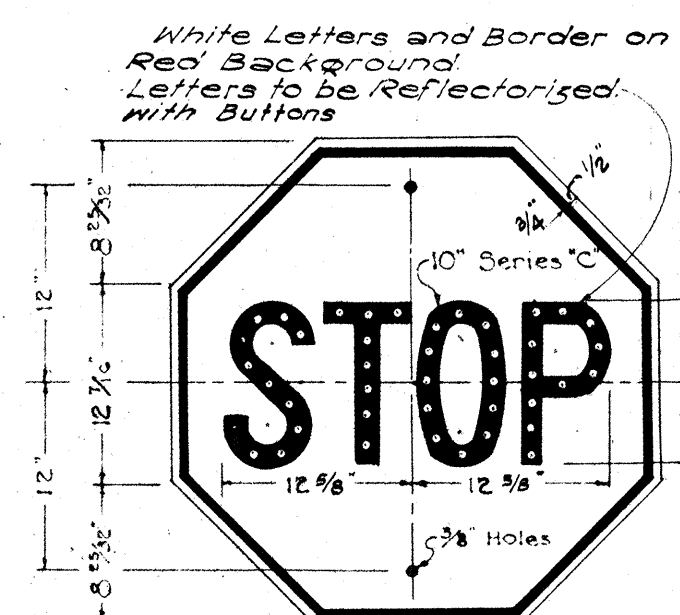
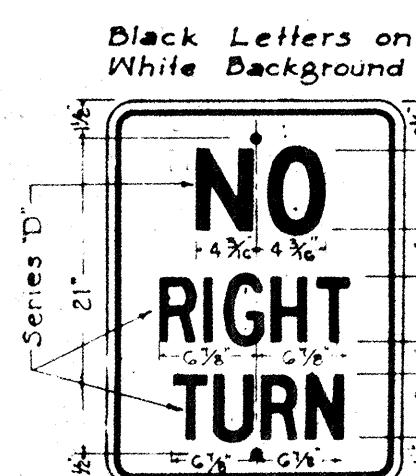
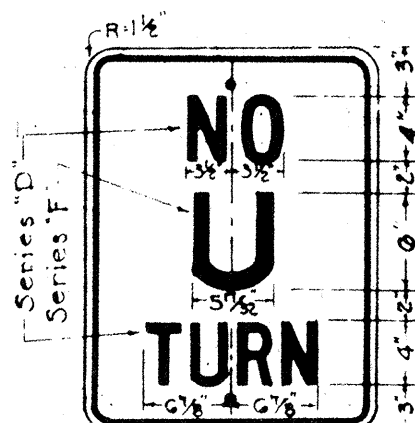




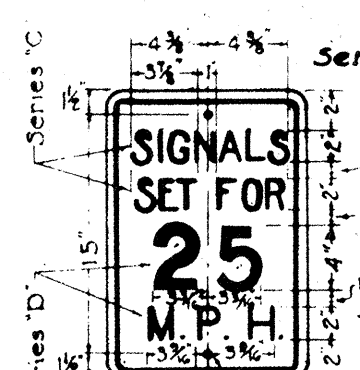
R-1
30" x 30"



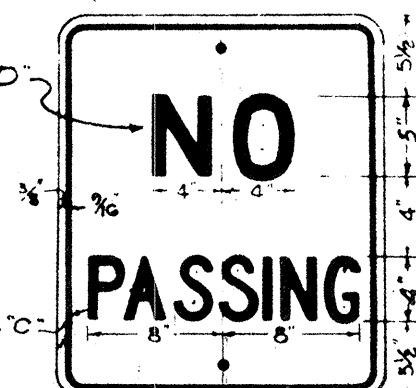
R-6
18" x 24"



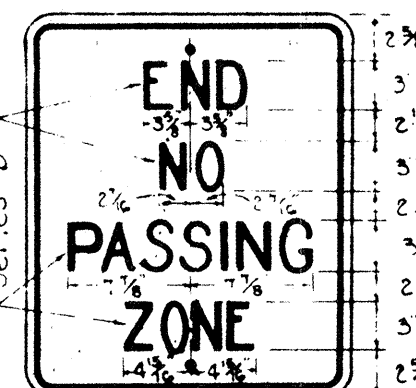
R-8
18" x 24"



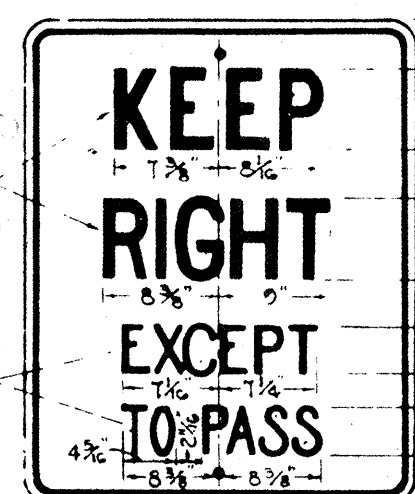
R-10
12" x 18"



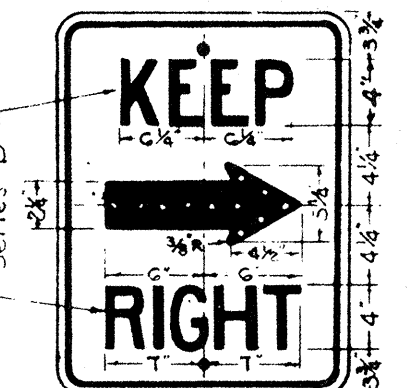
R-11
20" x 24"



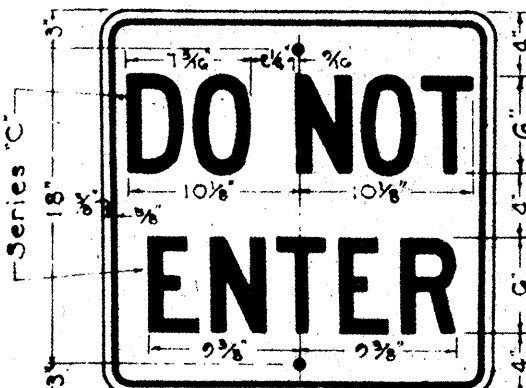
R-12
20" x 24"



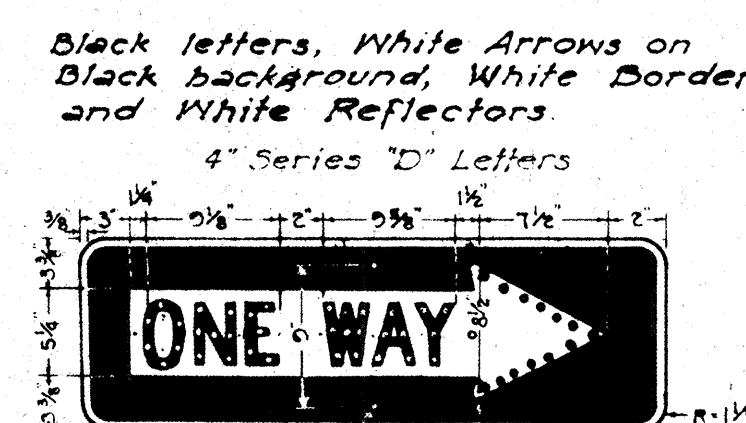
R-13
24" x 30"



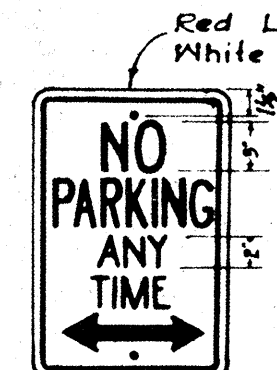
R-14
18" x 24"



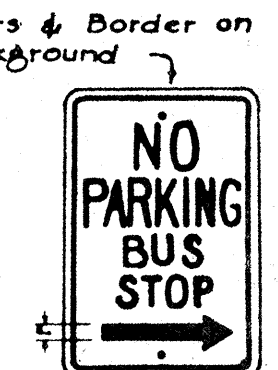
R-15
24" x 24"



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



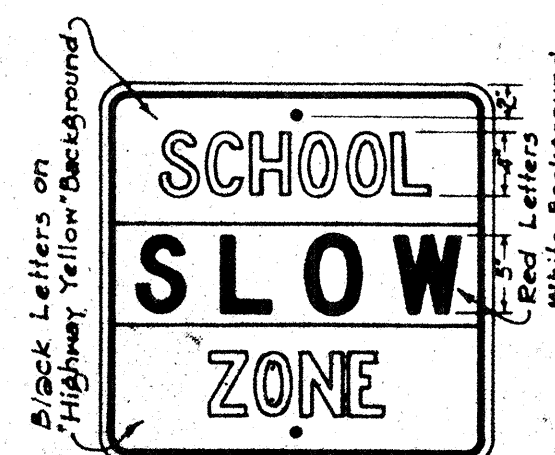
R-18
12" x 18"



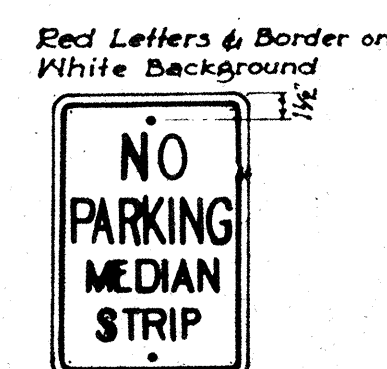
R-26
12" x 18"



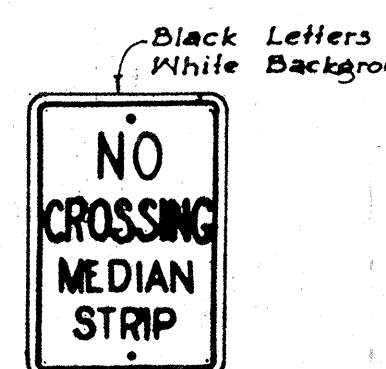
R-29
24" x 30"



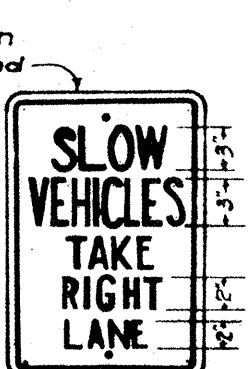
R-41-S
24" x 24"



