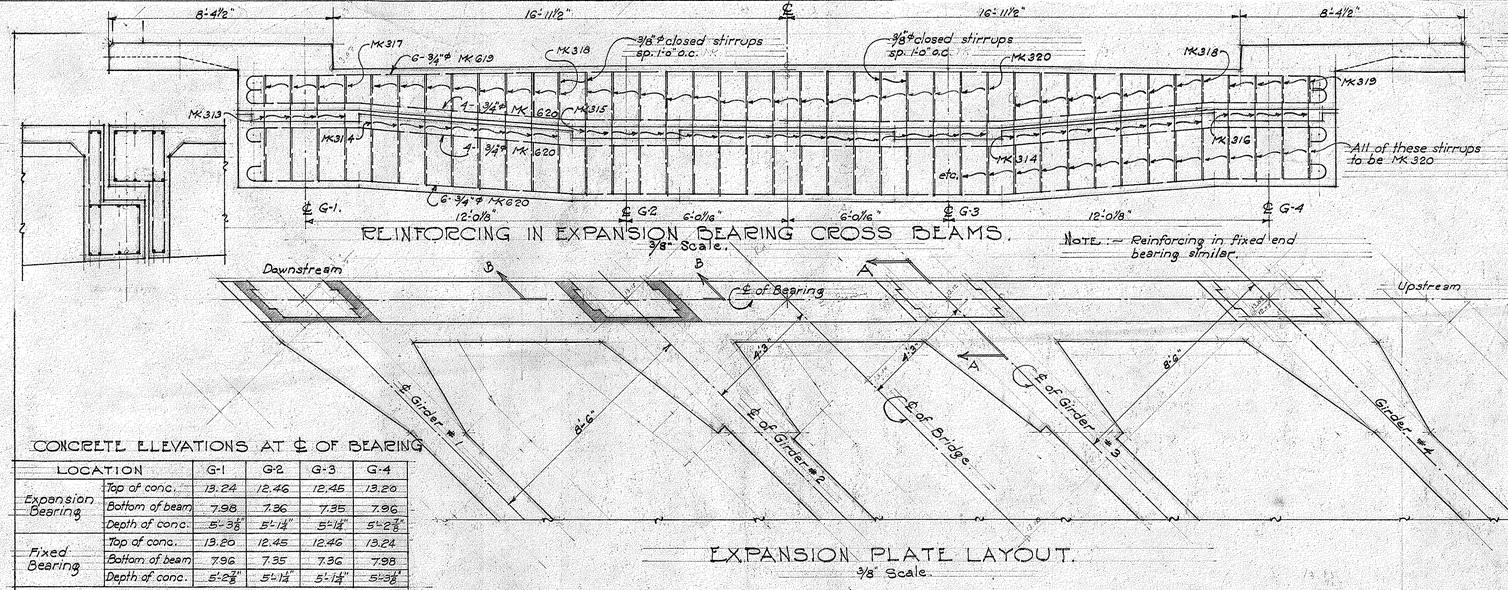
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE DEC. 1937 SCALES AS NOTED
SHEET Nº 8 OF 13 SHEETS.

4438.28

4438.28



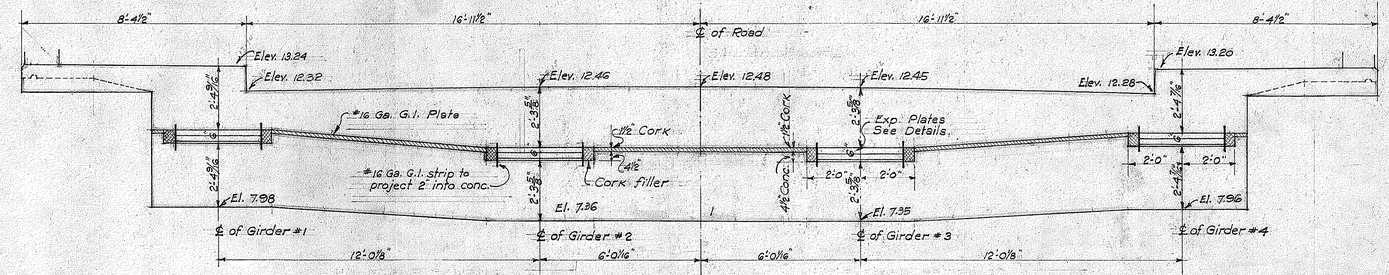
REINFORCING IN EXPANSION BEARING CROSS BEAMS.
⅜" Scale.

NOTE:- Reinforcing in fixed end bearing similar.

EXPANSION PLATE LAYOUT.
⅜" Scale.

CONCRETE ELEVATIONS AT ℄ OF BEARING

LOCATION		G-1	G-2	G-3	G-4
Expansion Bearing	Top of conc.	13.24	12.46	12.45	13.20
	Bottom of beam	7.98	7.36	7.35	7.96
	Depth of conc.	5'-3⅝"	5'-1¼"	5'-1¼"	5'-2⅝"
Fixed Bearing	Top of conc.	13.20	12.45	12.46	13.24
	Bottom of beam	7.96	7.35	7.36	7.98
	Depth of conc.	5'-2⅝"	5'-1¼"	5'-1¼"	5'-3⅜"

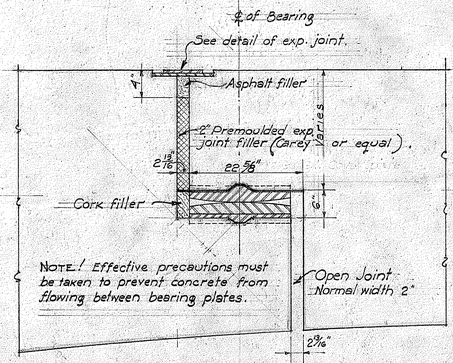


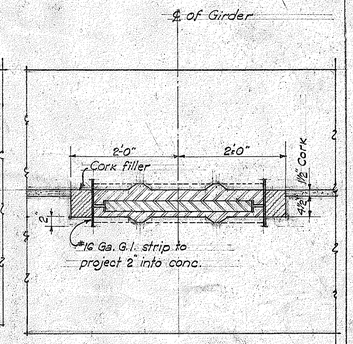
CROSS SECTION THRU ℄ OF EXPANSION BEARING.
⅜" Scale.

