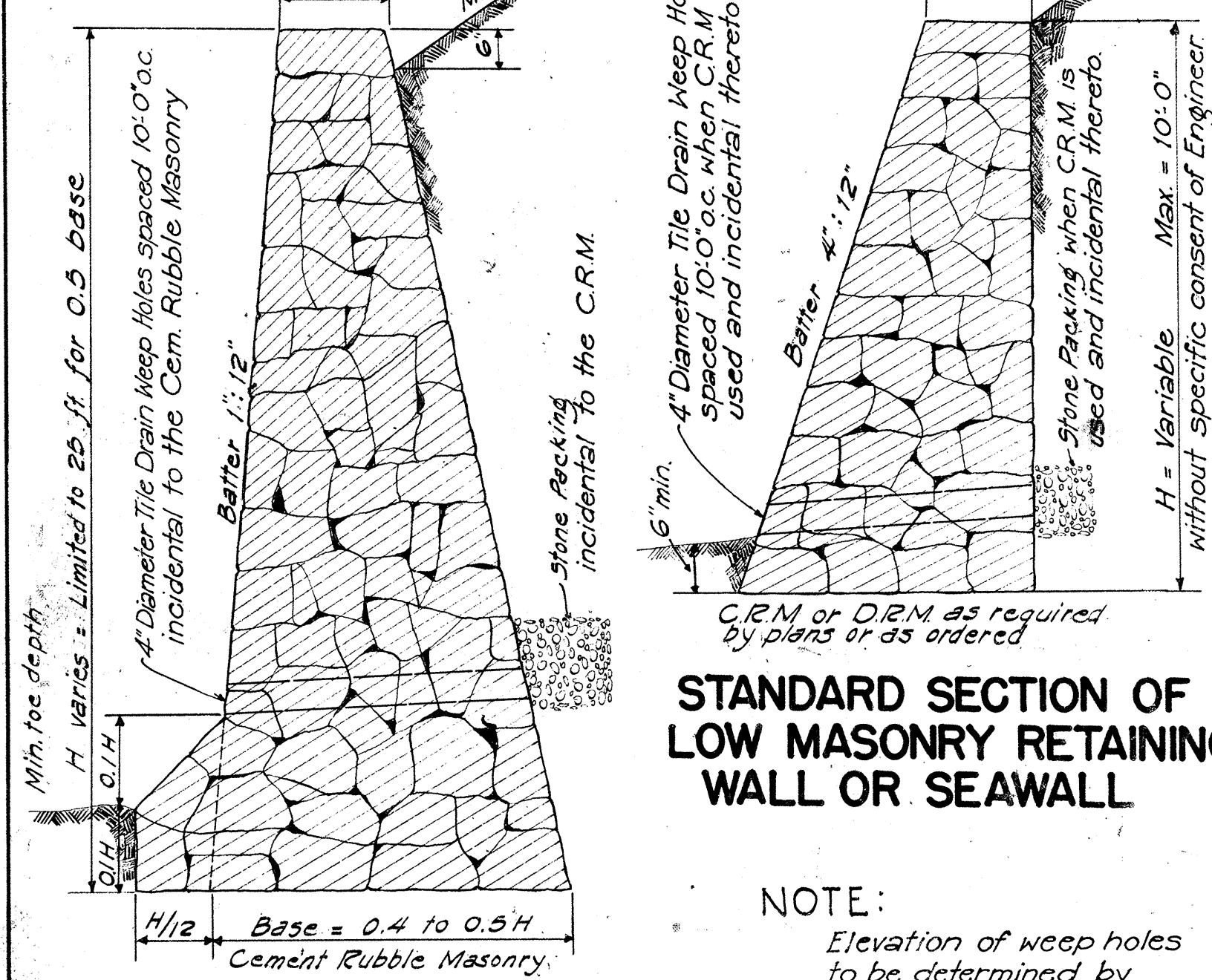


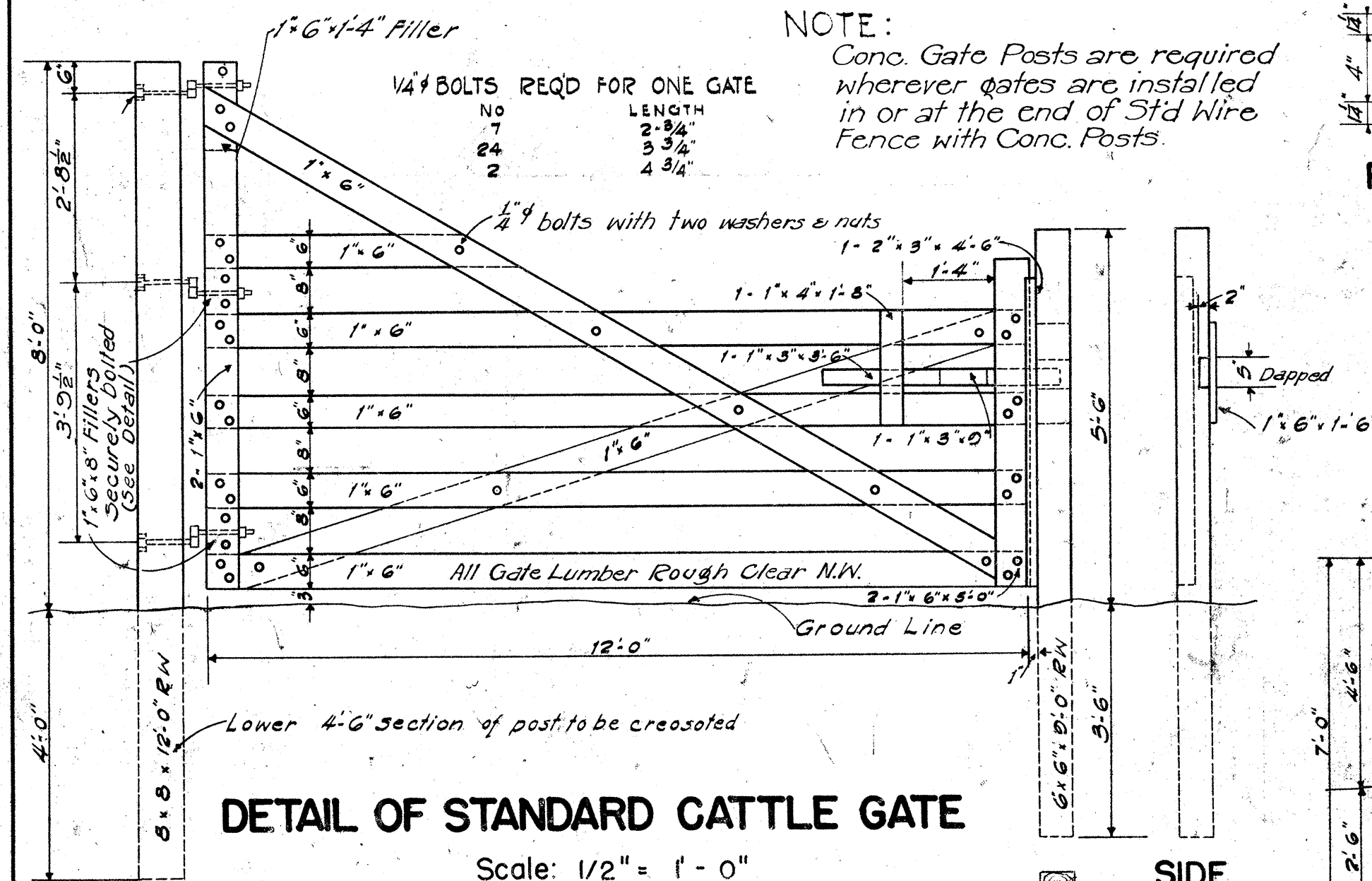
Note: TO RESIDENT ENGINEER
Consider economy of reinf. conc. for
high retaining walls which
do not originate on plan lay-
out.



STANDARD SECTION OF LOW MASONRY RETAINING WALL OR SEAWALL

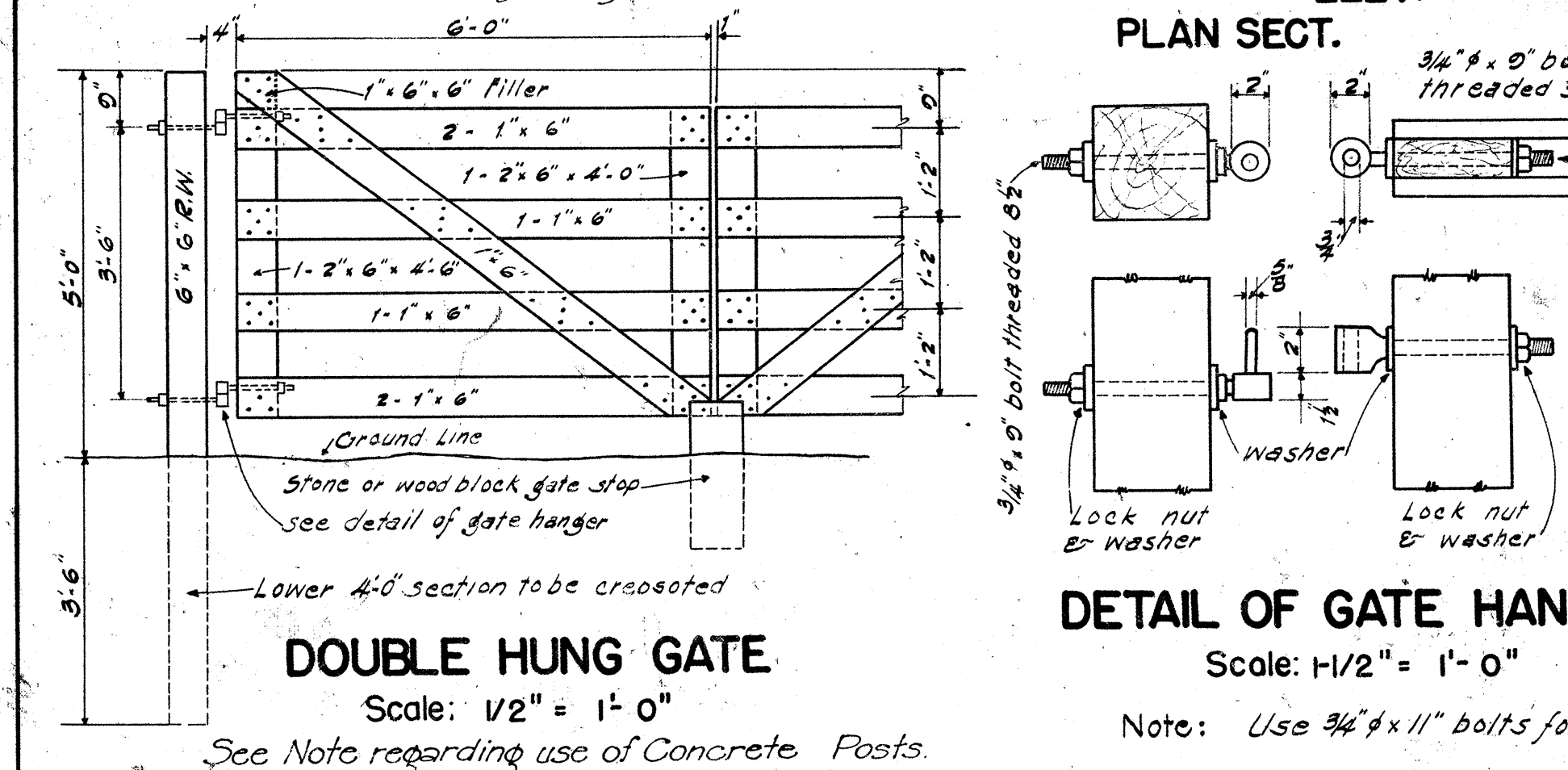
NOTE:
Elevation of weep holes to be determined by Resident Engineer. Holes to be placed as close to the existing ground line as local conditions permit.

