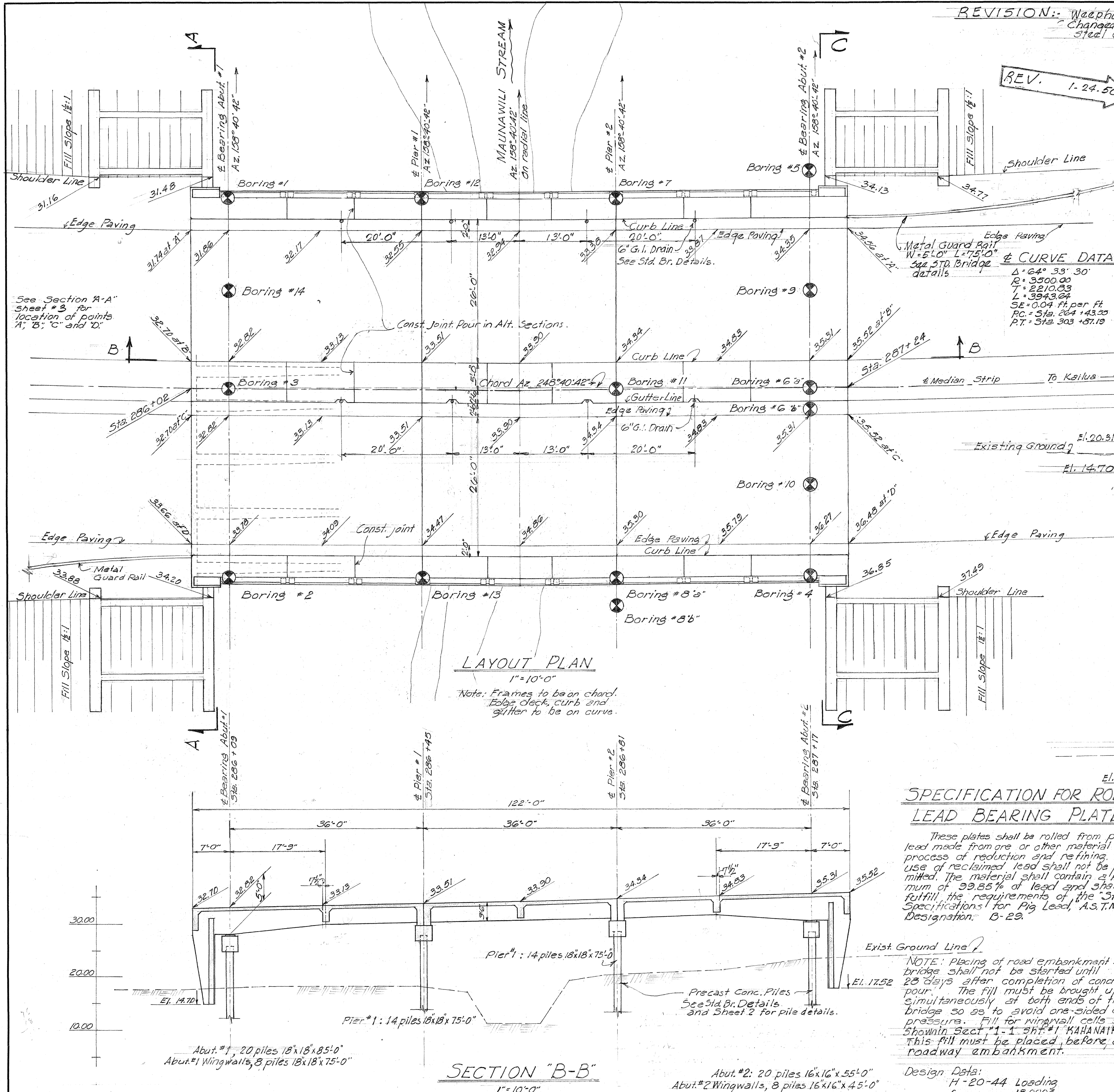


SURVEY PLOTTED BY DATE 8/13
 DESIGNED BY H.R. Daniels
 DRAWN BY T. Umehara
 QUANTITIES BY F. Ching
 QUANTITIES CHECKED BY A. Lee
 CHECKED BY J. Shumada
 ORIGINAL PLAN NO. 343
 NOTE BOOK NO. 343



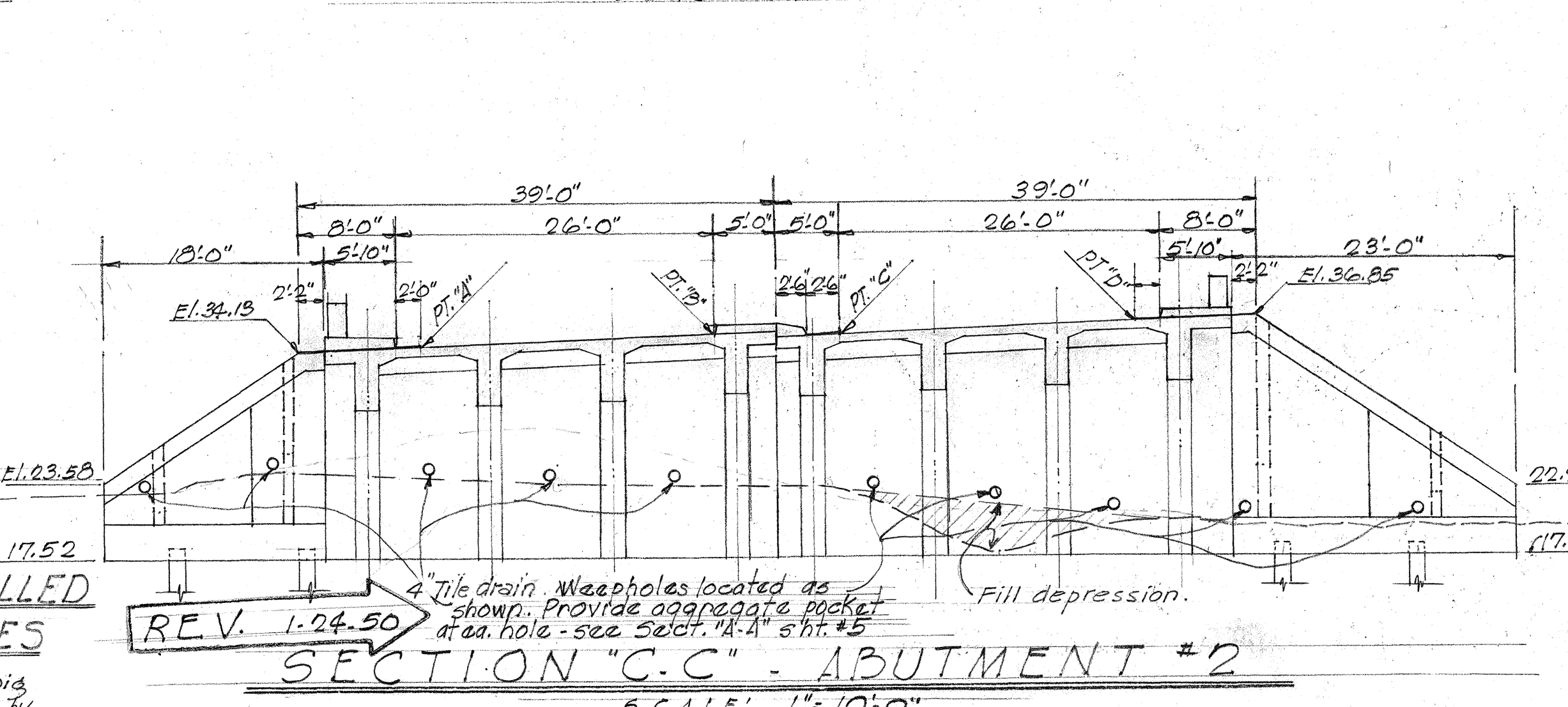
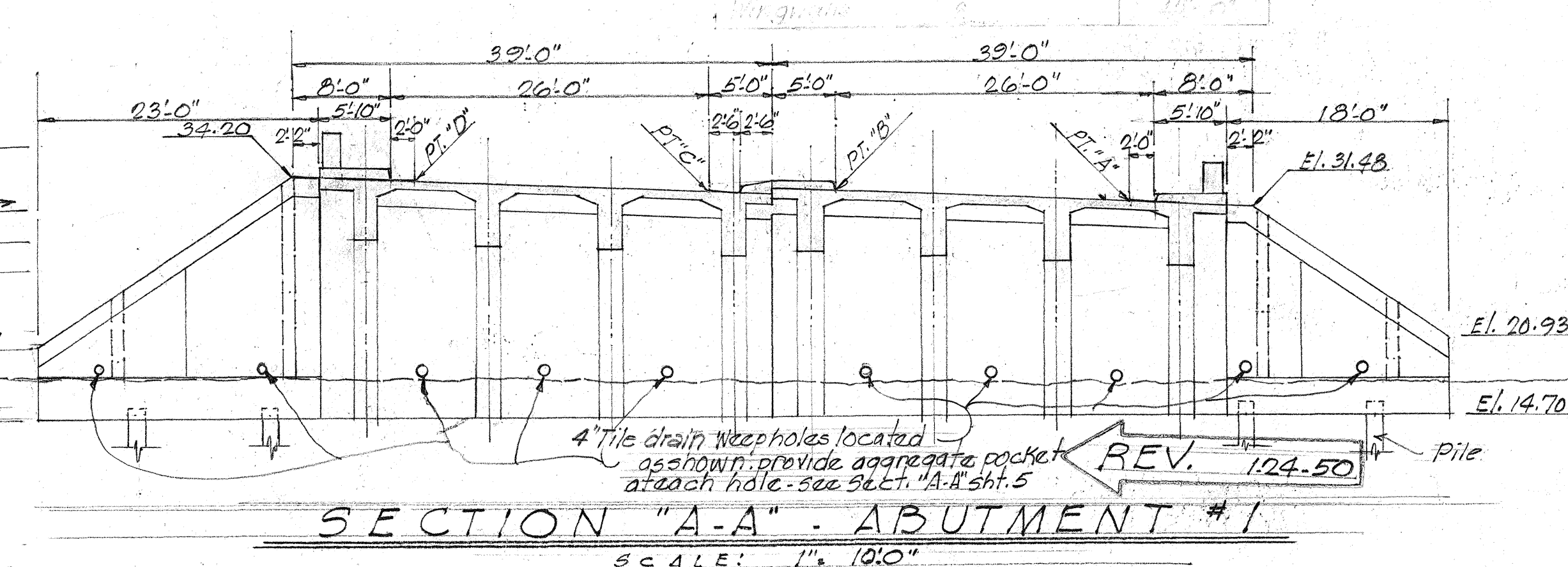
REVISION: Weepholes added 1-24-50
 Changed estimated reinf. steel quantities.

ESTIMATED QUANTITIES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
Hawaii	Haw	F150	1949	25	60

ITEMS	SUPERSTRUCTURE			PILE CAPS				WINGWALLS		RAIL + ENDPOST	TOTAL 167,247 # 105,440 c.y.
	FRAME & DECK	SIDEWALK	MED. ST. CURB	ABUT. 1	PIER 1	PIER 2	ABUT. 2	ABUT. 1	ABUT. 2		
Reinf. Steel (#)	135,104			3,188	2,351	2,351	3,188	8,202	8,202	3,183	105,440 #
Class A-1 Conc. (c.y)	693.38	36.0	20.3	22.1	22.4	22.4	22.1	9.65	9.65	16.0	754.25 c.y.
A.C. Paving (tons)	696.8	34.3	18.0	22.1	22.4	22.4	22.1	9.65	9.65	17.0	813.25 T
Structure Excav. (c.y)	362.9							234.8	265.8		500.6 c.y.
	94.0							65.9	105.0		264.9 c.y.
18"x18"x 85'-0" Precast Conc. Piles				20							20 pcs.
18"x 18"x 75'-0" Precast Conc. Piles					14	14		8			36 pcs.
16"x 16"x 55'-0" Precast Conc. Piles							20				20 pcs.
16"x16"x 45'-0" Precast Conc. Pile									8		8 pcs
*sand Fill								230	230		460 c.y.

* Sand Fill shall be paid for under the item "Sand Backfill (Swamp Fill)"



SPECIFICATION FOR ROLLED LEAD BEARING PLATES

These plates shall be rolled from pig lead made from ore or other material by process of reduction and refining. The use of reclaimed lead shall not be permitted. The material shall contain a minimum of 99.85% of lead and shall fulfill the requirements of the Standard Specifications for Pig Lead, A.S.T.M. Designation: B-29.

