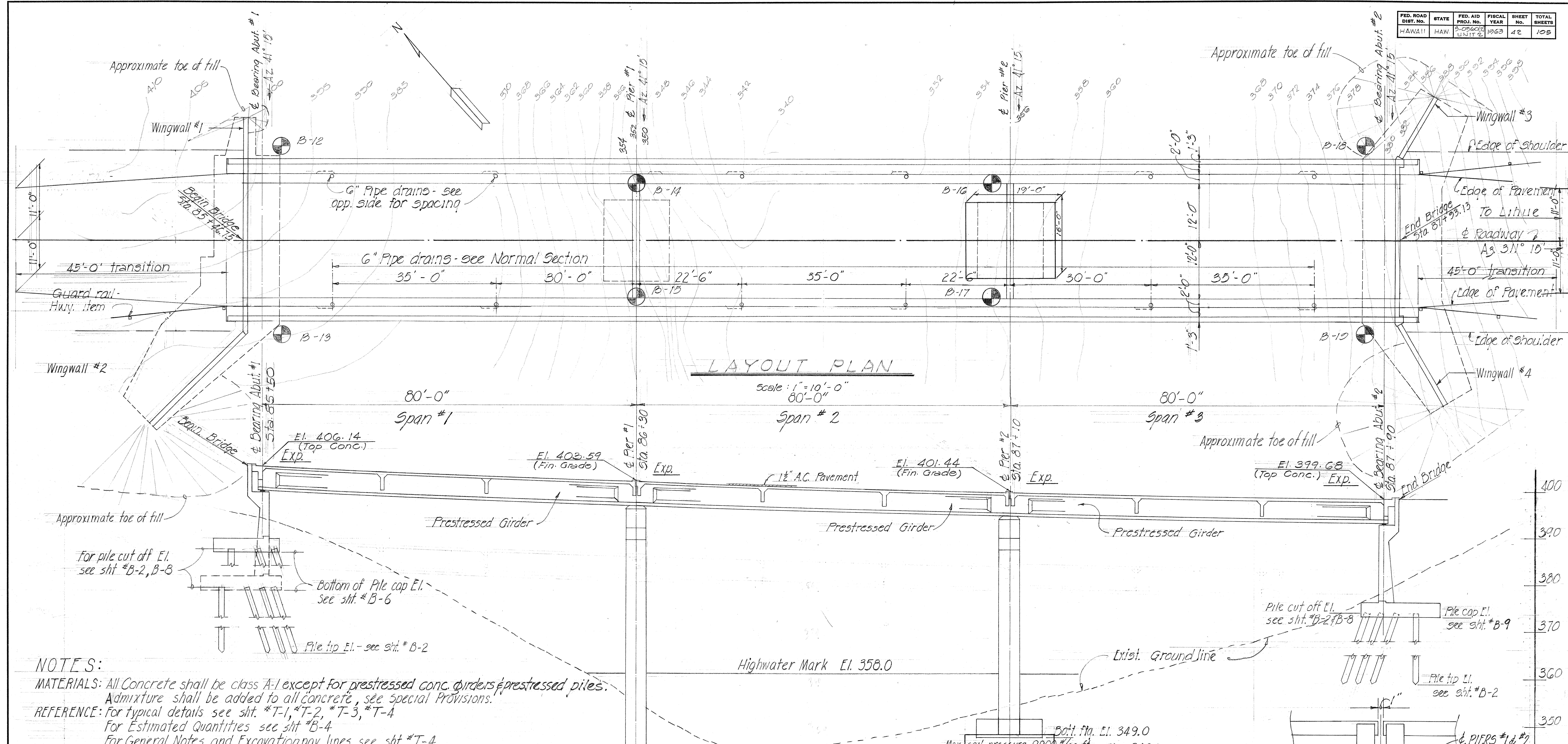


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	S-0560(2)	1963	42	105



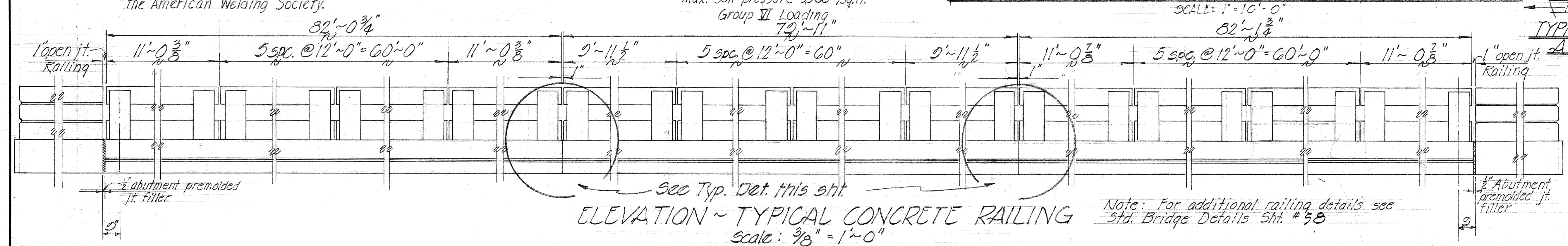
NOTES:

MATERIALS: All Concrete shall be class A-1 except for prestressed conc. girders & prestressed piles. Admixture shall be added to all concrete, see Special Provisions.

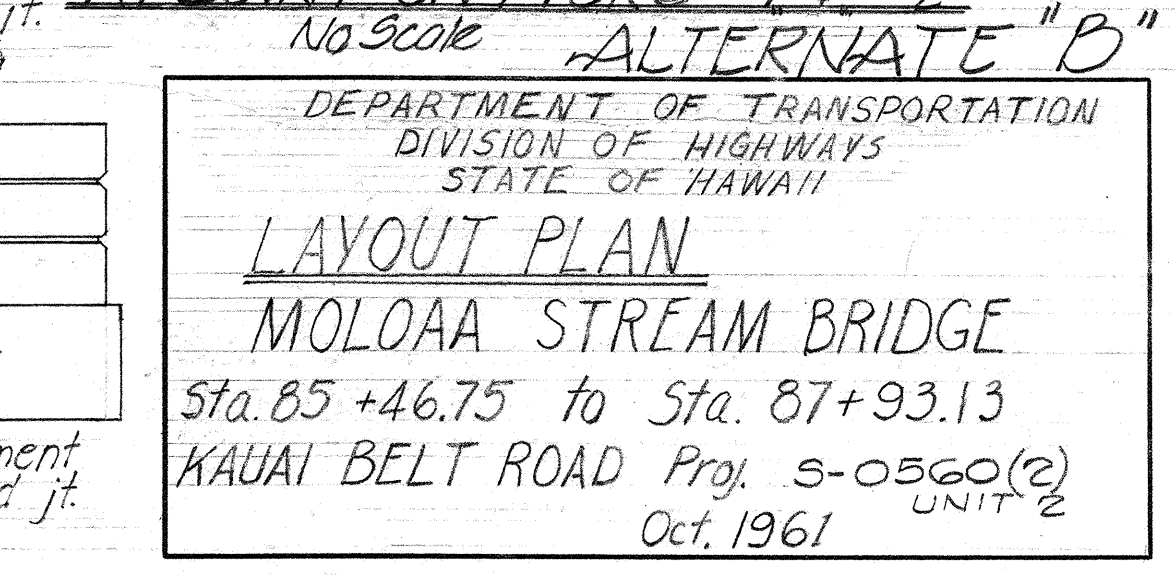
REFERENCE: For typical details see sht. #T-1, #T-2, #T-3, #T-4. For Estimated Quantities see sht. #B-4. For General Notes and Excavation pay lines see sht. #T-4.

CONSTRUCTION METHODS: All welding shall conform to the latest Specifications for Welded Highway and Railway Bridge Design, Construction and Repair, of the American Welding Society.

LONG SECTION ALONG & ROADWAY



TYPICAL DETAIL ~ CONCRETE RAILING AT JOINT ON PIERS #1 & #2



LAYOUT PLAN
MO'LOAA STREAM BRIDGE
 Sta. 85+46.75 to Sta. 87+93.13
 KAUAI BELT ROAD Proj. S-0560(2)
 Oct. 1961 UNIT 2

PILE DRIVING PLAN ABUTMENTS No. 1 & 2 Scale: 1/4" = 1'-0"

Symbols
 Direction of batter:
 - Denotes Batter Piles
 - Denotes Vertical Piles

Note:
 Pile length as shown are cast lengths.
 Batter piles - 4:12
 Design loads - 32 Tons/Pile.

1- Vert. pile 22.0'
 2- Batter piles 23.0'
 Pile cutoff elev. 373.3
 Vert. pile tip elev. 353.3
 Batter pile tip elev. 352.5

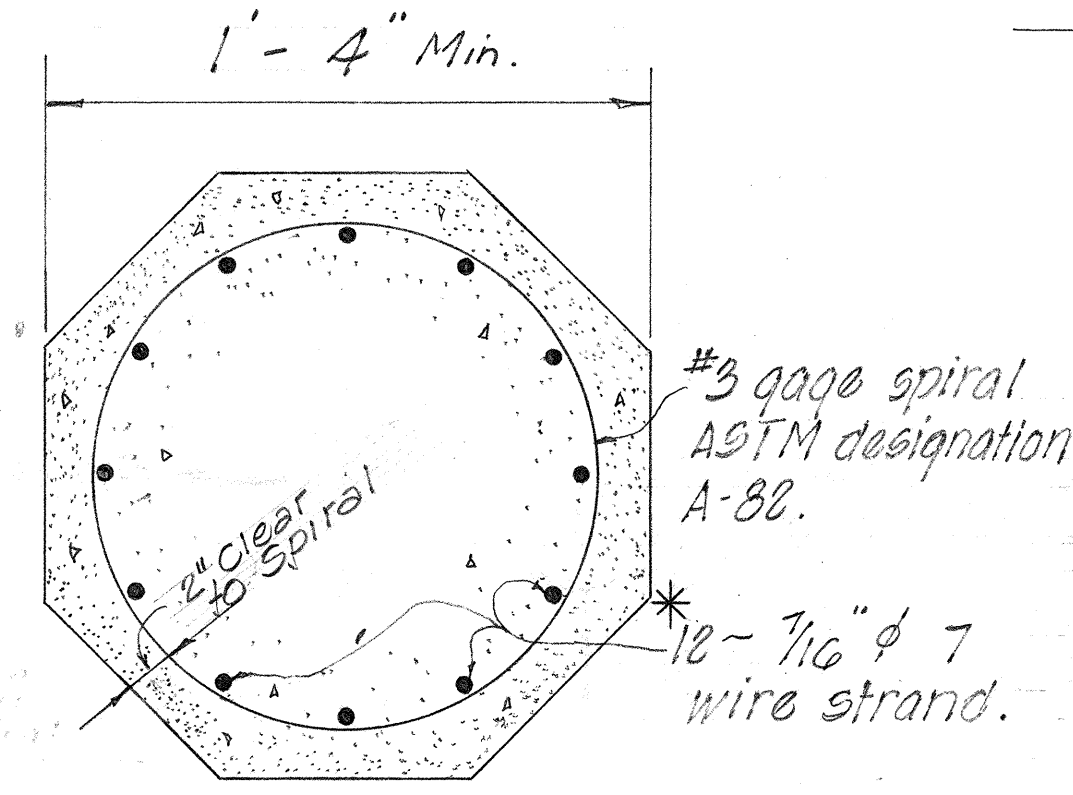
5- Vert. piles 31.0'
 10- Batter piles 42.0'
 Pile cutoff elev. 387.3
 Vert. pile tip elev. 353.3
 Batter pile tip elev. 350.3

5- Vert. piles 30.0'
 10- Batter piles 32.0'
 Pile cutoff elev. 380.3
 Vert. pile tip elev. 353.3
 Batter pile tip elev. 351.9

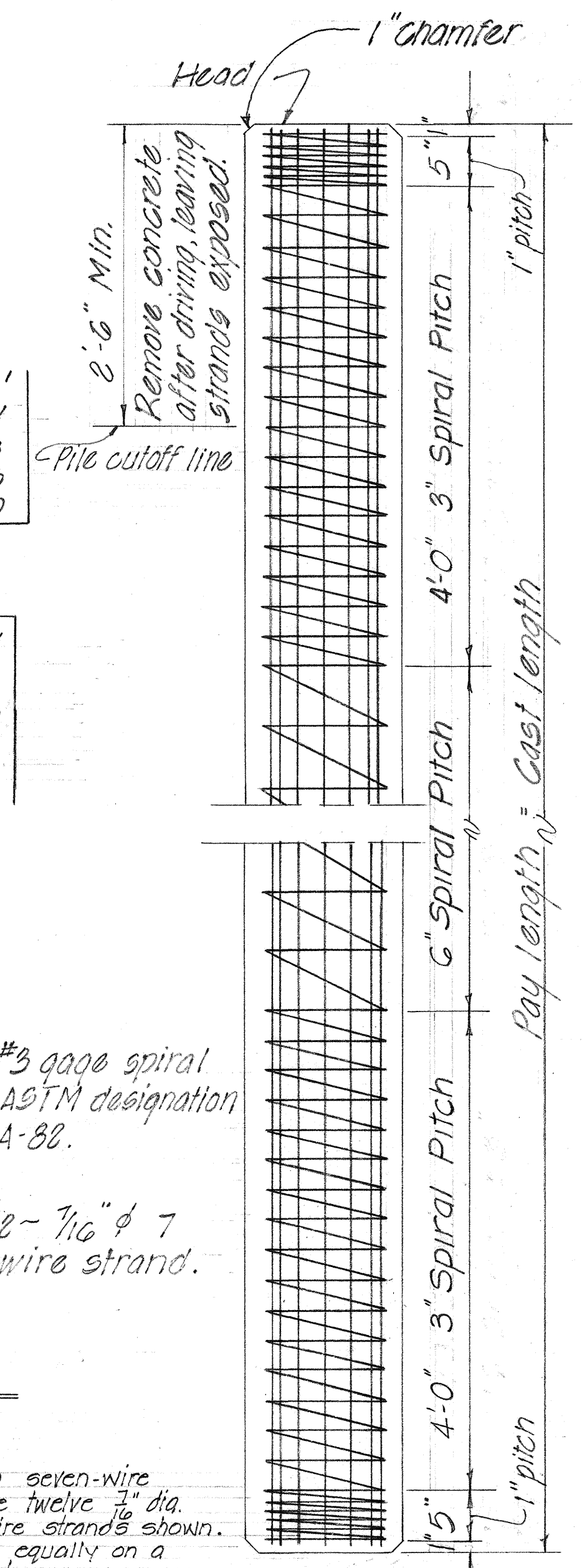
4- Vert. piles 25.0'
 11- Batter piles 26.0'
 Pile cutoff elev. 373.3
 Vert. pile tip elev. 353.3
 Batter pile tip elev. 353.5

2- Vert. piles 22.0'
 5- Batter piles 23.0'
 Pile cutoff elev. 374.3
 Vert. pile tip elev. 354.3
 Batter pile tip elev. 354.0

12- Vert. piles 22.0'
 38- Batter piles 23.0'
 Pile cutoff elev. 373.3
 Vert. pile tip elev. 354.3
 Batter pile tip elev. 354.4



TYPICAL DETAIL Scale: 1" = 1'-0" PRESTRESSED CONCRETE PILES



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S-0560(2)	1963	42	105

B-12	398.98	398.98	398.98	398.98	398.98
B-13	398.98	398.98	398.98	398.98	398.98
B-14	398.98	398.98	398.98	398.98	398.98
B-15	398.98	398.98	398.98	398.98	398.98
B-16	398.98	398.98	398.98	398.98	398.98
B-17	398.98	398.98	398.98	398.98	398.98
B-18	398.98	398.98	398.98	398.98	398.98
B-19	398.98	398.98	398.98	398.98	398.98
B-20	398.98	398.98	398.98	398.98	398.98
B-21	398.98	398.98	398.98	398.98	398.98
B-22	398.98	398.98	398.98	398.98	398.98
B-23	398.98	398.98	398.98	398.98	398.98
B-24	398.98	398.98	398.98	398.98	398.98
B-25	398.98	398.98	398.98	398.98	398.98
B-26	398.98	398.98	398.98	398.98	398.98
B-27	398.98	398.98	398.98	398.98	398.98
B-28	398.98	398.98	398.98	398.98	398.98
B-29	398.98	398.98	398.98	398.98	398.98
B-30	398.98	398.98	398.98	398.98	398.98
B-31	398.98	398.98	398.98	398.98	398.98
B-32	398.98	398.98	398.98	398.98	398.98
B-33	398.98	398.98	398.98	398.98	398.98
B-34	398.98	398.98	398.98	398.98	398.98
B-35	398.98	398.98	398.98	398.98	398.98
B-36	398.98	398.98	398.98	398.98	398.98
B-37	398.98	398.98	398.98	398.98	398.98
B-38	398.98	398.98	398.98	398.98	398.98
B-39	398.98	398.98	398.98	398.98	398.98
B-40	398.98	398.98	398.98	398.98	398.98
B-41	398.98	398.98	398.98	398.98	398.98
B-42	398.98	398.98	398.98	398.98	398.98
B-43	398.98	398.98	398.98	398.98	398.98
B-44	398.98	398.98	398.98	398.98	398.98
B-45	398.98	398.98	398.98	398.98	398.98
B-46	398.98	398.98	398.98	398.98	398.98
B-47	398.98	398.98	398.98	398.98	398.98
B-48	398.98	398.98	398.98	398.98	398.98
B-49	398.98	398.98	398.98	398.98	398.98
B-50	398.98	398.98	398.98	398.98	398.98
B-51	398.98	398.98	398.98	398.98	398.98
B-52	398.98	398.98	398.98	398.98	398.98
B-53	398.98	398.98	398.98	398.98	398.98
B-54	398.98	398.98	398.98	398.98	398.98
B-55	398.98	398.98	398.98	398.98	398.98
B-56	398.98	398.98	398.98	398.98	398.98
B-57	398.98	398.98	398.98	398.98	398.98
B-58	398.98	398.98	398.98	398.98	398.98
B-59	398.98	398.98	398.98	398.98	398.98
B-60	398.98	398.98	398.98	398.98	398.98
B-61	398.98	398.98	398.98	398.98	398.98
B-62	398.98	398.98	398.98	398.98	398.98
B-63	398.98	398.98	398.98	398.98	398.98
B-64	398.98	398.98	398.98	398.98	398.98
B-65	398.98	398.98	398.98	398.98	398.98
B-66	398.98	398.98	398.98	398.98	398.98
B-67	398.98	398.98	398.98	398.98	398.98
B-68	398.98	398.98	398.98	398.98	398.98
B-69	398.98	398.98	398.98	398.98	398.98
B-70	398.98	398.98	398.98	398.98	398.98
B-71	398.98	398.98	398.98	398.98	398.98
B-72	398.98	398.98	398.98	398.98	398.98
B-73	398.98	398.98	398.98	398.98	398.98
B-74	398.98	398.98	398.98	398.98	398.98
B-75	398.98	398.98	398.98	398.98	398.98
B-76	398.98	398.98	398.98	398.98	398.98
B-77	398.98	398.98	398.98	398.98	398.98
B-78	398.98	398.98	398.98	398.98	398.98
B-79	398.98	398.98	398.98	398.98	398.98
B-80	398.98	398.98	398.98	398.98	398.98
B-81	398.98	398.98	398.98	398.98	398.98
B-82	398.98	398.98	398.98	398.98	398.98
B-83	398.98	398.98	398.98	398.98	398.98
B-84	398.98	398.98	398.98	398.98	398.98
B-85	398.98	398.98	398.98	398.98	398.98
B-86	398.98	398.98	398.98	398.98	398.98
B-87	398.98	398.98	398.98	398.98	398.98
B-88	398.98	398.98	398.98	398.98	398.98
B-89	398.98	398.98	398.98	398.98	398.98
B-90	398.98	398.98	398.98	398.98	398.98
B-91	398.98	398.98	398.98	398.98	398.98
B-92	398.98	398.98	398.98	398.98	398.98
B-93	398.98	398.98	398.98	398.98	398.98
B-94	398.98	398.98	398.98	398.98	398.98
B-95	398.98	398.98	398.98	398.98	398.98
B-96	398.98	398.98	398.98	398.98	398.98
B-97	398.98	398.98	398.98	398.98	398.98
B-98	398.98	398.98	398.98	398.98	398.98
B-99	398.98	398.98	398.98	398.98	398.98
B-100	398.98	398.98	398.98	398.98	398.98

