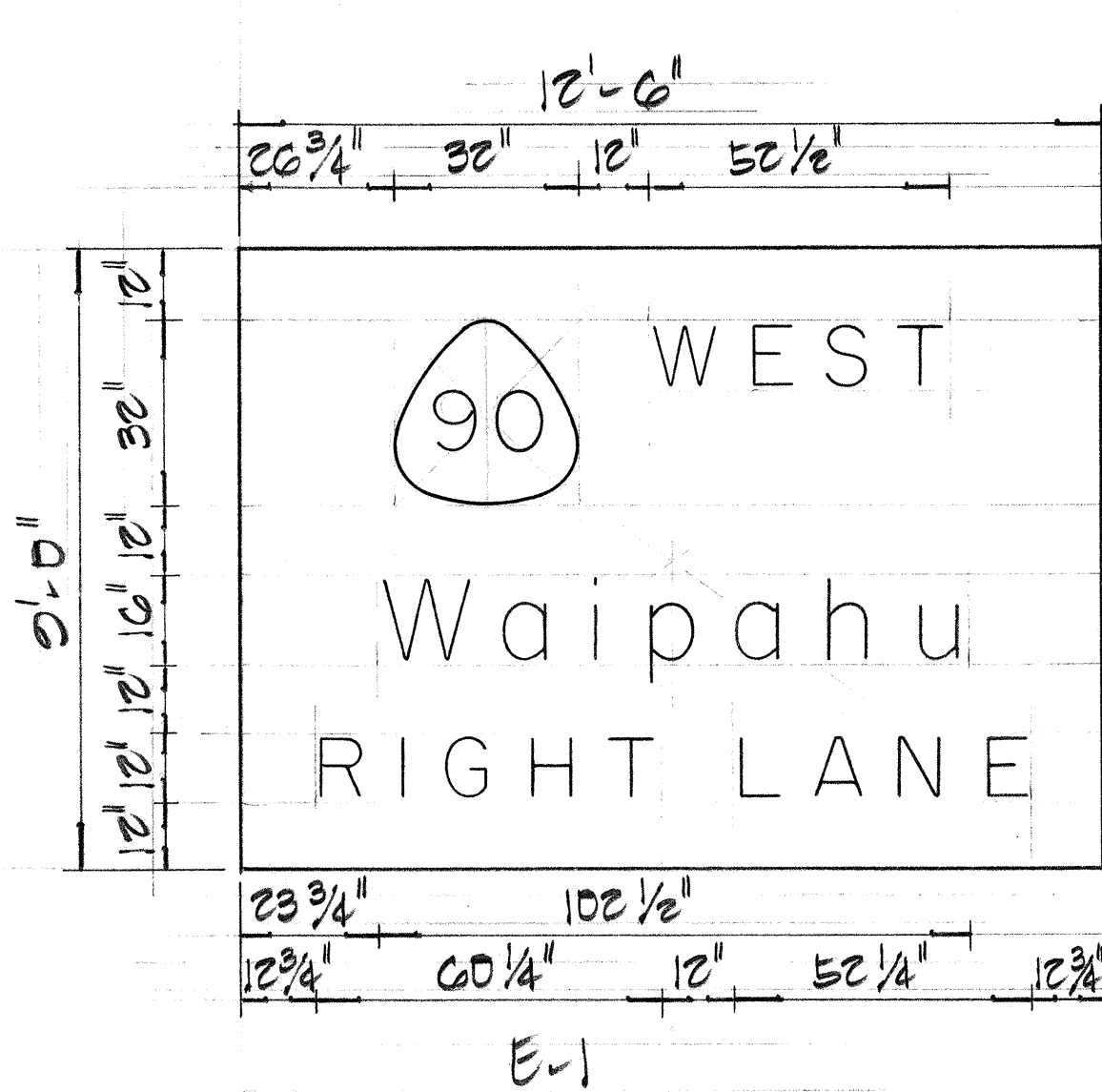
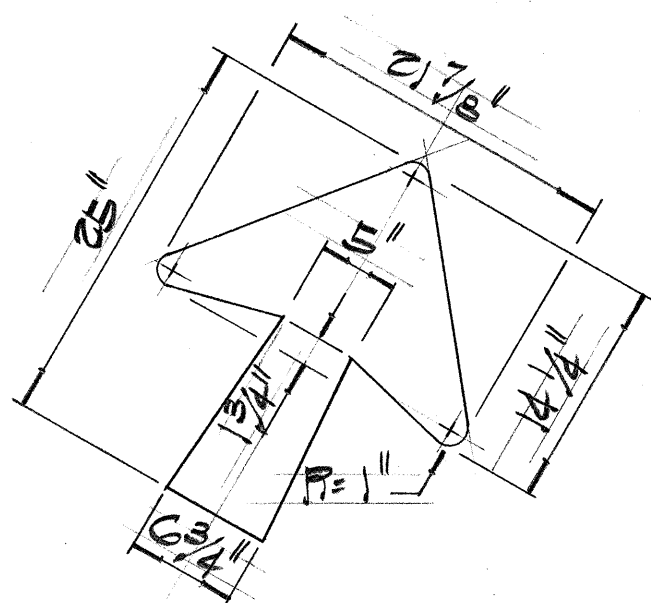
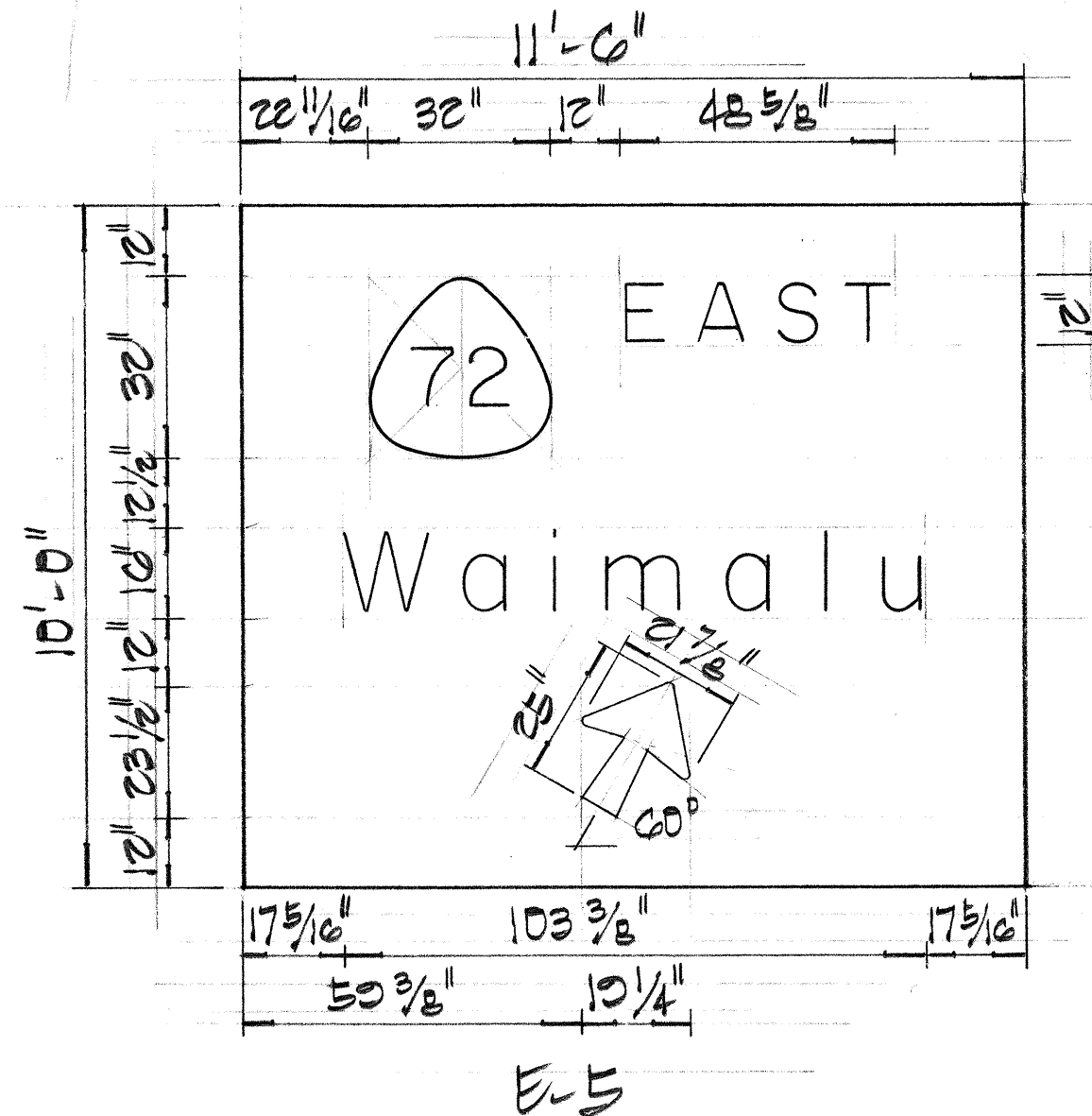
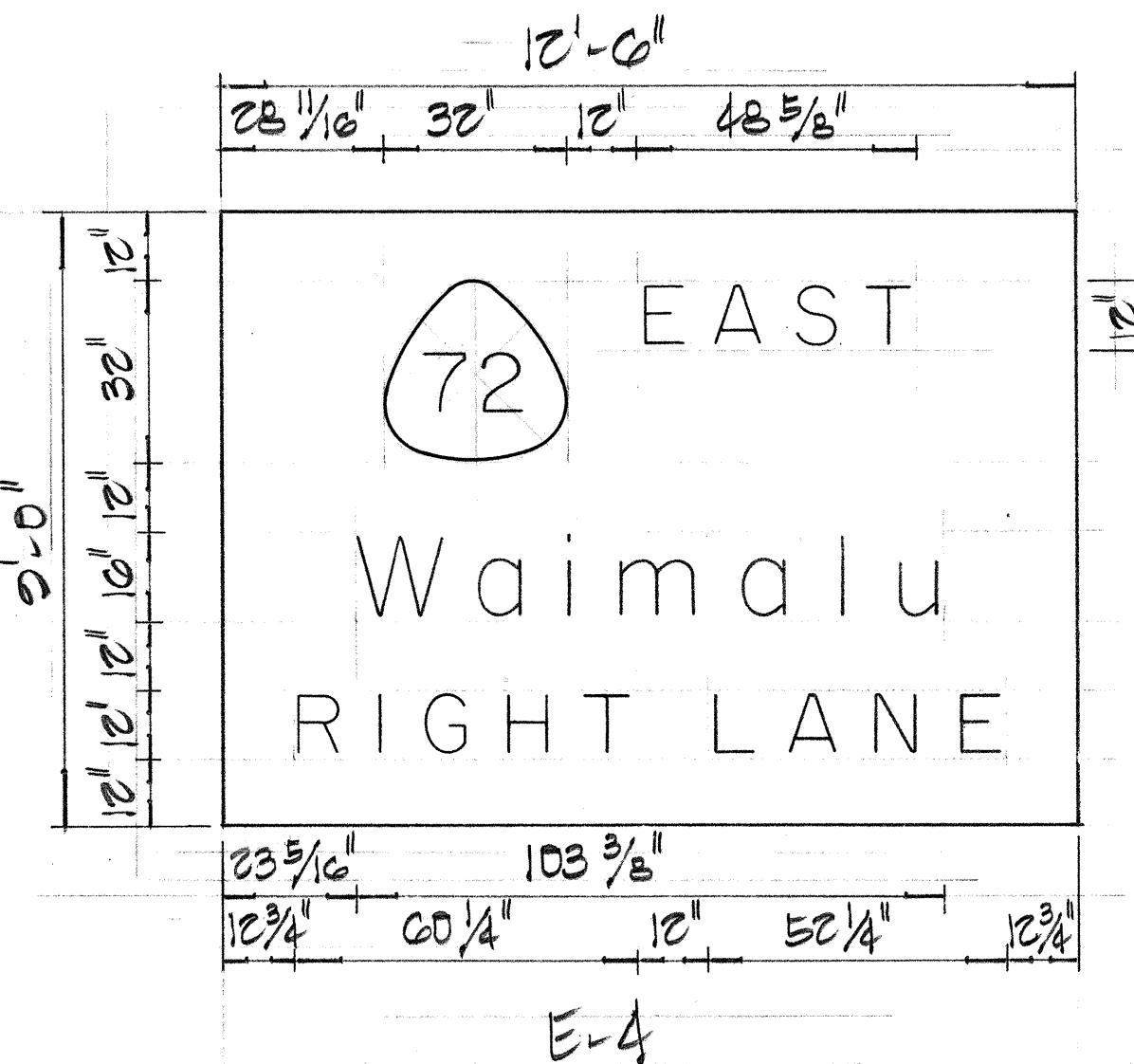
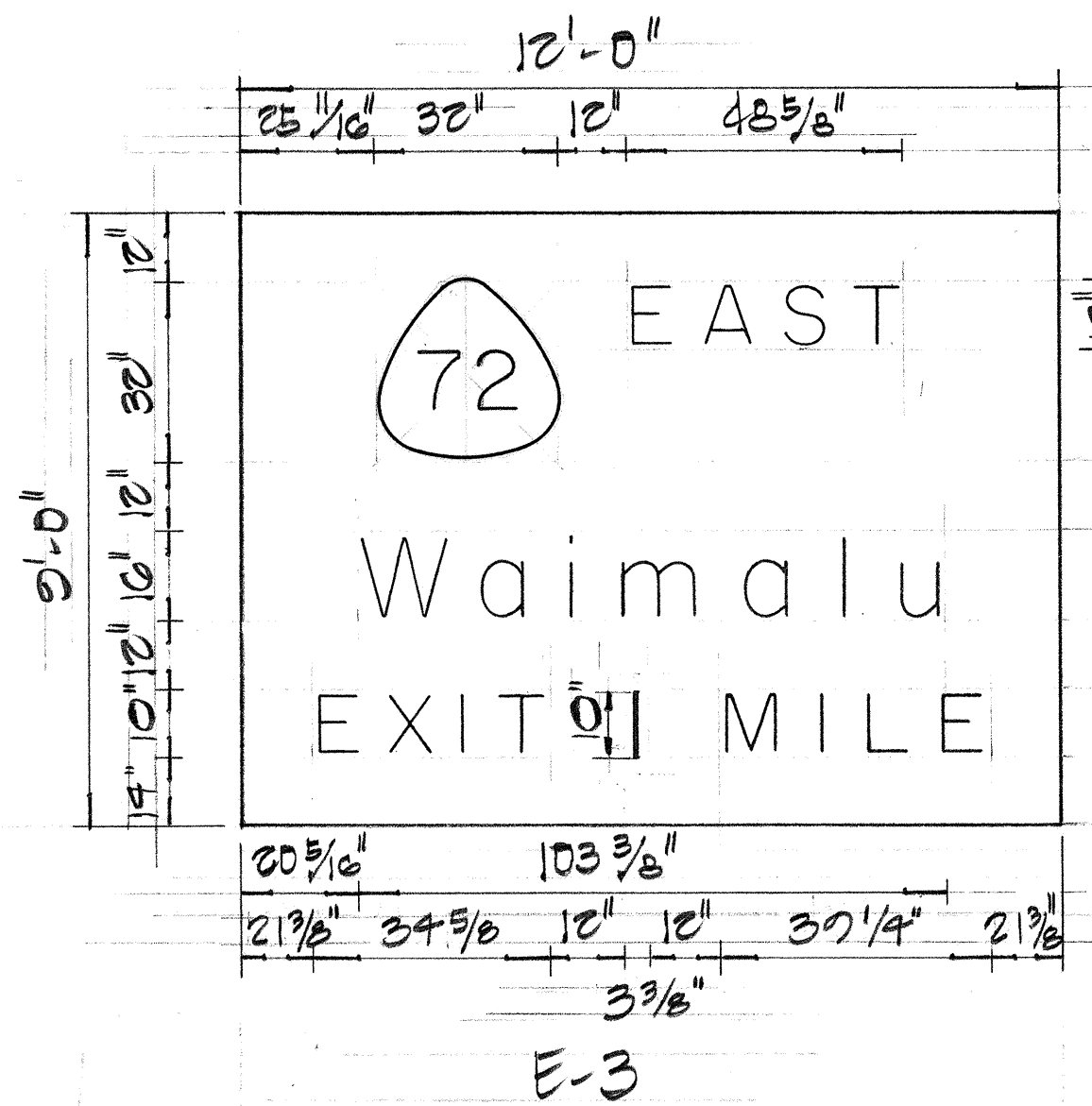
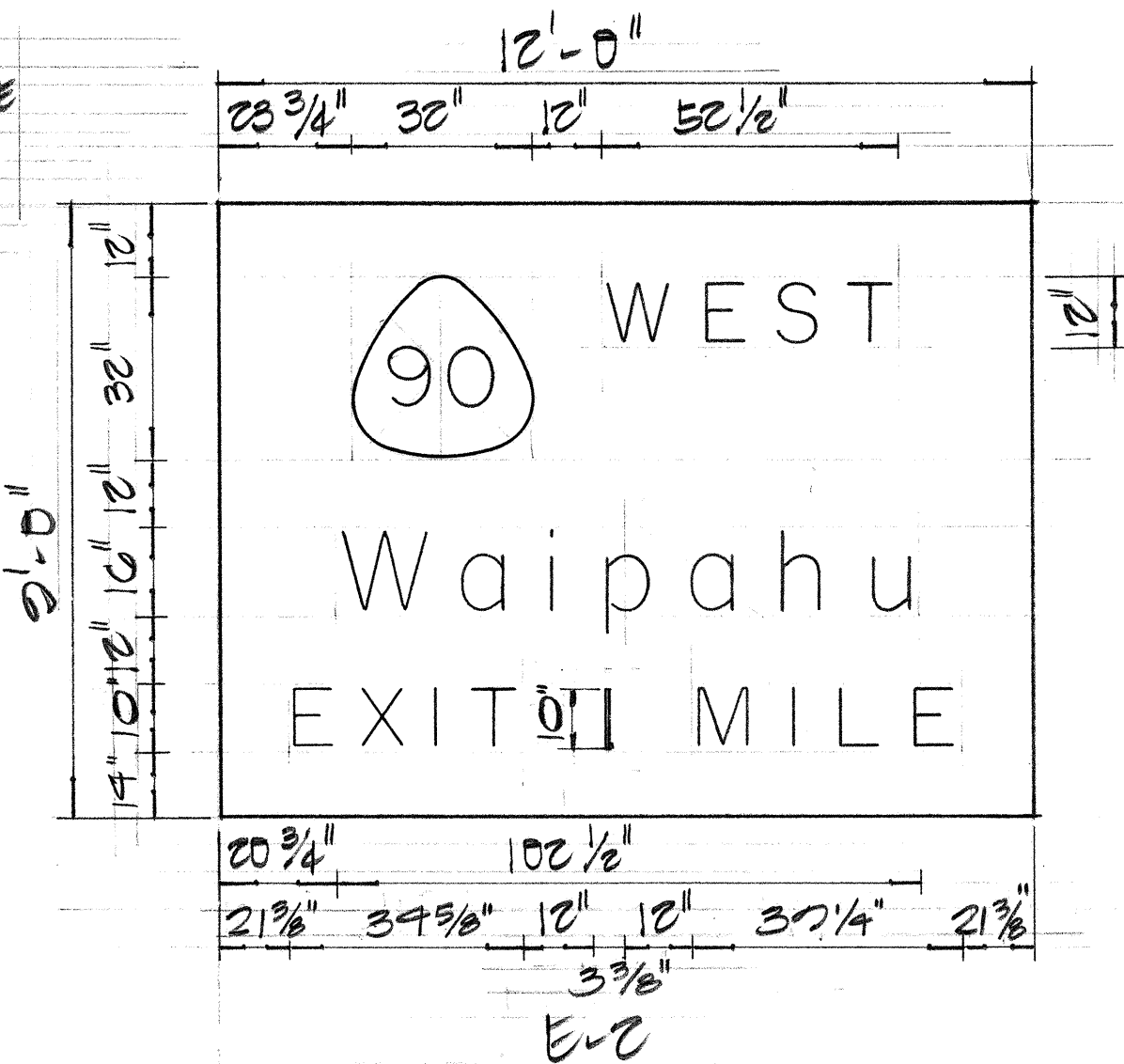


