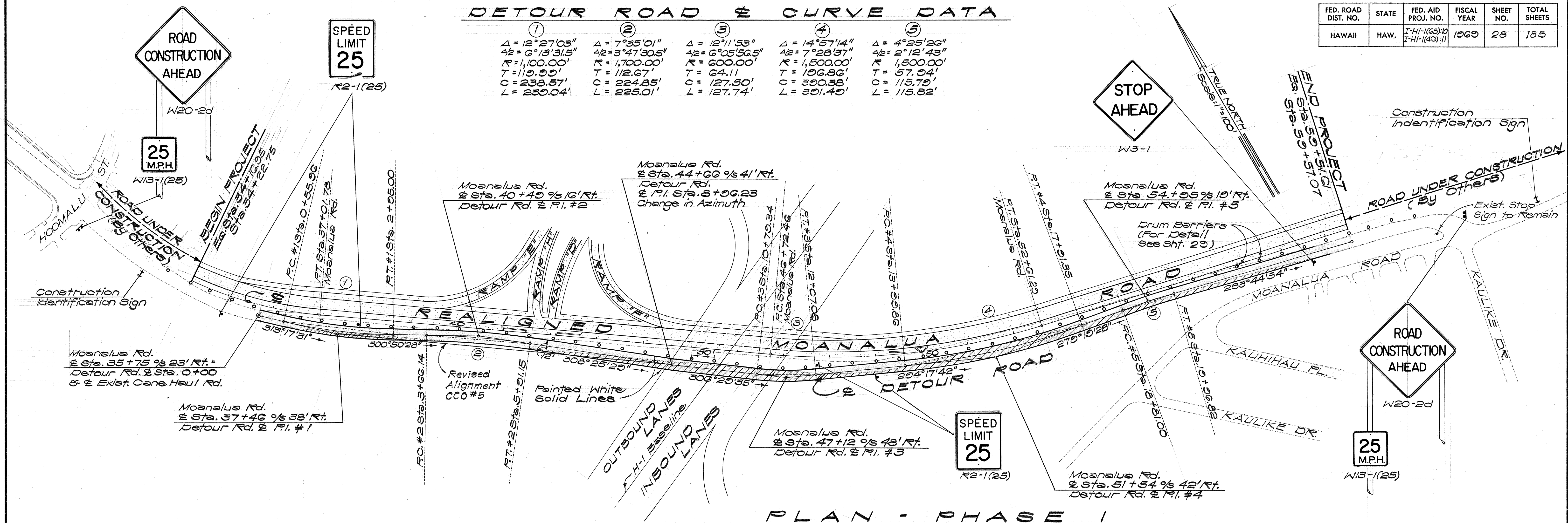


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(65):10 I-HI-1(40):11	1969	28	185

DETOUR ROAD & CURVE DATA

①	②	③	④	⑤
$\Delta = 12^{\circ}27'03"$ $\Delta/2 = 6^{\circ}13'31.5"$ $R = 1,000.00'$ $T = 119.99'$ $C = 238.57'$ $L = 239.04'$	$\Delta = 7^{\circ}35'01"$ $\Delta/2 = 3^{\circ}47'30.5"$ $R = 1,700.00'$ $T = 112.67'$ $C = 224.35'$ $L = 225.01'$	$\Delta = 12^{\circ}11'53"$ $\Delta/2 = 6^{\circ}05'56.5"$ $R = 600.00'$ $T = 64.11'$ $C = 127.50'$ $L = 127.74'$	$\Delta = 14^{\circ}57'14"$ $\Delta/2 = 7^{\circ}28'37"$ $R = 1,500.00'$ $T = 196.86'$ $C = 390.38'$ $L = 391.40'$	$\Delta = 4^{\circ}25'26"$ $\Delta/2 = 2^{\circ}12'43"$ $R = 1,500.00'$ $T = 57.94'$ $C = 115.79'$ $L = 115.82'$



PLAN - PHASE I

DETOUR ROAD SIGN SUMMARY

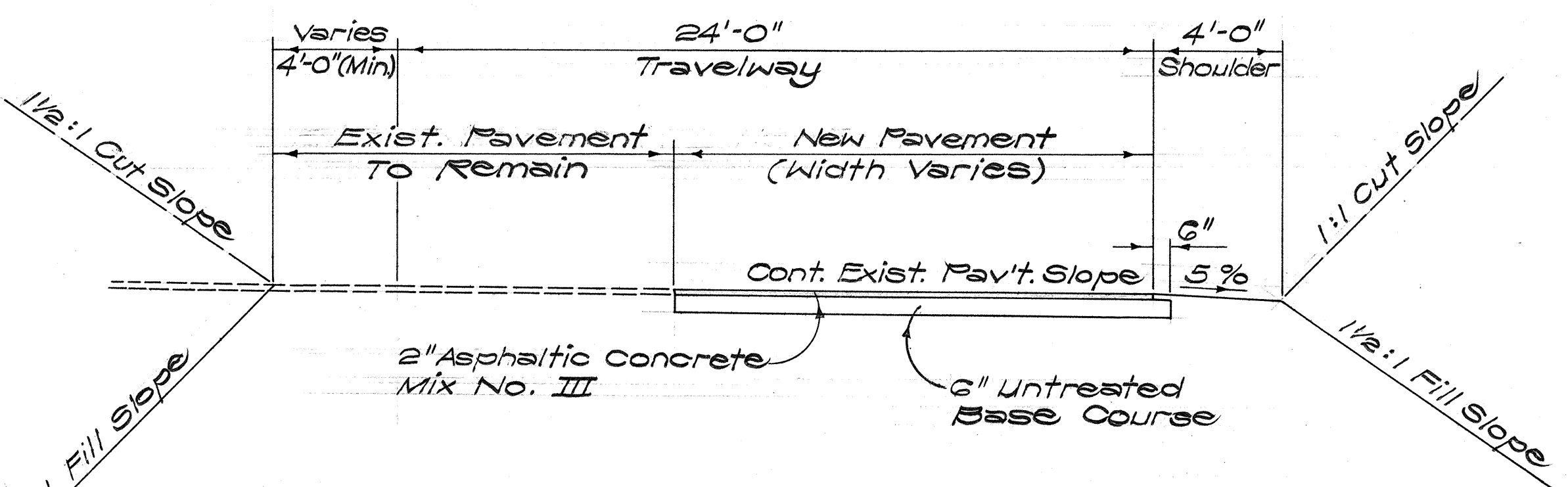
Type	Description	Amount
R2-1(25)	SPEED LIMIT 25	4
R2-1(25) (Relocated)	SPEED LIMIT 25 (See Note 4, Sht. 29)	4
W3-1	ROAD CLOSED	8
W3-1 (Relocated)	STOP AHEAD (See Note 4, Sht. 29)	1
W13-1(25)	25 M.P.H.	2
W20-2d	ROAD CONSTRUCTION AHEAD	2
	Class I Barricades	12
	Class II Barricades	25
	Construction Identification Sign *	2
	55 Gallon Drum Barriers **	52

ESTIMATED ROADWAY QUANTITIES

Asphaltic Concrete	350 Tons
Base Course	3,113 S.Y.
Roadway Excavation	1,537 C.Y.
Roadway Embankment	201 C.Y.

LEGEND

- Road Under Construction
- New Asphaltic Concrete Pavement (Detour Rd.)
- 55 Gallon Drum Barriers @ 50' O.C.

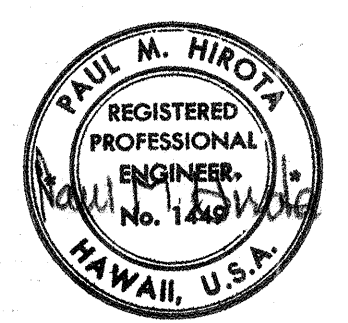


DETOUR ROAD TYPICAL SECTION

Scale: 1/4" = 1'-0"

NOTES:

- All signs, barricades and barriers for the purpose of Traffic Detour shall become the property of the State after completion of the project.
- Construction identification signs shall not be paid for but shall be considered incidental to the various payment items.
- 55 gallon drum barriers at 50' O.C. to be incidental to Detour Road asphaltic concrete pavement.
- Install Moanalua Separation sub-structure including footings, piles, abutments & piers during the phase I construction.
- Install temporary poles for the existing Transpacific Cable along the Cane Haul Road prior to any roadway excavation. See Utility Relocation Plan Sht. 67.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**MOANALUA ROAD
CONSTRUCTION
PHASING**

INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(65):10

Scale: AS SHOWN Date: 4-24-69

SHEET No. 1 OF 25 SHEETS

28

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	T-HI-1(65):10 T-HI-1(40):11	1969	20	185

EDGE PAVEMENT CURVE DATA

①	②
$\Delta = 40^{\circ}00'00''$	$\Delta = 35^{\circ}00'00''$
$\Delta_2 = 20^{\circ}00'00''$	$\Delta_2 = 17^{\circ}30'00''$
$R = 350.00'$	$R = 350.00'$
$T = 127.39'$	$T = 110.35'$
$C = 239.41'$	$C = 210.49'$
$L_c = 244.35'$	$L_c = 213.80'$

Provide Smooth Riding Connection (See Note 1 This Sht.)

Exist. Construction Identification Sign

Exist. Construction & Speed Limit Sign

END PROJECT
Sta. 55+50.1

ROAD UNDER CONSTRUCTION (By Others)

Painted White Solid Lines

Exist. Stop Sign to Remain

SPEED LIMIT 25

R2-1(25) (Relocated)

STOP AHEAD

W3-1 (Relocated)

55 Gallon Drum Barriers @ 50' O.C. (Relocated) (See Detail This Sht.)

ROAD CLOSED

R10-2 (See Note 2 This Sht.)

SPEED LIMIT 25

R2-1(25) (Relocated)

SPEED LIMIT 25

R2-1(25) (Relocated)

ROAD CLOSED

R10-2

SPEED LIMIT 25

R2-1(25) (Relocated)

Class I Barricades

Class II Barricades w/ Blinkers @ 50' O.C.

Class I Barricade

Class I Barricades (See Note 2 This Sht.)

Class I Barricade (See Note 2 This Sht.)

REALIGNED MOANALUA ROAD

DETOUR ROAD (PHASE I)

OUTBOUND LANES
FH-1 Baseline
INBOUND LANES

(PHASE 2)

ROAD

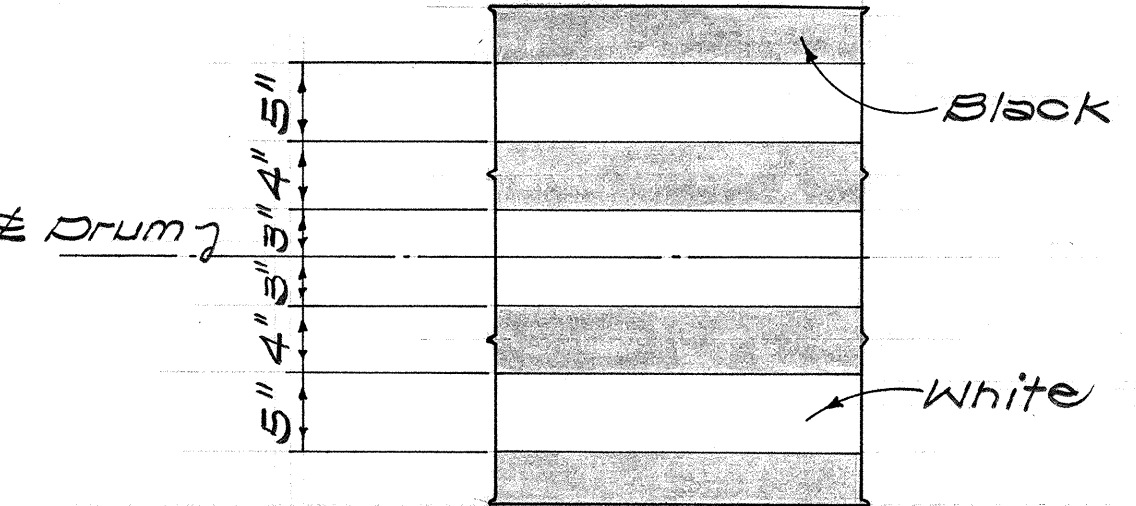
KAUHIHAI PL.

KAULIKE DR.

NOTES:

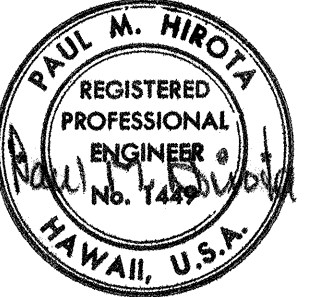
1. Temporary connection to be used in the event that the portion of construction work to be done by others is not sufficiently complete when the PHASE II portion of this project begins.
2. Class I barricades and R10-2 signs to be placed after completion of PHASE II work.
3. Min. opening under Moanalua separation structure, during construction of the bridge superstructure, shall be horizontal distance of 28'-0" and a vertical clearance of 13'-0".
4. Relocation of new signs shall not be paid for separately but shall be incidental to the initial furnishing & installation of the affected signs.

PLAN - PHASE 2



55 GALLON BARRIER MARKINGS DETAIL

Not to Scale



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MOANALUA ROAD CONSTRUCTION PHASING

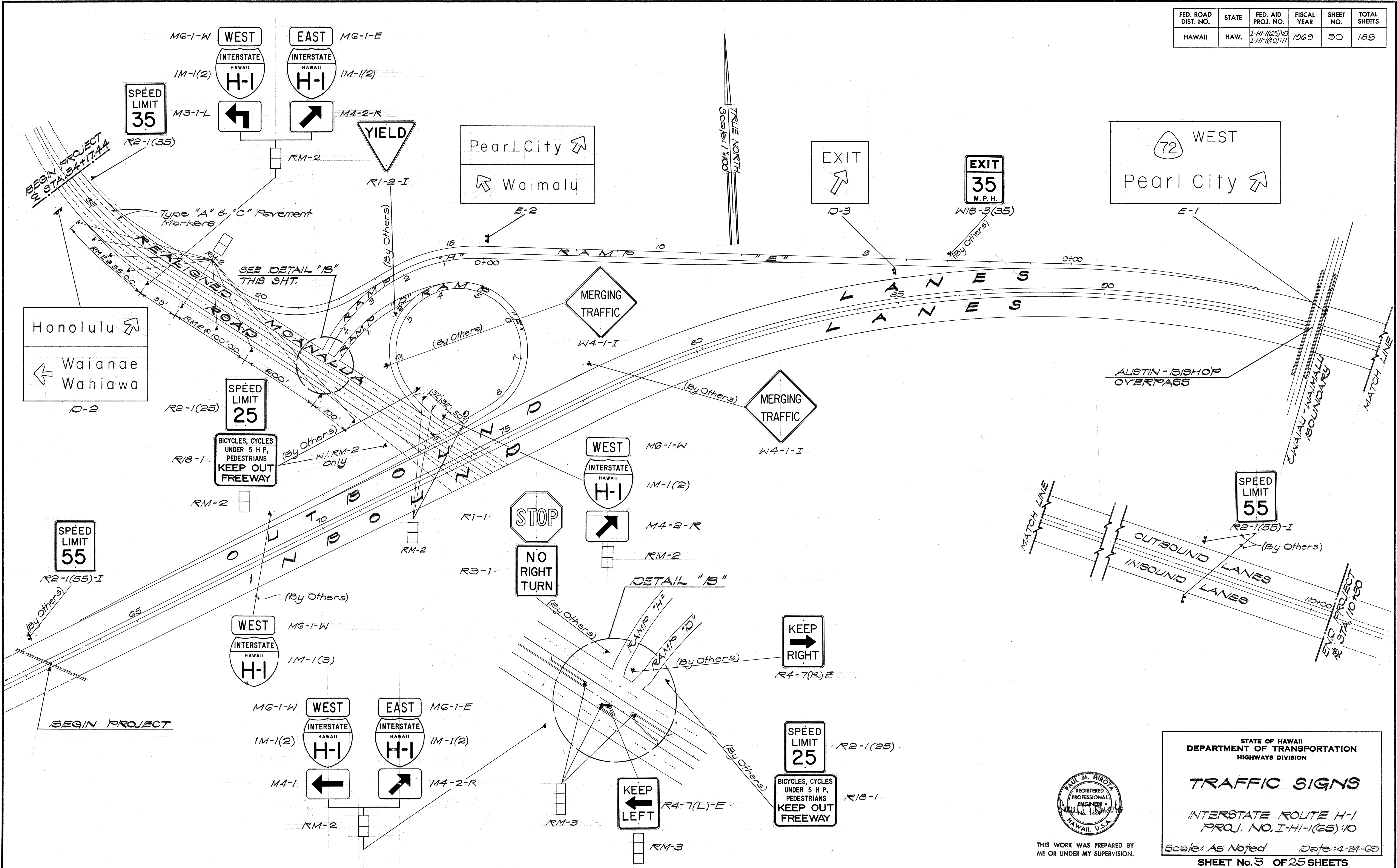
INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(65):10

Scale: As Shown Date: 4-24-69

SHEET No. 2 OF 25 SHEETS

29

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(65)10 I-HI-1(65)11	1969	50	185



DATE	
SURVEY PLANNED BY	
DRAWN BY	
TRACED BY	
NOTES BY	
CHECKED BY	
NO.	



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNS

INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(65)10

Scale: As Noted Date: 4-24-69

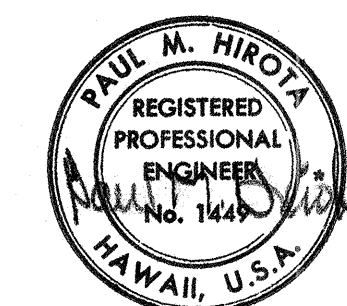
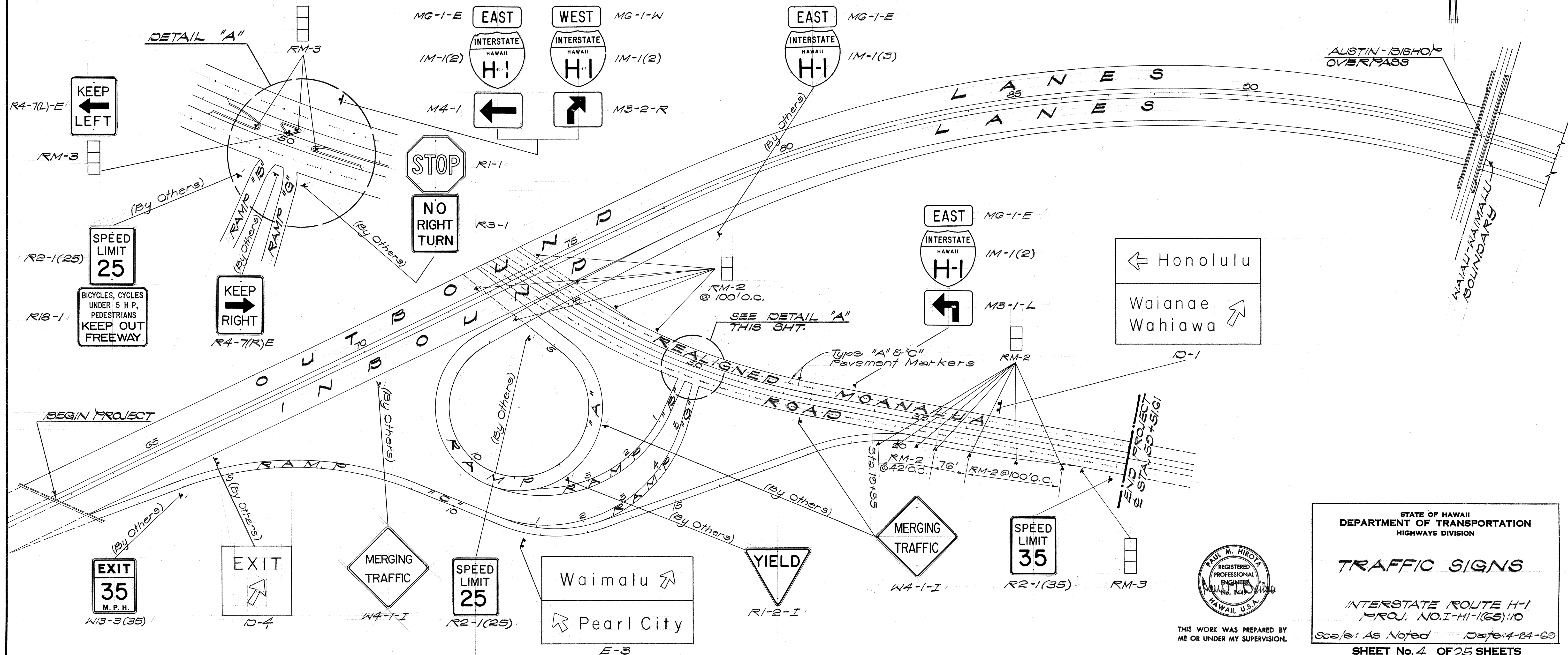
SHEET No. 3 OF 25 SHEETS

SUMMARY OF TRAFFIC SIGNS

Type	Description	Amount	Type	Description	Amount	Sq. Ft.
R1-1	STOP (By Others)		M3-1-L		2	
R3-1	NO RIGHT TURN (By Others)		M4-2-R		3	
R4-7(R)E	KEEP RIGHT (By Others)		IM-1(2)	INTERSTATE HAWAII H-1	8	
R4-7(L)E	KEEP LEFT	2	IM-1(3)	INTERSTATE HAWAII H-1 (By Others)	1	108
R18-1	CYCLES, PEDESTRIANS KEEP OUT	1	D-1 *	Honolulu - Waiānae, Wahiawa	1	102
R2-1(25)	SPEED LIMIT 25 (By Others)	2	D-2 *	Honolulu - Waiānae, Wahiawa	1	36
R2-1(35)	SPEED LIMIT 35		D-3 *	EXIT (Sign D-4 By Others)	1	132
R2-1(35)I	SPEED LIMIT 35 (By Others)		E-1	WEST - Pearl City	1	97.5
R1-2-I	YIELD (By Others)	9	E-2	Pearl City - Waiānae	1	97.5
RM-3	REFLECTOR MARKER	27	E-3	Waiānae - Pearl City	1	
RM-2	REFLECTOR MARKER		Type "A"	Non-reflective white pavement marker	846	
W13-3(35)	EXIT 35 M.P.H. (By Others)		Type "C"	Red-clear reflective pavement marker	71	
W4-1-I	MERGING TRAFFIC	1				
MG-1-E	EAST	4				
MG-1-W	WEST	4				
M4-1		2				
M3-2-R		1				

* Denotes signs to be covered with black Polyethylene sheets. Sheets shall be incidental to sign panels.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(65)10 I-H-1(40)11	1969	31	185



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

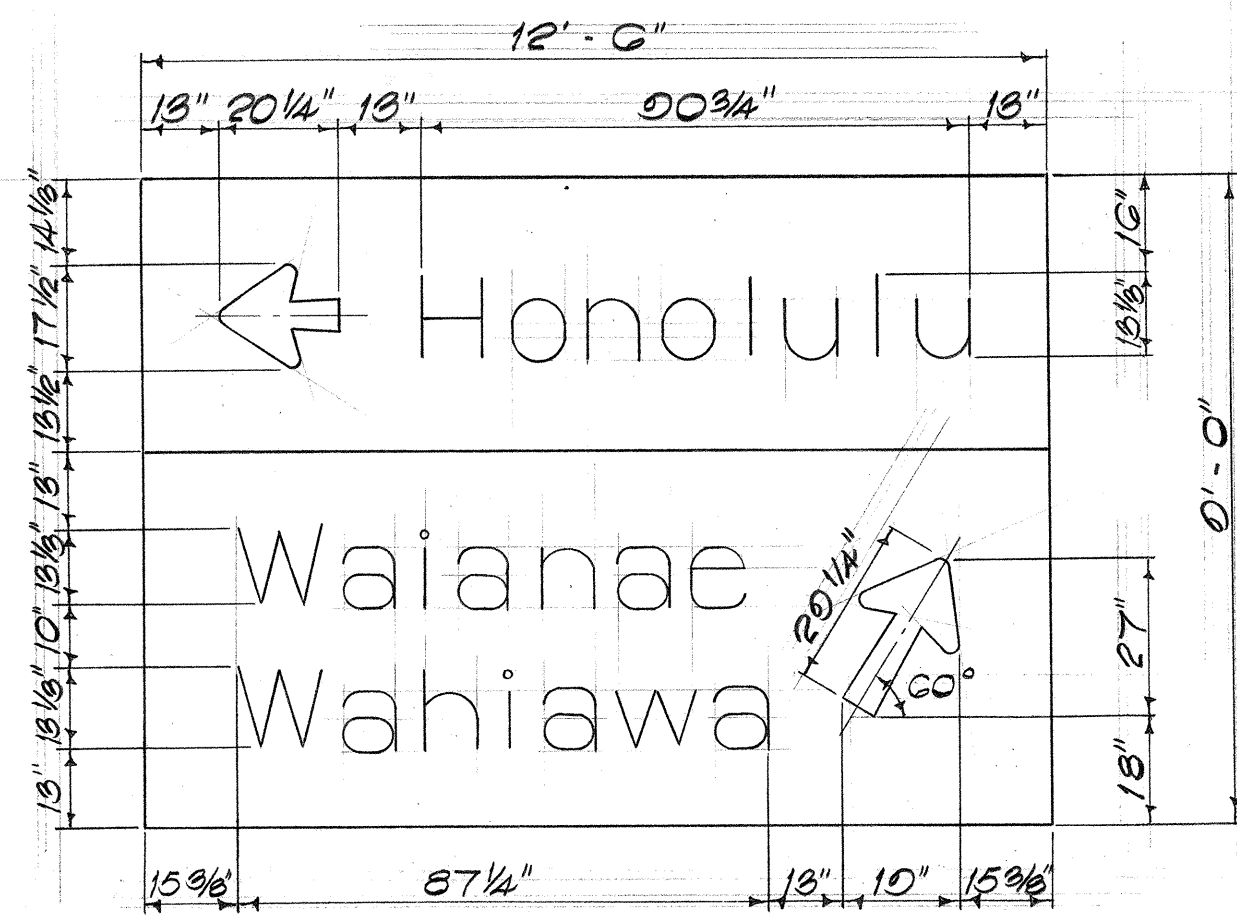
TRAFFIC SIGNS

INTERSTATE ROUTE H-1
PROJ. NO. I-H-1(65)10

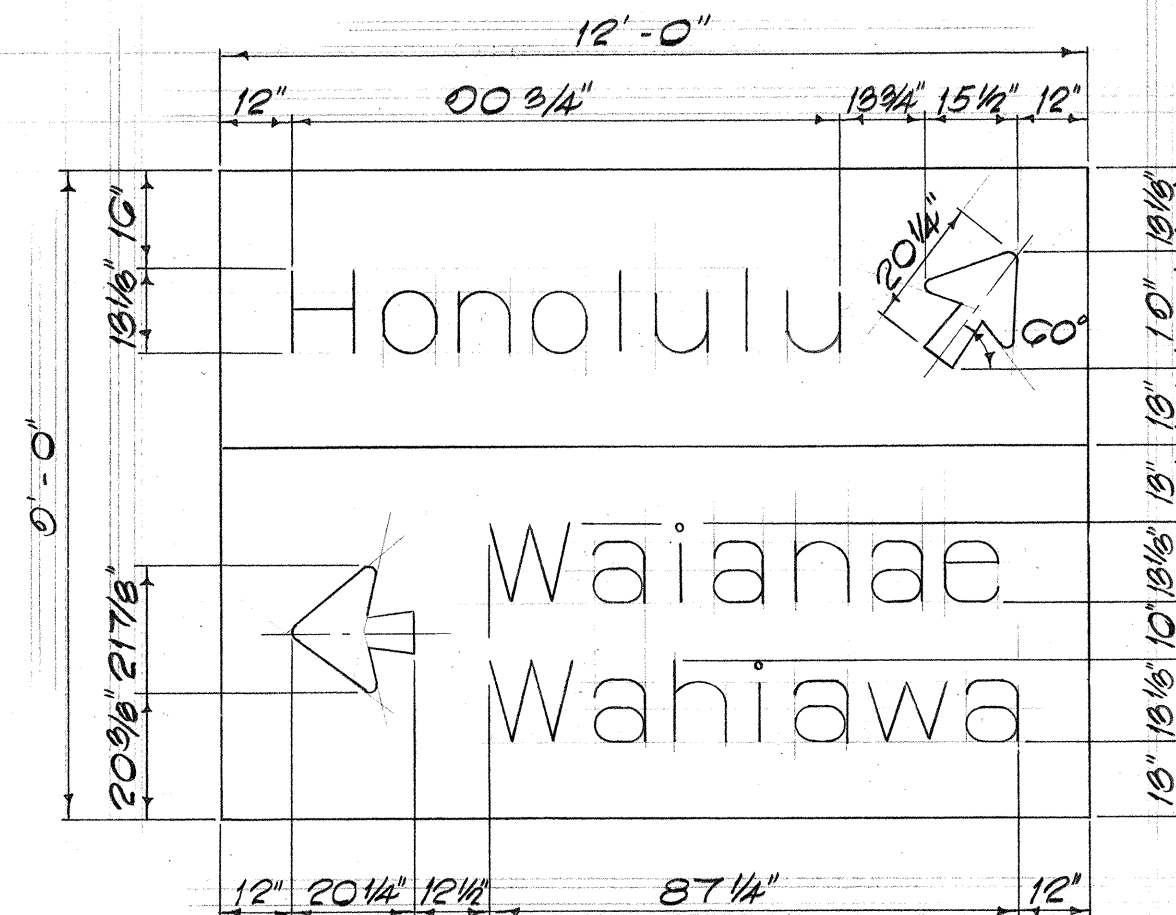
Scale: As Noted Date: 4-24-69

SHEET No. 4 OF 25 SHEETS

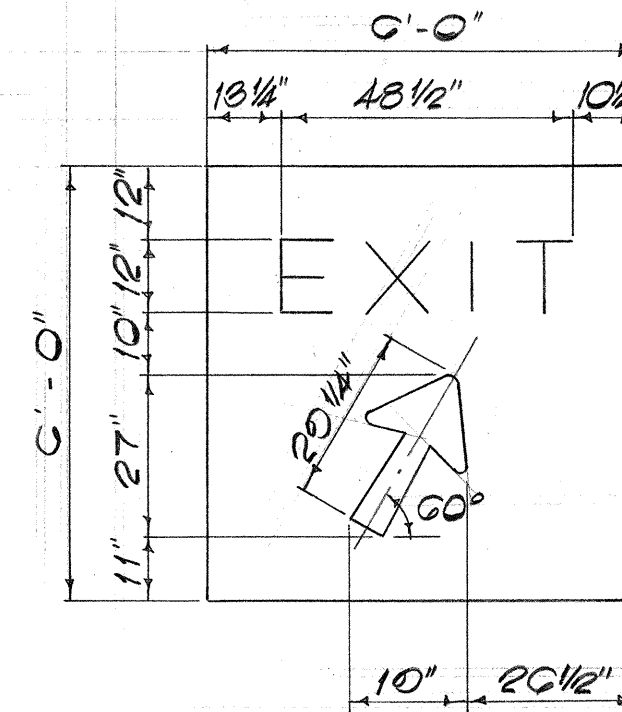
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(65):10 I-HI-1(60):11	1960	32	185



SIGN "D-1"
Scale: 3/8" = 1'-0"

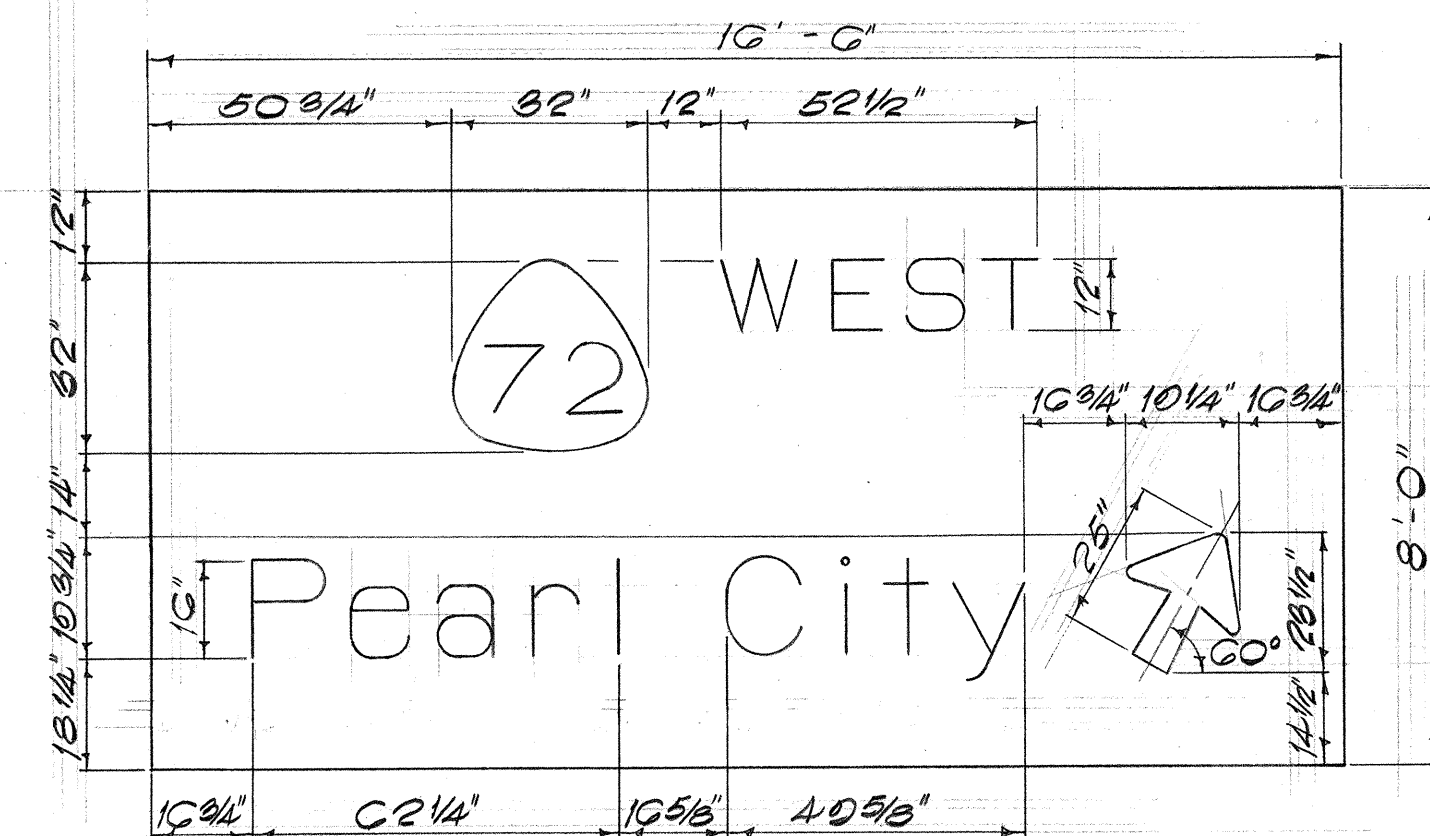


SIGN "D-2"
Scale: 3/8" = 1'-0"

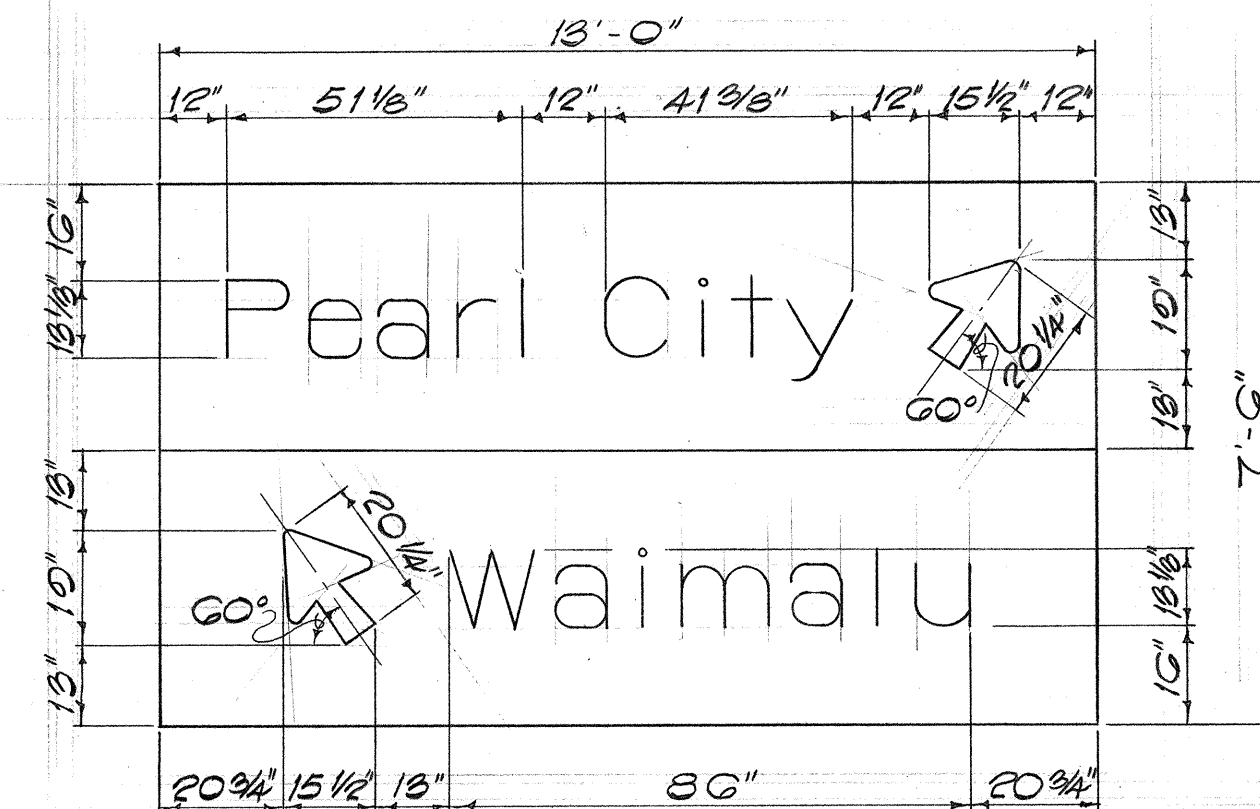


SIGN "D-3" & "D-4" *
Scale: 3/4" = 1'-0"

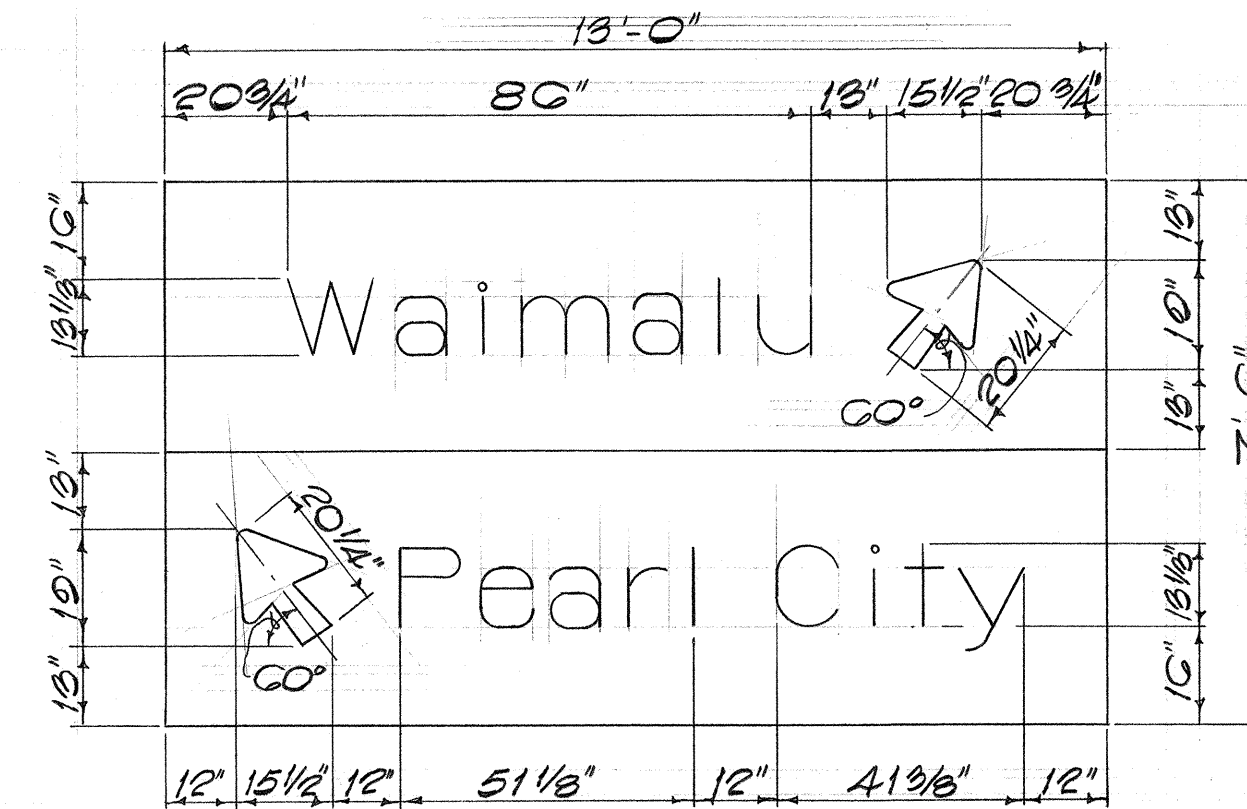
* Sign D-4 shall be by Others.



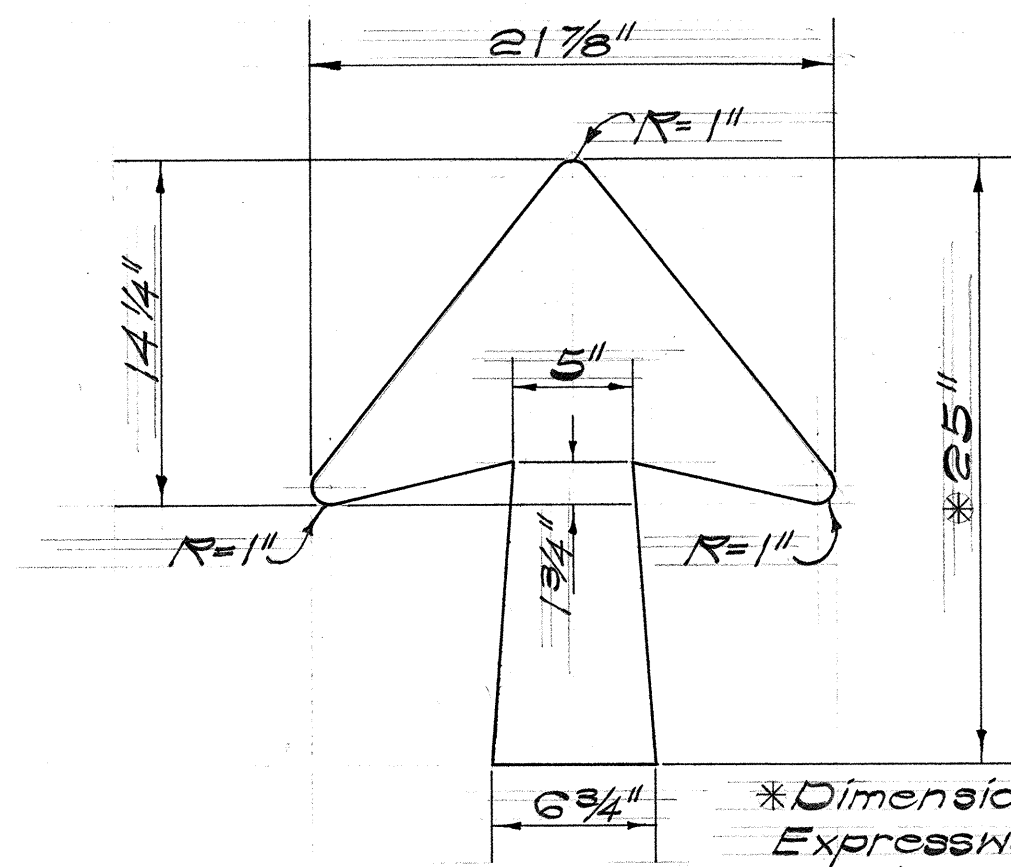
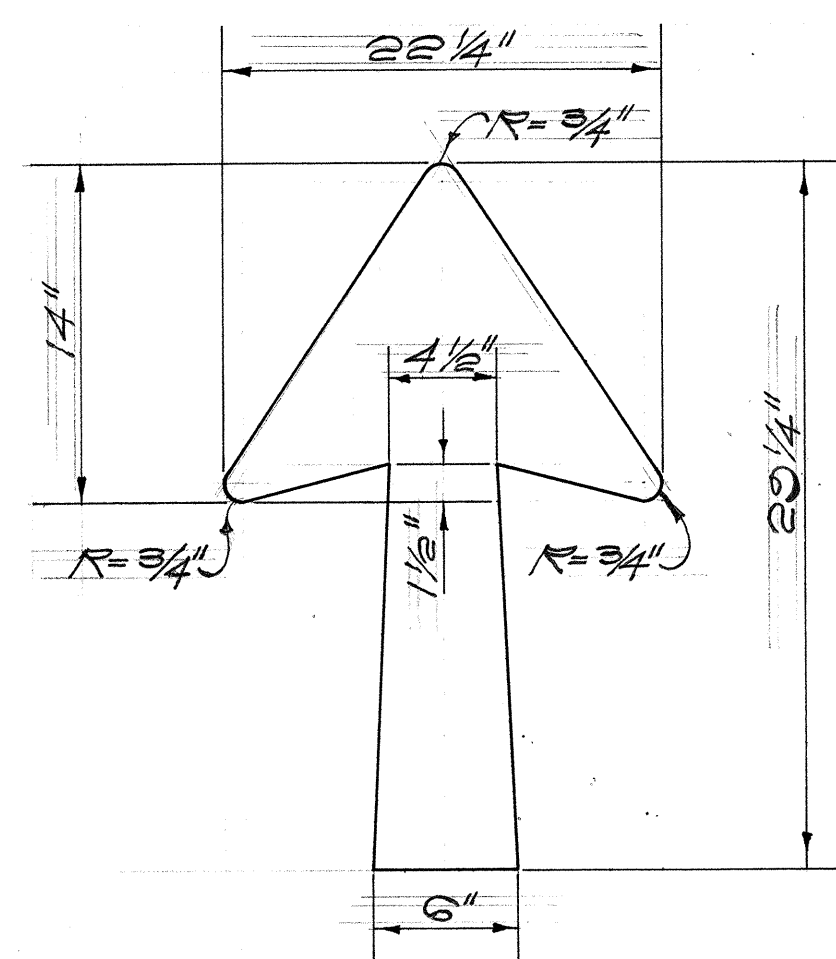
SIGN "E-1"
Scale: 3/8" = 1'-0"



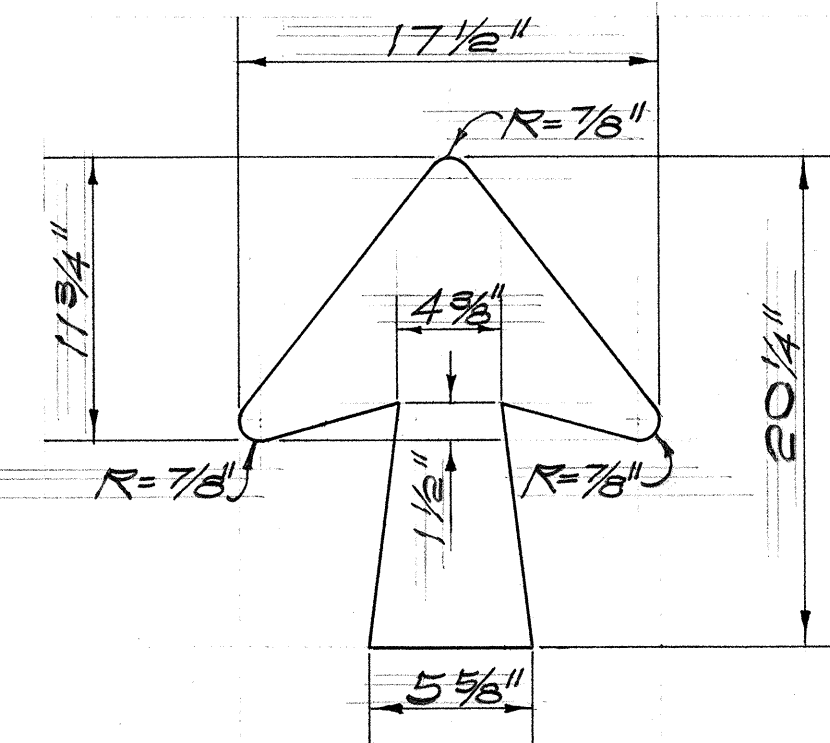
SIGN "E-2"
Scale: 3/8" = 1'-0"



SIGN "E-3"
Scale: 3/8" = 1'-0"



* Dimension Reduced on
Expressway Sign
10'-2"



"A" VERTICAL OR DIAGONAL
ARROW (13 1/8" U.C., 10 1/2" CAP)

"B" VERTICAL OR DIAGONAL
ARROW (16" U.C.)