SPECIFICATIONS FOR ASPHALT FILLER.

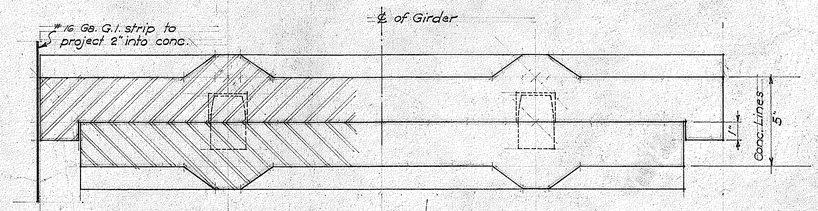
Melting Point 190-200 (A.S.T.M. D36-26).
Penetration 30-40 (A.S.T.M. D5-25).
Flash. Point min. 400 (A.S.T.M. D93-26).

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	29	60

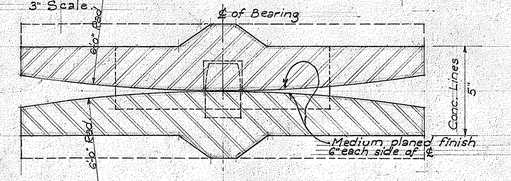




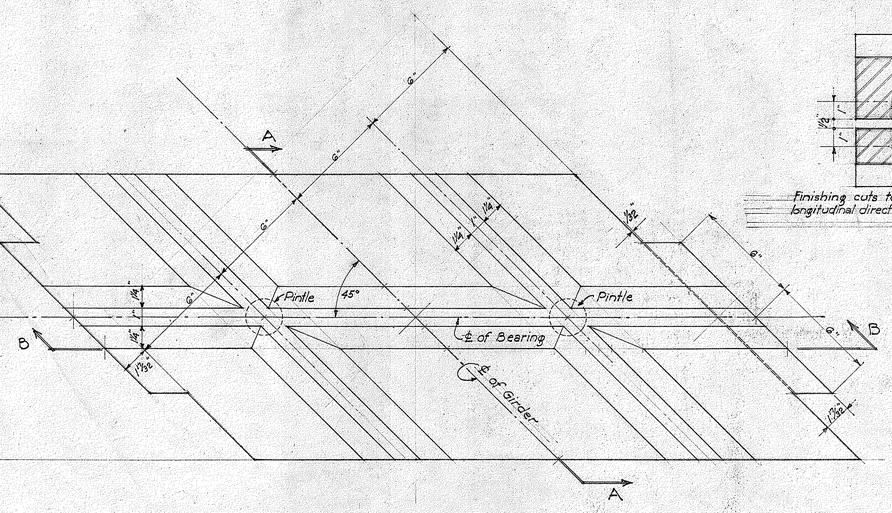
SECTION A-A. SECTION B-B
EXPANSION BEARING DETAILS.
¾" Scale.



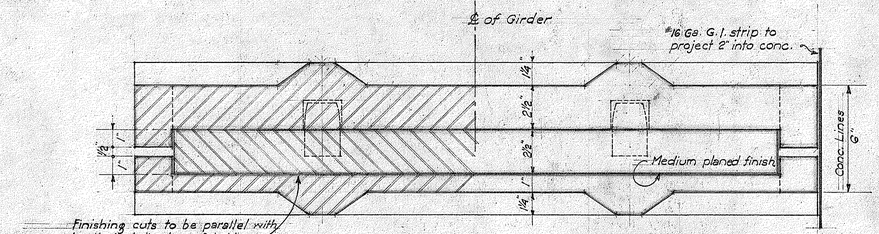
SEC. B-B ⌖ FIXED BEARING.
3" Scale.



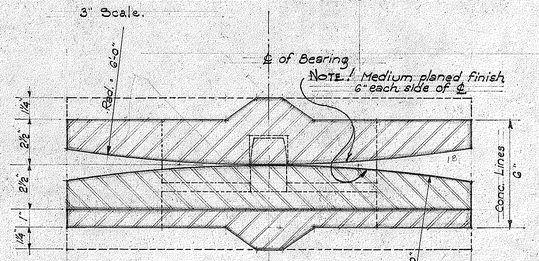
SEC. A-A ⌖ FIXED BEARING.
3" Scale.



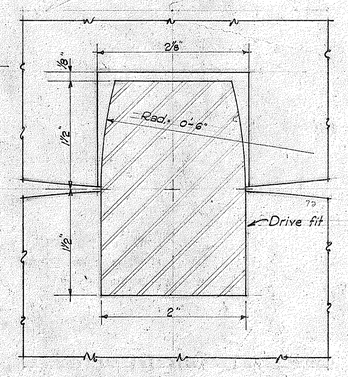
TOP PLAN ⌖ EXPANSION PLATE.
3" Scale.



SECTION B-B. ⌖ EXP. BEARING.
3" Scale.



EXP. BEARING.
SECTION A-A.
3" Scale.



FULL SIZE DETAIL OF PINTLE.

