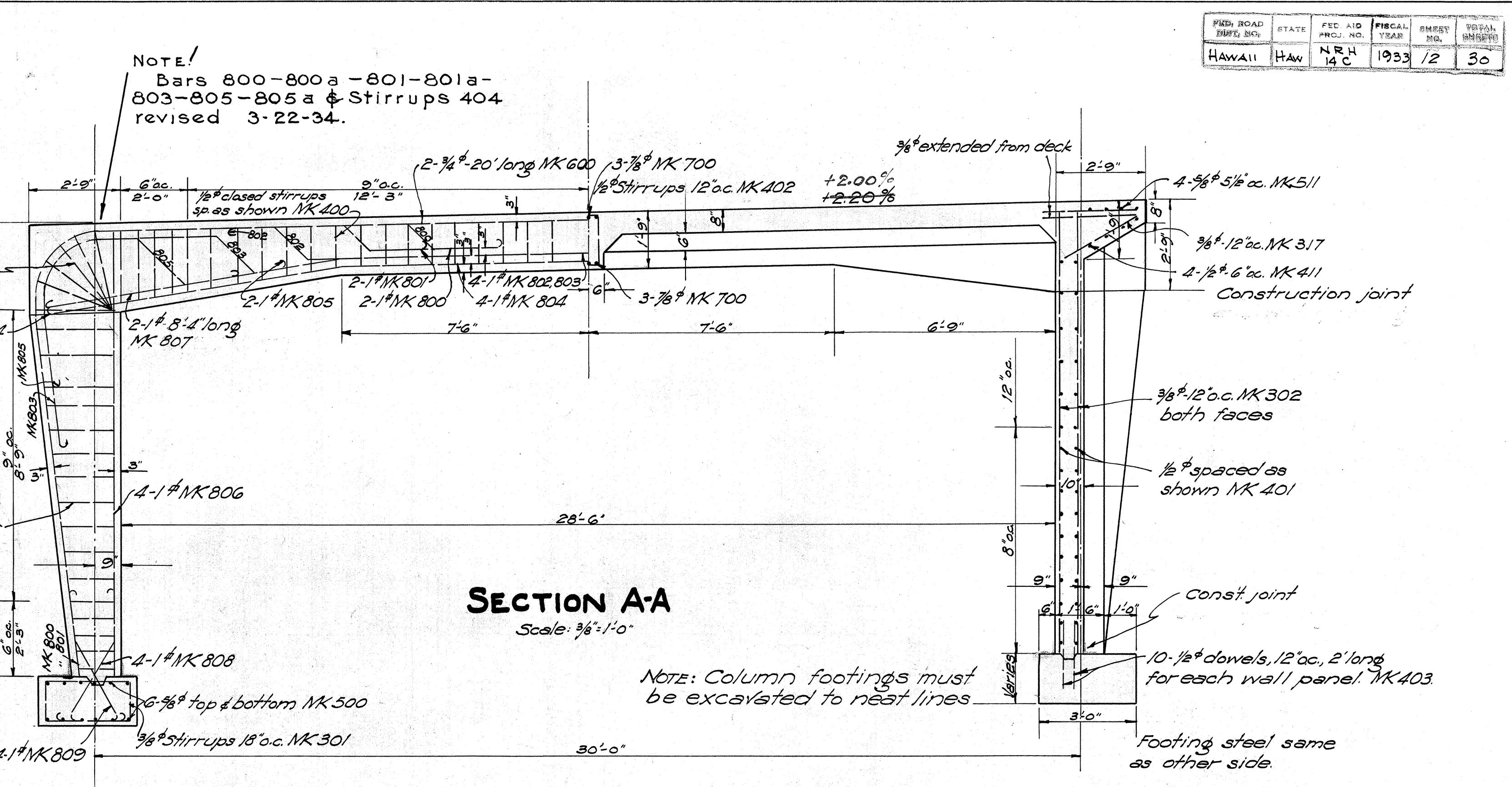
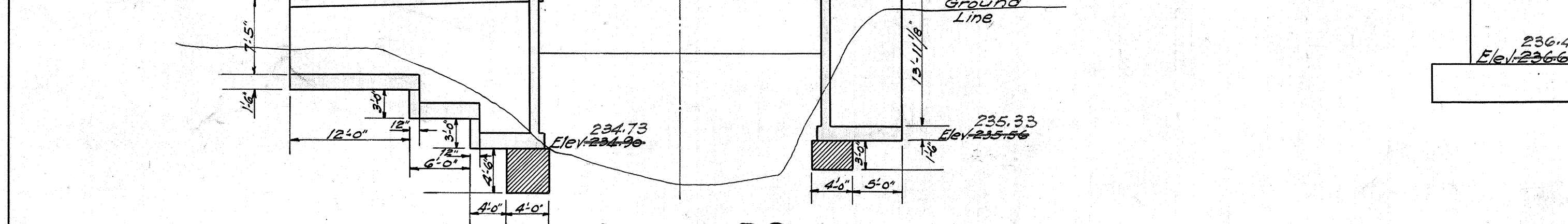
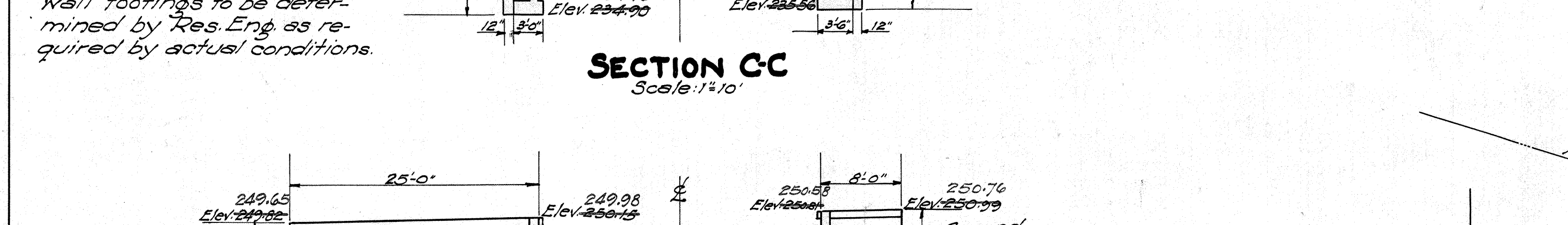
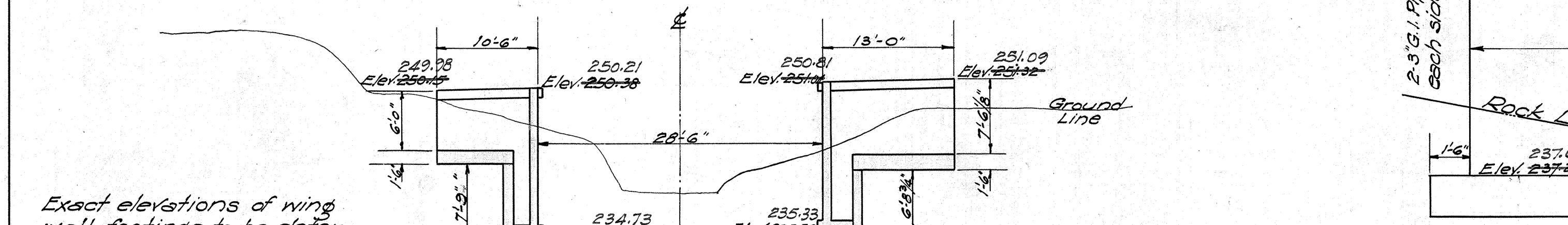
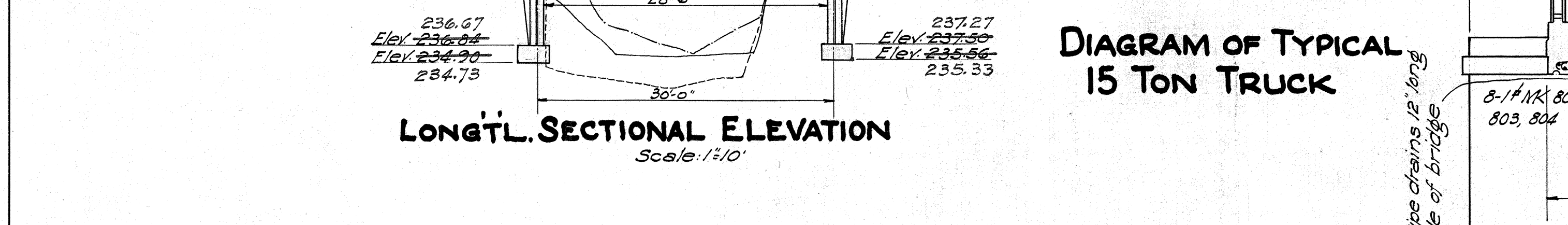
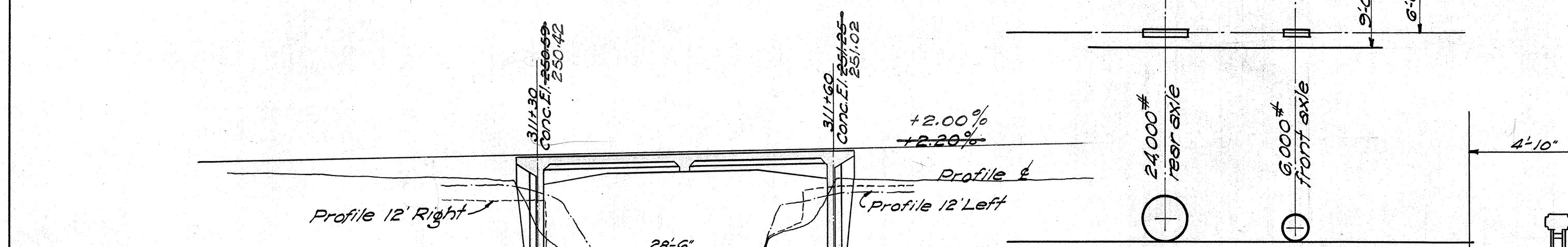
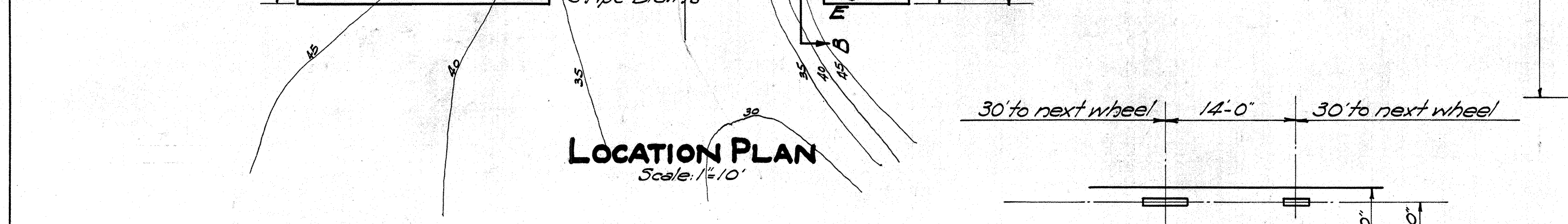
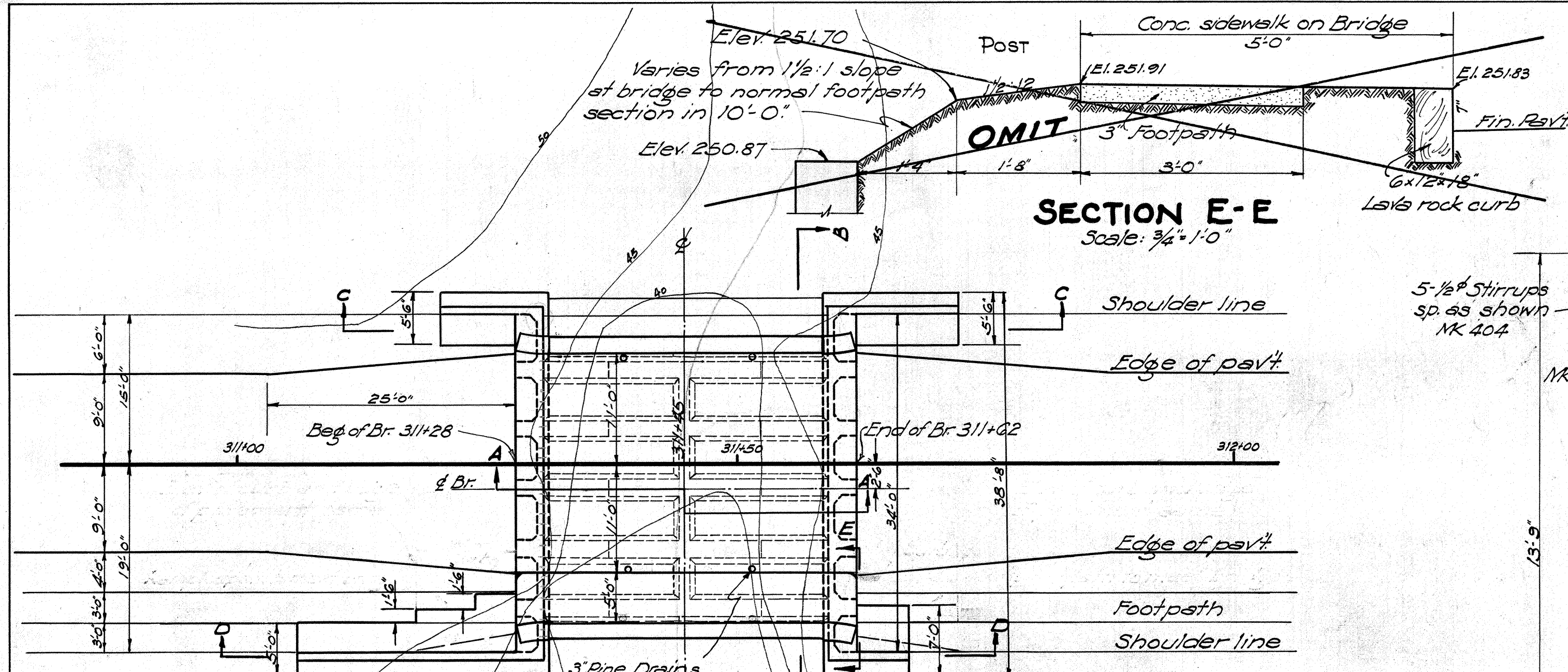


GENERAL NOTES

Dead Load: Concrete at 150# per cu. ft.

Live Load: Train of 15 ton trucks in two traffic lanes, spacing of trucks as per diagram, with 30% allowance for impact.

Concrete: Class A (1:2:4 mix) with all exposed edges chamfered 3/4" unless otherwise noted. Allowable compression 650# per sq. in.

Reinforcing Steel: Allowable tensile stress 16,000# per sq. in. All steel to be round or square deformed bars of approved design, square twisted bars are not to be considered. All dimensions 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. Main longitudinal bars in girders cannot be spliced. No allowance will be made in the quantities for extra weight of steel required for splices. Unless otherwise noted the minimum covering measured from the surface of concrete to the face of any steel be not less than 2 1/2" in abutments and abutment footings; 2" in beams, girders and handrail, and 1 1/4" in slabs. Steel to be held rigidly and accurately in place before and during placing of concrete.

Sand cushion (to be provided as incidental to concrete)

3 rows 3/4" dowels 12" oc staggered MK 601

Class "B" conc. with rubble one man stone

Rock ledge to be stepped as req. by Res. Eng.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
WAIKOLU BRIDGE
No. 109

