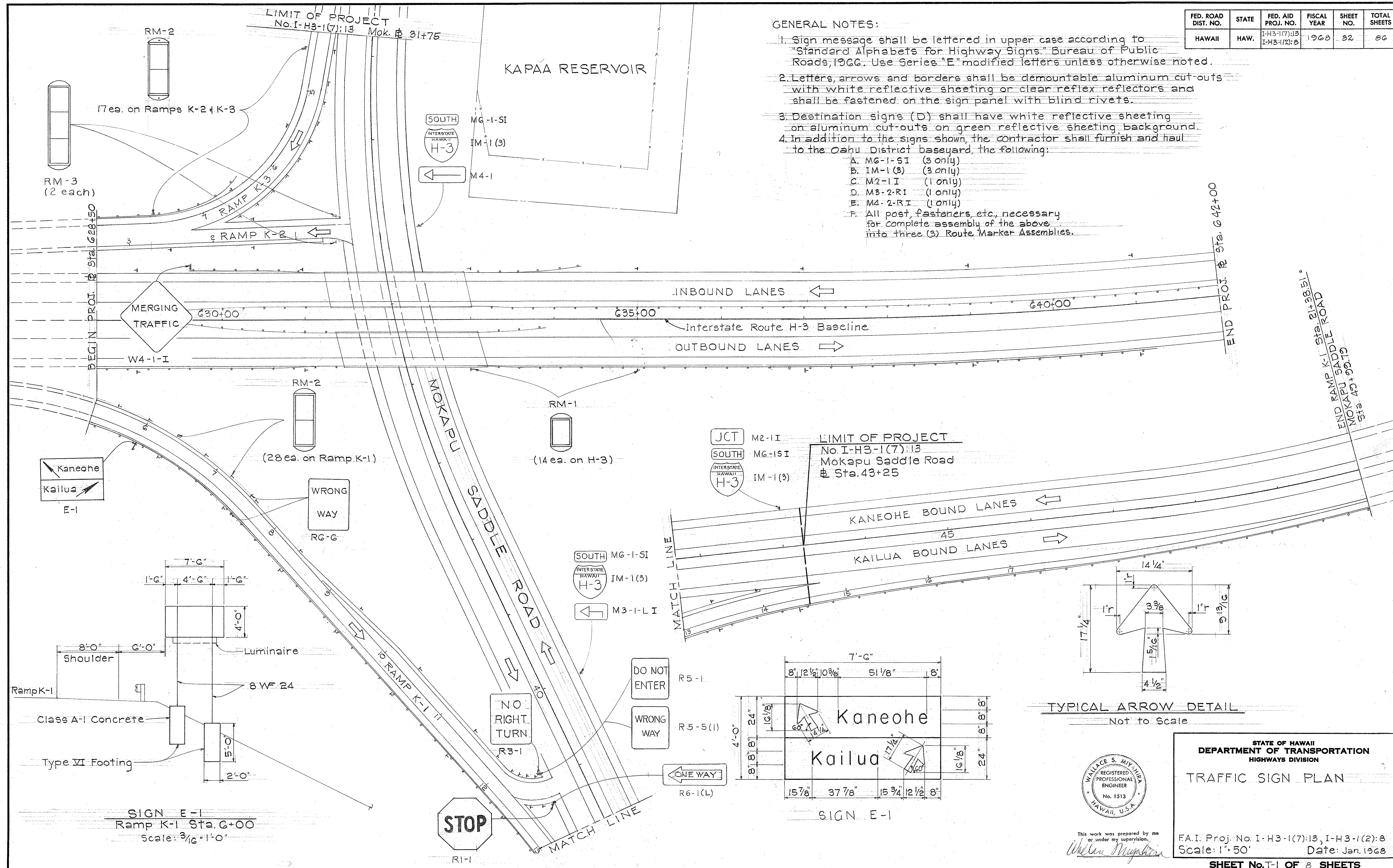


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H3-1(7):13 I-H3-1(2):8	1968	32	86

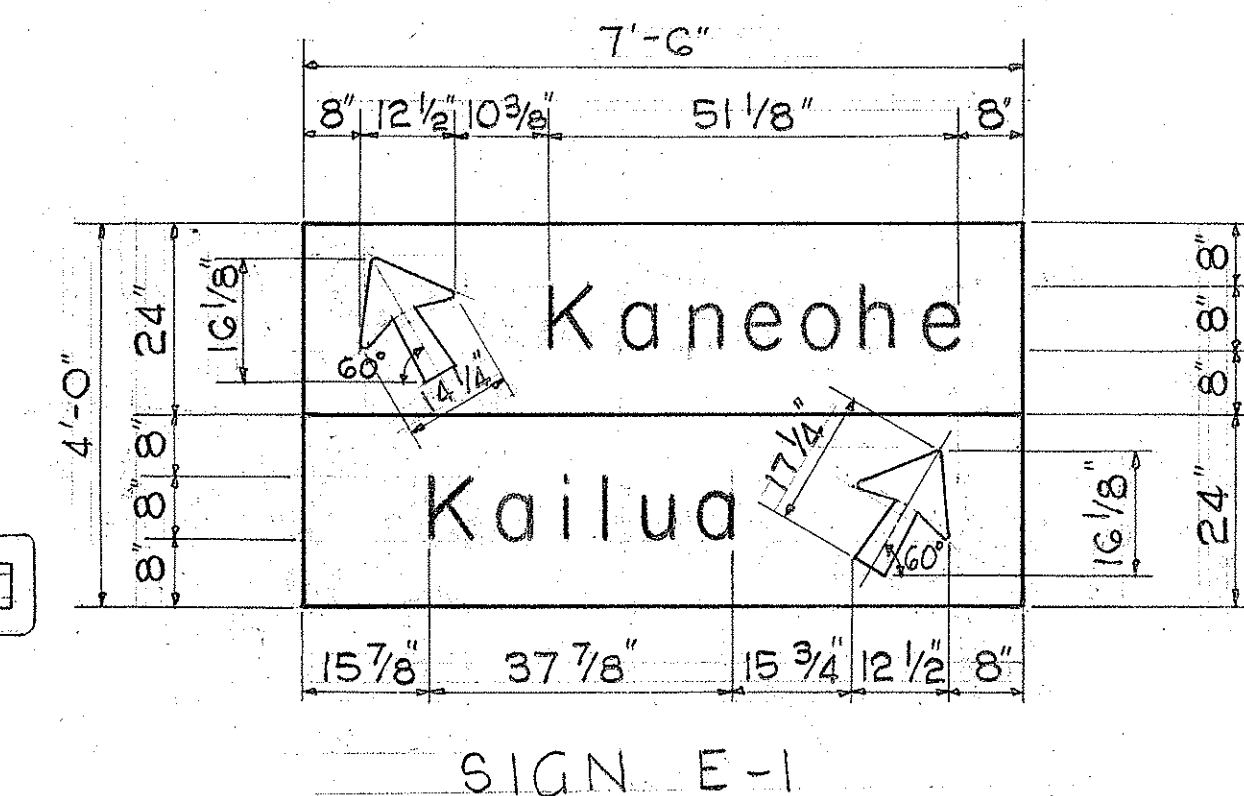
GENERAL NOTES:

1. Sign message shall be lettered in upper case according to "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1966. Use Series "E" modified letters unless otherwise noted.
2. Letters, arrows and borders shall be demountable aluminum cut-outs with white reflective sheeting or clear reflex reflectors and shall be fastened on the sign panel with blind rivets.
3. Destination signs (D) shall have white reflective sheeting on aluminum cut-outs on green reflective sheeting background.
4. In addition to the signs shown, the contractor shall furnish and haul to the Oahu District baseyard, the following:
 - A. M6-1-S1 (3 only)
 - B. IM-1 (3) (3 only)
 - C. M2-1-I (1 only)
 - D. M3-2-R1 (1 only)
 - E. M4-2-R1 (1 only)
 - F. All post, fasteners, etc. necessary for complete assembly of the above into three (3) Route Marker Assemblies.

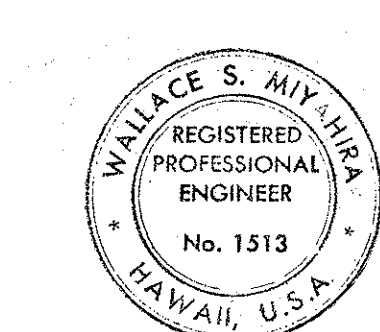


DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____

SIGN E-1
Ramp K-1 Sta. 6+00
Scale: 3/16"=1'-0"



TYPICAL ARROW DETAIL
Not to Scale

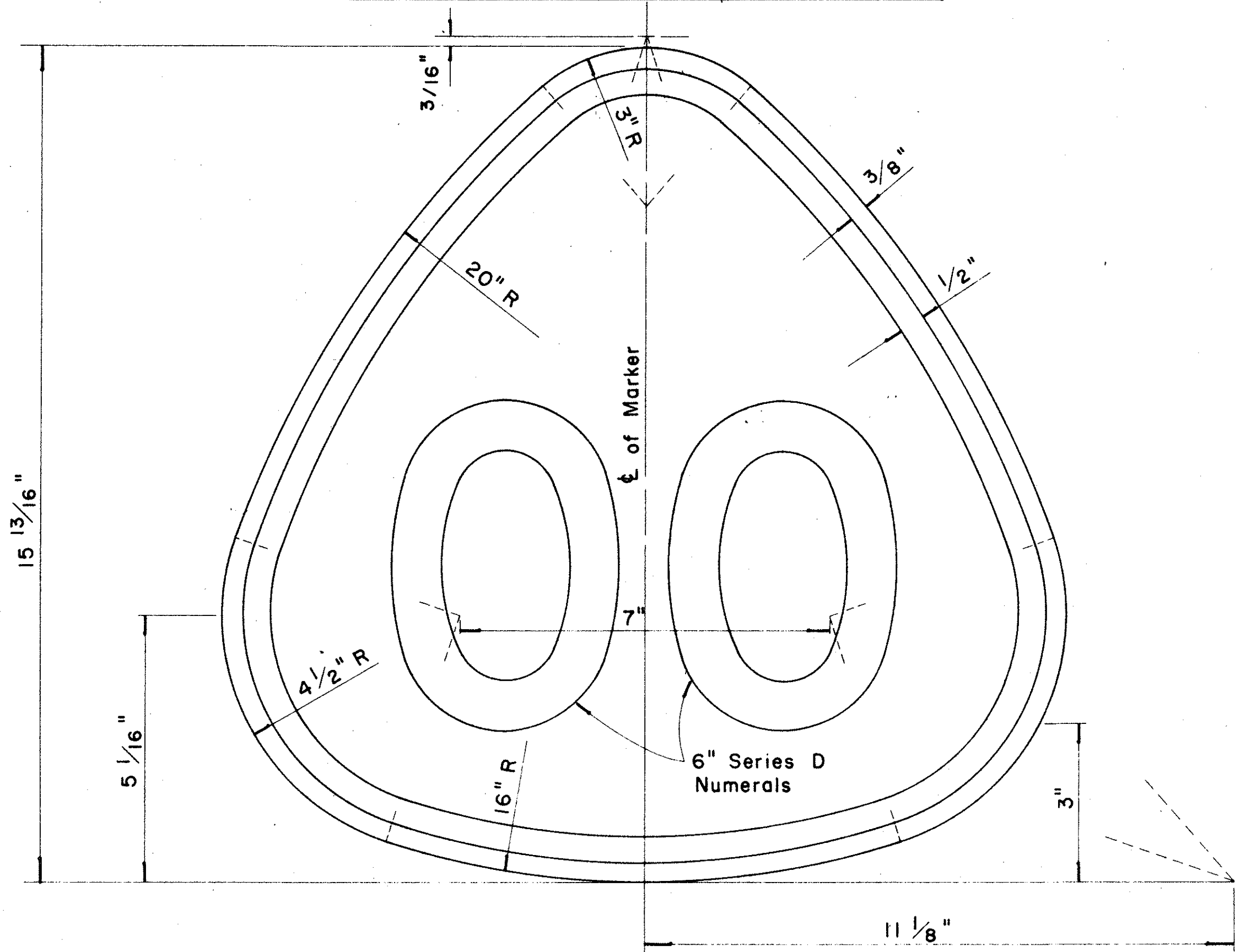


This work was prepared by me or under my supervision.
Wallace S. Miyahira

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TRAFFIC SIGN PLAN

F.A.I. Proj. No. I-H3-1(7):13, I-H3-1(2):8
Scale: 1"=50'
Date: Jan. 1968
SHEET No. T-1 OF 8 SHEETS

Shield Size	Multiply Dimensions by	Numeral Size
16"	1	6" Series D
21"	1.3	8" Series D
32"	2.0	12" Series D
42"	2.63	15" Series D
48"	3	18" Series D



**STATE ROUTE MARKER
FOR
DESTINATION & EXPRESSWAY SIGNS**

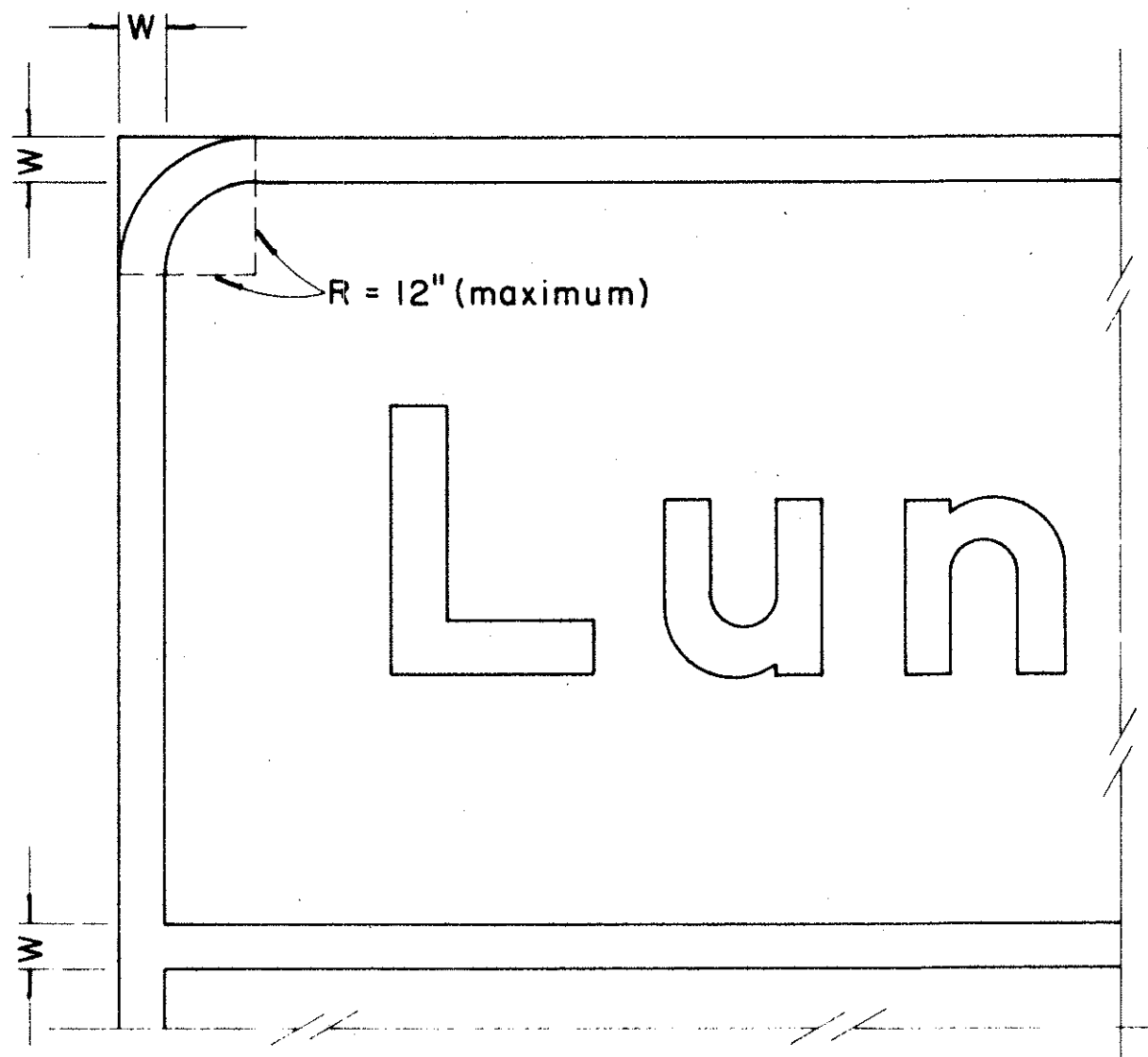
Scale: Half Size

NOTE:

- State Route Markers on Destination and Expressway signs shall have black numerals and borders on a white reflectorized background mounted on a flat aluminum cut-out.
- All numerals shall be Series "D" from the "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1957.
- All Cut-outs shall be fastened on sign panel with Aluminum blind rivets. See Special Provisions.