"C" VERTICAL OR DIAGONAL
ARROW (13 1/8" U.C., 12" CAP)

DETAIL OF STANDARD ARROWS

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

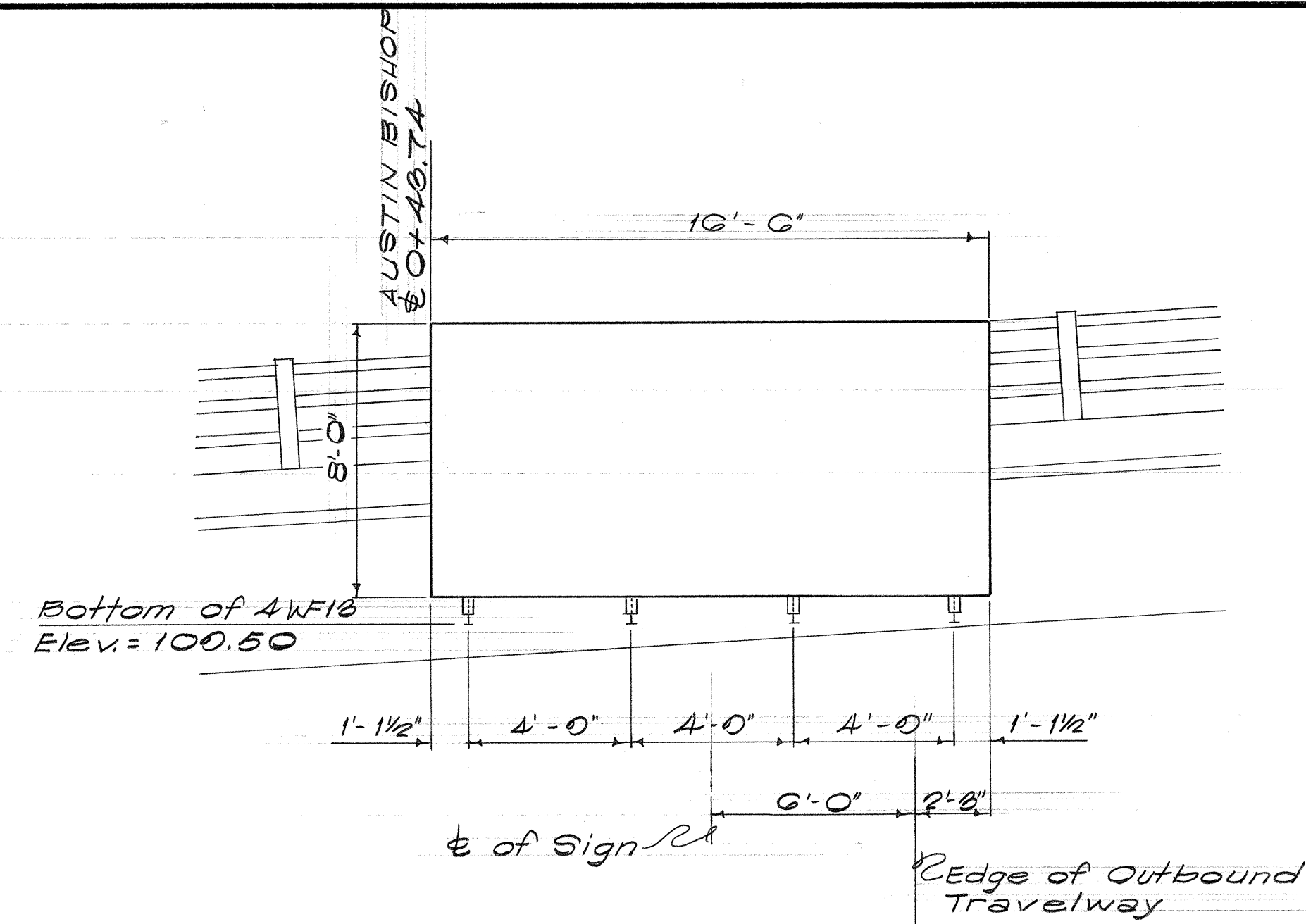


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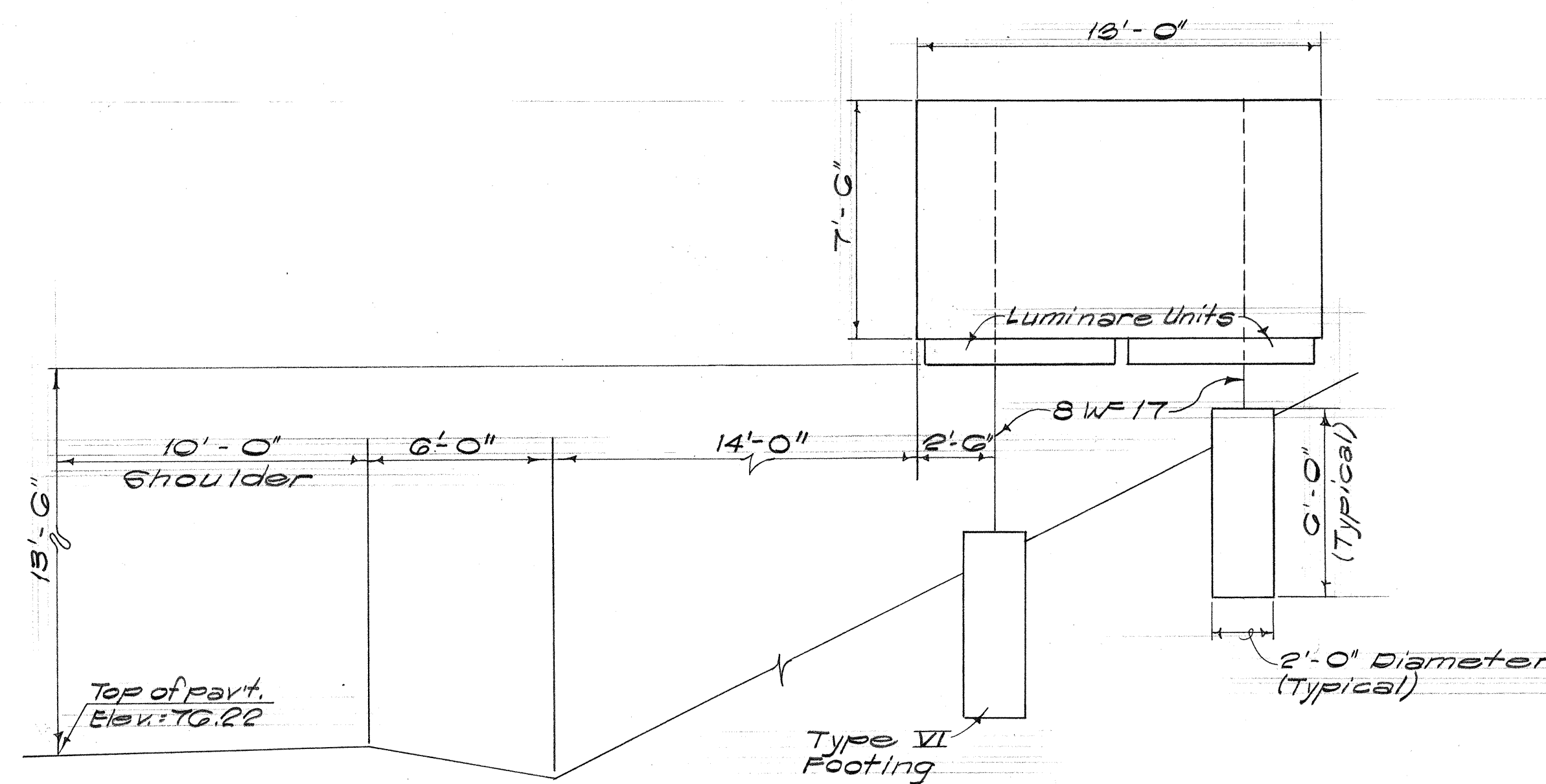
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EXPRESSWAY SIGNS
PANEL LAYOUT
INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(65):10

Scale: As Shown Date: 4-24-60
SHEET No. 5 OF 25 SHEETS

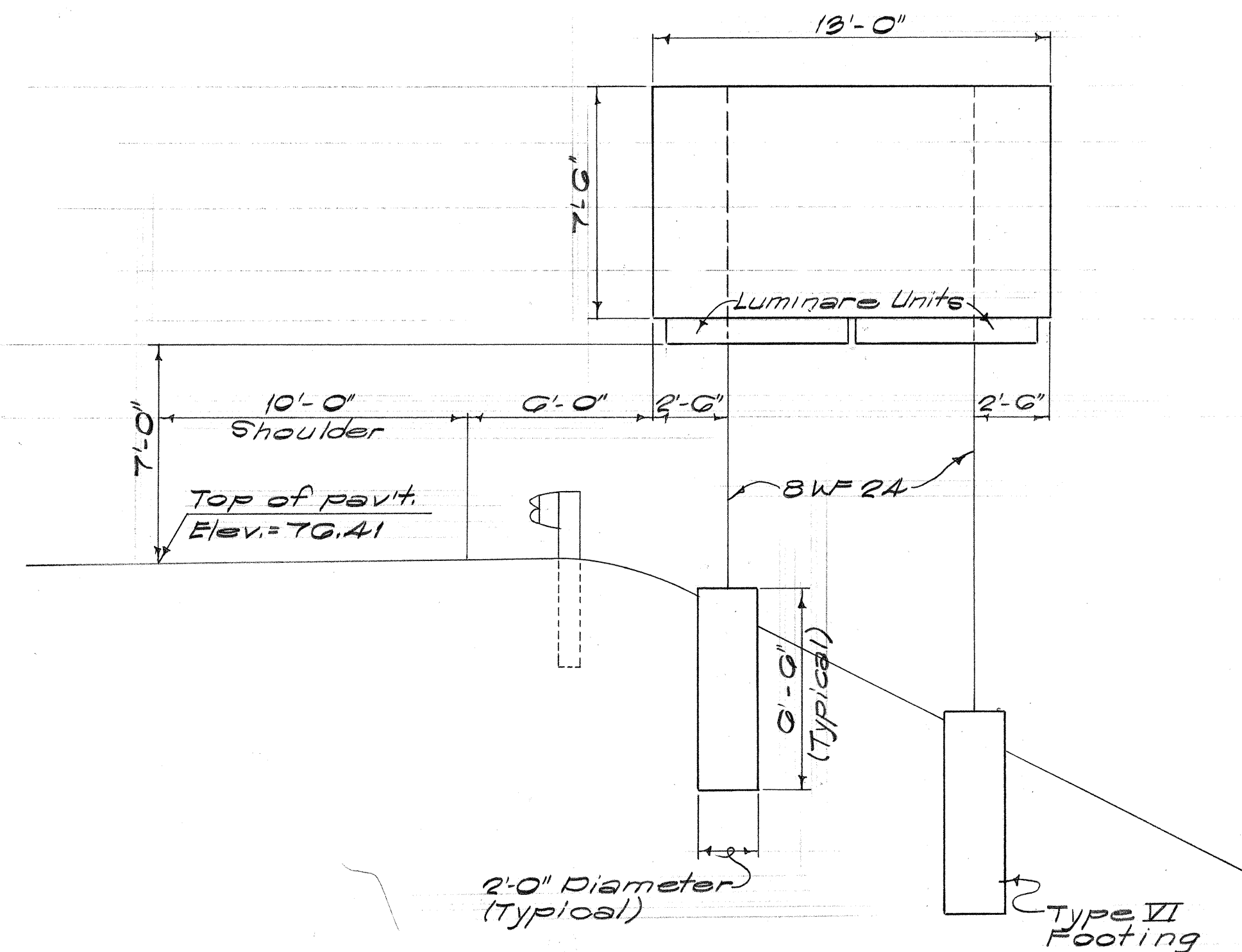
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(65):10 I-H-1(40):11	1969	33	185



SIGN "E-1"
AUSTIN - BISHOP SEPARATION
Scale: 1/4" = 1'-0"



SIGN "E-2"
RAMP "E" STA. 14+24
Scale: 1/4" = 1'-0"



SIGN "E-3"
RAMP "C" STA. 11+60
Scale: 1/4" = 1'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXPRESSWAY SIGNS
FRAME AND MOUNTING
BRACKET LAYOUT**

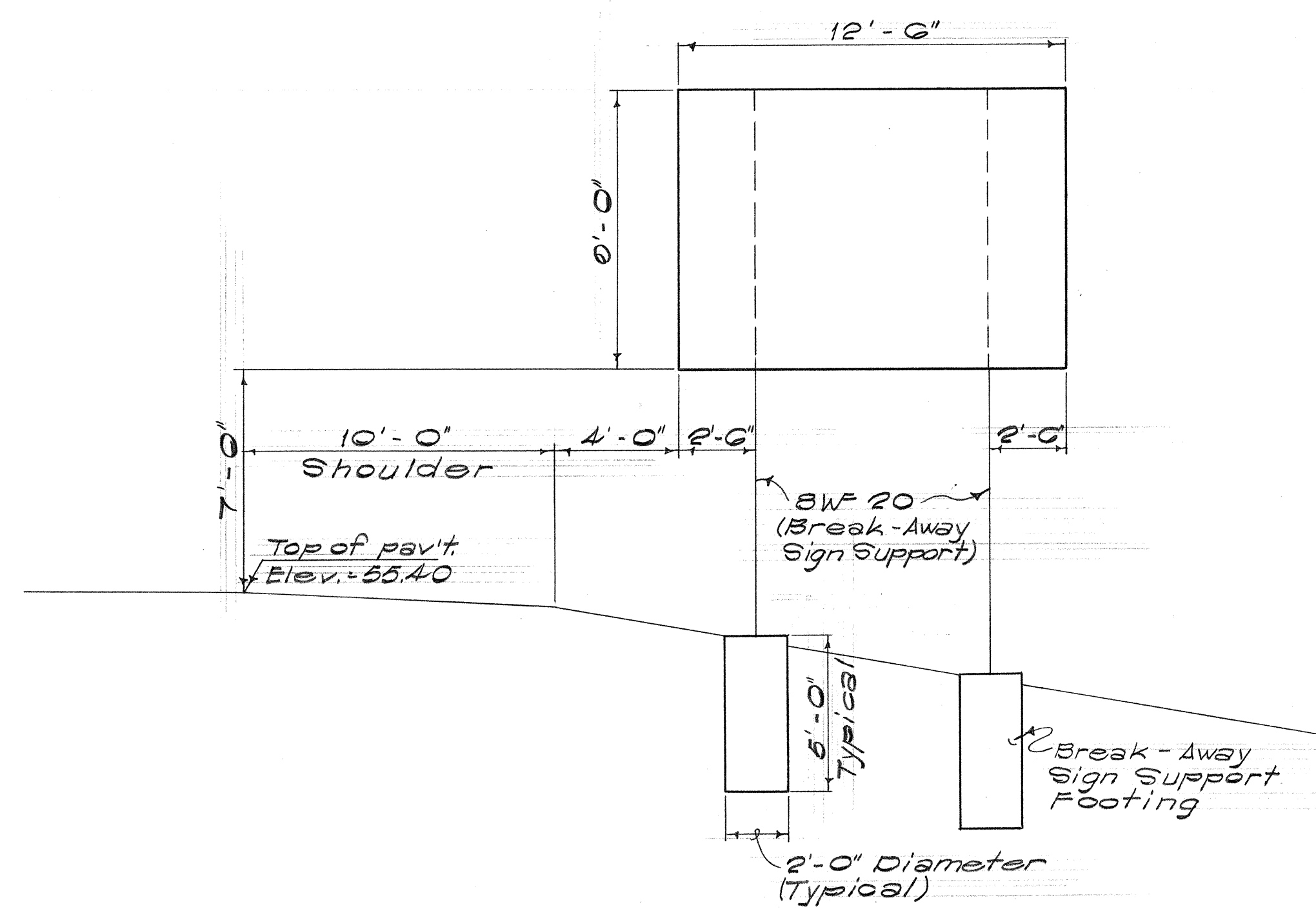
INTERSTATE ROUTE H-1
PROJ. NO. I-H-1(65):10

Scale: As Shown Date: 4-24-69

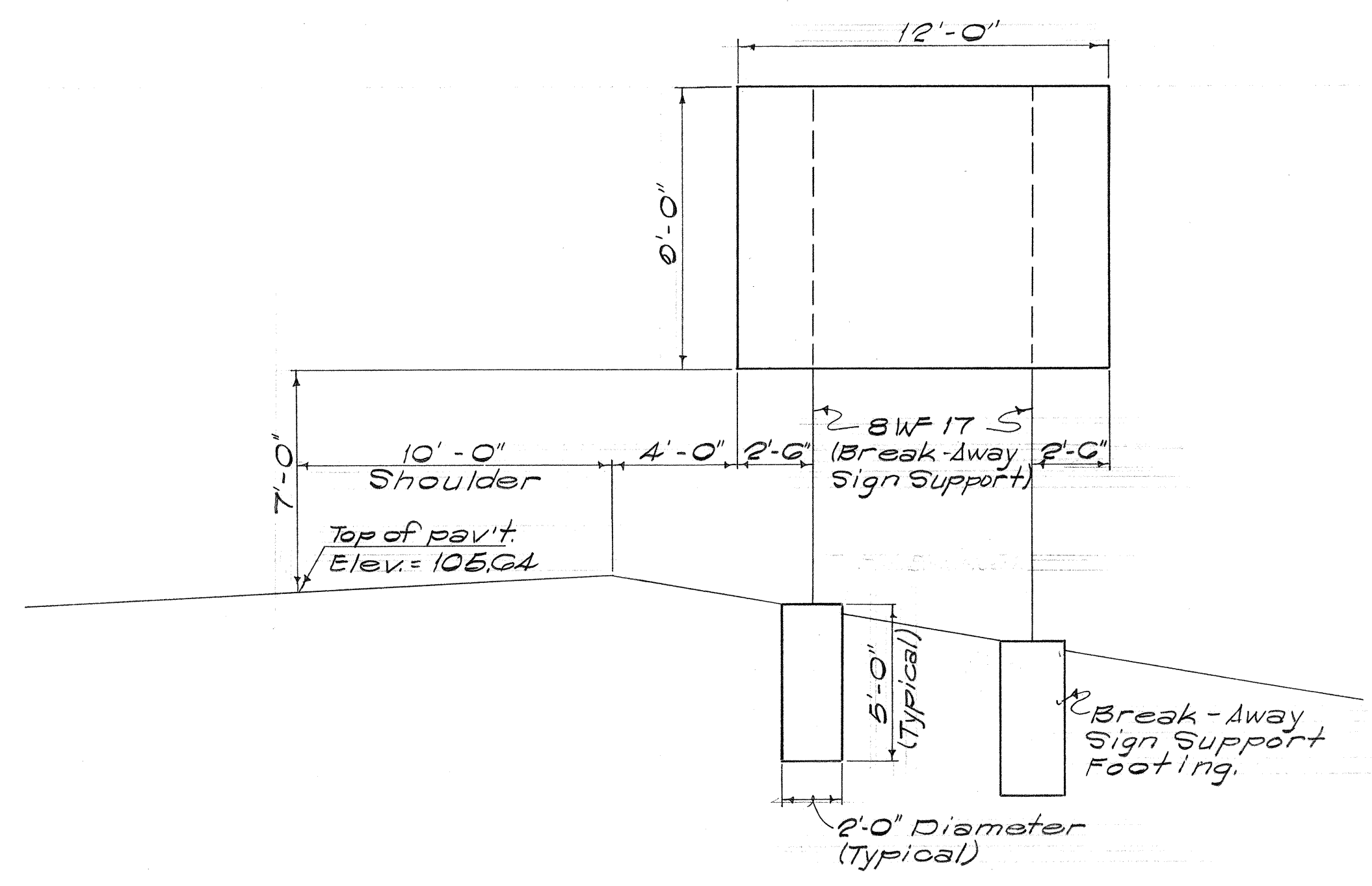
SHEET No. 6 OF 25 SHEETS

SURVEY PLANNED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
NOTE BOOK	
CHECKED BY	
No.	

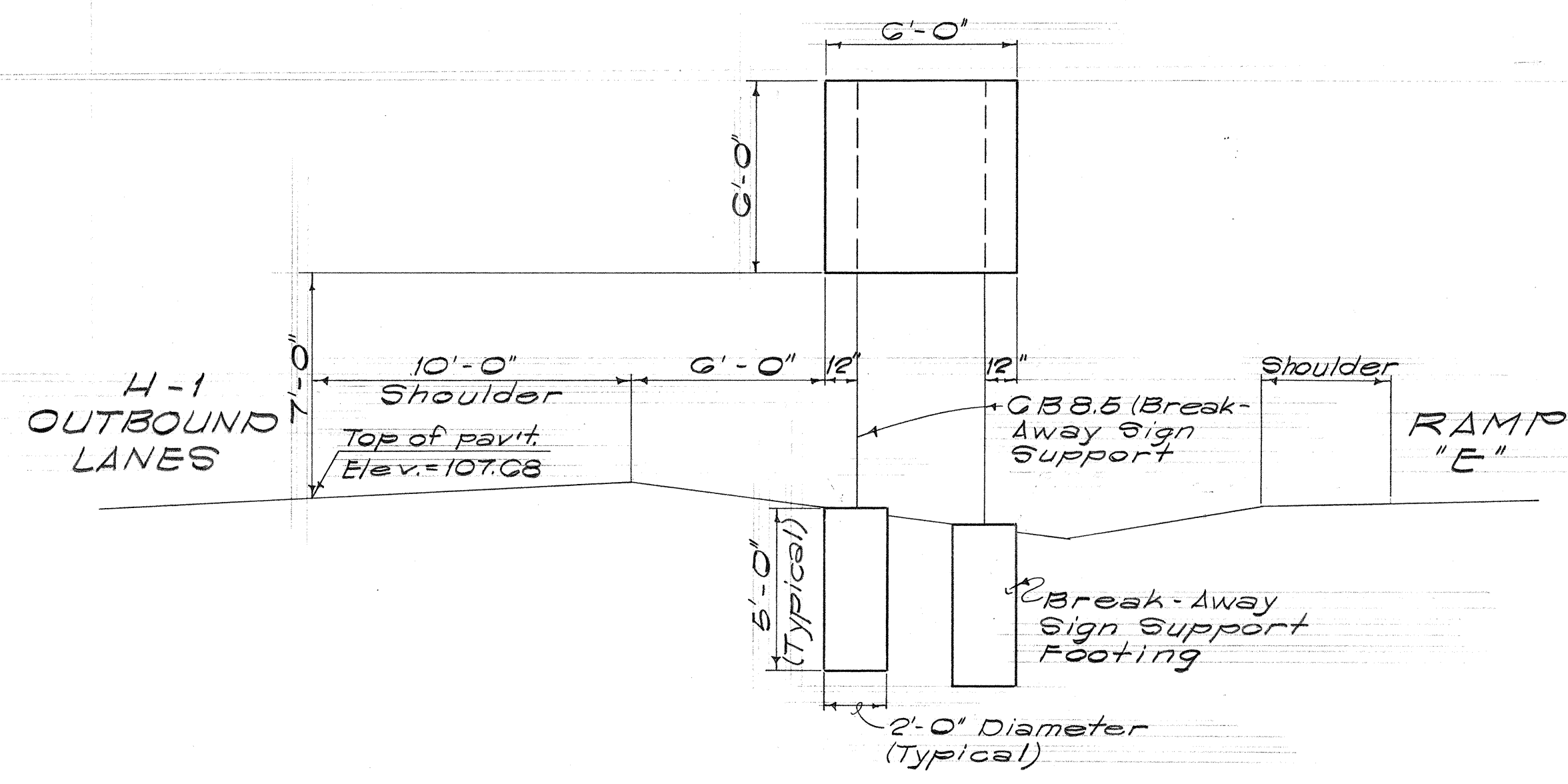
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(65):10 I-HI-1(40):11	1969	34	135



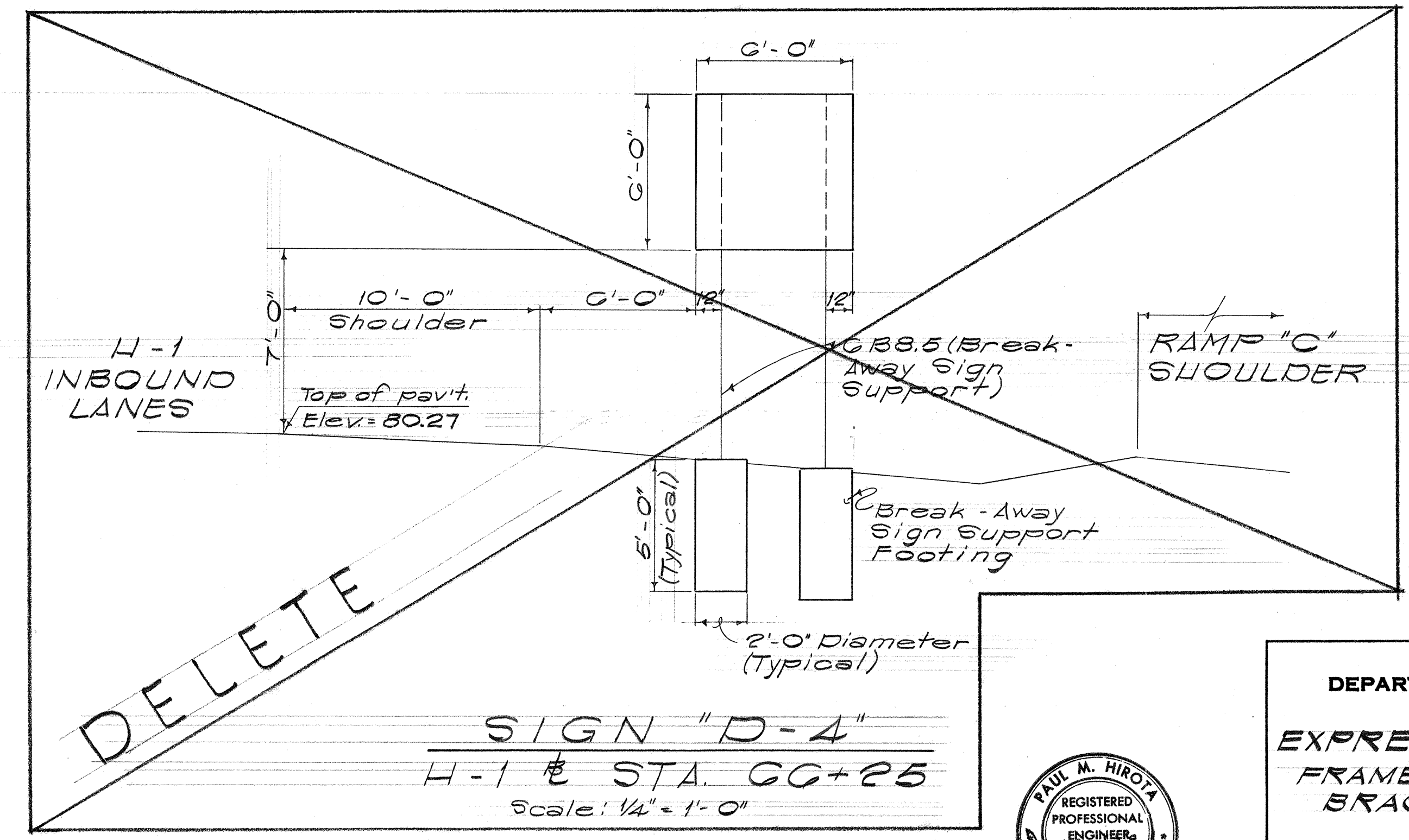
SIGN "D-1"
MOANALUA RD. STA. 56+62
Scale: 1/4" = 1'-0"



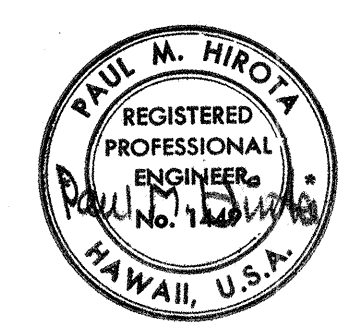
SIGN "D-2"
MOANALUA RD. STA. 34+64
Scale: 1/4" = 1'-0"



SIGN "D-3"
H-1 # STA. 85+00
Scale: 1/4" = 1'-0"



SIGN "D-4"
H-1 # STA. 66+25
Scale: 1/4" = 1'-0"



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXPRESSWAY SIGNS
FRAME AND MOUNTING
BRACKET LAYOUT**

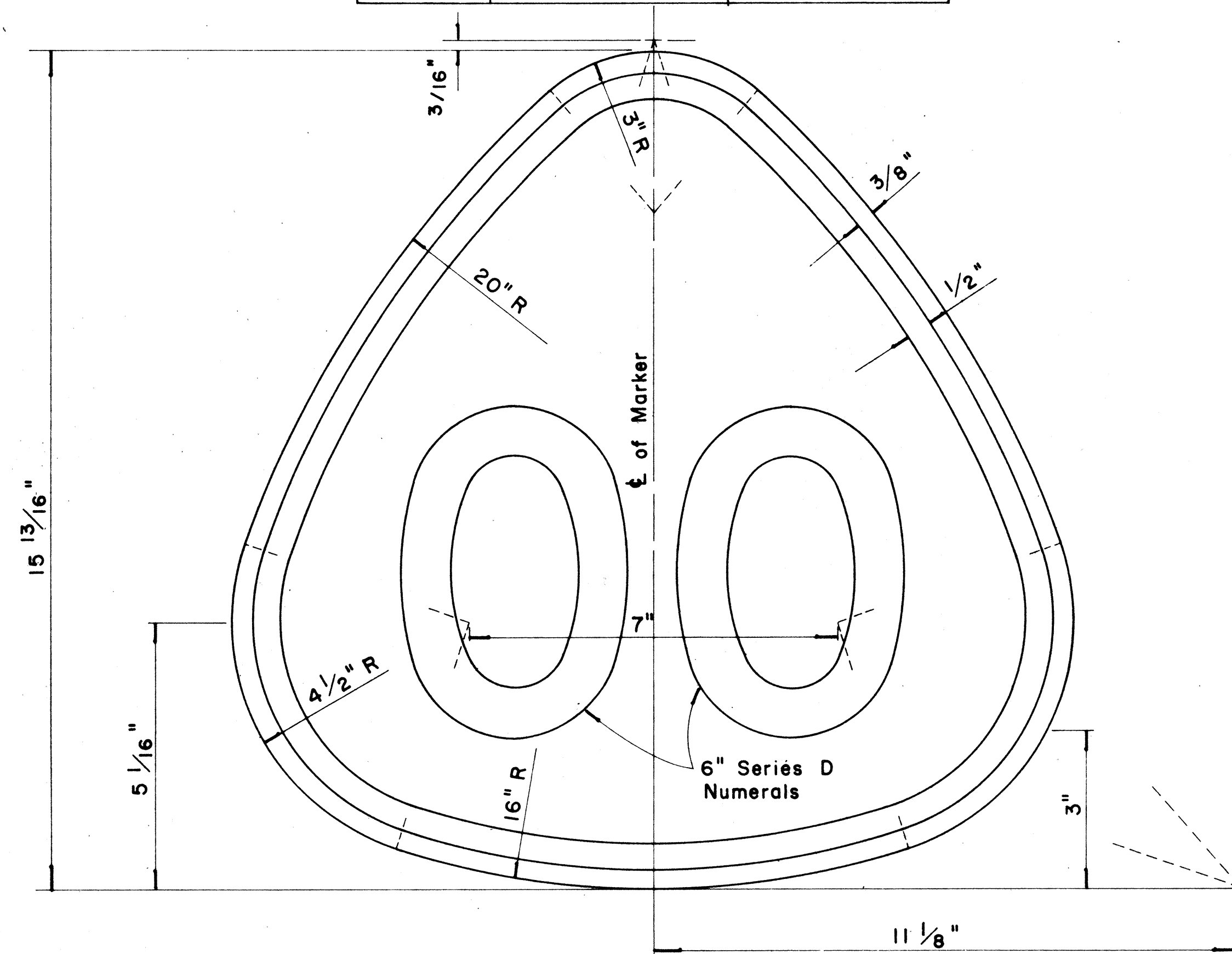
INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1 (65):10

Scale: As Shown Date: 4-24-69

SHEET No. 7 OF 25 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
REVISIONS BY	
CHECKED BY	
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



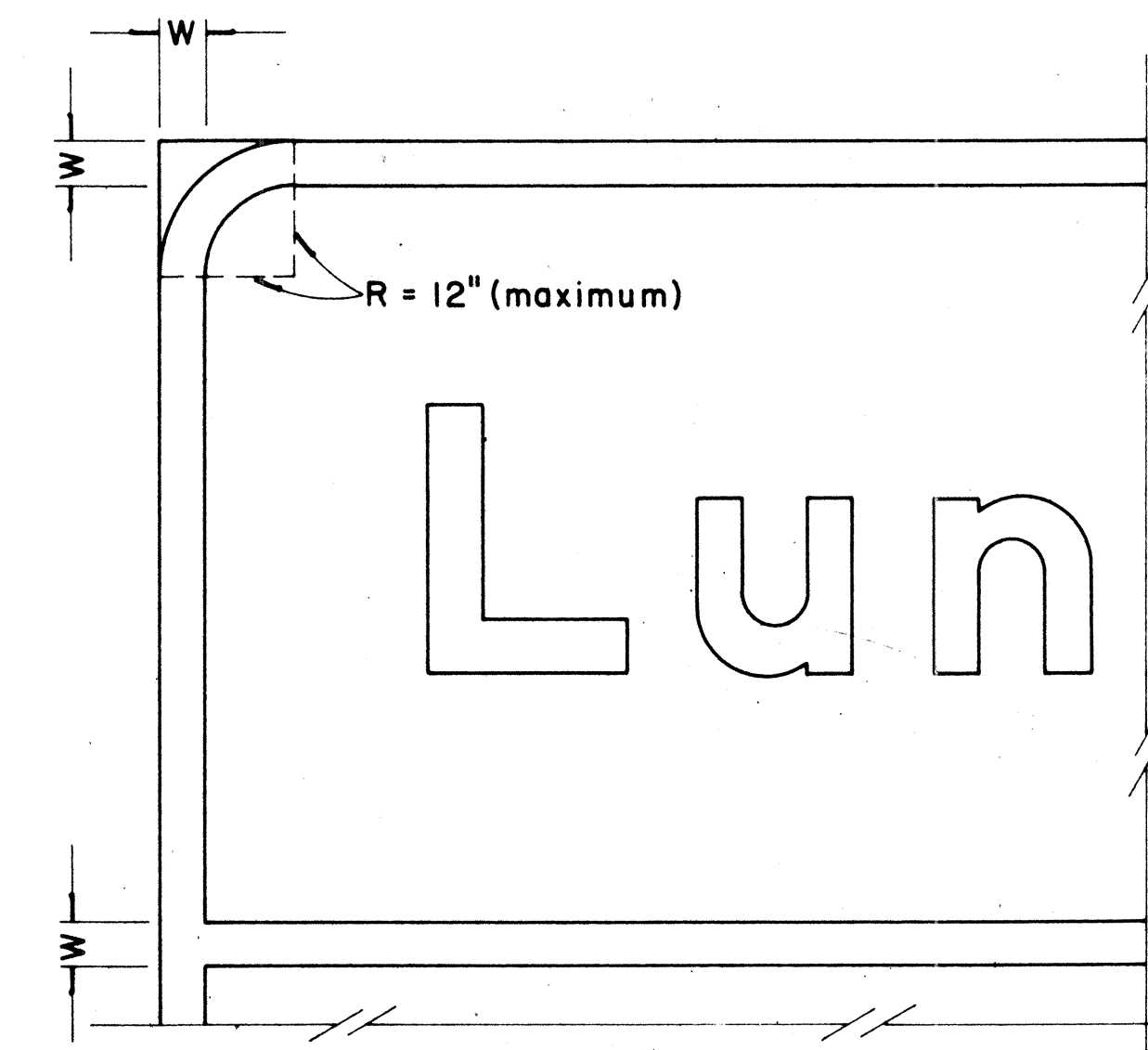
**STATE ROUTE MARKER
FOR
DESTINATION & EXPRESSWAY SIGNS**

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.

RADII 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

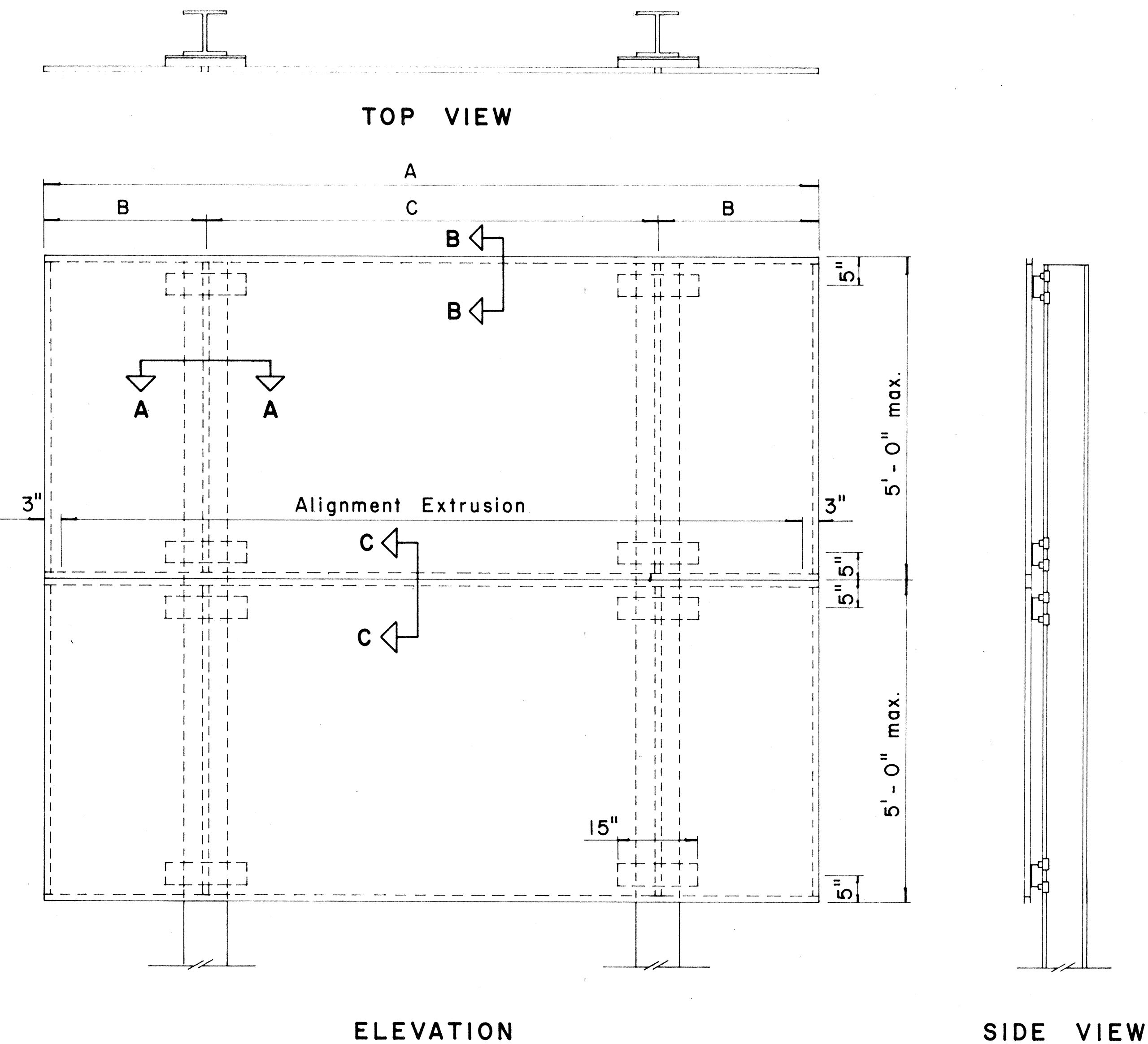
Scale: As Shown

SHEET No. 8 OF 25 SHEETS DT 200

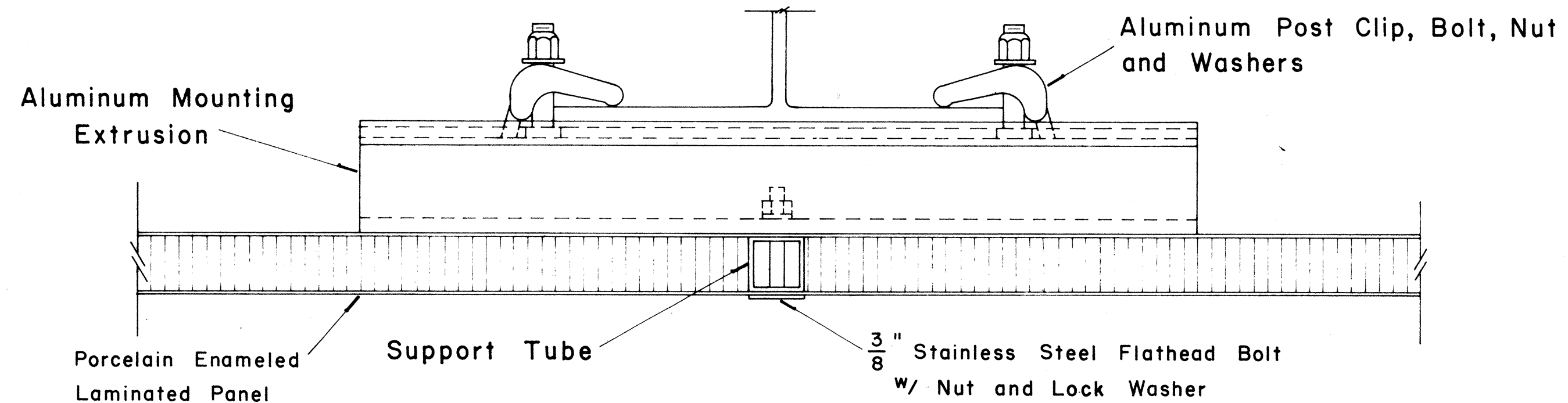
35

(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

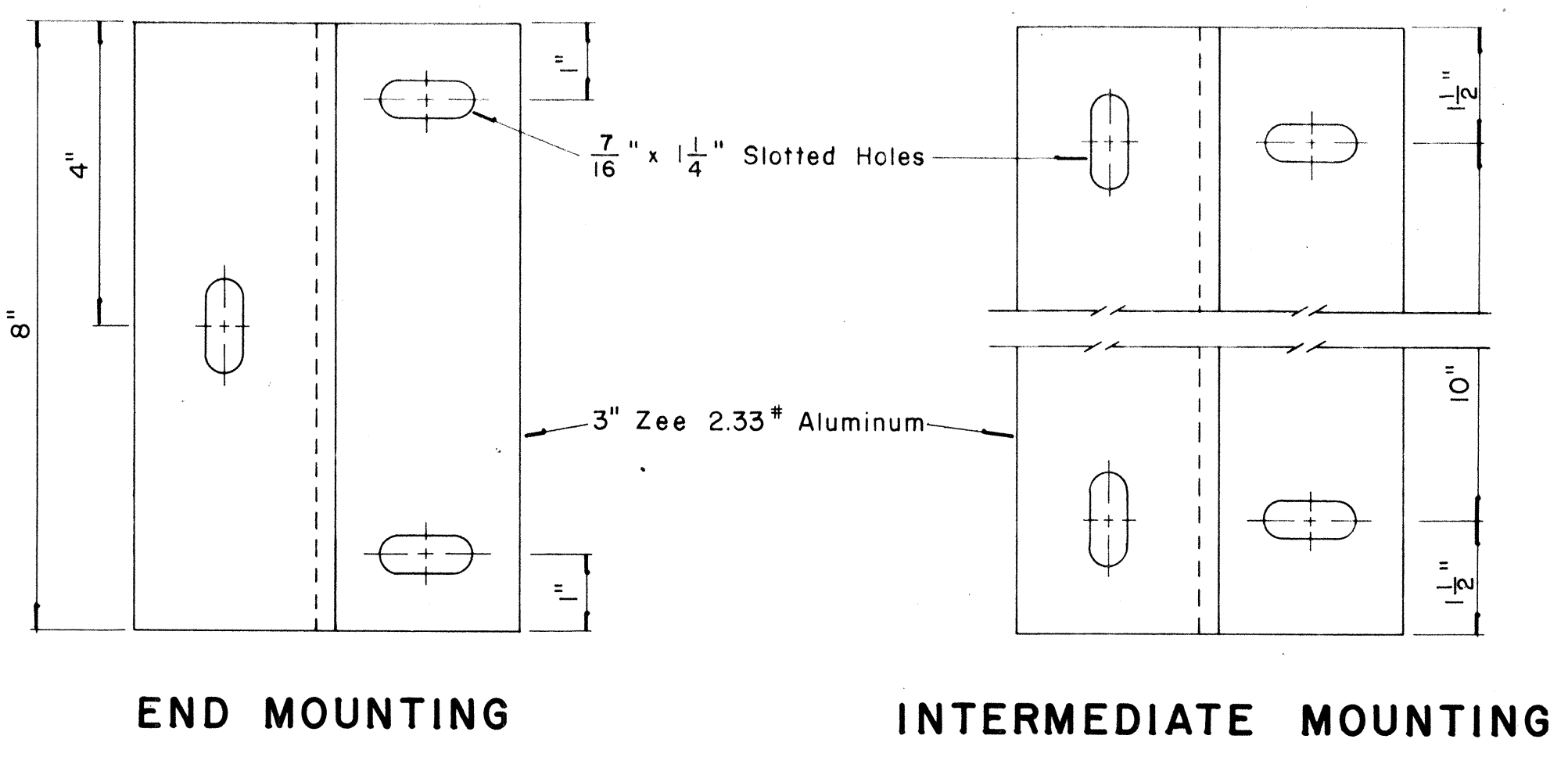
PANEL THICK.	LENGTH OF SIGN	NO. OF SUPPORTS	OVERHANG	SUPPORT SPACING
A	B	C		
1"	6' - 0"	2	12"	48"
1"	6' - 6"	2	15"	48"
1"	7' - 0"	2	15"	54"
1"	7' - 6"	2	18"	54"
1"	8' - 0"	2	18"	60"
1"	8' - 6"	2	20"	62"
1"	9' - 0"	2	22"	64"
1"	9' - 6"	2	23"	68"
1"	10' - 0"	2	24"	72"
1"	10' - 6"	2	24"	78"
1"	11' - 0"	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"



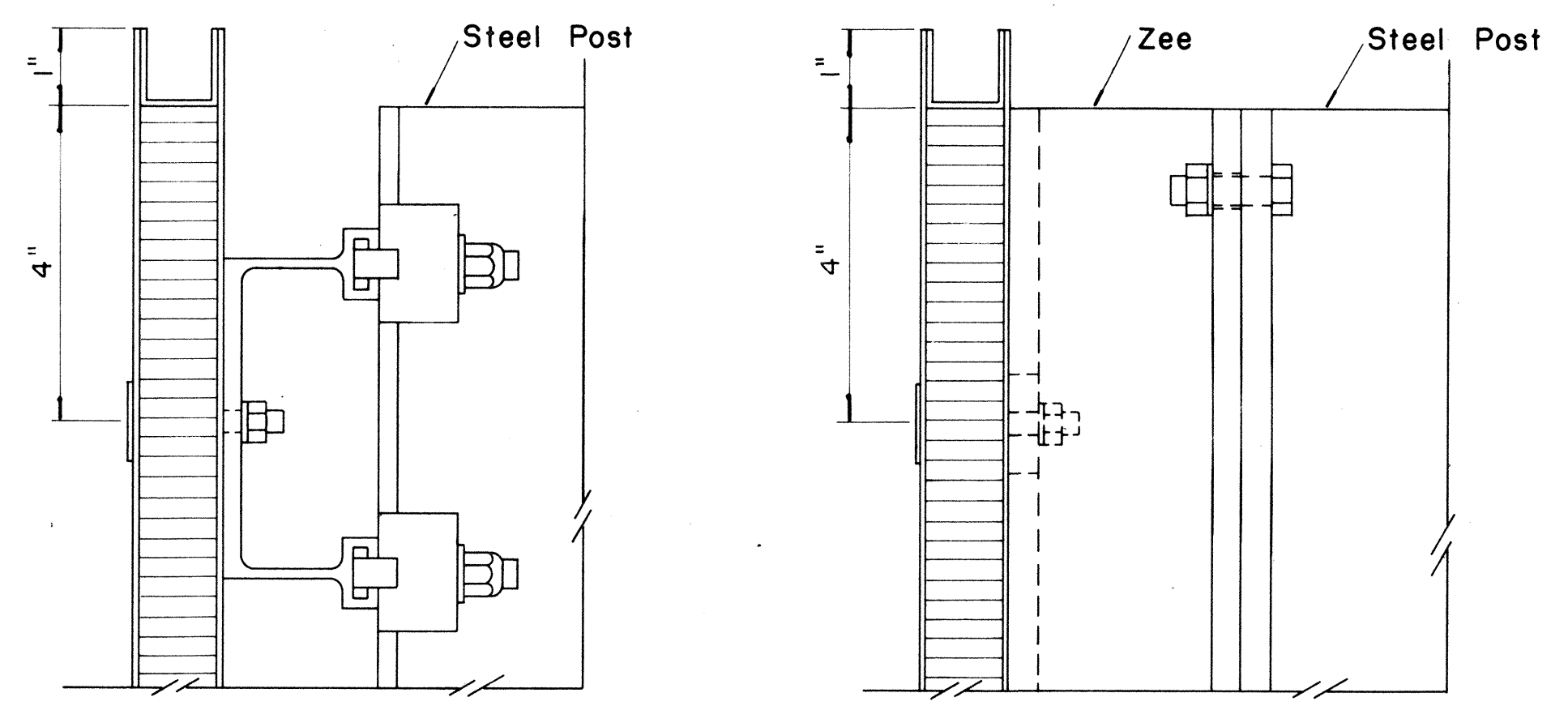
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1' - 0"