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-1(68)10	1968	84	91



NOTE:
TEMPORARY OVERLAY
SIGN PANELS SHALL BE
INSTALLED ON SIGN
PANELS E-1 & E-2. SEE
DETAILS THIS SHEET.

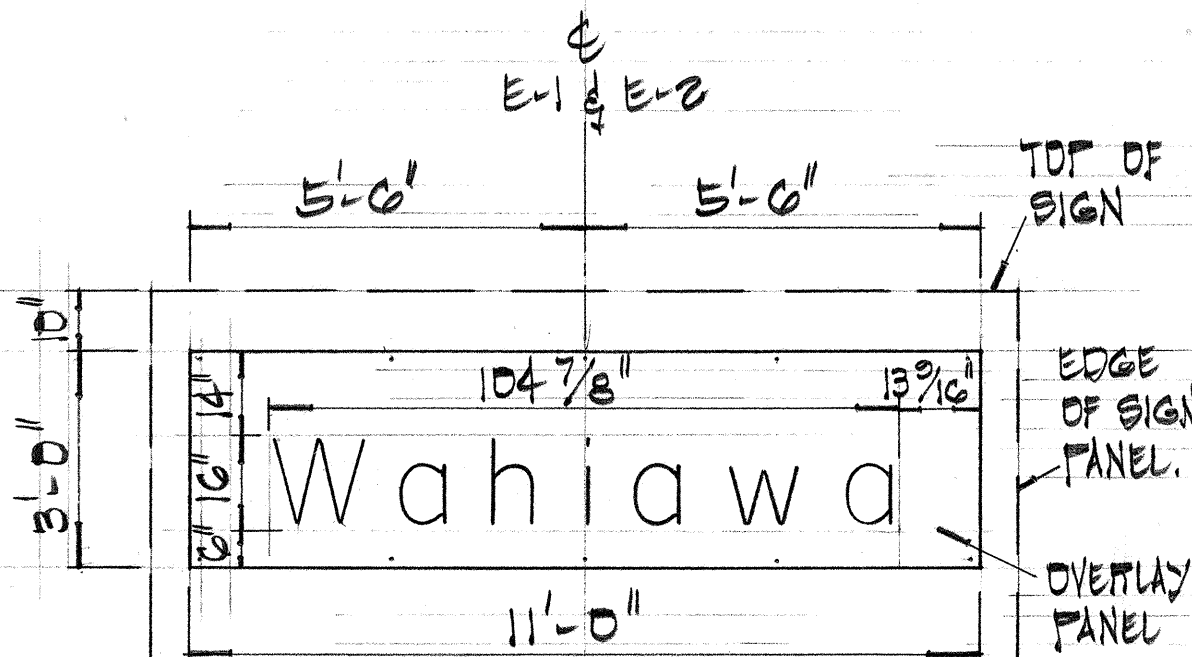


ARROW DETAIL
NOT TO SCALE

EXPRESSWAY SIGN SUMMARY		
SIGN NO.	DESCRIPTION	AREA
E-1	WAIPAHU - RIGHT LANE	112.5
E-2	WAIPAHU - EXIT 1 MILE	108.0
E-3	WAIMALU - EXIT 1 MILE	108.0
E-4	WAIMALU - RIGHT LANE	112.5
E-5	WAIMALU	115.0
TOTAL		556.0

SIGN PANEL NOTES

- SIGN MESSAGE SHALL BE LETTERED IN UPPER & LOWER CASE ACCORDING TO "STANDARD ALPHABETS FOR HIGHWAY SIGNS", RTT, 1966. USE SERIES "E" MODIFIED LETTERS UNLESS OTHERWISE NOTED.
- LETTERS, NUMERALS & ARROWS SHALL BE DEMOUNTABLE ALUMINUM CUT-OUTS WITH WHITE REFLECTIVE SHEETING OR CLEAR REFLEX REFLECTORS SET IN WHITE PORCELAIN ENAMELED ALUMINUM CUT-OUTS.
- ALL CUT-OUTS SHALL BE FASTENED ON SIGN PANEL WITH RUND ALUMINUM NIVETS. SEE SPECIAL PROVISIONS.
- ROUTE MARKERS AND BORDERS SHALL CONFORM WITH DETAILS AS SHOWN ON THE PLANS.
- BACKGROUND SHALL BE GREEN PORCELAIN ENAMEL.



TEMPORARY SIGN PANEL OVERLAY
(FOR SIGNS E-1 & E-2)

OVERLAY NOTES

- OVERLAY PANEL SHALL BE .0025" THICK, ALUMINUM ALLOY 6061 AND SHALL BE FASTENED TO SIGN PANELS E-1 & E-2 WITH BLIND ALUMINUM NIVETS AS SHOWN.
- BACKGROUND SHALL BE GREEN PORCELAIN ENAMEL AND LETTERS SHALL BE OF WHITE REFLECTIVE SHEETING.
- USE SERIES "E" MODIFIED LETTERS. (REFER TO NOTE #1 OF "SIGN PANEL NOTES")

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXPRESSWAY SIGNS
PANEL LAYOUT

F.A.I. PROJ. No I-41-1(68)10

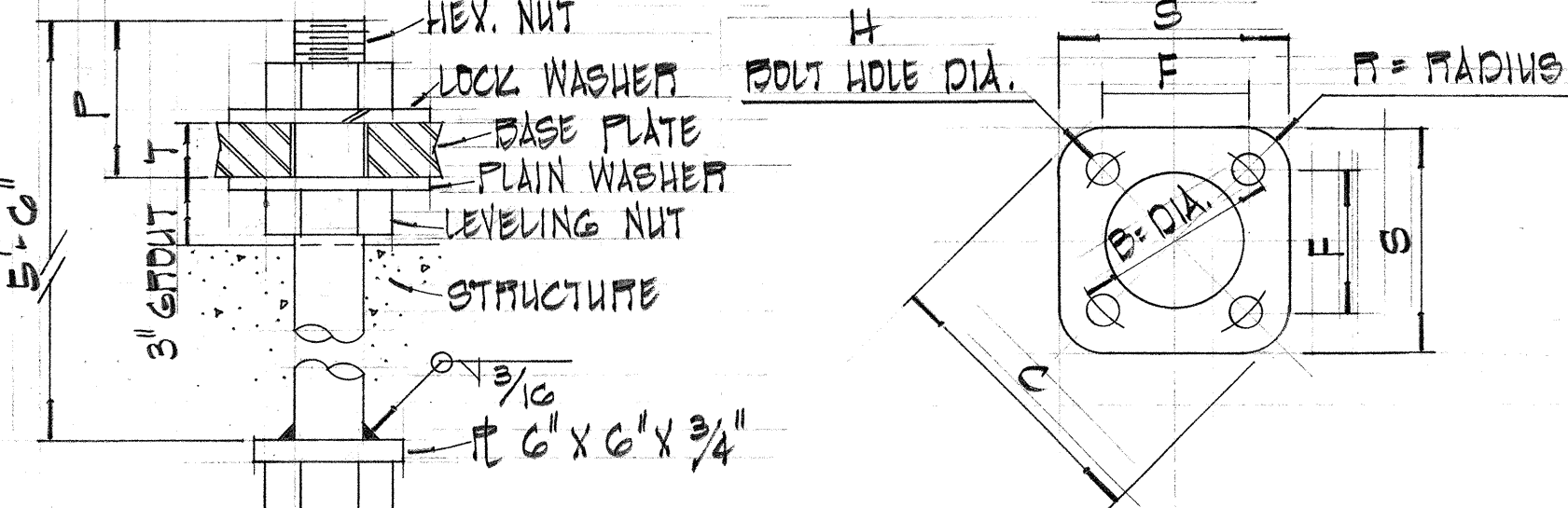
NOT TO SCALE

OCT. 1968

SHEET No. 1 OF 6 SHEETS

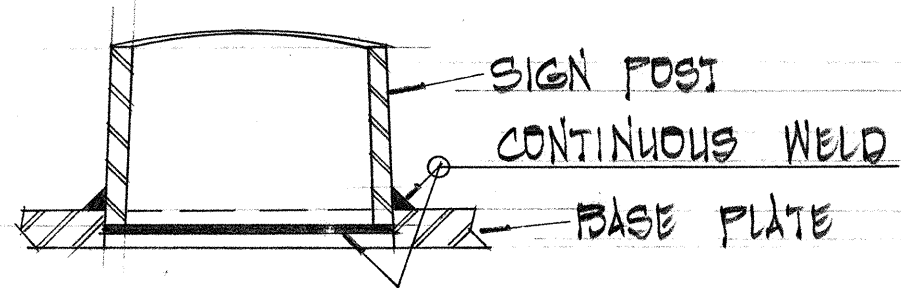
ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(68)10	1968	85	91



