

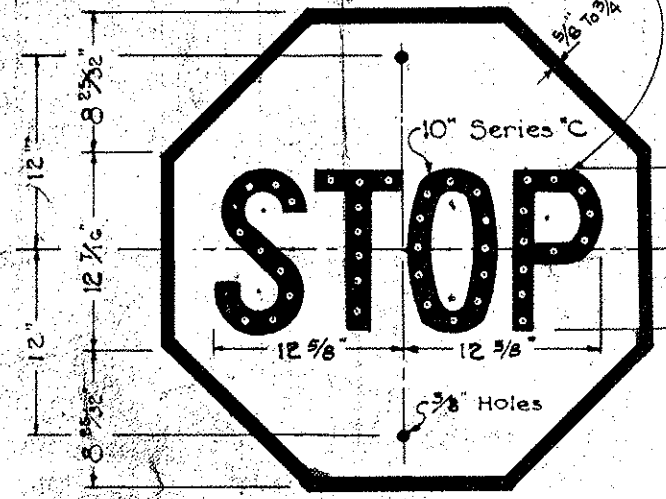
2/17/59
4/6/59
4/28/59

White Letters and Border on Red Background (Background may be of red reflective sheeting). Letters to be reflective with Buttons or Reflective Sheeting

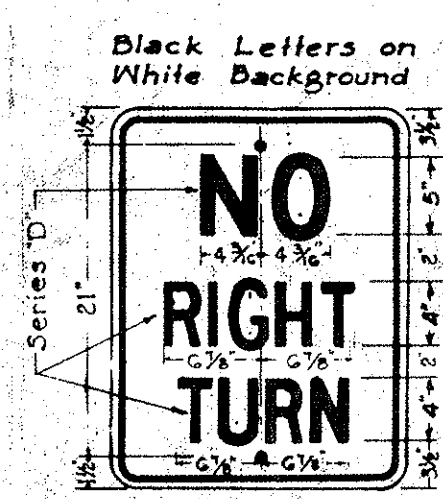
Note: All Regulatory and Warning Signs Shall Have $\frac{1}{8}$ " Bolt Holes.

NOTE: Signs noted with an (R) designation indicate reflectorization with either buttons or reflective sheeting.

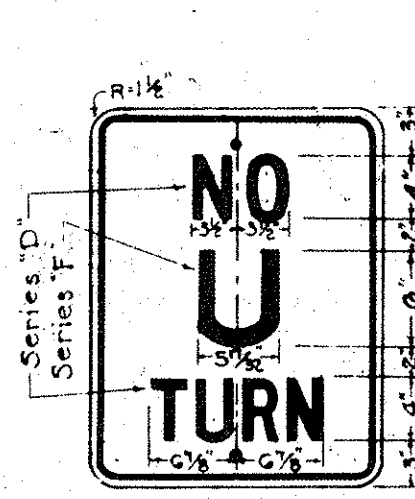
HAWAII STATE HIGHWAY DEPARTMENT
JULY 3, 1957



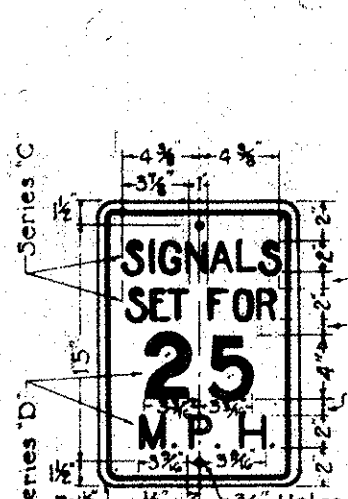
R-1
30" x 30"



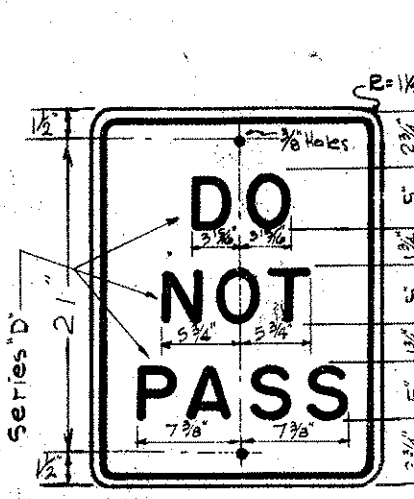
R-6
18" x 24"



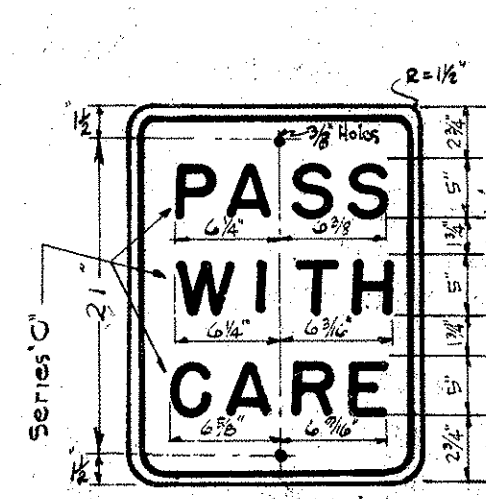
R-8
18" x 24"



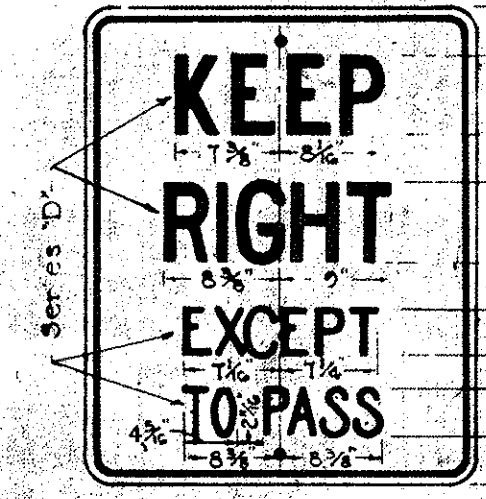
R-10
12" x 18"



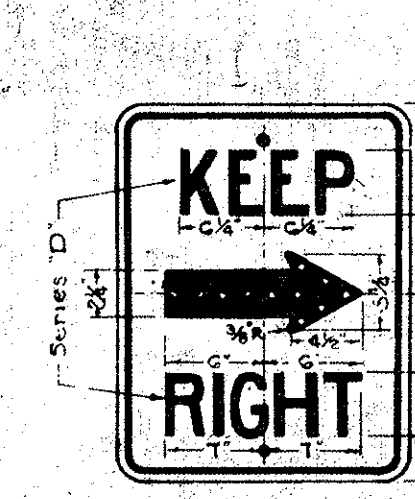
R-11
18" x 24"



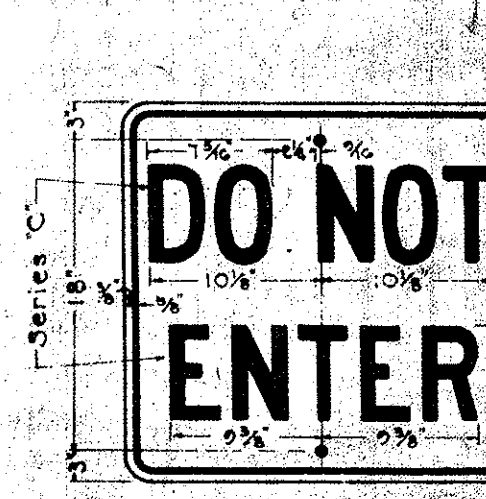
R-12
18" x 24"



R-13
24" x 30"



R-14 (R)
18" x 24"



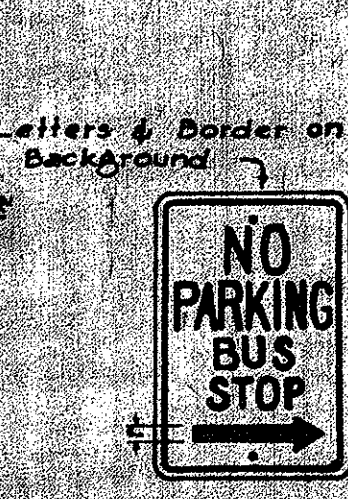
R-15
24" x 24"



R-16 - R (R)
R-16 - L (R)
36" x 12"



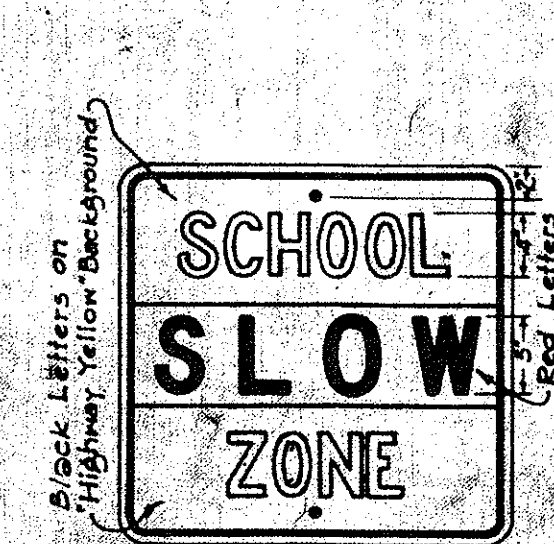
R-18
12" x 18"



R-26
12" x 18"



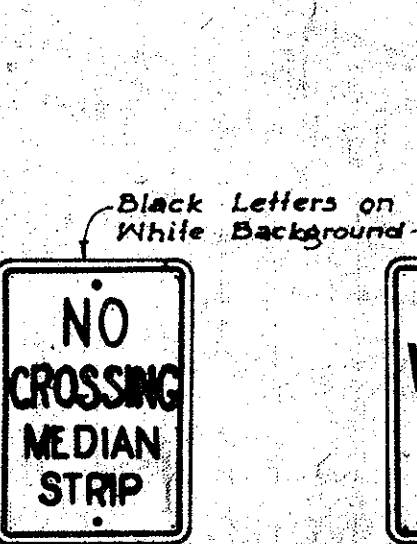
R-29
24" x 30"



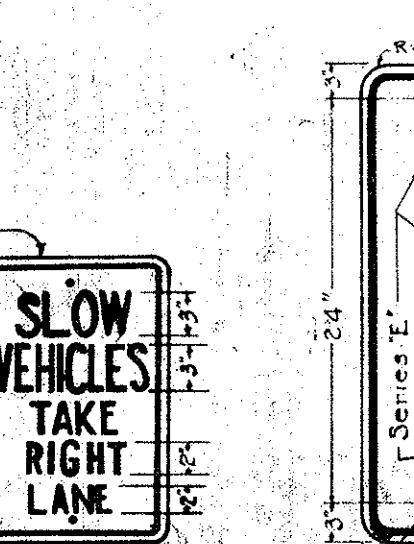
R-41-S
24" x 24"



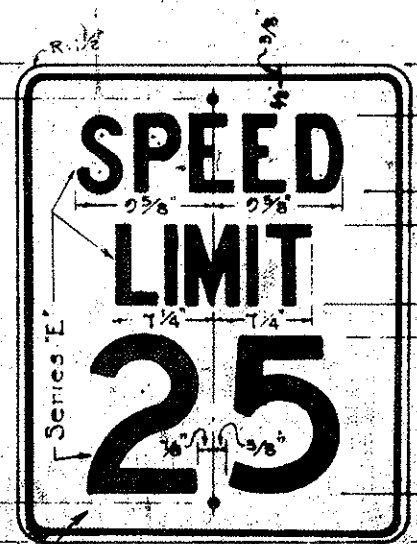
R-42-S
12" x 18"



R-43-S
12" x 18"



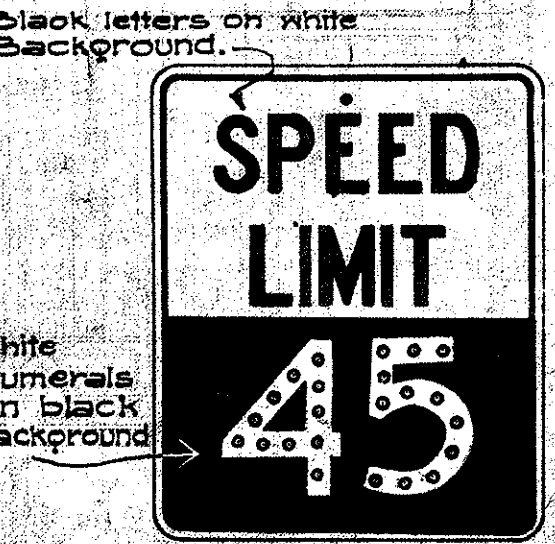
R-44-S
12" x 18"