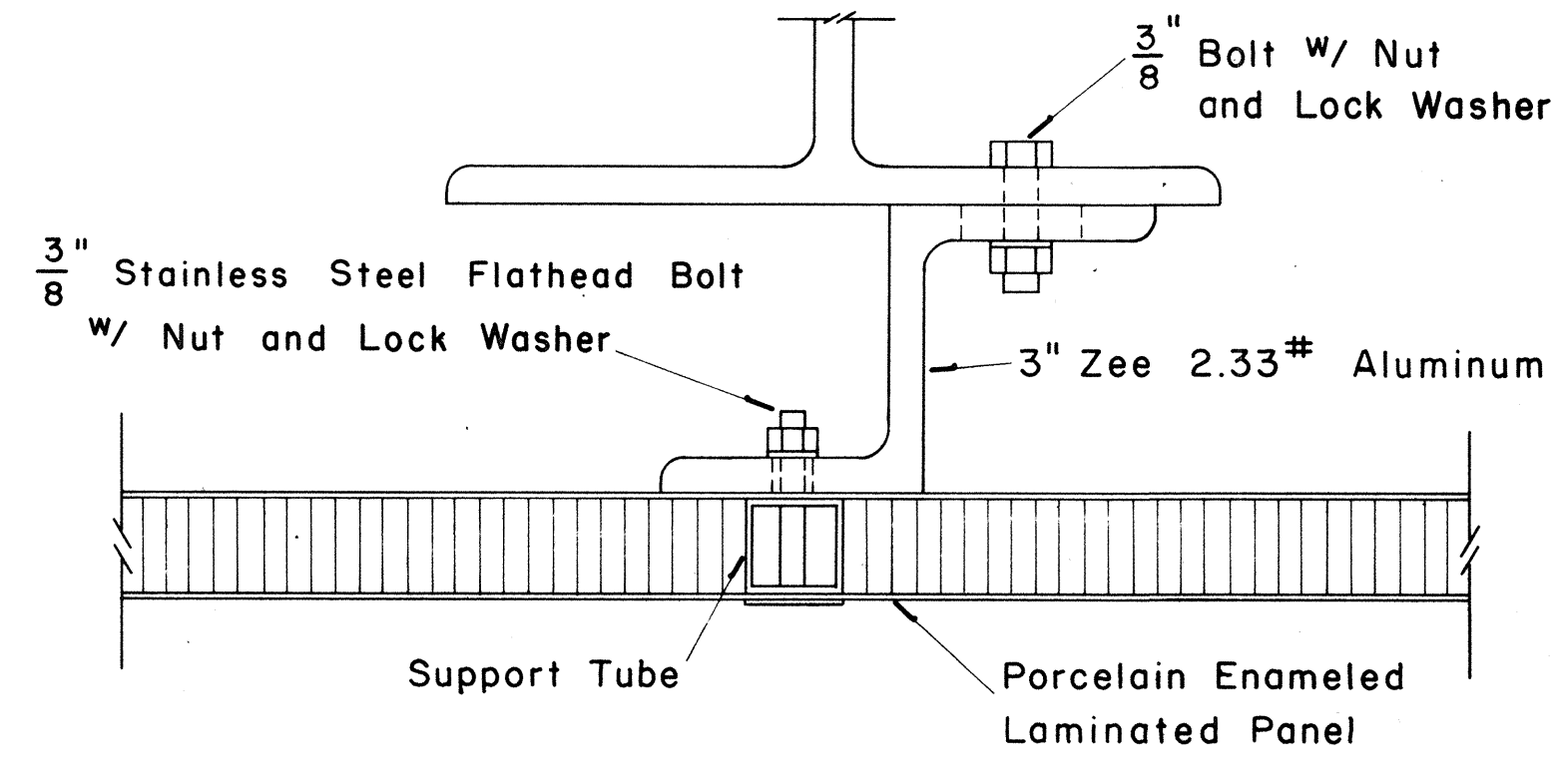
SECTION "A - A"
Scale: $\frac{1}{2}$ " = 1"



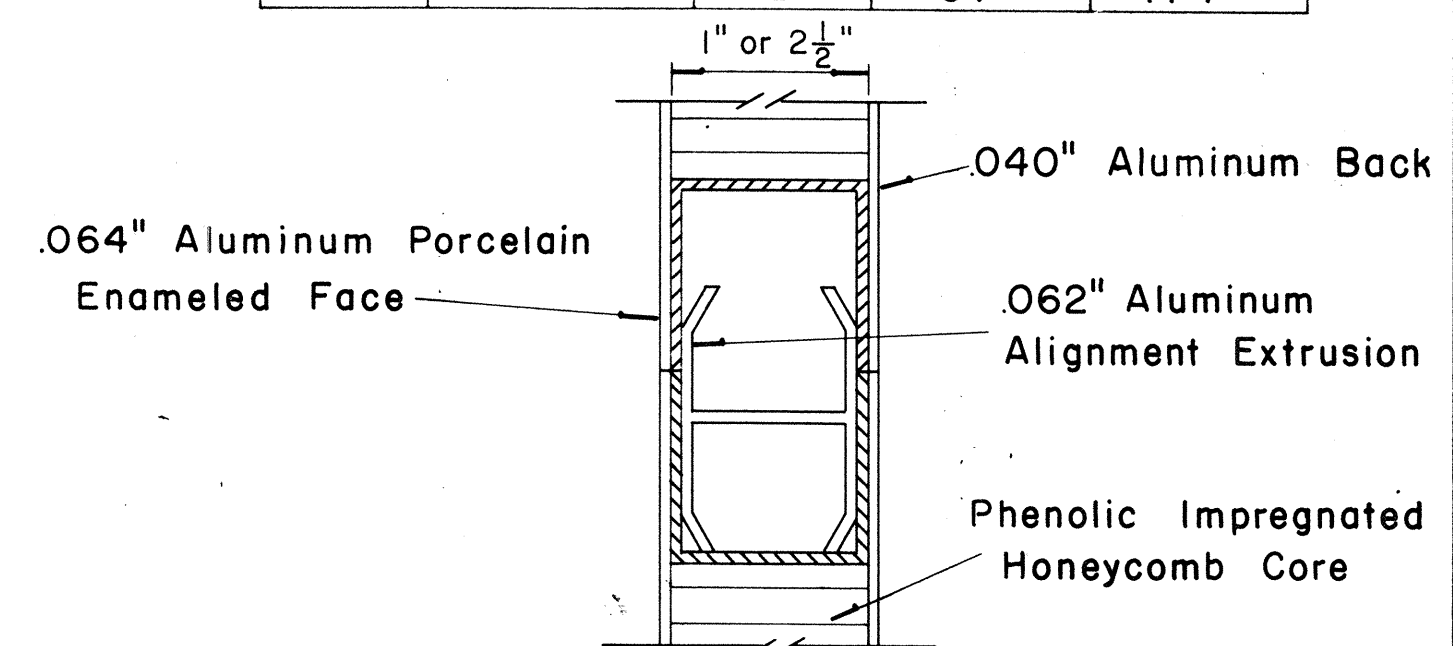
ZEE MOUNTING DETAILS
Scale: $\frac{1}{2}$ " = 1"



SECTION "B - B"
Scale: $\frac{1}{2}$ " = 1"
SECTION "B - B" (Alternate)
Scale: $\frac{1}{2}$ " = 1"



SECTION "A - A" (Alternate)
Scale: $\frac{1}{2}$ " = 1"



CLOSURE DETAIL
SECTION "C - C"
FULL SCALE

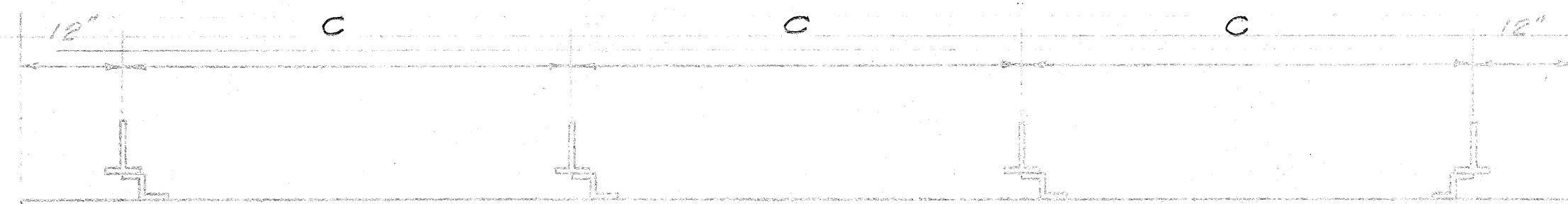
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)
Scale: As Shown

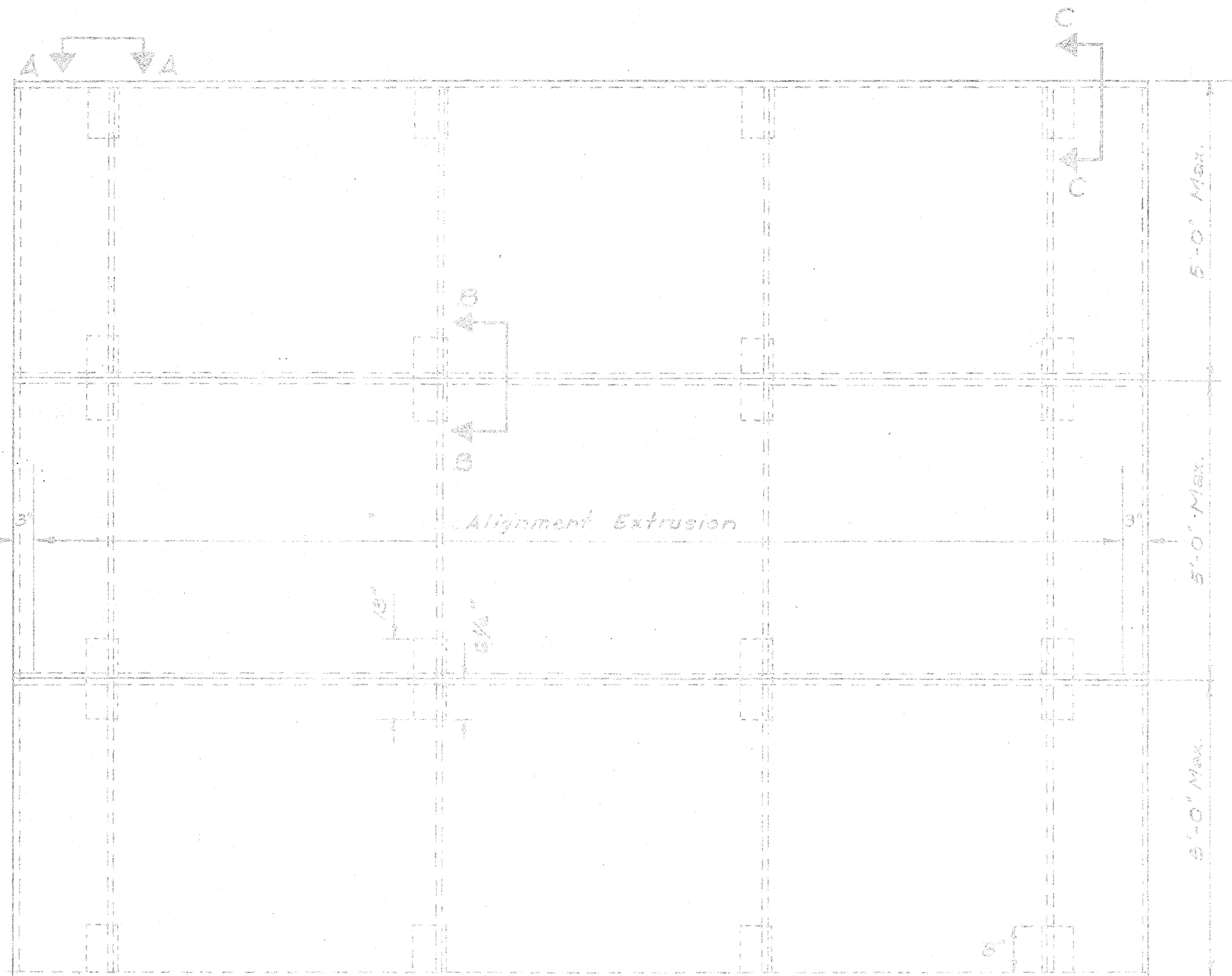
SHEET No. 3 OF 25 SHEETS DT 206

SURVEY PLOTTED BY: _____ DATE: _____
DRAWN BY: _____
DESIGNED BY: _____
CHECKED BY: _____
NOTE BOOK: _____
No. _____

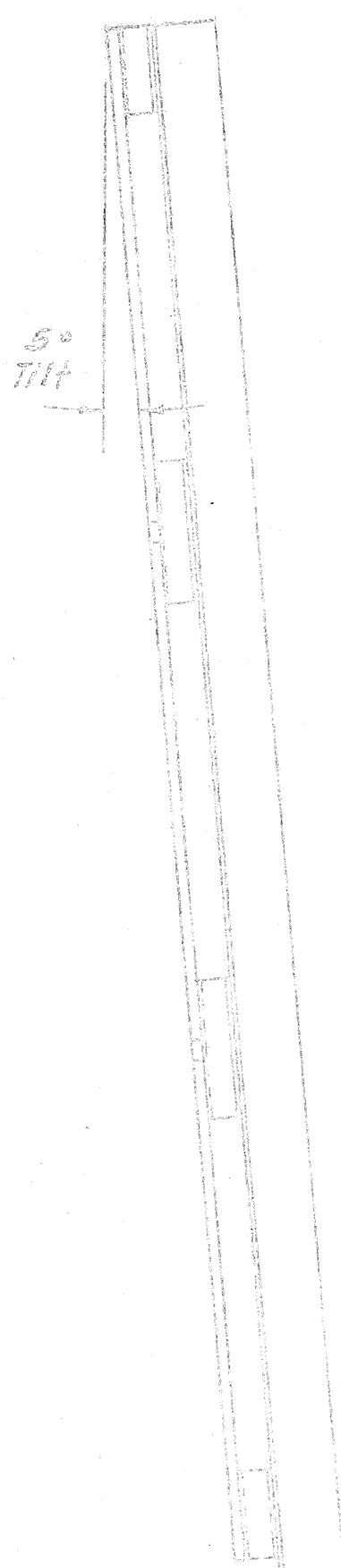
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TH-116-510 IHI-1140-11	1960	37	136



PLAN
For Support spacing "C"
See Sheet 36

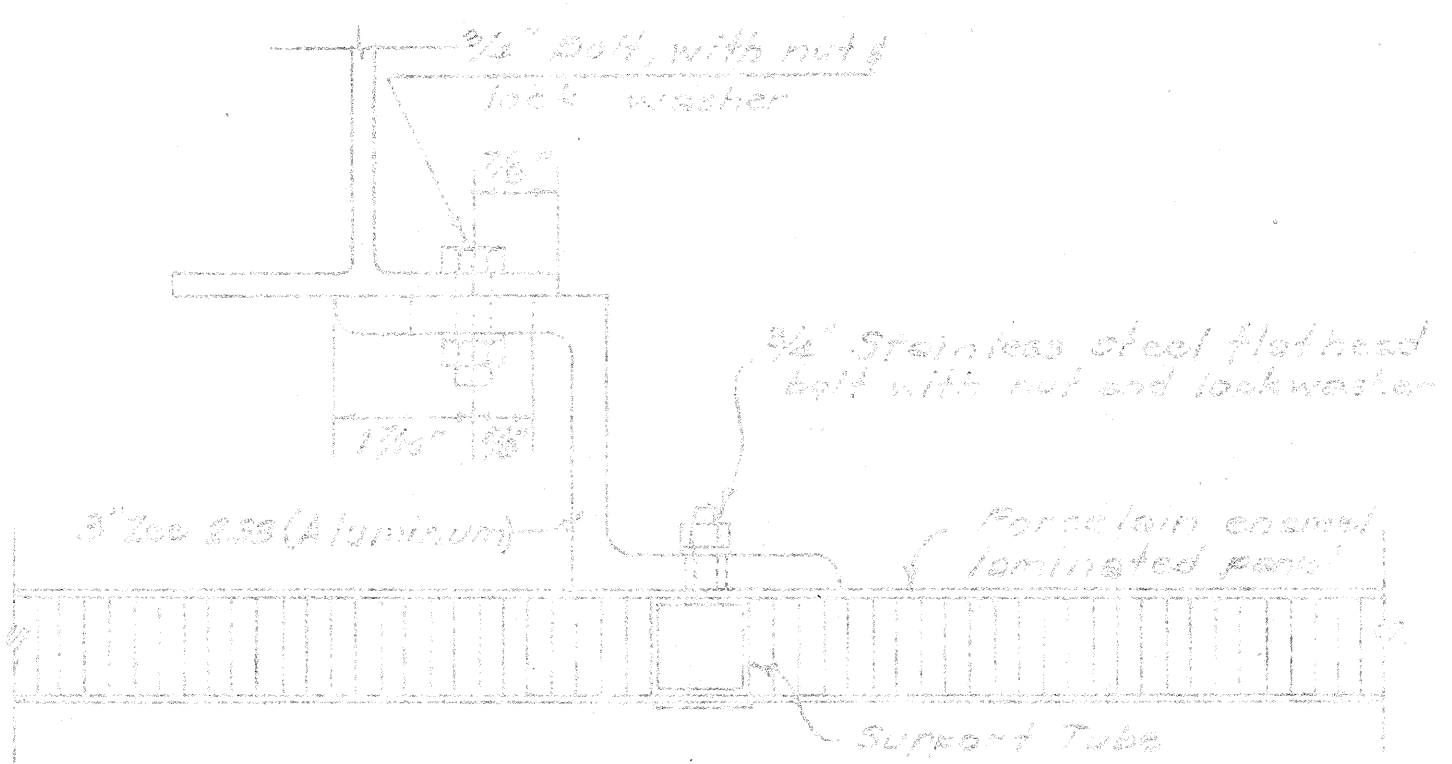


FRONT ELEVATION



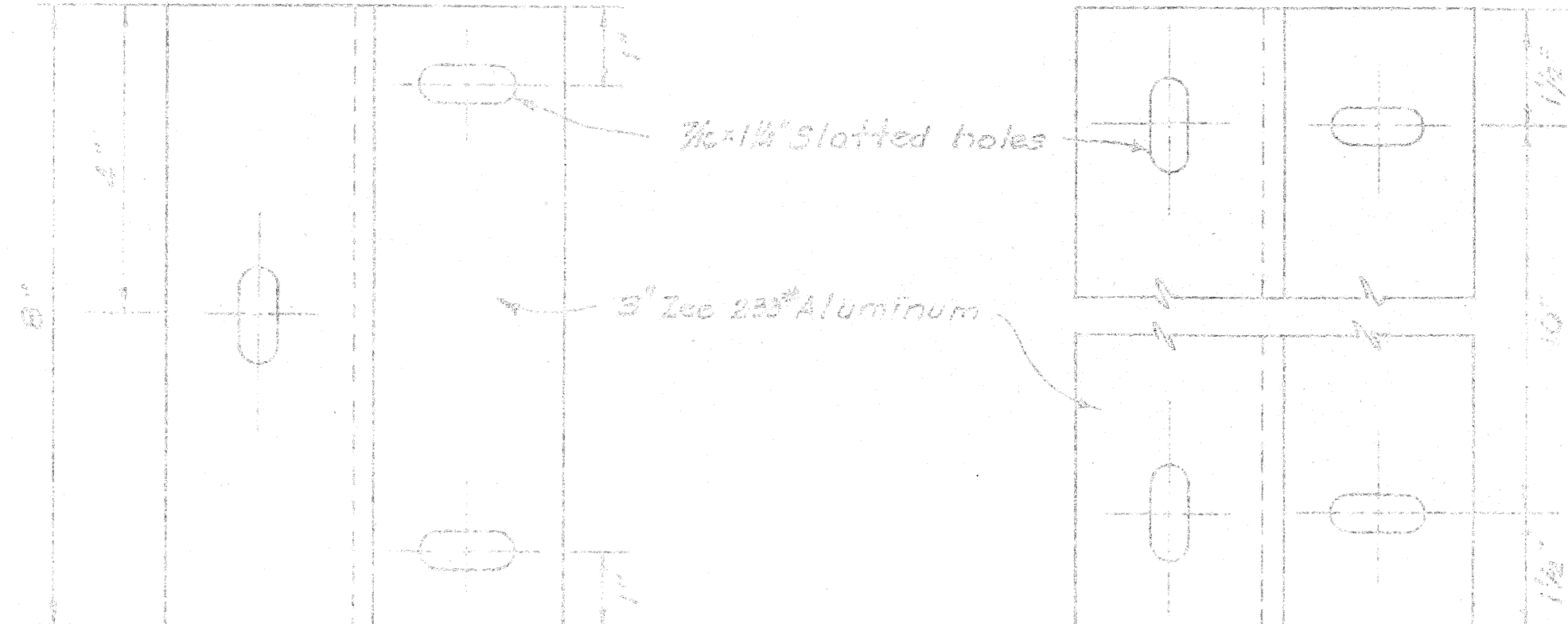
SIDE ELEVATION

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

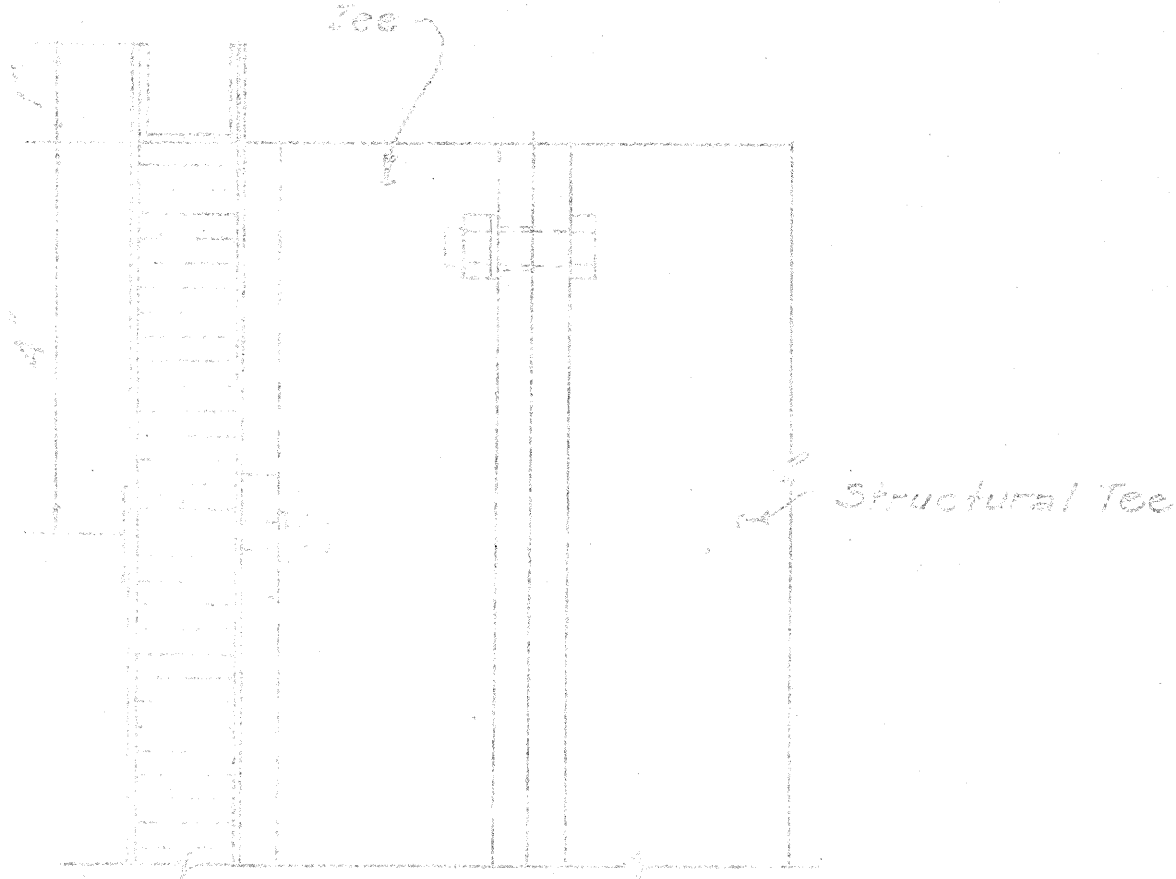


SECTION "A-A"
Scale: 3/4" = 1"

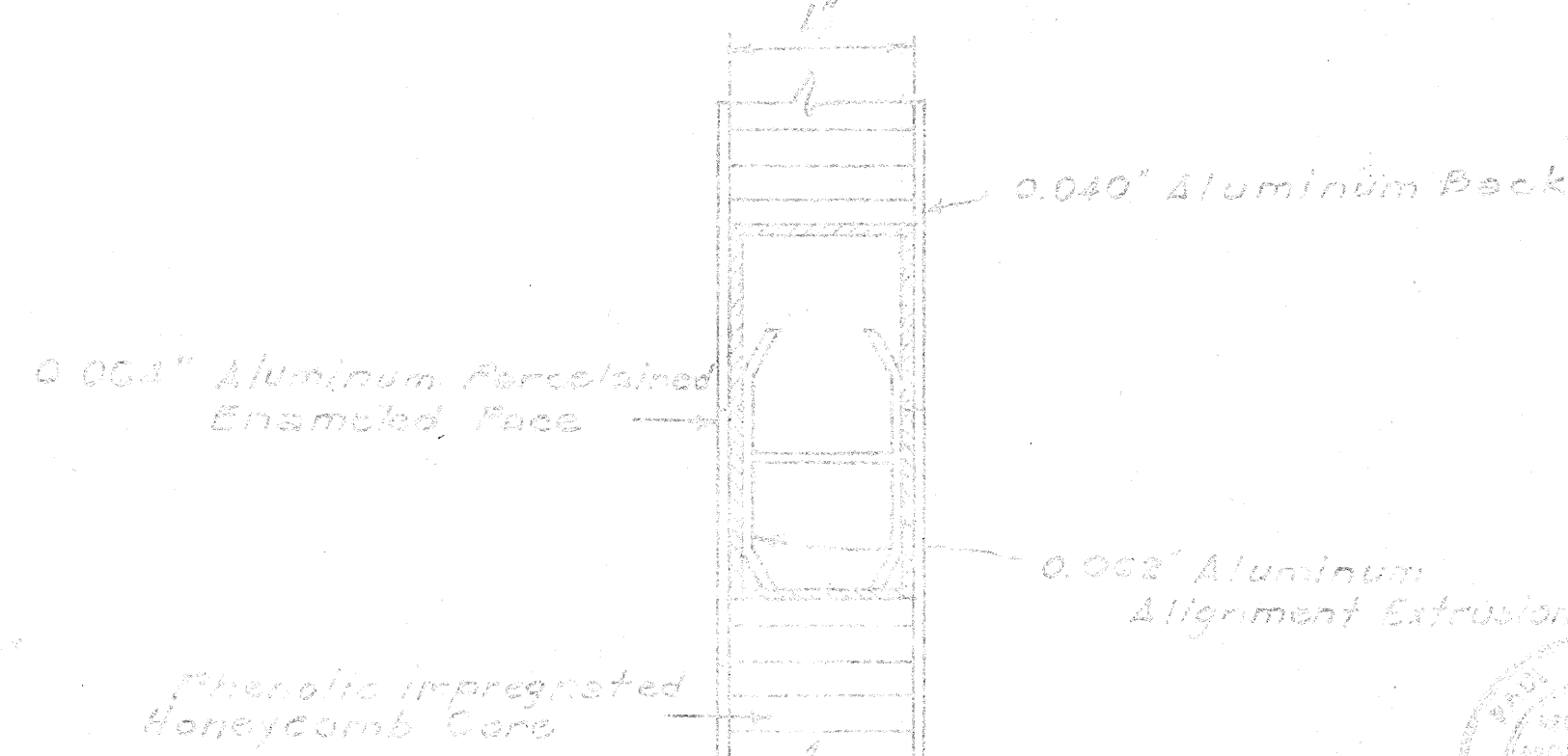
Note: For Tee panel support on right side of sign panel, reverse the support as shown in plan view of Typical Sign Assembly.



END MOUNTING INTERMEDIATE MOUNTING
ZEE MOUNTING DETAILS
Scale: 1/2" = 1"



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



CLOSURE DETAIL
SECTION "B-B"
Full Scale

Paul M. Bista

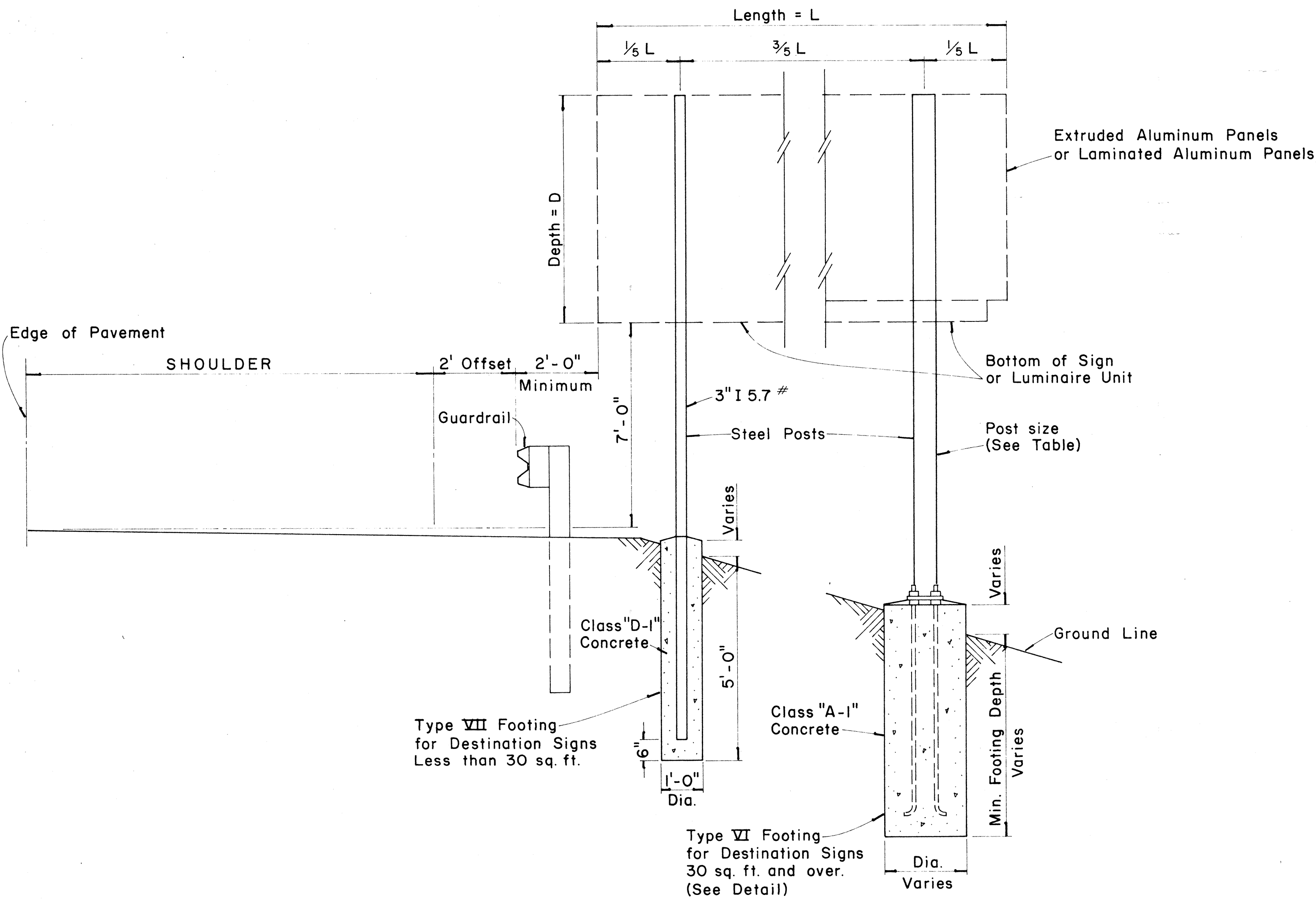
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(STRUCTURE MOUNTED)
INTERSTATE ROUTE H-1
PROJ. NO. IHI-1140-11
Scale: As Shown Date: 4-24-60
SHEET No. 10 OF 25 SHEETS

37

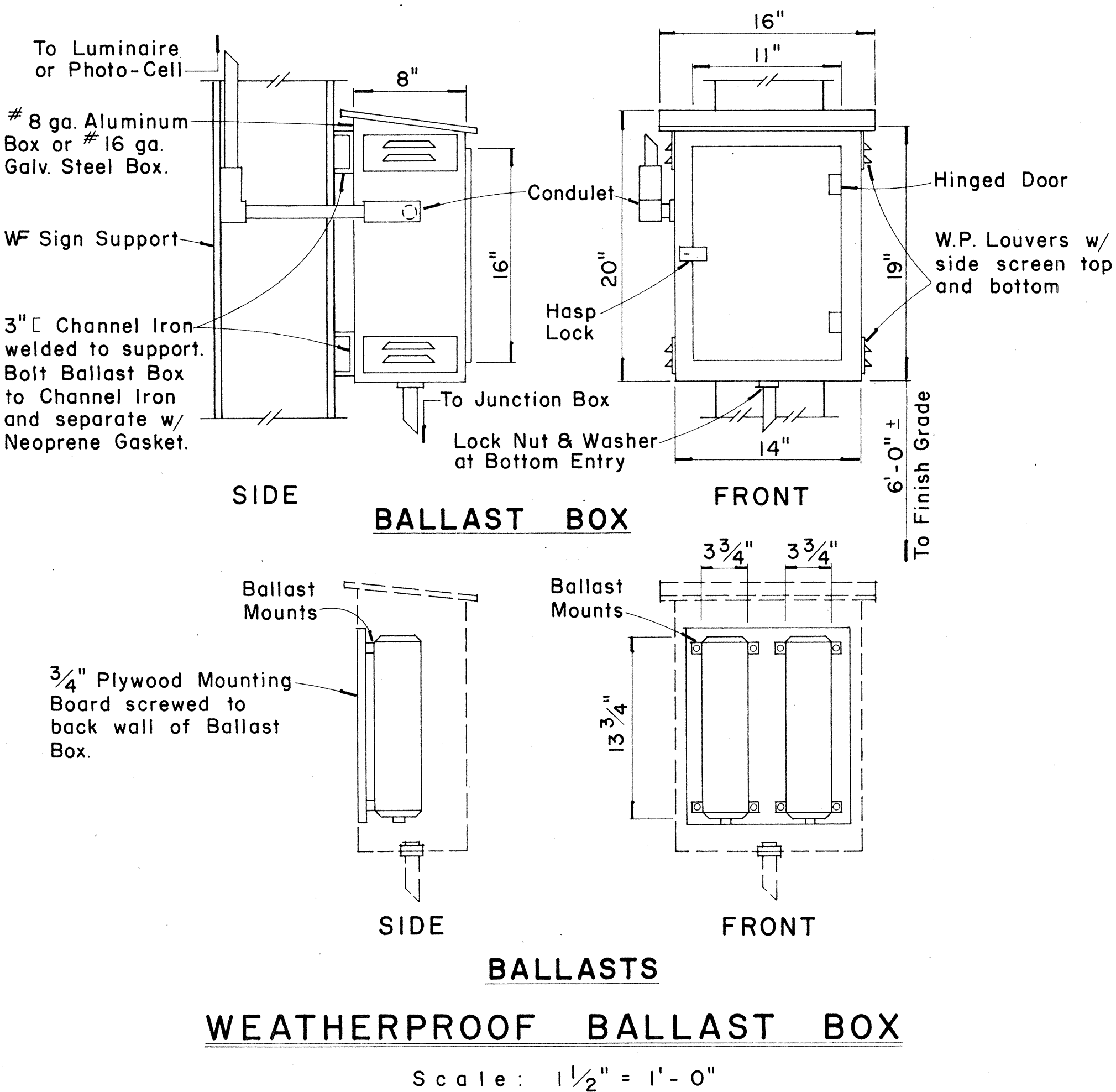
* For moment calculations only. Post shall be from top of foundation to top of sign.
** For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4½ feet.

DATA TABLE FOR TYPE VI FOOTING																	
POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT TOP OF FOUNDATION TO CENTER OF SIGN *	D I M E N S I O N S											ANCHOR BOLT DIA.	MINIMUM FOOTING DEPTH		
			H	J	K	M	N	O	P	S	T	U	V		W	CUT	FILL**
8 J 10	50 sq. ft.	14'	14"	5"	24"	17¼"	1⅝"	6"	1¼"	9"	6"	10"	2"	1"	1⅛"Ø	4½'	4½'
8 WF 24	90 sq. ft.	21'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	5'
8 WF 35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1⅜"	11¾"	6½"	10"	1¾"	1"	1¼"Ø	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'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
8 WF 17	100 sq. ft.	13'	14"	5"	24"	17¼"	1⅝"	6"	1¼"	9"	6"	10"	2"	1"	1⅛"Ø	4½'	5'



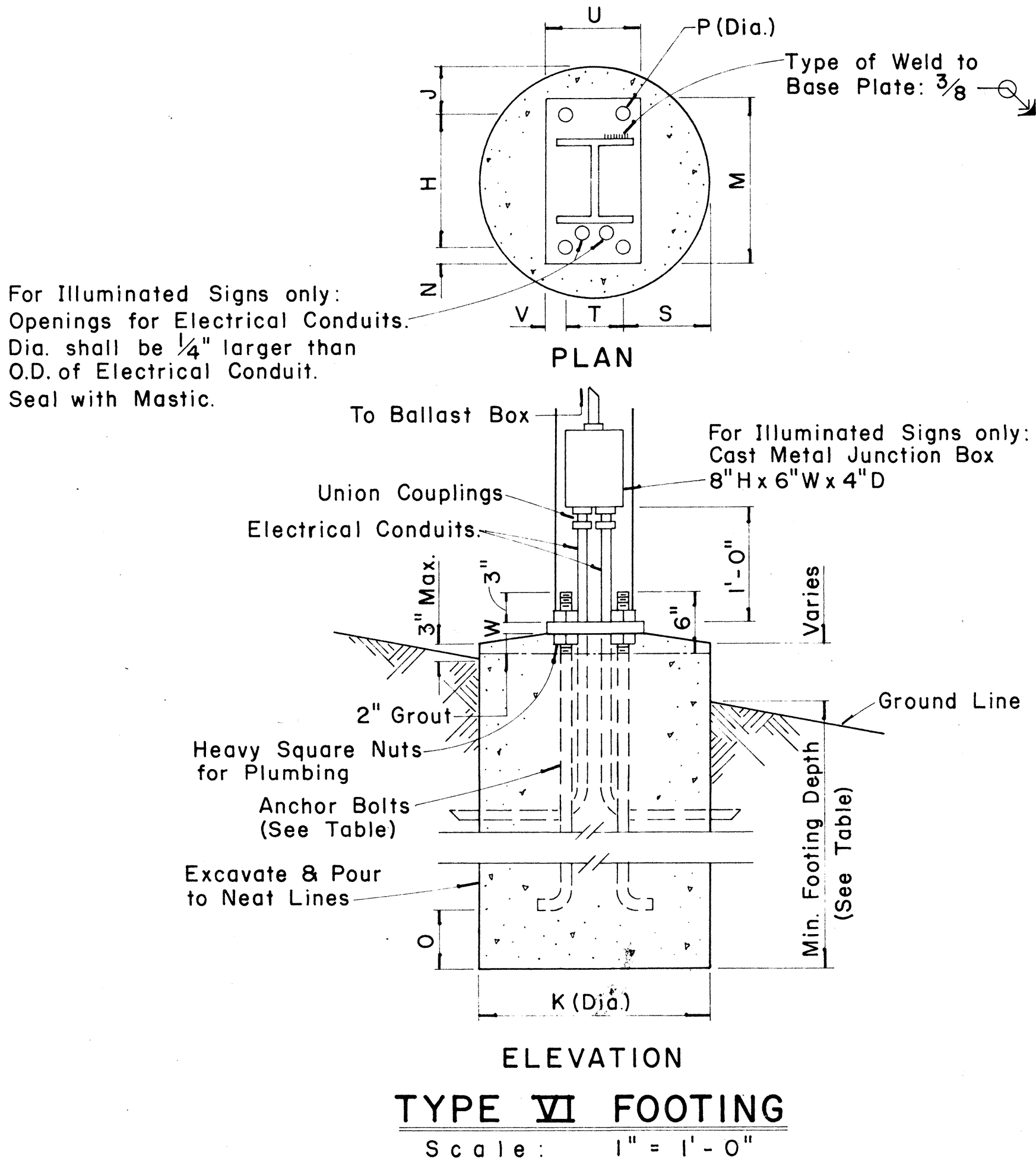
TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale



WEATHERPROOF BALLAST BOX

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



ELEVATION
TYPE VI FOOTING

Scale: 1" = 1'-0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(65)10 I-H-1(40)11	1969	38	185

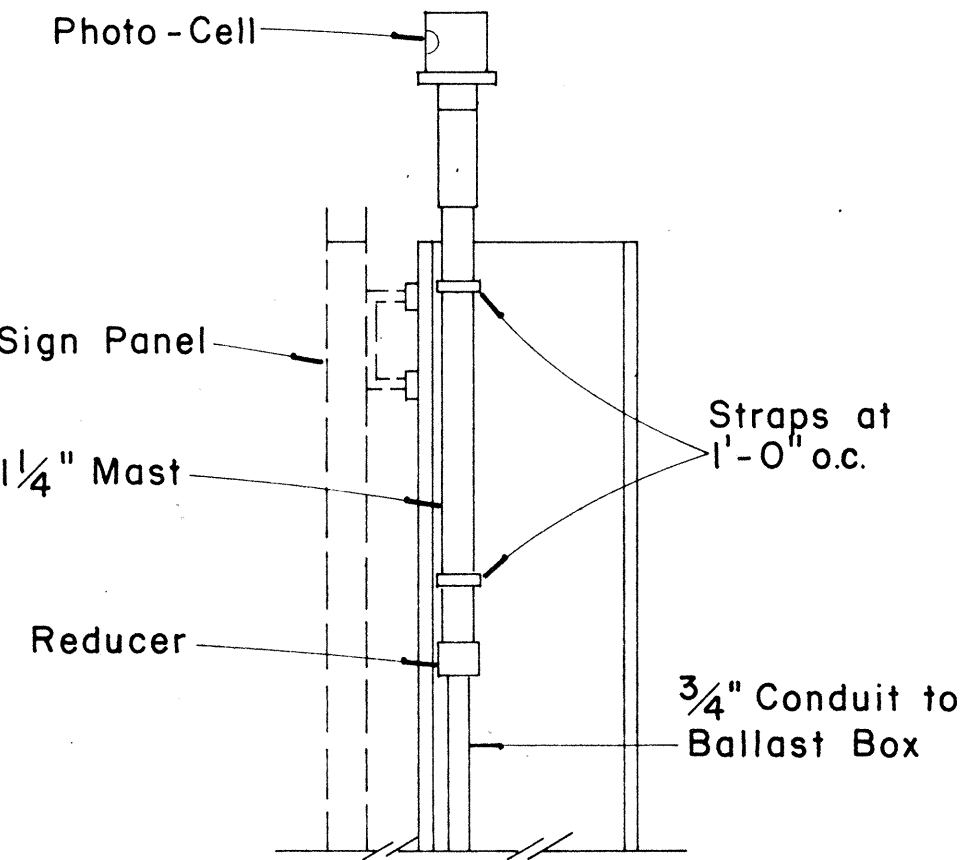


PHOTO-CELL DETAIL

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
DESTINATION & GROUND MOUNTED
EXPRESSWAY SIGNS

Scale: As Shown

SHEET No. 11 OF 25 SHEETS DT 200

H.S. bolts (Bearing Type) with hex. hd. nut and one flat washer under each bolt head and bevel or flat washer (where required) under nut.

Fuse Plate (Install with notches toward base)

Flange holes for hinge shall be drilled or sub-punched and reamed.

Beveled washers for all I-shaped posts. Flat washers for others.

Cut flange and web

Fillet depth $\pm \frac{1}{16}$ "
No Cut

Stub, post length
(See Table)

Ground Line

3'

2'

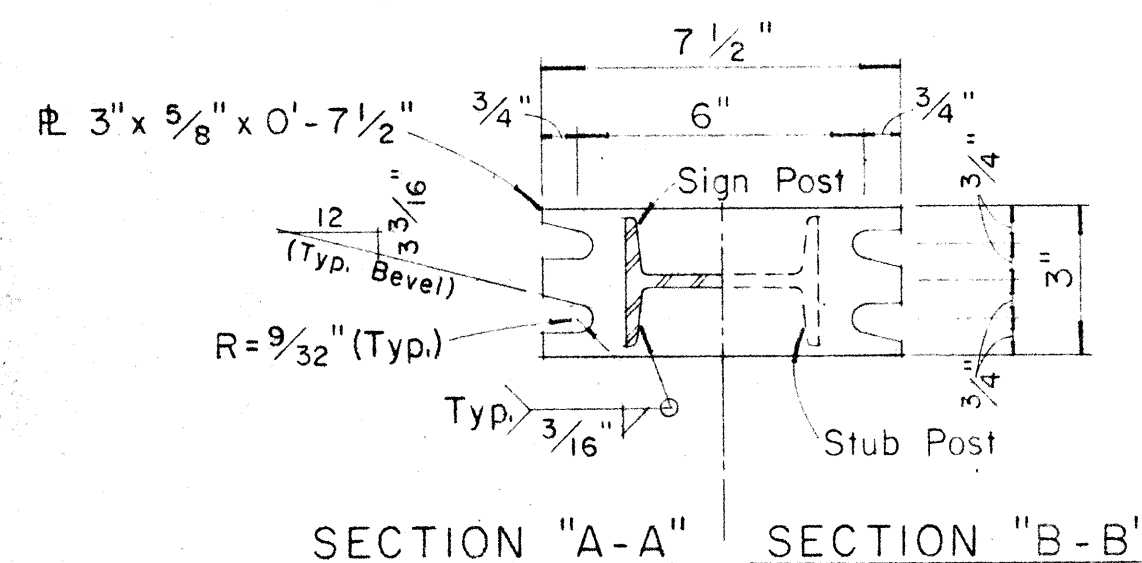
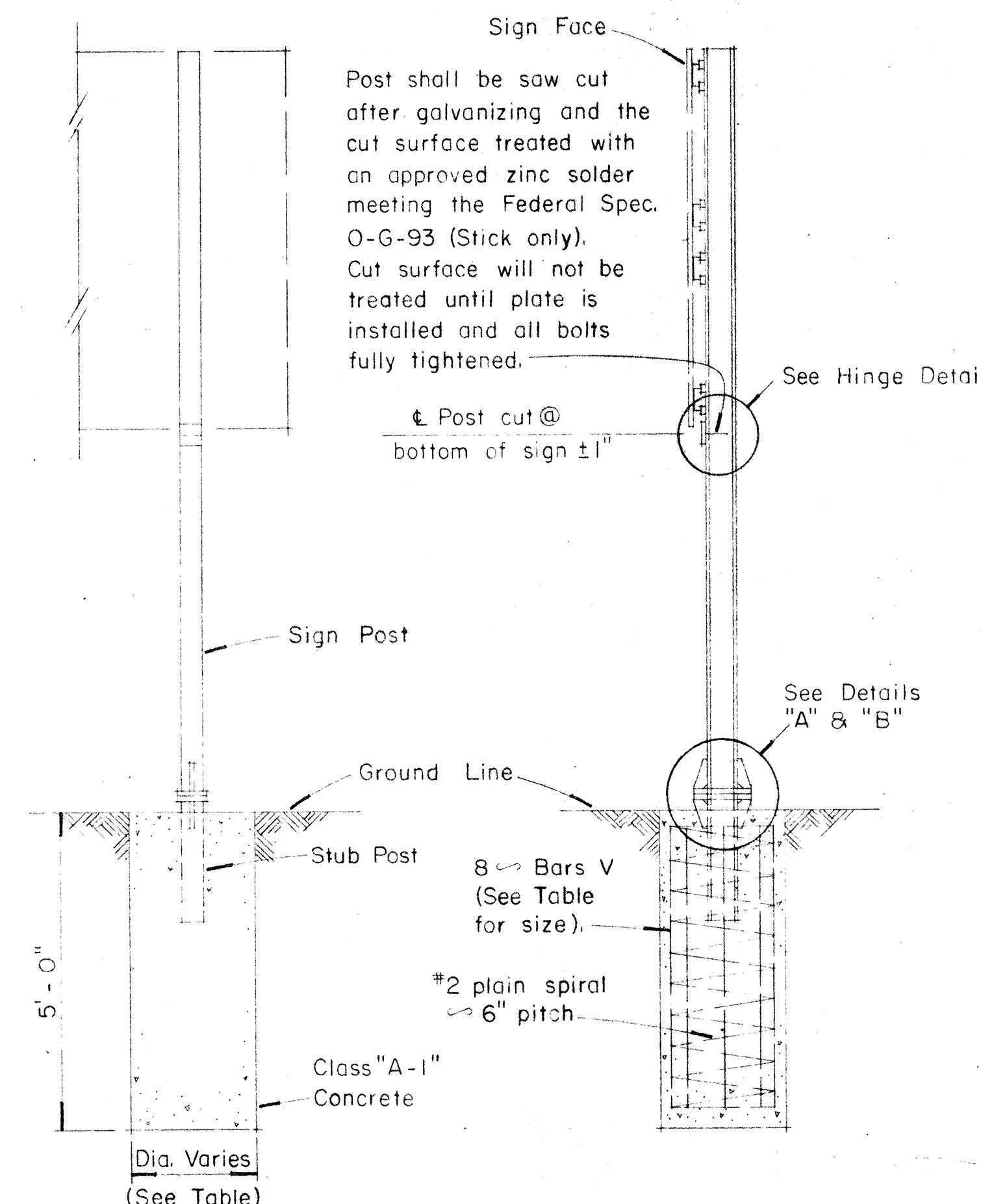
8 # Bars V
(See Table for size)

#2 plain spiral @ 6" pitch.
Three flat turns top & one flat turn bottom.