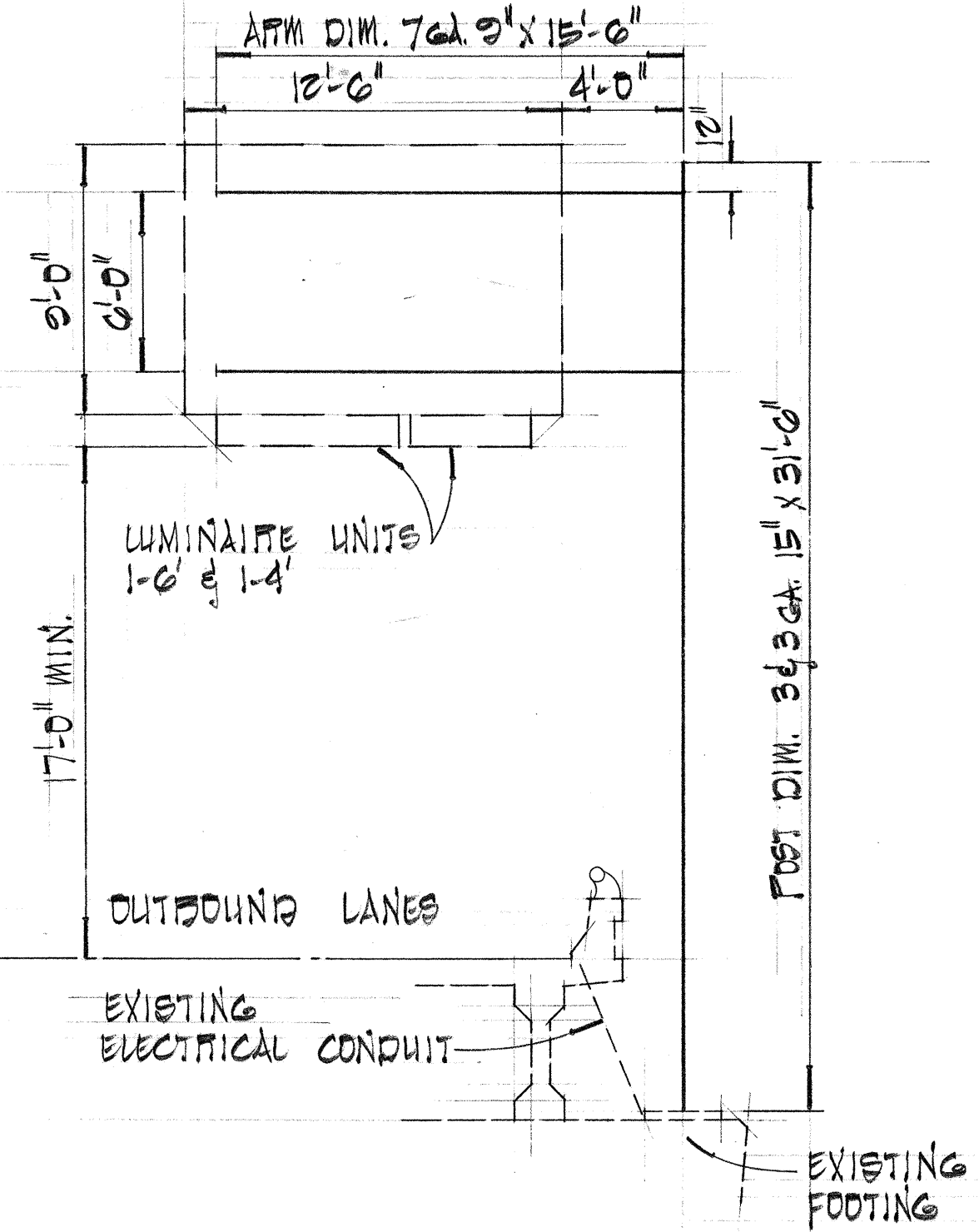
ANCHOR BOLT DETAIL NOT TO SCALE

BASE PLATE DETAIL NOT TO SCALE



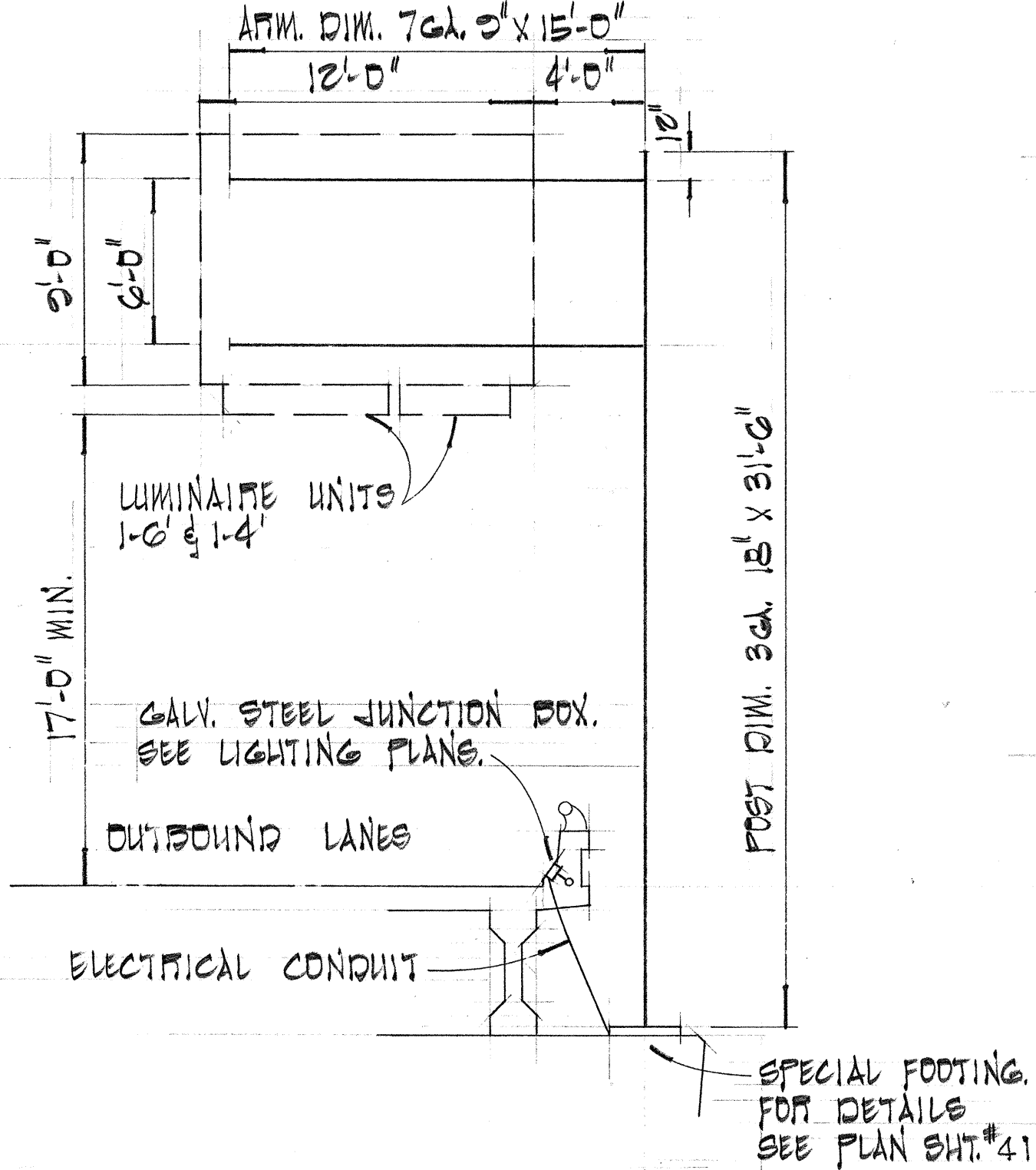
WELDING DETAIL NOT TO SCALE

BASE PLATE SCHEDULE											
SIGN NO.	GAGE NO.	POST DIA.	B	C	F	H	T	S	T	BOLT DIA.	P
E-1	3 & 3	15"	23 1/2"	30 1/2"	10 5/8"	3 1/8"	5"	24 1/2"	3"	3"	8"
E-2	3	18"	25 1/2"	33"	18"	2 3/8"	5 1/2"	20 1/2"	2"	2"	6"
E-3	0	18"	25 1/2"	33"	18"	2 3/8"	5 1/2"	20 1/2"	2 1/2"	2 1/4"	6 3/4"



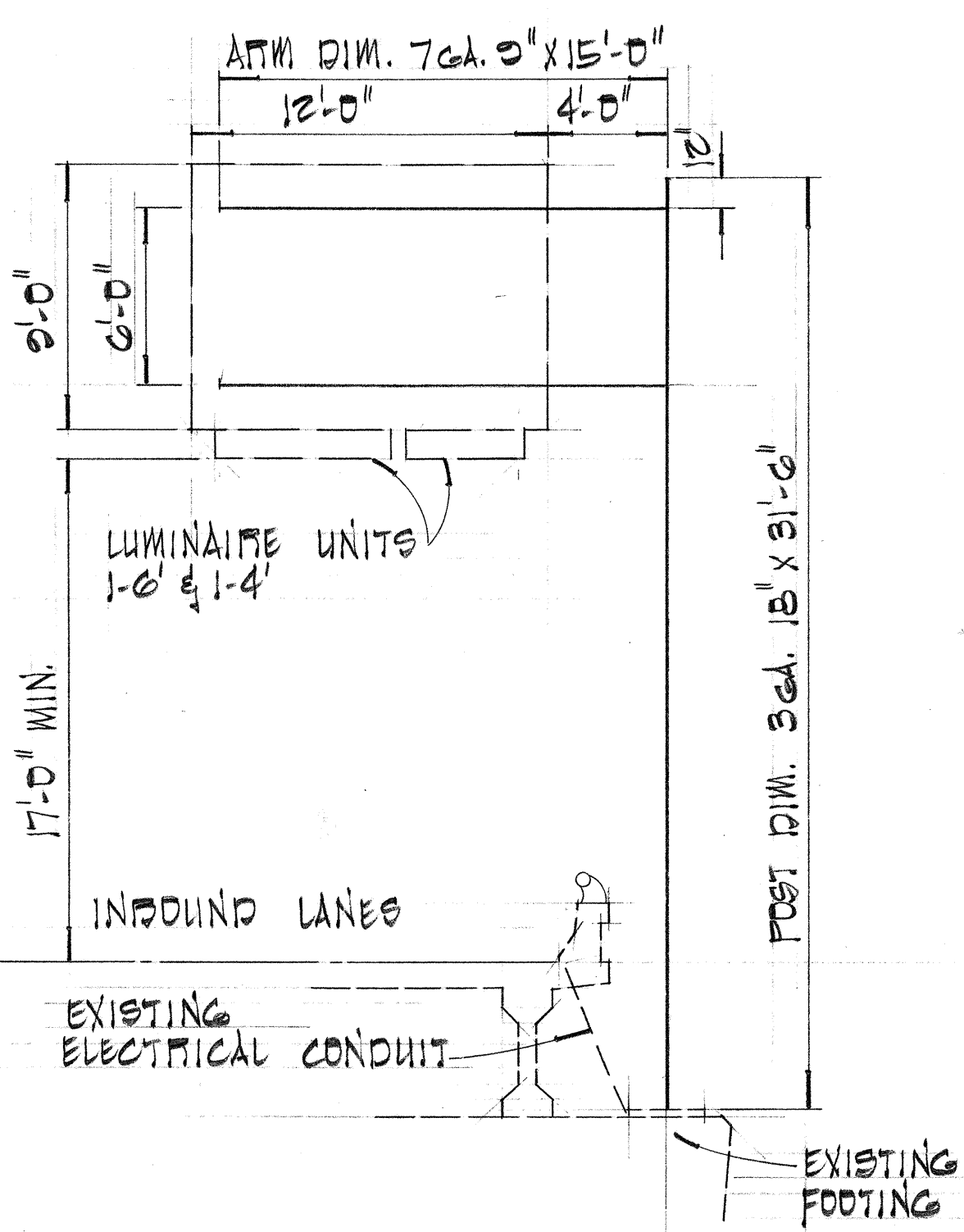
SIGN E-1

PIER #20 - @ STA. 32+63 ±



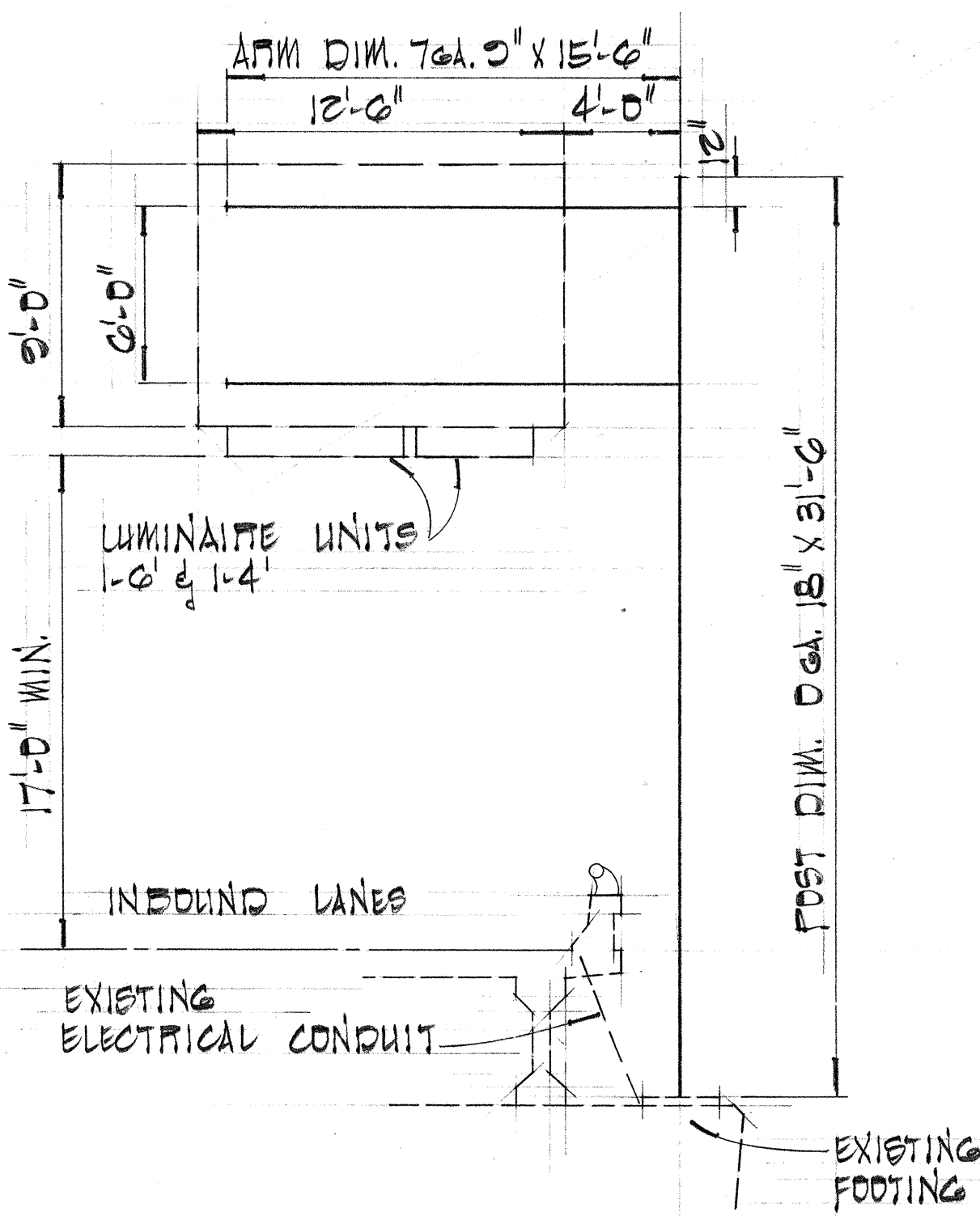
SIGN E-2

PIER #58 - @ STA. 58+30 ±



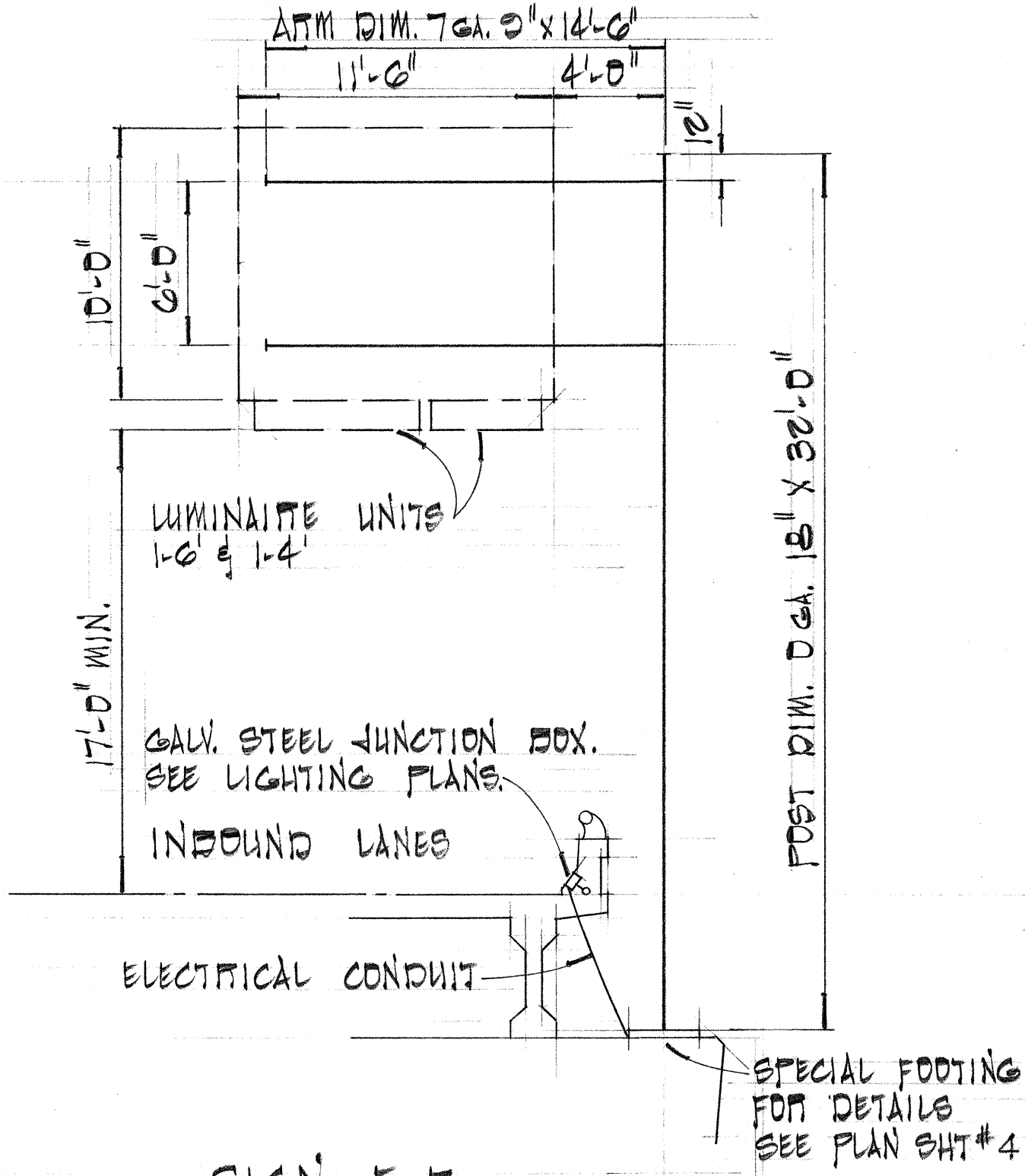
SIGN E-3

PIER #3 - @ STA. 7+20 ±



SIGN E-4

PIER #30 - @ STA. 33+63 ±



SIGN E-5

PIER #57 - @ STA. 58+30 ±

GENERAL NOTES

1. ALL OVERHEAD SIGN SUPPORTS THIS PROJECT ARE TYPE 'C'. FOR DETAILS SEE PLAN SHT. #38.
2. ANCHOR BOLTS FOR SIGNS E-1, E-3 & E-4 ARE EXISTING. THE CONTRACTOR SHALL VERIFY THE ANCHOR BOLT DIMENSIONS BEFORE FABRICATING THE BASE PLATES TO INSURE PROPER CONNECTION OF POST TO FOOTING.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