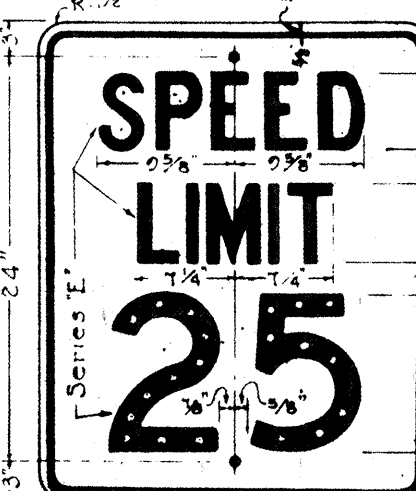
R-42-S
12" x 18"



R-43-S
12" x 18"



R-44-S
12" x 18"



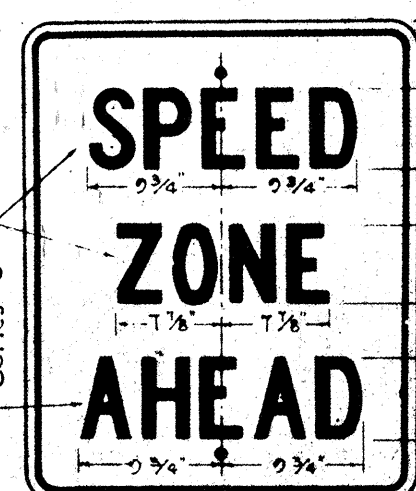
R-102-A
24" x 30"



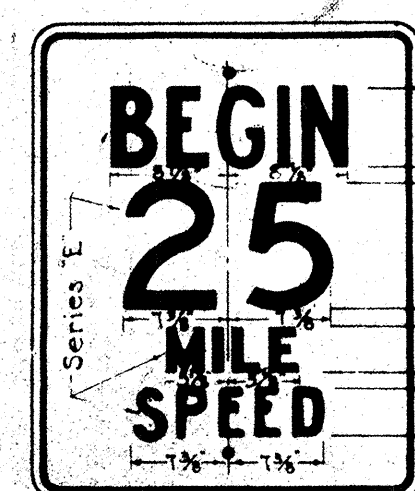
R-102-B
24" x 30"



R-102-C
24" x 30"



R-104
24" x 30"



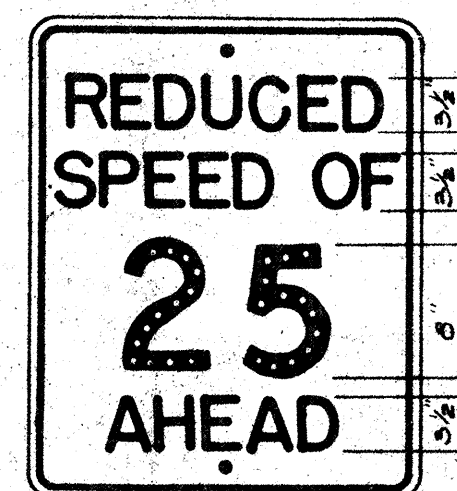
R-105-A
24" x 30"



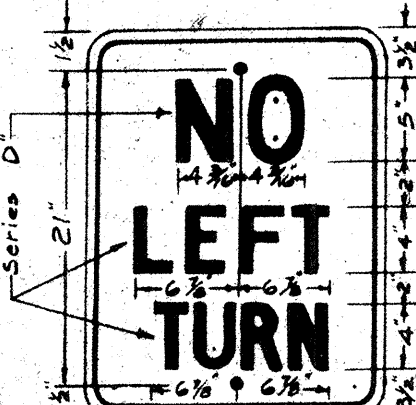
R-105-B
24" x 30"



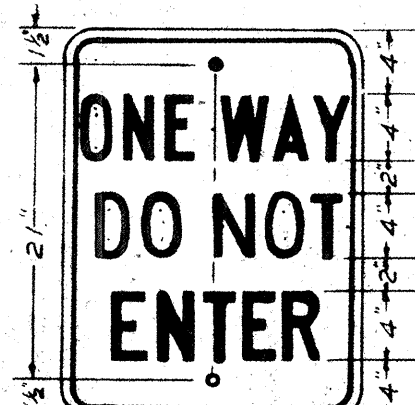
R-105-C
24" x 30"



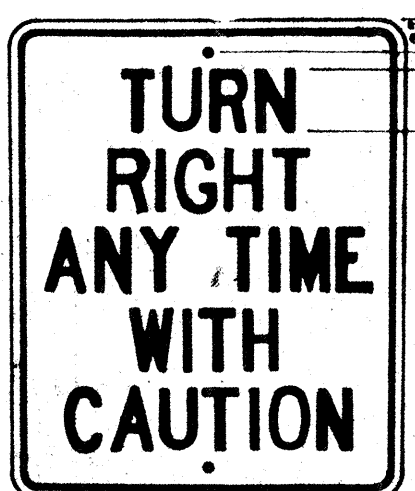
R-104-A
24" x 30"



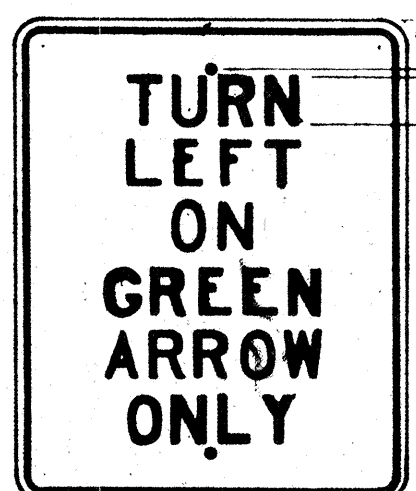
R-7
18" x 24"



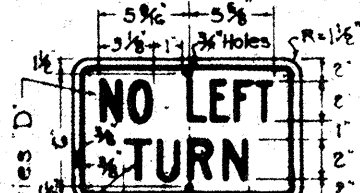
R-66
18" x 24"



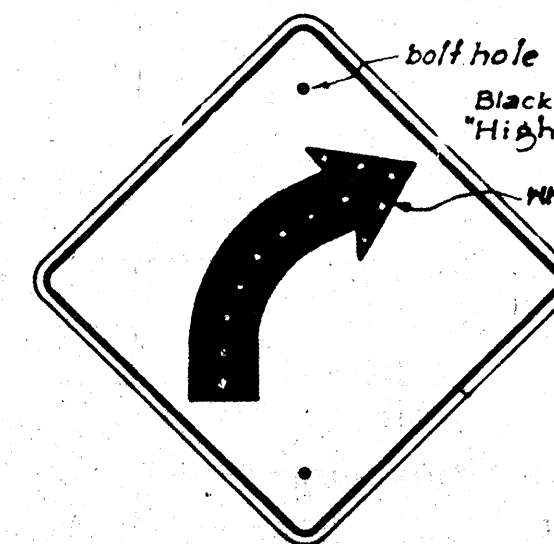
R-106
24" x 30"



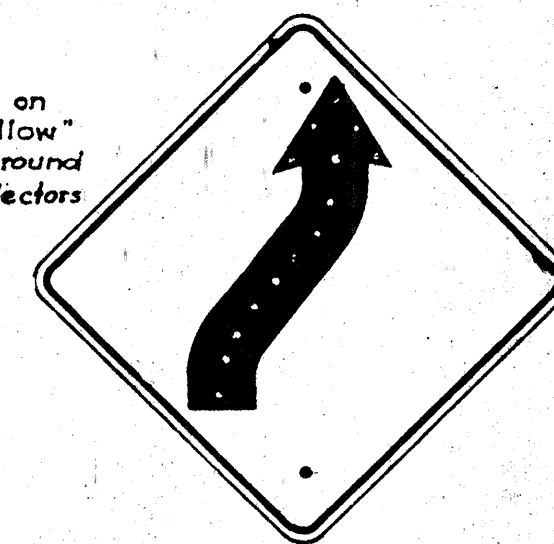
R-107-A
24" x 30"



R-107
14" x 9"



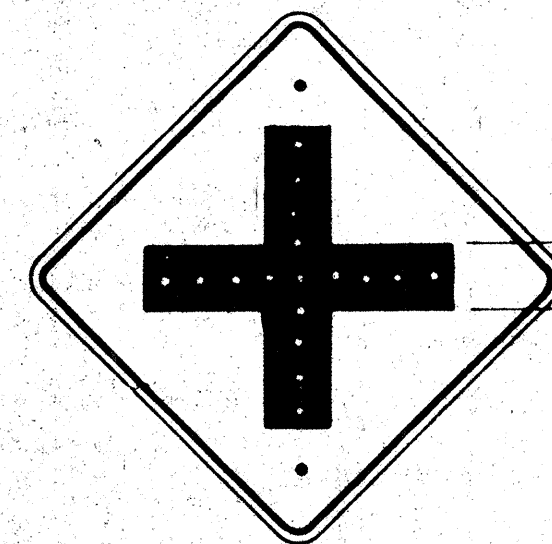
W-2-R
*W-2-L
24" x 24"



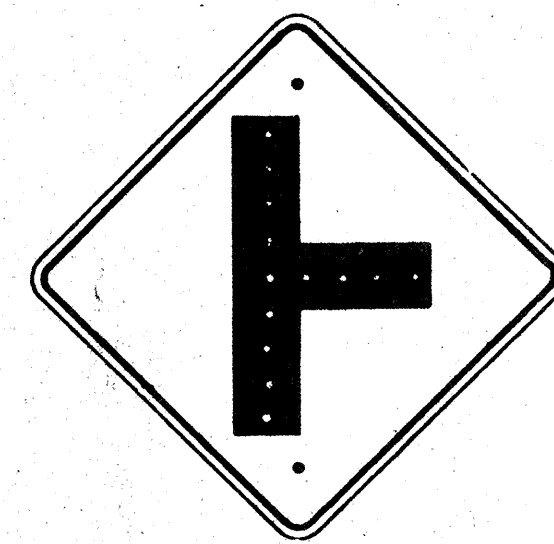
W-4-R
*W-4-L
24" x 24"