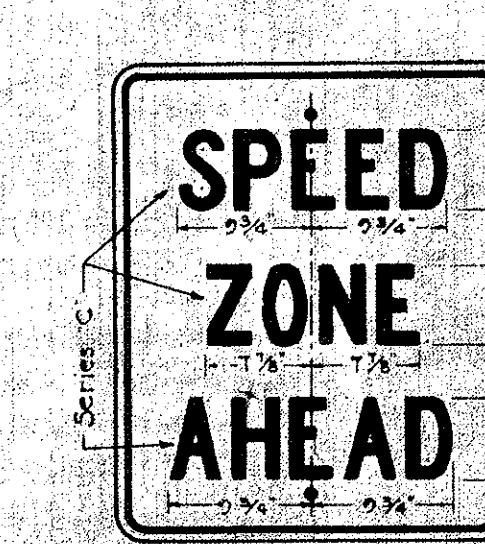
R-102-A
24" x 30"



R-102-B
24" x 30"



R-102-C (R)
24" x 30"



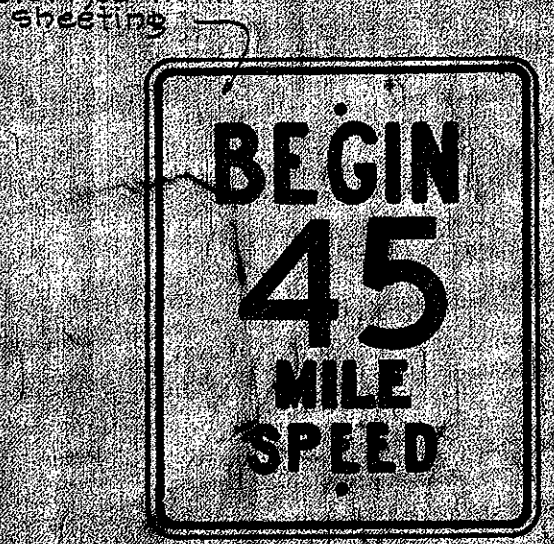
R-104
24" x 30"



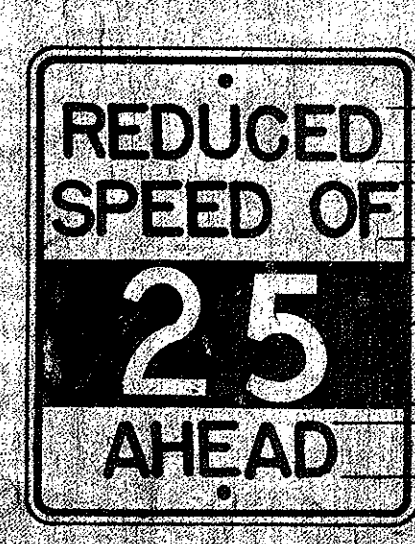
R-105-A (R)
24" x 30"



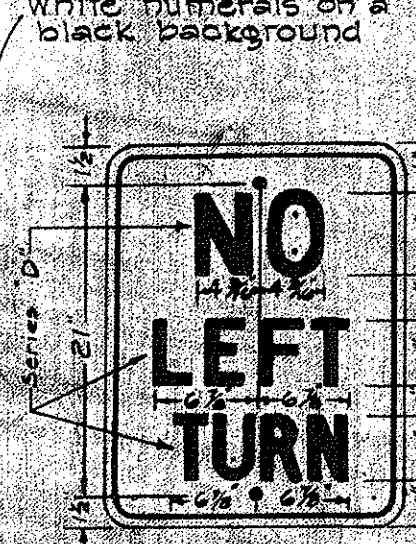
R-105-B
24" x 30"



R-105-C
24" x 30"



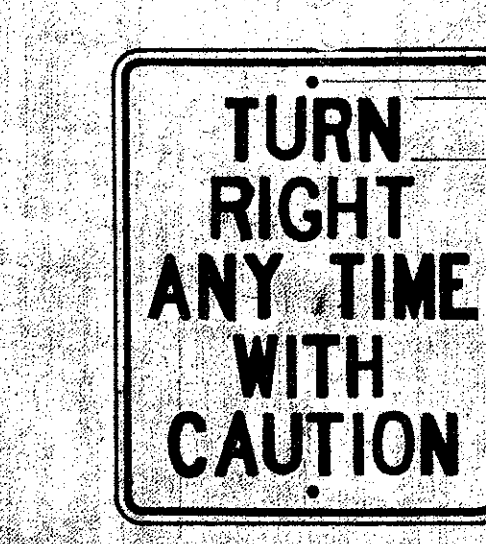
R-104-A
24" x 30"



R-7
18" x 24"



R-66
18" x 24"



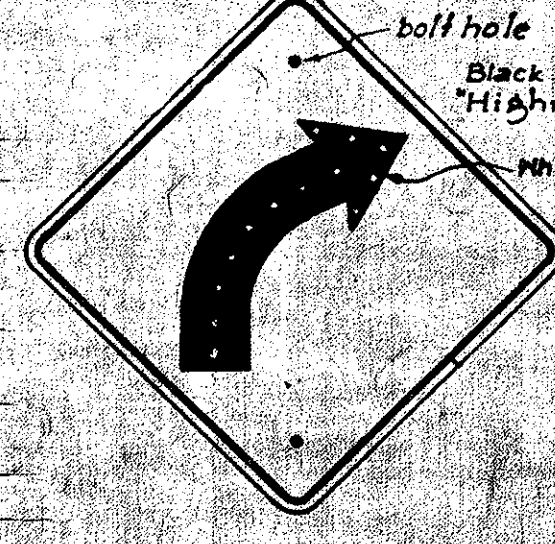
R-106
24" x 30"



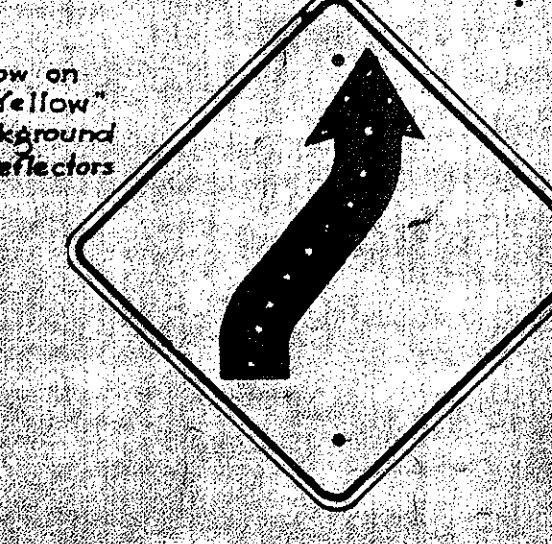
R-107-A
24" x 30"



R-14-A
24" x 24"



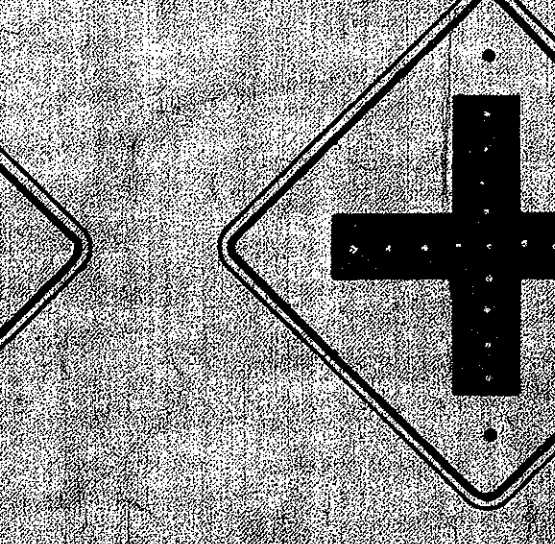
W-2-R
W-2-L
24" x 24"



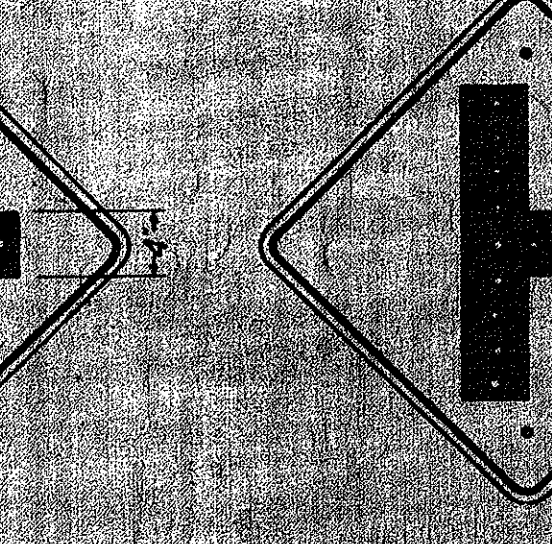
W-4-R
W-4-L
24" x 24"



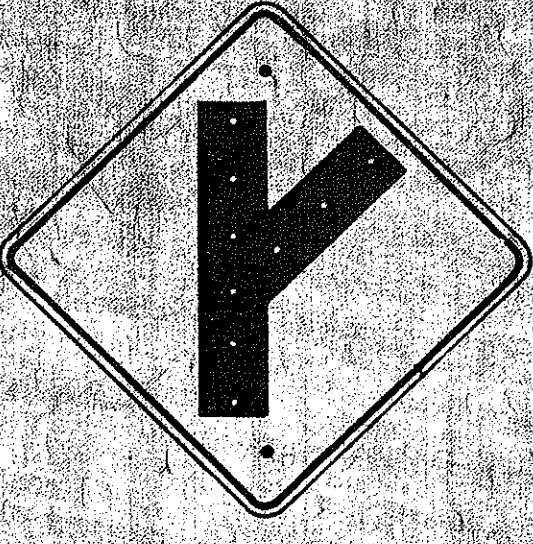
W-5-R
W-5-L
24" x 24"



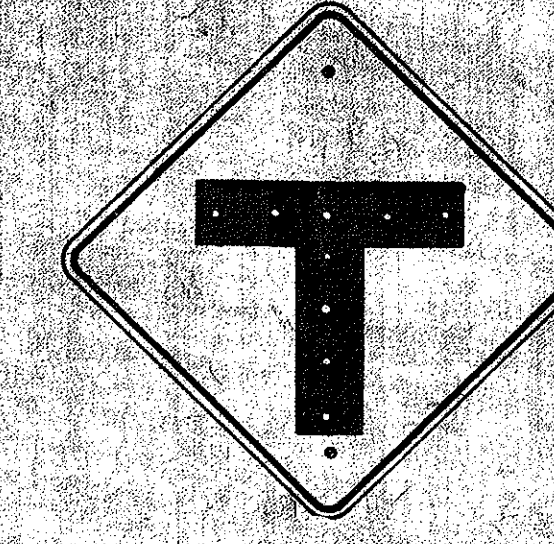
W-6
24" x 24"



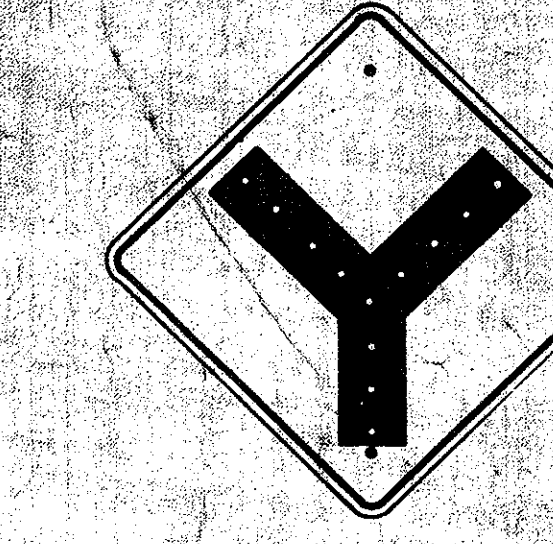
W-7
24" x 24"



W-8-R
W-8-L
24" x 24"



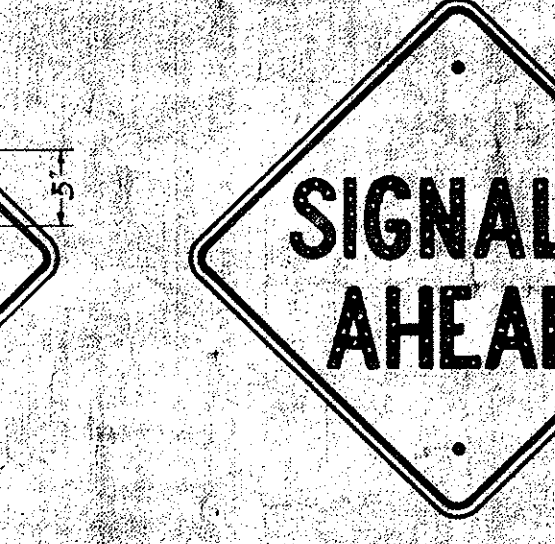
W-9
24" x 24"



