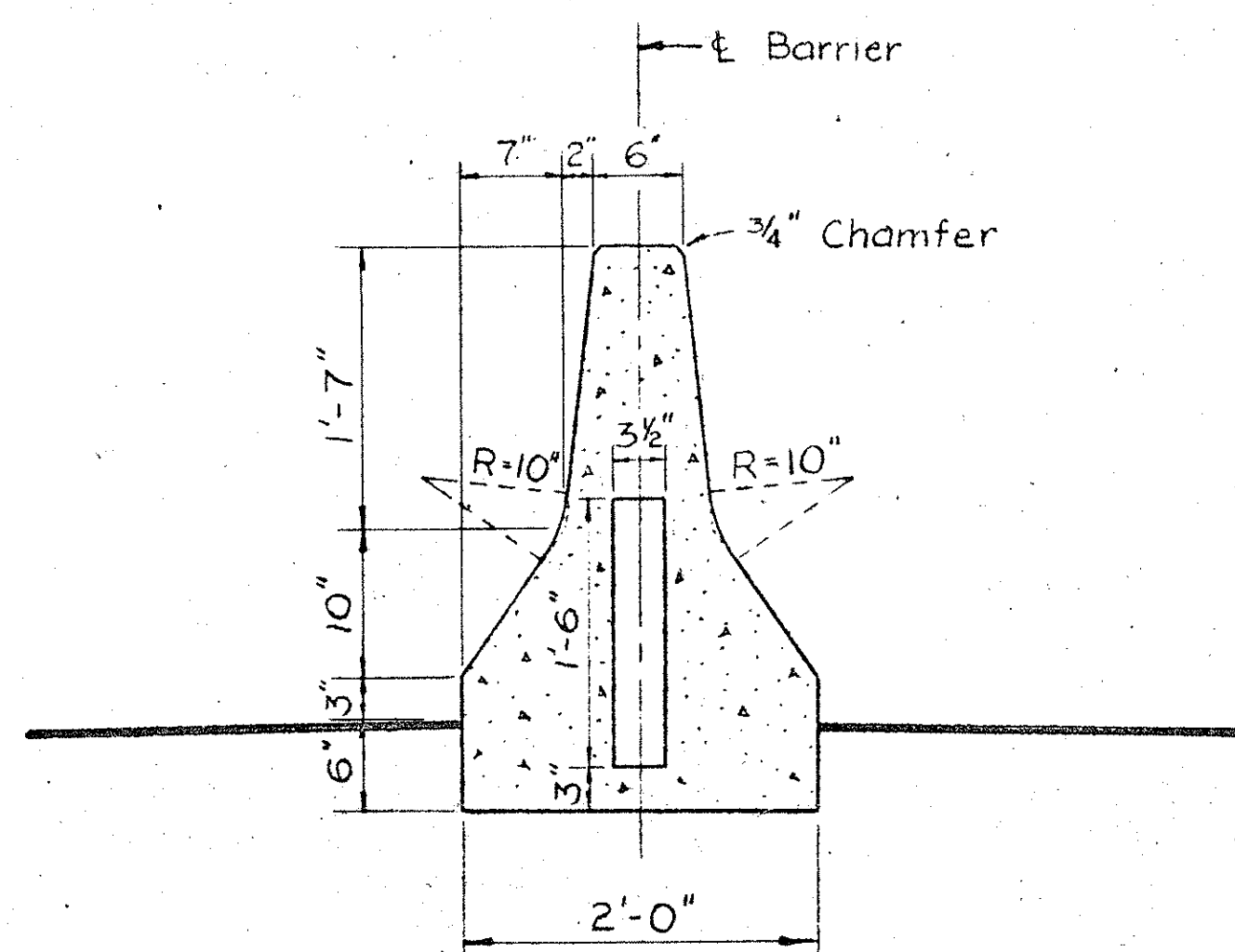


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(51)	1969	CO.3	33

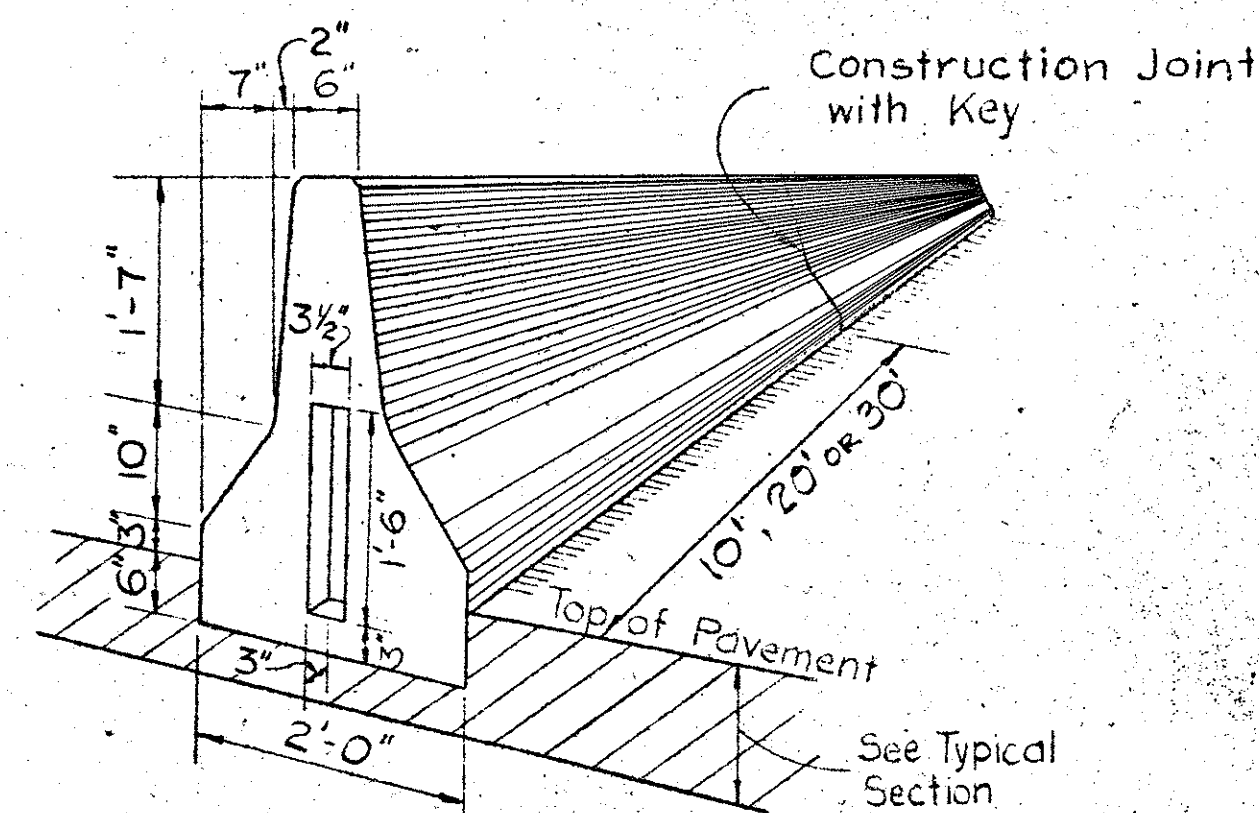
Revised: Jan. 20, 1962

GENERAL NOTES

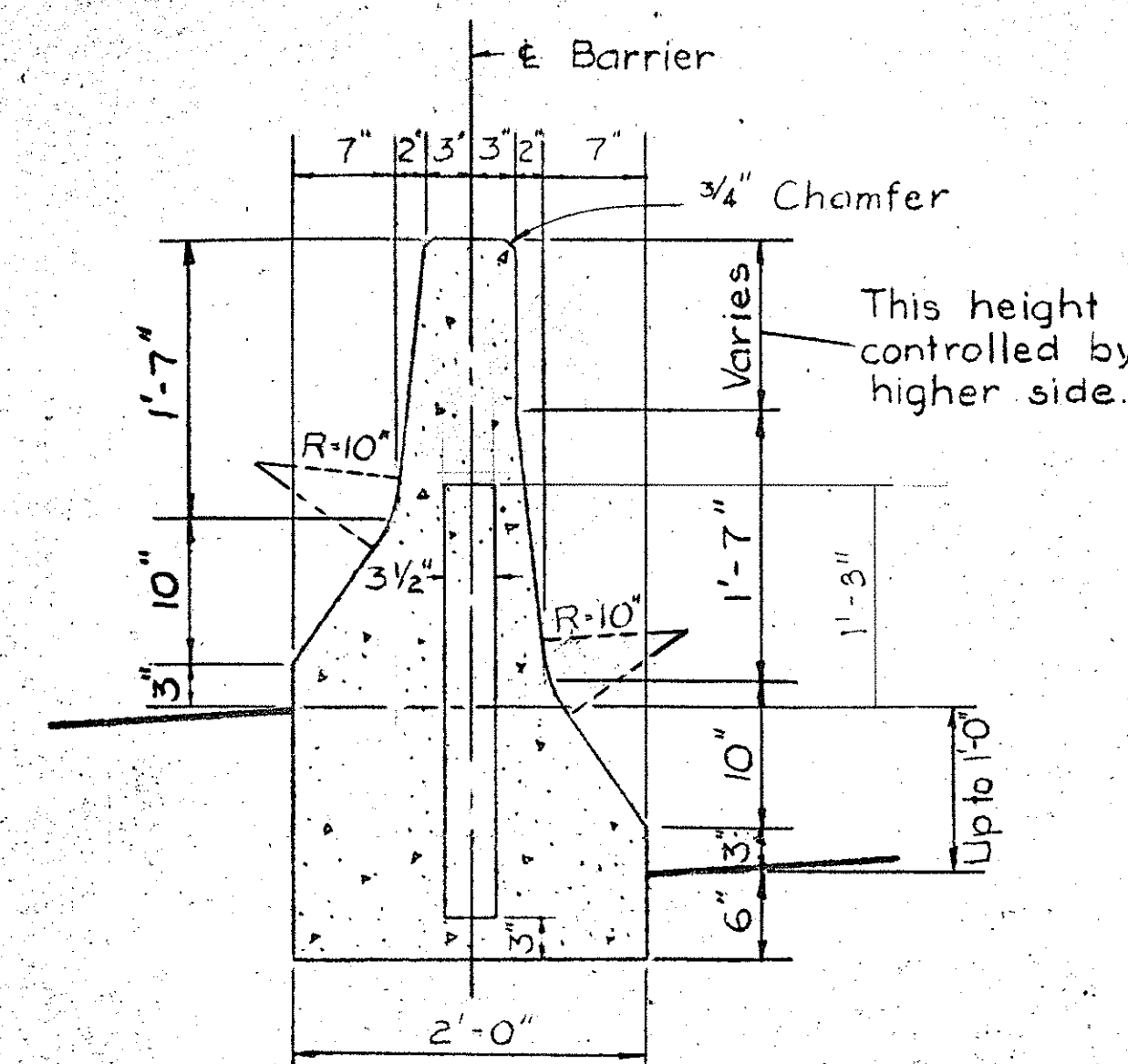
- Concrete for concrete barriers shall be Class A-1.
- Construction joints with keys shall be provided for all concrete barriers. Construction joint keys and key-ways shall be compatible at transitions between cast-in-place and precast concrete barriers.
- Precast concrete barrier may be installed as an option to cast-in-place Type 'A' concrete barrier.
- Expansion Joints shall be constructed at ninety-foot (90 ft.) intervals or at existing expansion joints of structures. (Use 1/2" pre-molded joint filler, incidental to concrete barrier.)
- For hole spacing details see sheet No. 2.



TYPICAL SECTION



TYPE "A" CONCRETE BARRIER

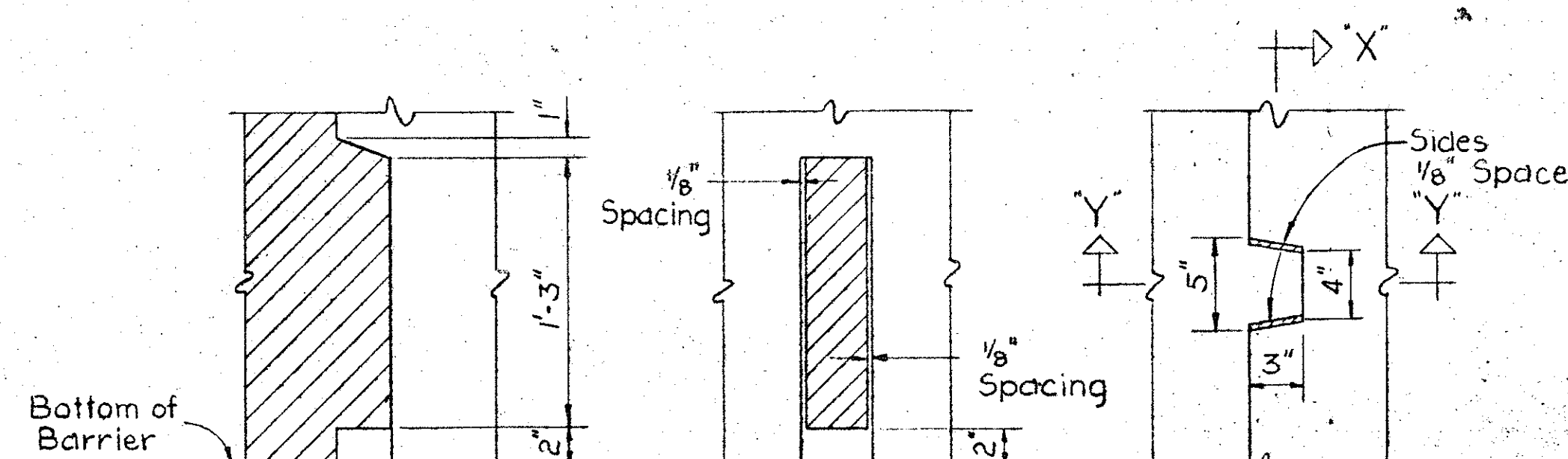


TYPE "B" CONCRETE BARRIER
(AT SUPERELEVATED SECTIONS)

SCALE: 1" = 1'-0"