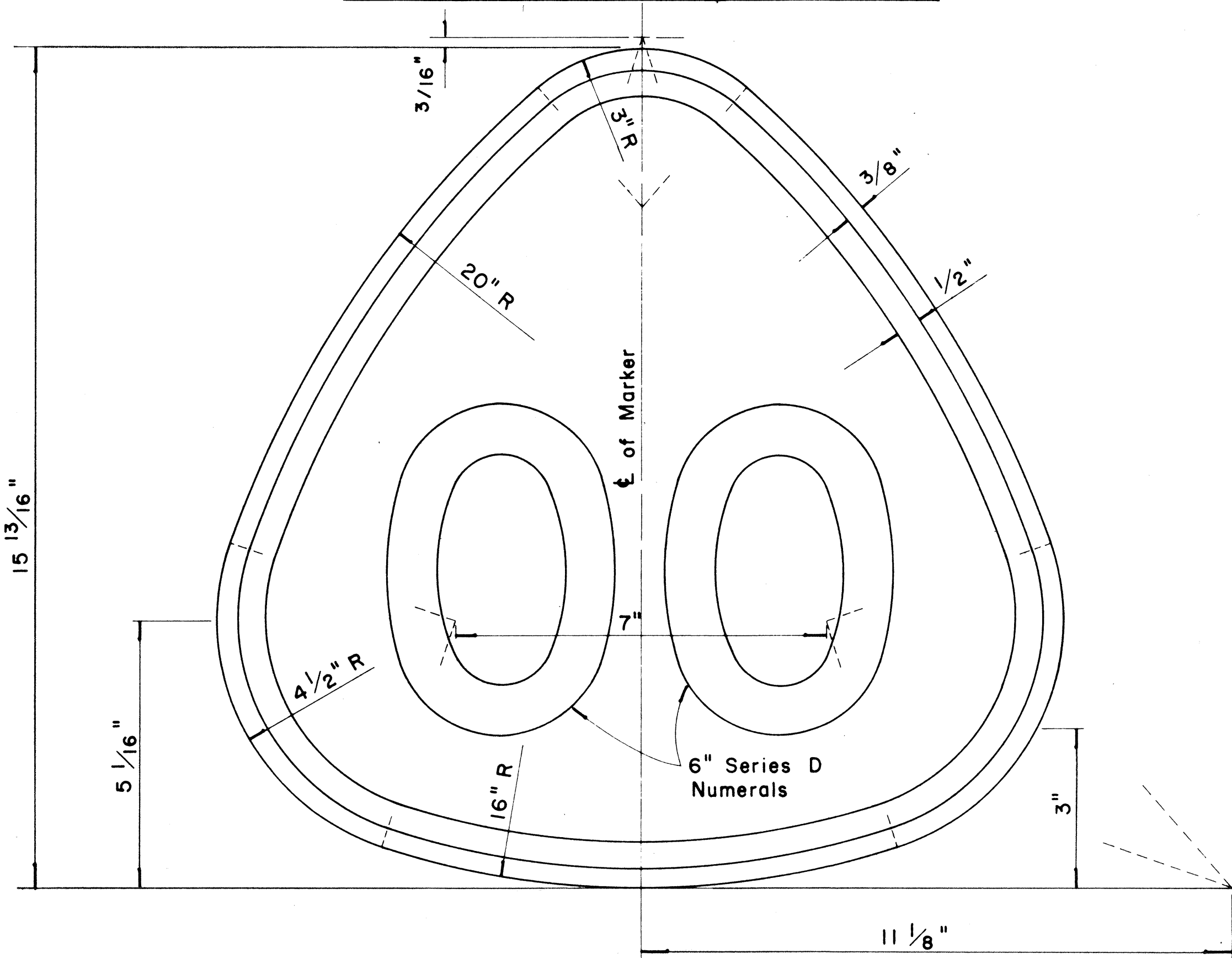
EXPRESSWAY SIGNS
FRAME LAYOUT

F.A.I. PROJ. NO. I-HI-1(68)10
SCALE: AS SHOWN
OCT. 1968

SHEET No. 2 OF 6 SHEETS

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

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**

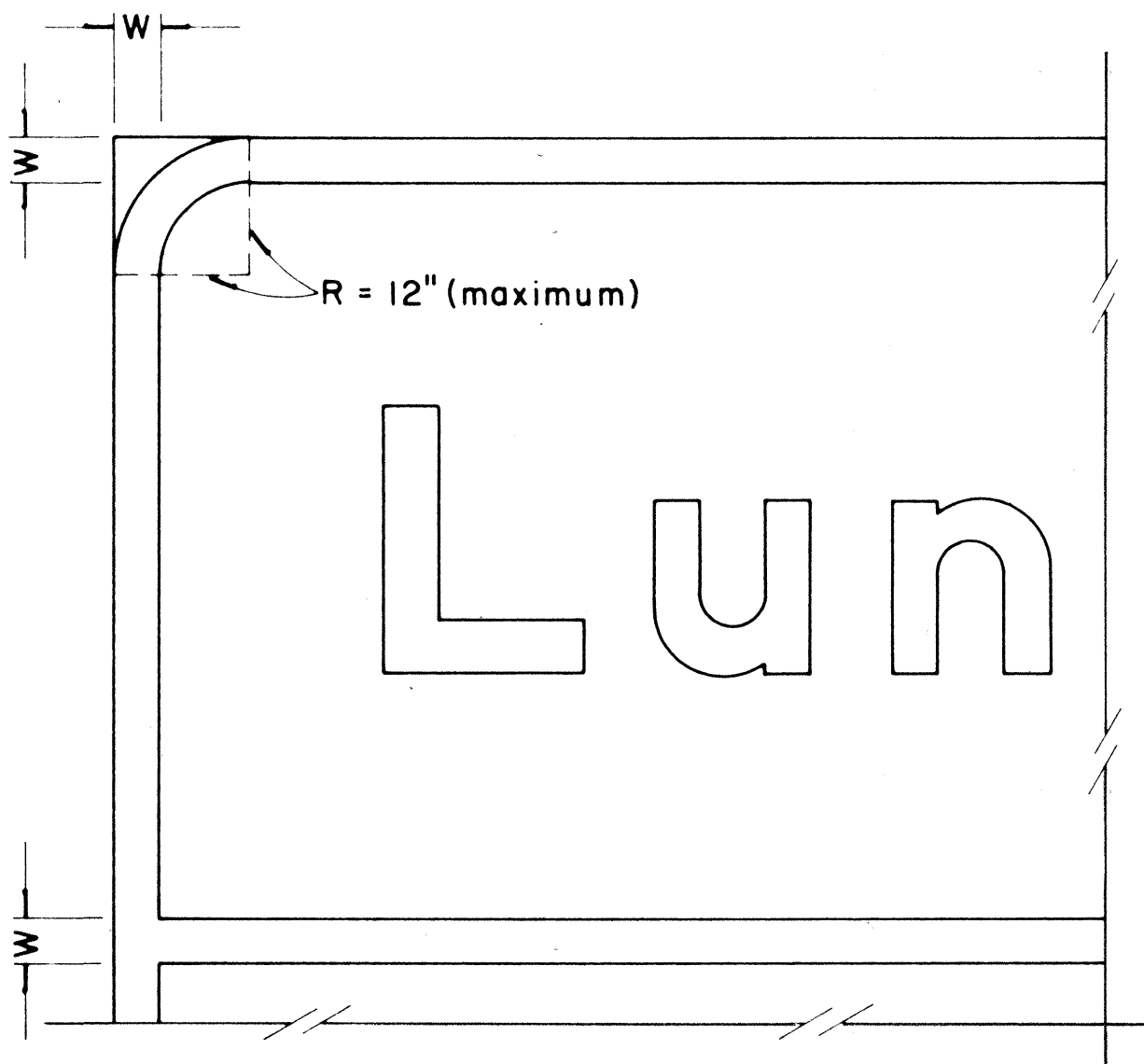
Scale: Half Size

NOTE:

1. 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.
2. All numerals shall be Series "D" from the "Standard Alphabets for Highway Signs," Bureau of Public Roads, 1957.
3. All Cut-outs shall be fastened on sign panel with Aluminum blind rivets. See Special Provisions.

RADI FOR SIGNS

Least Dimension of Sign	W	R
2' - 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:

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

REVISED: Nov. 29, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DESTINATION & EXPRESSWAY SIGNS

**STATE ROUTE MARKER
AND
BORDER DETAIL**

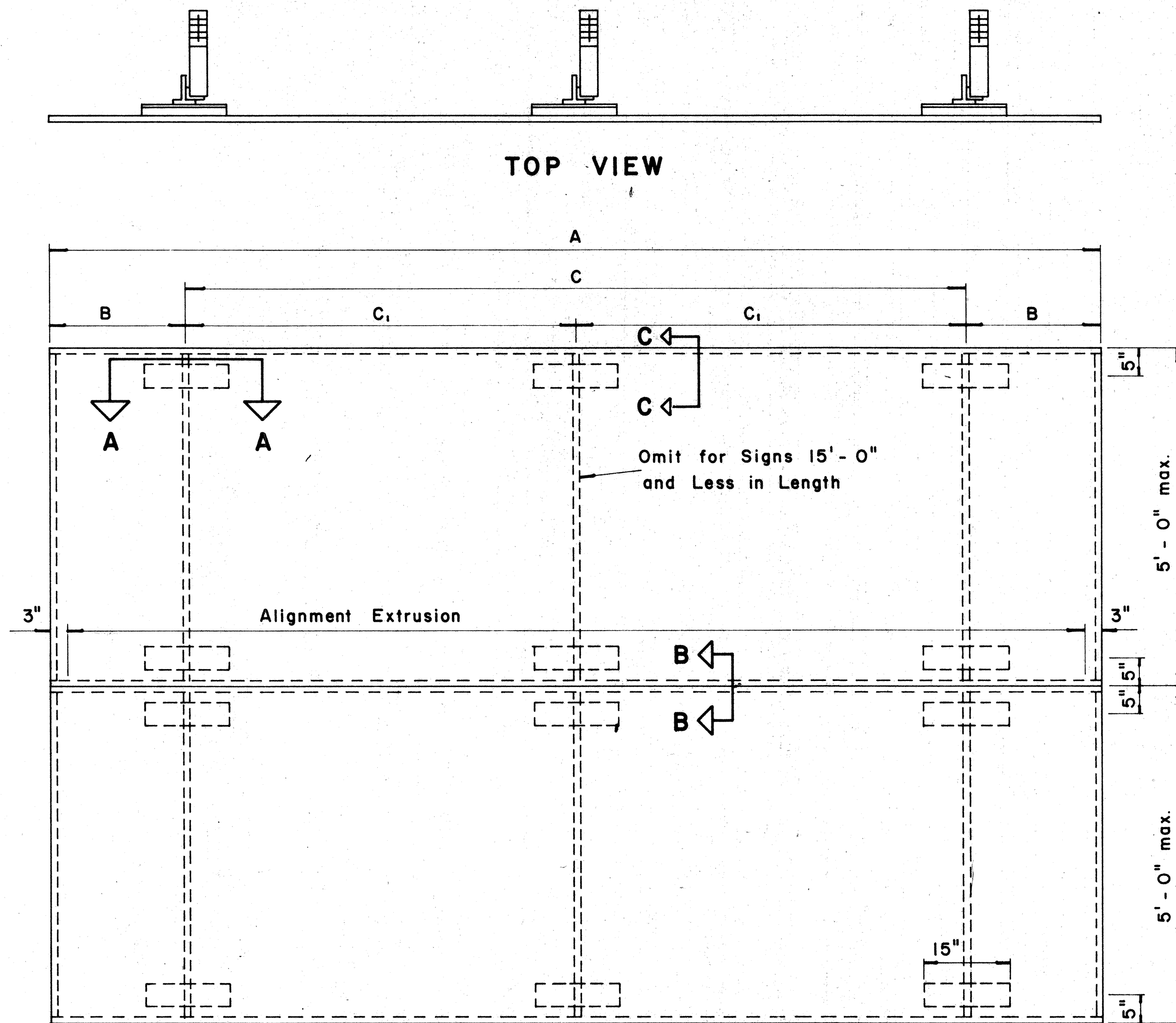
Scale: As Shown

SHEET No. 3 OF 6 SHEETS

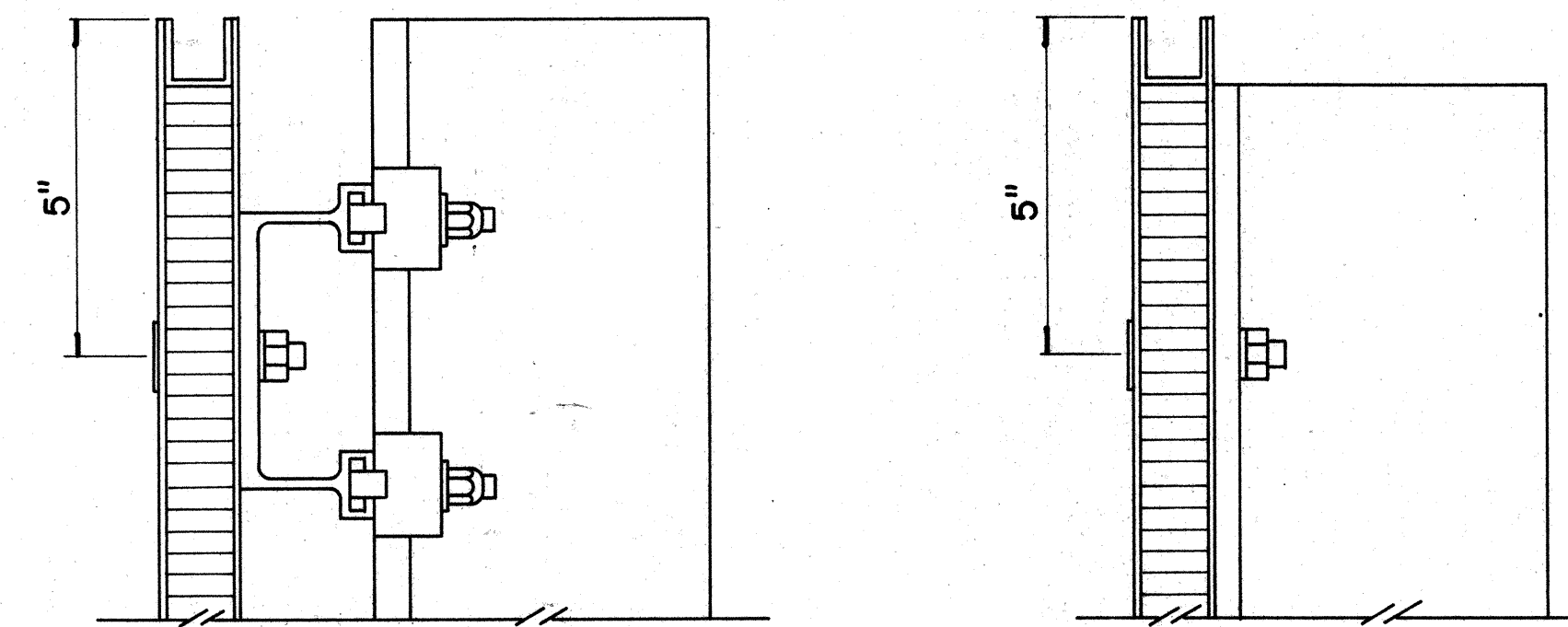
ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	