398.98	Firm brn. silty clay.	398.98
398.98	Boulder	398.98
398.98	Firm brn. silty clay.	398.98
398.98	Boulder	398.98
398.98	Firm brn. silty clay.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Hard decomp. rock & vesicular basaltic rock.	398.98
398.98	Vesicular basaltic rock.	398.98
398.98	Very hard decomp. rock & vesicular basaltic rock.	398.98
398.98	Very hard decomp. rock.	398.98

398.98	Soft brn. clay.	398.98
398.98	Stiff brn. clay.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Soft brn. clay.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Hard decomp. rock.	398.98

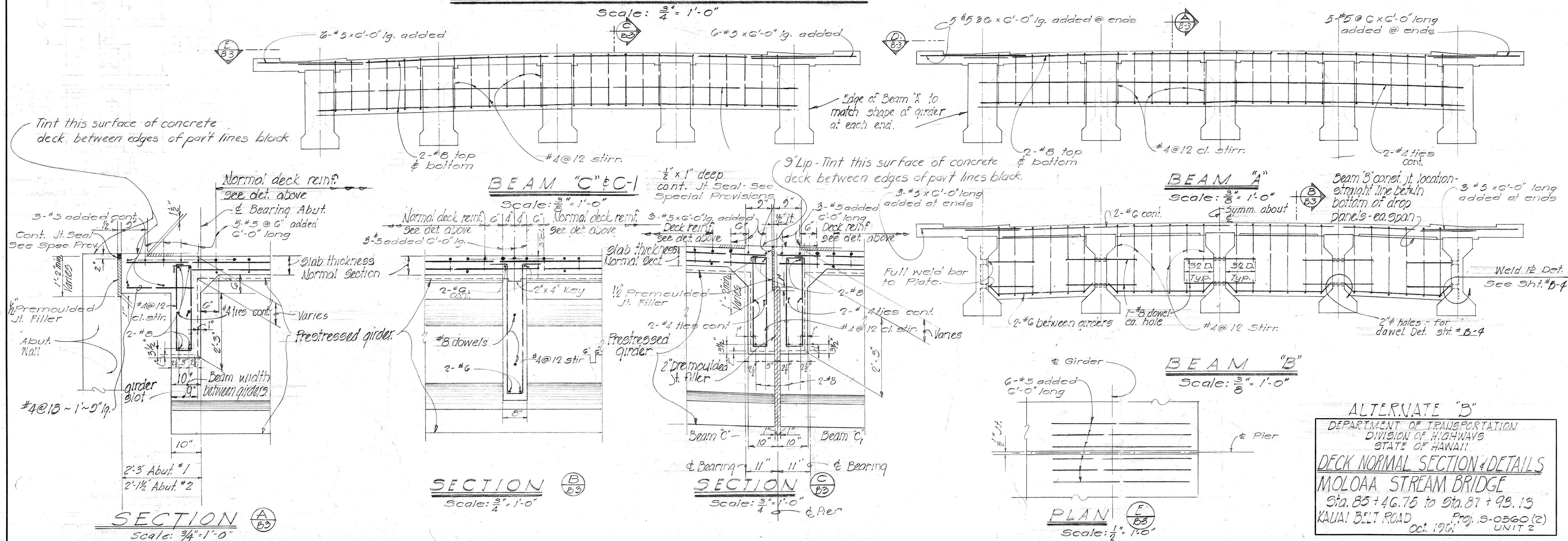
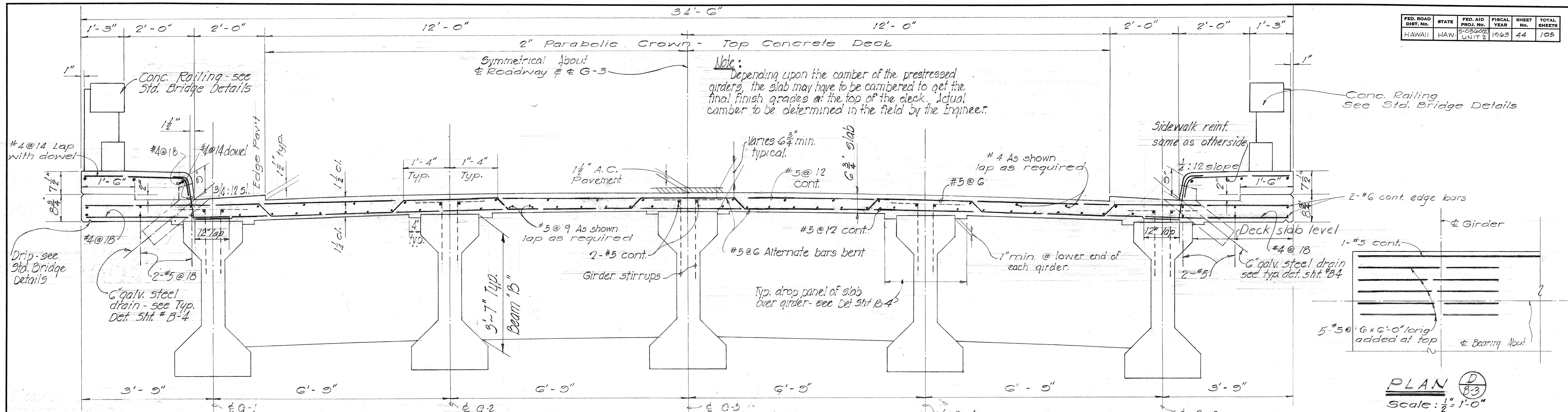
398.98	Pile Tip El.	398.98
398.98	Firm brn. silty clay.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Compact brn. clay. (decomp. rock.)	398.98
398.98	Dense basaltic rock.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Dense basaltic rock.	398.98

398.98	Pile Tip El.	398.98
398.98	Firm brn. silty clay.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Compact brn. clay. (decomp. rock.)	398.98
398.98	Dense basaltic rock.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Dense basaltic rock.	398.98
398.98	Hard decomp. rock.	398.98
398.98	Dense basaltic rock.	398.98

ALTERNATE "B"

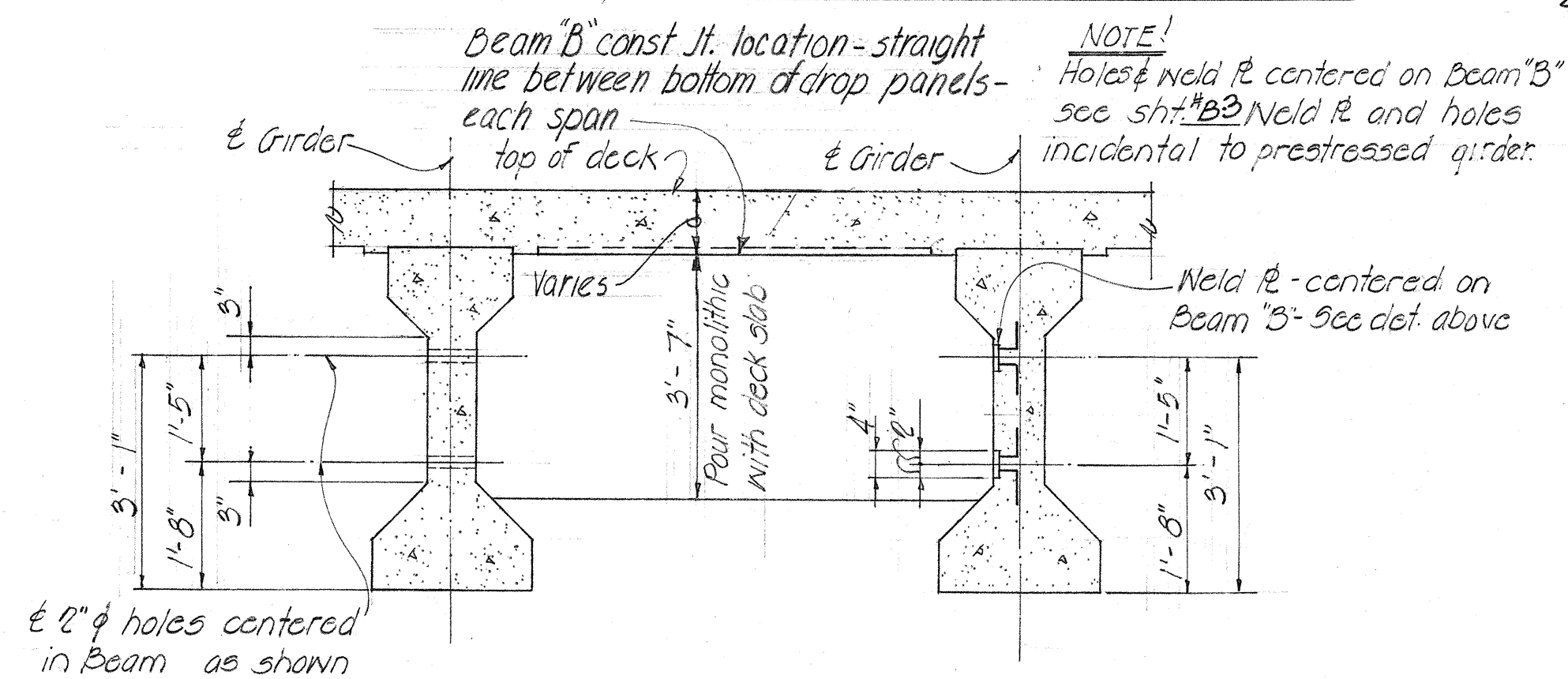
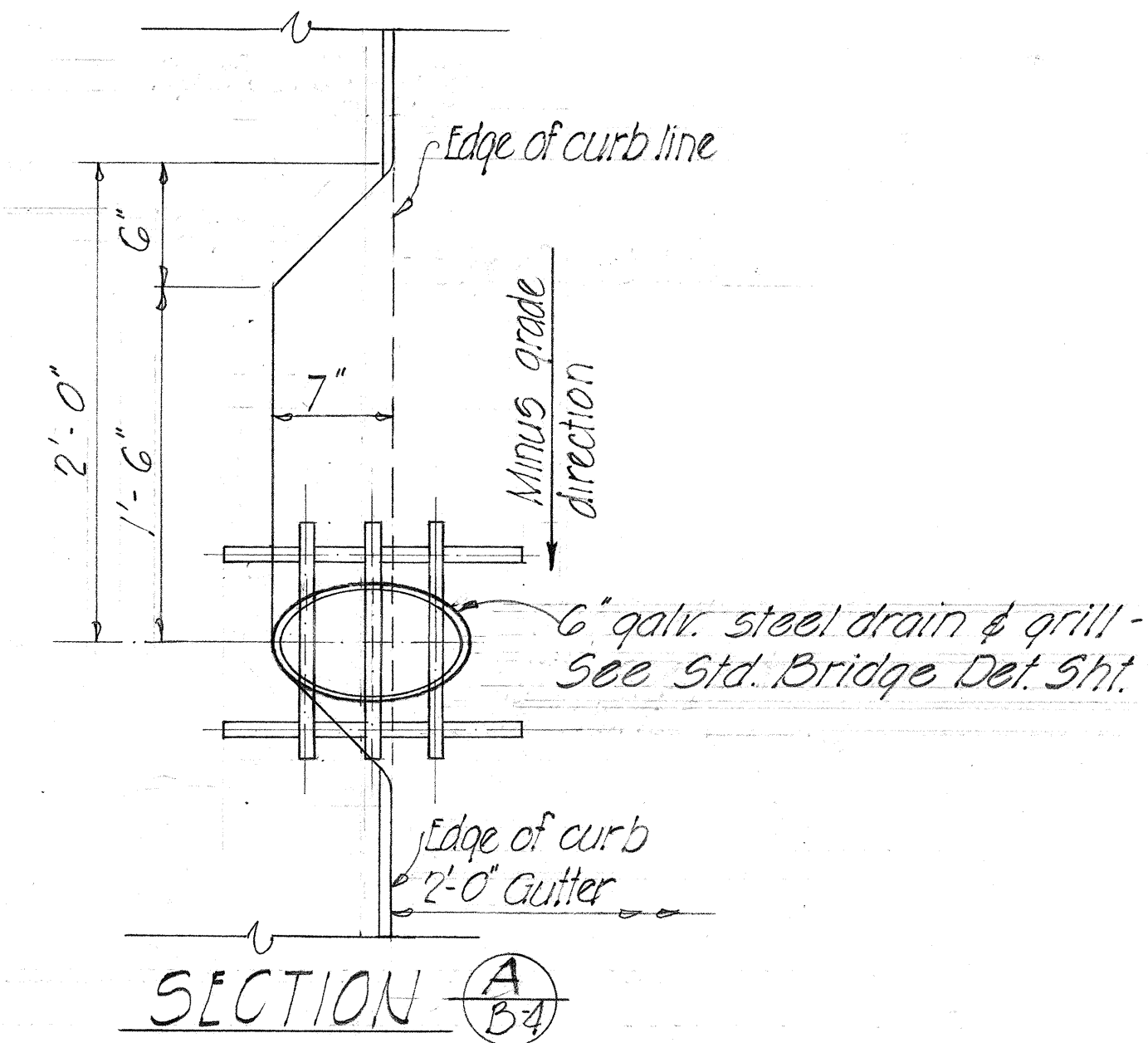
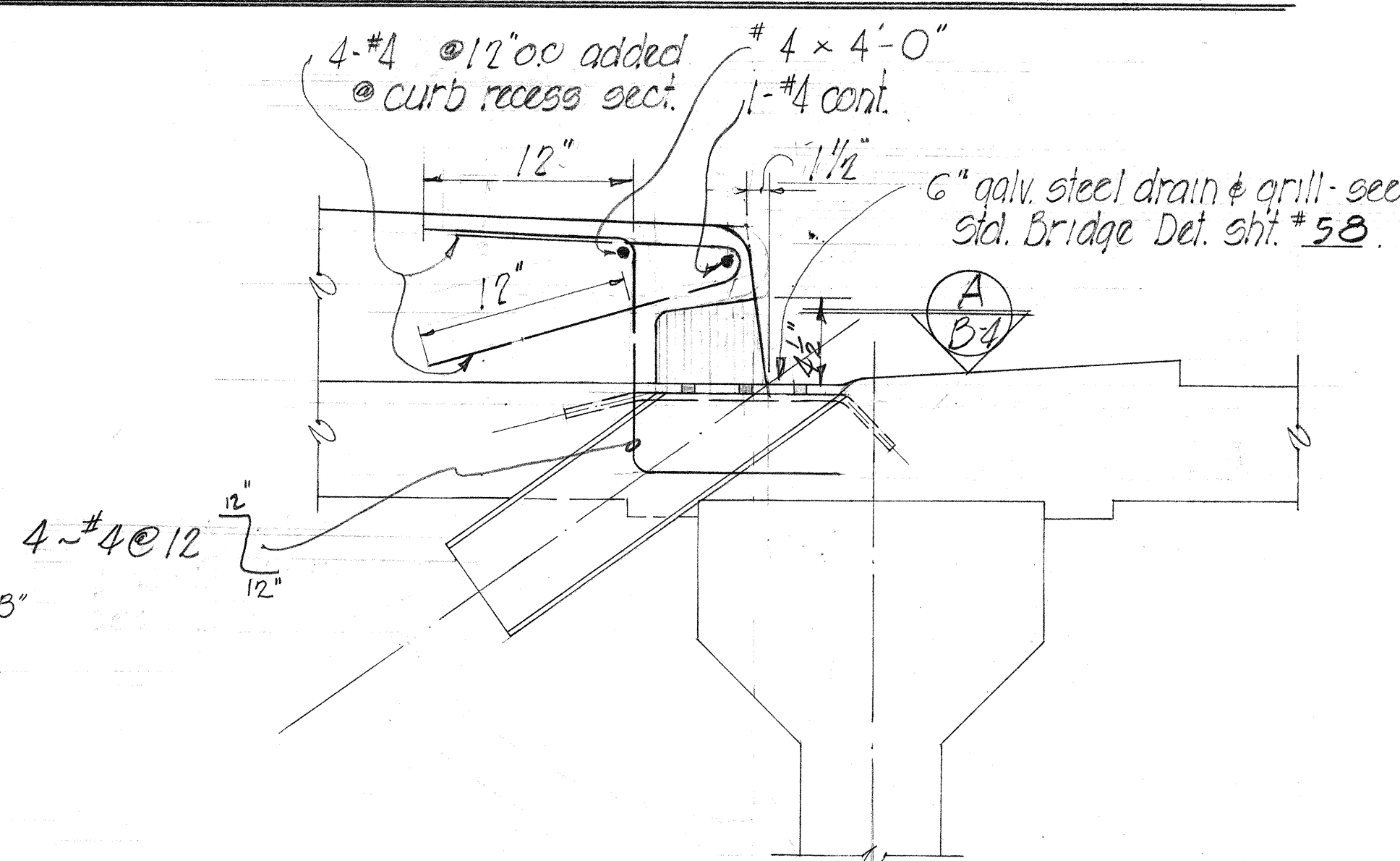
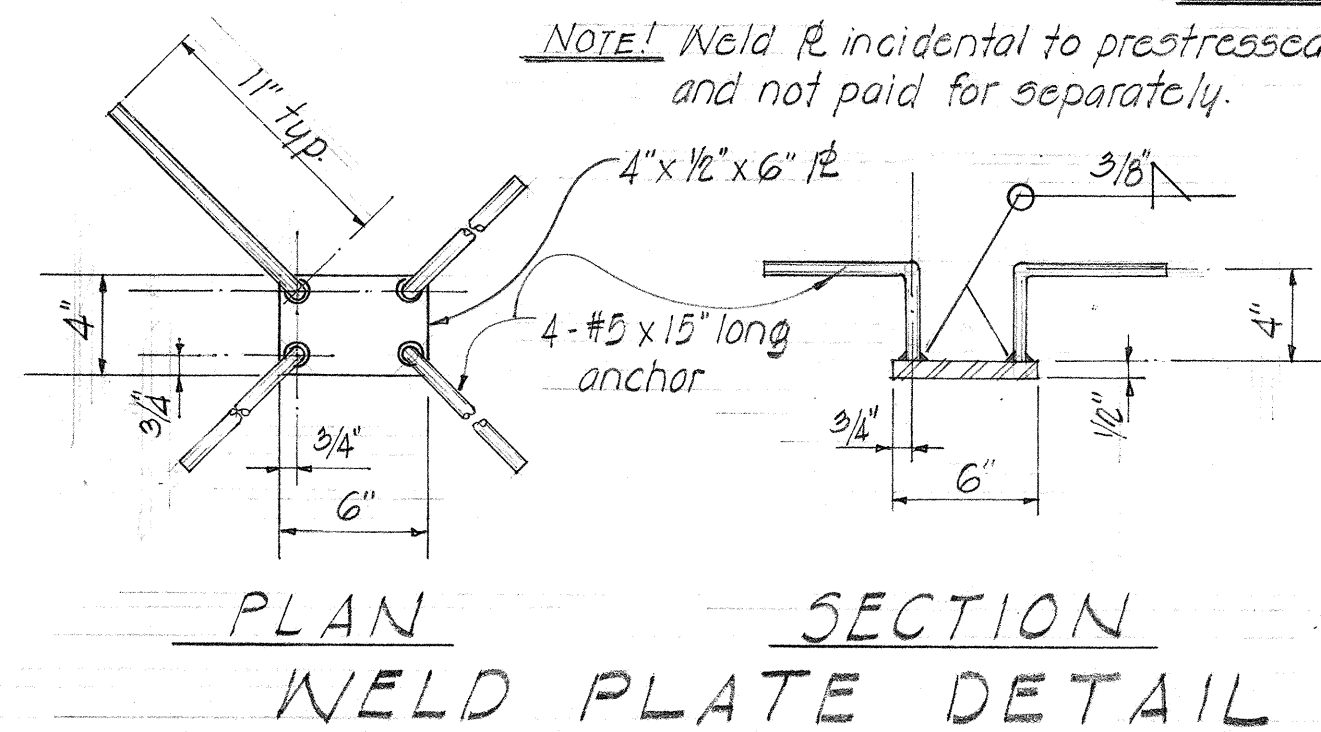
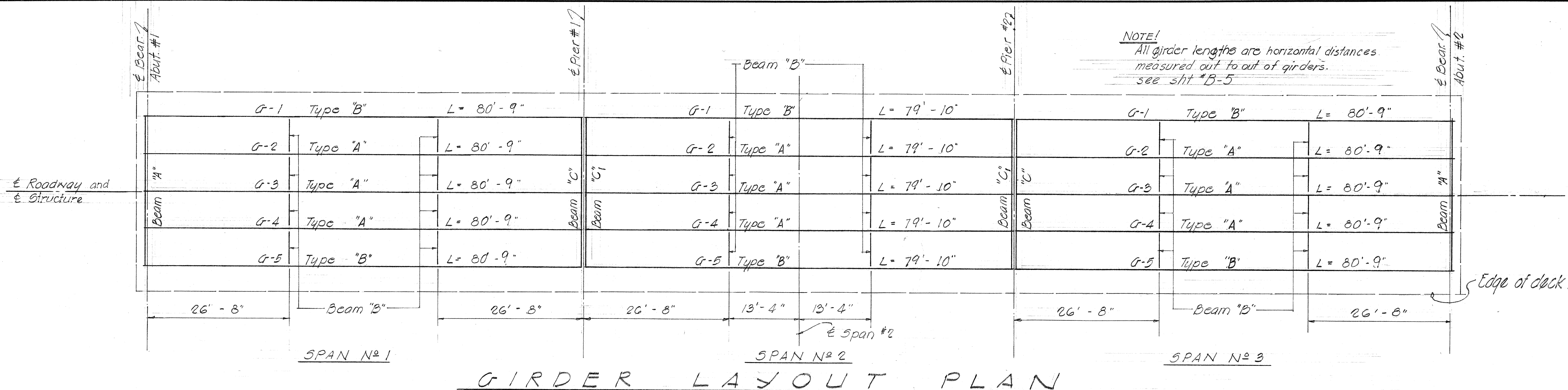
DEPARTMENT OF TRANSPORTATION
 DIVISION OF HIGHWAYS
 STATE OF HAWAII