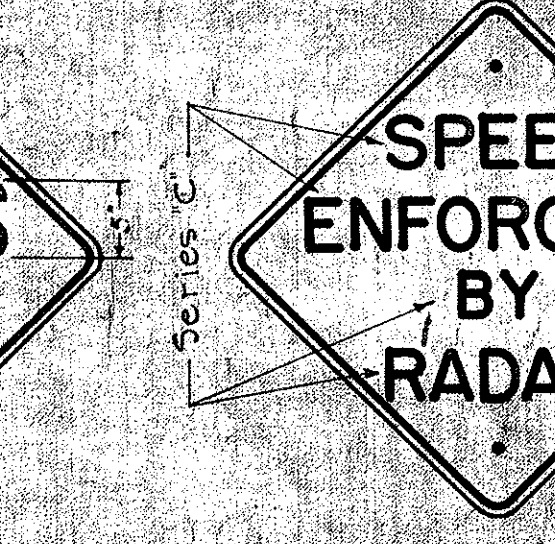
W-10
24" x 24"



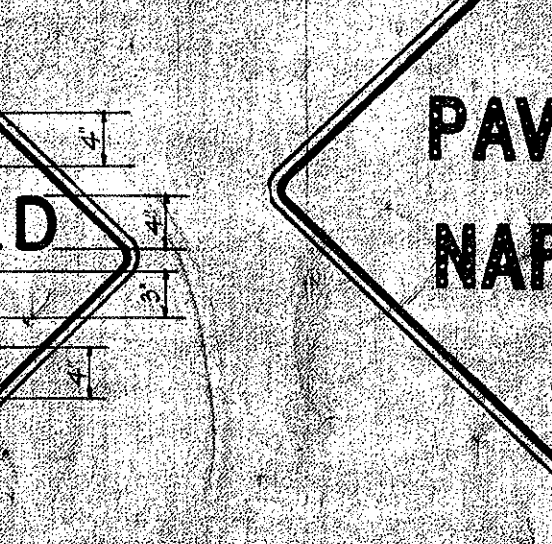
W-13
24" x 24"



W-14
24" x 24"



W-40
24" x 24"



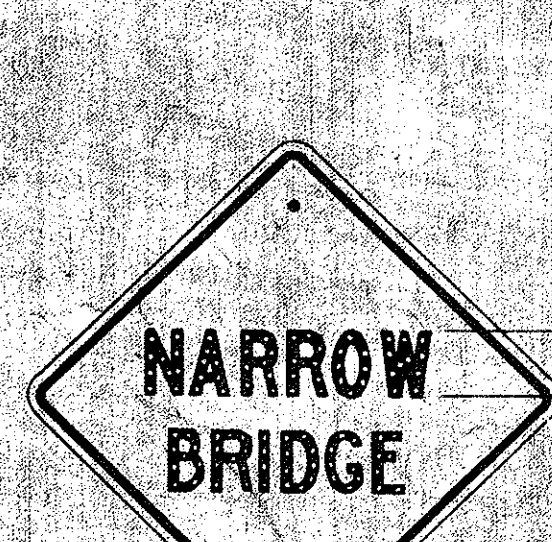
W-19
30" x 30"



W-20
30" x 30"



W-21
30" x 30"



W-22
24" x 24"



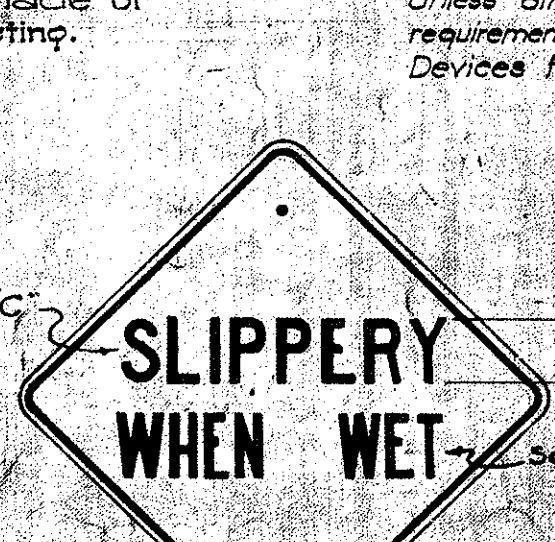
W-24
30" x 30"



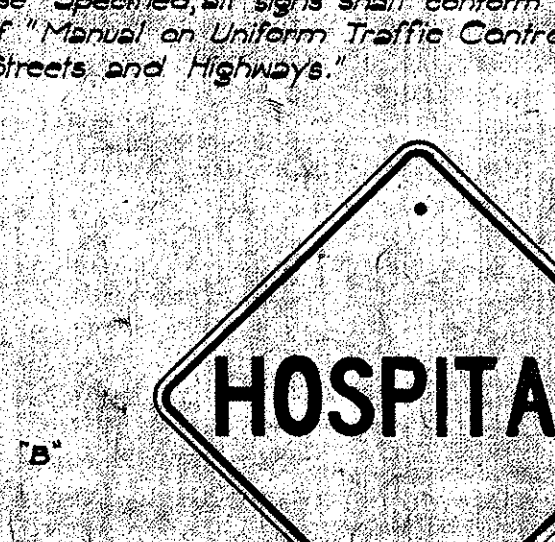
W-25
24" x 24"



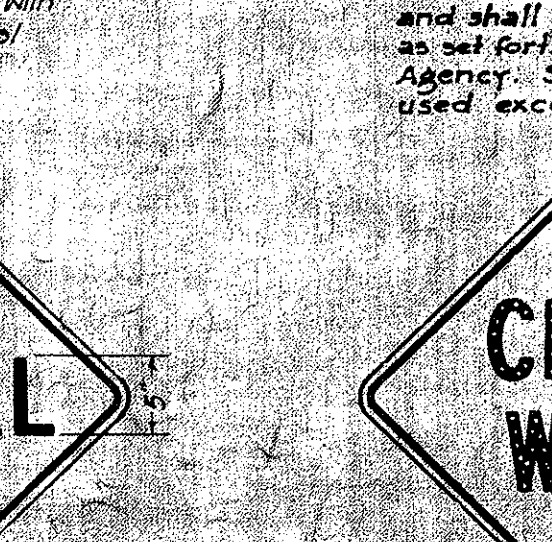
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



W-1-R
W-1-L
24" x 24"

NOTE: R-104 A,B,C signs with (R) designation shall have white numerals reflectorized with buttons or reflective sheeting on a black background.

NOTE: R-102 A,B,C signs with (R) designation: Lower half with white numerals, reflectorized with buttons or reflective sheeting on black background.

NOTE: R-105 A,B,C signs with (R) designation shall have white numerals reflectorized with buttons or reflective sheeting on a black background.

Background may be made of Yellow Reflective sheeting.

Unless otherwise specified, all signs shall conform with requirements of "Manual on Uniform Traffic Control Devices for Streets and Highways."

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 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. See Specifications for Materials and Finish.

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'-0"
APPROVED: [Signature]
STATE HIGHWAY ENGINEER
DATE: APR. 25, 1959

SHEET NO. 1 OF 1 SHEETS

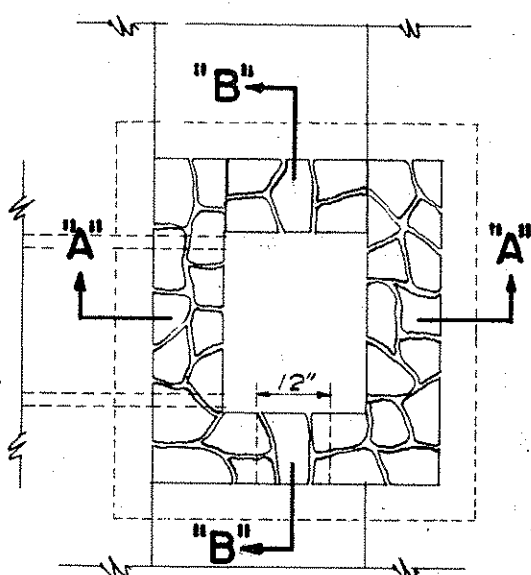
2/17/59

D	W	H	T=H+H
18"	24"	2'-0"	4'-0"
24"	30"	2'-0"	4'-0"
30"	30"	2'-0"	5'-0"
36"	36"	3'-0"	6'-0"

DETAIL OF OUTLET DITCH
Scale: 1/2" = 1'-0"

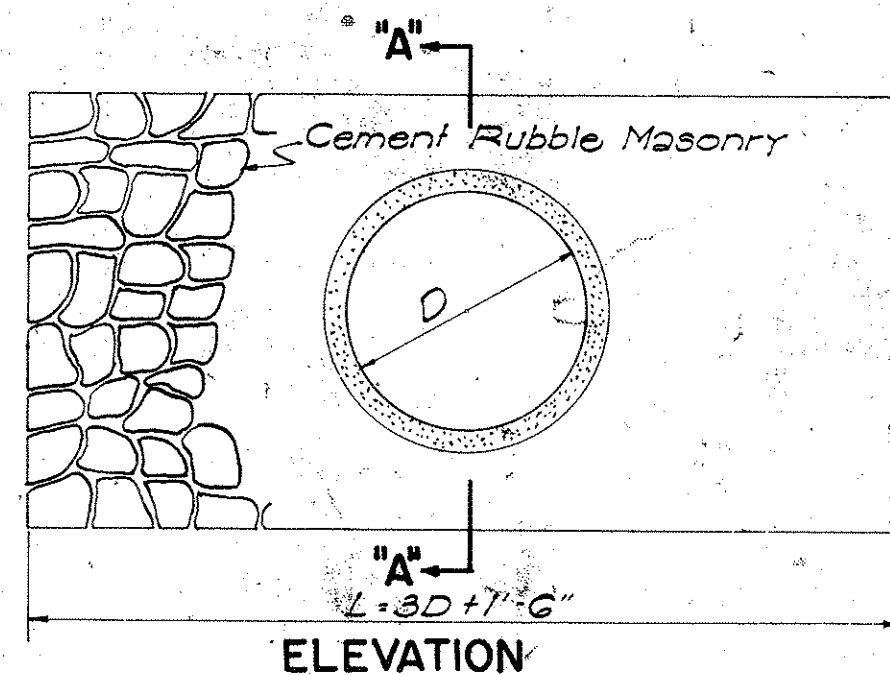
D	D	L=D+G	Cu Yds.	Where Variables Equal
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"

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



DETAIL OF MASONRY DROP INTAKE
Scale: 3/8" = 1'-0"

D	H	B	L	Cu Yds.	Cu Yds.	Cu Yds.
18"	3'-6"	1'-0"	6'-0"	0.85	0.05	0.03
24"	4'-0"	2'-0"	7'-0"	1.28	1.45	1.41
30"	4'-6"	2'-3"	8'-0"	1.83	2.06	2.00
36"	5'-0"	2'-6"	10'-0"	2.40	2.84	2.72



DETAIL OF MASONRY HEADWALL
Scale: 1/2" = 1'-0"

SECTION
CONC. PIPE CULVERT

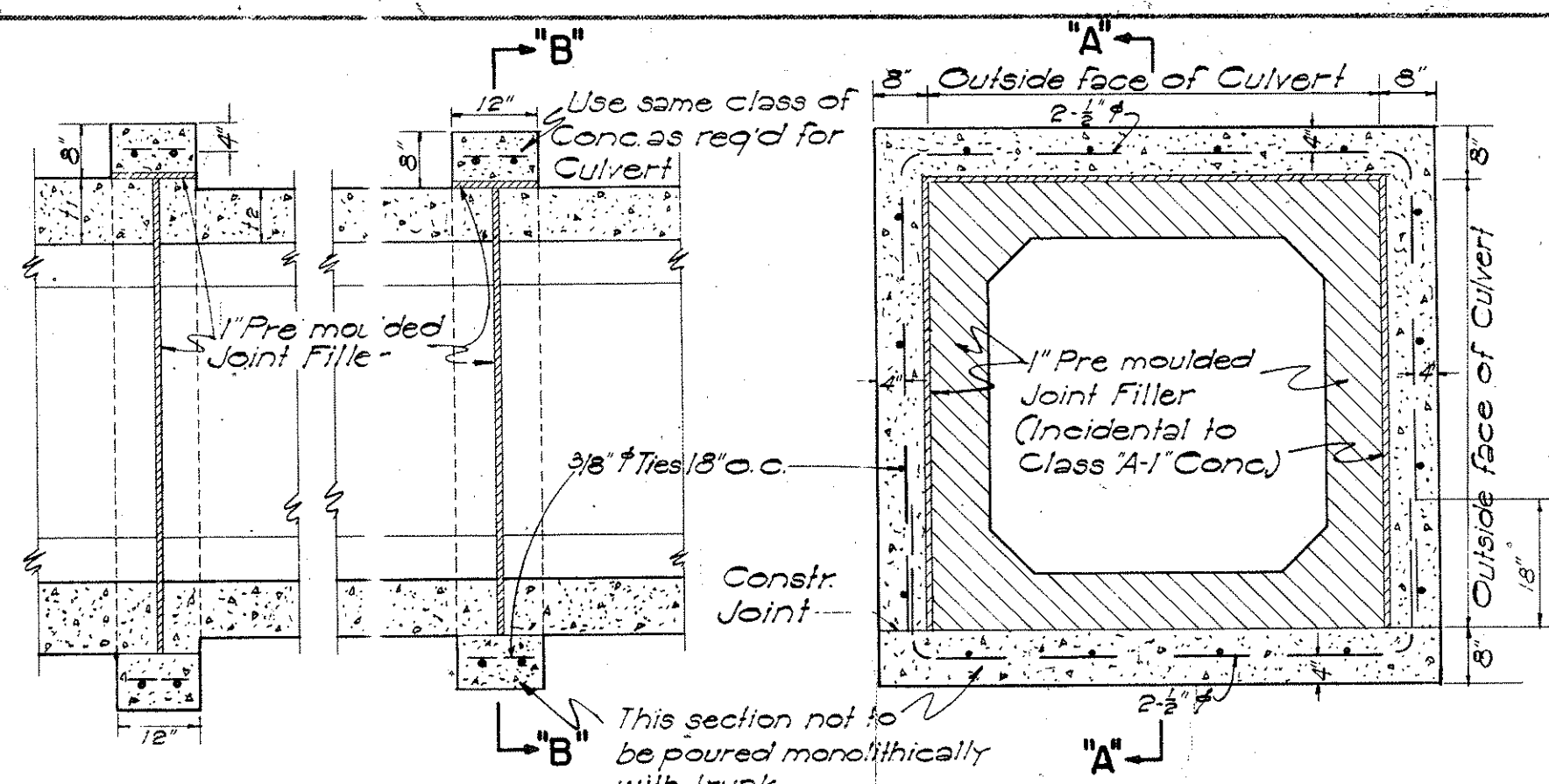
NOTE: Thickness of reinforcing and concrete used, are to conform with the approved design as provided by the Specifications.

D	W	L	Cu Yds. per Ft.
18"	4"	2'-2"	0.11
24"	4 1/2"	2'-9"	0.14
30"	5"	3'-4"	0.19
36"	5 1/2"	3'-11"	0.26

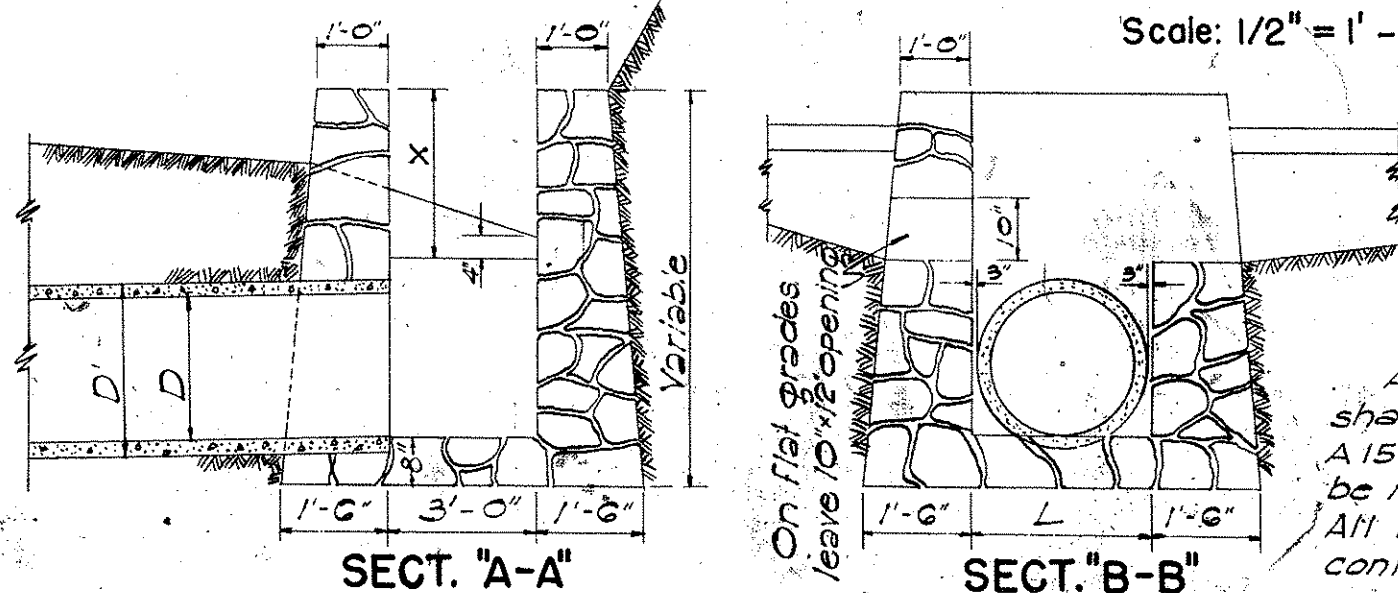
CAST-IN-PLACE
CONC. CULVERT

D	B	L	H	Cu Yds.	Cu Yds.	Steel For One Headwall	No. of Bars	Length	Lbs.
18"	1'-6"	6'-0"	4'-0"	0.02	1.00	4	2	2'-0"	13
24"	1'-6"	7'-6"	4'-0"	1.25	1.33	4	2	7'-0"	42
30"	2'-0"	9'-0"	5'-0"	1.05	2.17	4	2	8'-6"	51
36"	2'-0"	10'-0"	5'-6"	2.45	2.74	4	2	10'-0"	60
42"	2'-6"	12'-0"	6'-0"		3.87	4	2	11'-6"	60
48"	2'-6"	13'-6"	6'-6"		4.66	4	2	13'-0"	78

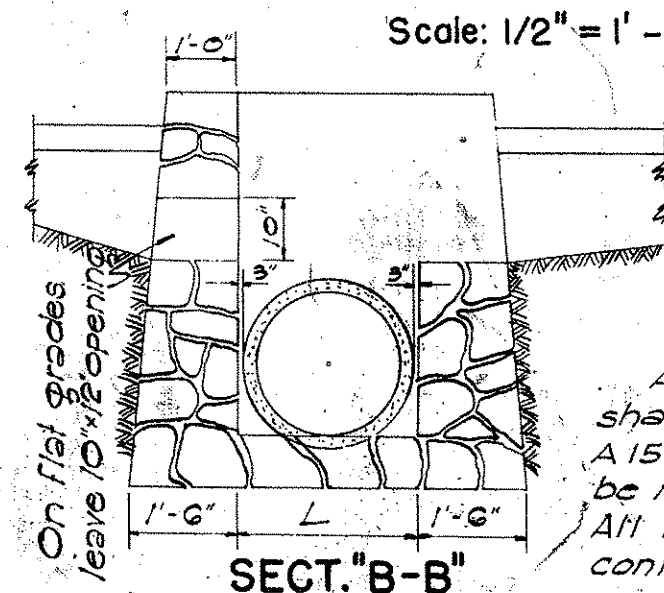
DETAIL OF CONCRETE HEADWALL
Scale: 1/2" = 1'-0"



SECTION "A-A"
CONC. COLLAR FOR CONC. BOX CULVERT
Scale: 1/2" = 1'-0"



SECT. "A-A"

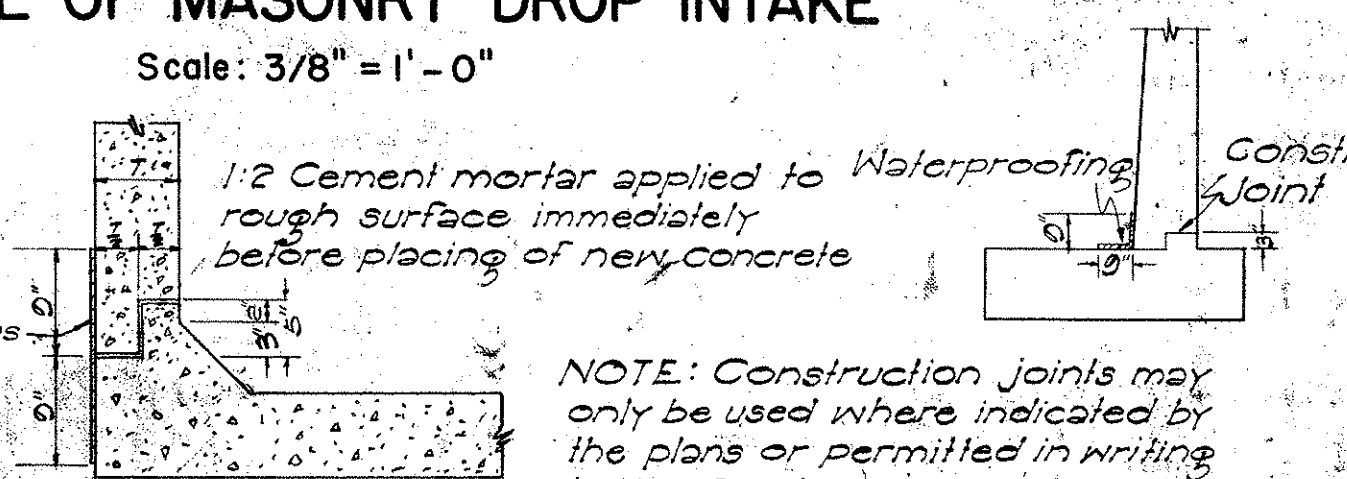


SECT. "B-B"

REINFORCING BARS

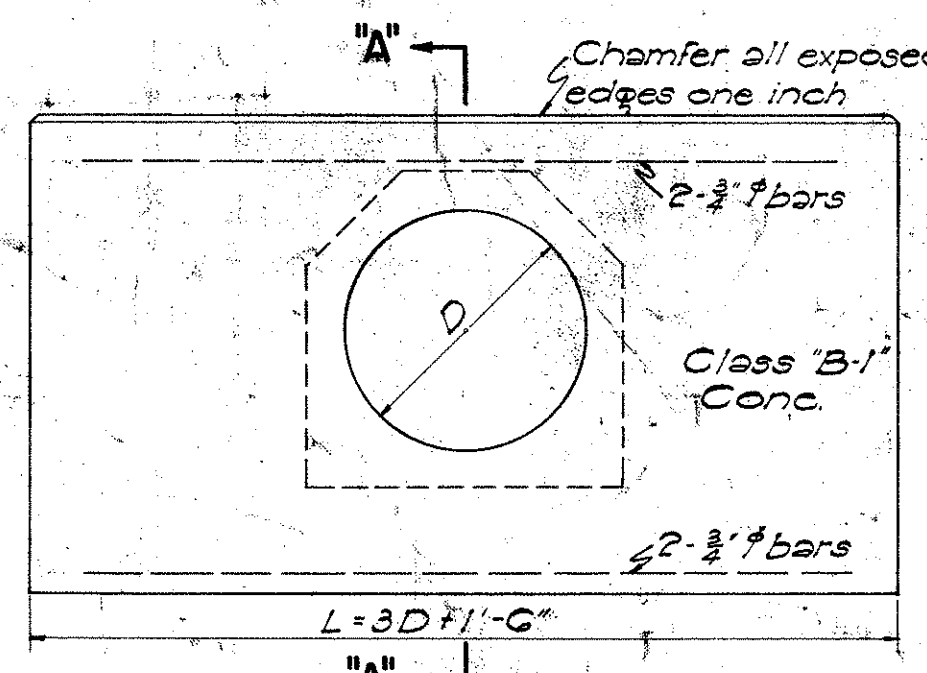
All reinforcing bars for concrete shall be Billet Steel bars, ASTM A15, intermediate grade. Steel shall be made by the open-hearth process. All bars shall be deformed type conforming to ASTM A-305.

CONSTR. JOINT DETAILS

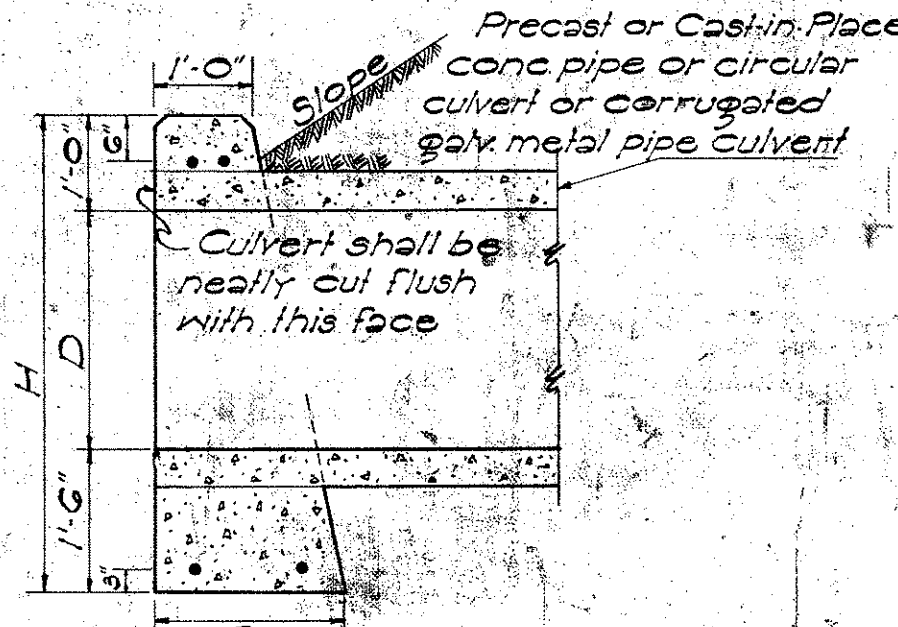


NOTE: Construction joints may only be used where indicated by the plans or permitted in writing by the Engineer.