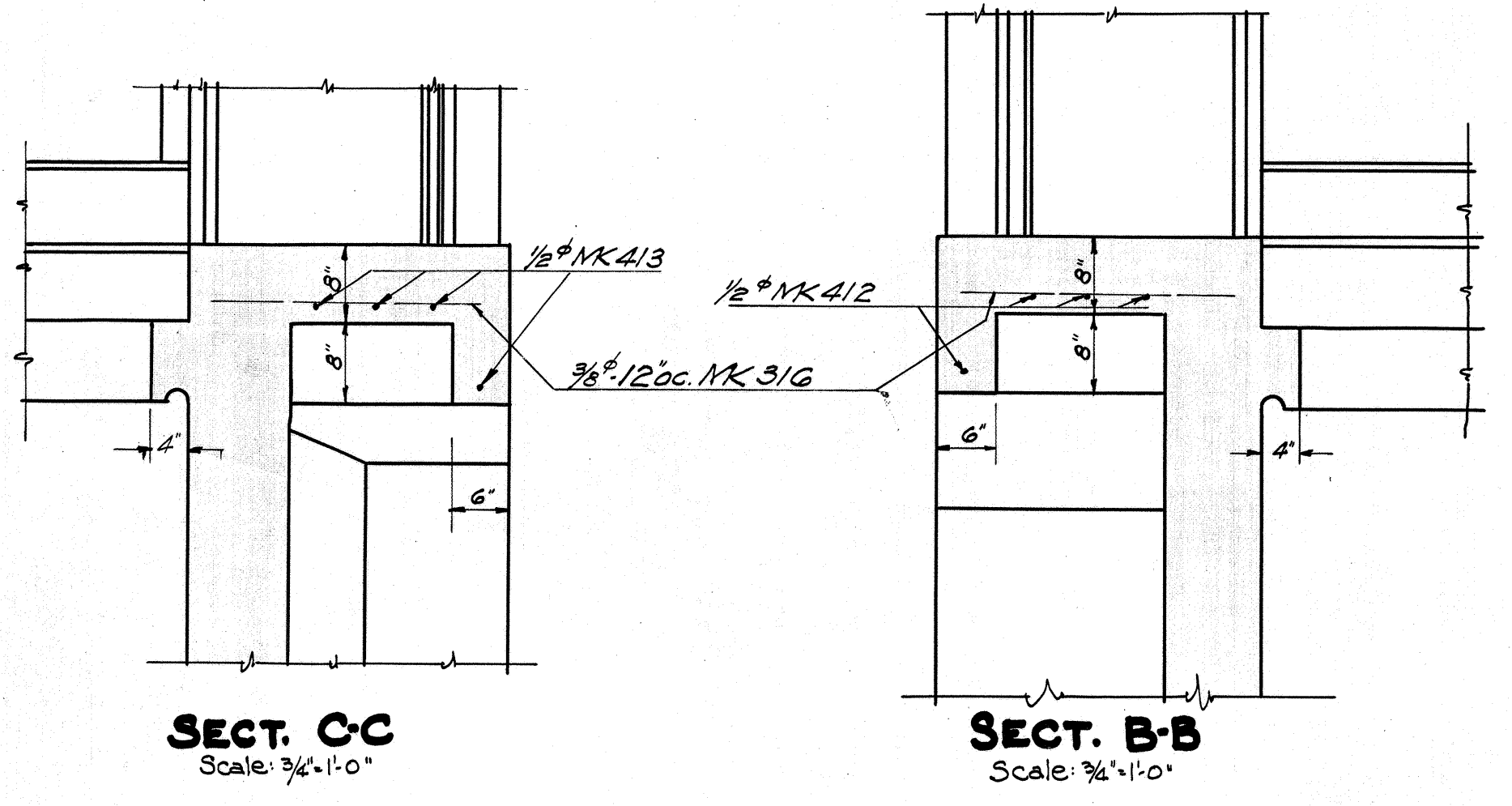
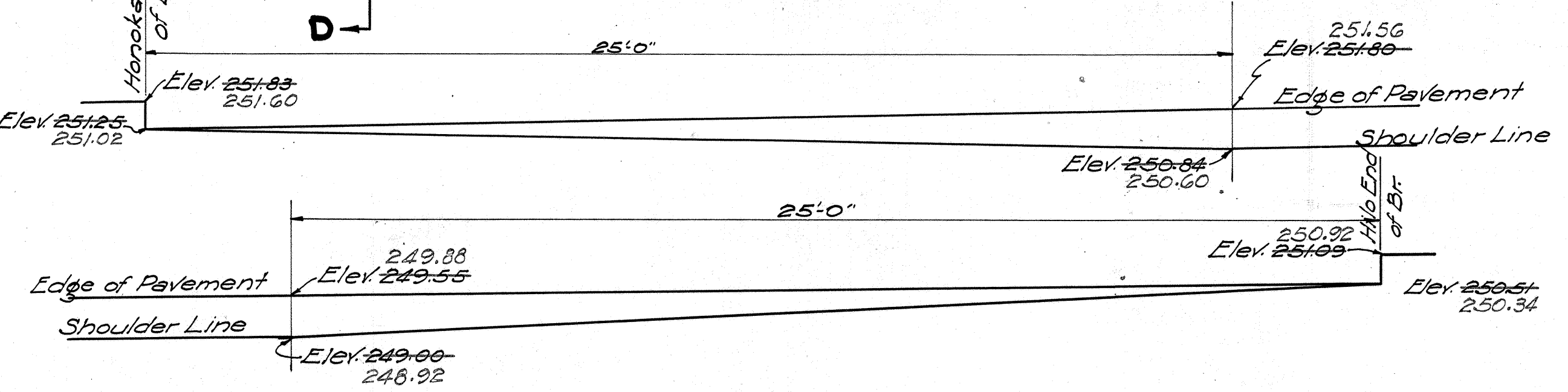
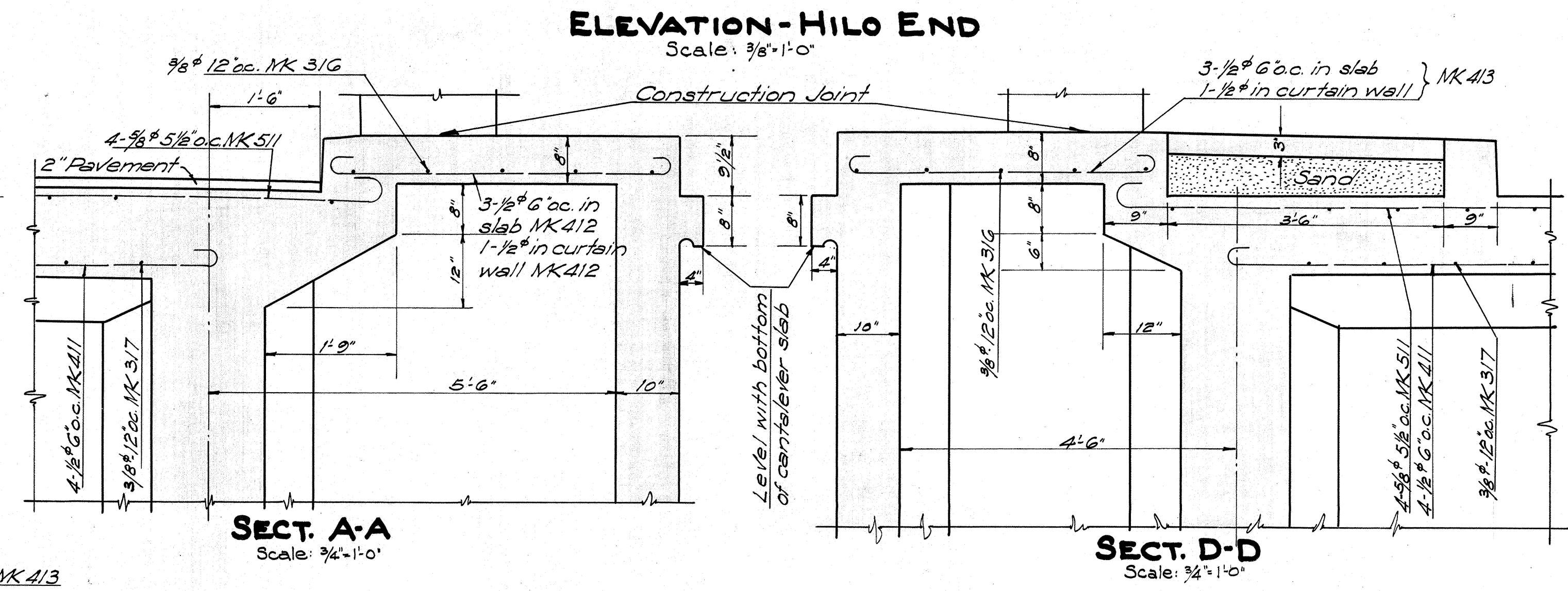
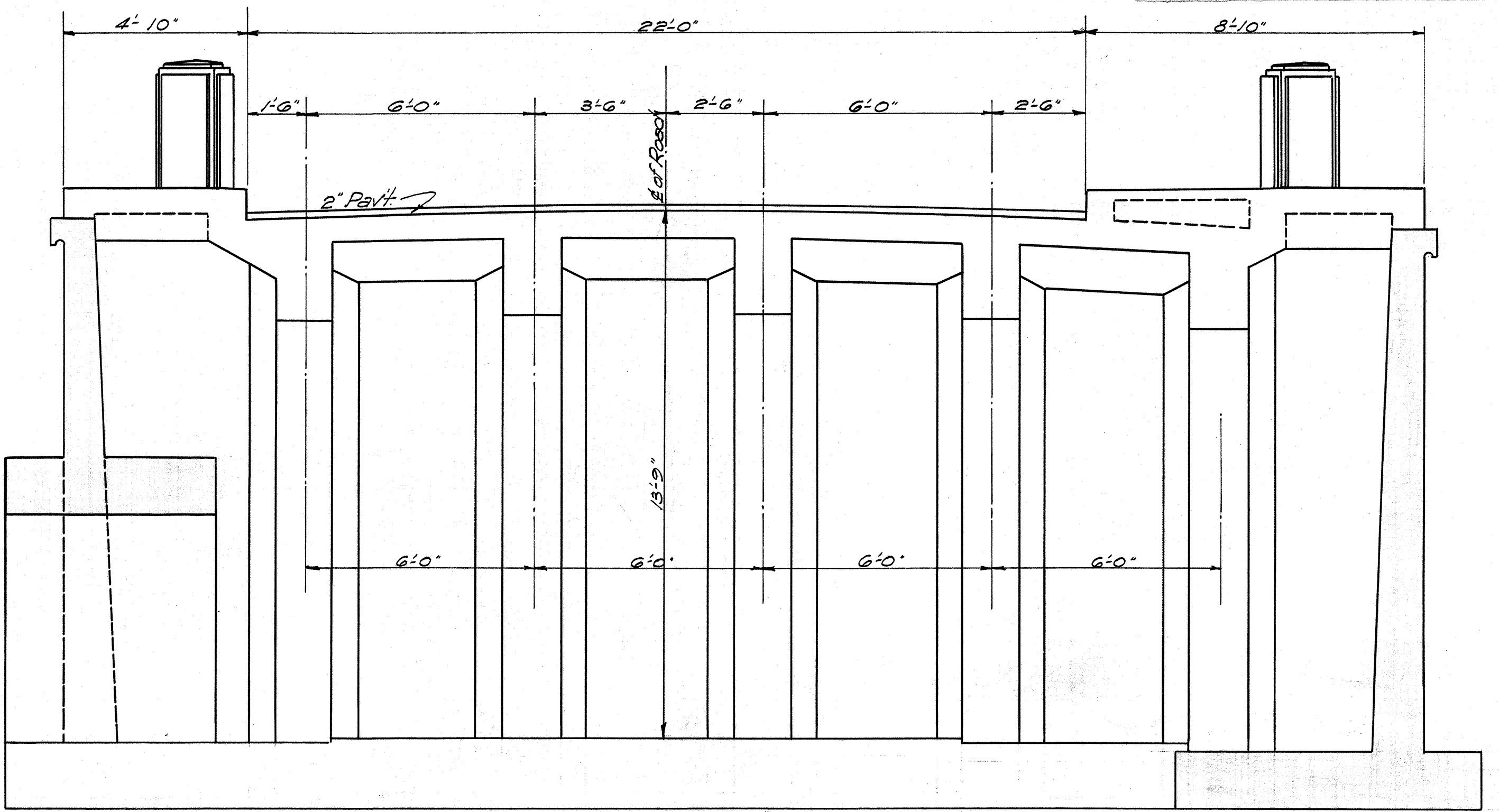
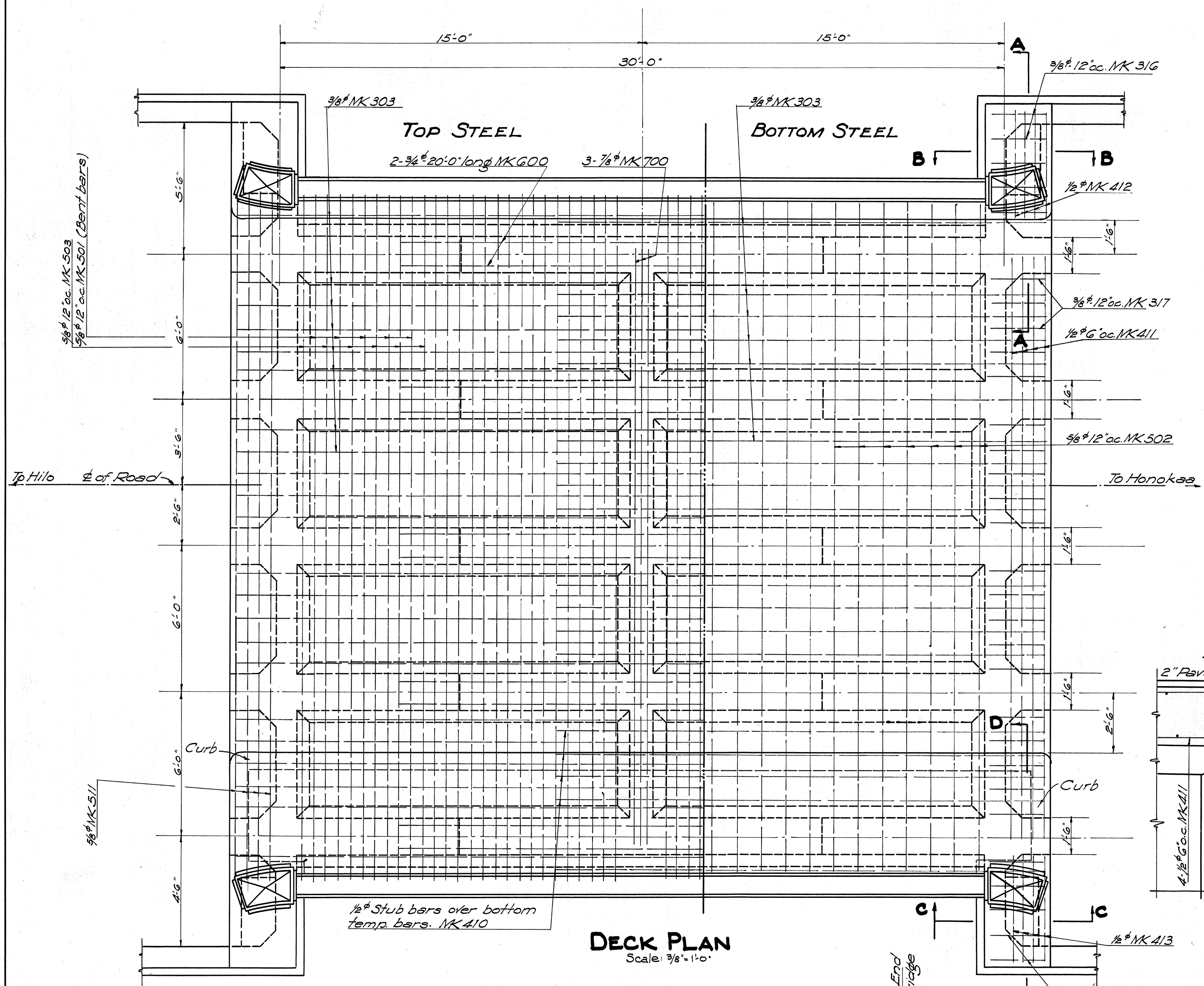
HAWAII BELT ROAD Proj. No. N.R.H. 14 C
Sheet 1 of 4 Sheets