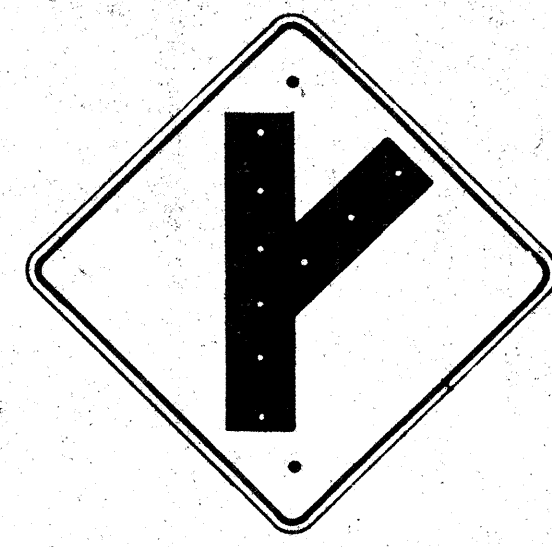
W-5-R
*W-5-L
24" x 24"



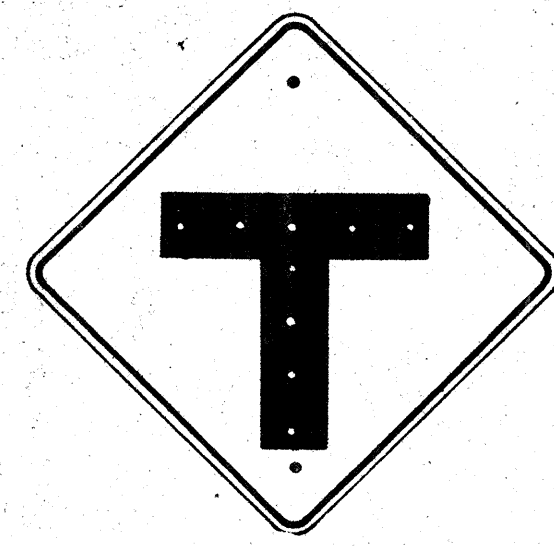
W-6
24" x 24"



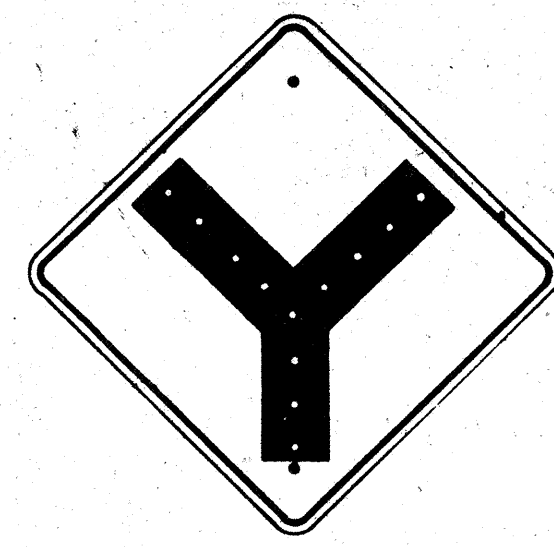
W-7
24" x 24"



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-14-A
24" x 24"



W-19
30" x 30"



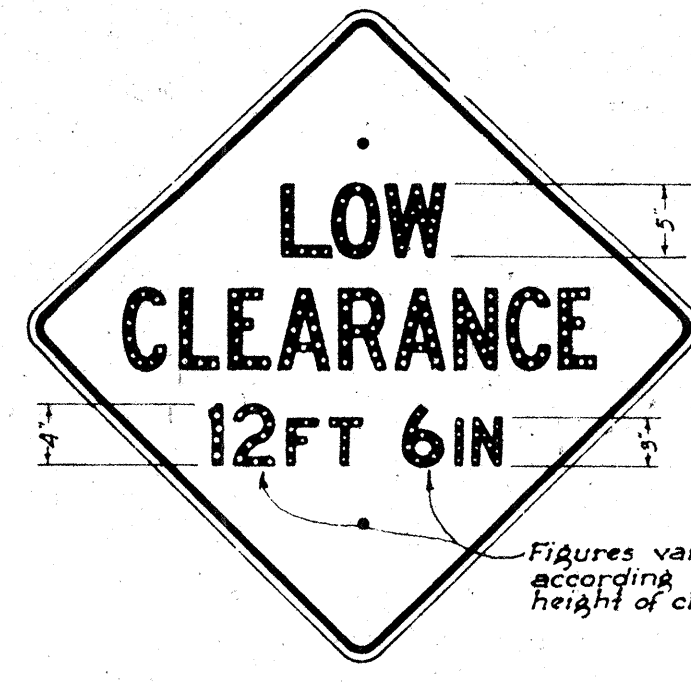
W-20
30" x 30"



W-21
30" x 30"



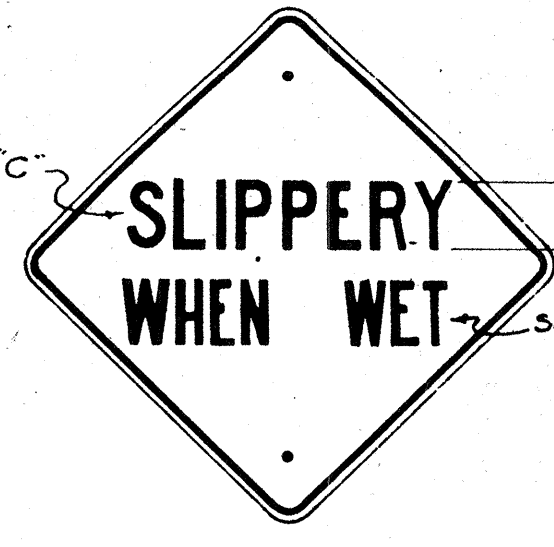
W-22
24" x 24"



W-24
30" x 30"



W-25
24" x 24"



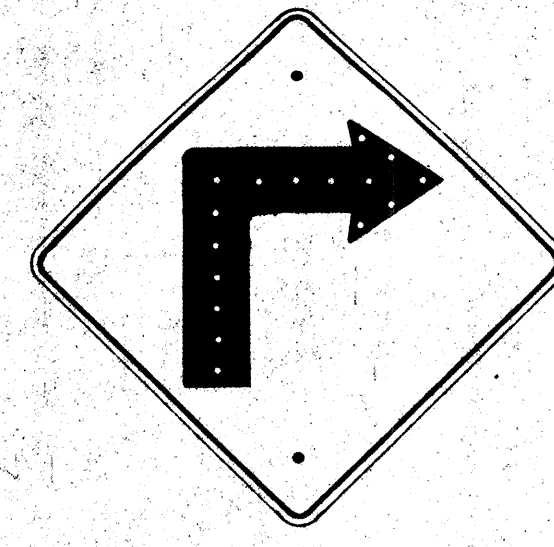
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



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

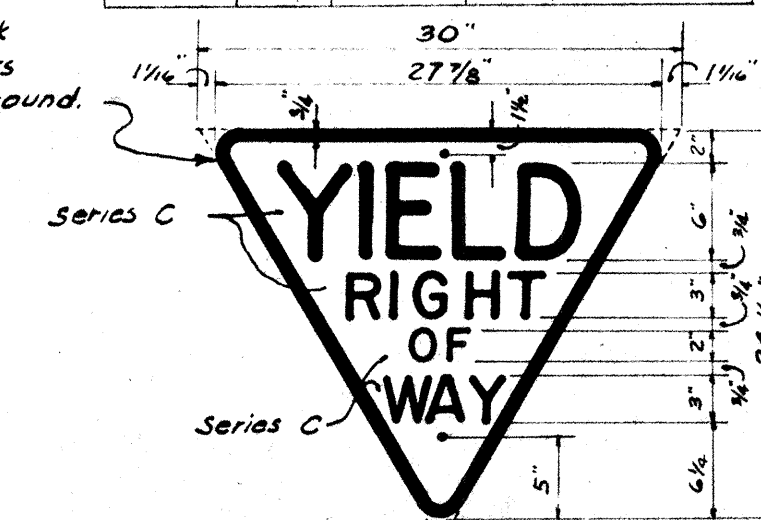
Unless otherwise specified, all signs shall conform with requirements of "Manual on Uniform Traffic Control Devices for Streets and Highways."

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 (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. See Specifications for Materials and Finish.

TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
REGULATORY & WARNING SIGNS
Scale: 1" = 1'
APPROVED: *Ben E. Hutter*
TERRITORIAL HIGHWAY ENGINEER
JUNE 23, 1953

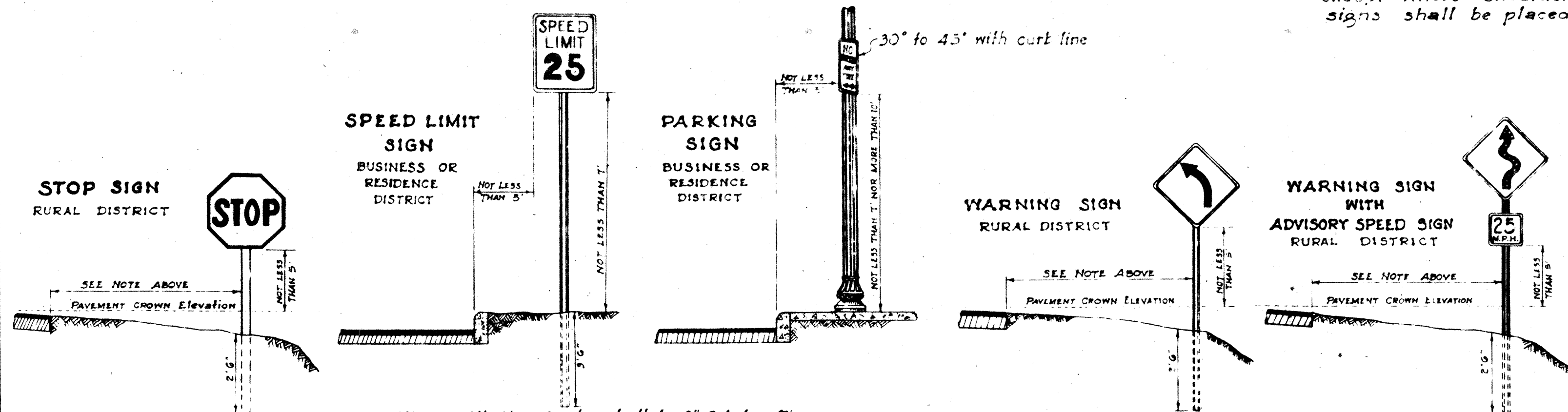
NOTE: For R-39, Black Border and Letters on Yellow Background.