RADII FOR SIGNS

Least Dimension of Sign	W	R
3'- 0" to 4'- 6"	2"	3"
4'- 9" to 5'- 6"	2"	6"
5'- 9" to 7'- 6"	2"	9"
7'- 9" and greater	2"	12"



**BORDER DETAIL
FOR
DESTINATION & EXPRESSWAY SIGNS**

No Scale

NOTE:

- Area outside corner radius need not be trimmed.
- All borders shall be embossed cut-outs, white and reflectorized.
- All signs shall have borders.

REVISED: November 15, 1967

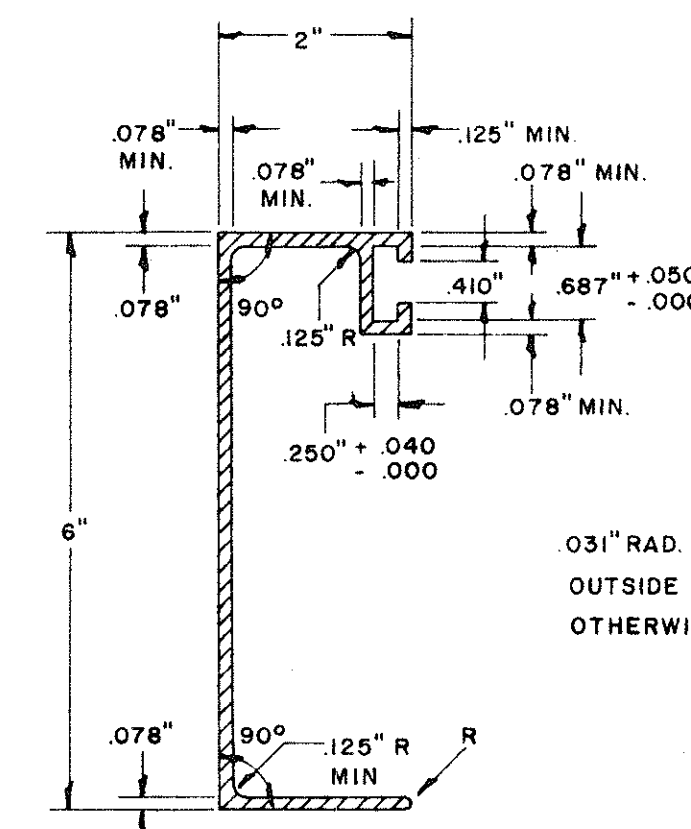
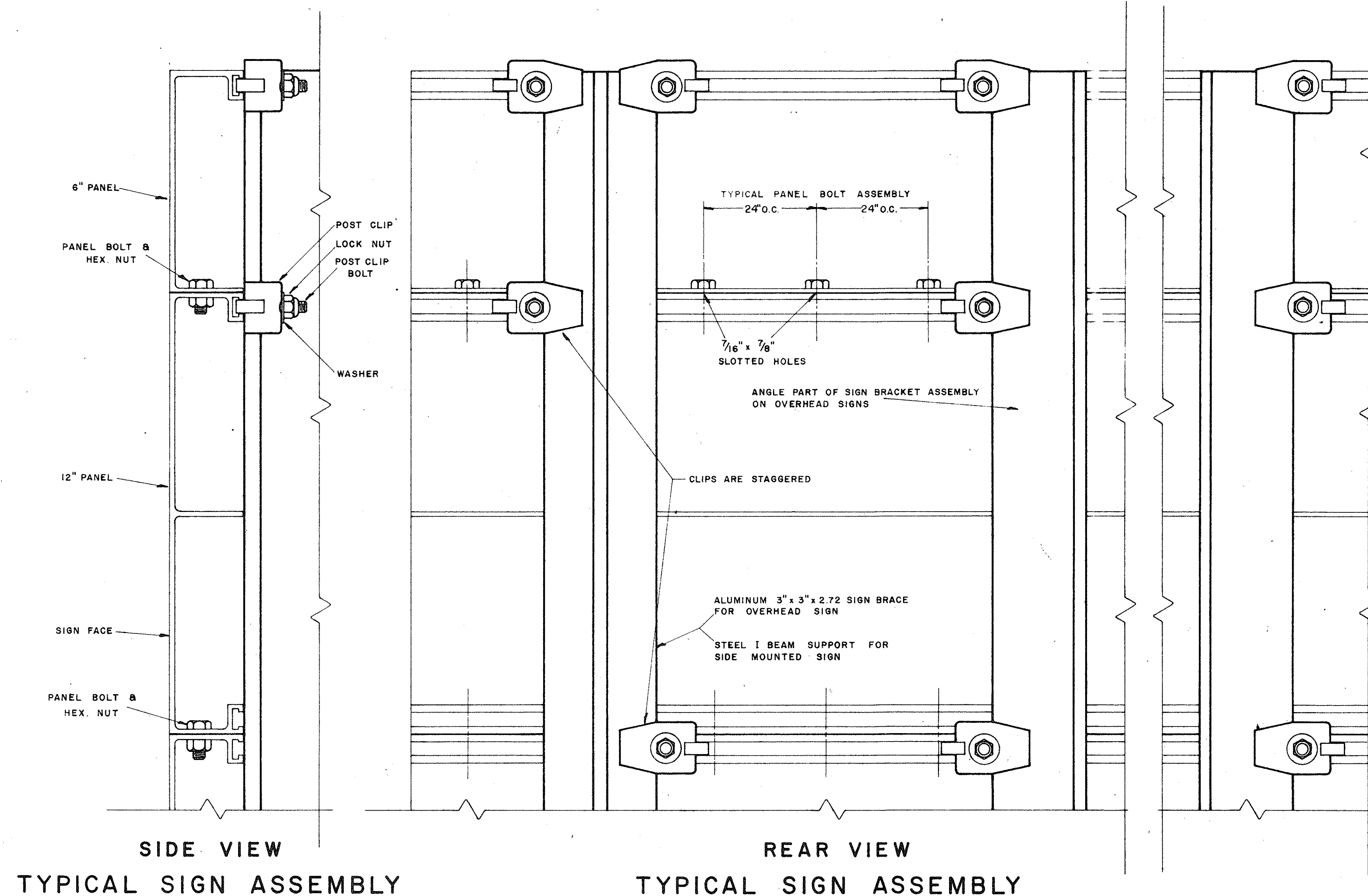
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION & EXPRESSWAY SIGNS
STATE ROUTE MARKER
AND
BORDER DETAIL

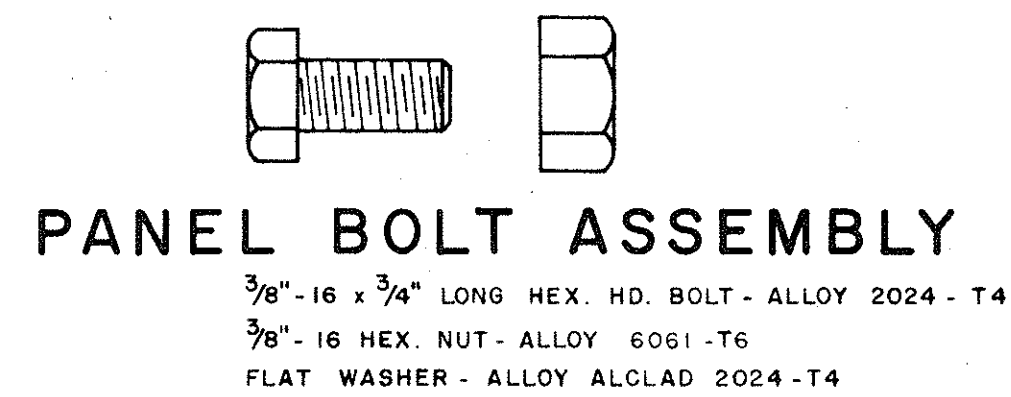
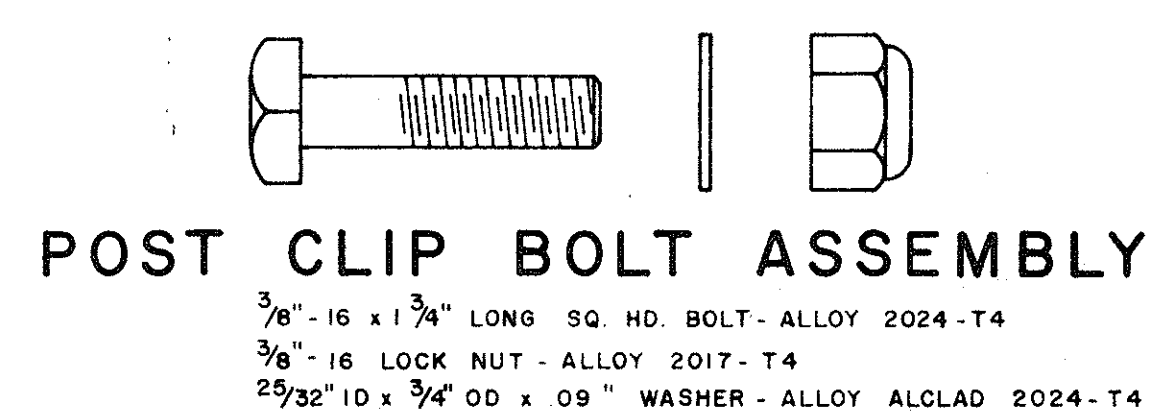
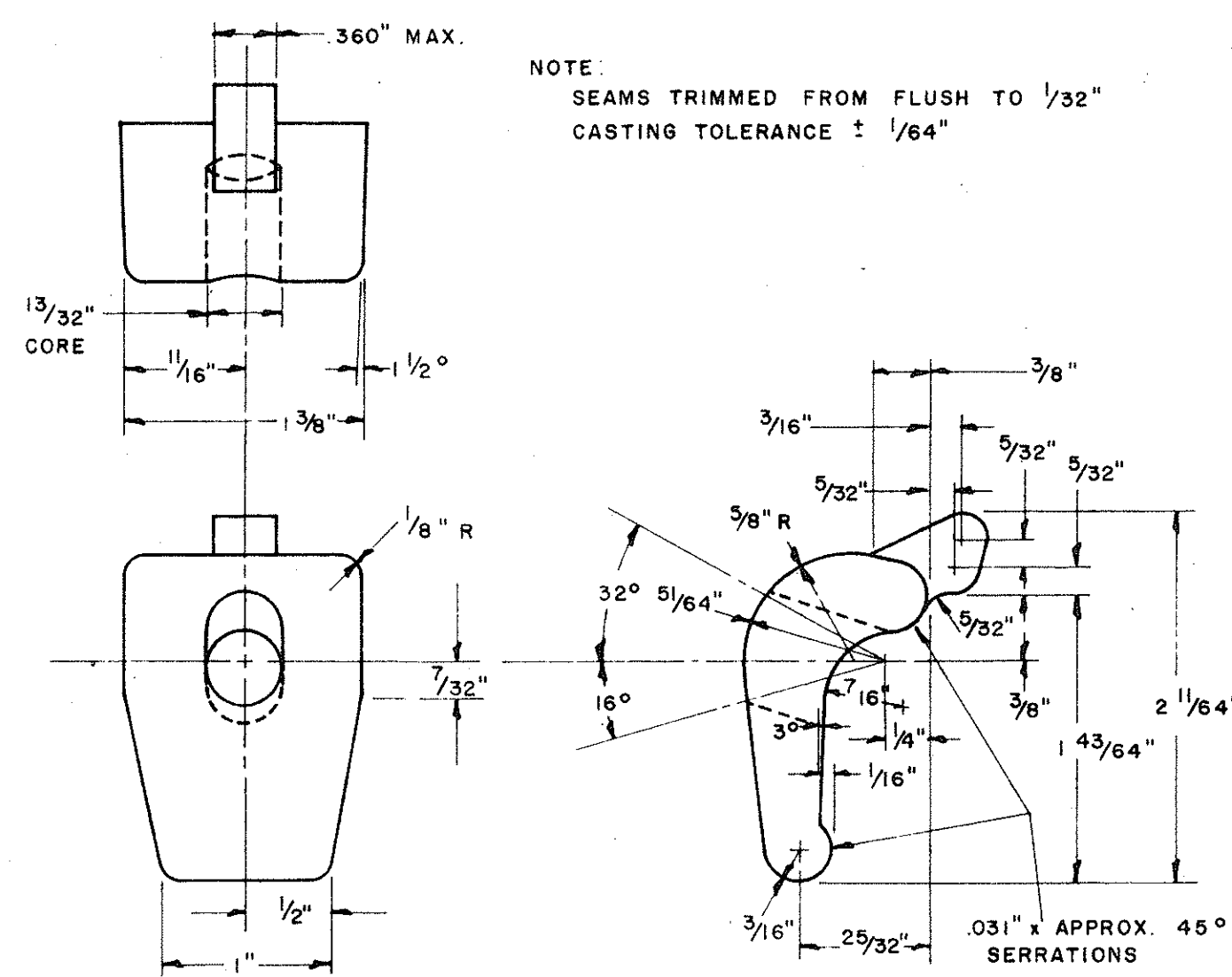
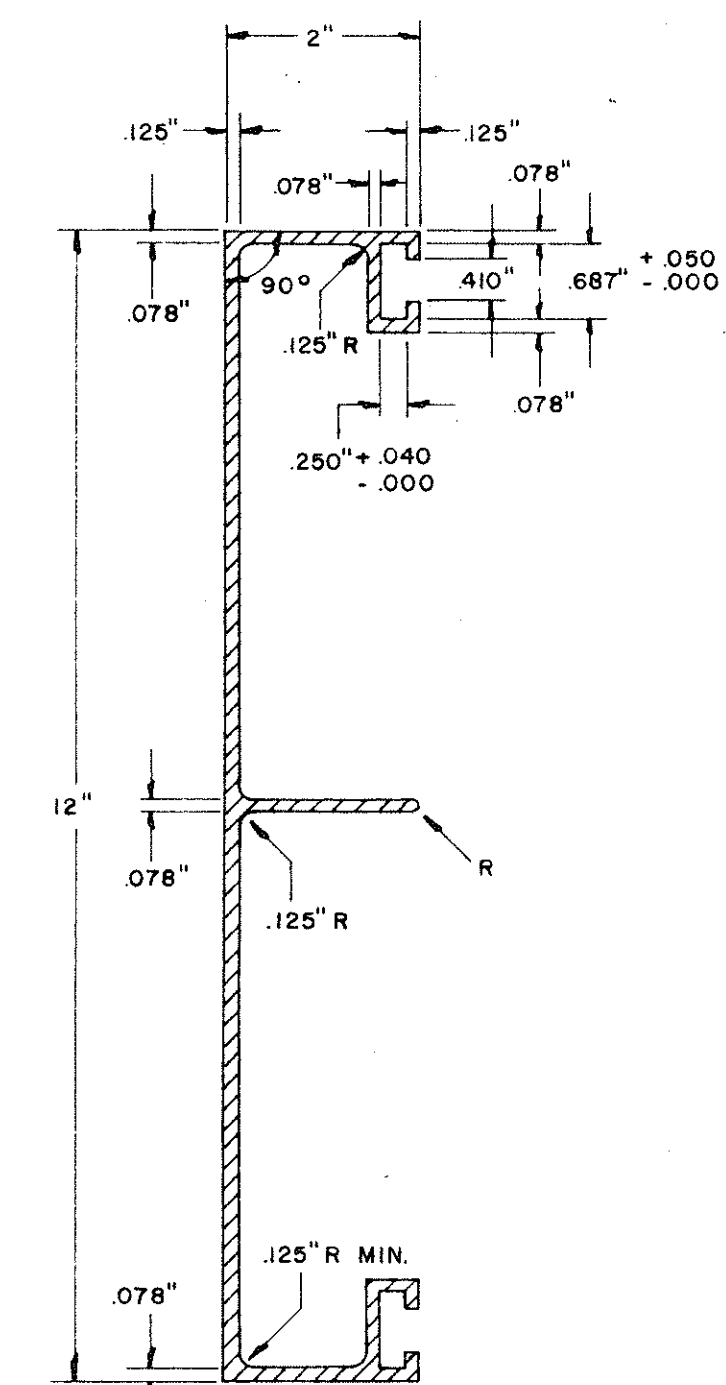
FAI Proj. No. I-H3-1(7):13, I-H3-1(2):8
Scale: As Shown Date: Jan. 1968

SHEET No. 2 OF 8 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NO. 1000	DRAWN BY	
	CHECKED BY	
	NOTES BOOK	
	QUANTITIES BY	
	CHECKED BY	



SOLID EXTRUDED SIGN PANEL DETAILS



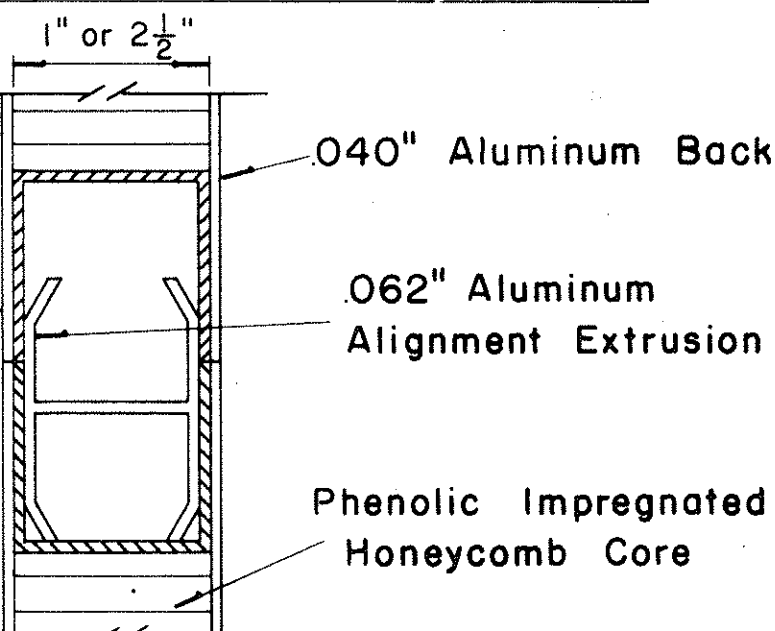
NOTE:
Extruded Aluminum Panels may be used for
Destination Signs with Reflective Sheeting Background.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS
SCALE: Not To Scale Date: Jan. 1968

DESIGNED BY
CHECKED BY
DATE
ORIGINAL
PLAN
NOTE BOOK
No.