STANDARD SECTION OF HIGH CEMENT RUBBLE MASONRY RETAINING WALL OR SEAWALL



DETAIL OF STANDARD CATTLE GATE

Scale: 1/2" = 1'-0"
See Note regarding use of Concrete Posts.



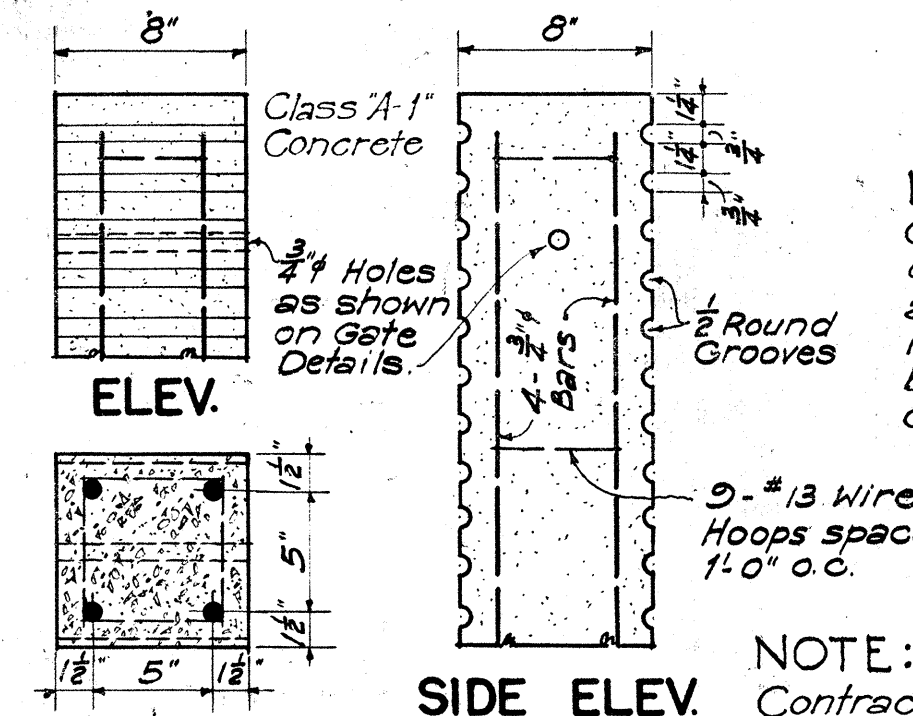
DOUBLE HUNG GATE

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

See Note regarding use of Concrete Posts.

DATA	STANDARD MASONRY DROP INTAKE	Where variable Equals
0'	D	L = D + 6'
22"	18"	2'-0"
20"	24"	2'-6"
35"	30"	3'-0"
42"	36"	3'-6"

NOTE: Dimension "X" is assumed as 2'-4" in figuring the above quantities.

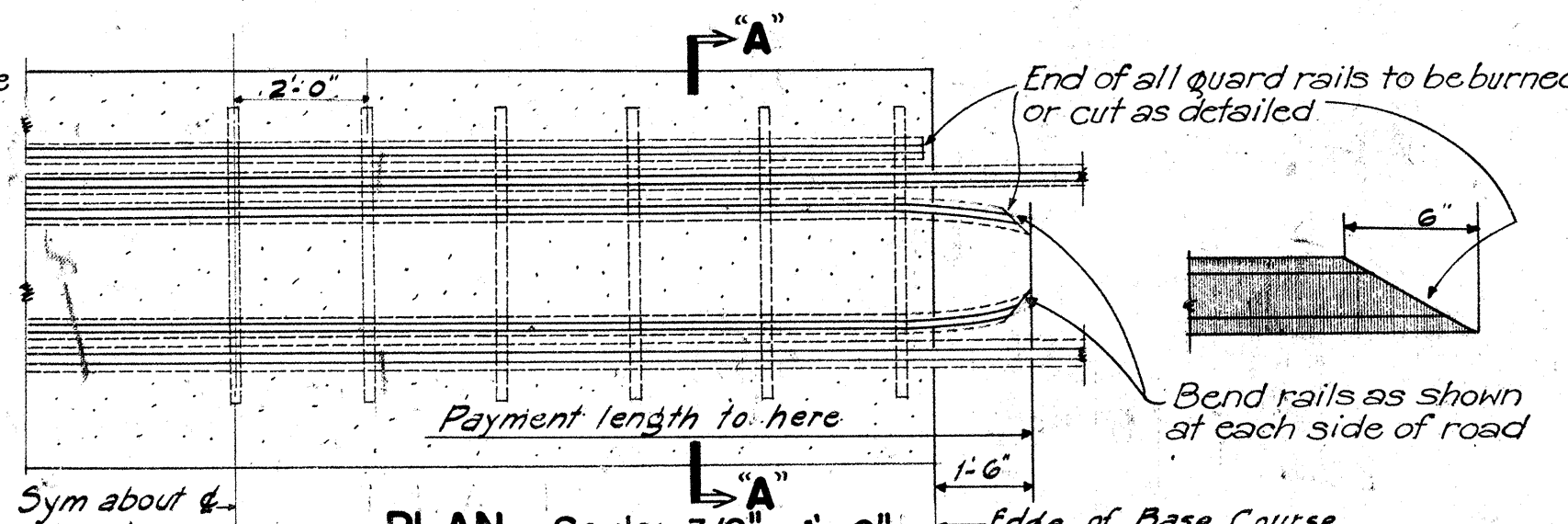


STANDARD MASONRY DROP INTAKE

STANDARD MASONRY DROP INTAKE

Scale: 3/8" = 1'-0"

NOTE:
Guard rails are to be of the same shape and weight as Main rails. Details may be varied to suit conditions in field.

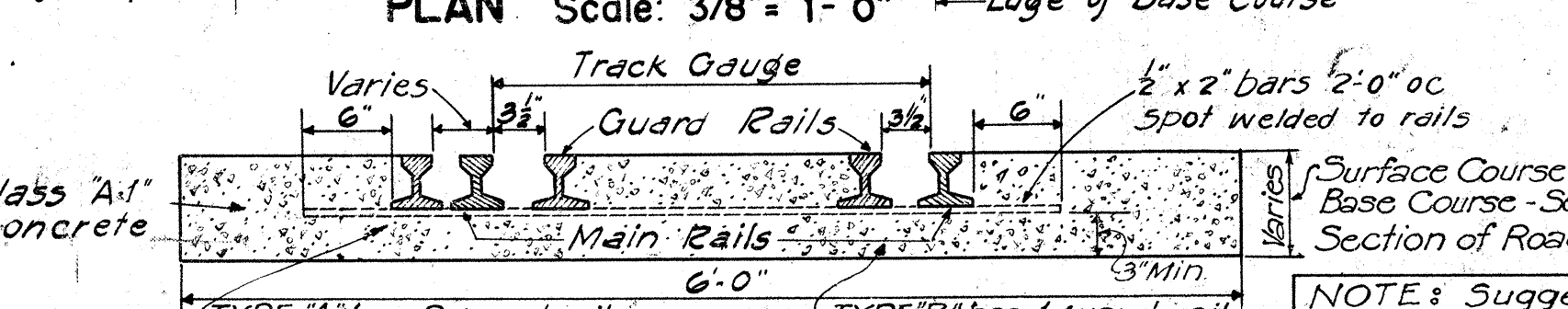


STANDARD MASONRY HEADWALL

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

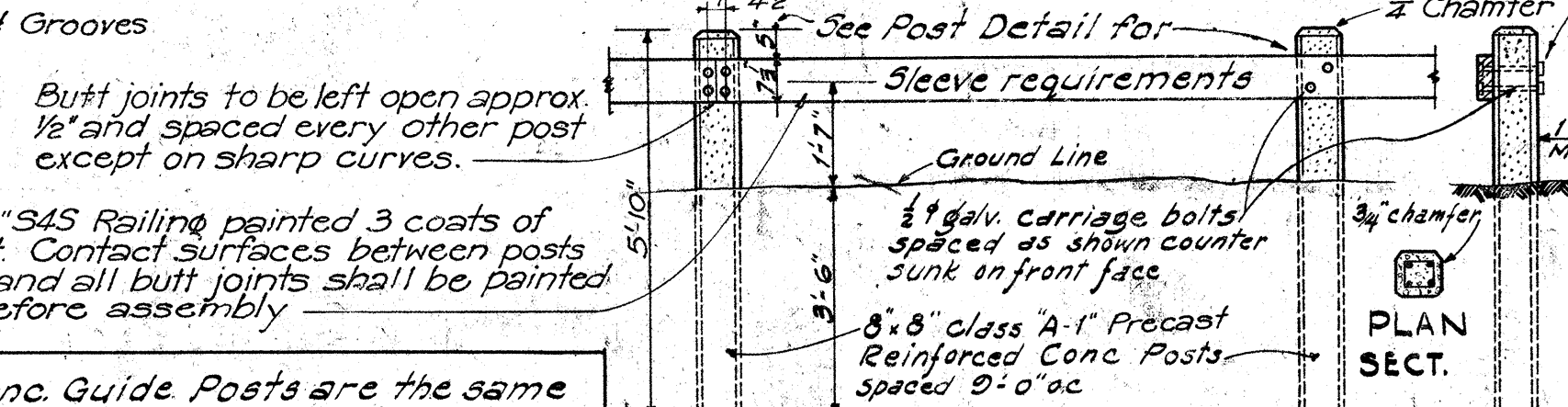
Cast-in-Place	Precast	Data-Standard Rubble Masonry H.W.
Cu. Yds.	Cu. Yds.	D H B L Cx. one H.W.
0.85	0.95	18" 3'-6" 1'-0" 6'-0" 0.93
1.23	1.45	24" 4'-0" 2'-0" 7'-6" 1.41
1.83	2.06	30" 4'-0" 2'-3" 9'-0" 2.00
2.42	2.84	36" 5'-0" 2'-6" 10'-6" 2.72

NOTE:
Volume for one head wall is for corrugated pipe culvert



INDUSTRIAL TRACK CROSSING

NOTE: Use Type "A" if neither Type "A" or "B" is specified.