4306.12

REVISIONS

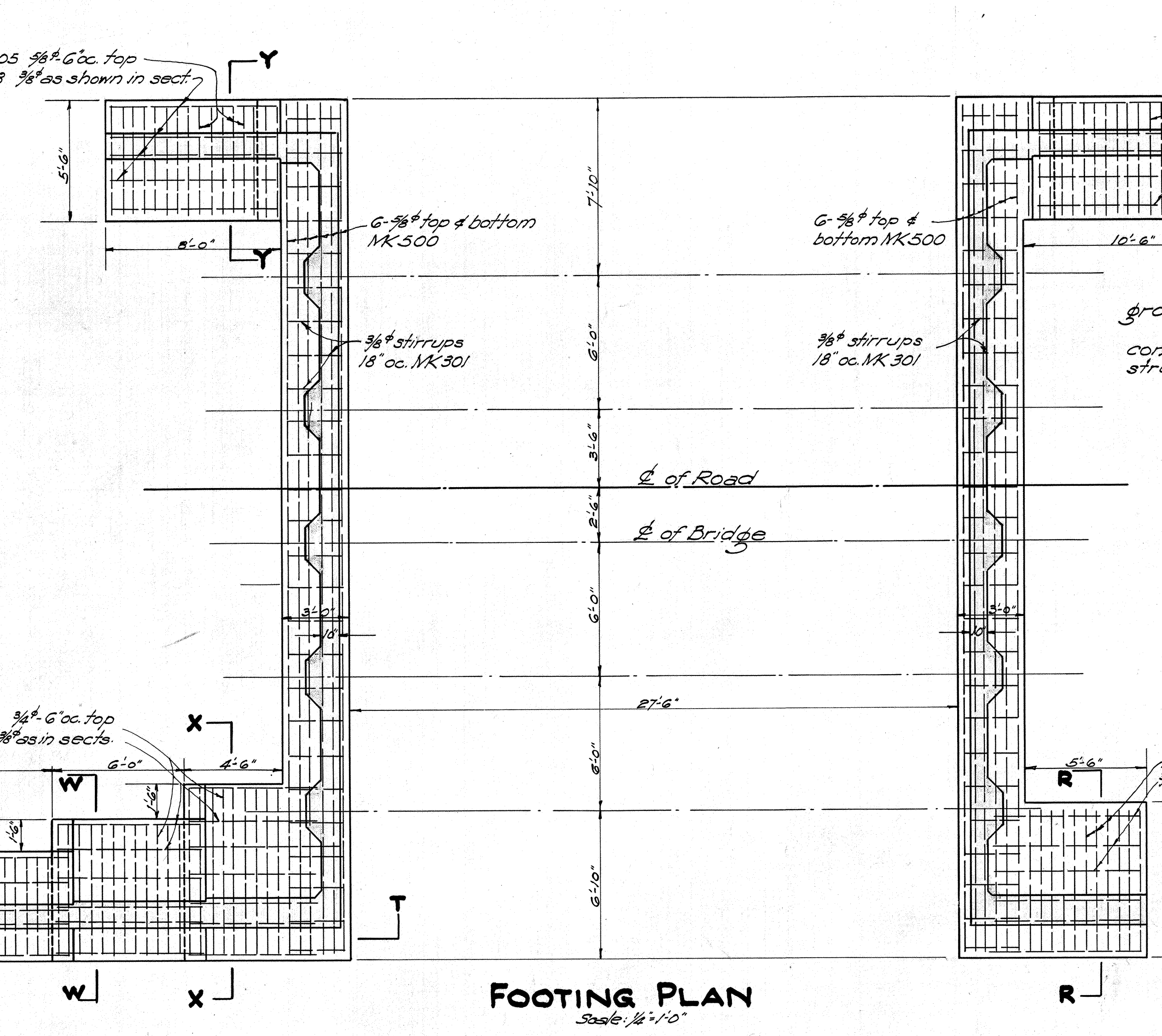
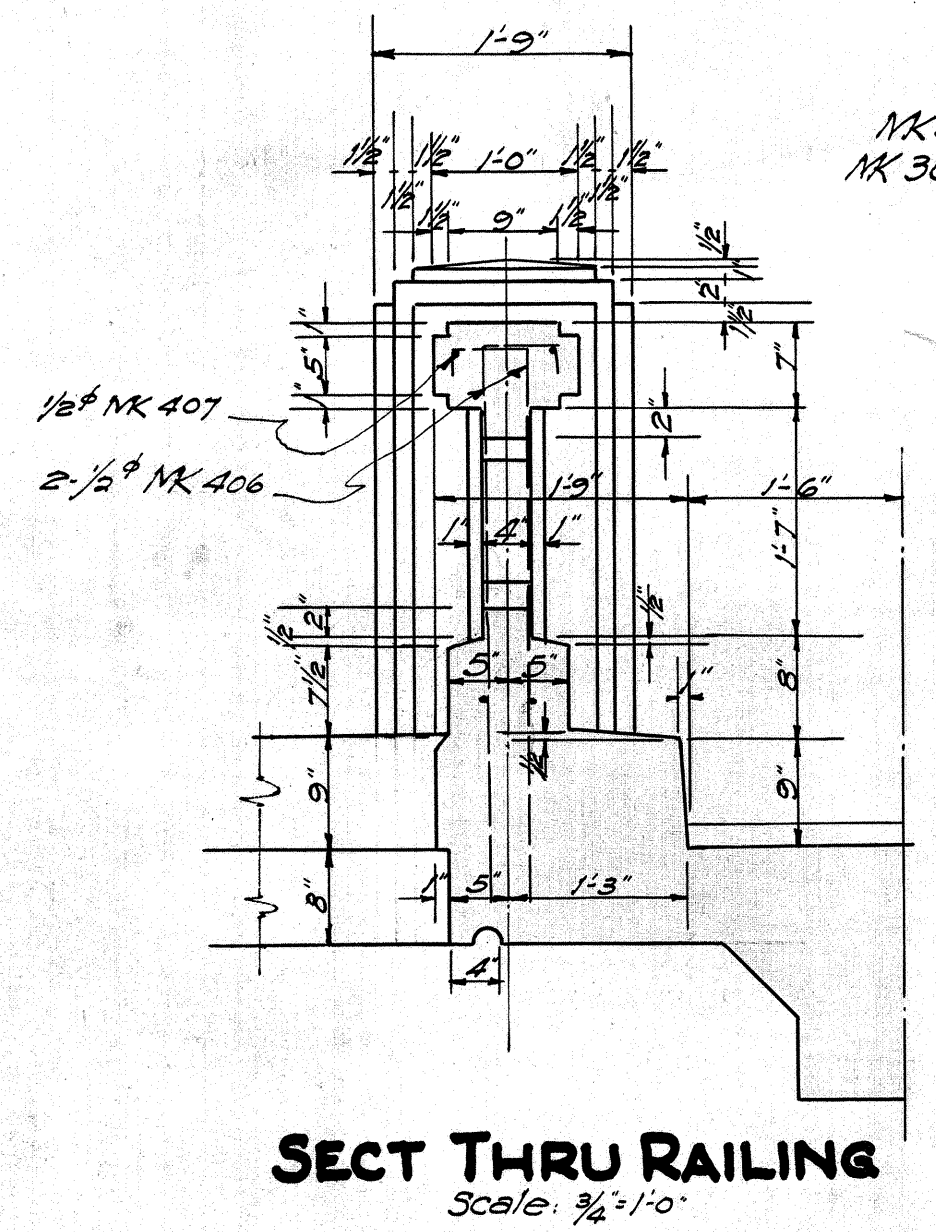
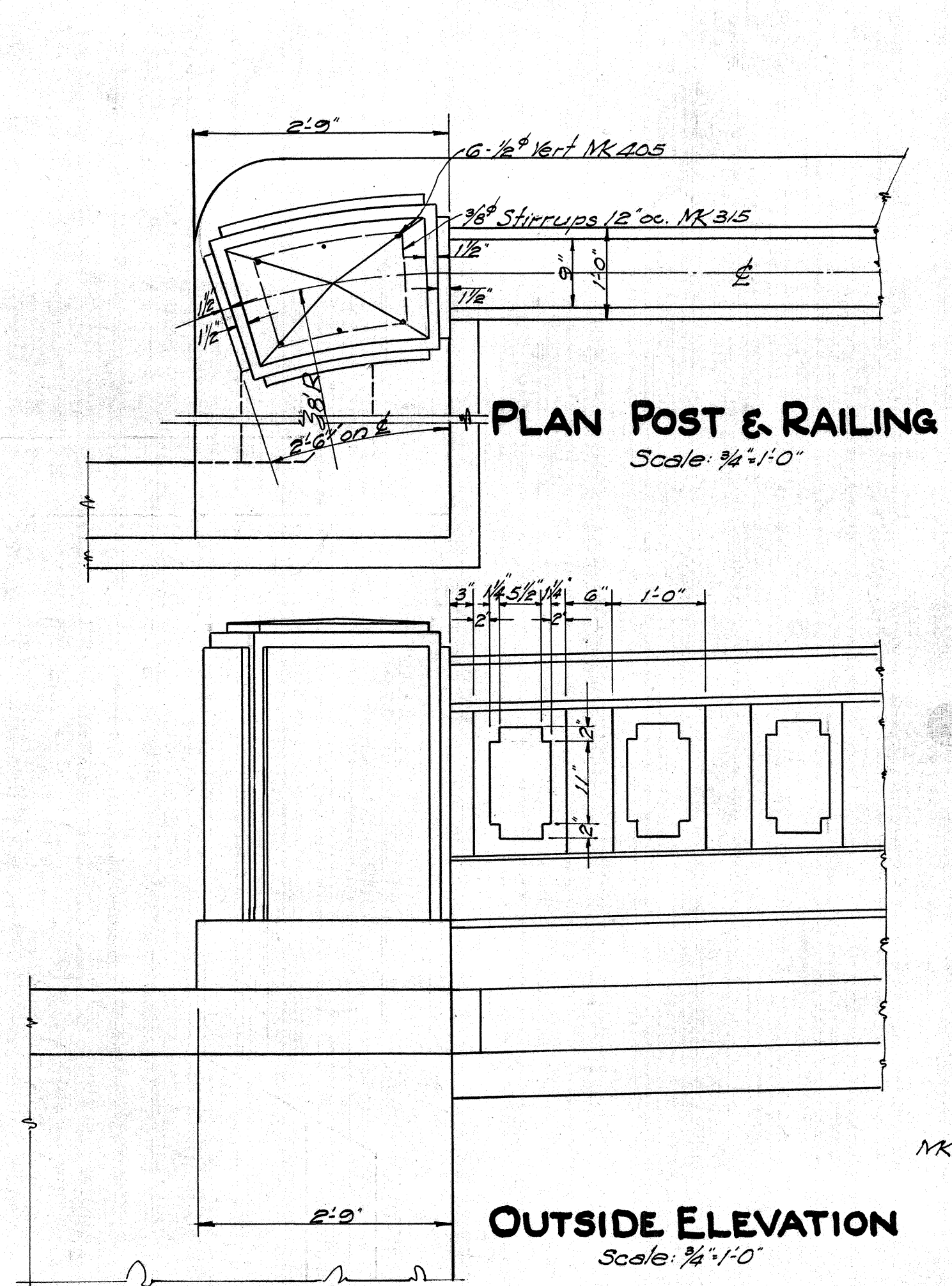
NO.	DATE	BY	REVISION
1	Nov 1933	W.E.B.	W.R.B. & J.C.M.
2	Dec 1933	J.C.M.	W.R.B. & J.C.M.
3	Dec 1933	J.C.M.	W.R.B. & J.C.M.

REVISOR: J.C.M.
REVISED 3-22-34 as per Bulletin of 3-6-34-E.S.



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
WAIKOLU BRIDGE
No. 109
HAWAII BELT ROAD PROJ. No. N.R.H. 14C
Sheet 2 of 4 Sheets

DATE: Dec. 1933
DESIGNED BY: W.E.B.
DRAWN BY: W.C.M.
CHECKED BY: J.C.M.
REVISED BY: J.C.M.
FEB 1934



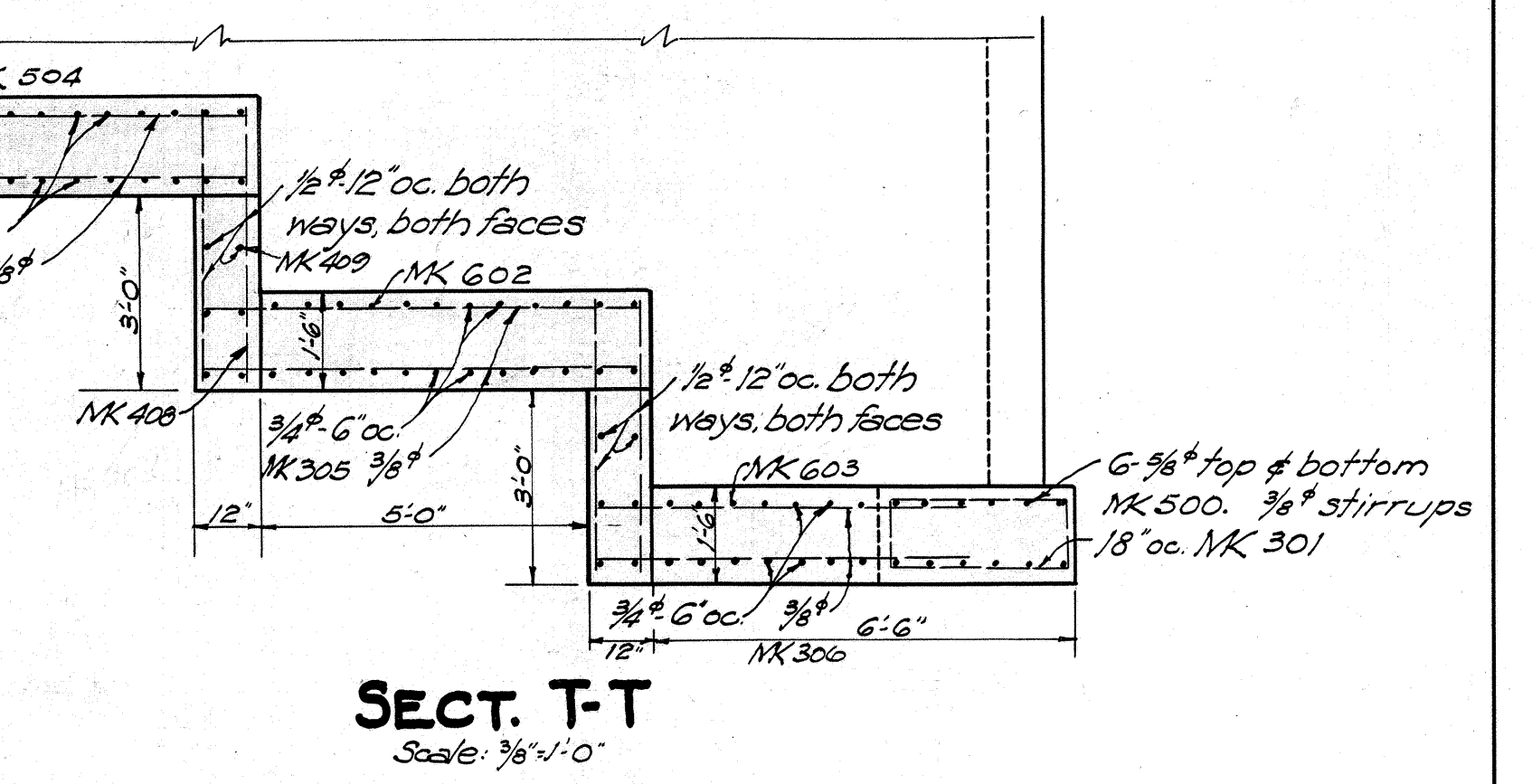
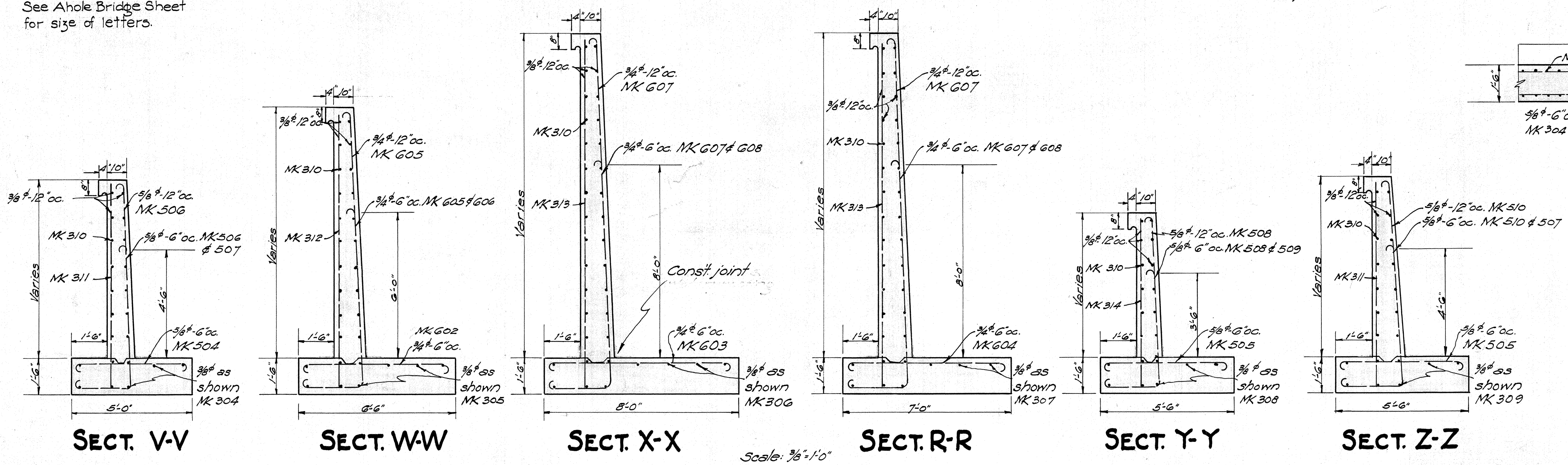
CONST. JOINTS
GENERAL NOTES:
Joints to have surface roughened and 1/2 cement grout applied immediately before second pour.
Bottom construction joints to be at top of footing. Top construction joint at bottom of girders. Railing construction joint at top of curb.

Estimated Quantities

ITEM	EXCAVATION	CONC.	STEEL
Footings	272.0 cy	10.3 cy	3822 lbs
Abutments		61.9 "	11,424 "
Superstructure		31.4 "	11,550 "
Railing		8.2 "	490 "
TOTAL	272.0 cy	10.3 cy	29,293 lbs

Brush Coat Waterproofing: Remove all projections, cement film, dirt, etc. Apply primer, etc. after concrete is over 14 days old and when dry. Apply primer coat of asphalt (penetration not over 250) with a naptha flux. Follow with two brush coats of hot asphalt (300-350°) having penetration of 25-50. These two coats are to use at least one gallon of asphalt per sq. yd. and are to be applied from the bottom upward.
Waterproofing shall cover all surfaces in contact with earth except sides and bottom of footings. Waterproofing is an incidental to the concrete used and will not be paid for separately.

NAME & DATE ON opposite posts
See A-hole Bridge Sheet for size of letters.



DATE: Nov. 1953
DESIGNED BY: W.R. G. & J.C.N.
CHECKED BY: W.R. G. & J.C.N.
NOTE BOOK

ORIGINAL SURVEY PLOTTED BY
PLAN DRAWN BY J.C.M.
NOTE BOOK QUANTITIES BY J.C.M.
CHECKED BY J.L. & J.C.M.
No.

REVISED 3-22-34 per Dis letter of 3-6-34-EUS.

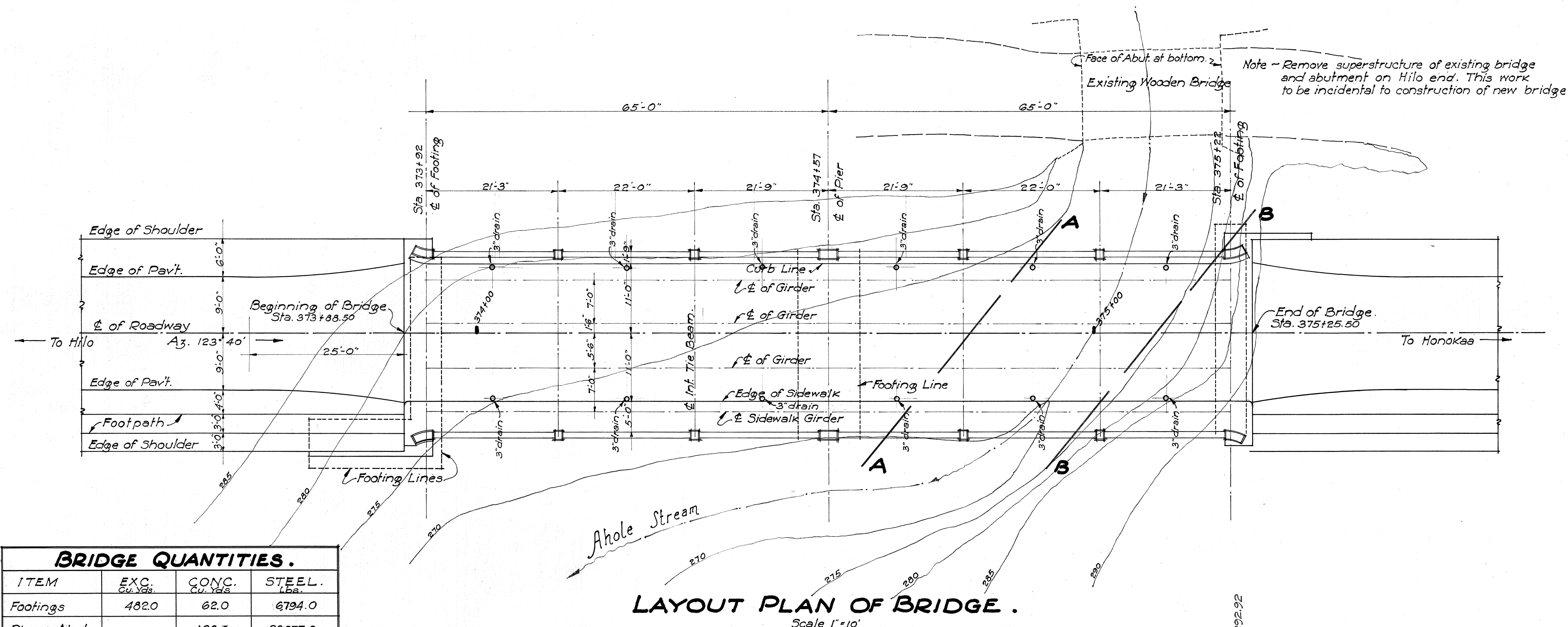
STEEL SCHEDULE

MK	Description	Location	Size	Length	No of bars per Unit	No. Units	Total No of Bars	Total Length	Unit Weight	Total Weight
800		Columns & Girders	1"	29'-0 3/4"	2	5	10	290.60	3.44	1000.0
800a		"	"	29'-0 3/4"	2	5	10	290.60	"	1000.0
801		"	"	27'-0 3/4"	2	5	10	270.60	"	931.0
801a		"	"	27'-0 3/4"	2	5	10	270.60	"	931.0
802		Girders	"	25'-2"	2	5	10	251.70	"	866.0
803		Columns & Girders	"	49'-4 1/2"	2	5	10	493.70	"	1698.0
804		Girders	"	36'-0 1/2"	4	5	20	720.80	"	2480.0
805		Columns & Girders	"	15'-1 1/2"	2	5	10	151.20	"	520.0
805a		"	"	15'-1 1/2"	2	5	10	151.20	"	520.0
806		Columns	"	13'-6"	4	10	40	540.00	"	1858.0
807		Girders	"	8'-4"	4	5	20	166.60	"	573.0
808		Column Dowels	"	10'-0"	4	10	40	400.00	"	1376.0
809		"	"	10'-0"	4	10	40	400.00	"	1376.0
600		Girders	3/4"	20'-0"	2	5	10	200.00	1.52	304.0
400		Girder Stirrups	1/2"	Varies av. 6'-4"	40	5	200	1266.00	0.68	861.0
300		Column Stirrups	3/8"	Varies av. 6'-5 1/4"	17	10	170	1094.80	0.38	416.0
404		Girder Corner Stirrups	1/2"	Varies av. 8'-9"	10	5	50	437.50	0.68	298.0
700		Cross Beam	7/8"	26'-10"	6	1	6	160.98	2.07	333.0
402		Stirrups	1/2"	4'-9 1/2"	20	1	20	25.80	0.68	65.0
500		Footings	5/8"	38'-2"	12	2	24	916.08	1.06	972.0
403		Dowels	1/2"	2'-0"	60	2	120	240.00	0.68	163.0
301		Footing Stirrups	3/8"	7'-11 1/2"	26	2	52	413.92	0.38	157.0
601		Footing Dowels	3/4"	Varies av. 3'-0"	51	1	93	279.00	1.52	424.0
401		Abutment Walls - horiz.	1/2"	35'-4"	32	2	64	2261.12	0.68	1538.0
302		Abutment Walls - vert.	3/8"	13'-6"	64	2	128	1728.00	0.38	657.0
100		Sidewalk	3/4"	3'-0"	69	1	69	207.00	0.09	19.0
101		"	"	33'-3"	7	1	7	232.75	"	21.0

