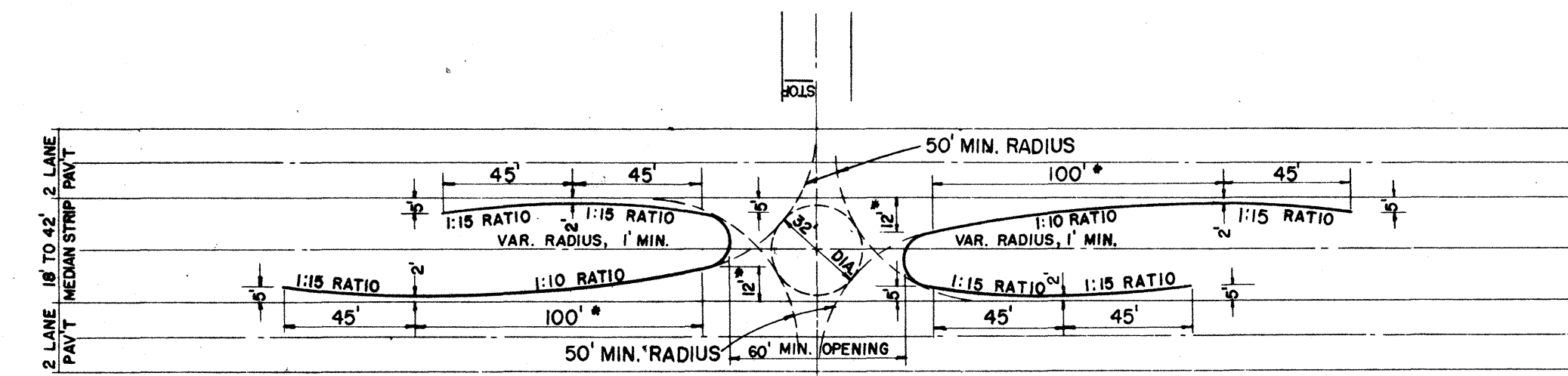
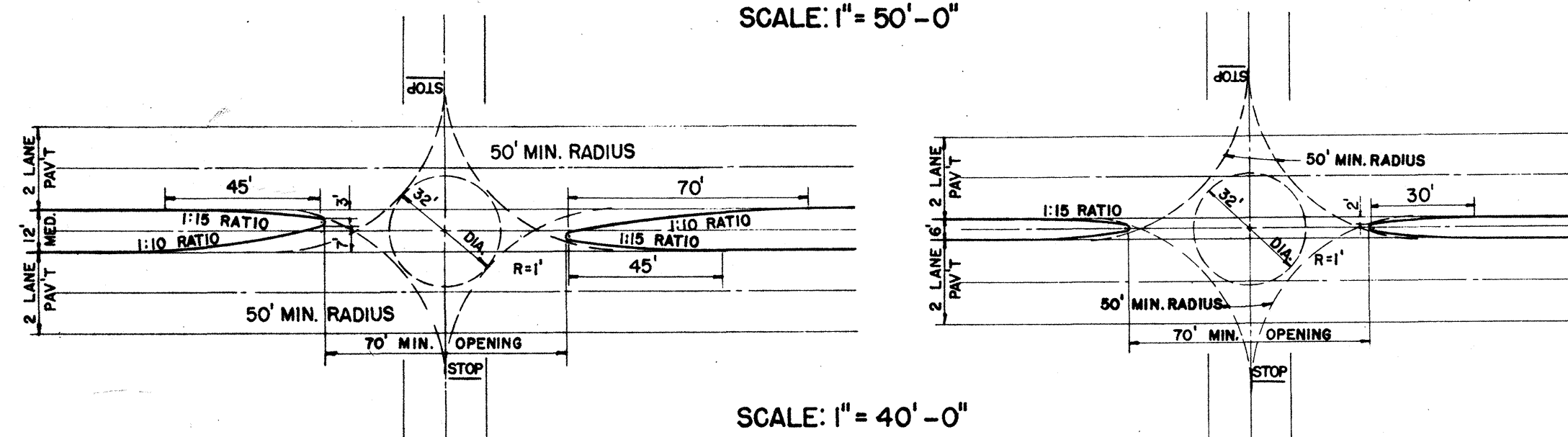




NOTE:
* WITH AN 18' MEDIAN STRIP, THE OFFSET MUST BE REDUCED TO 11', WHICH IN TURN REDUCES THE 1:1.0 FLARE TO 90'.

SCALE: 1" = 50'-0"



SCALE: 1" = 40'-0"

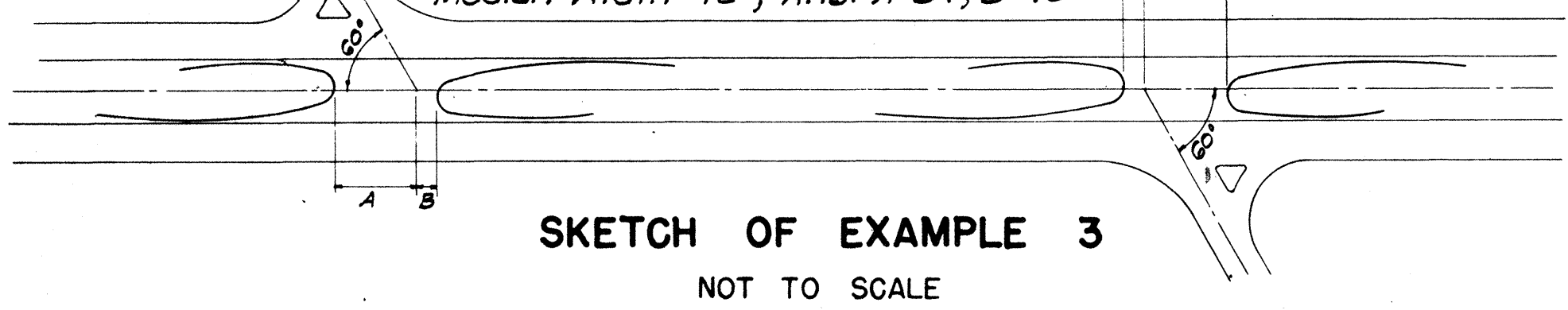
DETAILS OF MEDIAN STRIP OPENINGS

ANGLE OF INTER.	WIDTH OF MEDIAN STRIP											
	42'		36'		30'		24'		18'		12'	
	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2	Case 1	Case 2
60°	54	12	58	14	62	14	66	14	70	16	74	18
65°	48	14	52	16	56	16	60	16	64	18	68	20
70°	42	16	46	18	50	18	54	18	58	20	62	22
75°	36	18	40	20	44	20	48	20	52	22	56	24
80°	30	20	34	22	38	22	42	22	46	24	50	26
85°	24	22	28	24	32	24	36	24	40	26	44	28
90°	18	24	22	26	26	26	30	26	34	28	38	30
95°	12	26	16	28	20	28	24	28	28	30	32	32
100°	6	28	10	30	14	30	18	30	22	32	34	34
105°	0	30	4	32	8	32	12	32	16	34	36	36
110°	0	32	0	34	4	34	8	34	12	36	38	38
115°	0	34	0	36	4	36	8	36	12	38	40	40
120°	0	36	0	38	4	38	8	38	12	40	42	42

CASE 1	ANGLE OF INTERSECTION					
	12°	15°	18°	21°	24°	27°
1						
CASE 2	ANGLE OF INTERSECTION					
	12°	15°	18°	21°	24°	27°
2						

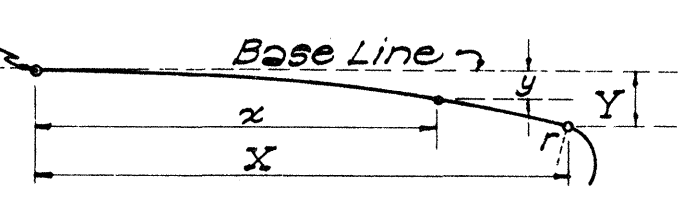
NOTES:
1) A & B = Distance in feet from Island Nose to Centerline of Intersection.
2) In a Crossing Intersection A & B are both equal to the larger distance.
3) In a T Intersection A & B must be measured as shown below. The larger distance is always on the same side with the acute angle.
4) The minimum radius of 50 ft. should always be scribed on a large scale drawing so that no misinterpretation of the tabulated values is made.

EXAMPLES:
2. Given Crossing Type, Case 1, A = 60', Median Width = 48', Ang. A = B = 54'.
3. Given T Type, Case 1, A = 60', Median Width = 48', Ang. A = 54', B = 18'.



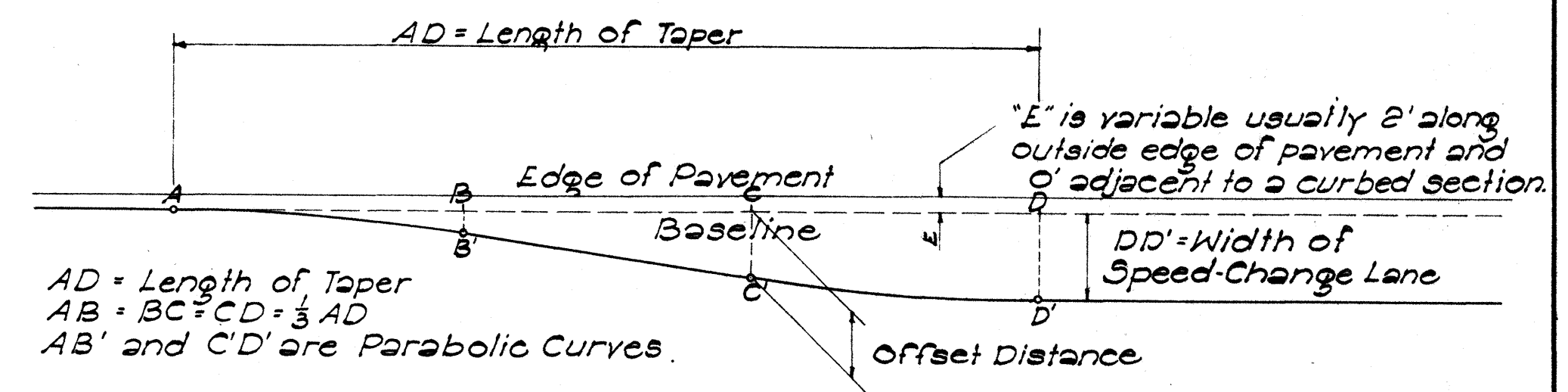
SKETCH OF EXAMPLE 3
NOT TO SCALE

These Curves are based upon the following formula:
 $y = \frac{x^2}{2a}$
where: y = any offset, x = its tangent dist.
X = maximum tangent distance
Y = maximum offset



RATIO CURVE DATA	
Dist. (ft.)	Offset in Feet (Y)
10	0.22
20	0.88
30	1.98
40	3.52
50	5.50
60	7.92
70	10.78
80	14.08
90	17.82
100	22.00

NOTE: Any ratio curve in this tabulation is designated by the maximum offset and its tangent distance.