(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG B	SUPPORT SPACING C or C ₁
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"
1"	15'-6"	3	24"	69"
1"	16'-0"	3	24"	72"
1"	16'-6"	3	24"	75"
1"	17'-0"	3	24"	78"
1"	17'-6"	3	24"	81"
1"	18'-0"	3	24"	84"
1"	18'-6"	3	27"	84"
1"	19'-0"	3	27"	87"
1"	19'-6"	3	27"	90"
1"	20'-0"	3	30"	90"
1"	20'-6"	3	30"	93"
1"	21'-0"	3	30"	96"
1"	21'-6"	3	33"	96"
1"	22'-0"	3	36"	96"
1"	22'-6"	3	36"	99"
1"	23'-0"	3	36"	102"
1"	23'-6"	3	36"	105"
1"	24'-0"	3	36"	108"

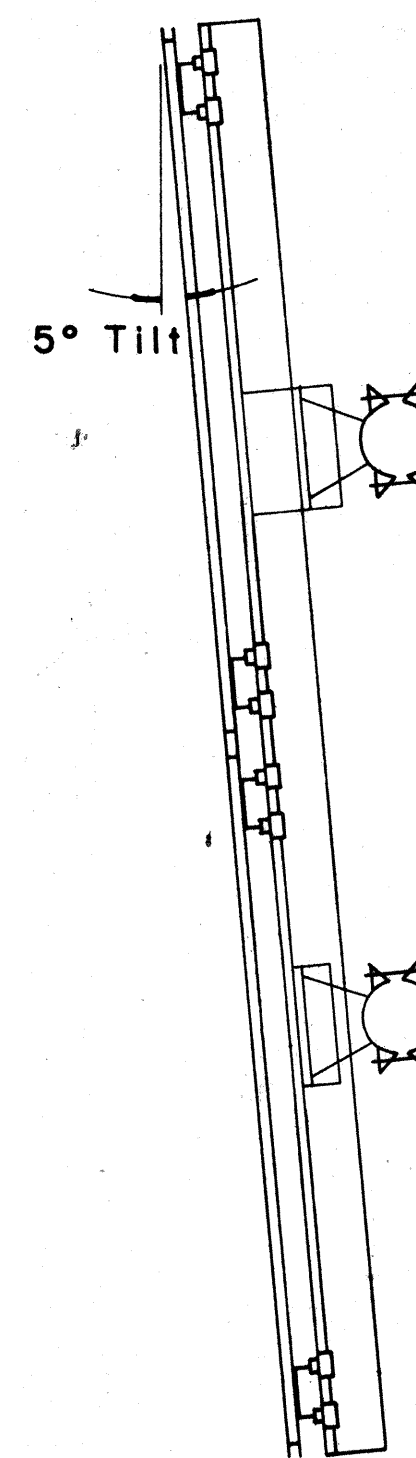


ELEVATION
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1'-0"

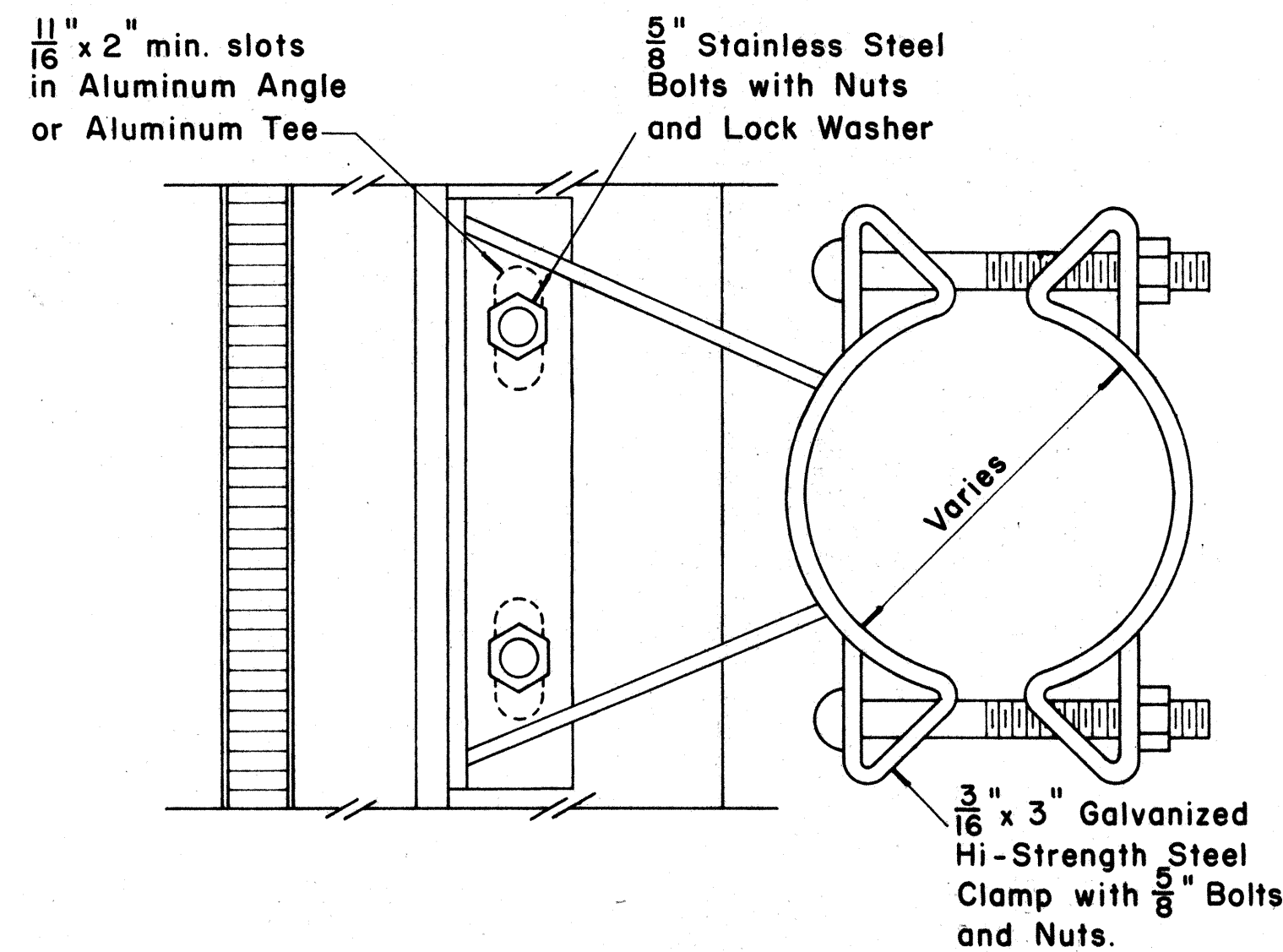


SECTION "C-C"
Scale: $\frac{3}{8}$ " = 1"

SECTION "C-C"
(Alternate)
Scale: $\frac{3}{8}$ " = 1"



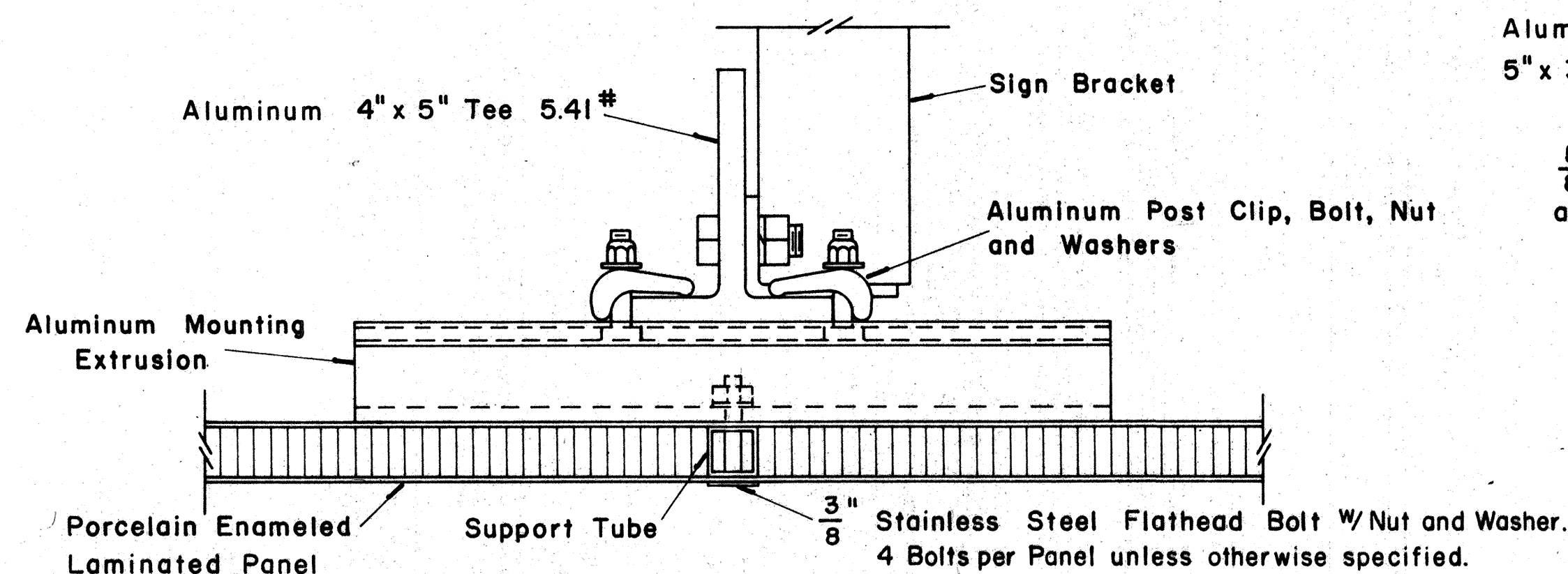
SIDE VIEW



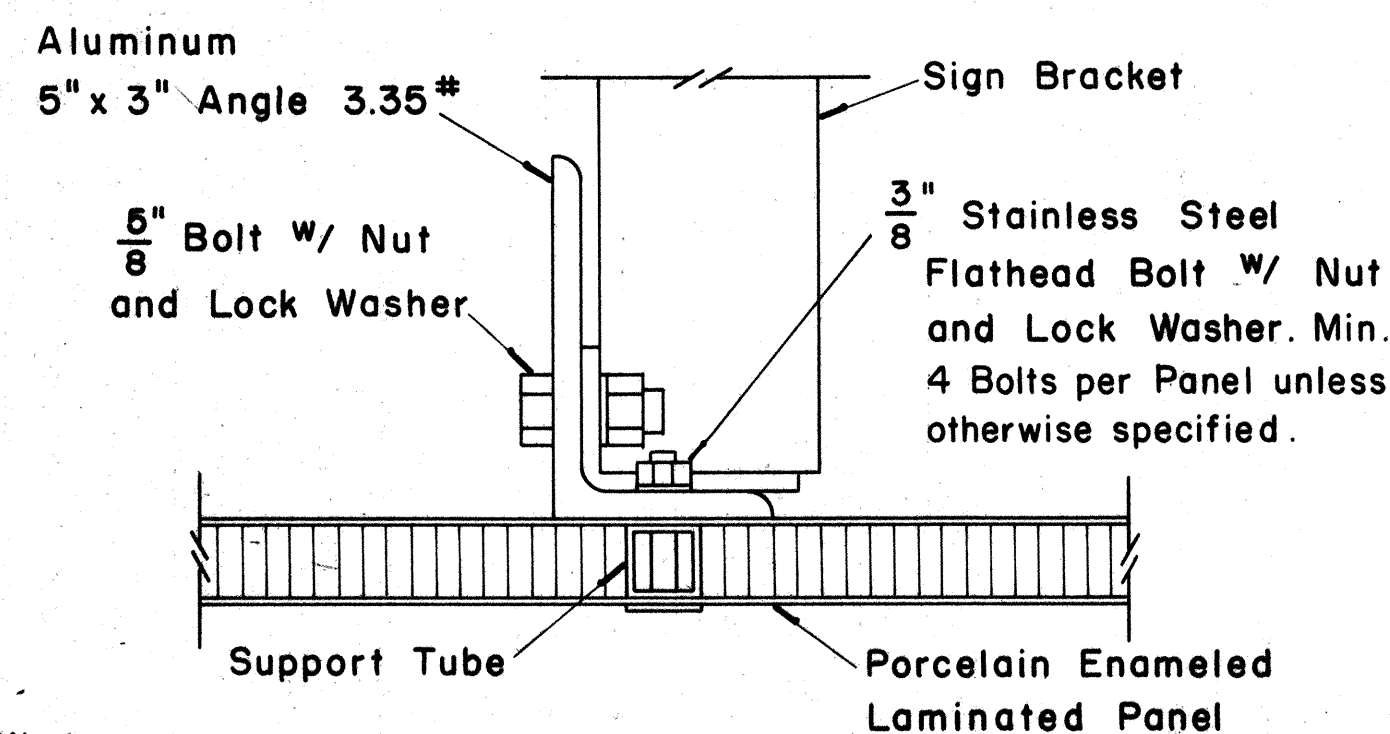
SIGN BRACKET ASSEMBLY

Scale: $\frac{3}{8}$ " = 1"

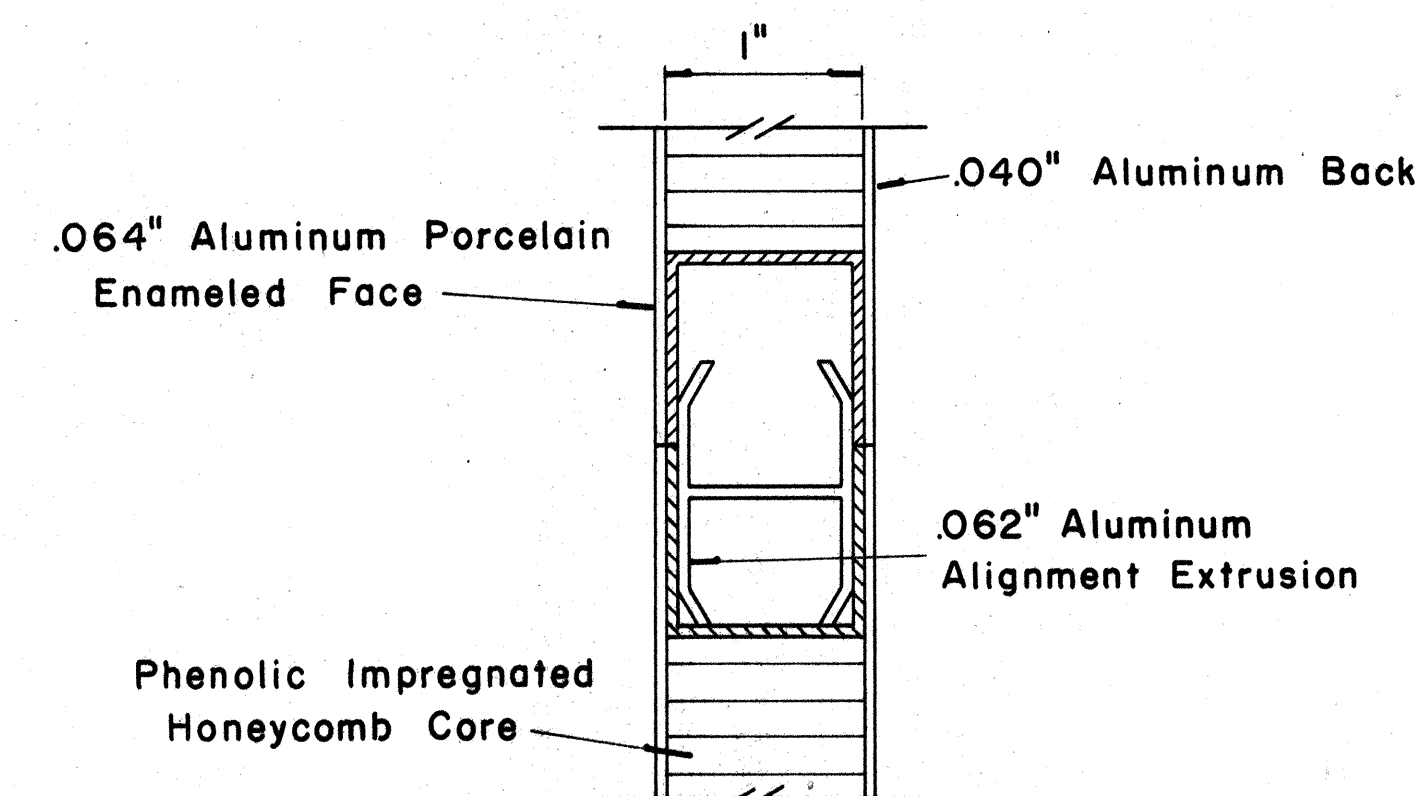
NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