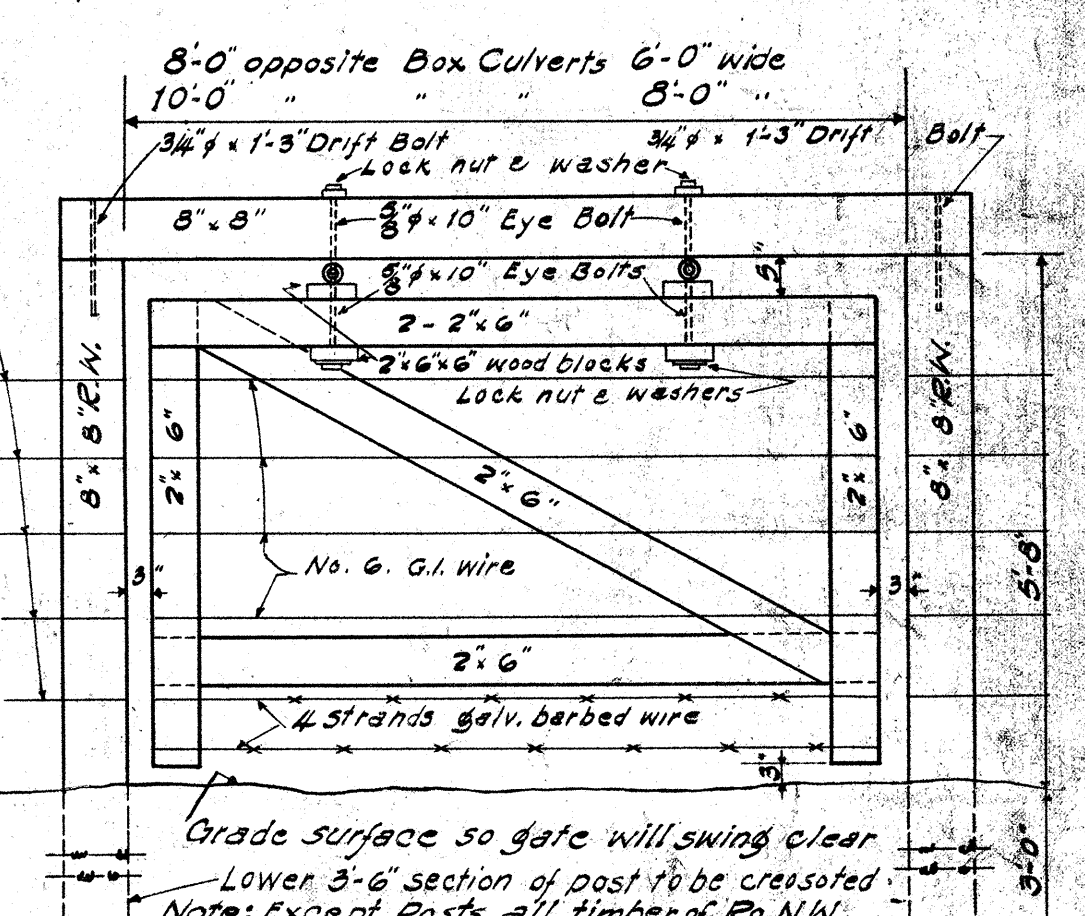


STANDARD WOOD GUARD RAIL

Scale: 3/8" = 1'-0"

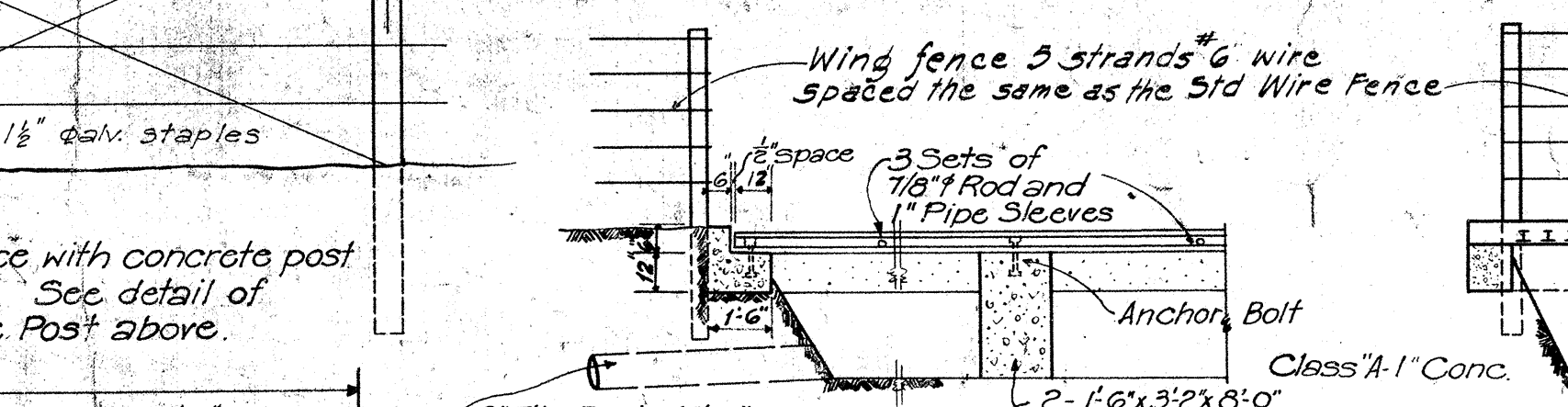


DETAIL OF STANDARD OUTLET DITCH



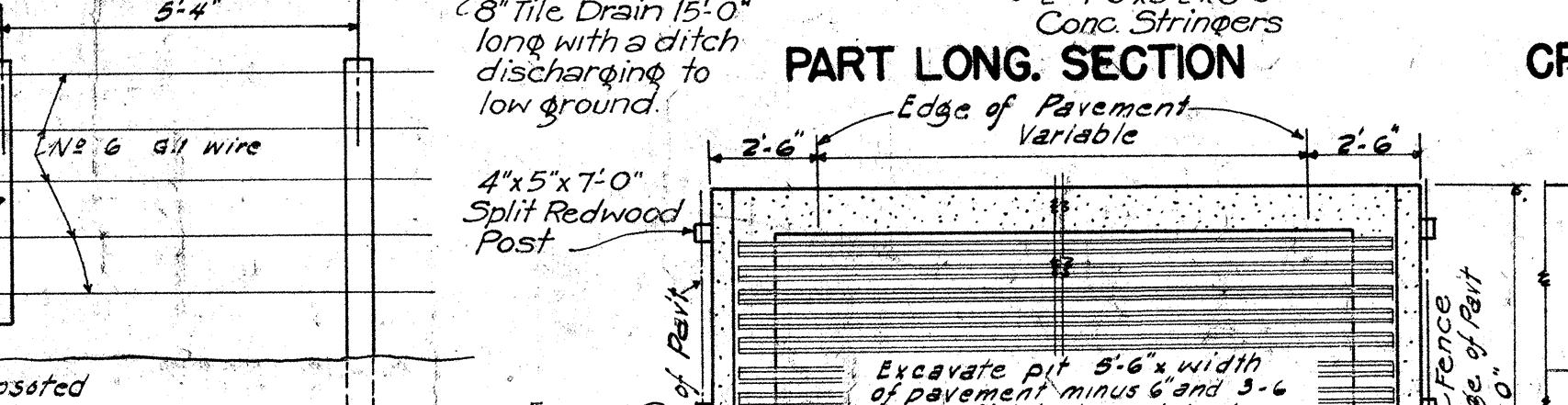
ELEVATION

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

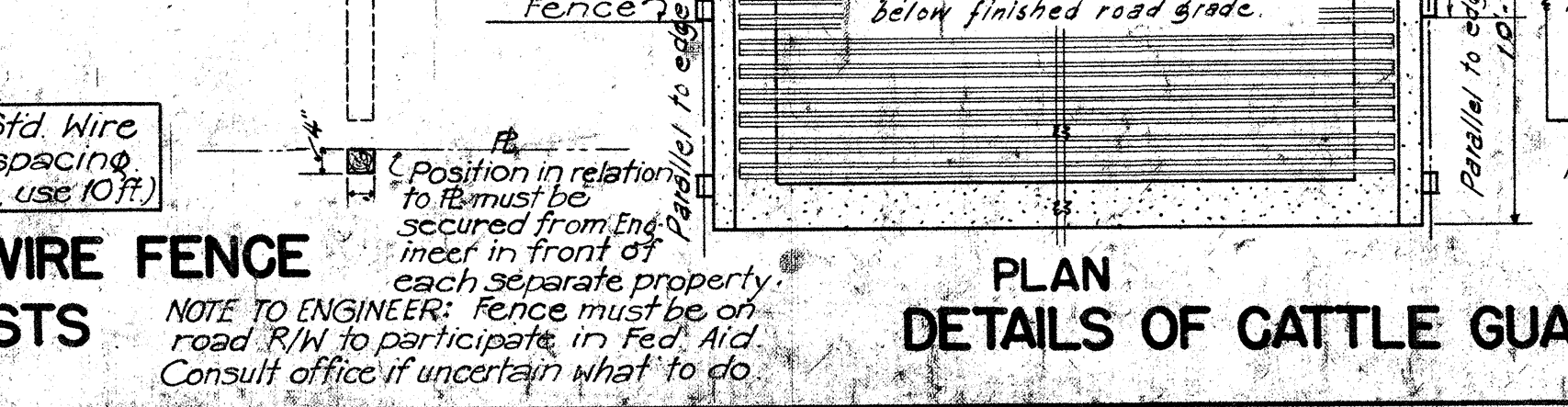


DET. OF CONC. POST

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



CROSS SECTION



PLAN DETAILS OF CATTLE GUARD

DETAILS OF STANDARD WIRE FENCE WITH WOODEN POSTS

Scale: 3/8" = 1'-0"

NOTE: This Project requires Std. Wire Fence with 10 ft post spacing. (If spacing is not indicated above, use 10 ft.)

NOTE TO ENGINEER: Fence must be on road R/W to participate in Fed. Aid. Consult office if uncertain what to do.