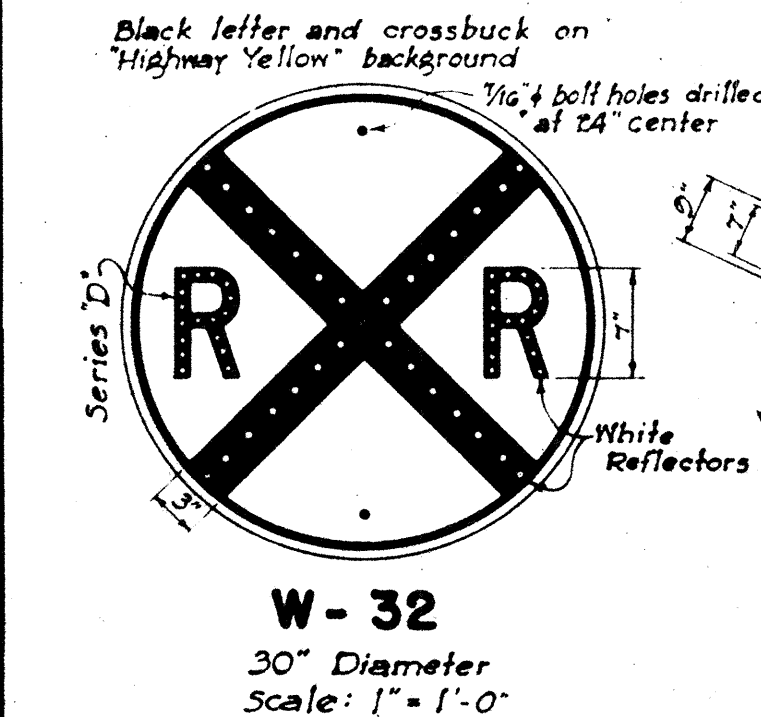
R-39
30" Equilateral Triangle
Scale: 1"=1'-0"

NOTE: THIS MARKER SHALL BE INSTALLED OPPOSITE AND AT THE SAME HEIGHT AS MARKER W-42

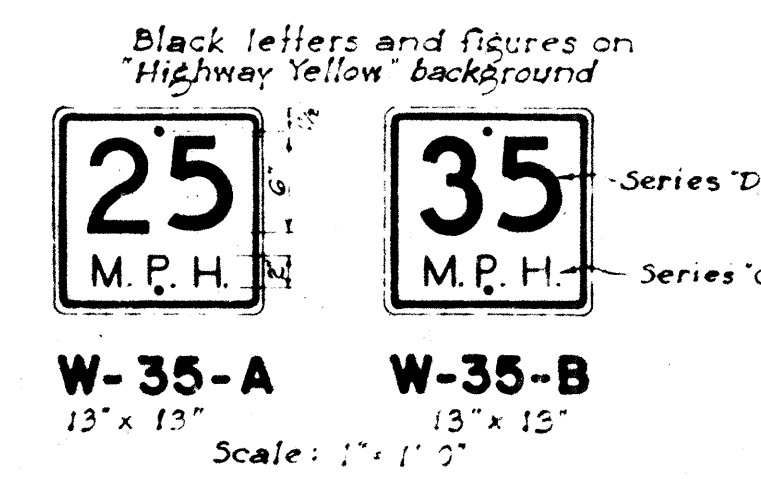
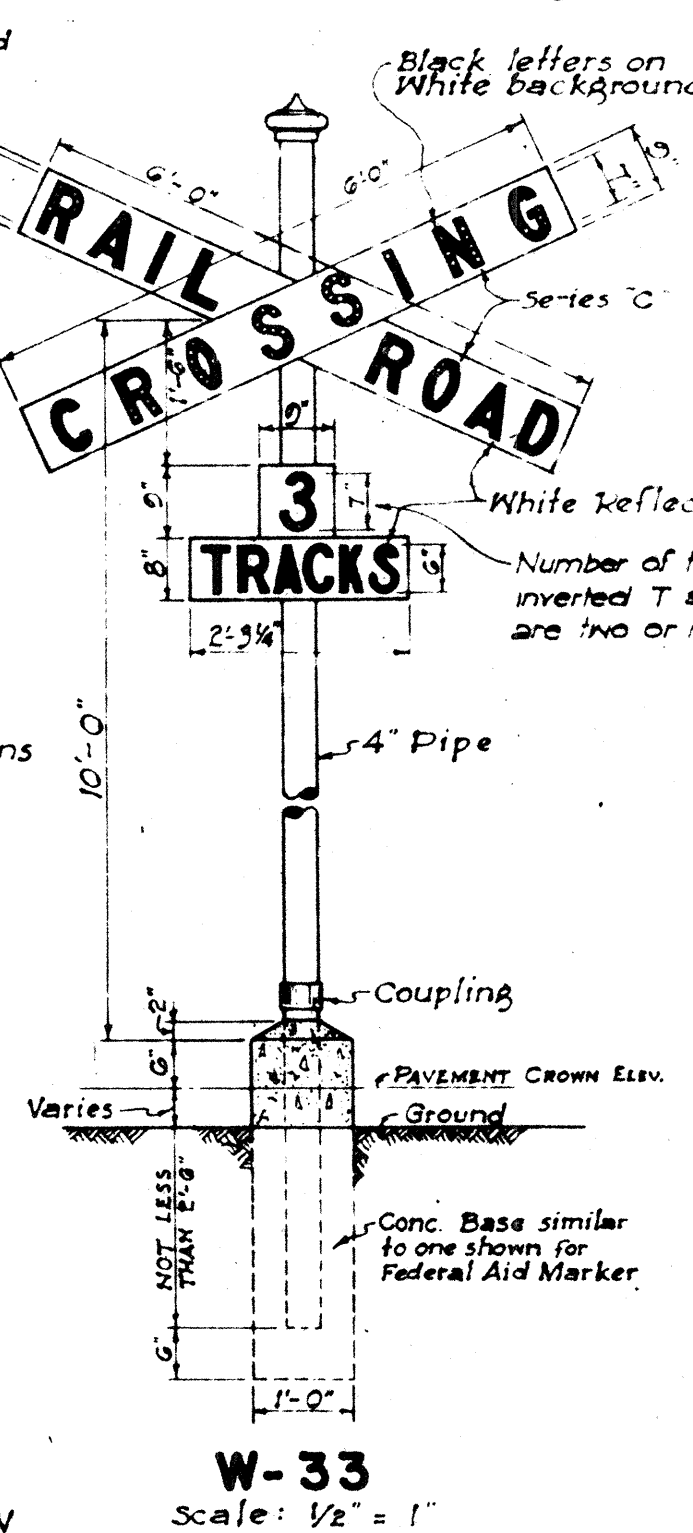
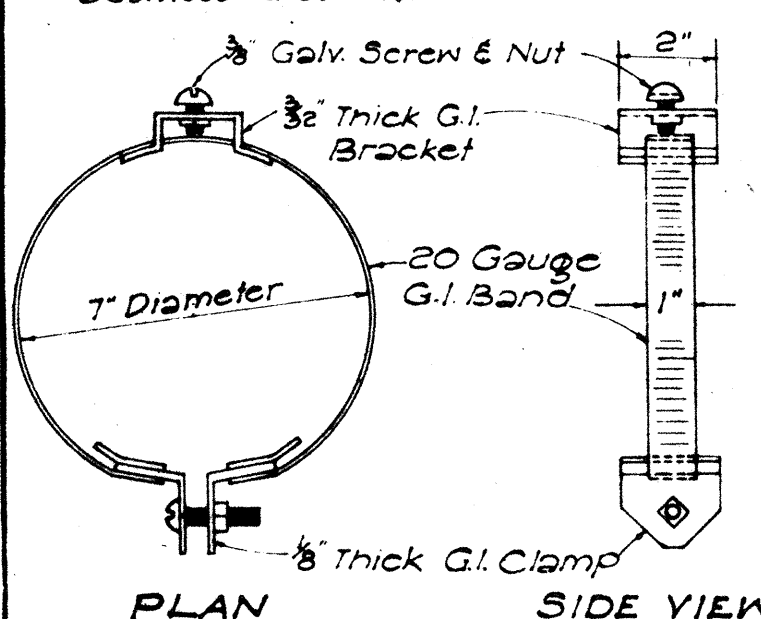
NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.



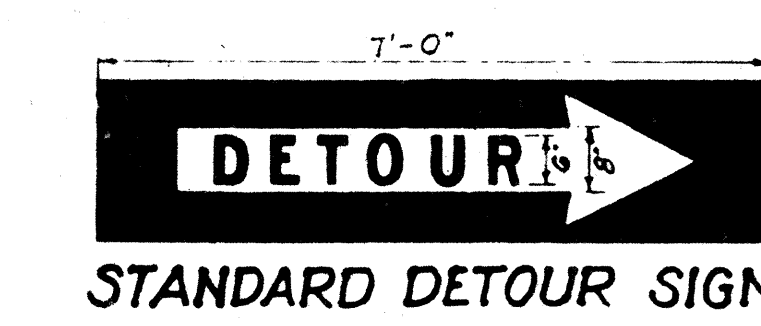
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1"=3'-0"



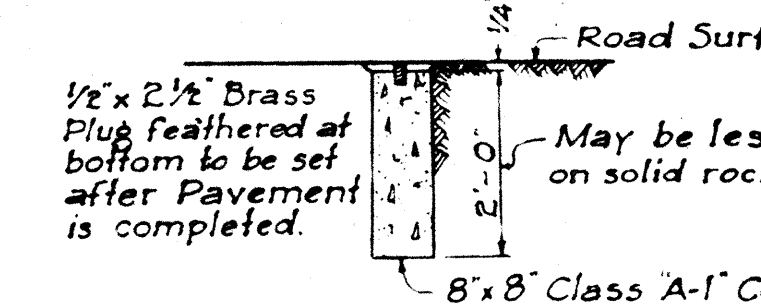
NOTE: This sign shall be placed from 300 to 500 feet from R.R. intersections in rural areas and a minimum distance of 100 feet from R.R. intersections in Residence or Business districts.