**PILE DRIVING PLAN AND DETAILS
 MOLOAA STREAM BRIDGE**
 Sta. 85+46.75 to Sta. 87+93.13
 KAUAI BELT ROAD Proj. S-0560(2)
 Oct. 1961 UNIT 2



ALTERNATE "B"
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
DECK NORMAL SECTION & DETAILS
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to Sta. 87+93.13
KAUAI BELT ROAD
Oct. 1961
Proj. S-0560(2)
UNIT 2

NOTE!
All girder lengths are horizontal distances measured out to out of girders.
see sheet B-5



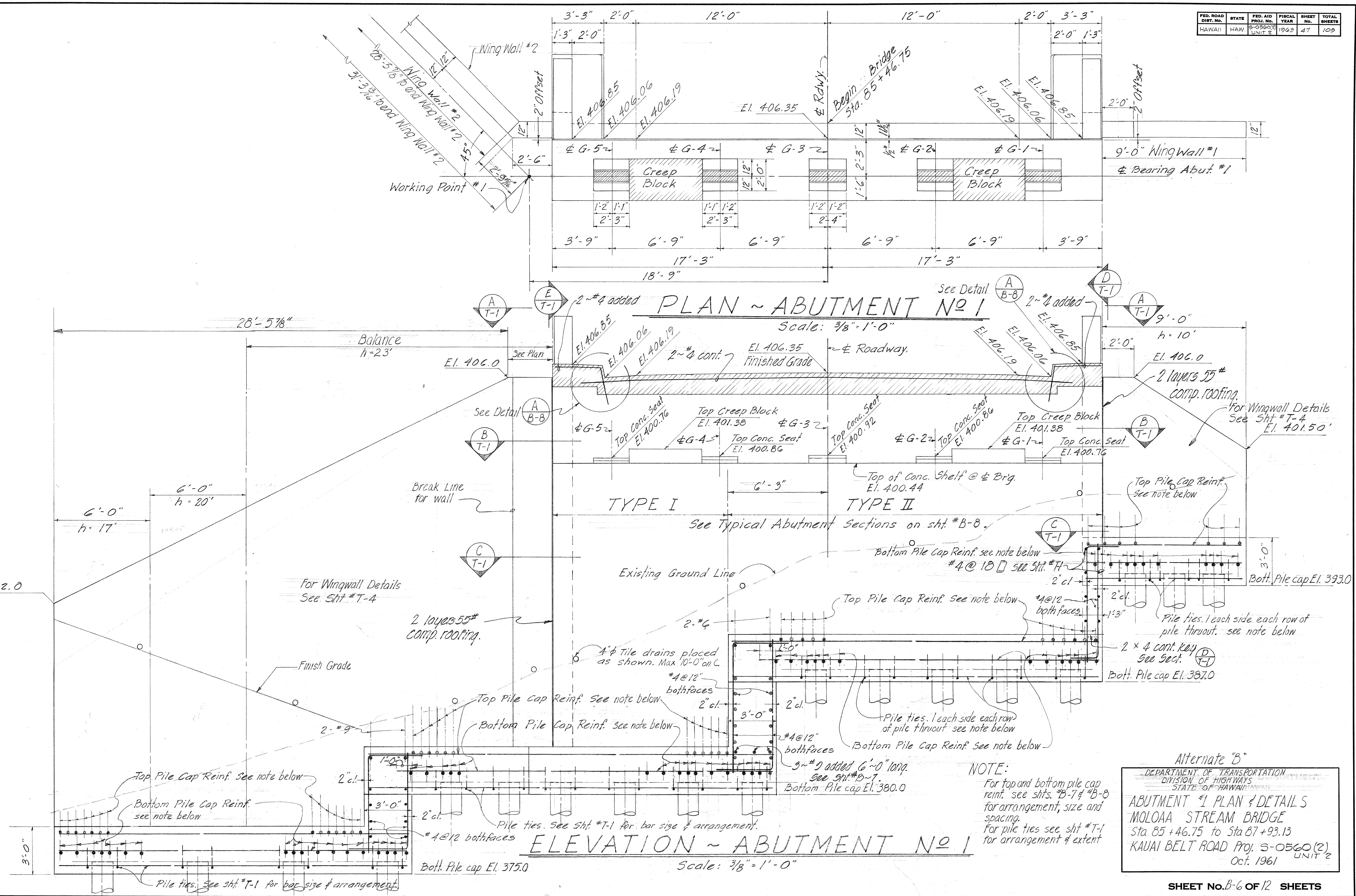
SECTION THRU DRAIN
TYPICAL 6" DRAIN DETAILS
SCALE: 1 1/2" = 1'-0"

ESTIMATED QUANTITIES			
Class A-1 Conc.	Lump sum	(218.80)	cy
Reinf. Steel	Lump sum	(130,034.00)	lbs
Struct. Exc.		1,081	cy
Filter Material		68	cy
Prestressed Girders	Lump sum	(1,206.67)	lin. ft.
CONC. PILES		3,237.0	lin. ft.
Conc. Rail. & End Post		508.3	lin. ft.
A.C. Pavement		64	tons
Bituminous Tack Coat		165	gal.

ALTERNATE "B"
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
DECK FRAMING AND DETAILS
MOLOAA STREAM BRIDGE
STA. 85+46.75 to STA. 87+93.13
KALIA BELT ROAD Proj. 5-0560(2)
OCT. 1961 UNIT 2

31 3 10

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S-0560(2)	1963	47	109
UNIT 2					

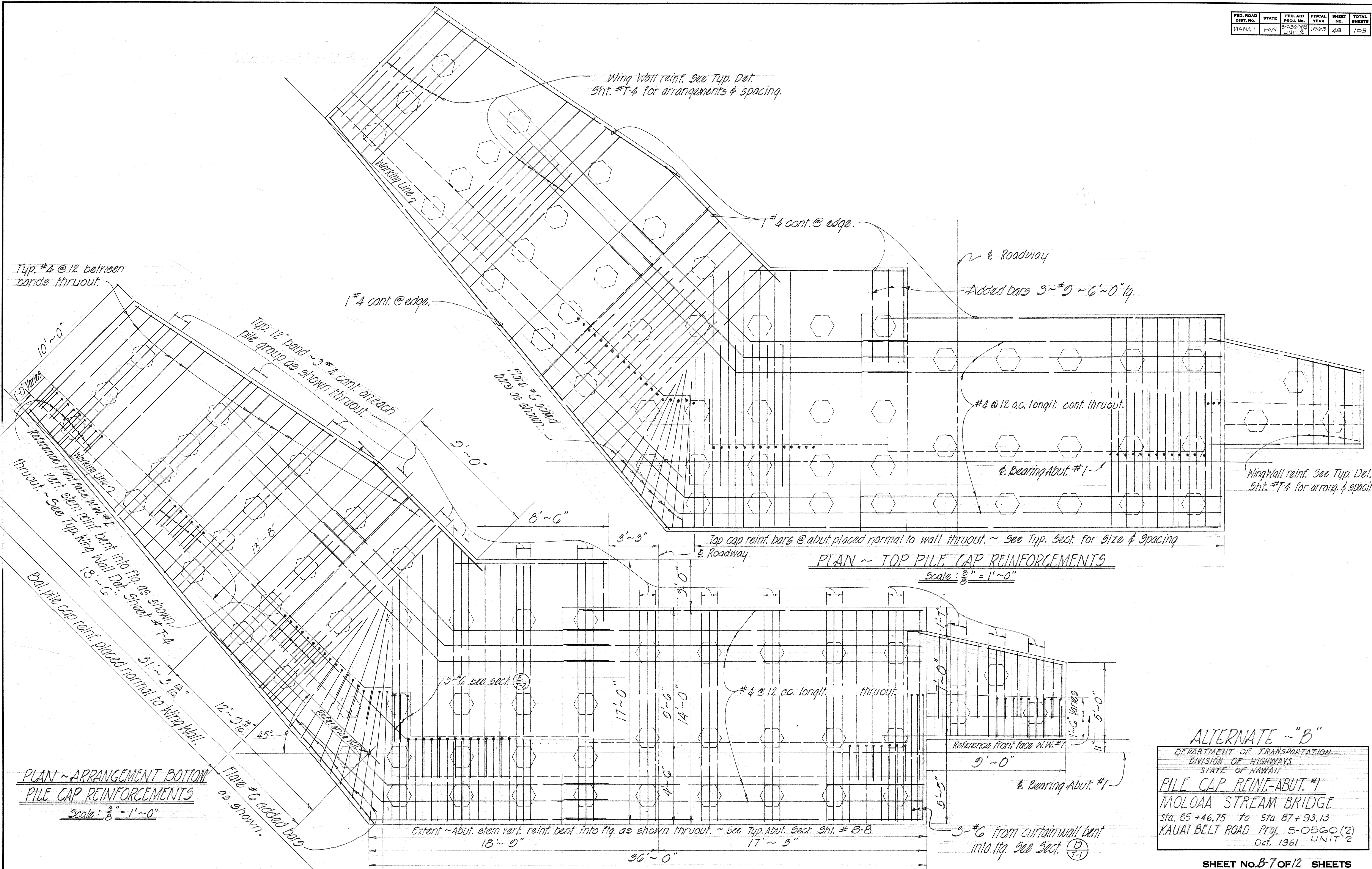


SURVEY PLOTTED BY	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES CHECKED BY	
NO.	

NOTE:
For top and bottom pile cap reinf. see shts. #B-7 & #B-8 for arrangement, size and spacing.
For pile ties see sht. #T-1 for arrangement & extent

Alternate "B"
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
ABUTMENT #1 PLAN & DETAILS
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to Sta. 87+93.13
KAUAI BELT ROAD Proj. S-0560(2)
Oct. 1961 UNIT 2