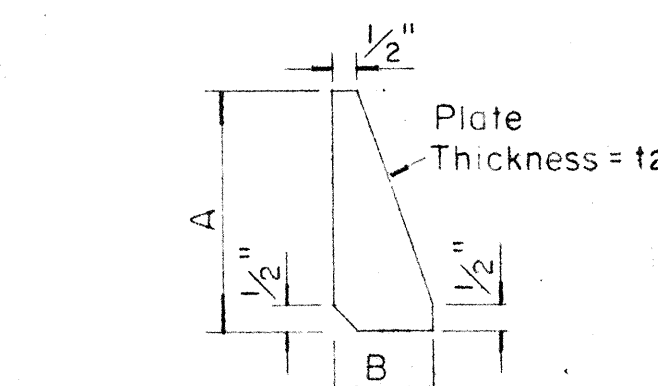
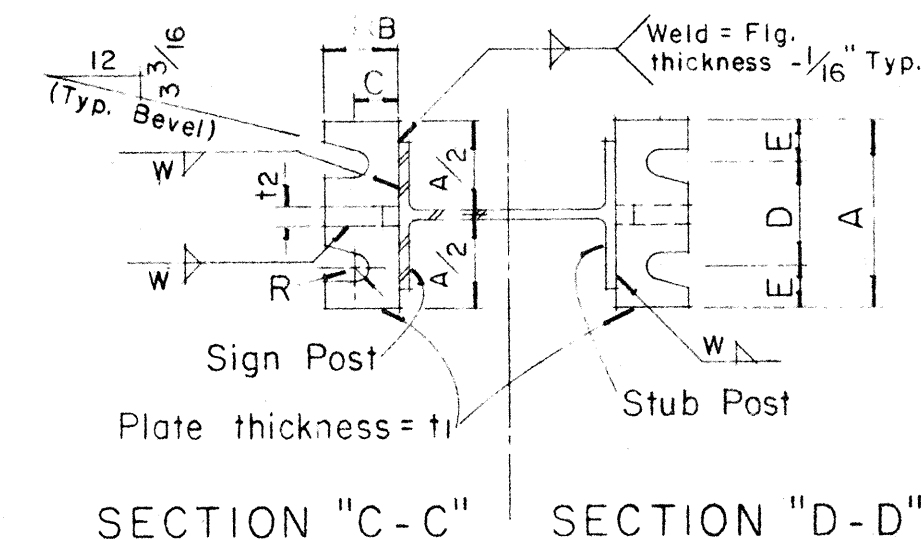
4"

2"

	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE										FOUNDATION DATA					
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size	
6 B 8.5	5/8" Ø x 2 3/4" Torque = 450 #	5"	2"	1 1/4"	2 3/4"	1 1/8"	3/4"	1/2"	1/4"	1 1/32"	3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"	9/16"	1/4"	1/2" Ø	1.09 #	2'-0"	3"	2'-0"	#5	
6 B 12											3 3/4"	2"	1 1/8"	4"	2 1/4"	7/8"	5/8"	1 1/16"	3/8"	5/8" Ø	1.60 #	2'-0"	3"	2'-0"	#5	
6 B 15.5											4 1/2"	2 1/2"	1 1/4"	6"	3 1/2"	1 1/4"	3/4"	13/16"	1/2"	3/4" Ø	3.75 #	2'-6"	3"	2'-0"	#6	
8 WF 17											4 1/2"	2 1/2"	1 1/4"	5 1/4"	2 3/4"	1 1/4"	3/4"	13/16"	1/2"	3/4" Ø	3.27 #	2'-6"	3"	2'-0"	#7	
8 WF 20	3/4" Ø x 3 1/2" Torque = 750 #	6"	2 1/4"	1 3/8"	3 1/2"	1 1/4"	1"	3/4"	5/16"	1 3/32"	4 7/8"	2 1/2"	1 1/2"	5 1/4"	2 3/4"	1 1/4"	7/8"	15/16"	9/16"	7/8" Ø	3.93 #	3'-0"	2 1/2"	2'-0"	#8	
10 WF 21											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" Ø	4.75 #	3'-0"	2 1/2"	2'-0"	#9	
10 WF 25											5 3/8"	3"	1 1/2"	5 3/4"	2 3/4"	1 1/2"	7/8"	15/16"	9/16"	7/8" Ø	4.79 #	3'-0"	2 1/2"	2'-0"	#10	
12 WF 27											5 3/8"	3"	1 1/2"	6 1/2"	3 1/2"	1 1/2"	7/8"	15/16"	9/16"	7/8" Ø	5.42 #	3'-0"	2 1/2"	2'-0"	#11	
3 I 5.7	1/2" Ø x 2 1/2" Torque = 200 #	SEE DETAIL "A"										3 1/8"	1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" Ø	0.64 #	1'-6"	3 1/2"	1'-6"	#5
4 I 7.7	3 1/8"											1 1/2"	1 1/8"	2 5/8"	1 1/2"	9/16"	1/2"	9/16"	1/4"	1/2" Ø	0.64 #	1'-6"	3 1/2"	1'-6"	#5	



NOTE:
Sections shown are for
installations on right shoulder
and in gore. Reverse plate
slot bevels for installations
on left shoulder.



Technical drawing of a rectangular plate with dimensions and labels:

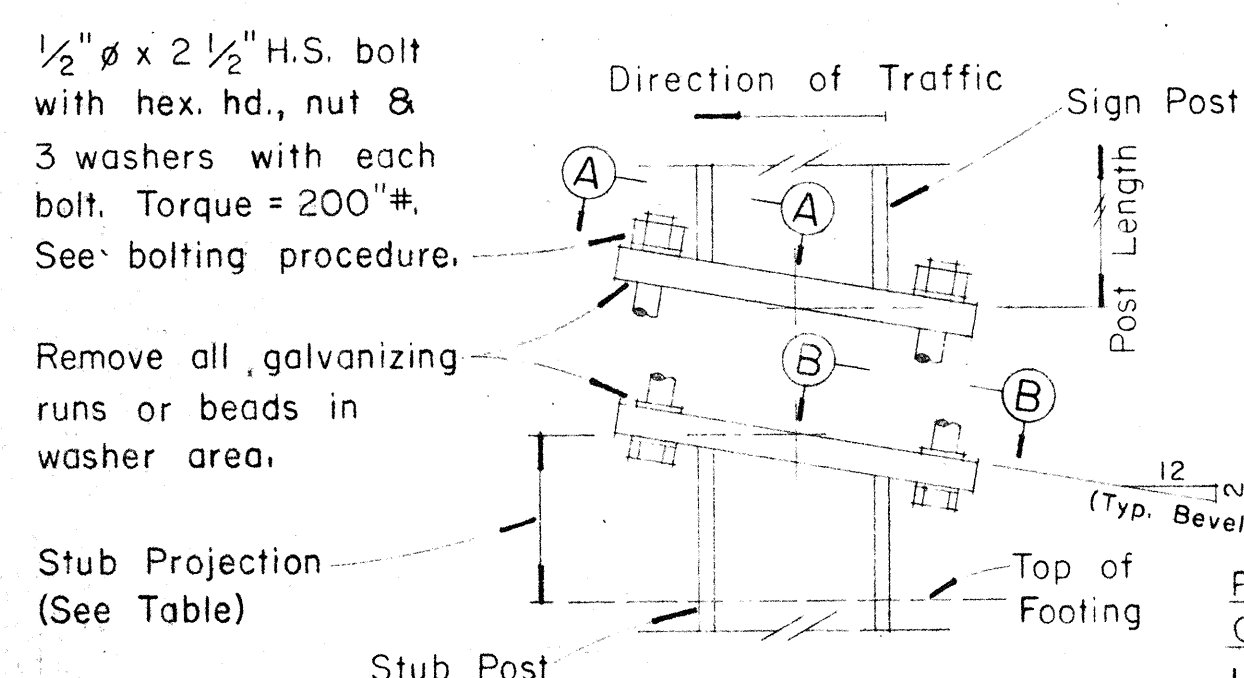
- J**: Total width of the plate.
- K**: Width of the central rectangular area.
- L**: Width of the side flange.
- E**: Total height of the plate.
- G**: Height of the central rectangular area.
- H**: Height of the top flange.
- N**: Height of the bottom flange.
- Post**: Label for the vertical post on the right side.
- Post Cu**: Label for the vertical post on the right side, indicating a copper post.
- 9/2**: Dimension indicating the height of the post from the bottom flange.
- Hole Dia. = d_1** : Label for the diameter of the hole in the central area.
- Thickness = t_3** : Label for the thickness of the plate.

SHIM DETAIL

Furnish 2 $\times$.012" $\pm$ thick and 2 $\times$.032" $\pm$ thick shims per post. Shims shall be fabricated from brass shim stock or strip conforming to A.S.T.M. - B 36.

- ## GENERAL NOTES
1. Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
 2. Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
 3. All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
 4. Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM-A307, Class A.
 5. All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
 6. Structural steel shall conform with with the requirements of ASTM Specification A441.
 7. Galvanizing of all posts shall be projection above concrete plus 6" minimum.

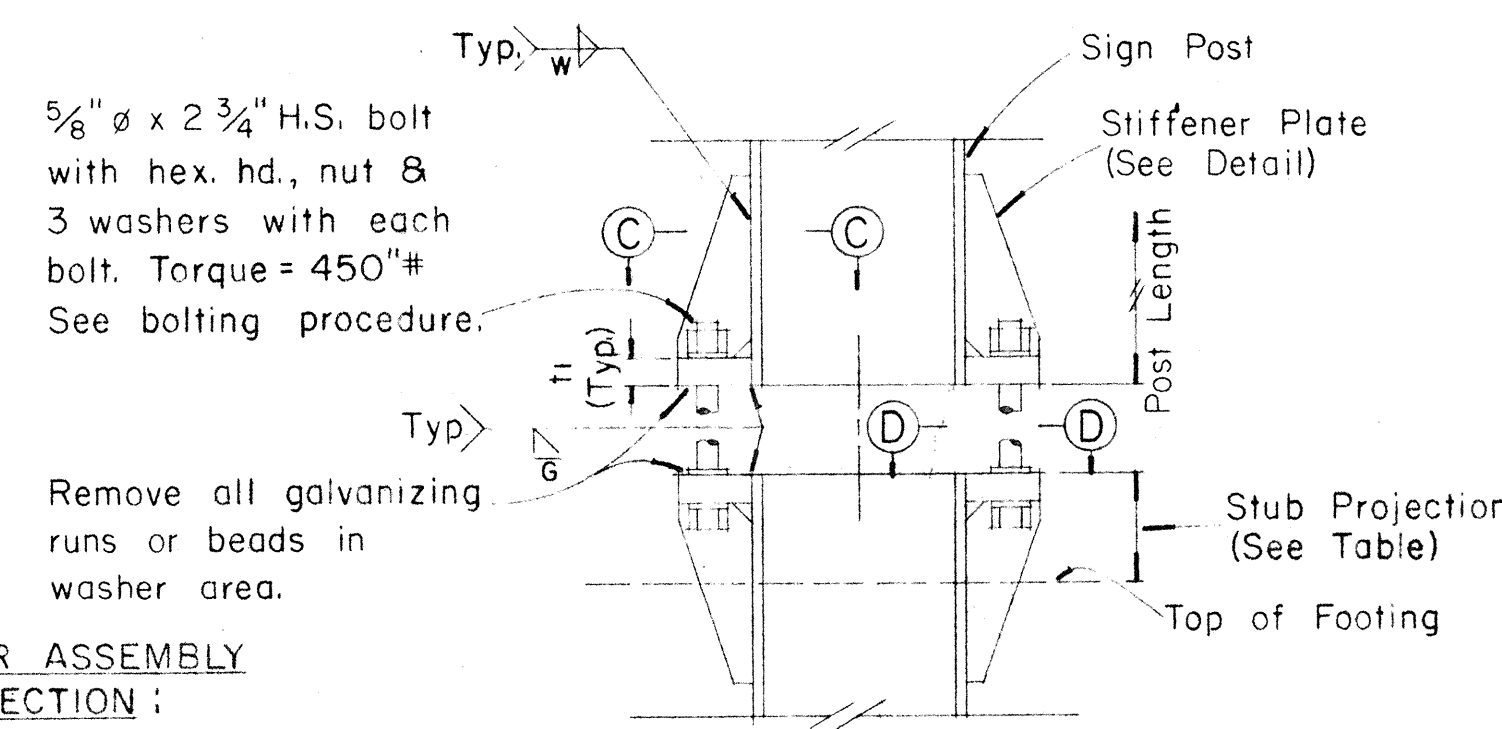
Bolt Size	Min. Tension	Bolt Size	Min. Tension
$\frac{1}{2}" \phi$ 	12050 Lbs.	$\frac{3}{4}" \phi$ 	28400 Lbs.
$\frac{5}{8}" \phi$	19200 Lbs.	$\frac{7}{8}" \phi$	36050 Lbs.



DETAIL "A"
SIGN POST & STUB POST
(For 4I7.7 and 3I5.7 Shapes)

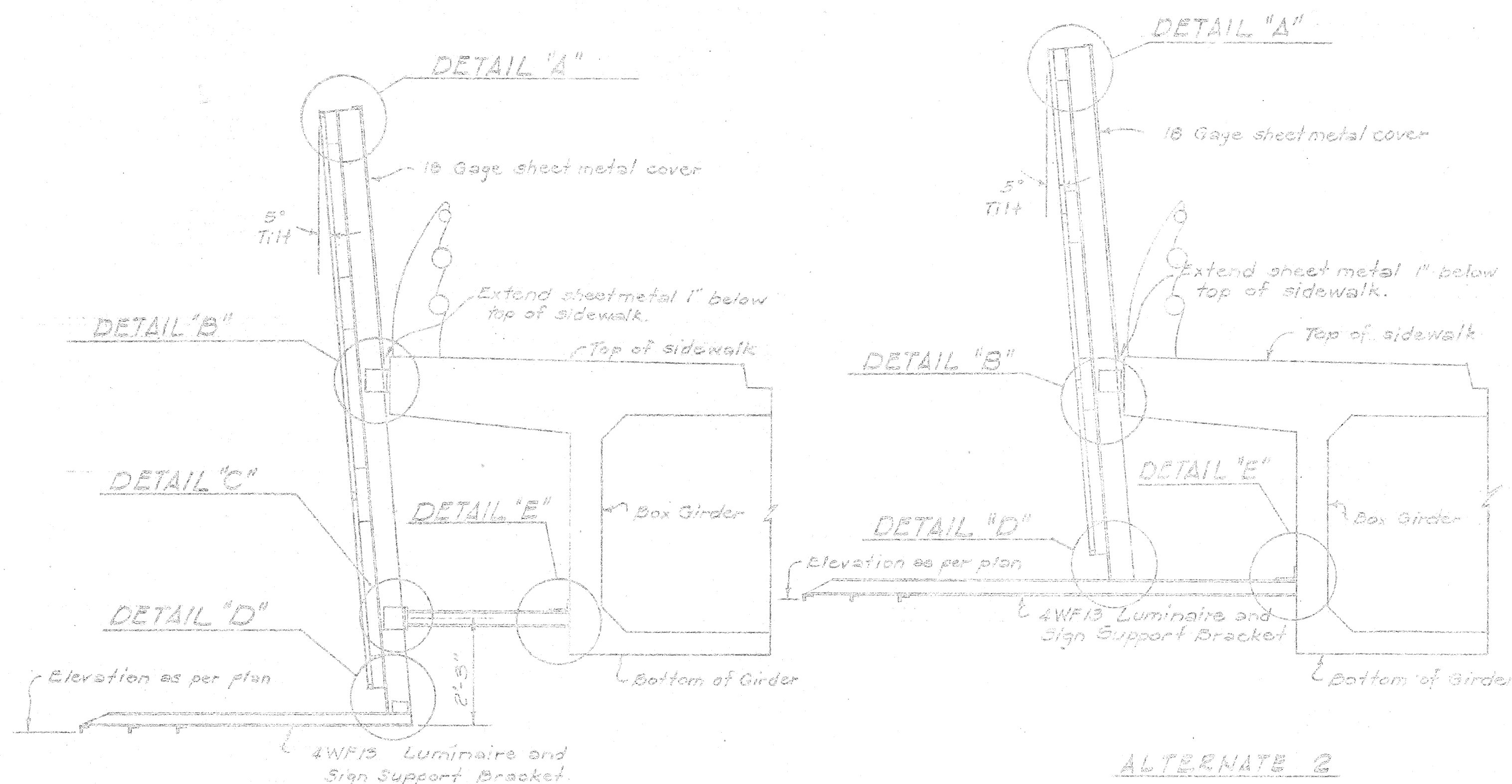
PROCEDURE FOR ASSEMBLY OF BASE CONNECTION :

1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post.
3. Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt in turn & retighten bolts in systematic order to prescribed torque. (See Table)
4. Burr threads at junction with nut using a center punch to prevent nut loosening.



DETAIL "B"
SIGN POST & STUB POST
(For W and B Shapes)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TH-16510 TH-14011	1999	40	185

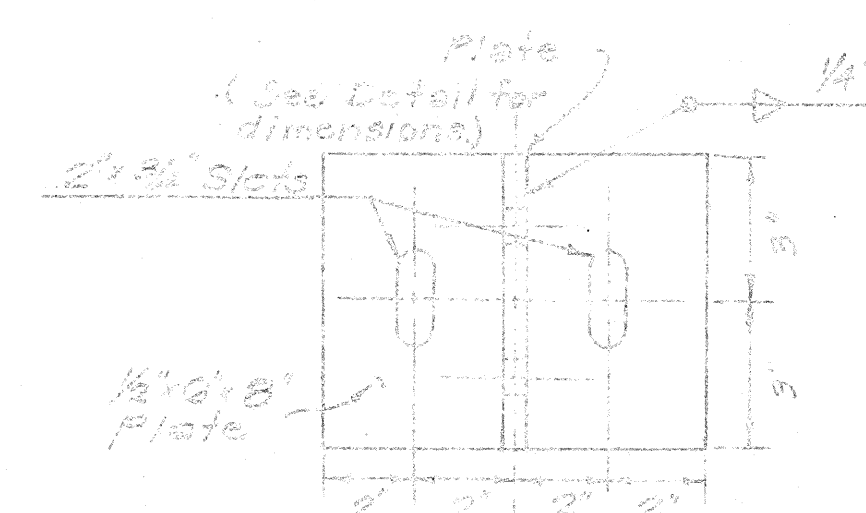


ALTERNATE 1

EXPRESSWAY SIGN - MOUNTING BRACKET ASSEMBLY

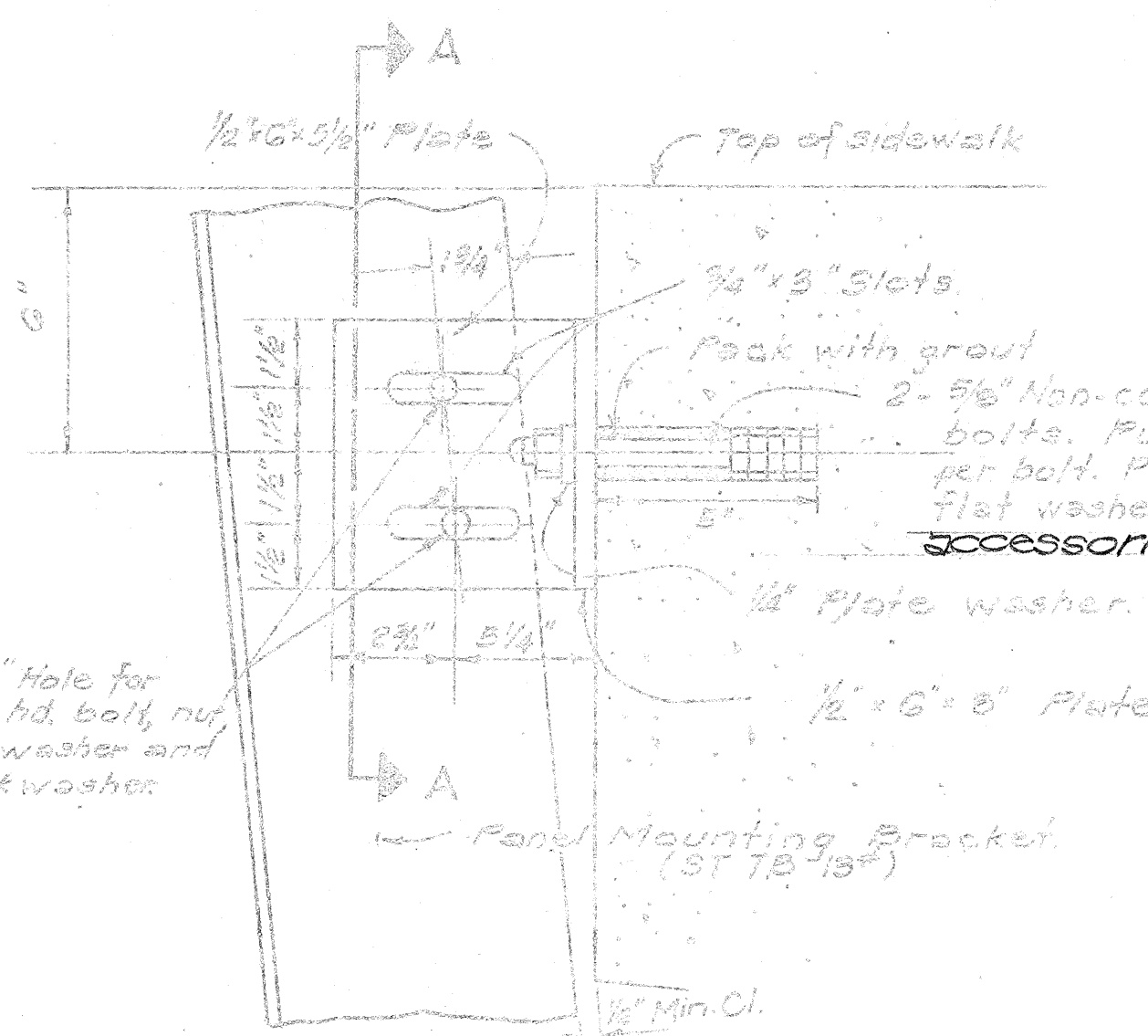
Scale: 1/2\" = 1'-0"

ALTERNATE 2



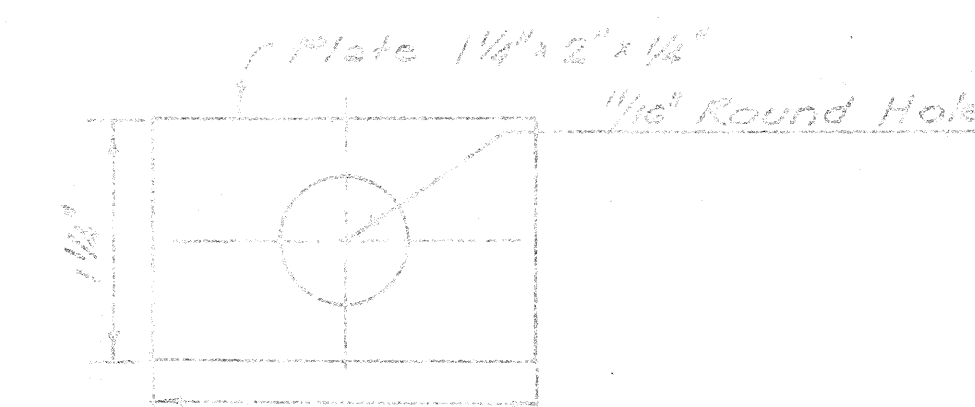
SECTION "A-A"

Scale: 3\" = 1'-0"



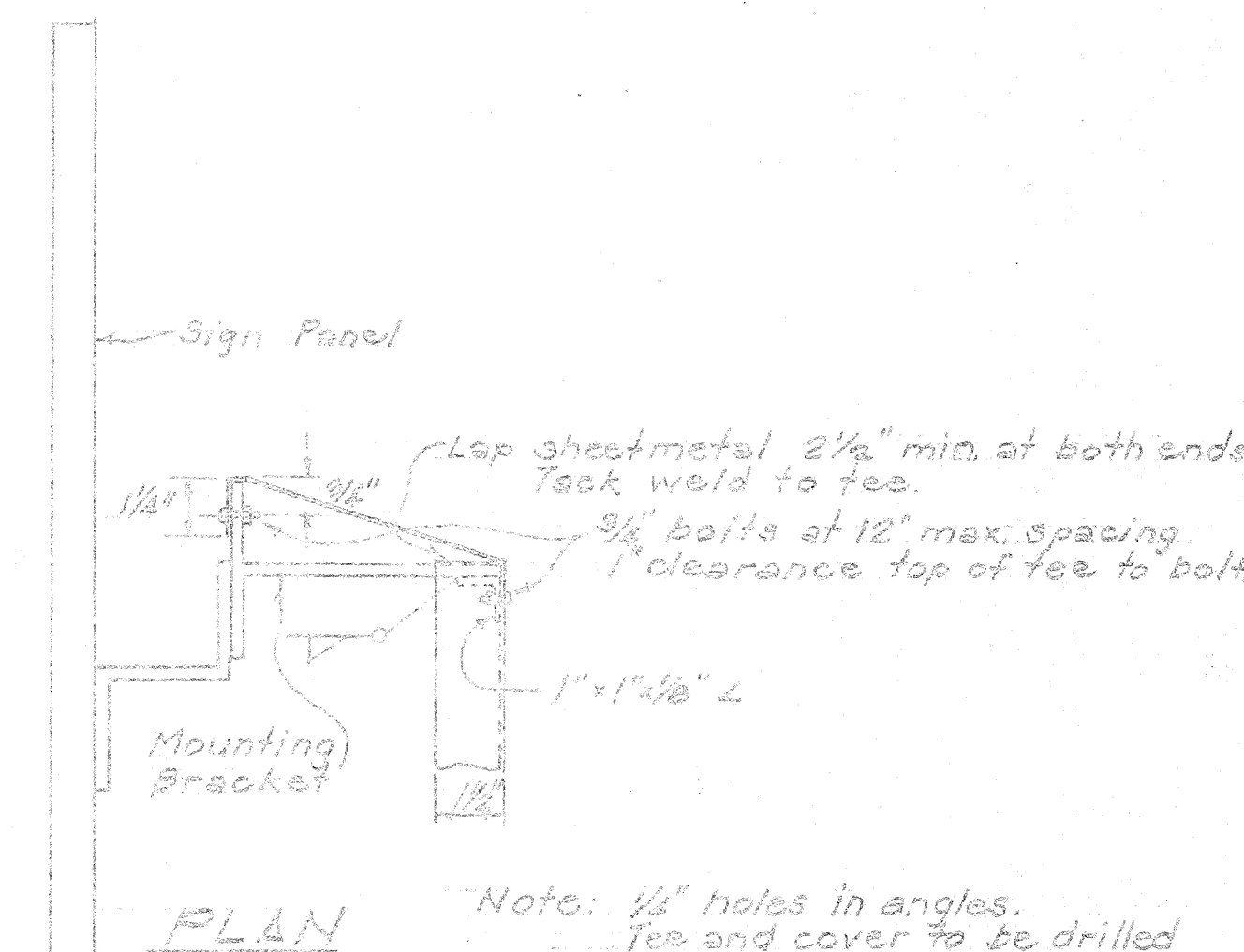
DETAIL "B"

Scale: 5/4\" = 1'-0"



DETAIL - PLATE WASHER

Full Scale

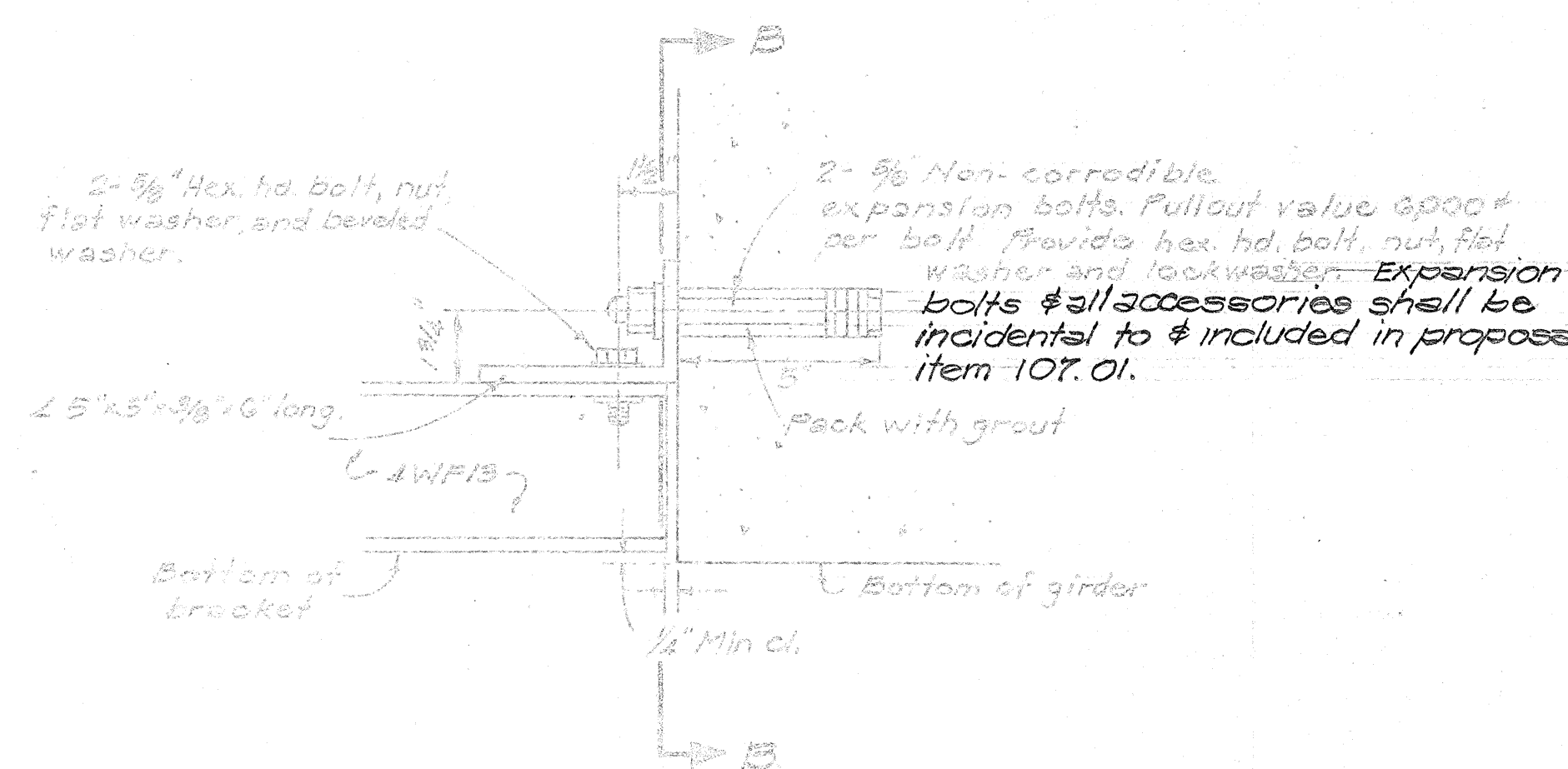


PLAN

Note: 1/4\" holes in angles.
Tee and cover to be drilled at time of installation.
Lap joints in cover permissible.

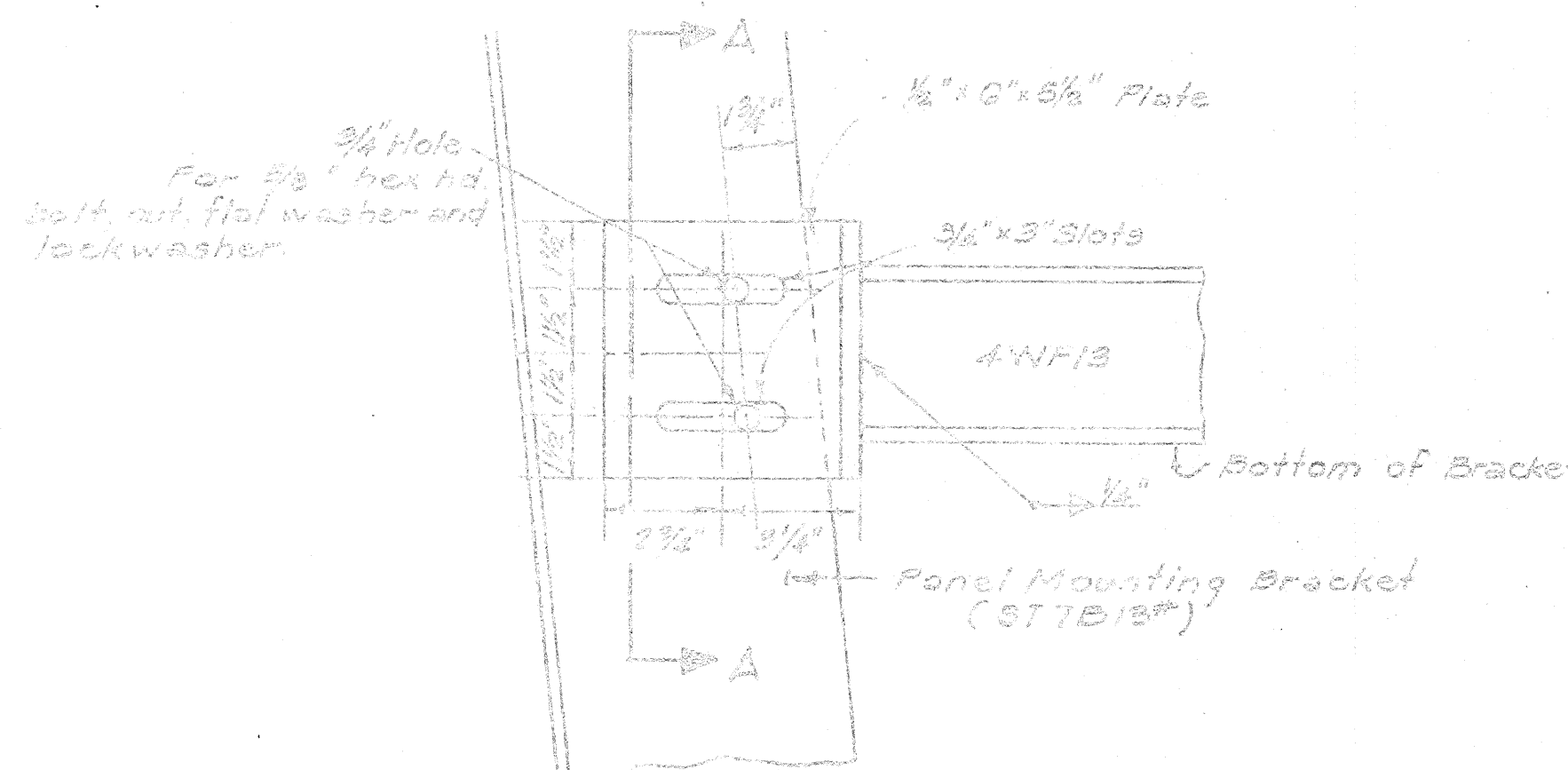
DETAIL "A"

Scale: 3\" = 1'-0"



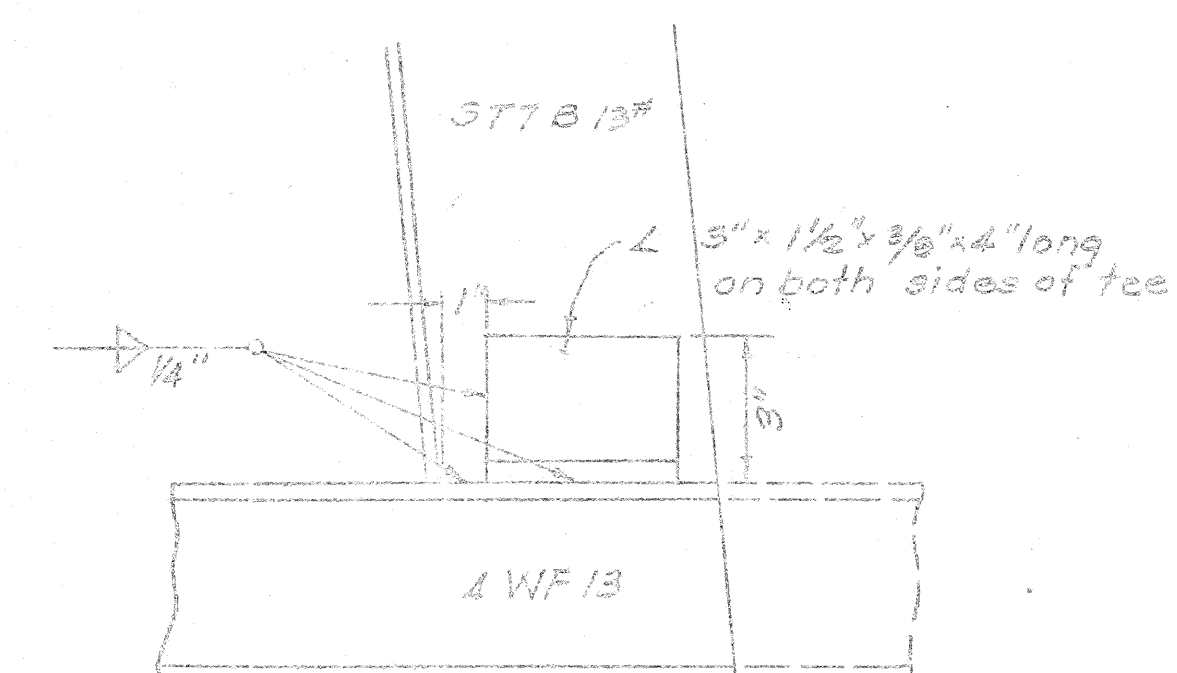
DETAIL "E"

Scale: 3\" = 1'-0"



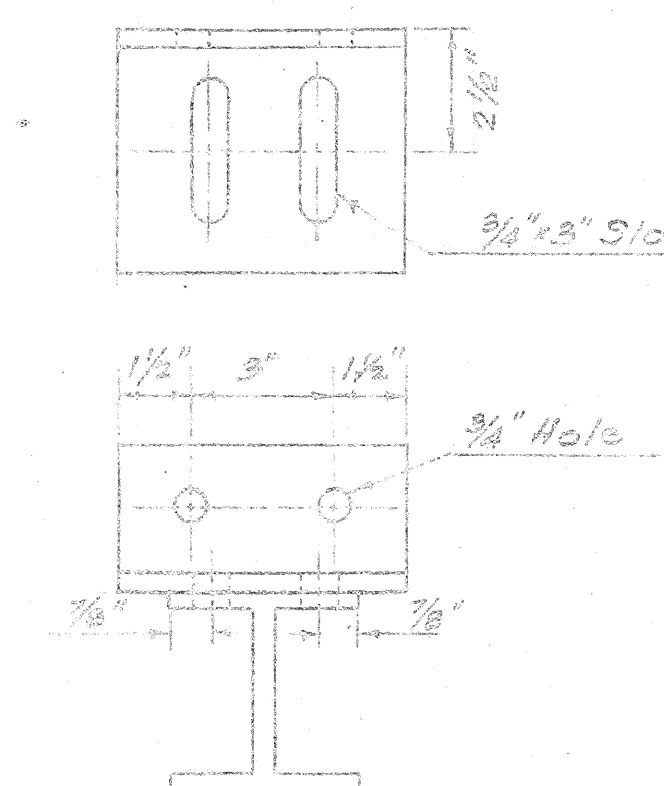
DETAIL "C"

Scale: 3\" = 1'-0"



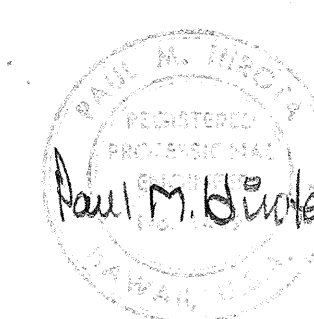
DETAIL "D"

Scale: 3\" = 1'-0"



SECTION "B-B"

Scale: 3\" = 1'-0"



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**EXPRESSWAY SIGN SUPPORT
(STRUCTURE MOUNTED)**

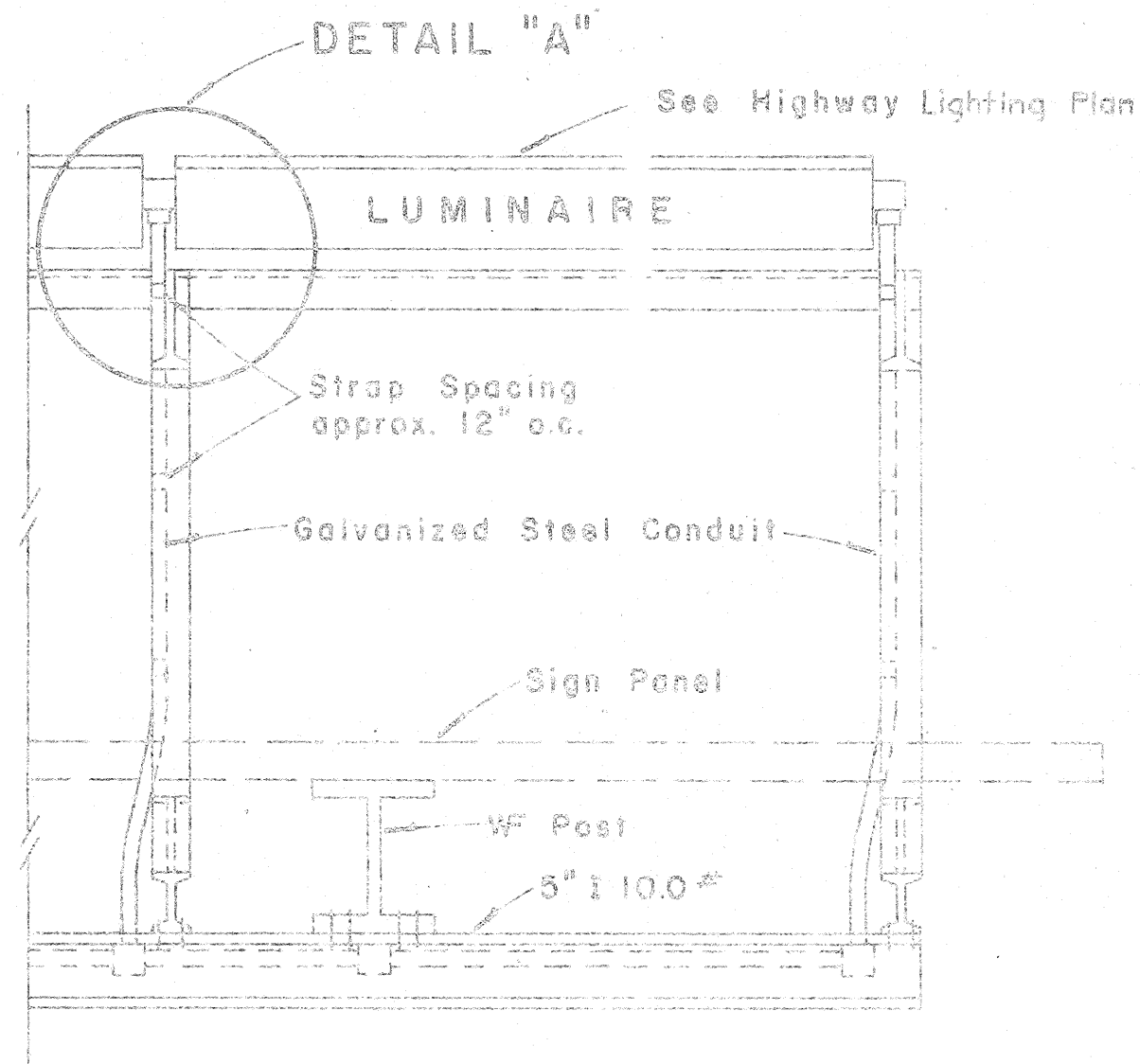
INTERSTATE ROUTE H-1
PROJ. NO. I-H-1(65)110