(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
	A		B	C
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
2.5"	15'-6"	2	36"	114"
2.5"	16'-0"	2	39"	114"
2.5"	16'-6"	2	39"	120"
2.5"	17'-0"	2	39"	126"
2.5"	17'-6"	2	42"	126"
2.5"	18'-0"	2	42"	132"
2.5"	18'-6"	2	45"	132"
2.5"	19'-0"	2	45"	138"
2.5"	19'-6"	2	45"	144"
2.5"	20'-0"	2	48"	144"
2.5"	20'-6"	2	48"	150"
2.5"	21'-0"	2	51"	150"
2.5"	21'-6"	2	51"	156"
2.5"	22'-0"	2	51"	162"
2.5"	22'-6"	2	54"	162"
2.5"	23'-0"	2	54"	168"
2.5"	23'-6"	2	54"	174"
2.5"	24'-0"	2	57"	174"



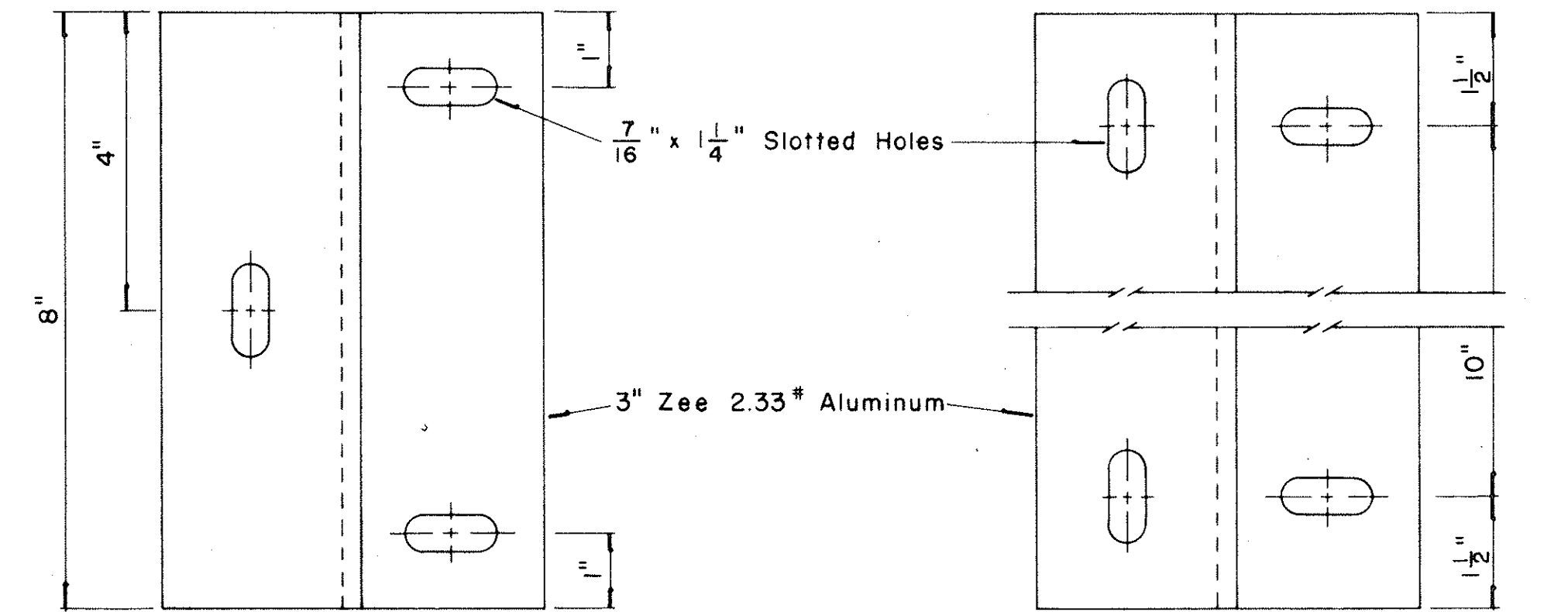
CLOSURE DETAIL
SECTION "C-C"
FULL SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)

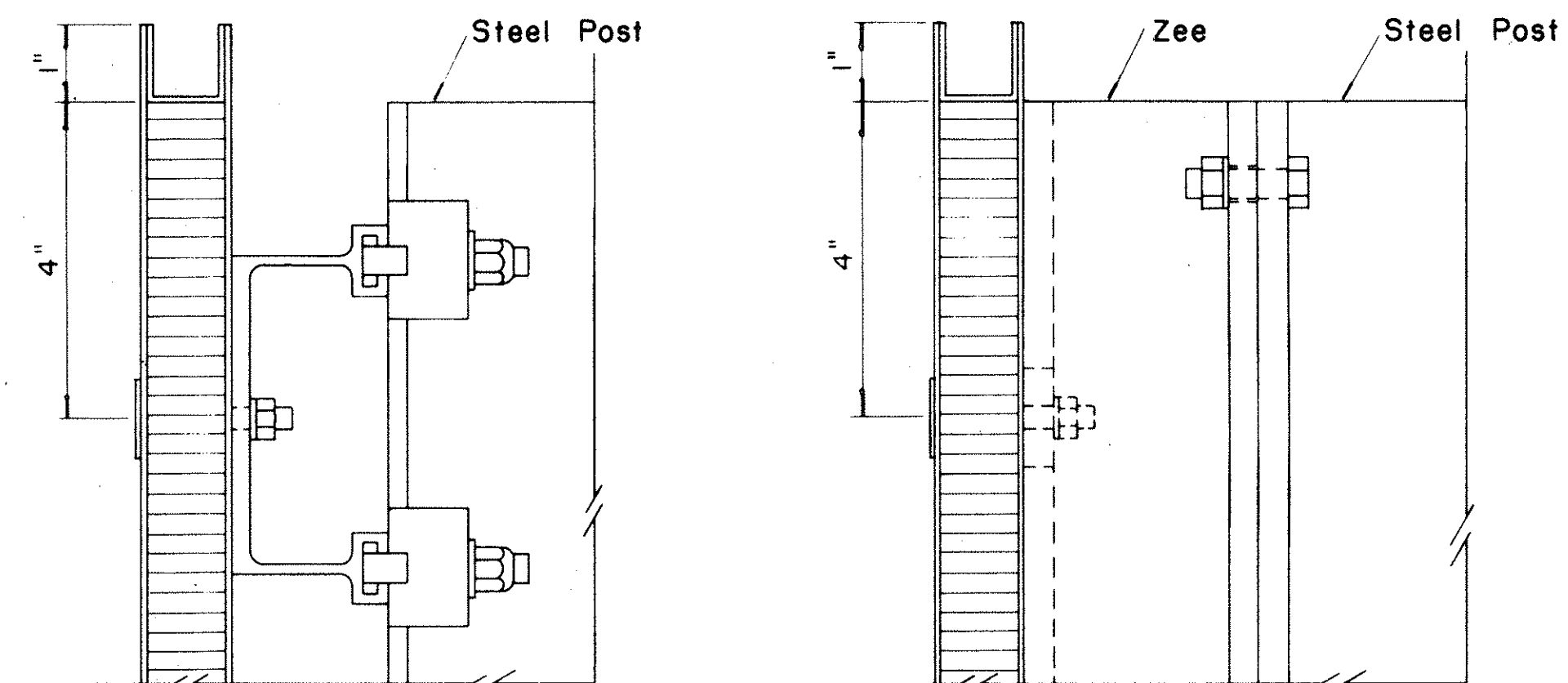
Scale: As Shown Date: Jan. 1968

SHEET No. T-4 OF 8 SHEETS

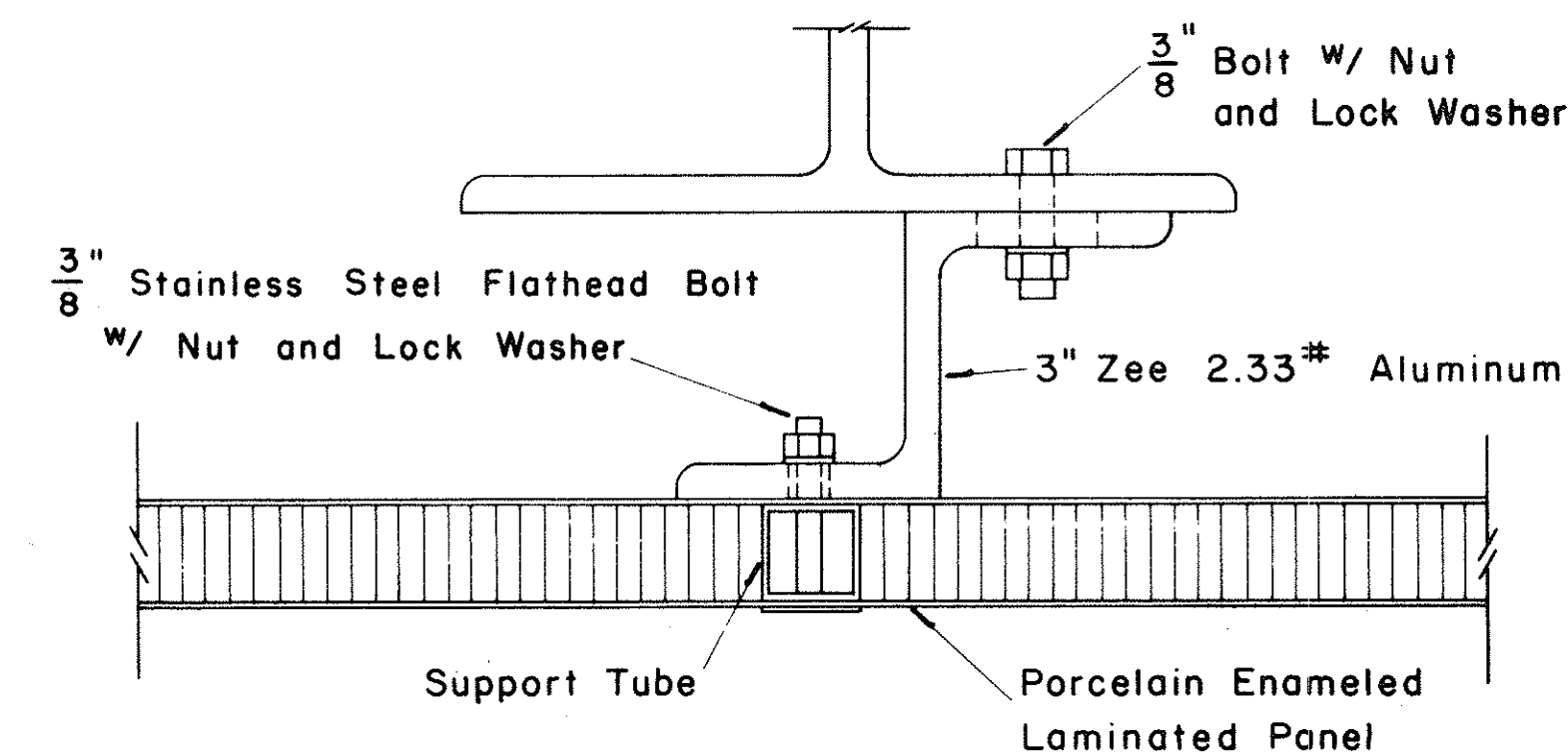


END MOUNTING INTERMEDIATE MOUNTING
ZEE MOUNTING DETAILS

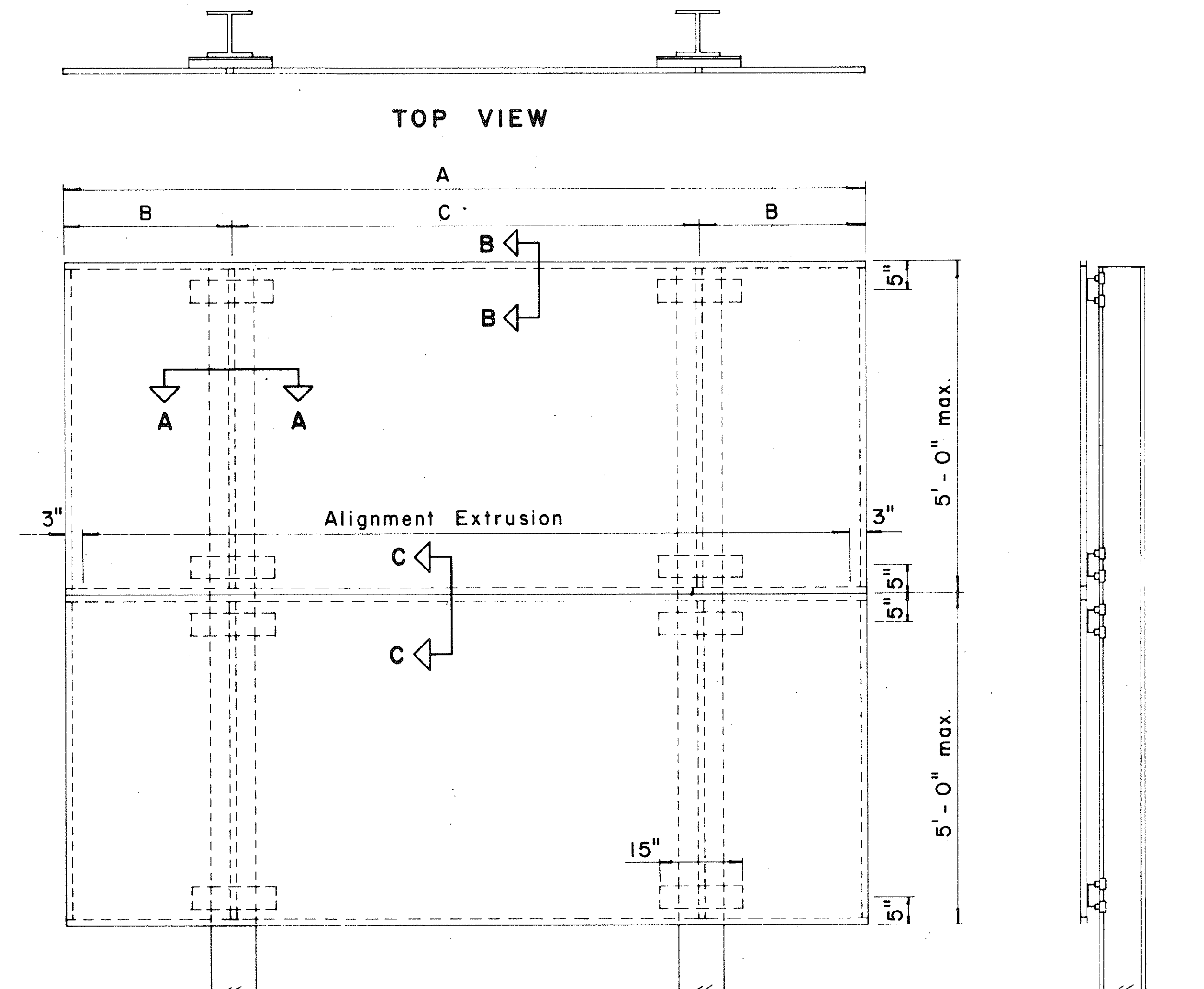
Scale: 1/2" = 1"