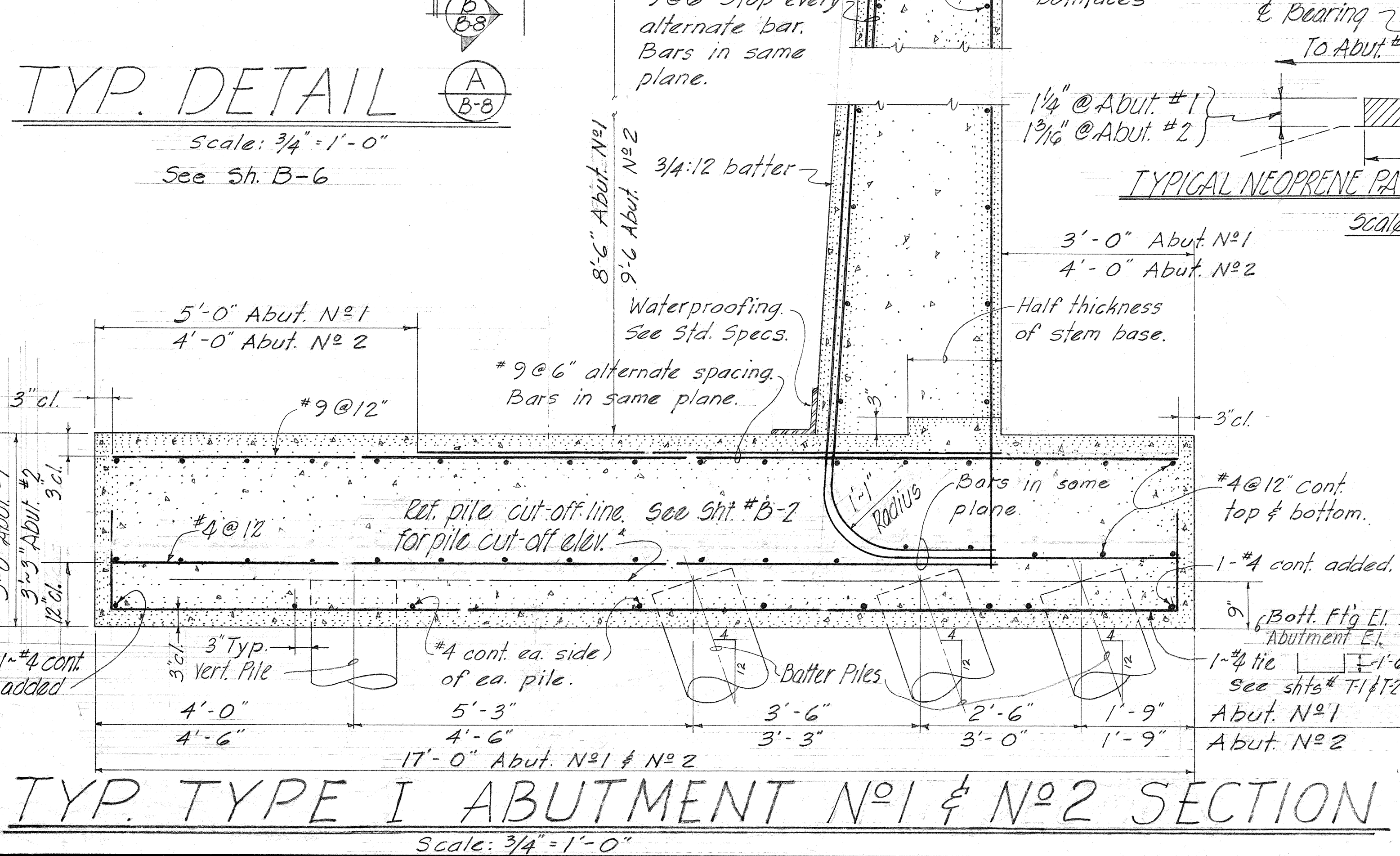
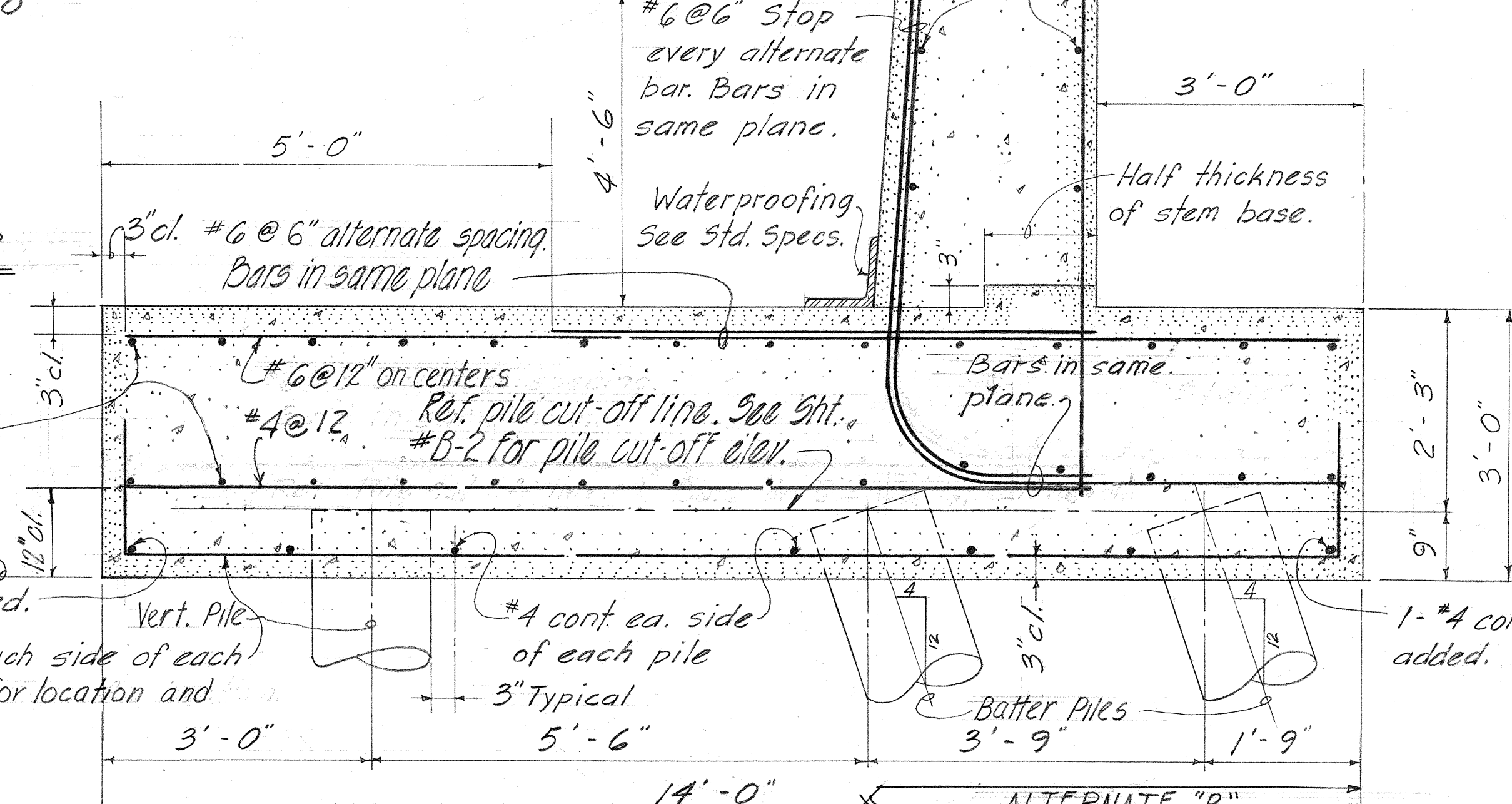
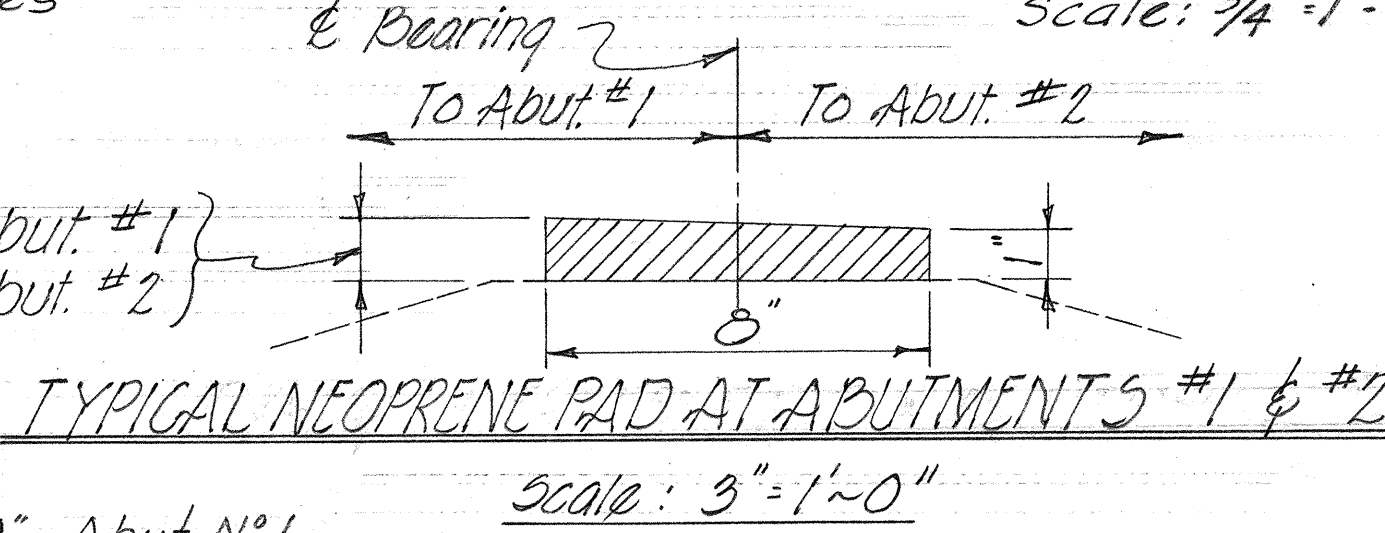
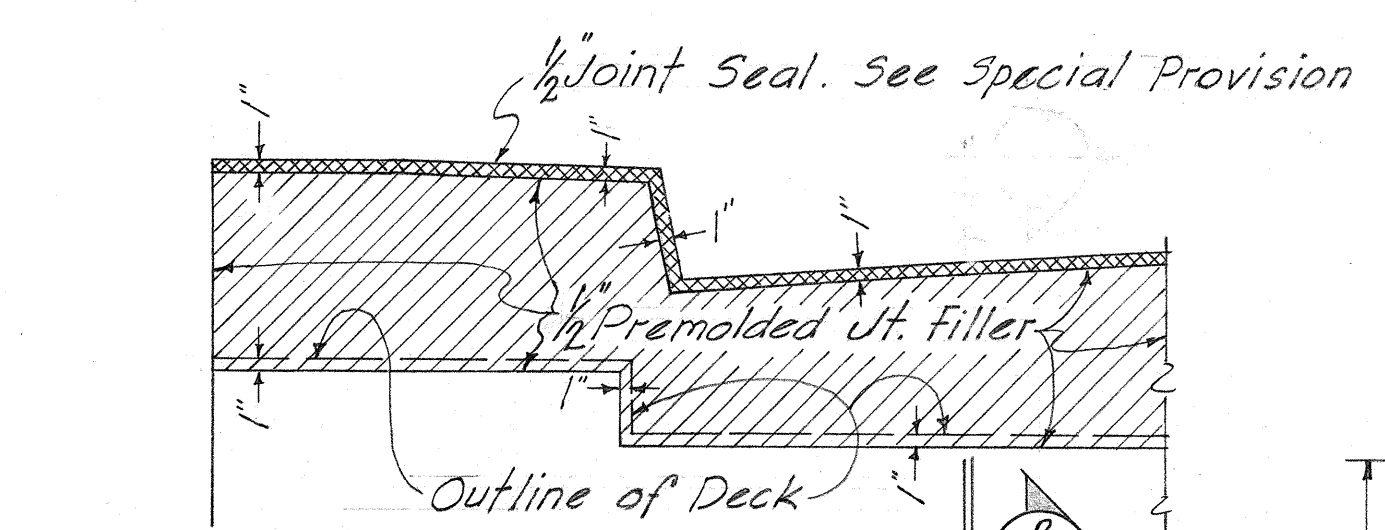
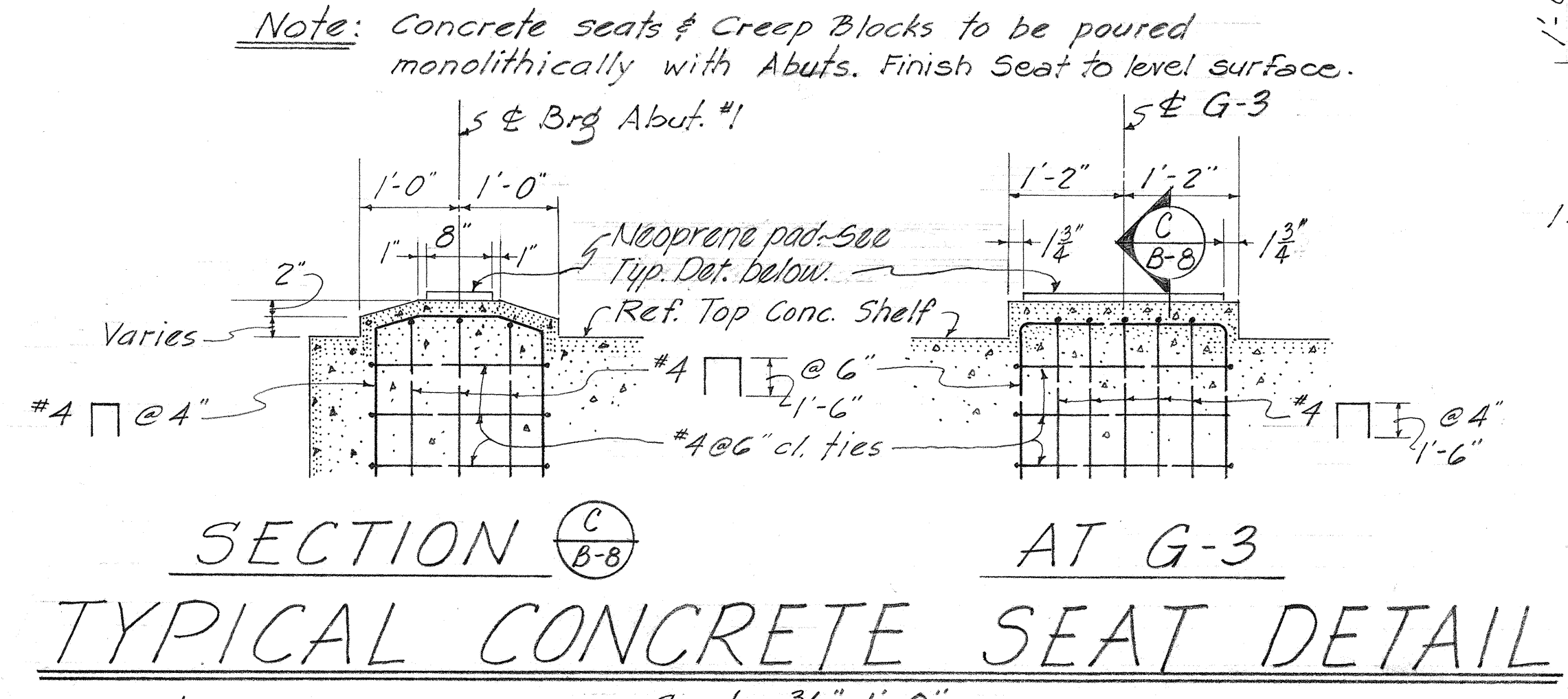
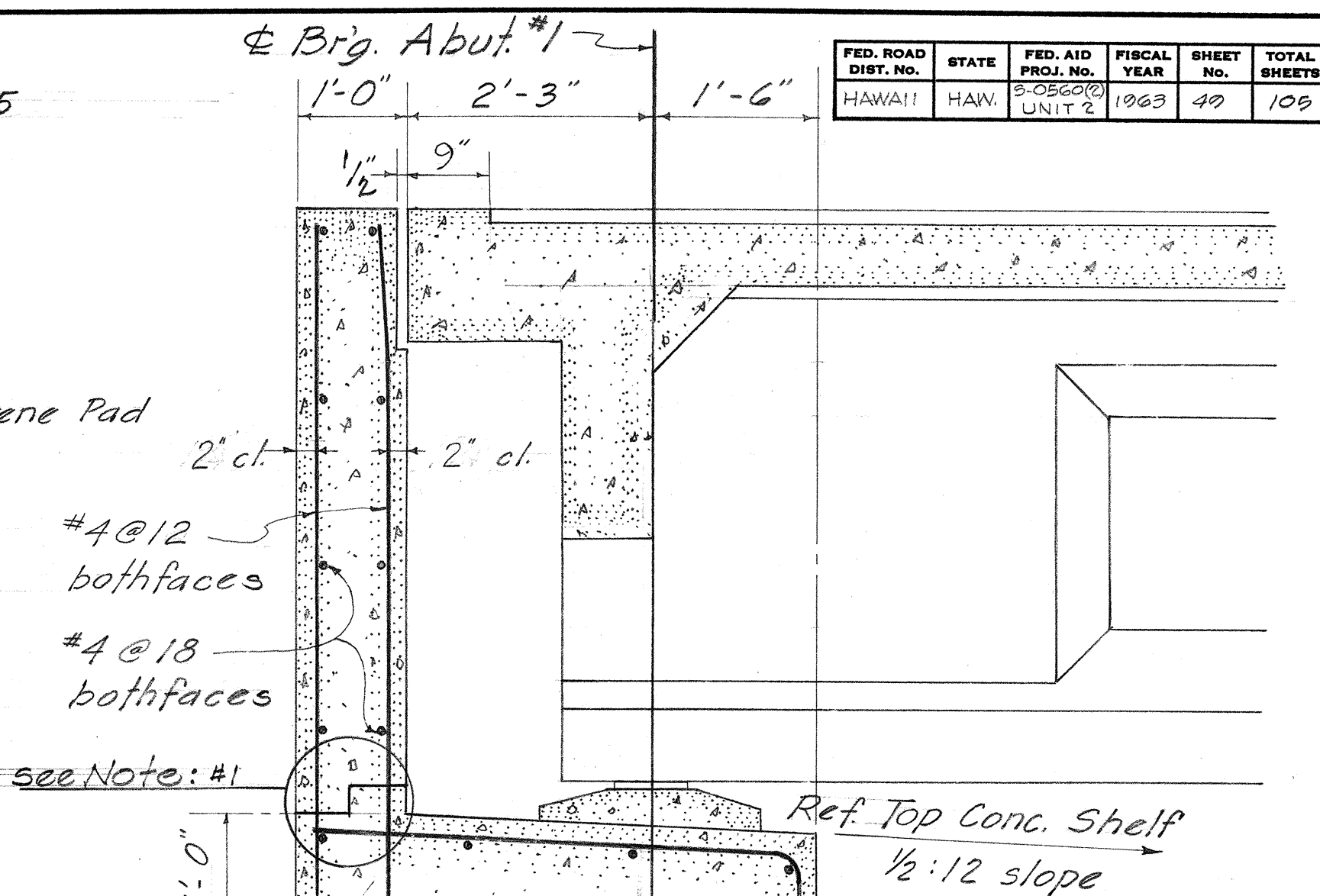
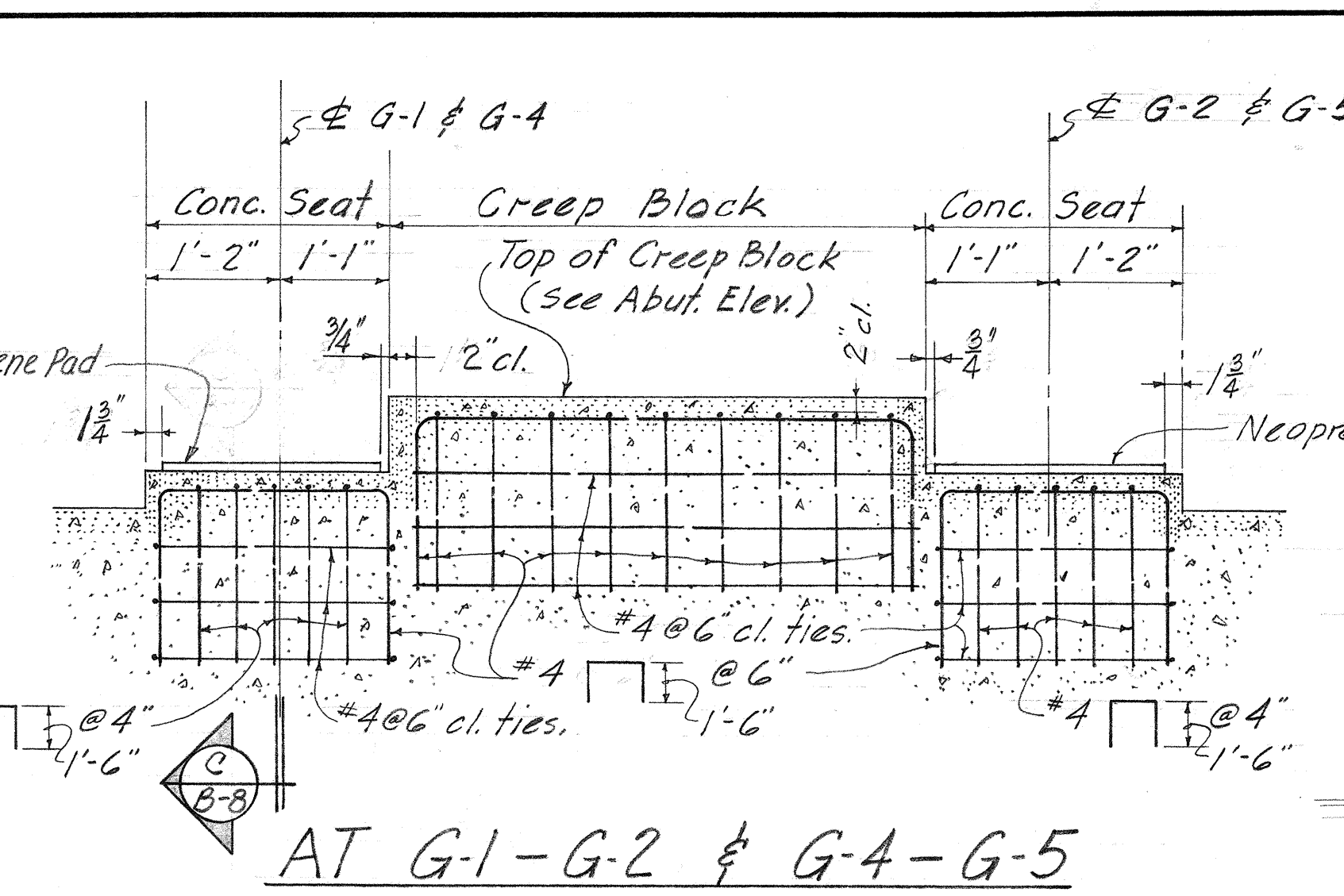
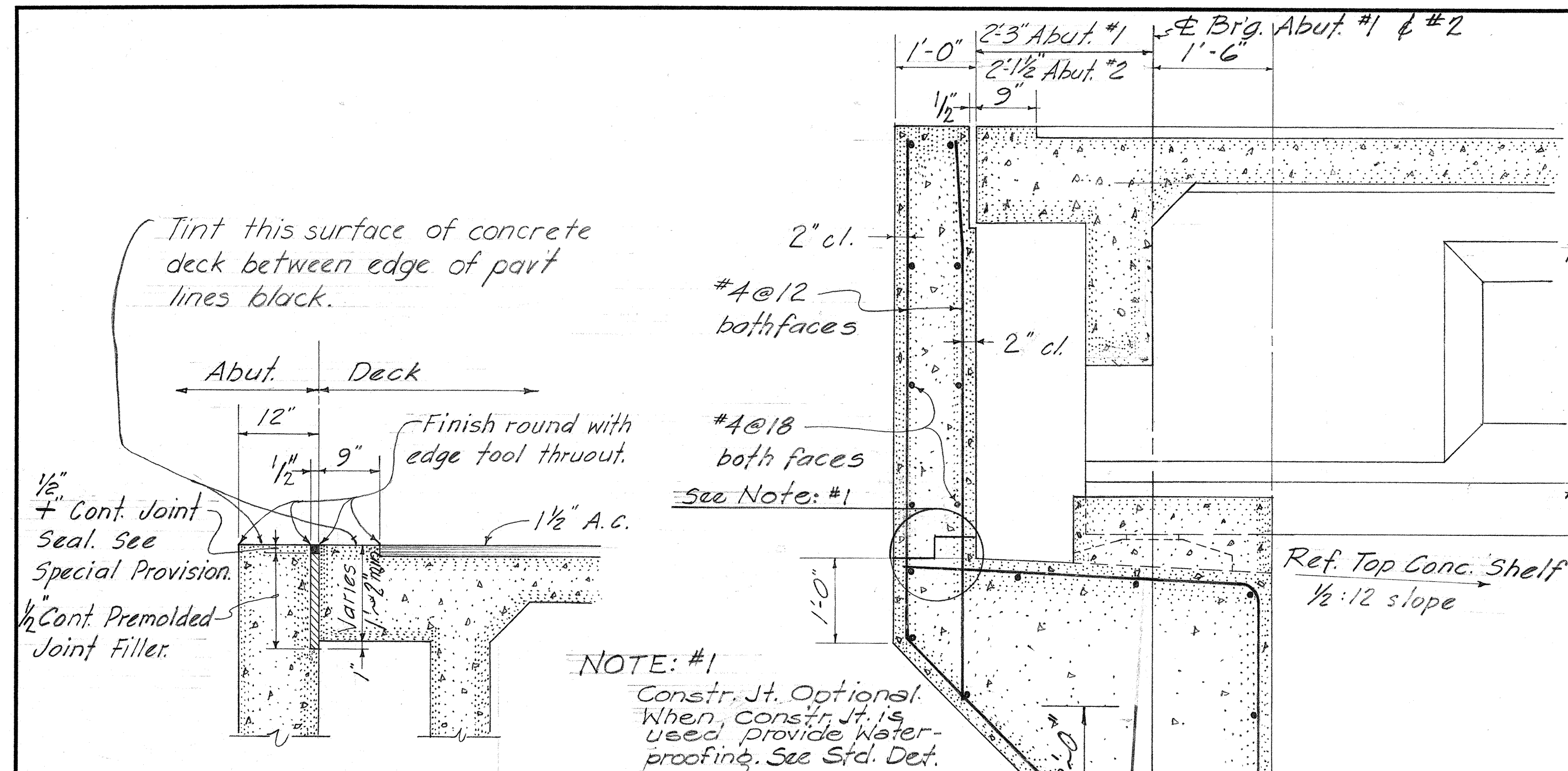
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0560(2)	1963	48	108
		UNIT 2			