Scale: As Noted Date: 4-24-99

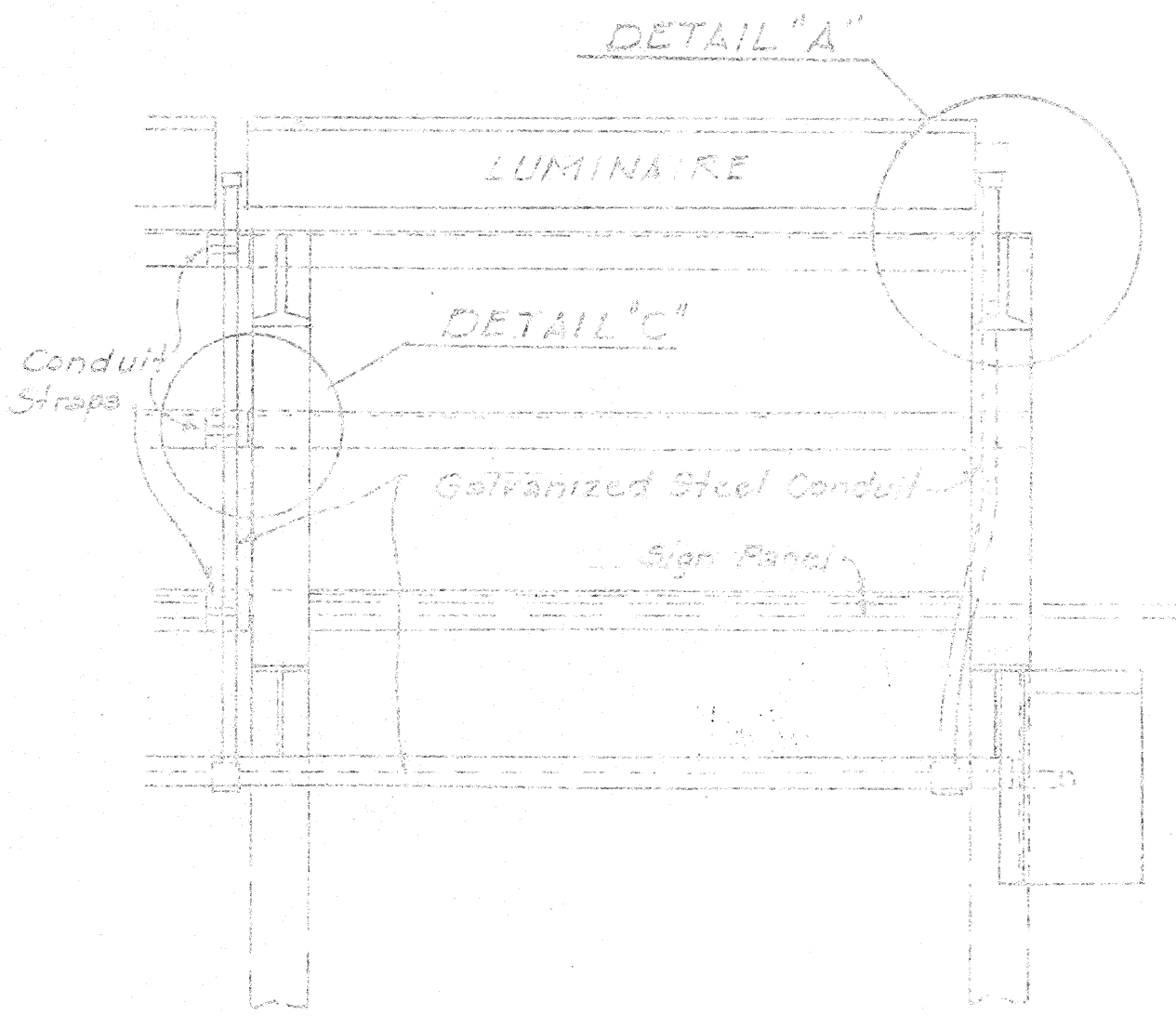
SHEET No. 13 OF 25 SHEETS

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

PROJ. ROAD DIST. NO.	STATE	FISCAL YEAR	PROJECT NO.	SHEET NO.	TOTAL SHEETS
100-10010	HA	1960	41	185	



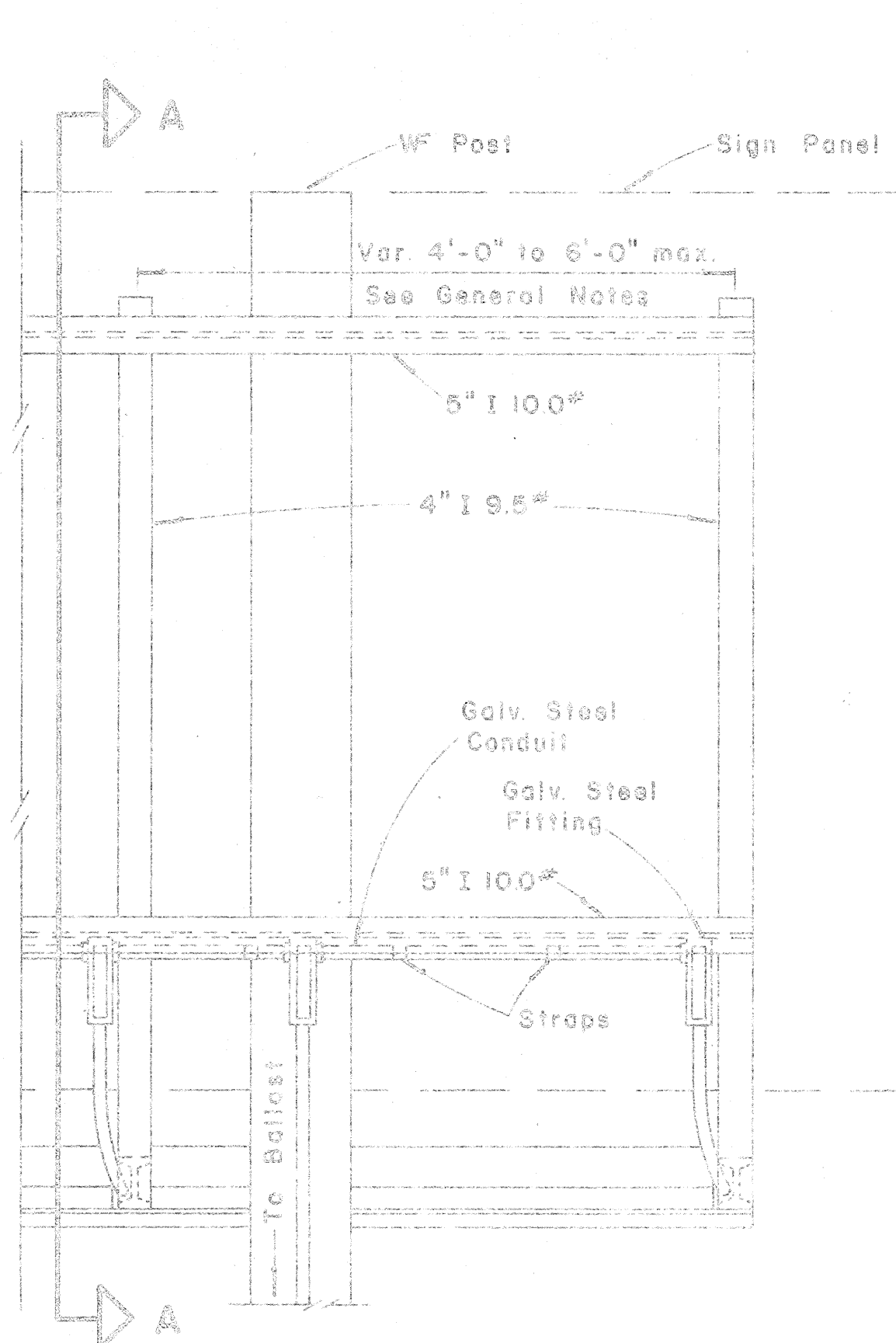
GROUND MOUNTED



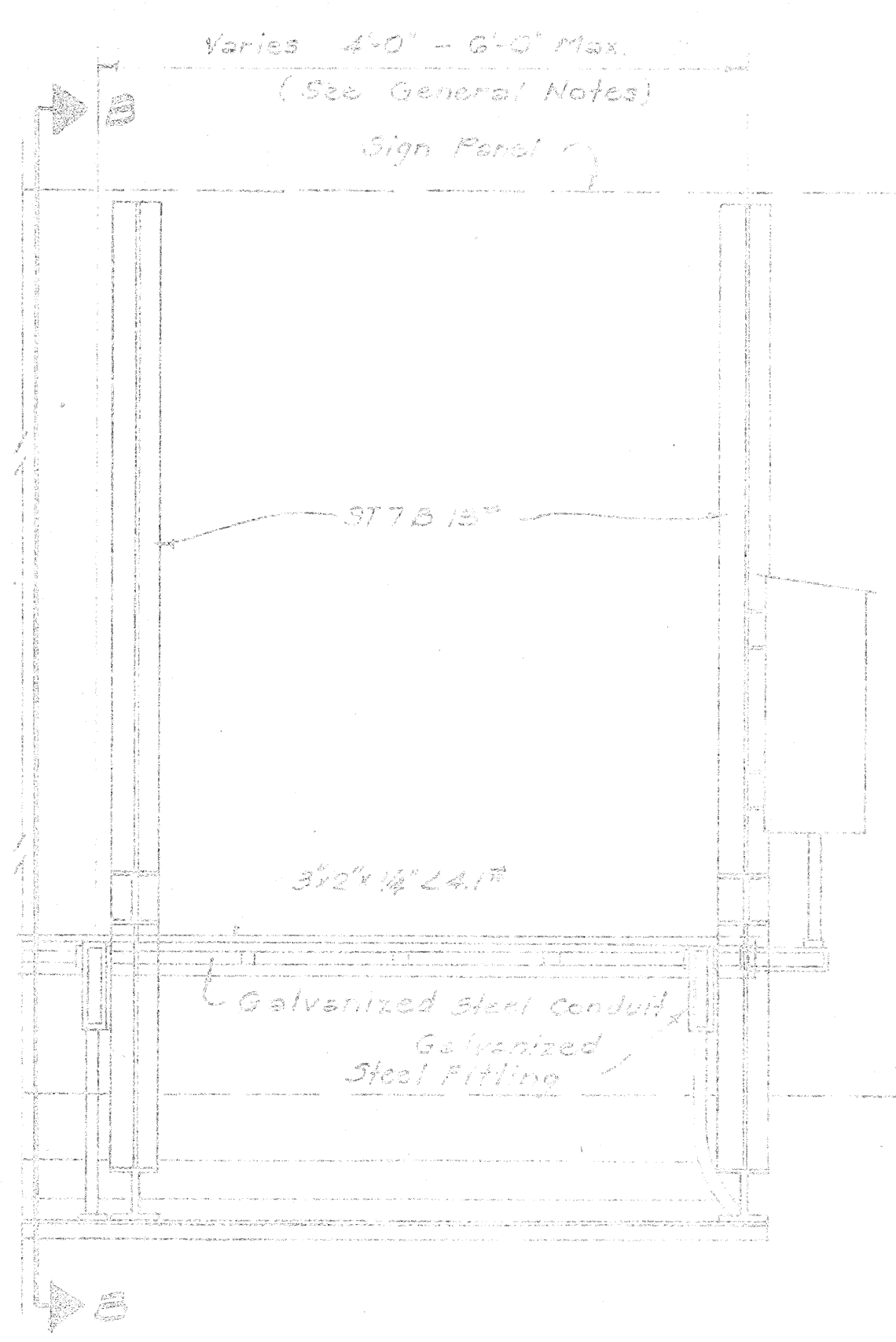
STRUCTURE MOUNTED

TOP VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



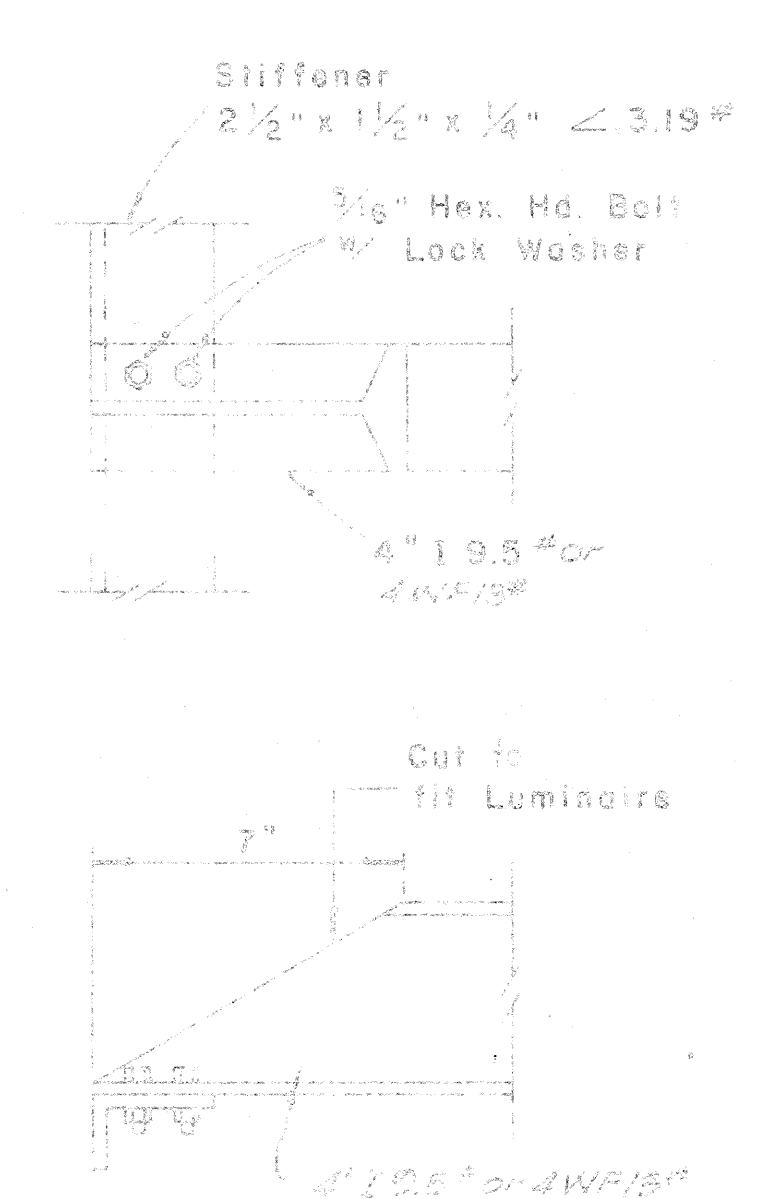
GROUND MOUNTED



STRUCTURE MOUNTED

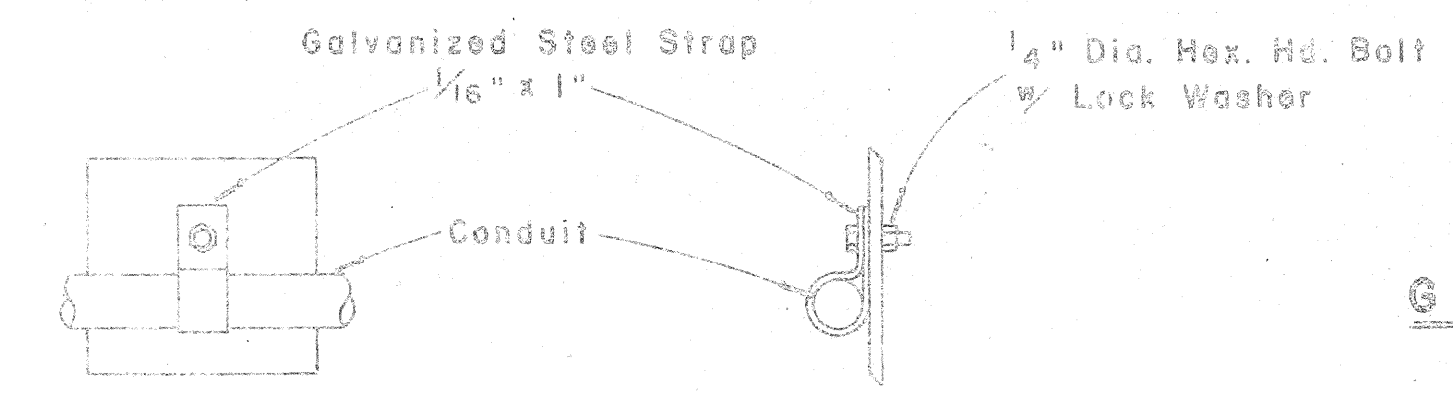
REAR VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



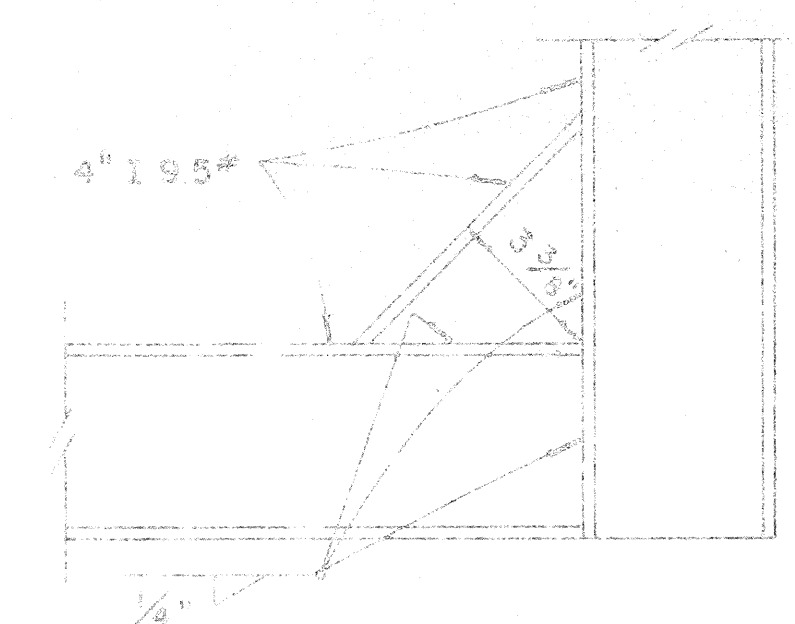
DETAIL "A"

Scale: 3" = 1'-0"



CONDUIT STRAP DETAIL

Scale: 3" = 1'-0"

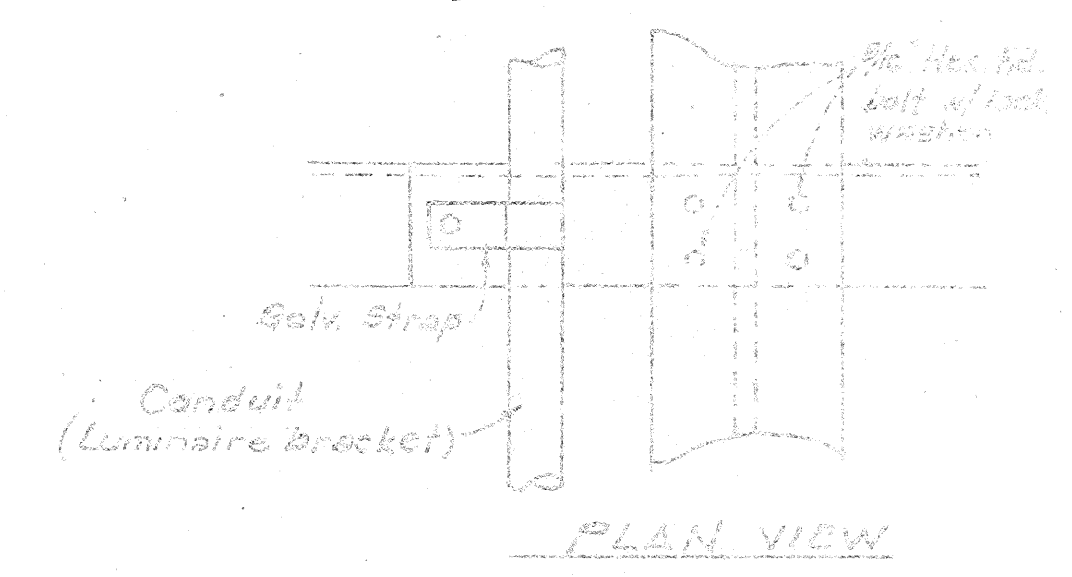


DETAIL "B"

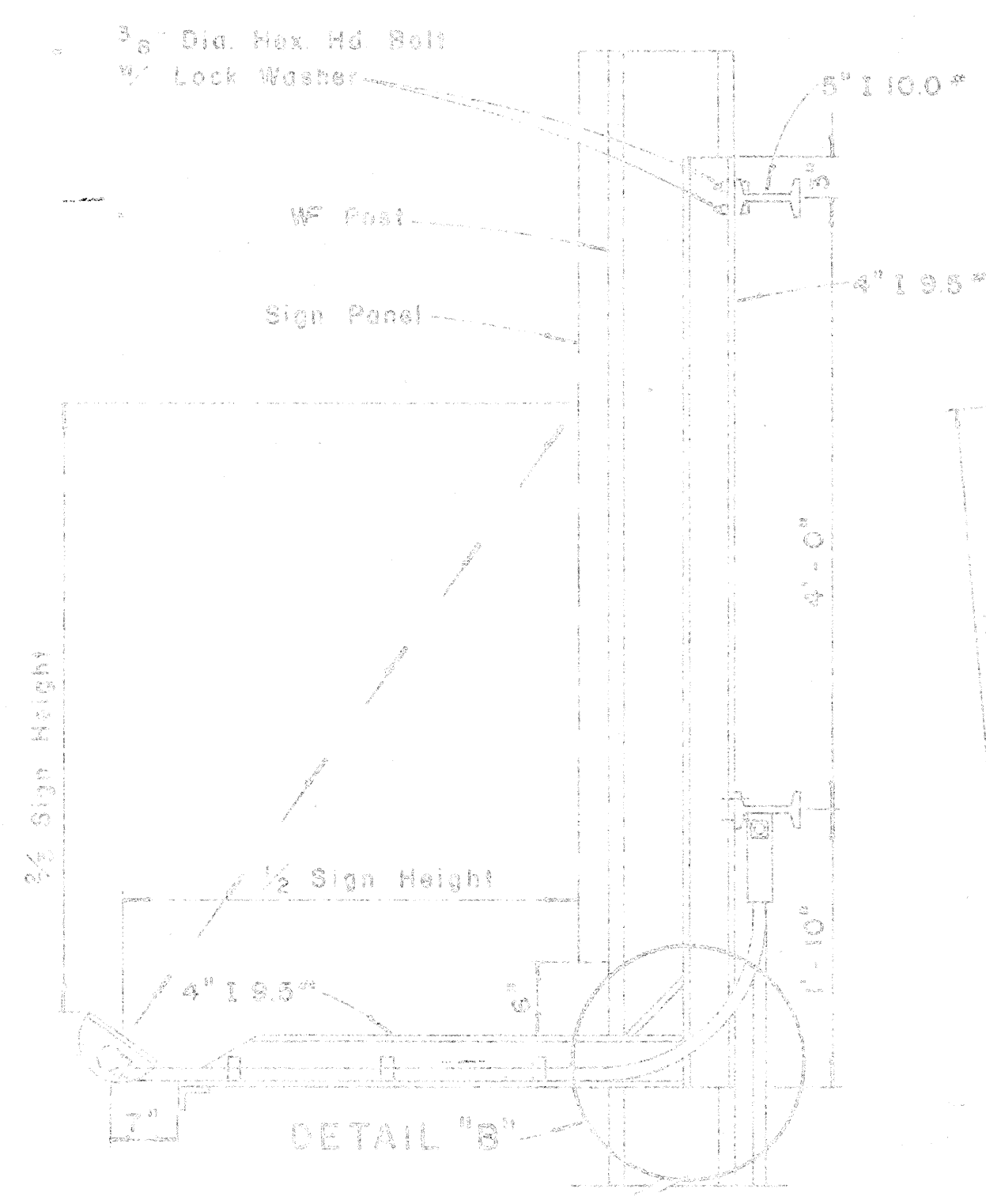
Scale: 3" = 1'-0"

GENERAL NOTES

1. Conduit sizes: 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.

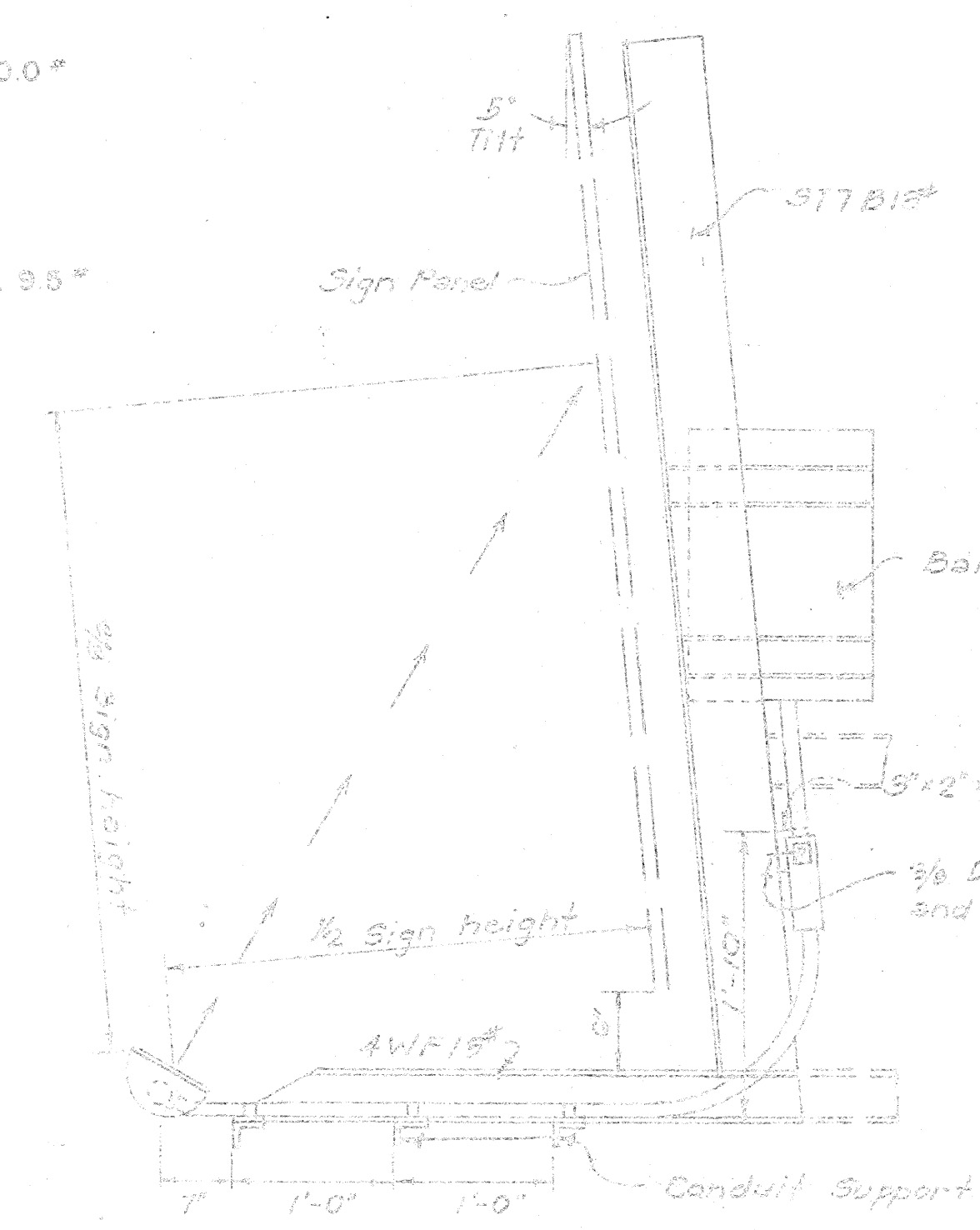


PLAN VIEW



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"

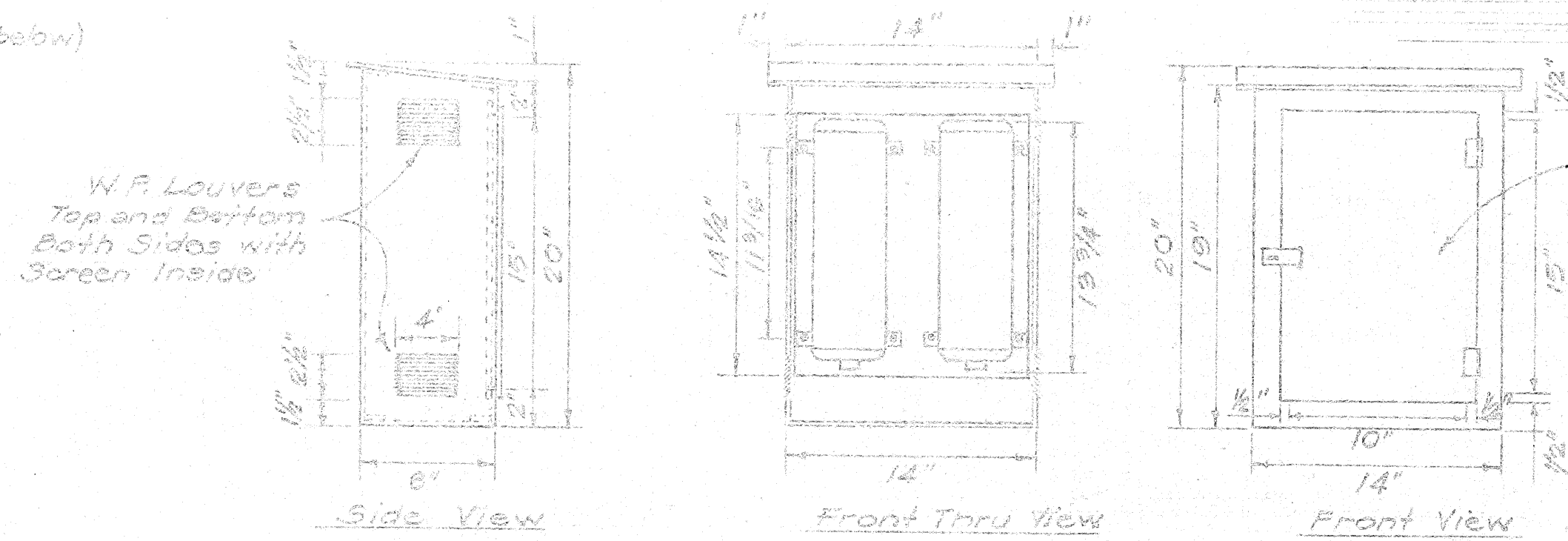
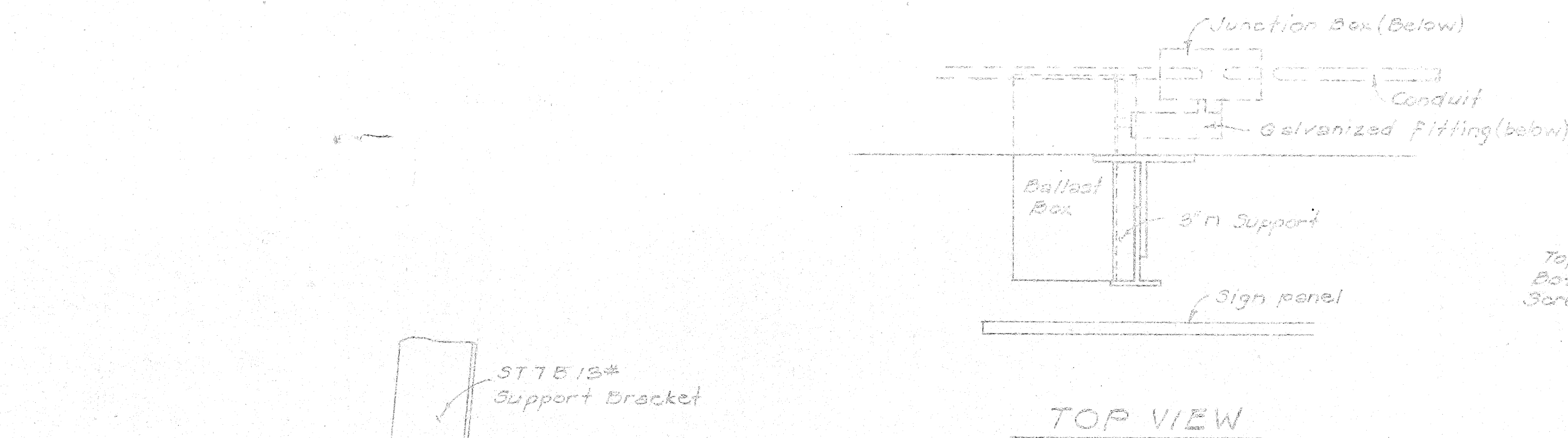
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXPRESSWAY SIGNS LUMINAIRE MOUNTINGS

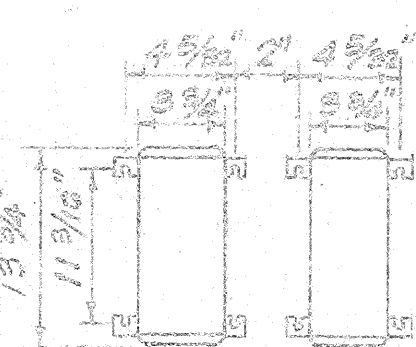
Scale: As Shown

SHEET No. 14 OF 25 SHEETS

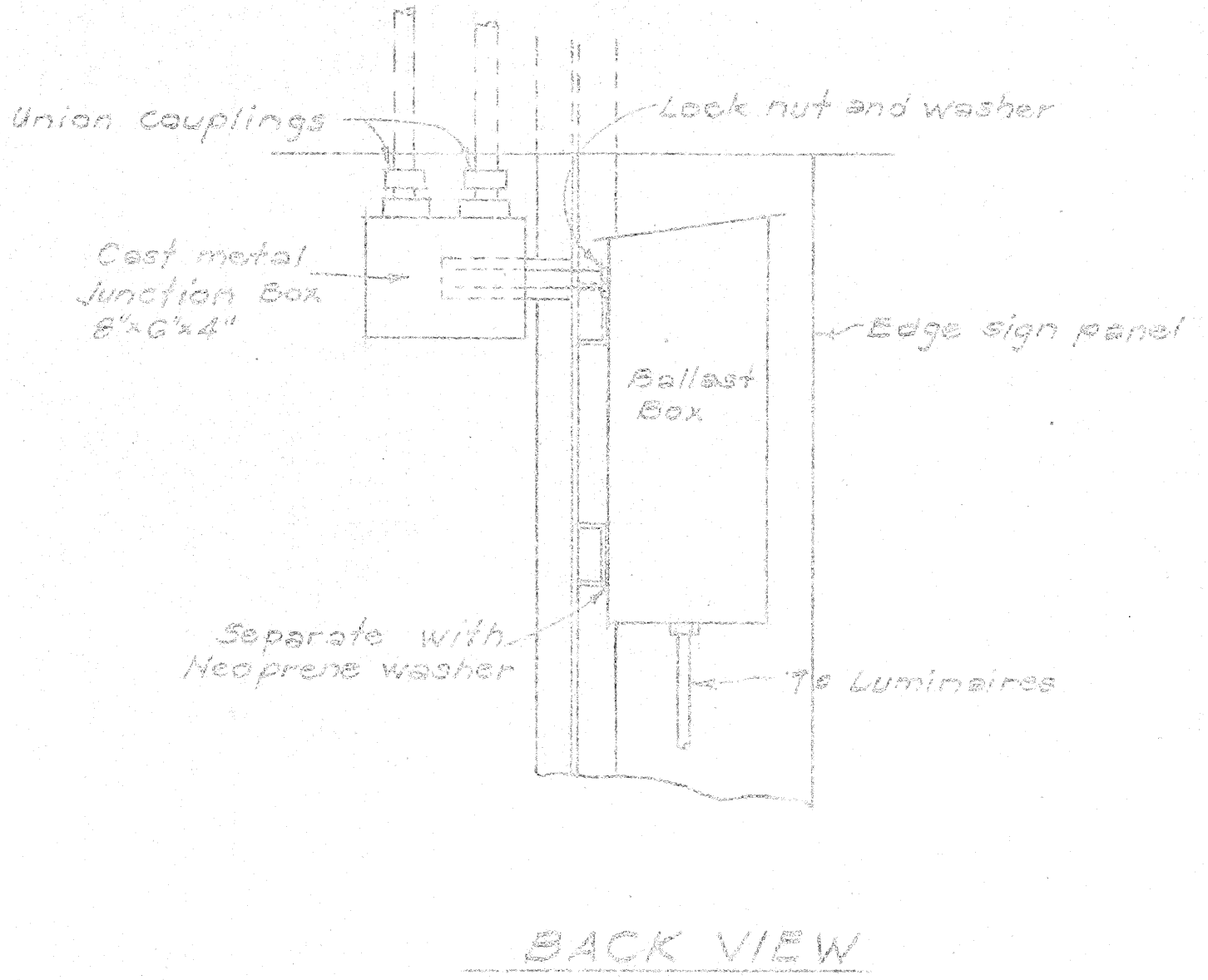
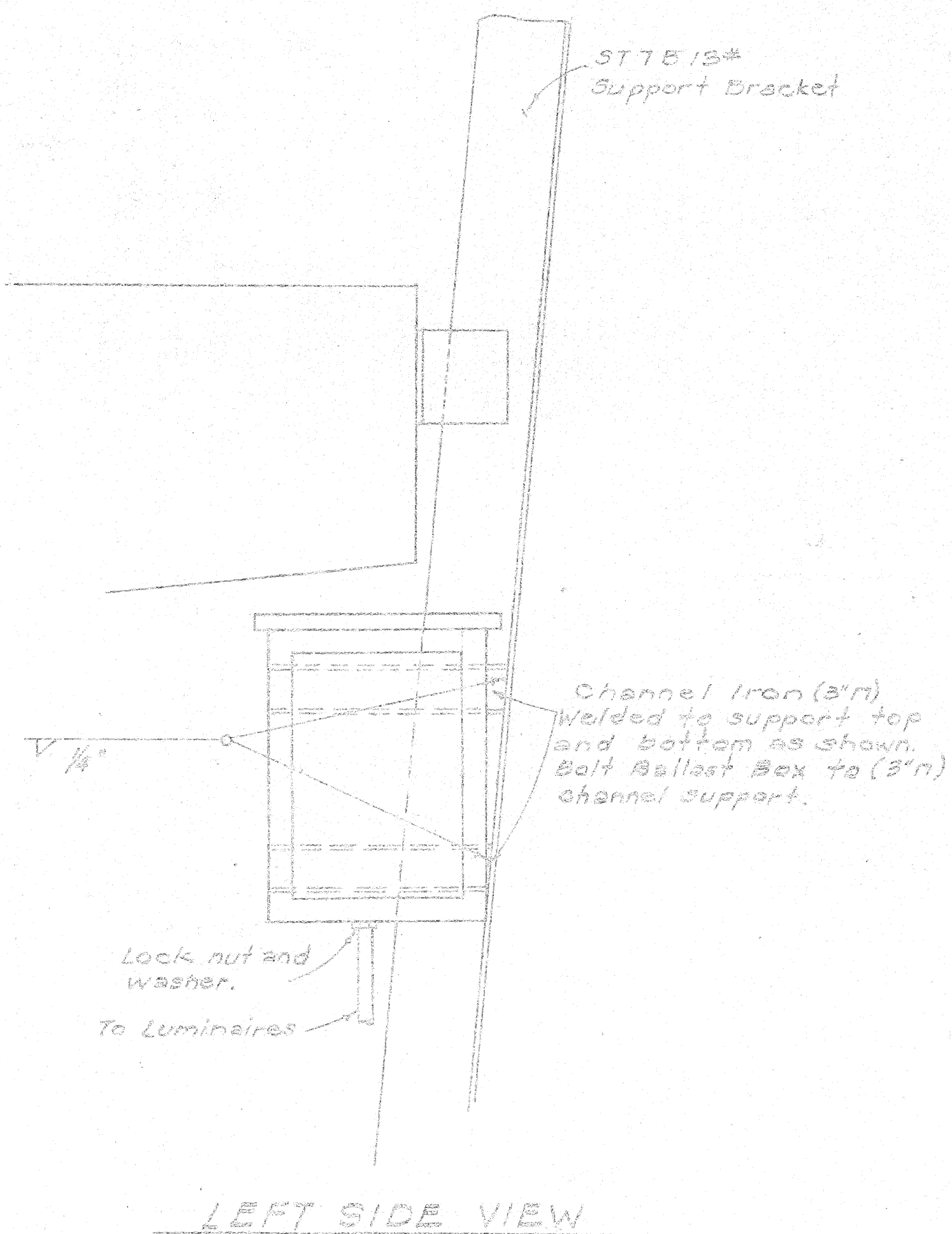
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-16(5)10 I-HI-140(1)11	1965	42	185



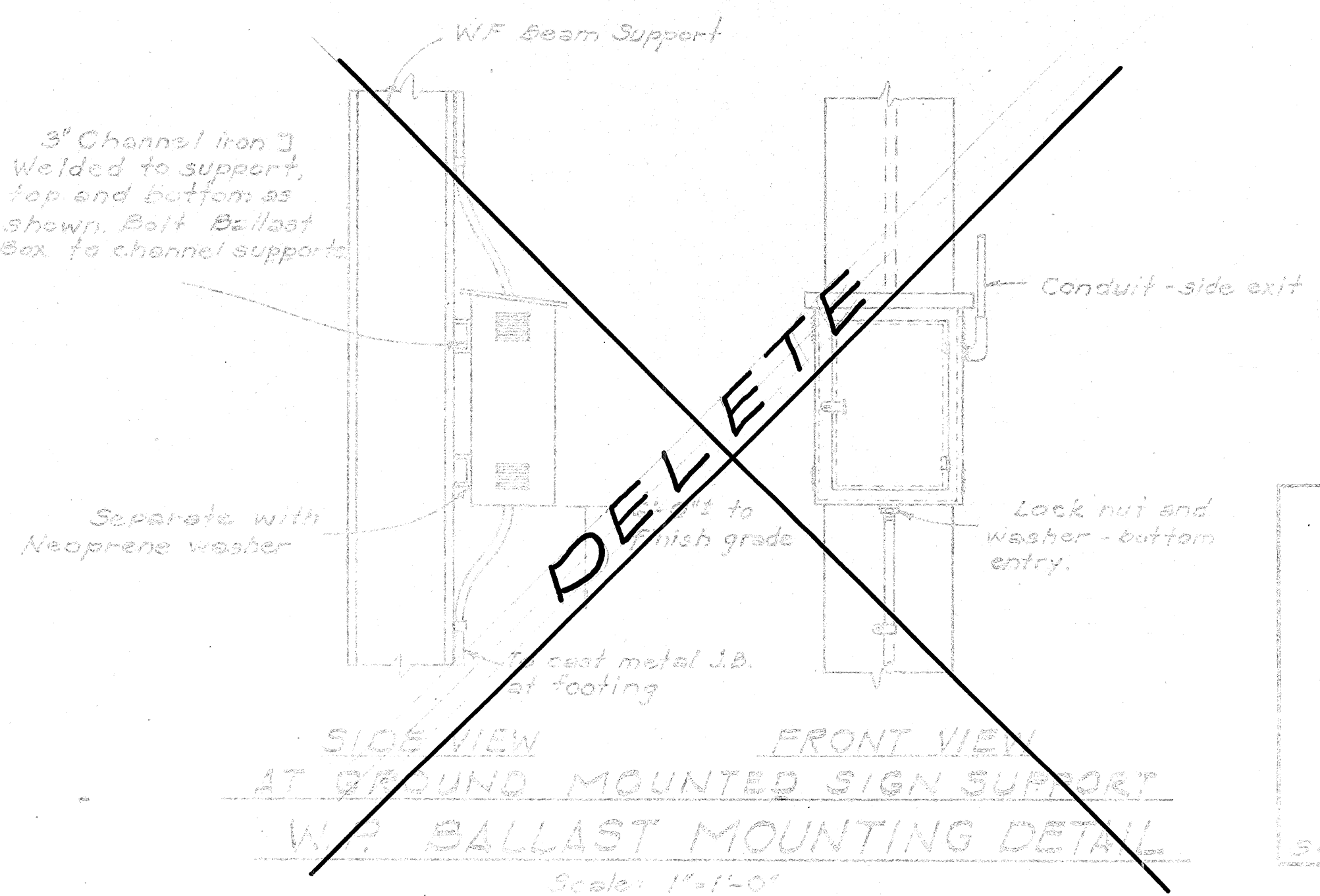
Ballast Box 20"x14"x8" 3 ga. Aluminum or 16 ga. Galvanized Steel with hasp locking and hinged door.



W.P. BALLAST BOX DETAILS
Scale: 1 1/2" = 1'-0"



AT STRUCTURE MOUNTED SIGN SUPPORT
W.P. BALLAST MOUNTING DETAIL
Scale: 1 1/2" = 1'-0"

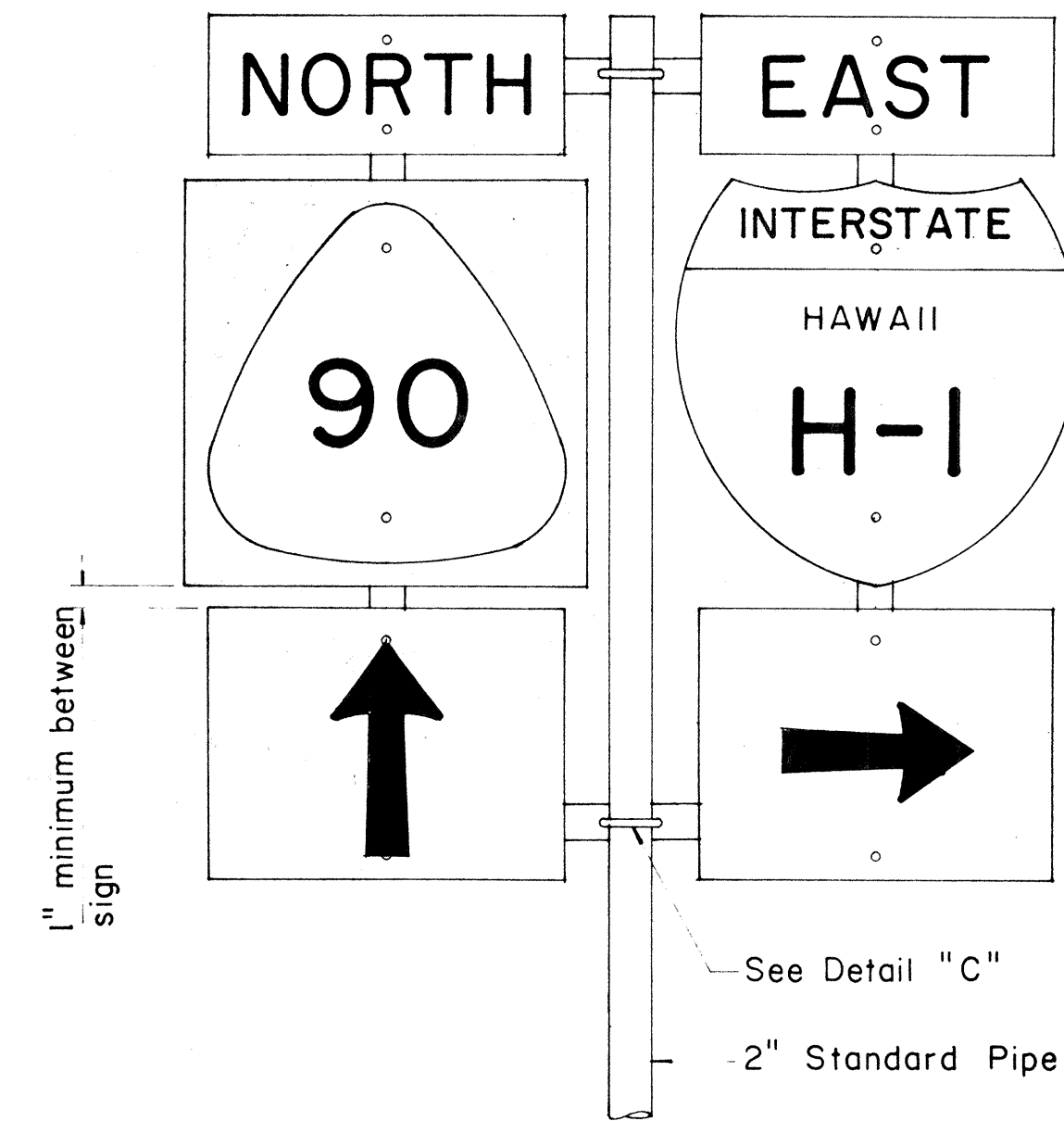


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

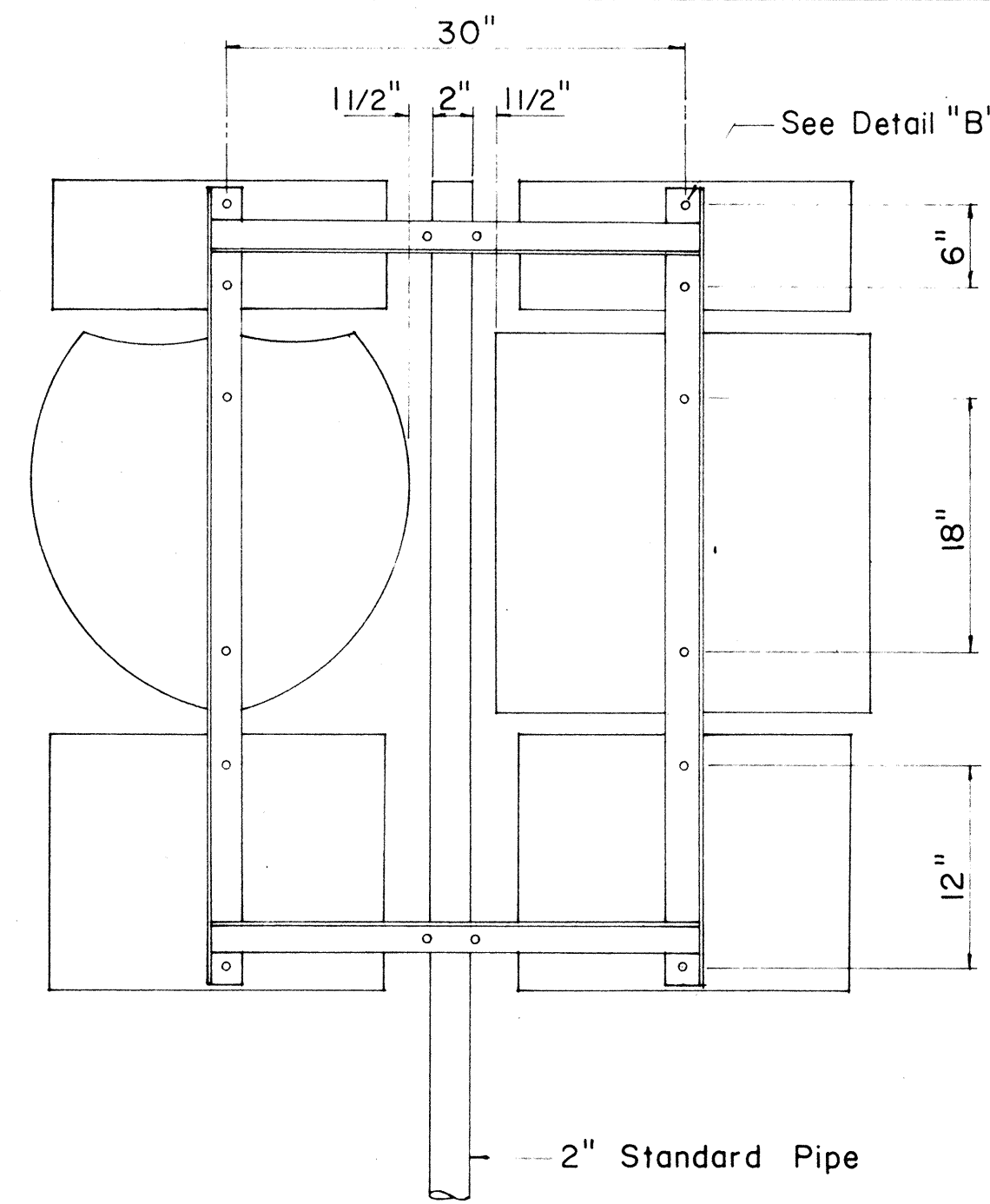
BALLAST MOUNTING
DETAILS
INTERSTATE ROUTE 4-1
PROJ. NO. I-HI-16(5)10
Scale: As shown Date: 4-24-69
SHEET No. 15 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(65):10 I-HI-1(40):11	1960	43	185



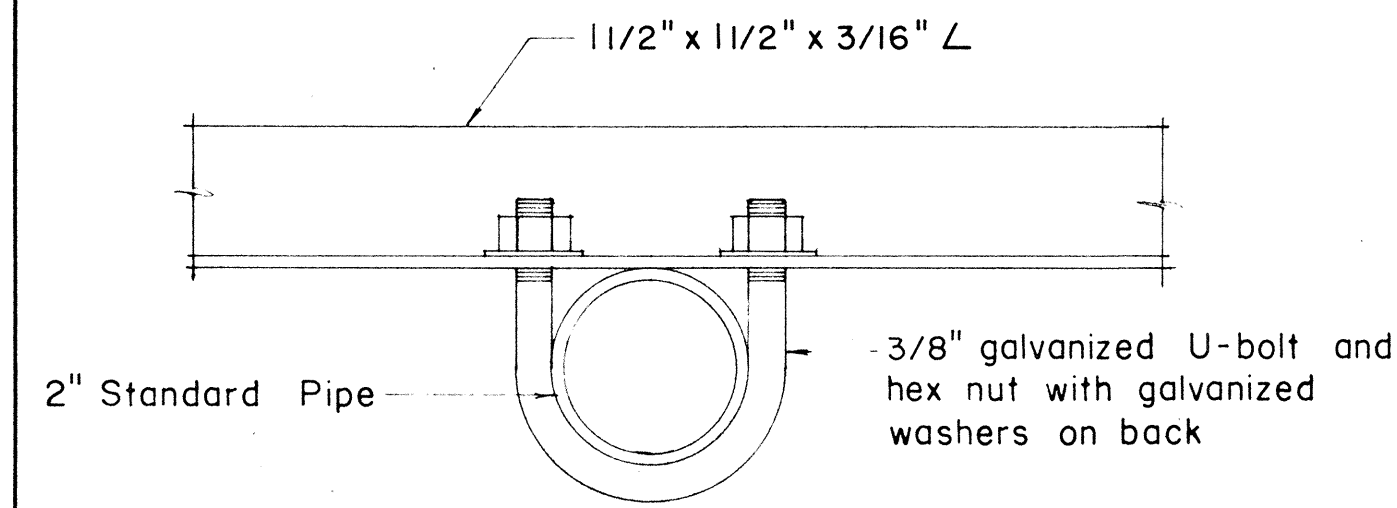
FRONT ELEVATION

TYPE "B" ASSEMBLY

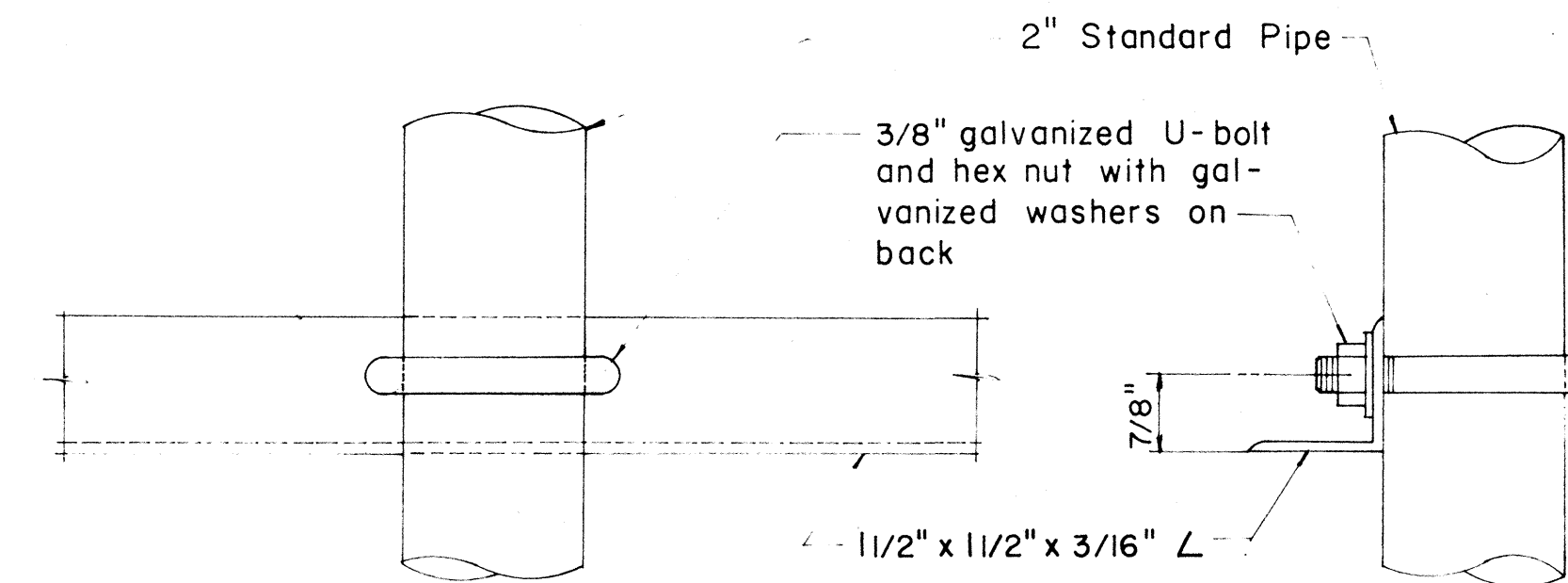


REAR ELEVATION

- NOTE:
1. Minimum clearance between signs shall be one inch. (Larger clearances shall be in multiples of one inch.)
 2. Pipe post for Type "A" & Type "B" Assembly shall be 2" Standard Pipe.