LAYOUT SHOWING HURDLE PLACED BELOW CULVERT IN A POSITION WHICH WILL BE CATTLE TIGHT

DETAILS OF HURDLE

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

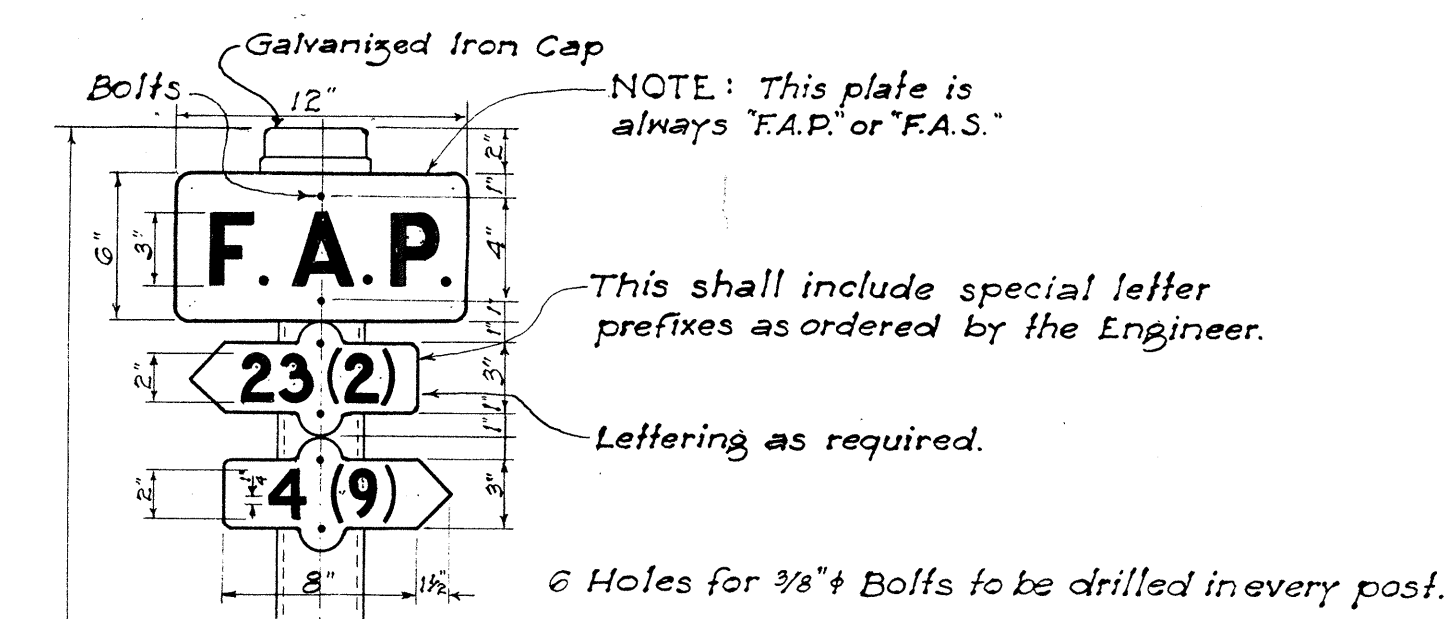
SCALES AS NOTED Apr. 15, 1948

APPROVED: *[Signature]*

Territorial Highway Engineer

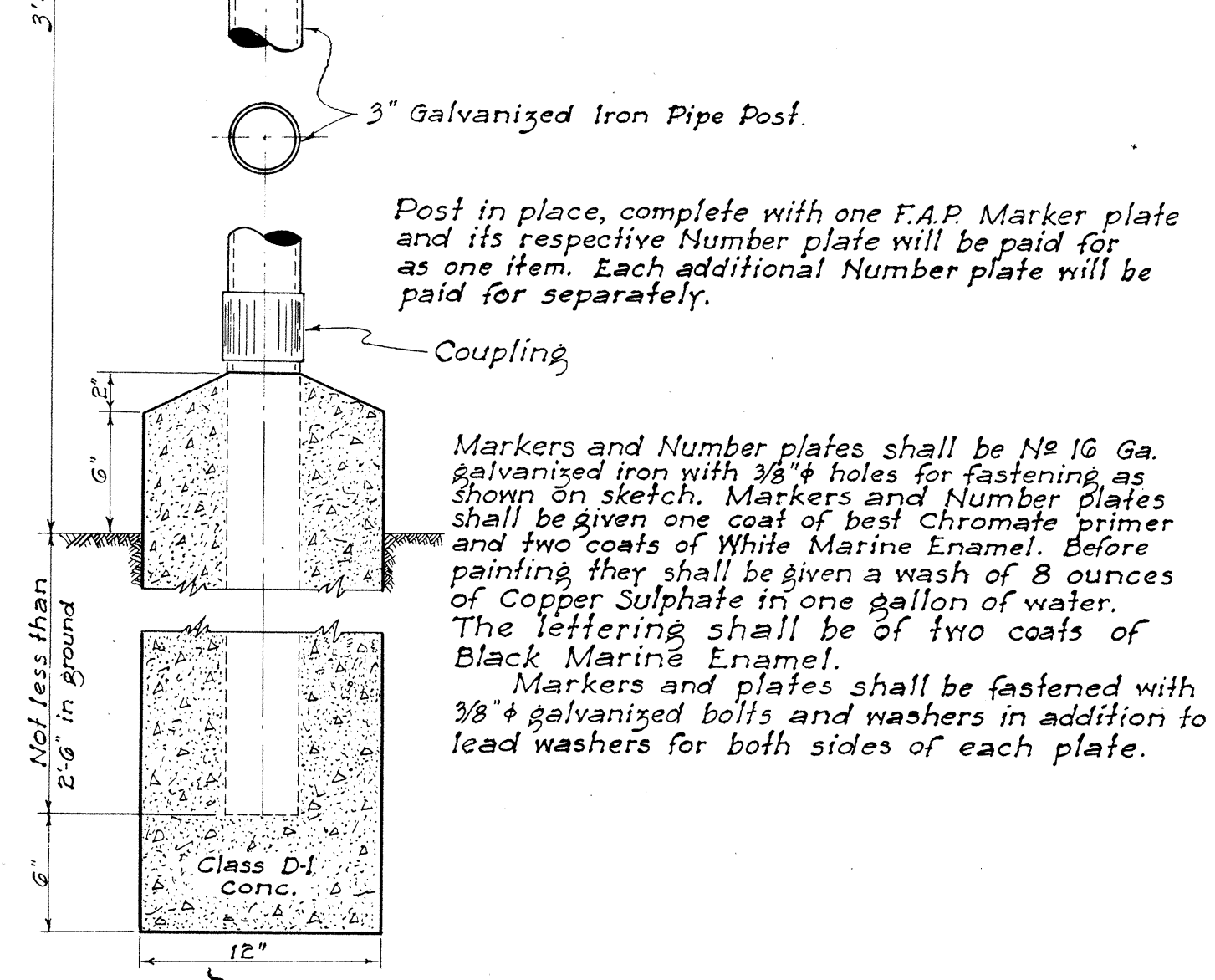
SHEET NO. 1 OF 4 SHEETS

5477.10

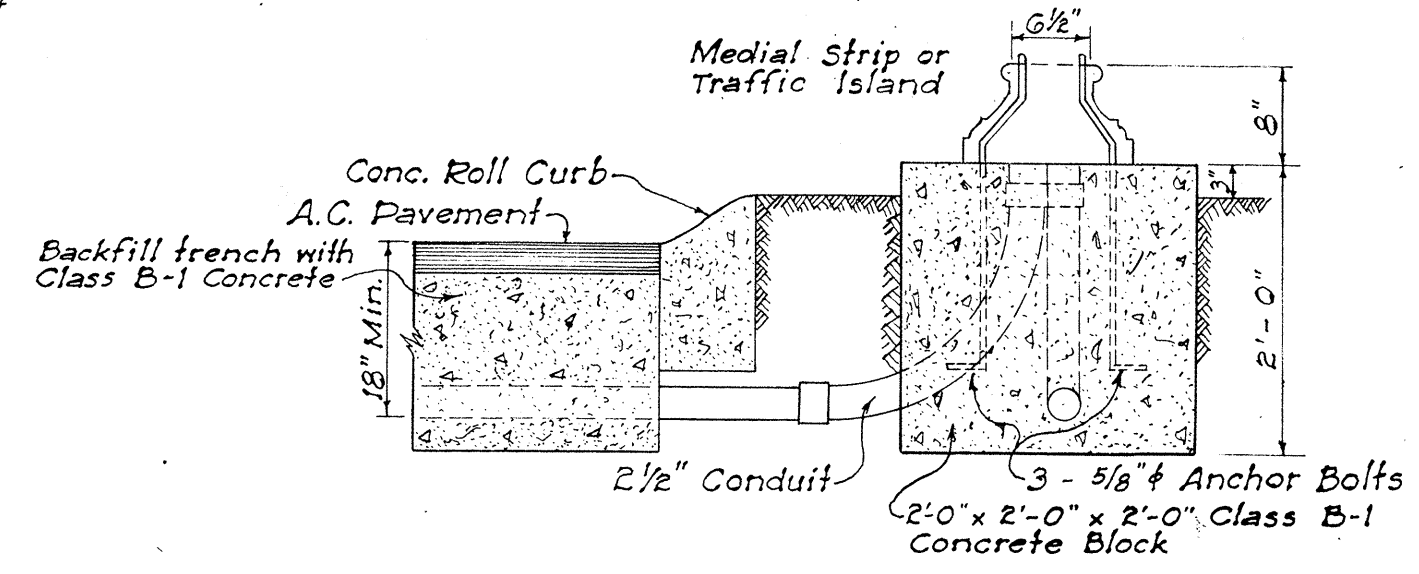
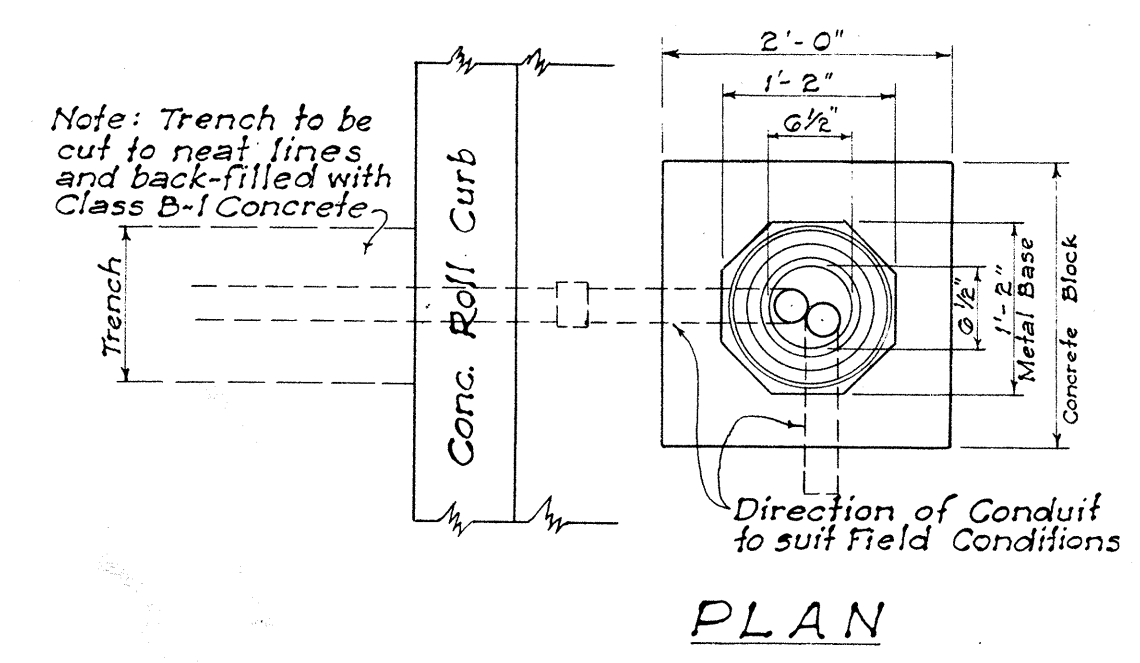


ARRANGEMENT OF MARKERS

One F.A.P. Marker and one plate shall be placed at the beginning and end of each isolated F.A. Project. Where two F.A. Projects adjoin, a single marker and two Number plates shall be placed, each Number plate pointing in the direction of the project to which it refers.

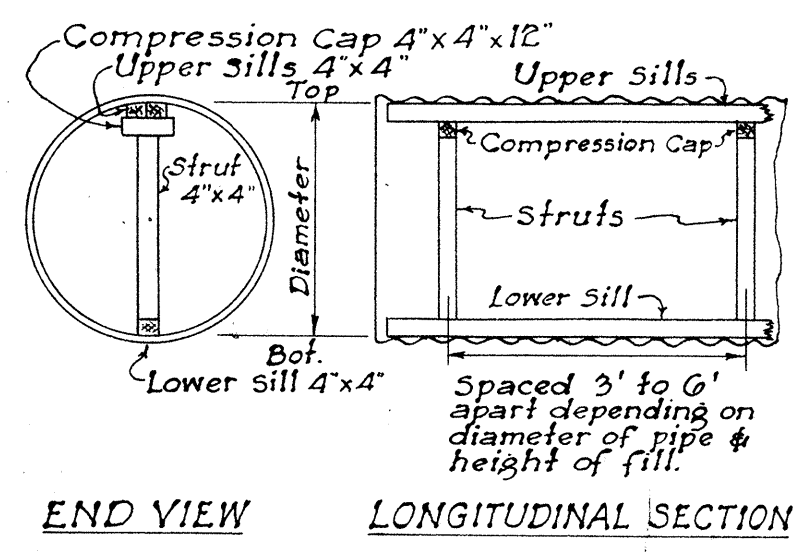


FEDERAL AID MARKER
Scale: 1/2" = 1'-0"



NOTE: Unless otherwise specified, all concrete for base for Traffic Standards, Pull Boxes, Concrete Jackets for Transite Ducts shall be Class B-1 Concrete.