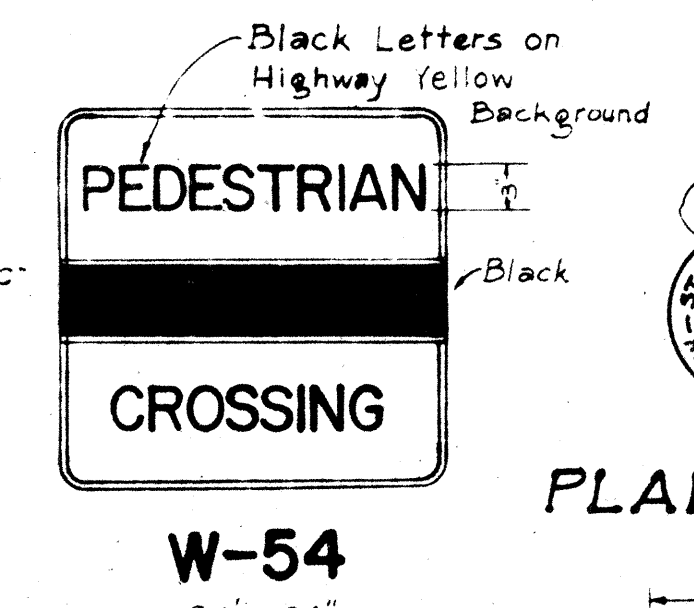
W-35-A W-35-B
Scale: 1"=1'-0"



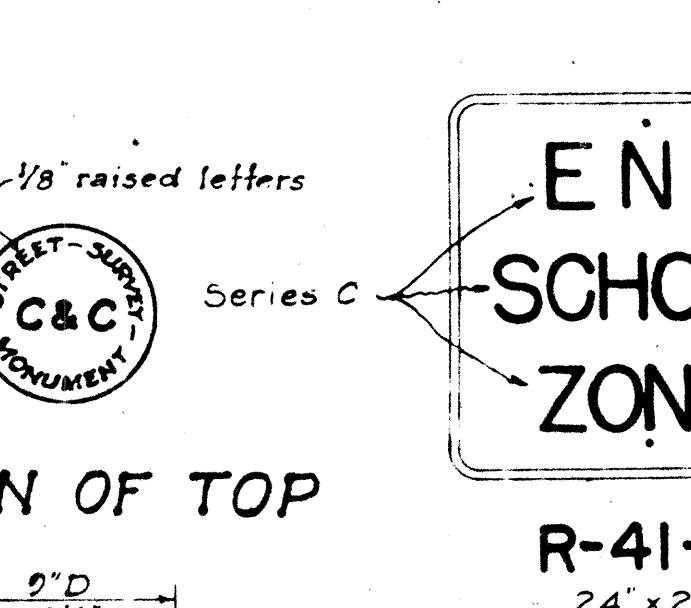
STANDARD DETOUR SIGN
Scale: 1/2"=1'-0"



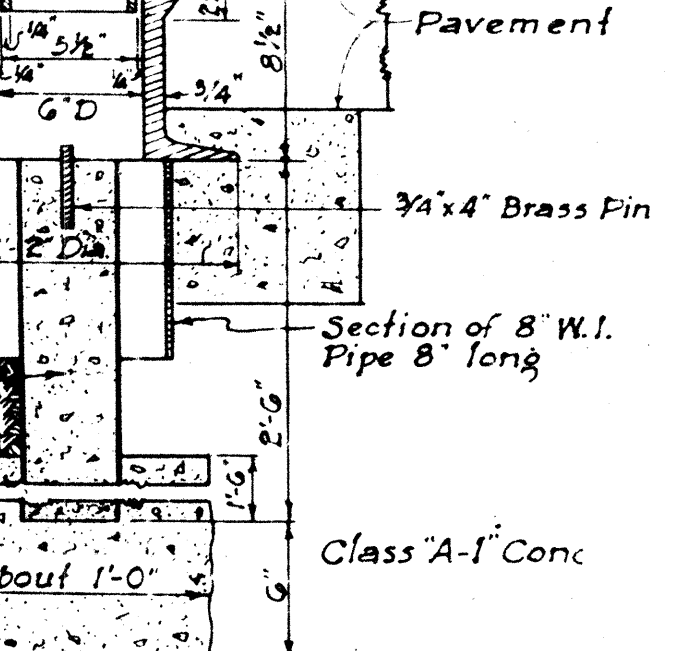
CENTER LINE MONUMENT
Scale: 1/2"=1'-0"



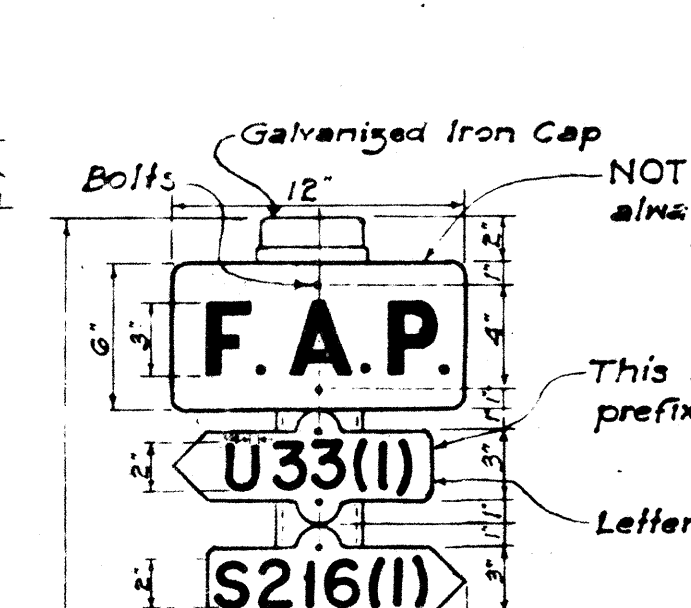
W-54
24" x 24"



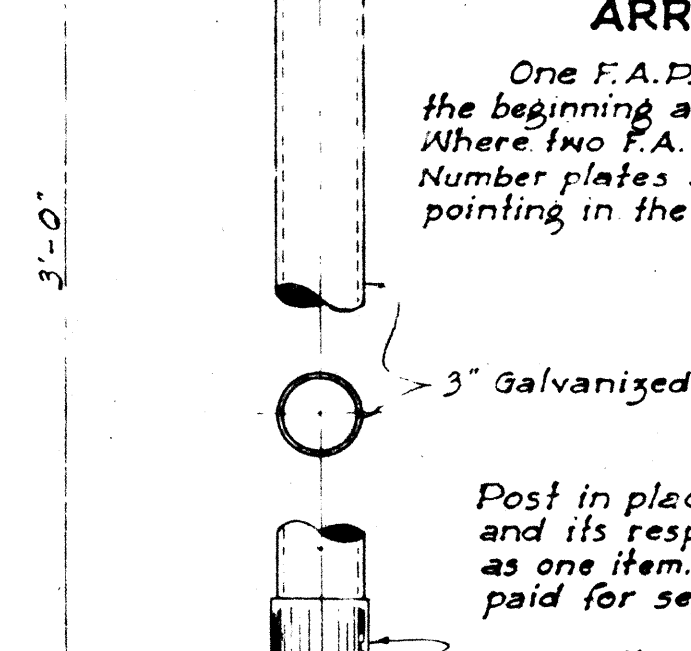
R-41-T
24" x 24"



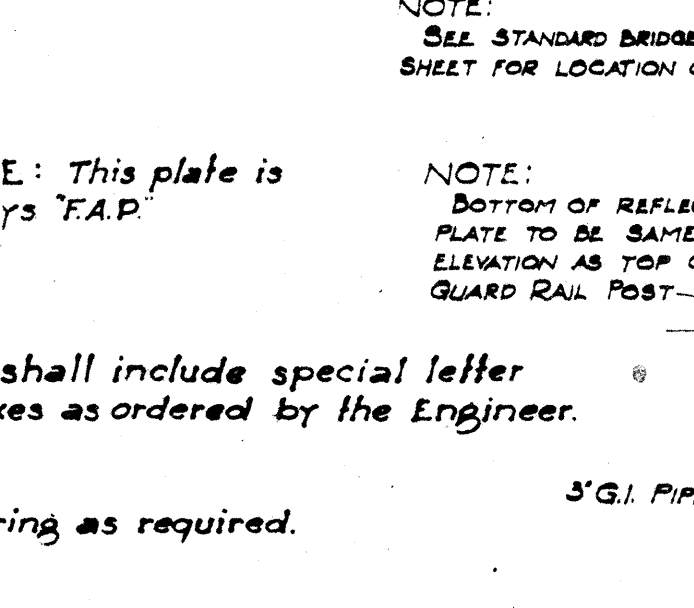
STANDARD C & C STREET SURVEY MONUMENT
Scale: 1"=1'-0"



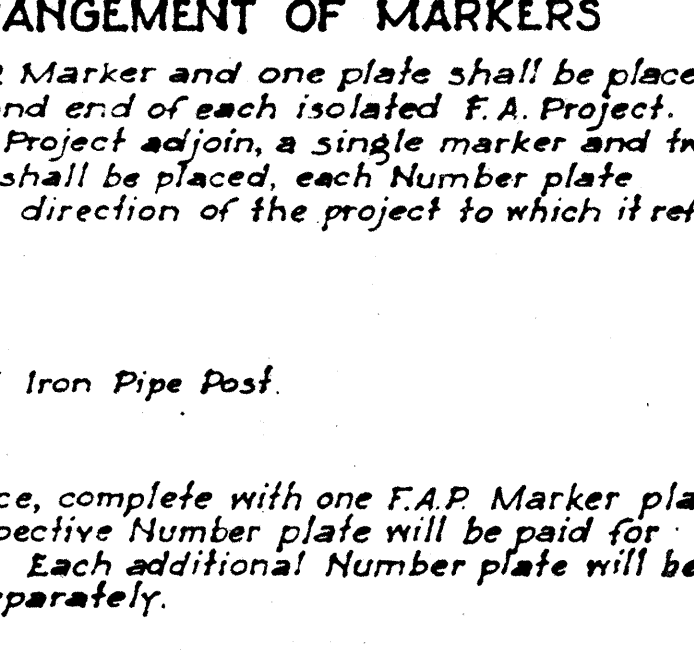
F.A.P.
Scale: 1"=1'-0"