ALTERNATE ~ "B"
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
PILE CAP REINF. ABUT. #1
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to Sta. 87+93.13
KAUAI BELT ROAD Proj. 5-0560(2)
Oct. 1961 UNIT 2

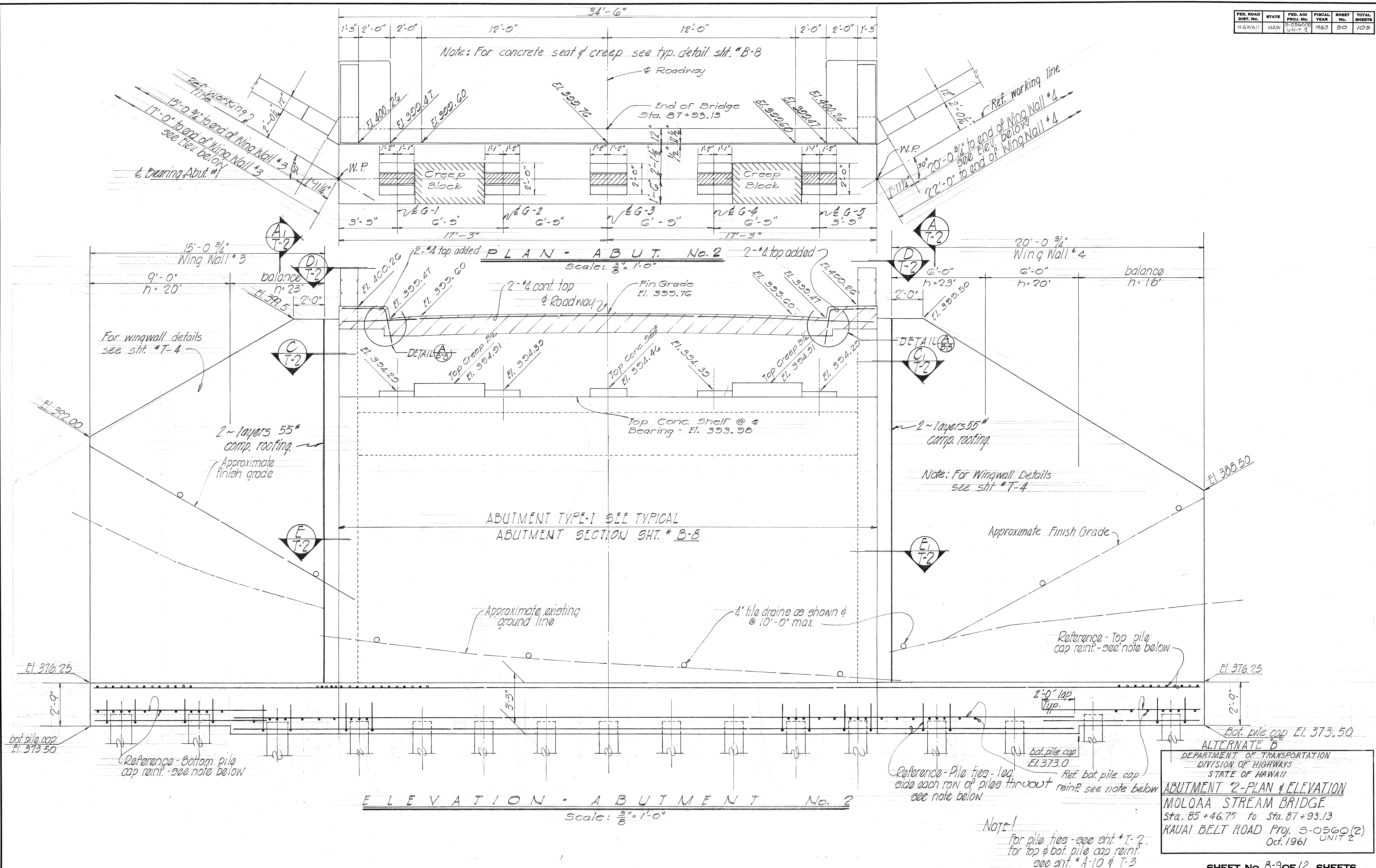
SURVEY PLOTTED BY	DATE
DESIGNED BY	
DRAWN BY	
CHECKED BY	
QUANTITIES CHECKED BY	
NOTE BOOK NO.	