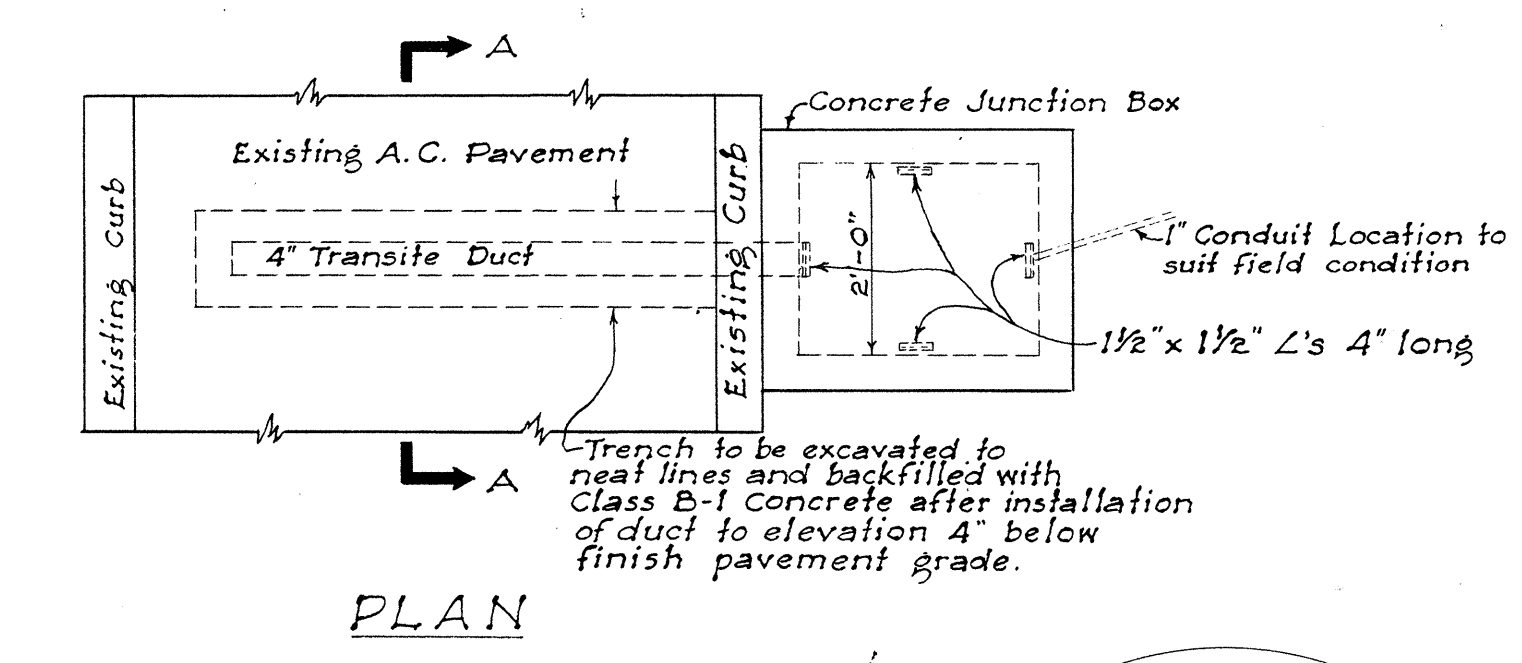
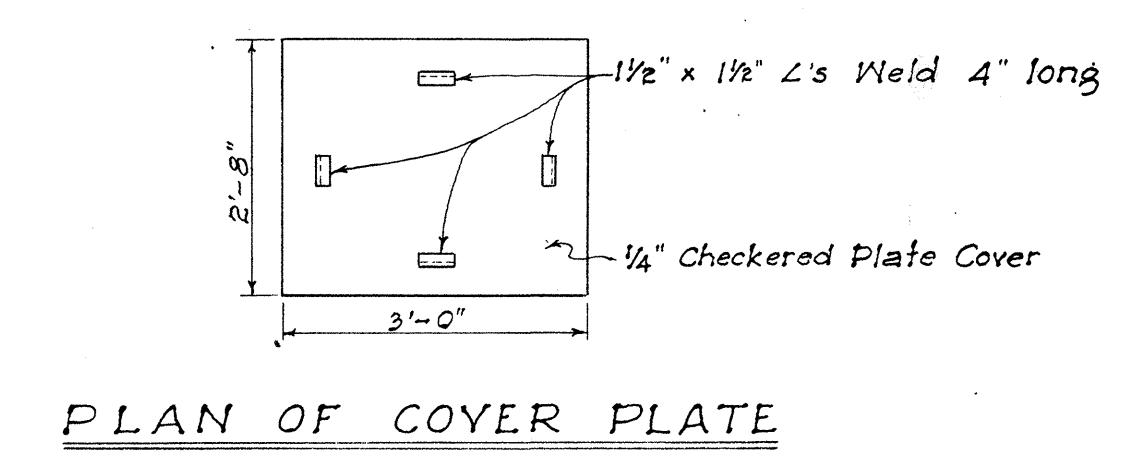
DETAIL OF BASE FOR TRAFFIC STANDARD AND DISPATCHER PEDESTAL



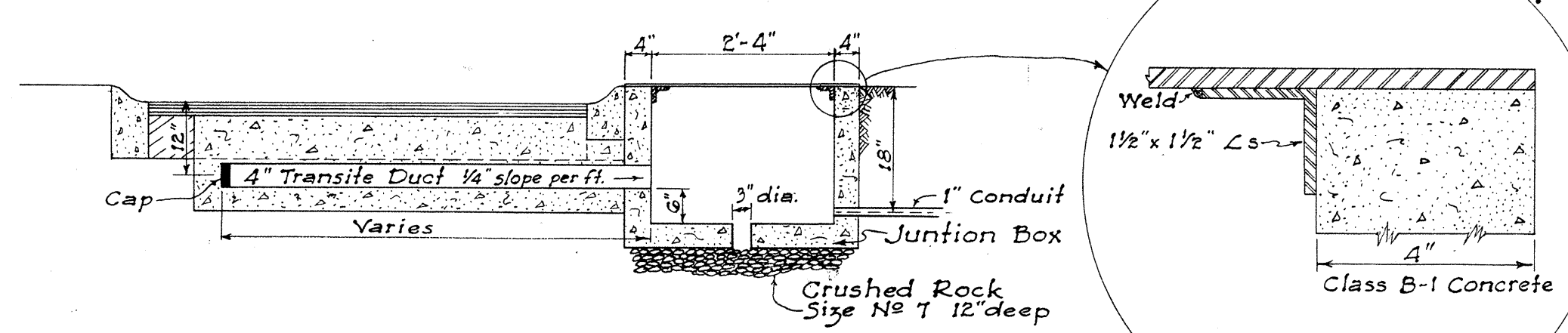
STRUTTING DIAGRAM & TABLE FOR CORRUGATED METAL PIPE CULVERT

Diameter of Pipe in inches	Length of Struts in inches	Spacing of Struts in ft. for Various Heights				
		FILL 1' to 5'	FILL 5' to 10'	FILL 10' to 20'	FILL 20' to 30'	FILL Over 30'
48	36 3/8	6	6	6	6	4
54	44 3/4	6	6	6	6	4
60	51 1/4	6	6	6	6	4
66	57 1/2	6	6	6	6	4
72	63 3/8	6	6	6	6	3.5
78	69 3/8	6	6	6	4.5	3.5
84	76 1/4	6	6	6	4	3

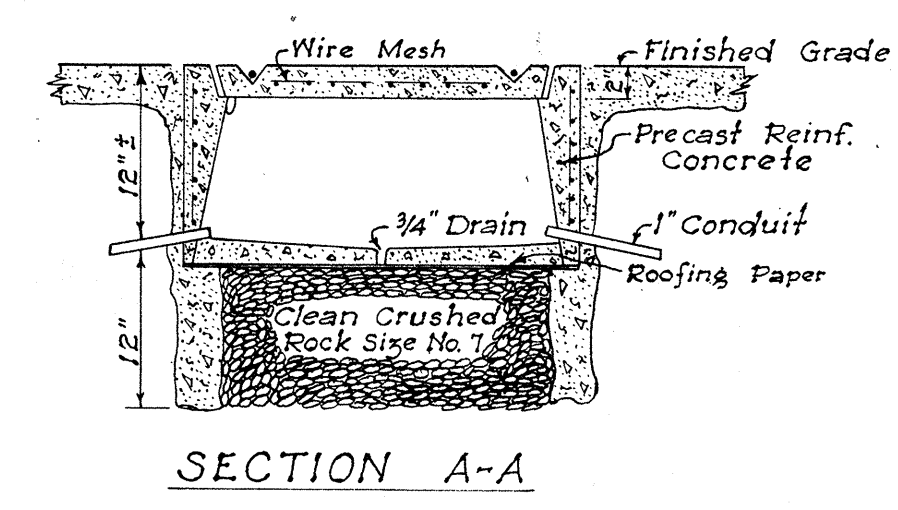
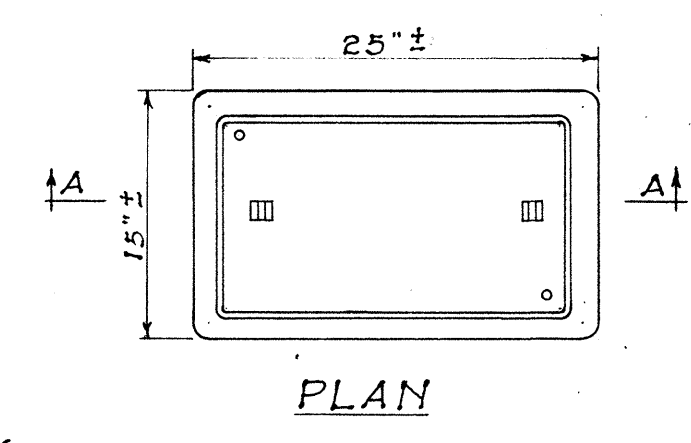
NOTE: Length of struts are based on 4" x 4" timbers which is the minimum size recommended. If larger sills or compression caps are used, length of struts should be changed accordingly.