CONTRACTORS NOTE!

Material of all plates to be phosphor bronze, A.S.T.M. Spec. B 22-21, class A.
4 sets of expansion bearing plates &
4 sets of fixed bearing plates req'd.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII.

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE DEC. 1937 SCALES AS NOTED.
SHEET Nº 9 OF 13 SHEETS

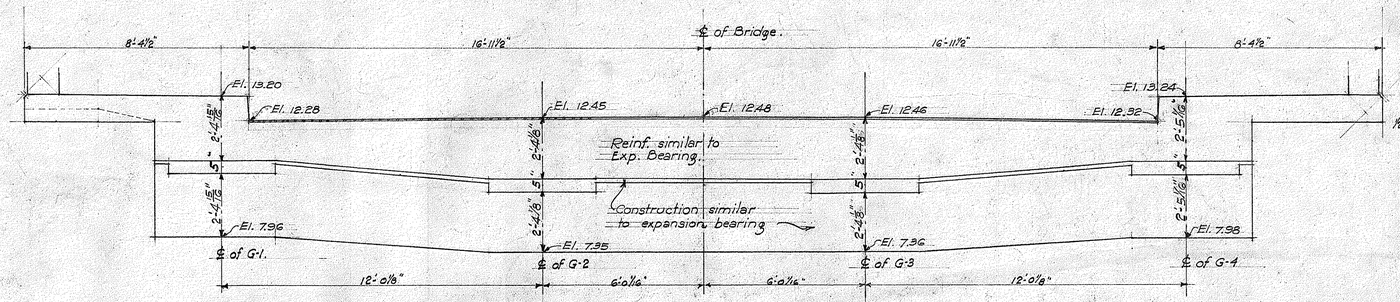
REVISION: May 1938
Deck elevations & elevations of suspension seat changed.

		DATE
ORIGINAL PLAN	SURVEY PLOTTED BY W.S. Bartels	Dat. 1937
	DESIGNED BY " " "	Dec. "
NOTE BOOK	TRACED BY C.K. Wagner	
	CHECKED BY " " "	
No.	QUANTITIES BY	
	CHECKED BY	

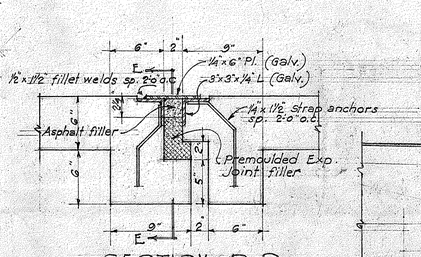
4438.29

4438.29

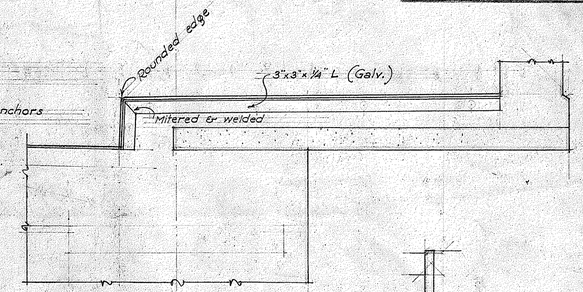
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAWAII	12-J	1938	30	60



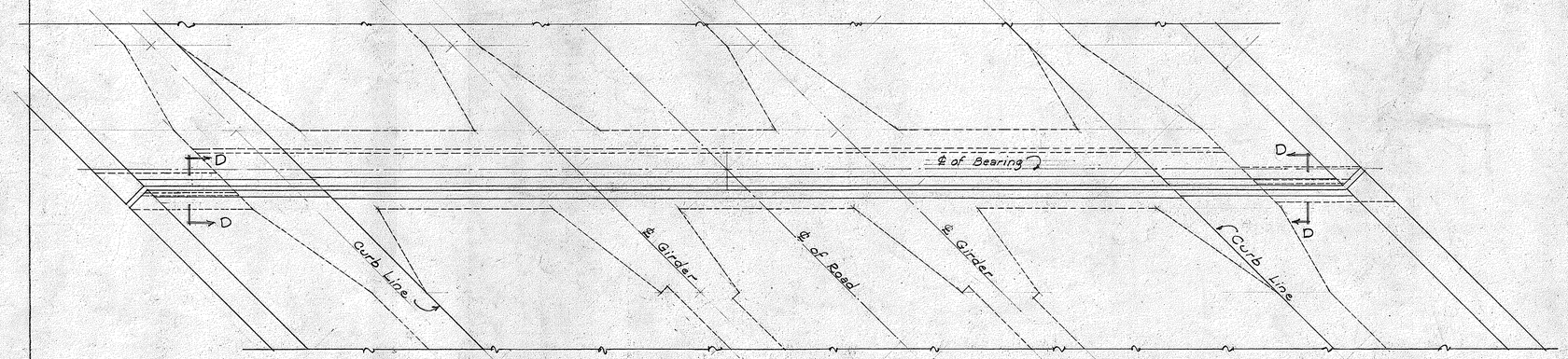
SEC. THRU ℄ OF FIXED BEARING JOINT.
3/8" Scale.



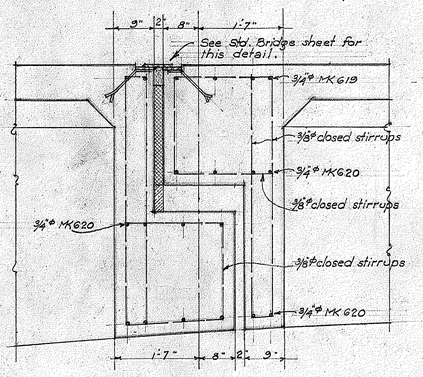
SECTION D-D.
1½" Scale.