NOTE: Placing of road embankment at bridge shall not be started until 28 days after completion of concrete pour. The fill must be brought up simultaneously at both ends of the bridge so as to avoid one-sided earth pressure. Fill for wingwall cells shall be as shown in Sect. 1-1, sheet #1, KAHANA'IKI BRIDGE. This fill must be placed before depositing roadway embankment.

Design Data:
 H-20-44 Loading
 $f_s = 18,000$
 $f_c = 1,000$
 $f_e = 1,200$ (for neg. mom. in girders)
 $n = 10$

CONSTRUCTION METHOD

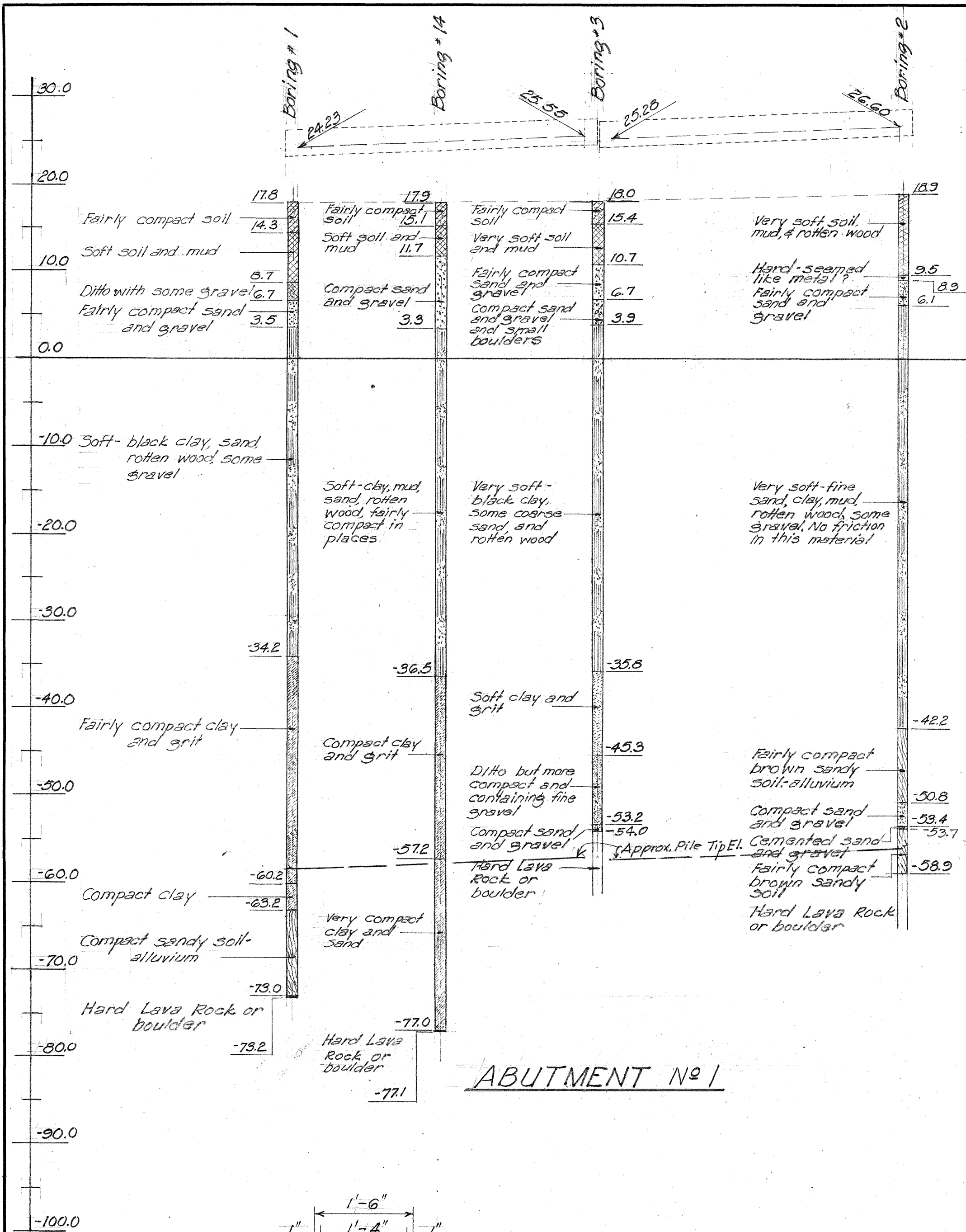
Curb, sidewalks, railing, railing posts and end posts to be placed after release of falsework.

All surfaces of railings, railing posts and end posts above the top of curb level shall receive Class 1 surface finish.

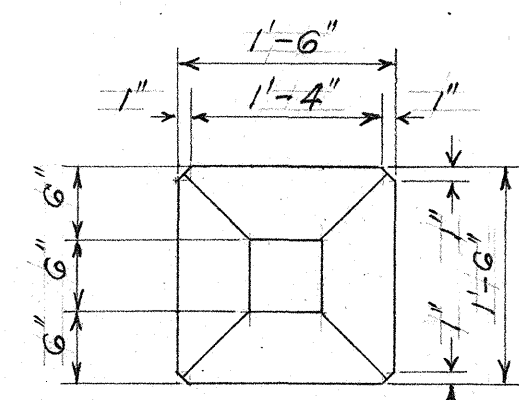
Brush coat waterproofing required see Specification, Pamphlet N, Section 34.

Materials:
 All concrete - Class A-1 except in piles.
 All piles Class E-1 Conc.

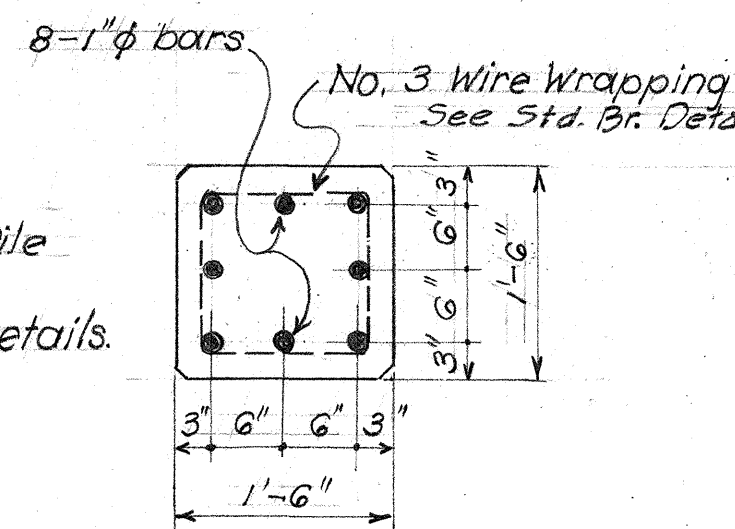
TERRITORIAL HIGHWAY DEPARTMENT
 TERRITORY OF HAWAII
MAUNAWILI BRIDGE
 STA. 286+02 TO STA. 287+24
 KALANIANA'OLE HIGHWAY
 AUG. 1949
 F15(3)