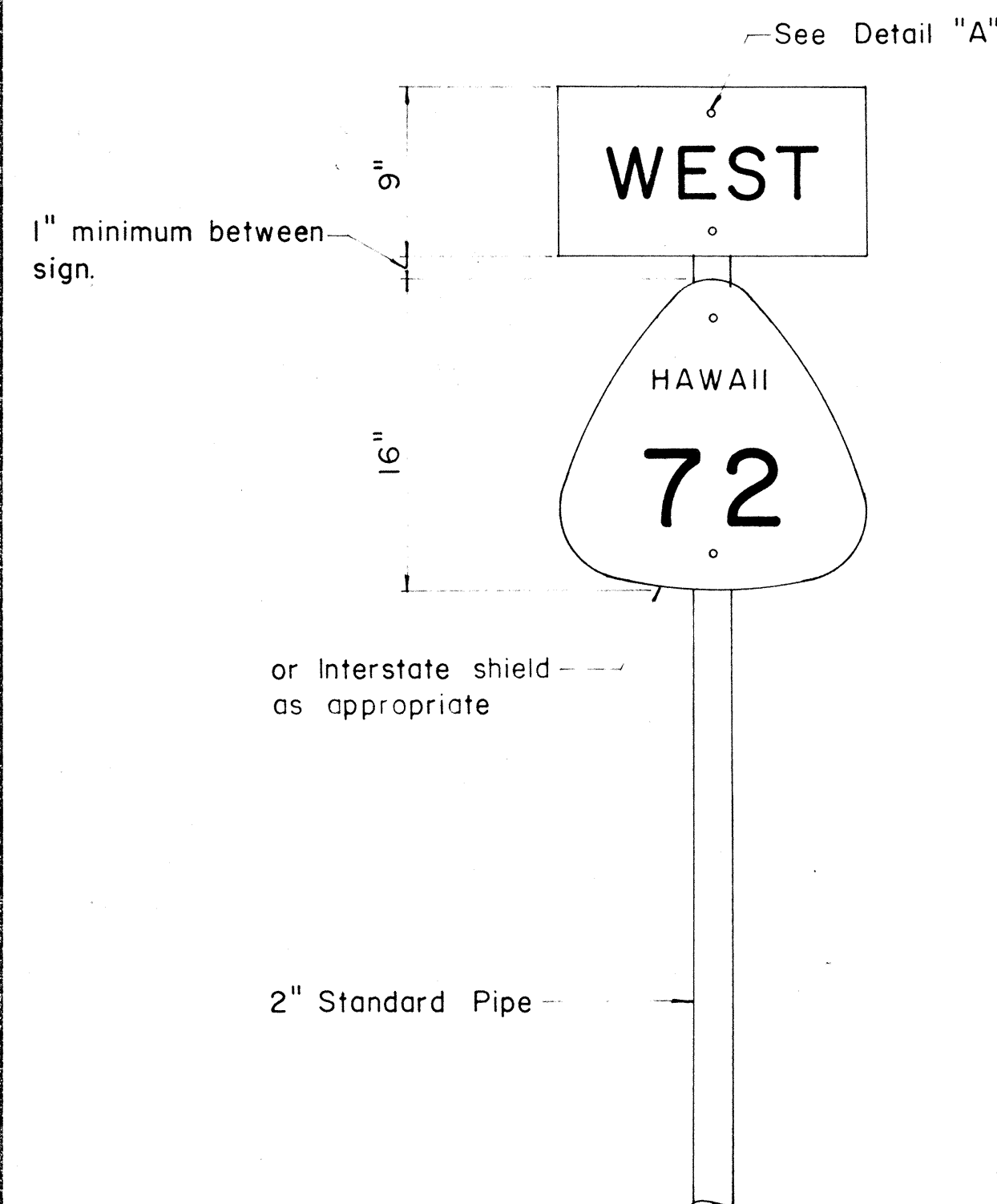
PLAN



FRONT ELEVATION

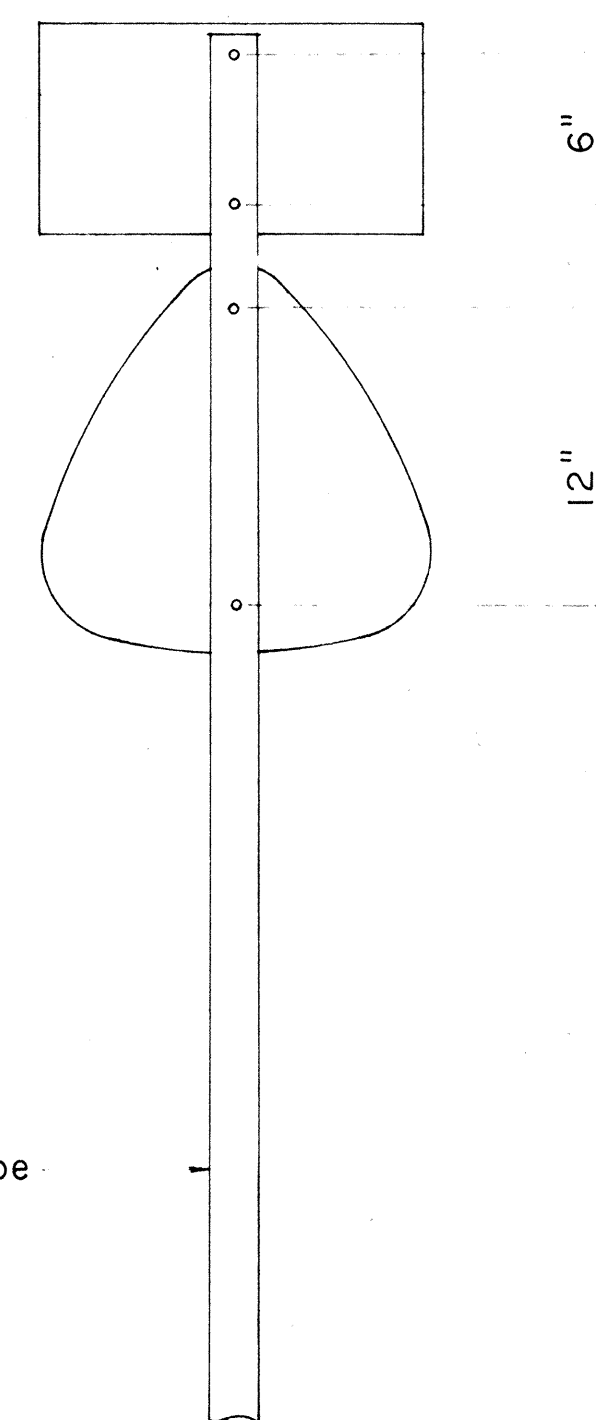
SIDE ELEVATION

DETAIL "C"



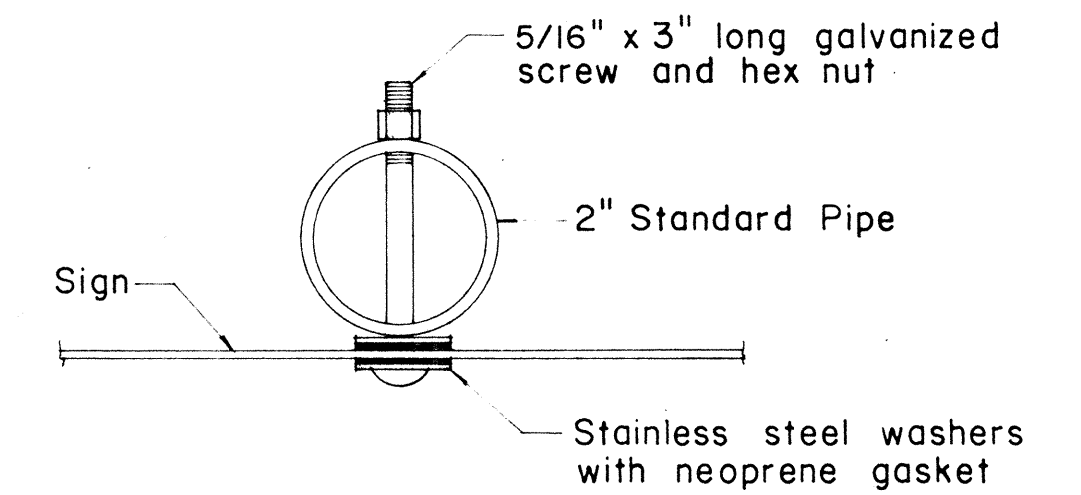
FRONT ELEVATION

TYPE "A" ASSEMBLY

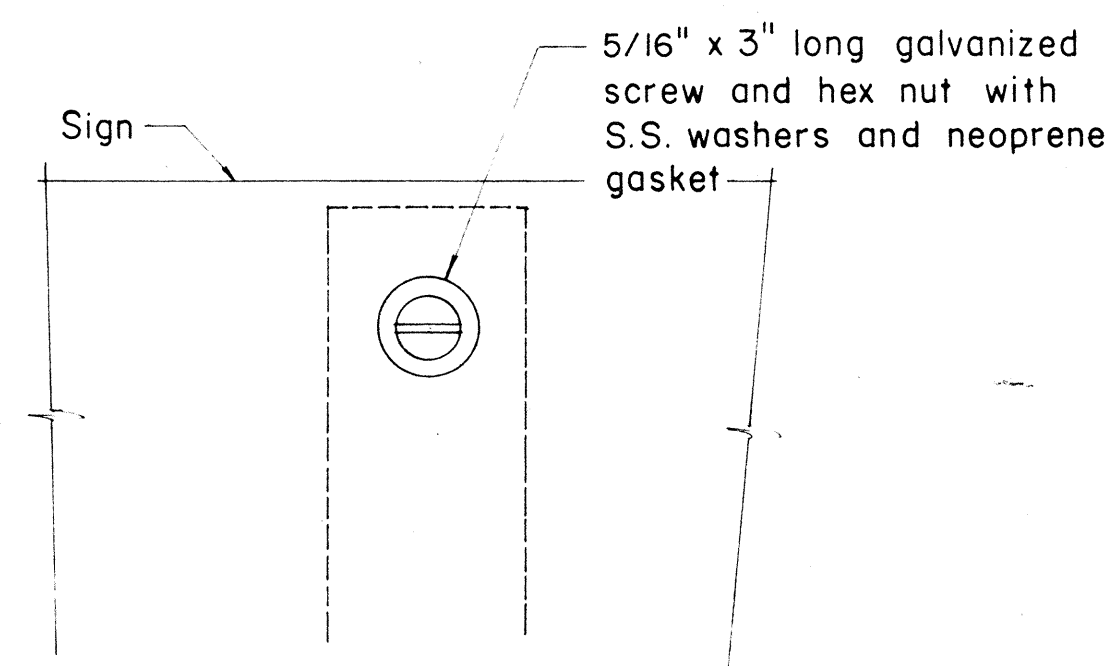


REAR ELEVATION

- NOTE:
- For height and lateral location of Route Marker Assembly, see plan sheet DT 100.

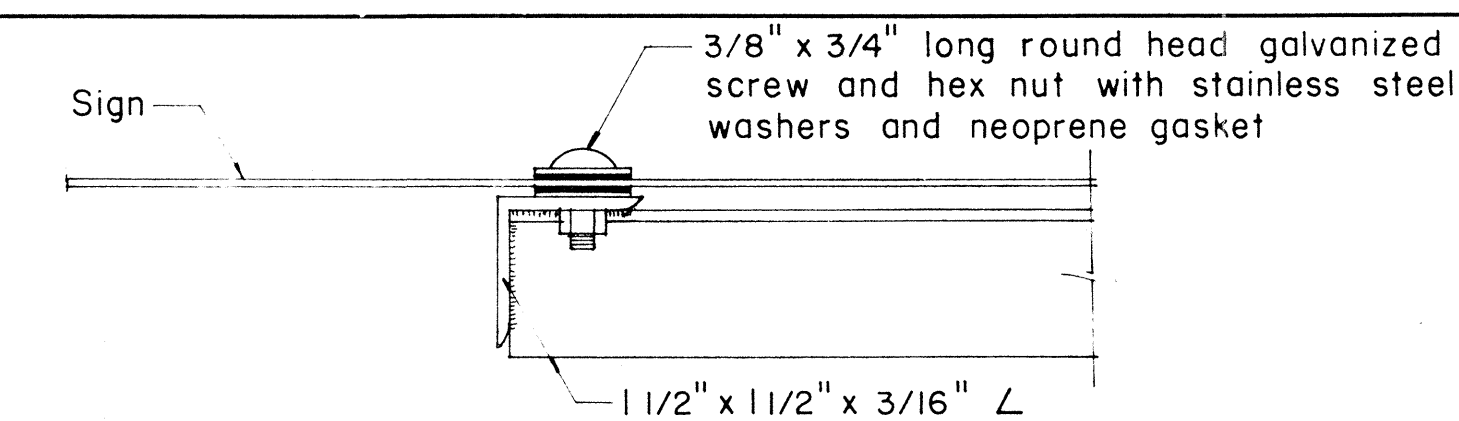


PLAN

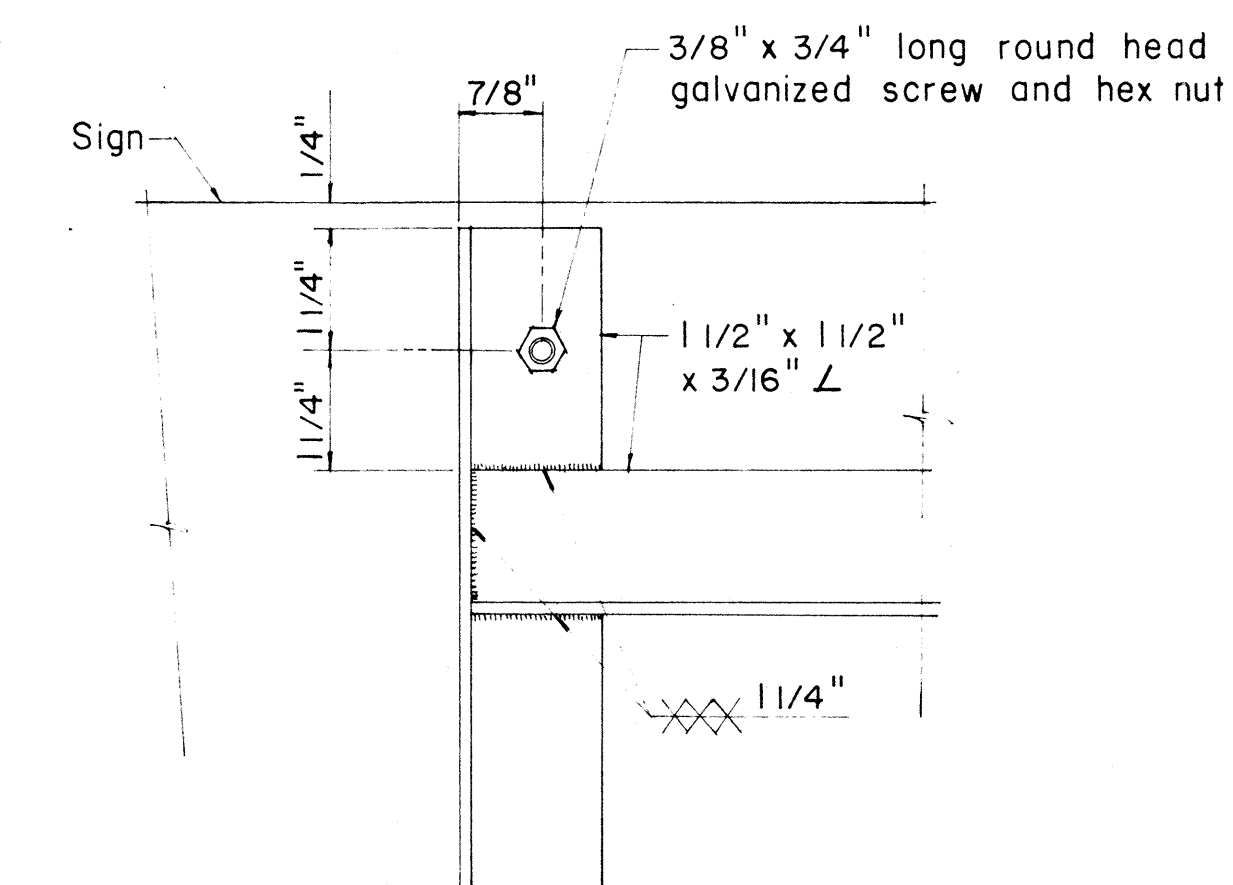


FRONT ELEVATION

DETAIL "A"

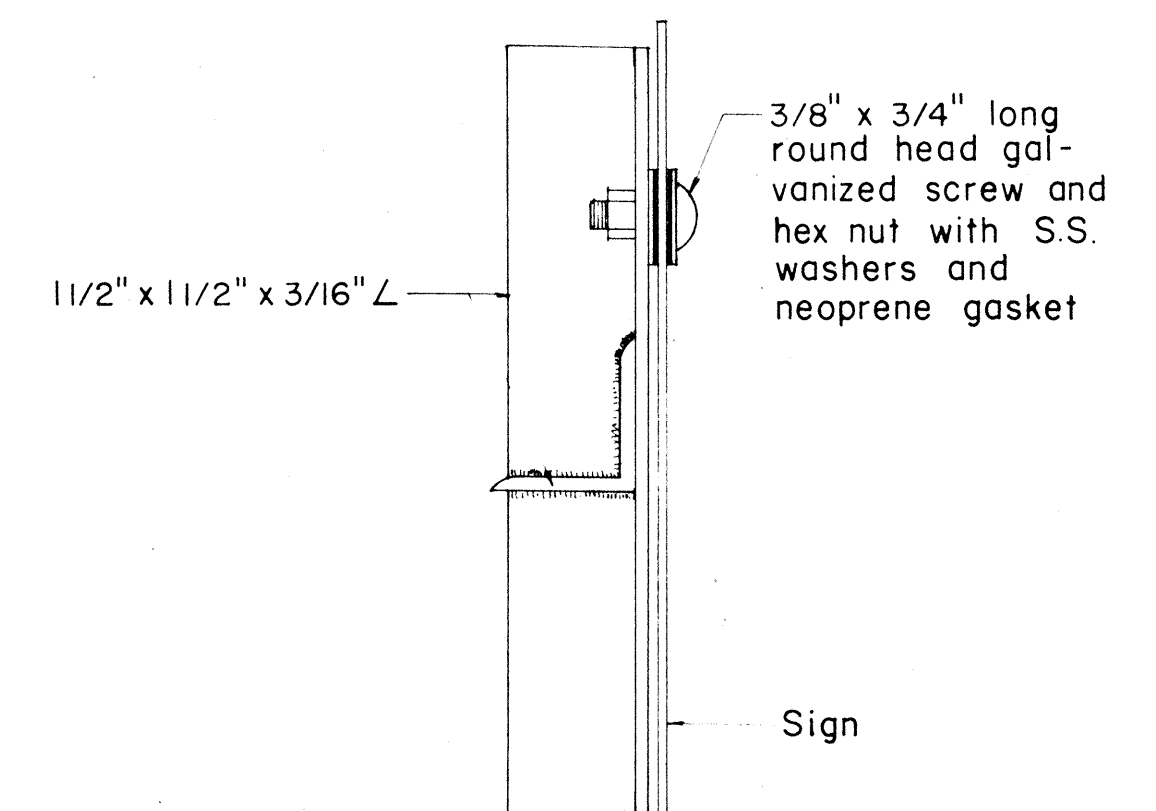


PLAN



ELEVATION

DETAIL "B"

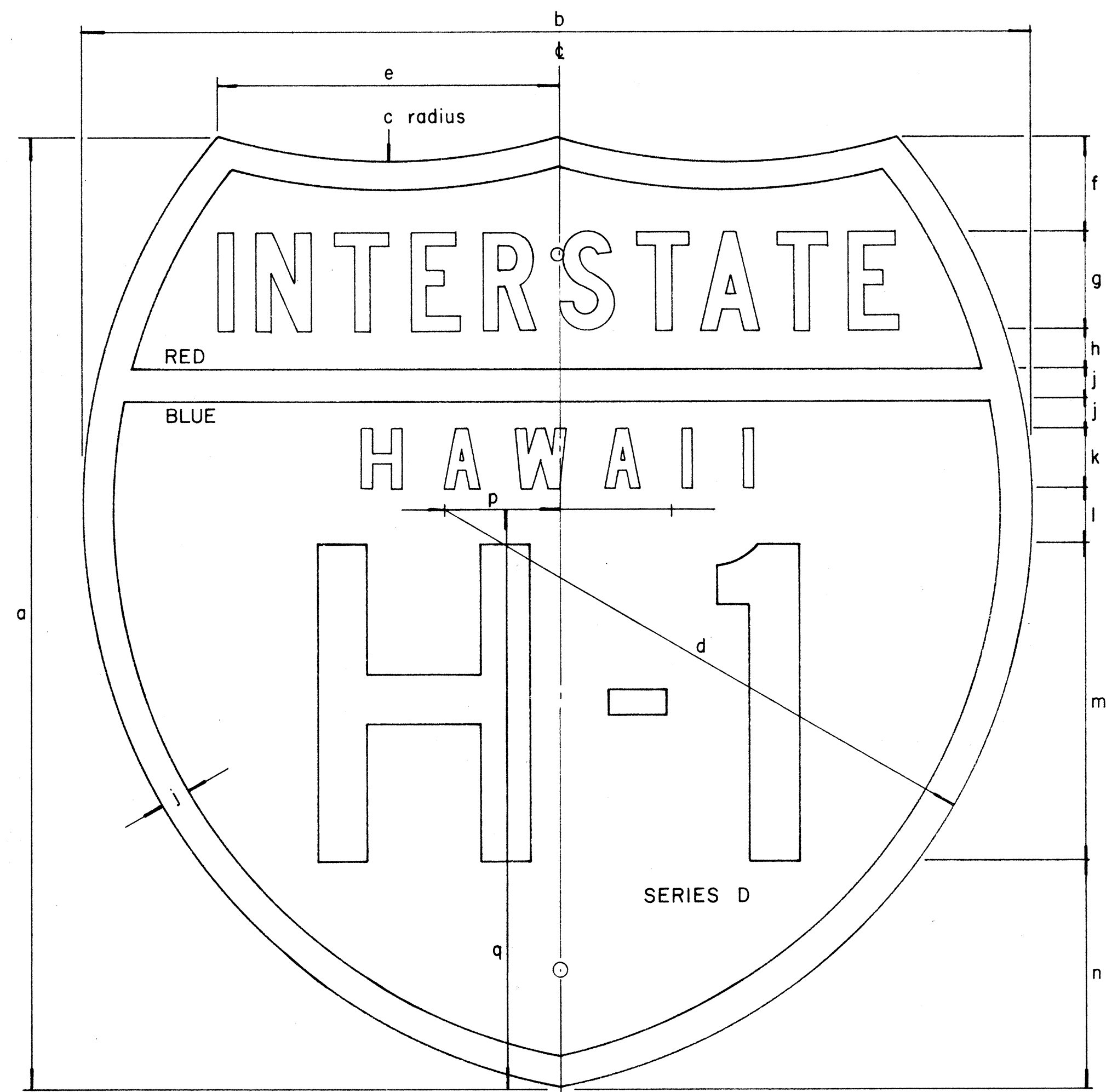


SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS
OF
ROUTE MARKER ASSEMBLY

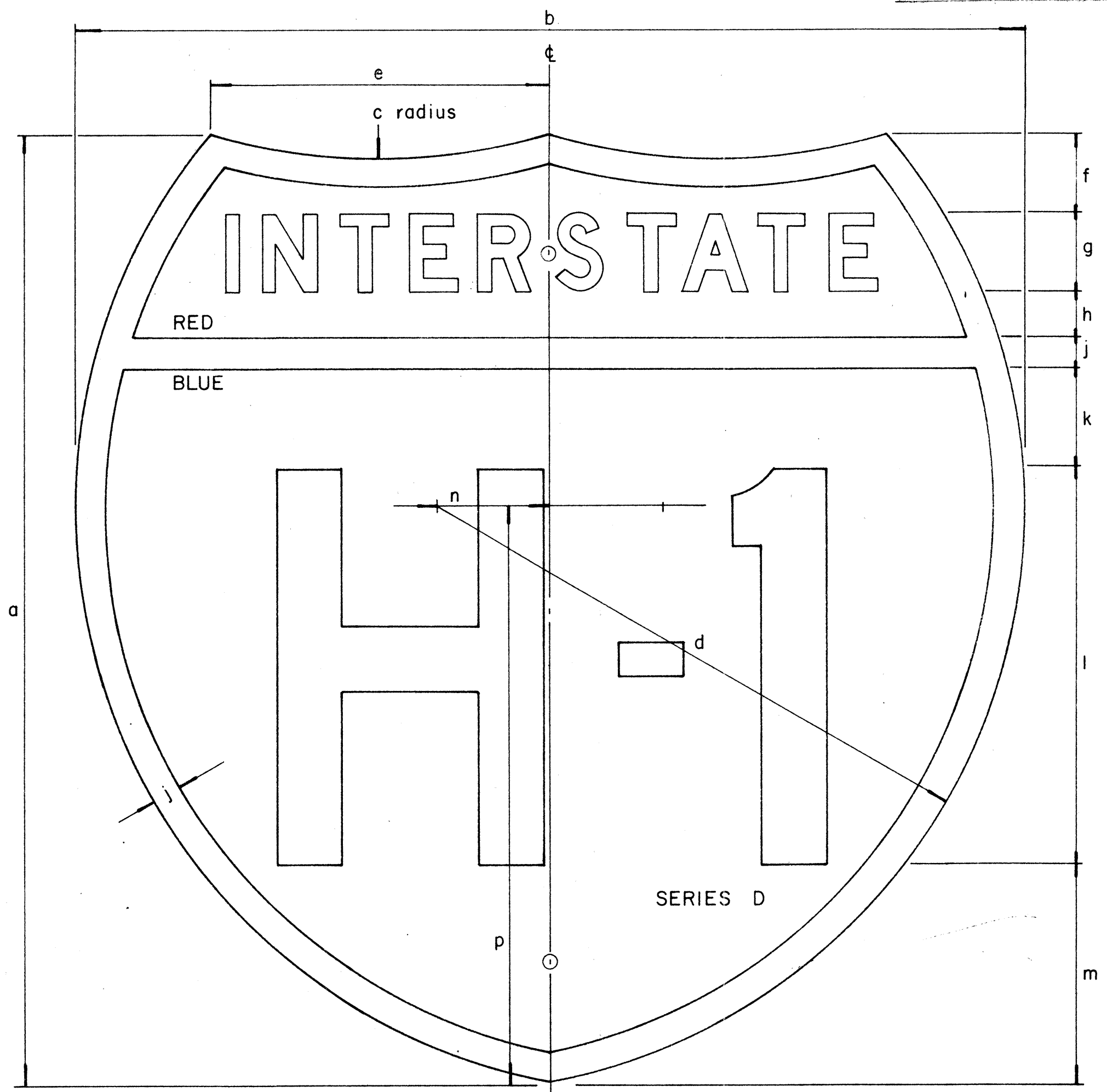
SHEET No. 10 OF 25 SHEETS



INTERSTATE ROUTE MARKER
IM-1()

INTERSTATE SHIELDS - INDEPENDENT USE

()	a	b	c	d	e	f	g	h	j	k	l	m	n	p	q
1	18	21	13 1/8	12 9/16	9 3/16	12 5/32	1 7/8 C	3/4	9/16	1 1/8 D	1 1/32	6	4 5/16	2 1/16	12 7/16
2	24	24	15	14 7/8	8 5/8	2 3/8	2 1/2 C	1	3/4	1 1/2 D	1 3/8	8	5 3/4	2 7/8	14 5/8
3	36	36	22 1/2	22 5/16	12 15/16	3 9/16	3 3/4 C	1 1/2	1 1/8	2 1/4 D	2 1/16	12	8 5/8	4 5/16	21 15/16



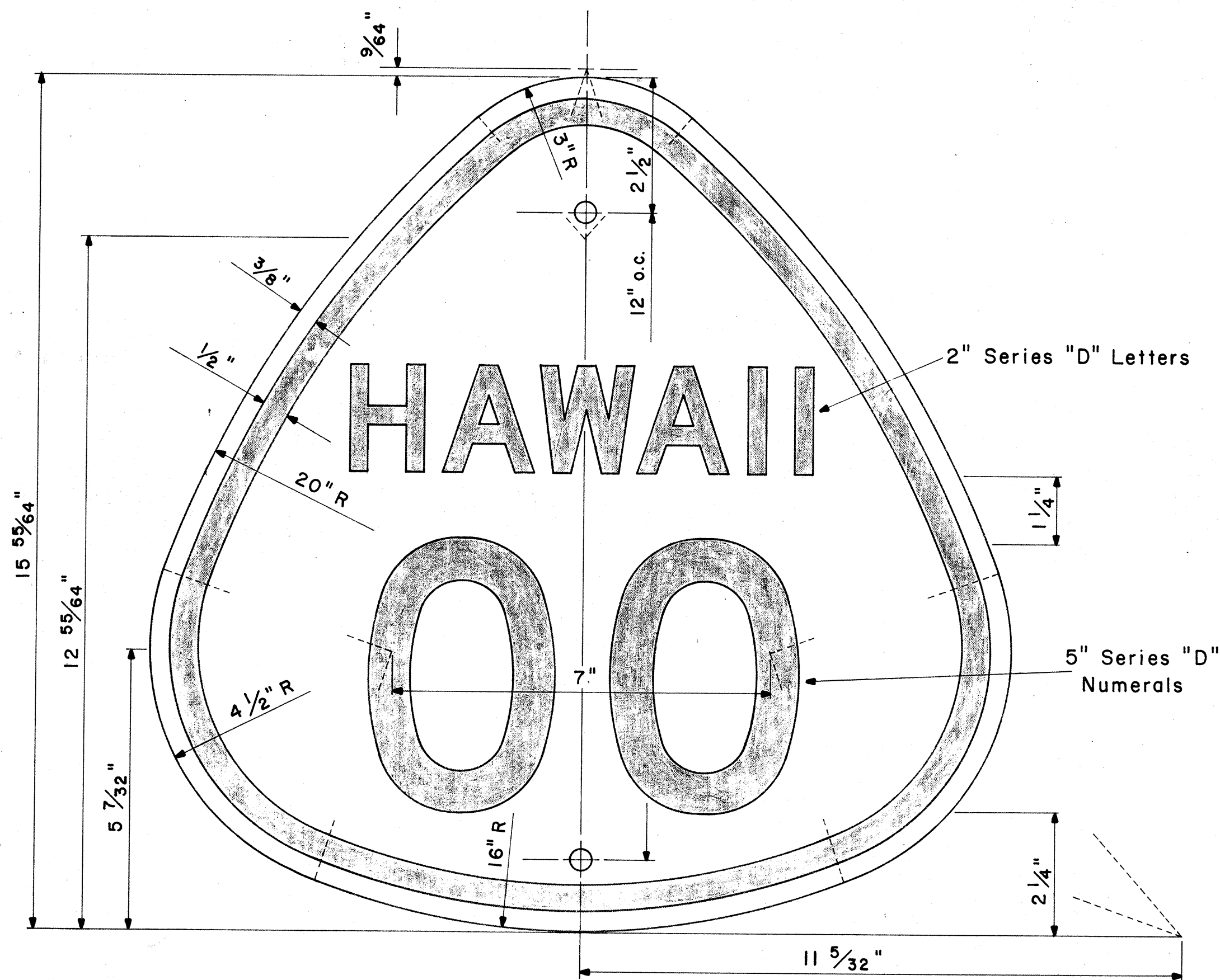
INTERSTATE ROUTE MARKER
IM-2()

INTERSTATE SHIELDS ON GUIDE SIGNS

()	a	b	c	d	e	f	g	h	j	k	l	m	n	p
2	24	24	15	14 7/8	8 5/8	2	2 D	1 3/16	3/4	2 9/16	10	5 1/2	2 7/8	14 5/8
3	36	36	22 1/2	22 5/16	12 15/16	3 7/16	3 C	1 5/16	1 1/8	3 1/8	15	9	4 5/16	21 15/16
4	48	48	30	29 3/4	17 1/4	4 3/4	5 C	2	1 1/2	4	18	12 3/4	5 3/4	29 1/4

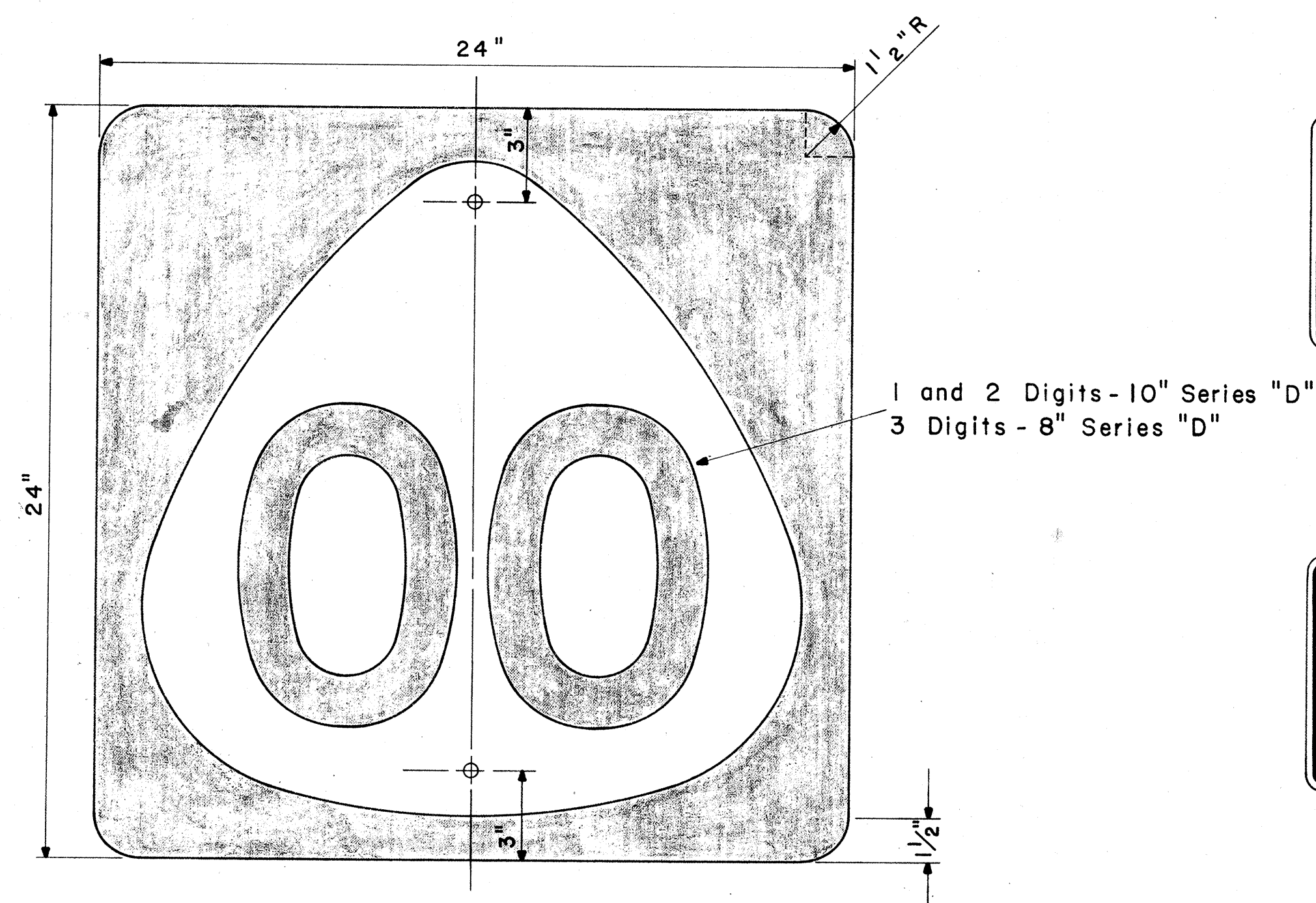
GENERAL NOTES

- The shape, dimensions, symbols, wording, lettering, color and reflectorizing of all signs 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.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1952
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate Route Marker shall be a cut-out shield, in a red, white and blue design as shown on the plans.



STATE ROUTE MARKER
M1-3(OO)

Scale: $\frac{1}{2}$ " = 1"

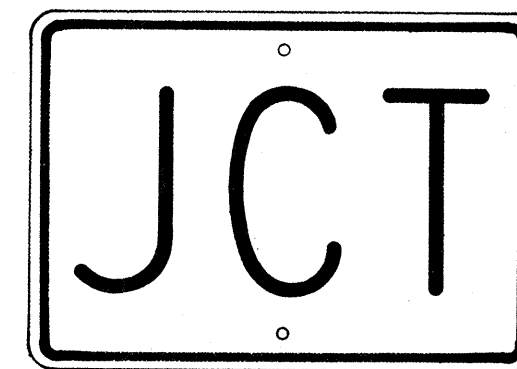


STATE ROUTE MARKER
M1-4(OO)

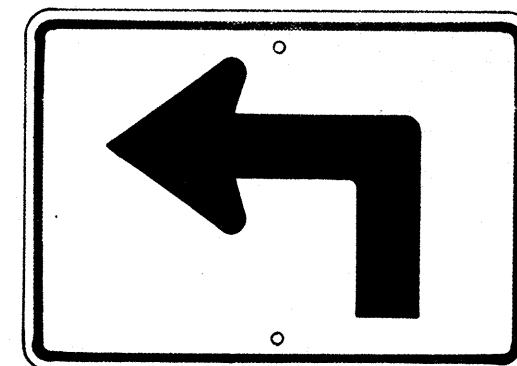
Scale: $\frac{1}{4}$ " = 1"

NOTE:

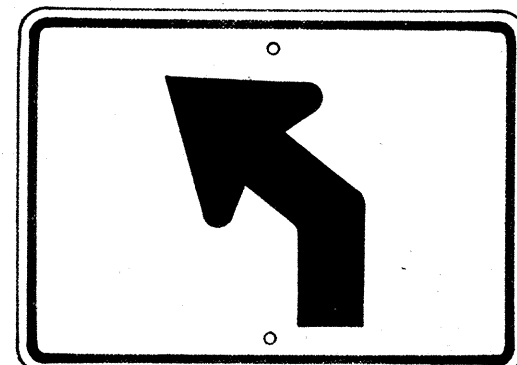
Multiply all dimensions of State Route Marker M1-3 by 1.3 for the dimensions of the shield for M1-4.



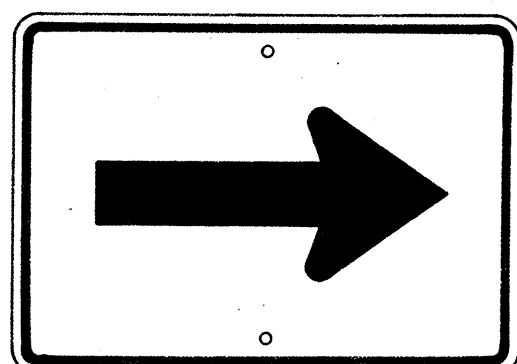
M2-1
21" x 15"



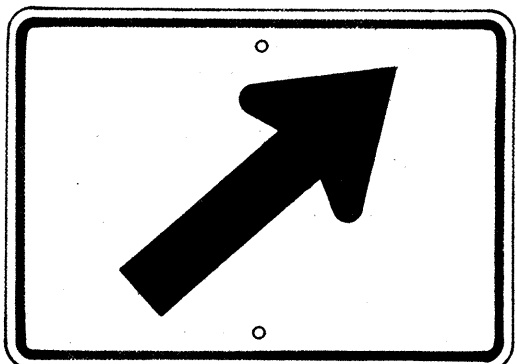
M3-1-L
* M3-1-R
21" x 15"



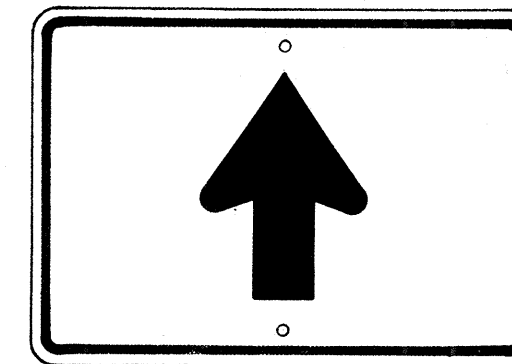
M3-2-L
* M3-2-R
21" x 15"



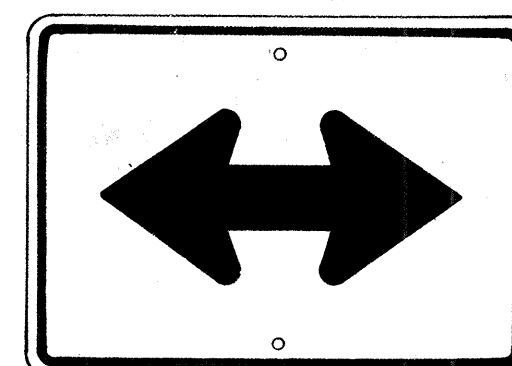
M4-1
21" x 15"



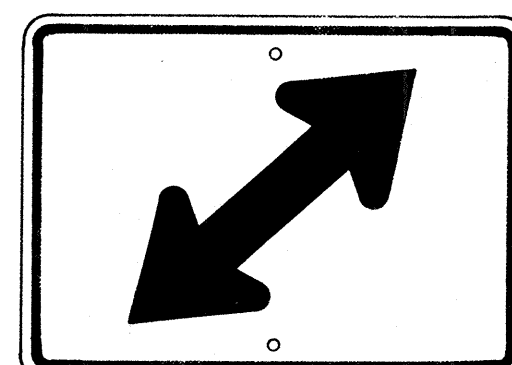
M4-2-R
* M4-2-L
21" x 15"



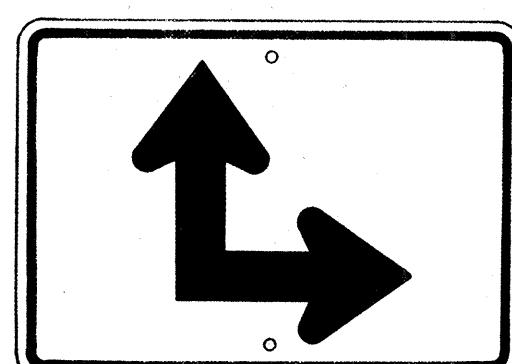
M4-3
21" x 15"



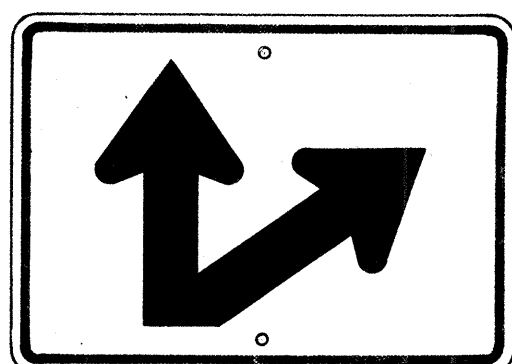
M4-4
21" x 15"



M4-5-R
* M4-5-L
21" x 15"



M4-6-R
* M4-6-L
21" x 15"



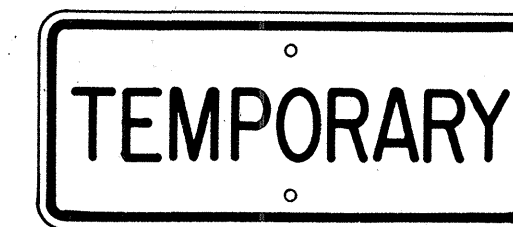
M4-7-R
* M4-7-L
21" x 15"

AUXILIARY MARKERS

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

* NOTE:

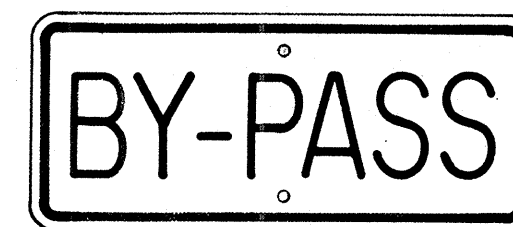
Signs shall be similar but opposite in direction.



M5-1
21" x 9"



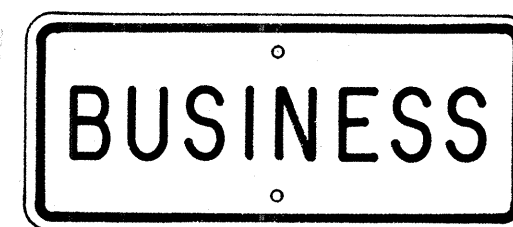
M5-2
21" x 9"



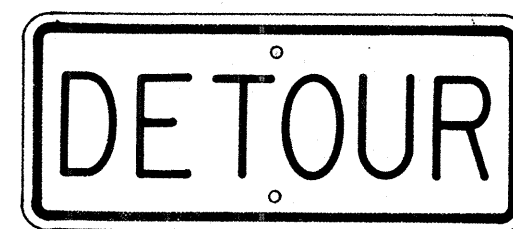
M5-3
21" x 9"



M5-4
21" x 9"



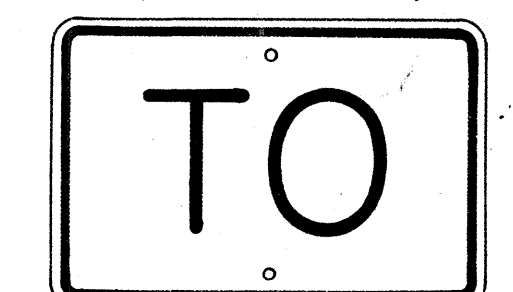
M5-5
21" x 9"



M5-6
21" x 9"



M6-1-N
21" x 9"
(See Note 6)



M7-1
18" x 12"

GENERAL NOTES

- The shape, color, dimensions, symbols, wording, lettering and reflectorizing of all signs 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.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1952.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise specified.
- All markers shall have a black legend on a white background unless otherwise specified.
- Sign message of Cardinal Direction Marker (M6-1) shall be denoted by the following suffixes:
M6-1-N : NORTH
M6-1-E : EAST
M6-1-S : SOUTH
M6-1-W : WEST
- Auxiliary markers denoted with the suffix "I": (M4-1-I) shall have a white legend on a blue background.
- Cardinal Direction Marker (M6-1) with suffix I (3) shall have a white legend on a blue background and shall be 30" x 15" in size.
- For M1-3, and M1-4 signs, number in () indicates route number and shall be as shown on the plan.