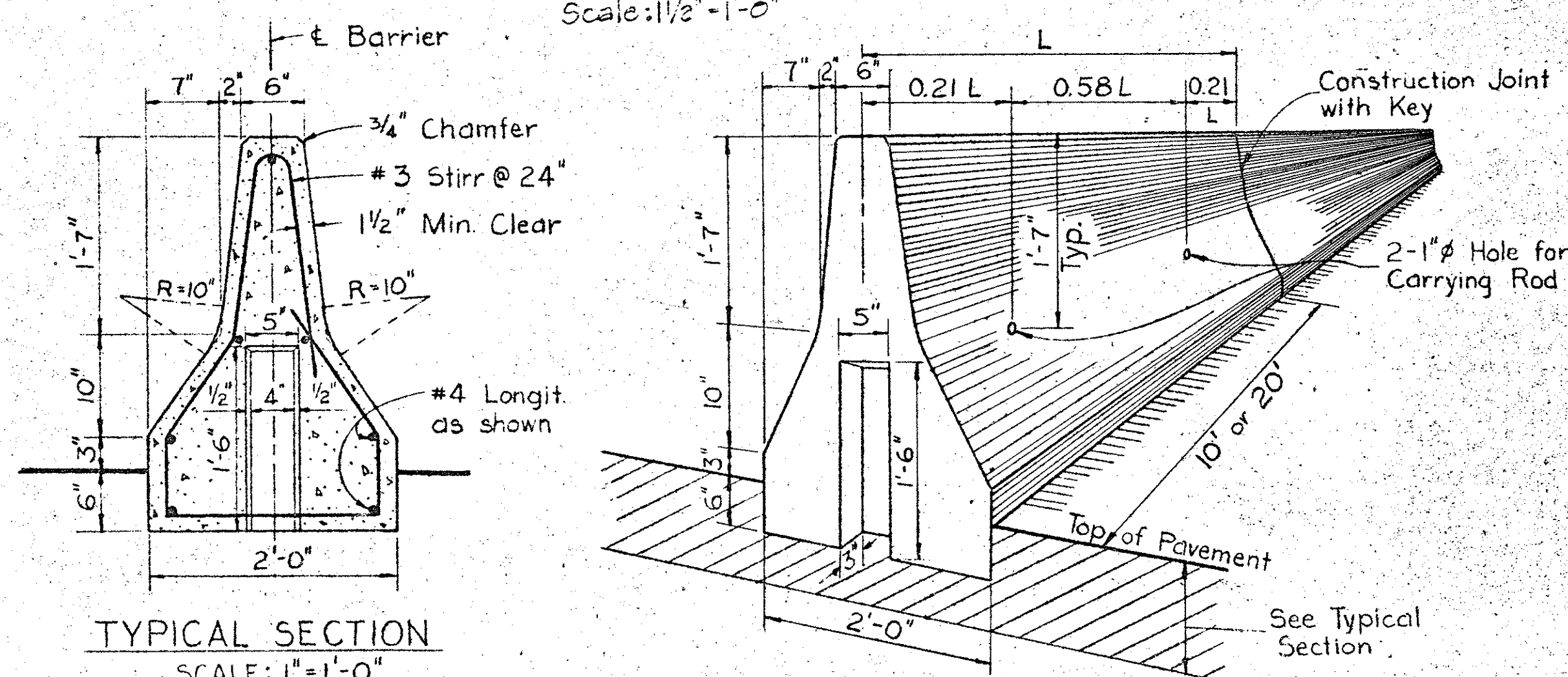
TYPE "A" CONCRETE BARRIER
(AT TANGENT SECTIONS)

SCALE: 1" = 1'-0"



SECTION "Y-Y" SECTION "X-X" PLAN
CONSTRUCTION JOINT KEY DETAILS
FOR PRECAST CONCRETE BARRIER

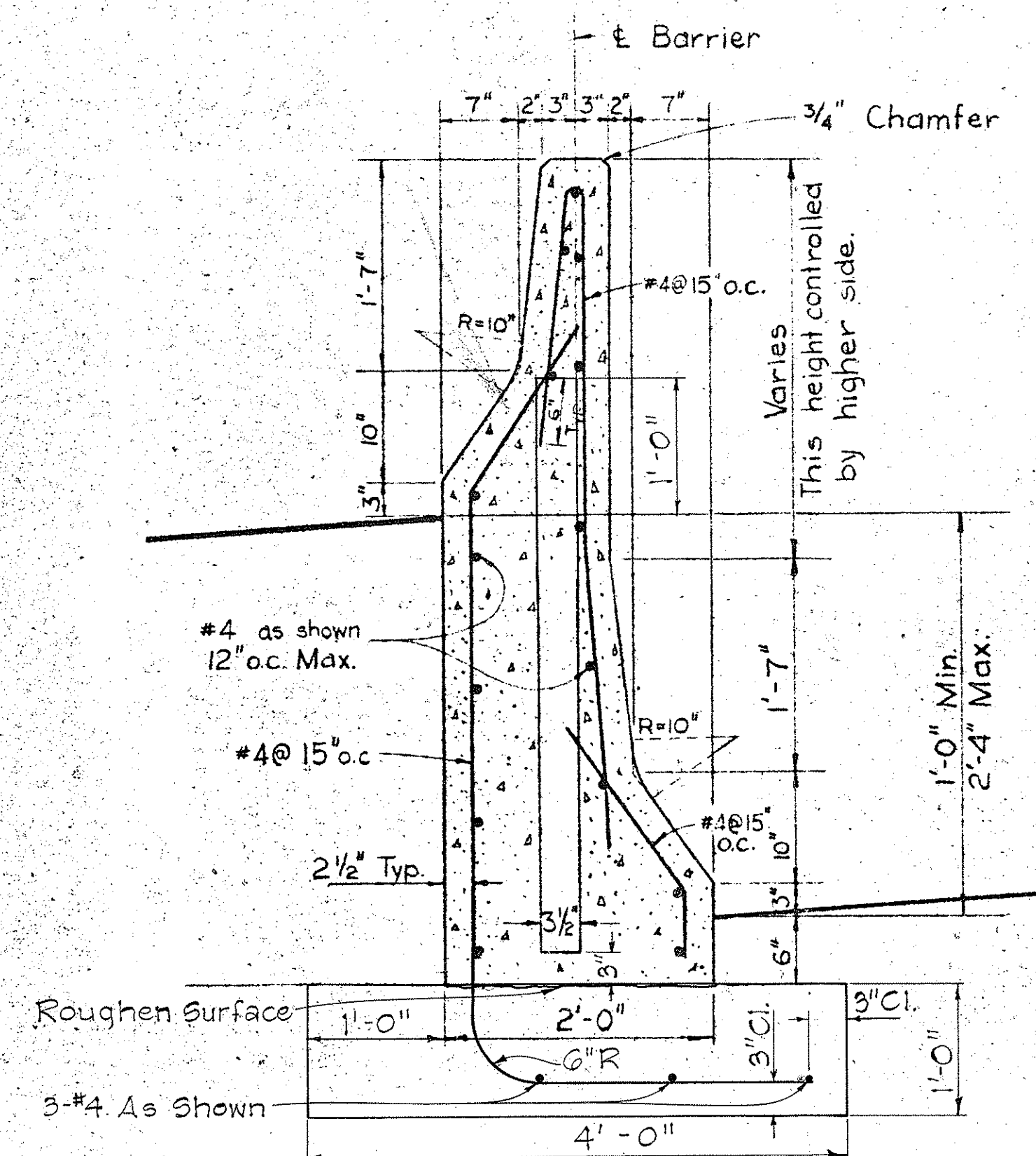
Scale: 1 1/2" = 1'-0"



TYPICAL SECTION

SCALE: 1" = 1'-0"

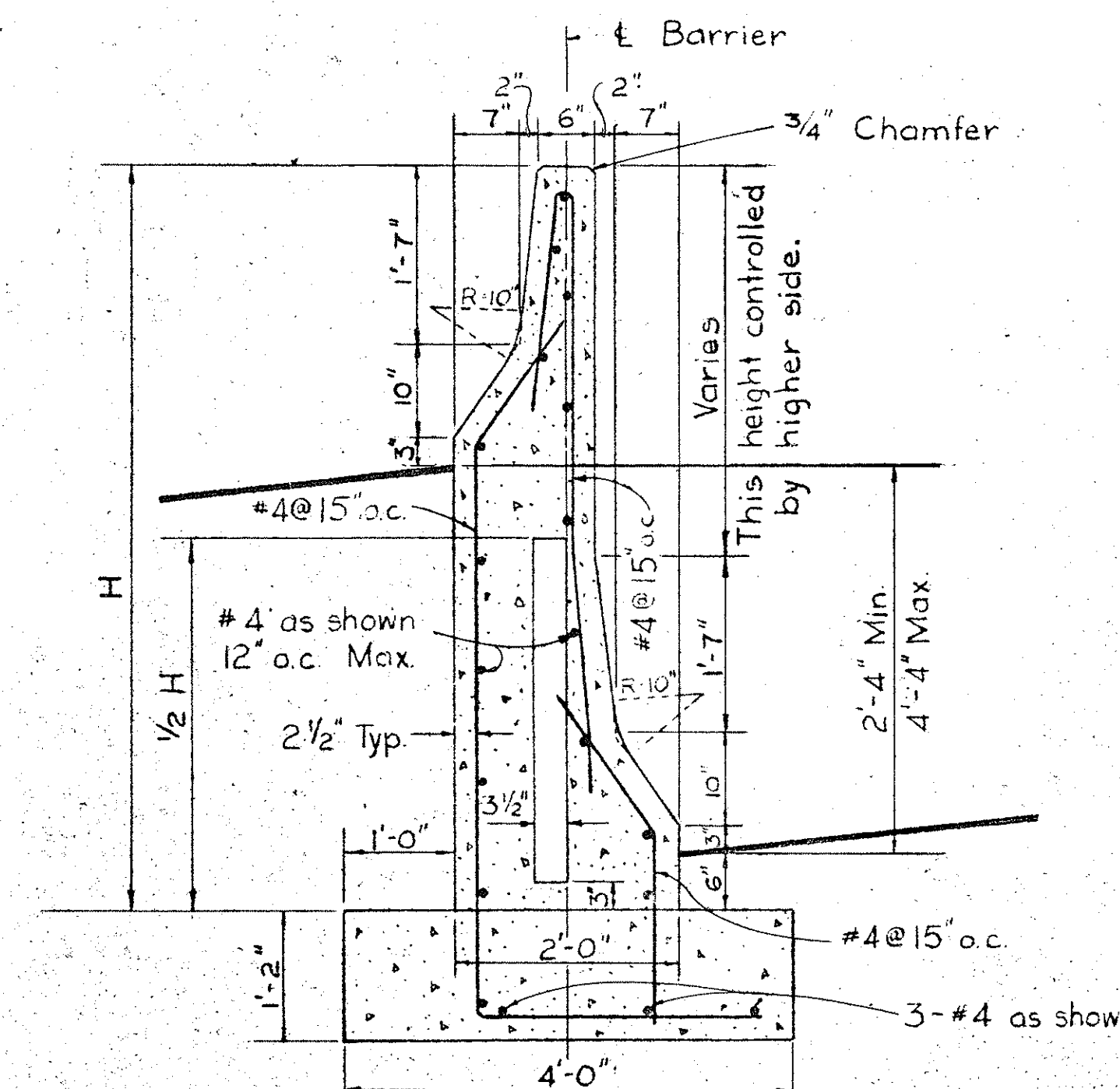
DETAILS FOR PRECAST CONCRETE BARRIER



TYPE "C" CONCRETE BARRIER

(AT SUPERELEVATED SECTIONS WITH GRADE DIFFERENTIAL)

SCALE: 1" = 1'-0"



TYPE "D" CONCRETE BARRIER
(AT SUPERELEVATED SECTIONS
WITH GRADE DIFFERENTIAL)