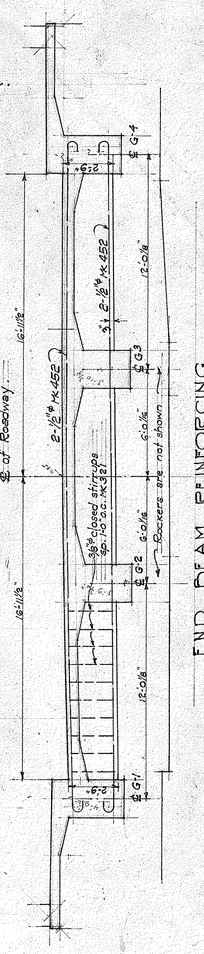
SECTION E-E.
¾" Scale.



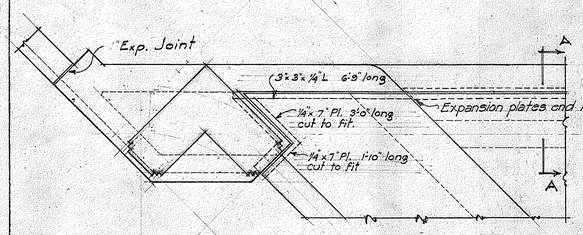
PLAN OF EXPANSION BEARING
3/8" Scale.



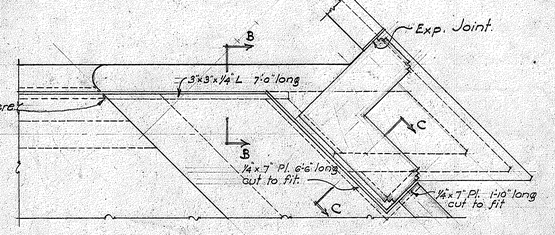
NORMAL SECTION THRU TRANS. BEAMS AT SUSPENDED SPAN BEARINGS.
¾" Scale.



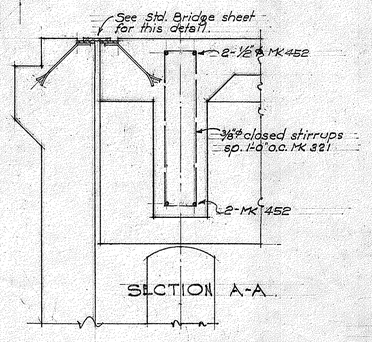
END BEAM REINFORCING.
¼" Scale.



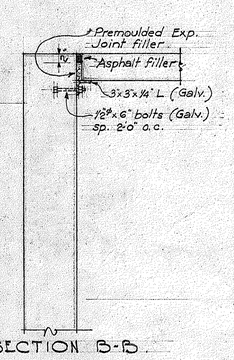
PLAN - RIGHT HAND SIDE.
⅜ Scale.



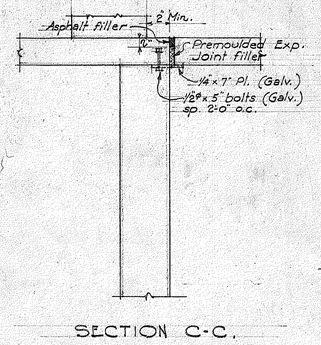
LEFT HAND SIDE PLAN
⅜ Scale.



SECTION A-A.

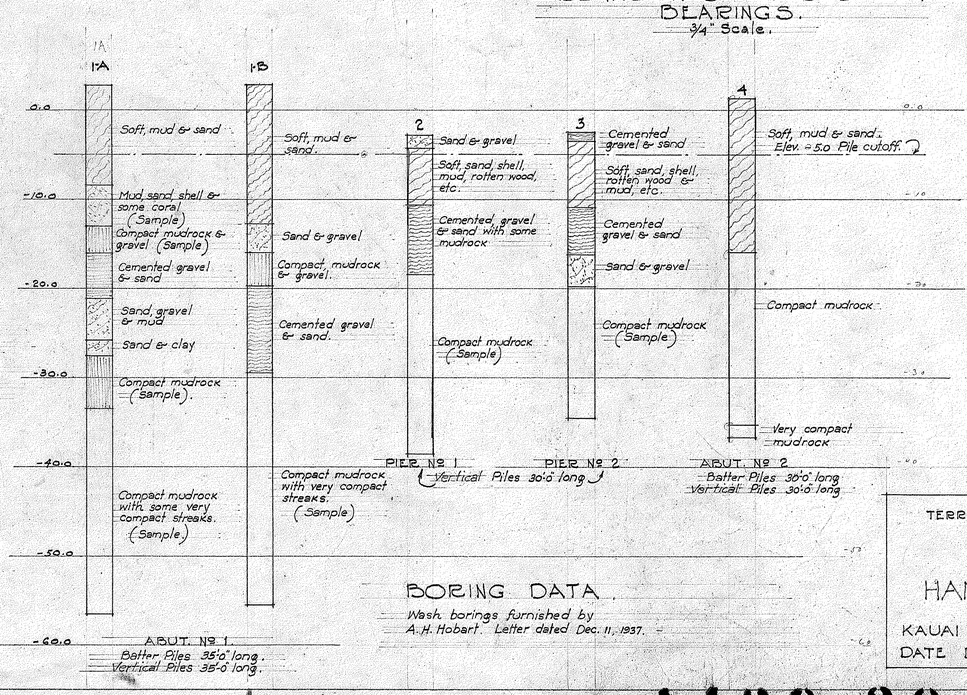


SECTION B-B.



SECTION C-C.

EXPANSION JOINT DETAILS AT ENDS OF BRIDGE.
¾" Scale.