MK	Description	Location	Size	Length	No of bars per Unit	No. Units	Total No of Bars	Total Length	Unit Weight	Total Weight
501		Slab	5/8"	31'-9"	26	1	26	825.50	1.06	875.0
502		"	"	29'-11"	28	1	28	837.76	"	888.0
503		"	"	30'-7"	28	1	28	856.24	"	908.0
303		"	3/8"	34'-3"	40	1	40	1370.00	0.38	521.0
304		Ret. Wall Footings	"	11'-7"	8	1	8	92.64	"	35.0
305		"	"	5'-7"	9	1	9	50.22	"	19.0
306		"	"	6'-3"	10	1	10	62.50	"	24.0
307		"	"	7'-3"	9	1	9	65.25	"	25.0
308		"	"	7'-7"	8	1	8	60.64	"	23.0
309		"	"	10'-1"	8	1	8	80.64	"	31.0
504		"	5/8"	5'-10"	26	1	26	151.58	1.06	161.0
505		"	"	6'-4"	17	1	37	234.21	"	248.0
602		"	3/4"	7'-7"	14	1	14	106.12	1.52	161.0
603		"	"	9'-1"	9	1	9	81.72	"	124.0
604		"	"	8'-1"	11	1	11	88.88	"	135.0
408		Flt. Wall Vert.	1/2"	Varies 4'-0" min. 8'-6" max.				320.00	0.68	218.0
409		Flt. Wall Horiz.	"	Varies 5'-0" min. 7'-6" max.				231.00	"	157.0
310		Ret. Wall Horiz.	3/4"	Varies. These bars to be continuous where possible. 2'-0" min. 24'-6" max.				1006.00	0.38	382.0
506		Ret. Wall Vert.	5/8"	12'-0"	14	1	14	168.00	1.06	178.0
507		"	"	8'-4"	13	1	25	208.25	"	221.0
508		"	"	10'-7"	9	1	9	95.22	"	101.0
509		"	"	7'-4"	9	1	9	65.97	"	70.0
510		"	"	12'-1"	11	1	11	132.88	"	141.0
605		"	3/4"	15'-6"	6	1	6	93.00	1.52	141.0
606		"	"	10'-3"	6	1	6	61.50	"	93.0
607		"	"	18'-10"	8	2	16	301.28	"	458.0
608		"	"	12'-5"	8	2	16	198.72	"	302.0
311		"	3/8"	8'-6"	13	1	23	195.50	0.38	74.0

MK	Description	Location	Size	Length	No of bars per Unit	No. Units	Total No of Bars	Total Length	Unit Weight	Total Weight
312		Ret. Wall Vert.	3/8"	11'-4"	6	1	6	67.98	0.38	26.0
313		"	"	14'-4"	8	2	16	229.28	"	87.0
314		"	"	7'-0"	8	1	8	56.00	"	21.0
405		Posts	1/2"	3'-0"	6	4	24	72.00	0.68	49.0
406		Railing	"	4'-5"	40	2	80	353.60	"	240.0
407		"	"	30'-6"	4	2	8	244.0	"	166.0
315		Post Stirrups	3/8"	5'-8 1/2"	4	4	16	91.36	0.38	35.0
410		Slab Stub bars over bot temp. bis.	1/2"	8'-0"	18	1	18	144.00	0.68	98.0
411		Overhang Bottom	1/2"	25'-4"	4	2	8	202.64	"	138.0
413		Overhang Sidewalk Side	1/2"	4'-10"	4	2	8	38.64	"	25.0
412		Overhang Normal Side	1/2"	6'-4"	4	2	8	50.64	"	34.0
316		Overhang	3/8"	2'-4"	5	4	20	46.60	0.38	18.0
511		"	5/8"	29'-2"	4	2	8	233.36	1.06	247.0
317		"	3/8"	2'-6"	5	8	40	100.00	0.38	38.0
GRAND TOTAL										29,293.0
TERRITORIAL HIGHWAY DEPARTMENT TERRITORY OF HAWAII WAIKOLU BRIDGE No. 109 HAWAII BELT ROAD Proj. No. N.R.H. 14C Sheet 4 of 4 Sheets										

4306.15



BRIDGE QUANTITIES.			
ITEM	EXC. Cu. Yds.	CONC. Cu. Yds.	STEEL. Lbs.
Footings	482.0	62.0	6794.0
Piers & Abut.		133.0	23,977.0
Superstructure		227.0	60,943.0
Railing		20.0	1,815.0
Total.	482.0	442.0	93,529.0 #

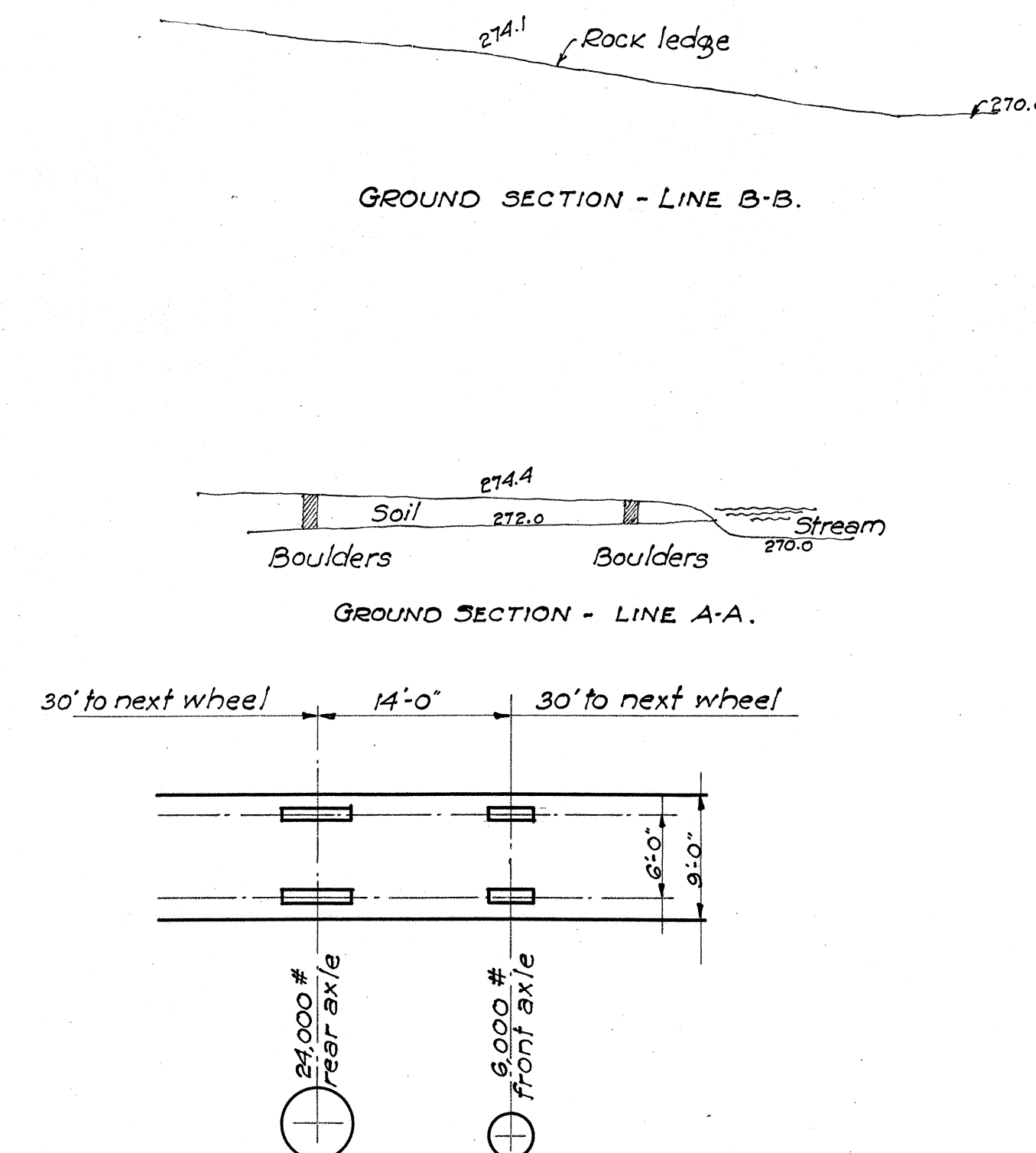
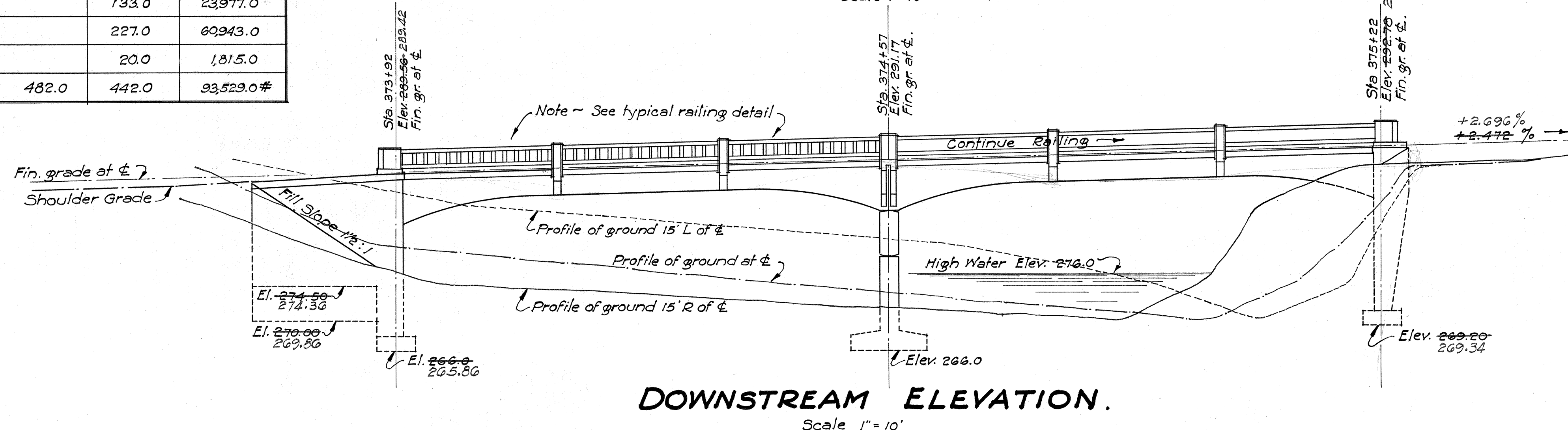


DIAGRAM OF TYPICAL 15 TON TRUCK.

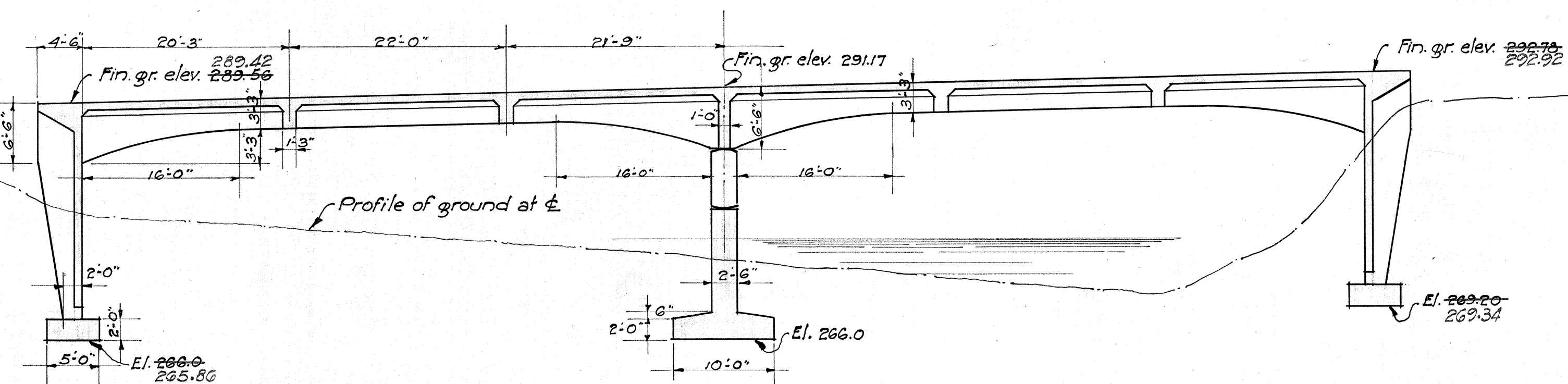
GENERAL NOTES.

Dead Load : Concrete at 150# per cu. ft.
 Live Load : Train of 15 ton trucks in two traffic lanes with 30% allowance for impact.
 Spacing of trucks as per diagram.
 Concrete : Class 'A' (1:2:4) with all exposed edges chamfered 3/4" unless otherwise noted.
 Reinforcing Steel : Allowable tensile stress 16,000# per sq. inch. All steel to be round or square deformed bars of approved design, square twisted bars not to be considered deformed. All dimensions 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. Regarding splicing of main longitudinal bars see below. 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 1/2" in abutments and abutment footings; 2" in beams, girders and handrails and 1 1/4" in slabs. Steel to be held rigidly and accurately in place before and during placing of concrete.
 Splices : Splices are permitted in main bars exceeding trade lengths at points to be indicated by the Engineer, to be electrically arc welded using wedge cutbacks and 1/8" collars. Splices to test at least full strength.
 Brush Coat Waterproofing : Remove all projections, cement film, dirt, etc. Apply primer, etc. after concrete is over 14 days old and when dry. Apply primer coat of asphalt (penetration not over .250) with a naphtha flux. Follow with two brush coats of hot asphalt (300°-350° F.) having penetration of .25-.50. These two coats are to be applied from the bottom upward. Waterproofing shall cover all surfaces in contact with earth except sides and bottom of footings. Waterproofing is an 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. Bottom construction joints to be at top of footing, top construction joints at bottom of girders, railing construction joints at top of curb.

DOWNSTREAM ELEVATION.



SECTION ALONG C OF BRIDGE.



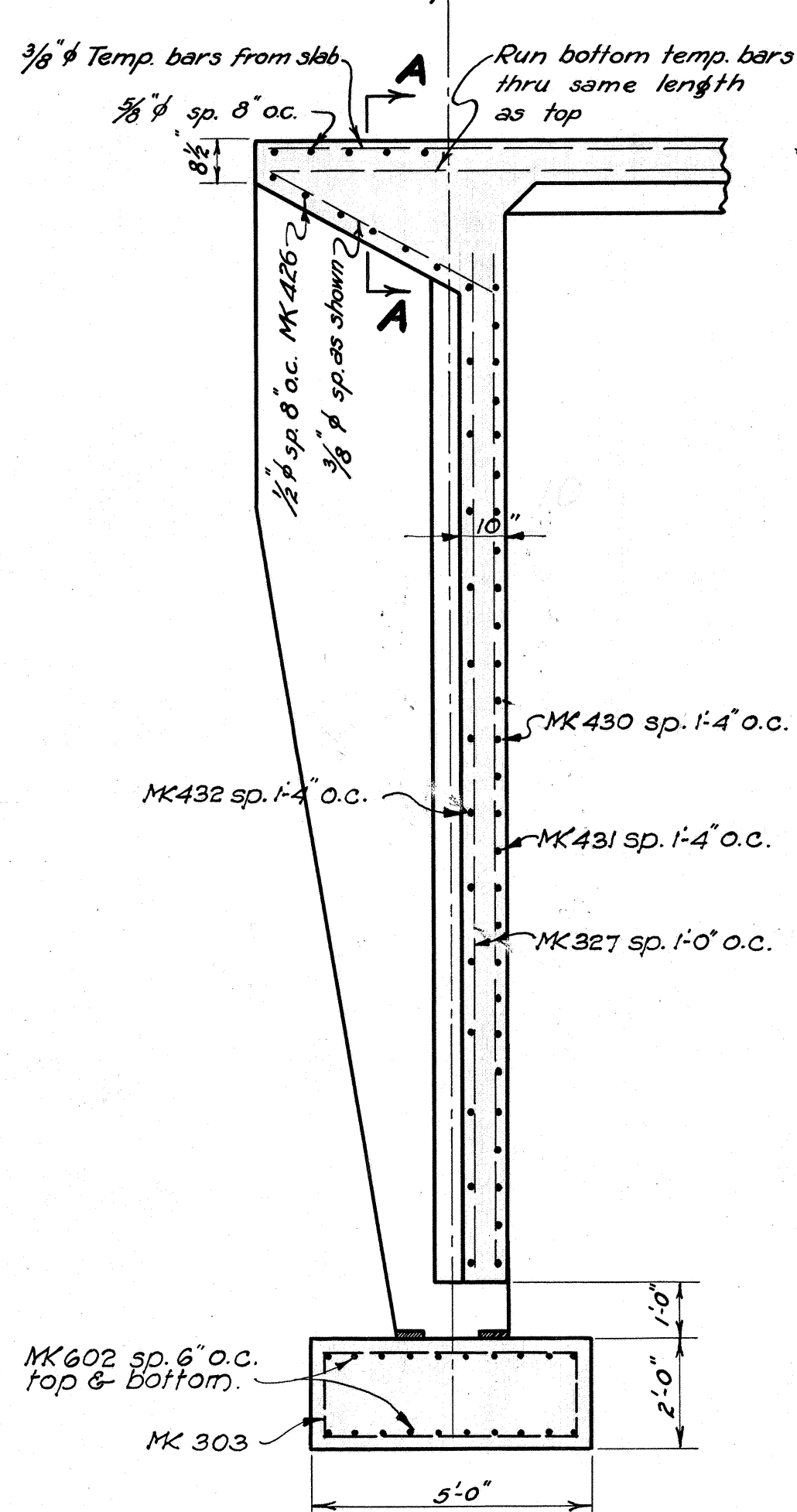
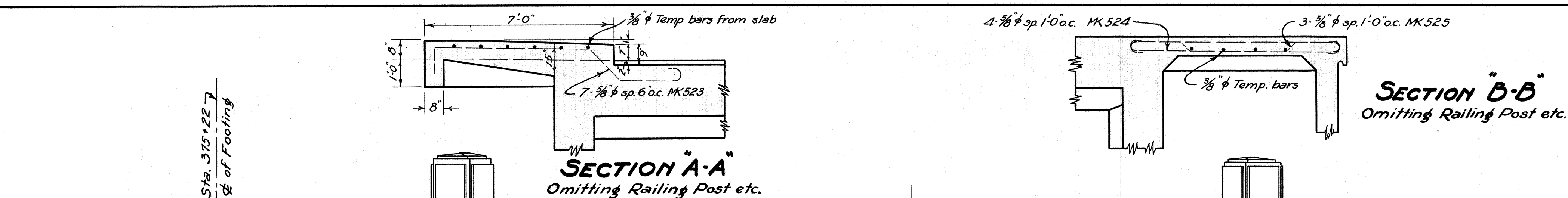
TERRITORIAL HIGHWAY DEPARTMENT.
 TERRITORY OF HAWAII.

AHOLE BRIDGE.

No. 113 STA 373+92 TO STA. 375+22.
 HAWAII BELT ROAD. N.R.H. No 14-C.
 DEC. 1933. SHEET No 1 OF 8 SHEETS.

4306.16

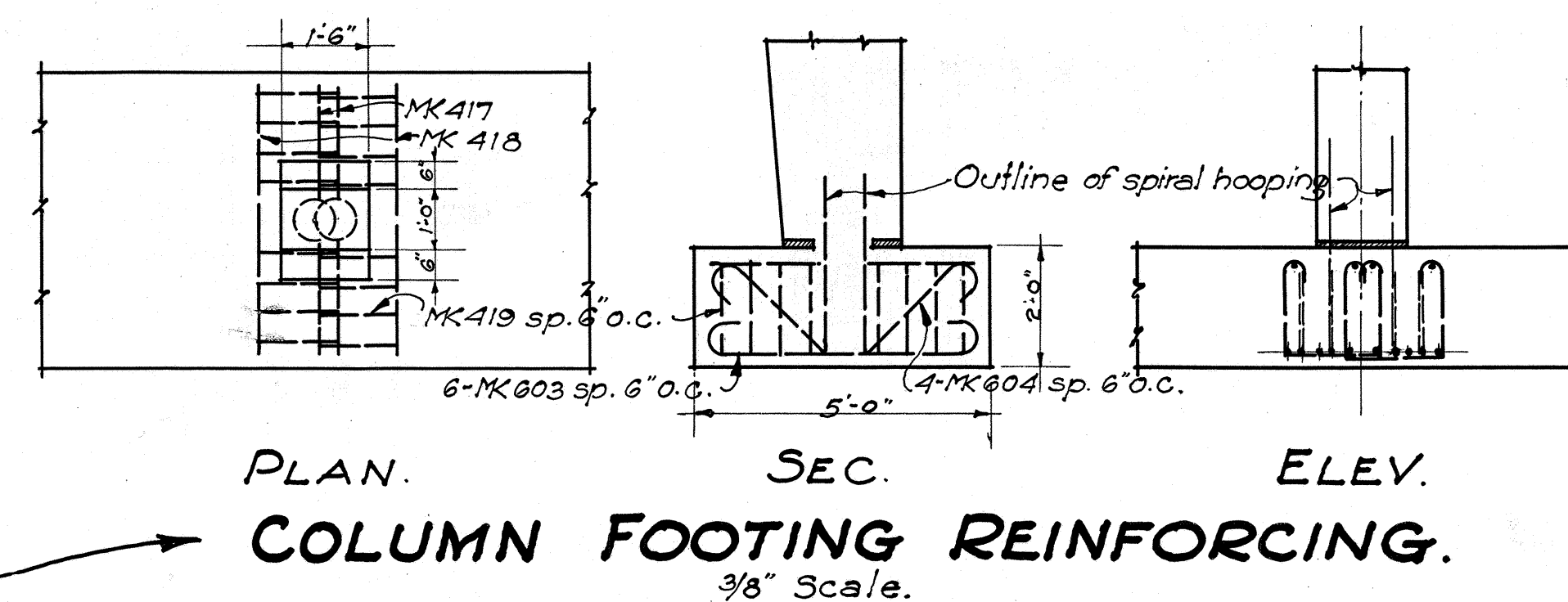
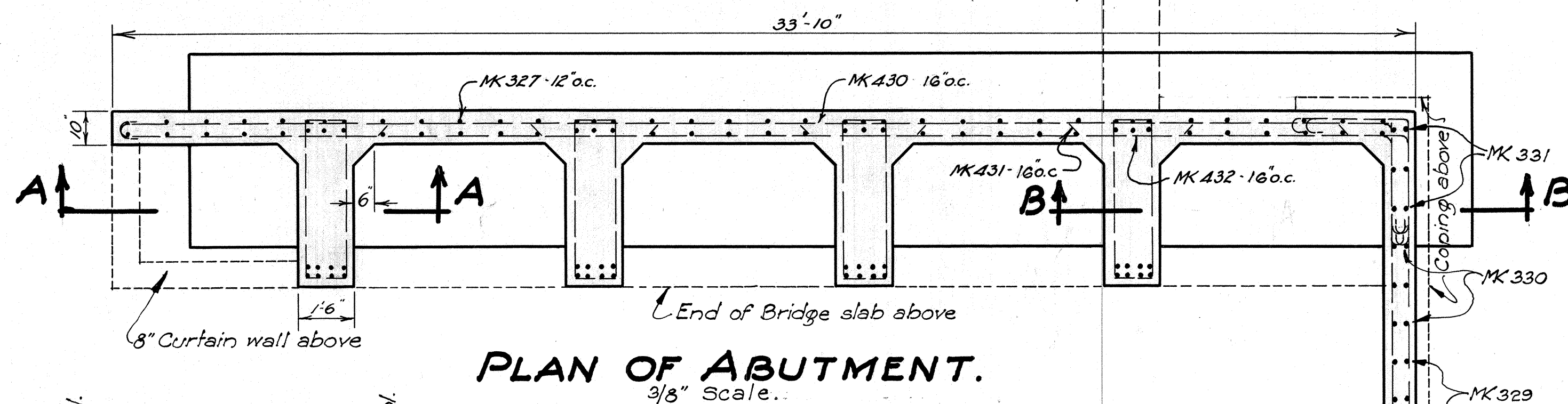
ORIGINAL PLAN
 DESIGNED BY W.E.B.
 DRAWN BY C.F.V.
 CHECKED BY C.F.W. M.R.B. J.C.M.
 REVISED BY J.C.M.
 DATE: Dec. 23
 No. 113



HALF REAR FACE REINF.
3/8" Scale.

HALF FRONT FACE REINF.
3/8" Scale.

ELEVATION OF WING WALL
3/8" Scale.



This reinforcing is typical for both abutment footings and shall be placed under all columns.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

AHOLE BRIDGE
No. 113

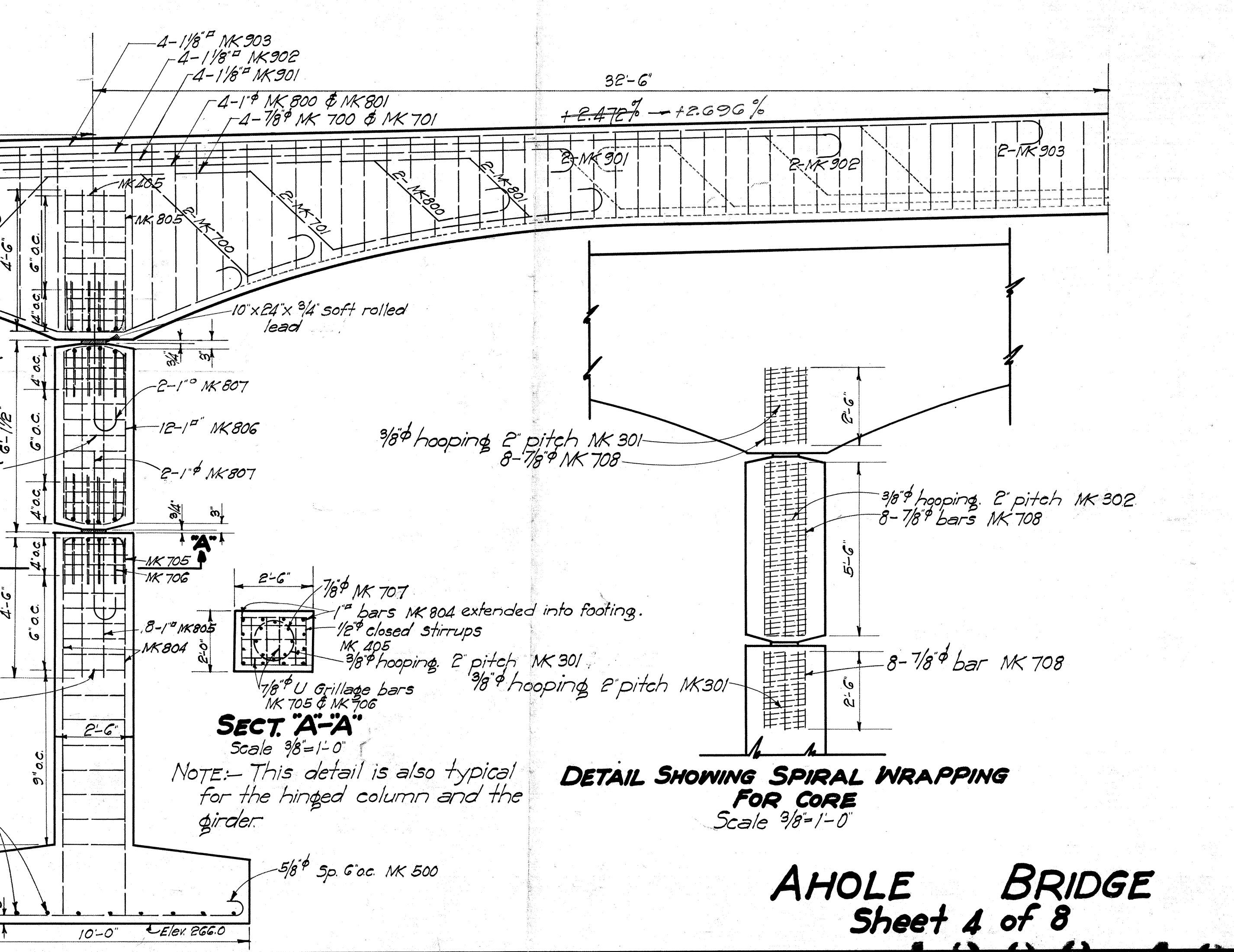
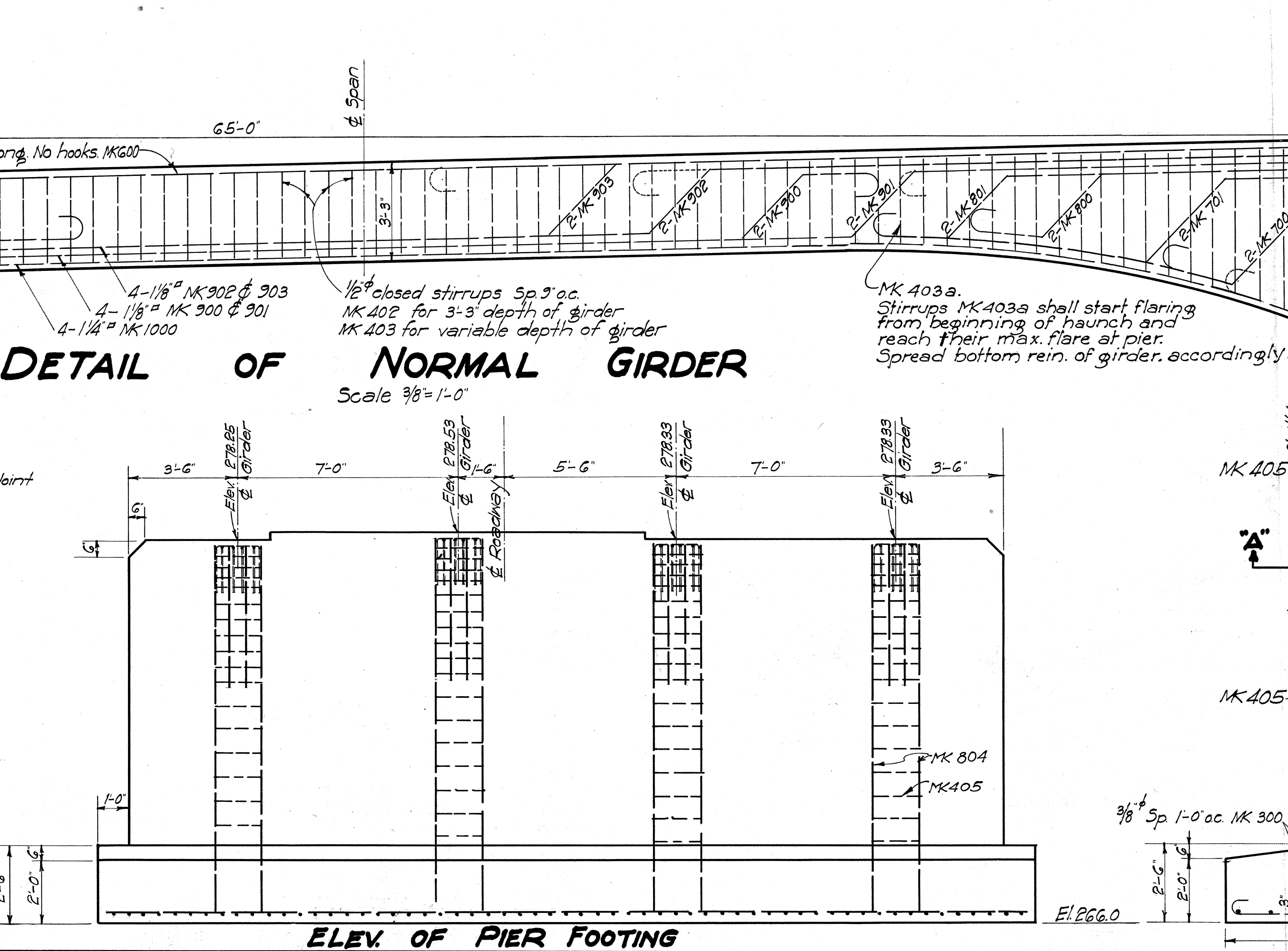
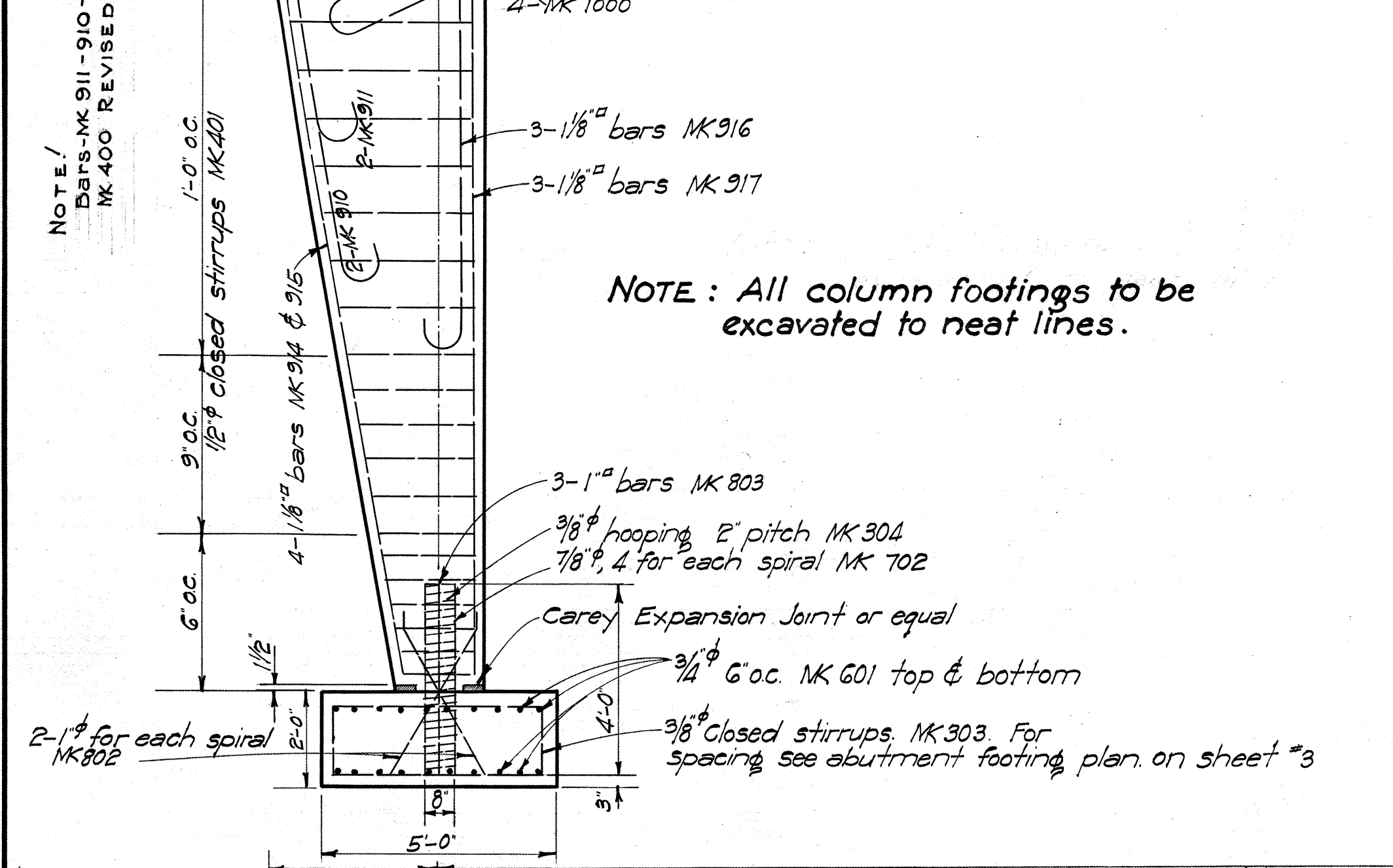
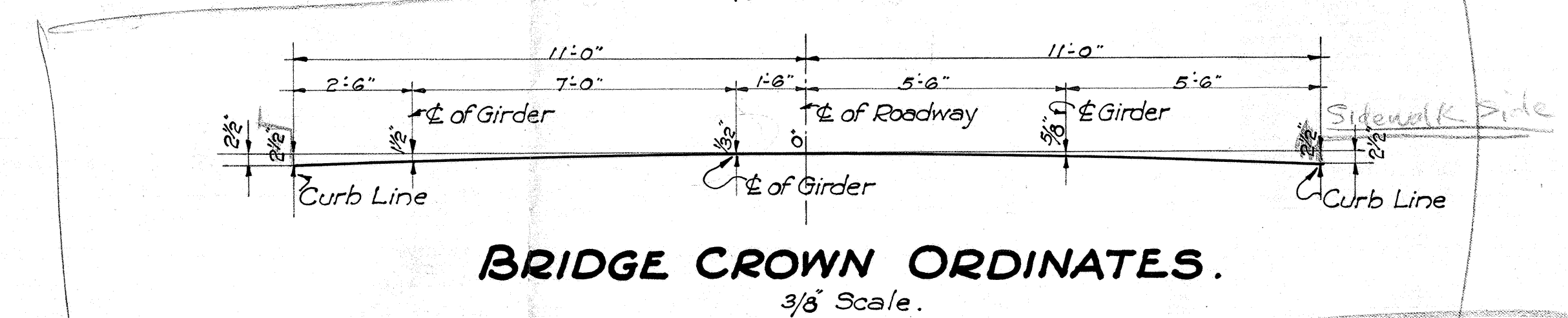
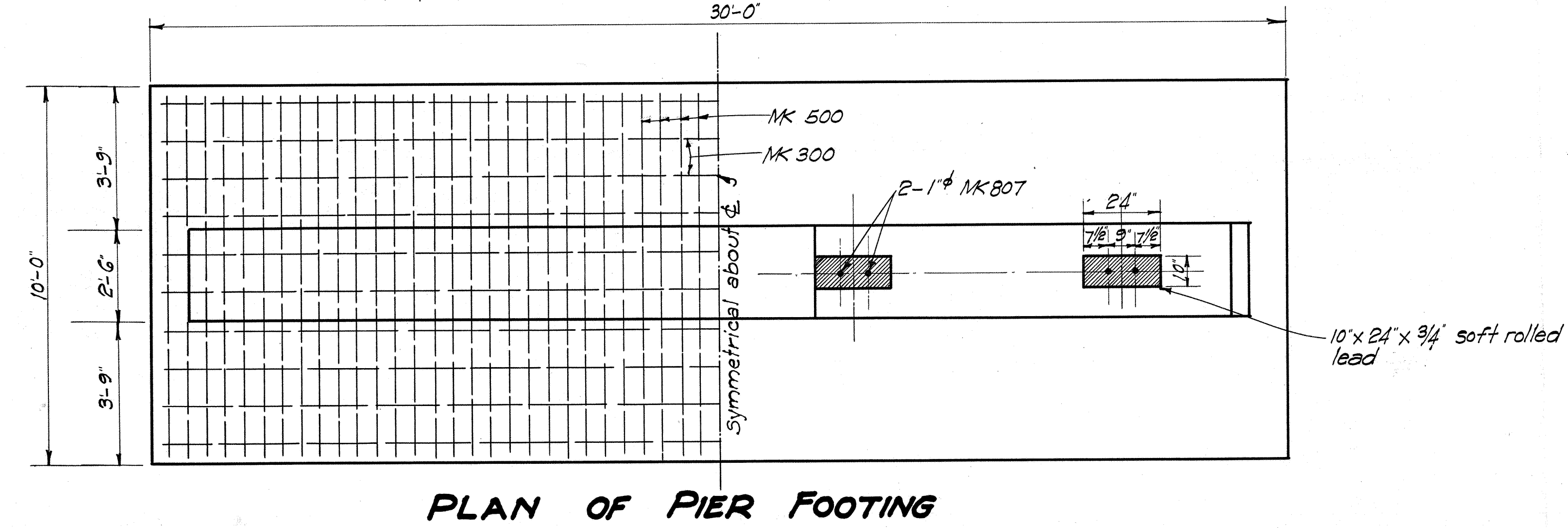
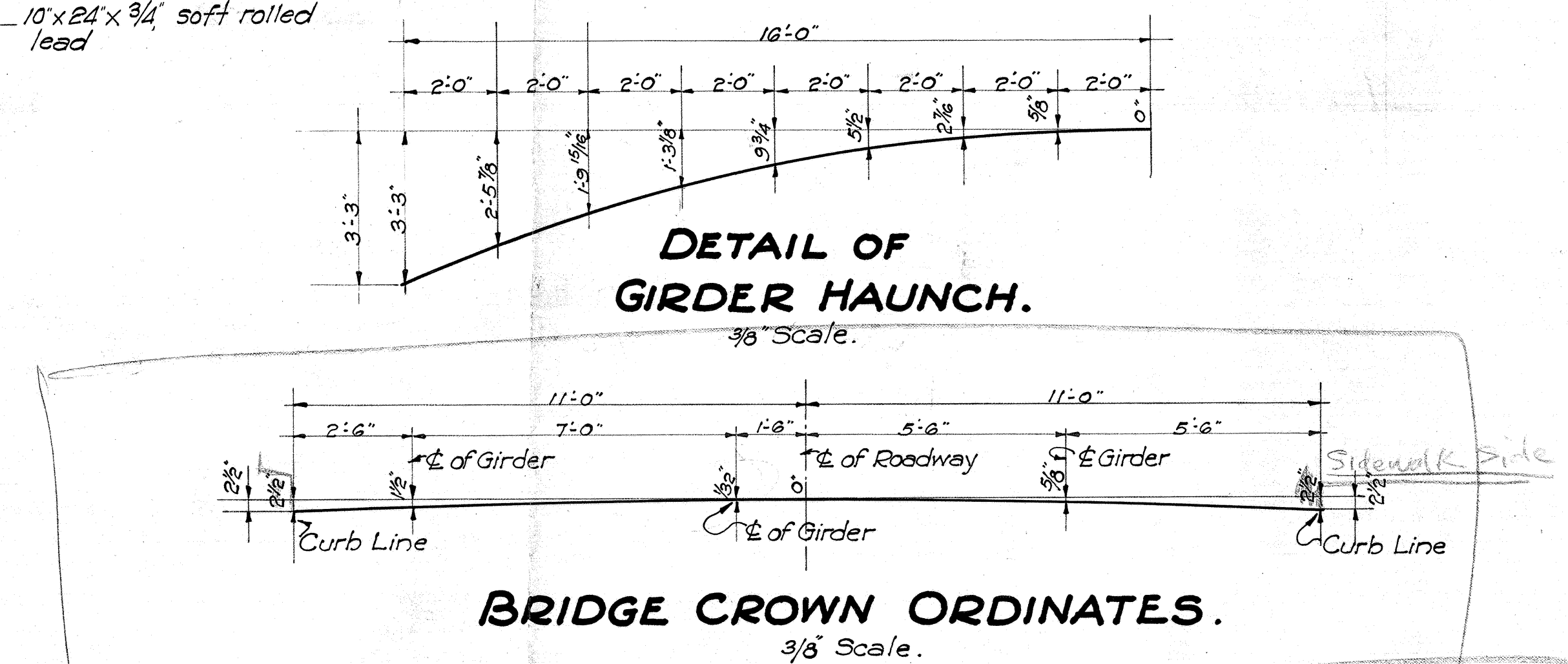
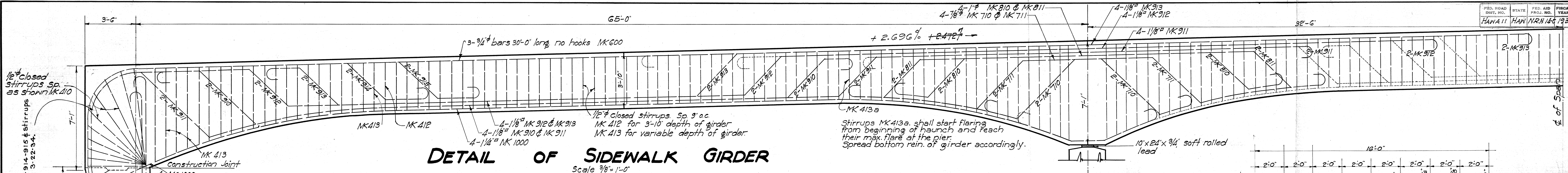
HAWAII BELT ROAD PROJ. No. N.R.H. 14-C.
Sheet No 3 of 8 Sheets