ABUTMENT No. 1

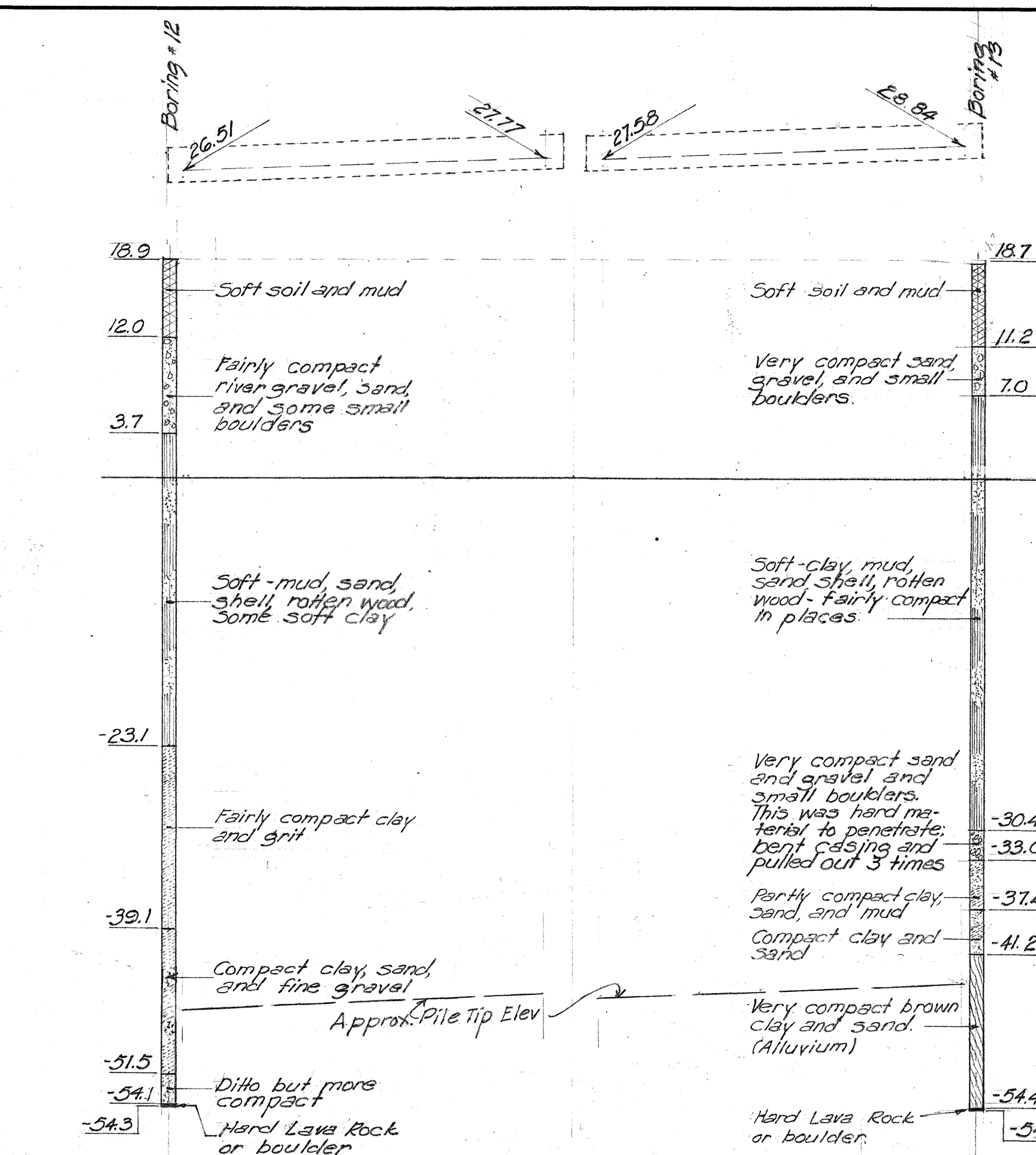


18"x18" BUTT

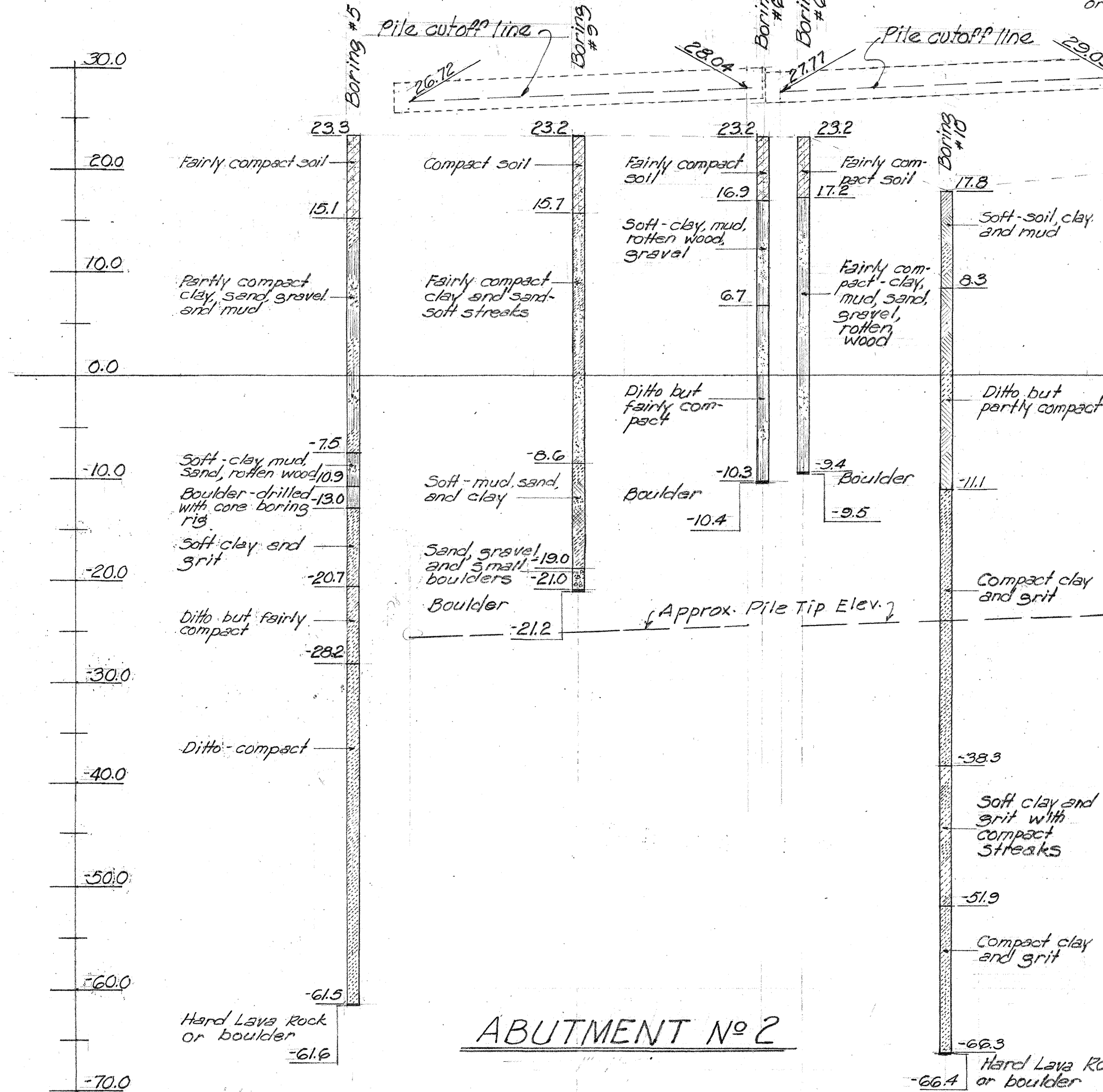


SECTION TIP
18"x18" PRECAST CONCRETE PILE
Scale: 3/4" = 1'-0"

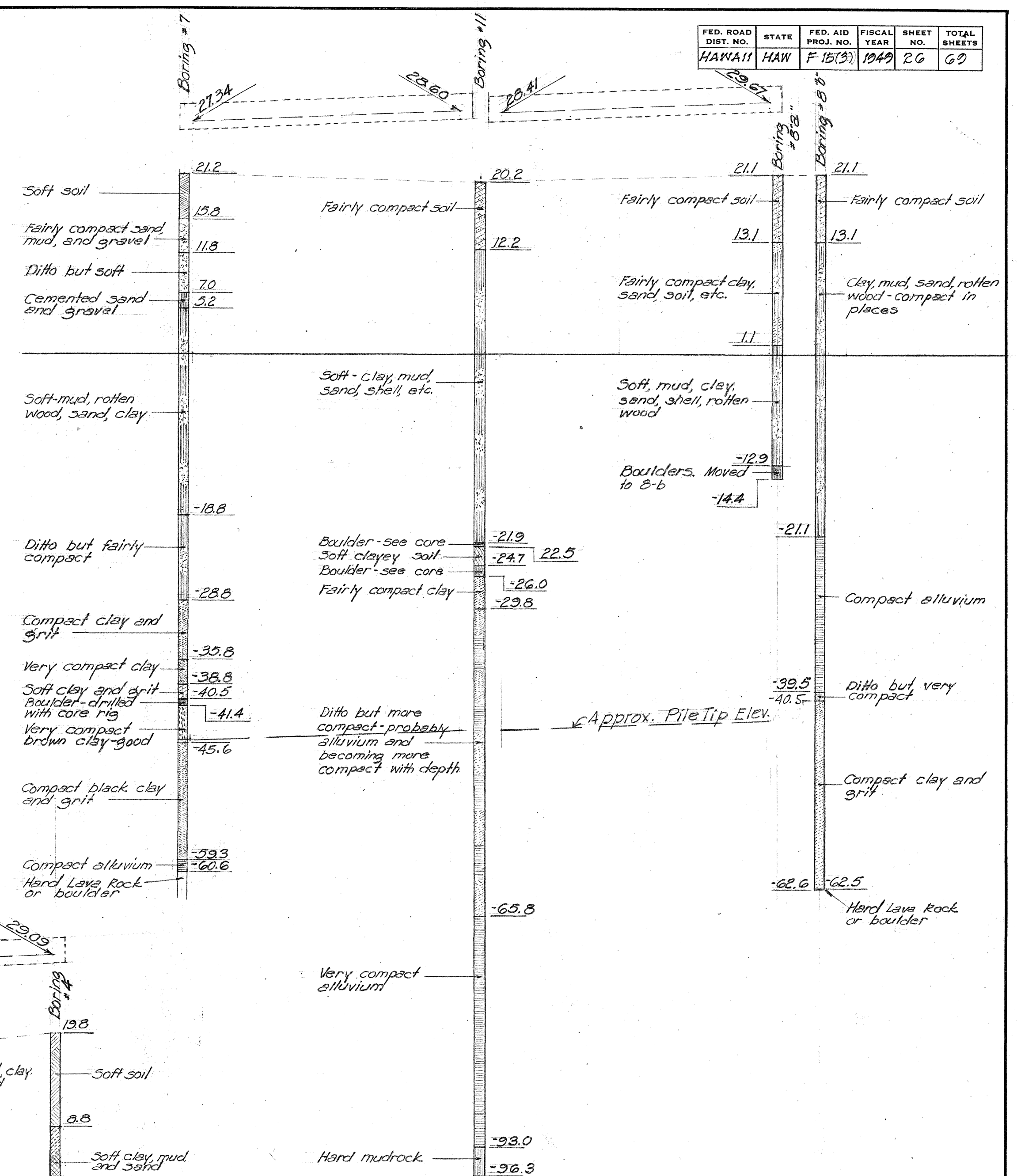
NOTE:
18"x18" Conc. Pile similar to 16"x16" Pile except as shown.
See Std. Bridge Details.



