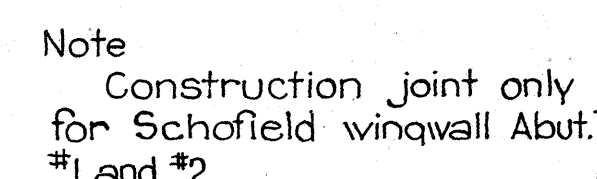
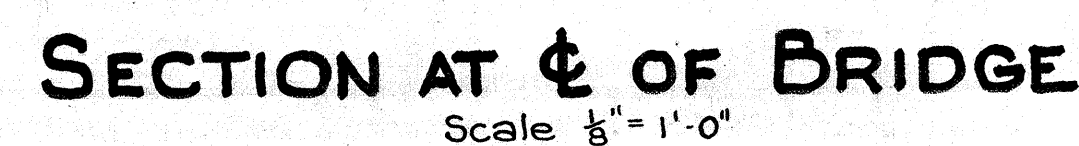
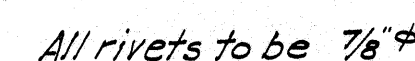


Dead Load: Concrete 150* per cubic foot. Ballast 120* per cubic foot. 300
Live Load: Train loading as per diagram. Impact allowance 100% 27300
Concrete: Class 'A' (1:2:4) with all exposed edges chamfered $\frac{3}{4}$ " unless otherwise noted. Allowable compression 650* per square inch.
Brush Coat Waterproofing: Remove all projections, cement film, dirt, etc. and apply waterproofing as specified. Waterproofing is incidental to the concrete used, and will not be paid for separately.
Construction Joints: All construction joints to have surface roughened and 1:2 cement grout applied immediately before second pour.
Reinforcing Steel: Intermediate grade; allowable tensile stress 18,000* per square inch. All steel to be round or square deformed bars of approved design. All dimension relating to reinforcement are to centers of bars unless otherwise noted. Where splicing of reinforcement is necessary bars are to be lapped 40 diameters and splices are to be staggered. No allowance will be made in the quantities for extra weight of steel required for splicing. Unless otherwise noted, the minimum covering measured from the surface of concrete to the face of any steel shall be not less than 2 $\frac{1}{2}$ " in abutments and abutment footings, and $\frac{1}{4}$ " in slab. Steel to be held rigidly and accurately in place before and during placing of concrete.
Structural Steel: All structural steel to be 'medium grade' (A.S.T.M. A-734). Allowable fs=18,000* per square inch. Bearing units to be cast steel. Steel castings shall conform to the requirements of the standard specification (serial designation A-27-24) of the A.S.T.M. or latest revision thereof. Rivet sizes to be as indicated on plans. Rivet steel to be (A.S.T.M. A141-33). Shop assembly and reaming of girder splices required. Floor beam connections shall be drilled to an iron template.
All structural steel shall be given one shop coat of red lead paint. First and second field coats shall be aluminum paint. All shop plans must be approved by the Engineer before fabrication is started.
Back-fill: Backfill of abutments to be completed before placing of plate girder superstructure on bearings.



POST & WINGWALL CONST. JOINT

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

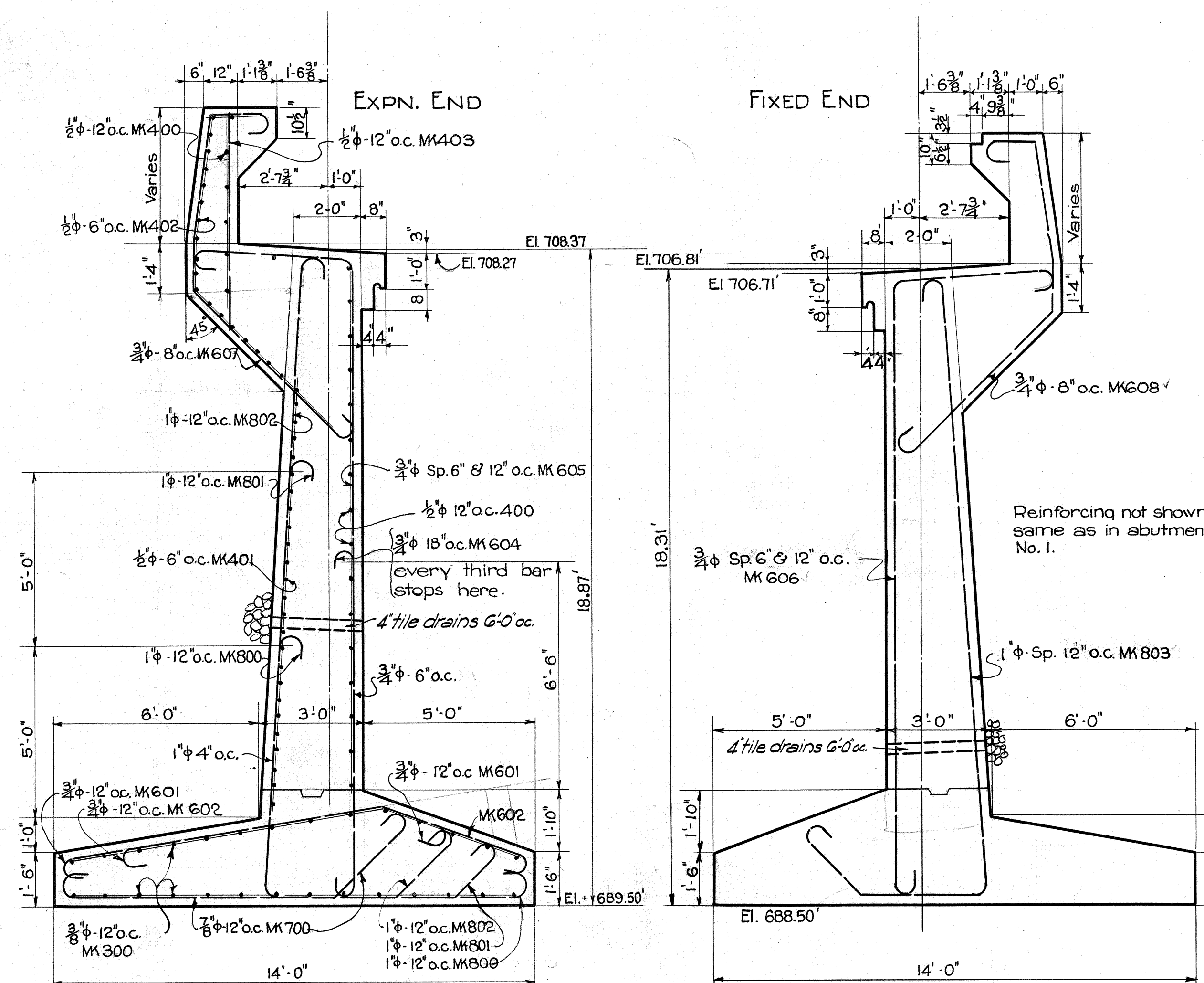
RAILROAD OVERPASS

No. 5 STA. 11+47.16

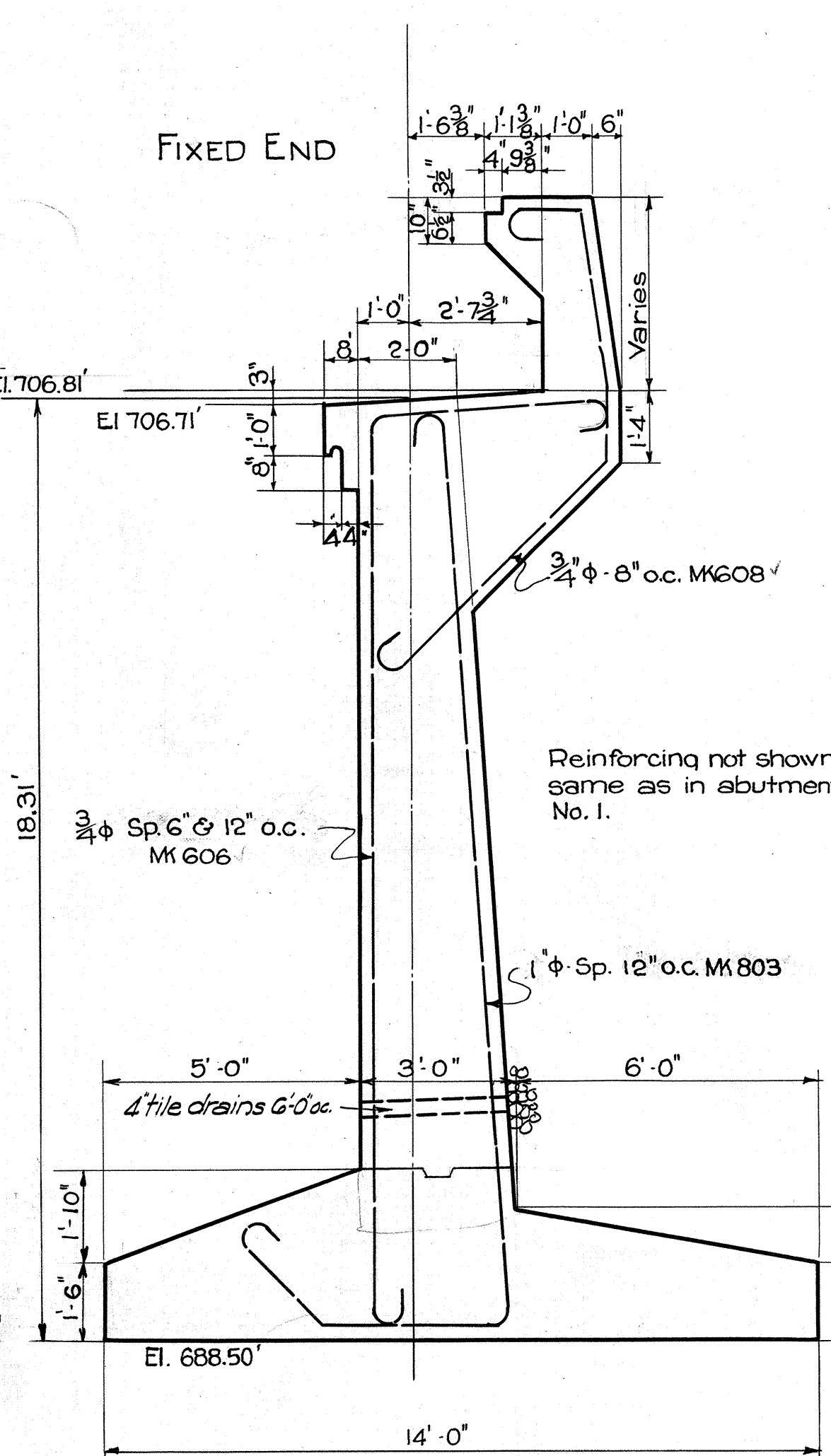
KAMEHAMEHA HIGHWAY No. W.P.G.H. 71

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	W.P.G.H. 71	1935	10	23

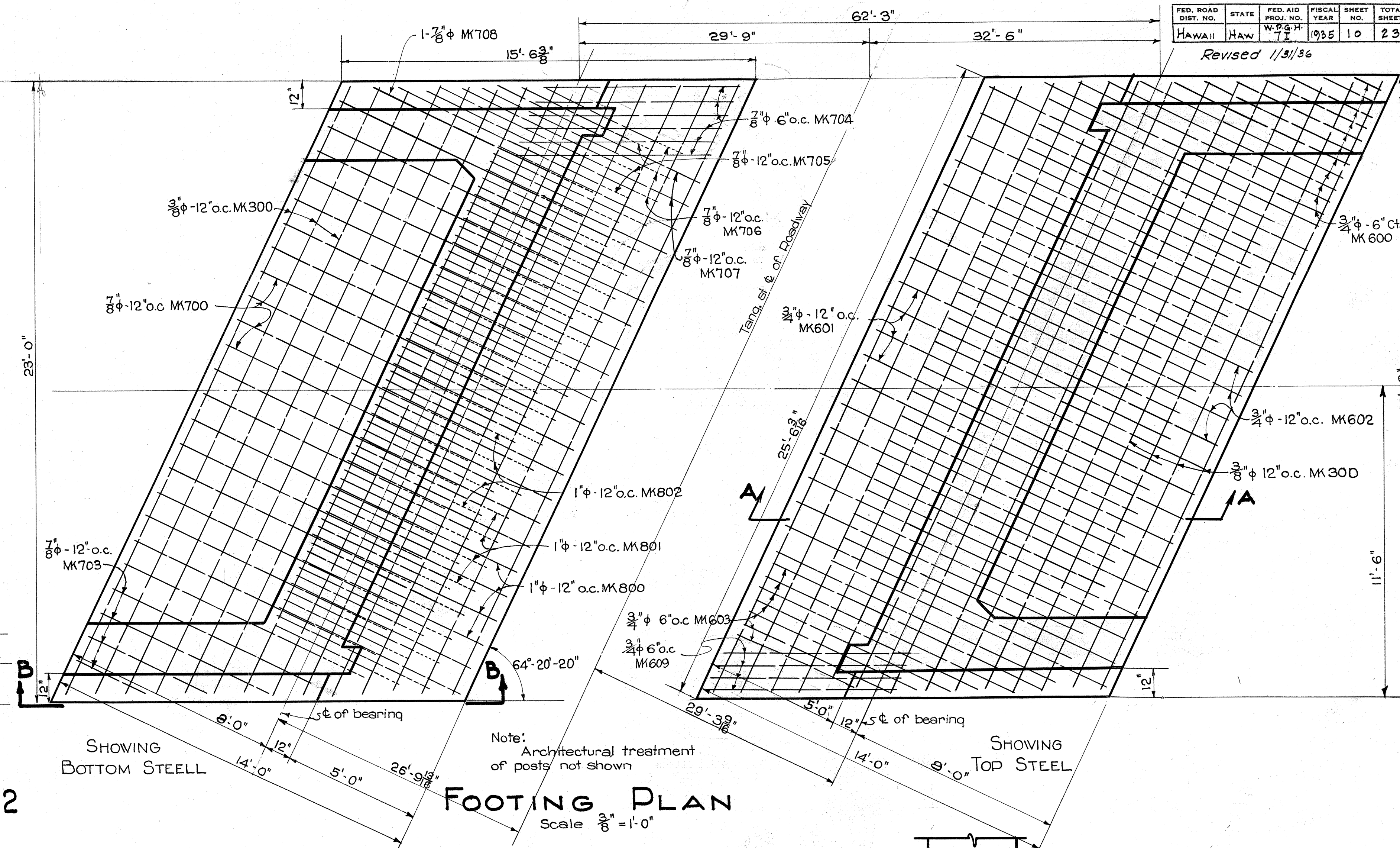
Revised 1/31/36



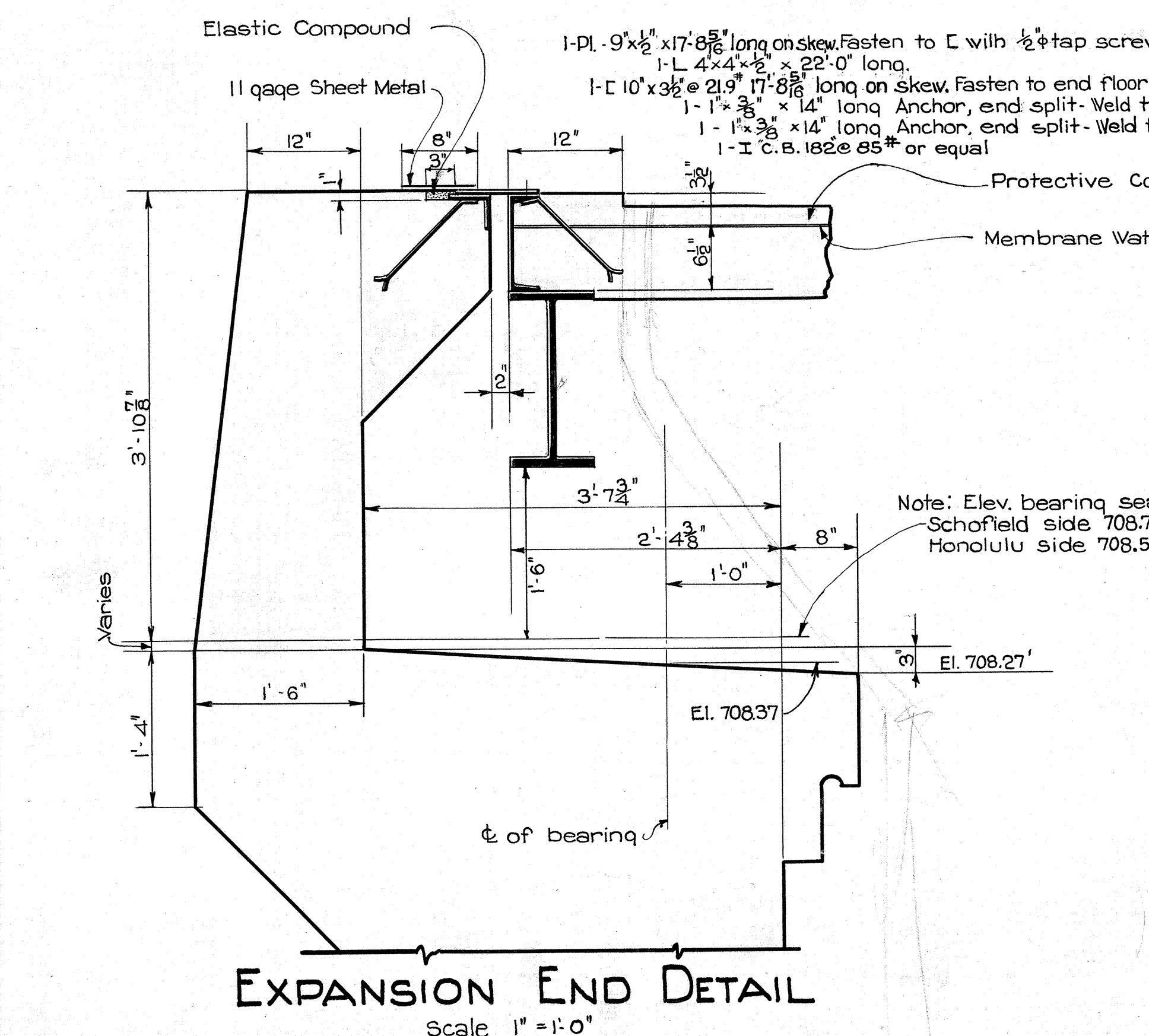
SECTION - WAHIAWA ABUTMENT #1
Scale $\frac{3}{8}$ " = 1'-0"