SCALE: 3/4" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE MEDIAN BARRIER

SCALE: AS SHOWN

SEPT. 1968

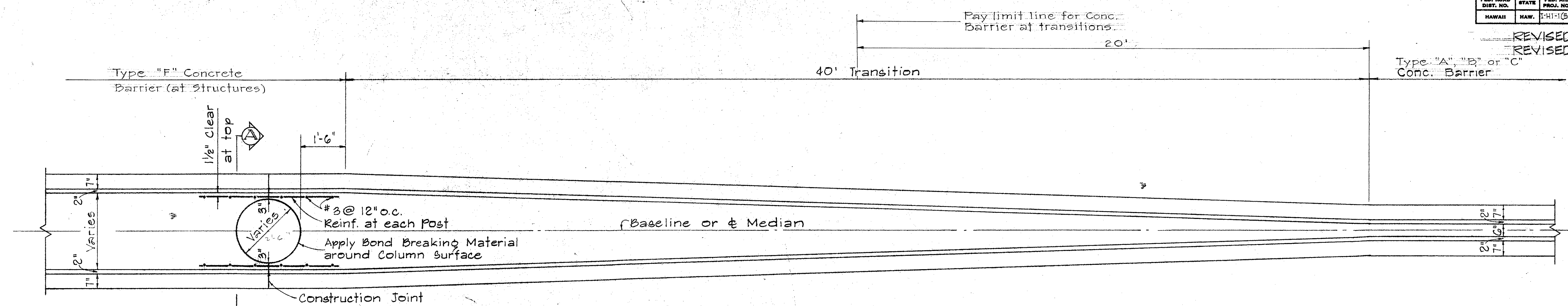
SHEET No. 1 OF 4 SHEETS DT 506

August 6, 1969

CO.3

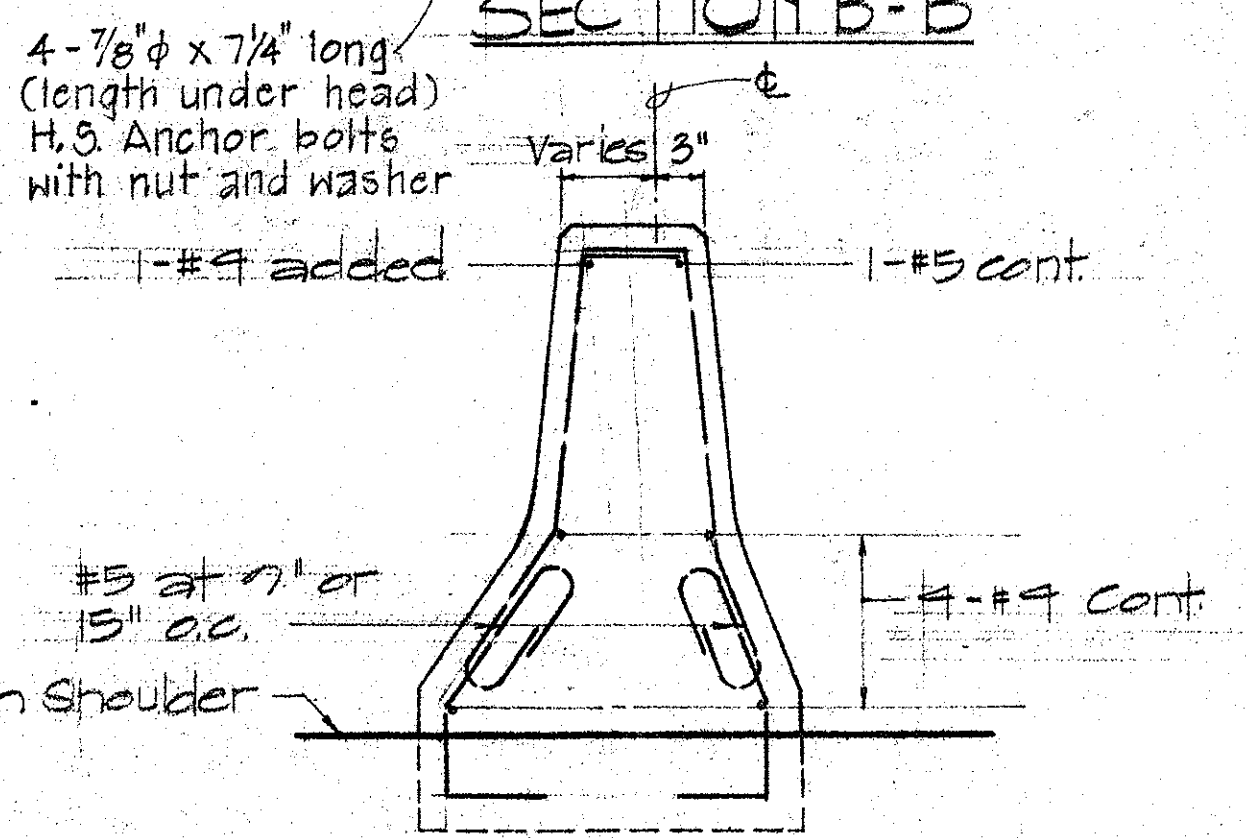
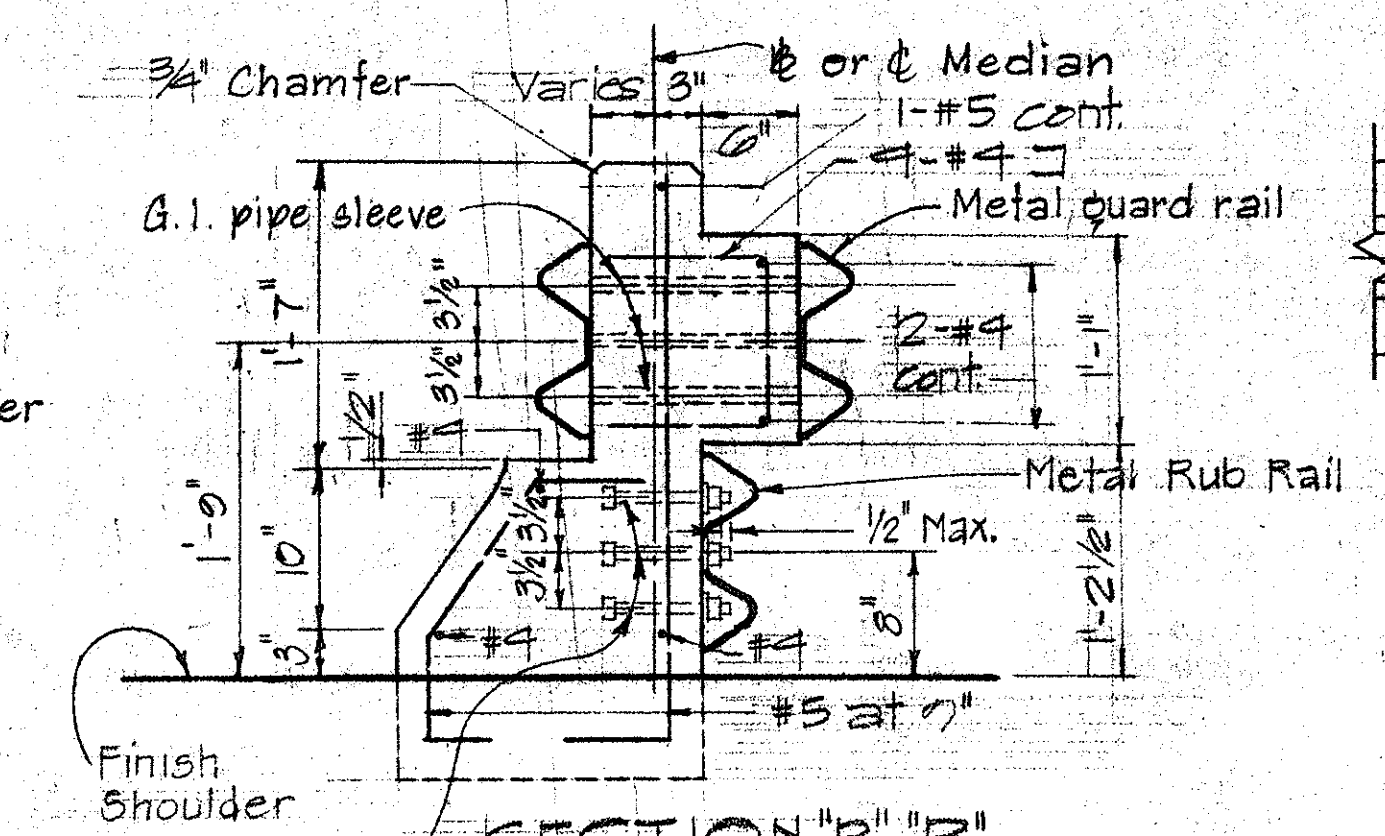
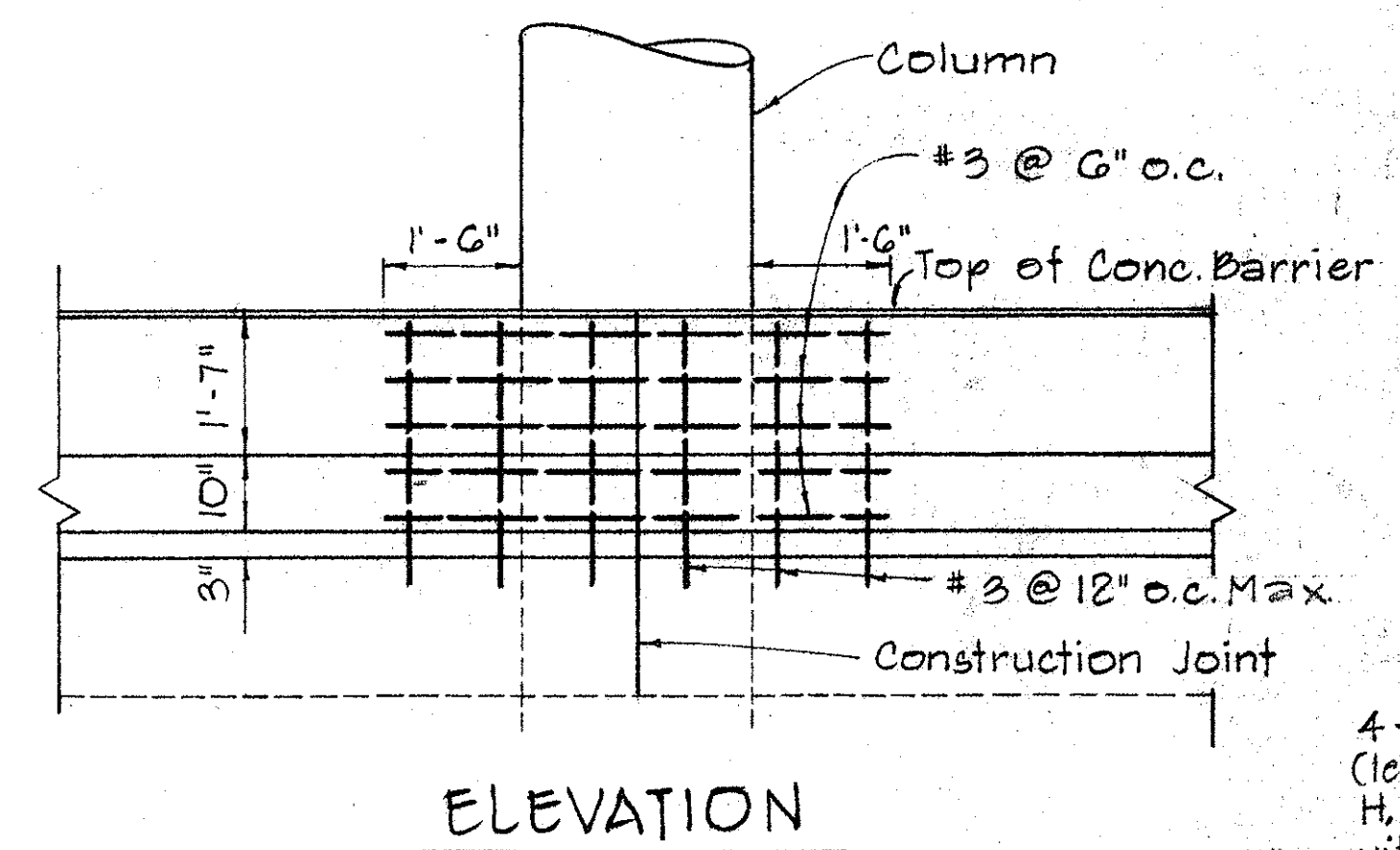
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-41-1(5)	1968	4	35

REVISED: 12-11-68
REVISED: 1-24-69



PLAN DETAIL OF TYPE "F" CONCRETE BARRIER TO TYPE "A", "B" OR "C" CONCRETE BARRIER

Scale: 1/2" = 1'-0"

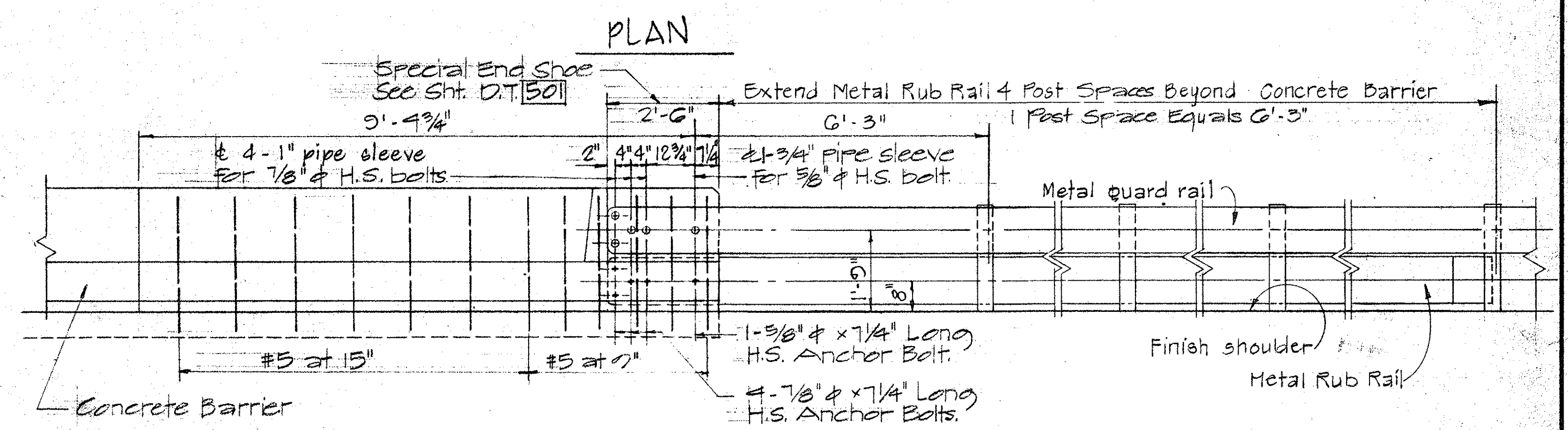
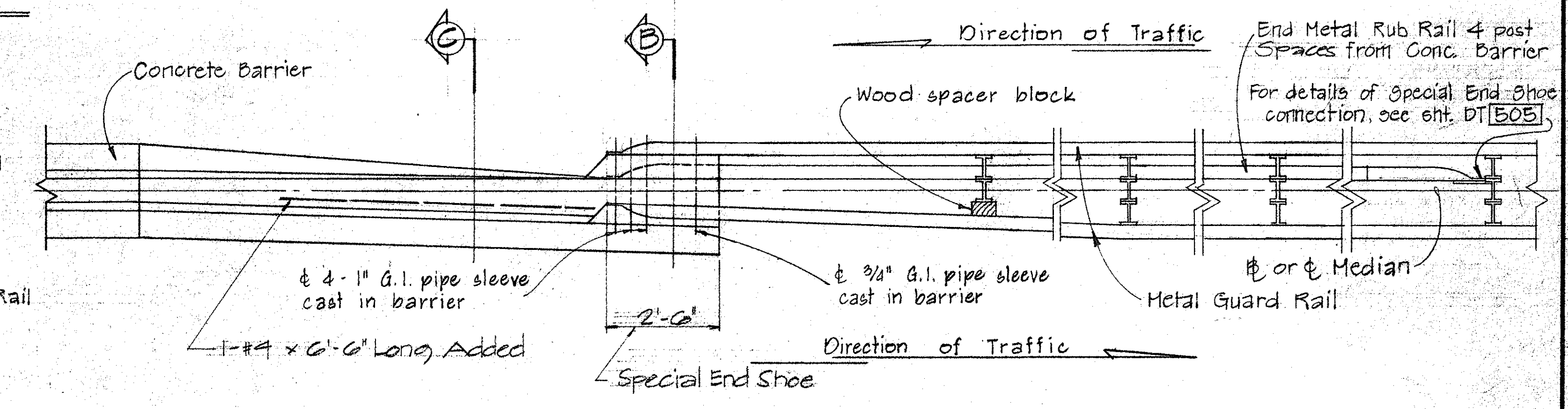