4306.18

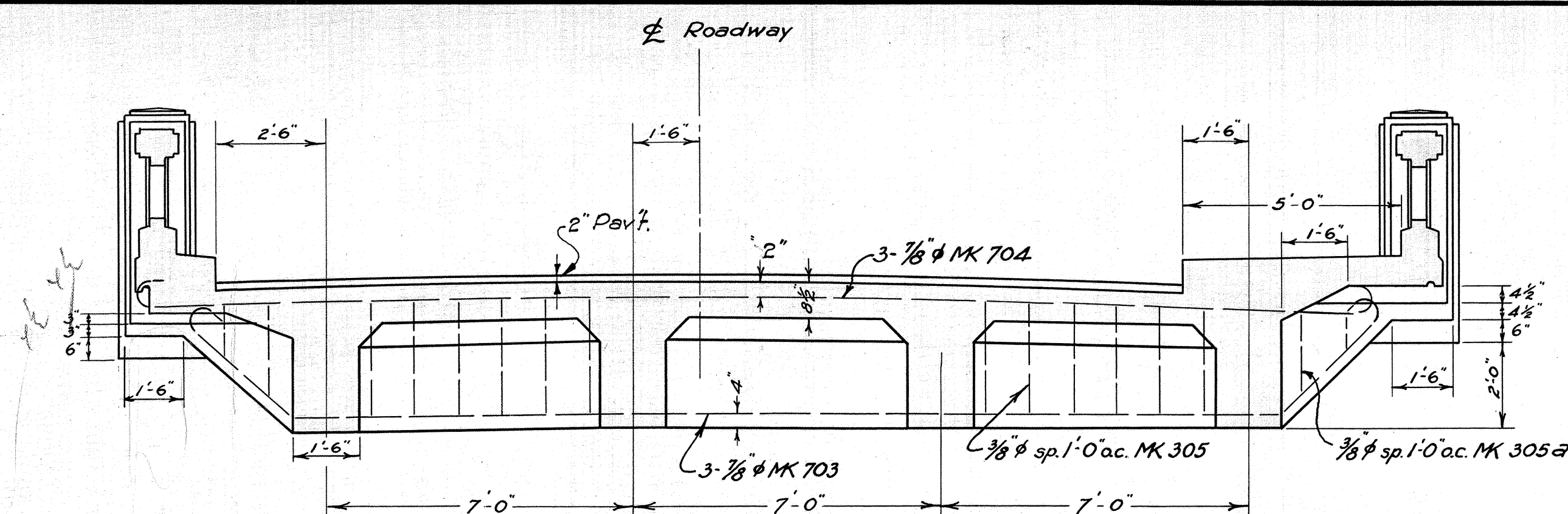
FOOTING REINFORCING PLAN.
3/8" Scale.

Note - Reinforcing in footing of abutment on Hilo side is similar excepting for bar marks.

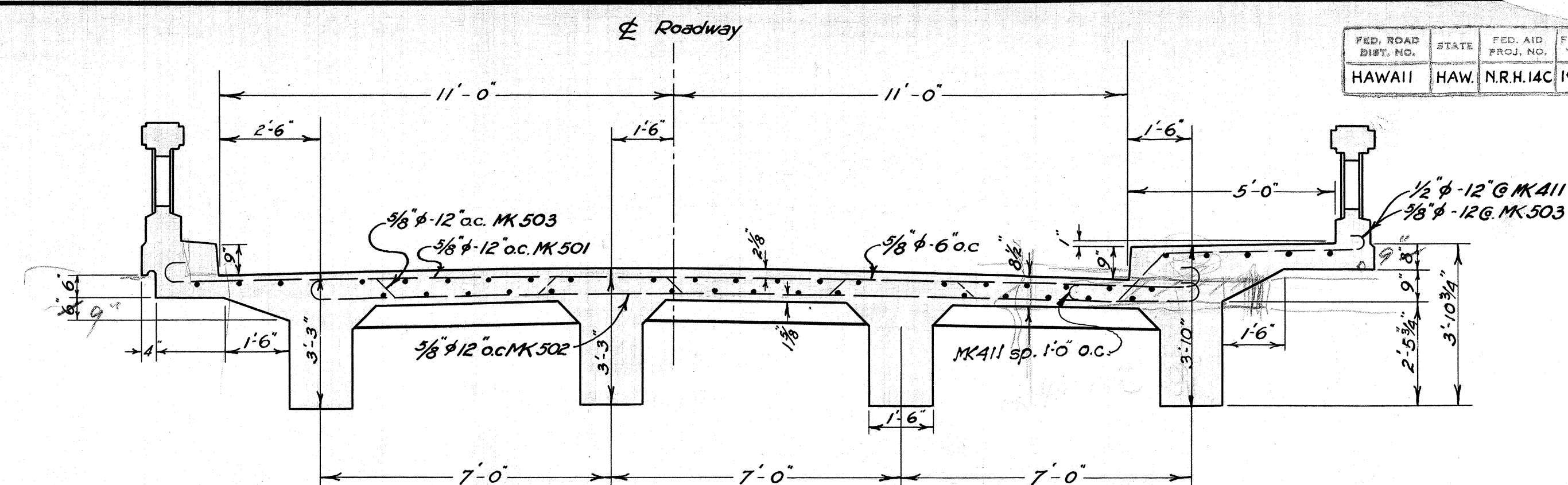
ORIGINAL SURVEY PLOTTED BY DATE 11/23
PLAN DRAWN BY 11/23
NOTE BOOK RE-DESIGNED BY C.H.W. 11/23
QUANTITIES BY W.B. J.C.M. 11/23
CHECKED BY W.B. J.C.M., C.F.W.
REVISED BY J.C.M. 2/34



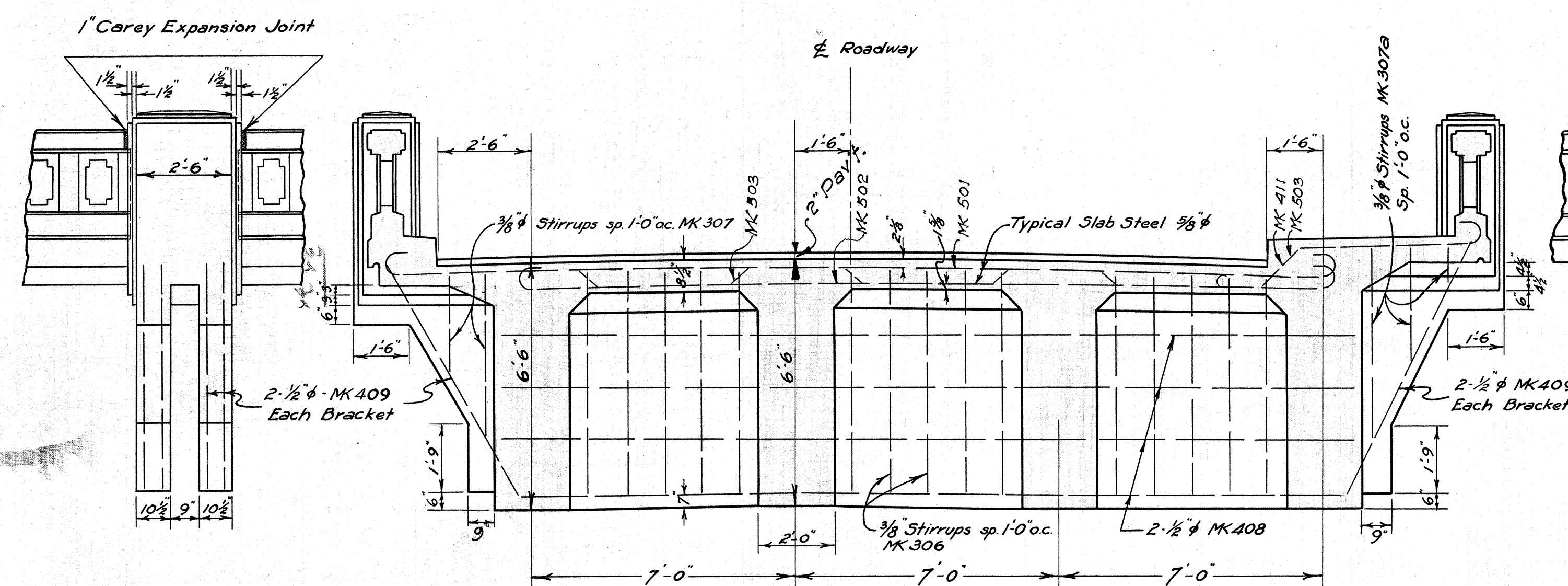
REVISIONS
 1. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 2. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 3. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 4. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 5. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 6. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 7. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 8. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 9. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
 10. REVISED 3-22-34 as per B.O.'s letter of 3-6-34 E.J.S.
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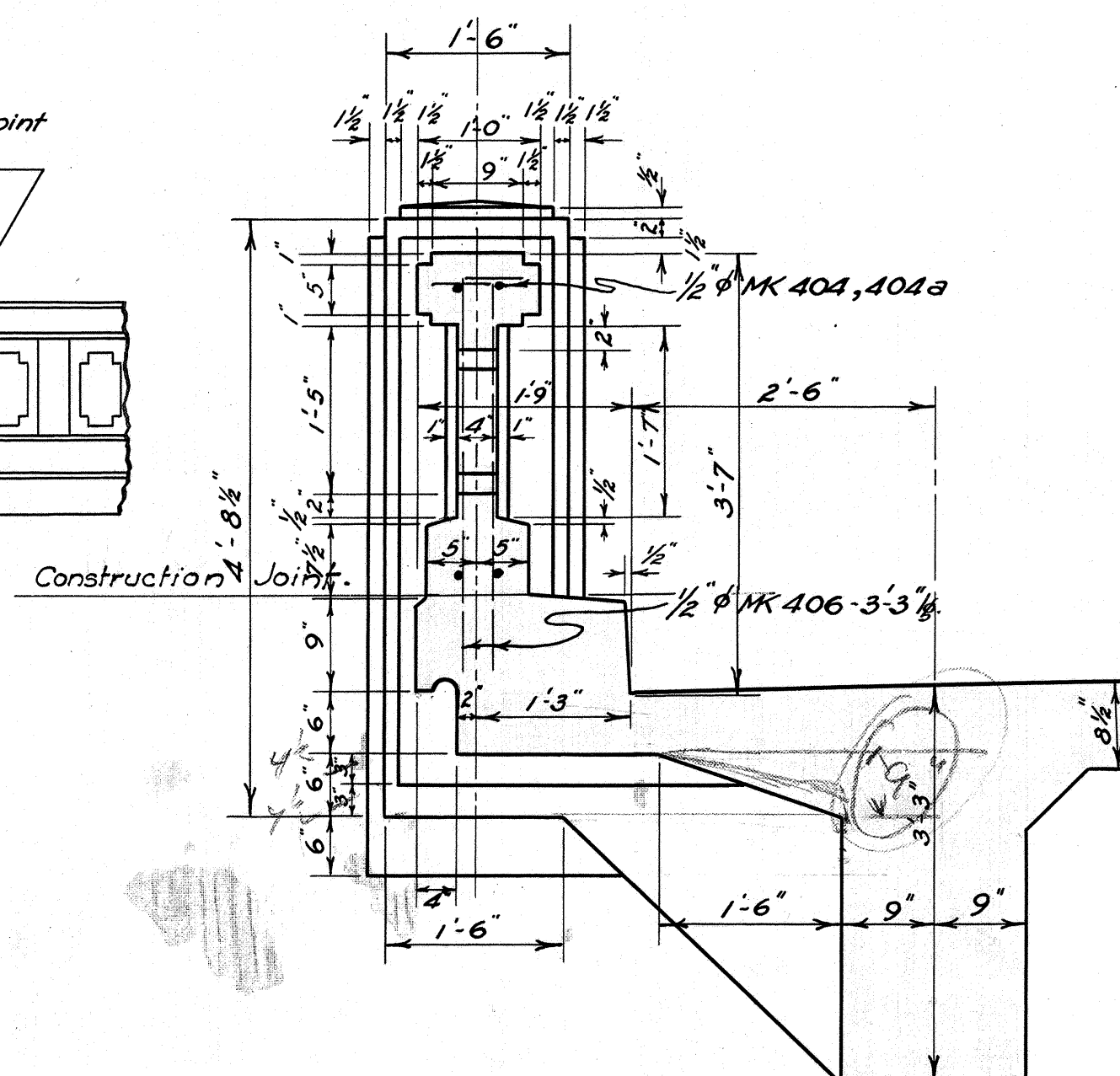
**DETAIL OF REINFORCING
INTERMEDIATE BEAMS**
Scale $\frac{3}{8}''=1'$