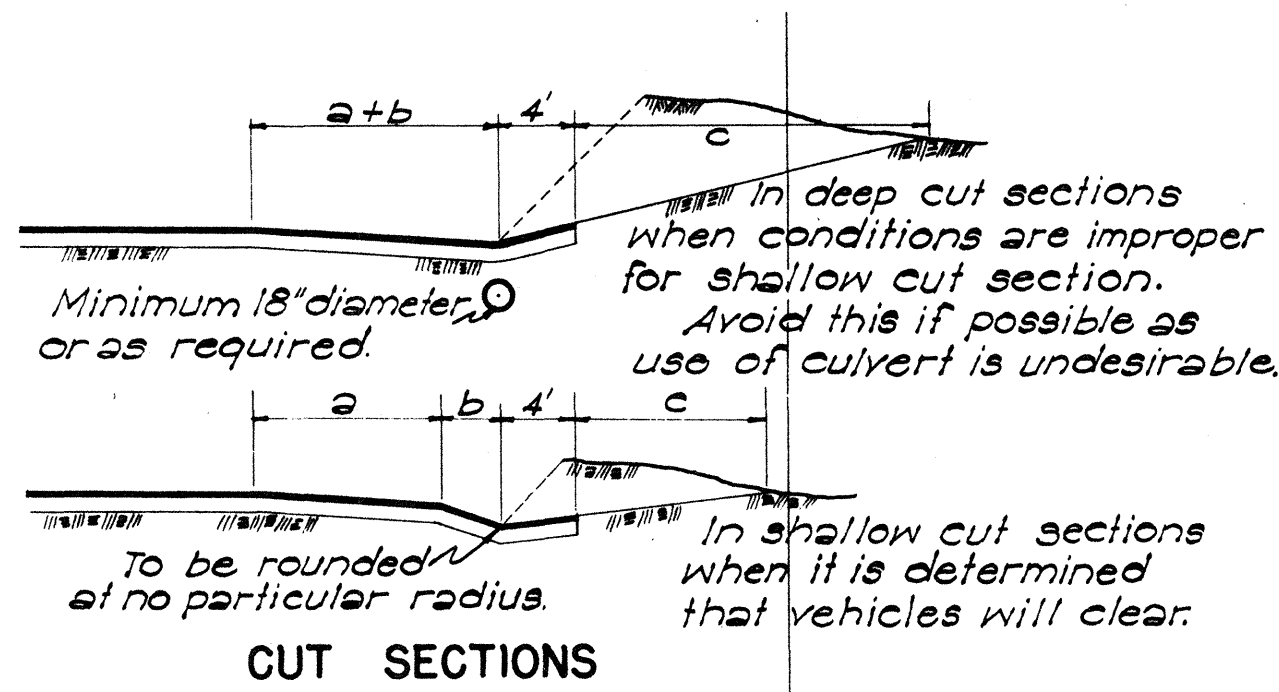
TAPER FOR SPEED-CHANGE LANES

SCALE: 1" = 20'-0"

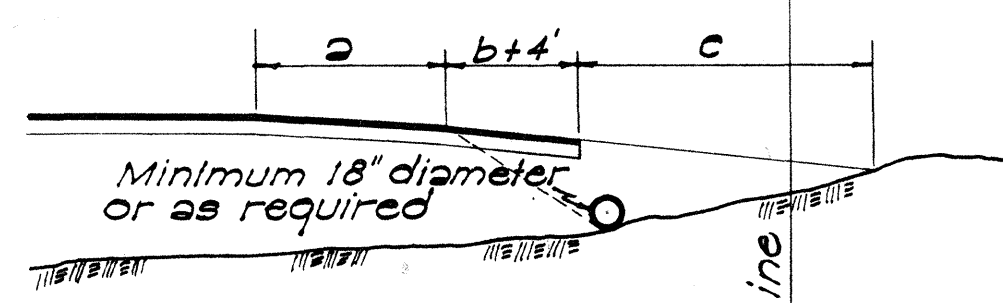
MINIMUM LENGTHS OF SPEED-CHANGE LANES & TAPER				
RAMP DESIGN SPEED (MPH)	20	30	40	50
MIN. CURVE RADIUS (FT)	50	120	250	500
TOTAL LENGTH OF DECELERATION LANE INCLUDING TAPER (Feet)				
30	21	90	90	90
40	28	120	120	120
50	35	150	150	150
60	42	180	235	180
70	49	210	370	210
TOTAL LENGTH OF ACCELERATION LANE INCLUDING TAPER (Feet)				
30	21	150	150	150
40	28	180	180	180
50	35	240	240	240
60	42	270	510	270
70	49	300	1180	300

OFFSET FROM BASELINE (Ft.)		LENGTH OF TAPER (Feet) = AD											
		50	120	150	180	210	240	270	300	330	360	390	420
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.6
0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

* Where edge of pavement is a curve, neither Baseline nor Taper between B' and C' will be a tangent. Use proportional offset from B' to C'.

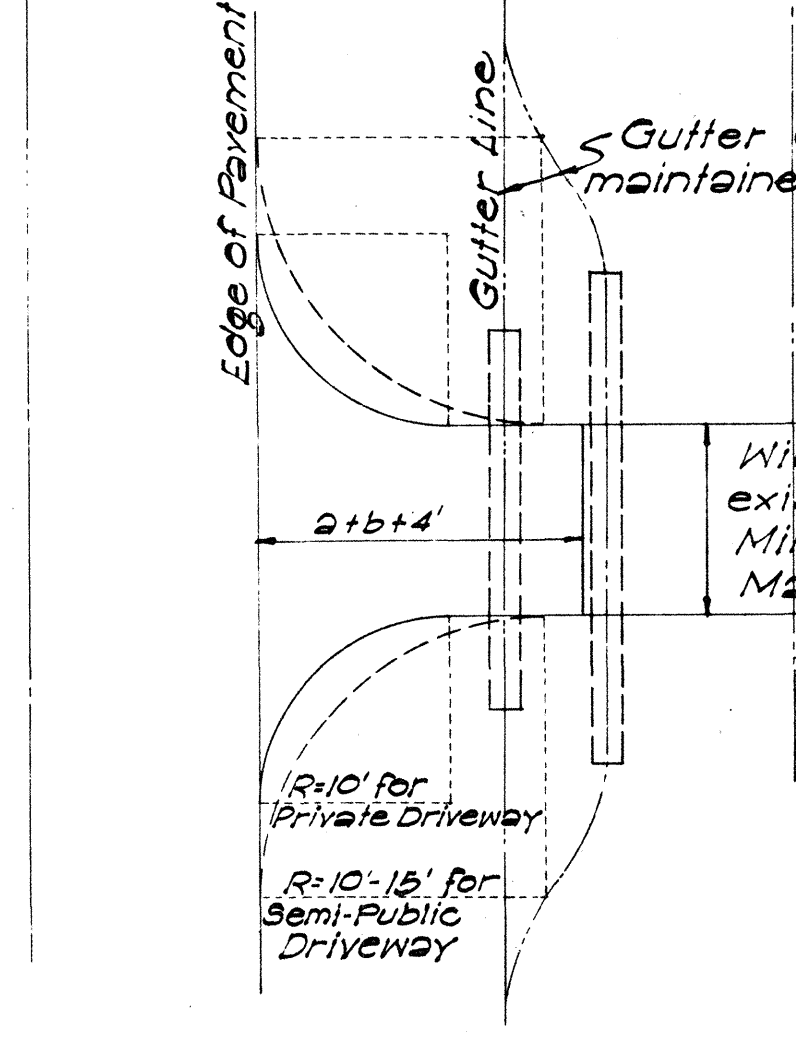


CUT SECTIONS



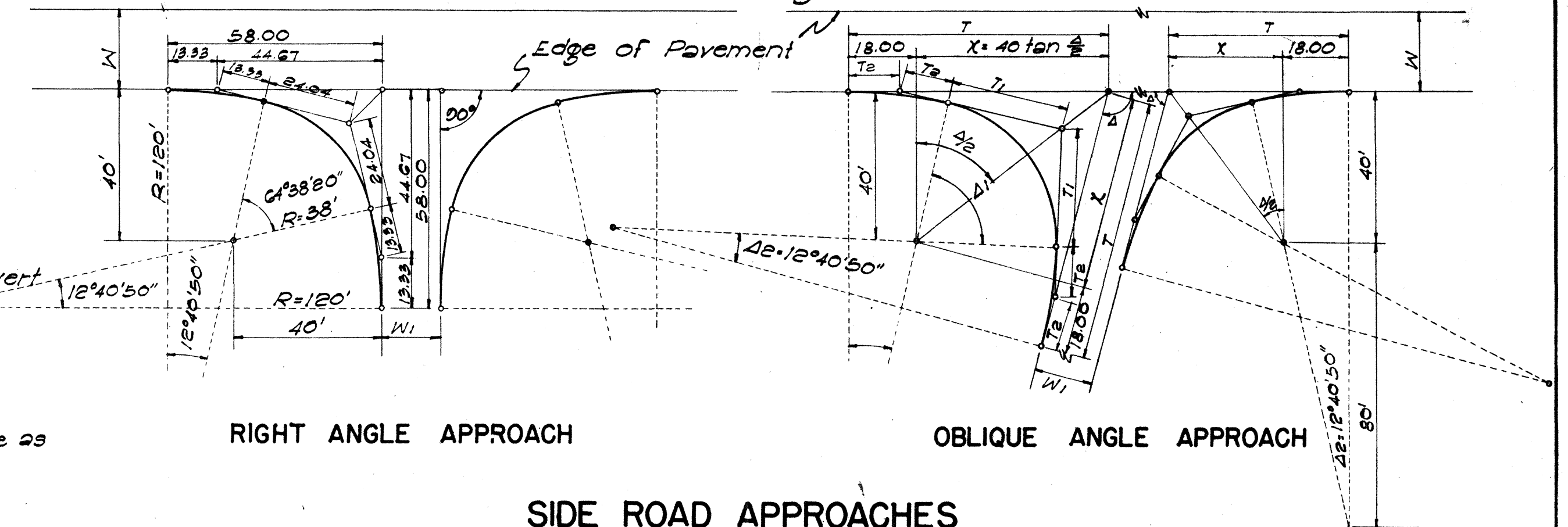
FILL SECTION

a = Shoulder width
b = Gutter width
c = Distance determined by Engineer for suitable grade.