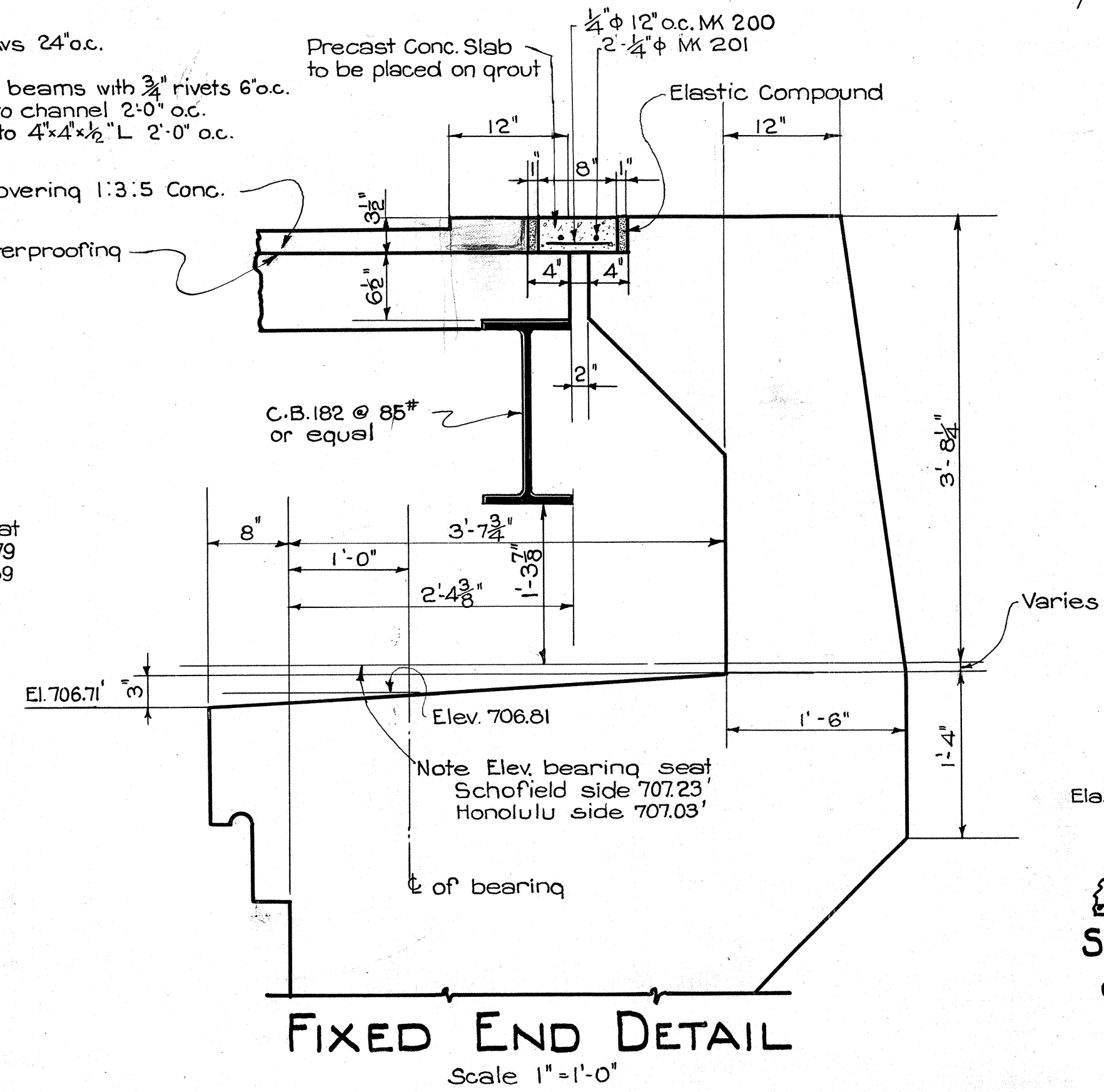
SECTION - WAIPAHU ABUTMENT #2
Scale $\frac{3}{8}$ " = 1'-0"



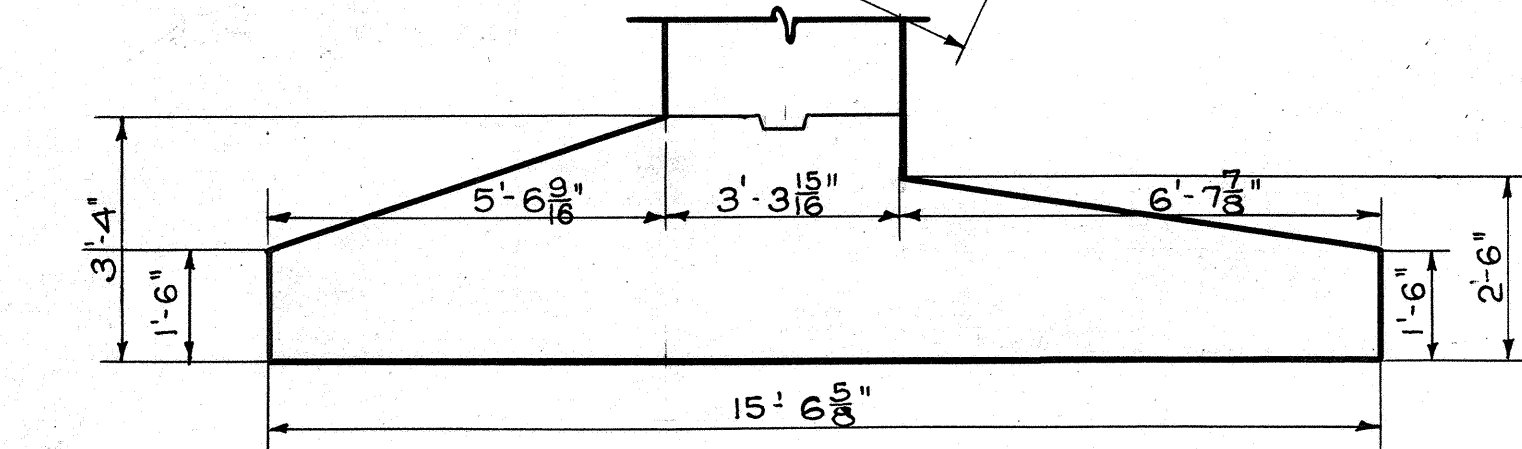
FOOTING PLAN
Scale $\frac{3}{8}$ " = 1'-0"



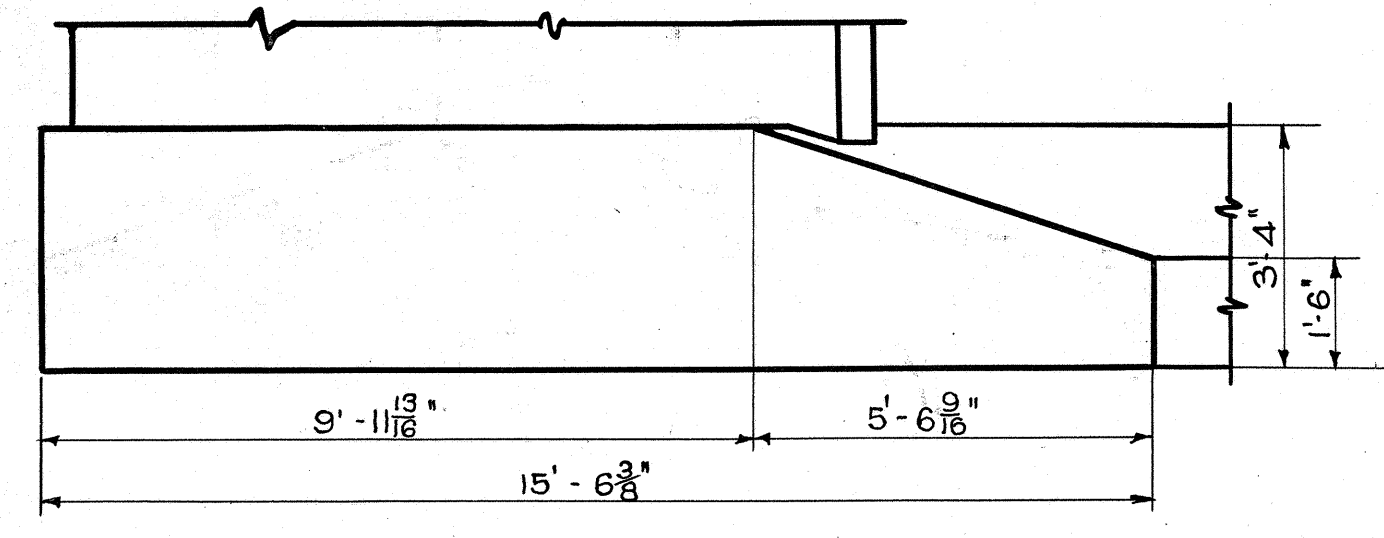
EXPANSION END DETAIL
Scale 1" = 1'-0"



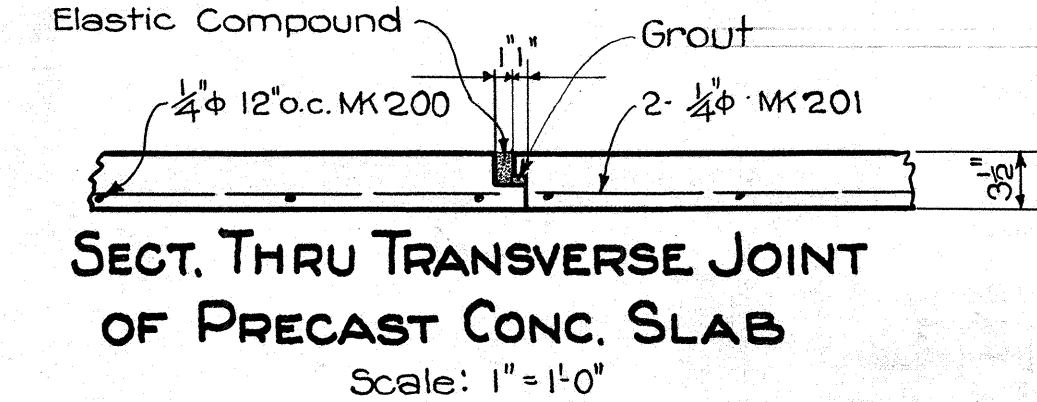
FIXED END DETAIL
Scale 1" = 1'-0"



SECTION A-A
Scale $\frac{3}{8}$ " = 1'-0"



ELEVATION B-B
Scale $\frac{3}{8}$ " = 1'-0"



SECT. THRU TRANSVERSE JOINT OF PRECAST CONC. SLAB
Scale: 1" = 1'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