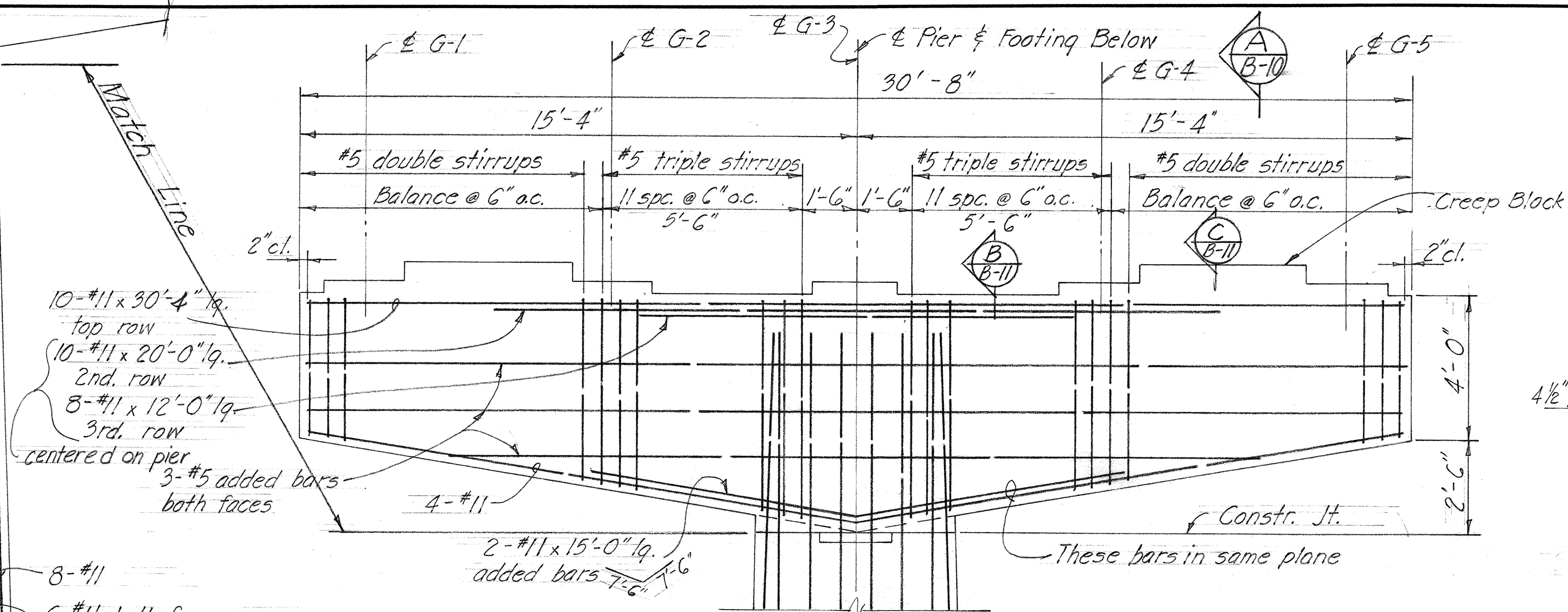
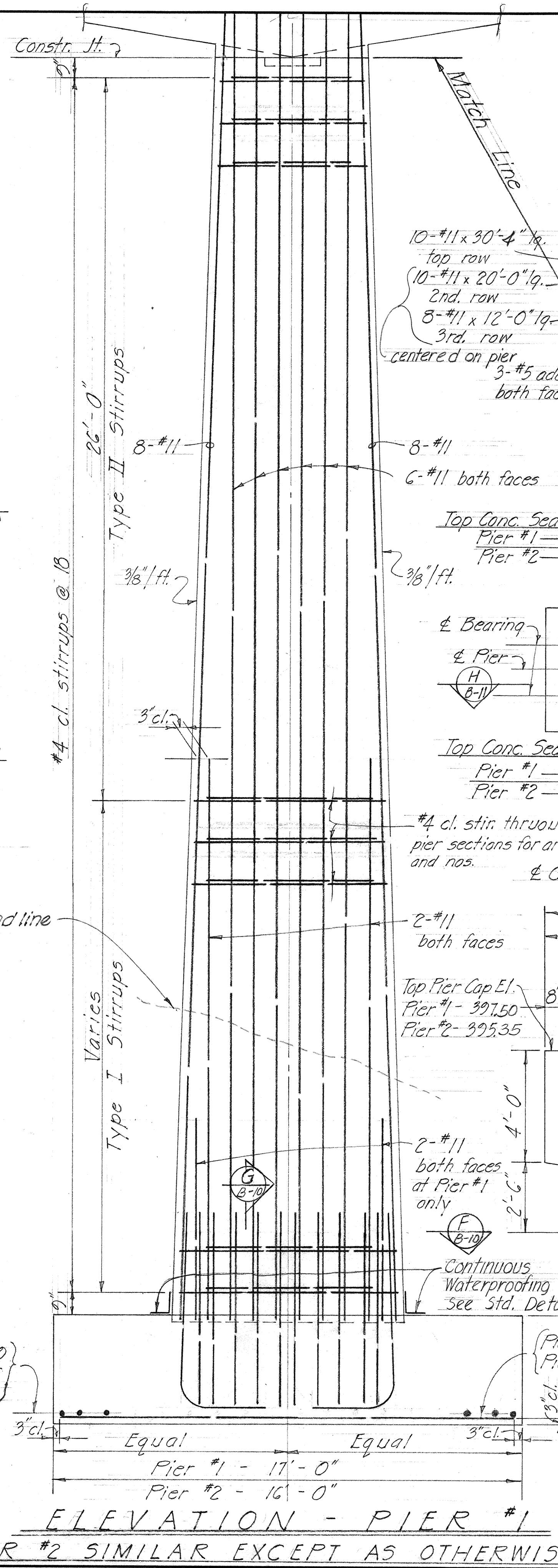
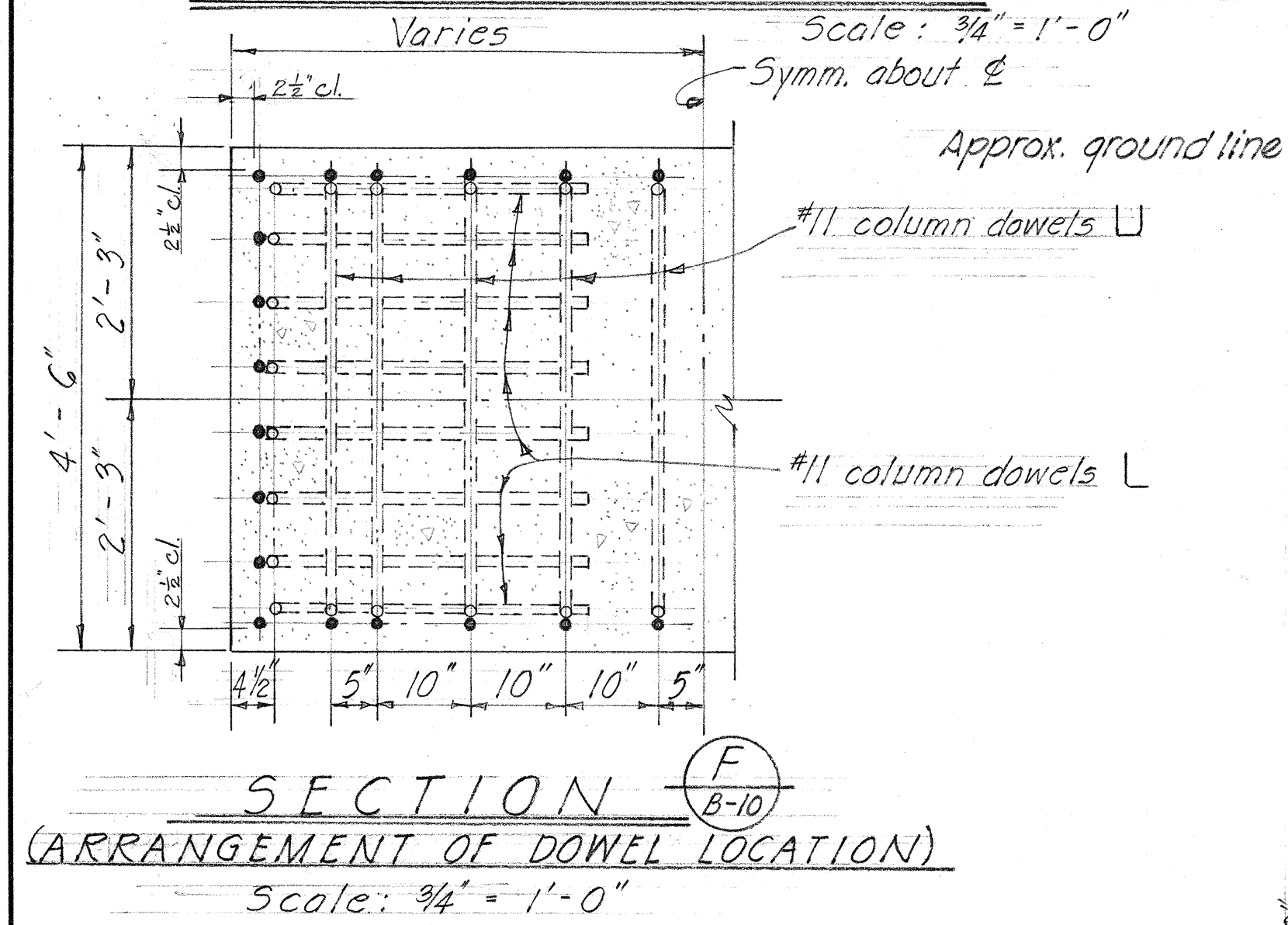
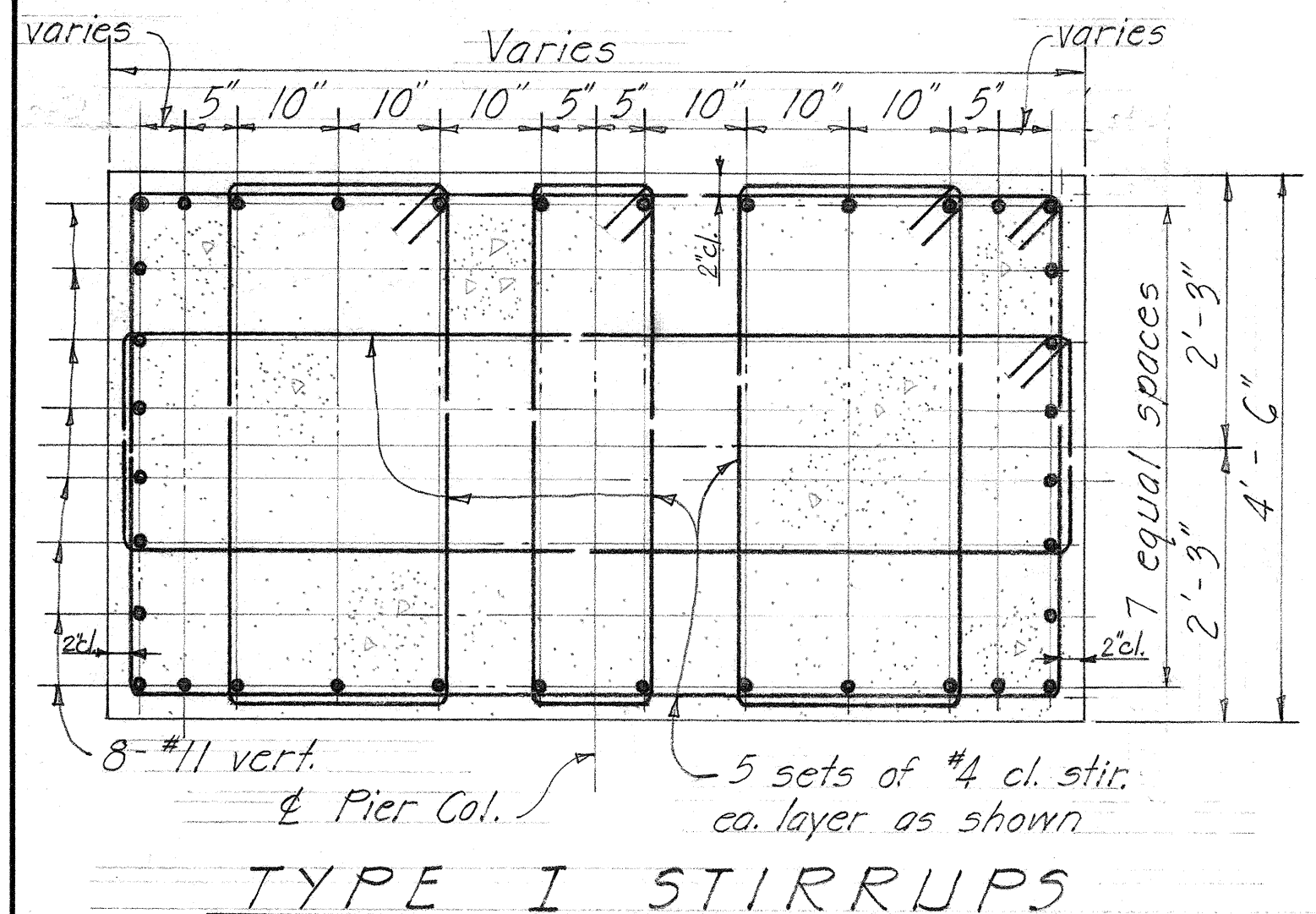
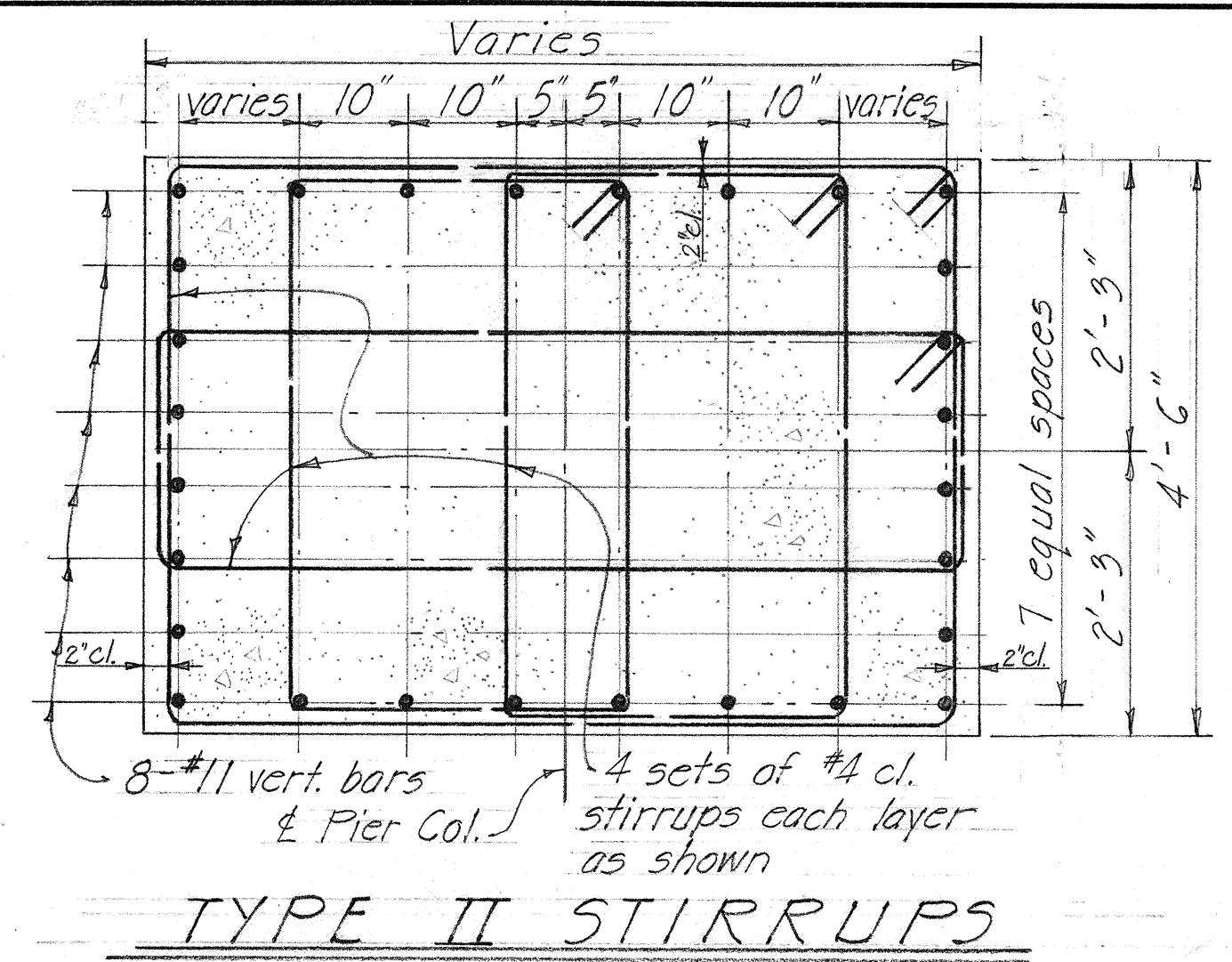
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	5-0560(2)	1963	40	108



DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
ABUTMENT #1 & 2 SECTION & DETAILS
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to Sta. 87+93.13
KAUAI BELT ROAD Proj. 5-0560(2)
Oct. 1961 UNIT 2

FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW.	3-0560(2) UNIT 2	1963	50	105

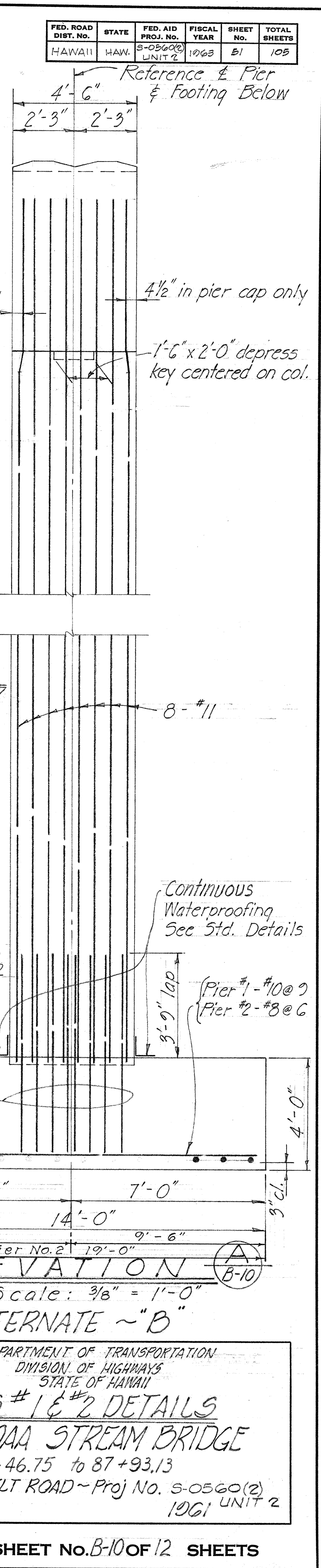
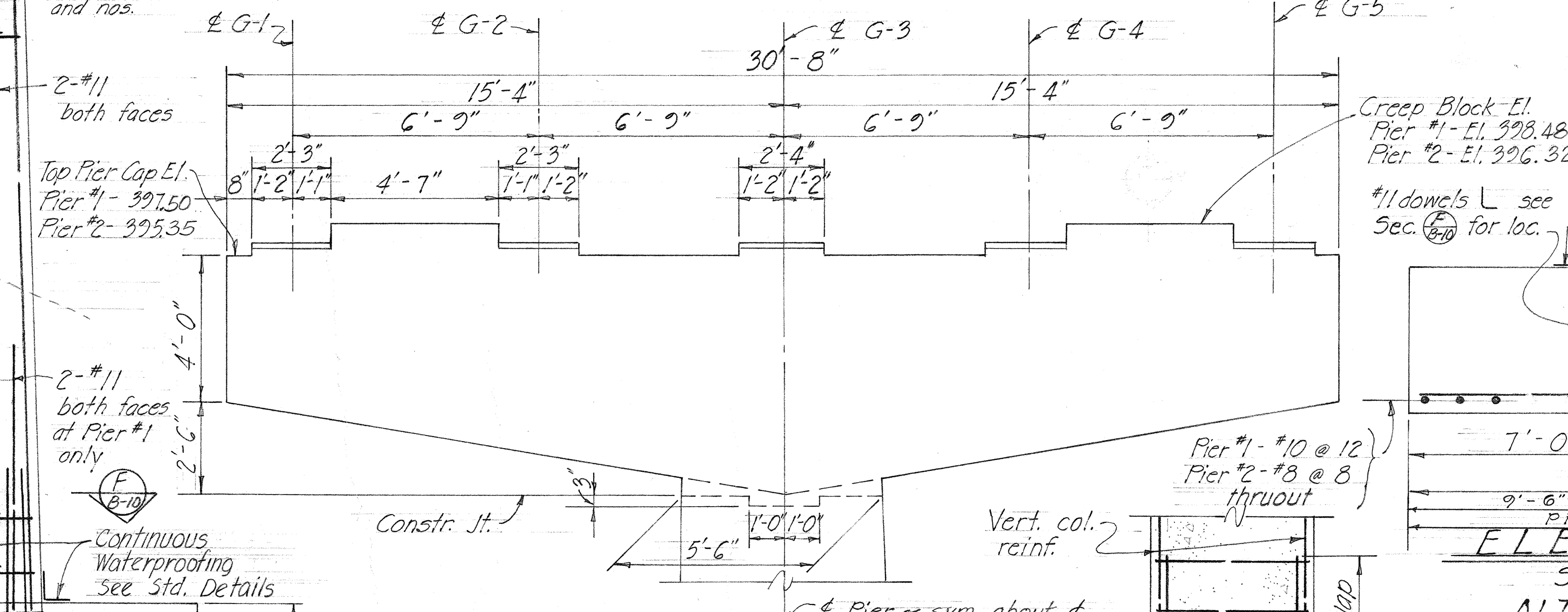




	El. 398.06	El. 398.16	El. 398.22	El. 398.16	El. 398.06
Top Conc. Seat Pier #1	El. 395.91	El. 396.01	El. 396.07	El. 396.01	El. 395.91
Top Conc. Seat Pier #2	El. 398.11	El. 398.21	El. 398.28	El. 398.21	El. 398.11
Top Conc. Seat Pier #1	El. 395.95	El. 396.05	El. 396.04	El. 396.05	El. 395.95
Top Conc. Seat Pier #2	El. 398.11	El. 398.21	El. 398.28	El. 398.21	El. 398.11
Top Conc. Seat Pier #1	El. 395.95	El. 396.05	El. 396.04	El. 396.05	El. 395.95

#4 cl. stirr. thruout - see pier sections for arrangement and nos.