PIER No. 1



ABUTMENT No. 2

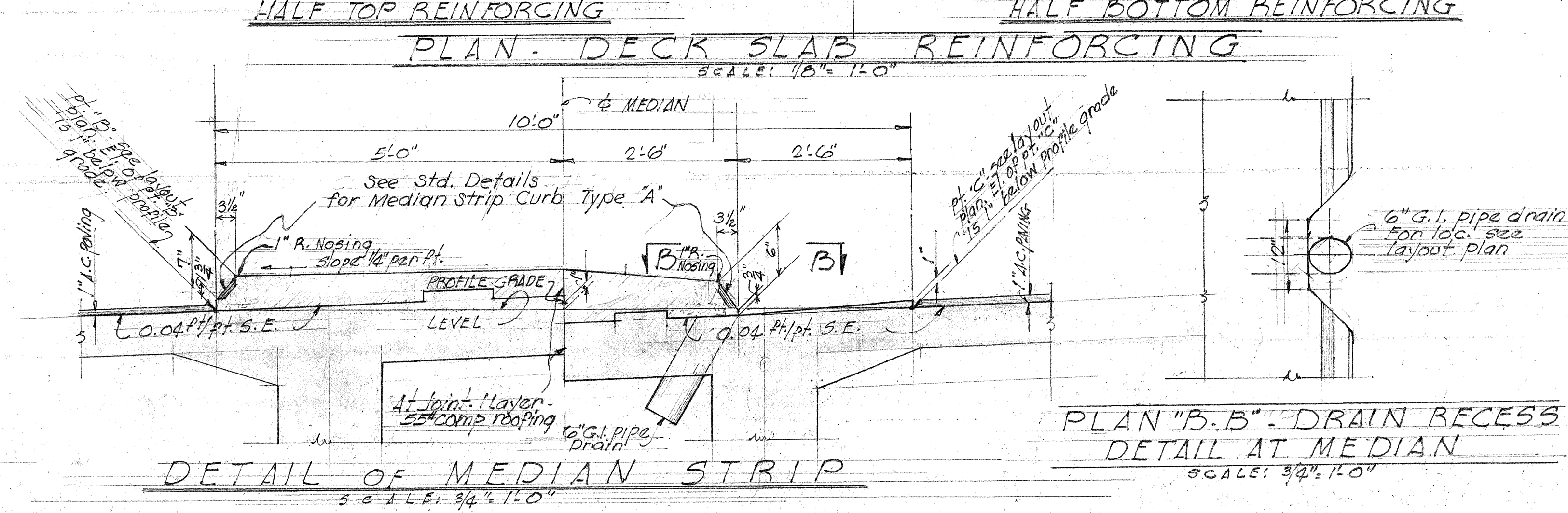
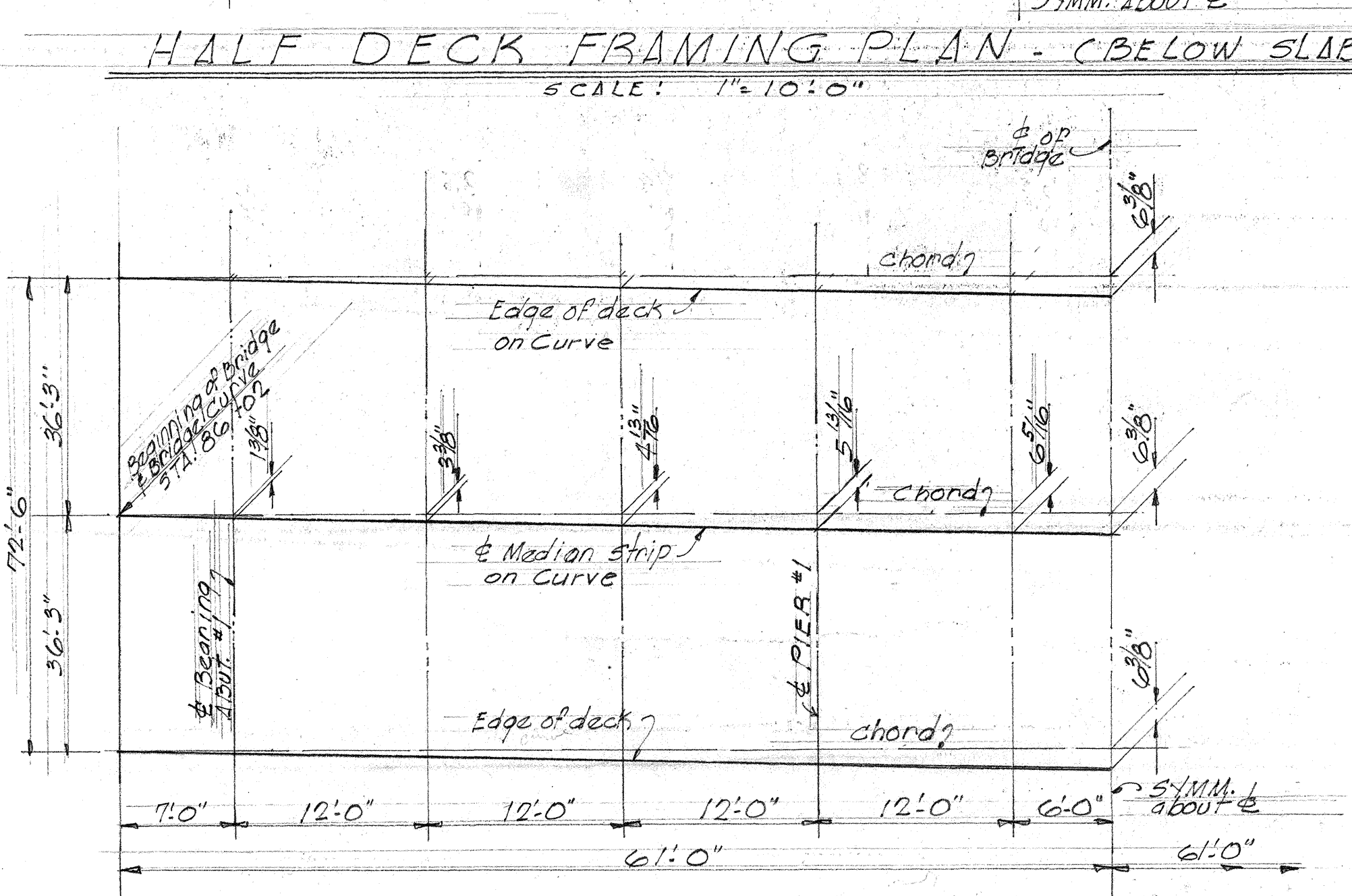
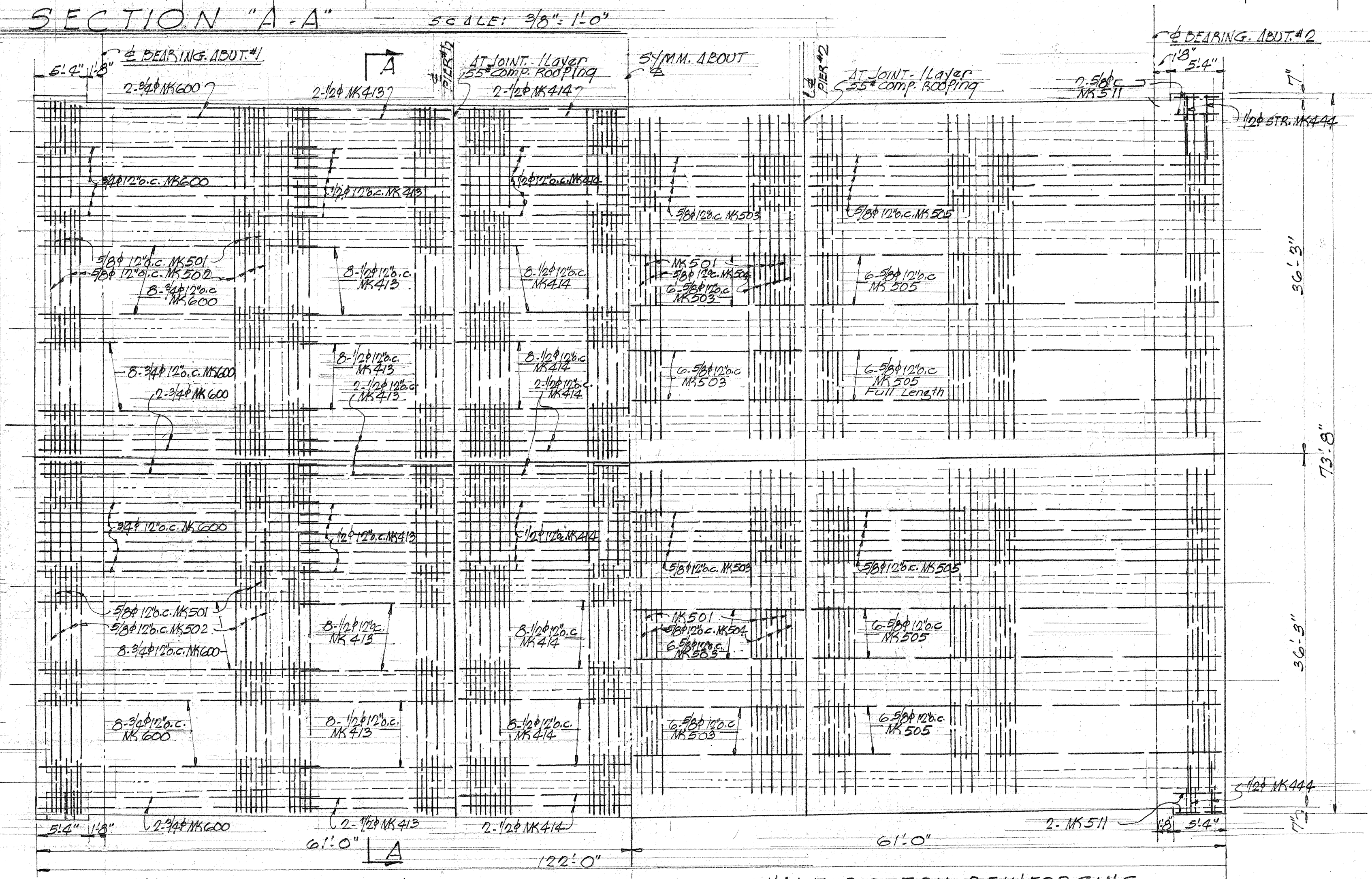
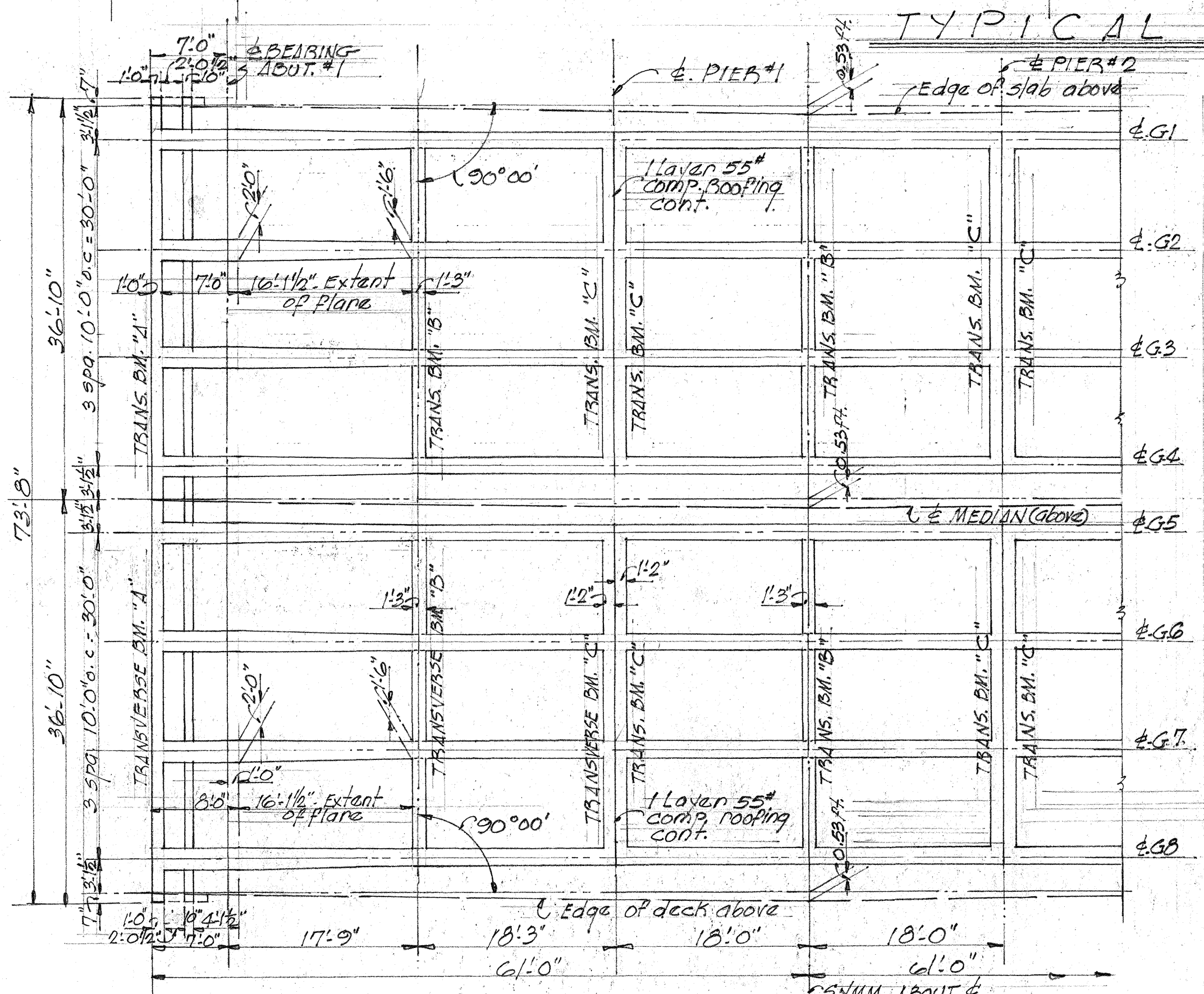
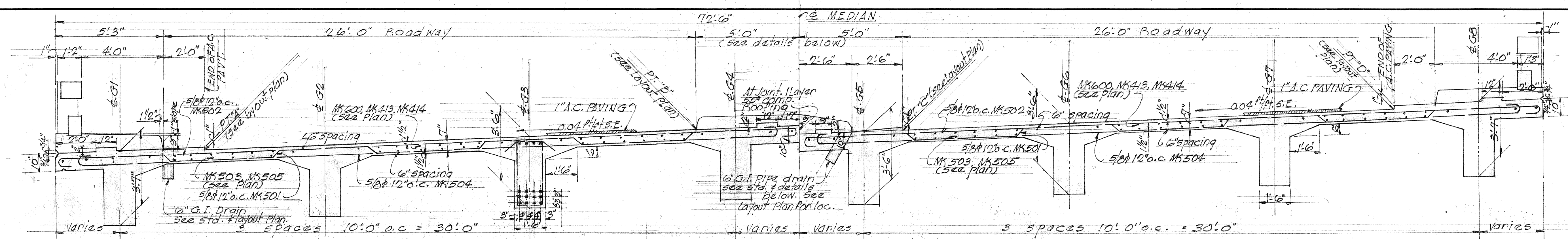


PIER No. 2

SCALE: 1" = 10'-0"

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
MAUNAWILI BRIDGE
STA. 286+02 TO STA. 287+24
KALANIANA'OLE HIGHWAY F15(3)
August, 1949
SHEET No. 2 OF 6 SHEETS

5436.26

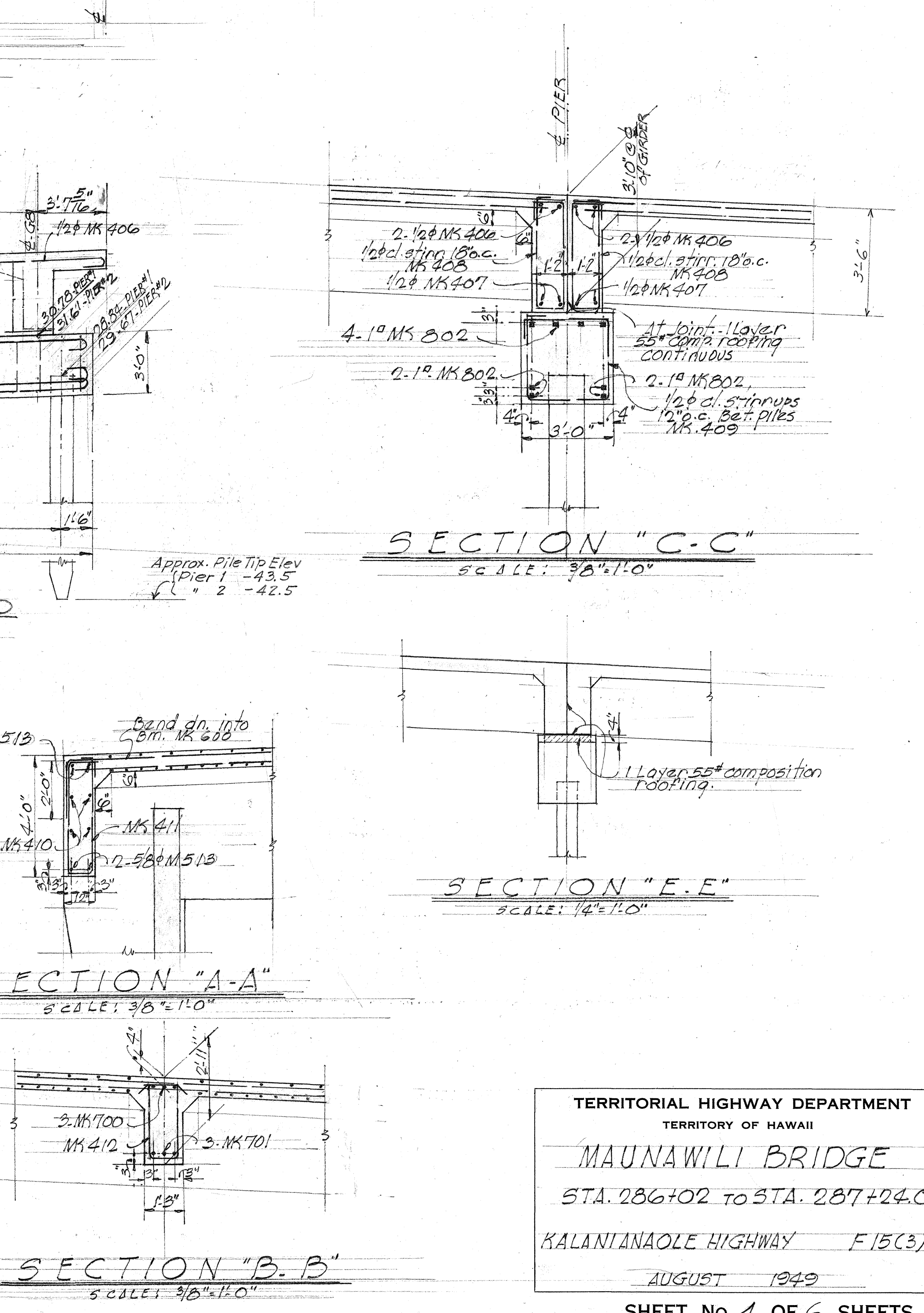
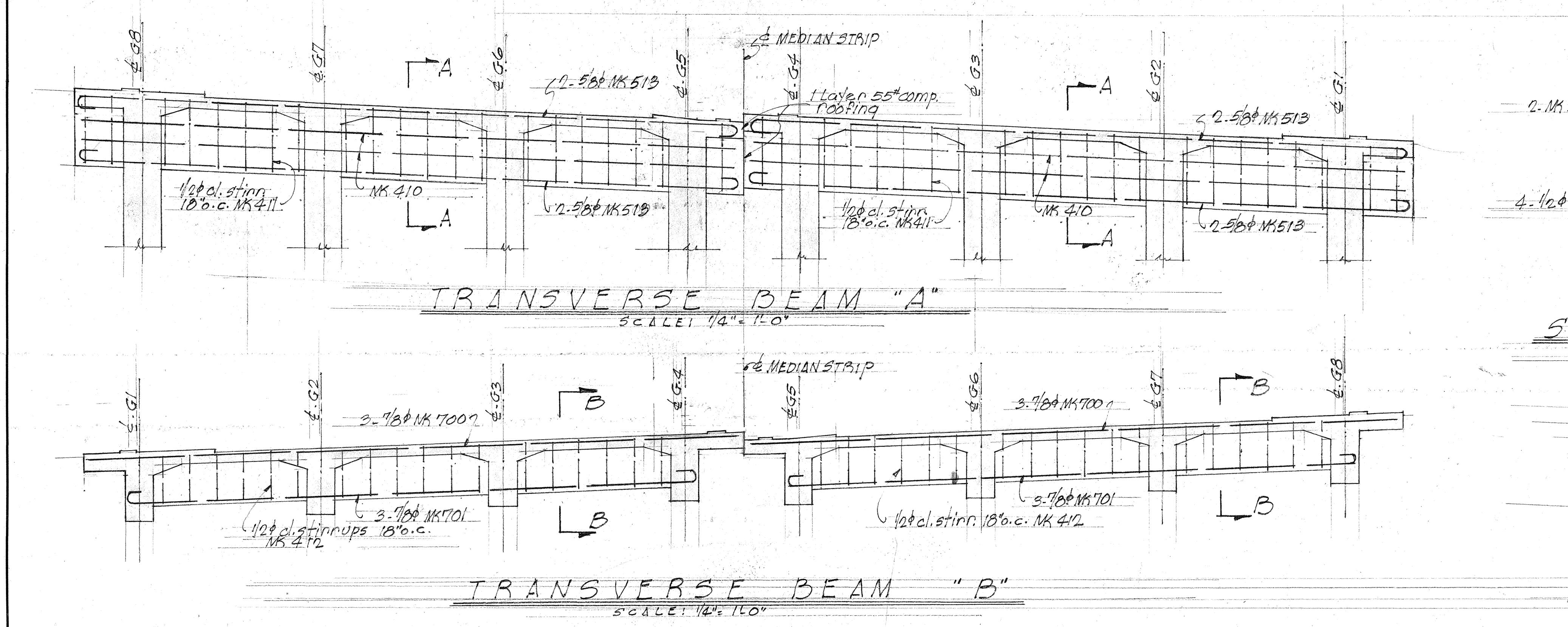
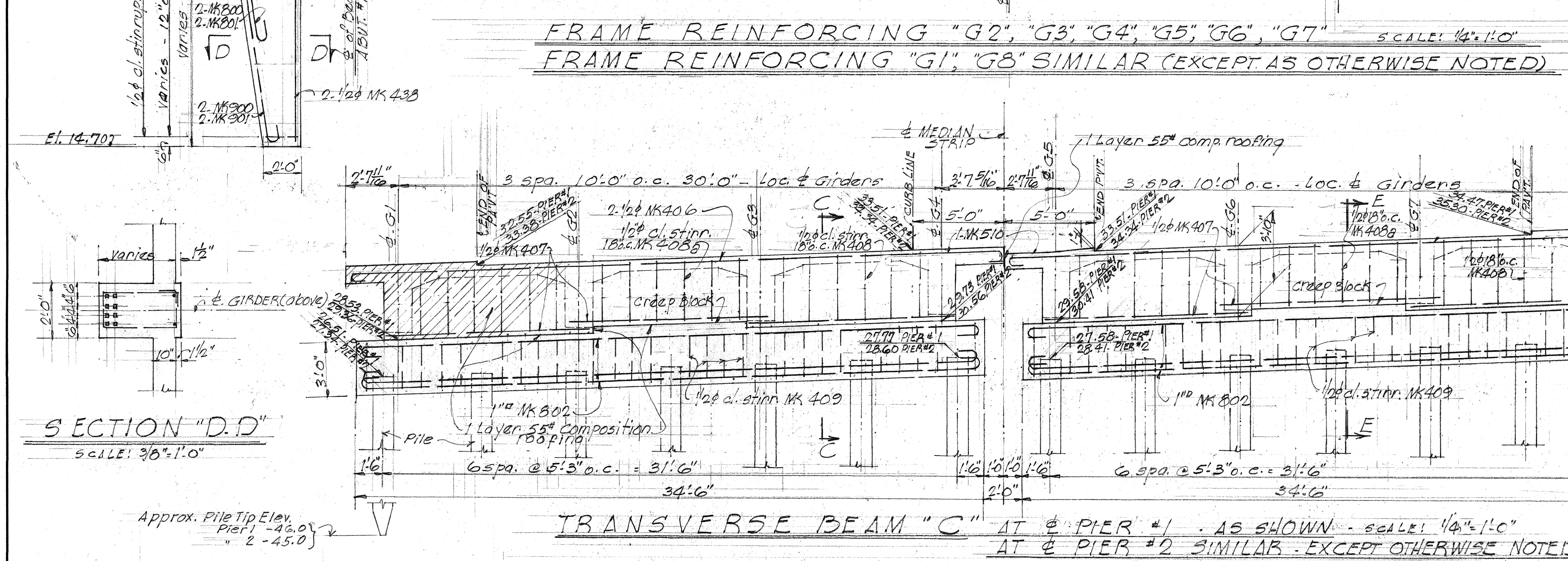
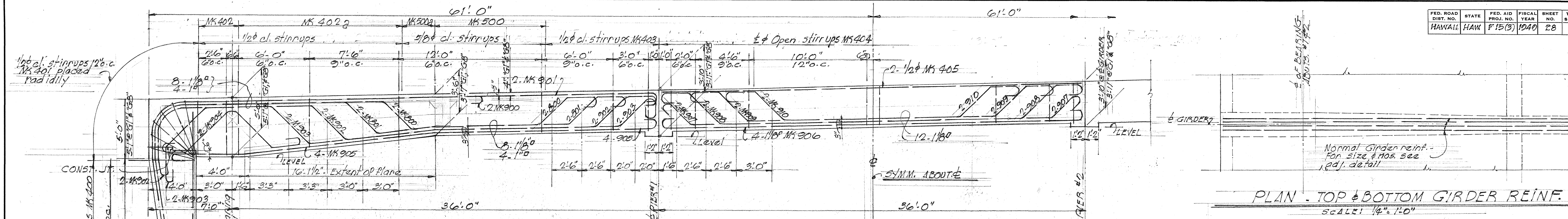


TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
MAUNAWILI BRIDGE
STA. 286+02 TO STA. 287+24.0
KALANIANA'OLE HIGHWAY F15(3)
AUGUST 1949
SHEET No. 3 OF 6 SHEETS

5436.27

ORIGINAL PLAN
DATE: 8/49
DRAWN BY: F. Ching
CHECKED BY: J. E. Ching
NOTE BOOK NO. 8/49

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	F15(3)	1940	28	60

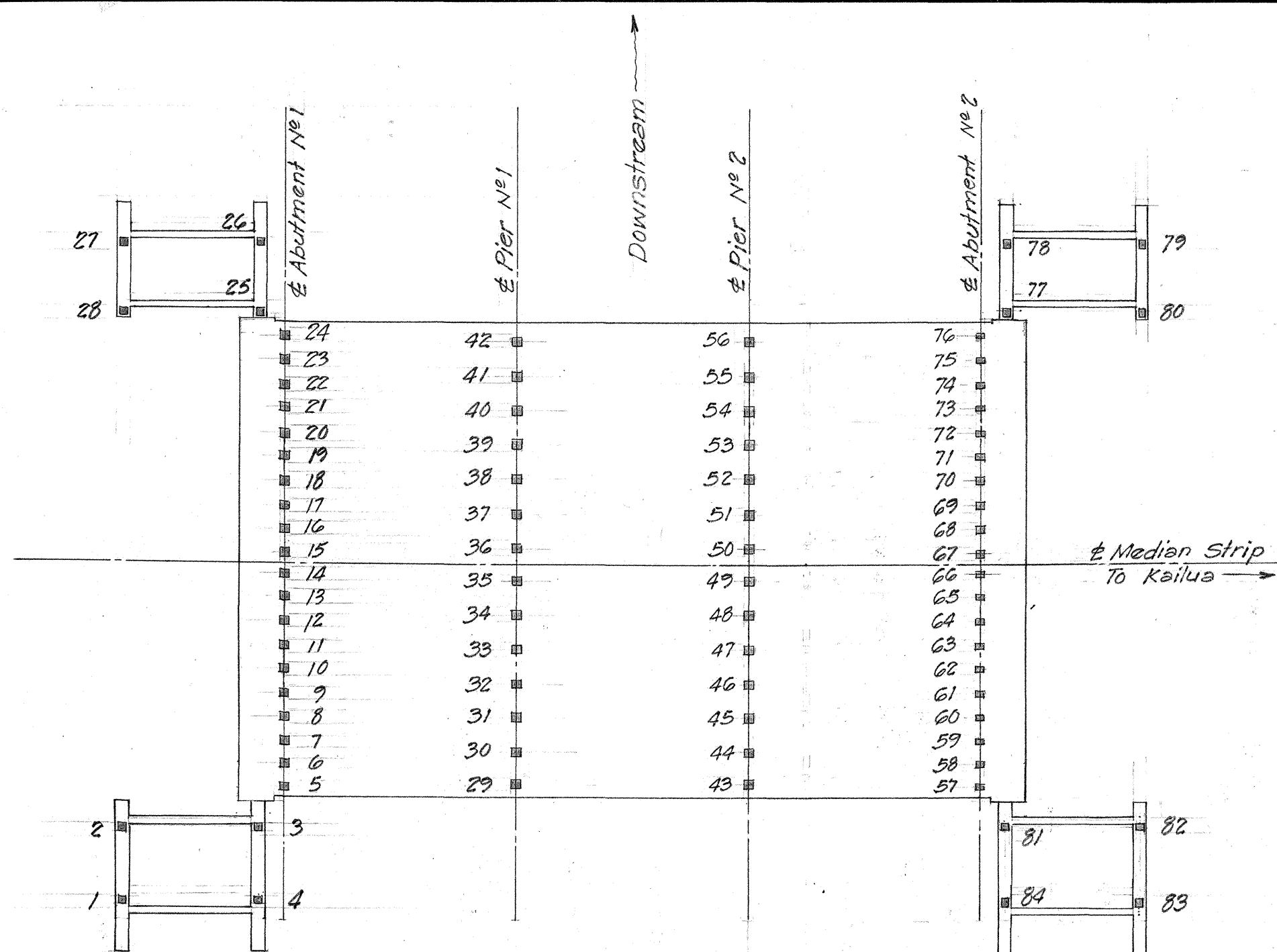


TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
MAUNAWILI BRIDGE
STA. 286+02 TO STA. 287+24.0
KALANIANA'OLE HIGHWAY F15(3)
AUGUST 1949
SHEET No. 4 OF 6 SHEETS