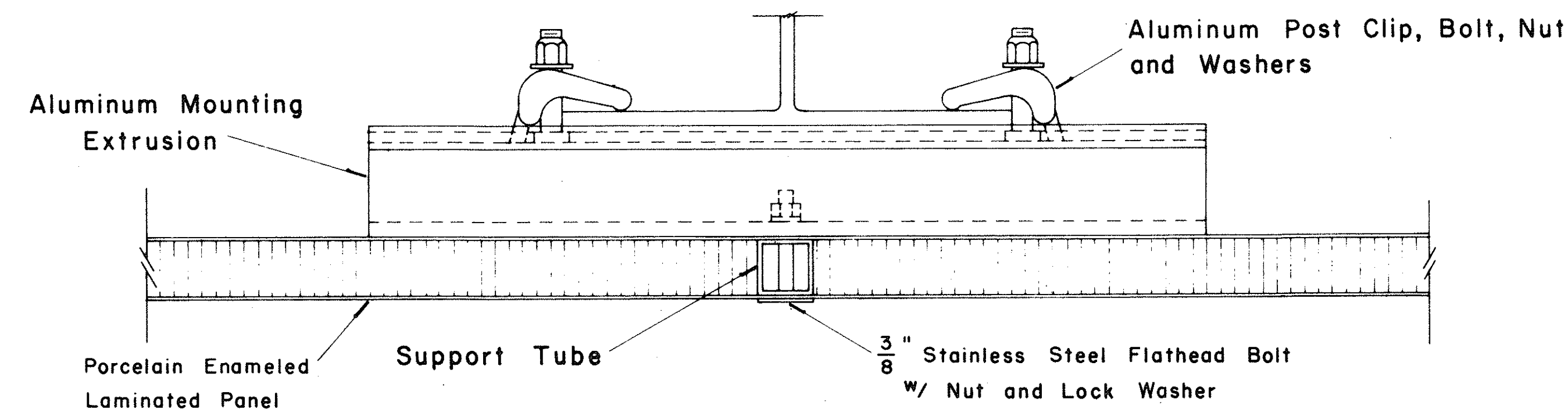
SECTION "B-B" SECTION "B-B" (Alternate)
Scale: 1/2" = 1" Scale: 1/2" = 1"



SECTION "A-A" (Alternate)
Scale: 1/2" = 1"



TYPICAL SIGN ASSEMBLY
Scale: 3/4" = 1'-0"



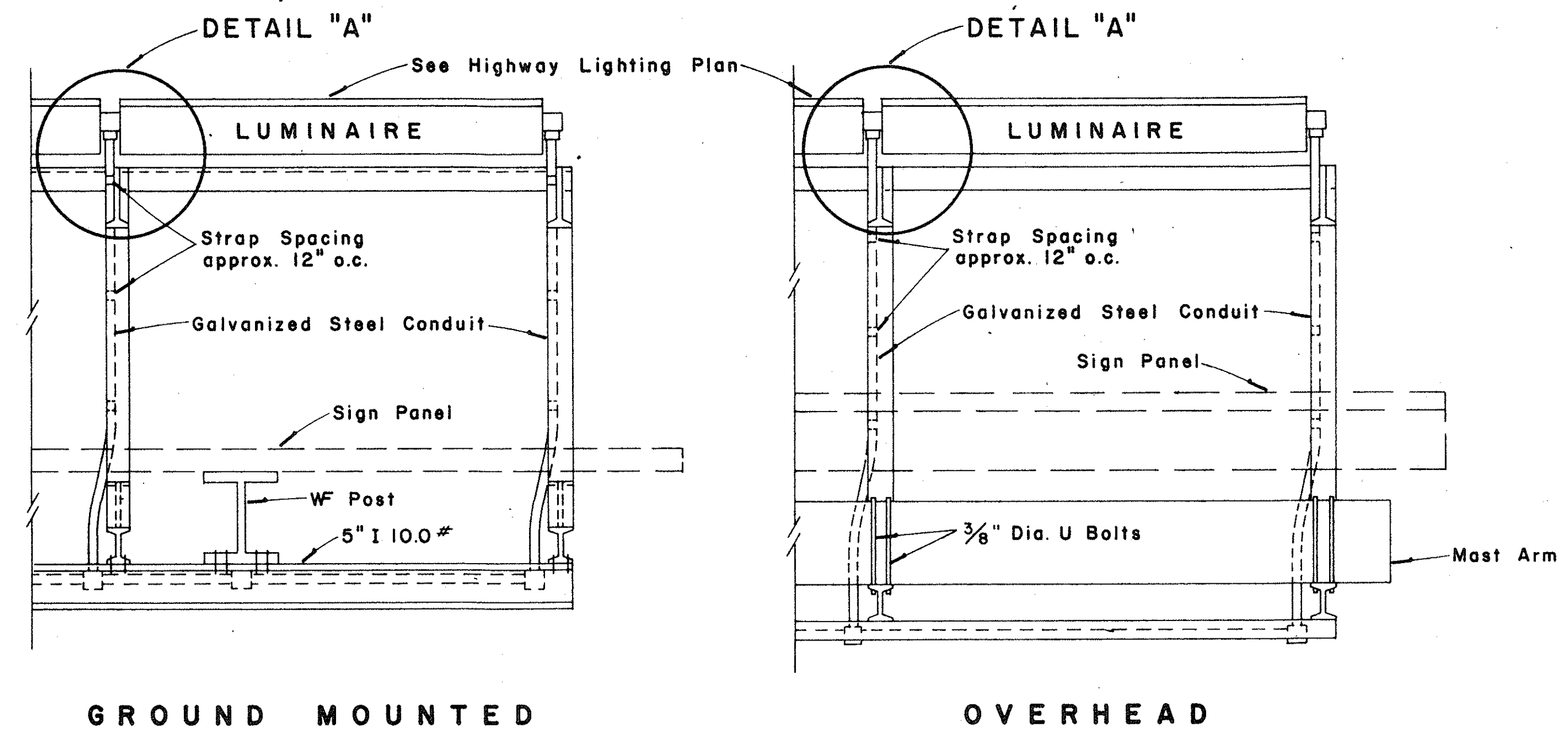
SECTION "A-A"
Scale: 1/2" = 1"

DATE
DRAWN BY
DESIGNED BY
NOTE BOOK
QUANTITIES BY
CHECKED BY
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	115-10713	1968	26	80

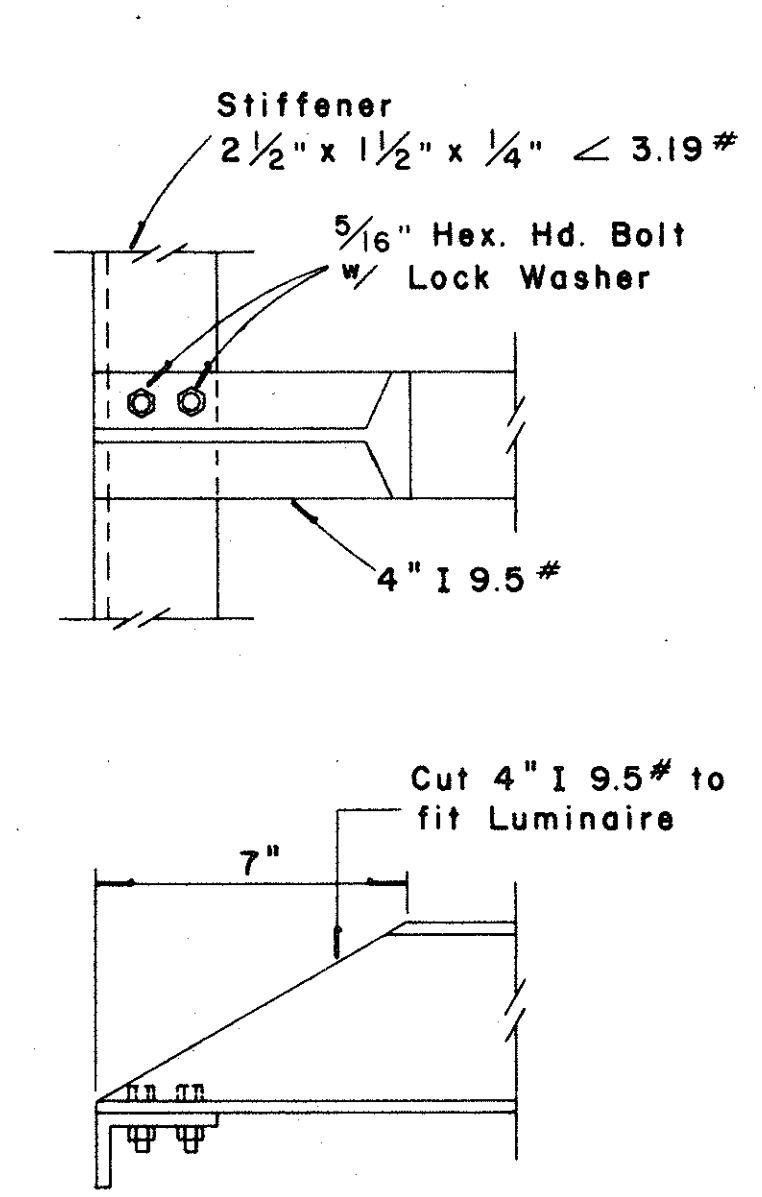
GENERAL NOTES

1. Conduit sizes: $\frac{3}{4}$ " diameter for one or two Luminaire Units, 1" diameter for three or more Luminaire Units.
2. Fluorescent Fixtures shall be installed as recommended by the manufacturer.
3. Luminaire brackets shall be spaced to fit 4'-0" to 6'-0" luminaires with fittings. Eight feet (8'-0") luminaires shall have an additional bracket at midpoint.
4. All parts of the bracket shall be hot-dip galvanized, prime coated with a suitable primer and painted with three coats of dark green enamel.



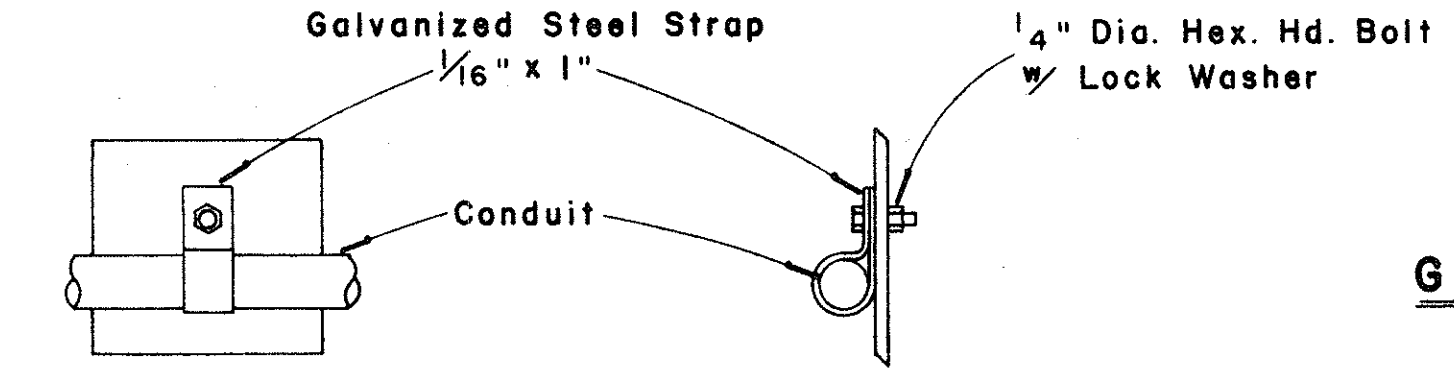
TOP VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



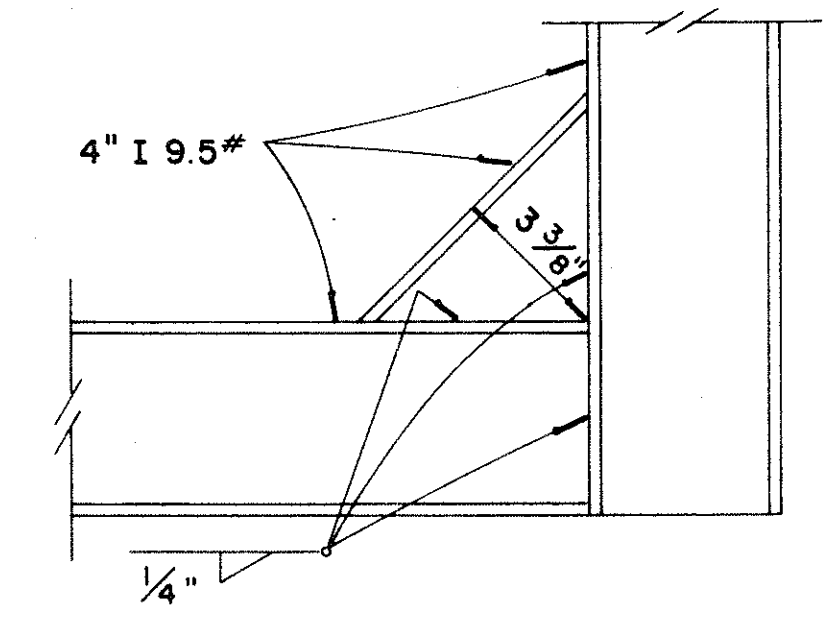
DETAIL "A"

Scale: 3" = 1'-0"



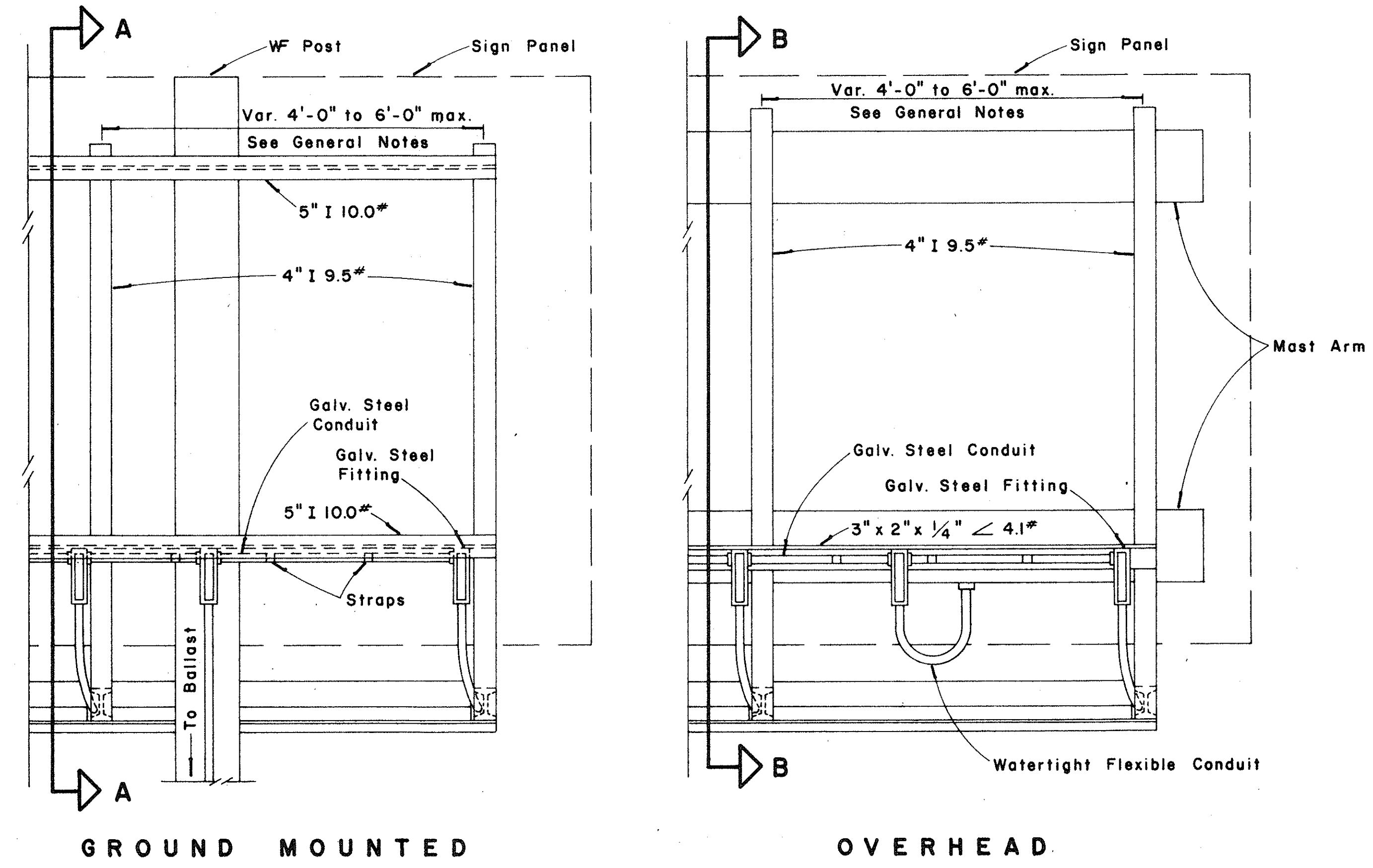
CONDUIT STRAP DETAIL

Scale: 3" = 1'-0"