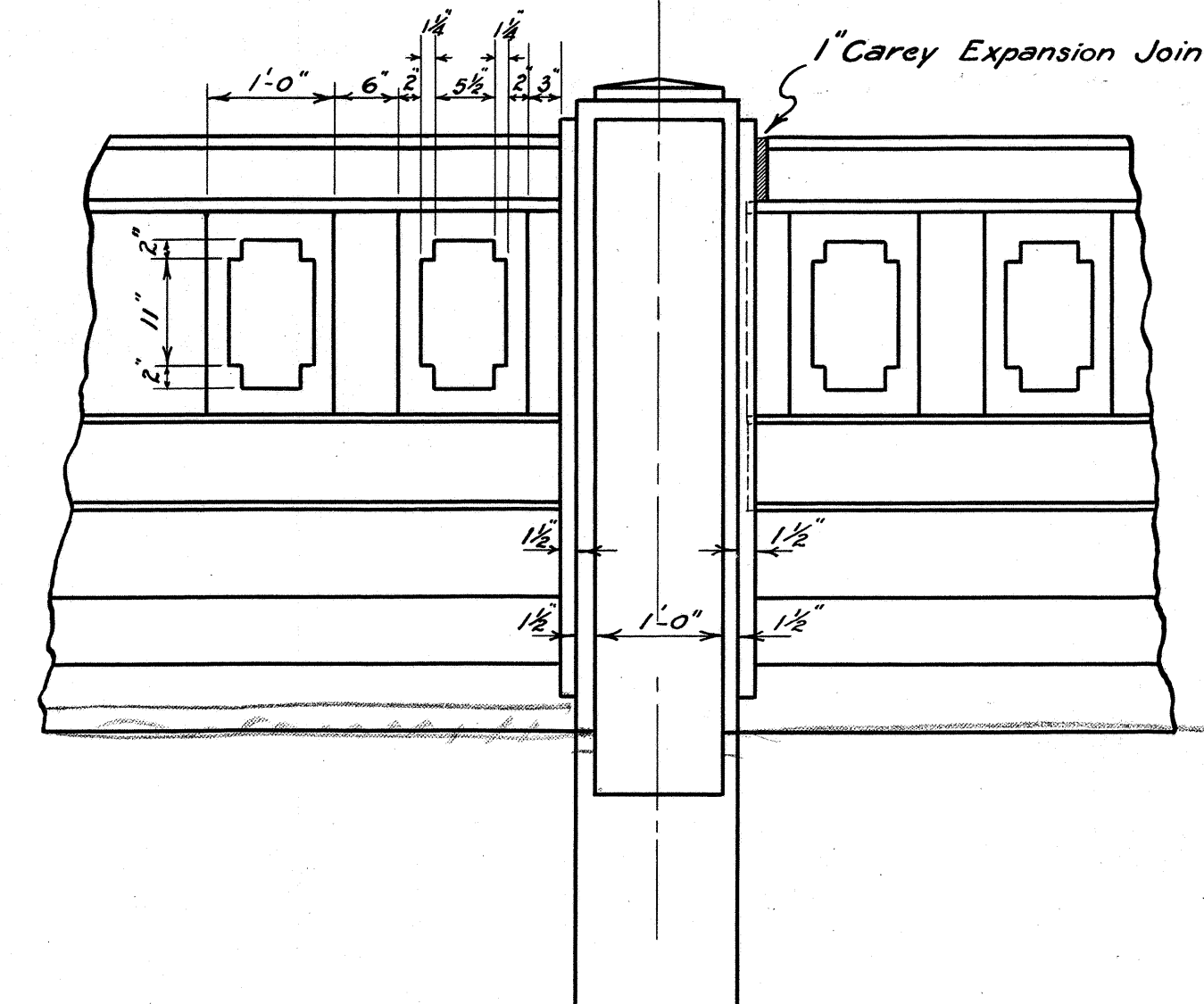
SECTION SHOWING DECK REINFORCING
Scale $\frac{3}{8}''=1'$



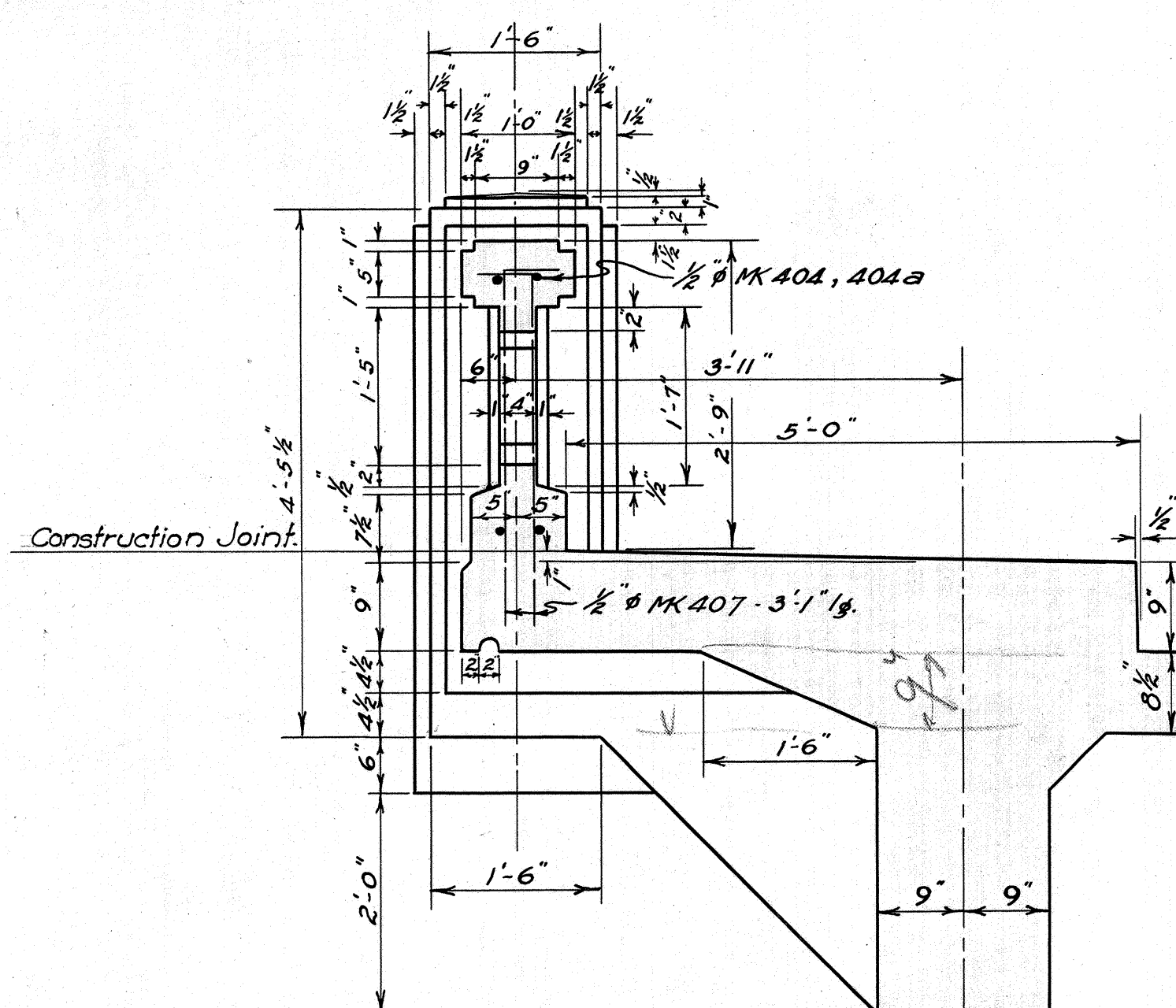
PIER TIE BEAM
Scale $\frac{3}{8}''=1'$



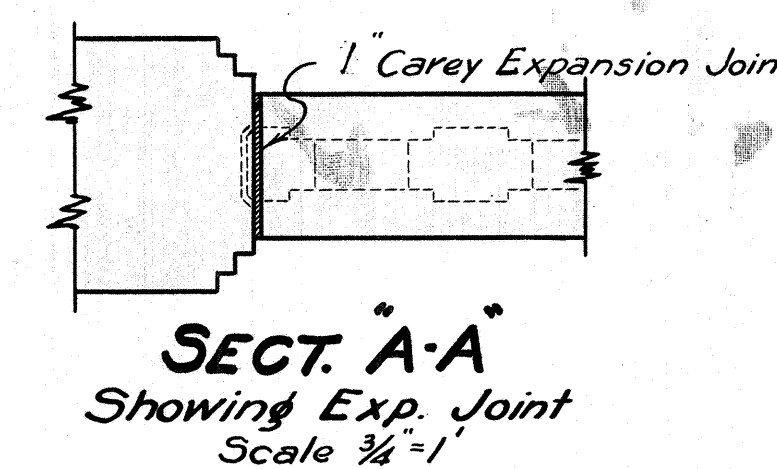
**INTERMEDIATE POSTS
NORMAL SIDE**
Scale $\frac{3}{4}''=1'$



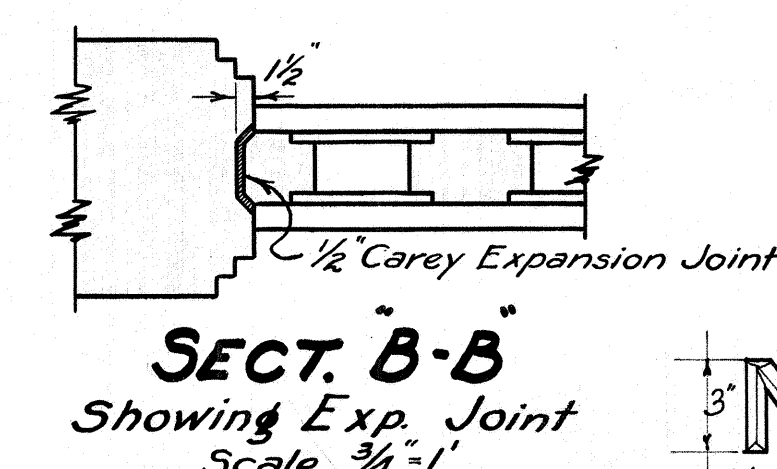
**INTERMEDIATE POSTS
SIDEWALK SIDE**
Scale $\frac{3}{4}''=1'$



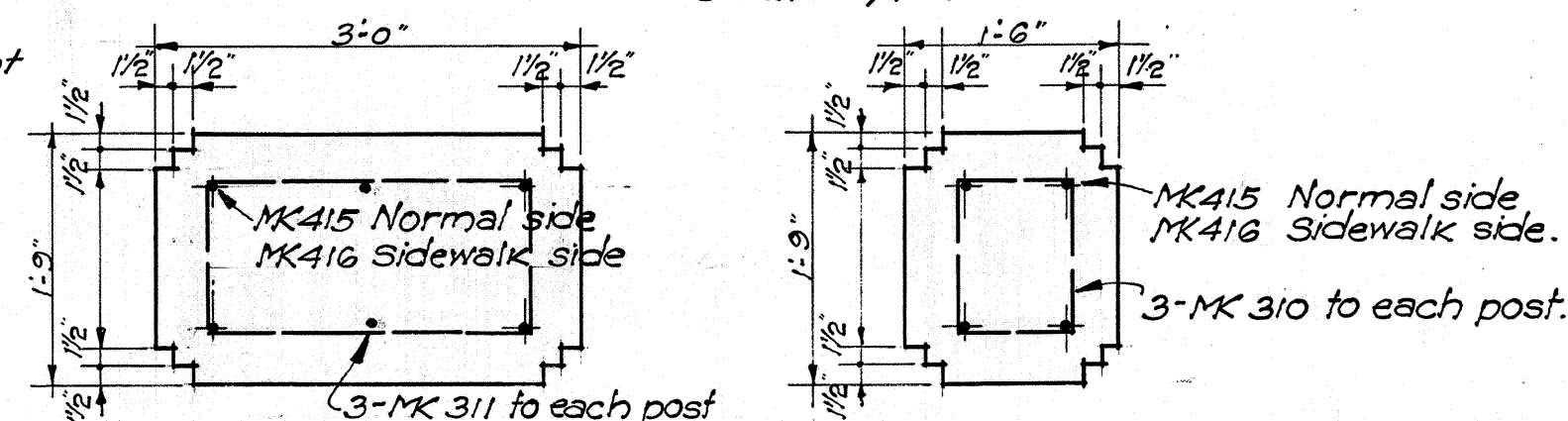
**INTERMEDIATE POSTS
SIDEWALK SIDE**
Scale $\frac{3}{4}''=1'$



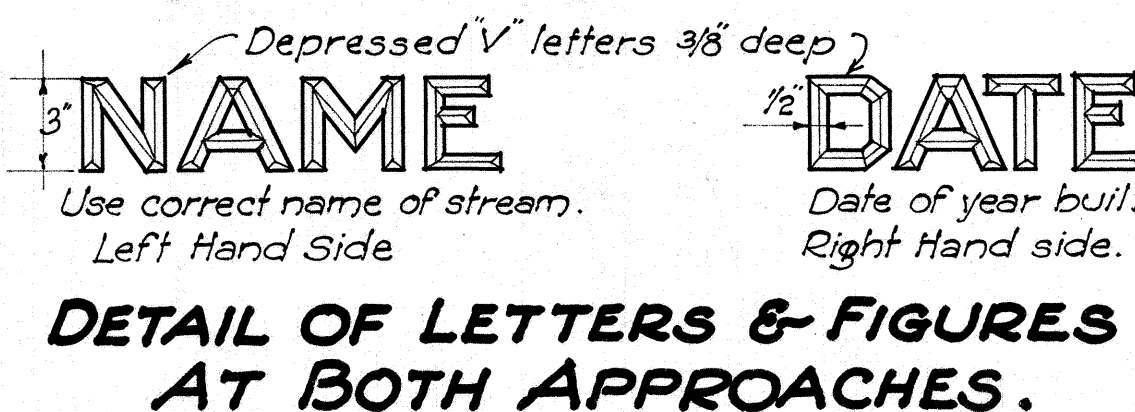
SECT. A-A
Showing Exp. Joint
Scale $\frac{3}{4}''=1'$



SECT. B-B
Showing Exp. Joint
Scale $\frac{3}{4}''=1'$



PLAN OF RAILING POSTS.
 $\frac{3}{4}''$ Scale.