Scale: 1" = 1'-0"

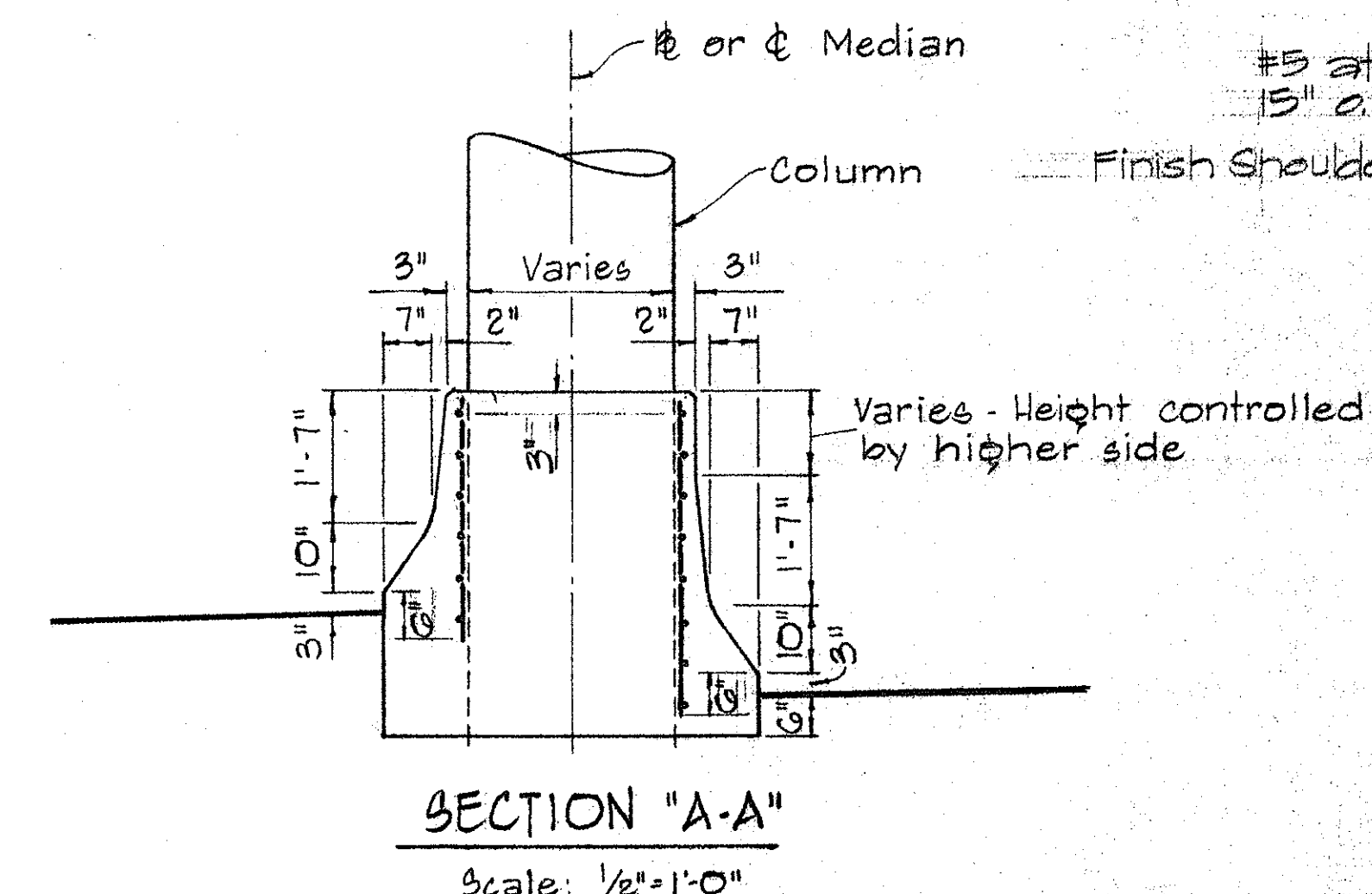
DETAIL OF CONCRETE BARRIER TO METAL GUARD RAIL

NOTES:

- For anchoring metal guard rail elements to concrete barrier, the Contractor shall furnish and install reinforcing steel, bolts of appropriate lengths and size with appropriate washers, nuts, wooden blocks and pipe sleeves. (Payments shall be incidental to concrete barrier).
- Reinforcing steel and construction joint shall be provided at all structure columns as shown in details for concrete barrier. Payments shall be incidental to concrete barrier.



Scale: 1/2" = 1'-0"



Scale: 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL OF CONCRETE
BARRIER TRANSITION

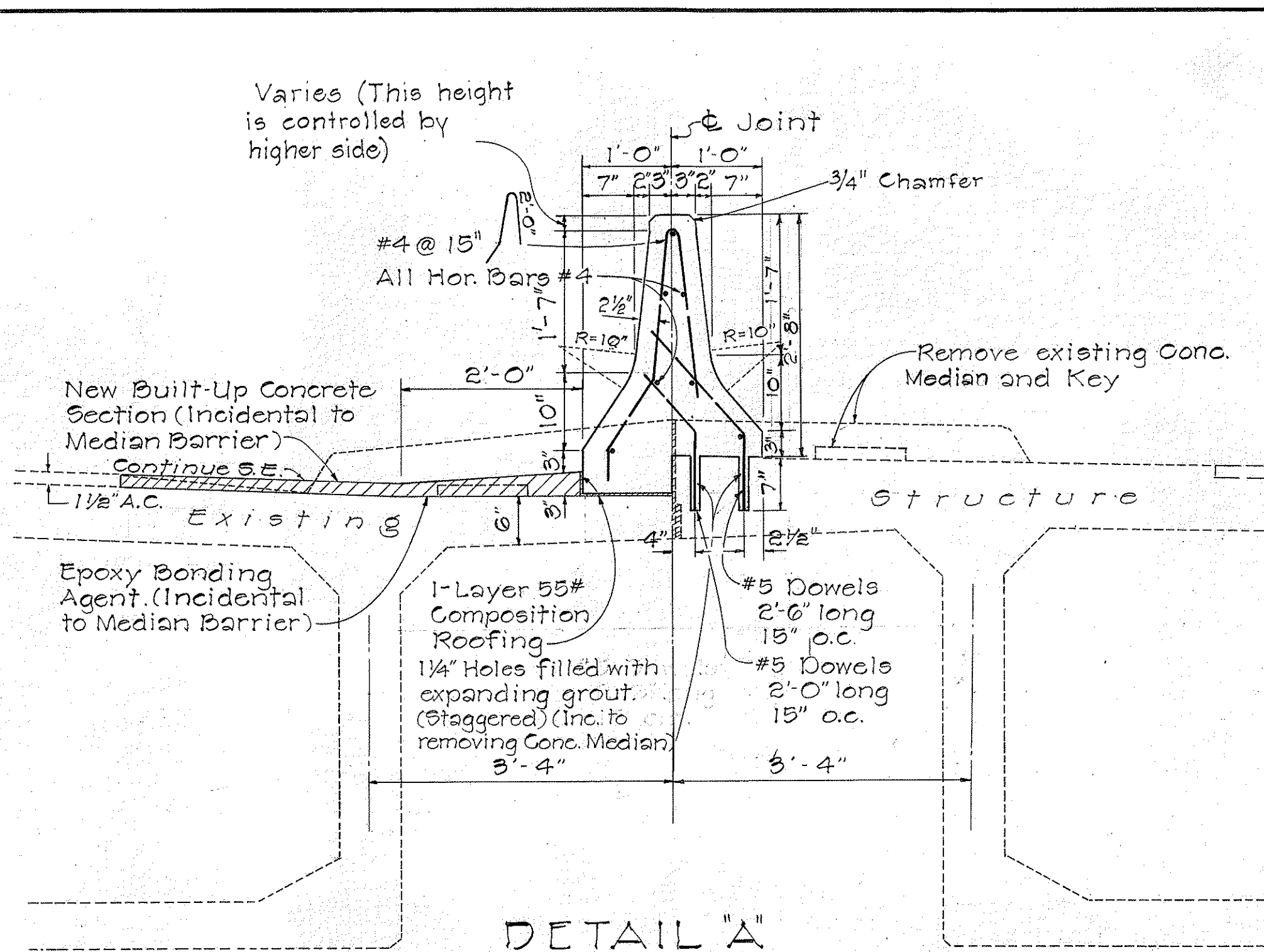
Scale: As Shown

Nov. 1968

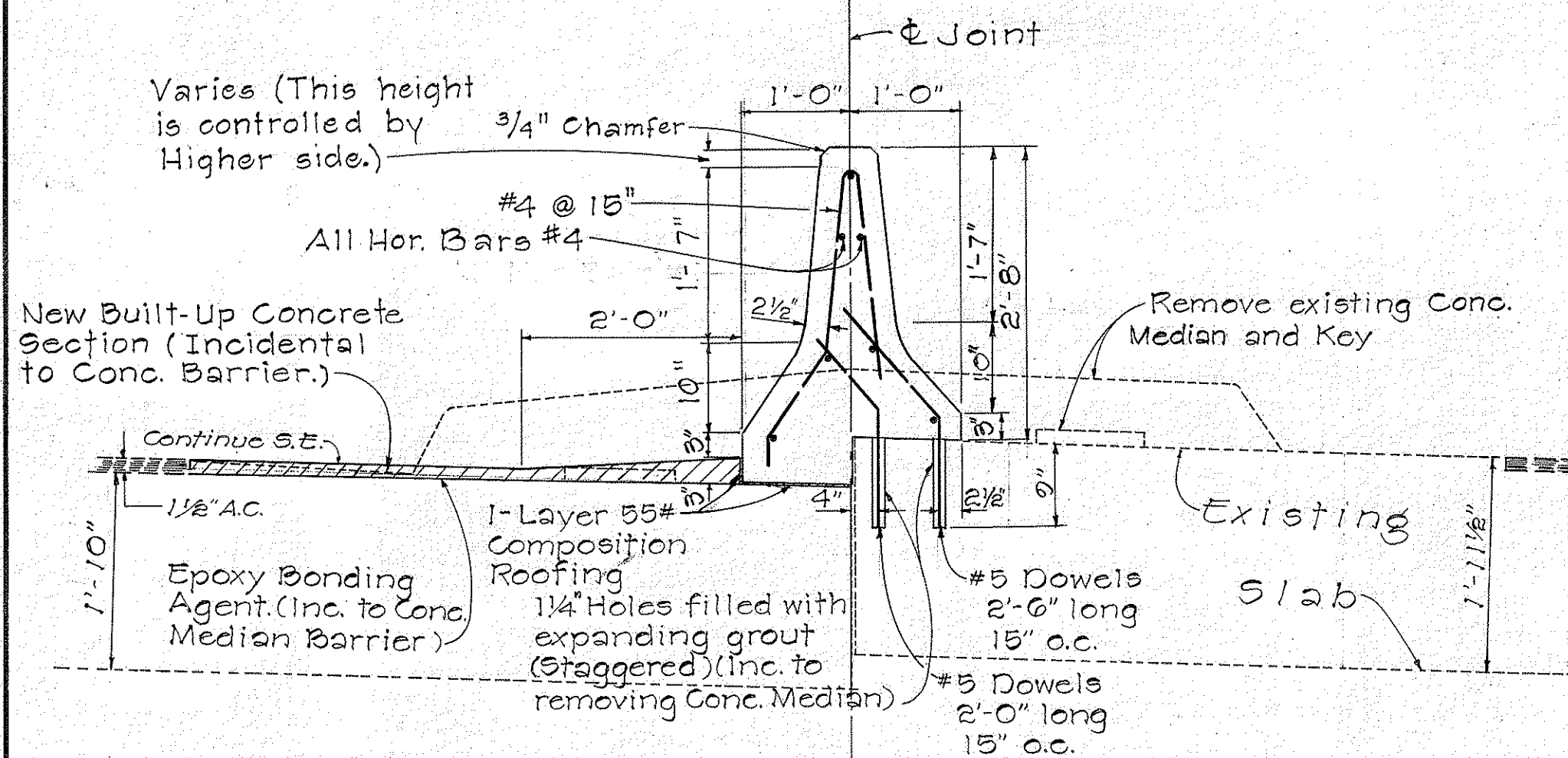
SHEET No. 2 OF 4 SHEETS DT 508

DATE	DESIGNED BY	CHECKED BY
PLAN	DESIGNED BY	CHECKED BY
NOTE BOOK	DESIGNED BY	CHECKED BY
	DESIGNED BY	CHECKED BY

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1 (51)	1969	5	33



DETAIL "A"
KALIHI STREAM BRIDGE
AT BOX GIRDER SECTION
($\pm$ STA. 30+34 $\pm$ TO 31+24 $\pm$)
Scale: $\frac{3}{4}$ " = 1'-0"