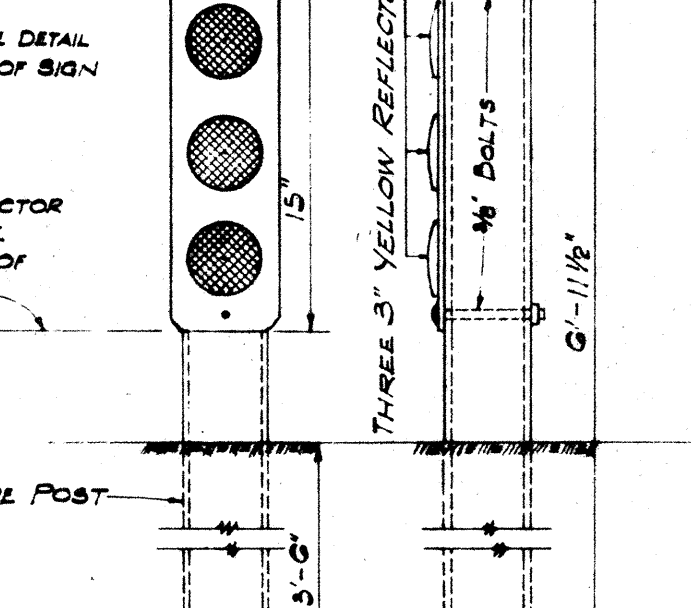
F.A.P.
Scale: 1"=1'-0"



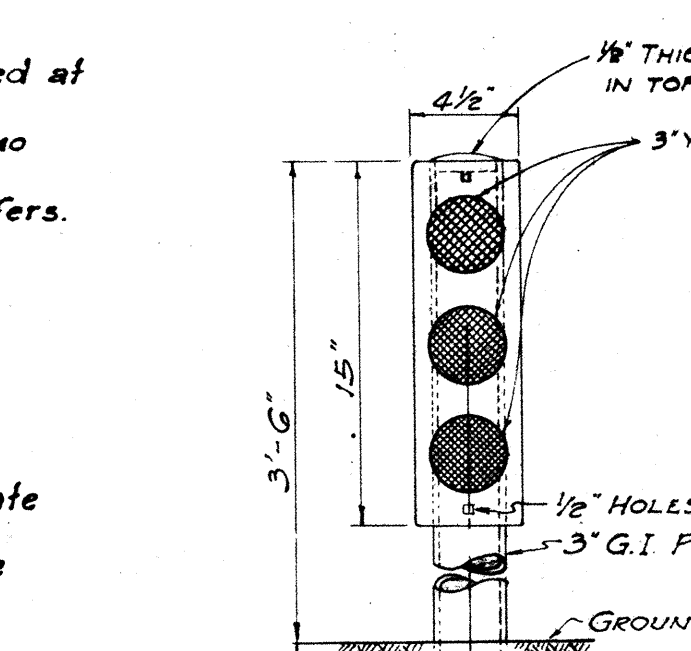
F.A.P.
Scale: 1"=1'-0"



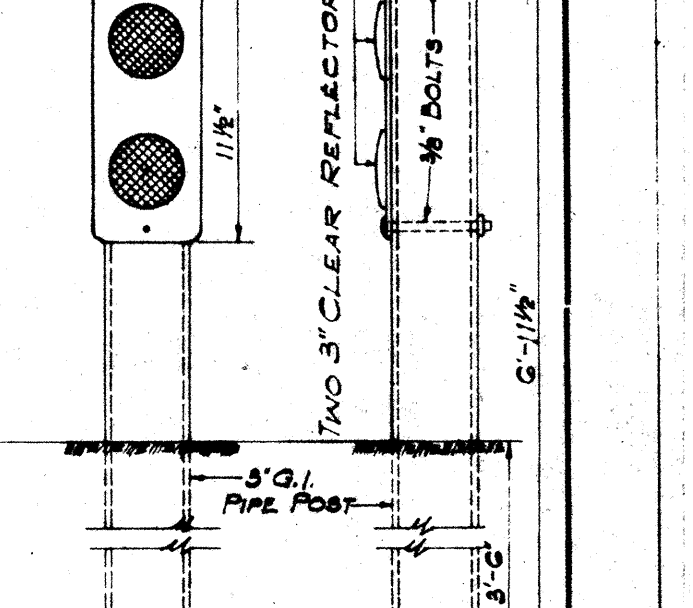
F.A.P.
Scale: 1"=1'-0"



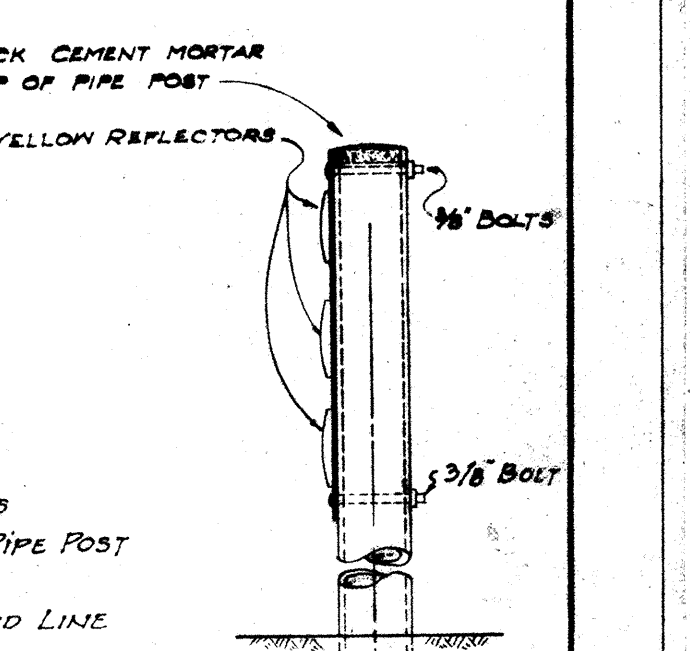
F.A.P.
Scale: 1"=1'-0"



F.A.P.
Scale: 1"=1'-0"



F.A.P.
Scale: 1"=1'-0"



F.A.P.
Scale: 1"=1'-0"

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.

Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

Markers and Number plates shall be No. 16 Ga. galvanized iron with 3/8" holes for fastening as shown on sketch. Markers and Number plates shall be given one coat of best Chromate primer and two coats of White Marine Enamel. Before painting they shall be given a wash of 8 ounces of Copper Sulphate in one gallon of water. The lettering shall be of two coats of Black Marine Enamel.

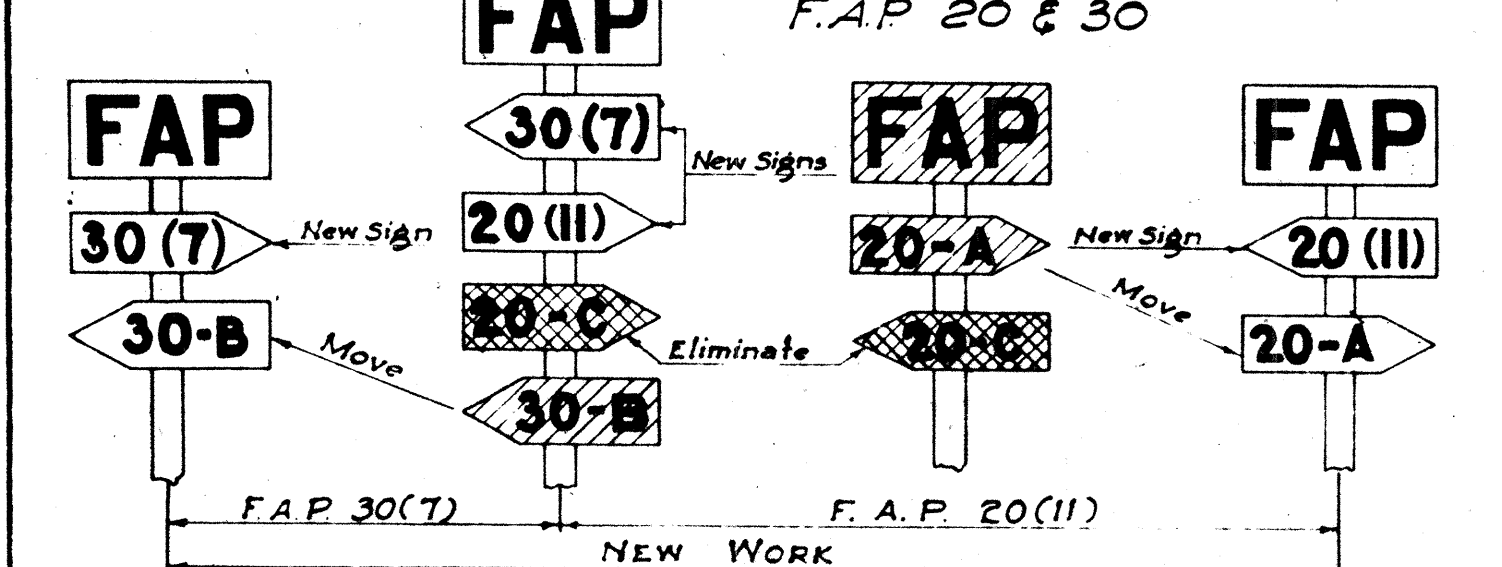
Markers and plates shall be fastened with 3/8" galvanized bolts and washers in addition to lead washers for both sides of each plate.

DETAIL OF SIGNS

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

ADJUSTABLE BAND BRACKET FOR SUPPORTING TRAFFIC SIGNS ON MONOTUBE LIGHTING STANDARDS
Scale: 3/8"=1'-0"

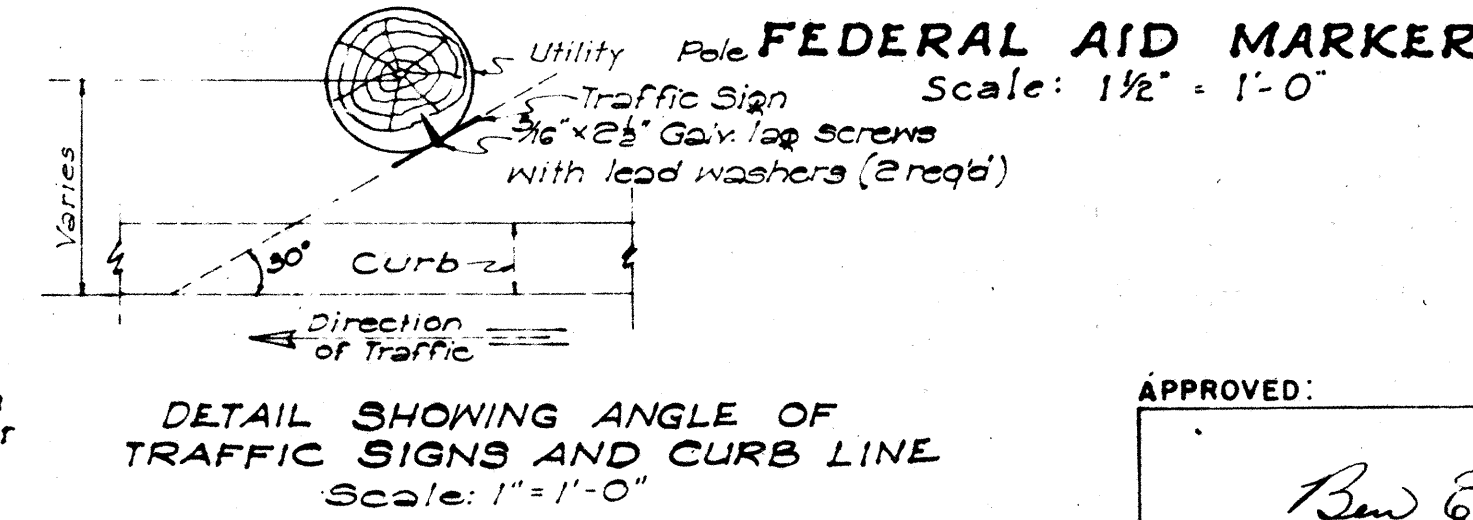
This product to be as shown in Catalogue No. 48 of Cataphote Corp. or equal.



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.

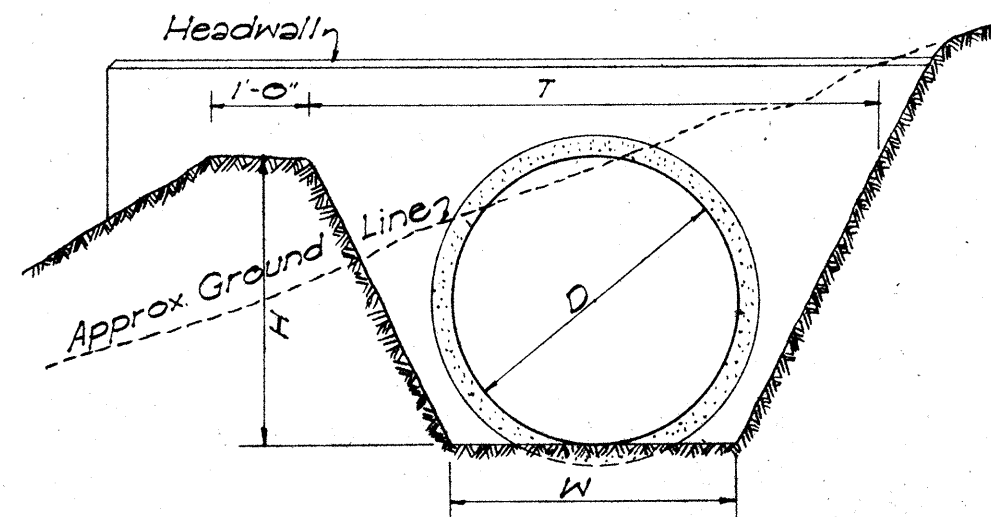
METHOD OF MARKING F.A. PROJECTS AT OVERLAPS (USING NUMBER SUFFIX ON NEW WORK)



APPROVED: *R. E. Muttter*
TERRITORIAL HIGHWAY ENGINEER

JULY 16, 1956
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
F.A. MARKERS, MONUMENTS
SIGNS & LOCATION OF SIGNS
SCALES AS NOTED

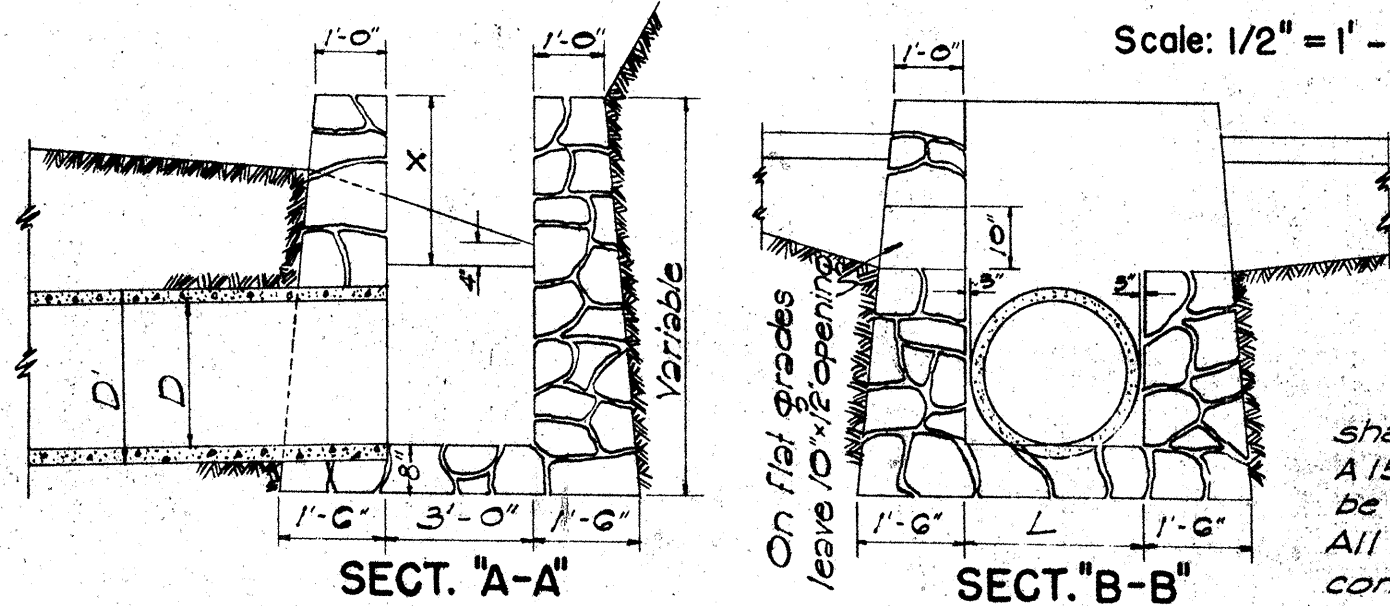
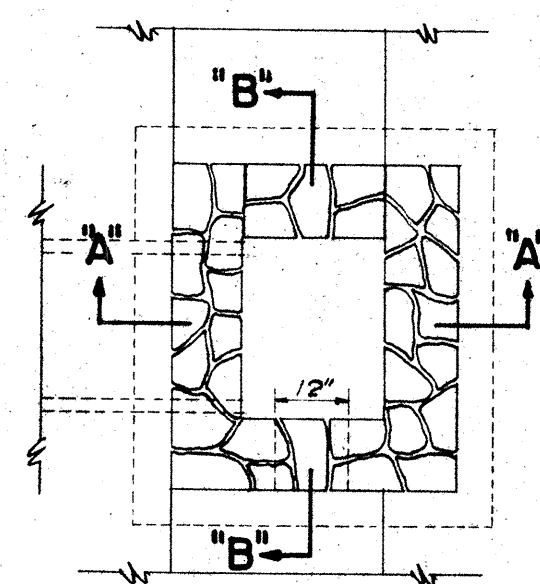
D	W	H	T=H+H
18"	24"	2'-0"	4'-0"
24"	30"	2'-0"	4'-0"
30"	30"	2'-6"	5'-0"
36"	36"	3'-0"	6'-0"



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

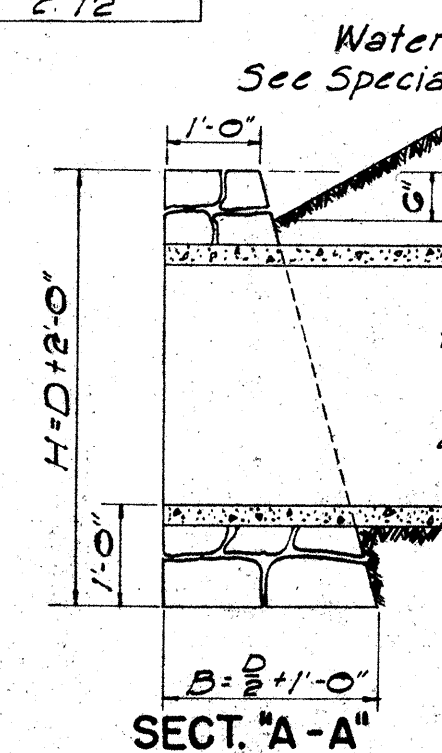
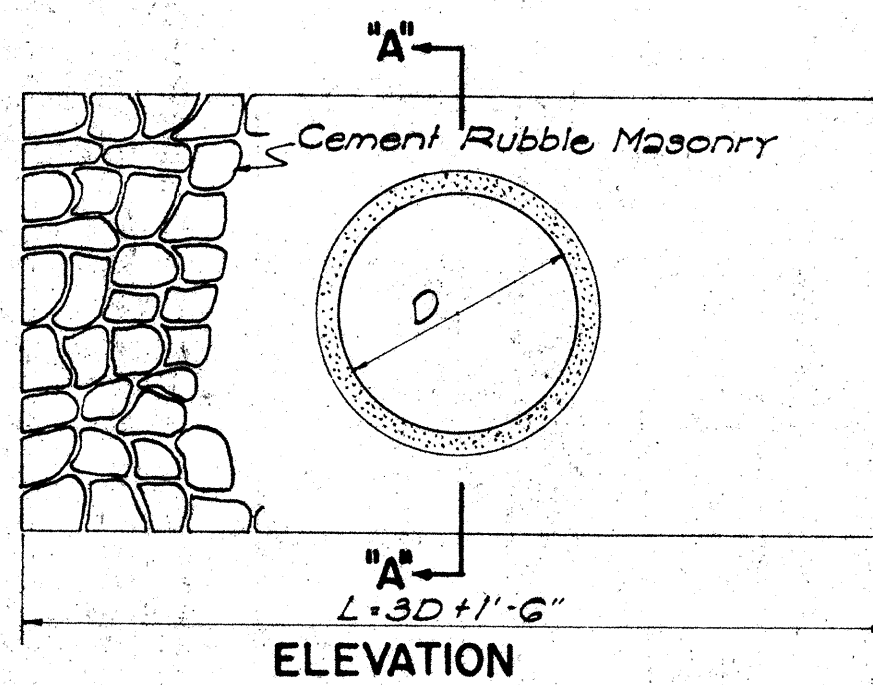
D	D	L=D+G	Cu. Yds.	Where Variables Equal
23"	18"	2'-5"	3.02	4'-6"
30"	24"	3'-0"	3.61	5'-0"
37"	30"	3'-7"	4.21	5'-6"
44"	36"	4'-2"	4.85	6'-0"