Note -
Name of stream to be placed in left end post
panels & date in right end post panels on
entering bridge, using standard block letters
three inches in height.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
AHOLE BRIDGE
No. 113

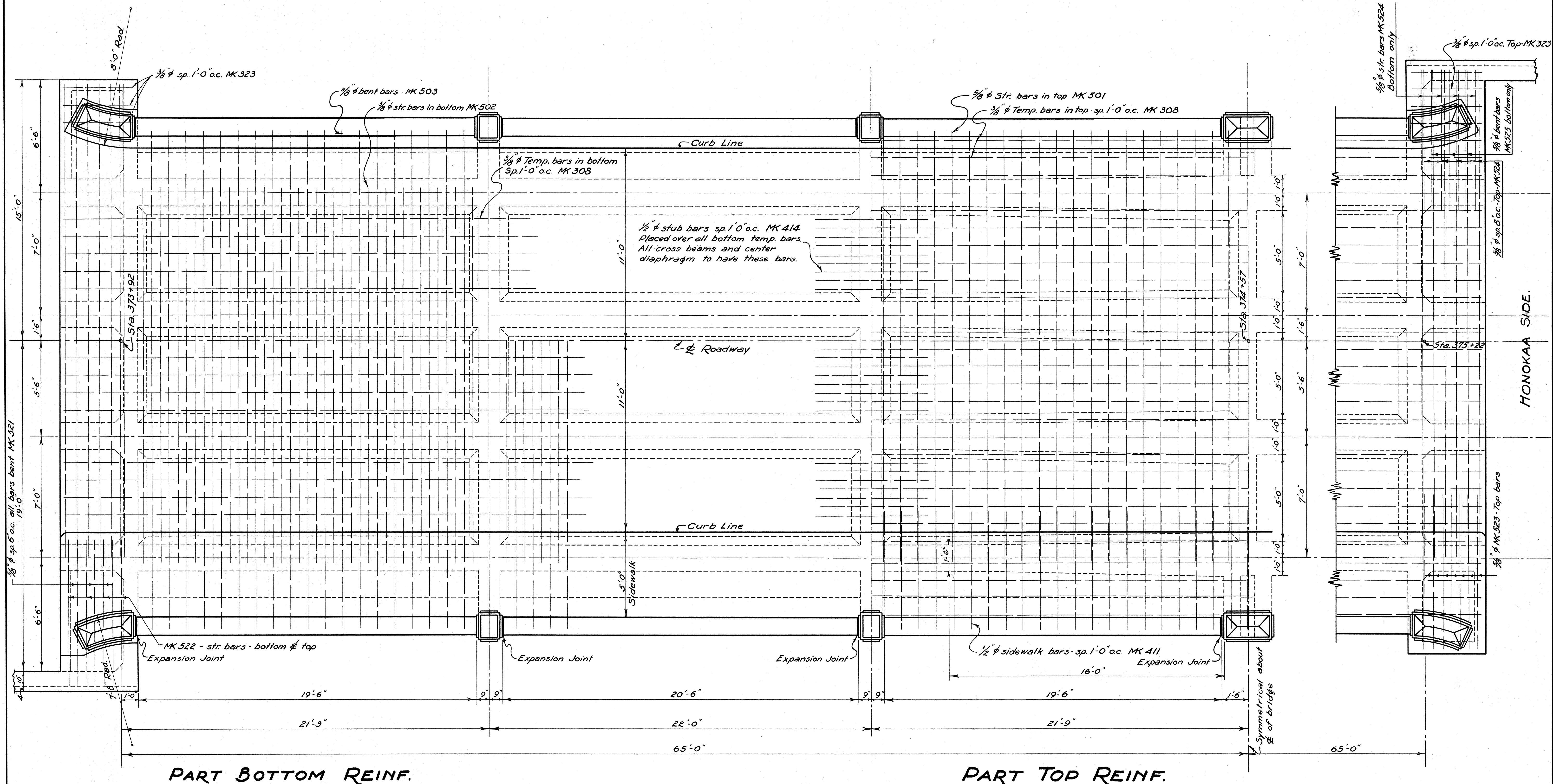
HAWAII BELT ROAD PROJ. No. N.R.H.14-C.
Sheet No 5 of 8 Sheets

4306.20

ORIGINAL PLAN
DATE 11/33
DRAWN BY C.F.W. J.C.M.
CHECKED BY M.E.B. J.C.M.
NOTED BY M.E.B. J.C.M.
NO. 12/33

HILO SIDE.

HONOKAA SIDE.



PART BOTTOM REINF.

PART TOP REINF.

1/2 PLAN OF DECK SHOWING REINFORCING
Scale - 3/8" = 1'

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

AHOLE BRIDGE
No. 113

HAWAII BELT ROAD PROJ. No. N.R.H.14-C
Sheet No. 6 of 8 Sheets

4306.21

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	N.R.H. 14C	1933	22	30

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
DRAWN BY	J. C. M.	Dec. 1933
NOTED BOOK	J. C. M.	"
	QUANTITIES BY	"
	J. C. M.	"
	CHECKED BY	"
	J. C. M.	"
	W. C. V.	"

REVISED 3122.04 as per Bus letter of 3-23-4. E.U.S.

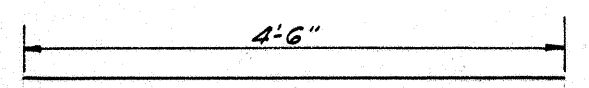
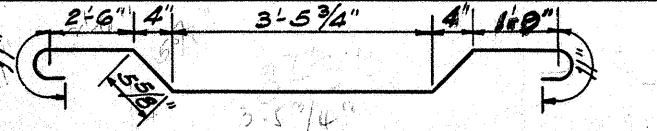
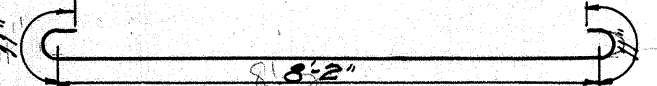
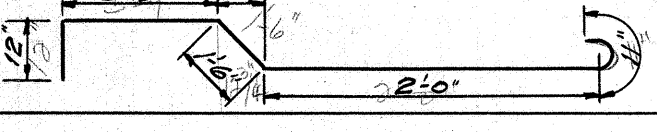
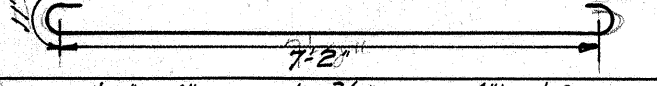
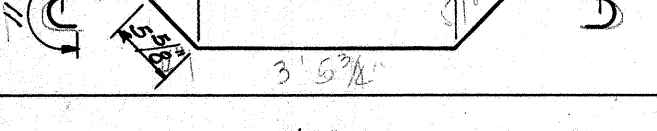
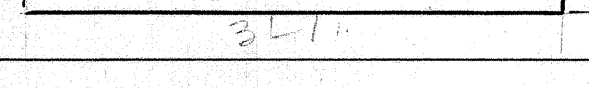
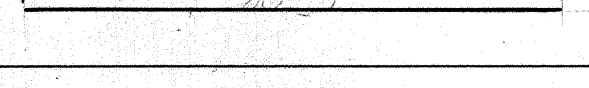
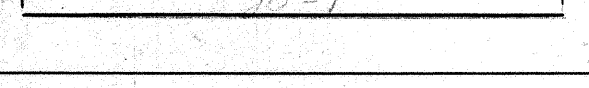
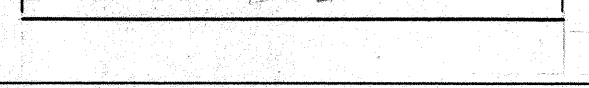
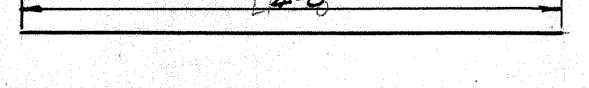
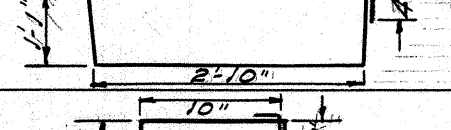
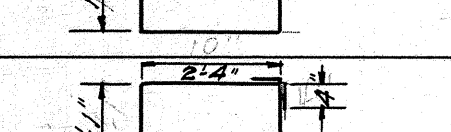
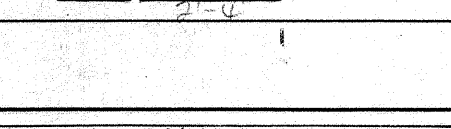
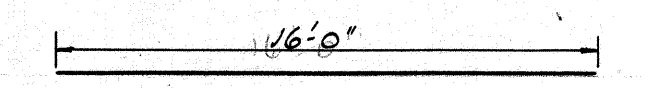
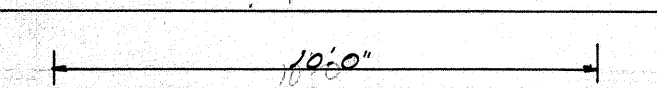
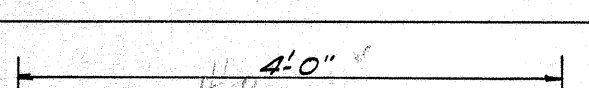
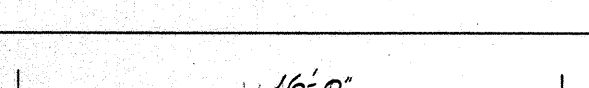
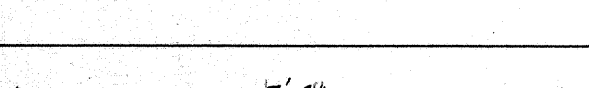
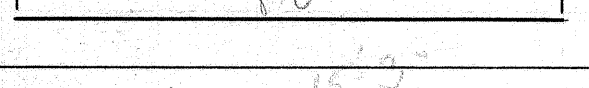
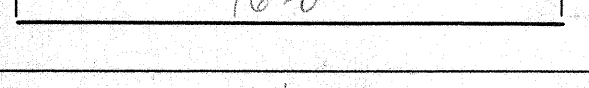
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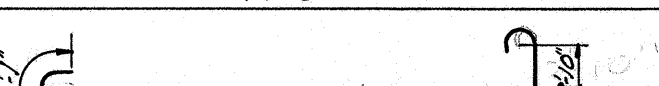
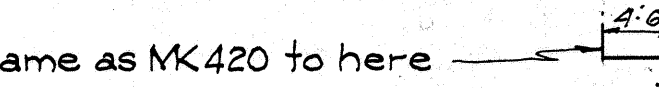
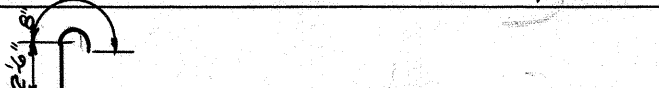
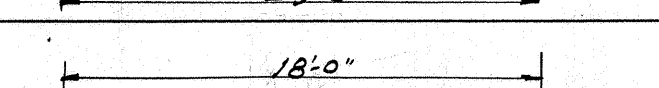
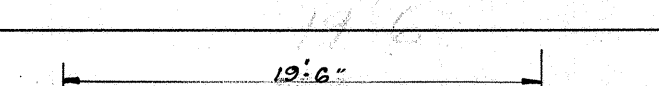
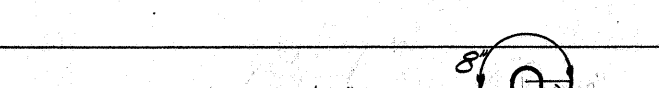
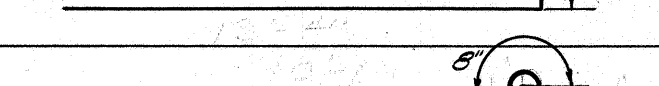
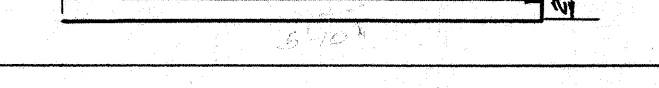
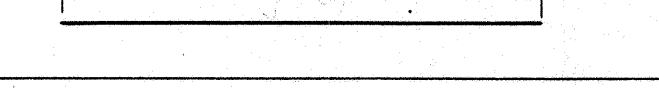
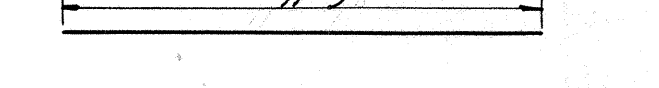
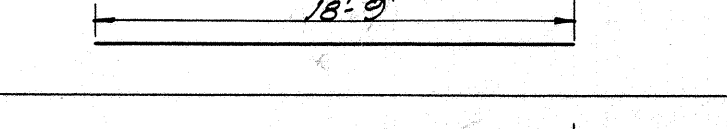
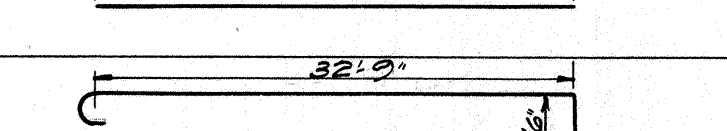
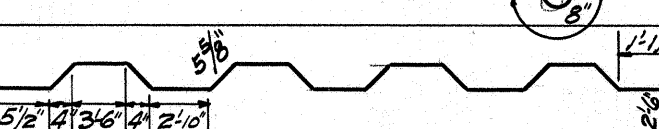
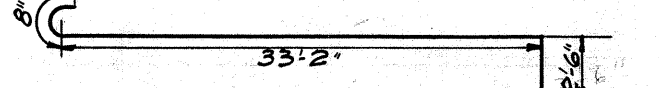
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
AHOLE BRIDGE No. 113
HAWAII BELT ROAD
PROJ. No. N.R.H. 14C
Sheet 7 of 8 Sheets

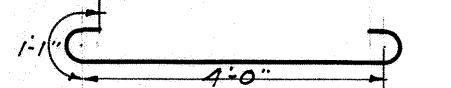
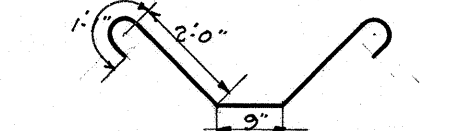
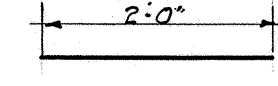
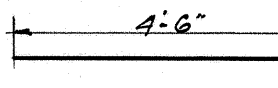
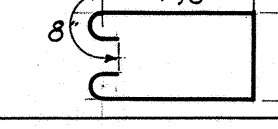
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STEEL SCHEDULE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	N.E.H. 14C	1933	23	30

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	No. OF BARS IN EACH UNIT	No. OF UNITS WANTED	TOTAL LENGTH	UNIT WEIGHT	TOTAL WEIGHT IN LBS.
323		Hilo End Overhang Honokaa End	3/8"	4'-6"	27	1	27	121.50	0.38 80
521		Overhang Hilo End	3/8"	10'-6"	3	1	3	31.50	1.06 33
522		"	"	10'-0"	8	1	8	80.00	" 85
523		Overhang Honokaa End	"	11'-2"	7	1	7	78.17	" 83
524		"	"	9'-0"	4	1	4	36.00	" 38
525		"	"	9'-3"	3	1	3	27.75	" 29
406		Railing Normal Side of Bridge	1/2"	3'-9"	2	86	172	645.00	0.68 439
407		Railing Sidewalk Side of Br.	"	3'-7"	2	86	172	616.33	" 419
404		Railing adj. to Corner & Center Posts	"	20'-7"	4	8	32	658.67	" 448
404a		Railing b/w Intermediate Posts	"	20'-1"	4	4	16	321.33	" 219
415		Posts Normal Side of Bridge	"	4'-4"	4	4	16	147.22	" 100
416		Posts Sidewalk Side of Br.	"	4'-0"	4	4	16	136.0	" 92
309		End Posts Stirrups	3/8"	8'-5"	3	4	12	104.00	0.38 40
310		Intermediate Posts Stirrups	"	4'-6"	3	8	24	108.00	" 41
311		Center Posts Stirrups	"	7'-6"	3	2	6	45.00	" 17
G22		Wing Wall Footing Hilo End	3/4"	9'-0"	32	1	32	288.00	1.52 438
324		"	3/8"	16'-0"	11	1	11	176.00	0.38 67
G20		Wing Wall on Abut. Ftg. Hilo End	3/4"	22'-3"	4	1	4	97.67	1.52 149
G21		"	"	10'-0"	8	1	8	80.00	" 122
332		"	3/8"	10'-0"	2	1	2	20.00	0.38 8
427		Wing Wall Out Off Wall Hilo End	1/2"	4'-0"	34	1	34	136.00	0.68 93
324		"	3/8"	16'-0"	6	1	6	96.00	0.38 37
428		"	1/2"	7'-6"	14	1	14	105.00	0.68 72
429		"	"	8'-0"	16	1	16	128.00	" 87
324		Wing Wall Front Face Hilo End	3/8"	15'-3"	10	1	10	153.00	0.38 58
325		Wing Wall Rear Face Hilo End	"	18'-0"	30	1	30	540.00	" 205
326		Wing Wall Front Face Hilo End	"	14'-9"	7	1	7	103.25	" 39

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	No. OF BARS IN EACH UNIT	No. OF UNITS WANTED	TOTAL LENGTH	UNIT WEIGHT	TOTAL WEIGHT IN LBS.
G23		Wing Wall Hilo End	1/2"	14'-0"	15	1	15	210.00	1.52 319
G24		"	"	19'-6"	7	1	7	136.50	" 207
G25		"	"	20'-0"	10	1	10	200.00	" 304
420		Abutment Wall Hilo End	1/2"	38'-0"	3	1	3	114.00	0.68 78
421	Same as MK 420 to here	"	"	35'-0"	11	1	10	385.00	" 262
422		"	"	38'-0"	3	1	3	114.00	" 78
423		"	"	35'-0"	11	1	11	385.00	" 262
424		"	"	36'-4"	3	1	3	109.00	" 74
425		"	"	33'-4"	11	1	11	366.67	" 249
320		"	3/8"	18'-0"	30	1	30	540.00	0.38 205
321		"	"	19'-6"	15	1	15	292.00	" 111
322		"	"	5'-10"	6	1	6	35.00	" 13
433		Wing Wall Honokaa End	1/2"	16'-6"	12	1	12	198.00	0.68 135
434		"	"	13'-0"	12	1	12	156.00	" 106
435		"	"	9'-0"	14	1	14	126.00	" 86
328		"	3/8"	5'-9"	8	1	8	46.00	0.38 18
329		"	"	11'-9"	8	1	8	94.00	" 36
330		"	"	18'-9"	6	1	6	112.50	" 43
331		"	"	20'-9"	6	1	6	124.50	" 47
430		Abutment Wall Honokaa End	1/2"	36'-7"	14	1	14	512.17	0.68 348
431		"	"	37'-8"	13	1	13	489.67	" 333
432		"	"	37'-0"	14	1	14	518.00	" 352
327		"	3/8"	18'-0"	50	1	50	900.00	0.38 342

MK	DESCRIPTION	LOCATION	SIZE	LENGTH	No. of BARS in each unit	No. of Units	Total Length	Unit Weight	Total Weight in lbs.
603		Abut. Ftg. under cols.	3/4"	6'-2"	6	4	48	296.16	1.52 154
604		"	"	6'-11"	4	4	32	221.44	" 337
417		"	"	2'-0"	2	4	16	32.0	0.68 22
418		"	"	4'-6"	2	4	16	72.0	" 49
419		"	"	5'-8"	16	4	128	724.48	" 493

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
AHOLE BRIDGE No.113
HAWAII BELT ROAD
PROJ. No. N.R.H.14C
Sheet 8 of 8 Sheets

4306.23

ORIGINAL PLAN
DESIGNED BY J.C.M.
CHECKED BY J.C.M.
DATE "Dec. 1933"
NOTED BY J.C.M.
C.E.N. W.C.V.