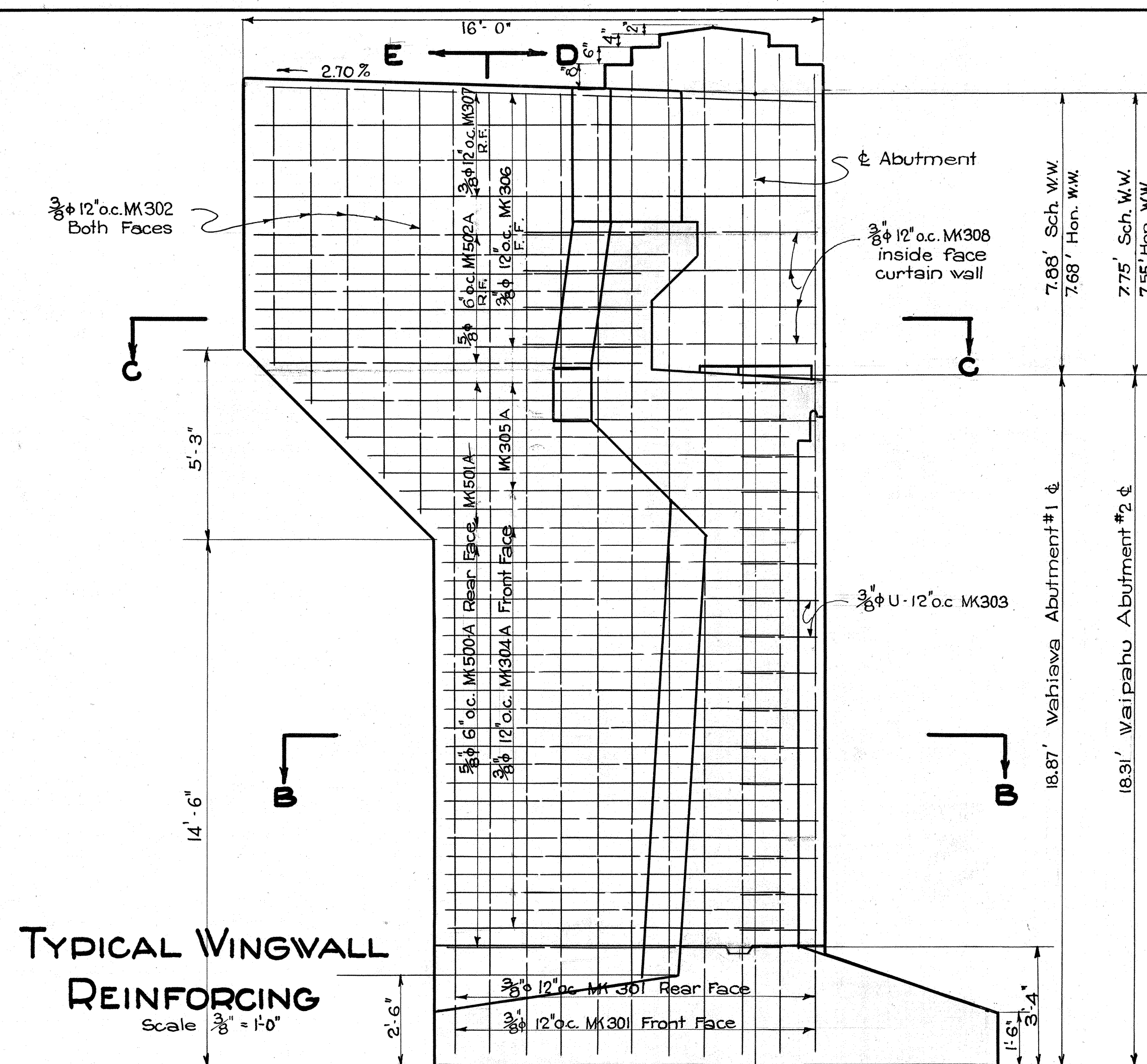
RAILROAD OVERPASS
No 5 STA. 11+47.16
KAMEHAMEHA HIGHWAY No W.P.G.H. 71

SHEET No 2 OF 8 SHEETS

4343.10

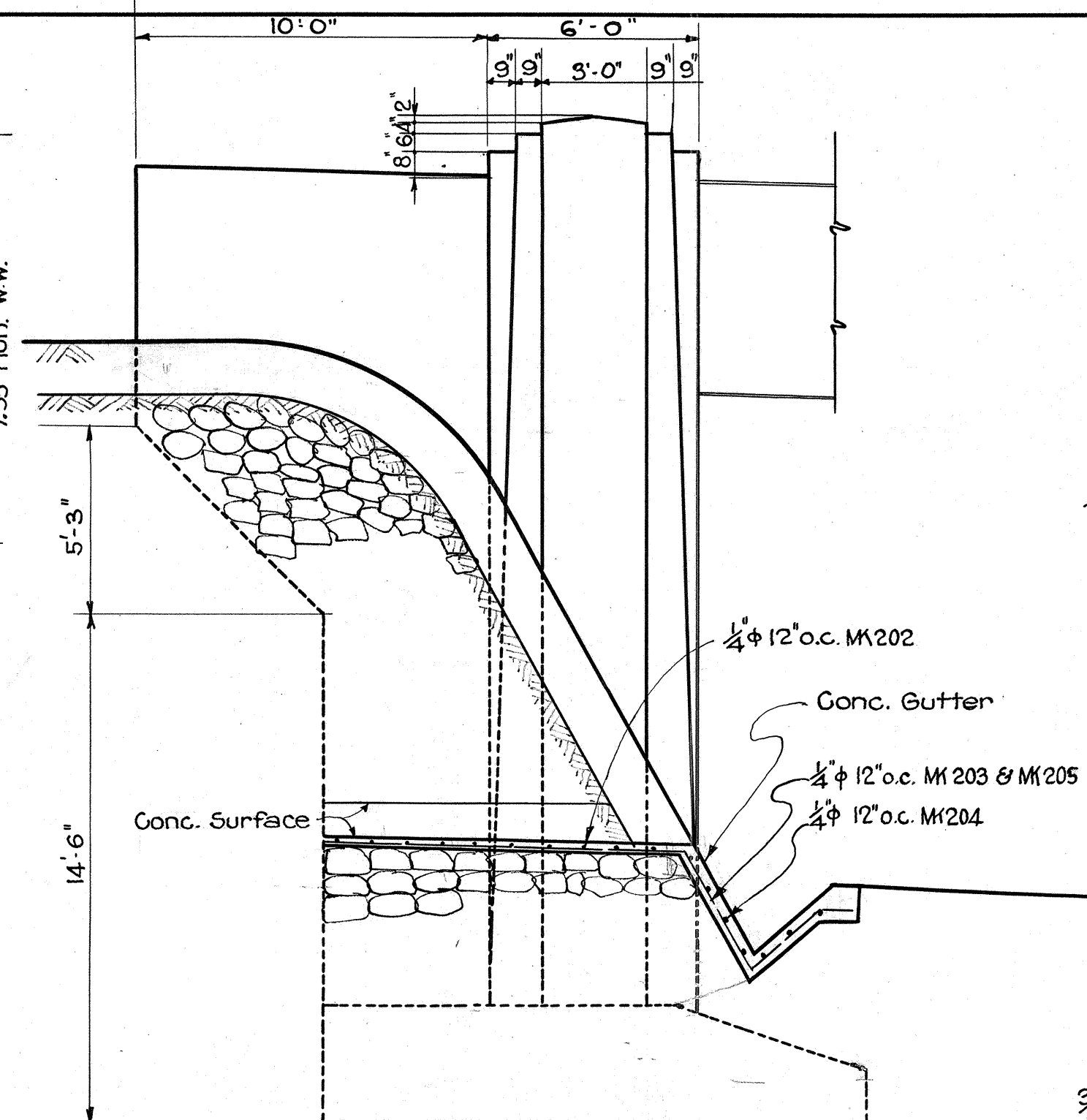
SURVEY PLOTTED BY	DATE
DESIGNED BY	June 35
DRAWN BY	Aug
CHECKED BY	Sept
NOTED BY	Oct
Rev by J.C.M. Waipahus added	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW	W.P.G.H. 71	1935	11	23

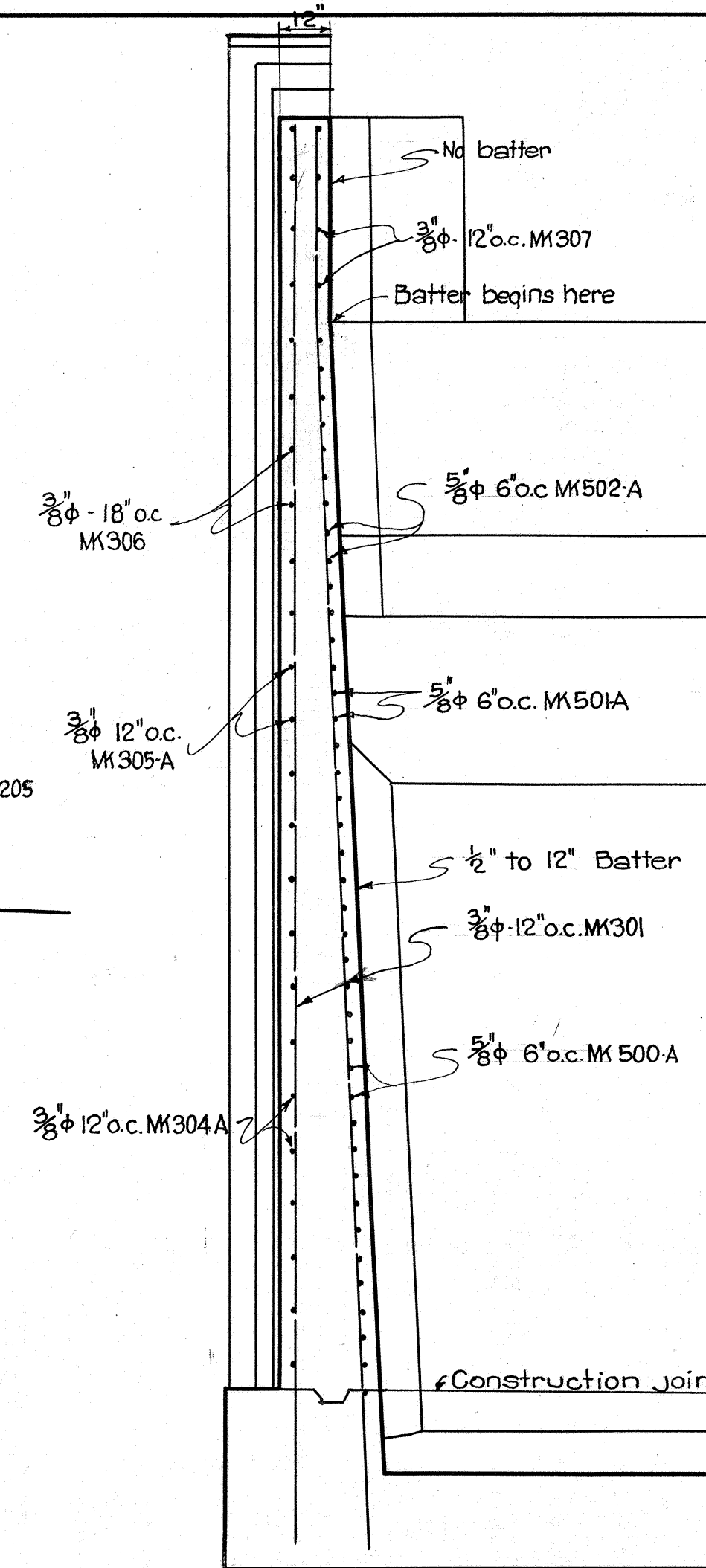


TYPICAL WINGWALL REINFORCING

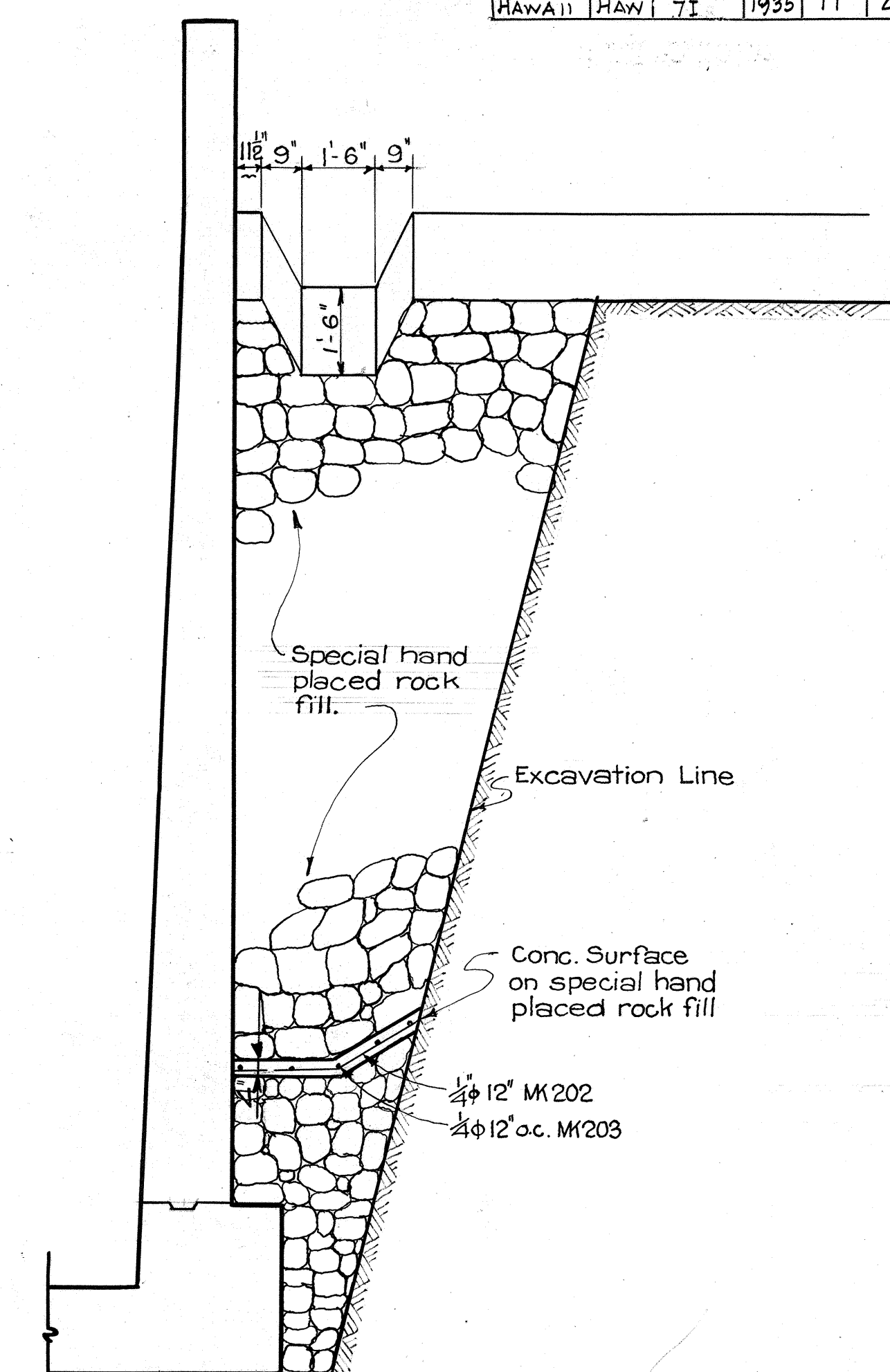
Scale $\frac{3}{8}'' = 1'-0''$



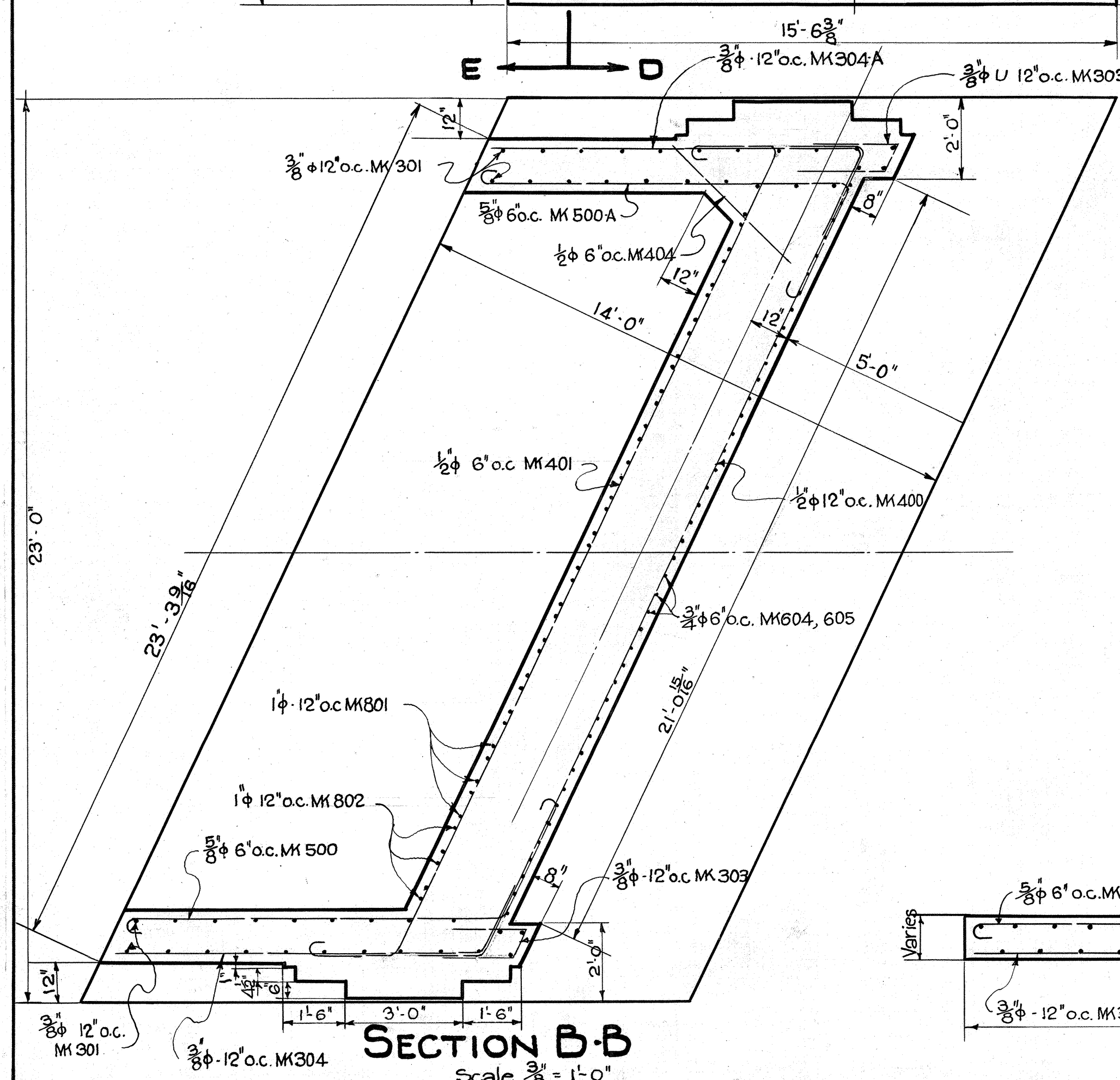
FRONT FACE WINGWALL
Scale $\frac{1}{4}" = 1'-0"$



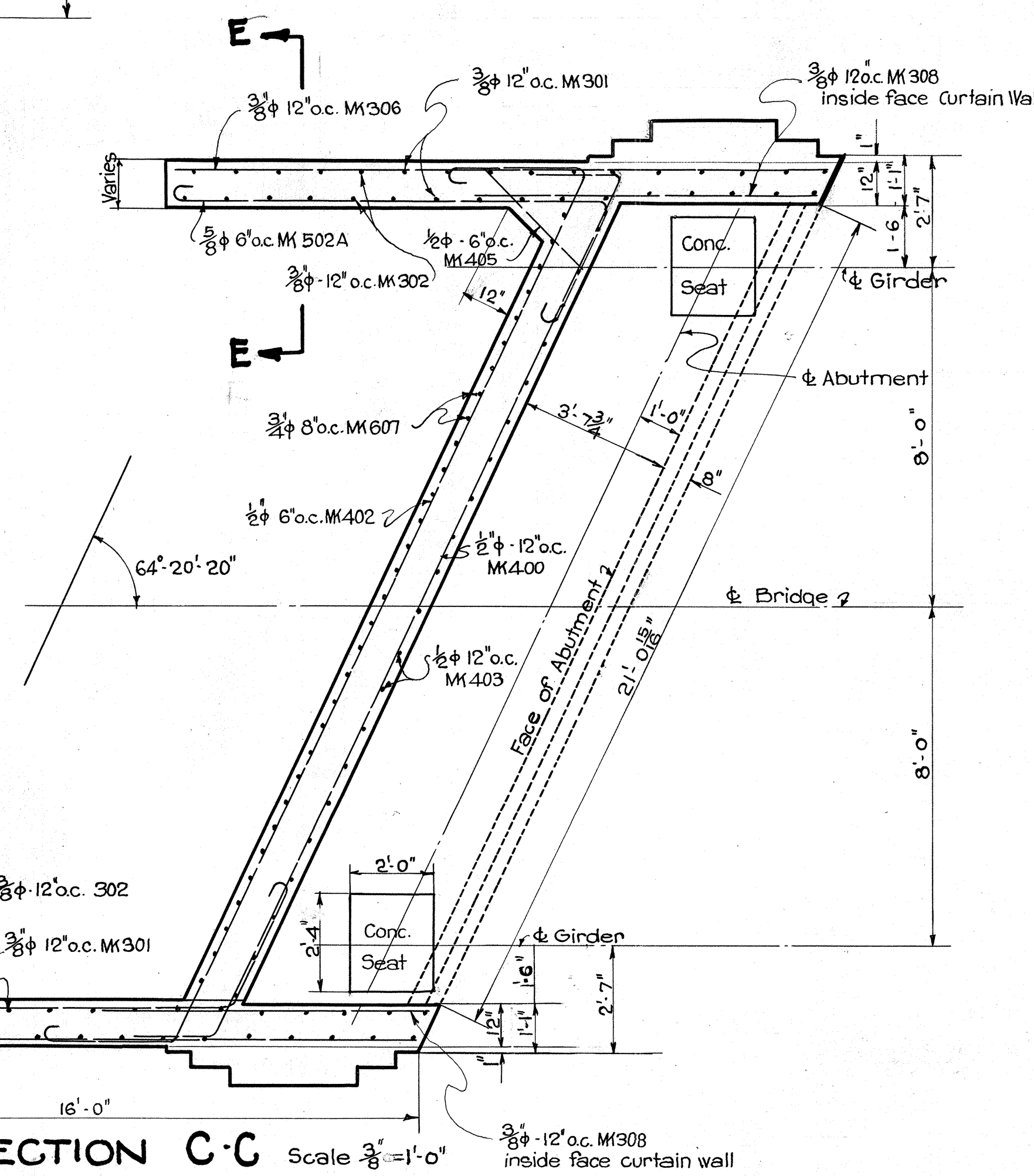
SECTION D-D
Scale $\frac{3}{8}'' = 1'-0''$