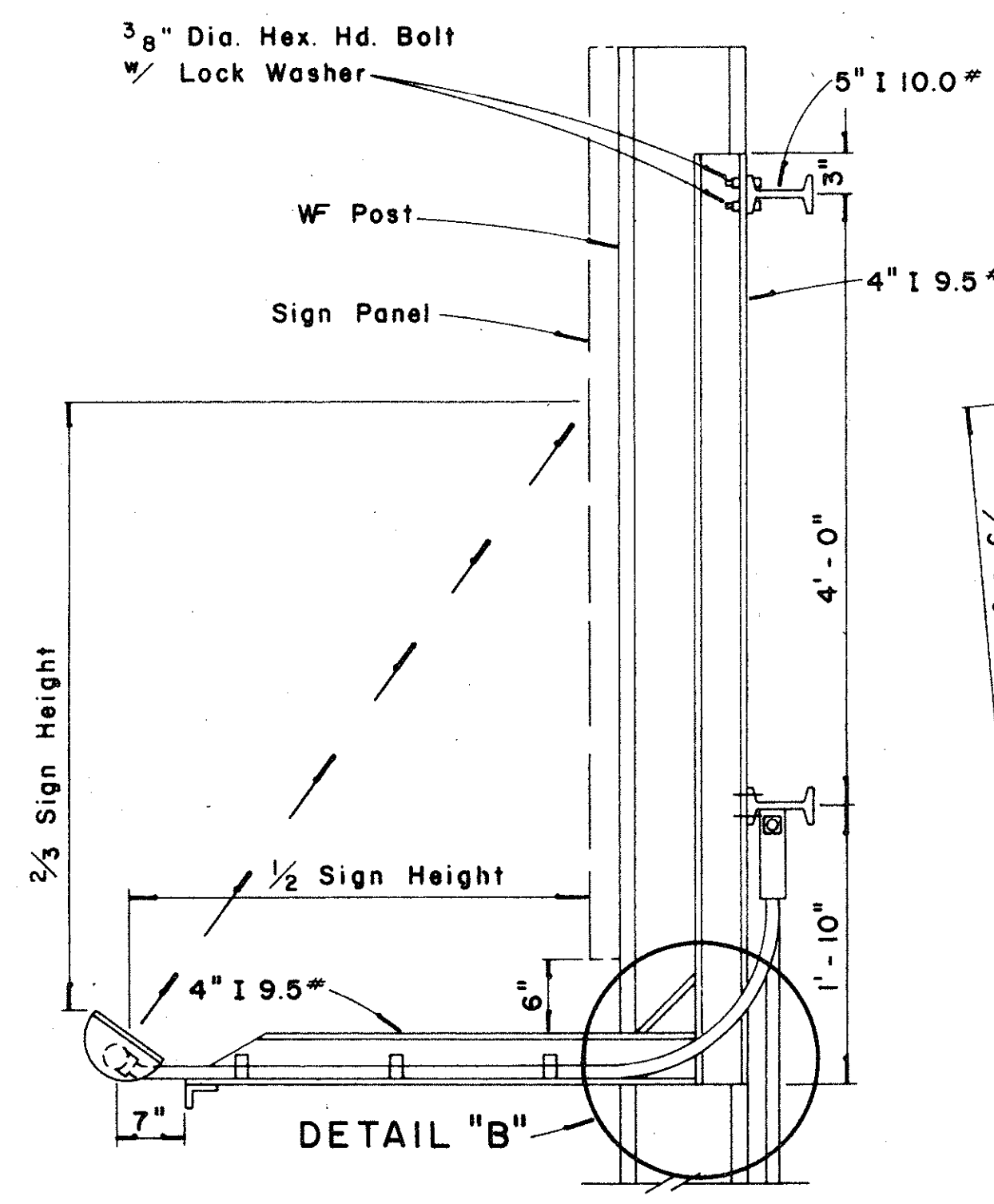
DETAIL "B"

Scale: 3" = 1'-0"



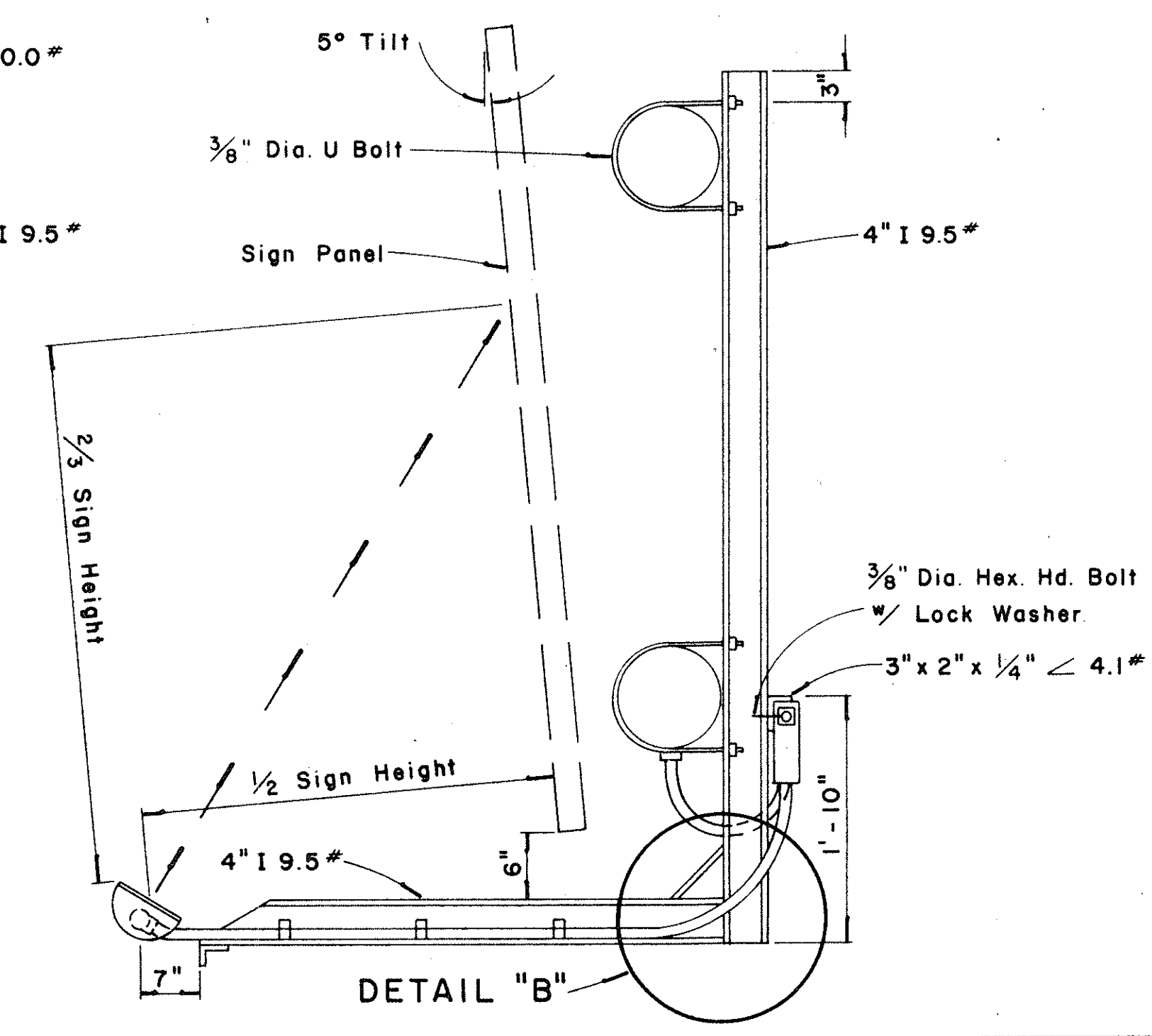
REAR VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXPRESSWAY SIGNS
LUMINAIRE MOUNTINGS**

FAI Proj. No. I-H3-1(7)13, I-H3-1(2)8
Scale: As Shown Date: Jan. 1968

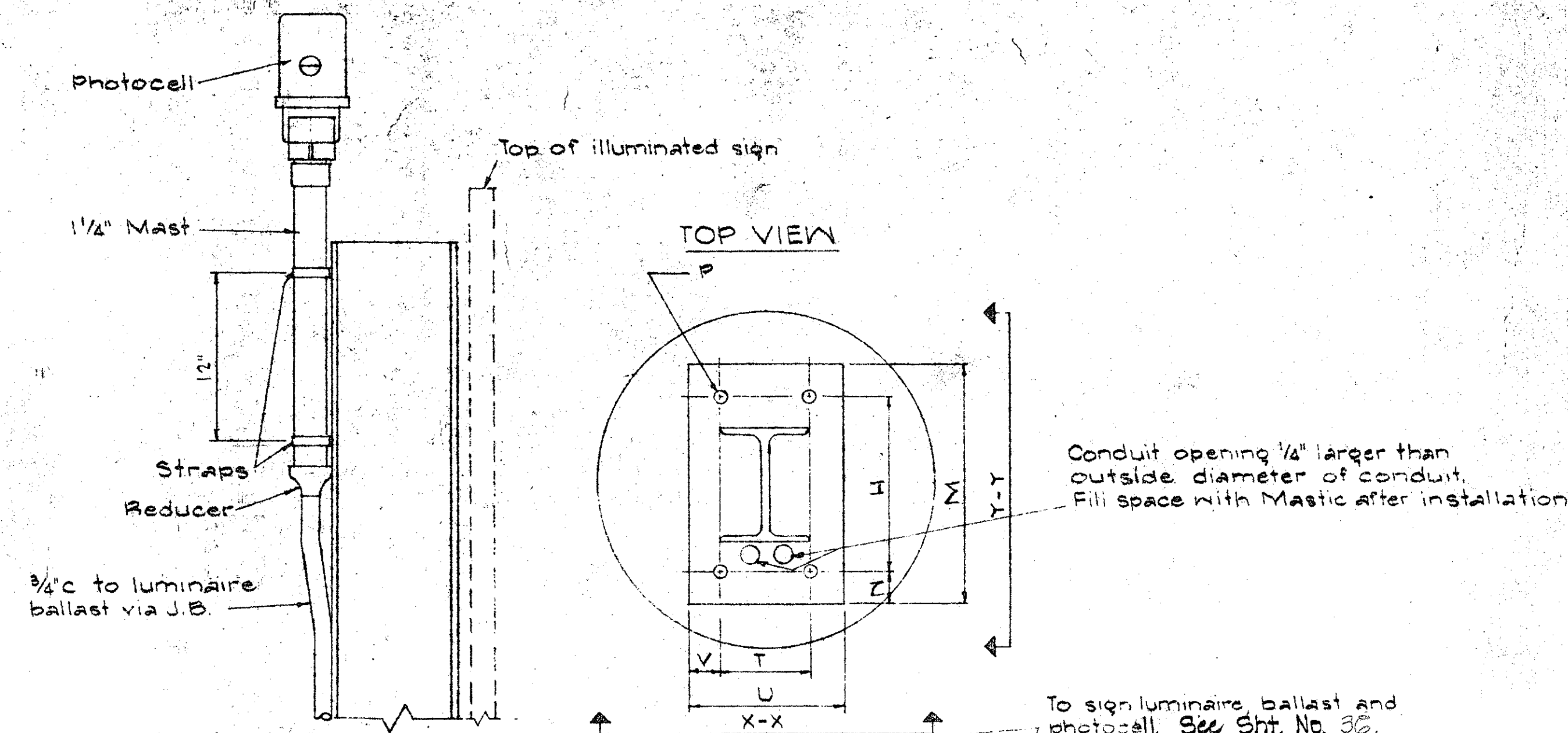
SHEET No. 25 OF 8 SHEETS

36. 119

NOTE:

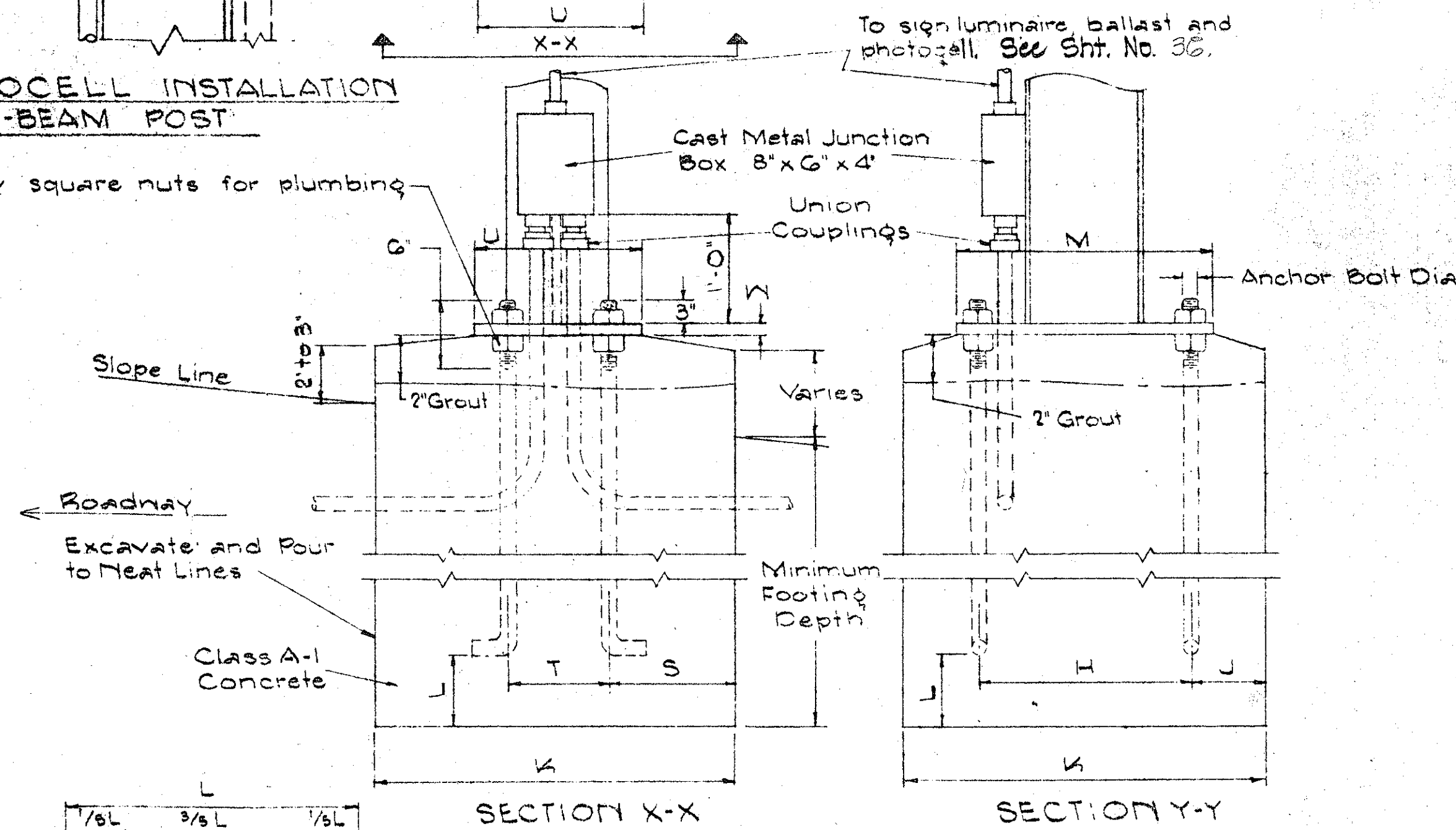
For signs with panel areas of less than 30 sq. ft. but greater than 16 sq. ft. use 3" I 5.7# steel I beam
 * For moment calculations only. Post to be from top of foundation to top of sign
 ** For fills with side slopes flatter than 4:1, 4 1/2 feet

SUPPORT STRUCTURE DATA FOR GROUND MOUNTED SIGNS																						
POST SIZE	MAXIMUM SIGN AREA	POST HGT. TOP OF FOUND. TO CENTER OF SIGN *	DIMENSIONS SEC. Y-Y								DIMENSIONS SEC. X-X								ANCHOR BOLT DIA.	MIN. FOOTING DEPTH (FEET)		TYPE OF WELD TO BASE PLATE
			H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	CUT		FILL **		
8 J 10	50 sq. ft.	14'	14"	5"	24"	6"	17 1/4"	1 1/2"	1 1/4"	24"	1 1/4"	9"	6"	10"	2"	1"		1 1/8" φ	4 1/2'	4 1/2'	3/8" 	
8 WF 24	90 sq. ft.	21'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	5'			
8 WF 35	150 sq. ft.	15'	16 1/2"	6 3/4"	30"	6"	20 1/4"	1 3/8"	1 3/8"	30"	1 3/8"	11 3/4"	6 1/4"	10"	1 3/4"	1"		1 1/4" φ	6"	7'		
10 WF 45	190 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓				
10 WF 45	200 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓				
12 WF 50	230 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	7'			
12 WF 50	250 sq. ft.	23'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓		↓	↓	↓		