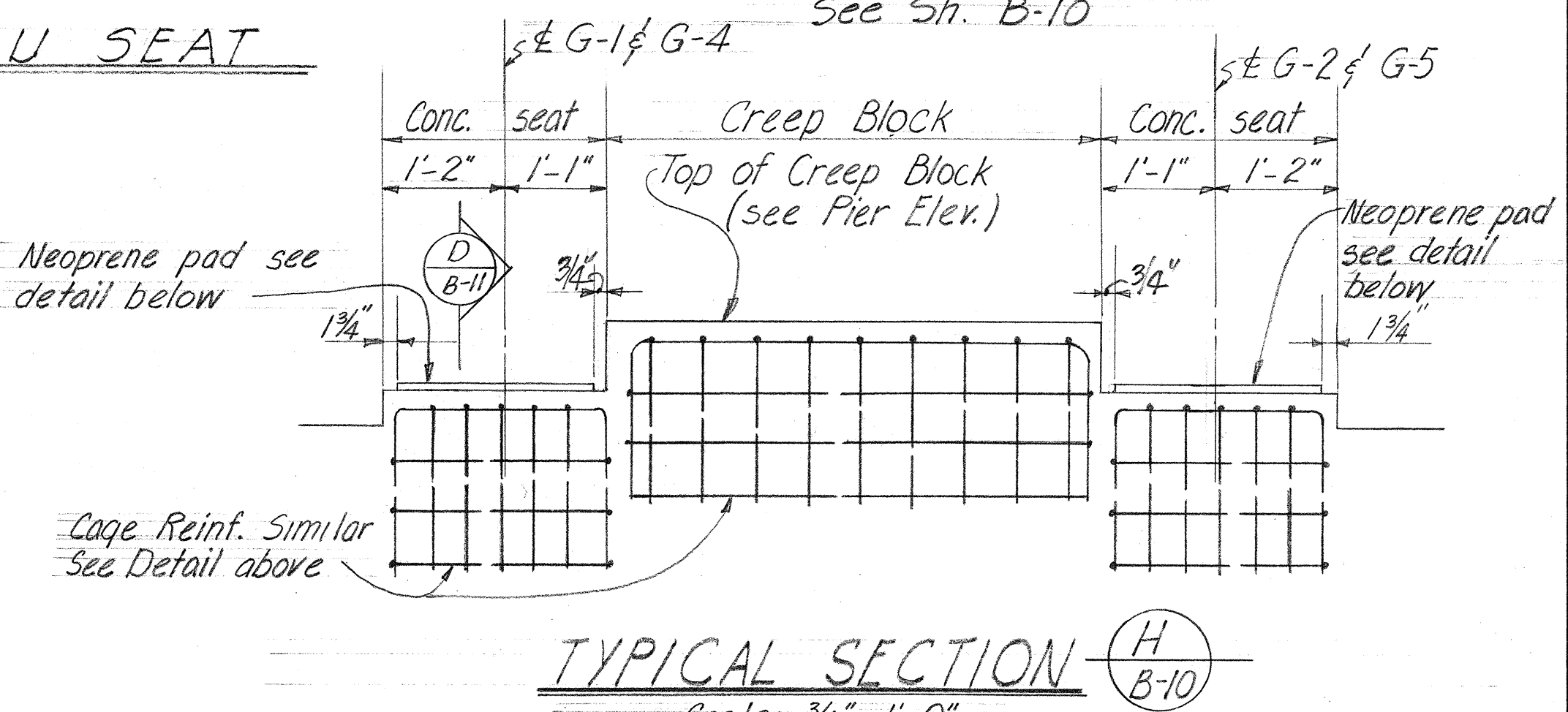
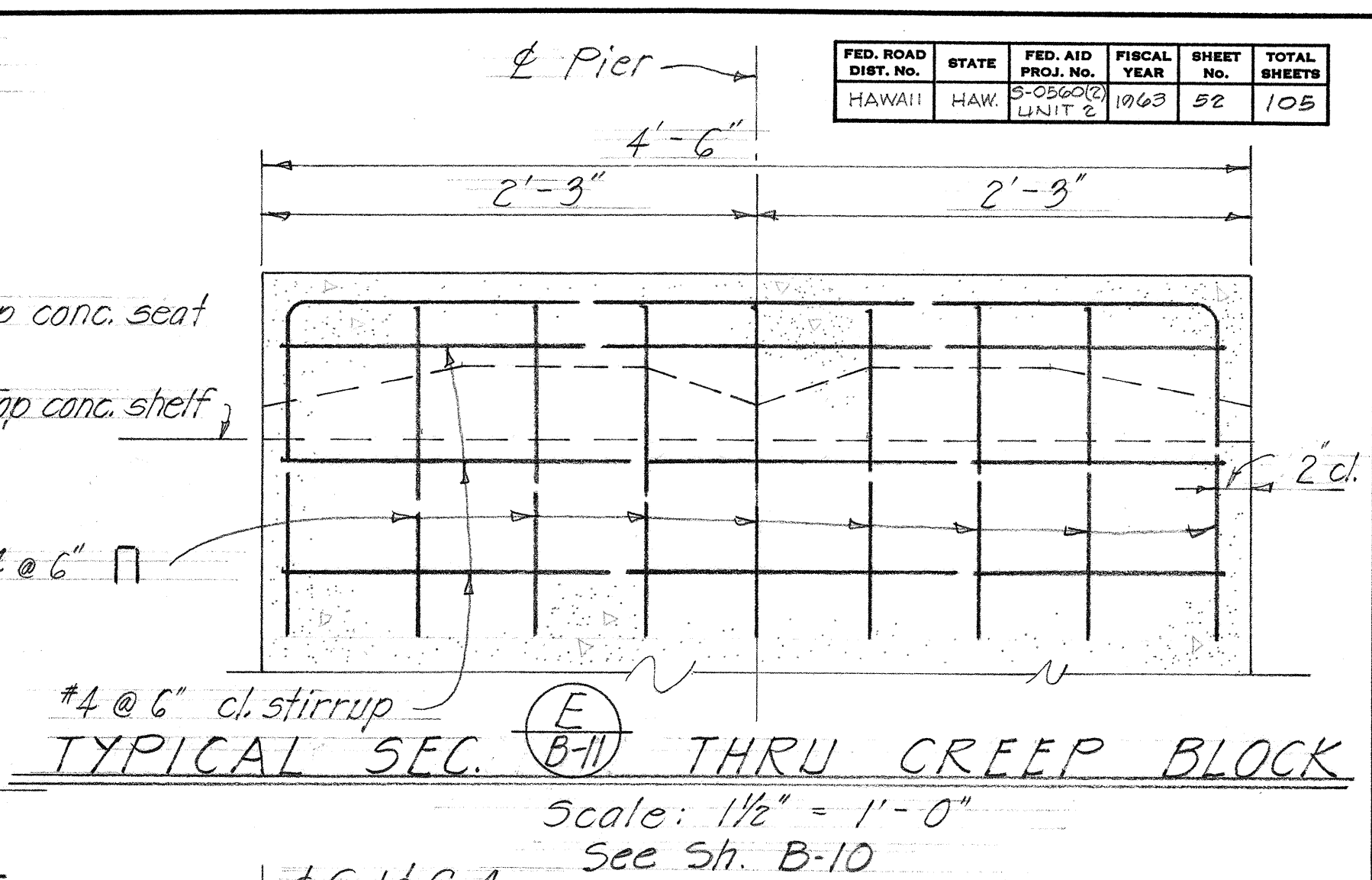
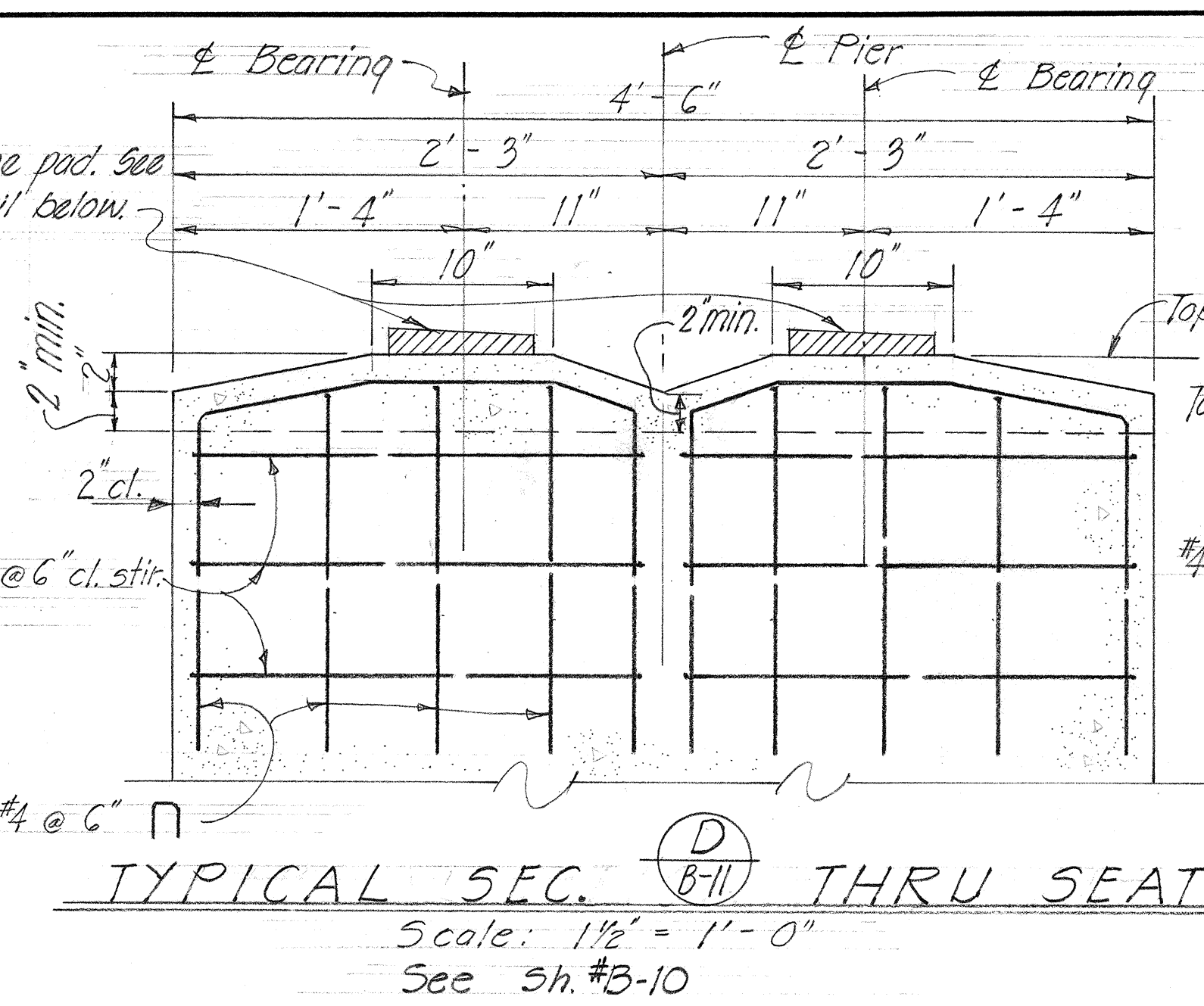
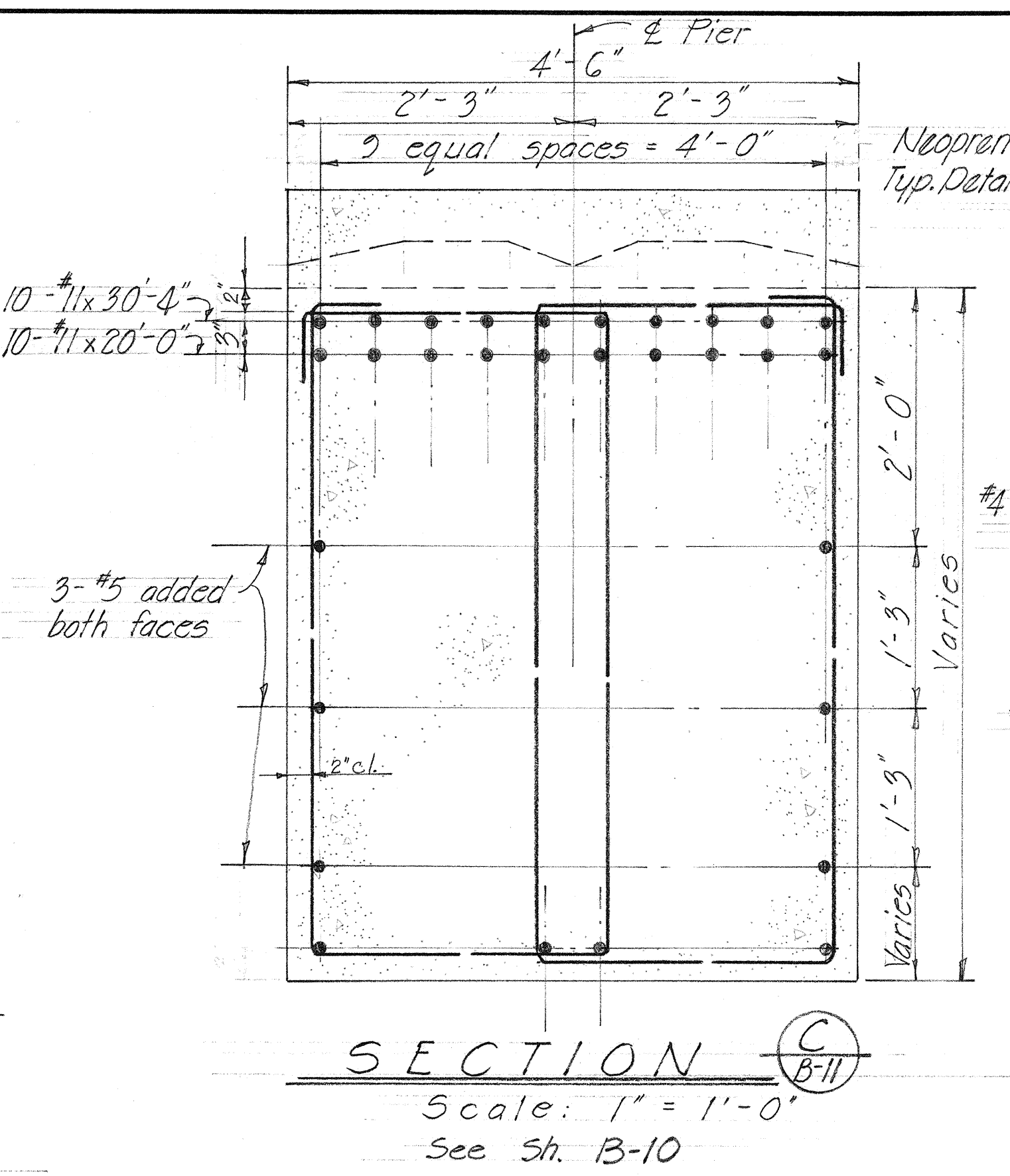
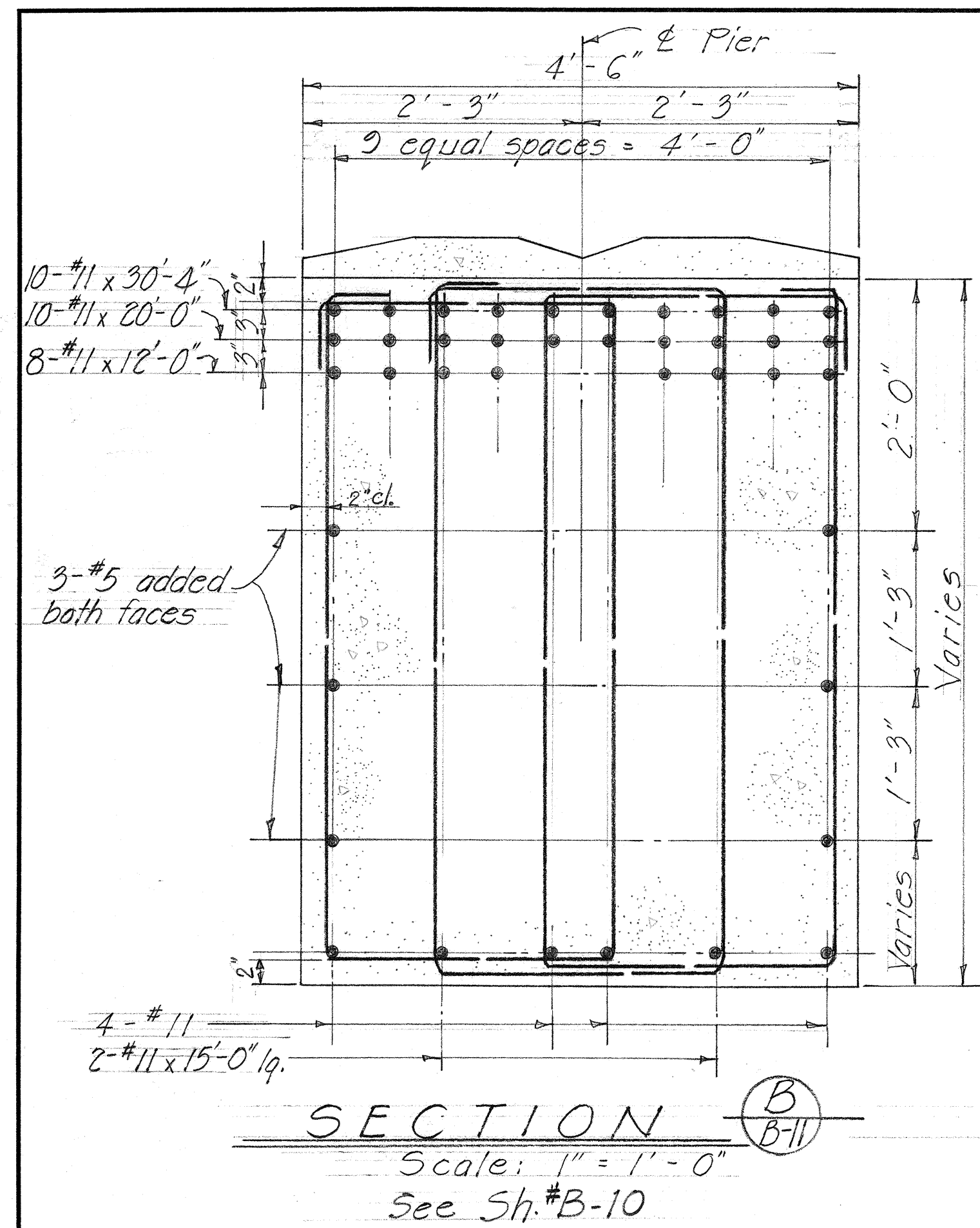
TOP PLAN OF PIER Scale: 3/8" = 1'-0"



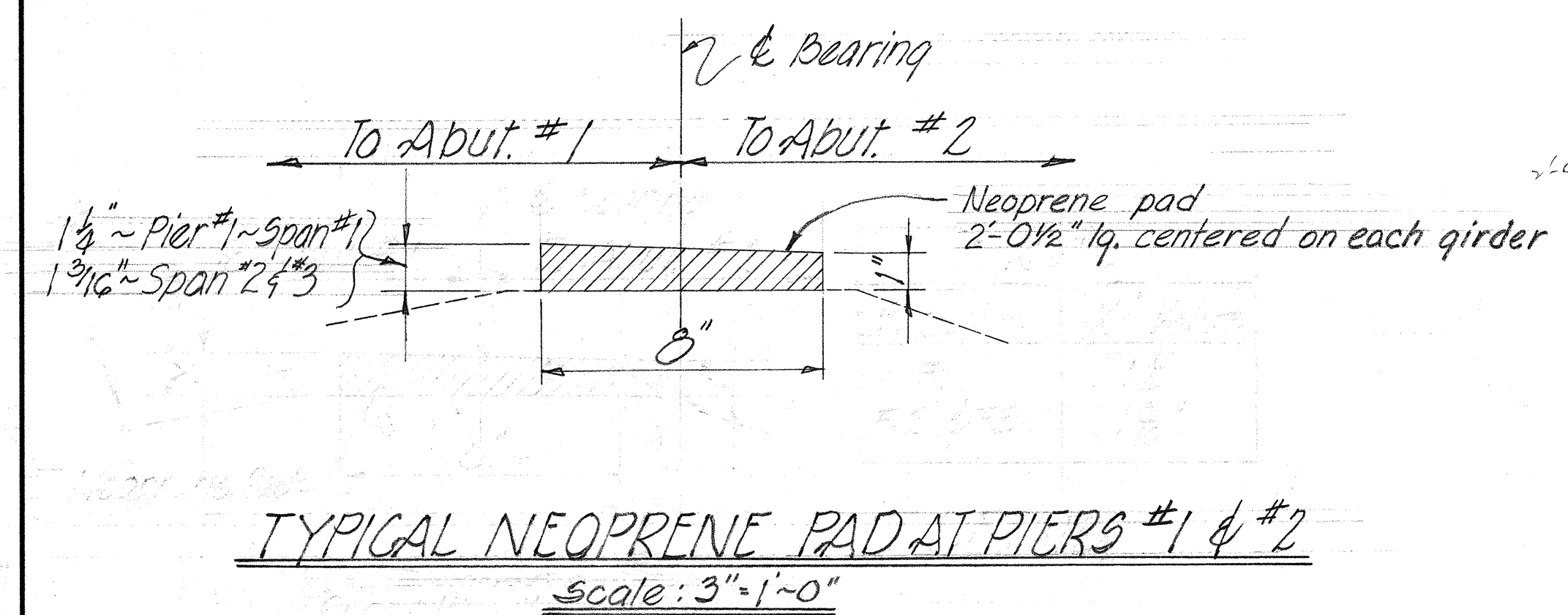
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
PIERS #1 & #2 DETAILS
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to 87+93.13
KAUAI BELT ROAD - Proj. No. S-0560(2)
1961 UNIT 2