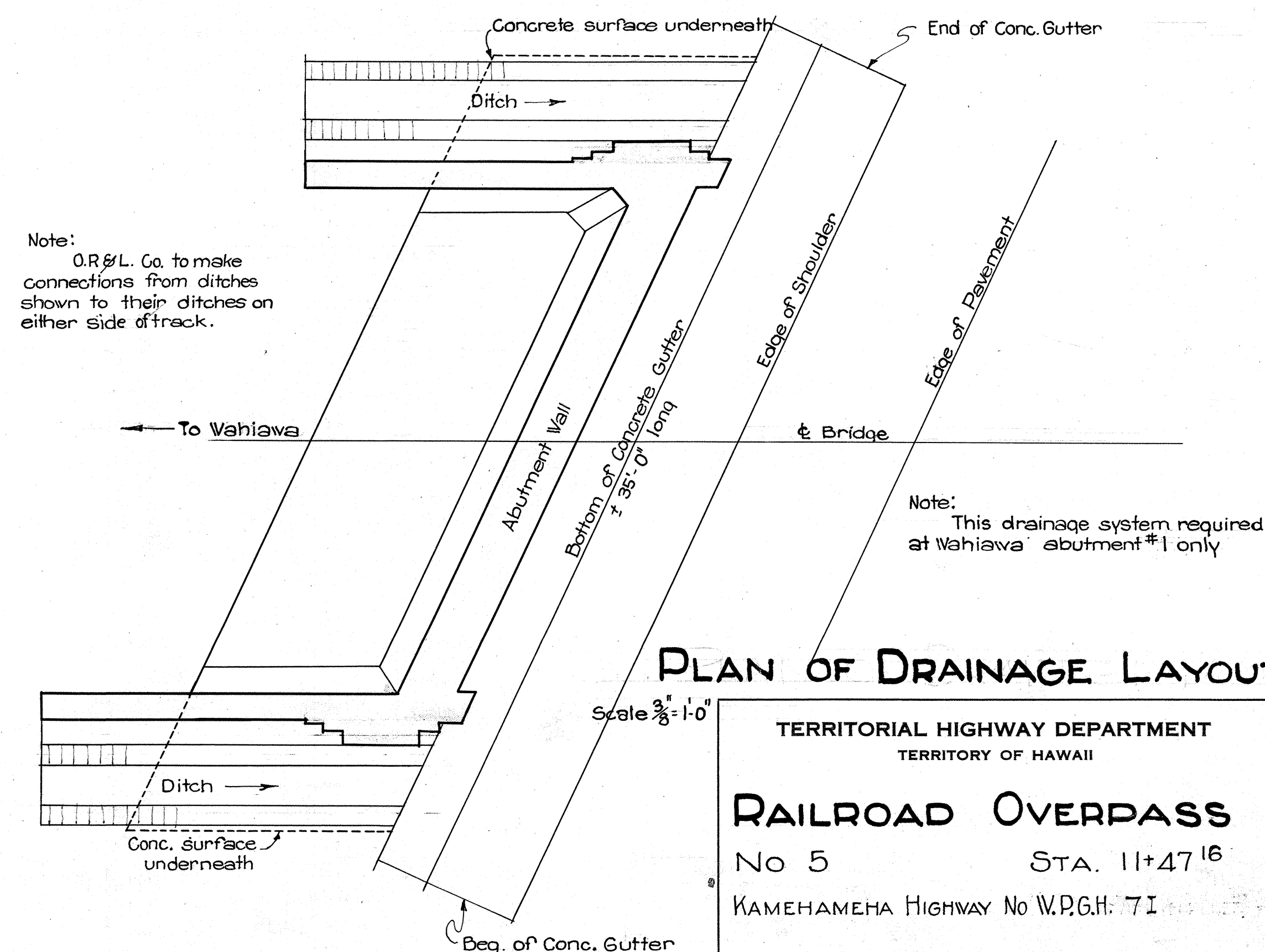
SECTION E-E
Scale $\frac{3}{8}'' = 1'-0''$



SECTION B-B
Scale $\frac{3}{8}'' = 1'-0''$



SECTION C-C Scale $\frac{3}{8}'' = 1'-0''$



PLAN OF DRAINAGE LAYOUT

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

RAILROAD OVERPASS

No 5 STA. 11+47¹⁶

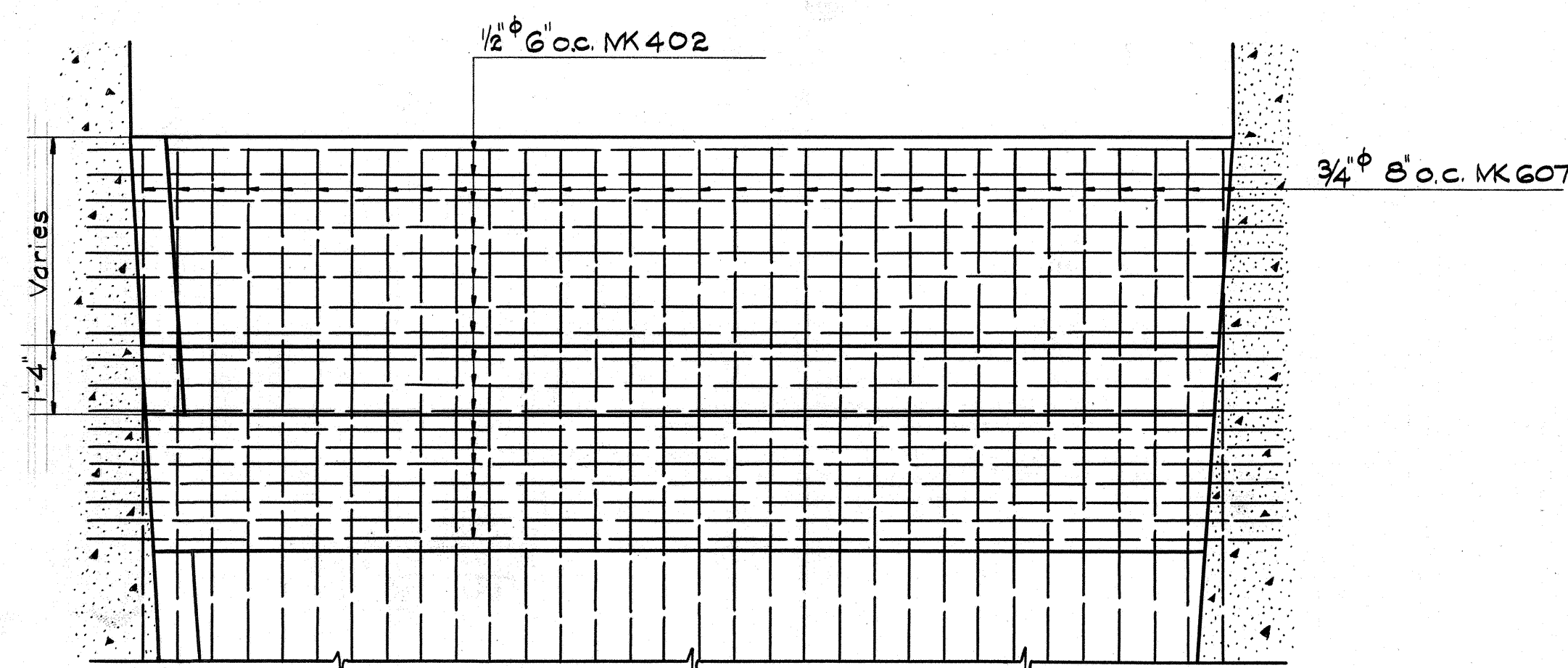
KAMEHAMEHA HIGHWAY No W.P.G.H. 71

SHEET No 3 OF 8 SHEETS

4343.11

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	W. R. B. " June 35
	DRAWN BY	J. C. S. " Aug. 35
	TRACED BY	R. E. S. " Sep. 35
	QUANTITIES BY	J. C. M. " "
	CHECKED BY	J. C. W. W. R. B. " Oct. "
No.		

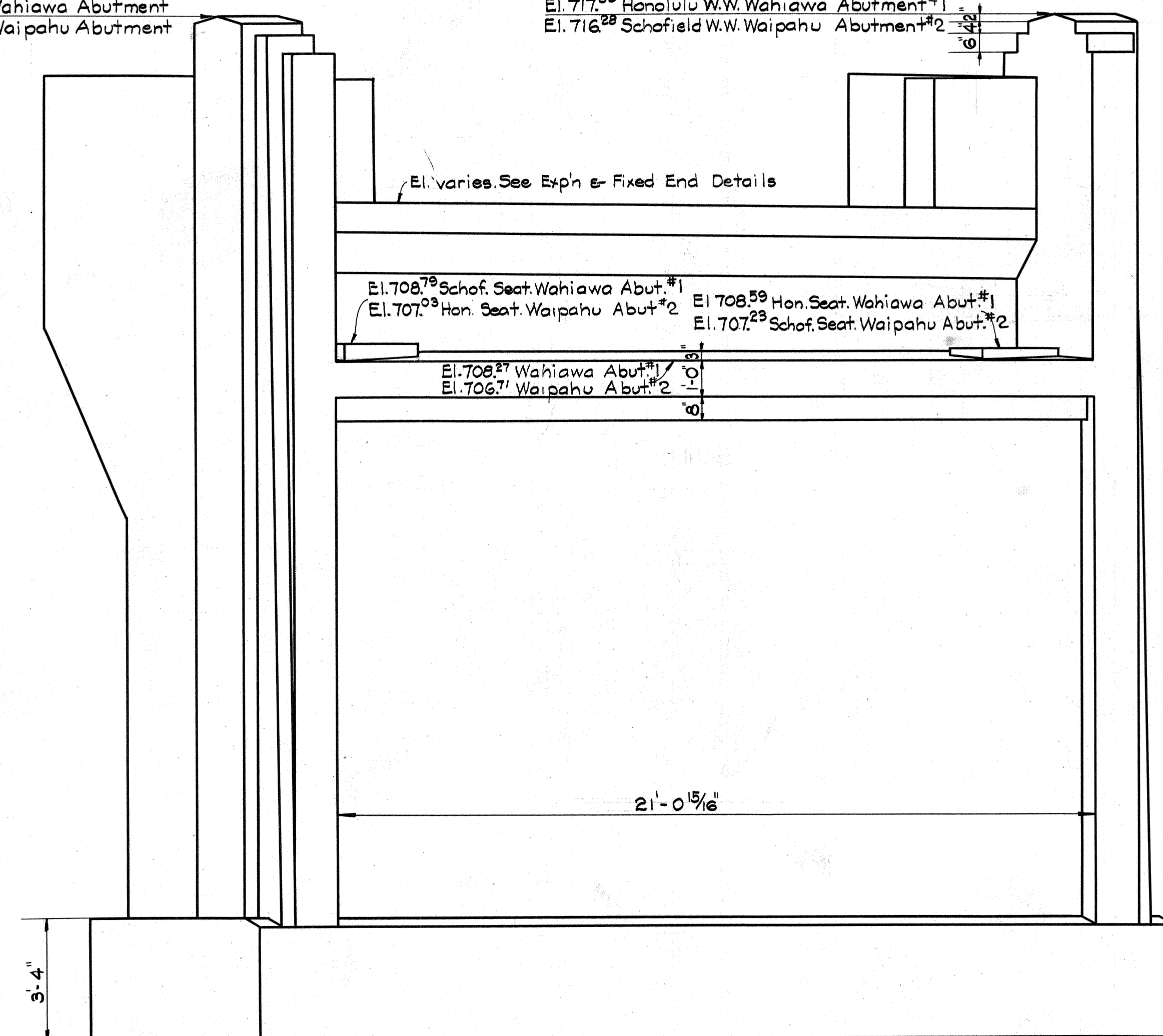
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	W.P.G.H. 71	1955	12	23



CURTAIN WALL REINF. - REAR FACE
Front Face - $\frac{1}{2}$ " ϕ 12" o.c. MK 403 Vert. MK 400 Horiz.
Scale: $\frac{3}{8}$ " = 1'-0"

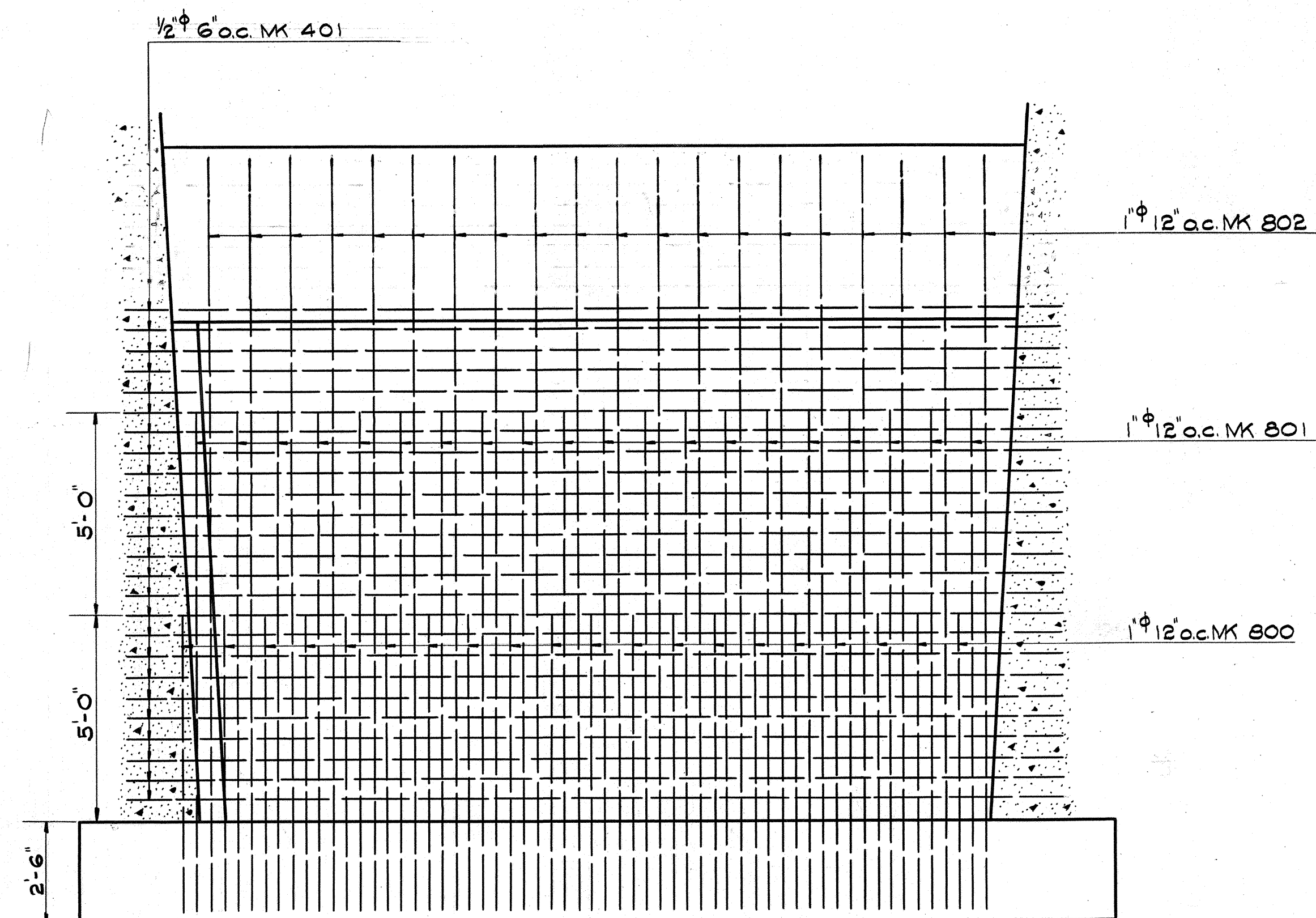
El. 718.03 Schofield W.W. Wahiawa Abutment
El. 716.08 Honolulu W.W. Waipahu Abutment

El. 717.83 Honolulu W.W. Wahiawa Abutment #1
El. 716.23 Schofield W.W. Waipahu Abutment #2