SECTION "A-A"

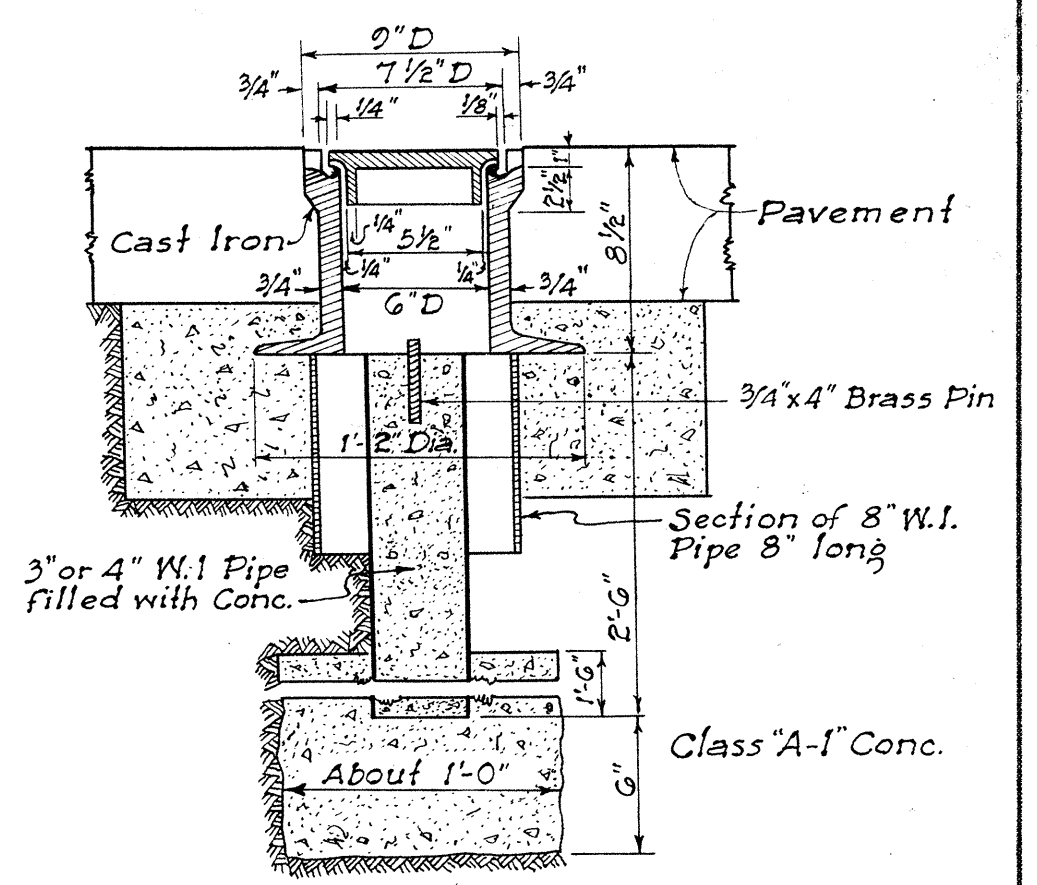


TYPICAL ROAD SECTION SHOWING TRAFFIC DETECTOR JUNCTION BOX AND DUCT

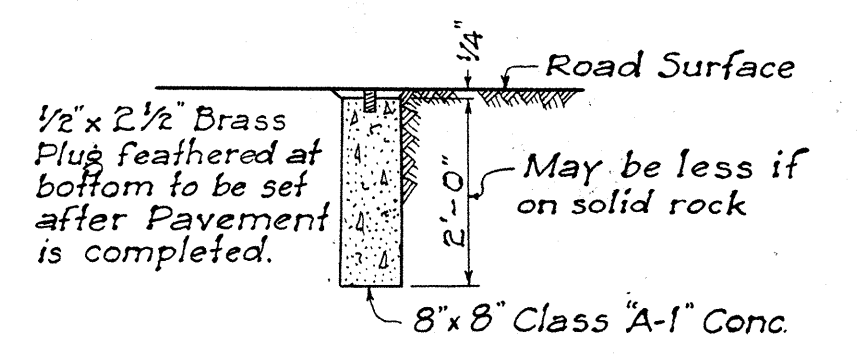


DETAIL OF PULL BOX
Scale: 1" = 1'-0"

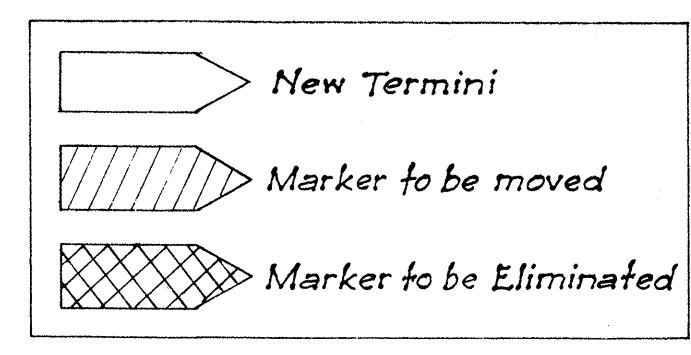
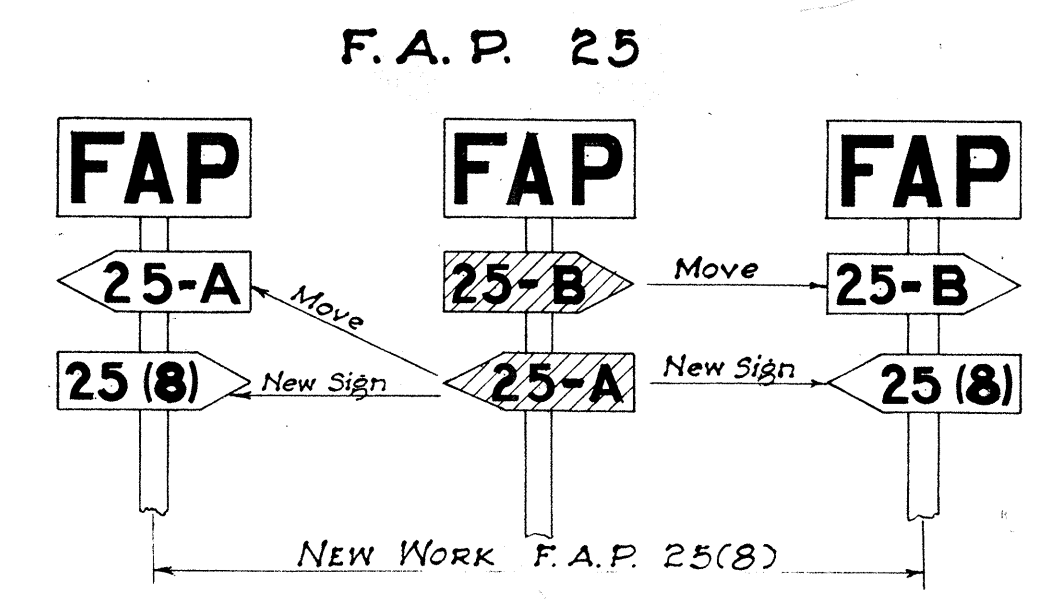
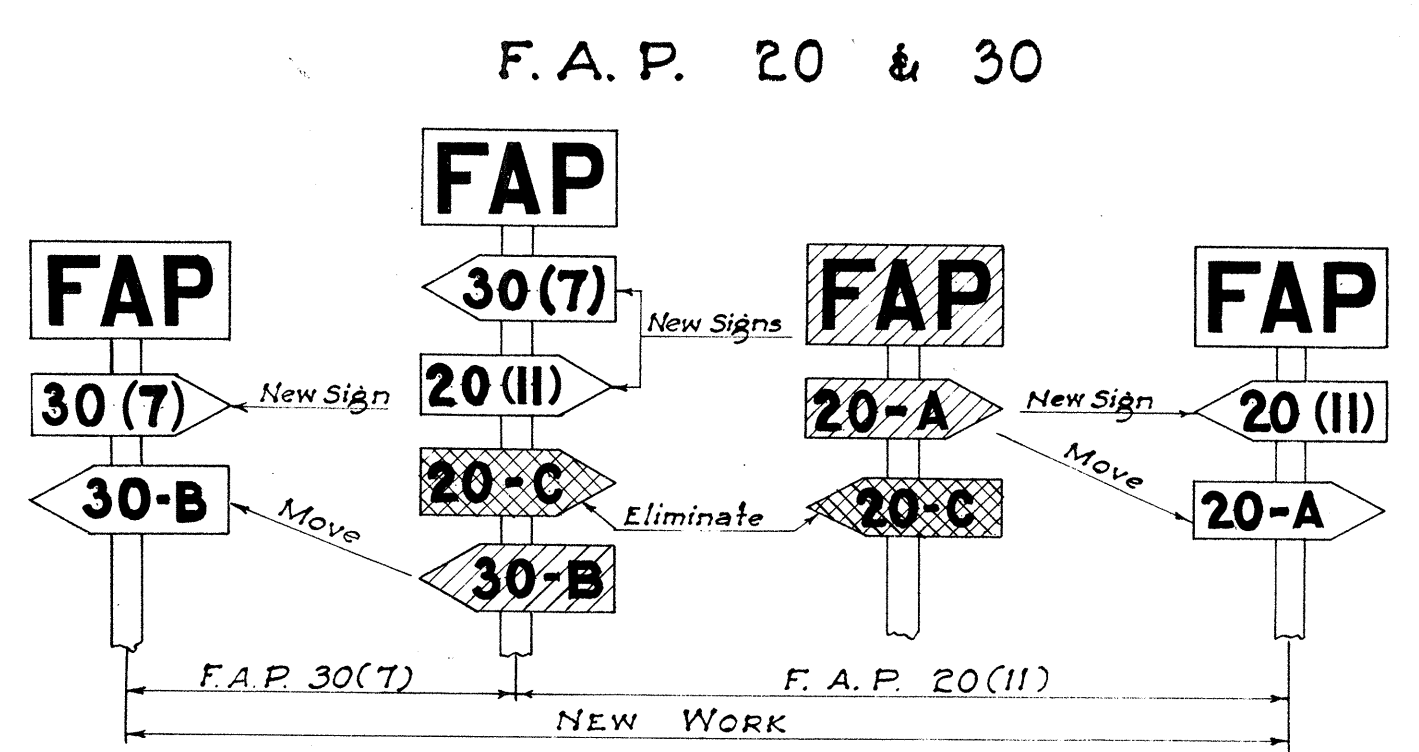
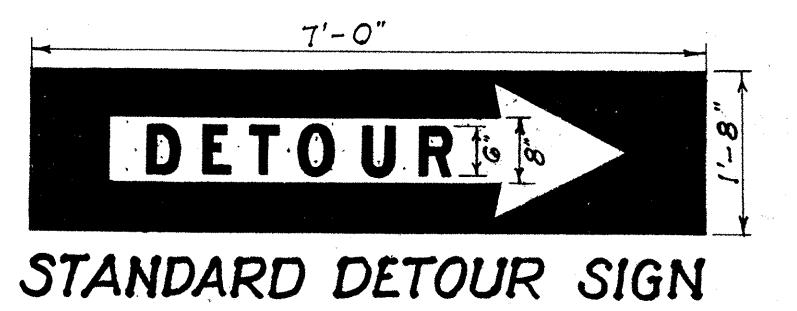
PLAN OF TOP



STANDARD C&C STREET SURVEY MONUMENT



CENTER LINE MONUMENT
Scale: 1/2" = 1'-0"



NOTE: Federal Aid Markers should be placed at the termini of suffix designated sections. Intermediate letter designated markers of adjacent sections located within the limits of new improvements should be moved to the termini of the new work. The same procedure would be followed on each successive improvement until all markers for letter designated sections are eventually eliminated.