BORING DATA.
Wash borings furnished by A.H. Hobart. Letter dated Dec. 11, 1937.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

HANAPEPE BRIDGE

KAUAI BELT ROAD F.A.P. 12-J.
DATE DEC. 1937 SCALES AS NOTED.
SHEET Nº 10 OF 13 SHEETS

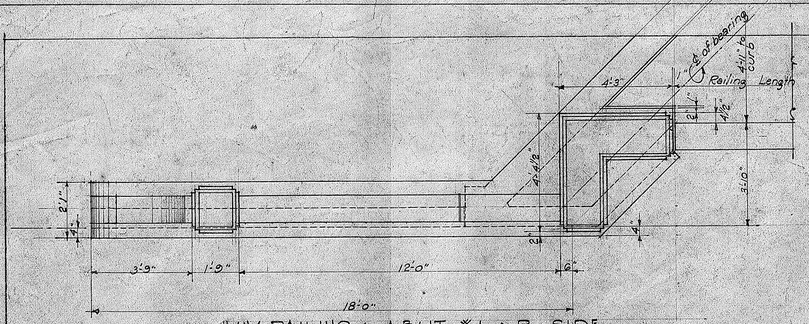
4438.30

4938.30

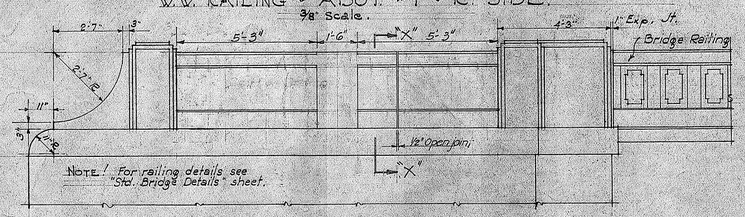
REVISION May 1938
Grades revised

ORIGINAL PLANS	SURVEY PLOTTED BY	DATE Oct. 1937
	DESIGNED BY W.B. Bartels	Dec. "
NOTE BOOK	DRAWN BY G.E. Wagner	" "
	TRACED BY	" "
	QUANTITIES BY	" "
No.	CHECKED BY	" "

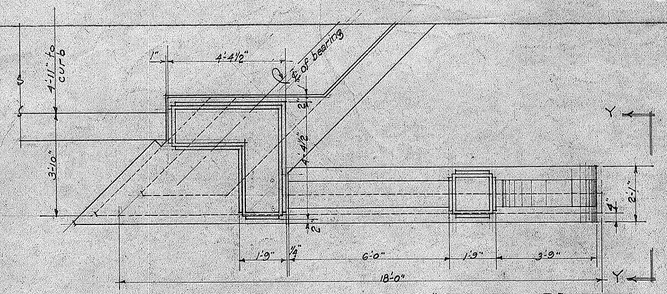
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	12-J	1938	31	60



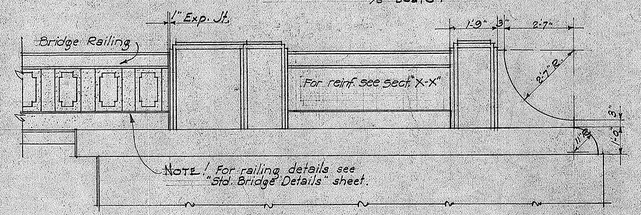
W.W. RAILING ÷ ABUT. # 1 ÷ R. SIDE.
3/8" Scale.



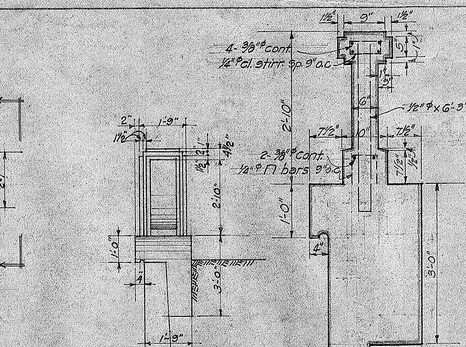
OUTSIDE ELEV. ÷ R. SIDE ÷ ABUT. # 1.
3/8" Scale.



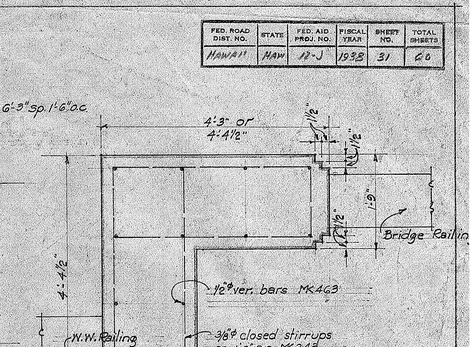
W.W. RAILING ÷ ABUT. # 2 ÷ R. SIDE.
3/8" Scale.



OUTSIDE ELEV. ÷ R. SIDE ÷ ABUT. # 2.
3/8" Scale.
THIS DETAIL TO BE USED FOR L. SIDE OF ABUT. NO 1

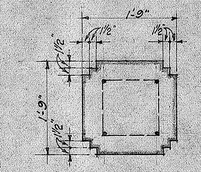


END ELEV. AT Y-Y.
3/8" Scale.

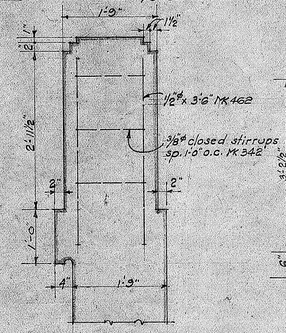


SECTION X-X.
3/8" Scale.