APPROVED:

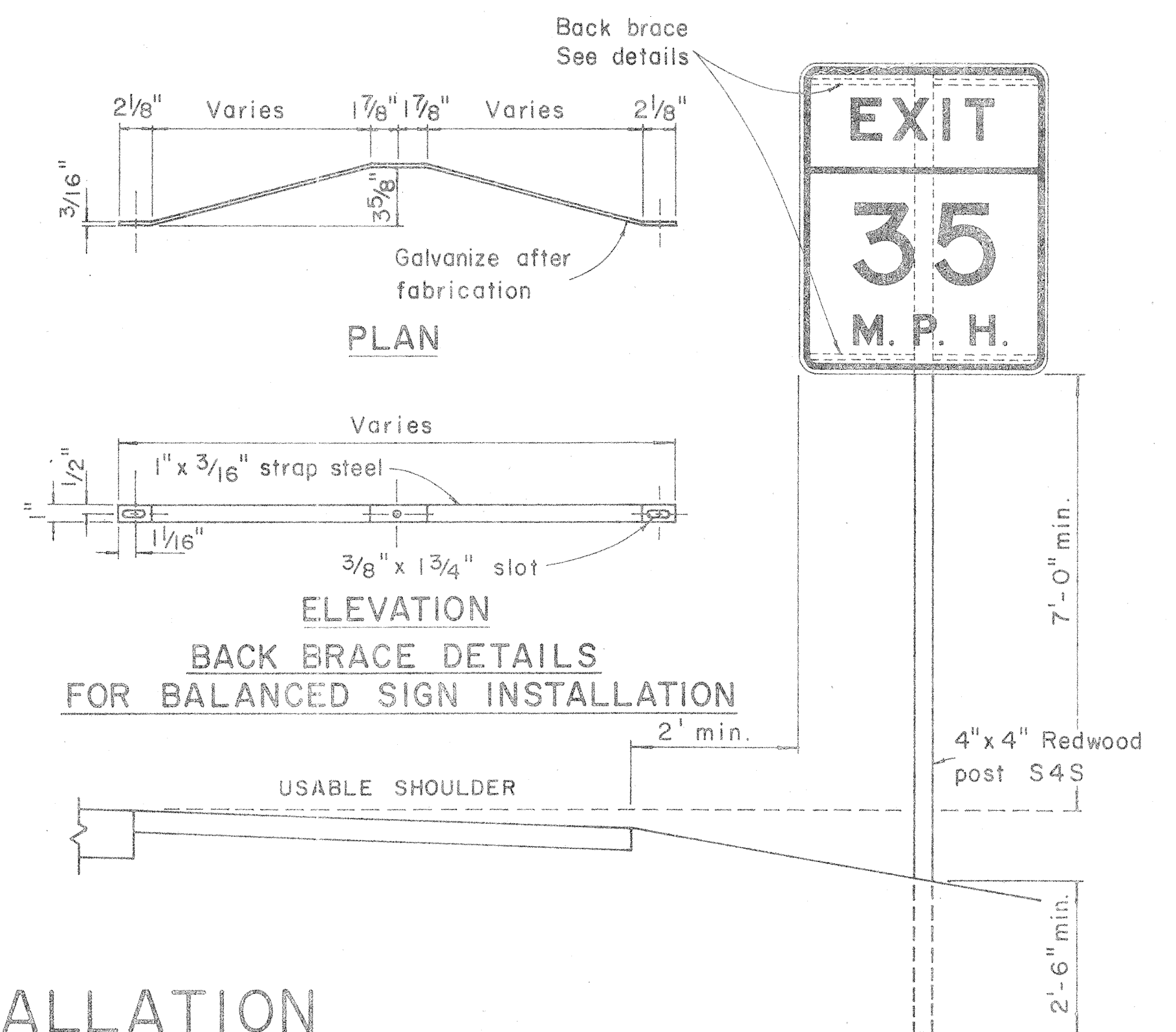
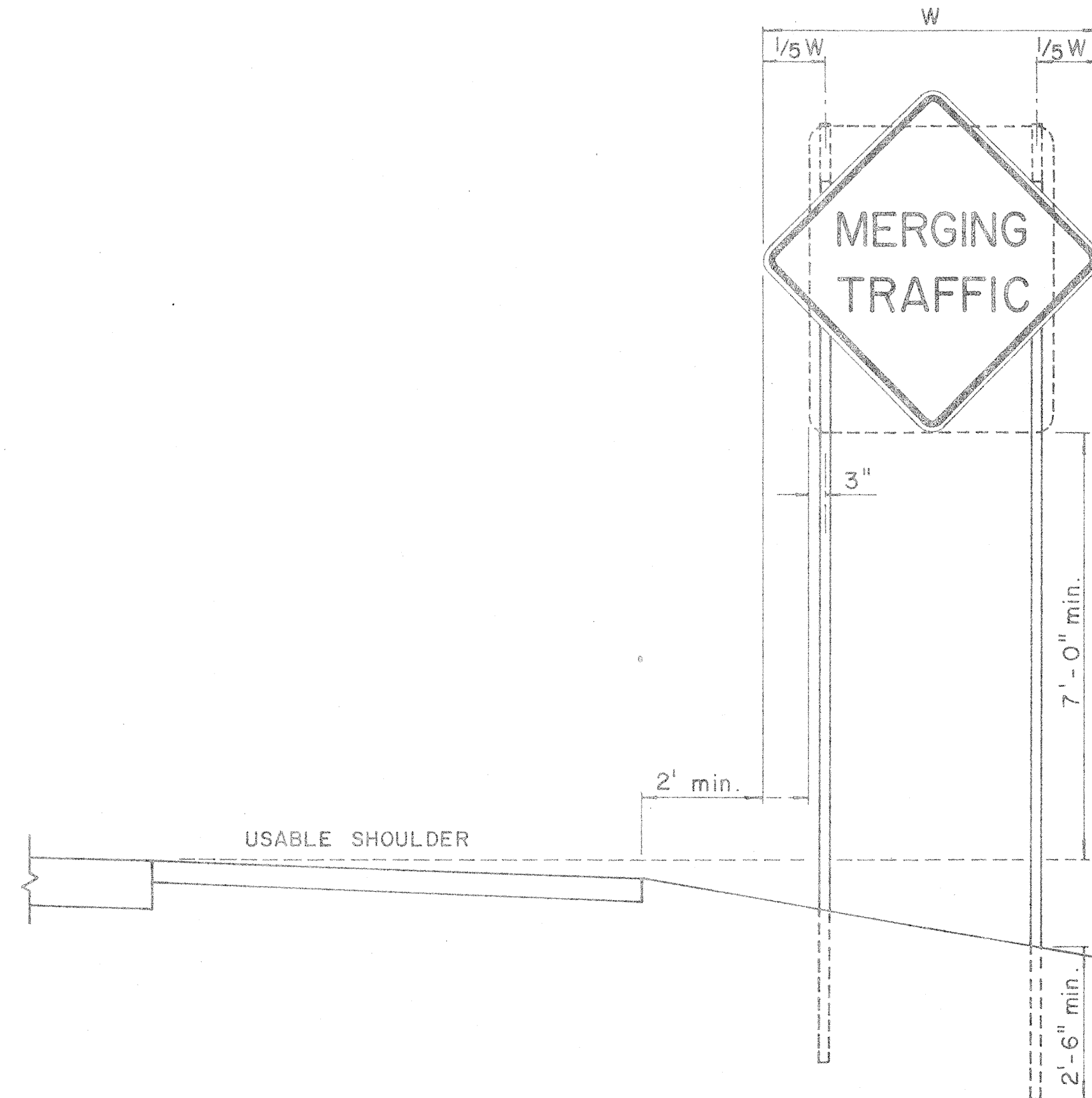
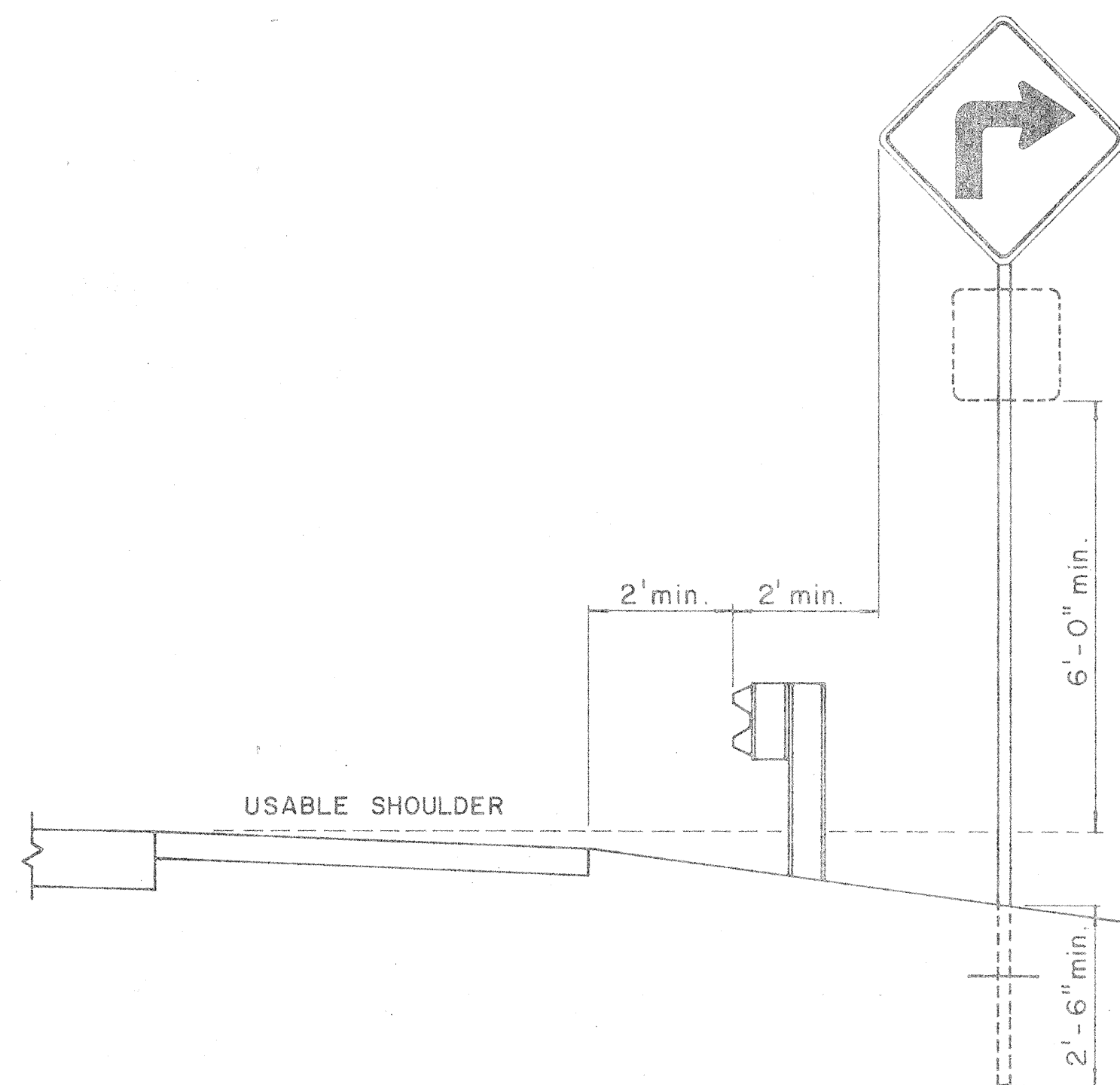
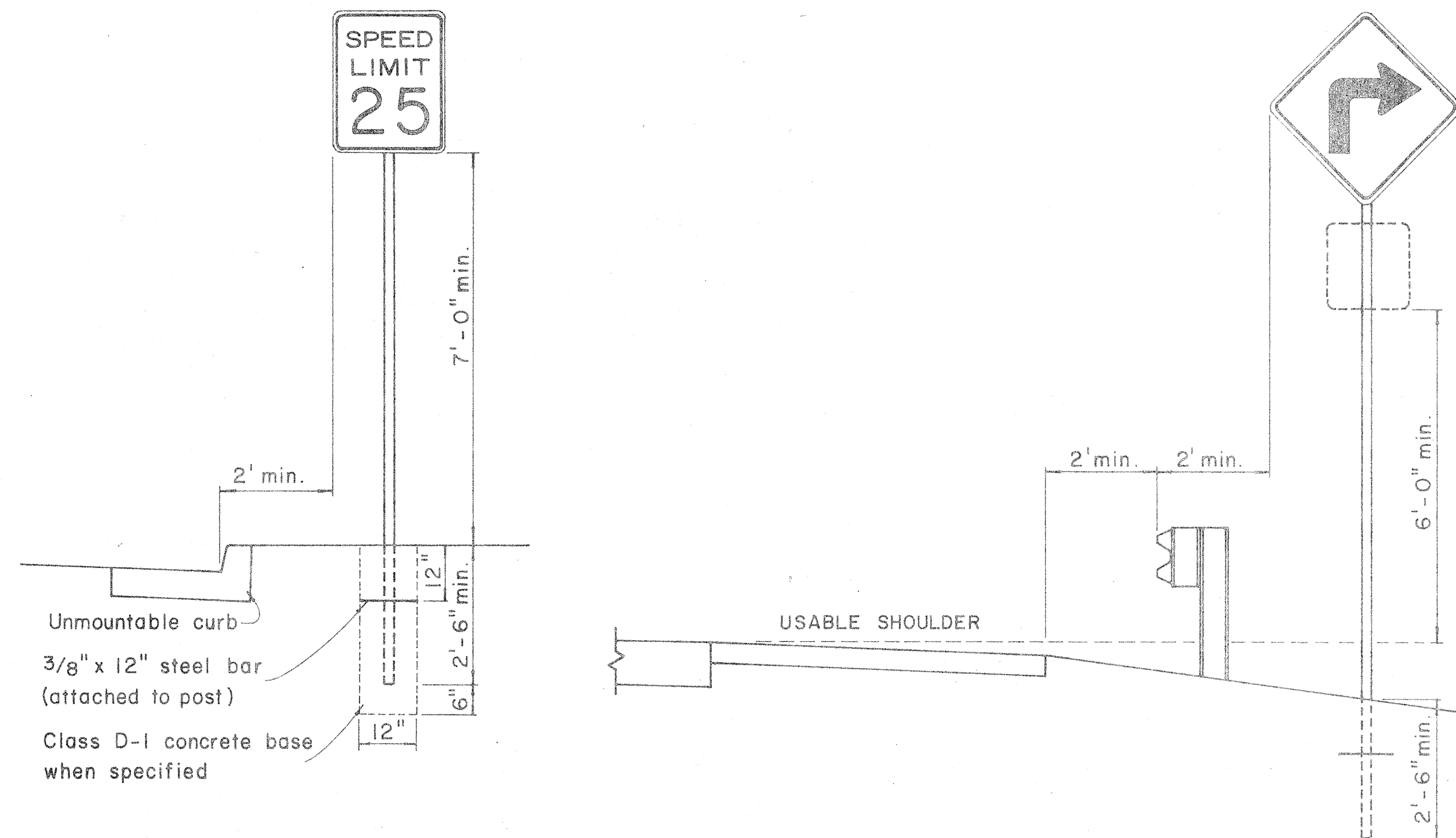
DATE:

DIRECTOR OF TRANSPORTATION

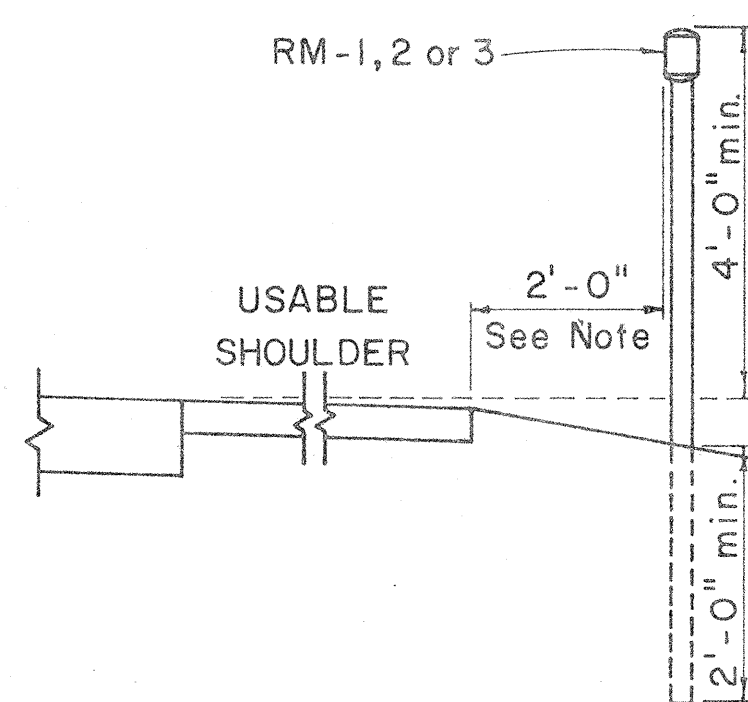
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
STATE ROUTE MARKERS
AND
AUXILIARY MARKERS
Scale: As Noted
SHEET NO. 45 OF 25 SHEETS

41-5

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(165)10 I-HI-(140)11	1968	46	185

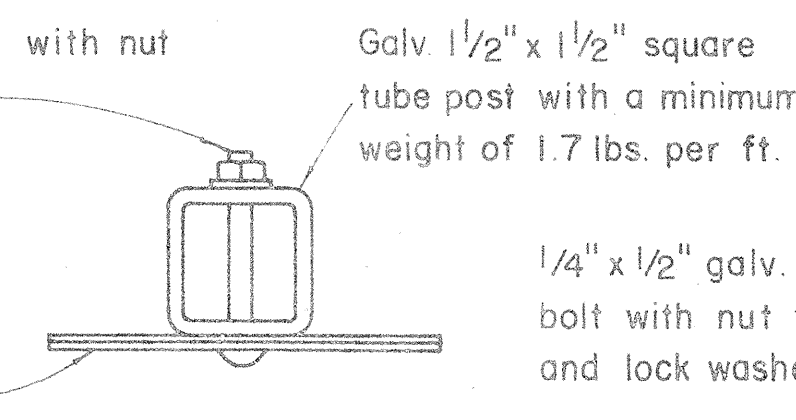
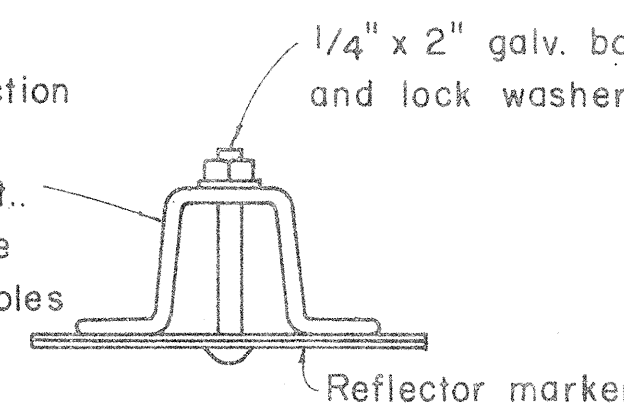


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



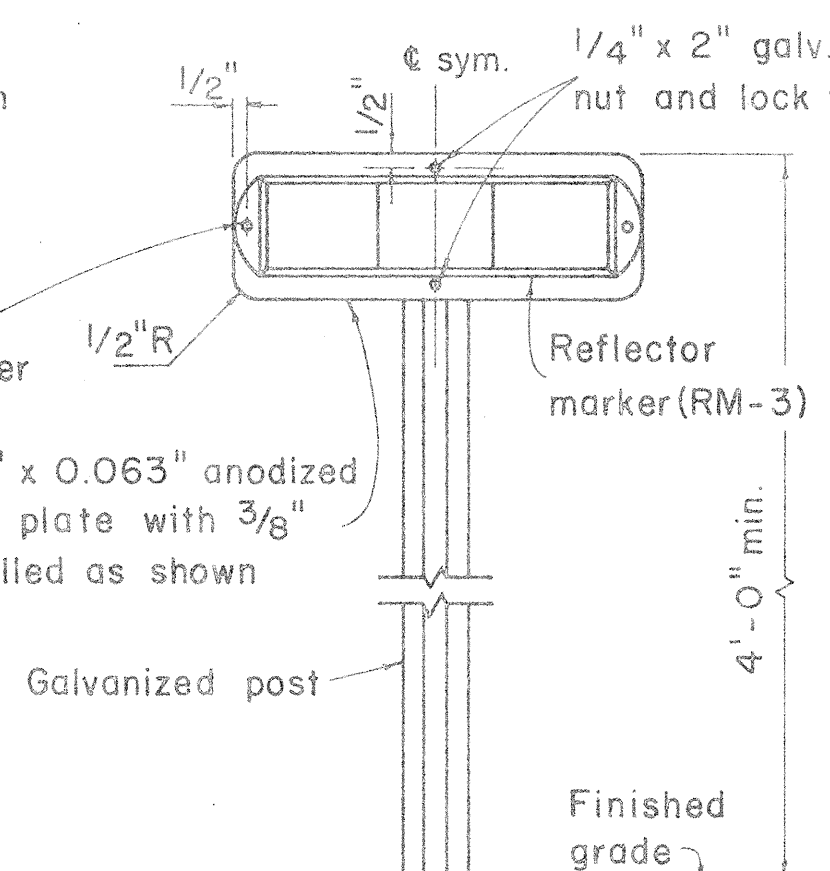
Galv. flanged channel
1/8" x 3/16" rolled section
post with a minimum
weight of 2 lbs. per ft.
Upper 2 ft. shall have
a single row of 3/8" holes
centered in the web at
1" o.c.

TYPICAL SECTION OF ROAD DELINEATOR

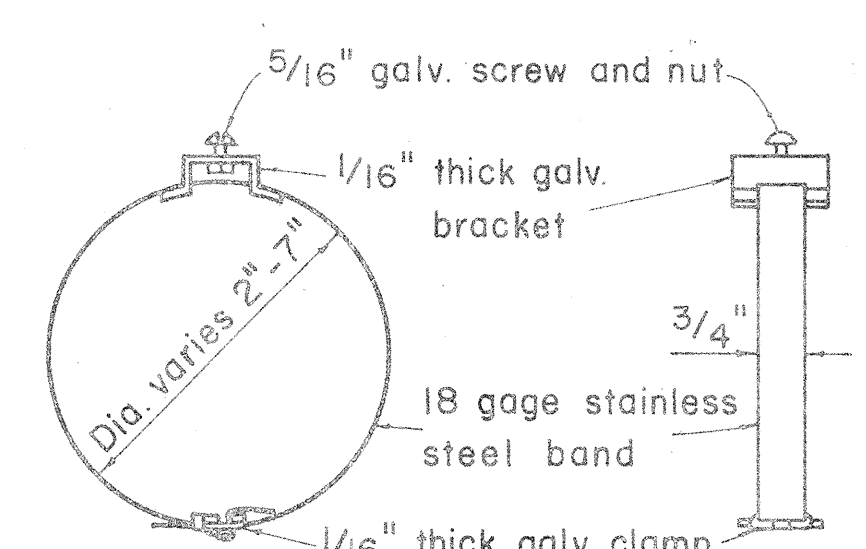


1/4" x 1/2" galv.
bolt with nut
and lock washer

1'-5" x 6" x 0.063" anodized
aluminum plate with 3/8"
holes drilled as shown

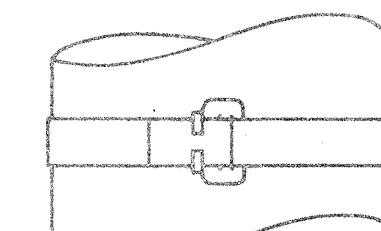


TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



PLAN

SIDE VIEW

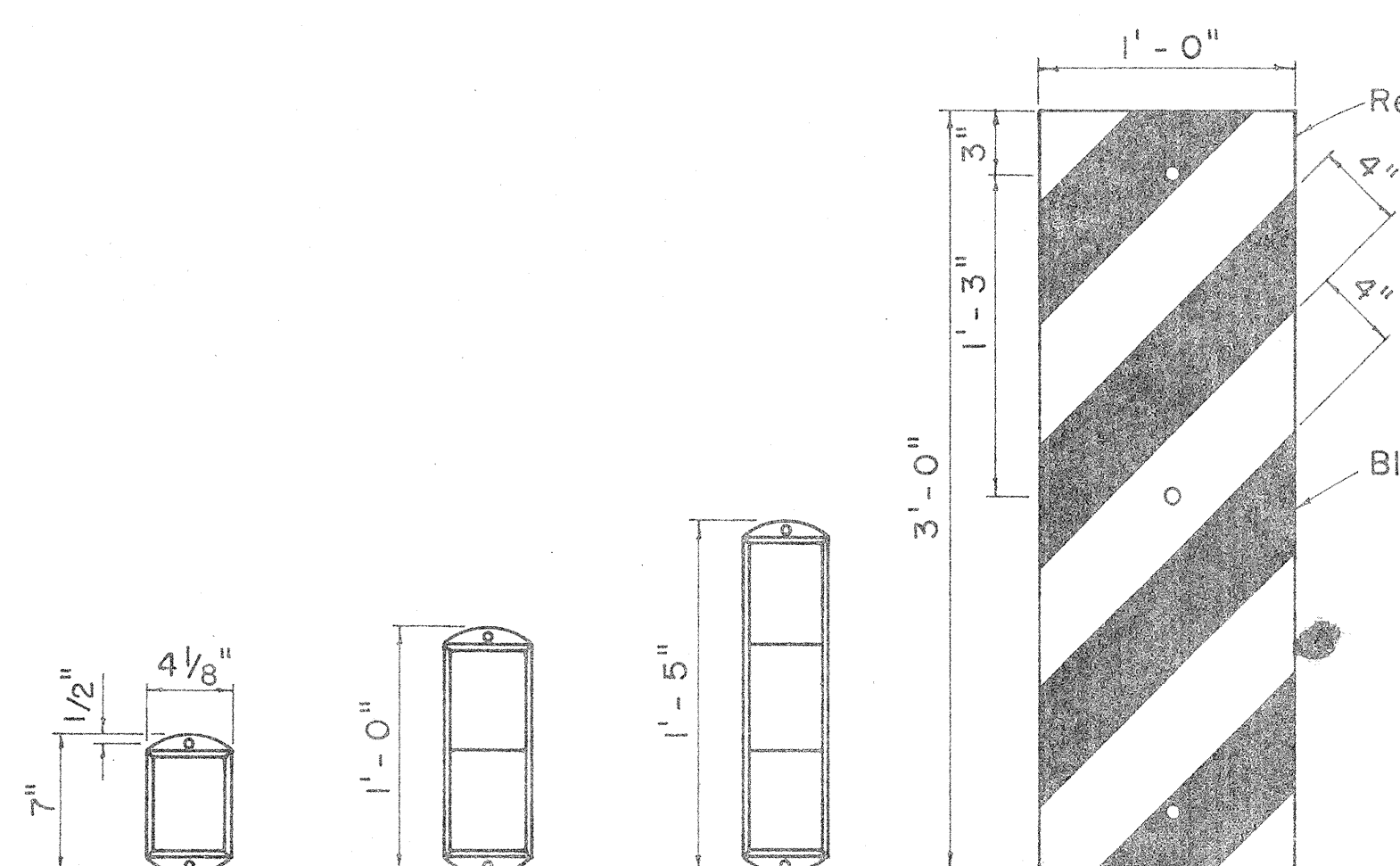


FRONT VIEW

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

GENERAL NOTES:

- Sign posts shall be 2" galv. standard pipe or 2" x 2" galv. sq. tube post.
- Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 2" galv. standard pipe or two 2" x 2" galv. sq. tube post or 4" x 4" redwood post S4S.
- Signs shall be attached to post with 5/16" galv. bolts with nuts and 7/8" x 0.06 stainless steel washers with neoprene rubber gasket.
- Sign posts shall extend 3 1/2" above sign where required for City and County street name signs.
- Reflector markers RM-1, 2, 3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.
- Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
- (R) or (L) indicates right or left and shall be as shown on the plans.



RM-1
(CLEAR)

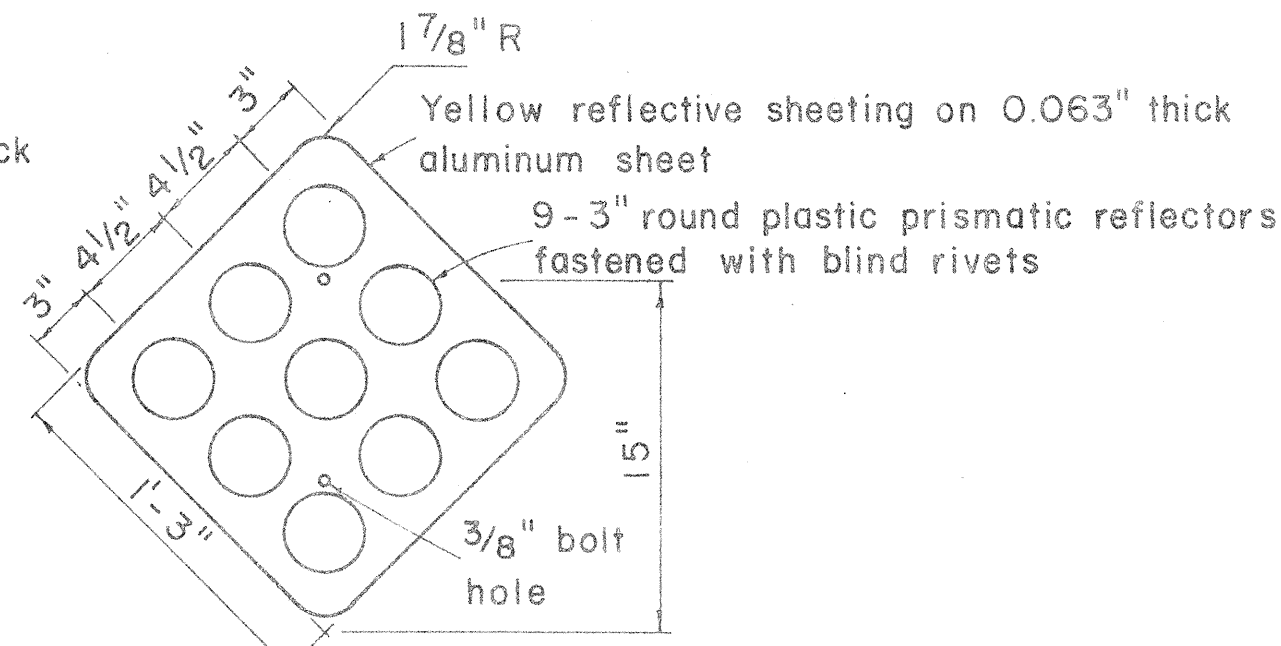
RM-2
(AMBER)

RM-3
(AMBER)

RM-4(R)

RM-9

REFLECTOR MARKERS



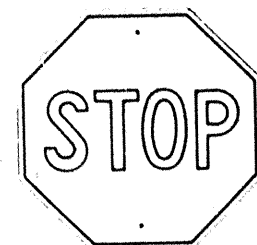
ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	
NOTE BOOK	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

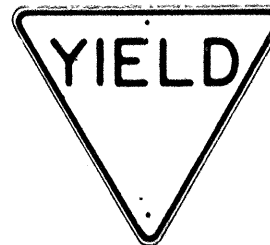
STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale
March, 1968

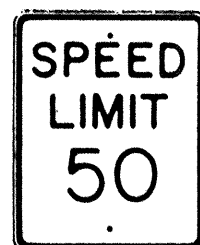
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(65)10 HI-1(40)11	1969	47	185



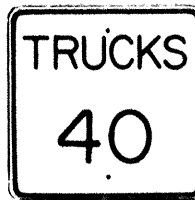
R1-1 30"x30"



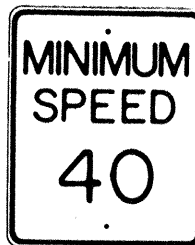
R1-2 36"x36"x36"
R1-2-E 48"x48"x48"
R1-2-I 60"x60"x60"



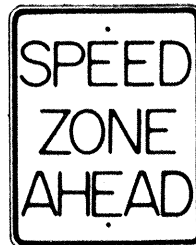
R2-1(50) 24"x30"
R2-1(50)-E 36"x48"
R2-1(50)-I 48"x60"



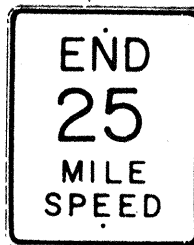
R2-2(40) 24"x24"
R2-2(40)-E 36"x36"
R2-2(40)-I 48"x48"



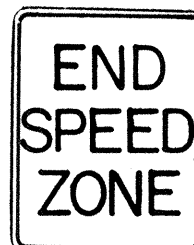
R2-4(40) 24"x30"
R2-4(40)-E 36"x48"
R2-4(40)-I 48"x60"



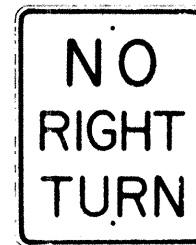
R2-5 24"x30"
R2-5-E 36"x48"
R2-5-I 48"x60"



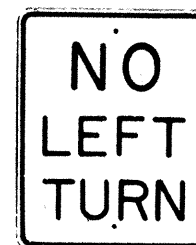
R2-6(25) 24"x30"
R2-6(25)-E 36"x48"
R2-6(25)-I 48"x60"



R2-7 24"x30"
R2-7-E 36"x48"
R2-7-I 48"x60"



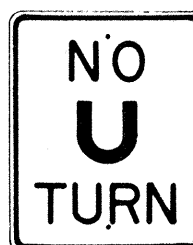
R3-1 24"x30"
R3-1-E 36"x48"



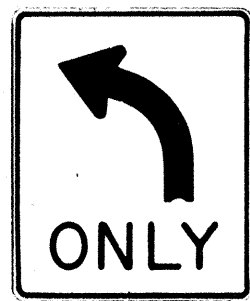
R3-2 24"x30"
R3-2-E 36"x48"



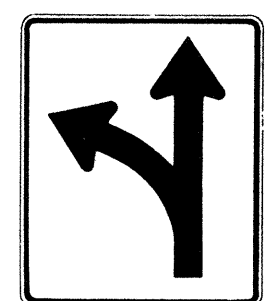
R3-3 24"x24"



R3-4 24"x30"
R3-4-E 36"x48"
R3-4-I 48"x60"



R3-5(L) 30"x36"



R3-6(L) 30"x36"



R3-7(R) 30"x30"



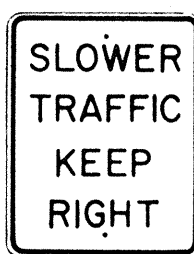
R3-8(L) 30"x30"



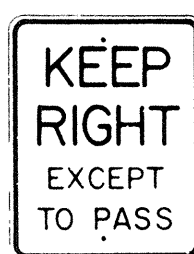
R4-1 24"x30"



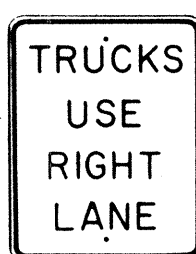
R4-2 24"x30"



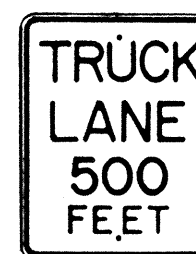
R4-3 24"x30"
R4-3-E 36"x48"
R4-3-I 48"x60"



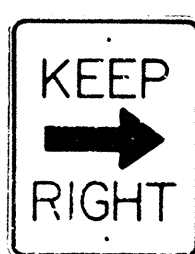
R4-4 24"x30"
R4-4-E 36"x48"
R4-4-I 48"x60"



R4-5 24"x30"
R4-5-E 36"x48"



R4-6 24"x30"
R4-6-E 36"x48"



R4-7(R) 24"x30"
R4-7(R)-E 36"x48"



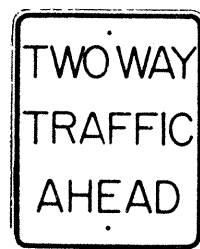
R5-1 24"x24"



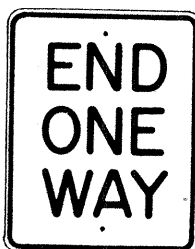
R6-1(R) 36"x12"



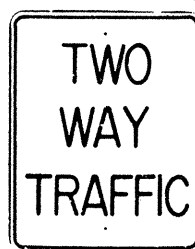
R6-2(R) 18"x24"



R6-3 24"x30"



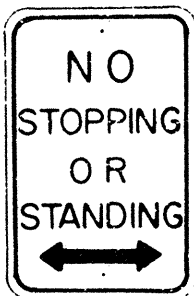
R6-4 24"x30"



R6-5 24"x30"



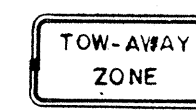
R7-1 12"x18"



R7-4 12"x18"
R7-4-E 24"x30"



R7-107(R) 12"x18"



R7-201 12"x6"



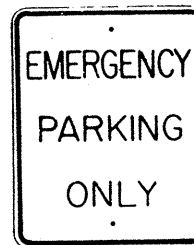
R8-1 24"x30"
R8-1-E 36"x48"
R8-1-I 48"x60"



R8-2 24"x30"
R8-2-E 36"x48"



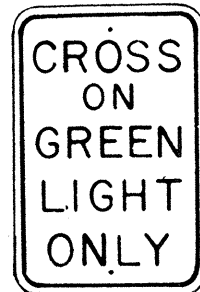
R8-3 24"x30"
R8-3-E 36"x48"



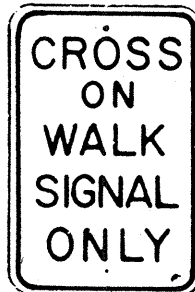
R8-4 24"x30"
R8-4-E 36"x48"
R8-4-I 48"x36"



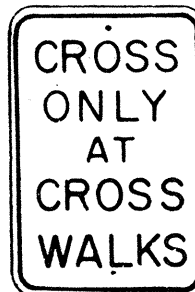
R9-1 18"x24"



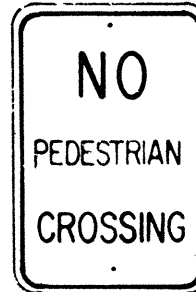
R9-2 12"x18"



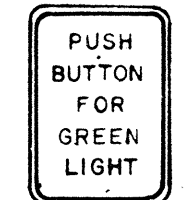
R9-3 12"x18"



R9-4 12"x18"



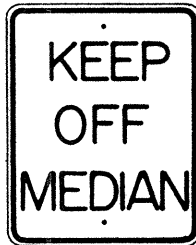
R9-5 12"x18"



R9-6 9"x12"



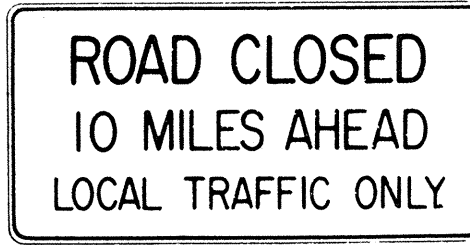
R9-7 9"x12"



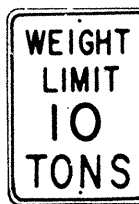
R10-1 24"x30"
R10-1-E 36"x48"
R10-1-I 48"x60"



R10-2 48"x30"



R10-3(10) 60"x30"



R10-4(10) 18"x24"

NOTE:

- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs 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.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
- The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
- For R2 signs, number in () indicates speed and shall be as shown on the plans.
- (R) or (L) indicates right or left and shall be as shown on the plans.
- For R10-4 sign, number in () indicates weight and shall be as shown on the plan.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

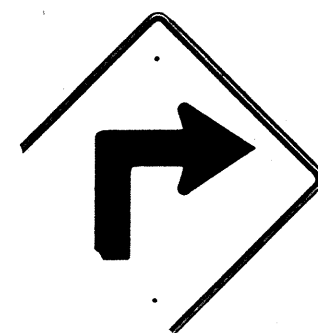
NOT TO SCALE

SHEET No. 20 OF 25 SHEETS DT 101

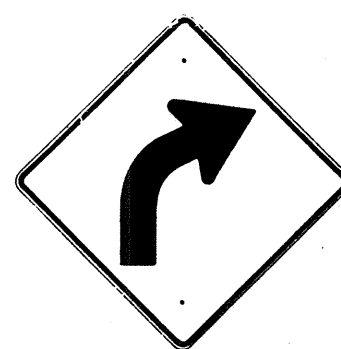
415

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
DESIGNED BY	_____
NOTE BOOK	_____
QUANTITIES BY	_____
CHECKED BY	_____
No.	_____

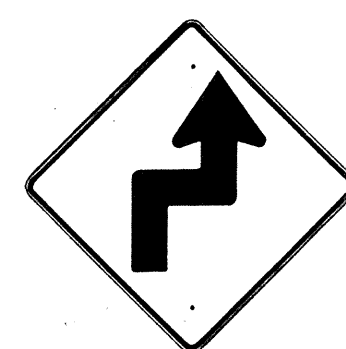
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-11(65)10 FH-11(40)11	1965	48	185



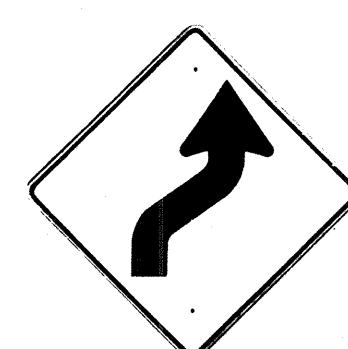
WI-1(R) 30" x 30"



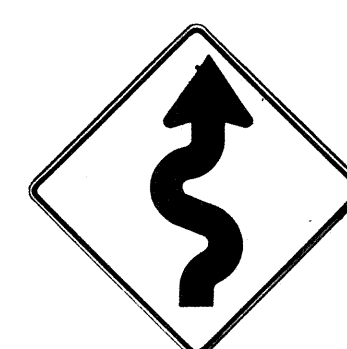
WI-2(R) 30" x 30"



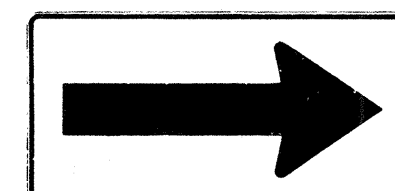
WI-3(R) 30" x 30"



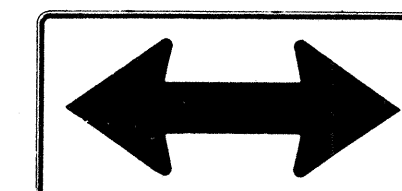
WI-4(R) 30" x 30"



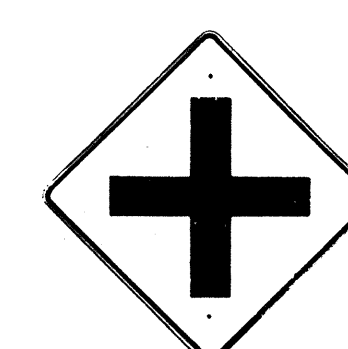
WI-5(R) 30" x 30"



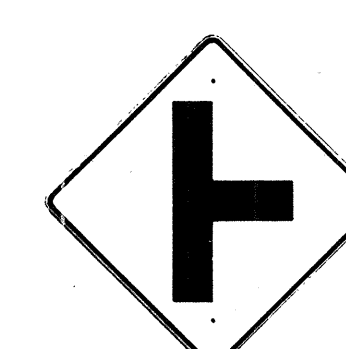
WI-6 48" x 24"



WI-7 48" x 24"



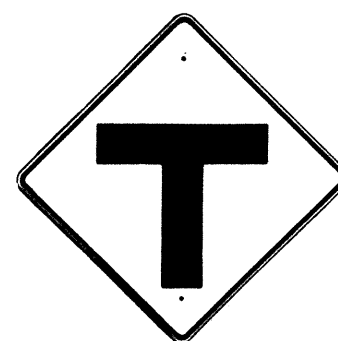
W2-1 30" x 30"



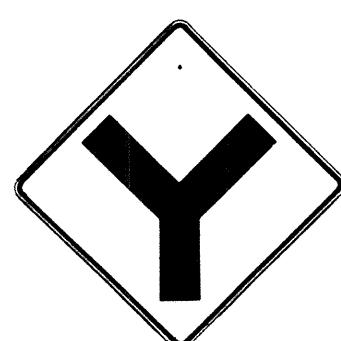
W2-2 30" x 30"



W2-3(R) 30" x 30"



W2-4 30" x 30"



W2-5 30" x 30"



W3-1 30" x 30"



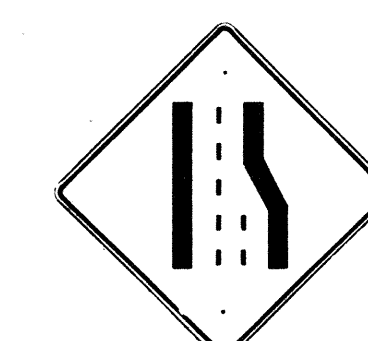
W3-2 30" x 30"



W3-3 36" x 36"



W4-1 30" x 30"
W4-1-E 36" x 36"
W4-1-I 48" x 48"



W4-2 30" x 30"
W4-2-E 36" x 36"



W5-1 30" x 30"
W5-1-E 36" x 36"



W5-2 30" x 30"



W5-3 30" x 30"



W6-1 36" x 36"



W6-2 36" x 36"



W7-1 30" x 30"



W8-1 30" x 30"



W8-2 30" x 30"



W8-3 30" x 30"



W8-4 30" x 30"



W8-5 30" x 30"



W9-1 30" x 30"



W9-2 30" x 30"



W10-1 36" DIAMETER



W11-1 30" x 30"



W11-5 30" x 30"



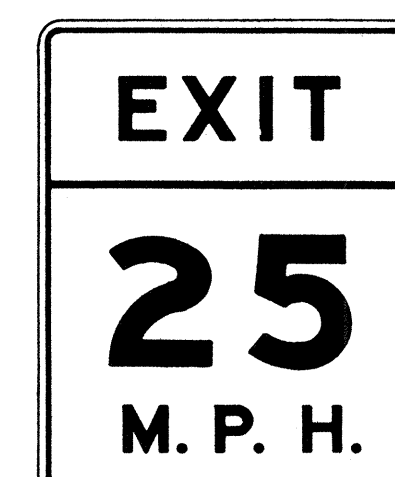
W12-2 36" x 36"



W13-1(35) 18" x 18"
W13-1(35)-E 24" x 24"



W13-2(25) 12" x 18"



W13-3(25) 48" x 60"

NOTE:

1. The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs 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 warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
4. (R) or (L) indicates right or left and shall be as shown on the plan.
5. The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
6. For W13 sign, number in () indicates speed and shall be as shown on the plans.