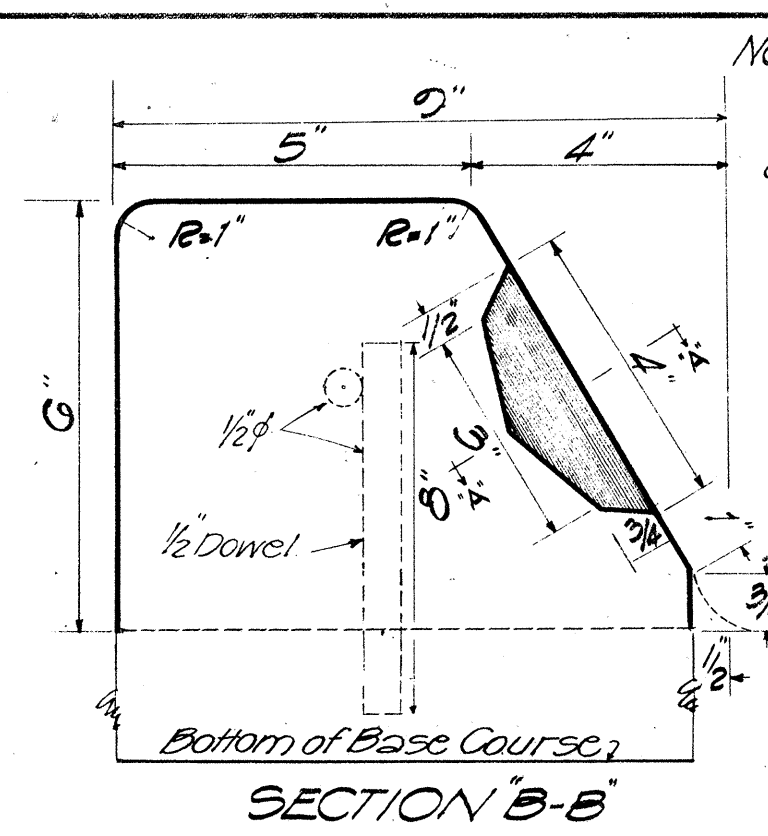
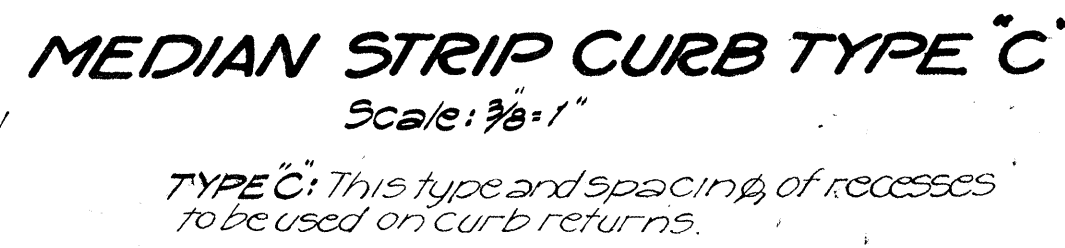
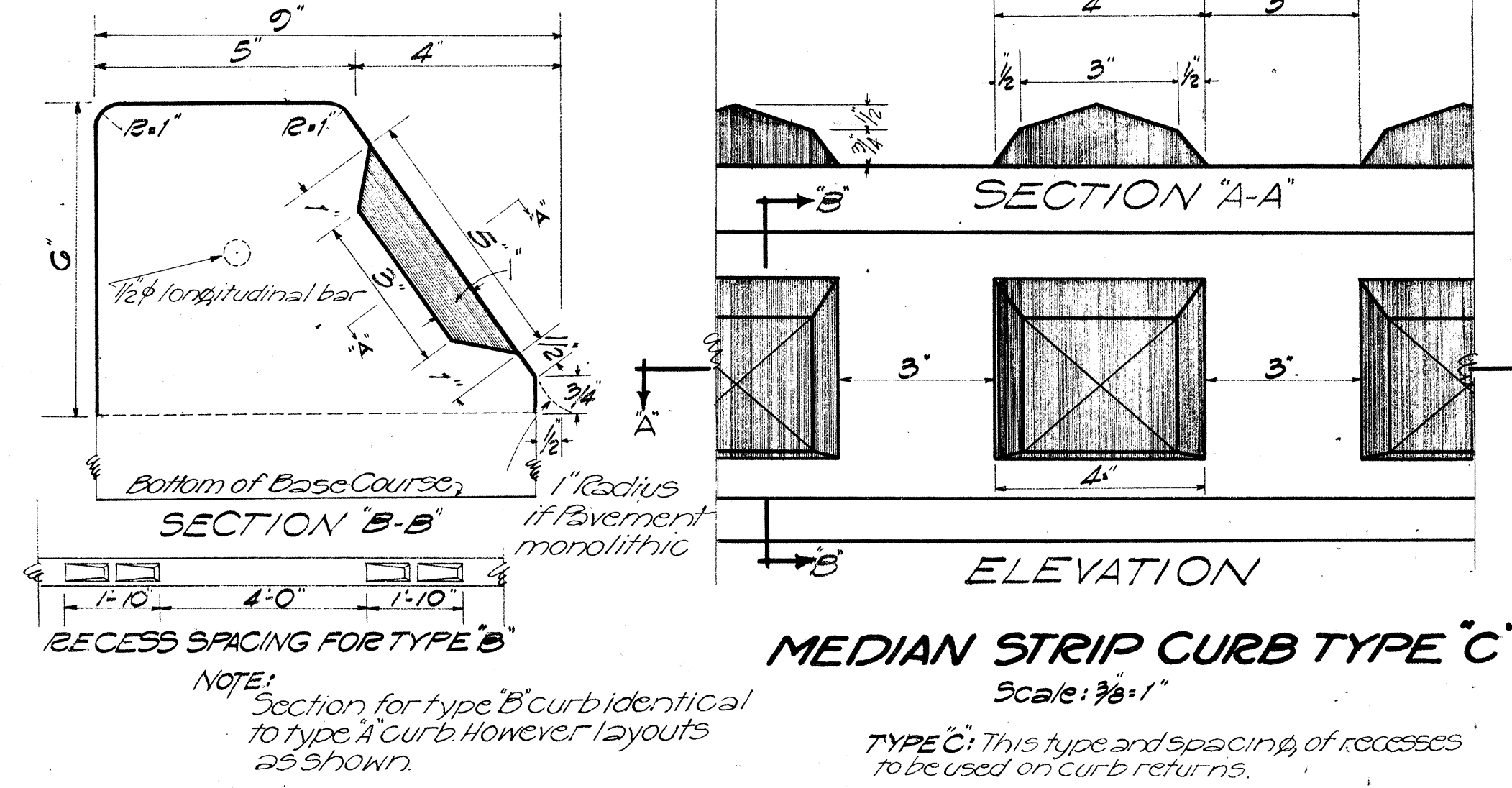
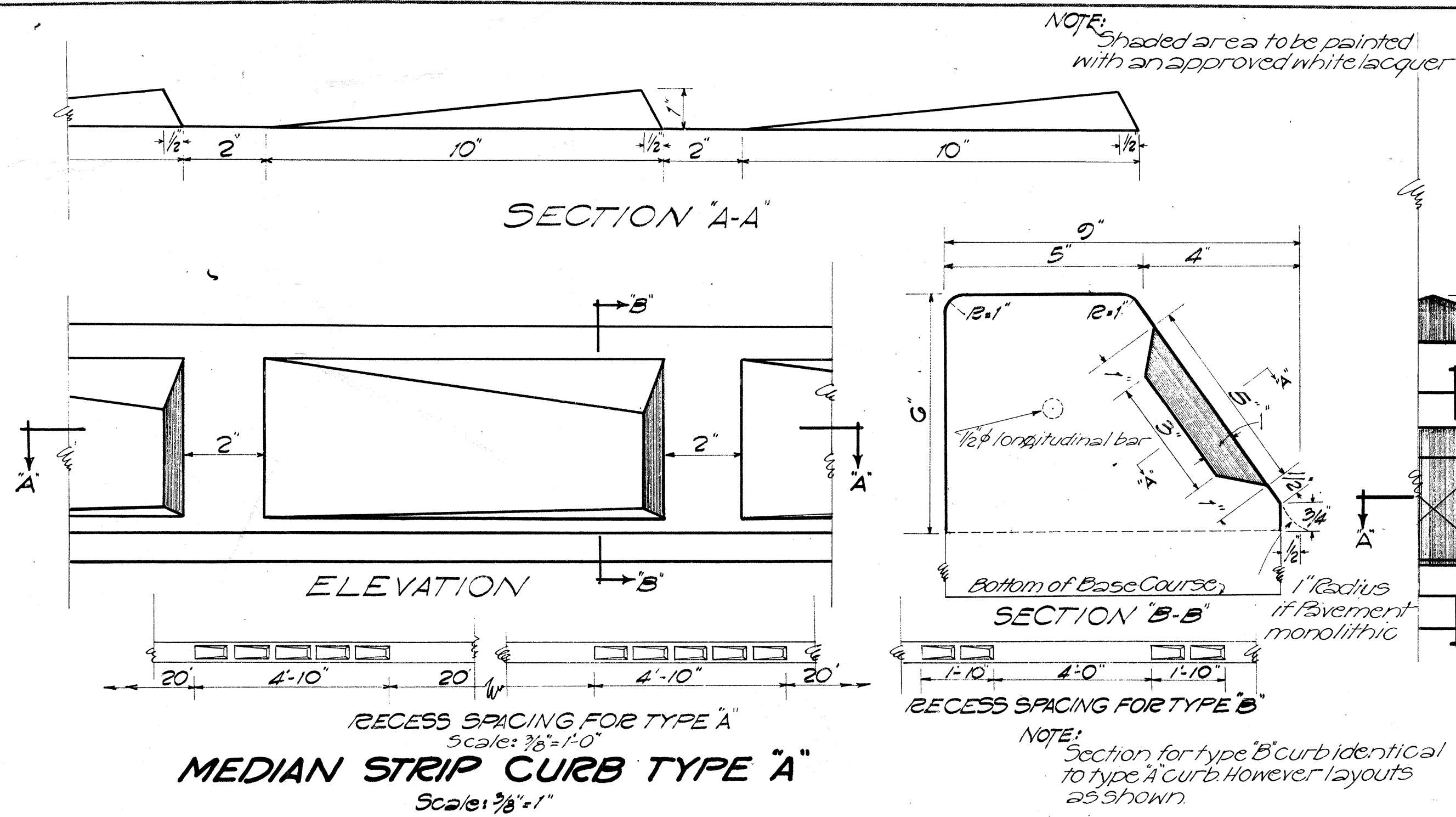
METHOD OF MARKING F.A. PROJECTS AT OVERLAPS (USING NUMBER SUFFIX ON NEW WORK)