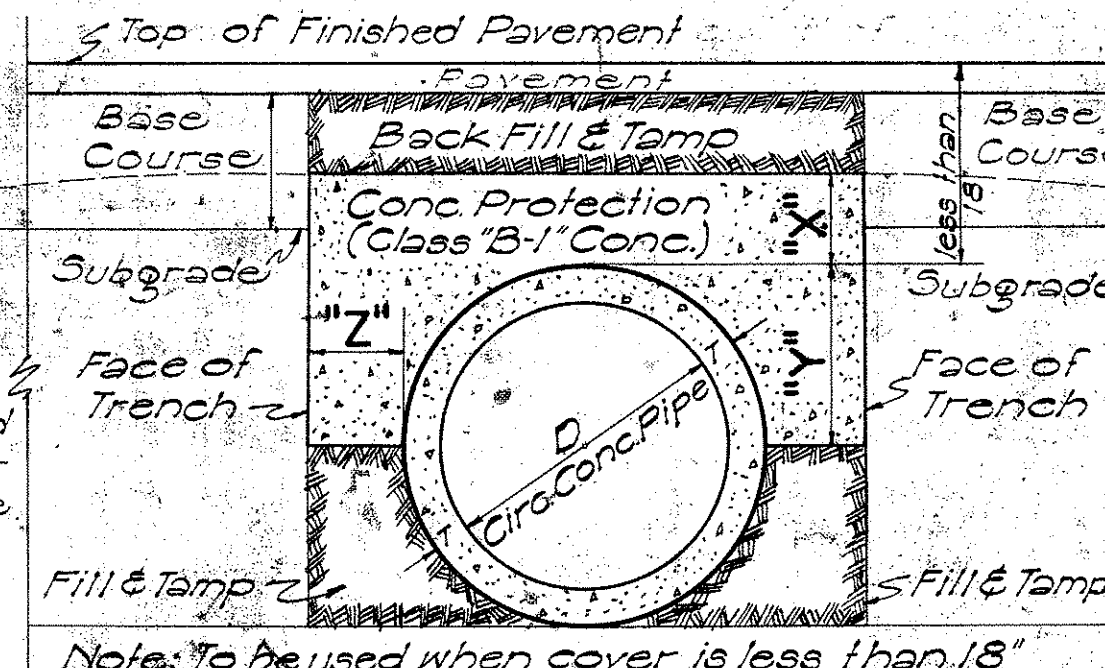
Note: When subgrade is below top of jacket, it shall be fully compacted to this line and then re-excavated (struck) to proper subgrade. This surface shall be rolled again.



ELEVATION

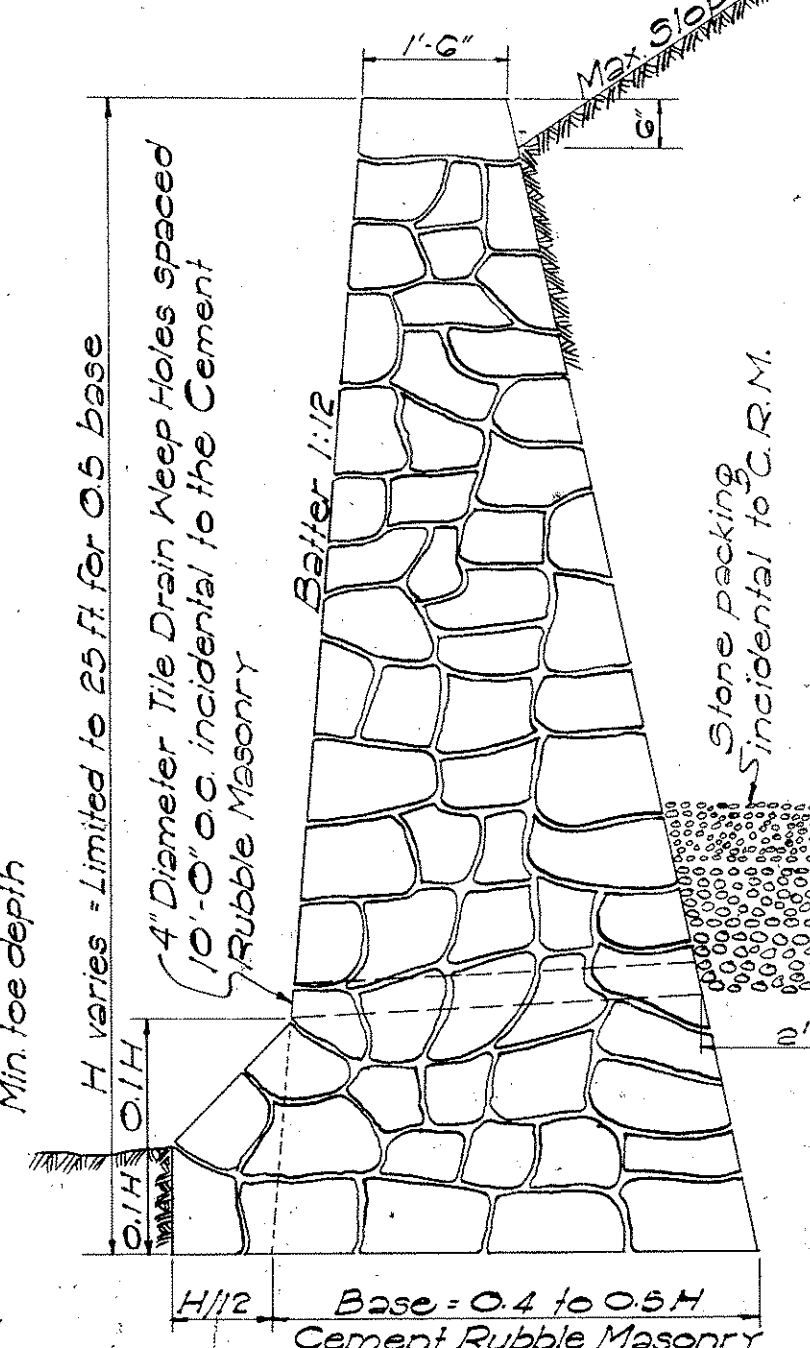


SECTION "A-A"

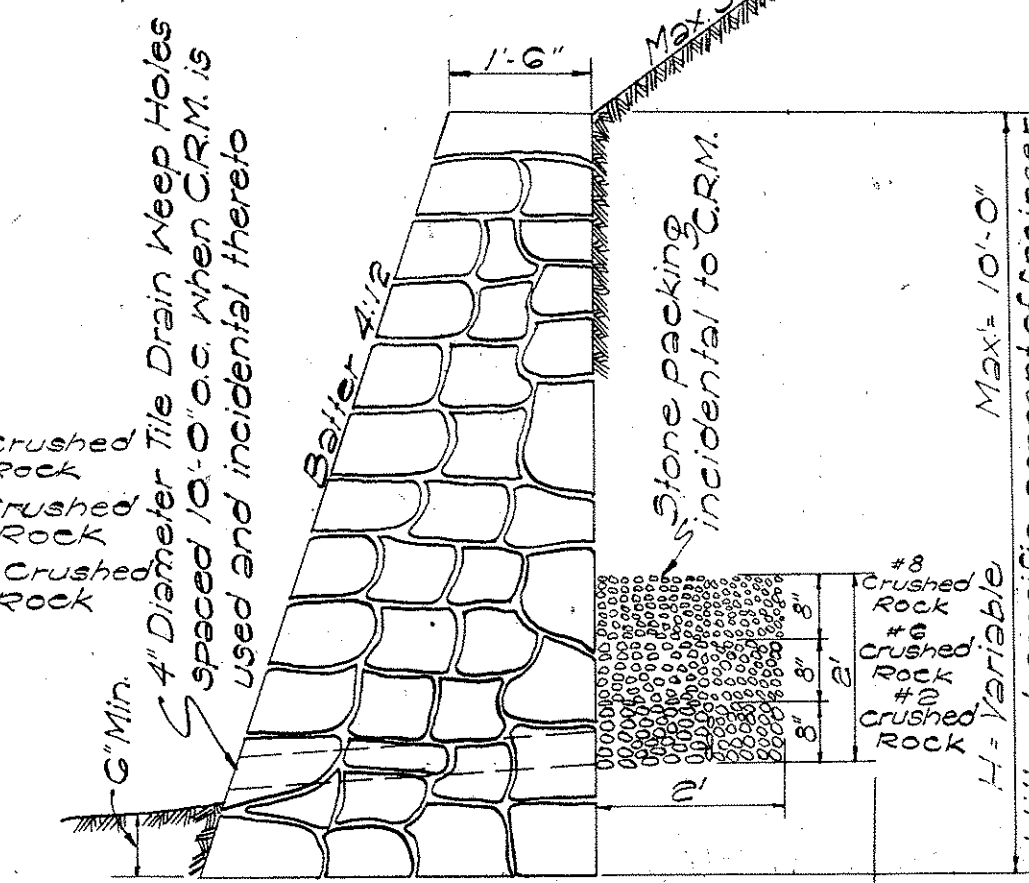


X	Y	Z
6" for 18"D		Z must be from pipe to face of trench
7" 24"D		
8" 30"D		
9" 36"D		
10" 42"D		
11" 48"D		
12" 54"D		

SECT. OF CULVERT WITH CONC. PROTECTION
Scale: 1" = 1'-0"



SECTION OF HIGH CEMENT
RUBBLE MASONRY RETAINING
WALL OR SEAWALL

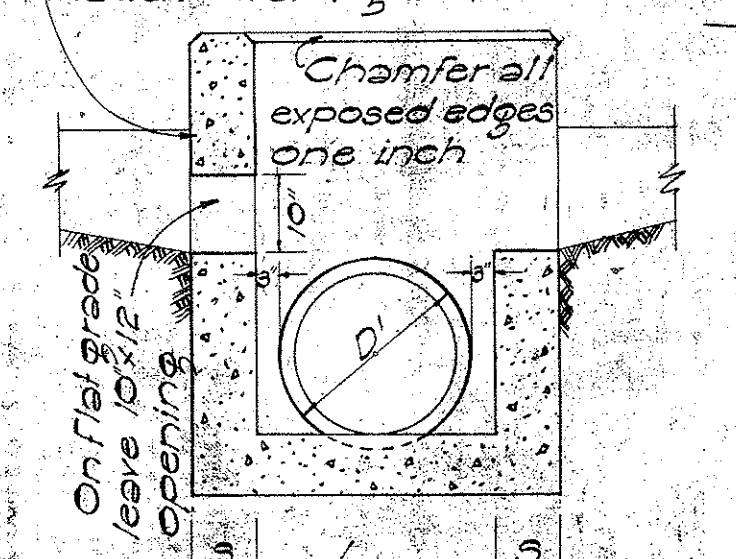


SECTION OF LOW
MASONRY RETAINING
WALL OR SEAWALL

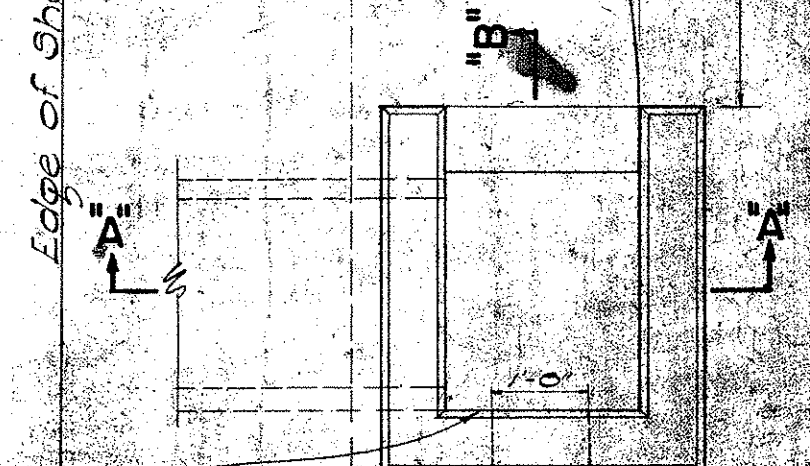
D	D	L=D+G	Cu Yds.	Where Variables Equal
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"
51"	42"	4'-9"	5.45	6'-6"
58"	48"	5'-4"	6.01	7'-0"

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

Note: This type of structure shall also be used for the Drop Intakes of Siphons connected with Irrigation Ditches or Flumes with appropriate changes to dimensions. In this case all joints must be made water tight.