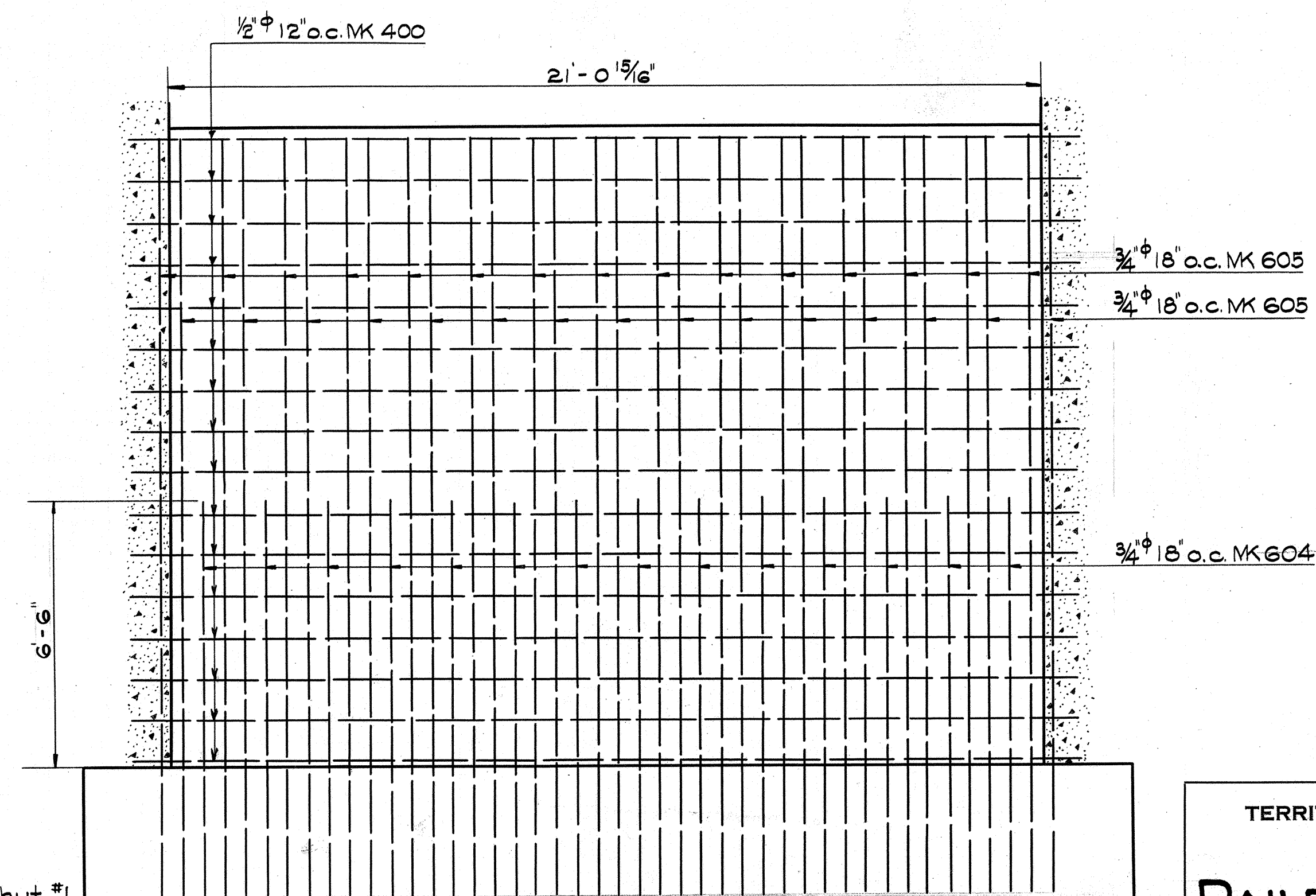


ELEVATION WAHIAWA ABUTMENT #1
Scale: $\frac{3}{8}$ " = 1'-0"
Elev. Waipahu Abutment #2 Similar

El. 689.50 Wahiawa Abut. #1
El. 688.30 Waipahu Abut. #2



ABUTMENT REINF. - REAR FACE
Scale: $\frac{3}{8}$ " = 1'-0"



ABUTMENT REINF. FRONT FACE
Scale: $\frac{3}{8}$ " = 1'-0"

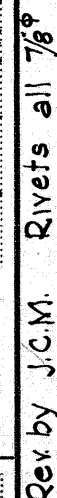
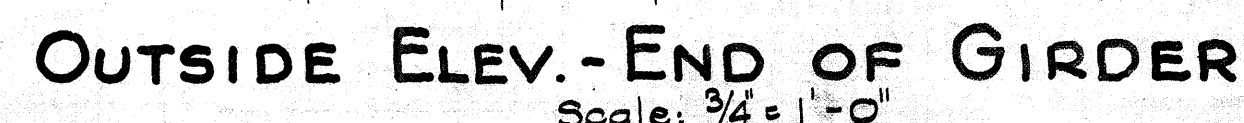
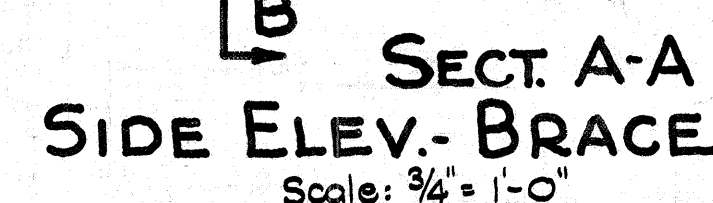
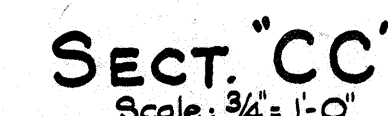
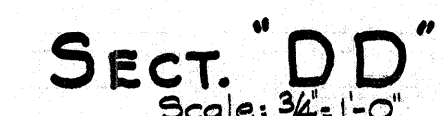
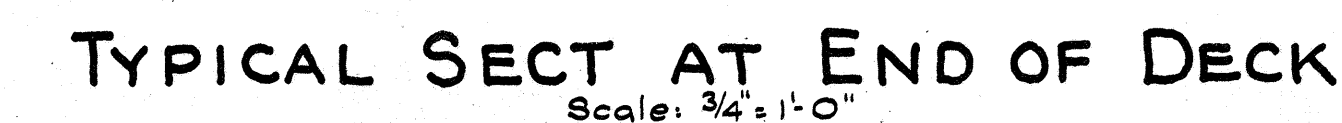
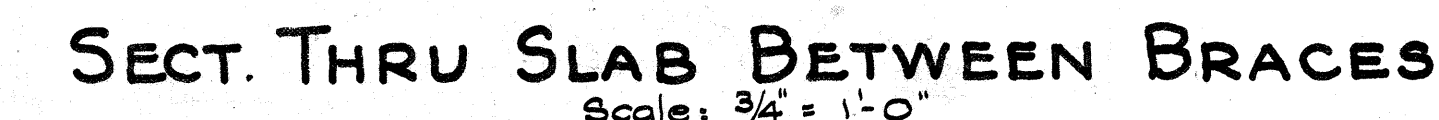
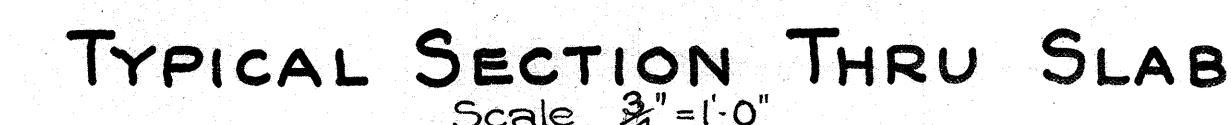
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

RAILROAD OVERPASS
No 5 STA. 11+47.16
KAMEHAMEHA HIGHWAY No. W.P.G.H. 71

SHEET No 4 OF 8 SHEETS

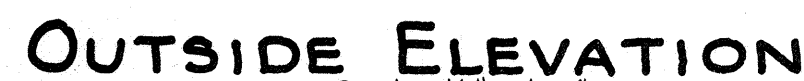
4343.12

ORIGINAL PLAN	DESIGNED BY	DATE
NOTE BOOK	W. B. COO	7-2-35
No.	QUANTITIES BY	8-28-35
	CHECKED BY	10-7-35
		J.C.M. W.P.A.



SHEET NO 5 OF 8 SHEETS

Revised 1/31/34



Scale: $\frac{3}{4}" = 1' - 0"$

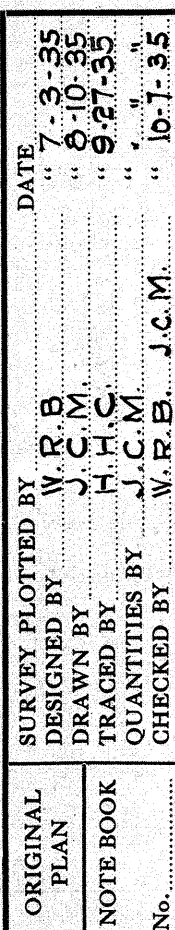
Special holes to be punched for $\frac{7}{8}$ " bolts - bottom plate and angles only, both girders, both ends.