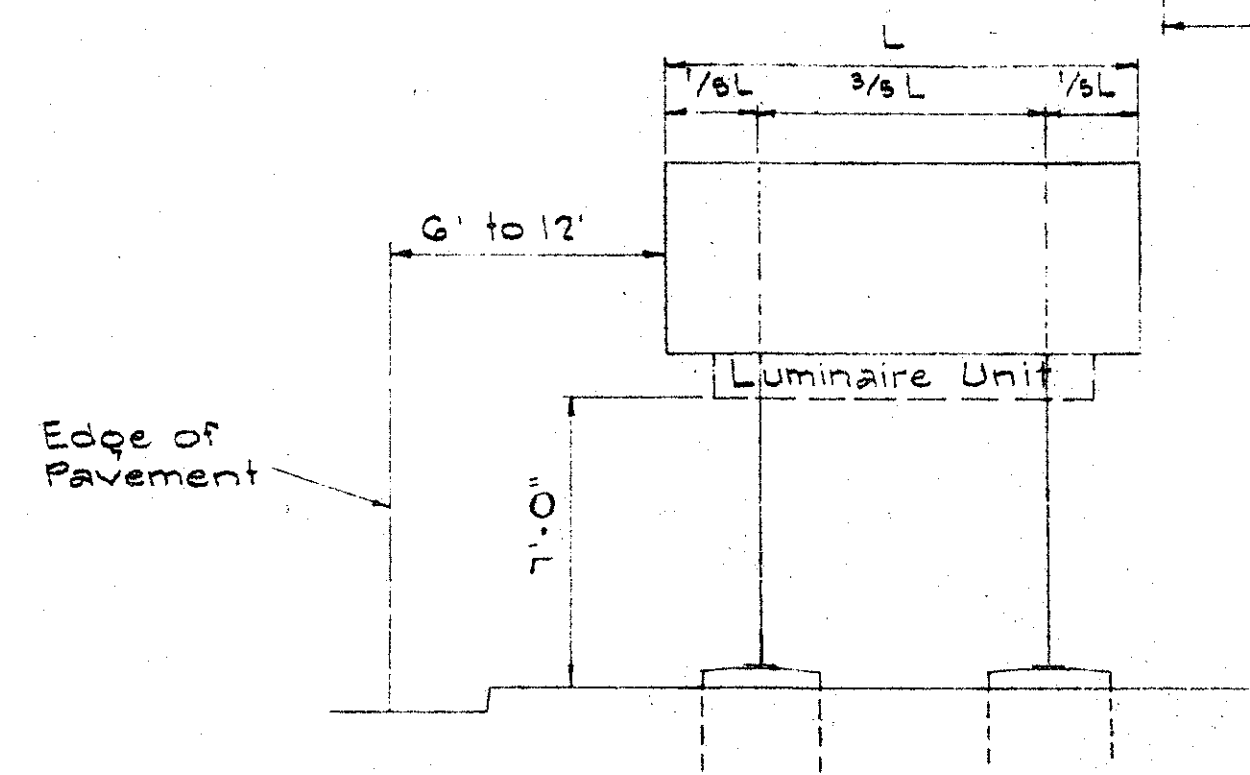


PHOTOCELL INSTALLATION ON I-BEAM POST

Heavy square nuts for plumbing



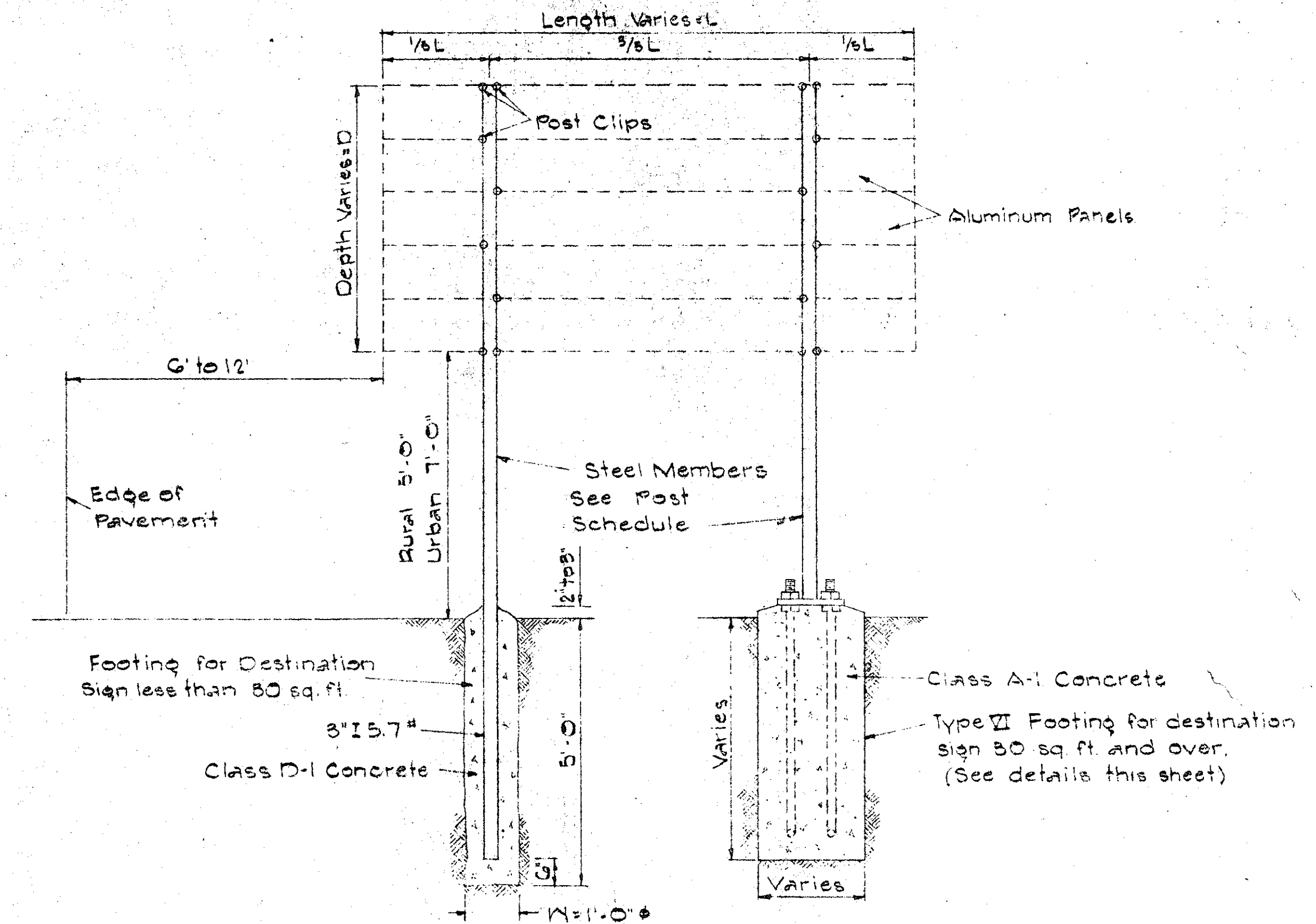
FOUNDATION DETAILS FOR GROUND MOUNTED EXPRESSWAY SIGN TYPE VI FOOTING



TYPICAL GROUND MOUNTED EXPRESSWAY SIGN TYPE A

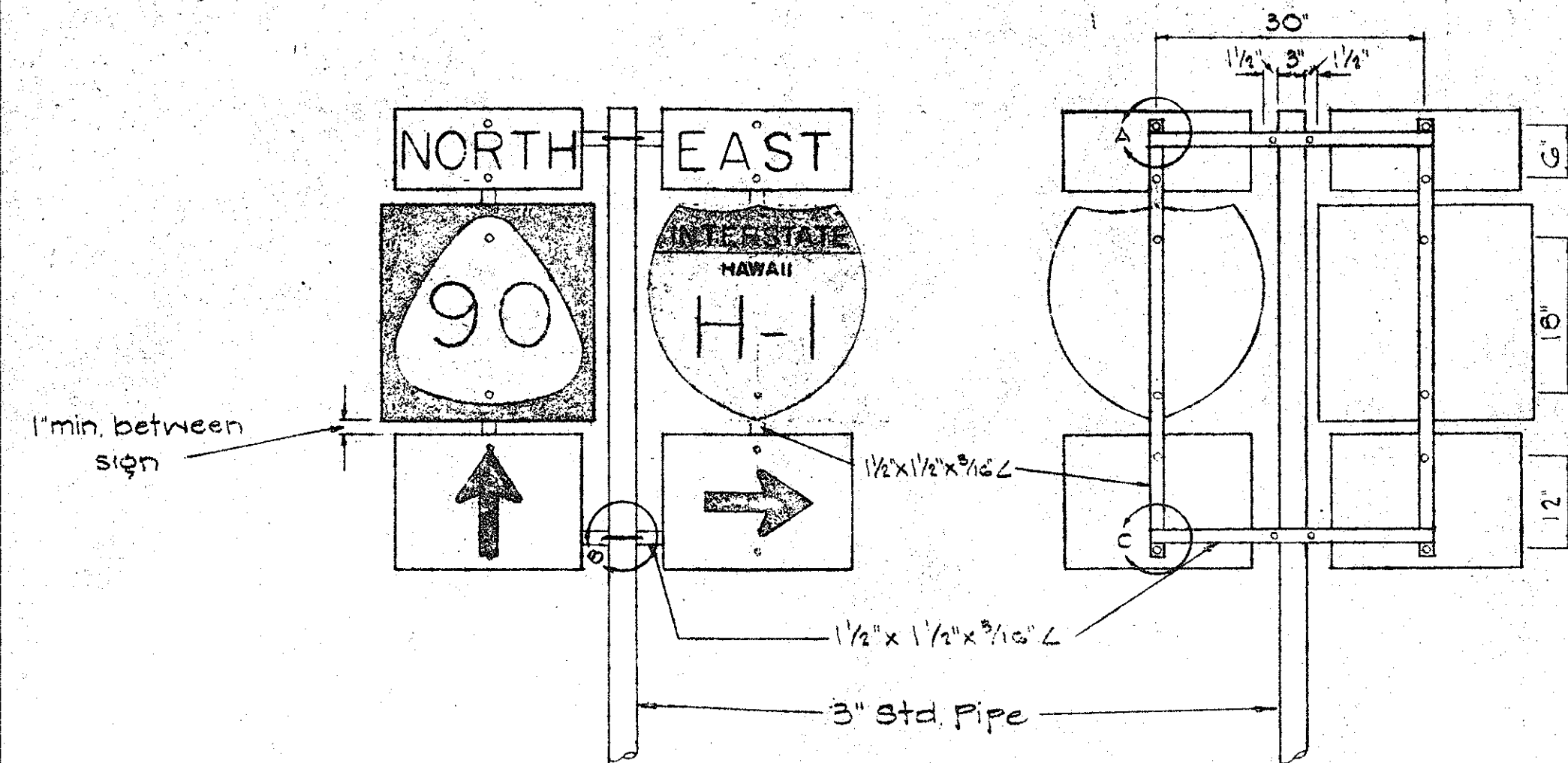
NOTE:

Conduit and ballast details are shown only for ground mounted illuminated expressway signs.