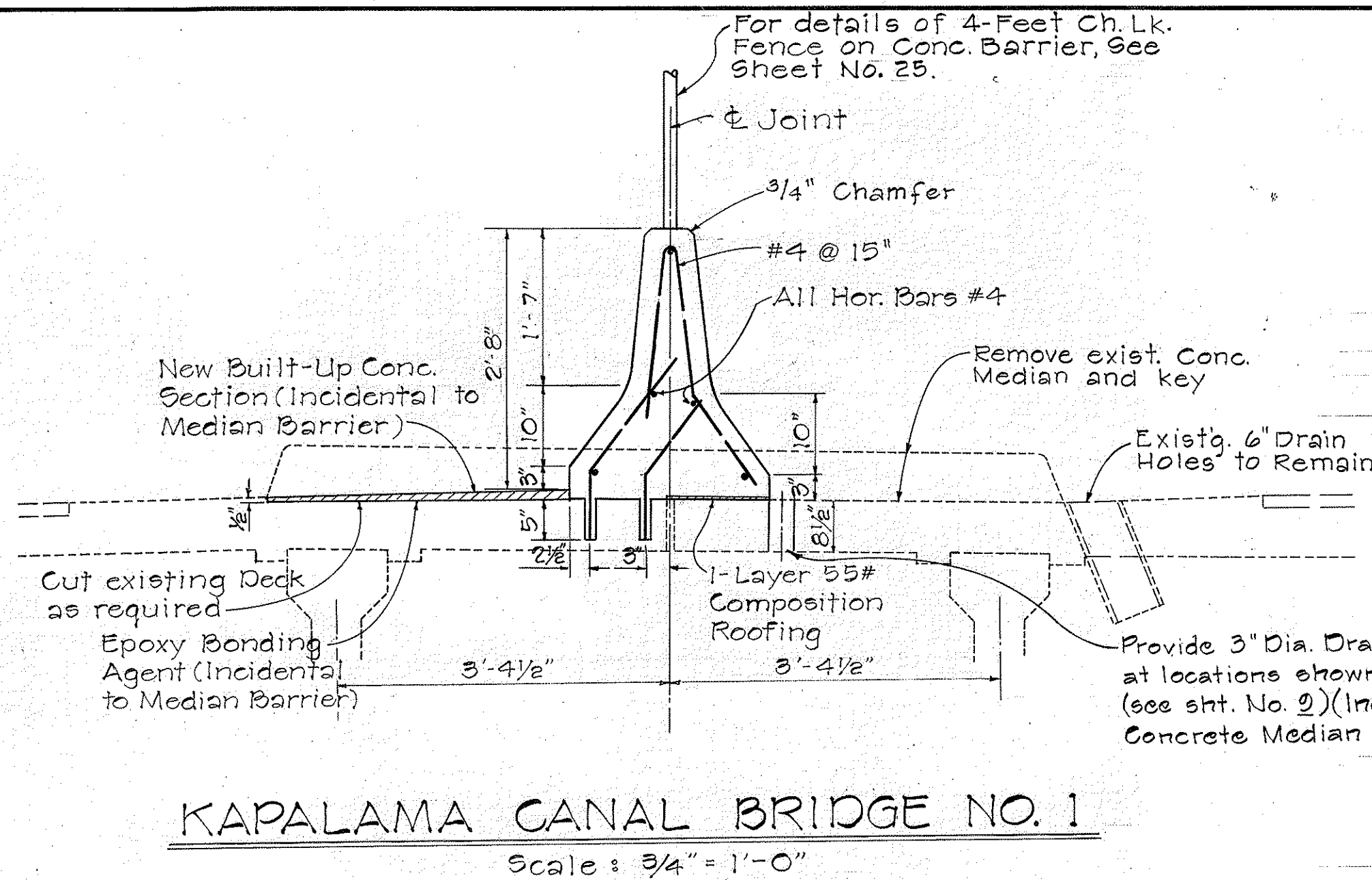
KALIHI STREAM BRIDGE
AT RIGID FRAME SECTION
($\pm$ STA. 29+00 $\pm$ TO 30+34 $\pm$)
Scale: $\frac{3}{4}$ " = 1'-0"

GENERAL NOTES

- All Type "E" Conc. Barriers shall have minimum outside dimensions as shown on Detail "A", this sheet.
- All reinforcing steel shall be embedded in conc. decks as noted on Detail "A". Depths of dowels shall be as shown on each detail.
- Removing existing medians over exist. conc. bridge decks shall be done and be paid for under contract pay item No. 11.12 "Removing Concrete Median."
- Expansion joint shall be constructed at ninety (90 ft) intervals or at existing expansion joints of structures. (Use $\frac{1}{2}$ " pre-molded joint filler, incidental to concrete barrier).
- All exposed joints shall be filled with joint filler. (Incidental to Conc. Barrier).

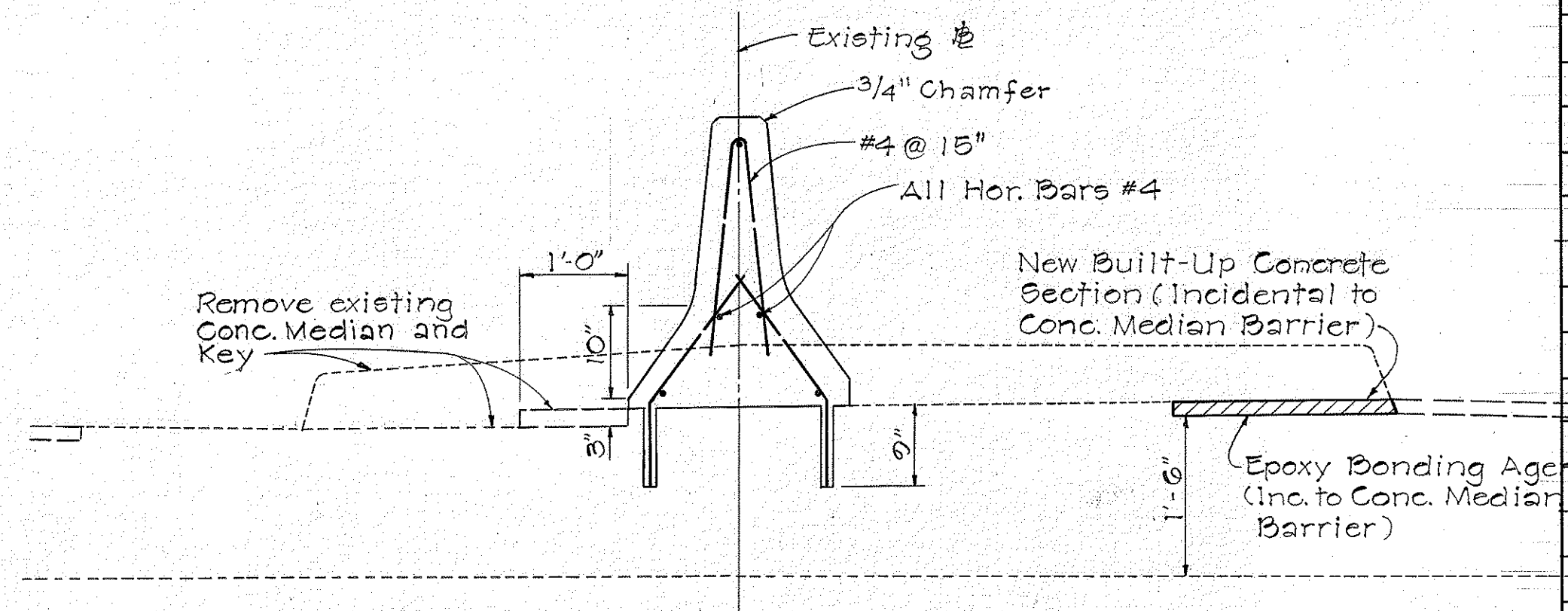
DETAILS OF TYPE "E" CONC. BARRIER ON EXIST. CONC. BRIDGE DECKS

SCALE: AS NOTED



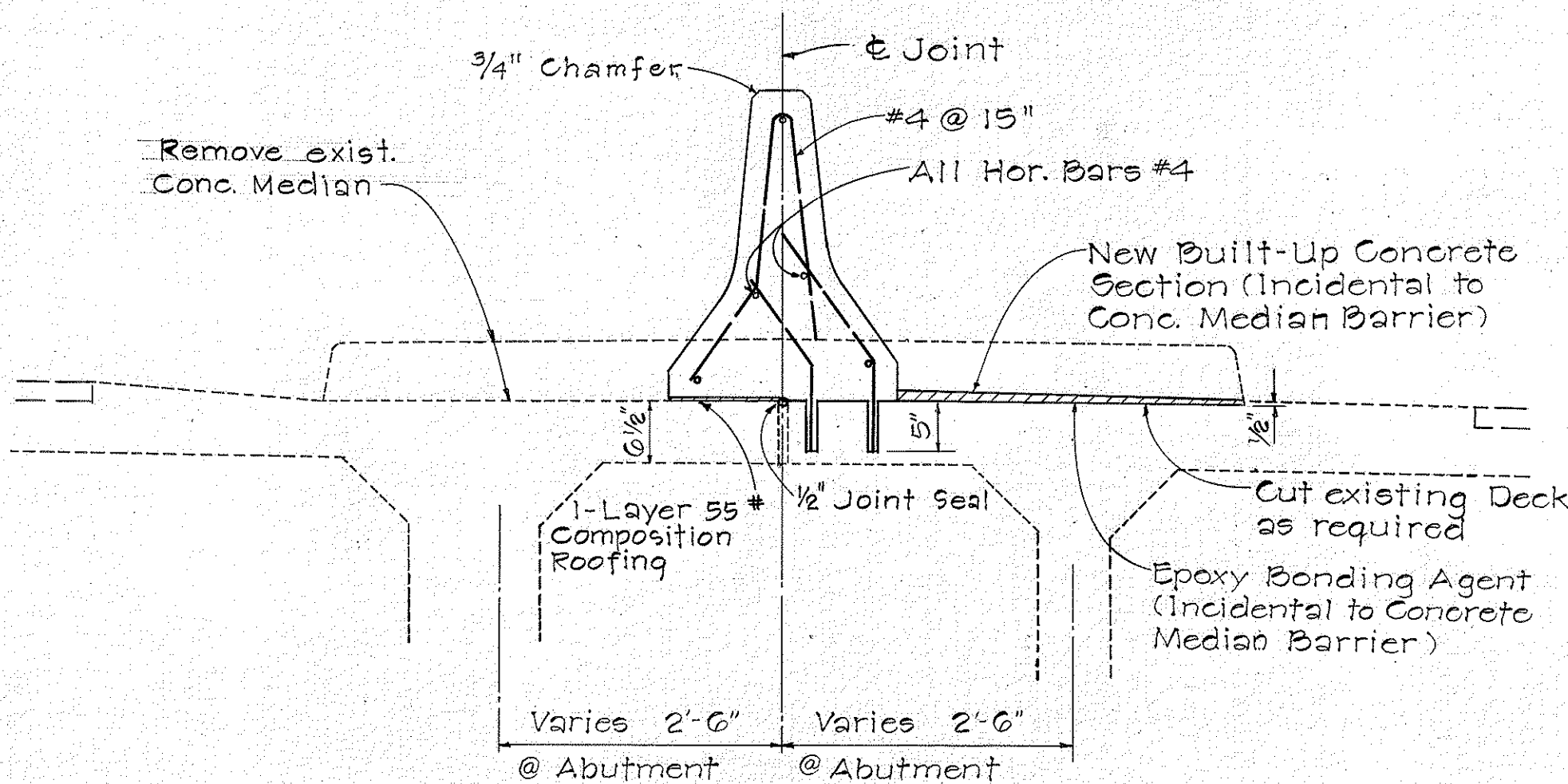
KAPALAMA CANAL BRIDGE NO. 1

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



RAMP "F" ~ STRUCTURE NO. 8

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



HOUGHTAILING SEPARATION

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

TABULATION OF CONC. MEDIAN BARRIER									
From Sta.	BASELINE STATION		TYPE "A" AND "B" (LIN. FT.)	TYPE "C" (LIN. FT.)	TYPE "E" (LIN. FT.)	TYPE "F" (LIN. FT.)	TRANSITION (LIN. FT.)		
355+55.48	355+35.50	TO	355+55.48	267.265	143.20				
358+22.50	358+00.00	TO	358+22.50		140.50				40.2
7+66.62	7+40.50	TO	7+66.62			37.0			40
8+06.82	7+60.50	TO	8+06.82			36			30.2
8+43.82	8+25.50	TO	8+43.82						40
8+83.02	8+65.50	TO	8+83.02						40.1
11+83.79	11+75.00	TO	11+83.79	189.15	300.77				40.1
15+86.94	15+60.00	TO	15+86.94			37.1			30.8
14+07.04	14+00.00	TO	14+07.04			37			40
14+44.14	14+37.00	TO	14+44.14	1391.40	1391.40				23.0
14+83.94	14+77.00	TO	14+83.94						40
28+75.34	28+57.00	TO	28+75.34			16.0			40
28+98.34	28+97.00	TO	28+98.34			6			42.48
29+14.34	29+03.00	TO	29+14.34	414.05	134.80				40
29+56.82	29+43.00	TO	29+56.82	432.64	134.96				42.80
35+05.67	35+10.00	TO	35+05.67			90.15			40
35+48.47	35+50.00	TO	35+48.47			60.50			40
36+38.62	36+30.50	TO	36+38.62						40
36+78.62	36+70.50	TO	36+78.62	52.50					40
37+31.12	37+32.00	TO	37+31.12						40
37+71.12	37+72.00	TO	37+71.12			6			40
37+77.12	37+78.00	TO	37+77.12	729.00					40
38+17.12	38+18.00	TO	38+17.12	729.50					39.65
45+46.12	45+47.50	TO	45+46.12			37.15			40
45+85.77	45+87.50	TO	45+85.77			67.50			40.40
46+22.22	46+55.00	TO	46+22.22	257.50					40
46+62.32	46+95.00	TO	46+62.32	266.50					30.5
49+20.82	49+21.50	TO	49+20.82						40
49+60.32	49+61.50	TO	49+60.32			38.50			40.70
49+98.20	50+00.00	TO	49+98.20	2250.08					40
50+39.52	50+40.00	TO	50+39.52	2251.87					40
	127+20.00	TO		774.95					40
134+94.95	135+45.50	TO	134+94.95			61.2			40
135+34.95	135+85.50	TO	135+34.95			63			40
135+96.85	136+40.50	TO	135+96.85						40.05
136+36.85	136+80.50	TO	136+36.85						40
142+96.85	143+47.50	TO	142+96.85			75.5			40
143+36.90	143+87.50	TO	143+36.90			75			40
144+12.40	144+62.50	TO	144+12.40	62.2					40
144+52.40	145+02.50	TO	144+52.40						40
145+14.60	145+65.50	TO	145+14.60						40
145+54.60	146+05.50	TO	145+54.60			30			40
145+84.60	146+35.50	TO	145+84.60	463.8					40
146+24.60	146+75.50	TO	146+24.60						40
150+88.40	151+30.50	TO	150+88.40			65.4			40
151+28.40	151+70.50	TO	151+28.40			66			39.25
151+93.80	152+44.90	TO	151+93.80	354.25	42.31				40
152+33.75	152+84.90	TO	152+33.75	358.94	50.64				40
156+37.31			156+37.31						