Scale: $\frac{3}{4}" = 1'-0"$

DETAIL WEB SPLICE

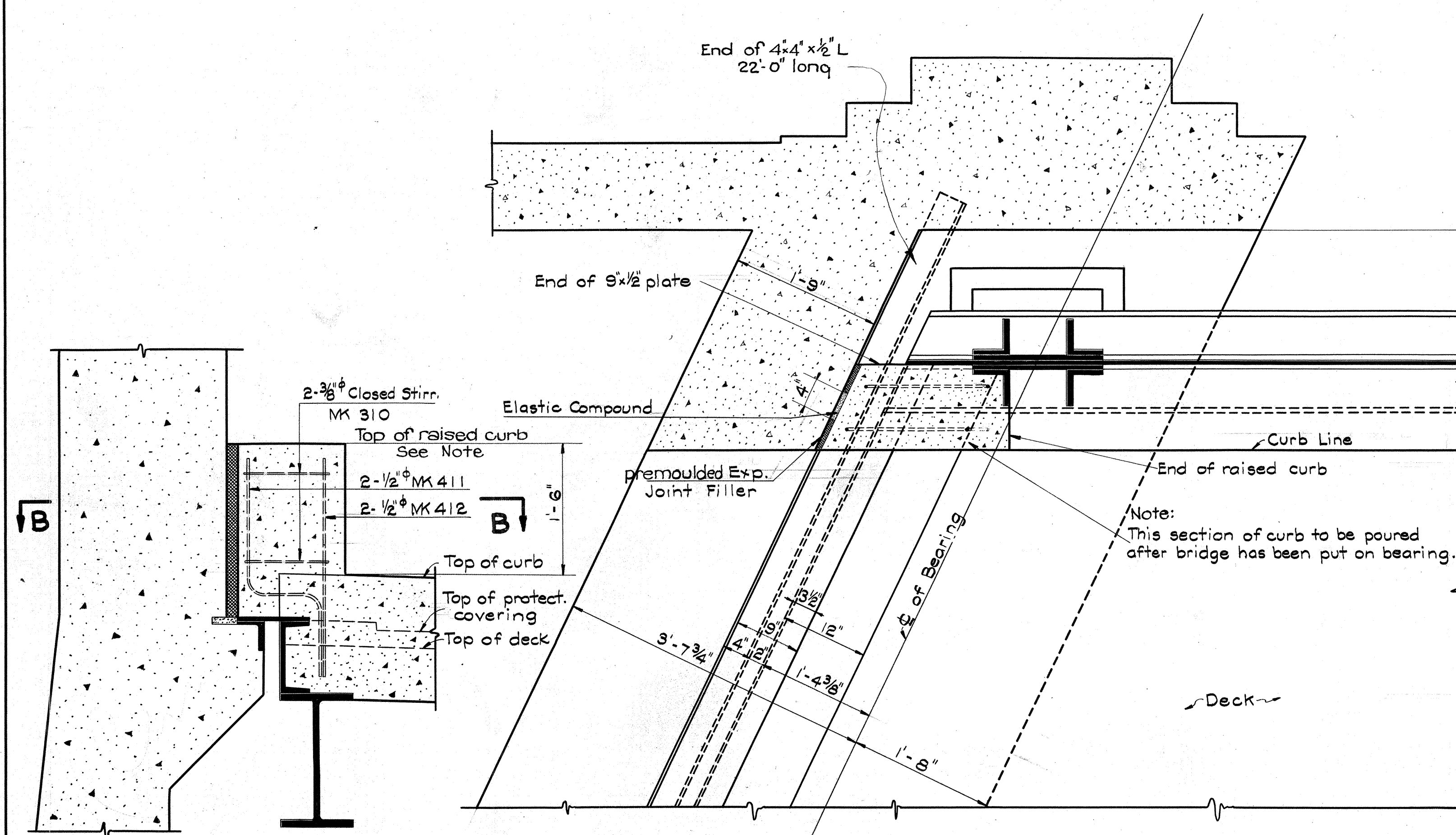
Scale: $\frac{3}{4}'' = 1'-0''$

Rev. by J.C.M. Rivets all $\frac{7}{8}\phi$

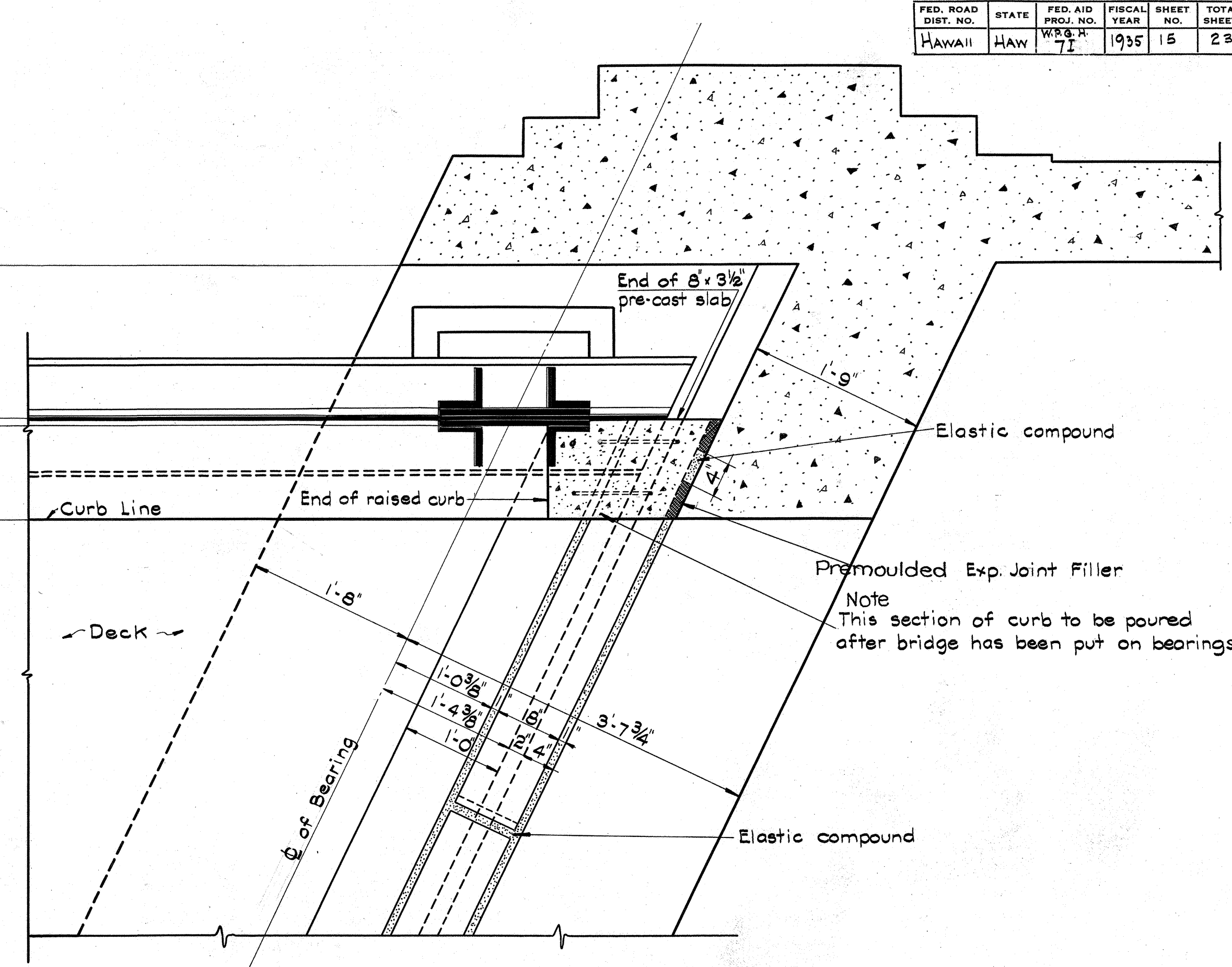
SHEET N^o 6 OF 8 SHEETS

4343.14

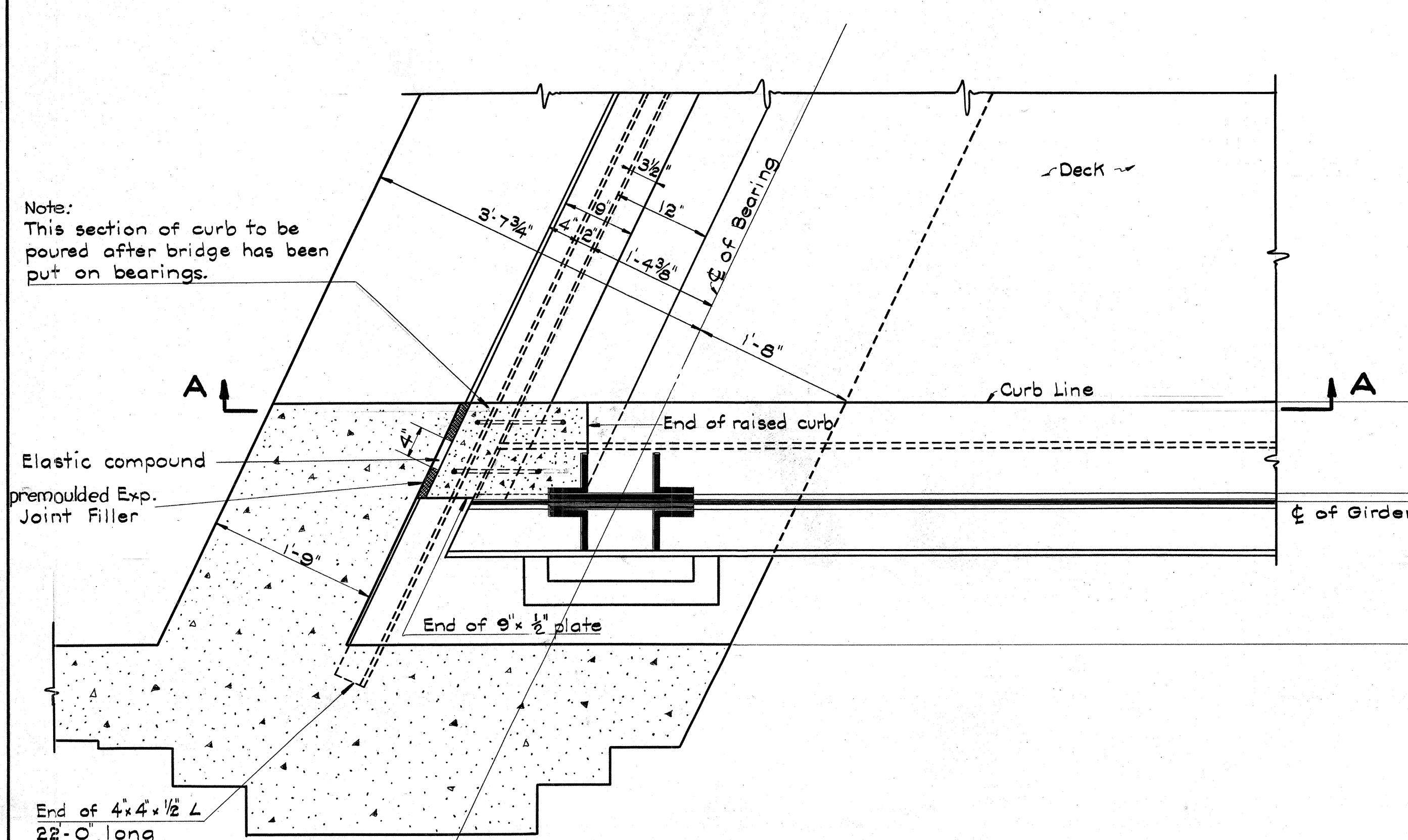
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW	W.P.O. H. 71	1935	15	23



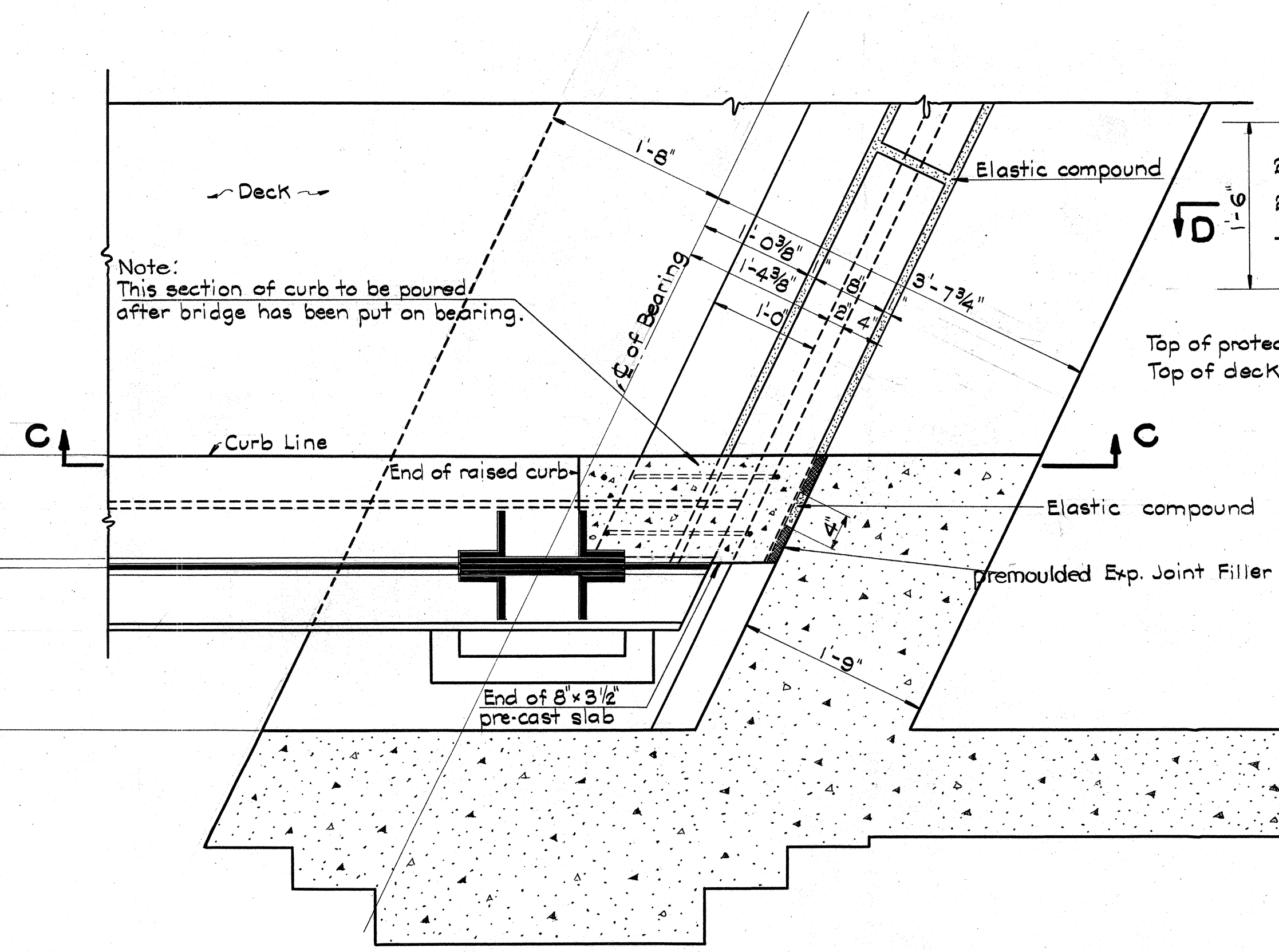
SECTION "A-A"
Scale: 1" = 1'-0"



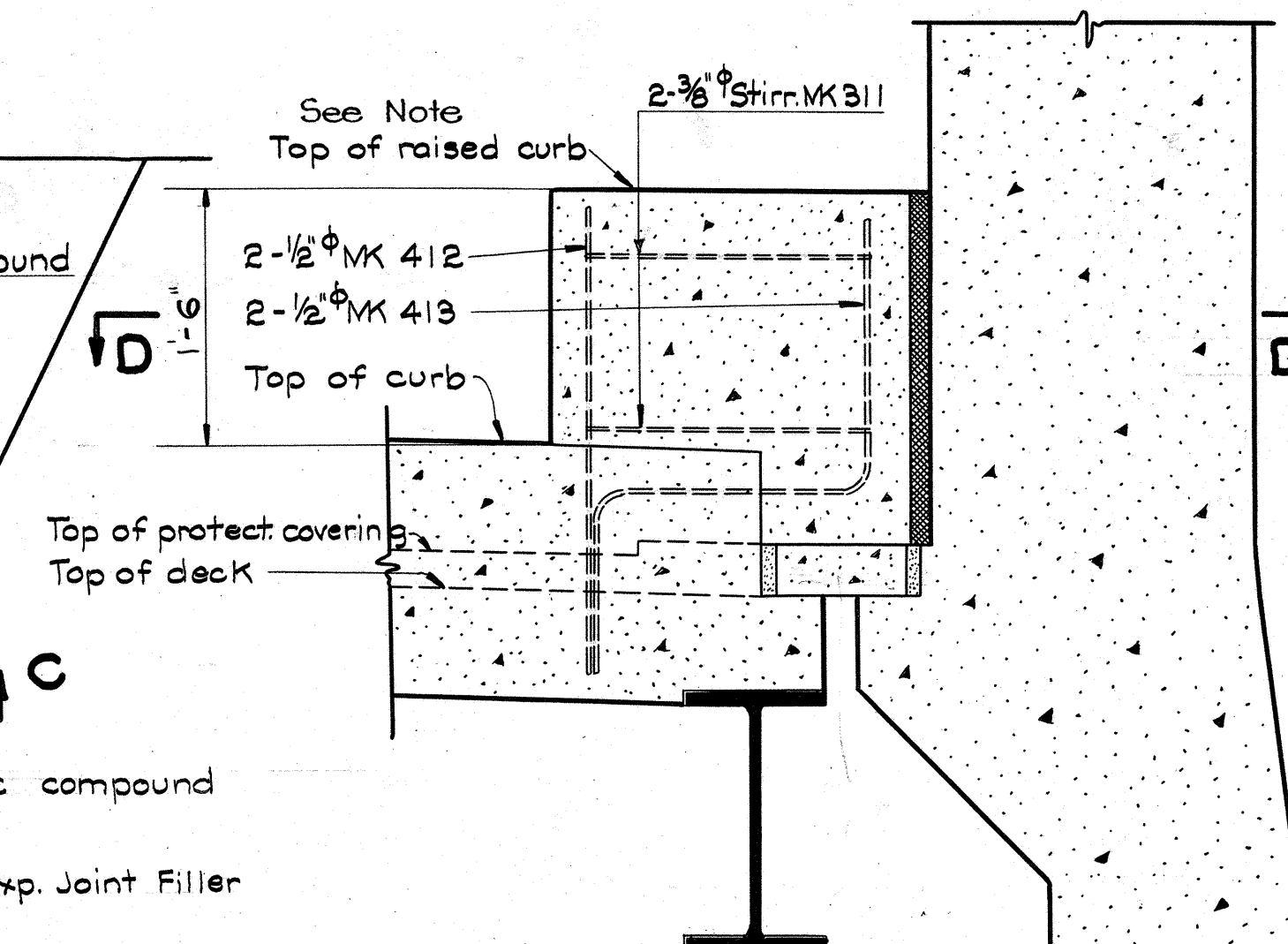
DETAIL FIXED END - MAIN GIRDERS
Scale: 1" = 1'-0"



SECTION "B-B"
Scale: 1" = 1'-0"



SECTION "D-D"



SECTION "C-C"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

RAILROAD OVERPASS

No 5 STA. 11+

KAMEHAMEHA HIGHWAY No W.P.G.H. 7 I

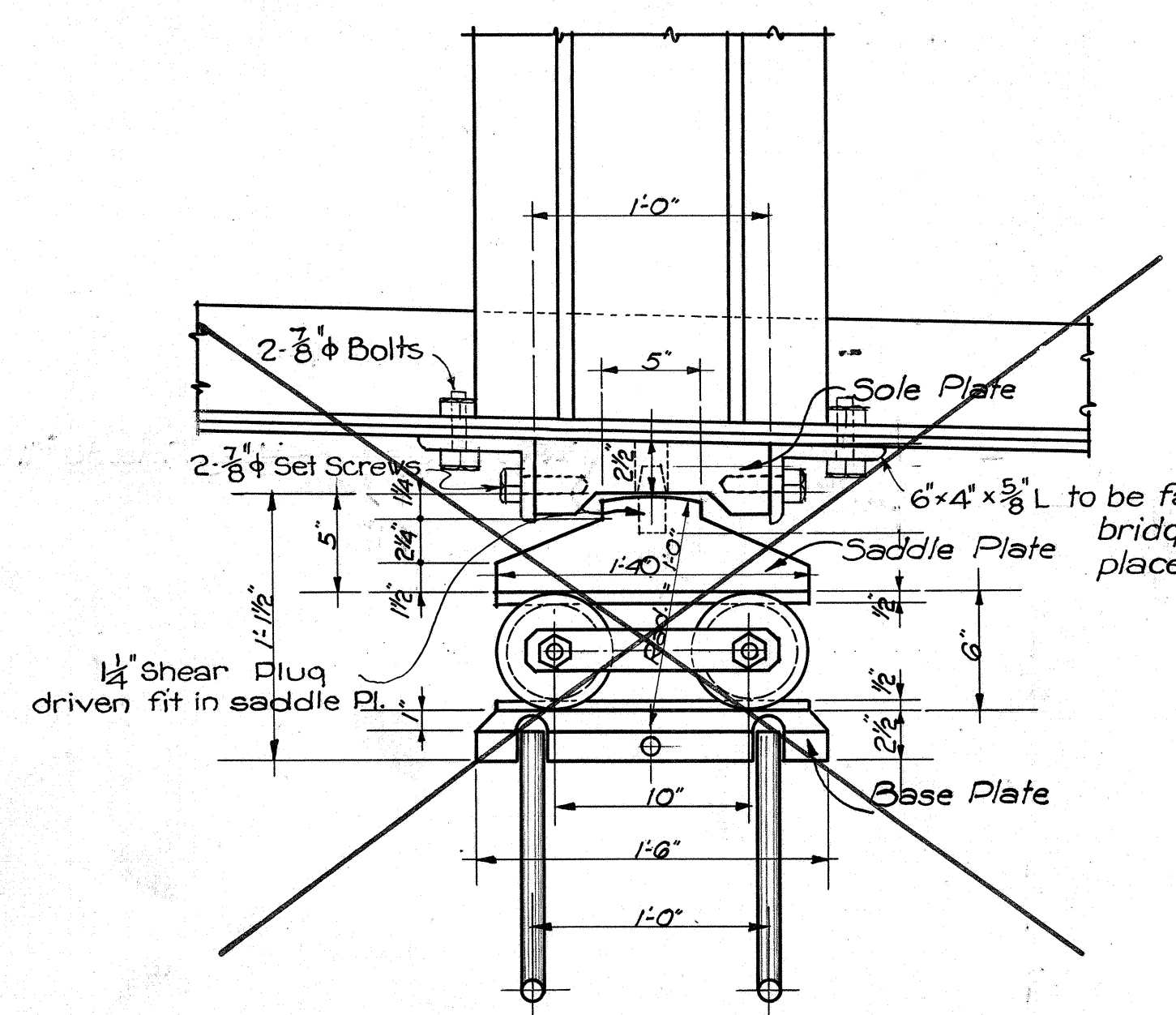
SHEET N^o 7 OF 8 SHEETS

4343.15

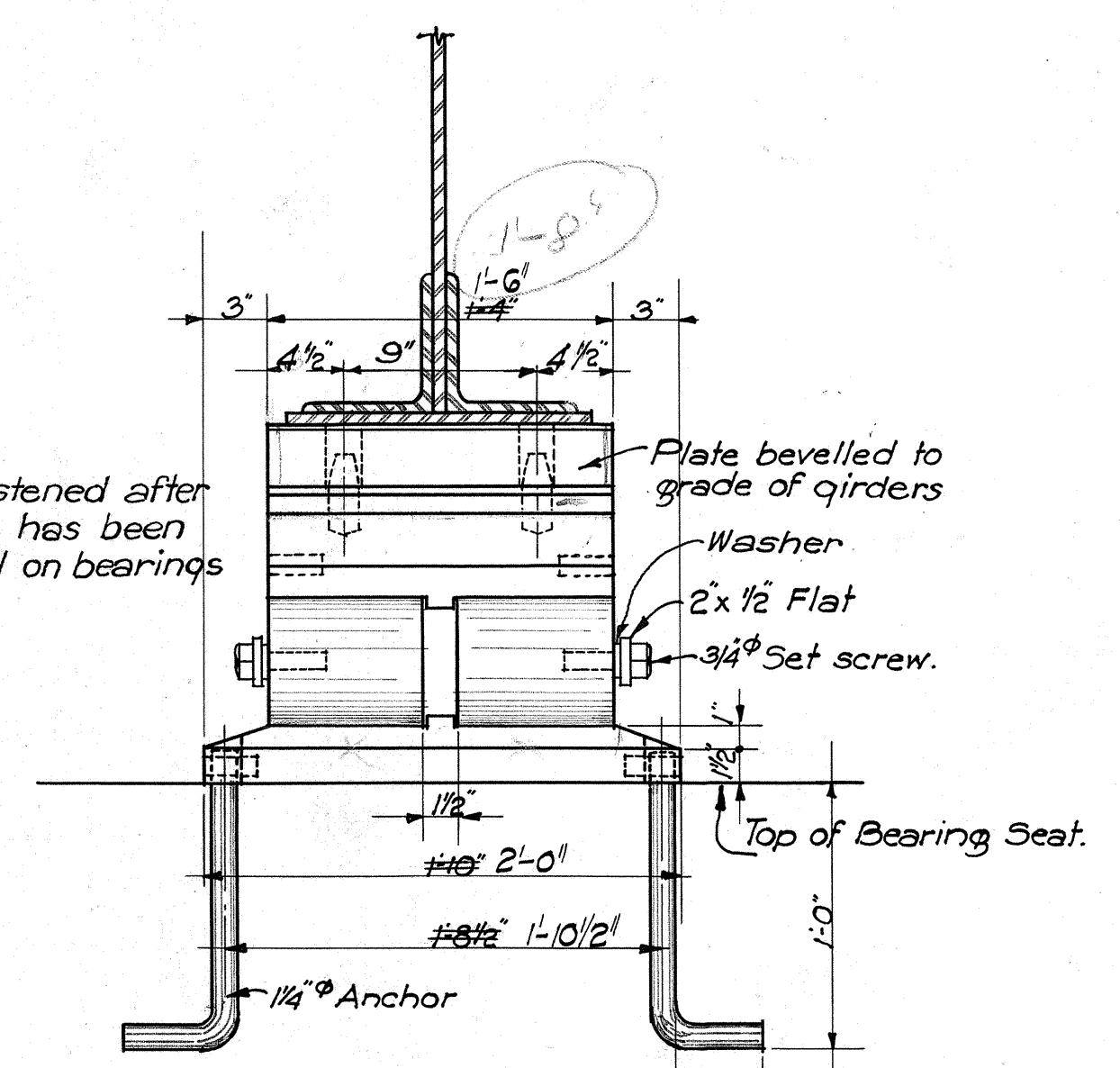
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	" 7-2-35
	DRAWN BY	" 9-24-35
	TRACED BY	" 9-24-35
	QUANTITIES BY	" 10-7-35
No.	CHECKED BY	" 10-7-35