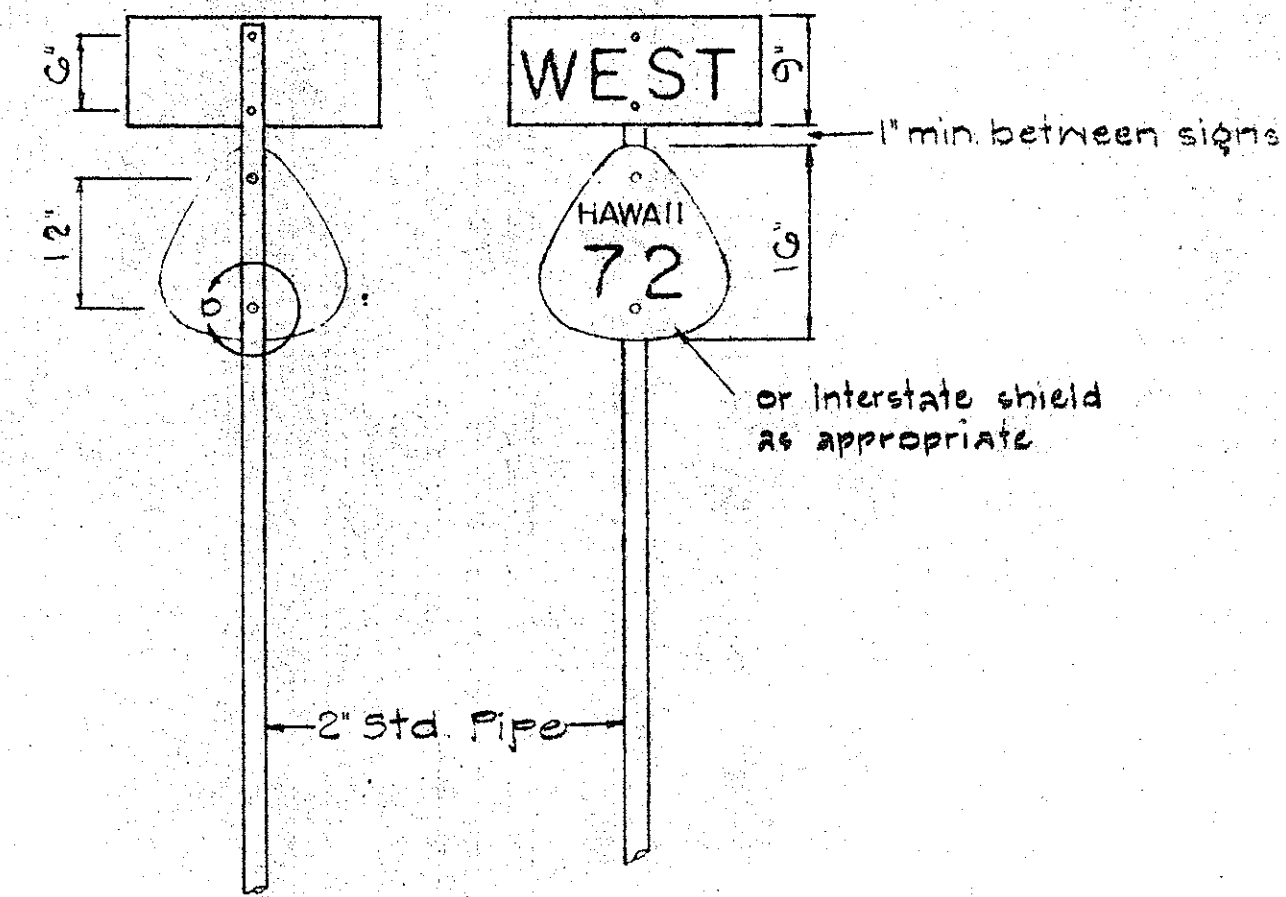
TYPICAL DESTINATION SIGN PANEL & POST

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-103-1(7)-13	1968	26	36



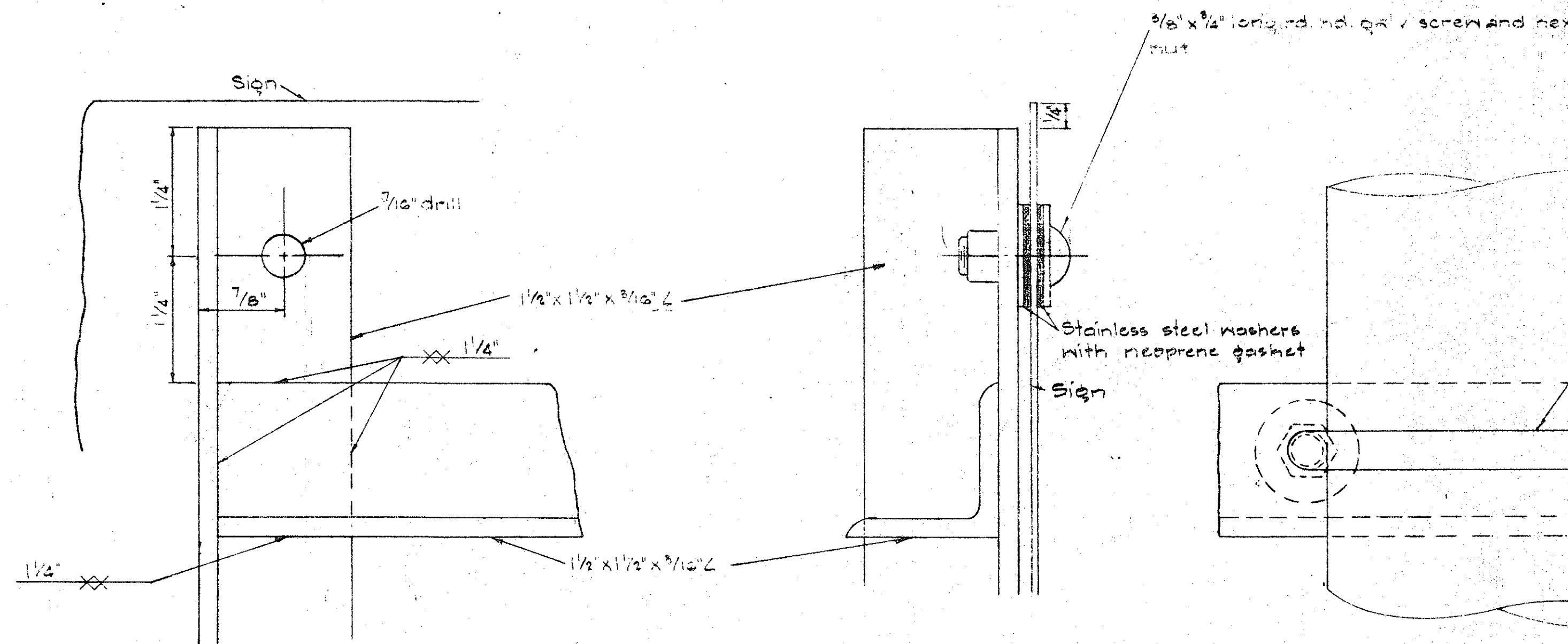
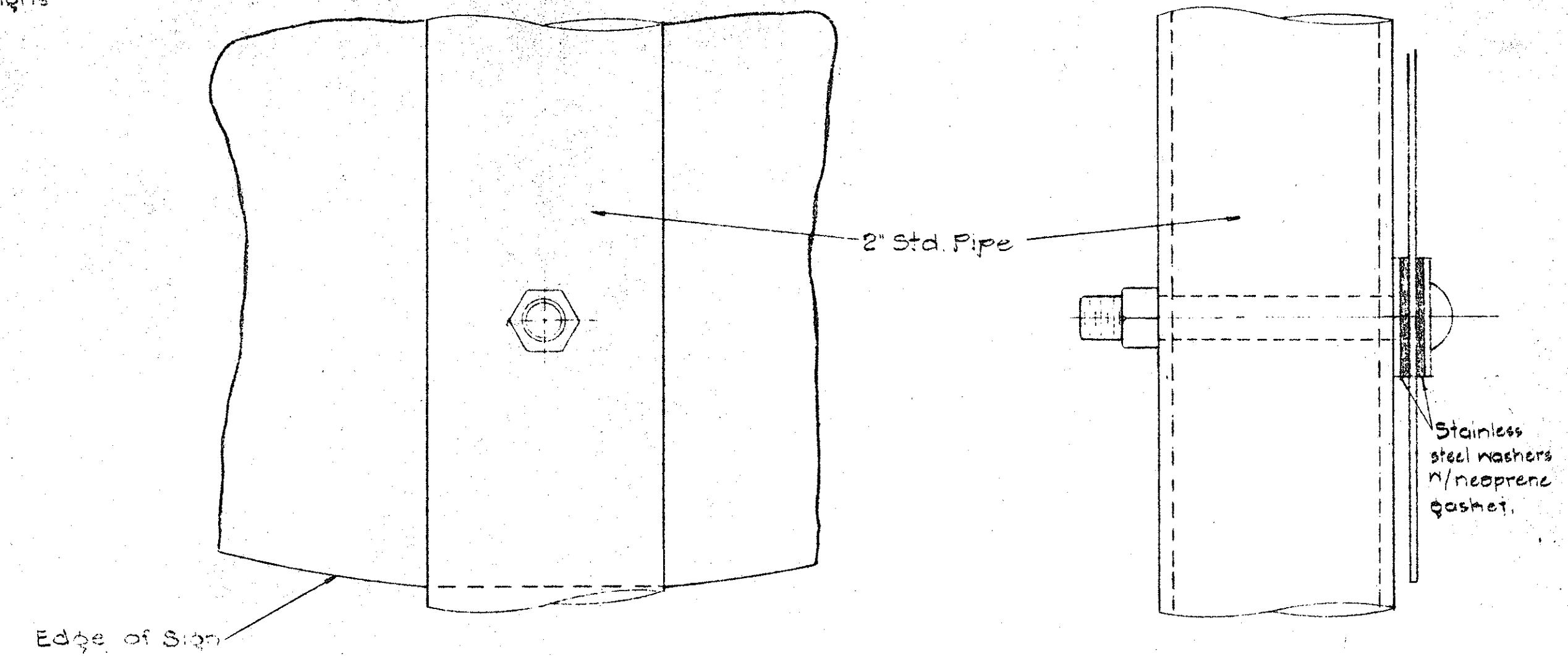
TYPE "B" ASSEMBLY
NOT TO SCALE

NOTE:
Minimum clearance between signs shall be 1 inch. (Larger clearances shall be in multiples of 1 inch.)

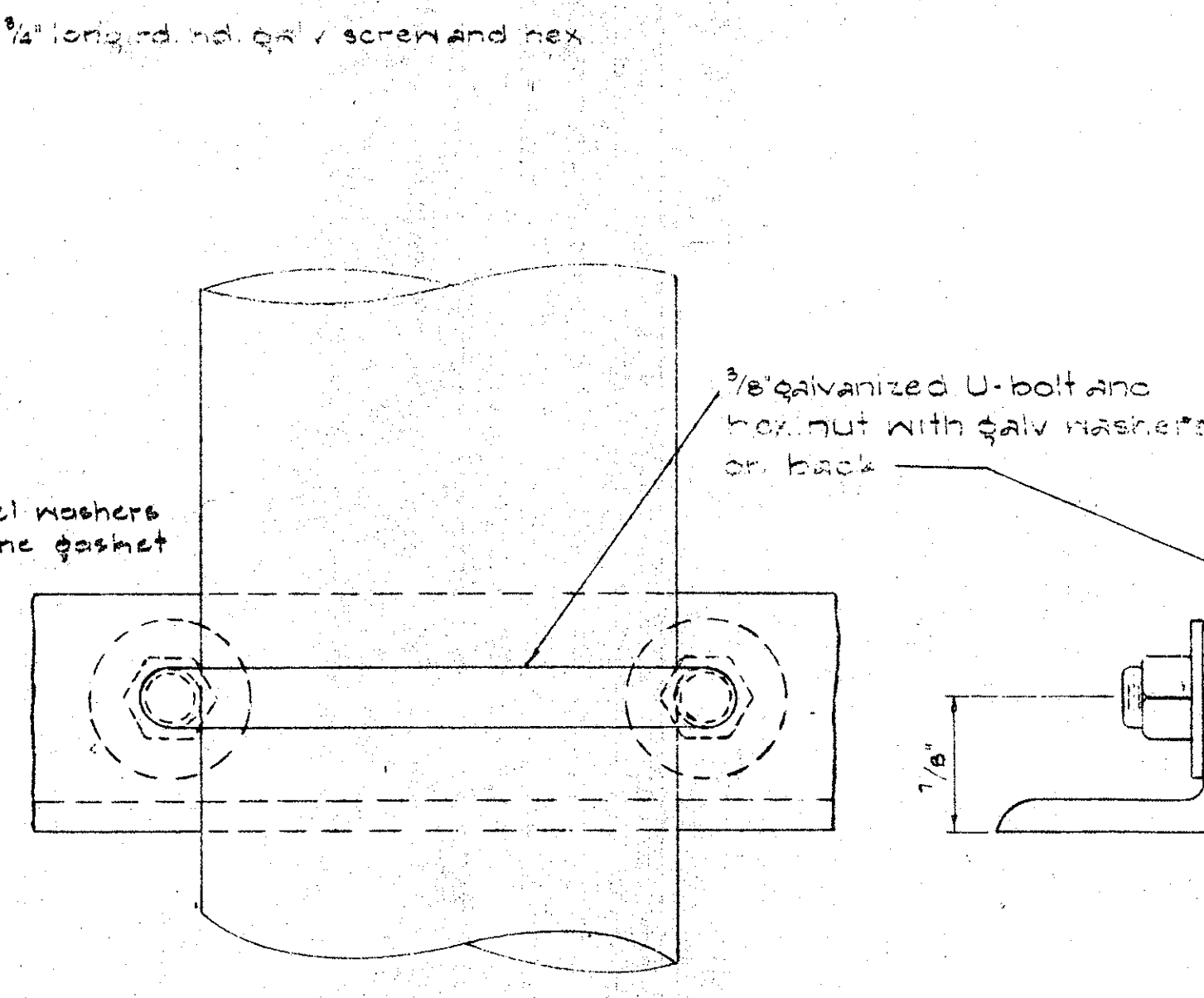


TYPE "A" ASSEMBLY
NOT TO SCALE

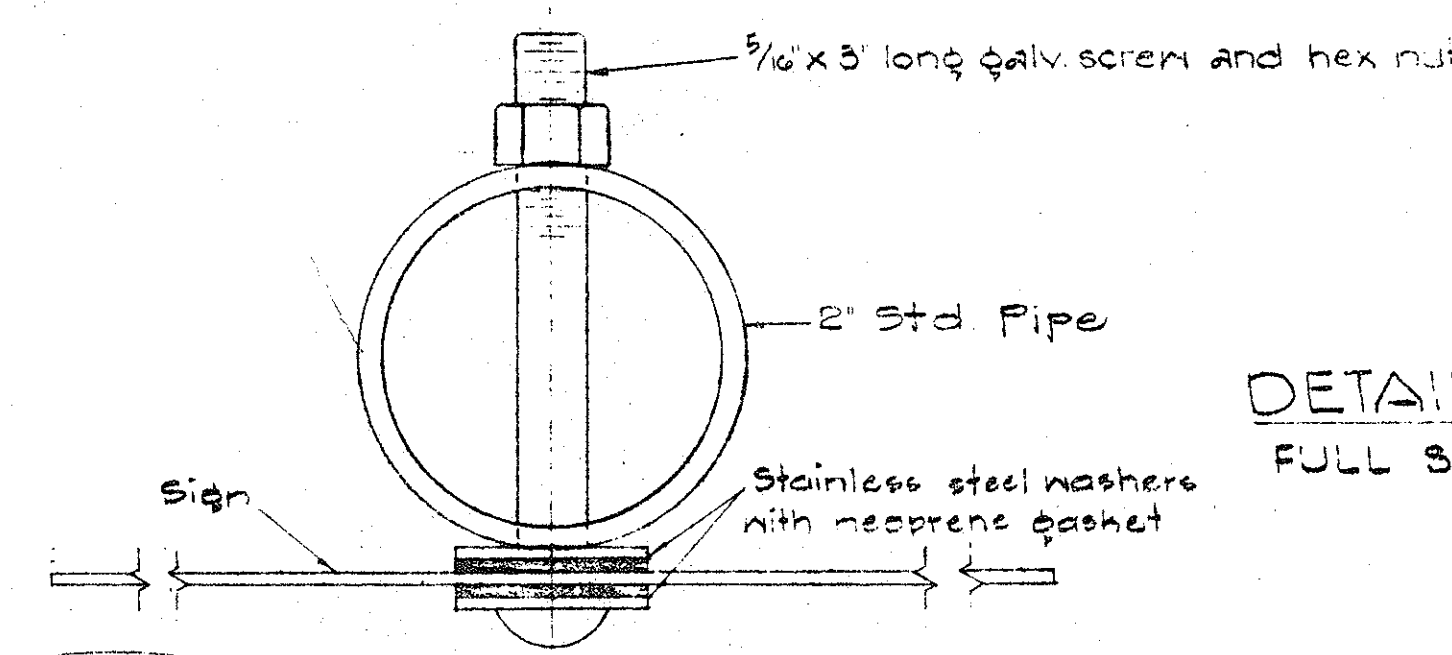
NOTE:
Use 2" Standard Pipe for Type "A" assembly.
Use 3" Standard Pipe for Type "B" assembly.



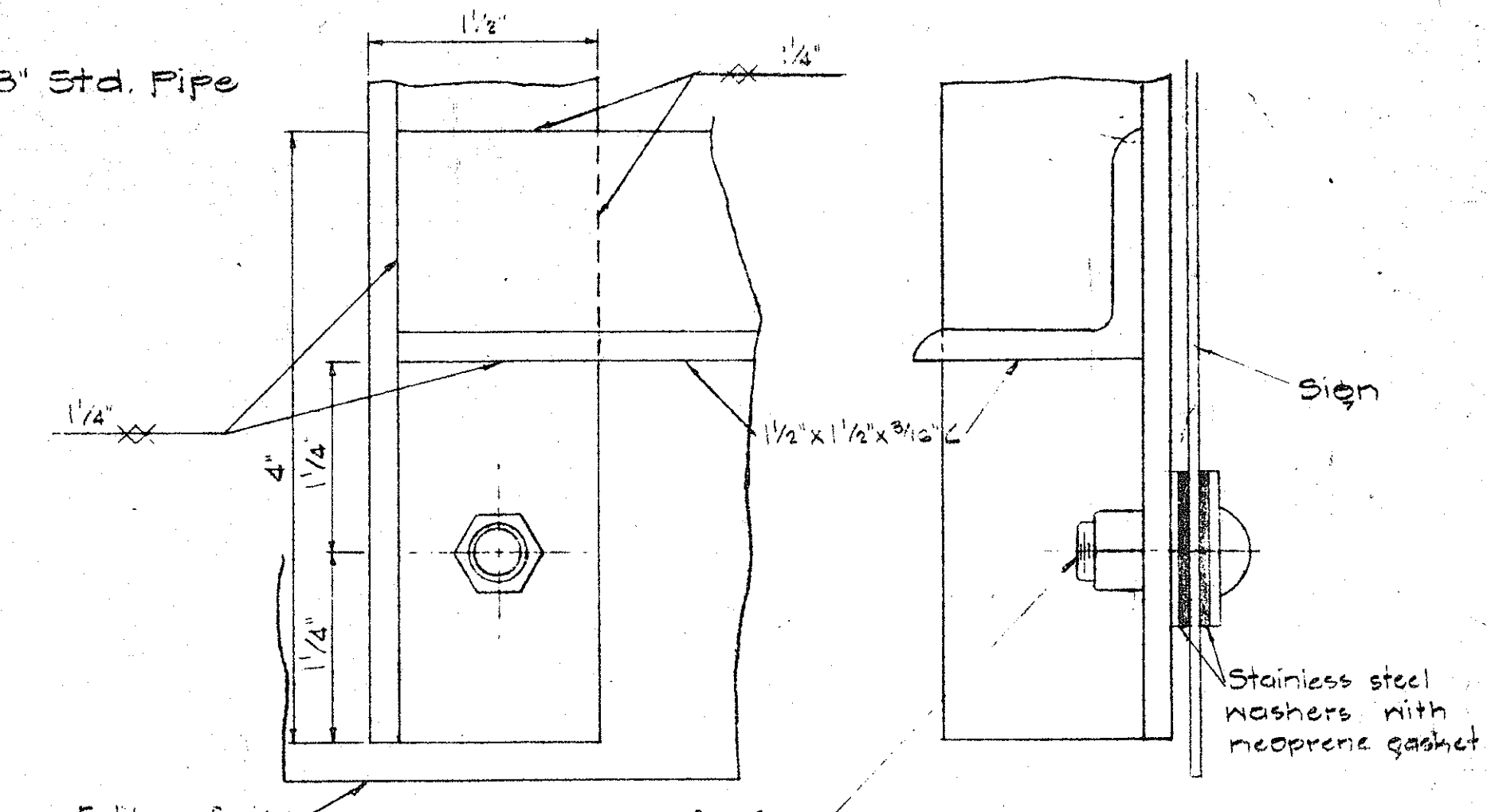
DETAIL "A"
FULL SCALE



DETAIL "B"
FULL SCALE



DETAIL "D"
FULL SCALE



DETAIL "C"
FULL SCALE

NOTE:
For height and lateral location of Route Marker Assembly, see composite sheet no. 35.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

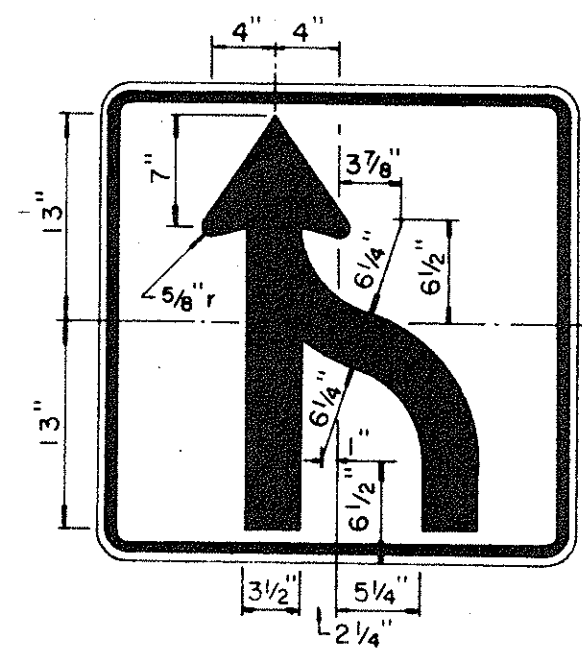
DETAILS OF
ROUTE MARKER ASSEMBLY

FAI Proj. No. I-H3-1(7)-13, I-H3-1(2)-8
Scale: As Noted Date: Jan. 1968

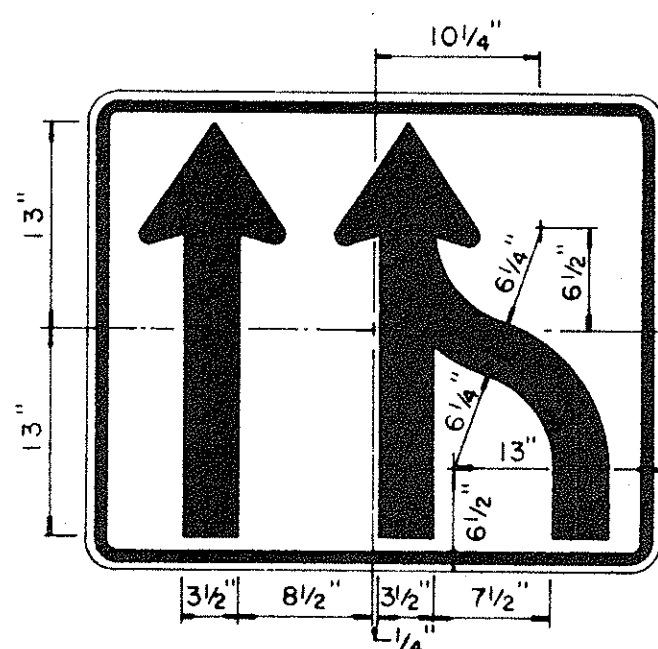
SHEET No. 7 OF 8 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