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	S-0560(2) UNIT 2	1963	52	105

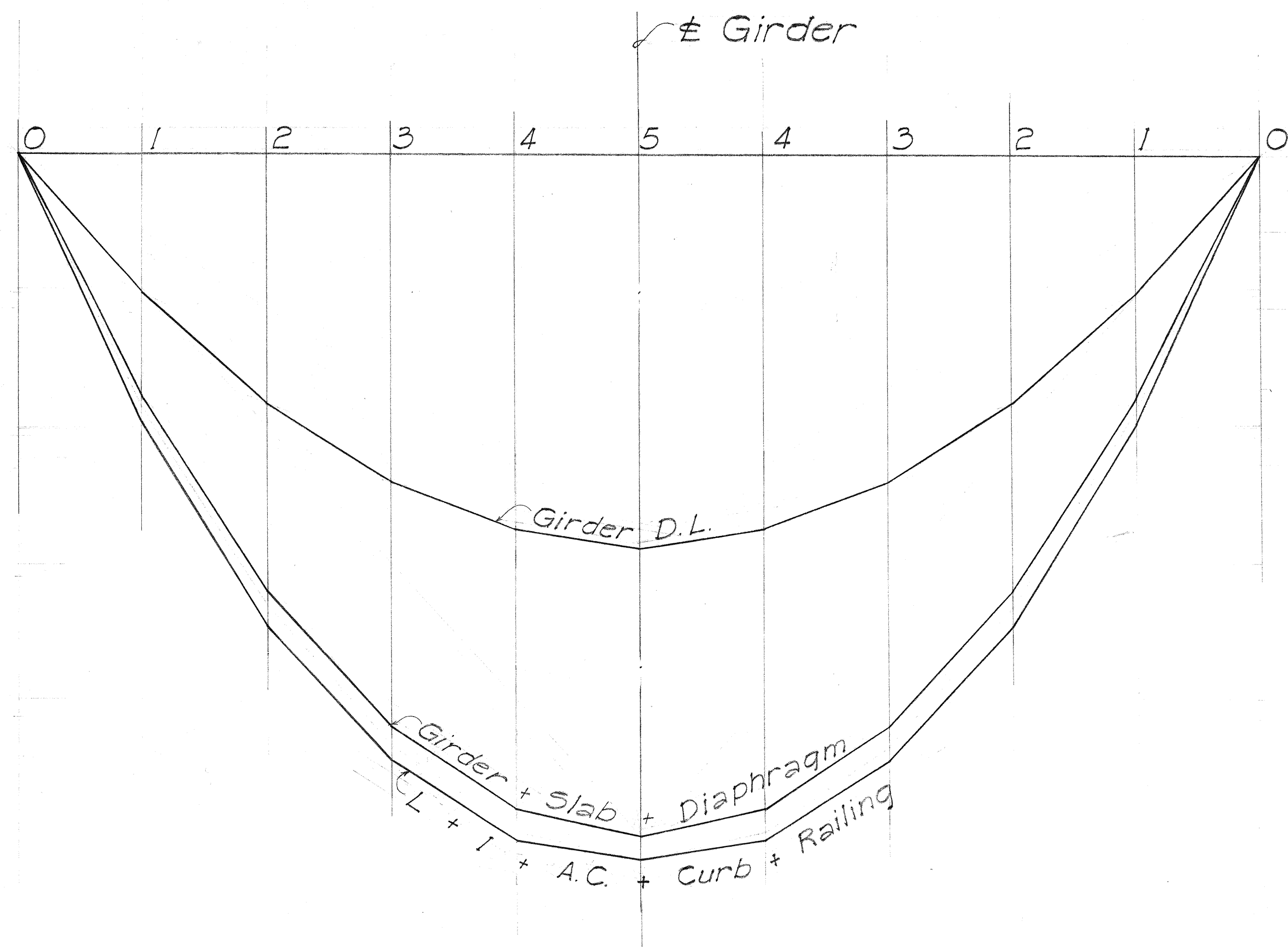


Note: Concrete seats & creep block to be poured monolithically with pier. Finish seat to level surface.

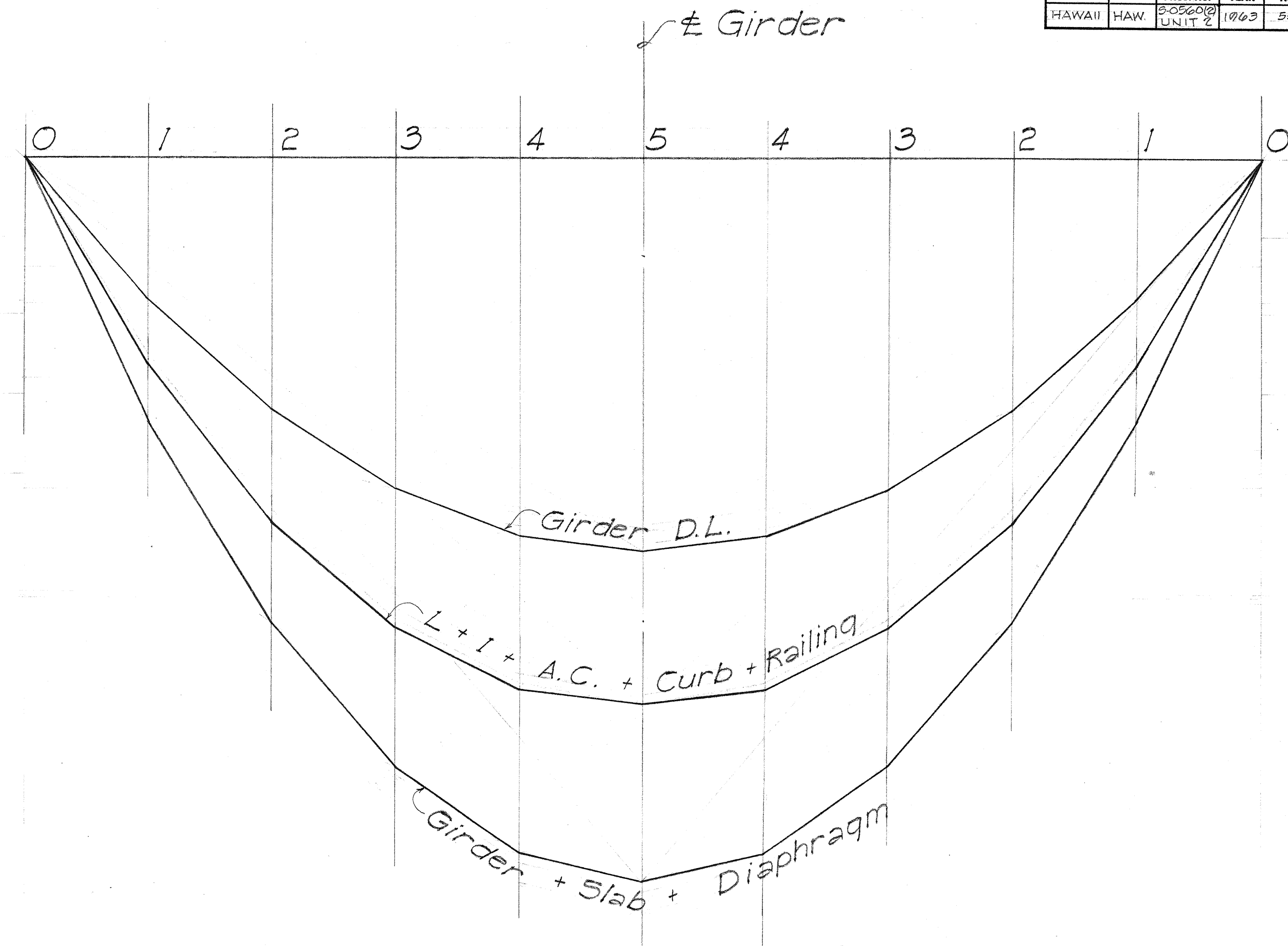


ALTERNATE ~"B"

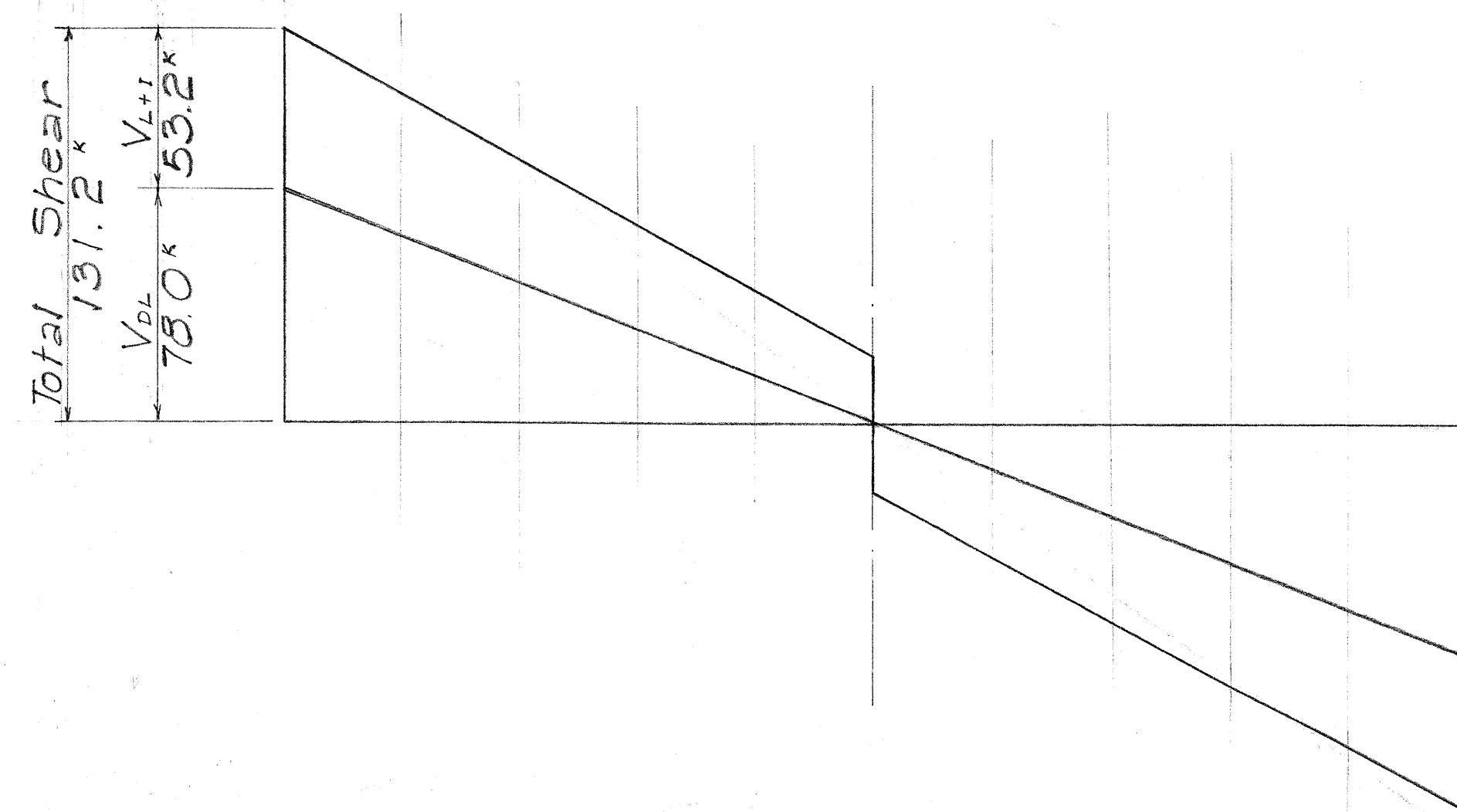
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
PIERS #1 & #2 DETAILS
MOLOAA STREAM BRIDGE
Sta. 85+46.75 to 87+93.13
KAUAI BELT ROAD ~ Proj. No. S-0560(2) UNIT 2
1961



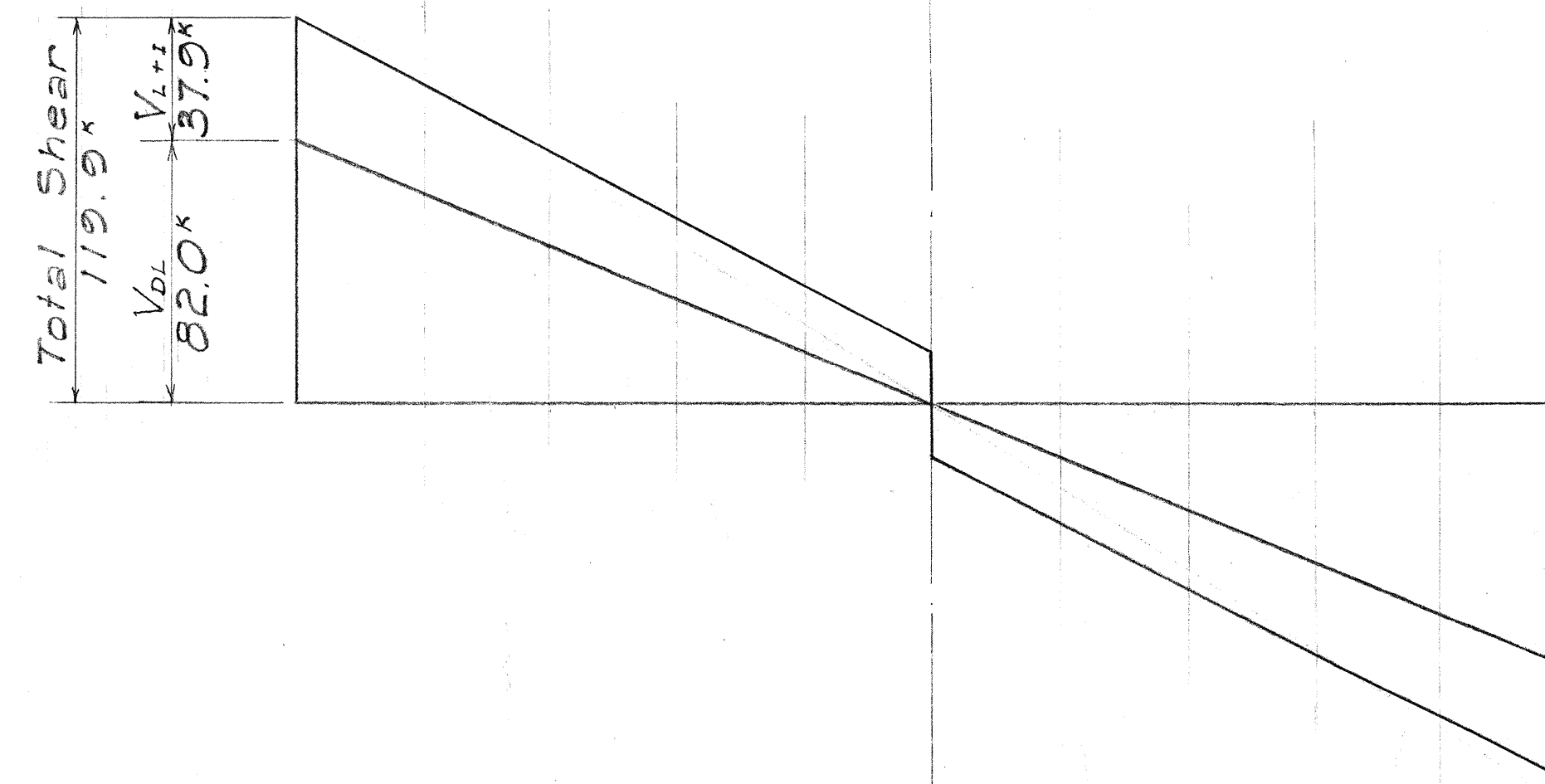
MOMENT DIAGRAM - INTERIOR GIRDER
Scale: Horiz. 1" = 6'-0" ~ Vert. 1" = 2000 k'



MOMENT DIAGRAM - EXTERIOR GIRDER
Scale: Horiz. 1" = 6'-0" ~ Vert. 1" = 2000 k'



SHEAR DIAGRAM - INT. GIRD.
Scale: Horiz. 1" = 10' ~ Vert. 1" = 50 k'



SHEAR DIAGRAM - EXT. GIRD.
Scale: Horiz. 1" = 10' ~ Vert. 1" = 50 k'

Type Load	Girder Location	Point				
		1	2	3	4	5
Girder + Slab + Diaphragm	Interior	5,230	9,380	12,300	14,050	14,630
	Exterior	5,650	9,980	13,100	14,920	15,520
L + I + A.C. + Curb + Railing	Interior	5,780	10,120	13,030	14,730	15,110
	Exterior	4,470	7,830	10,100	11,430	11,740
Girder	Interior	3,080	5,410	7,050	8,100	8,450
	Exterior	"	"	"	"	"
L + I	Interior	4,530	7,910	10,120	11,410	11,650
	Exterior	3,220	5,620	7,200	8,110	8,280
Total Composite Moment	Interior	11,010	19,500	25,330	28,970	29,740
	Exterior	10,120	17,810	23,200	26,350	27,260

MOMENT DIAGRAM TABLE
Figures Shown in Inch - Kips **ALTERNATE ~ "B"**

DESIGN DATA & DIAGRAMS
MOLOAA STREAM BRIDGE
Sta. 85 + 46.75 to 87 + 93.13
KAUAI BELT ROAD ~ Proj. No. S-0560(2) UNIT 2
1961