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

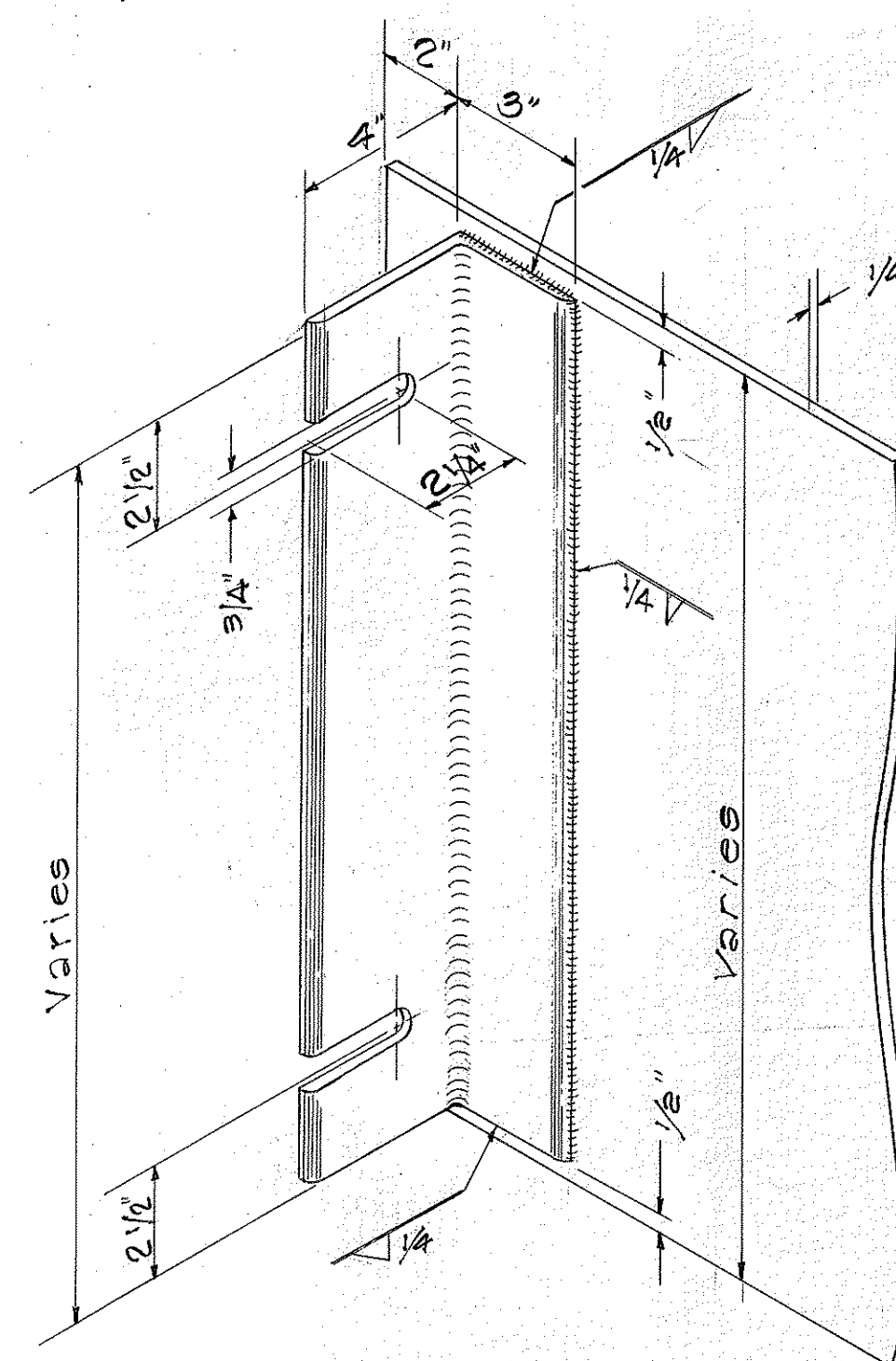
CONCRETE BARRIER

Scale as noted

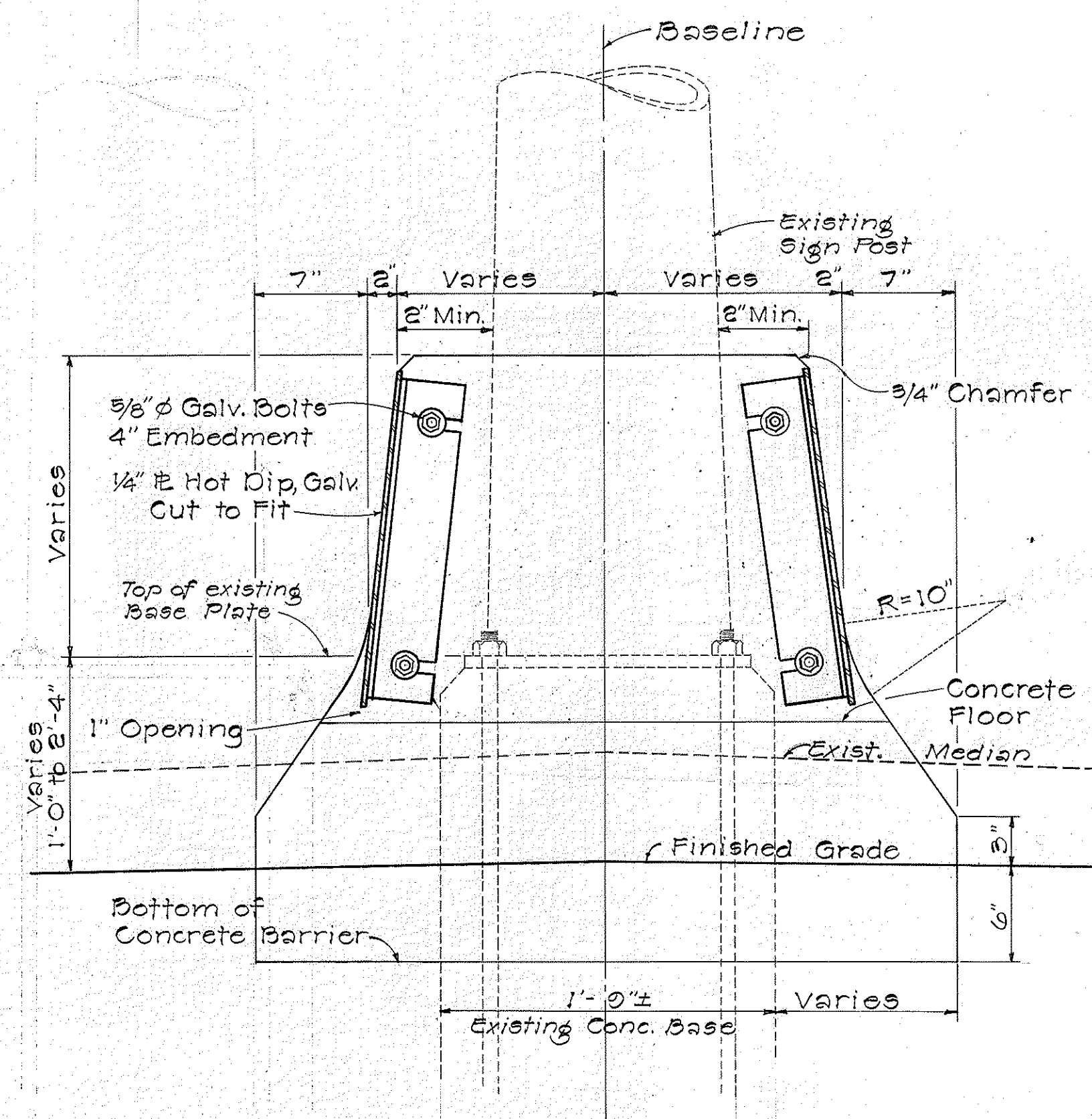
May 1968

SHEET No. 3 OF 4 SHEETS

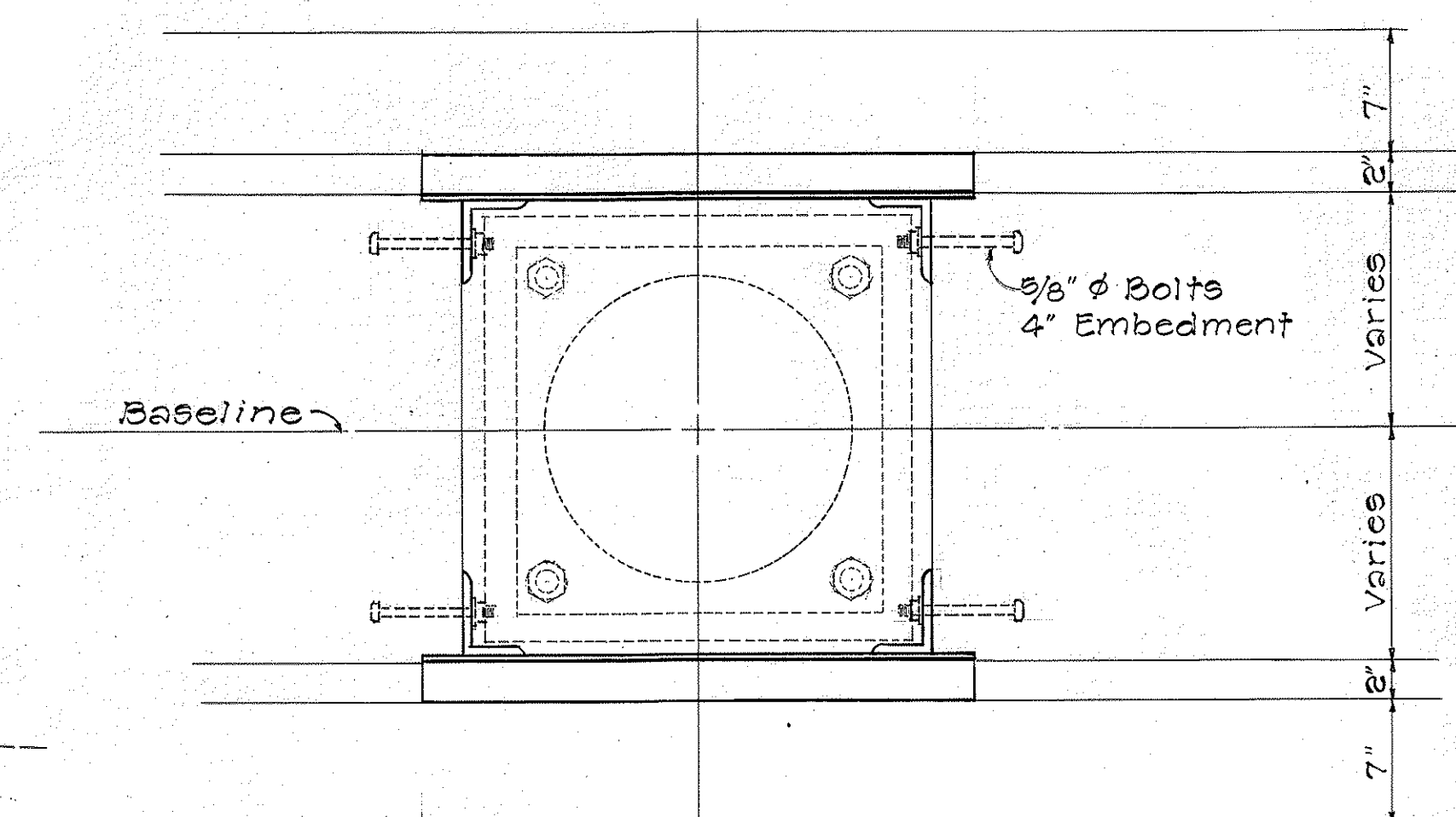
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOT SHE
HAWAII	HAW.	I-HI-1(51)	1969	6	3