SECTION "B-B"



SECTION "A-A"

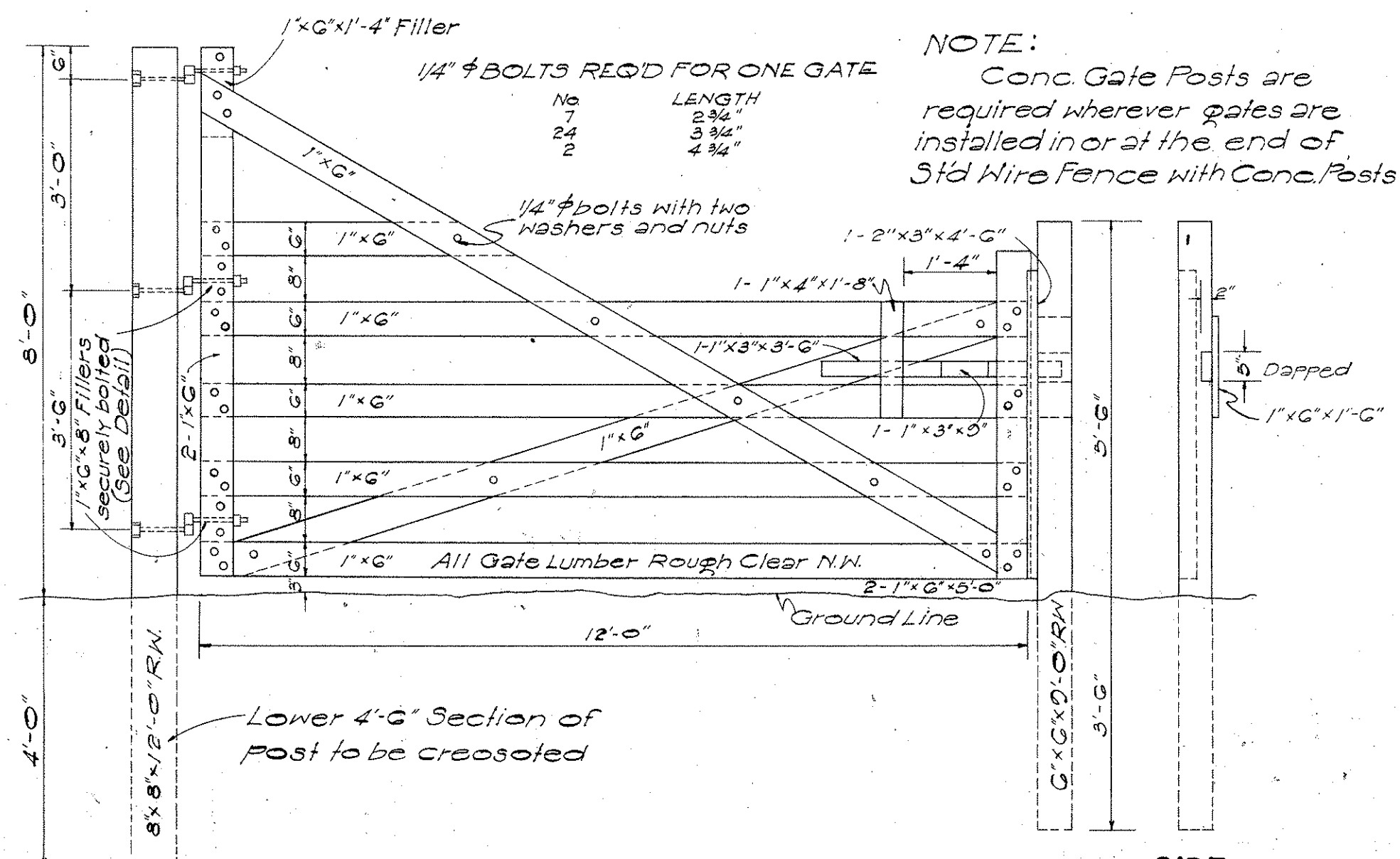
DETAIL OF CONCRETE DROP INTAKE
Scale: 1/2" = 1'-0"

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
DROP INTAKES, RETAINING WALLS,
HEADWALLS, CONSTRUCTION JOINTS
SCALES AS NOTED

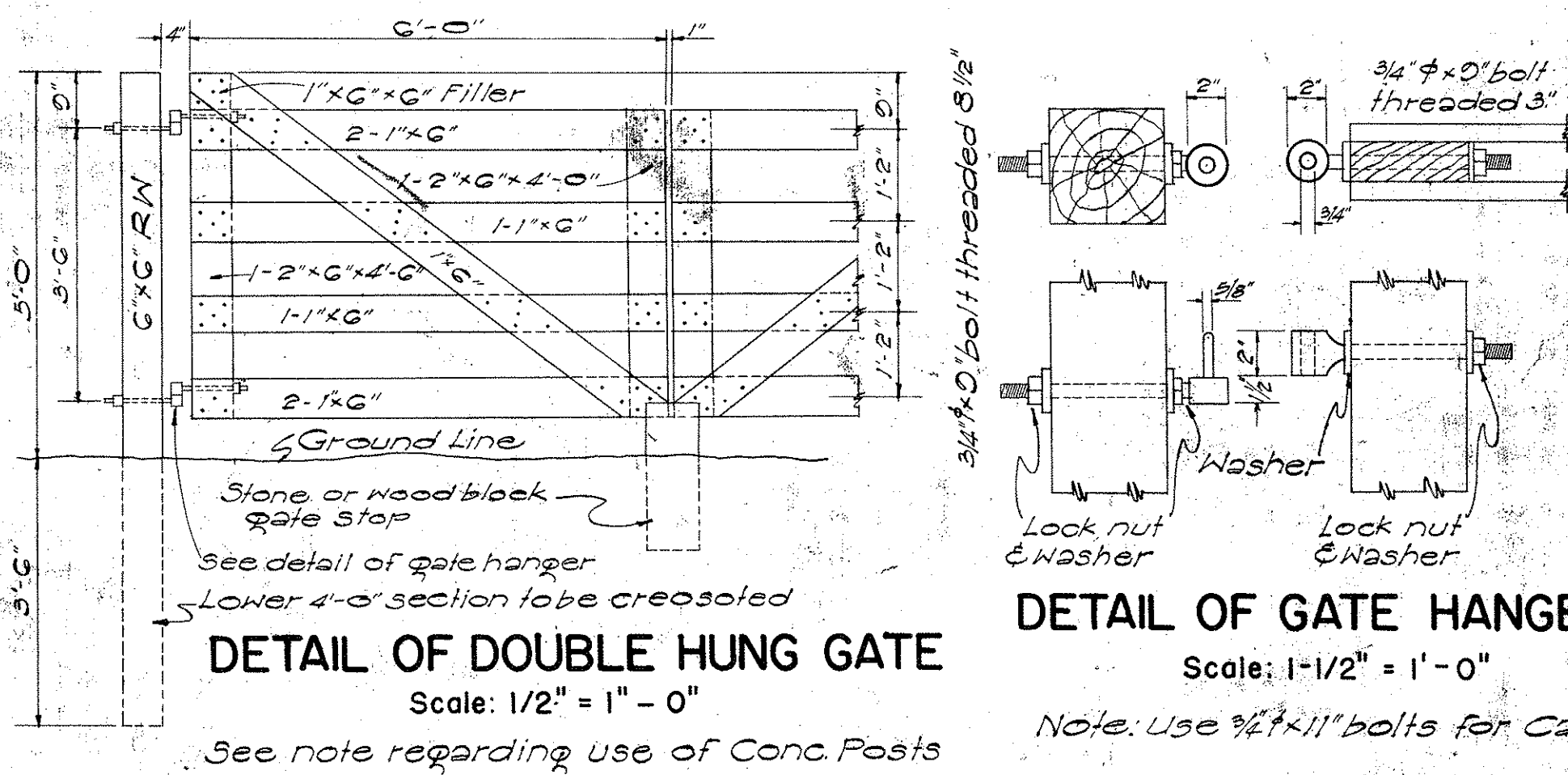
2/17/59

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
BF-011-201	HAW.	BF-011-201	1959	15	36

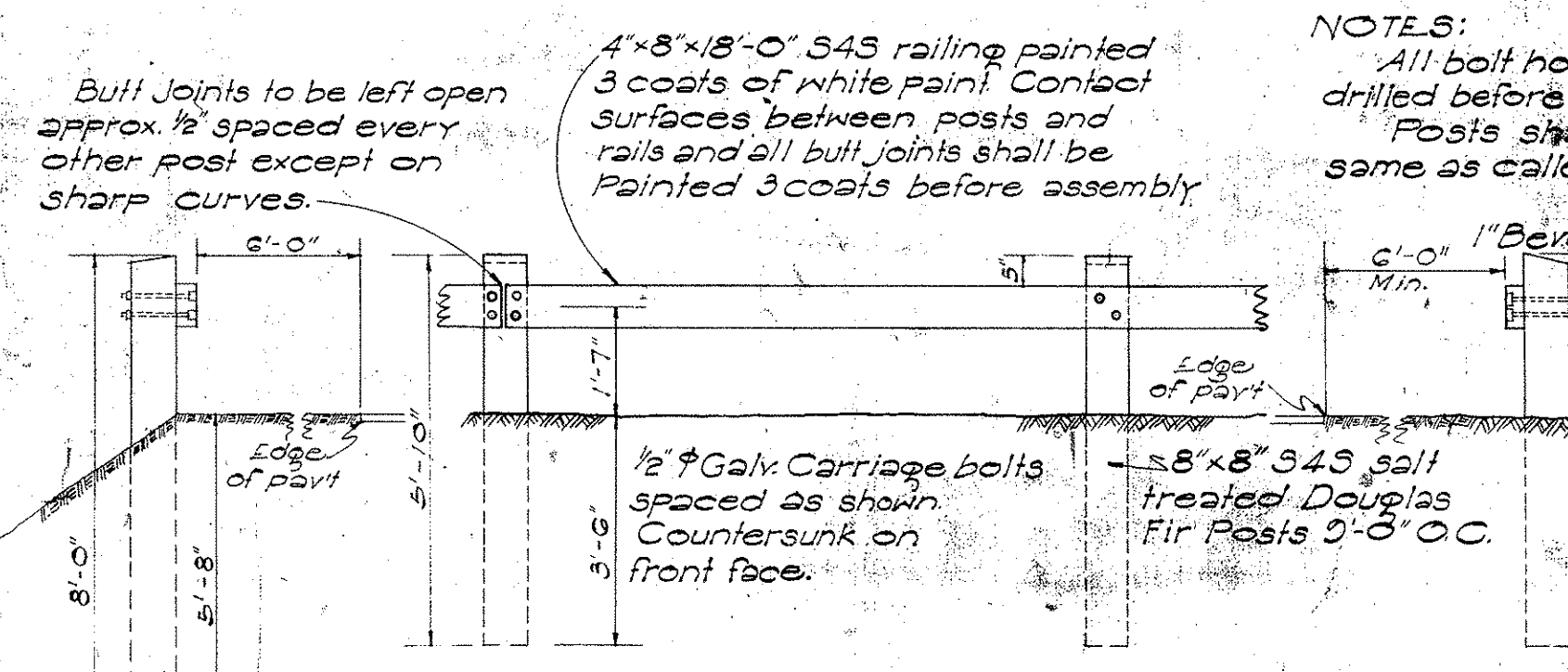
AUG. 1957



DETAIL OF CATTLE GATE
Scale: 1/2" = 1' - 0"