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

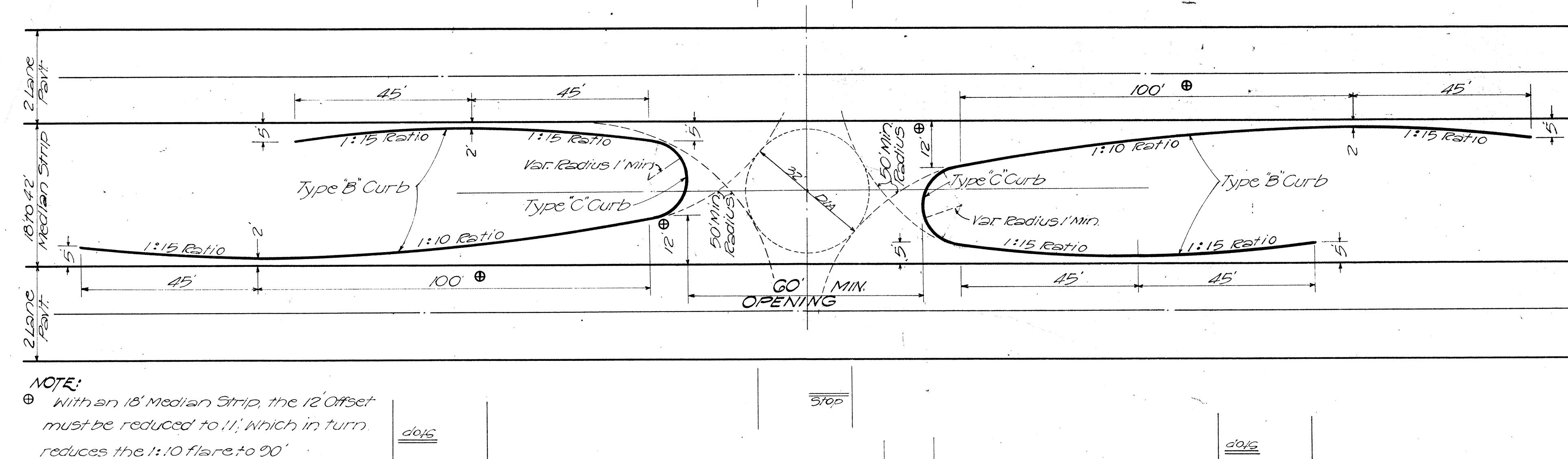
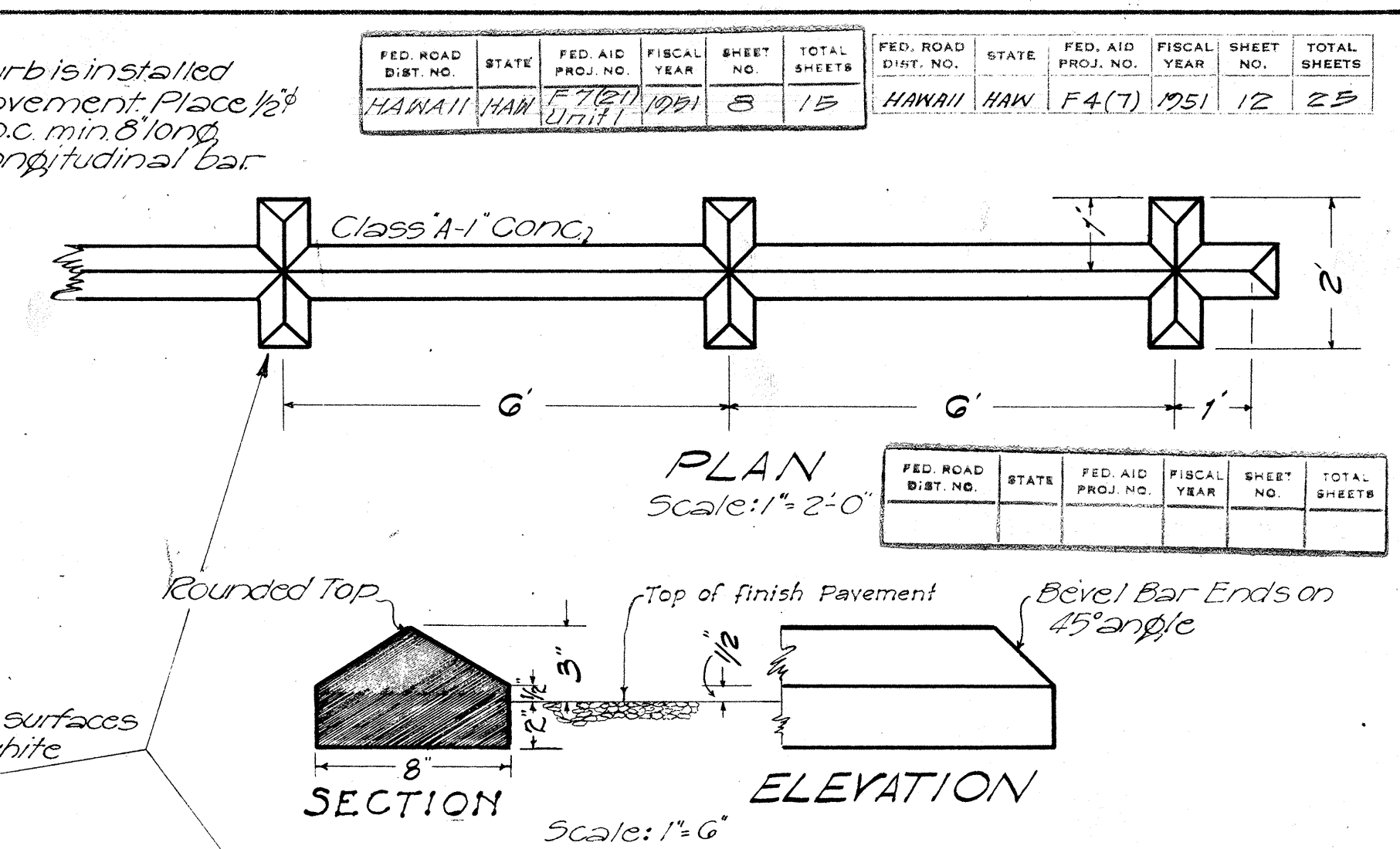
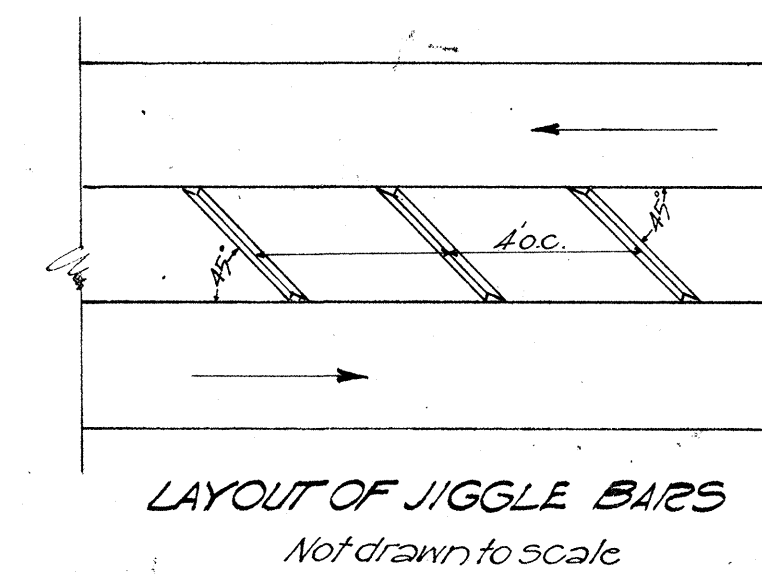
STANDARD DETAILS

SCALES AS NOTED May 31, 1949

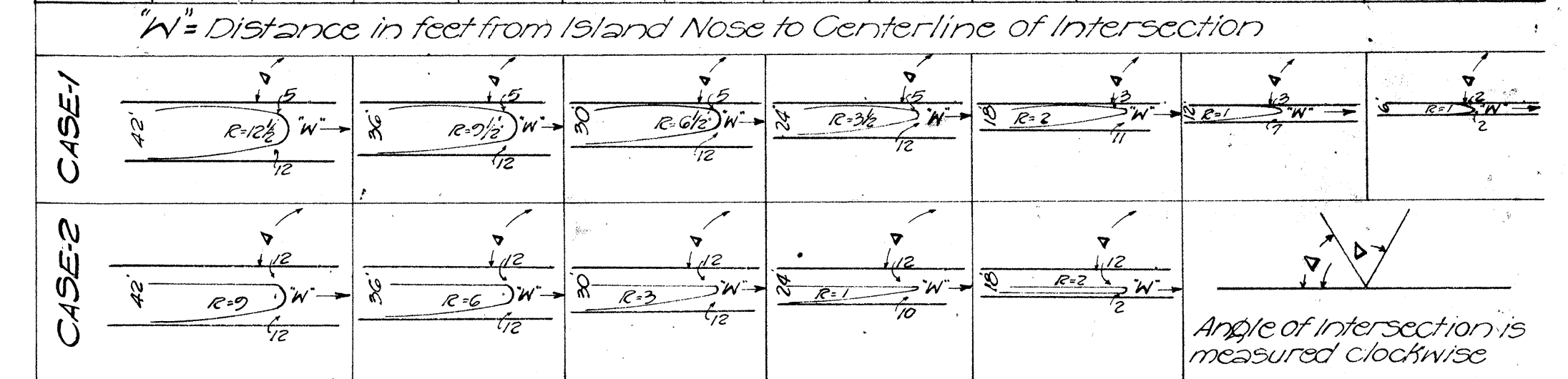
APPROVED: *[Signature]*
Territorial Highway Engineer



NOTE: Paint all exposed surfaces of bars with beaded white traffic lacquer



Angle of Inters	WIDTH OF MEDIAN STRIP											
	42'	36'	30'	24'	18'	12'	6'	42'	36'	30'	24'	18'
60°	54	58	62	66	70	74	78	54	58	62	66	70
65°	48	52	56	60	64	68	72	48	52	56	60	64
70°	42	46	50	54	58	62	66	42	46	50	54	58
75°	36	40	44	48	52	56	60	36	40	44	48	52
80°	30	34	38	42	46	50	54	30	34	38	42	46
85°	24	28	32	36	40	44	48	24	28	32	36	40
90°	18	22	26	30	34	38	42	18	22	26	30	34
95°	12	16	20	24	28	32	36	12	16	20	24	28
100°	6	10	14	18	22	26	30	6	10	14	18	22
105°	0	4	8	12	16	20	24	0	4	8	12	16
110°	0	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0	0



TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII

STANDARD DETAILS

Scale as shown

APPROVED

DATE 2-2-49

TERRITORIAL HIGHWAY ENGINEER

SHEET No. OF SHEETS

R-1
30" x 30"
Red Letters & Border on White Background

R-6
18" x 24"
Black Letters on White Background

R-8
18" x 24"
Black Letters on White Background

R-10
12" x 18"
Series "D"

R-11
20" x 24"
Series "D"

R-12
20" x 24"

R-13
24" x 30"

R-14
18" x 24"

R-15
24" x 24"

R-16-R
36" x 12"
Black letters, White Arrow on Black Background, White Border and White Reflectors

R-18
12" x 18"
Red Letters & Border on White Background

R-26
12" x 18"

R-29
24" x 30"
White Reflectors

R-41-S
24" x 24"
White Letters on Highway Yellow Background

R-42-S
12" x 18"
Red Letters & Border on White Background

R-43-S
12" x 18"
Black Letters on White Background

R-44-S
12" x 18"

R-102-A
24" x 30"

R-102-B
24" x 30"

R-102-C
24" x 30"

R-104
24" x 30"

R-105-A
24" x 30"

R-105-B
24" x 30"

R-105-C
24" x 30"

R-105-D
24" x 30"

R-105-E
24" x 30"

R-105-F
24" x 30"

R-106
24" x 30"

R-107-A
24" x 30"

R-107
14" x 9"

W-2-R
24" x 24"

W-2-L
24" x 24"

W-4-R
24" x 24"

W-4-L
24" x 24"

W-5-R
24" x 24"

W-6
24" x 24"

W-7
24" x 24"

W-8-R
24" x 24"

W-9
24" x 24"

W-10
24" x 24"

W-13
24" x 24"

W-14
24" x 24"

W-14-A
24" x 24"

W-19
30" x 30"

W-20
30" x 30"

W-21
30" x 30"

W-22
24" x 24"

W-24
30" x 30"
Figures varies according to height of clearance

W-25
24" x 24"

W-29
24" x 24"

W-38
24" x 24"

W-39
24" x 24"

NOTE: All Warning Signs shall have two (2) 1/8" bolt holes drilled at 24" center unless otherwise noted.

All letters and figures shall be of size and design shown and shall conform with "Standard Alphabets for Highway Signs" as set forth by the Public Roads Administration, Federal Works Agency. Series "C" letters and Series "D" numerals shall be used except where noted.

Note: All Regulatory (R) signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction.

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: T. Tokunaga
CHECKED BY: _____
NOTED: _____
PLAN: _____
SHEET NO.: _____

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
APPROVED: _____ May 31, 1949
TERRITORIAL HIGHWAY ENGINEER

See Specifications for Materials & Finish.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F 4(7)	1951	14	25

HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS