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

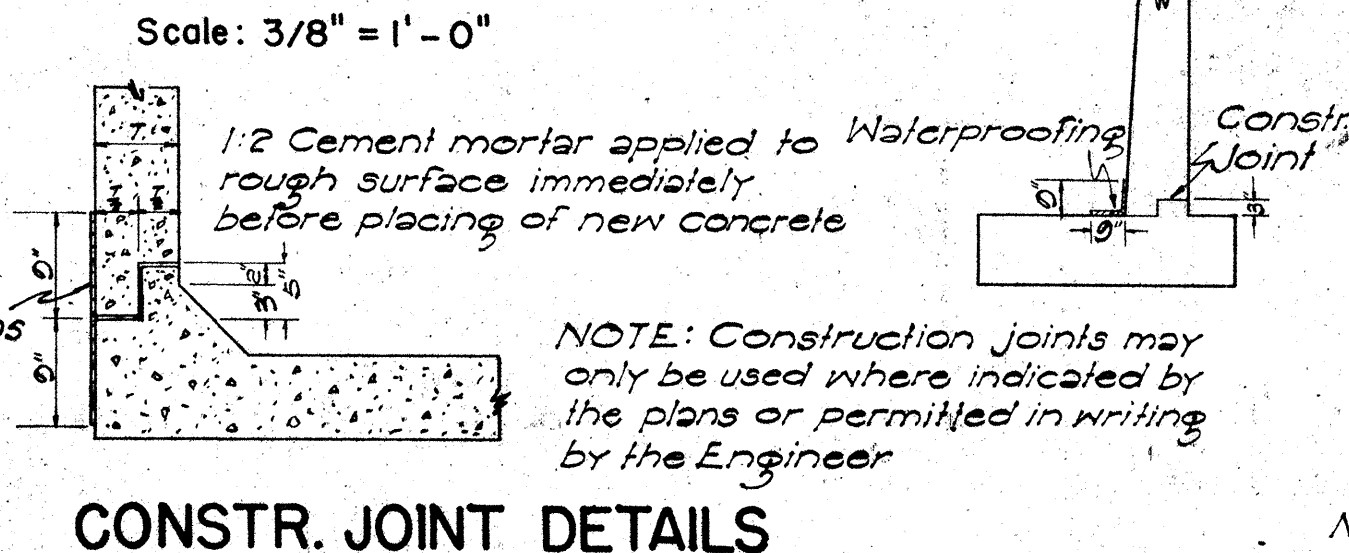


DETAIL OF MASONRY DROP INTAKE
Scale: 3/8" = 1'-0"

D	H	B	L	Cu. Yds.	Cu. Yds.	Cu. Yds.
18"	3'-6"	1'-0"	6'-0"	0.85	0.95	0.93
24"	4'-0"	2'-0"	7'-6"	1.28	1.45	1.41
30"	4'-6"	2'-6"	9'-0"	1.83	2.06	2.00
36"	5'-0"	3'-0"	10'-6"	2.40	2.84	2.72

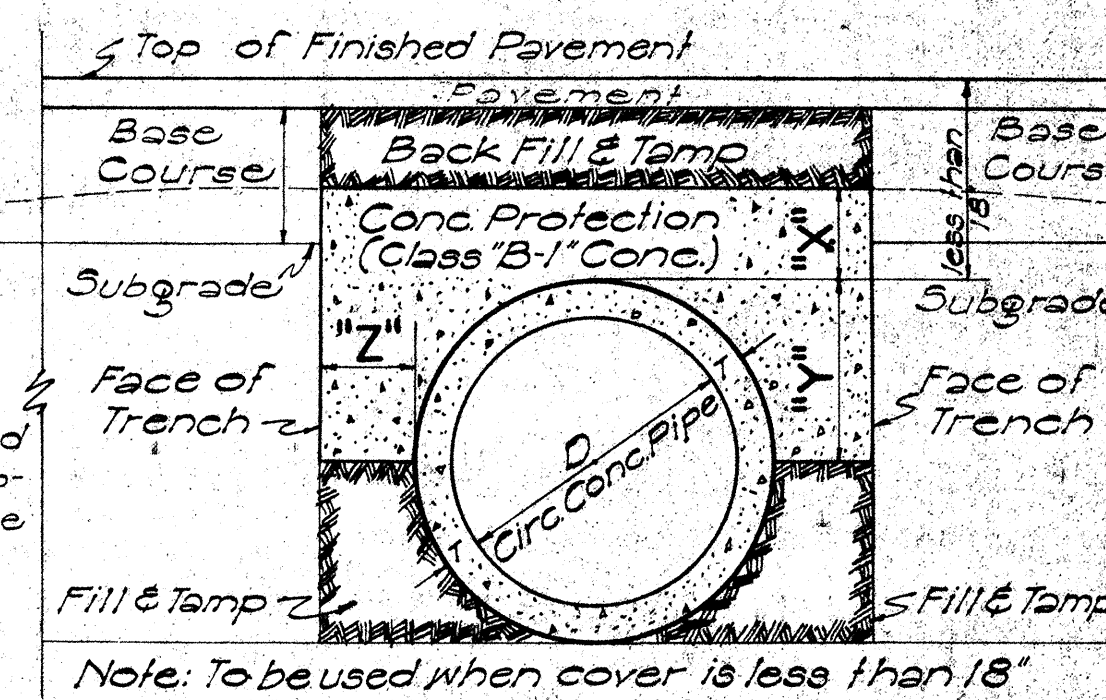


DETAIL OF MASONRY HEADWALL
Scale: 1/2" = 1'-0"



CONSTR. JOINT DETAILS

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.



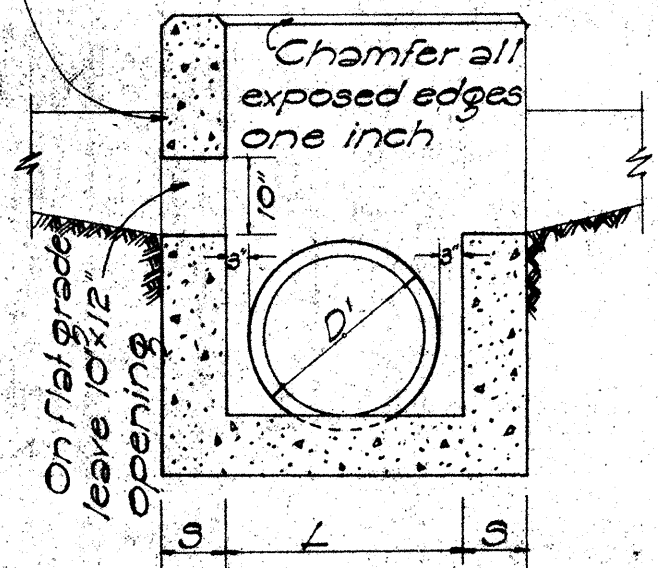
X	Y	Z
6" for 18"D		Z must be from pipe to face of trench
7" " 24"D		
8" " 30"D		
9" " 36"D		
10" " 42"D		
11" " 48"D		
12" " 54"D		

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

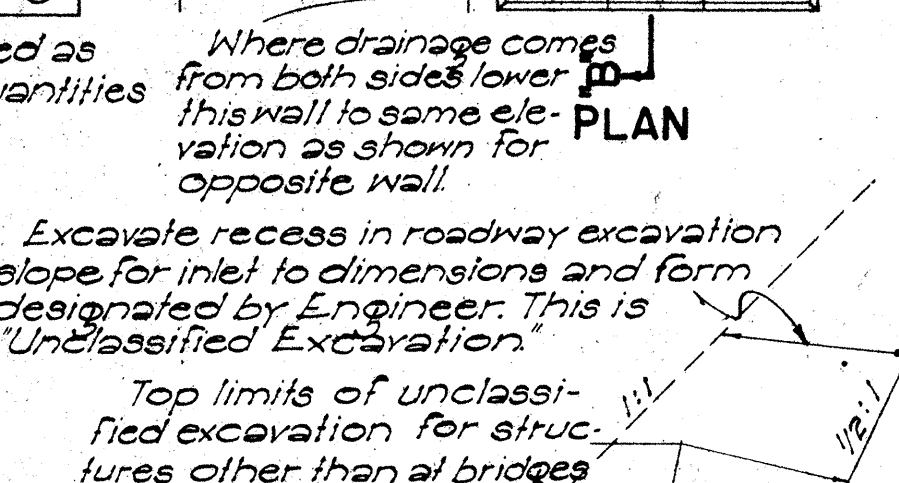
D	D	L=D+G	S	Cu. Yds.	Where Variables Equal
23"	18"	2'-5"	8"	1.41	4'-6"
30"	24"	3'-0"	8"	1.72	5'-0"
37"	30"	3'-7"	8"	2.32	5'-6"
44"	36"	4'-2"	8"	2.73	6'-0"
51"	42"	4'-9"	10"	3.54	6'-6"
58"	48"	5'-4"	10"	4.01	7'-0"

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"

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

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

CAST-IN-PLACE CONC. CULVERT

D	B	L	H	Cu. Yds.	Cu. Yds.	No. of Bars	Size	Length	Lbs.
18"	1'-6"	6'-0"	4'-0"	0.92	1.00	4	3/4"	5'-6"	33
24"	1'-6"	7'-6"	4'-6"	1.25	1.33	4	3/4"	7'-0"	42
30"	2'-0"	9'-0"	5'-0"	1.95	2.17	4	3/4"	8'-6"	51
36"	2'-0"	10'-6"	5'-6"	2.45	2.74	4	3/4"	10'-0"	60
42"	2'-6"	12'-0"	6'-0"	3.87	4.26	4	3/4"	11'-6"	69
48"	2'-6"	13'-6"	6'-6"	4.66	5.11	4	3/4"	13'-0"	78

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

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