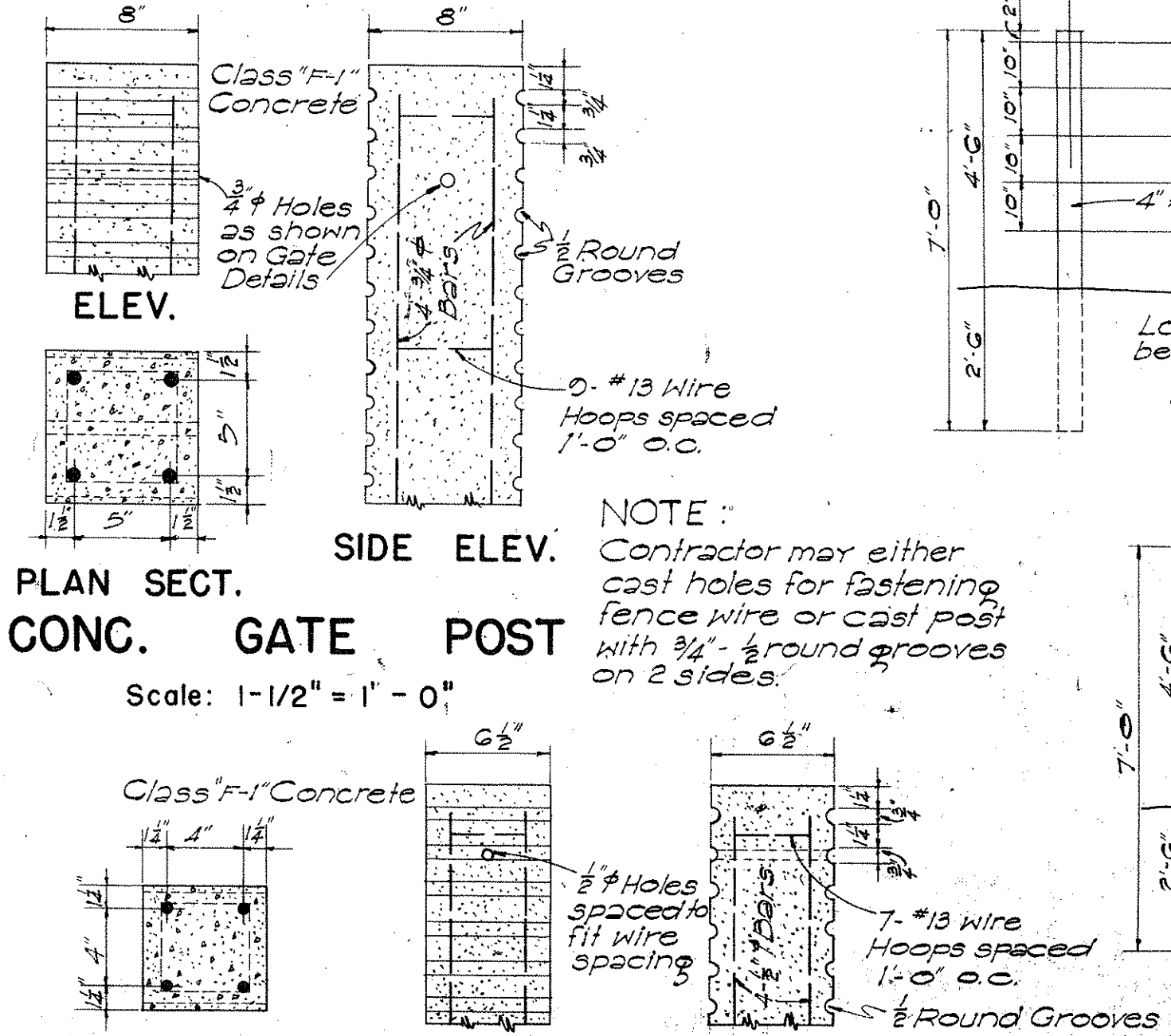


DETAIL OF DOUBLE HUNG GATE
Scale: 1/2" = 1' - 0"
See note regarding use of Conc. Posts

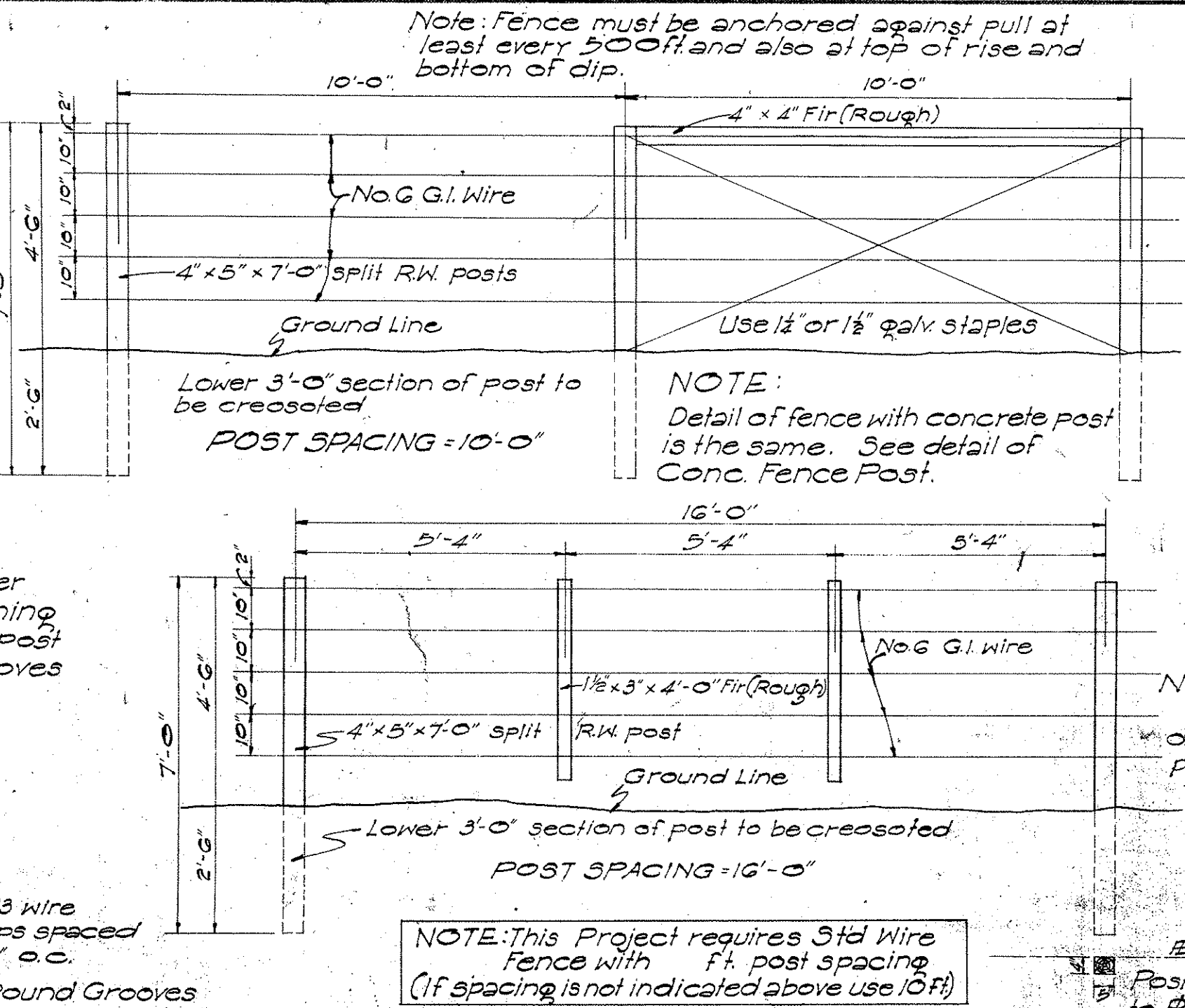


WOOD GUARD RAIL WITH WOOD POSTS
Scale: 3/8" = 1' - 0"
NOTE: For Conc. Post see detail at right

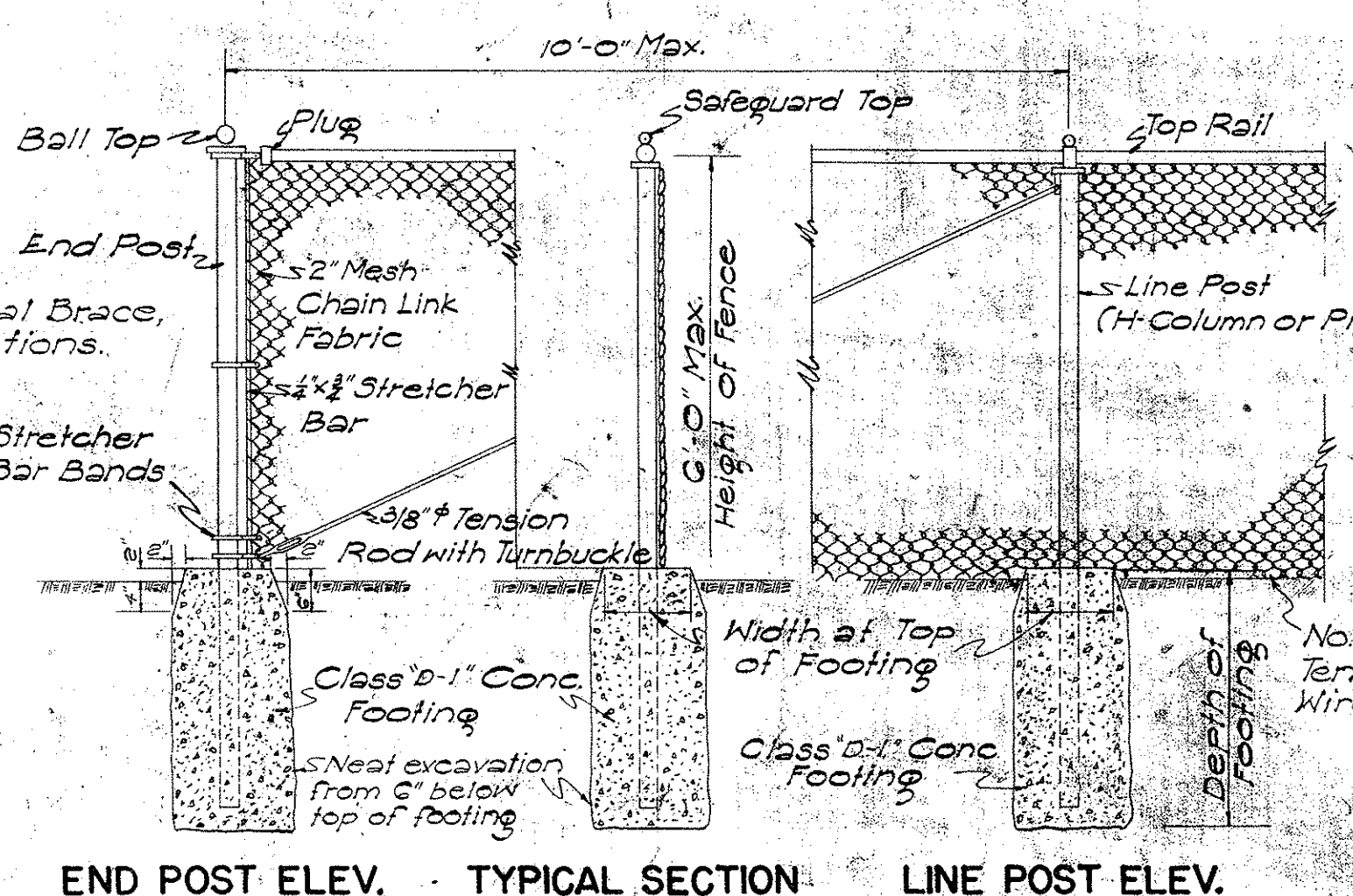
GUIDE POSTS: Wood or Conc. Guide Posts are the same as those used for Wood Guard Rail spaced as shown on plans.



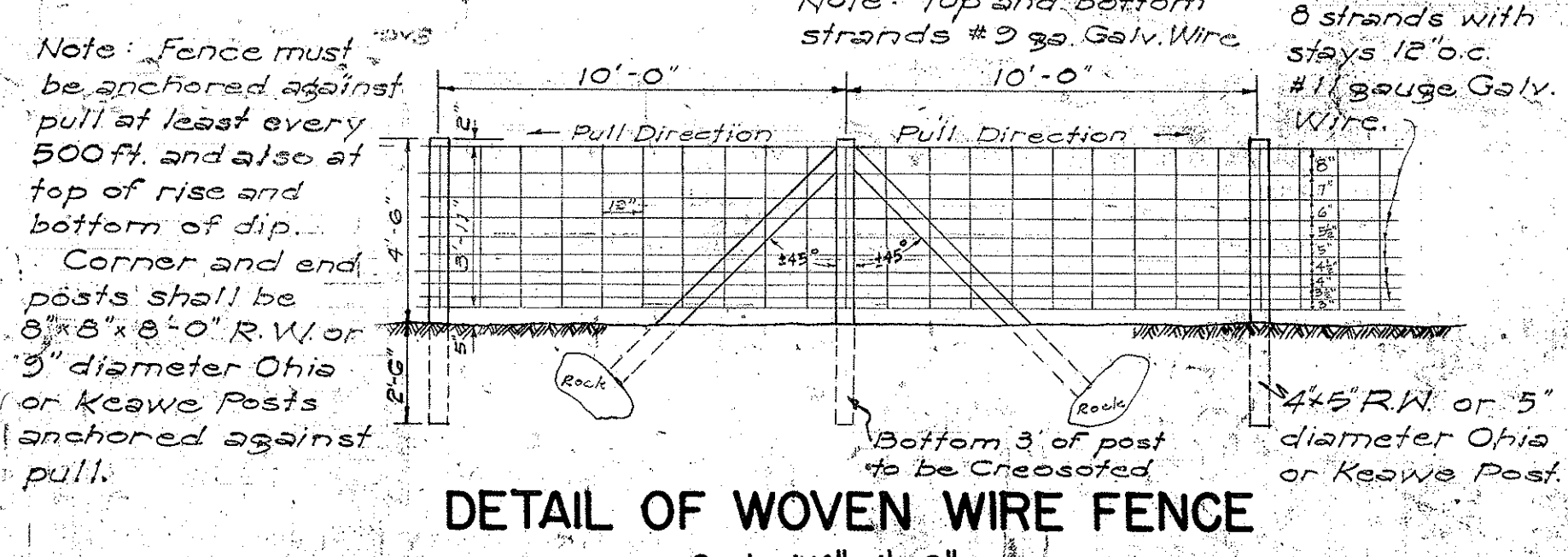
CONC. FENCE POST
Scale: 1-1/2" = 1' - 0"