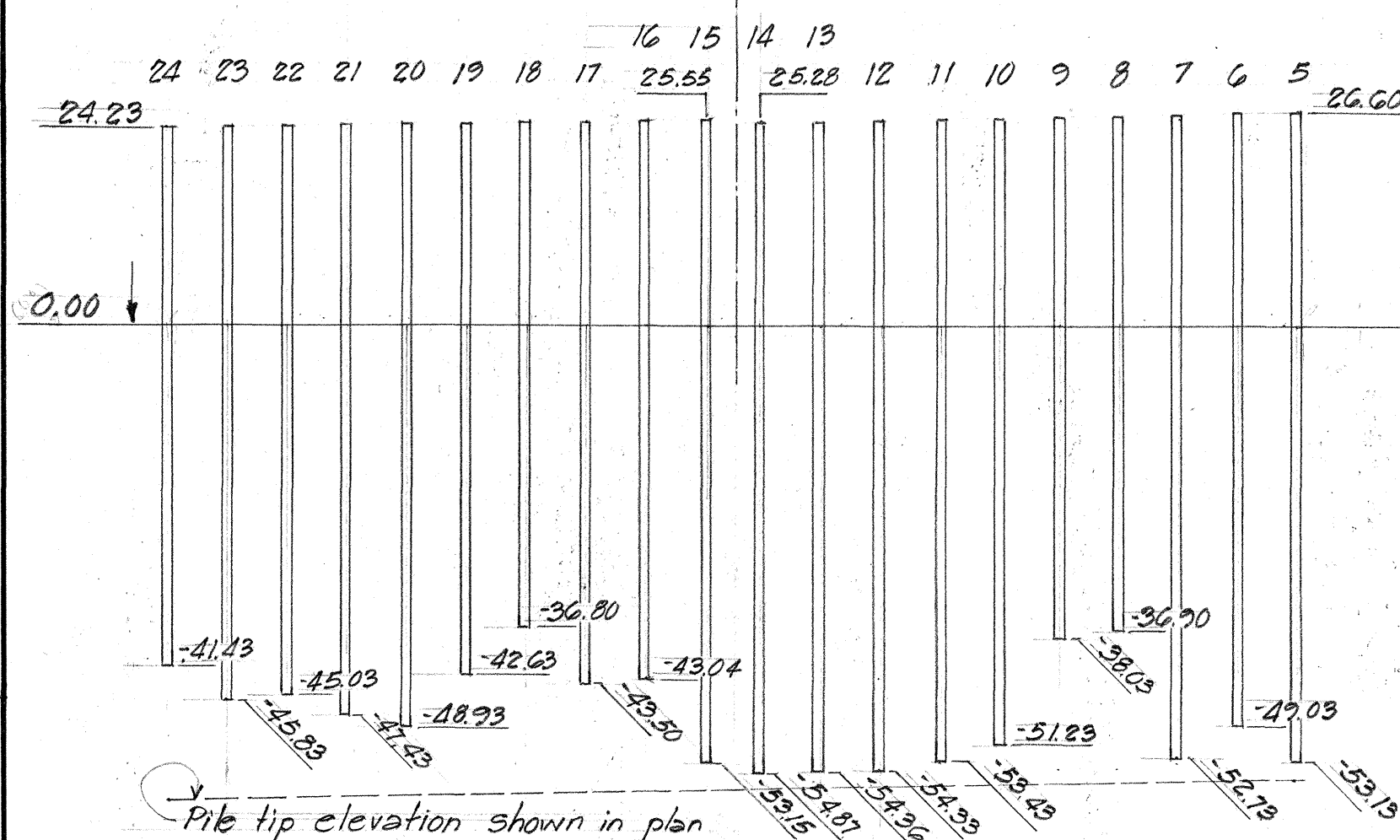
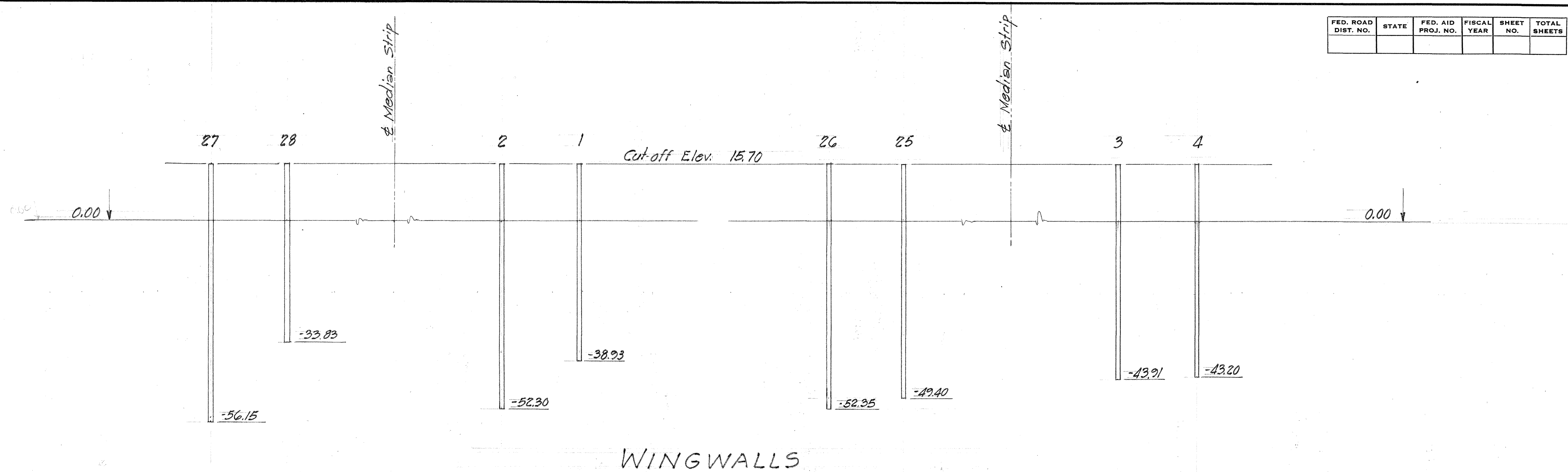
5436.28

ORIGINAL PLAN
DESIGNED BY H.E. DAVIS
TRACED BY J. C. KING
NOTE BOOK
QUANTITIES BY J. C. KING
CHECKED BY J. C. KING

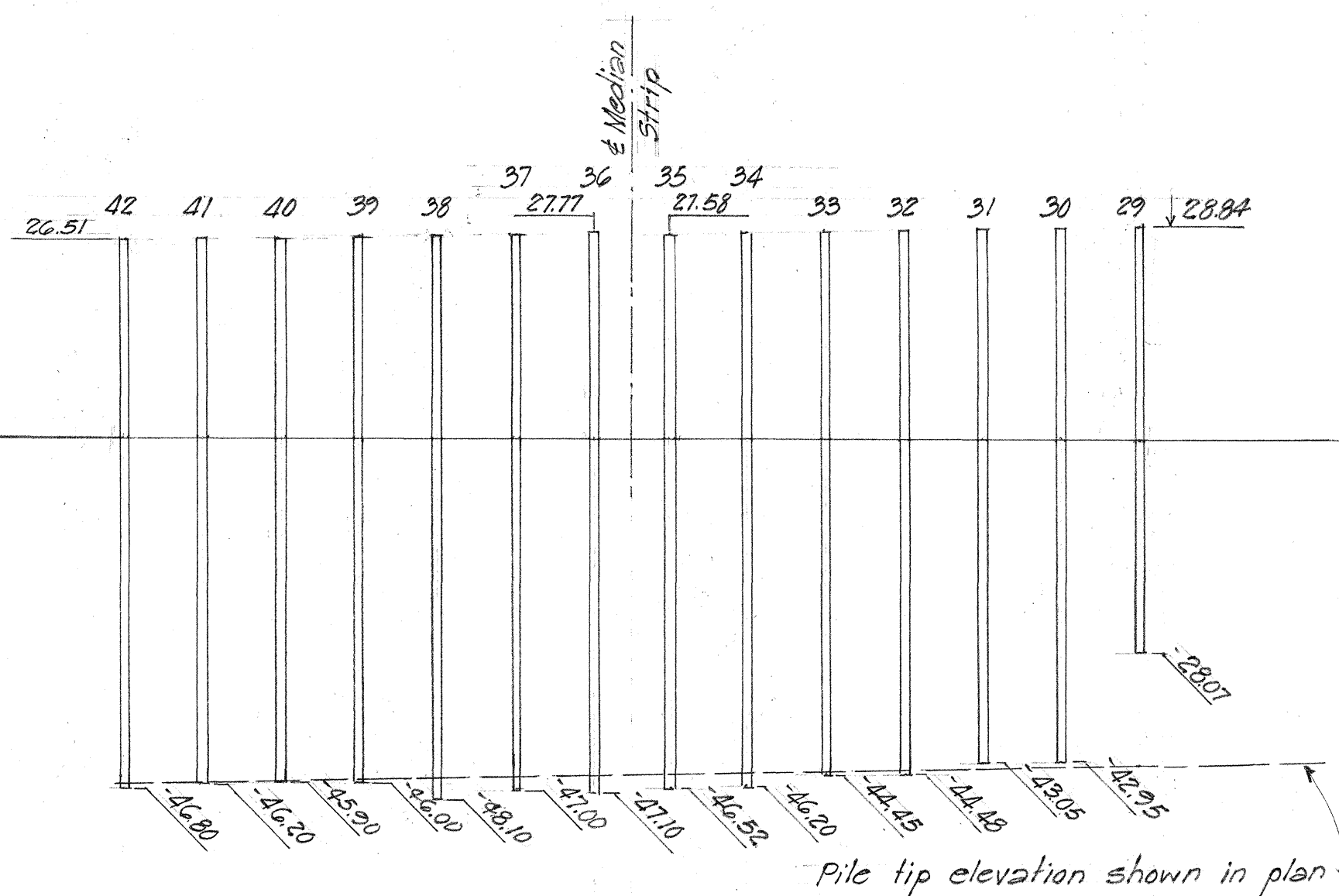
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS



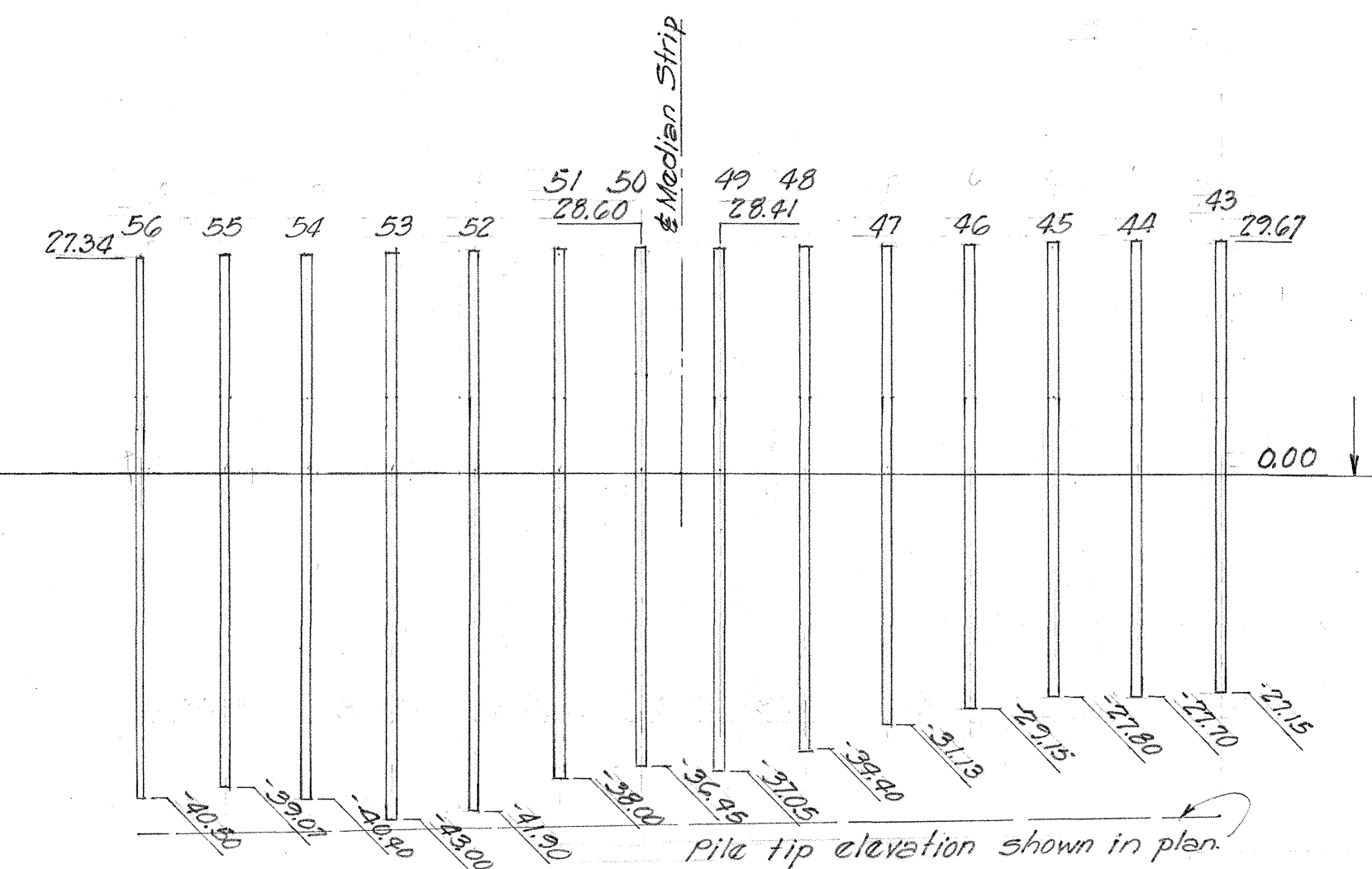
LAYOUT PLAN
Scale 1"=20'-0"