PRIVATE AND SEMI-PUBLIC DRIVEWAYS

SCALE: 1" = 10'-0"



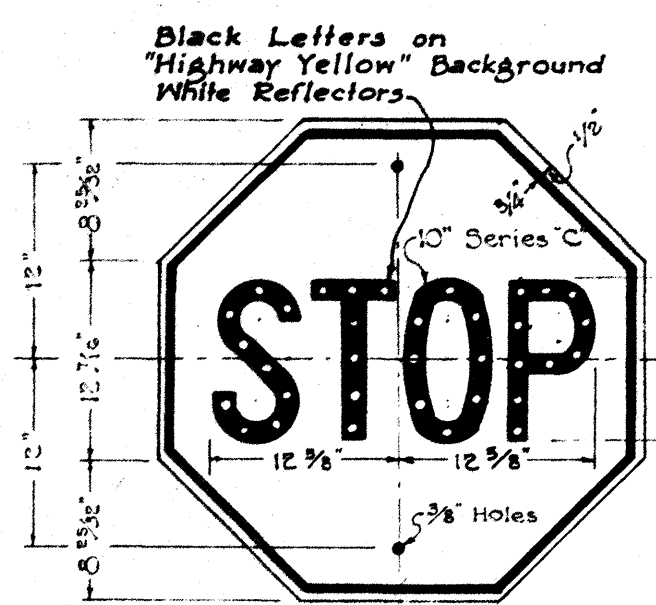
SIDE ROAD APPROACHES

THREE CENTERED COMPOUND CURVE

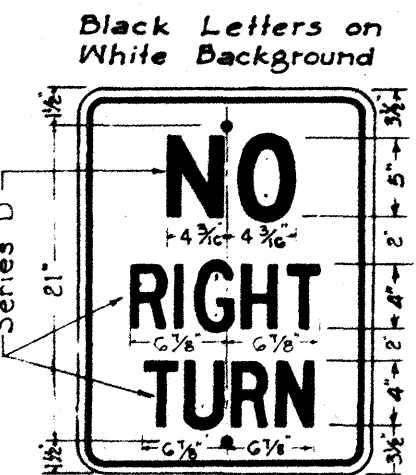
SCALE: 1" = 30'-0"

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTED BY: _____
QUANTITIES BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
No. _____

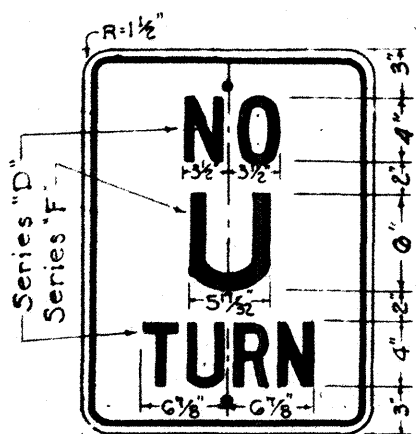
TERRITORIAL HIGHWAY DEPARTMENT
TERRITORY OF HAWAII
STANDARD DETAILS
DRIVEWAYS, SPEED-CHANGE LANES,
MEDIAN STRIPS & APPROACHES
SCALES AS NOTED



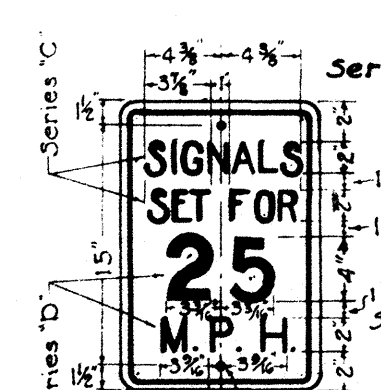
R-1
30" x 30"



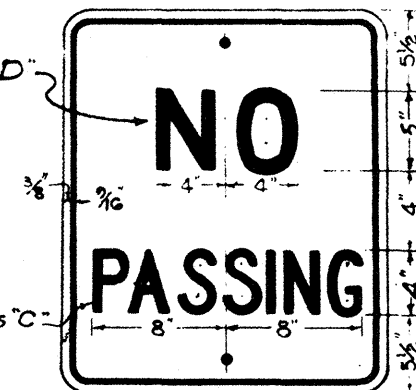
R-6
18" x 24"



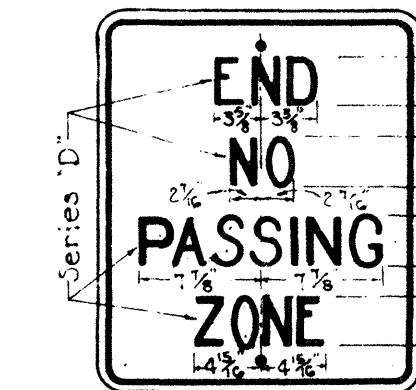
R-8
18" x 24"



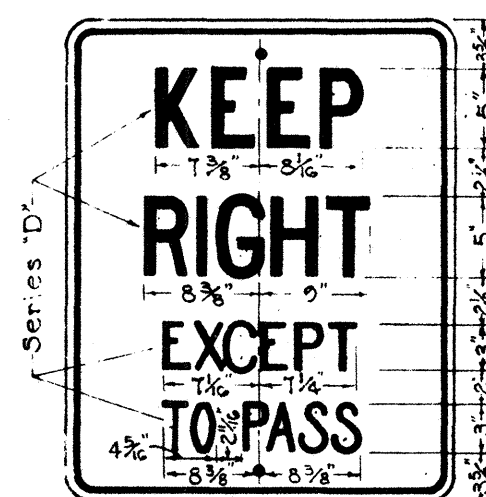
R-10
12" x 18"



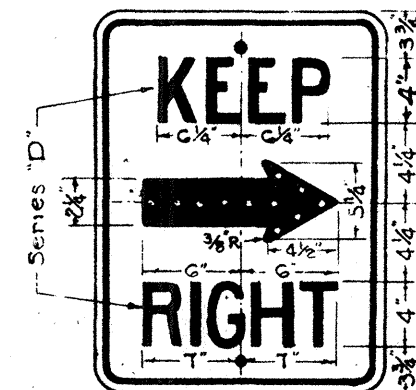
R-11
20" x 24"



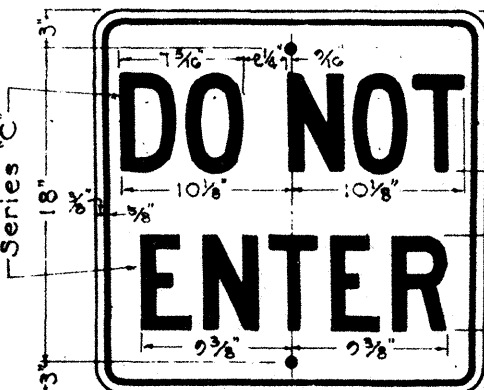
R-12
20" x 24"



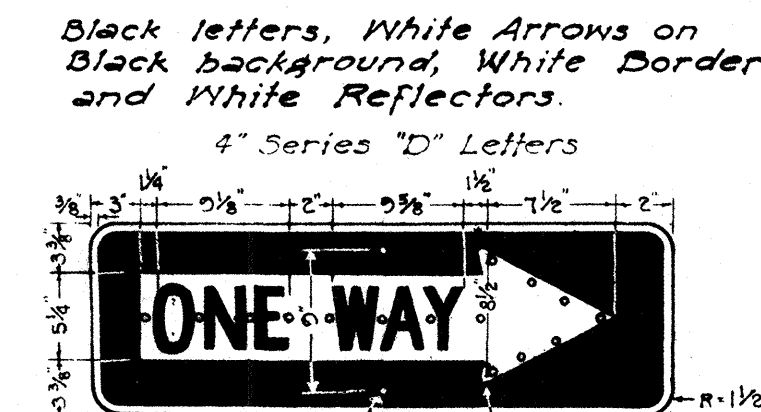
R-13
24" x 30"



R-14
18" x 24"



R-15
24" x 24"



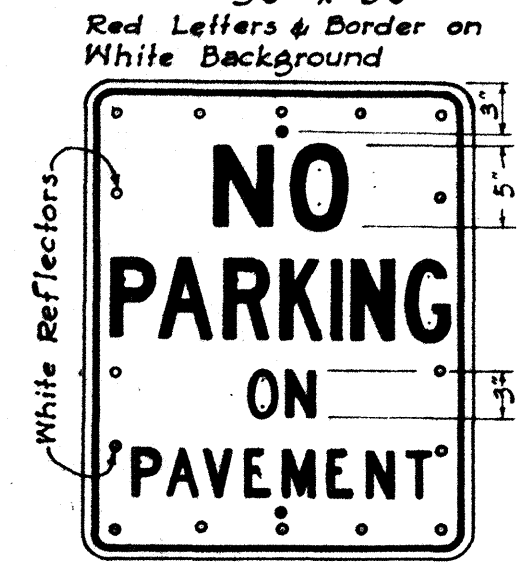
R-16-R
R-16-L
36" x 12"