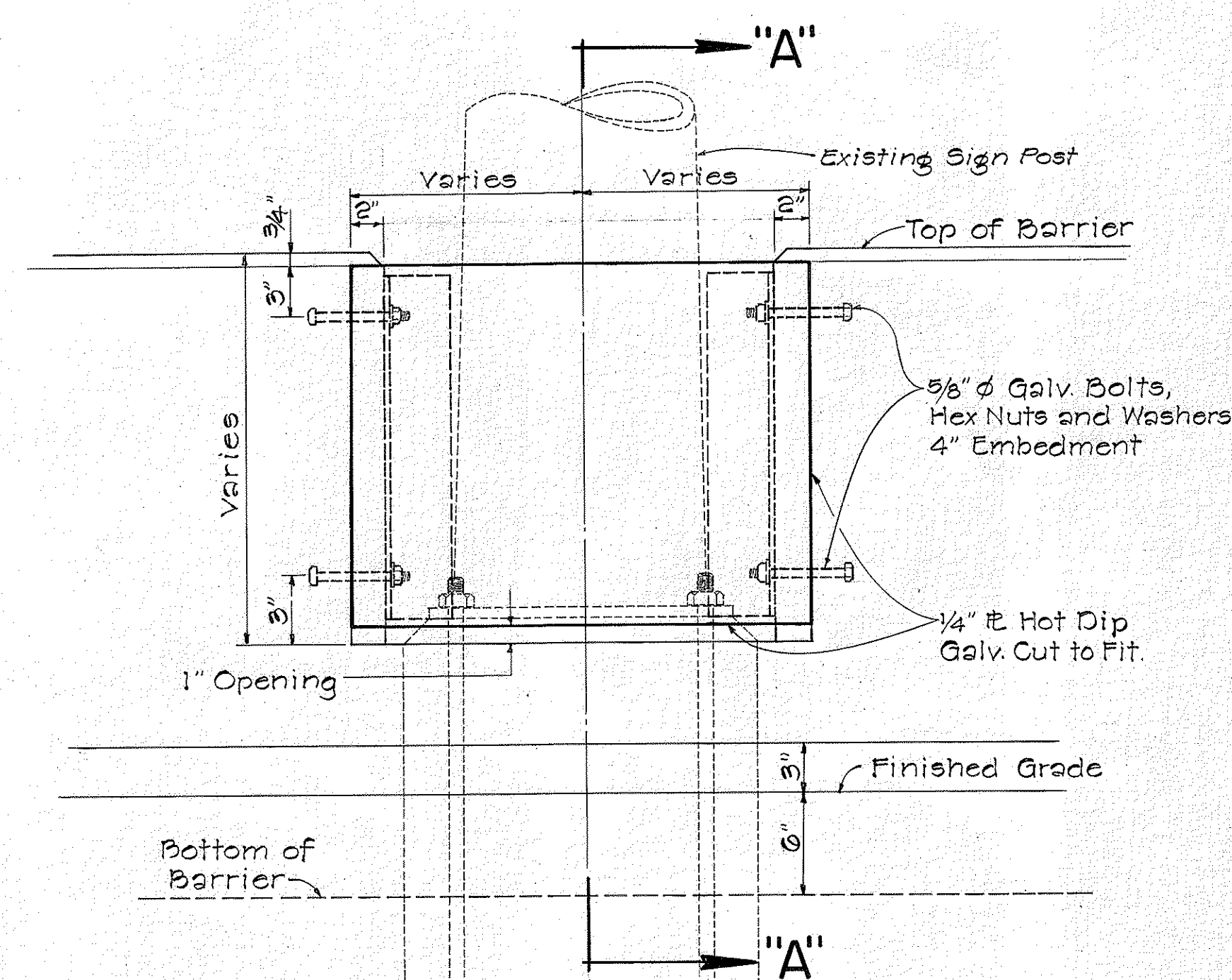
ANGLE IRON
COVER PLATE DETAIL
Scale: 3" = 1' - 0"



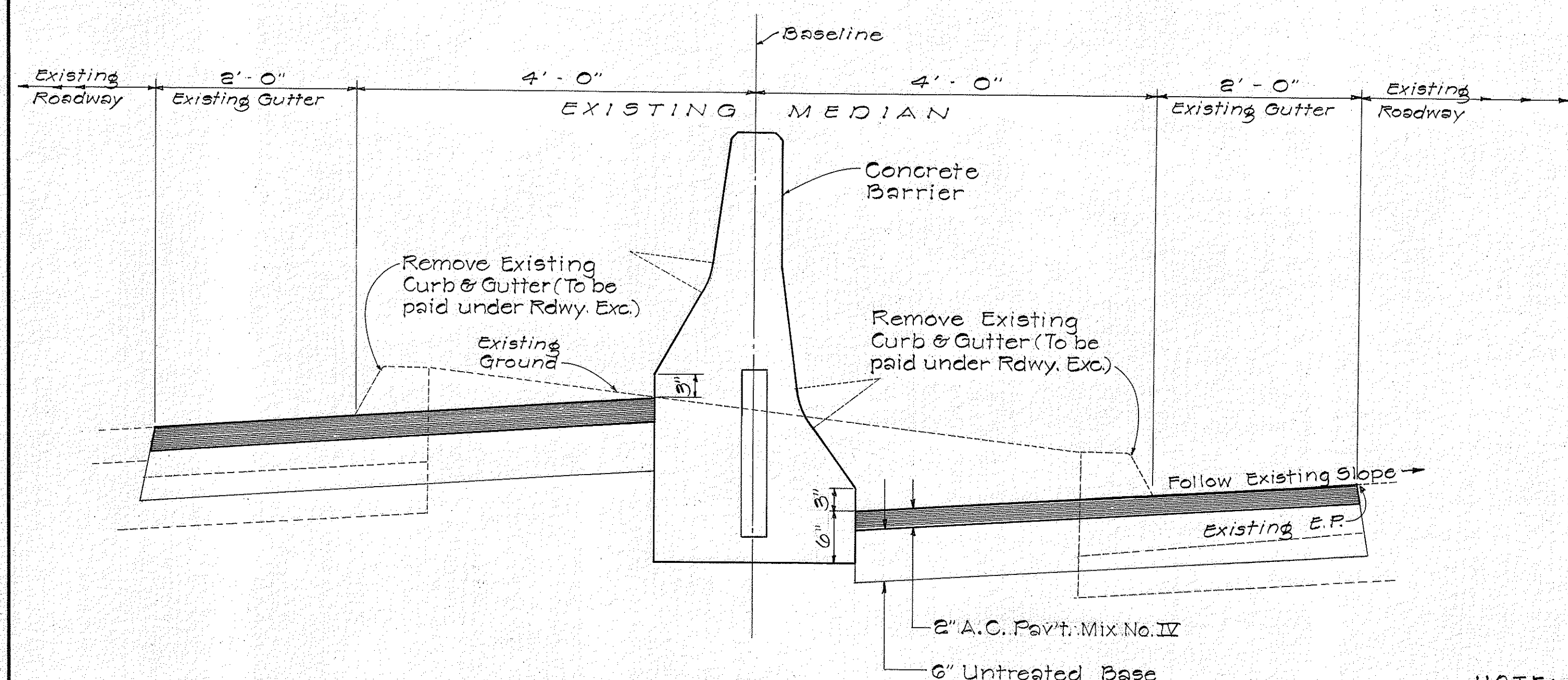
SECTION "A - A"



PLAN

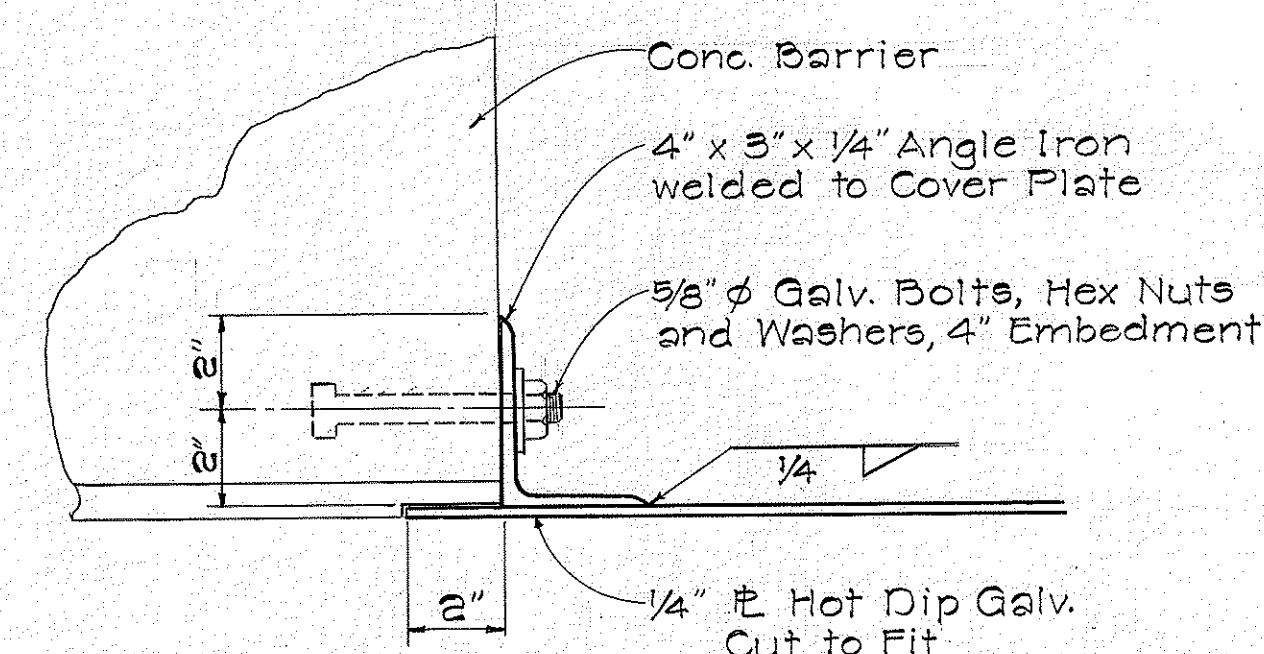


ELEVATION



TYPICAL SECTION OF PAVEMENT DESIGN

Scale: 1" = 1' - 0"



COVER PLATE ANCHOR DETAIL
Scale: 3" = 1' - 0"

DETAIL OF TYPE "F" CONCRETE BARRIER
AT EXPRESSWAY SIGN POLE

NOT TO SCALE

NOTE:

1. Constructing Type "F" Concrete Barrier at existing Expressway Sign Pole bases shall consist of all work and materials necessary for constructing the Barrier as shown on the plans. Furnishing and installing the steel cover plate, angle iron, bolts, nuts, washers, and all other appurtenances necessary to complete the work shall be considered incidental to Concrete Median

- Barrier and no extra payment shall be made.
2. The length and width of the steel cover plate shall be determined in the field.
3. Refer to Concrete Barrier details for dimensions.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONCRETE BARRIER