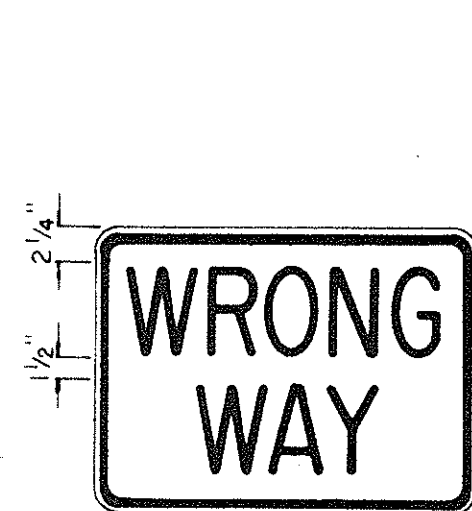
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H3-1(7)-13	1968	20	86



R3-9 30"x 30"

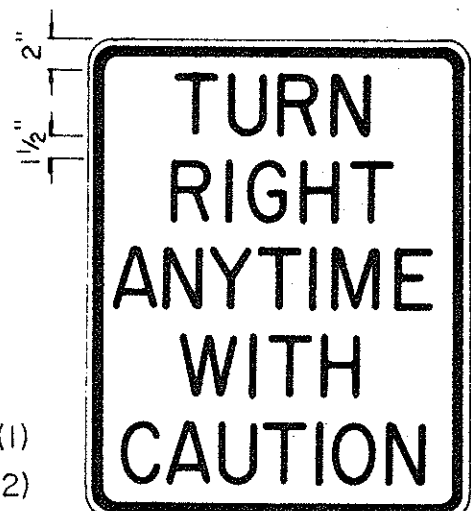


R3-10 36"x 30"

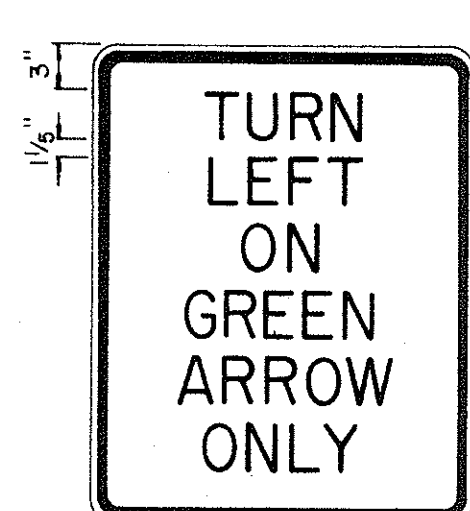


R5-5(1) 24" x 18"
R5-5(2) 36" x 24"

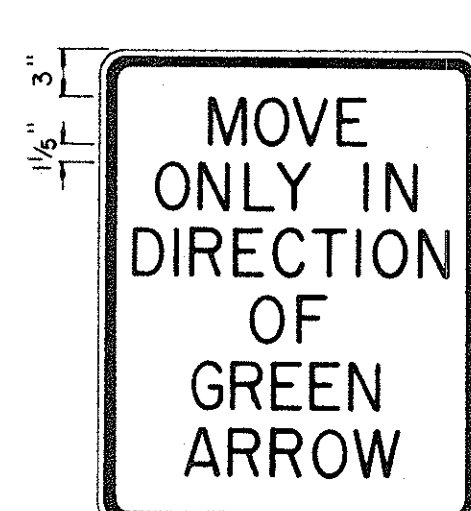
NOTE
White legend and border
on Red background



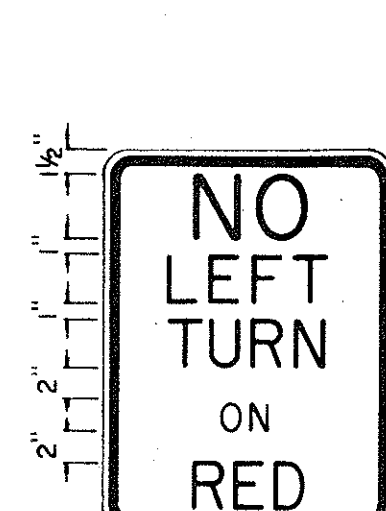
R15-1 24" x 30"



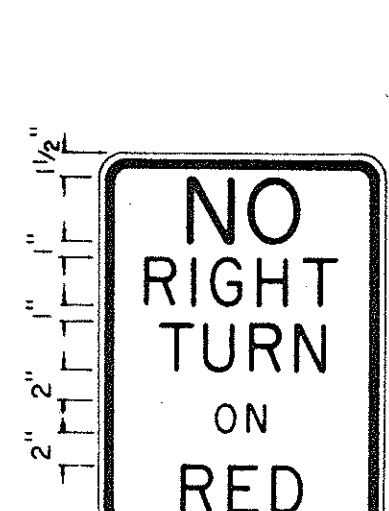
R16-1 24" x 30"



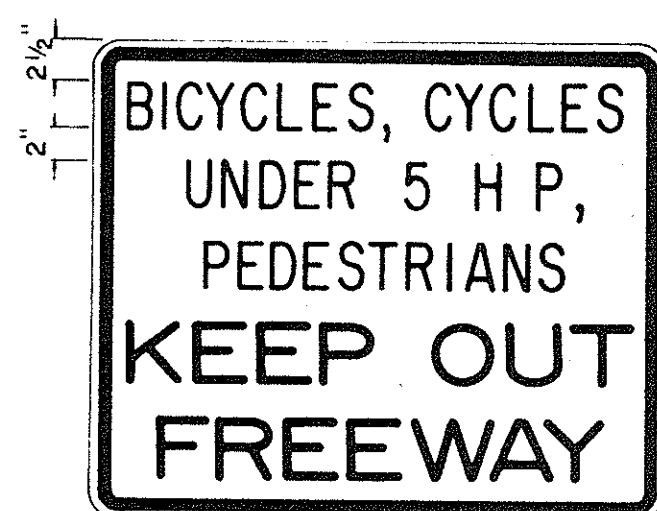
R16-2 24" x 30"



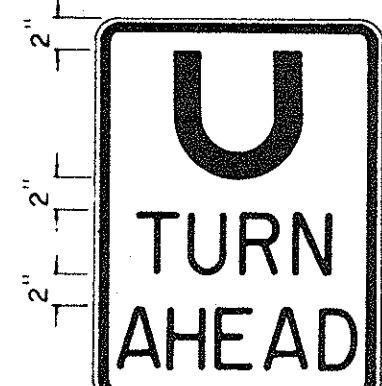
R17-1 18" x 24"



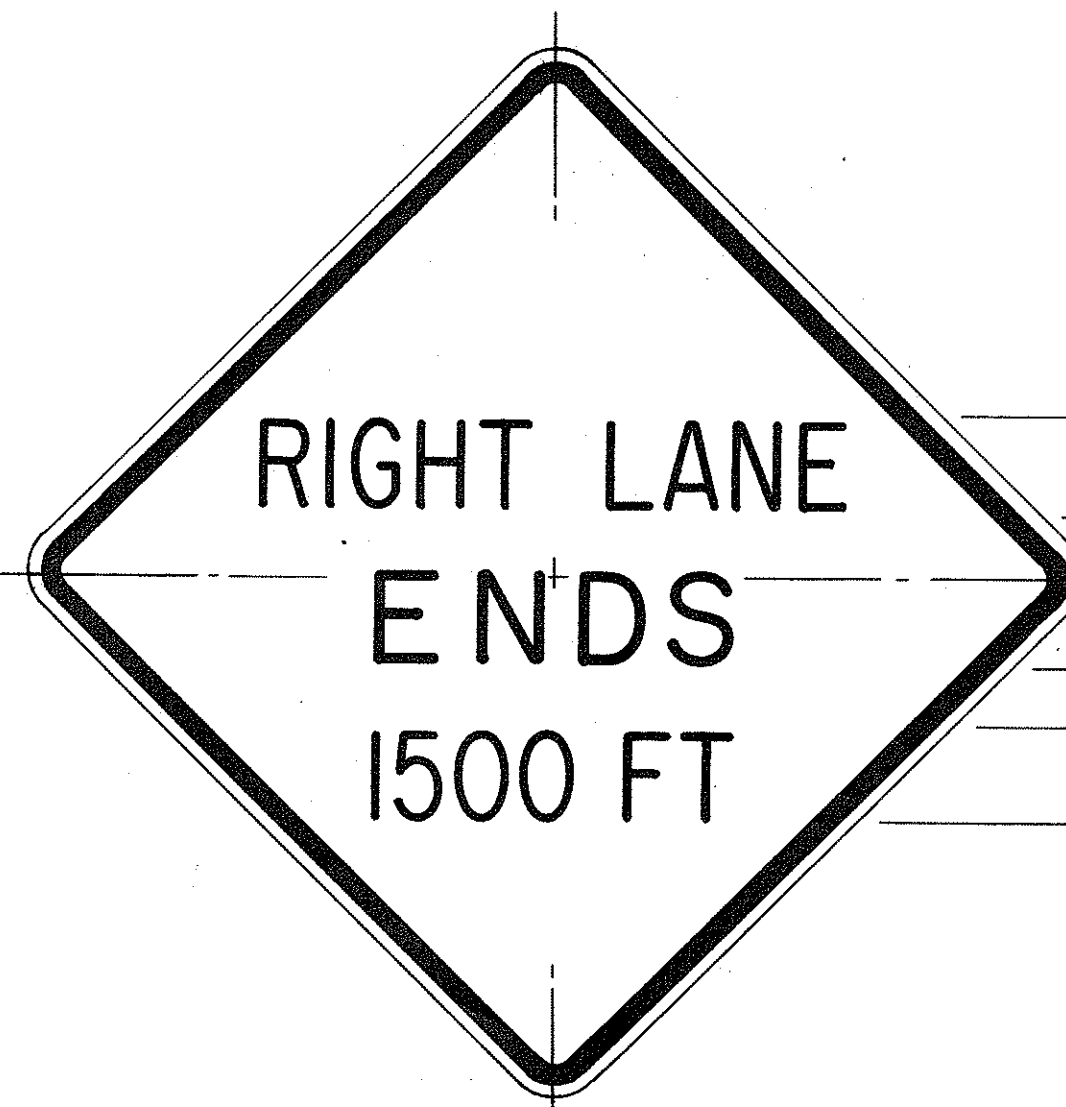
R17-2 18" x 24"



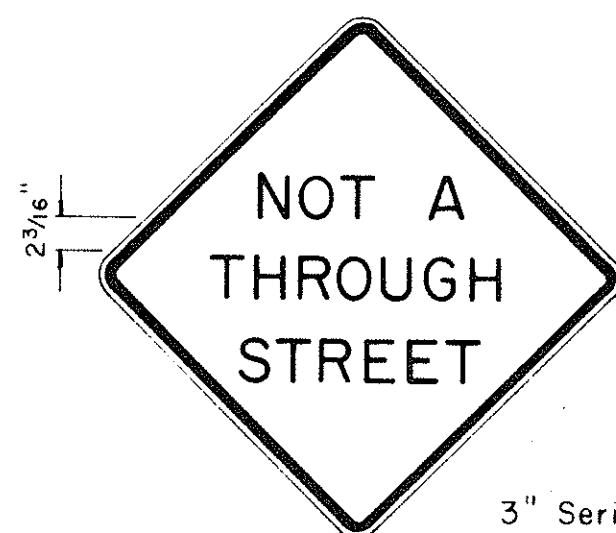
R18-1 36"x 30"



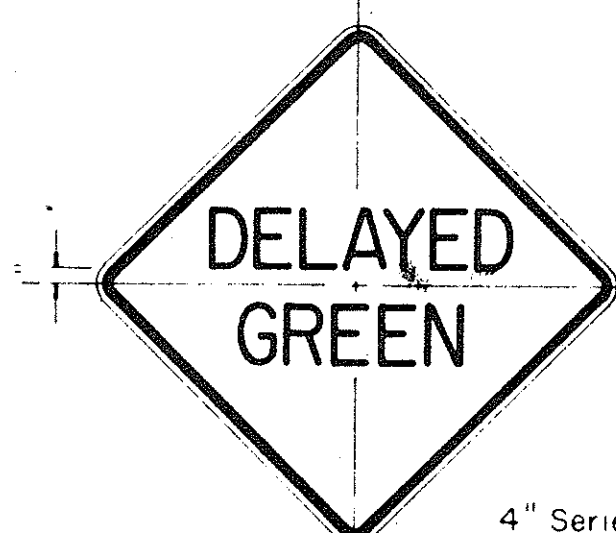
R19-1 18" x 24"



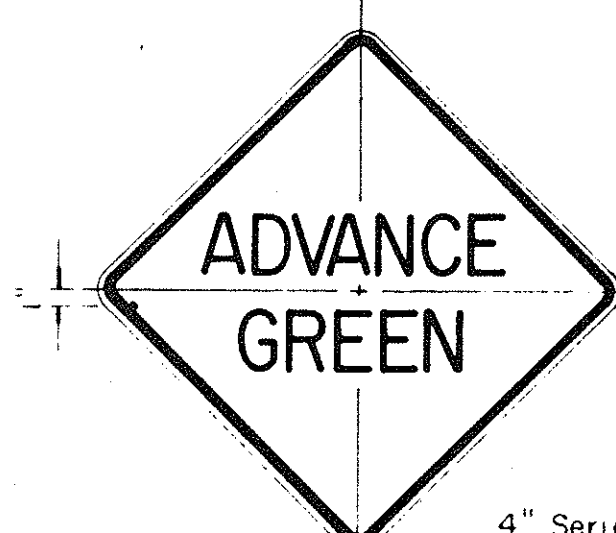
W20-5E 48" x 48"



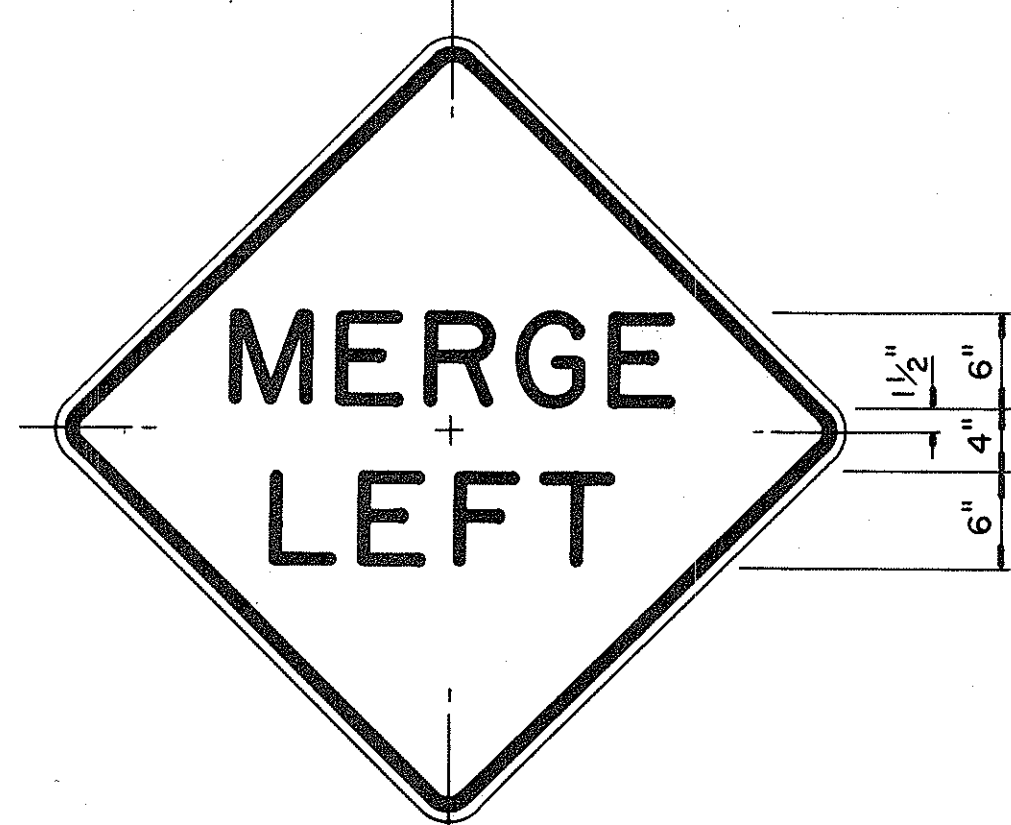
W13-4 24"x 24"



W15-1 24" x 24"



W15-2 24" x 24"



W4-4 36" x 36"

NOTE

1. The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
2. All regulatory and warning signs shall be reflectorized unless otherwise specified.
3. All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
REVISIONS	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

MISCELLANEOUS

REGULATORY & WARNING SIGNS

FA.I. Proj. No. I-H3-1(7)-13, I-H3-1(2)-8
Scale 1"=1'-0" Date: Jan. 1968

SHEET No. 18 OF 8 SHEETS