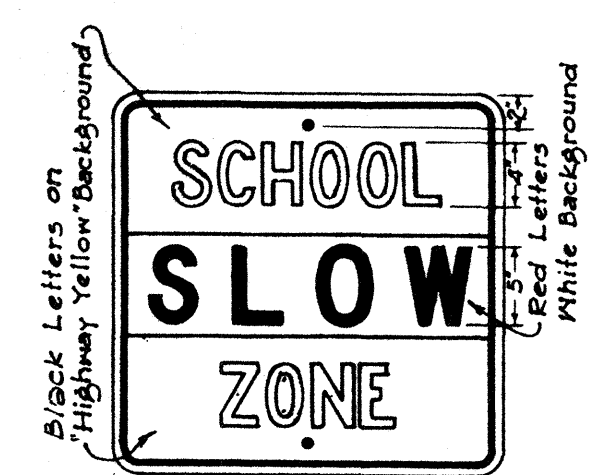
R-18
12" x 18"



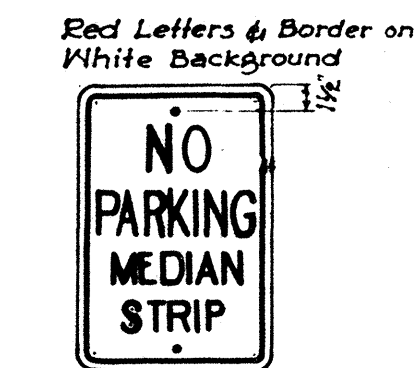
R-26
12" x 18"



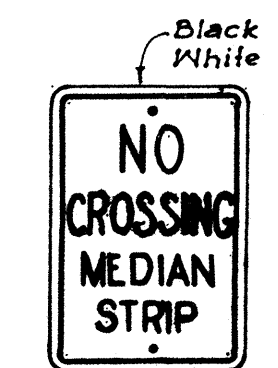
R-29
24" x 30"



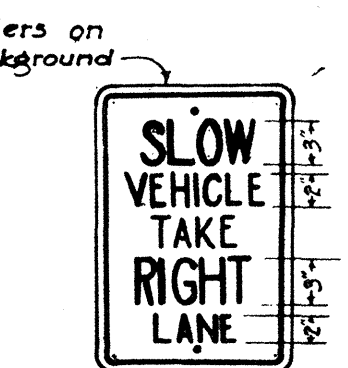
R-41-S
24" x 24"



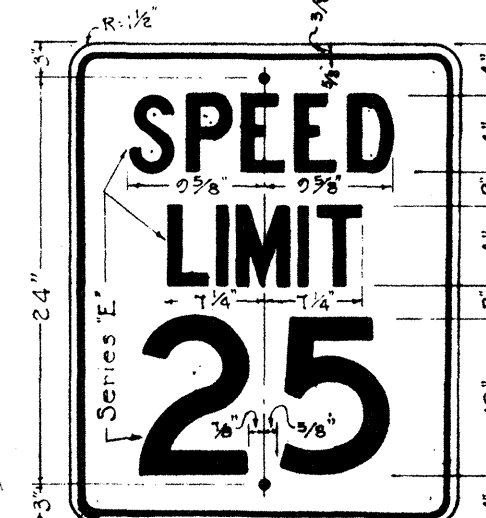
R-42-S
12" x 18"



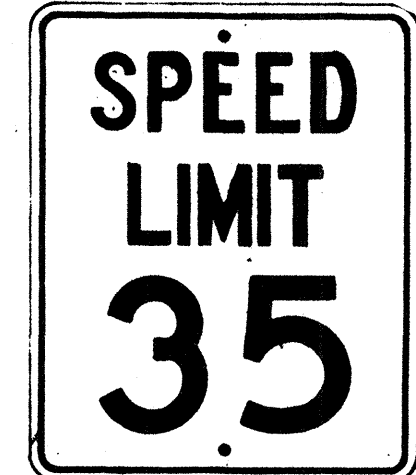
R-43-S
12" x 18"



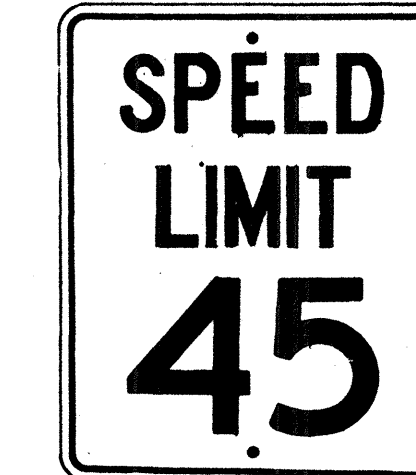
R-44-S
12" x 18"



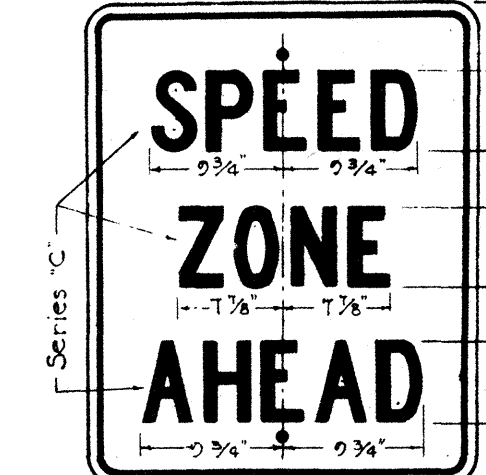
R-102-A
24" x 30"



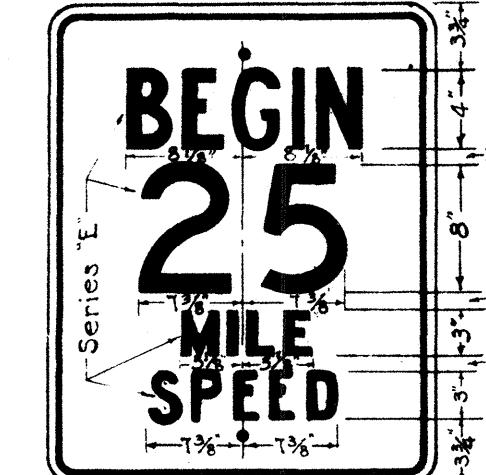
R-102-B
24" x 30"



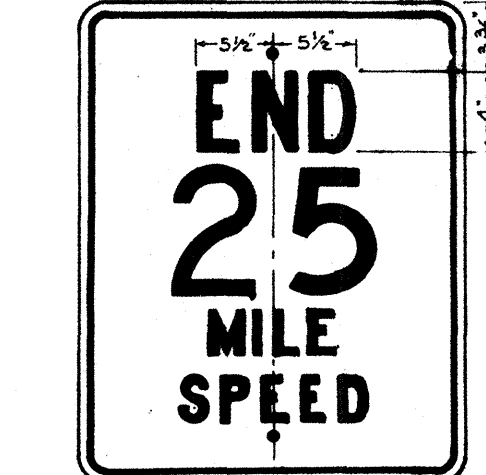
R-102-C
24" x 30"



R-104
24" x 30"



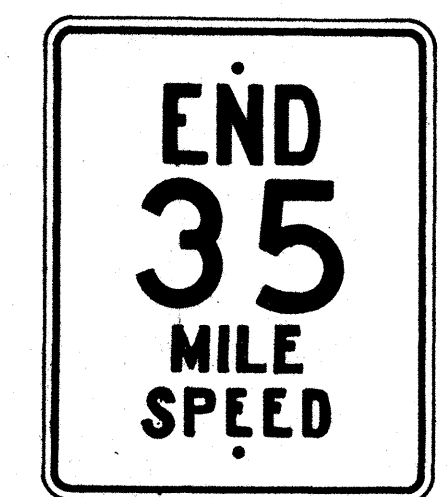
R-105-A
24" x 30"



R-105-B
24" x 30"



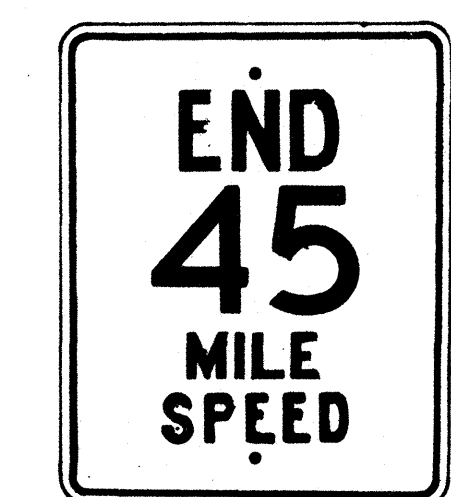
R-105-C
24" x 30"



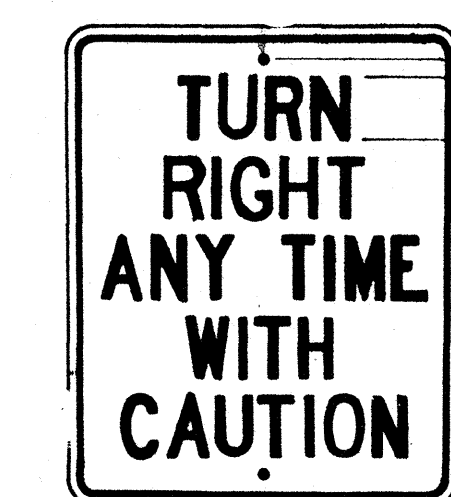
R-105-D
24" x 30"