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	W.P.G.H. 71	1935	16	23

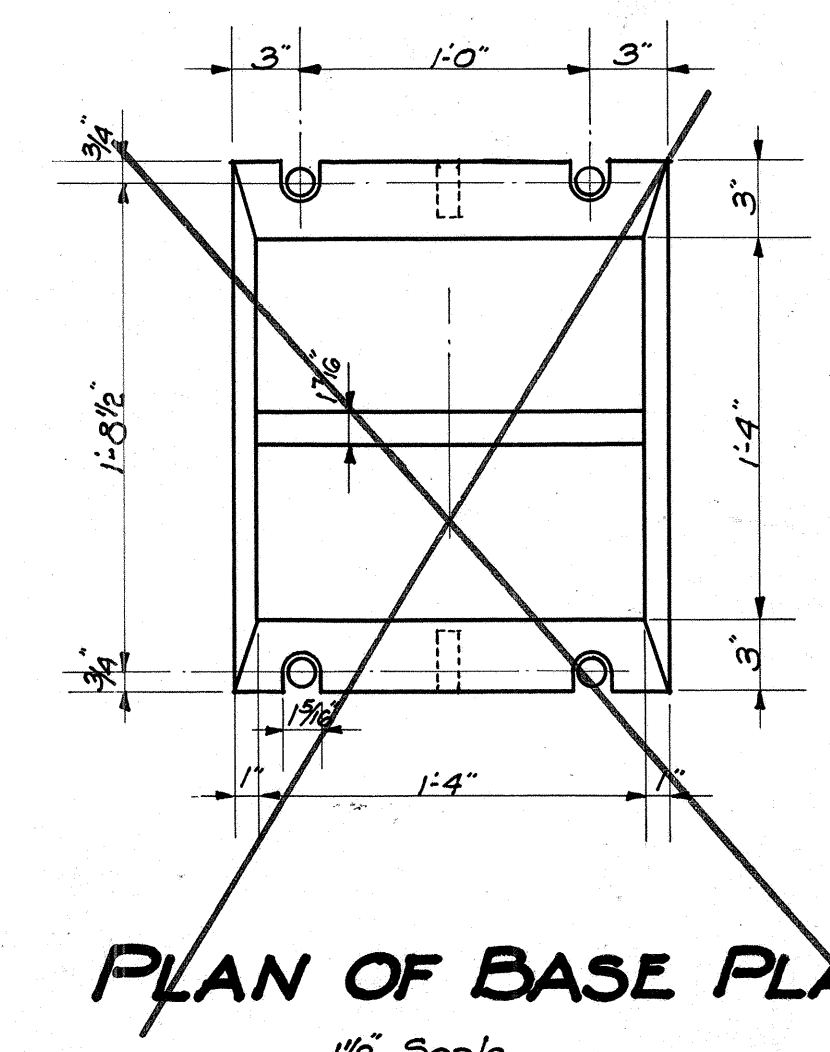
Revised 1/31/36



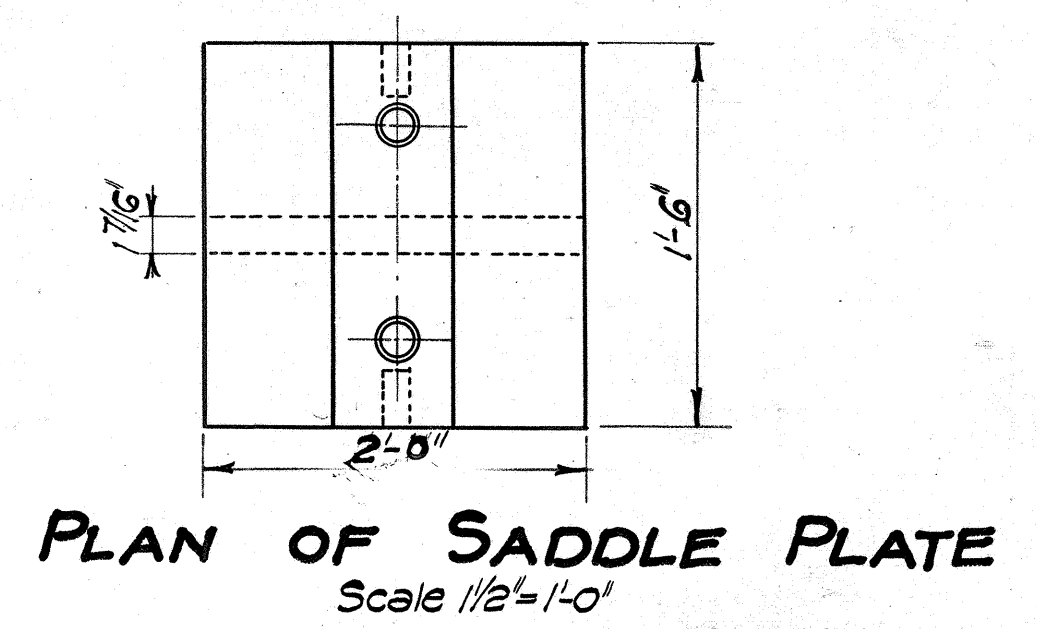
SIDE ELEVATION.
1 1/2" Scale.



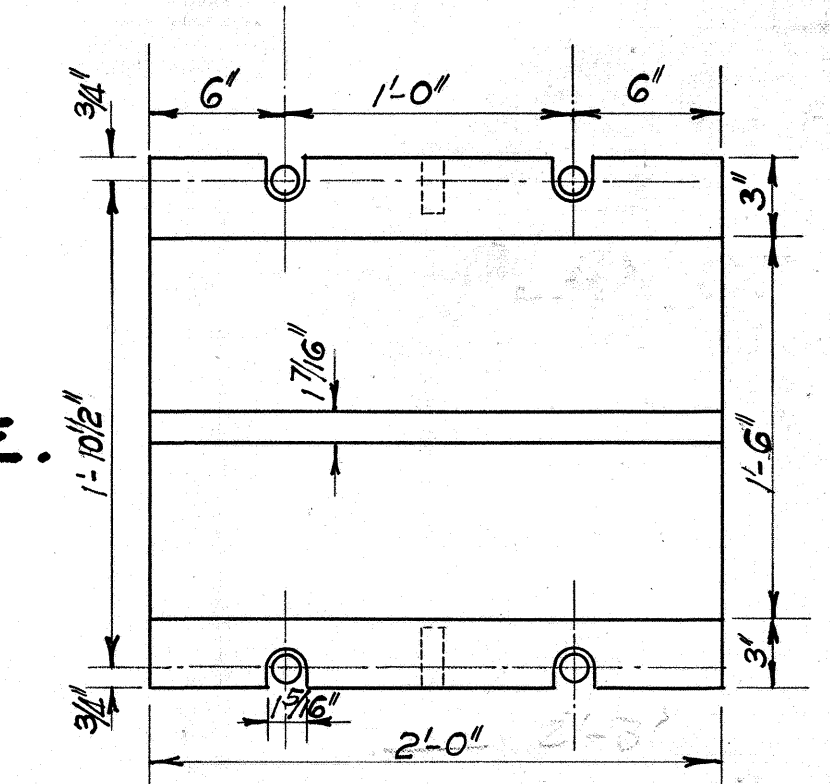
FRONT ELEVATION.
1 1/2" Scale.



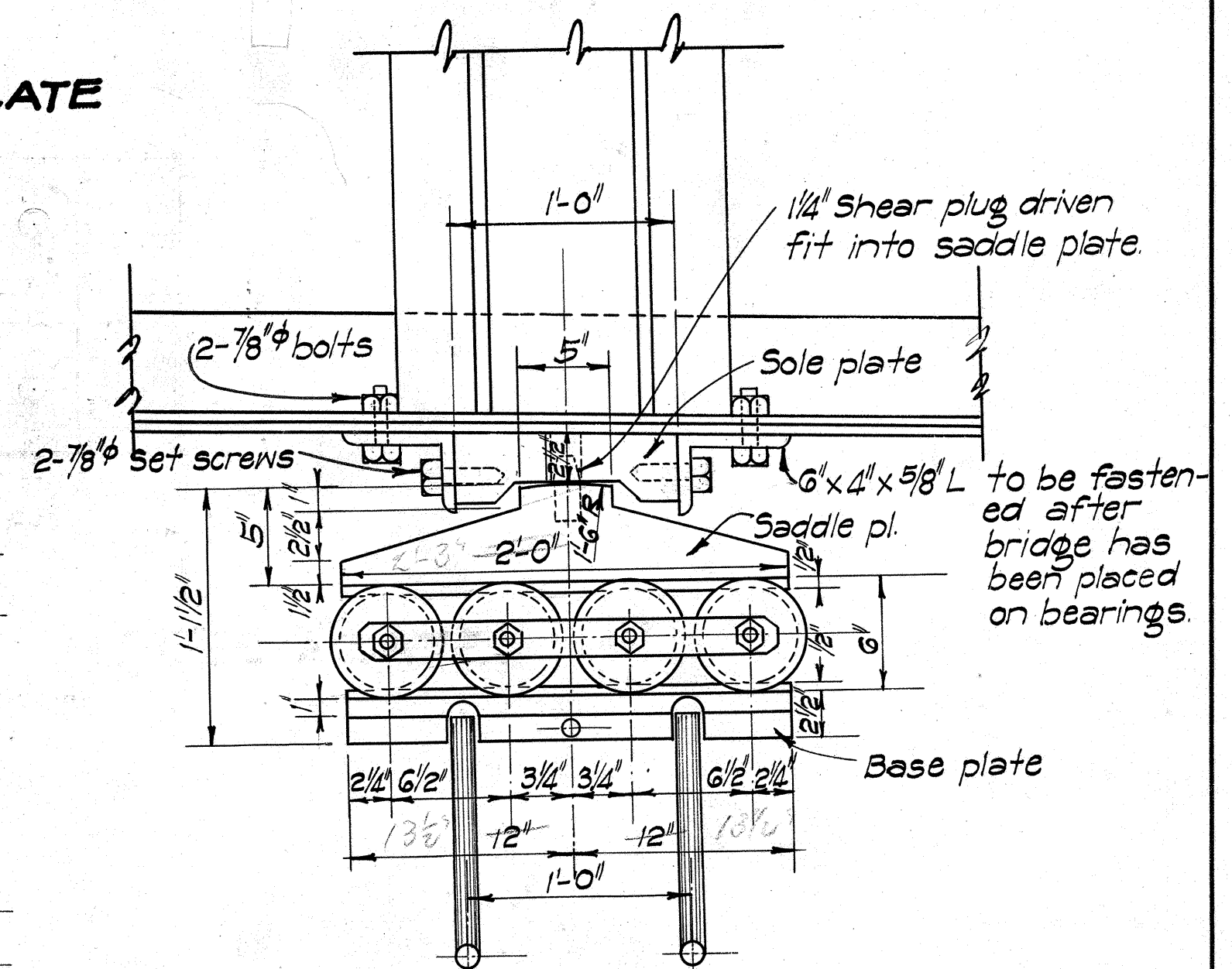
PLAN OF BASE PLATE.
1 1/2" Scale.



PLAN OF SADDLE PLATE
Scale 1 1/2"=1'-0"

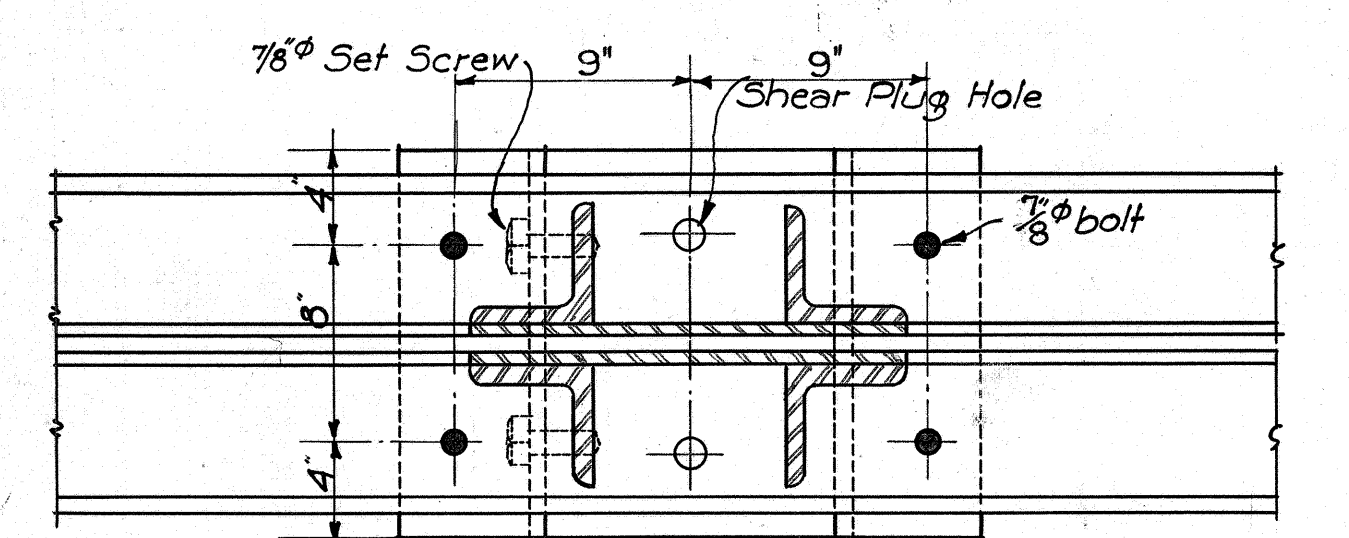


PLAN OF BASE PLATE
Scale 1 1/2"=1'-0"

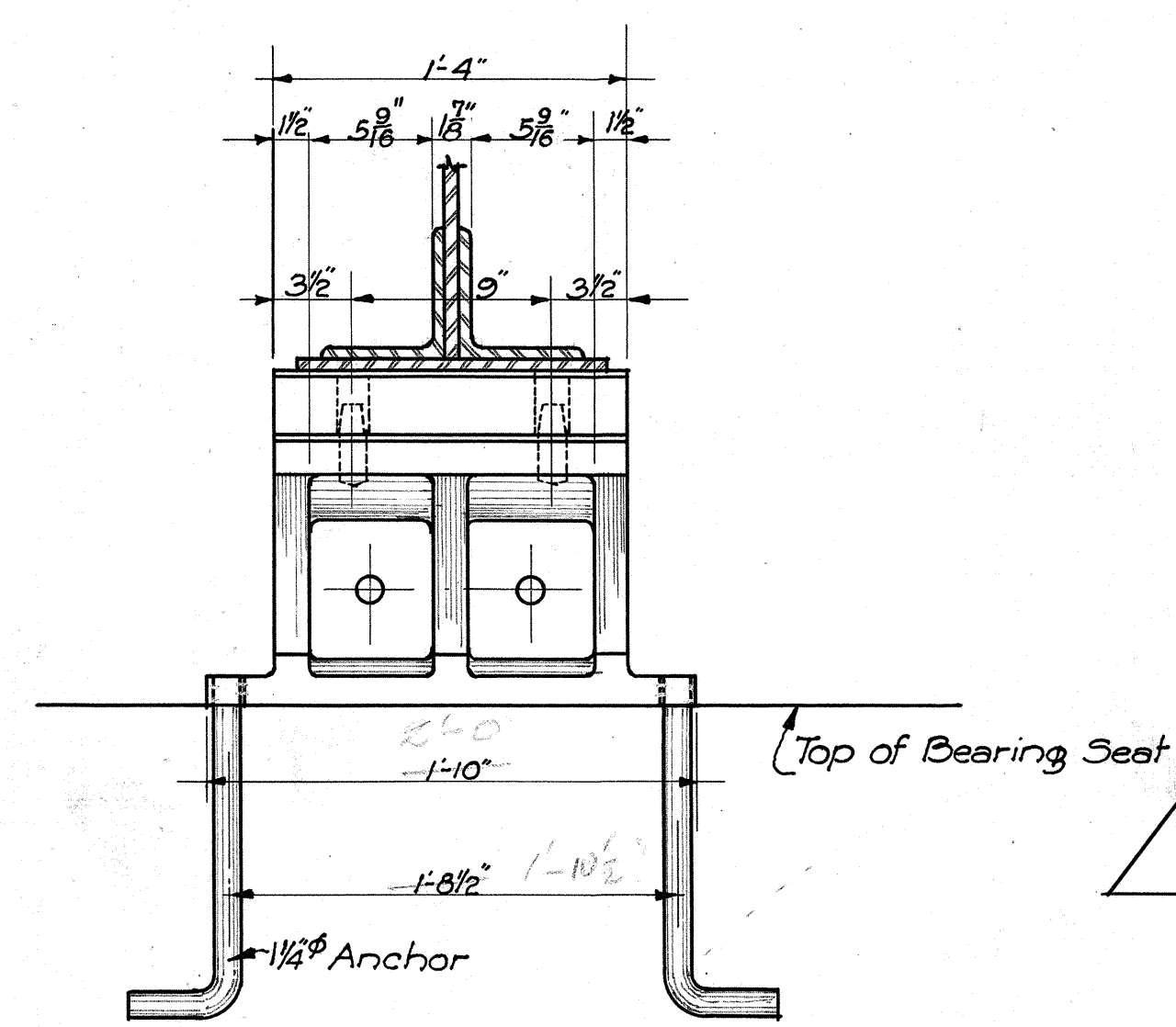


SIDE ELEVATION
Scale 1 1/2"=1'-0"