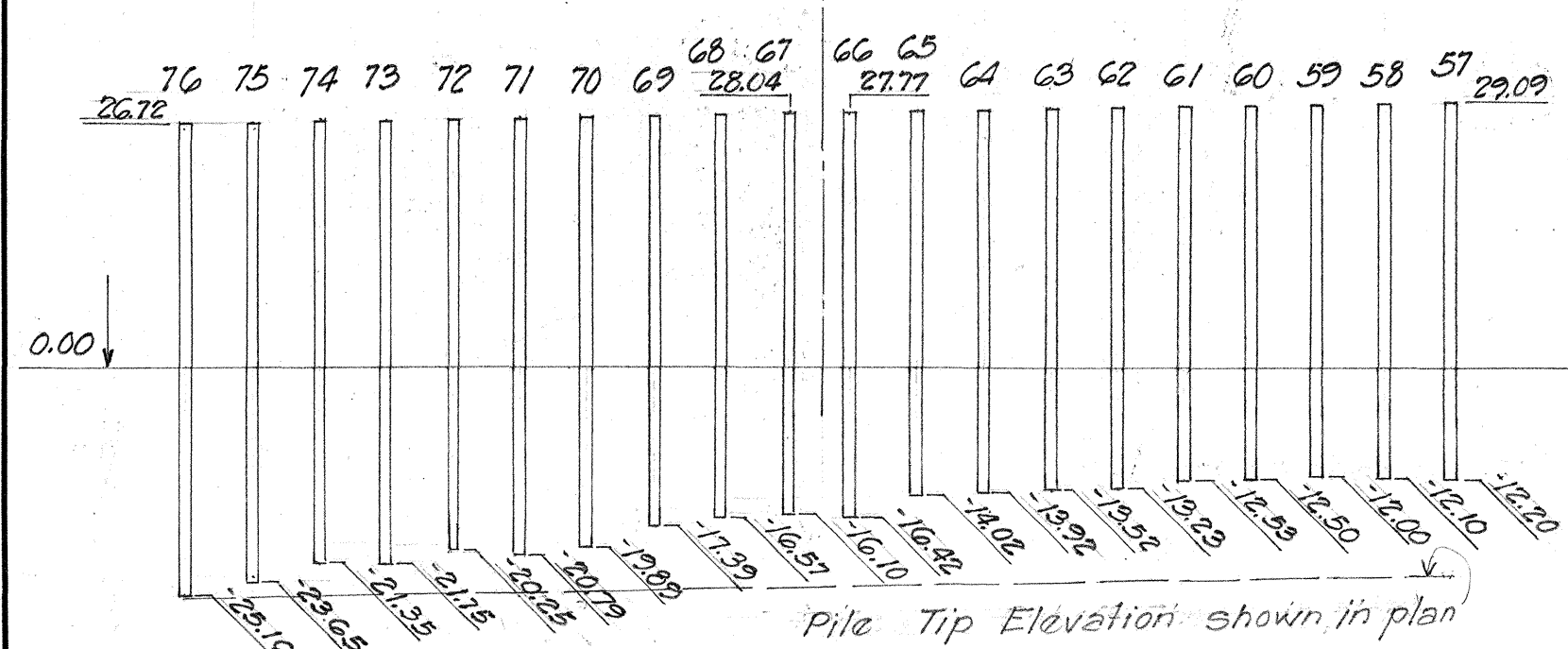
ABUTMENT No. 1



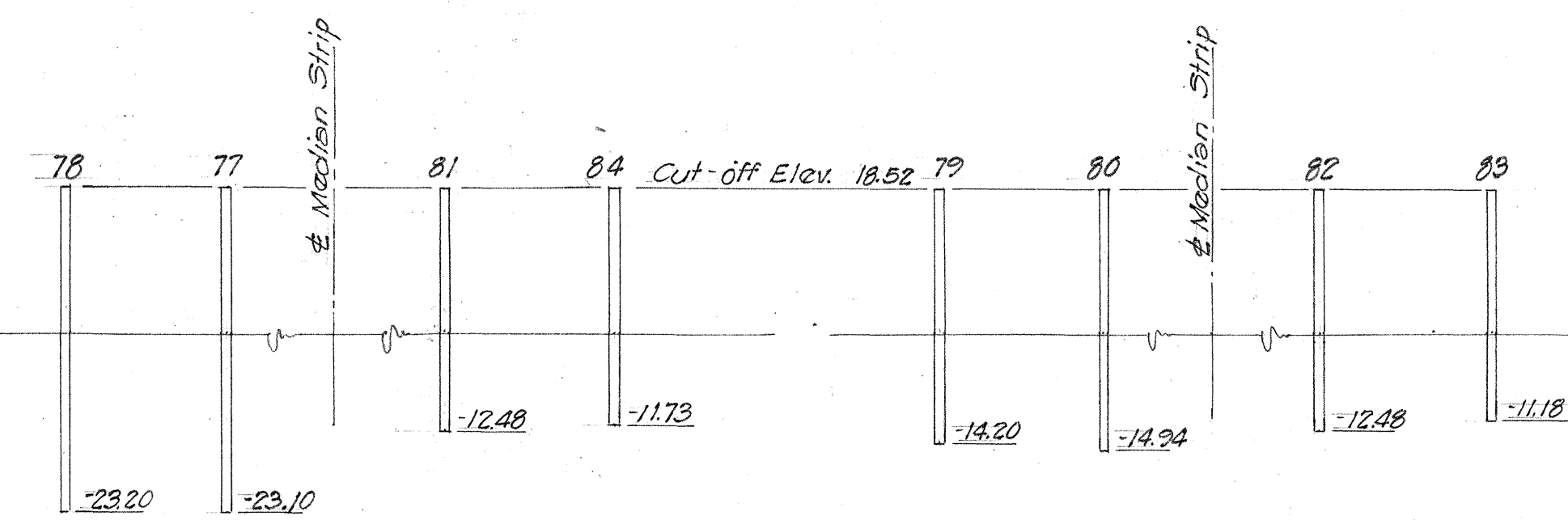
PIER No. 1



PIER No. 2



ABUTMENT No. 2



WINGWALLS

Scale:
Hor. --- 1" = 10'-0"
Ver. --- 1" = 20'-0"