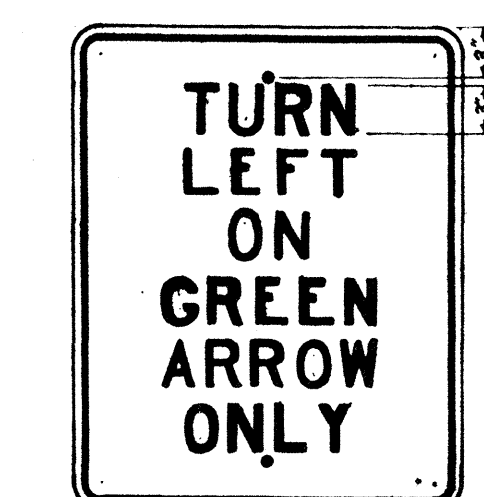
R-105-E
24" x 30"



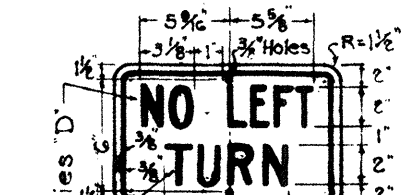
R-105-F
24" x 30"



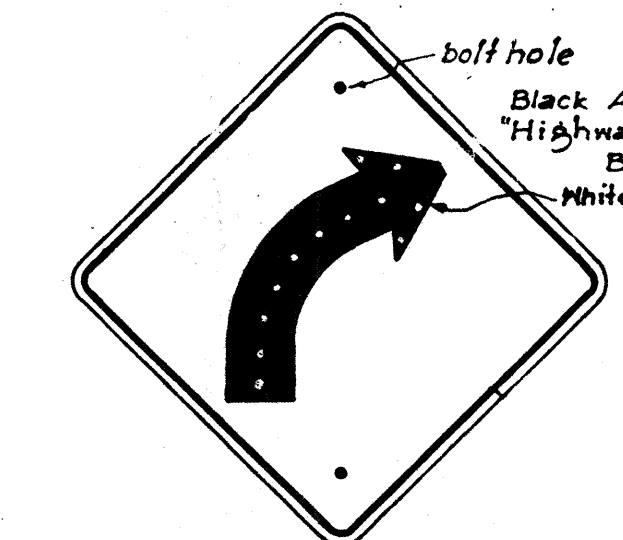
R-106
24" x 30"



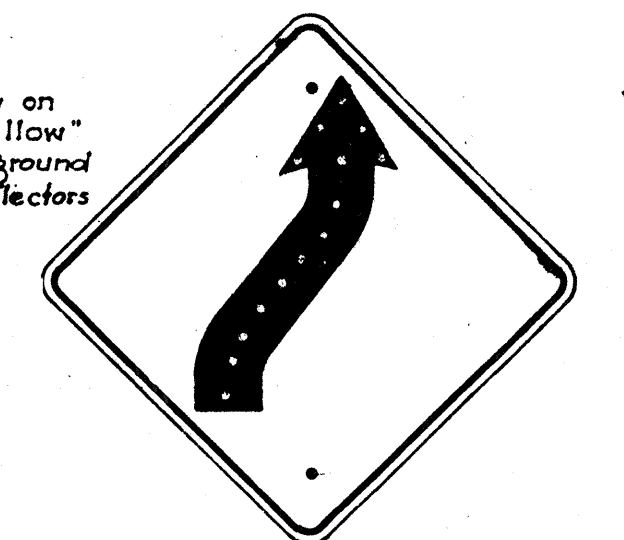
R-107-A
24" x 30"



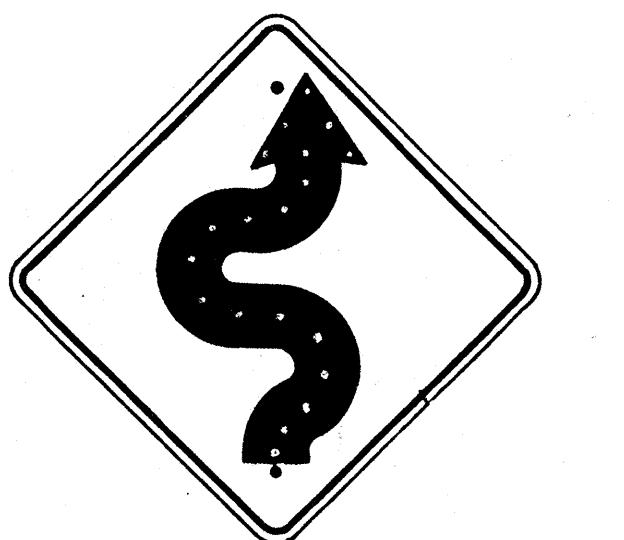
R-107
14" x 9"



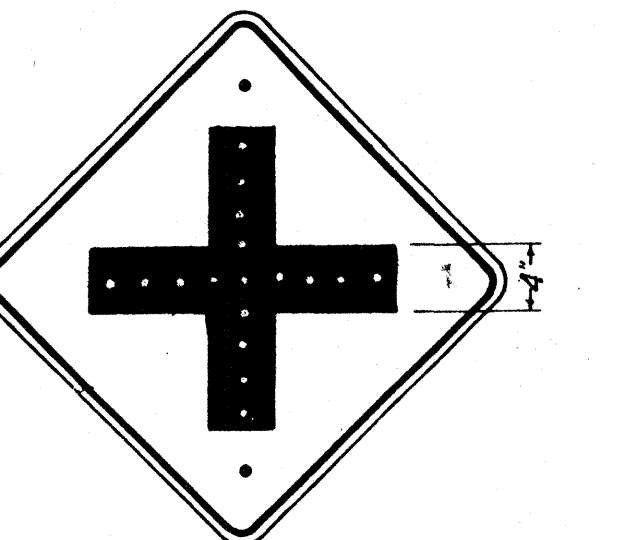
W-2-R
*W-2-L
24" x 24"



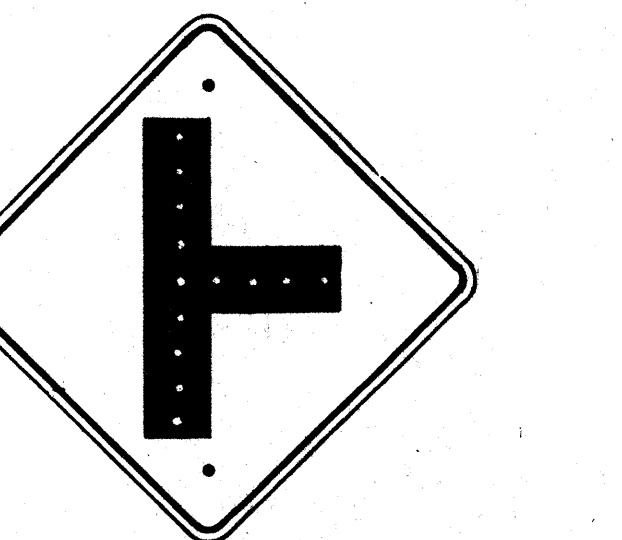
W-4-R
*W-4-L
24" x 24"



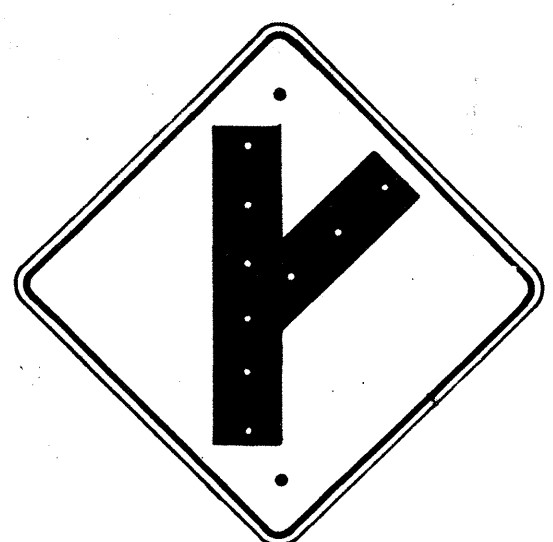
W-5-R
*W-5-L
24" x 24"



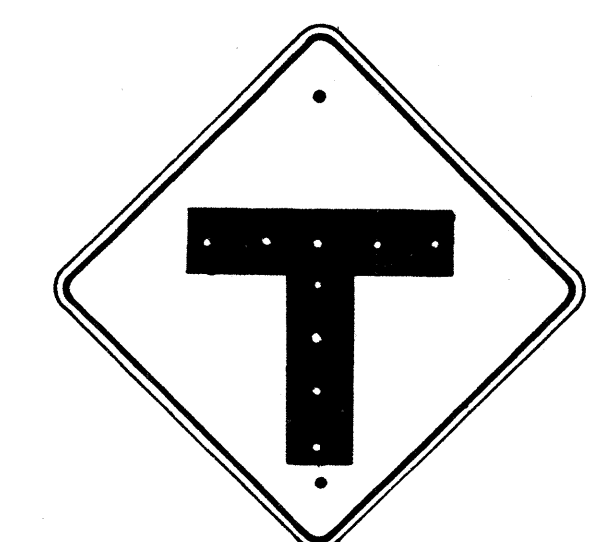
W-6
24" x 24"



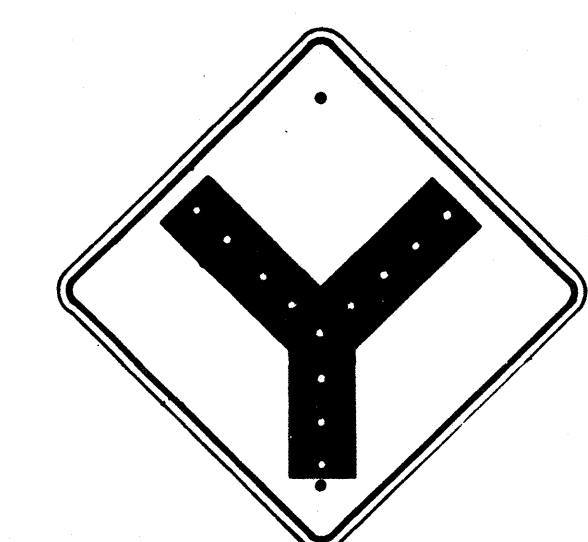
W-7
24" x 24"



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"