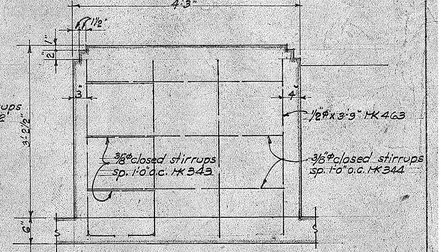
BR. RAILING END POST.
3/4" Scale.



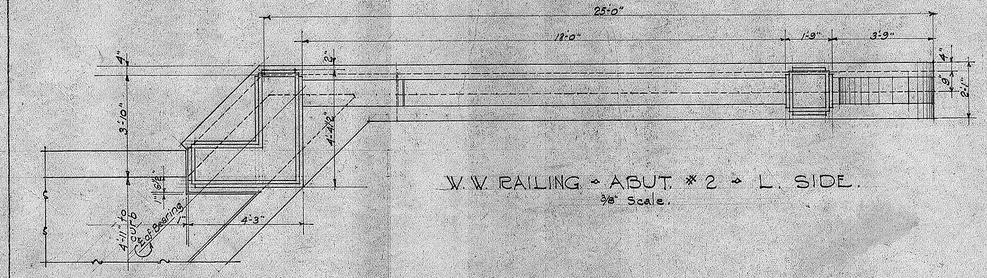
W.W. RAILING END POST.
3/4" Scale.



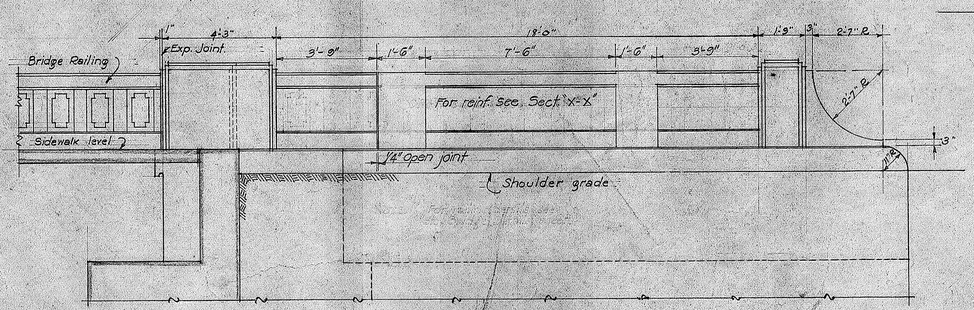
SEC. THRU W.W. RAILING END POST.
3/4" Scale.



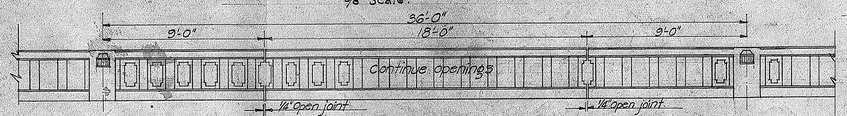
SEC. THRU BRIDGE RAILING END POST.
3/4" Scale.



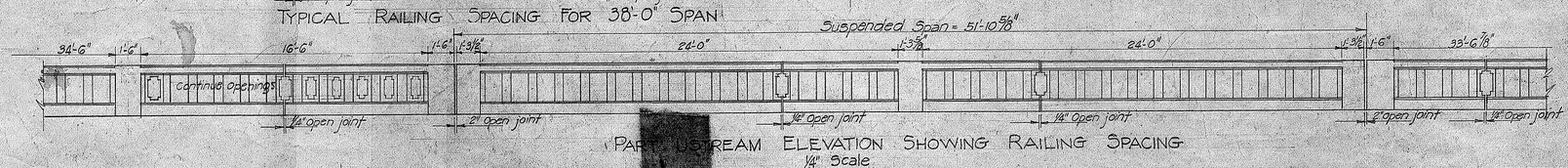
W.W. RAILING ÷ ABUT. # 2 ÷ L. SIDE.
3/8" Scale.



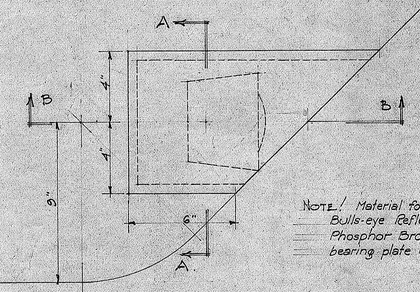
INSIDE ELEV. ÷ L. SIDE ÷ ABUT. # 2.
3/8" Scale.



TYPICAL RAILING SPACING FOR 36'-0" SPAN

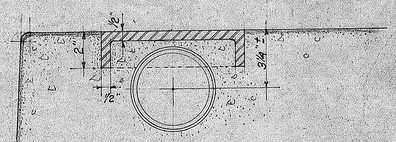


PART UPSTREAM ELEVATION SHOWING RAILING SPACING
1/4" Scale

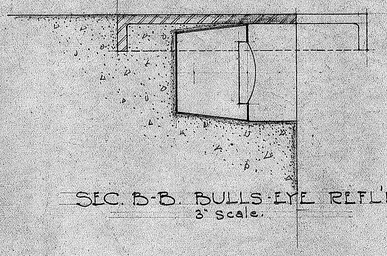


NOTE! Material for top plate of Bulls-eye Reflector to be of Phosphor Bronze same as bearing plate material.

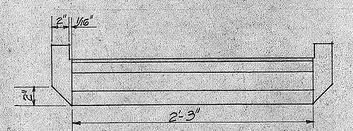
PLAN OF BULLS-EYE REFLECTOR.
3" Scale.