SECTION "A-A"
Scale: $\frac{3}{8}$ " = 1"

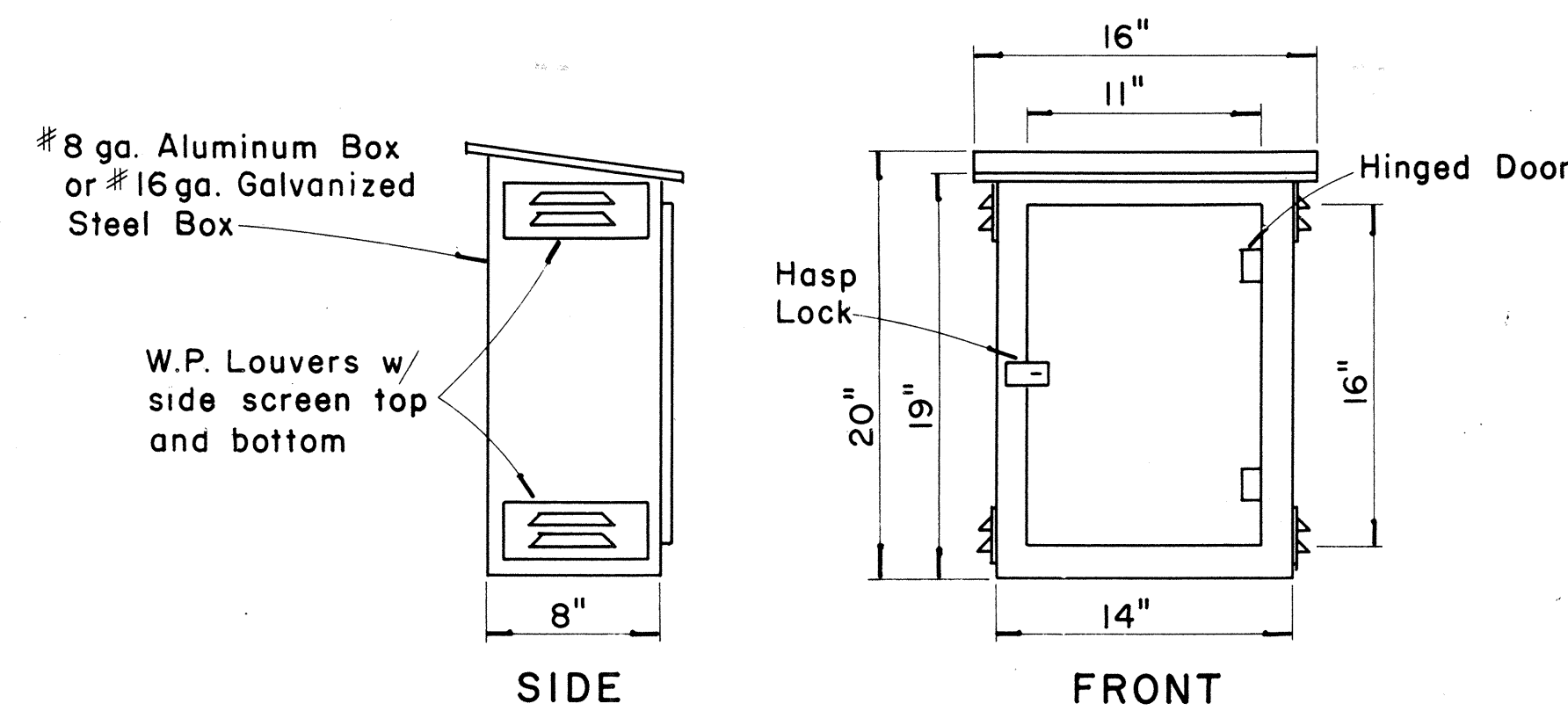


SECTION "A-A"
(Alternate)
Scale: $\frac{3}{8}$ " = 1"

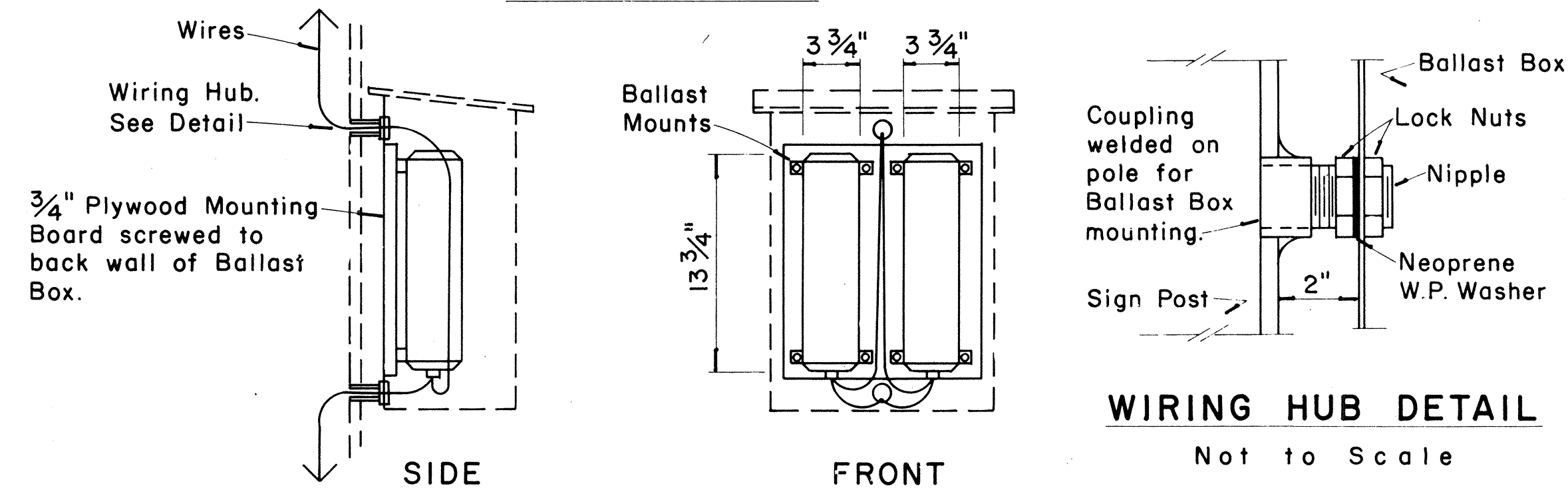


CLOSURE DETAIL
SECTION "B-B"
FULL SCALE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-1(3)19	1968	88	91



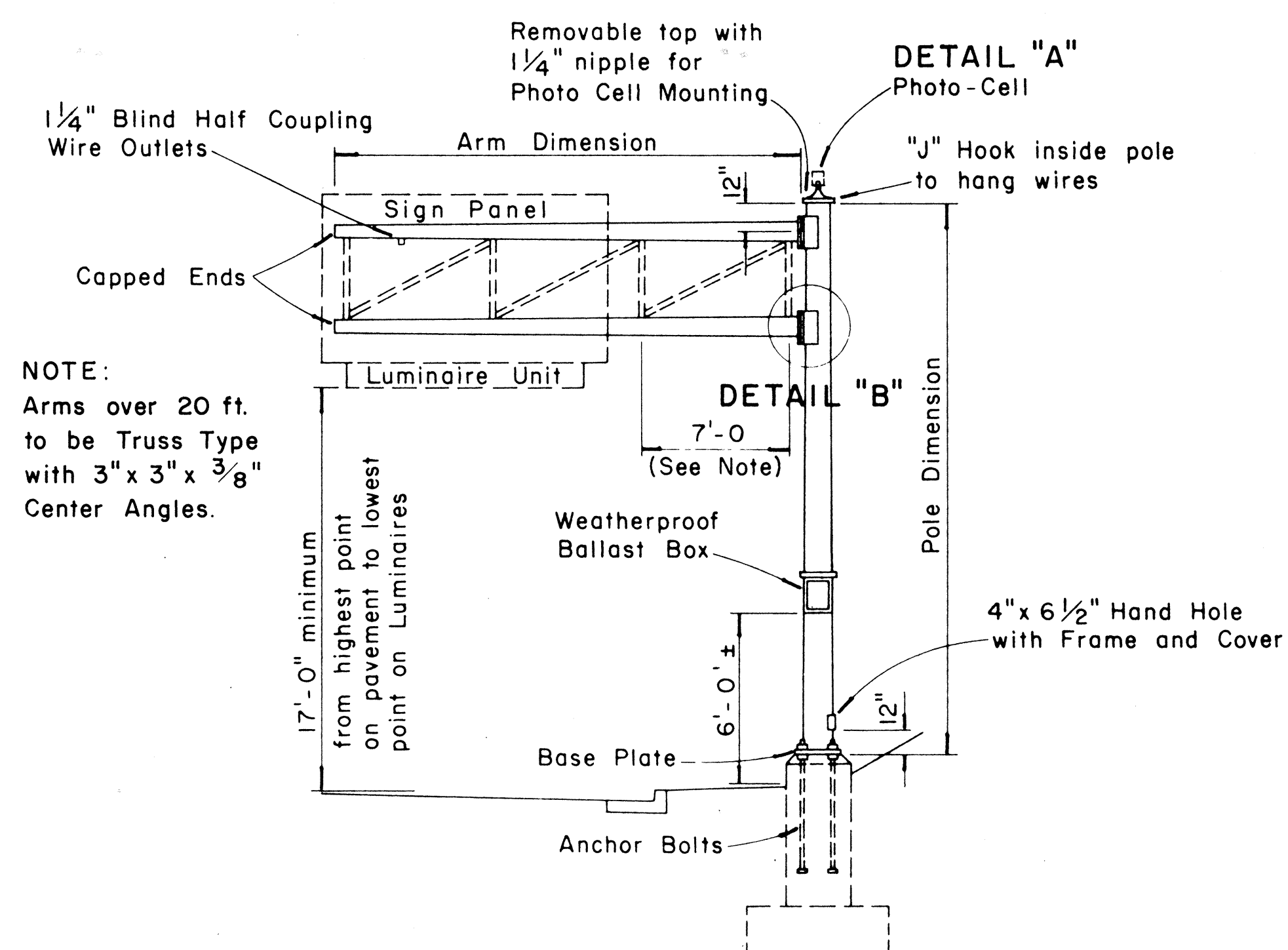
BALLAST BOX



BALLASTS

WEATHERPROOF BALLAST BOX

Scale: $1\frac{1}{2}'' = 1' - 0''$

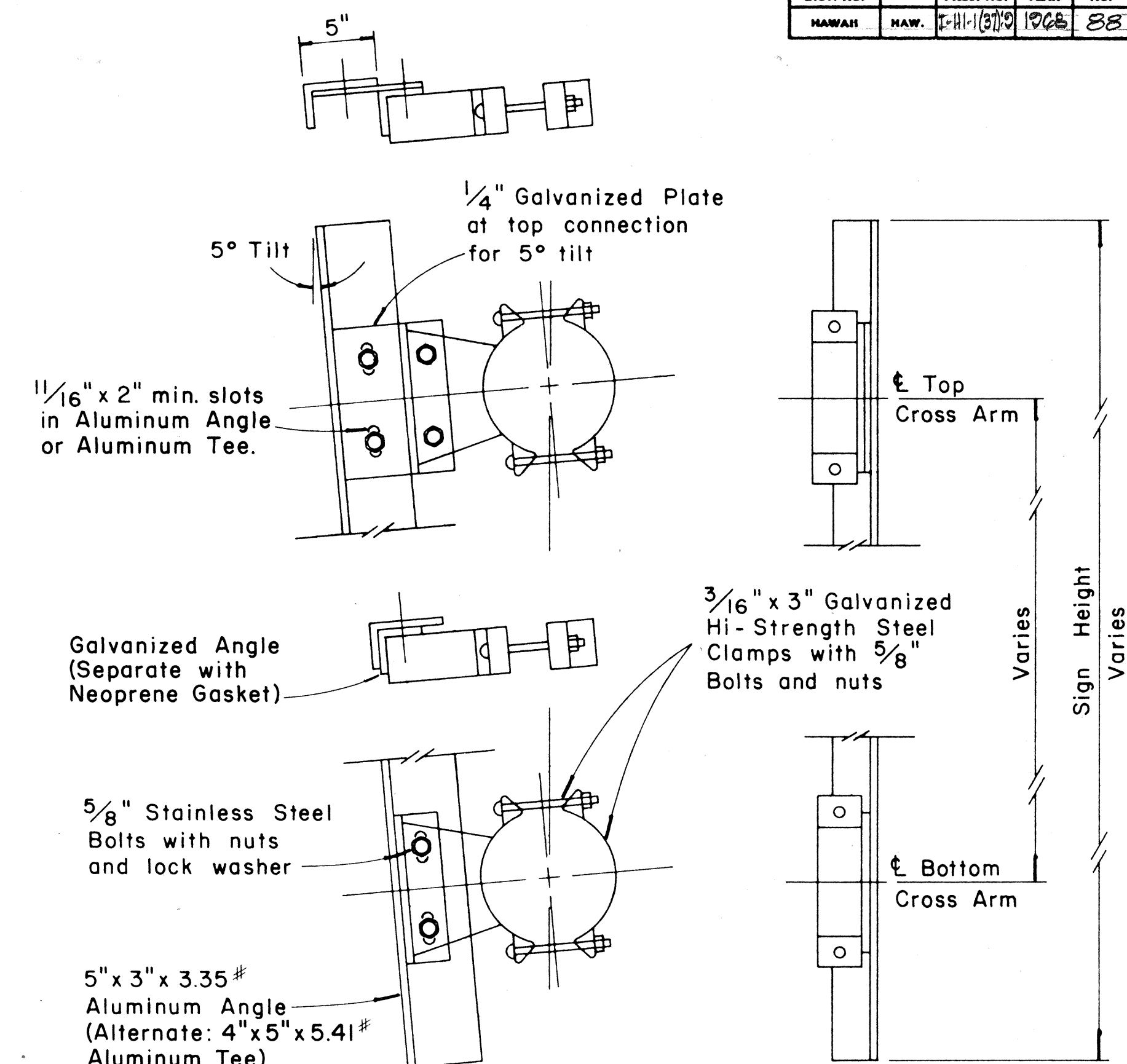


TYPE "C"