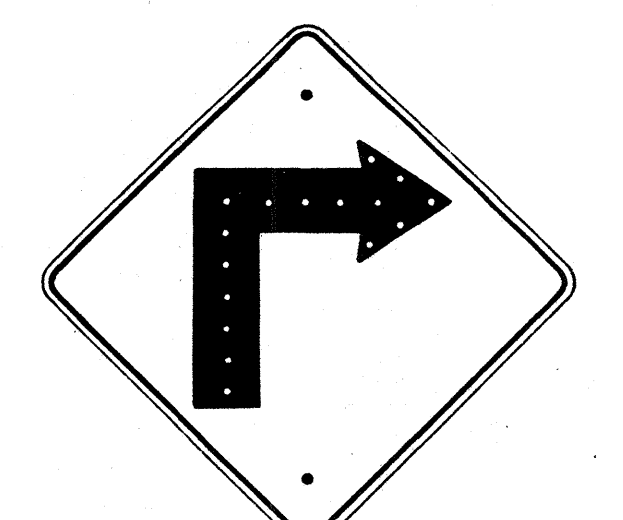
W-29
24" x 24"



W-38
24" x 24"



W-39
24" x 24"



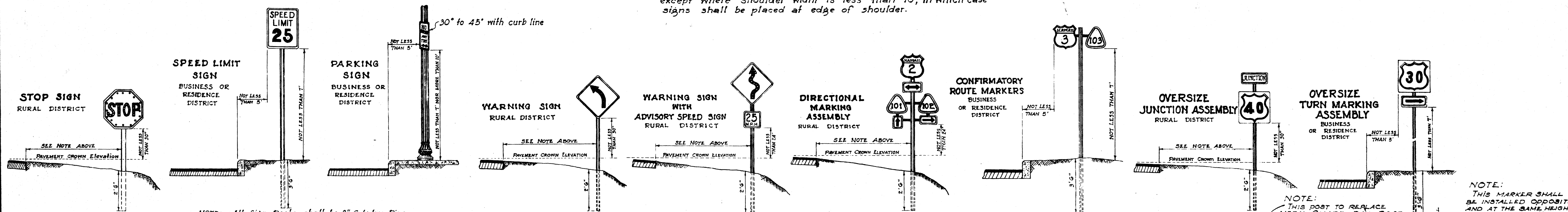
W-1-R
*W-1-L
24" x 24"

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.

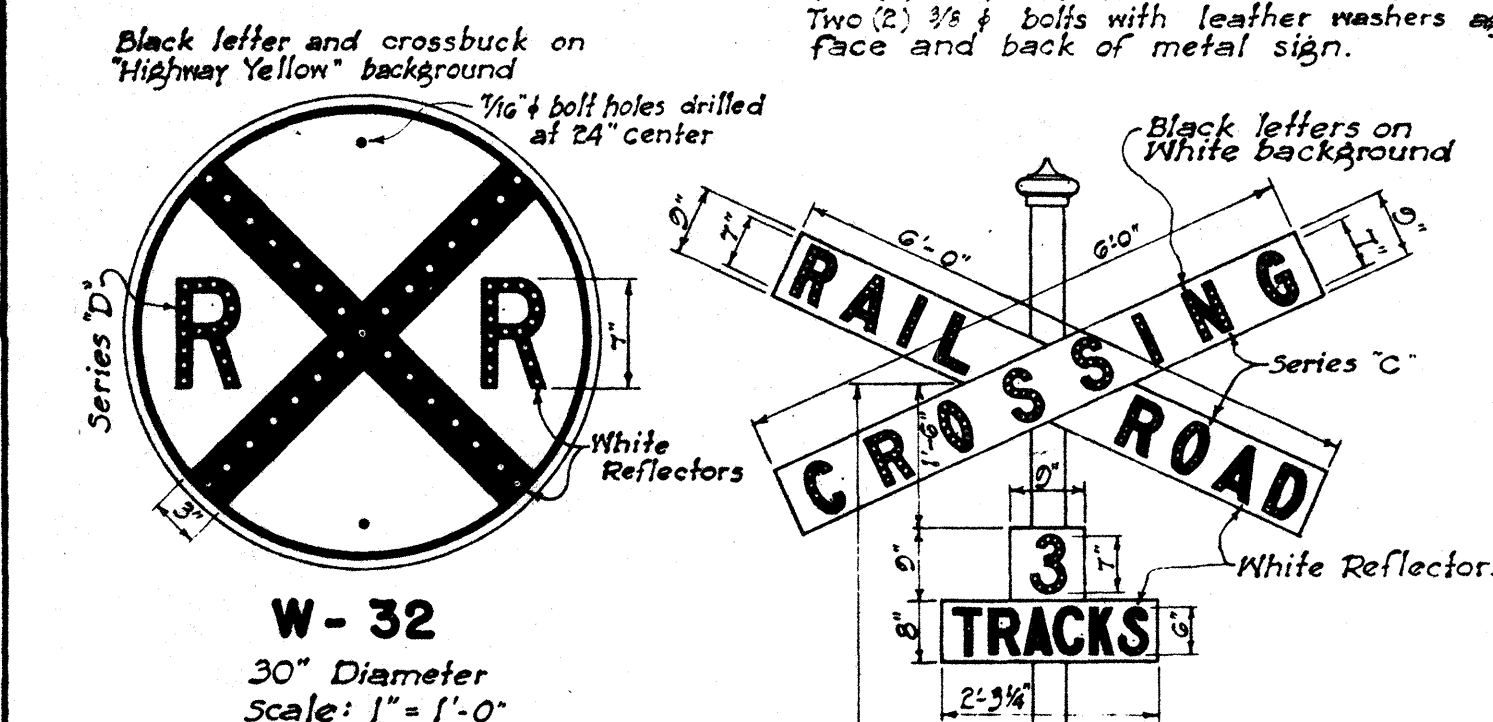
Note: All Regulatory (R) signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction. See Specifications for Materials and Finish.

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

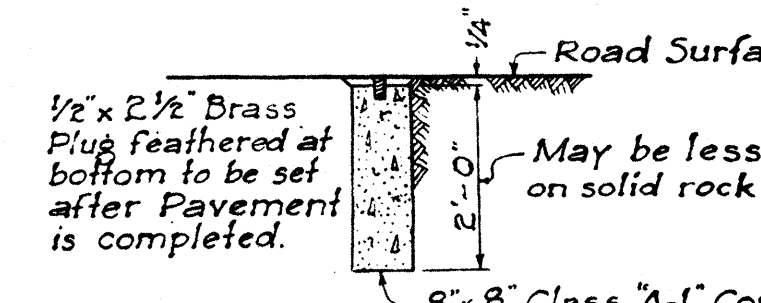
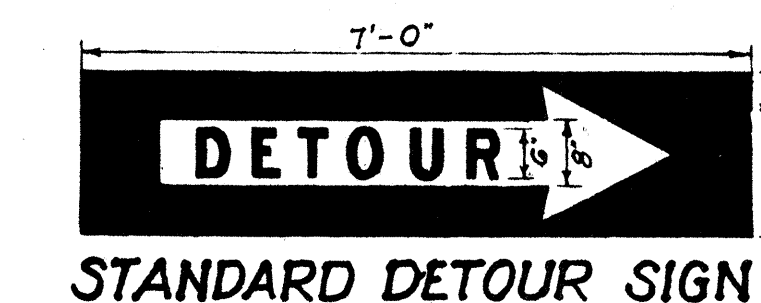
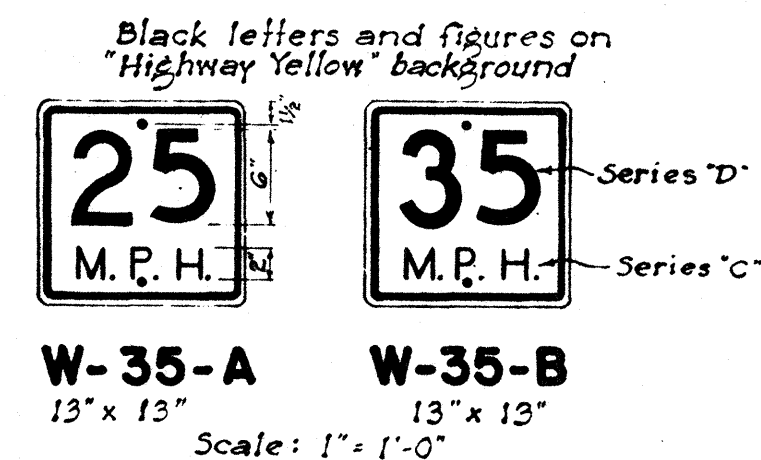
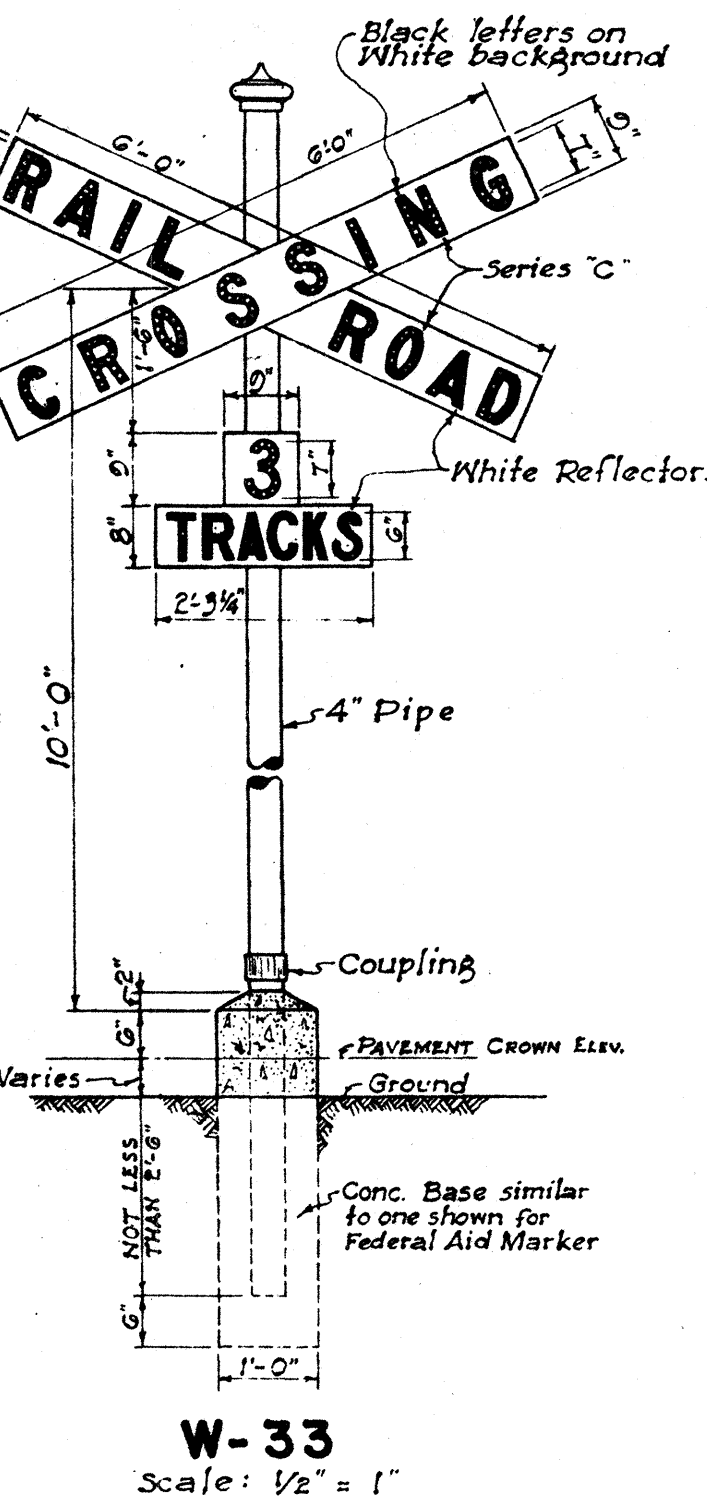
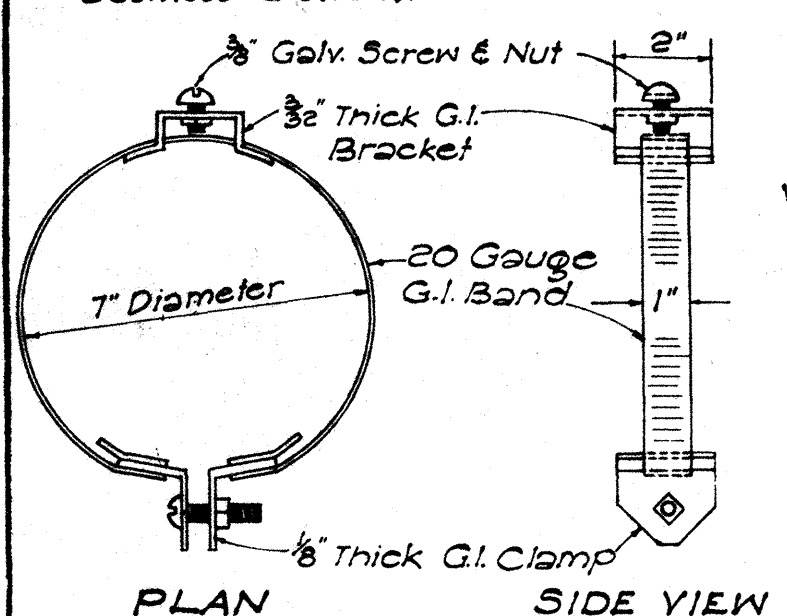
NOTE: All signs shall be placed 10' from edge of pavement except where shoulder width is less than 10', in which case signs shall be placed at edge of shoulder.