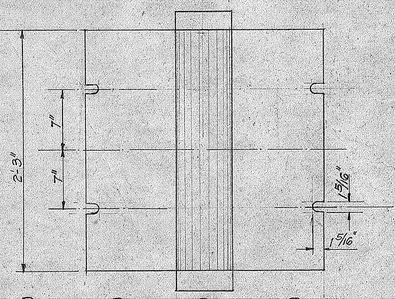
SEC. A-A. BULLS-EYE REFL'R.
3" Scale.



SEC. B-B. BULLS-EYE REFL'R.
3" Scale.



SIDE ELEV. OF BOTTOM BEARING PLATE
1½" Scale

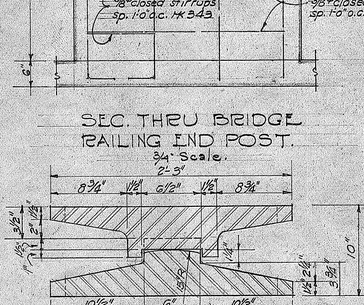


PLAN OF BOTTOM BEARING PLATES AT PIER
1½" Scale

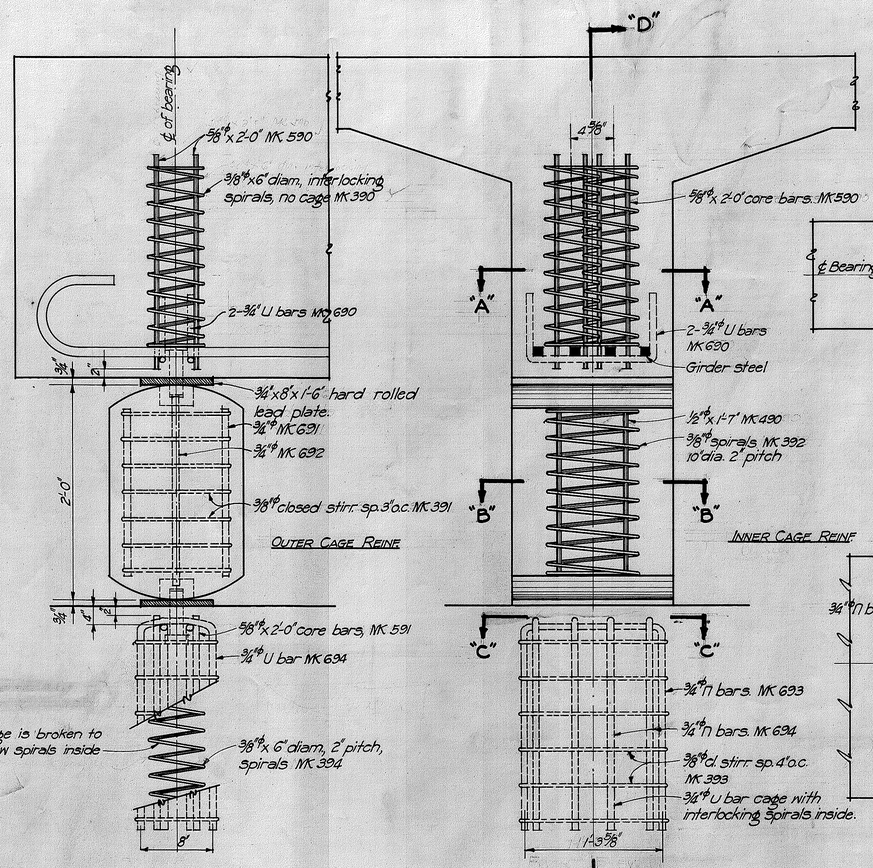
NOTE! Bearing plates to be cast steel, hot dip galvanized.
All surfaces not in contact with the concrete shall be treated with a heavy coat of No-Oxide.

COMPUTED WEIGHT	
Top plate	661.0#
Bottom plate	790.0#
Total one Set	1451.0#
Total 8 Sets	11,608.0#

SECT. THRU BEARING PLATES AT PIERS.
1½" Scale

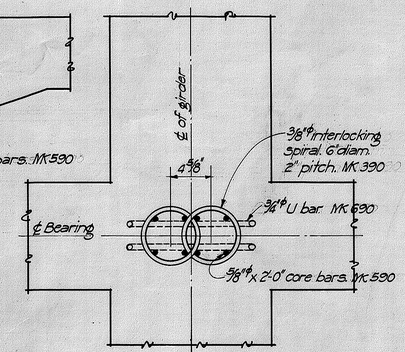

2'-3"
8¾"
1½"
6½"
1½"
8¾"
3⅛"
1½"
1½"
1⅝"
1⅝"
1⅝

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	1-J	1937	32	60

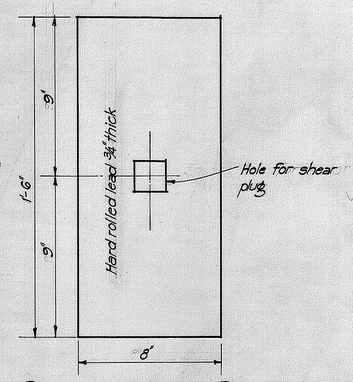


SECT. D-D
Scale 1½"=1'-0"

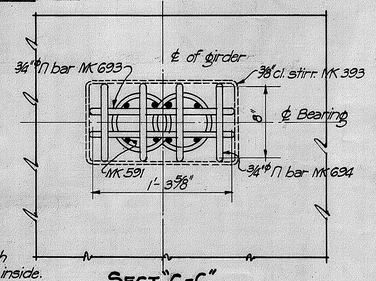
ELEV. OF ROCKER
Scale 1½"=1'-0"