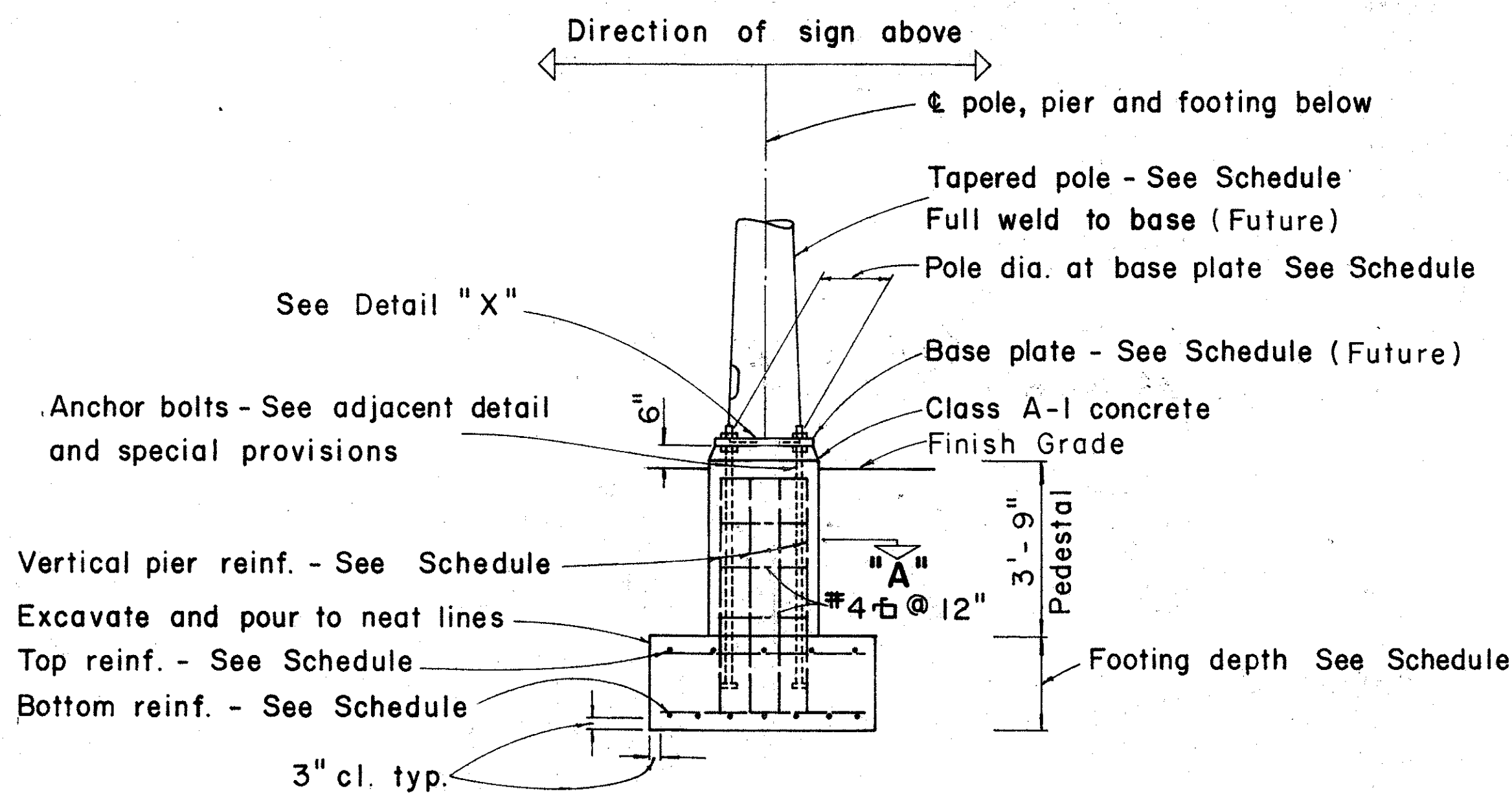
Scale As Noted

Jan. 1969

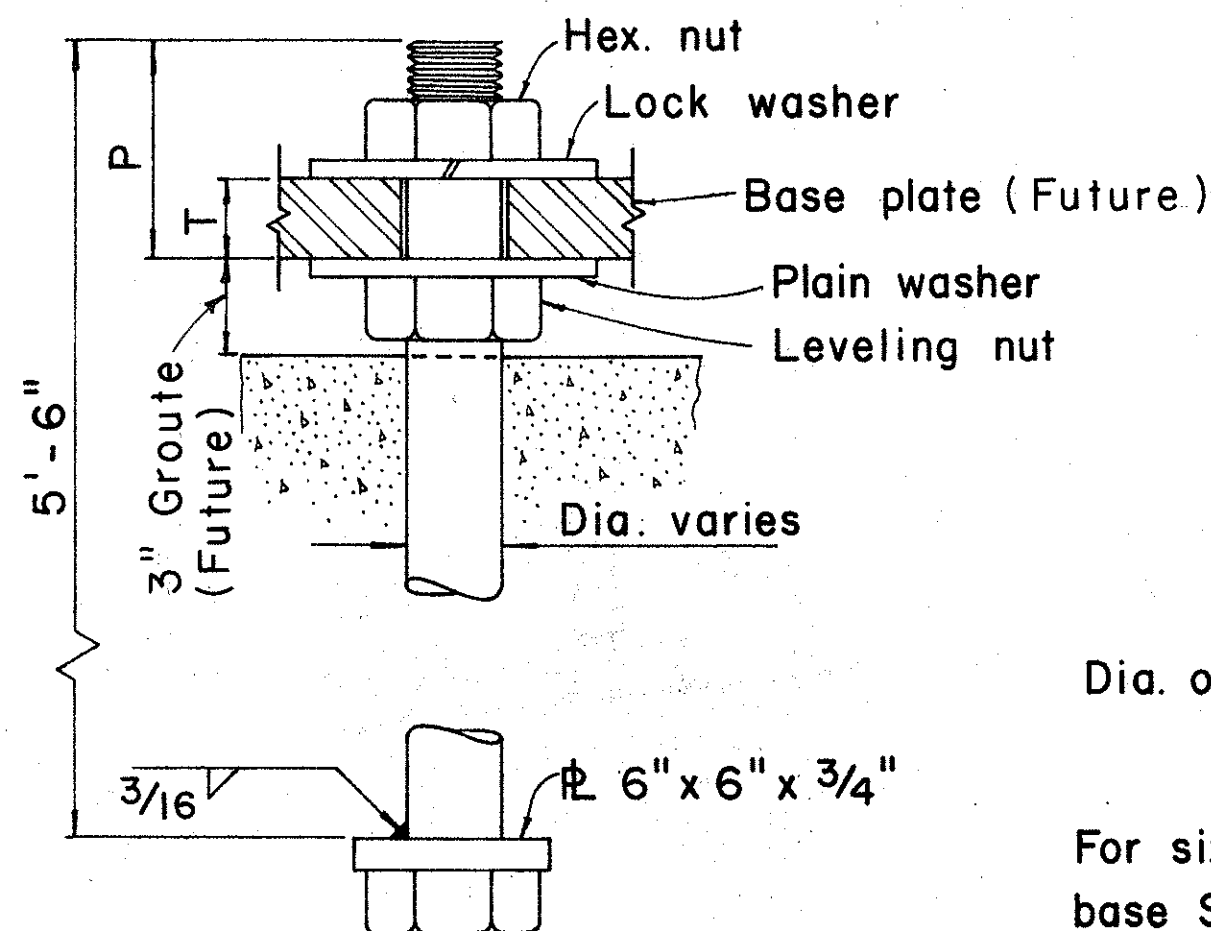
SHEET No. 4 OF 4 SHEETS

ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

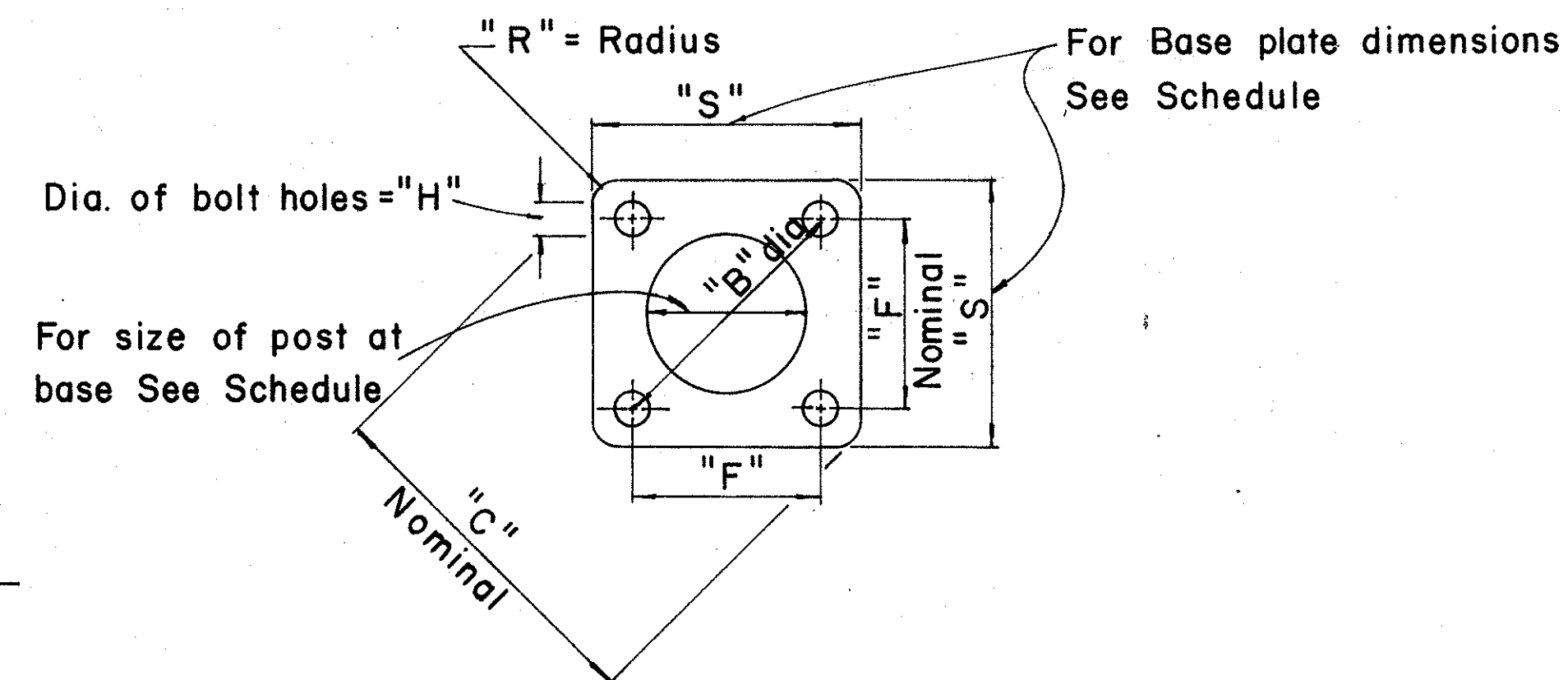
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(51)	1969	COGA	



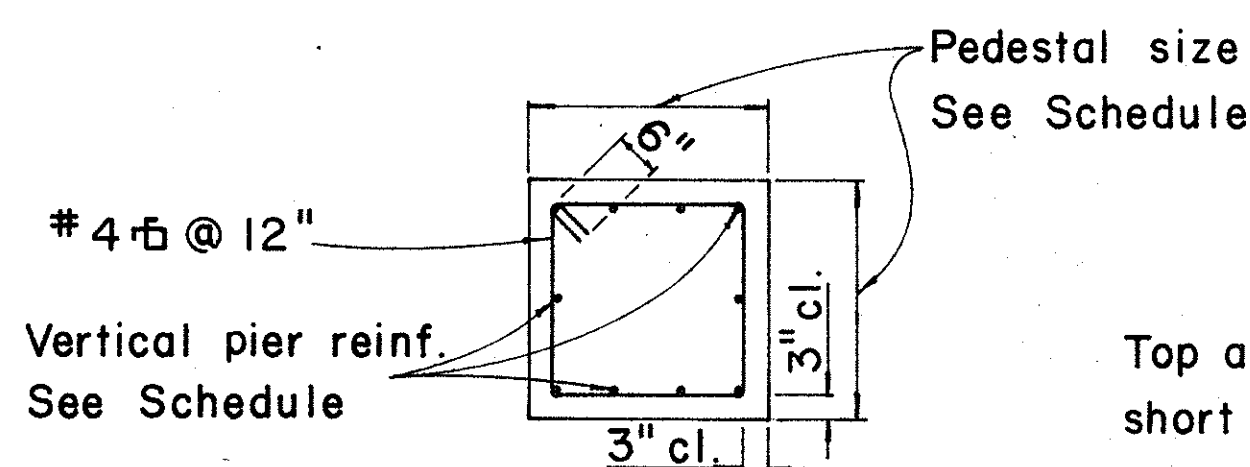
TYPICAL POLE
FOUNDATION DETAIL



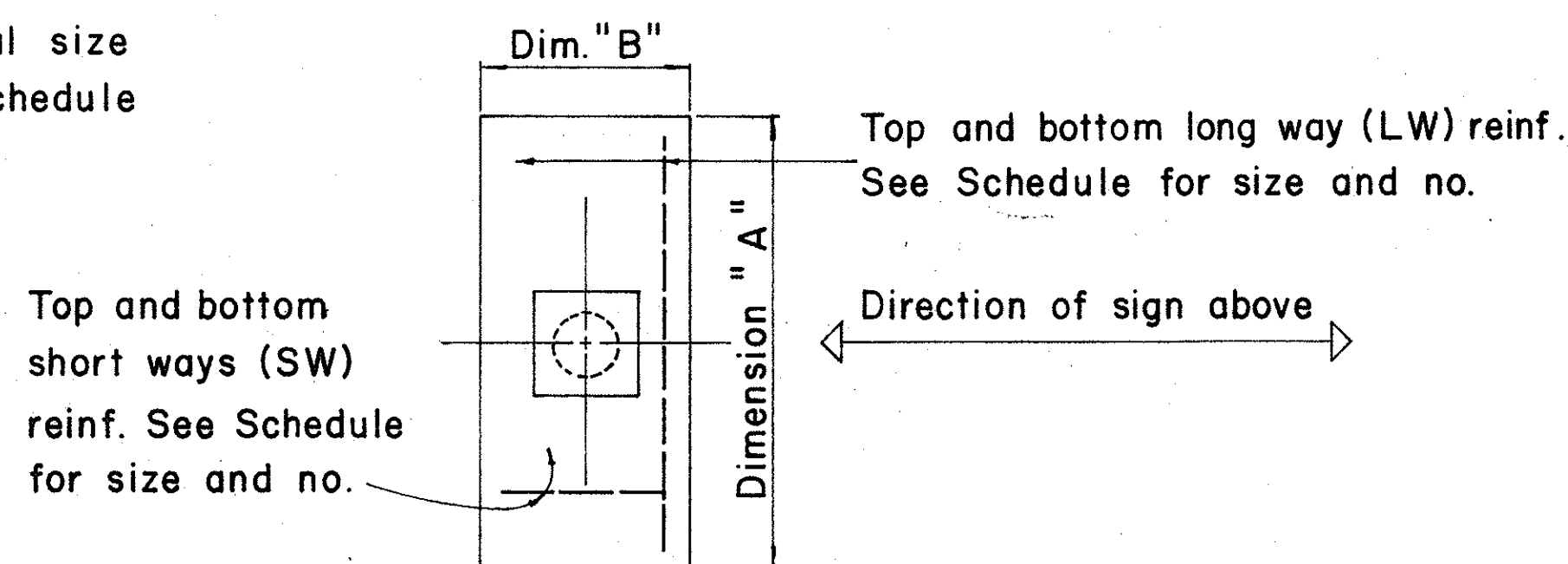
TYPICAL ANCHOR BOLT
4 REQ'D



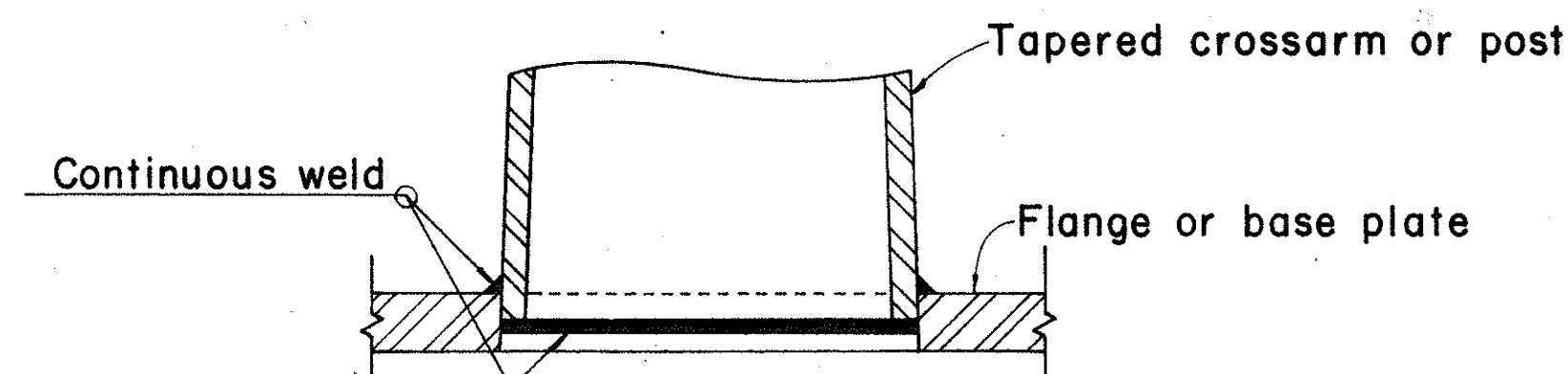
TYPICAL BASE PLATE



SECTION "A"



TYPICAL FOOTING DETAIL



DETAIL "X"

FOUNDATION SCHEDULE									
Type	Dimension		Depth	Bot Reinf.		Top Reinf.		Pedestal	
	A	B		L. W.	S. W.	L. W.	S. W.	Size	Vert. Reinf.
I	7'-0"	3'-0"	2'-0"	3-#4	8-#4	#4 @ 12" each way		1'-11"	10-#5
II	9'-0"	4'-6"	2'-0"	6-#6	10-#4	Do.		2'-6"	10-#7
III	10'-0"	5'-0"	2'-0"	5-#8	11-#4	Do.		2'-6"	10-#8
IV	12'-0"	6'-0"	2'-0"	7-#9	13-#4	Do.		2'-9"	10-#10
V	14'-0"	7'-0"	2'-0"	8-#11	19-#4	Do.		2'-9"	10-#11

BASE PLATE SCHEDULE										
18" DIA. POLE										
GA. NO.	BASE SIZES	B	C	F	H	P	R	S	T	BOLT DIA.
3-3	18"	25 1/2"	33"	18"	3 3/8"	9"	5 1/2"	26 1/2"	3"	3"

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS & SCHEDULES

NOT TO SCALE

SHEET No. OF SHEETS