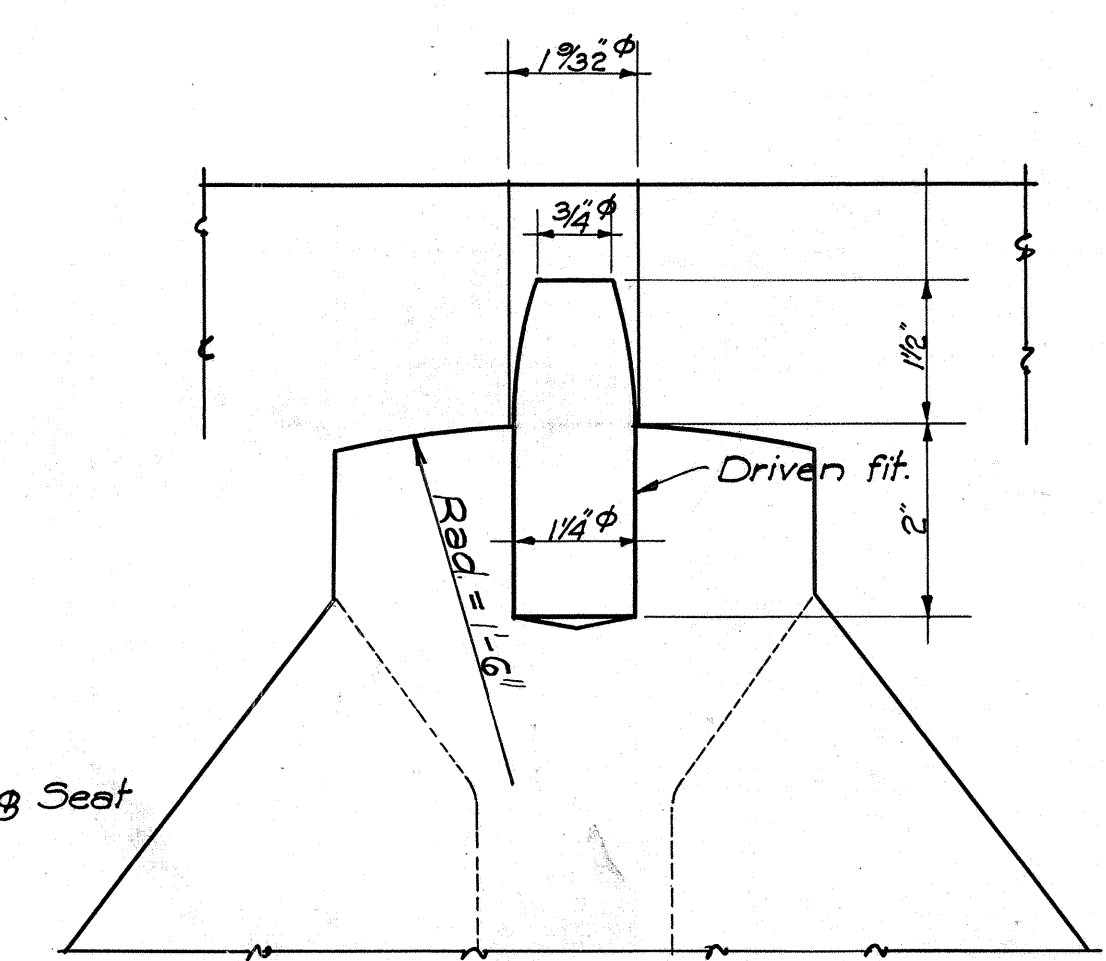
♦ NOTE / PLATES & ROLLERS TO BE MADE OF CAST STEEL ♦
DETAILS OF EXPANSION BEARING.



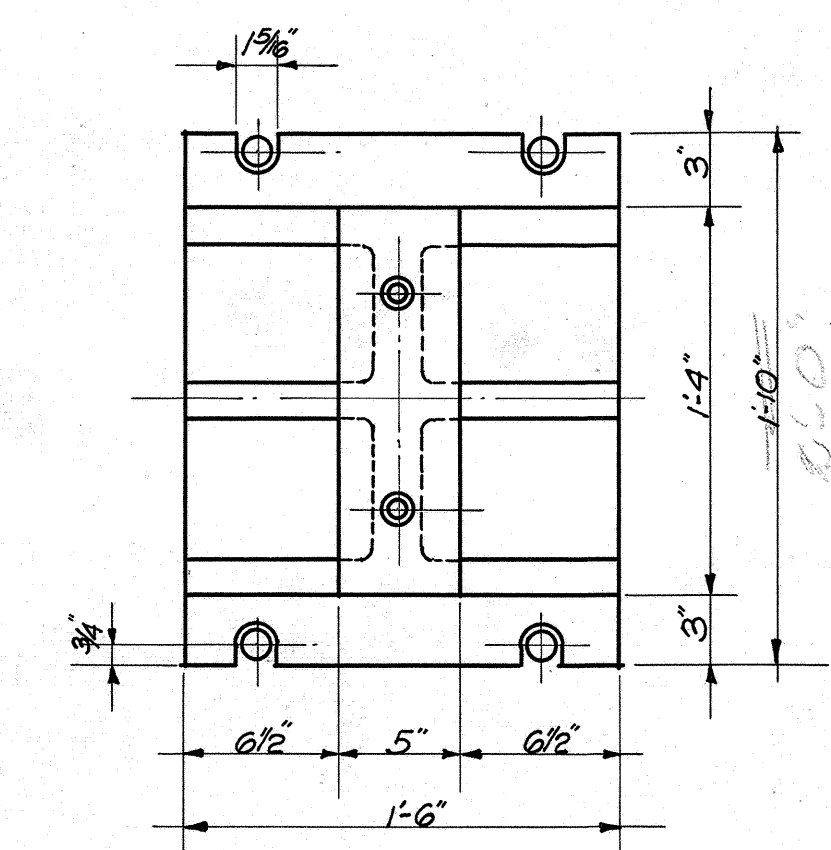
PLAN OF CONNECTION BETWEEN GIRDER & SOLE PLATE.
This detail is the same for both ends.
1 1/2" Scale.



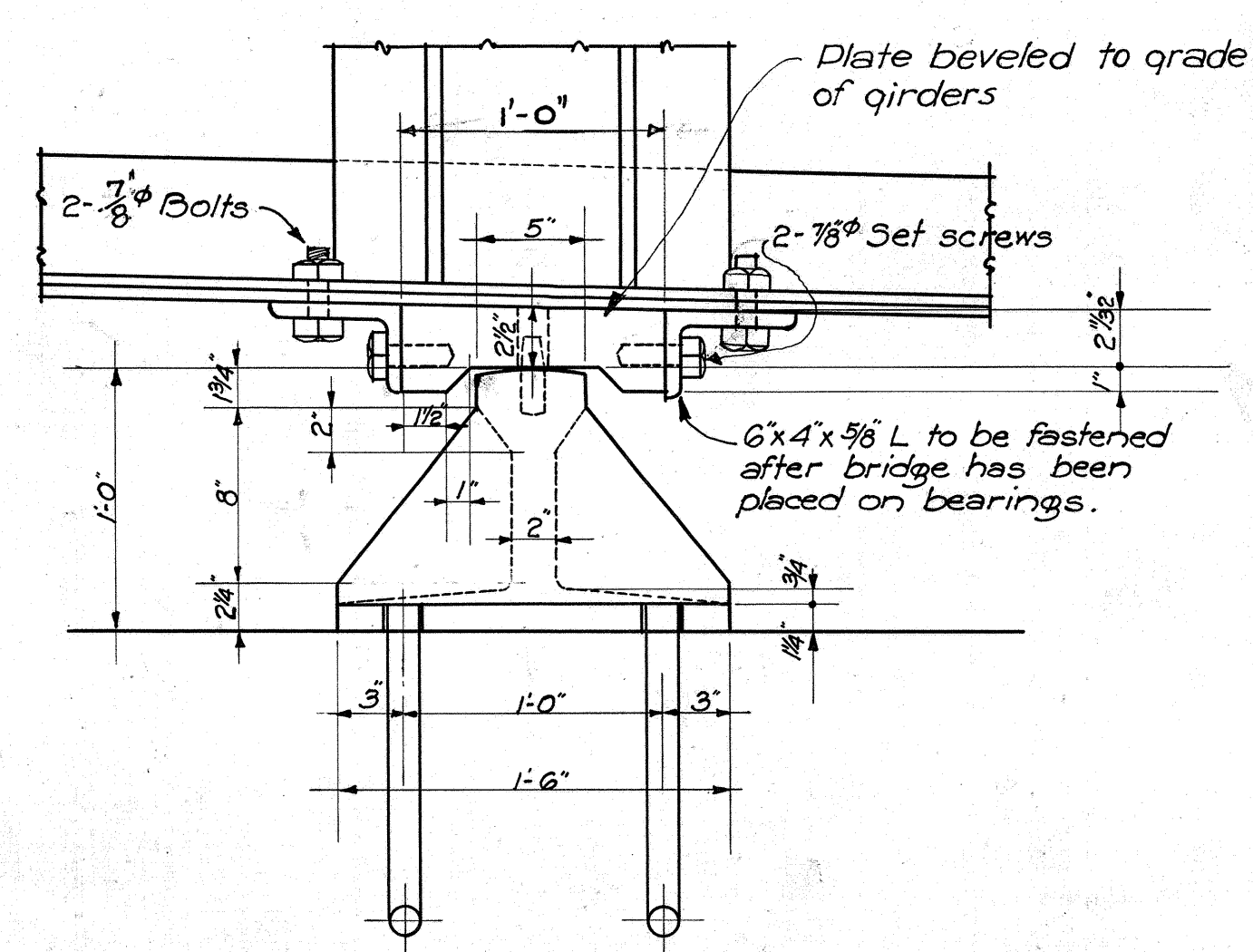
FRONT ELEVATION.
1 1/2" Scale.



DETAIL OF SHEAR PLUG.
Scale = Half full size.



PLAN.
1 1/2" Scale.



SIDE ELEVATION.
1 1/2" Scale.

DETAILS OF FIXED BEARING.

Rev. 1/3/36 by MCV. Exp bearing changed.

DATE: 6-19-35
DESIGNED BY: V.E.D.
DRAWN BY: V.E.D.
CHECKED BY: W.B.D.
No.:

SURVEY PLOTTED BY: V.E.D.
ORIGINAL PLAN: V.E.D.
NOTE BOOK: V.E.D.
QUANTITIES BY: V.E.D.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

RAILROAD OVERPASS
No 5 STA. 11+47.16
KAMEHAMEHA Highway No. W.P.G.H. 71

STEEL SCHEDULE

Sheet of sheets

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	W-11	1935	16A	

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
700		FOOTINGS	12'-9"	20	2	40	510	2.07	1,056	
703		"	8'-4"	4	2	8	66.67	"	138	
704		"	9'-9"	6	2	12	117	"	242	
705		"	10'-6"	3	2	6	63	"	130	
706		"	10'-10"	3	2	6	65	"	135	
707		"	11'-5"	2	2	4	45.67	"	95	
708		"	12'-0"	1	2	2	24	"	50	
600		"	6'-11"	11	2	22	152.17	1.52	231	
601		"	13'-2"	20	2	40	526.67	"	801	
602		"	13'-9"	20	2	40	550	"	836	
603		"	10'-3"	7	2	14	143.5	"	221	
609		"	8'-8"	4	2	8	69.33	"	105	
300		"	25'-0"	28	2	56	1400	0.38	532	
800		ABUTMENT	17'-1"	20	2	40	686.67	2.70	1,854	
801		"	22'-0"	20	2	40	880	"	2,376	
802		"	26'-10"	20	1	20	536.67	"	1,449	
803		"	26'-3"	20	1	20	525	"	1,418	
604		#1 & #2 Front Face	11'-6"	14	2	28	322	1.52	489	
605		"	24'-7"	30	1	30	737.5	"	1,121	
606		"	24'-1"	30	1	30	722.5	"	1,098	
607		#1 Curtain Wall Rear Face	14'-3"	32	1	32	456	"	693	
608		"	14'-3"	32	1	32	456	"	693	
400		#1 & #2 F.F. Horiz.	26'-9"	23	2	46	1230.5	0.68	837	
401		"	28'-1"	25	2	50	1404.16	"	955	
402		"	30'-0"	18	2	36	1080	"	735	
403		"	6'-0"	21	2	42	252	"	171	
404		"	4'-0"	32	2	64	256	"	174	

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
405		Abut. #1 & #2 Curtain Walls R.F. (Diag.)	$\frac{1}{2} \phi$	3'-6"	11	2	22	77	0.68	52
301		WING WALL F.F. & R.F.	$\frac{3}{8} \phi$	(Varies Av) 27'-1 1/2"	22	4	88	2387	0.38	907
302		" "	"	(Varies Av) 9'-6"	21	2	42	399	"	152
303		" "	"	4'-9"	16	4	64	304	"	116
304		" "	"	11'-6"	12	2	24	276	"	105
304A		Front Face, Horiz.	"	11'-6"	12	2	24	276	"	105
500		" "	$\frac{5}{8} \phi$	14'-1"	23	2	46	647.83	1.06	687
500A		Rear " , "	"	14'-1"	23	2	46	647.83	"	687
305		" "	$\frac{3}{8} \phi$	(Varies Av) 14'-3"	4	2	8	114	0.38	43
305A		Front " , "	"	(Varies Av) 14'-3"	4	2	8	114	"	43
501		" "	$\frac{5}{8} \phi$	(Varies Av) 16'-3"	9	2	18	292.5	1.06	310
501A		Rear Face	"	(Varies Av) 16'-3"	9	2	18	292.5	"	310
306		" "	$\frac{3}{8} \phi$	15'-6"	8	4	32	496	0.38	188
502		Front " , "	$\frac{5}{8} \phi$	15'-10"	8	2	16	253.33	1.06	269
502A		Rear " , "	"	15'-10"	8	2	16	253.33	"	269
307		" "	$\frac{3}{8} \phi$	15'-6"	4	4	16	248	0.38	94
308		" "	"	8'-0"	4	4	16	128	"	49
202		GUTTER	$\frac{1}{4} \phi$	3'-6"	10	2	20	70	0.17	12
203		" "	"	17'-6"	5	2	10	175	"	30
204		" "	"	34'-0"	7	1	7	238	"	40
205		" "	"	7'-3"	25	1	25	181.25	"	31
200		DECK Precast Conc. slab.	$\frac{1}{4} \phi$	0'-6"	18	1	18	9	0.17	2
201		" "	"	17'-3"	2	1	2	34.5	"	6
309		Deck Slab. Temp. bars	$\frac{3}{8} \phi$	15'-6"	6	19	114	1767	0.38	671
309A		" "	"	(Varies Av) 7'-9"	12	2	24	186	"	71

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
406										

CONTRACTORS NOTE

This steel schedule is subordinate to details shown on 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 occur in the steel schedule. Contractor shall check steel schedule before placing order.
All stirrup dimensions are to inside of stirrups; all other dimensions are figured on $\frac{1}{2}$ of bar.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAIIRAILROAD OVERPASS
No 5 STA. 11+47.16
KAMEHAMEHA HIGHWAY W.R.G.H. 71

SHEET No 1 OF 1 SHEETS

4393-16A

DATE: Dec. 1935
DRAWN BY: H.Y.M.
CHECKED BY: H.Y.M.
REVISIONS: 1. 12-1-35
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