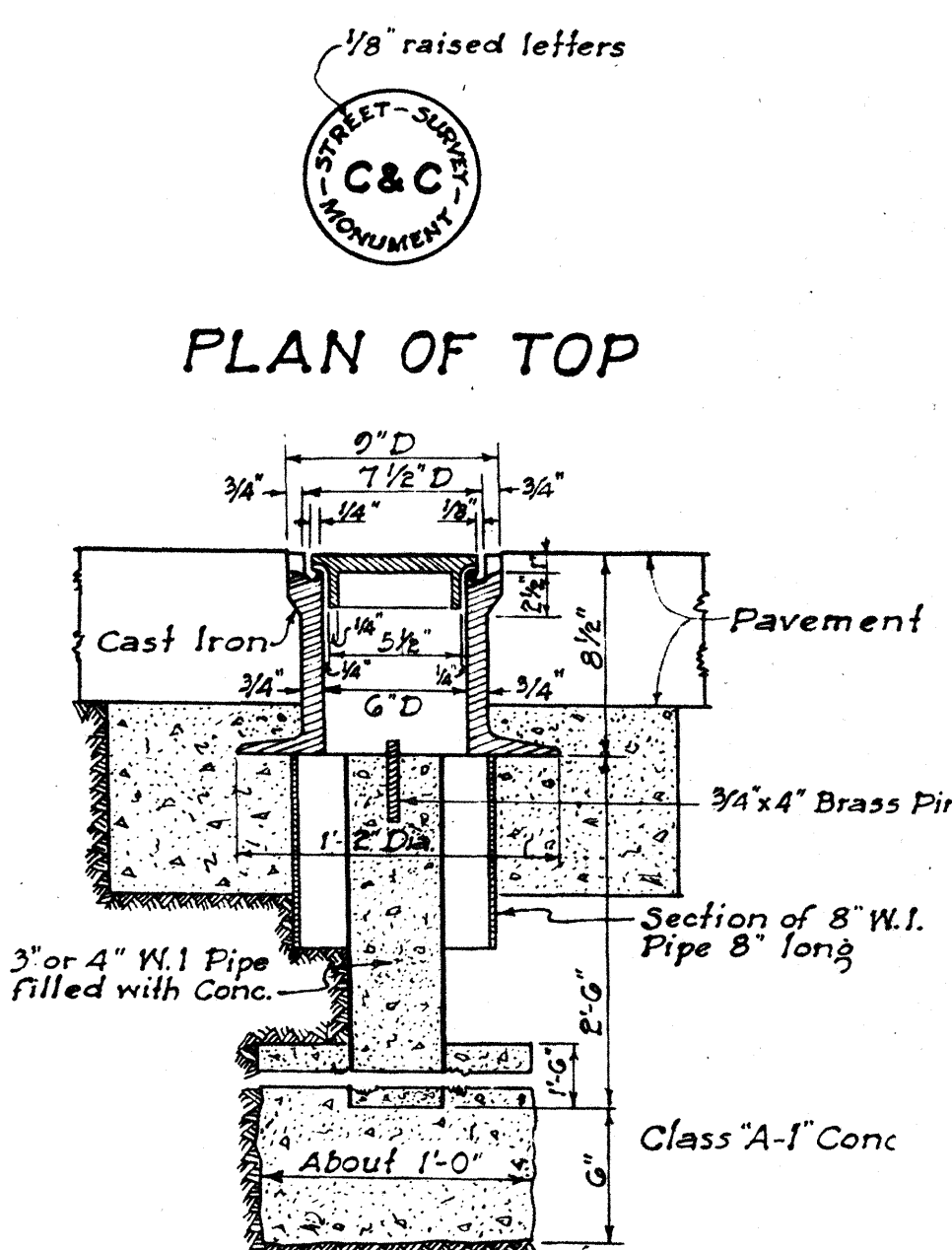
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS
Scale: 1" = 3'-0"



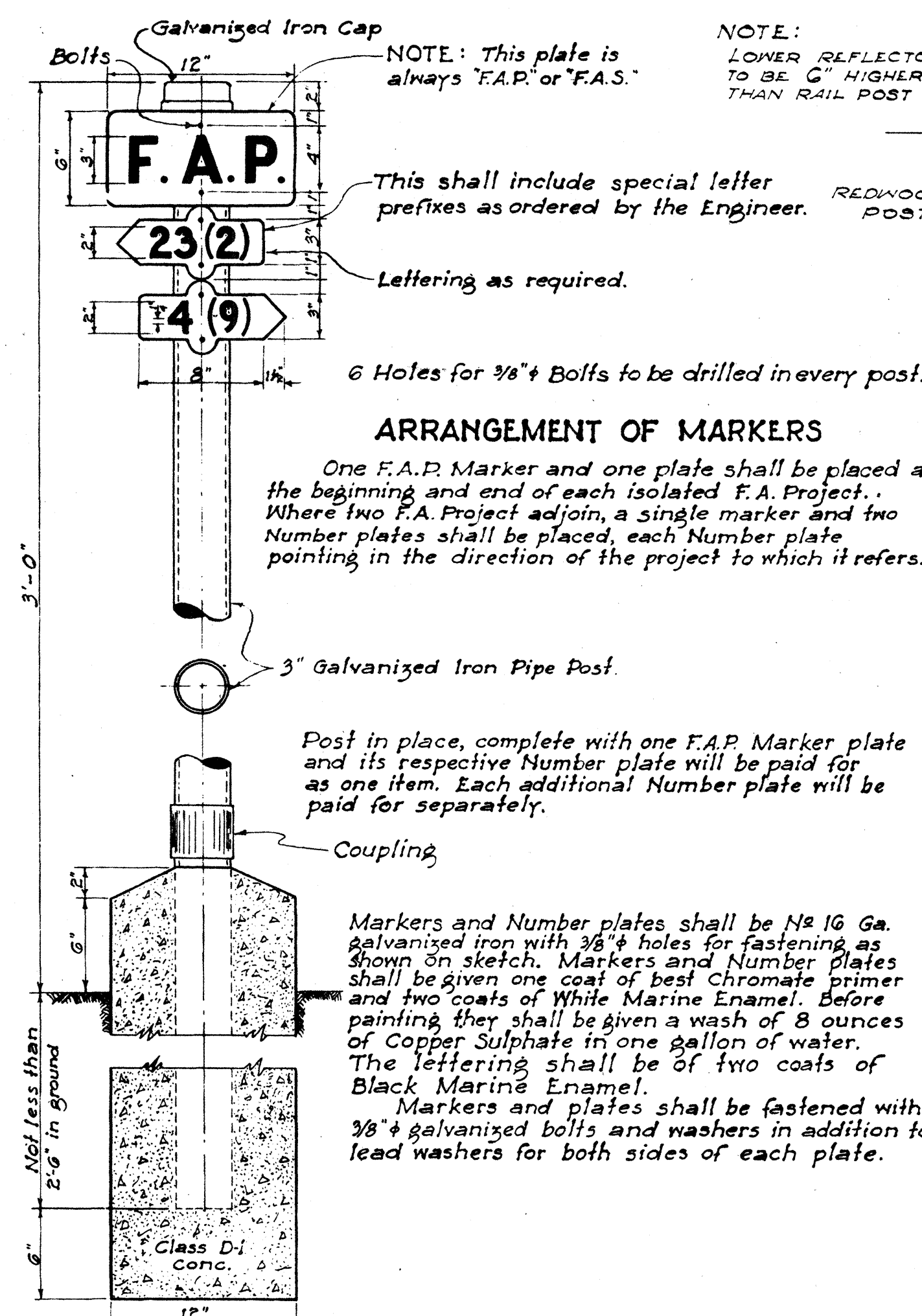
NOTE: This sign shall be placed from 300 to 500 feet from R.R. intersections in rural areas and a minimum distance of 100 feet from R.R. intersections in Residence or Business districts.