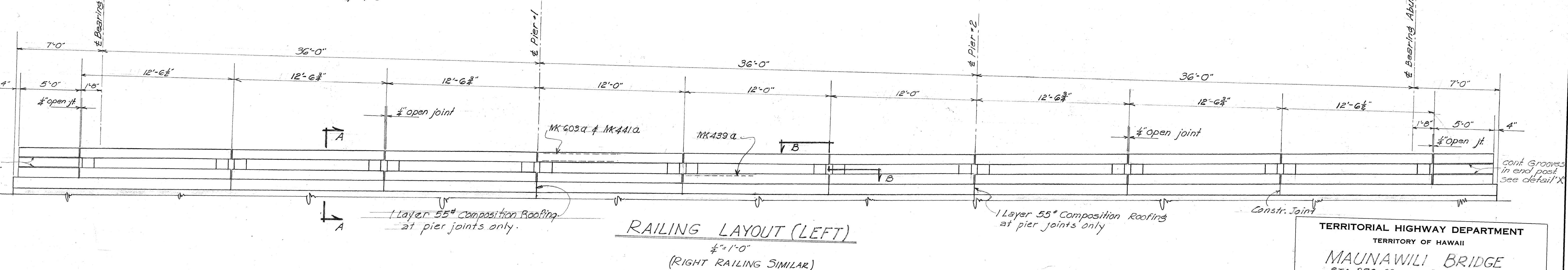
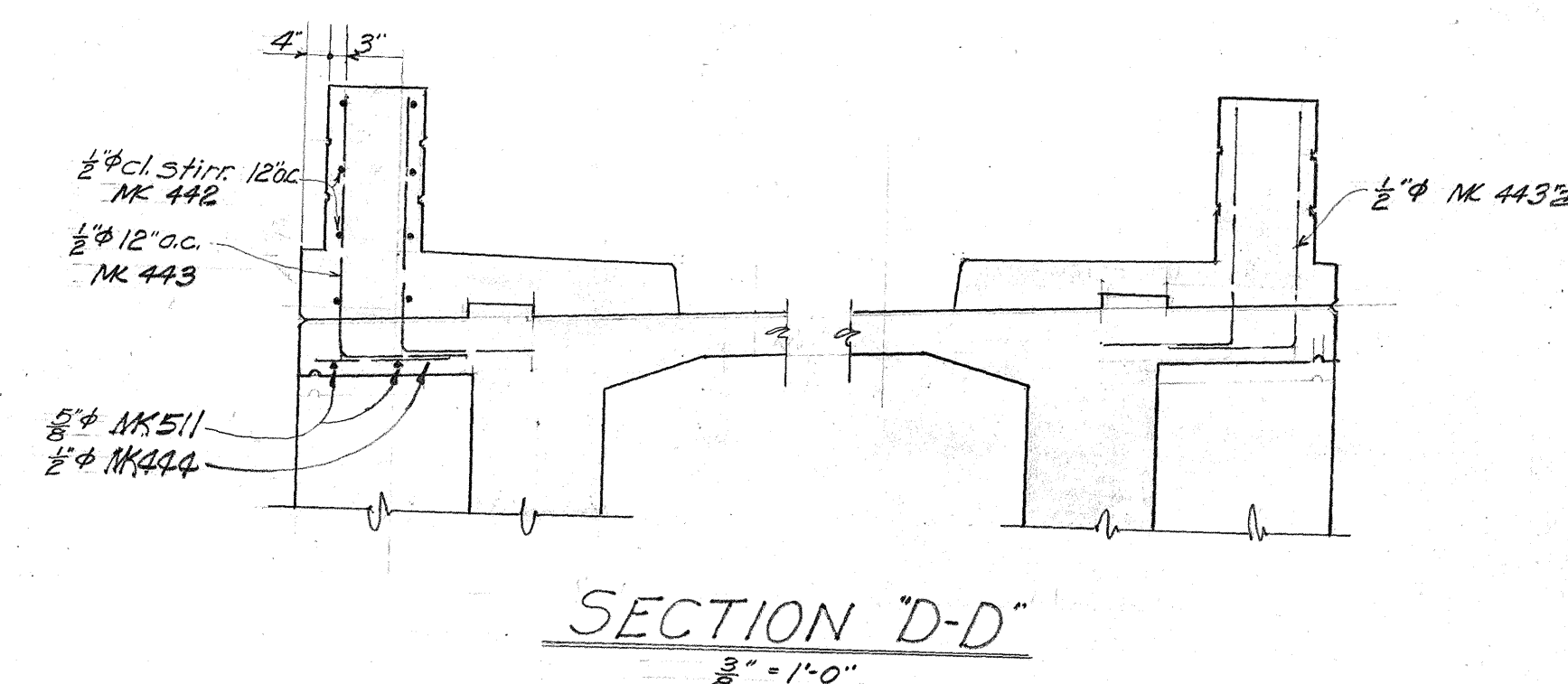
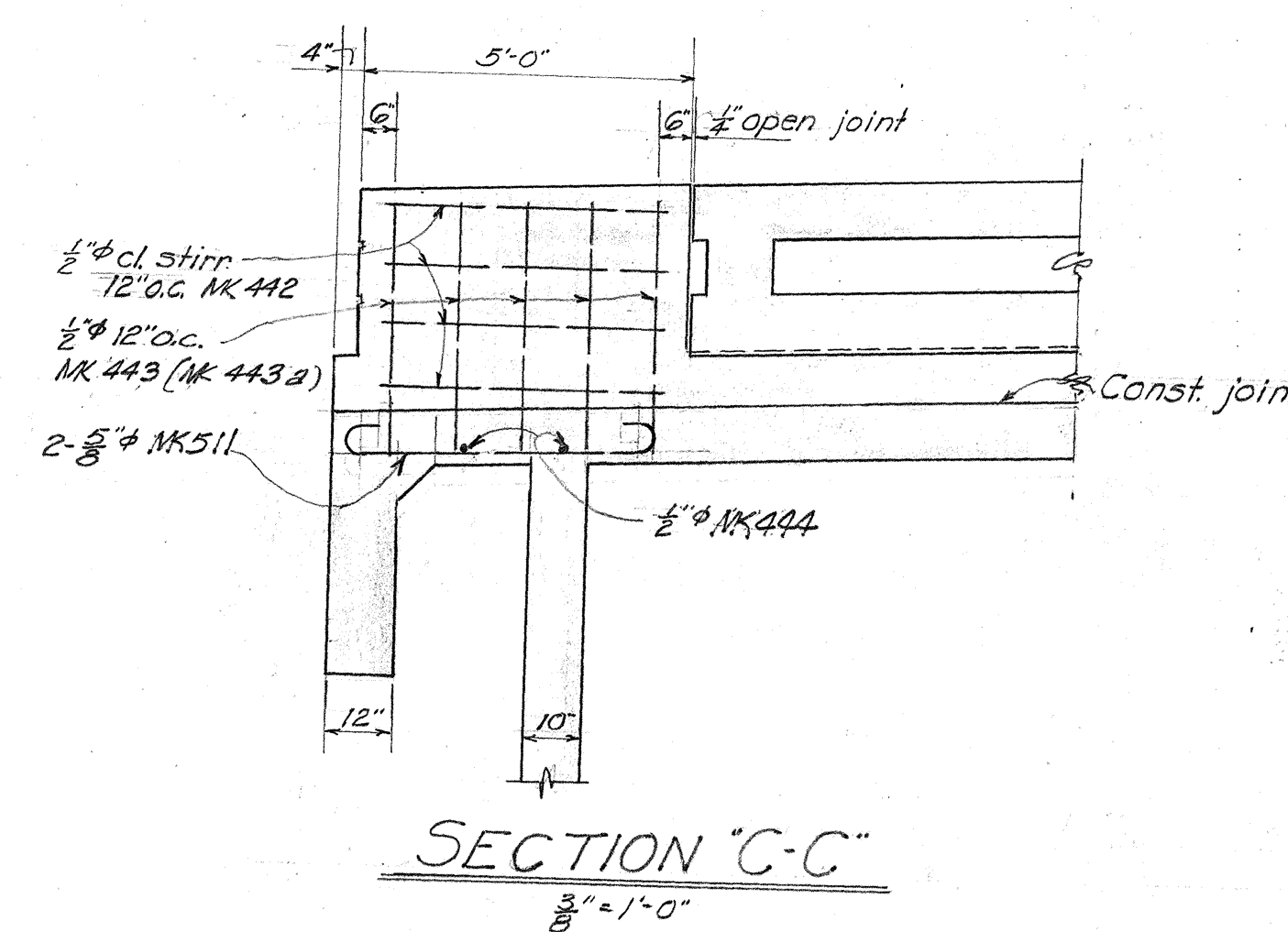
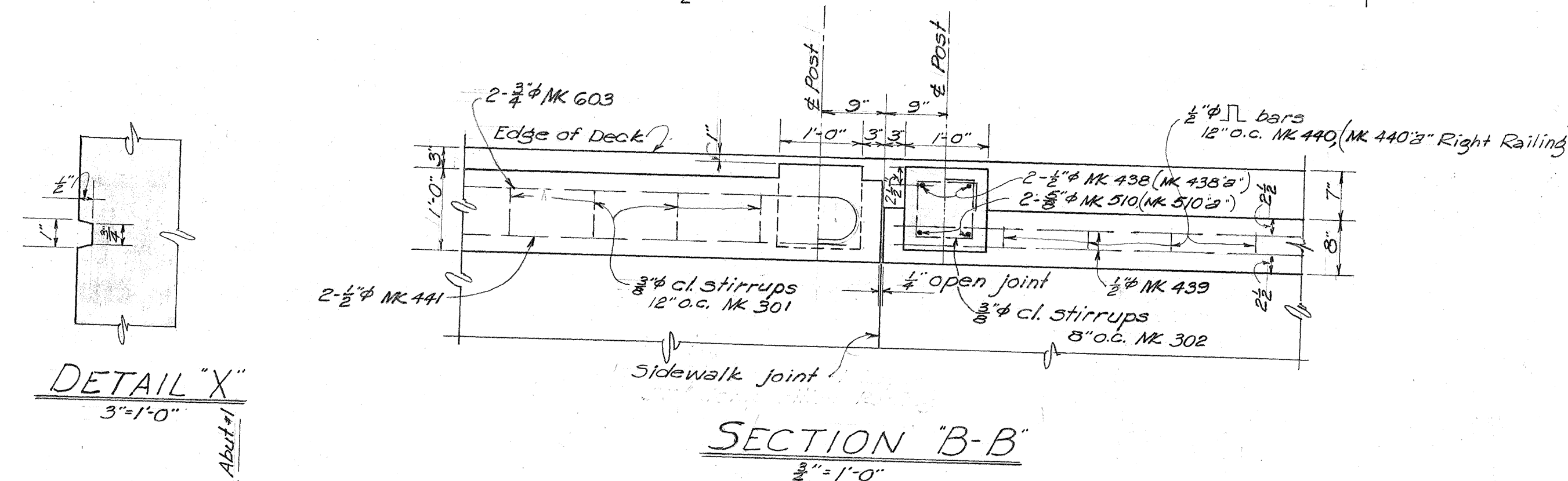
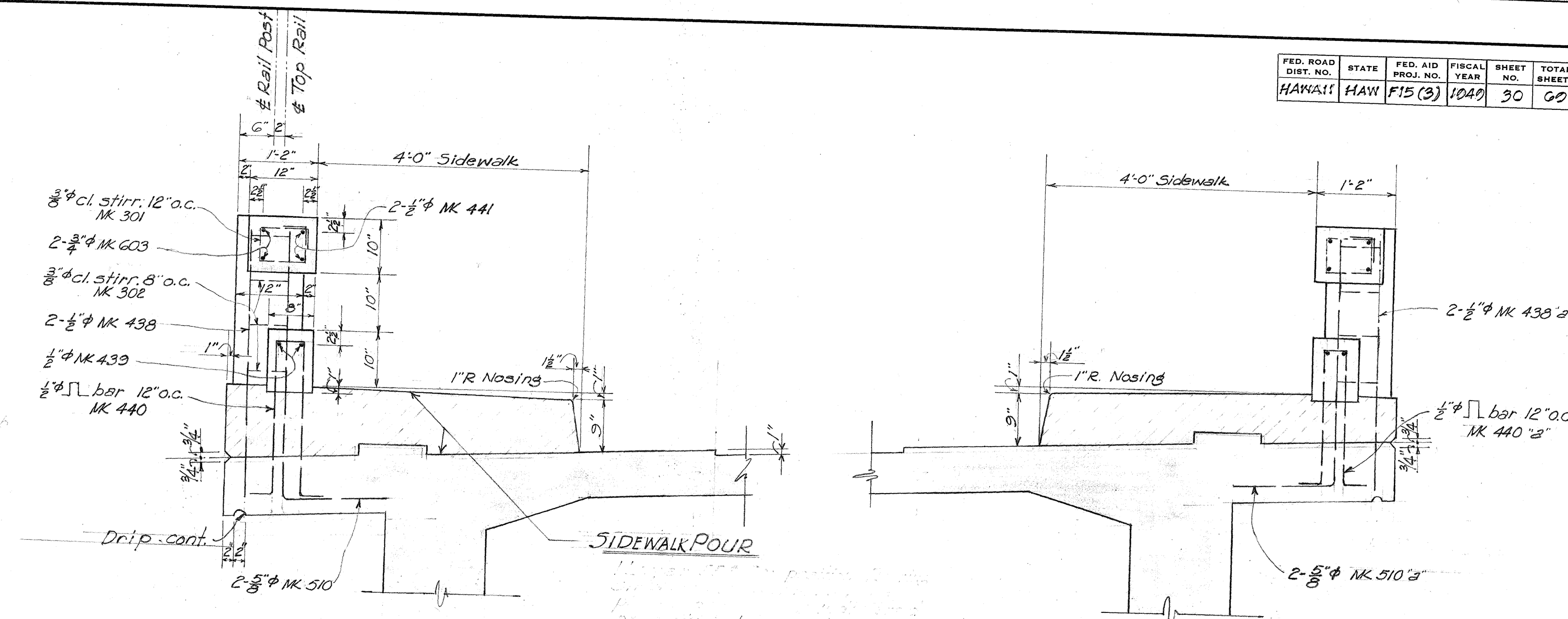
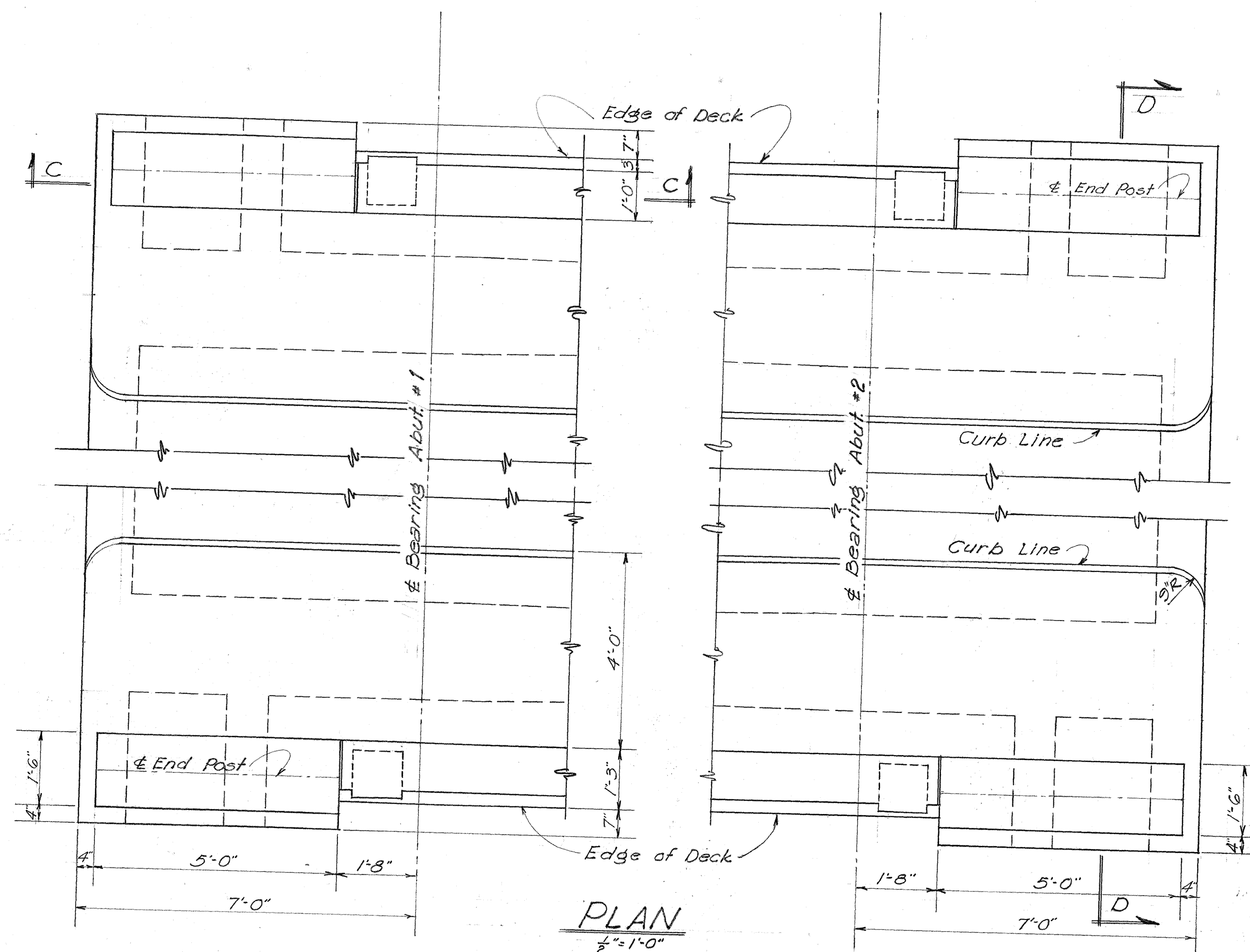
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
PILE TIP ELEVATION
MAUNAWILI BRIDGE
Sta 286+02.0 to Sta 287+24.0
(As Driven)
KALANIANA'OLE HIGHWAY F1E(3)
December 1950

SHEET No. 1 OF 1 SHEETS

5436.29A

SURVEY PLOTTED BY	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	F15 (3)	1940	30	60



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
MAUNAWILI BRIDGE
STA. 286+02 TO STA. 287+24
KALANIANA'OLE HIGHWAY
AUGUST 1940
F15(3)

SHEET No. 6 OF 6 SHEETS

5436.30

ORIGINAL
DESIGNED BY
DRAWN BY
CHECKED BY
DATE
8/1/40
J. L. McNamee
J. L. McNamee
J. L. McNamee
J. L. McNamee