SINGLE SIGN POST — CANTILEVER TYPE

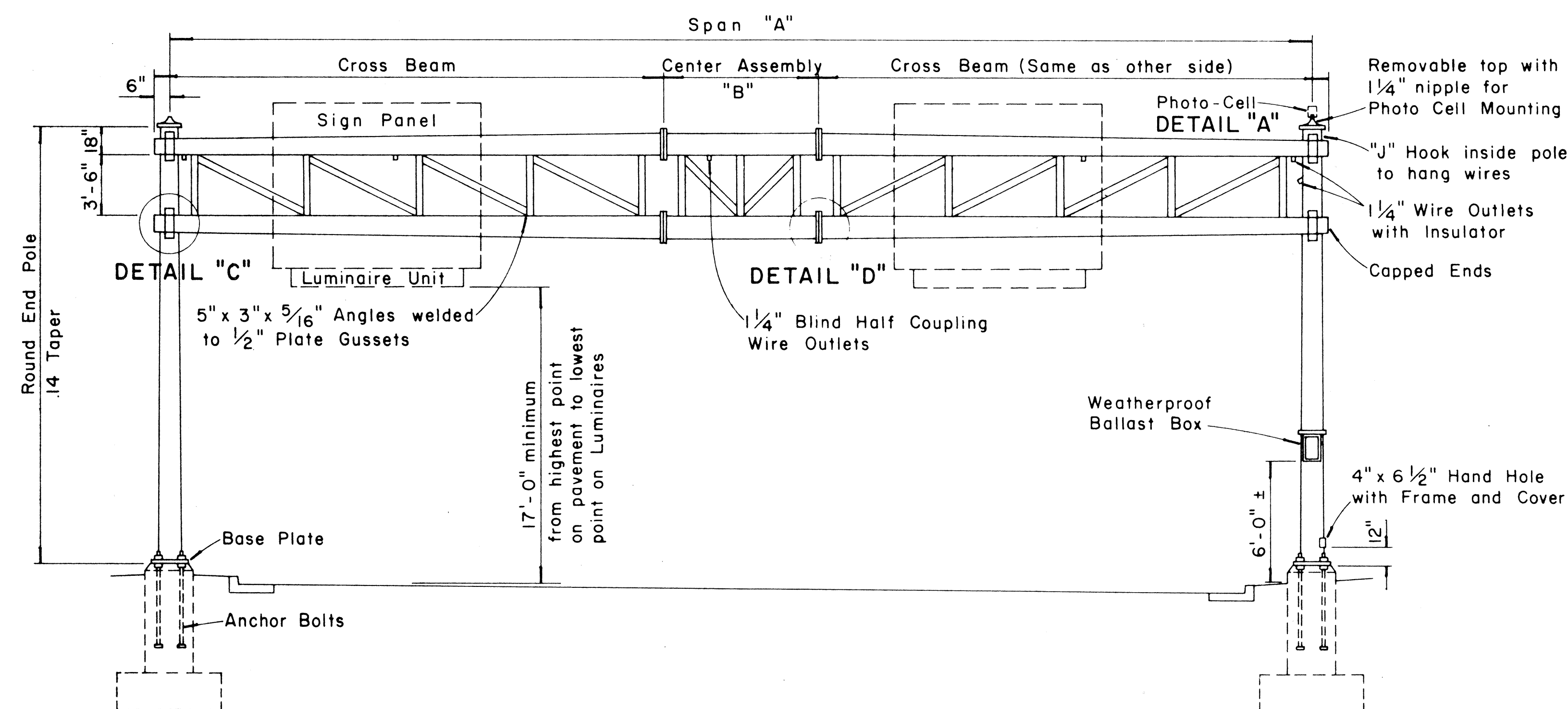
DOUBLE MAST ARM

Scale: $\frac{3}{16}'' = 1' - 0''$



SIGN BRACKET ASSEMBLY

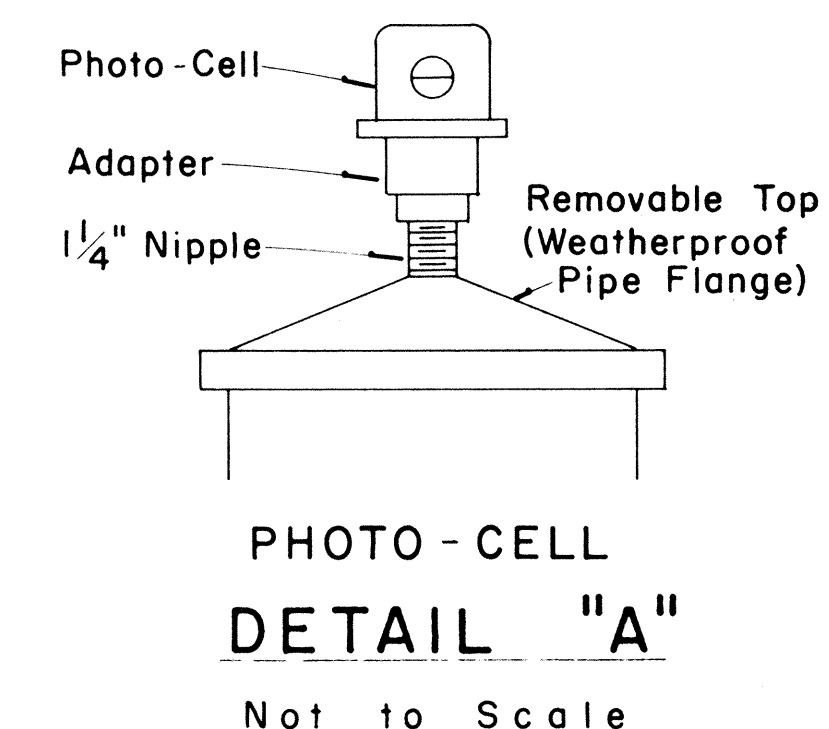
Scale: $1\frac{1}{2}'' = 1' - 0''$



TYPE "D"

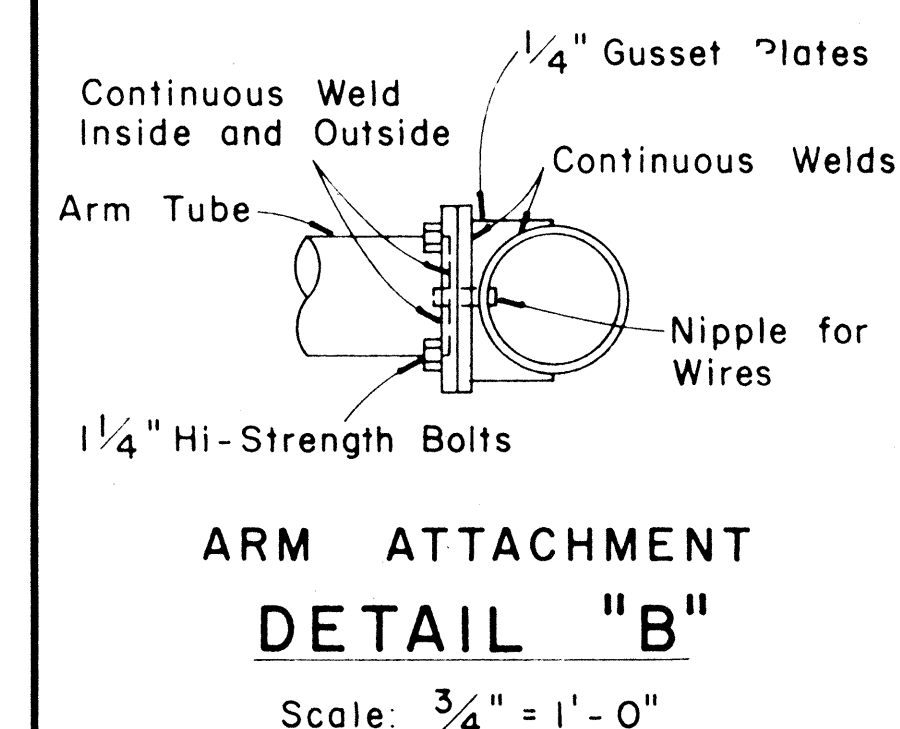
TWO - TUBE TRUSS — SPAN TYPE

Scale: $\frac{3}{16}'' = 1' - 0''$



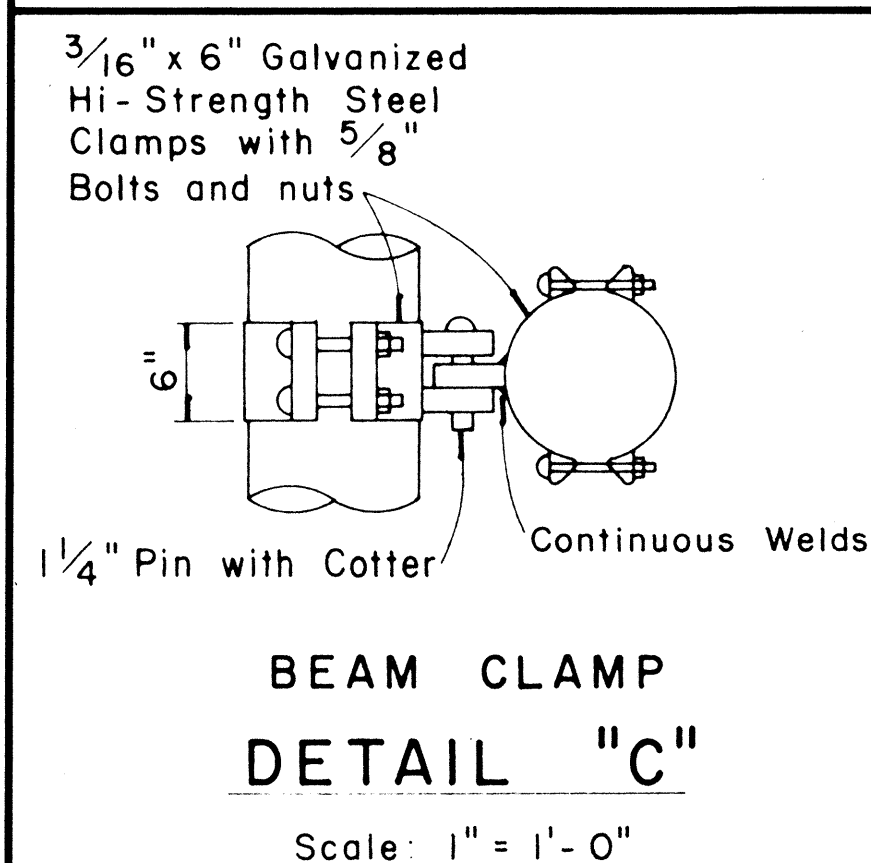
**PHOTO-CELL
DETAIL "A"**

Not to Scale



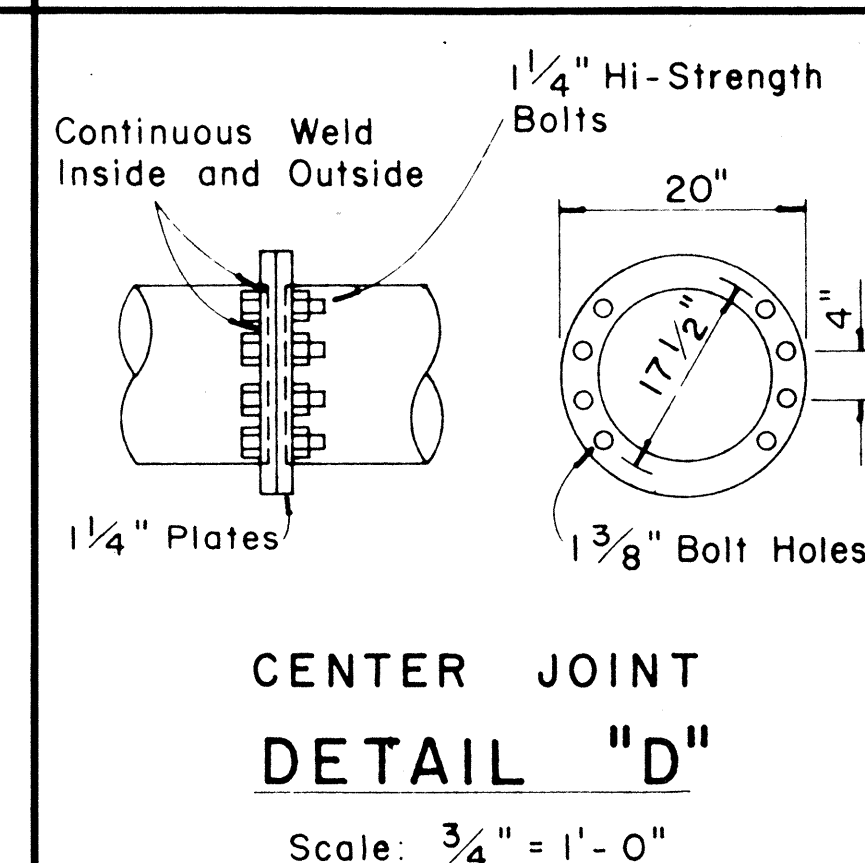
**ARM ATTACHMENT
DETAIL "B"**

Scale: $\frac{3}{4}'' = 1' - 0''$



**BEAM CLAMP
DETAIL "C"**

Scale: $1'' = 1' - 0''$



**CENTER JOINT
DETAIL "D"**

Scale: $\frac{3}{4}'' = 1' - 0''$

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	

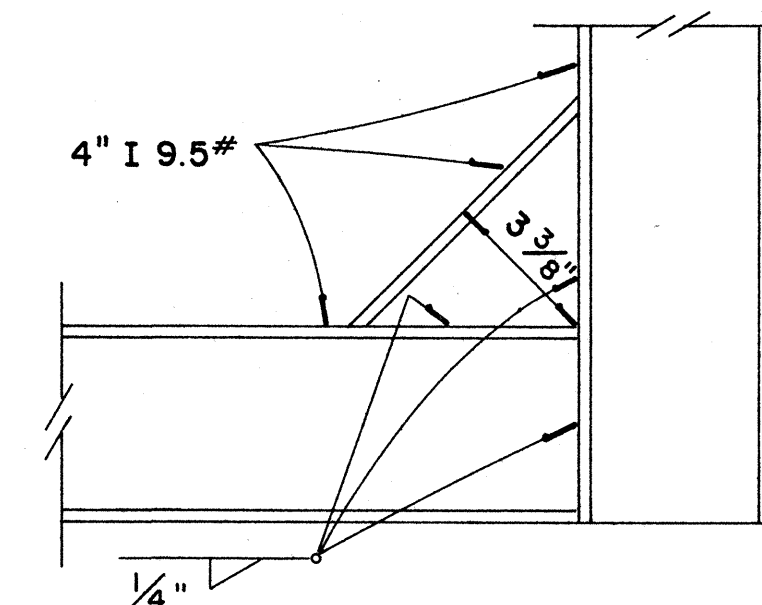
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	111(5)	1965	80	91

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.