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



STANDARD C & C STREET SURVEY MONUMENT



NOTE: This plate is always "F.A.P." or "F.A.S." This shall include special letter prefixes as ordered by the Engineer. Lettering as required.

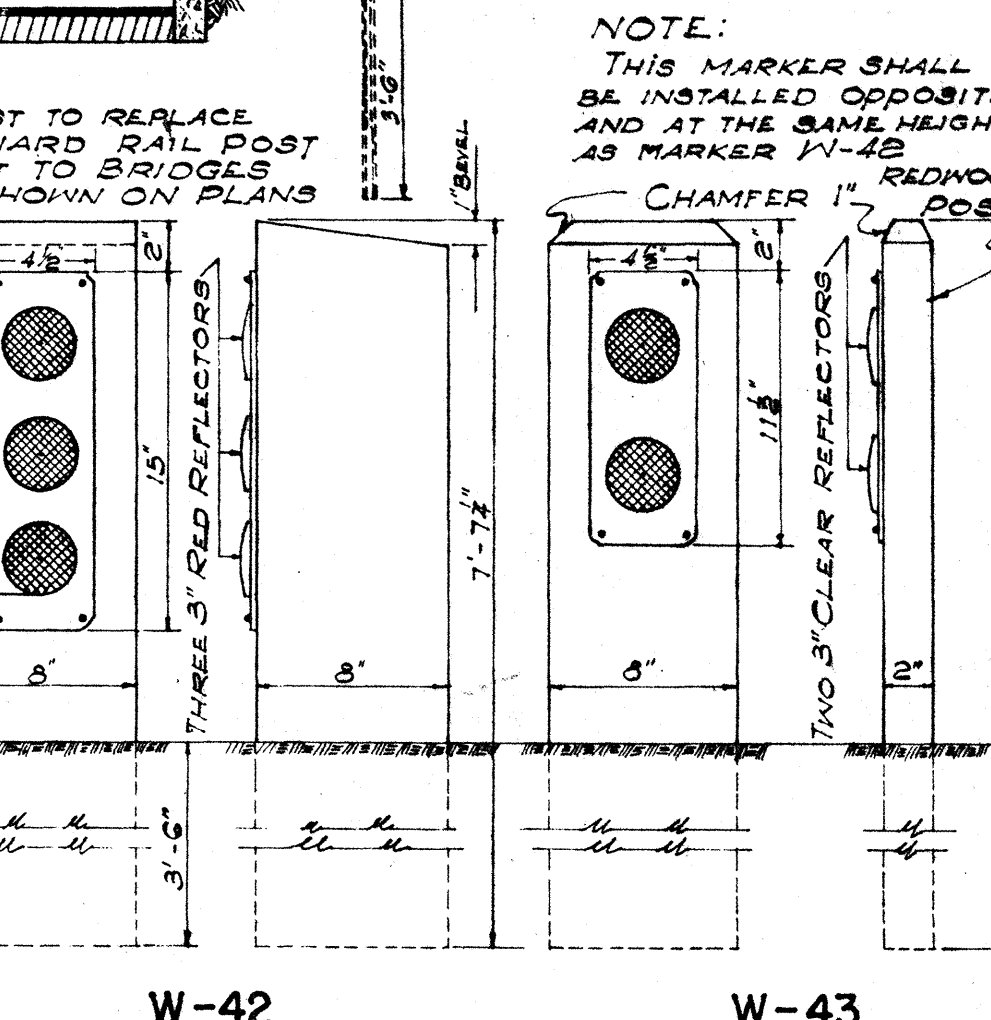
ARRANGEMENT OF MARKERS

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.

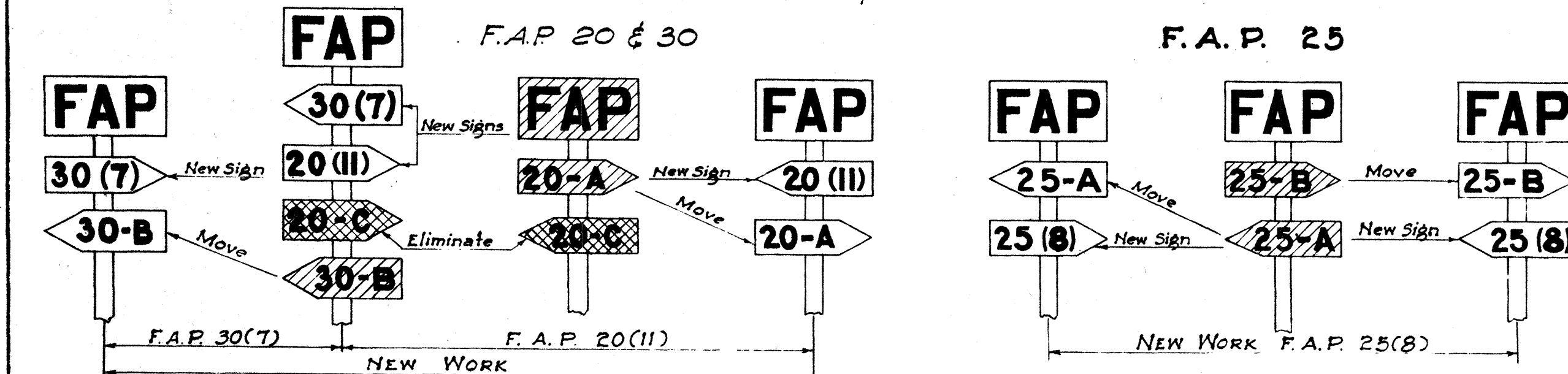
Post in place, complete with one F.A.P. Marker plate and its respective Number plate will be paid for as one item. Each additional Number plate will be paid for separately.

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.



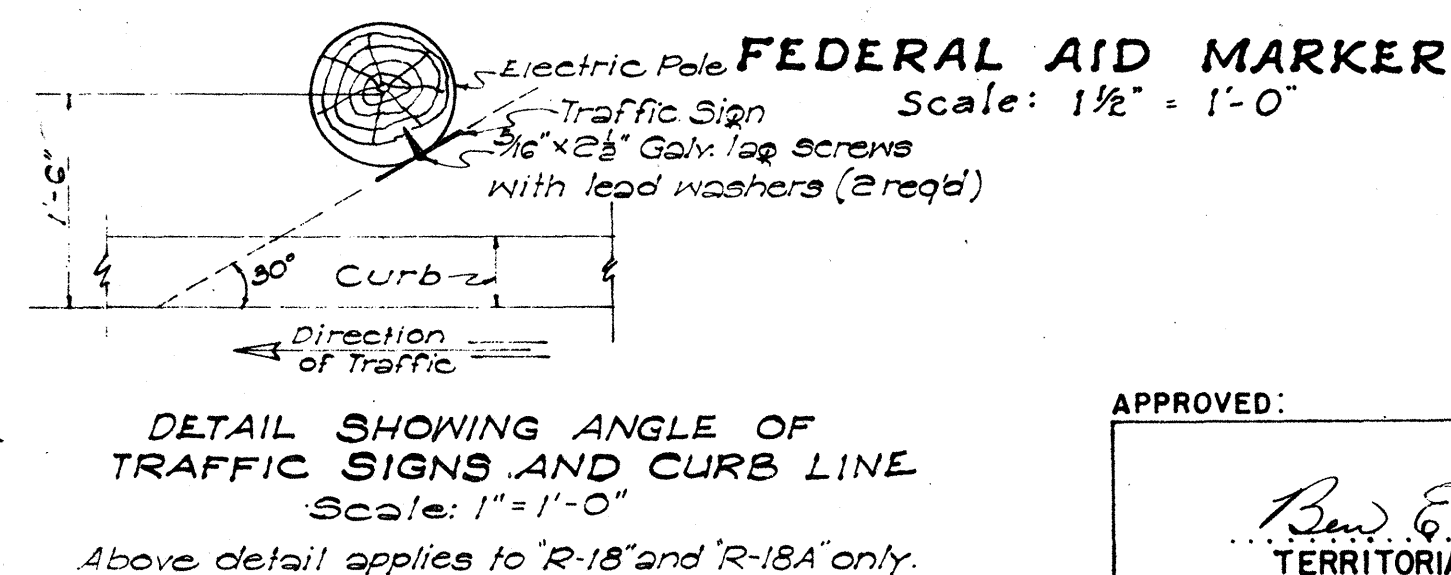
DETAIL OF SIGNS
SCALE: 1 1/2" = 1'-0"



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.



Above detail applies to 'R-18' and 'R-18A' only.

APPROVED: DATE: 6-23-52
Territorial Highway Engineer

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