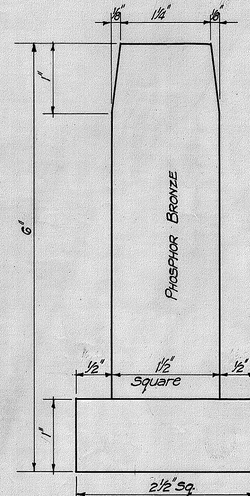
SECT. A-A
Scale 1½"=1'-0"



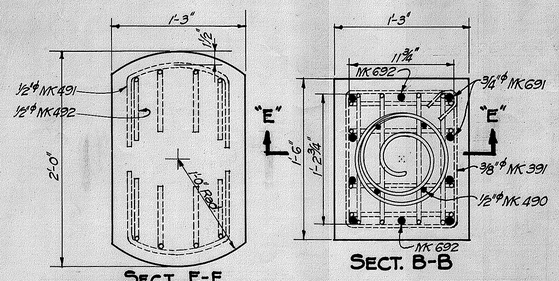
DETAIL OF LEAD PLATE
Scale 3"=1'-0"



SECT. "C-C"
Scale 1½"=1'-0"



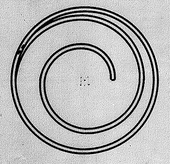
FULL SIZE DETAIL OF SHEAR PLUG



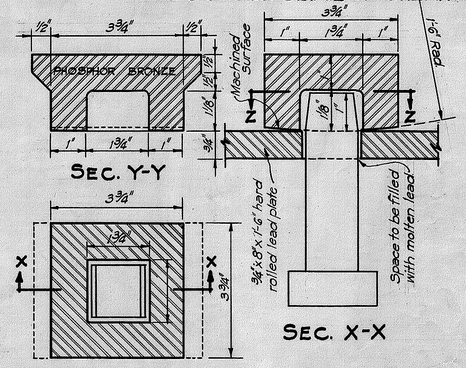
SECT. E-E
Spiral & cage reinf. not shown.

SECT. B-B

ROCKER DETAILS



DETAIL SHOWING FINISH OF SPIRAL AT TOP & BOTTOM
Length of hook = Circumference (Approx.)



SEC. Y-Y

SEC. X-X

SEC. Z-Z

DETAILS OF SHEAR PLUG RECEPTACLE
Scale 6"=1'-0"

BENDING SCHEDULE

This schedule is a supplement to the bending schedule sheets of this set of drawings

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	No. of bars each unit	No. of Units	Total No. of Bars	Total Length	Weight per foot	Total Weight
590	2'-0"	Girder	5/8"ϕ	2'-0"	8	1	8	16.00	1.04	17
690	8" 1'-7"	"	3/4"ϕ	2'-11"	2	1	2	5.84	1.50	9
390	dia. 6" 1'-8" ⑨	"	3/8"ϕ	18'-10"	2	1	2	37.66	0.38	14
									Total for girder =	40#
691	1'-7"	Rocker	3/8"ϕ	1'-7"	8	1	8	12.64	1.50	19
692	1'-9"	"	3/4"ϕ	1'-9"	2	1	2	3.50	"	5
490	1'-7"	"	1/2"ϕ	1'-7"	4	1	4	6.32	0.67	4
491	11 3/4" outside to outside 1.6 R. 6"	"	"	2'-4"	8	1	8	18.64	"	12
392	7" 1'-2 3/4" outside to outside	"	"	2'-5"	8	1	8	19.36	"	13
391	3 1/2" 1'-2 3/4" inside 11 3/4" inside	"	3/8"	5'-0"	7	1	7	35.00	0.38	13
392	⑨ 1'-6" 10" dia. 2" pitch	"	"	38'-8"	1	1	1	38.66	"	15
									Total for rocker =	81#
									Total for superstr. =	121#
591	2'-0"	Abutment	5/8"ϕ	2'-0"	8	1	8	16.00	1.04	17
693	8" 8" c to c 1'-11"	"	3/4"ϕ	4'-6"	4	1	4	18.00	"	27
694	1'-3 3/8" c to c 2'-0"	"	3/4"ϕ	5'-3"	2	1	2	10.5	"	16
393	4 7/8" 1'-6 3/8" 8 3/4" Inside dim. Inside dim.	"	3/8"ϕ	5'-0"	8	1	8	40.0	0.38	15
394	2'-0" ⑨ 6" dia. 2"	"	3/8"ϕ	22'-0"	2	1	2	44.0	"	17
									Total for Abut.	92#

ADDITIONAL QUANTITIES TO BE ADDED TO BRIDGE QUANTITIES

CONCRETE	STEEL
4.75 c.f. per rocker	Abut. 92.0# Superst. 121.0#

NOTE. The above quantities are for 1 rocker complete and must be multiplied by the number of rockers to give the totals to be added to the quantities appearing on the steel schedule.

- CONTRACTORS NOTE -

All rockers to be precast and to be made of "Class E" concrete and paid for as "Class A" concrete. Special care must be taken in the selection of the aggregates and in placing the concrete so as to obtain concrete of maximum density.

Regarding conc. below and above rockers refer to specifications.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS FOR 1'-3" x 1'-6" x 2'-0" CONC. ROCKER

ORIGINAL PLANS	SURVEY PLOTTED BY		DATE
	DESIGNED BY	C.F.W. Jasper	
	DRAWN BY	W. Vannatta	Apr. 1938
NOTE BOOK	PROFILES BY	C.F.W. Jasper & W. Vannatta	" "
	QUANTITIES BY	C.F.W. Jasper & W. Vannatta	" "
No.	QUANTITIES CHECKED BY		" "
	CHECKED BY		" "

K & E CO., N.Y.
"IMPERIAL" TRACING CLOTH
PRINTED ON

438.32