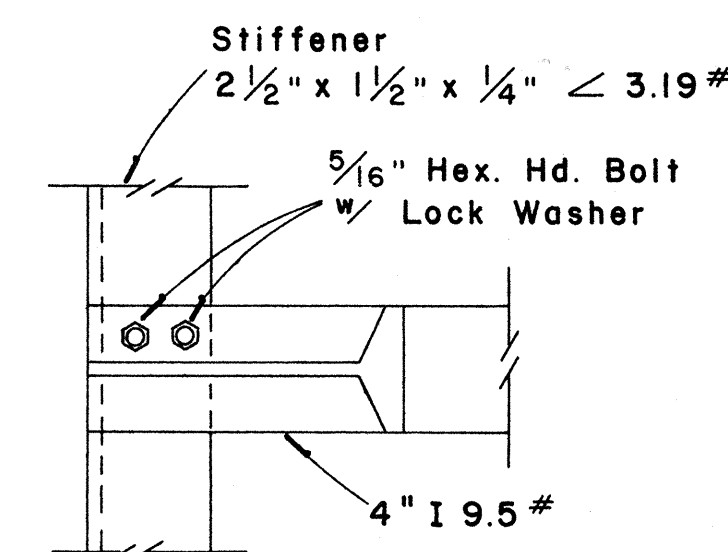
CONDUIT STRAP DETAIL

Scale: 3" = 1'-0"



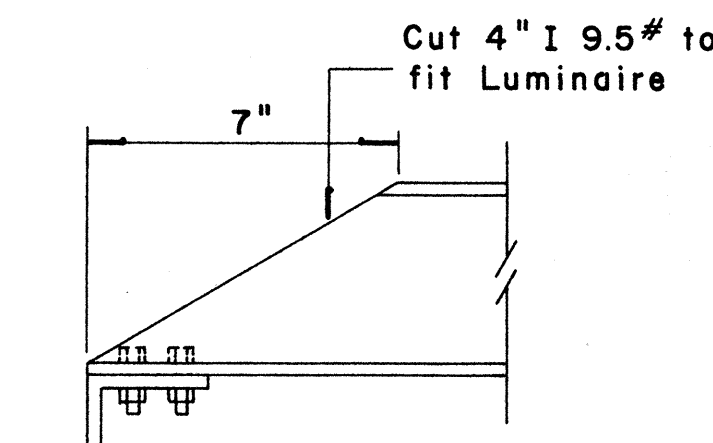
DETAIL "B"

Scale: 3" = 1'-0"



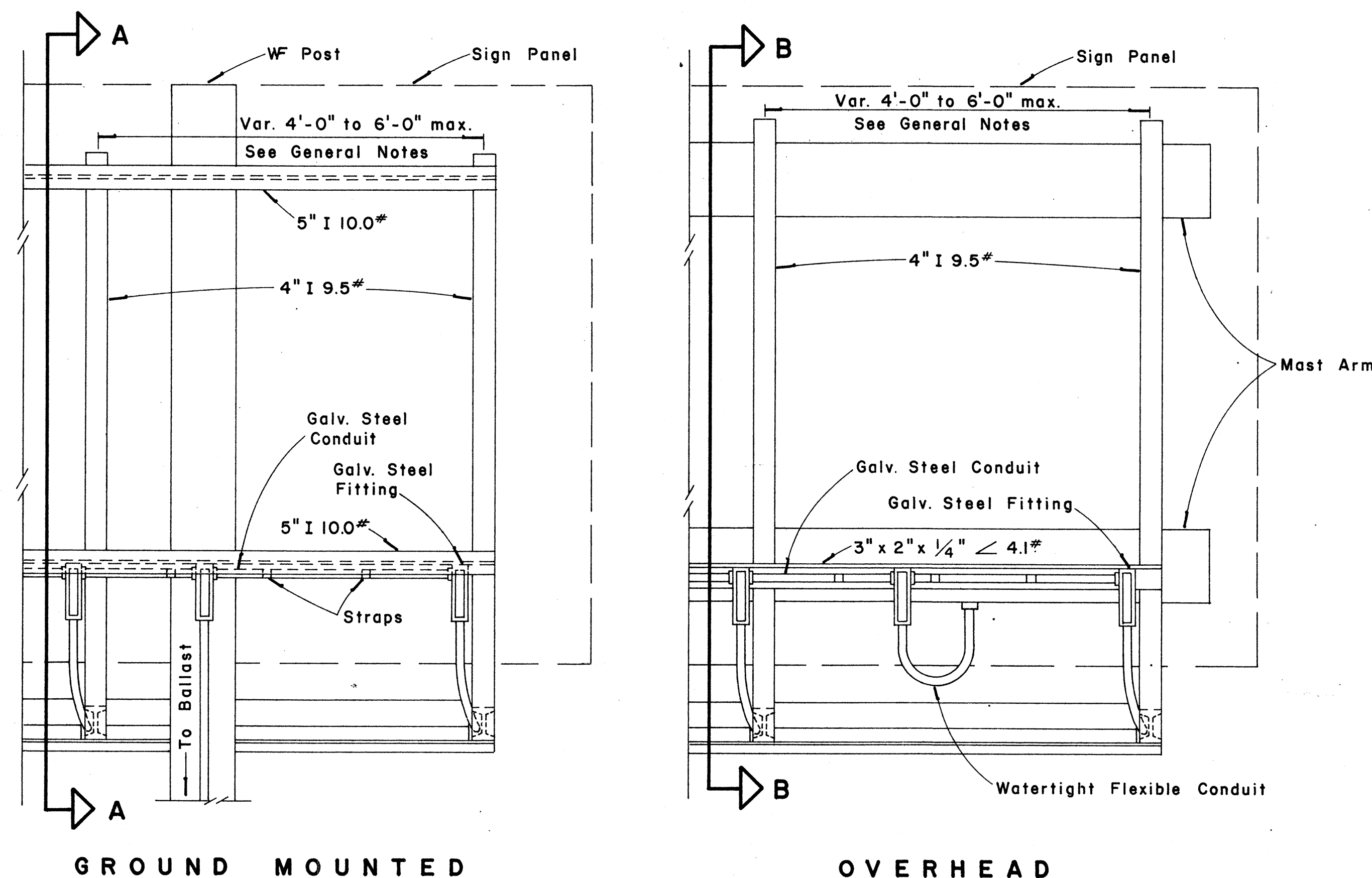
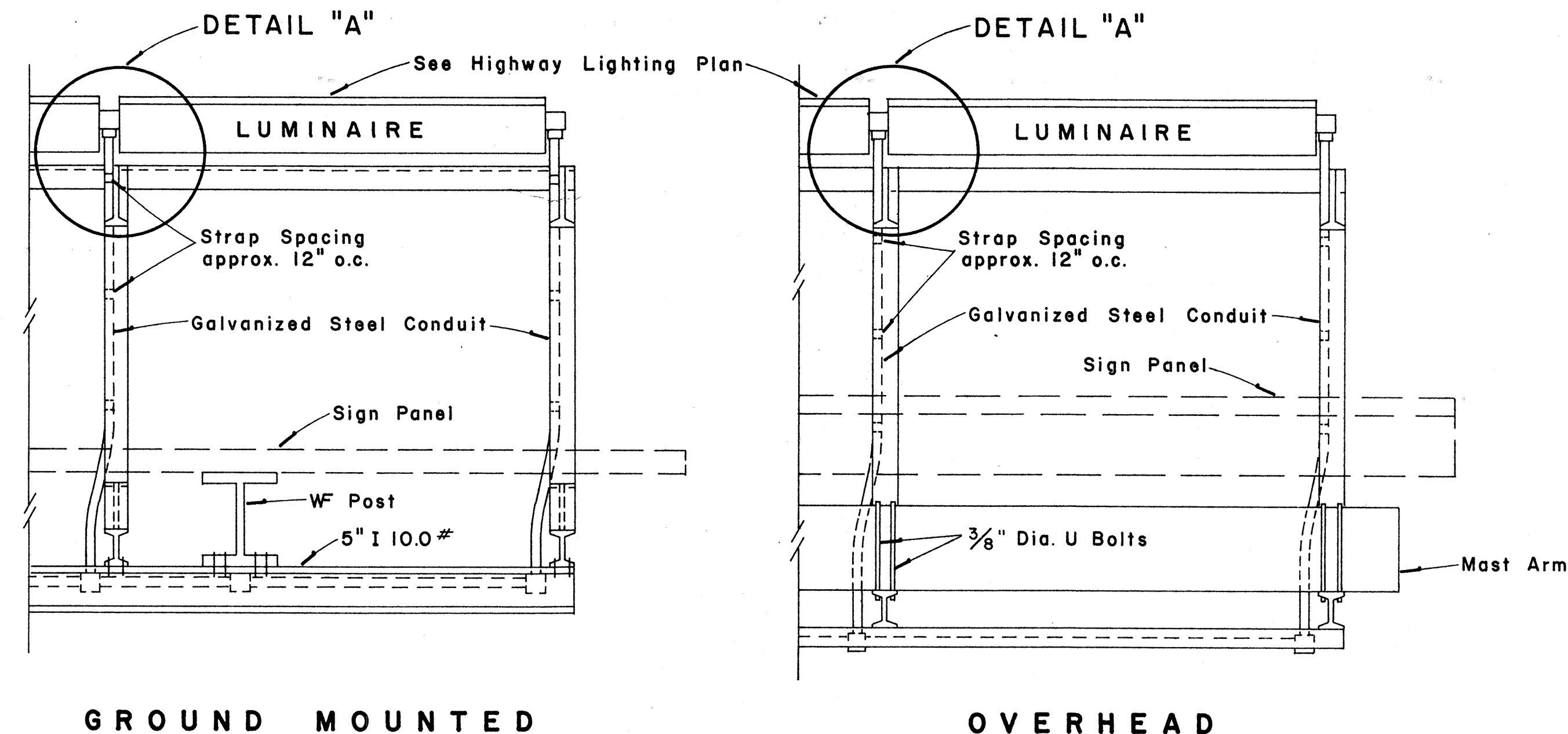
DETAIL "A"

Scale: 3" = 1'-0"



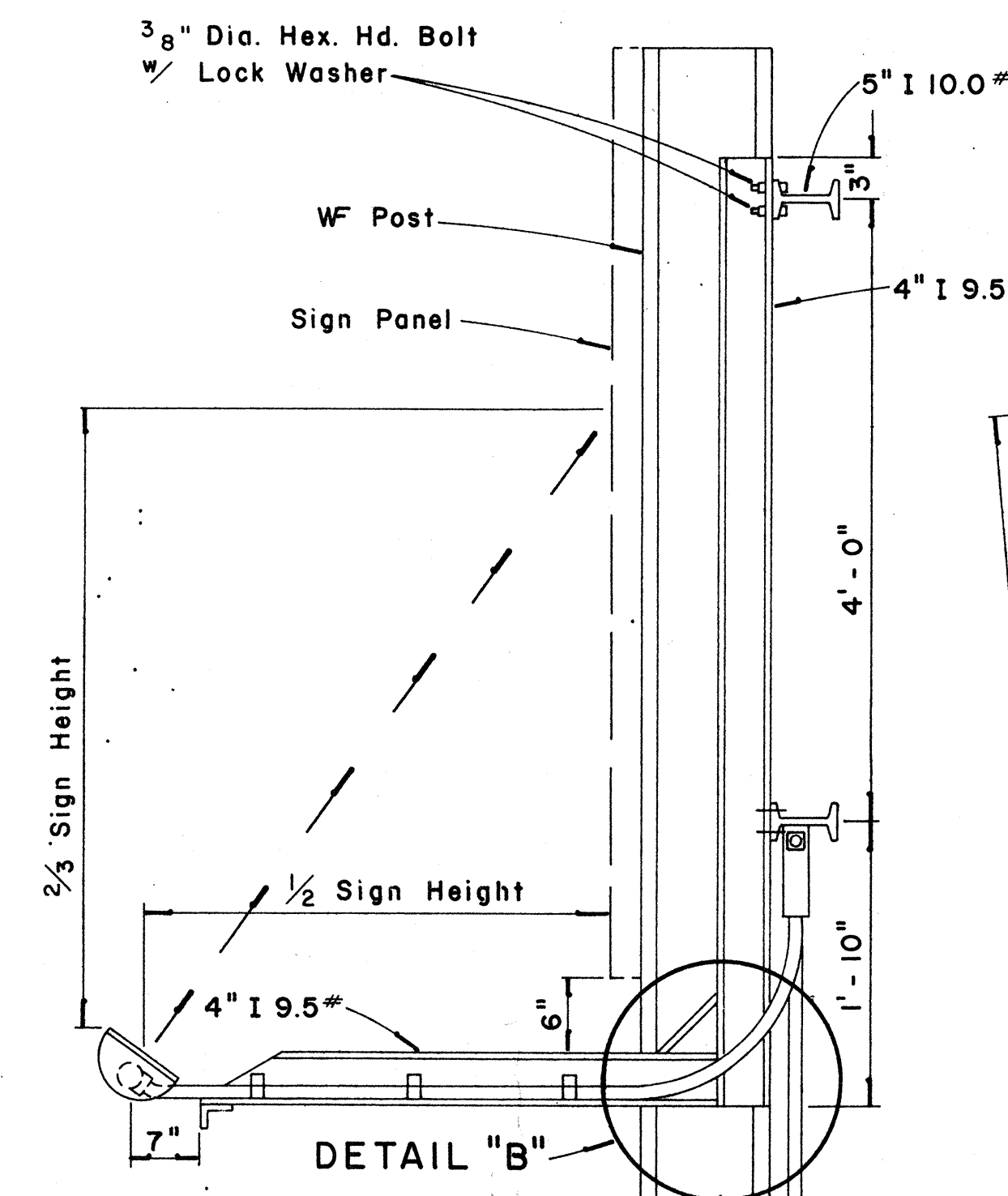
TOP VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



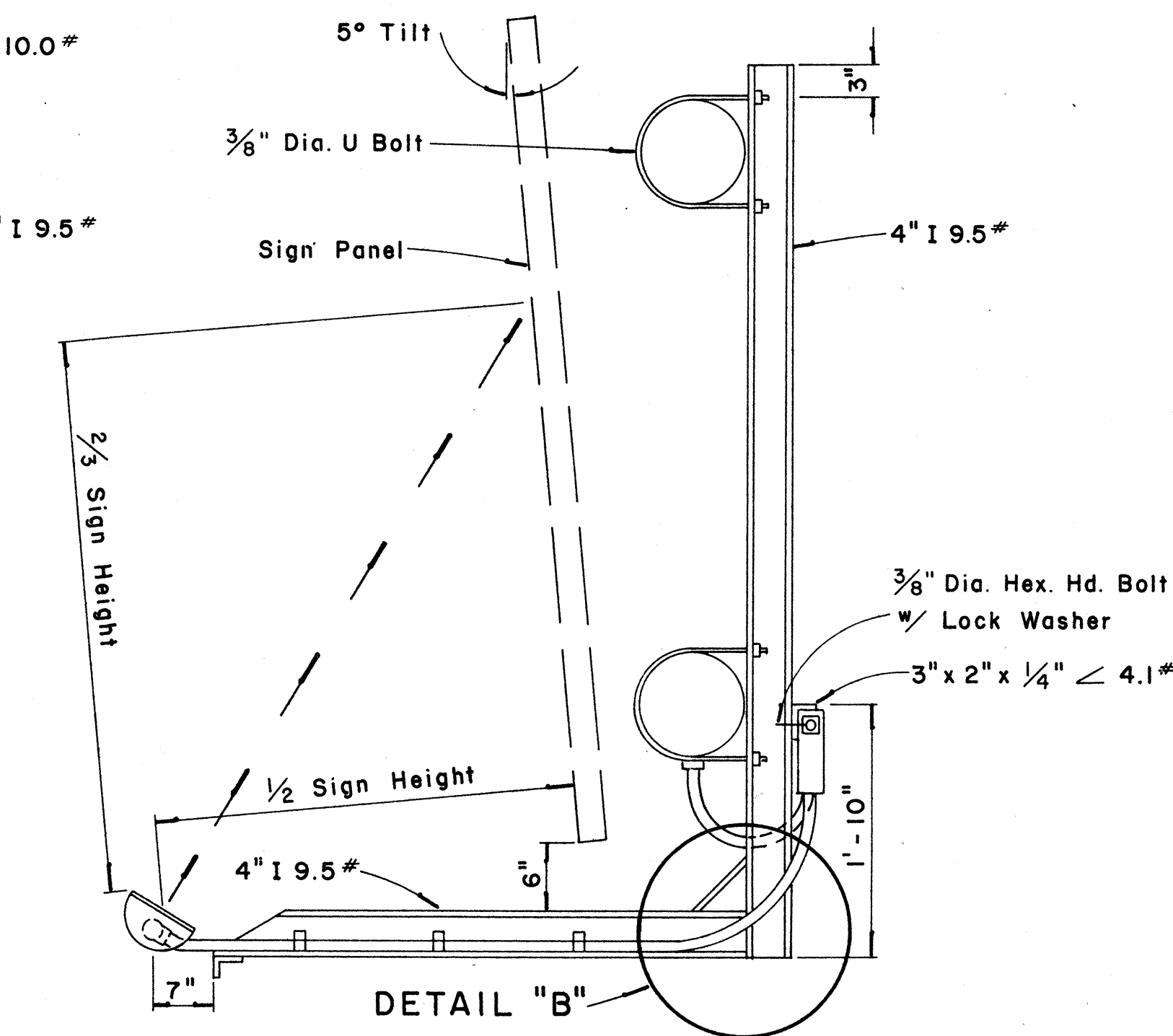
REAR VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXPRESSWAY SIGNS LUMINAIRE MOUNTINGS

Scale: As Shown

SHEET No. 80 OF 91 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	