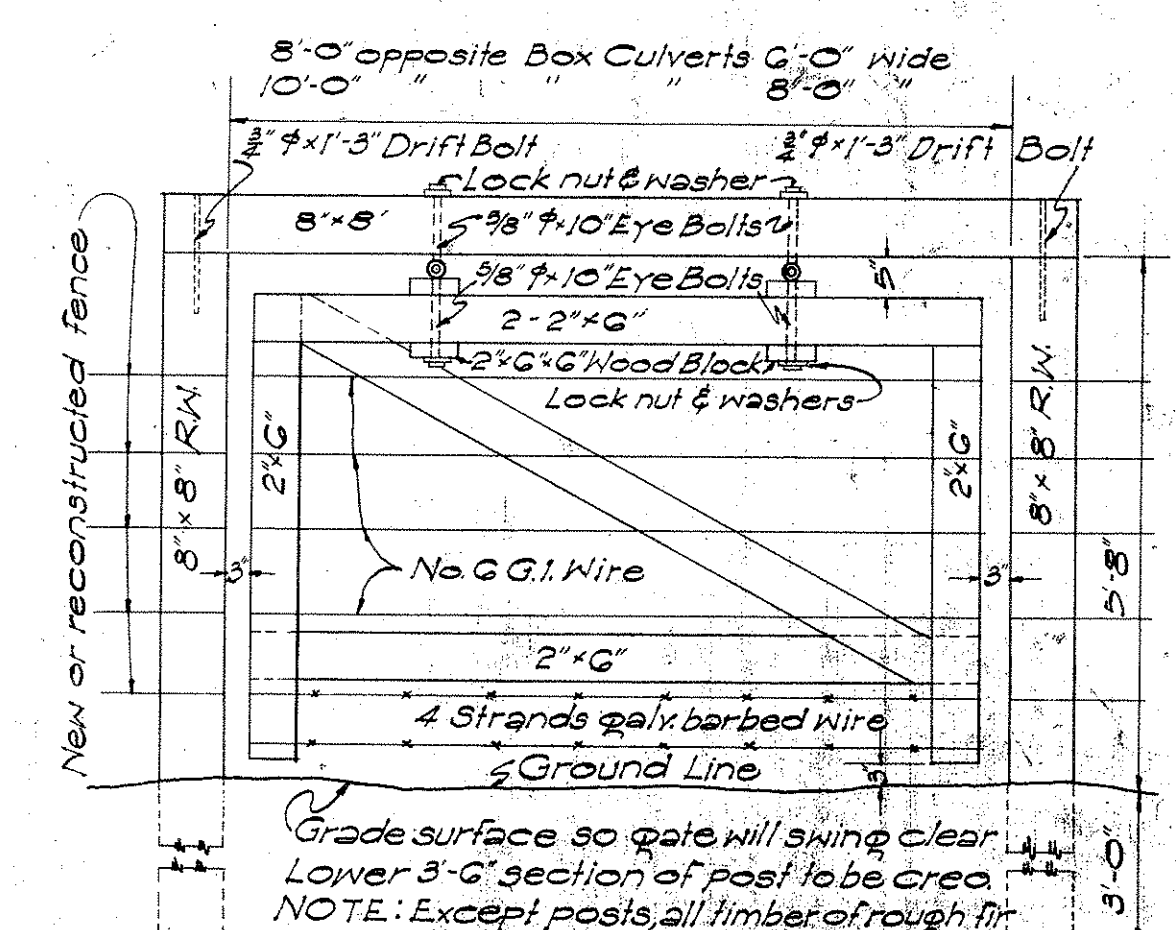
DETAILS OF STANDARD WIRE FENCE WITH WOOD POSTS
Scale: 3/8" = 1' - 0"



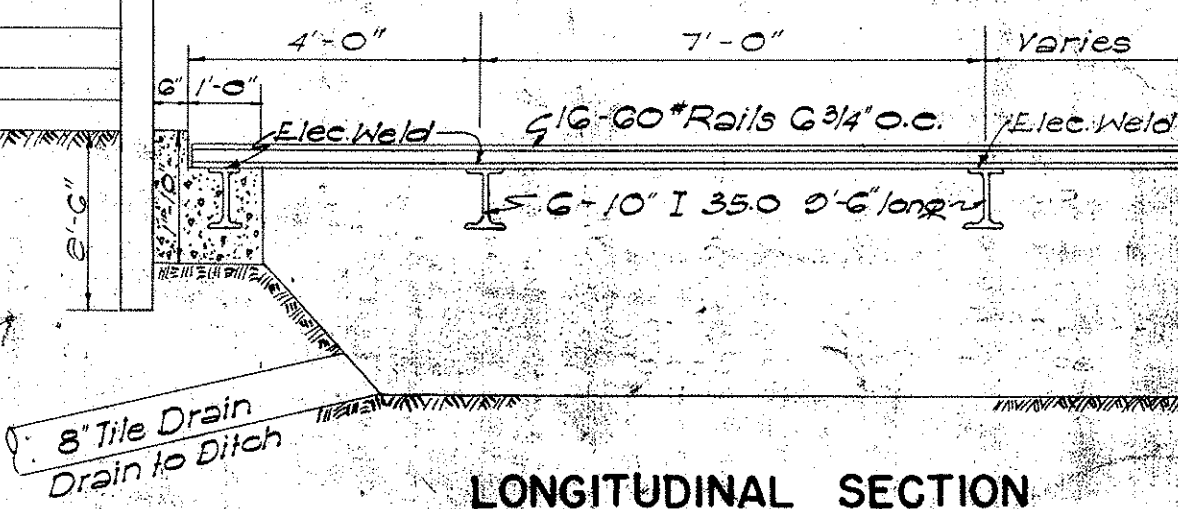
DETAIL OF CHAIN LINK FENCE
Scale: 1/2" = 1' - 0"



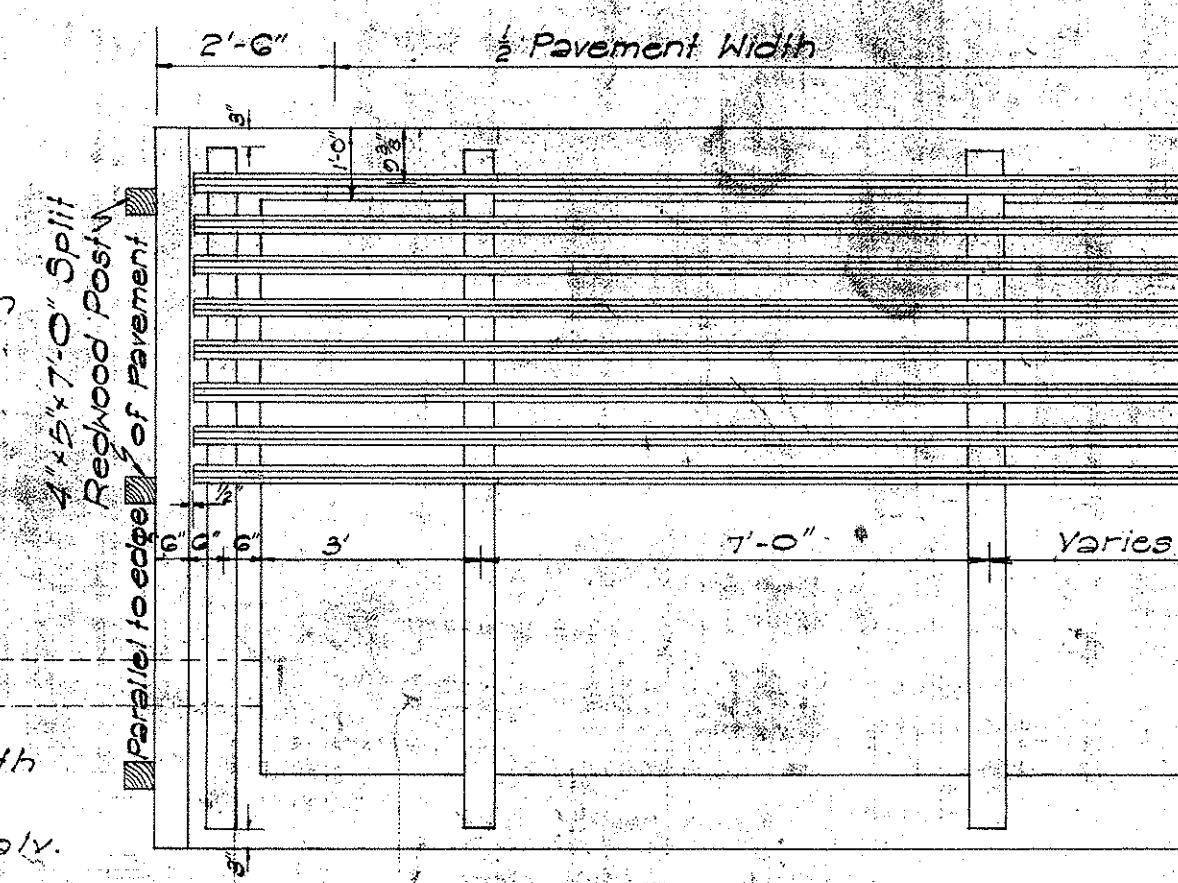
DETAIL OF WOVEN WIRE FENCE
Scale: 1/4" = 1' - 0"



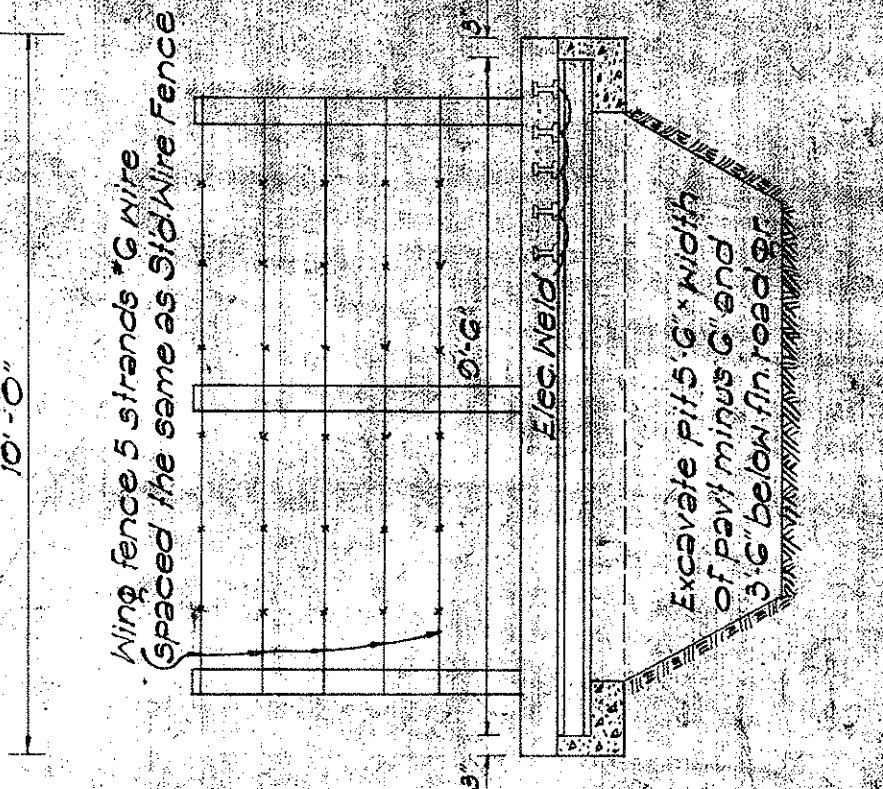
DETAILS OF HURDLE
Scale: 1/2" = 1' - 0"



LONGITUDINAL SECTION



HALF SECTION



SECTION

DETAIL OF CATTLE GUARD
Scale: 3/8" = 1' - 0"

HAWAII STATE HIGHWAY DEPARTMENT
STATE OF HAWAII
STANDARD DETAILS
FENCES, GATES, GUARD RAILS,
GUIDE POSTS, CATTLE GUARD
SCALES AS NOTED