REVISED: September 26, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS WARNING SIGNS

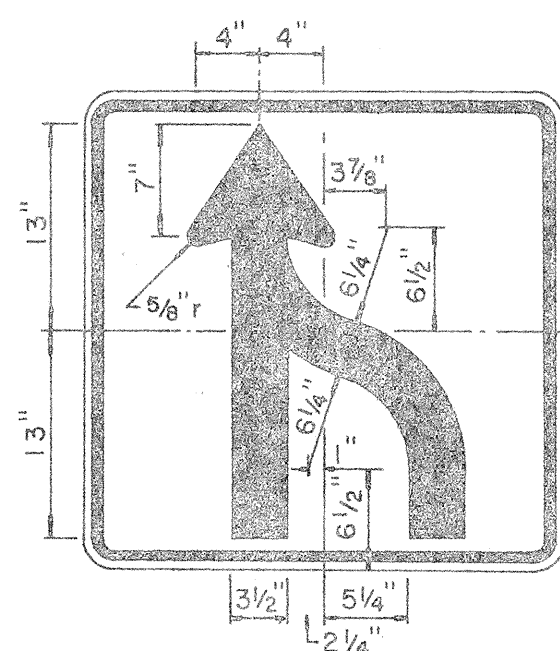
NOT TO SCALE

SHEET No. 21 OF 25 SHEETS DT 102

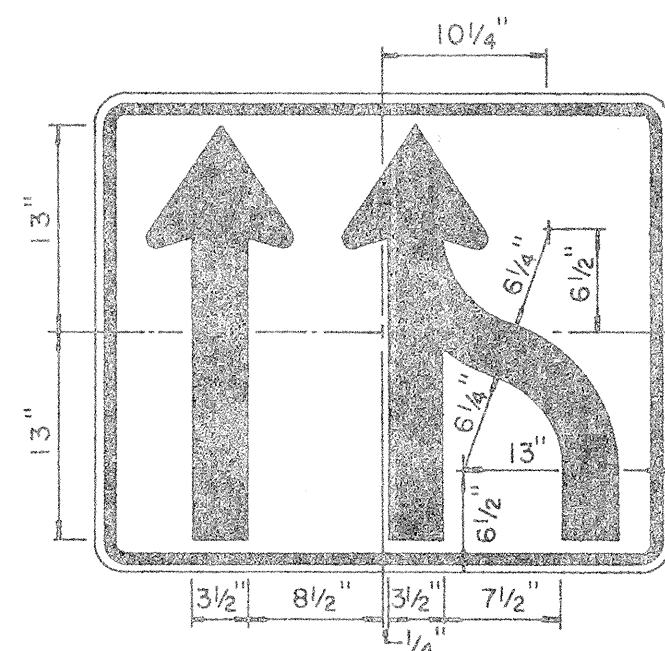
41 S

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

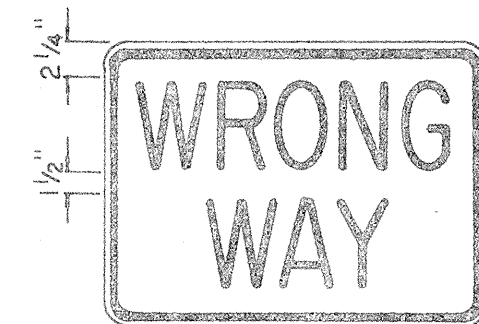
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(65)10 HI-1(40)11	1960	49	188



R3-9 30"x 30"

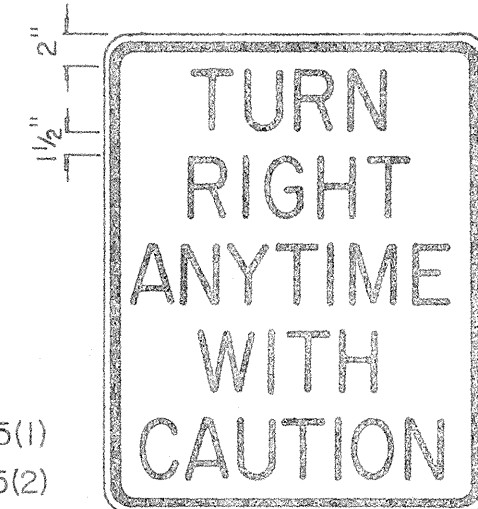


R3-10 36"x 30"

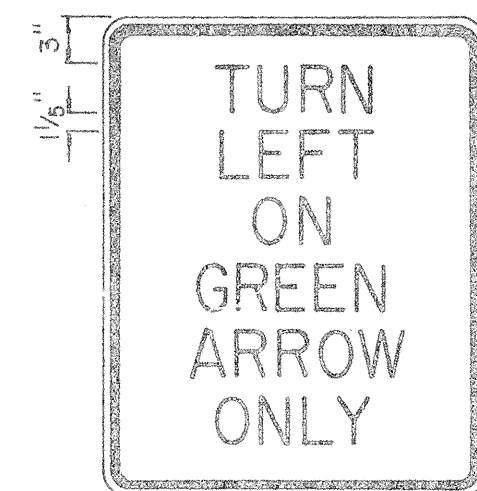


R5-5(1) 24"x 18"
R5-5(2) 36"x 24"

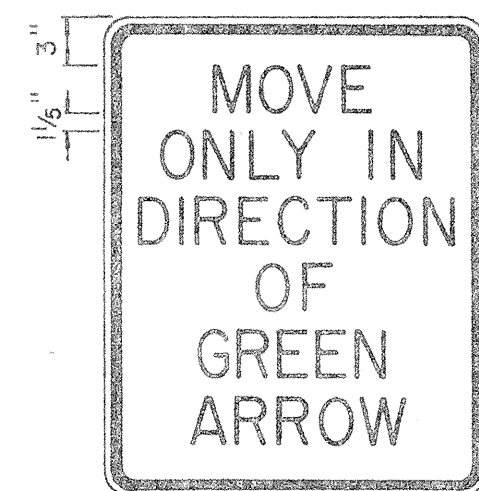
NOTE:
White legend and border
on Red background.



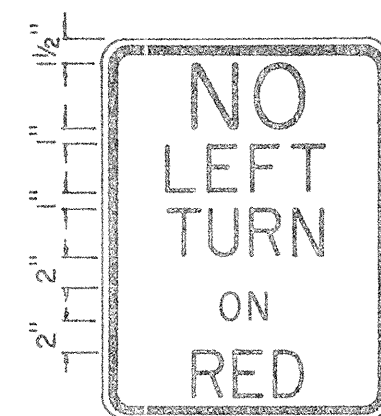
R15-1 24"x 30"



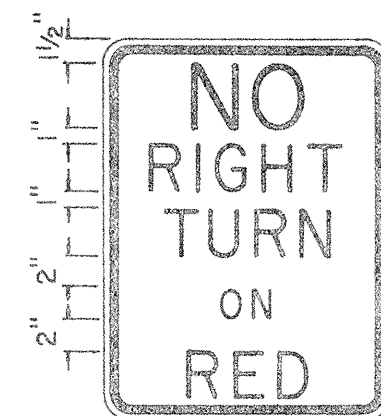
R16-1 24"x 30"



R16-2 24"x 30"



R17-1 18"x 24"



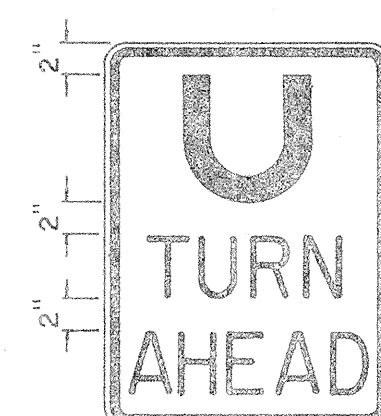
R17-2 18"x 24"

NOTE:

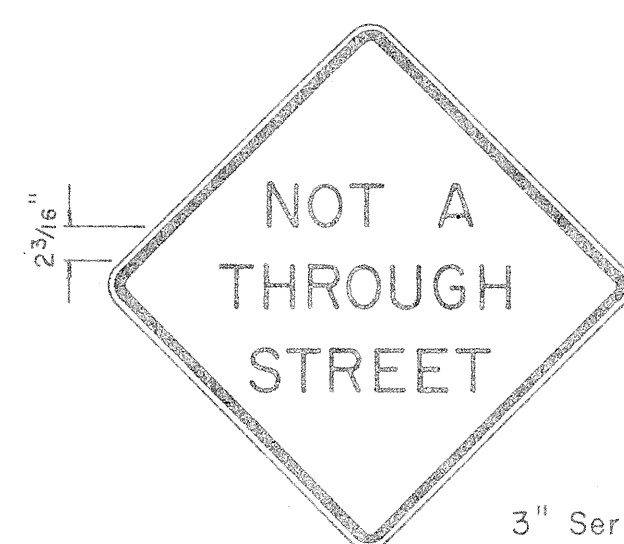
- The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September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



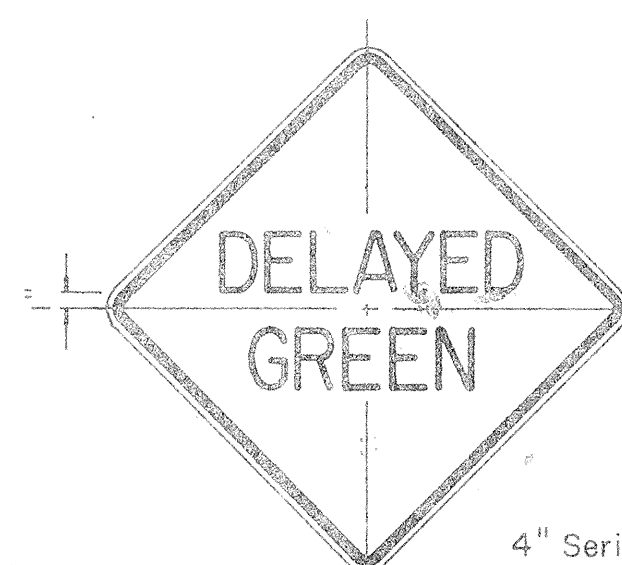
R18-1 36"x 30"



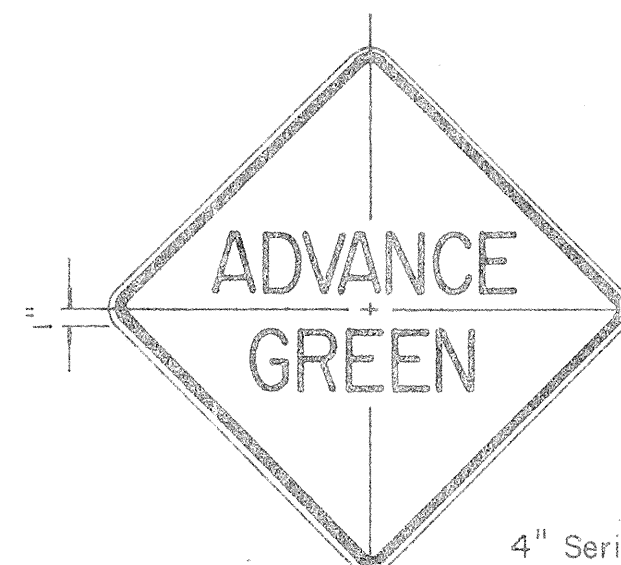
R19-1 18"x 24"



W13-4 24"x 24"



W15-1 24"x 24"



W15-2 24"x 24"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

Scale: 1" = 1' - 0"

SHEET No. 22 OF 25 SHEETS

41 9

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-HI-1(65)10 F-HI-1(40)11	1965	50	135



W 7-2 48"x48"



W 8-7 30"x30"



W 14-1 30"x30"



W 20-1a 48"x48"



W 20-2d 48"x48"



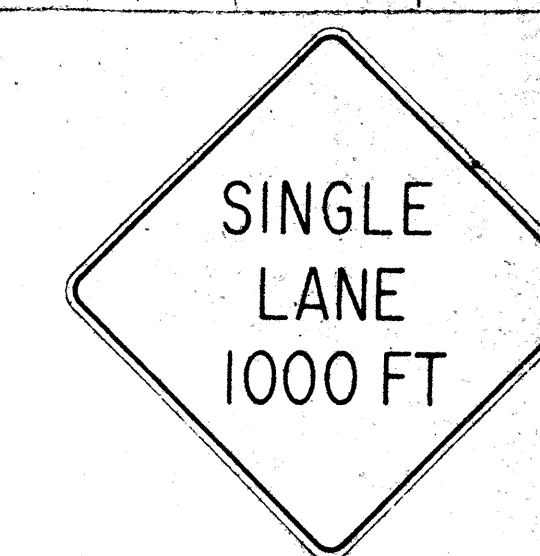
W 20-3b 48"x48"



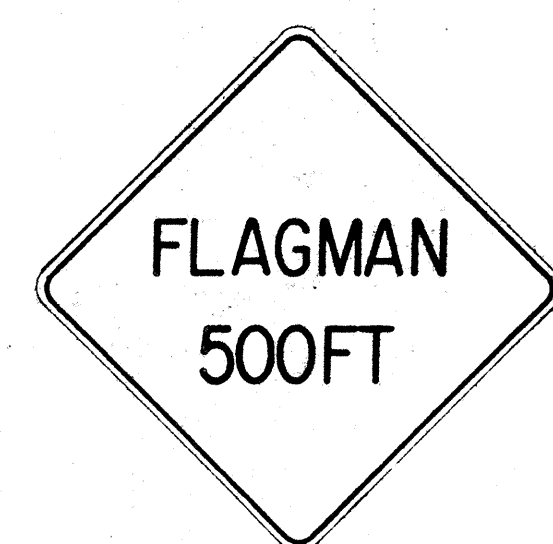
W 20-4d 48"x48"



W 20-5d(L) 48"x48"



W 20-6b 48"x48"



W 20-7c 48"x48"



W 21-1 30"x30"



W 21-2 24"x24"



W 21-3 36"x36"



W 21-4 30"x30"



W 21-5 30"x30"



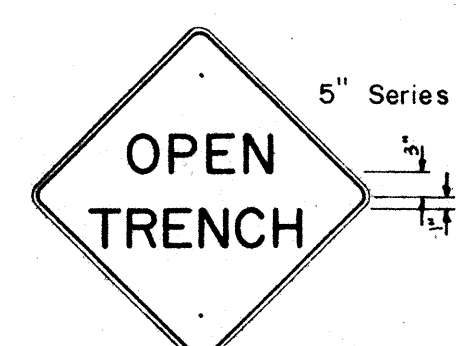
W 21-6 30"x30"



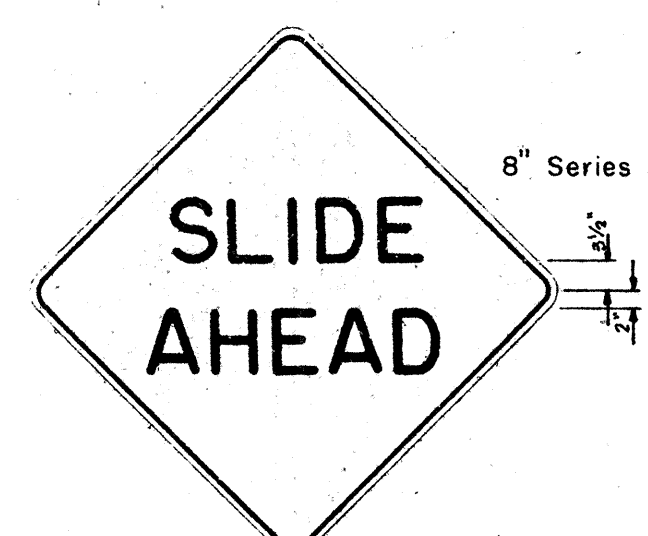
W 22-1 30"x30"



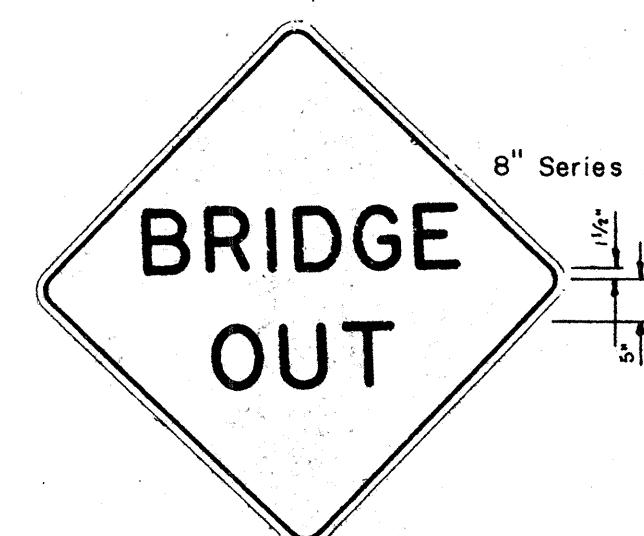
W 22-2 30"x30"



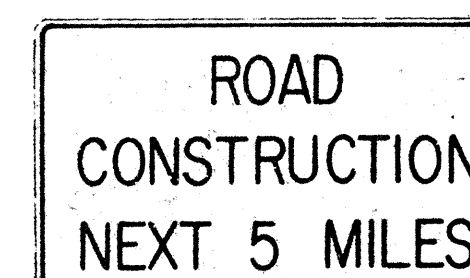
W 22-3 30"x30"



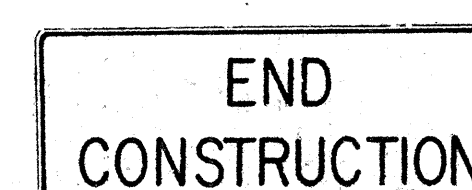
W 22-4 48"x48"



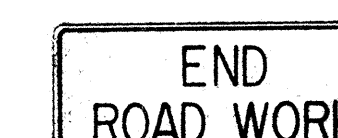
W 22-5 48"x48"



G 20-1(5) 60"x36"



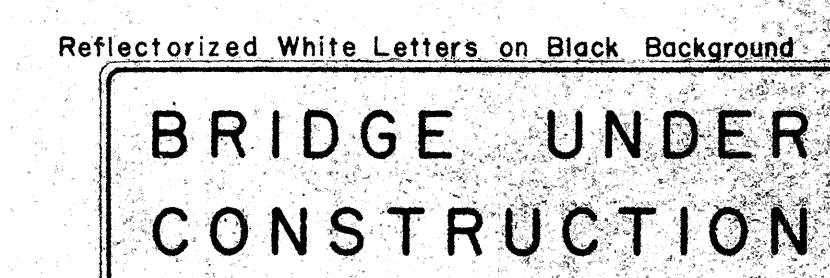
G 20-2 60"x24"



G 20-3 42"x18"



M 5-7(L) 48"x18"



CW-1 96"x30"

- NOTE:
- The shape, color, dimensions, symbols, wording, lettering and reflectorization of all signs 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.
 - All signs shall be reflectorized unless otherwise specified.
 - All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
 - For W 20 series signs, suffixes a,b,c and d are as follows a 1500 FT, b 1000 FT, c 500 FT and d AHEAD.
 - (R) or (L) indicates right or left and shall be as shown on the plans.
 - Number in () indicates miles and shall be as shown on the plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

CONSTRUCTION SIGNS

NOT TO SCALE

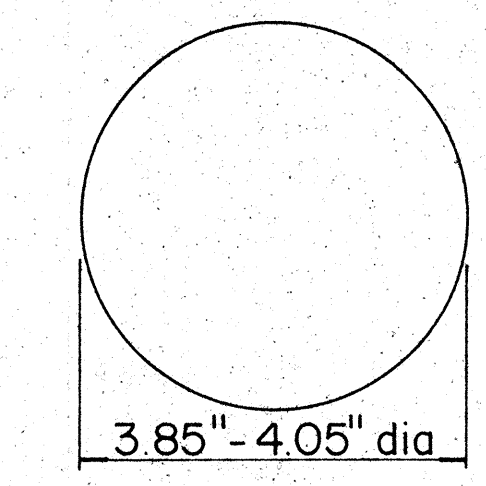
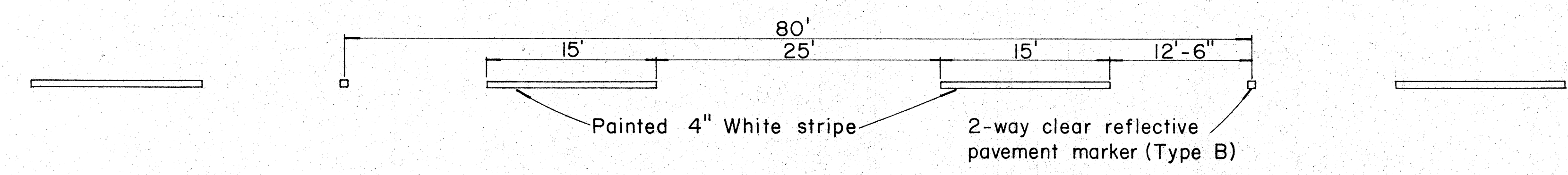
SHEET No. 23 OF 25 SHEETS DT 104

5 (1)

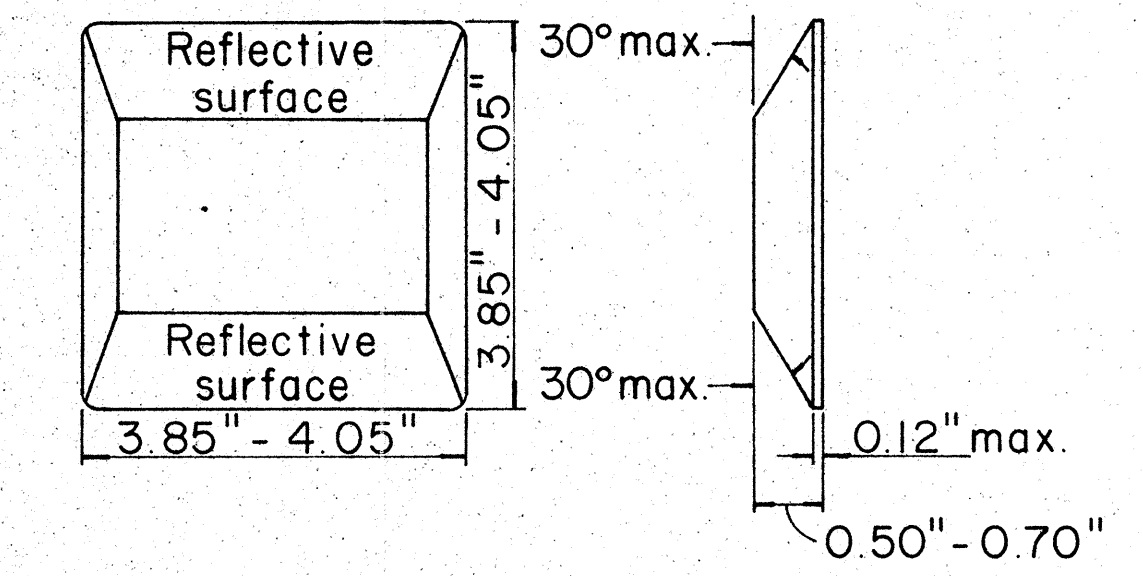
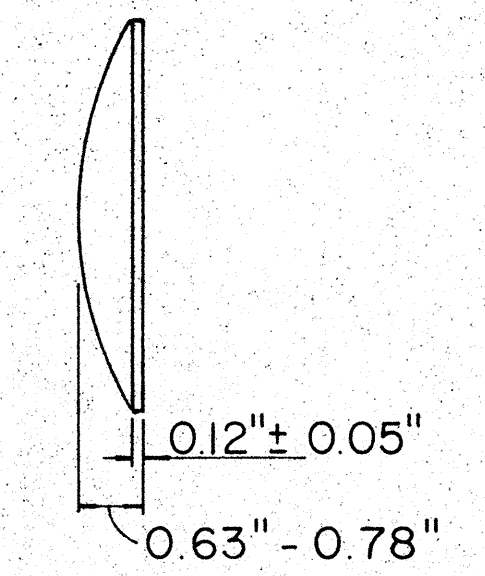
ORIGINAL	SURVEY PLOTTED BY	DATE
PLAN	DRAWN BY	"
NOTE BOOK	DESIGNED BY	"
	QUANTITIES BY	"
	CHECKED BY	"
No.		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(25)-10 1-HI-1(40)-11	1968	51	185

① CENTER LINES ON TWO - LANE RURAL ROADS AND CITY STREETS



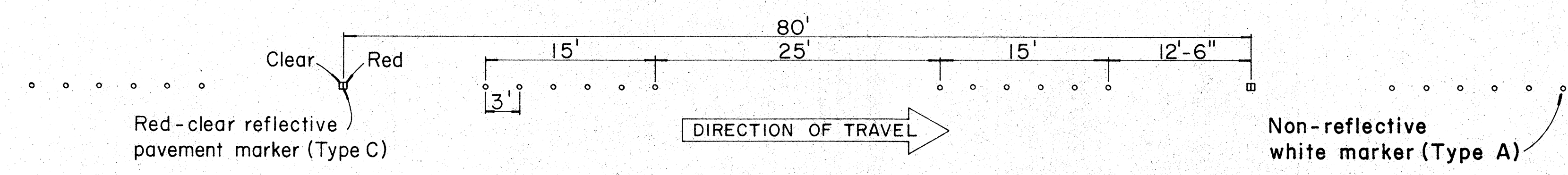
TYPE A
Non - reflective white marker



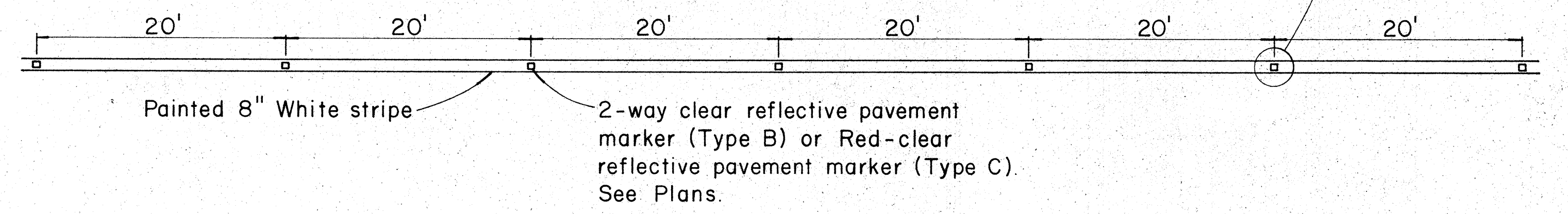
TYPE B
2-way clear reflective surface

TYPE D
2-way yellow reflective surface

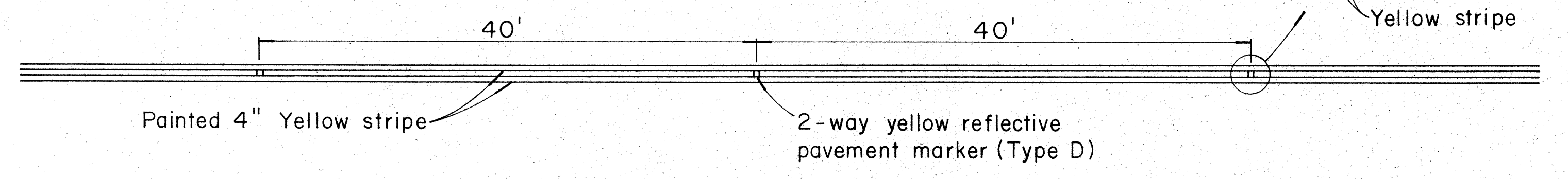
② LANE LINES



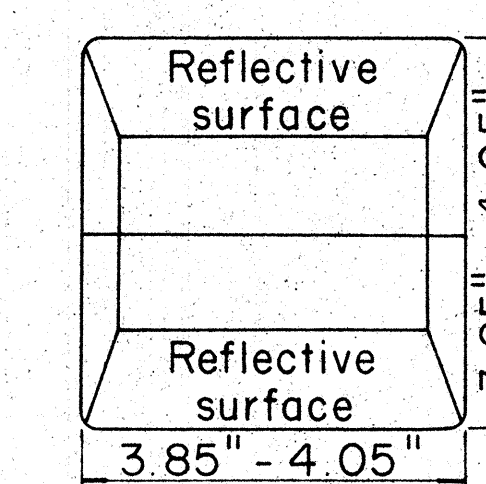
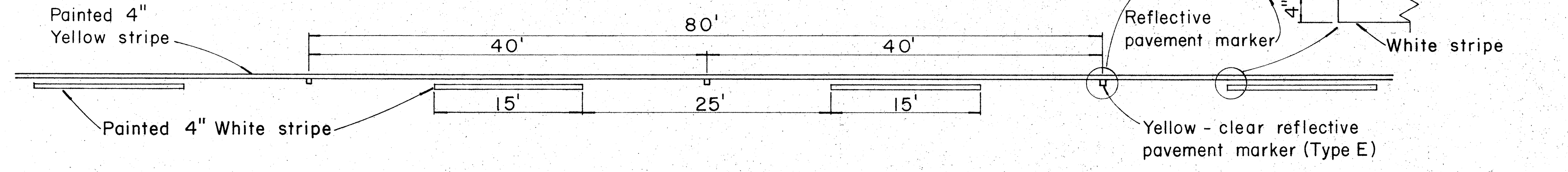
③ CHANNELIZING LINES



④ YELLOW DOUBLE CENTER LINES

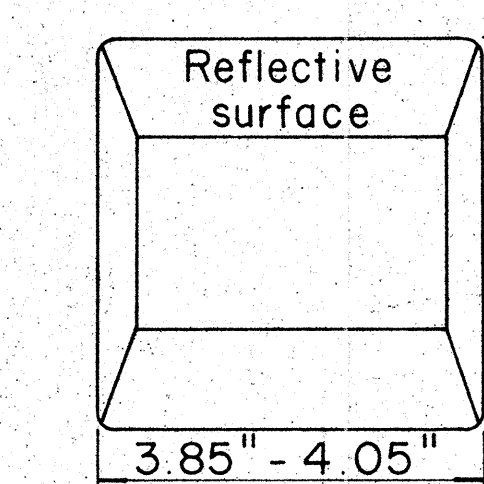


⑤ NO PASSING - PASSING ZONES ON TWO-LANE ROADS



TYPE C
Red - clear reflective surface

TYPE E
Yellow - clear reflective surface



TYPE H
One - way yellow reflective surface

TYPE G
One - way clear reflective surface

NOTE:
Painted stripes to be done by State forces

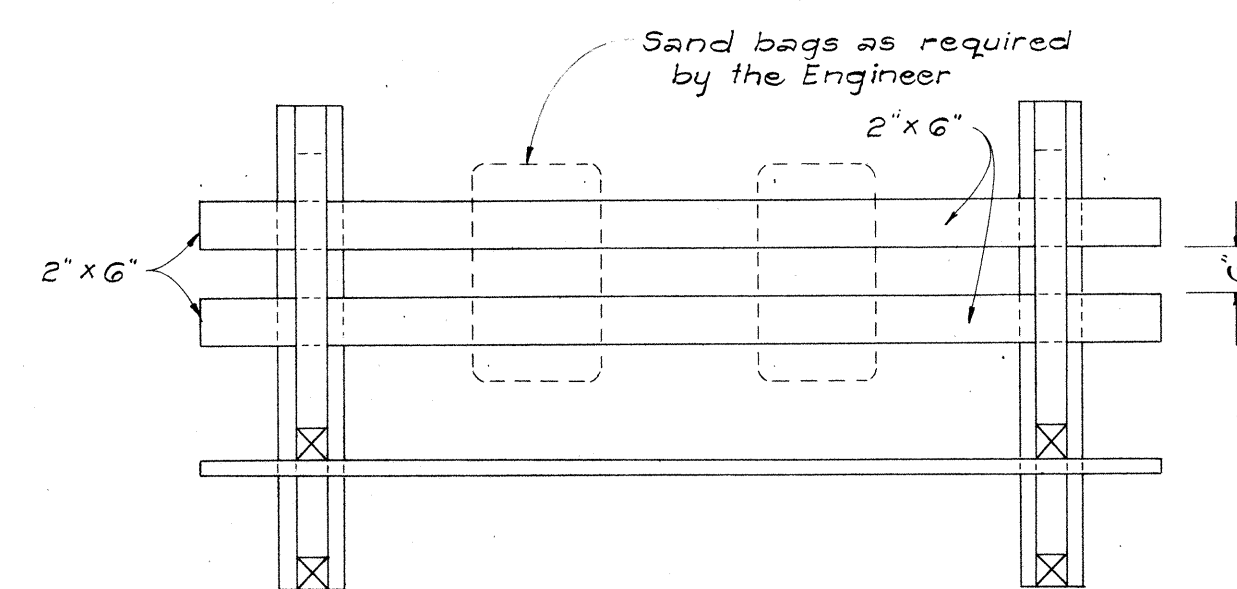
REVISED: Aug. 26, 1968

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

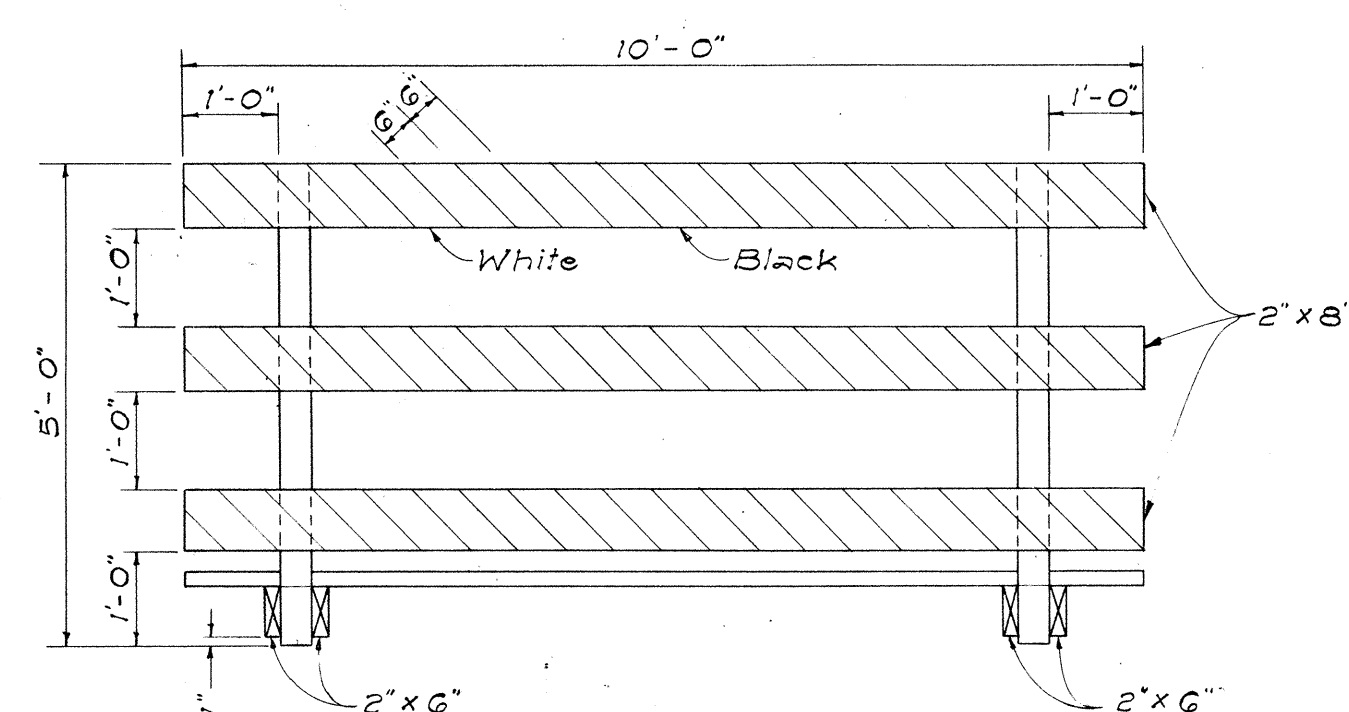
STANDARD DETAILS
RAISED PAVEMENT MARKERS

Not to Scale

Sept., 1967

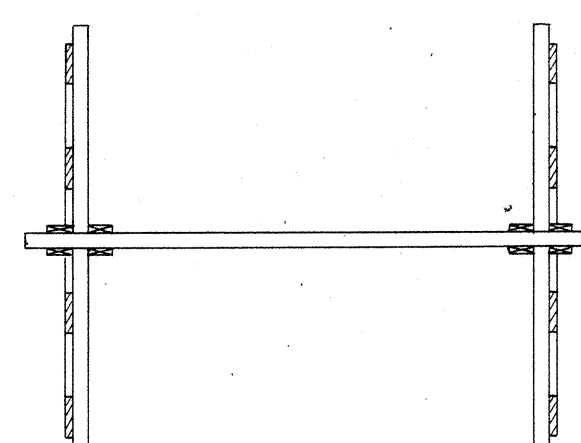


PLAN VIEW

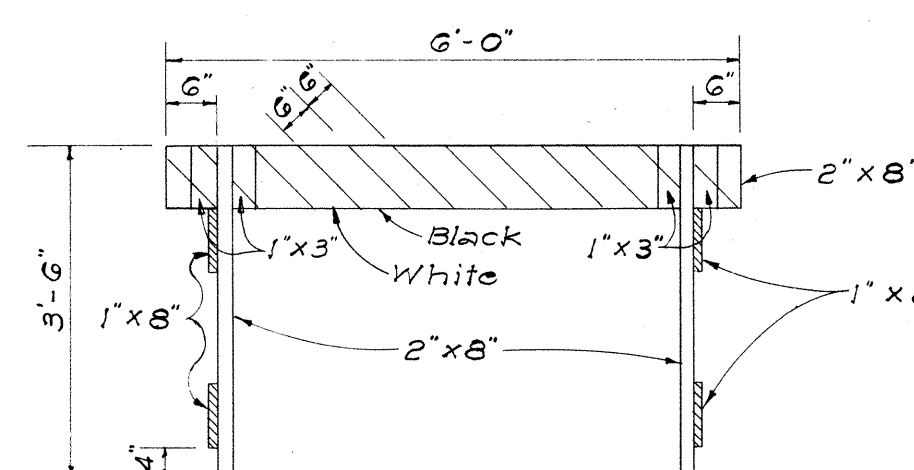


FRONT VIEW

CLASS I BARRICADE



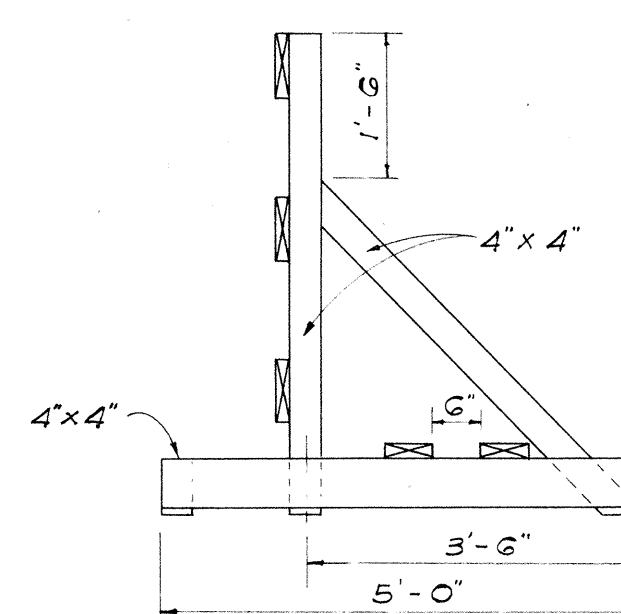
PLAN VIEW



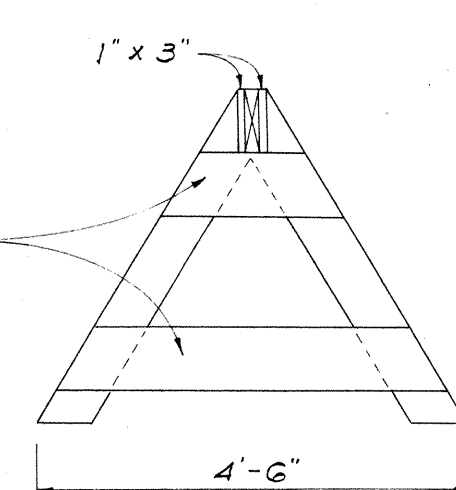
FRONT VIEW

CLASS II BARRICADE

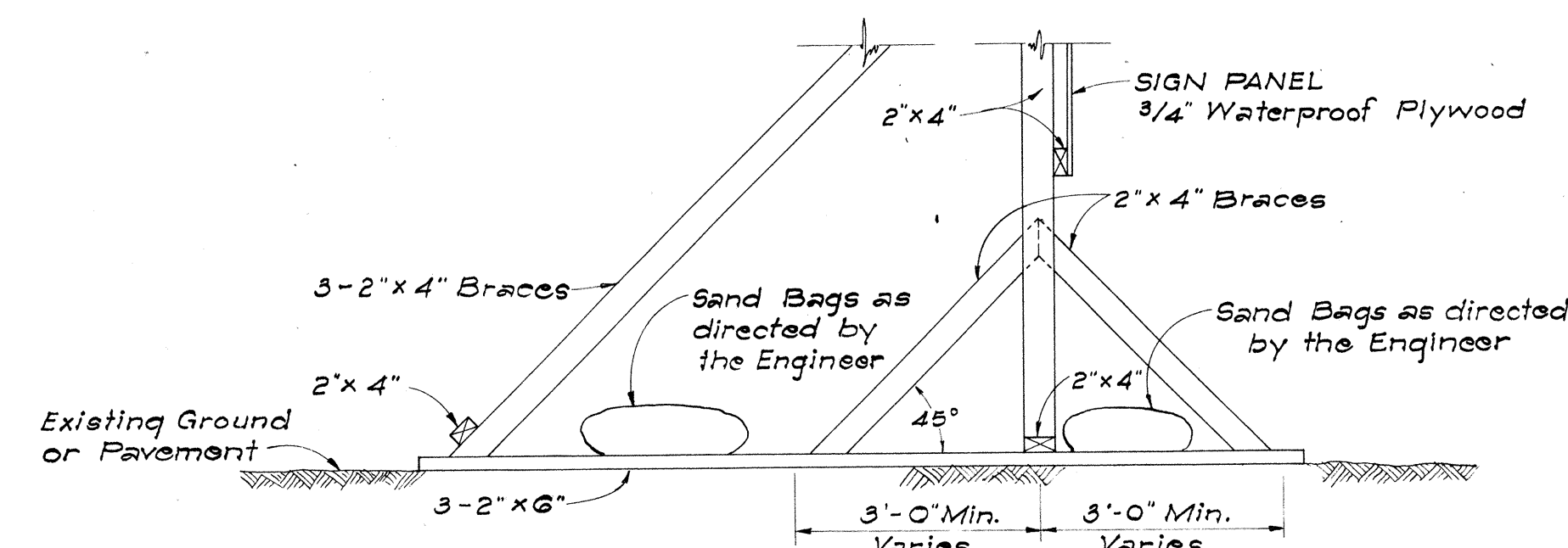
Scale: 1/2" = 1'-0"



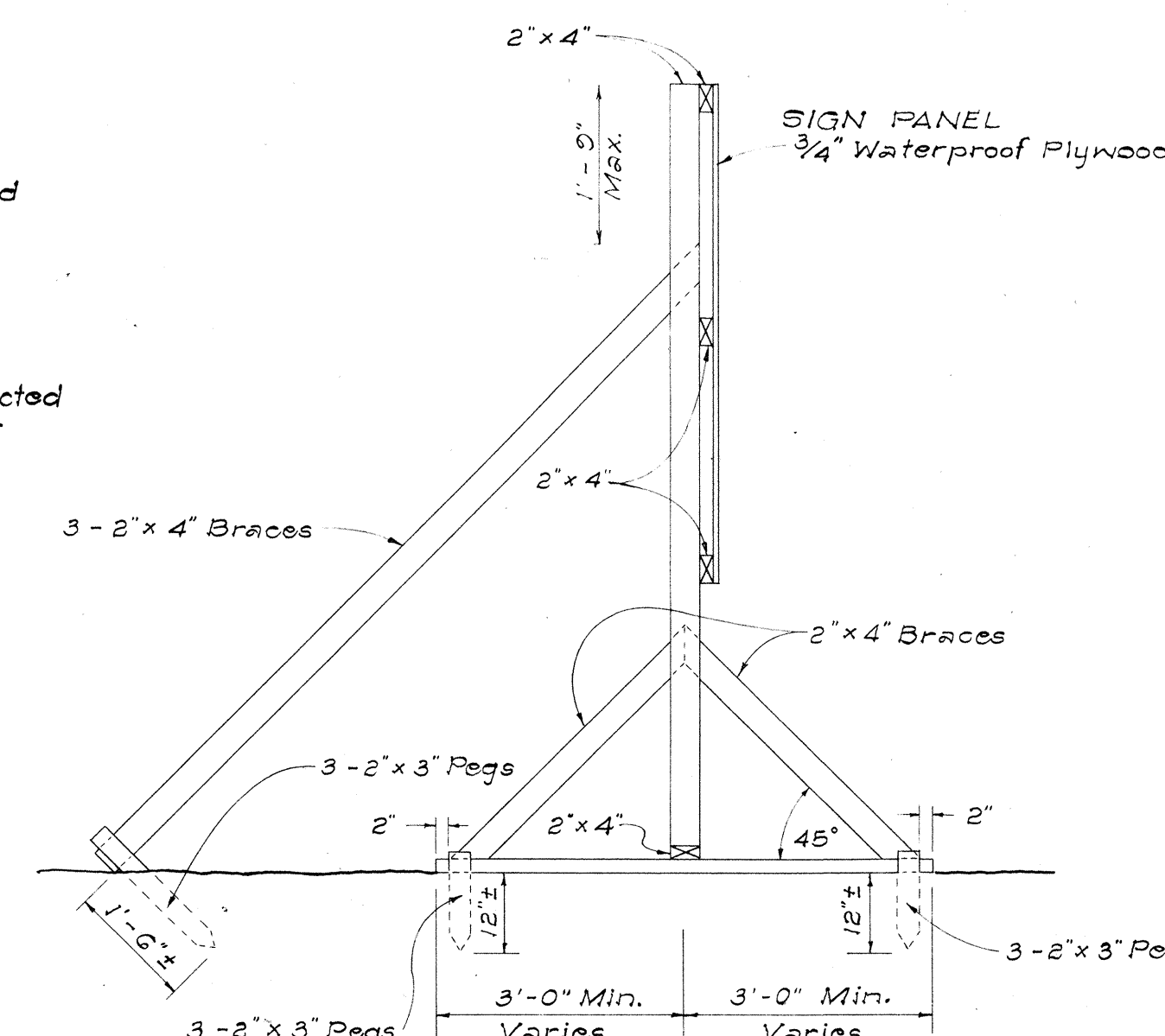
END VIEW



END VIEW



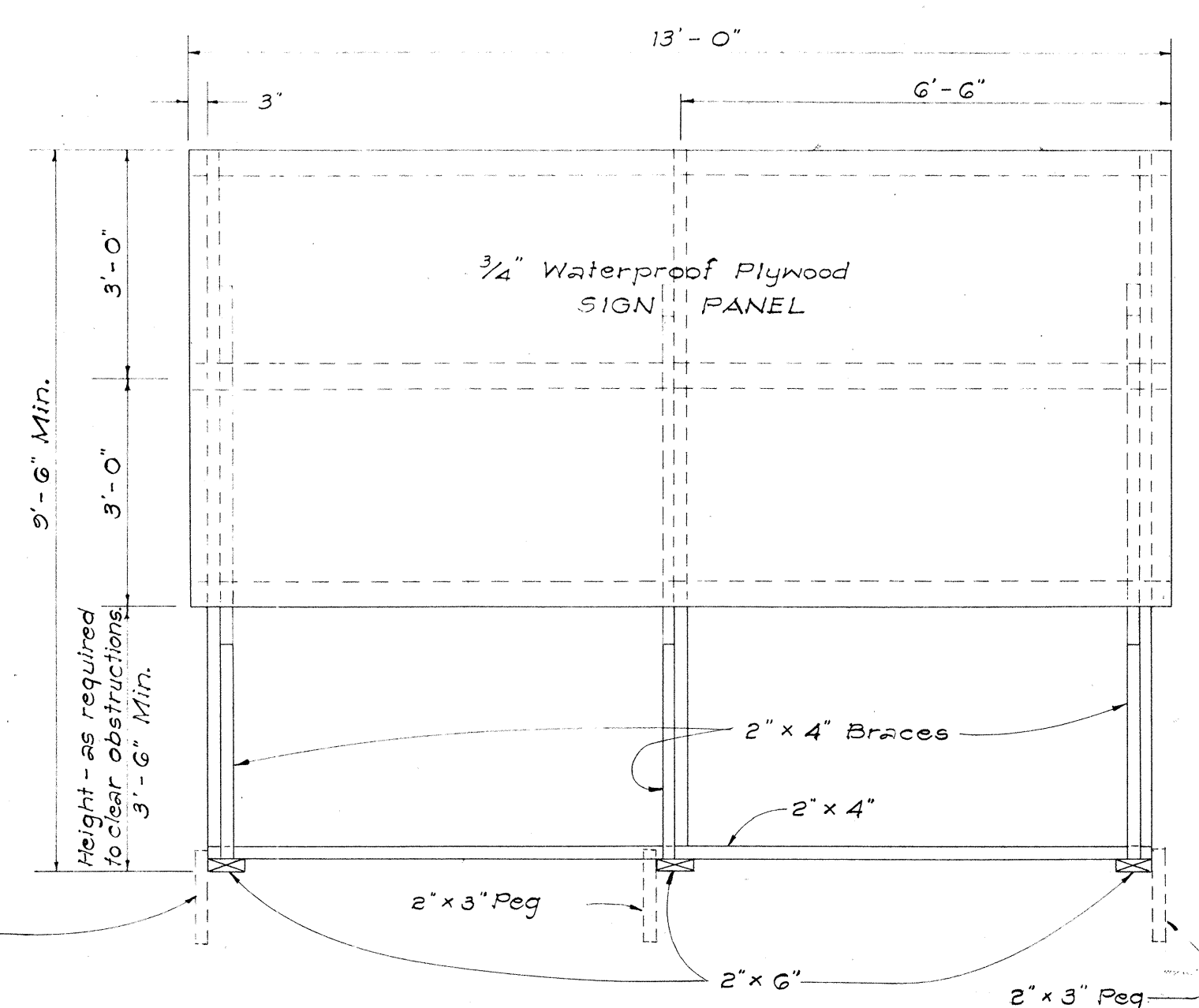
SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)



SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)

ELEVATIONS

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



FRONT VIEW

NOTES:

- CONSTRUCTION IDENTIFICATION SIGNS**
 - The sign legend shall be black on white background except for the Interstate Route marker which shall be as shown on the plan.
 - The Contractor shall construct, install and maintain the project signs at the locations shown on the Plans and as ordered by the Engineer.
 - Letters shall be Series "C" of the sizes shown on the Plan and shall conform with the Standard Alphabet for Highway Signs, Bureau of Public Roads, 1952.
 - The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.

B. WOOD BARRICADES

- The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans and as ordered by the Engineer.
- The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.

REVISED: October 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

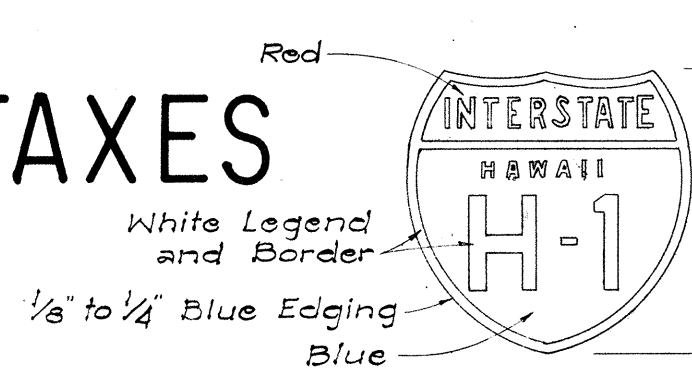
SCALE: As Shown DATE: 4-24-69

SHEET No. 25 OF 25 SHEETS DT 800

YOUR HIGHWAY TAXES
AT WORK

FEDERAL HIGHWAY
TRUST FUNDS
\$ 0,000,000
U.S. DEPT. OF TRANSPORTATION
FEDERAL HIGHWAY ADMIN.
Bureau of Public Roads

STATE HIGHWAY
FUNDS
\$ 000,000
HAWAII STATE
DEPT. OF TRANSPORTATION
HIGHWAYS DIVISION



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

INTERSTATE SYSTEM CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown