

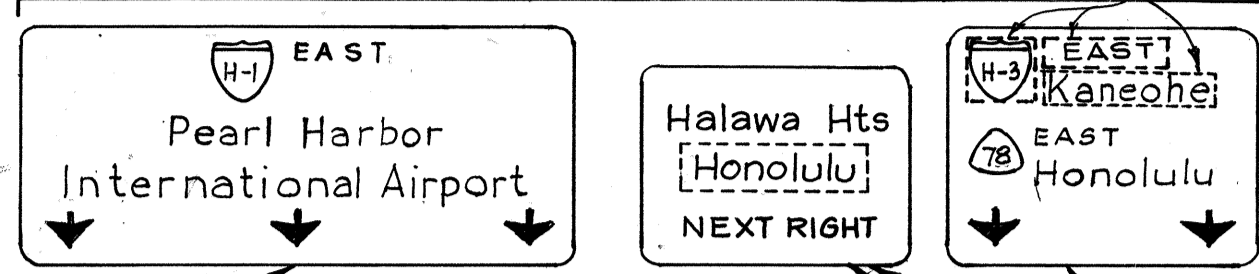
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	150	457

LEGEND:

- Ground mounted traffic sign with post(s)
- Traffic sign bracket-mounted on pole
- O.H. sign panels mounted on span structure
- RM-1 Delineator (Single unit clear)
- RM-2 Delineator (Double unit amber)
- RM-3 Delineator (Triple unit amber)
- RM-3H Delineator (Triple unit amber, horiz. mtd.)
- Type A and C Raised Pavement Markers
- 8" Painted White Stripe with Type C Markers unless noted otherwise.
- ▨ Denotes areas where final pavement is to be omitted - Omit Type A & C Raised Pavement Markers & Striping. (See Note 1, Sheet No. 5)

NOTES:

1. All painted pavement markings shown on Sheets 1T thru 5T are to be done by Contractor. See Standard Details spacing layout of raised pavement markers.
2. Refer to respective Standard Detail sheets for all data pertaining to Regulatory and Warning standard signs.
3. Unless noted otherwise, exact location of traffic signs shall be determined in the field by the Engineer.
4. Sign face details of Expressway and Destination signs are shown on Sheets 155, 156 and 157.
5. Artificially illuminated traffic signs are shown on Sheets 158 and 159.
6. See "Construction Sequence and Temporary Signing" plans for location and types of additional barricades, traffic drums, and permanent and temporary traffic signs.
7. For location and details of temporary traffic control signals and allied devices see Sheet 176.
8. Polyethylene Sheeting to be incidental to signs and sign panels covered.
9. See Sheet No. 4G for pavement marker location from Sta. 195+00 to 205+75.
10. Install Type "H" markers at 40 ft intervals on yellow edge striping (on left edge of lanes) as follows: (Total: 254 each).
 - (a) H-1 Sta. 195+00 to 205+50, Inbound and Outbound.
 - (b) H-1 Sta. 205+70 to 224+10, Inbound
 - (c) Moanalua Fwy. Sta. 137+15 to 168+05, Inbound and Outbound.



Blank overlay Panels for final condition (By others)

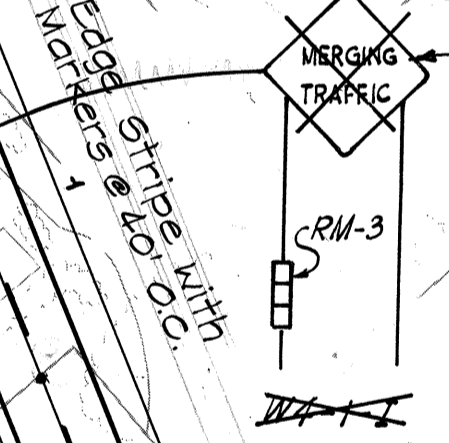
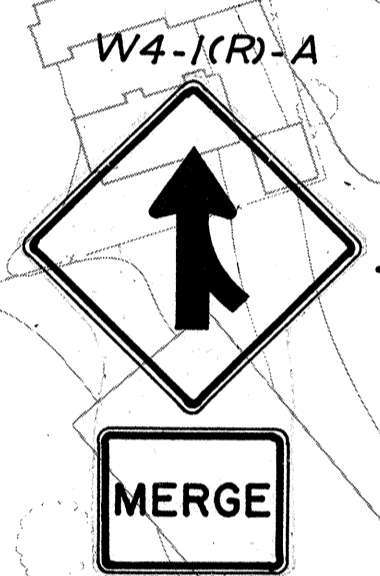
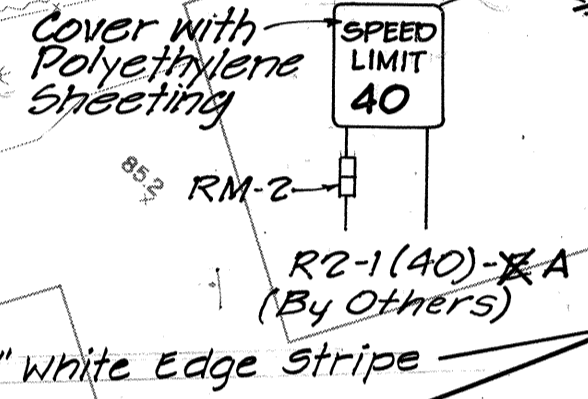
Covered with Polyethylene Sheeting (By Others)

Remove Polyethylene Sheeting for Phase II (this Contract)

4" Yellow Edge Stripe w/ Type "H" Markers @ 40' a.c.

8" White Edge Stripe w/ Type "C" Markers @ 20' a.c.

4" White Edge Stripe



DATE	REVISION
6/17/72	Revise Pavement Marking and Striping to be done by Contractor
7-17-72	Revised signs

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

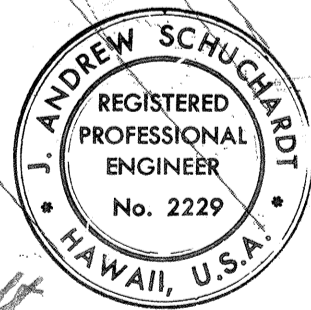
GENERAL LOCATION PLAN OF SIGNS,
DELINEATORS, & PAVEMENT MARKERS

INTERSTATE ROUTE H1
PROJECT NO. I-HI-1(88)-13

Scale: 1" = 50'

DATE: JULY 17, 1970

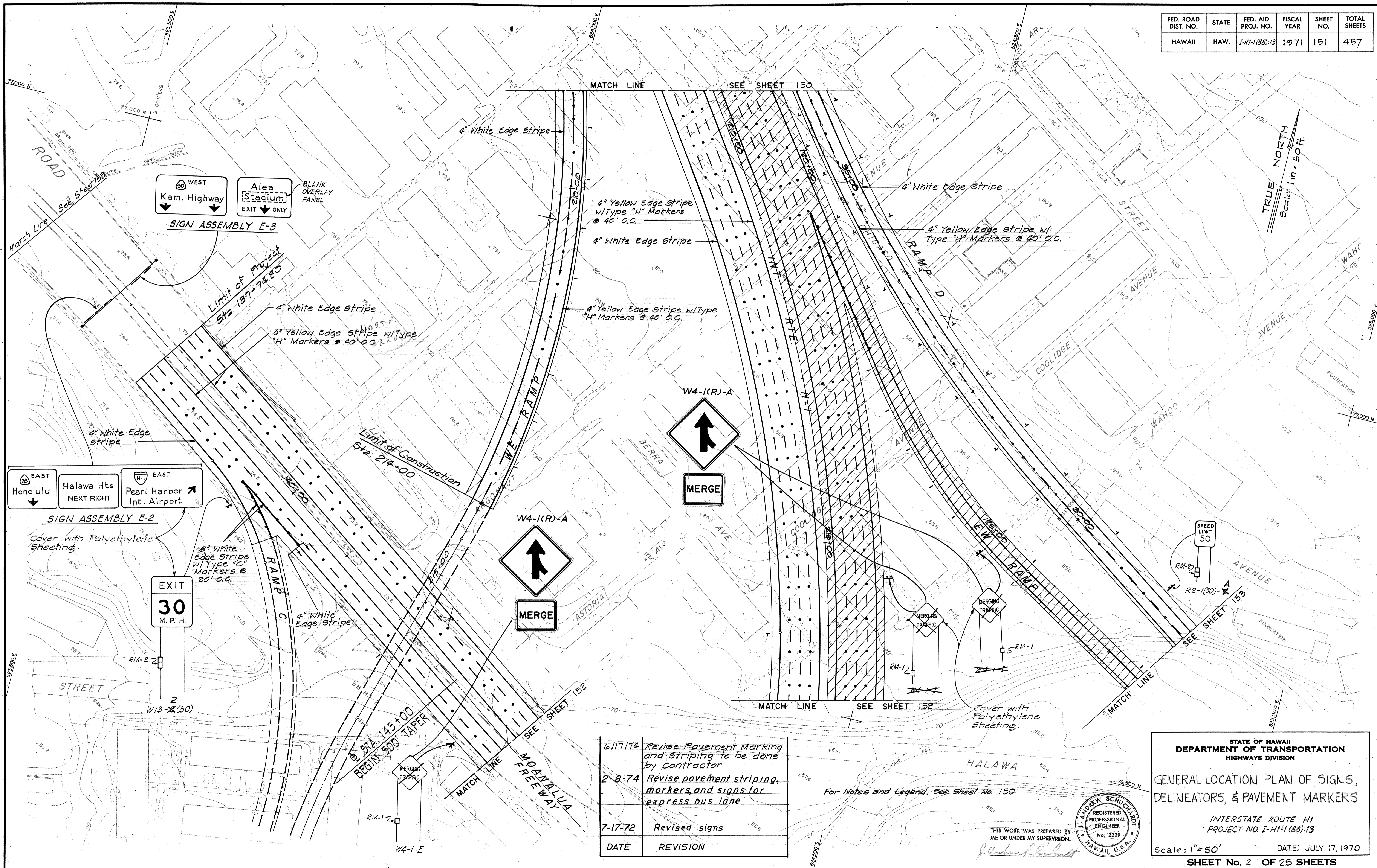
SHEET No. 1 OF 25 SHEETS



SURVEY PLOTTED BY	DATE
DRAWN BY	7/1/69
DESIGNED BY	6/30/69
QUANTITIES BY	7/1/69
CHECKED BY	7/1/69
ORIGINAL PLAN	
NOTE BOOK	
No.	

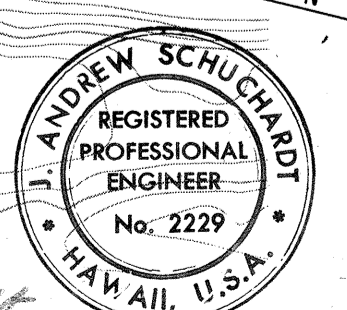
C.O. 150

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-111-(83)-13	1971	151	457



DATE	REVISION
7-3-69	Original Plan
7-10-69	Tracked by M.L. Broussard / M. Sava
7-14-69	Checked by E.S. Mackay
7-14-69	Checked by E.S. Mackay

DATE	REVISION
6/17/74	Revise Pavement Marking and striping to be done by Contractor
2-8-74	Revise pavement striping, markers, and signs for express bus lane
7-17-72	Revised signs



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL LOCATION PLAN OF SIGNS,
DELINEATORS, & PAVEMENT MARKERS

INTERSTATE ROUTE H1
PROJECT NO. I-111-(83)-13

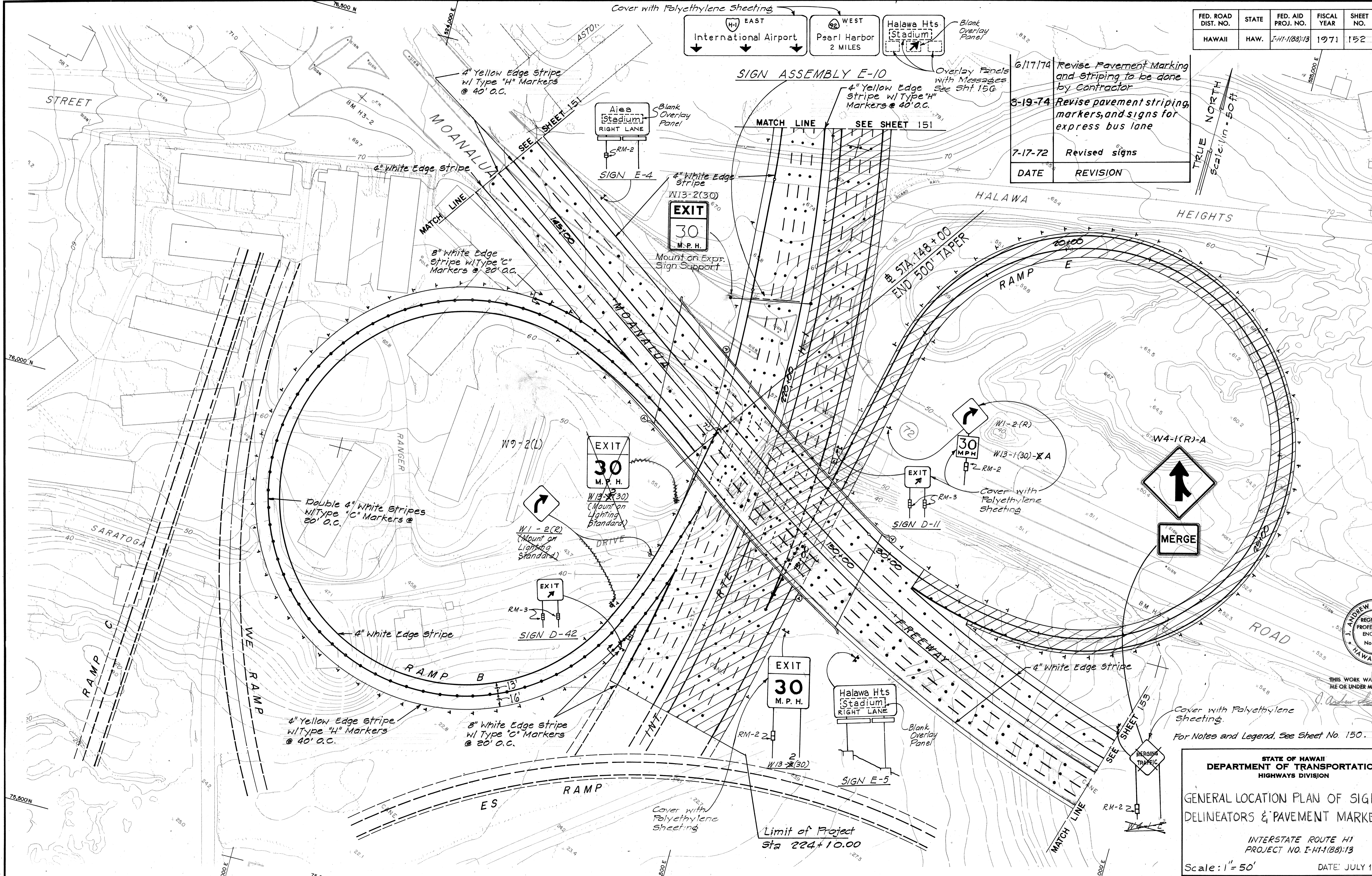
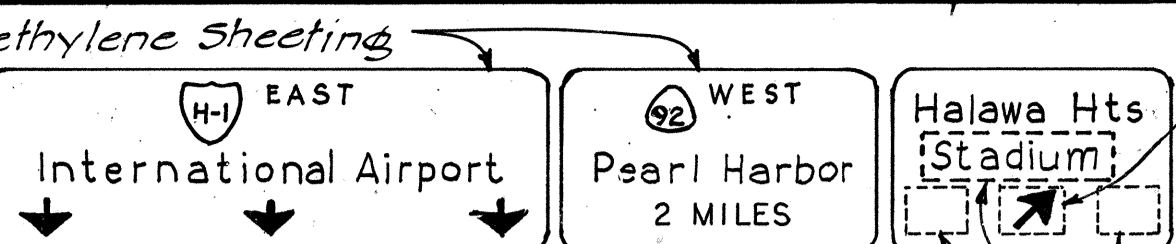
Scale: 1" = 50' DATE: JULY 17, 1970

SHEET No. 2 OF 25 SHEETS

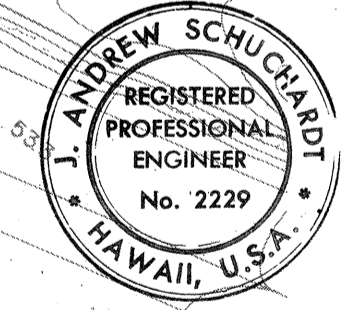
C.O. 151

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(B8)13	1971	152	457

DATE	REVISION
6/17/74	Revise Pavement Marking and Striping to be done by Contractor
3-19-74	Revise pavement striping, markers, and signs for express bus lane
7-17-72	Revised signs



DATE	BY
7/13/74	AS
7/14/74	AS
7/15/74	AS
7/16/74	AS
7/17/74	AS



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Cover with Polyethylene Sheeting.
For Notes and Legend, See Sheet No. 150.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL LOCATION PLAN OF SIGNS,
DELINEATORS & PAVEMENT MARKERS

INTERSTATE ROUTE H1
PROJECT NO. I-HI-1(B8)13

Scale: 1" = 50' DATE: JULY 17, 1970

SHEET No. 3 OF 25 SHEETS

C.O. 152

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(88)13	1971	153	457

TRUE NORTH
Scale: 1 in. = 50 ft.

TRUE NORTH
Scale: 1 in. = 50 ft.

SURVEY PLOTTED BY	DATE
PLAN	7-2-69
TRACED BY	7-9-69
DESIGNED BY	7-1-69
QUANTITIES BY	7-1-69
CHECKED BY	7-1-69
NO.	21647

6/17/74	Revise Pavement Marking and Striping to be done by Contractor
3-20-74	Revise pavement striping, markers, and signs for express bus lane
7-17-72	Revised signs
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL LOCATION PLAN OF SIGNS,
DELINEATORS, & PAVEMENT MARKERS

INTERSTATE ROUTE H1
PROJECT NO. I-H-1(88)13

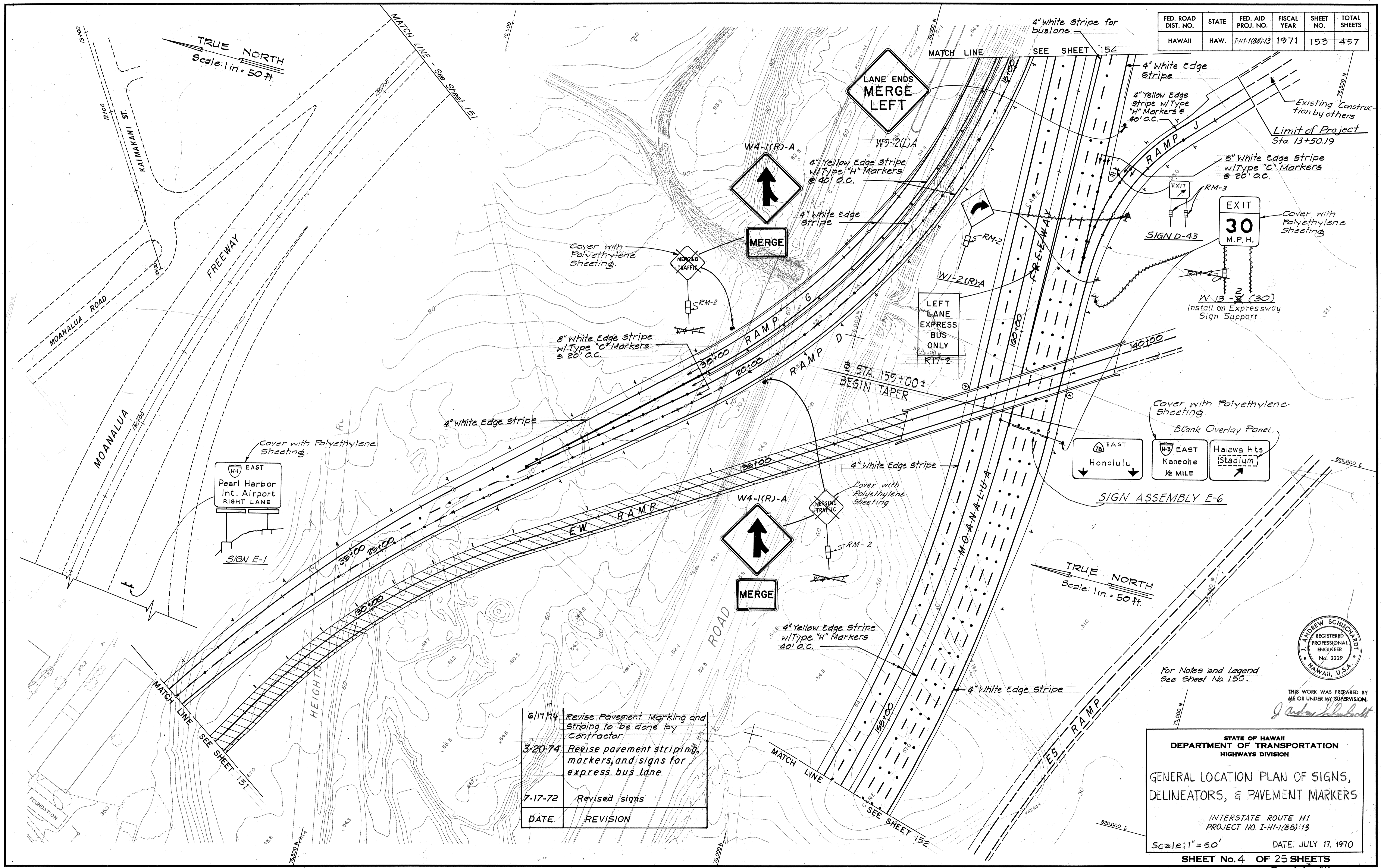
Scale: 1" = 50'
DATE: JULY 17, 1970

SHEET No. 4 OF 25 SHEETS



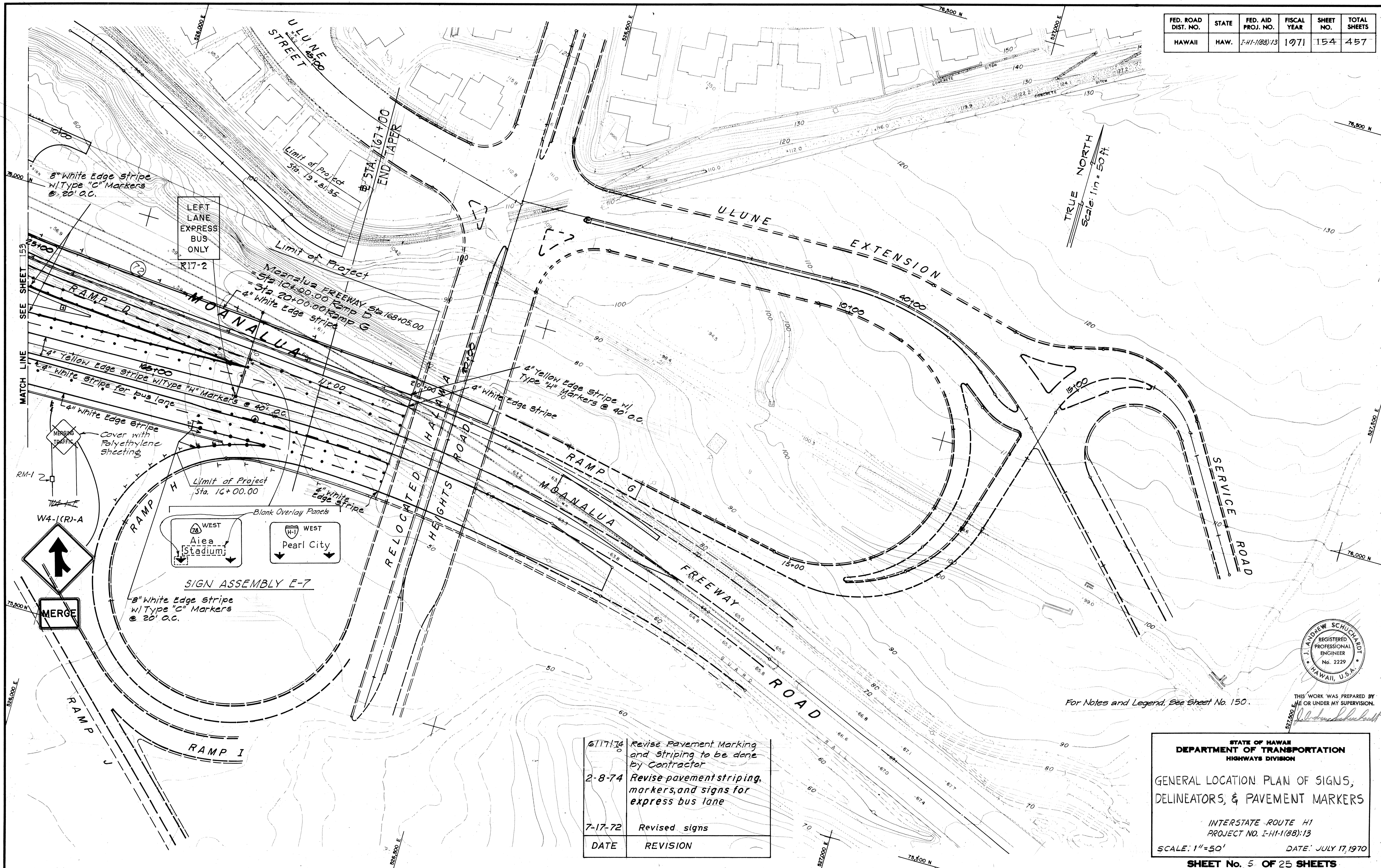
For Notes and Legend
See Sheet No. 150.

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ME OR UNDER MY SUPERVISION.
J. Andrew Schuchard



C.O. 153

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	154	457



DATE	REVISION
7-2-74	REVISED
7-14-74	REVISED
7-14-74	REVISED
7-14-74	REVISED
7-14-74	REVISED
7-14-74	REVISED

DATE	REVISION
6/17/74	Revise Pavement Marking and Striping to be done by Contractor
2-8-74	Revise pavement striping, markers, and signs for express bus lane
7-17-72	Revised signs



For Notes and Legend, See Sheet No. 150.

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL LOCATION PLAN OF SIGNS,
DELINEATORS, & PAVEMENT MARKERS

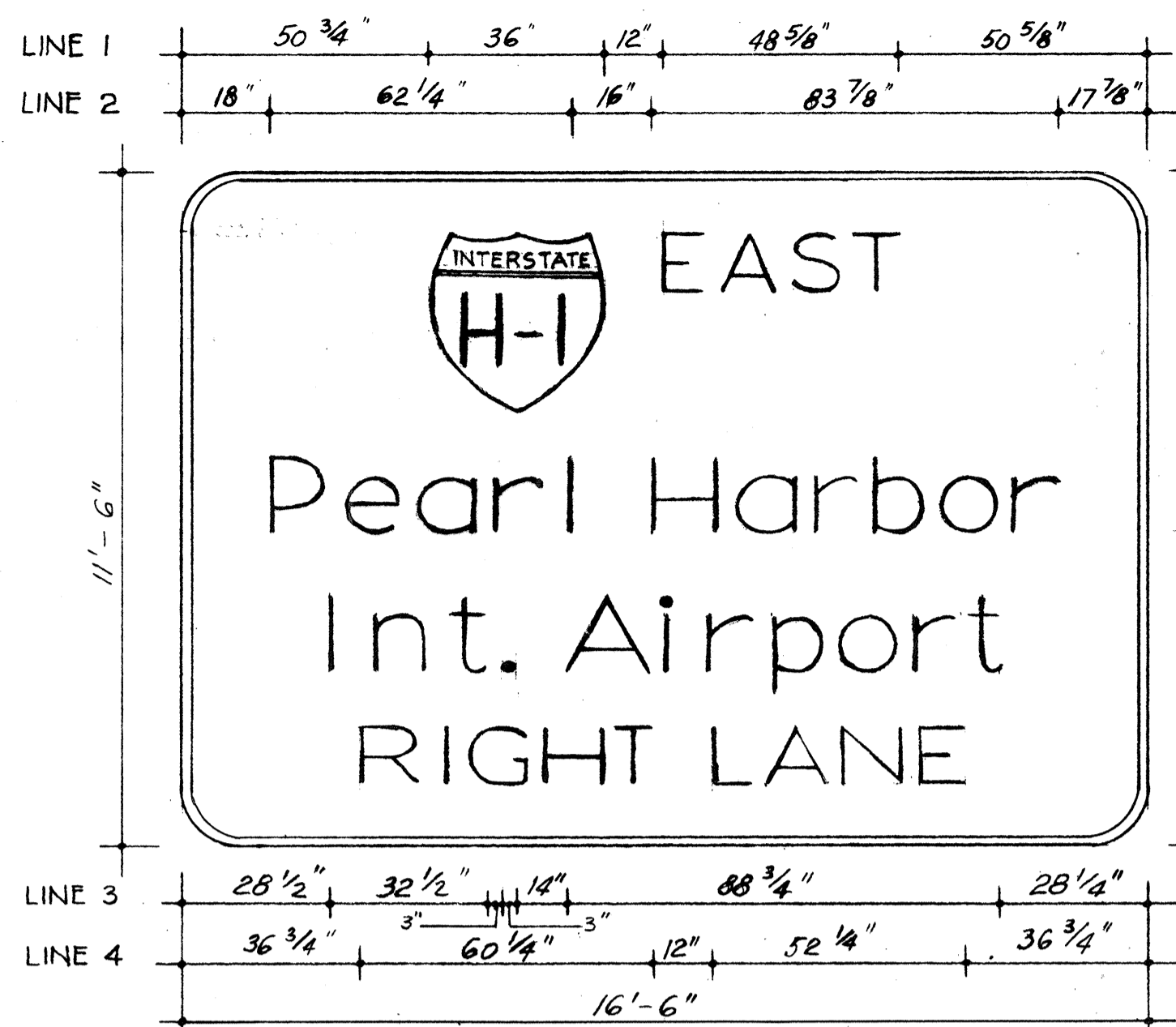
INTERSTATE ROUTE HI
PROJECT NO. I-HI-1(88)-13

SCALE: 1"=50' DATE: JULY 17, 1970

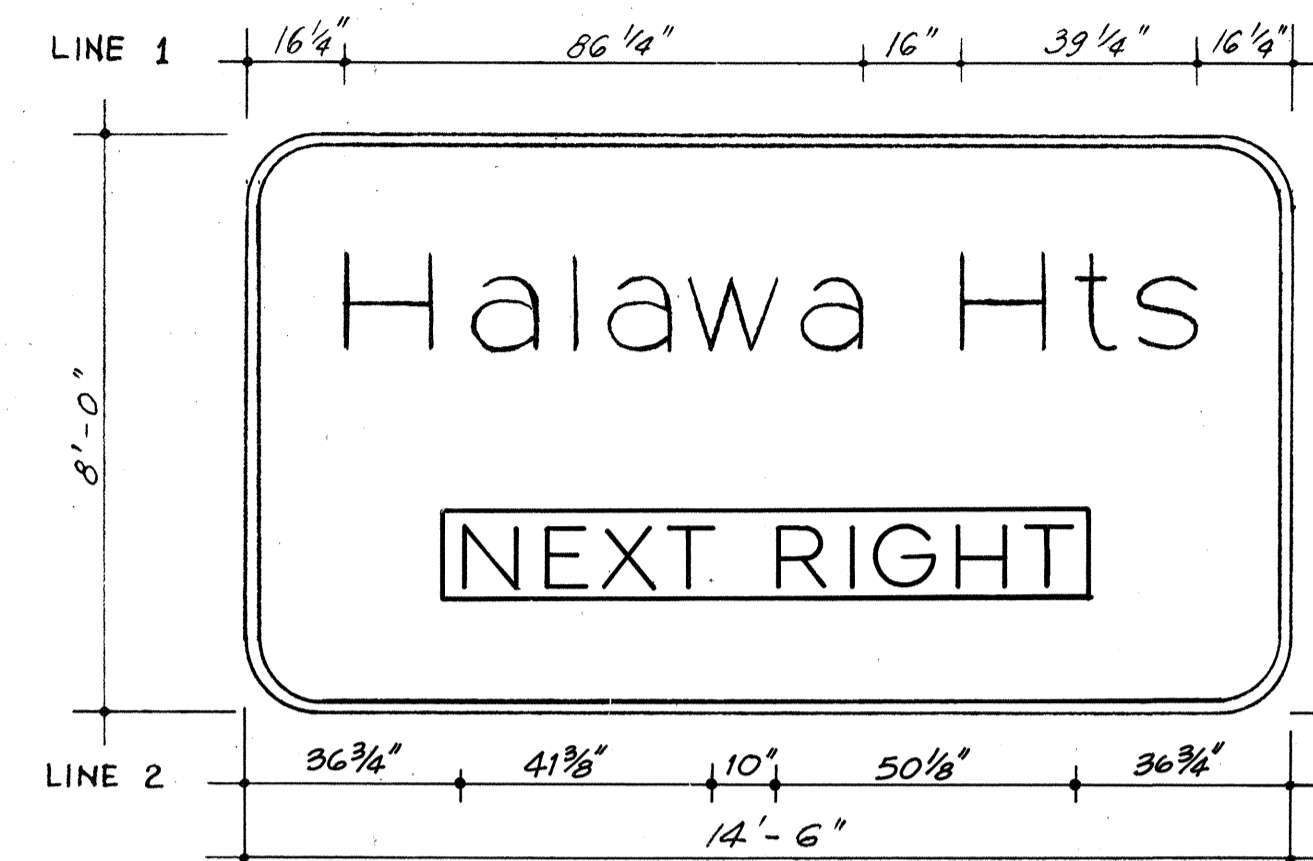
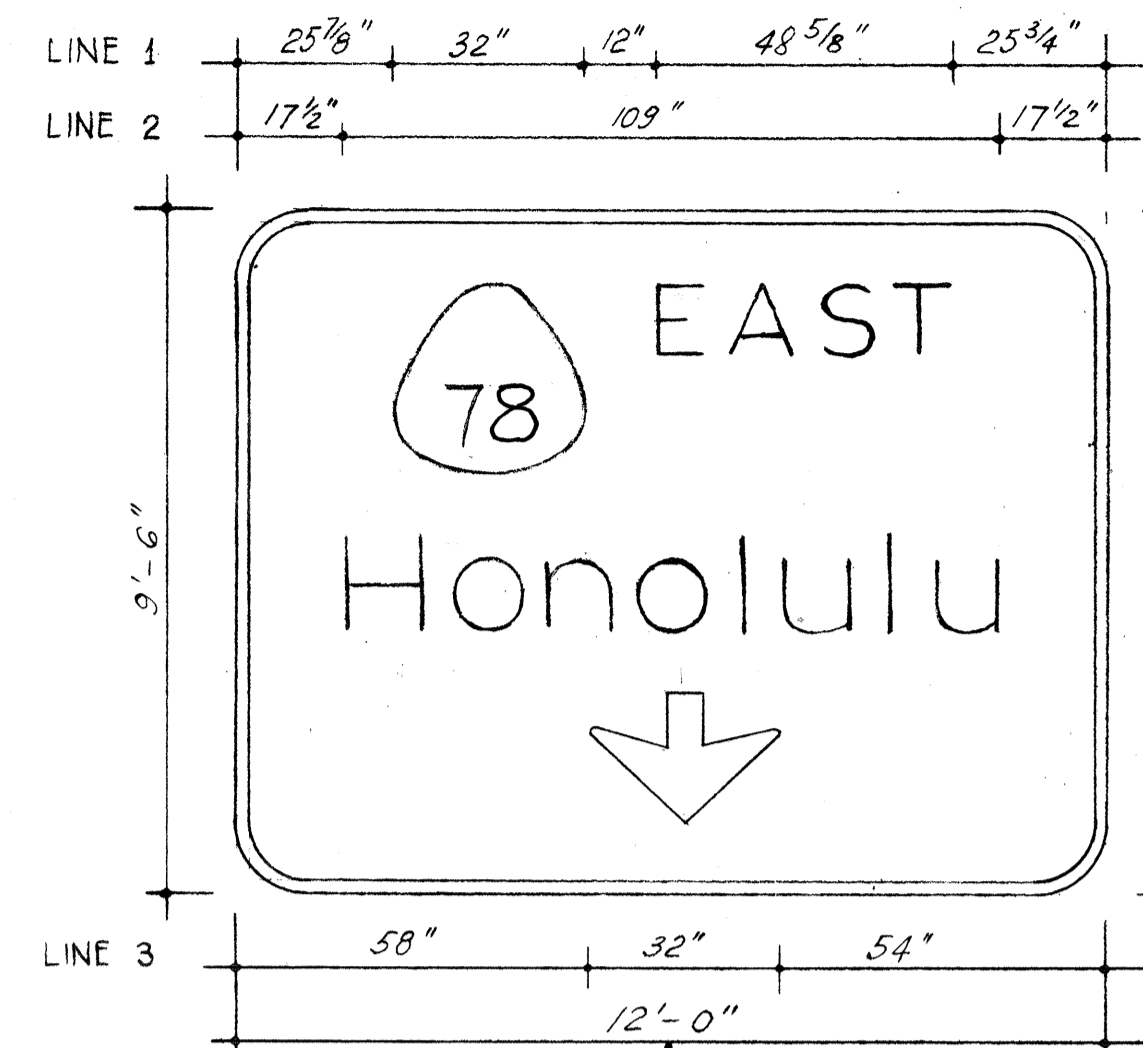
SHEET No. 5 OF 25 SHEETS

C.O. 1541

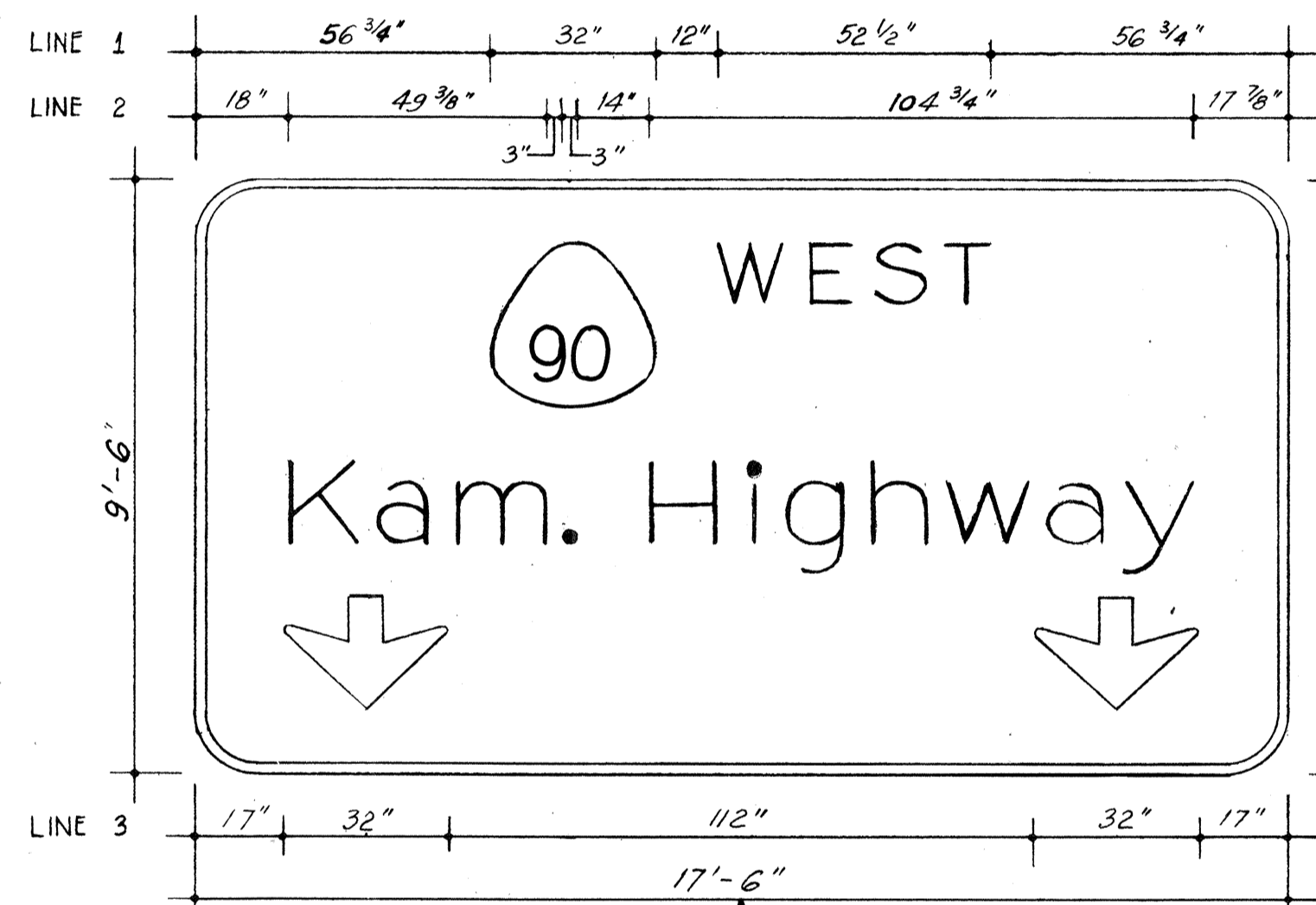
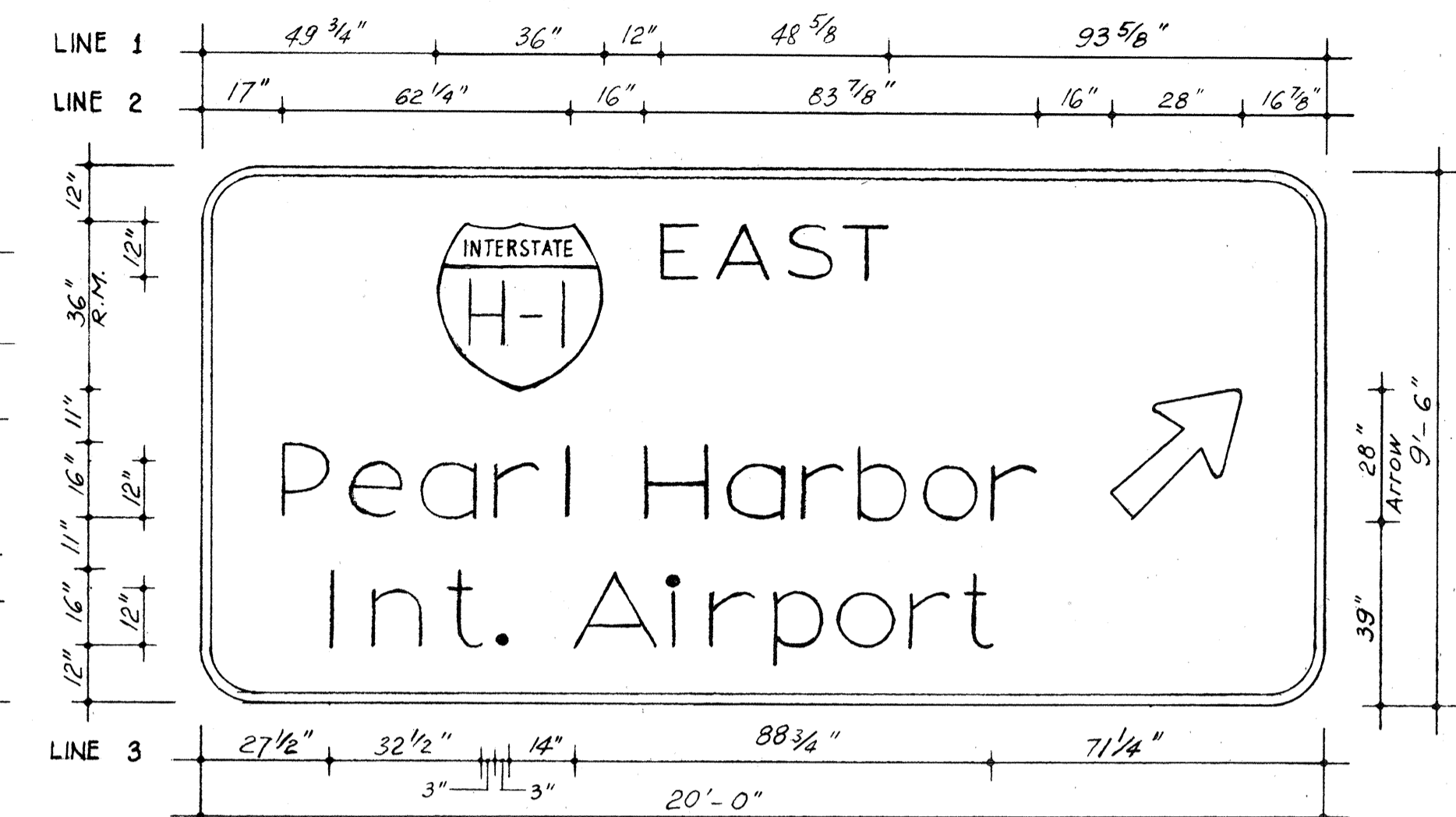
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)13	1971	155	457



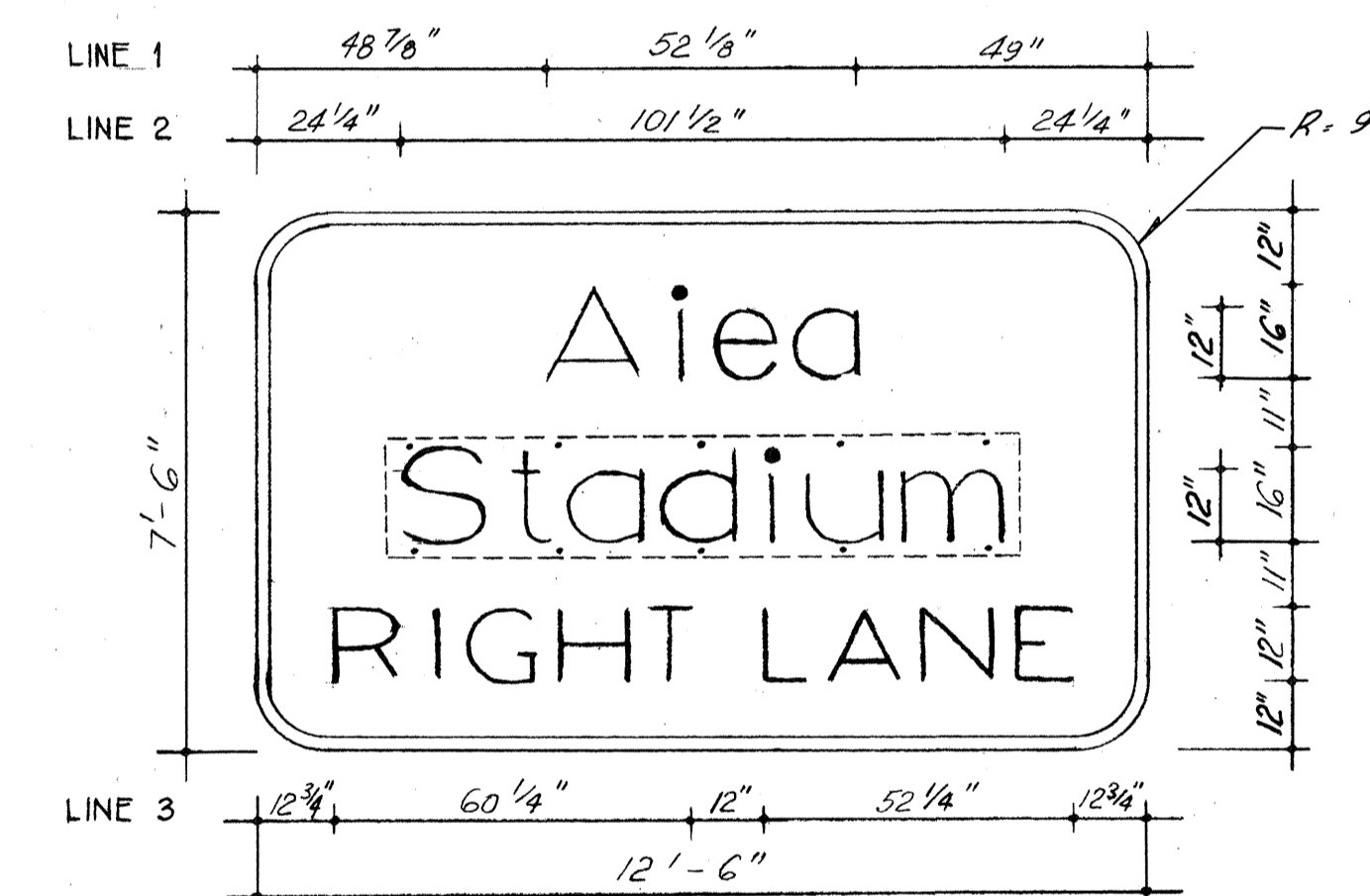
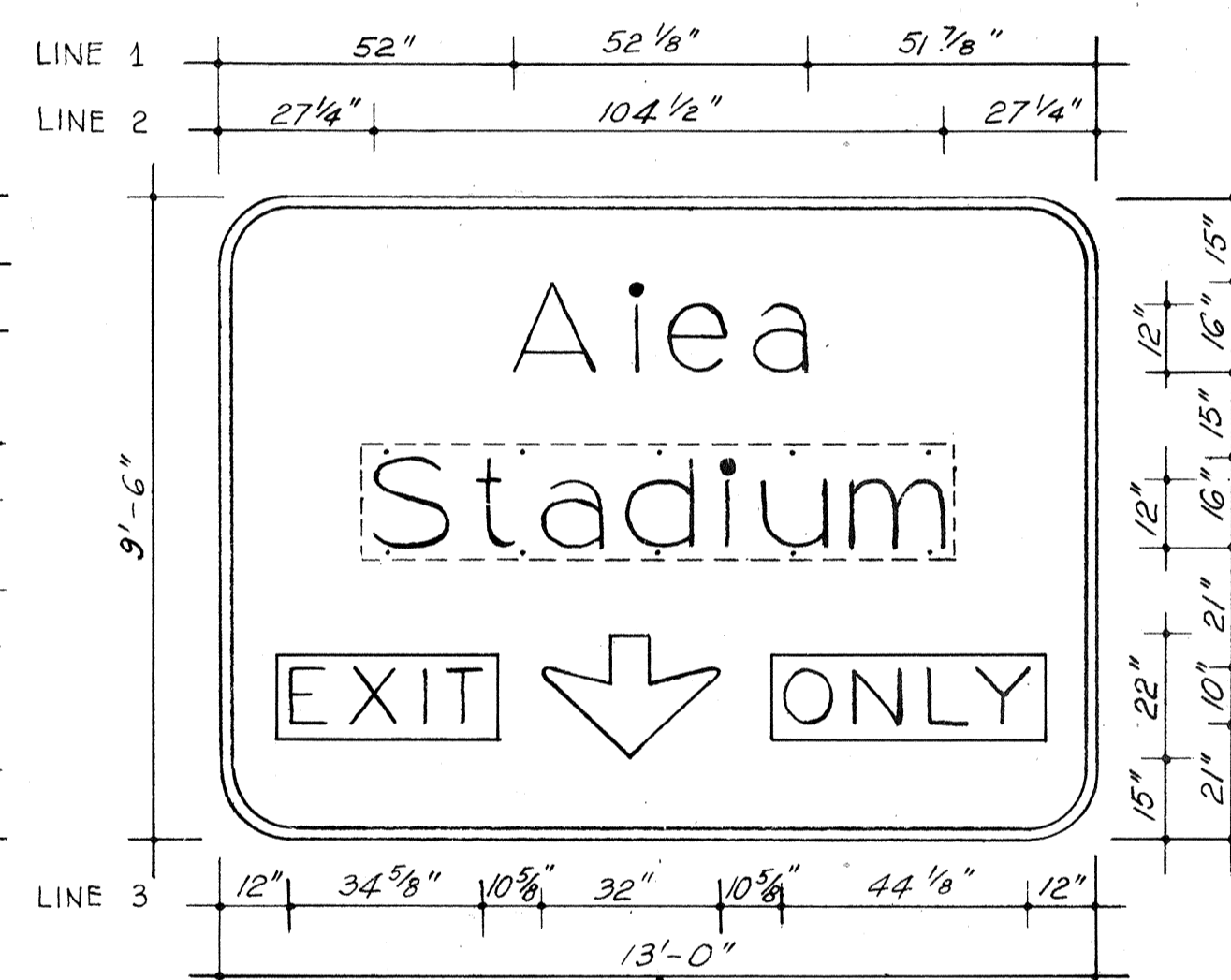
SIGN E-1
MOANALUA FREEWAY INBOUND STA. 128+10



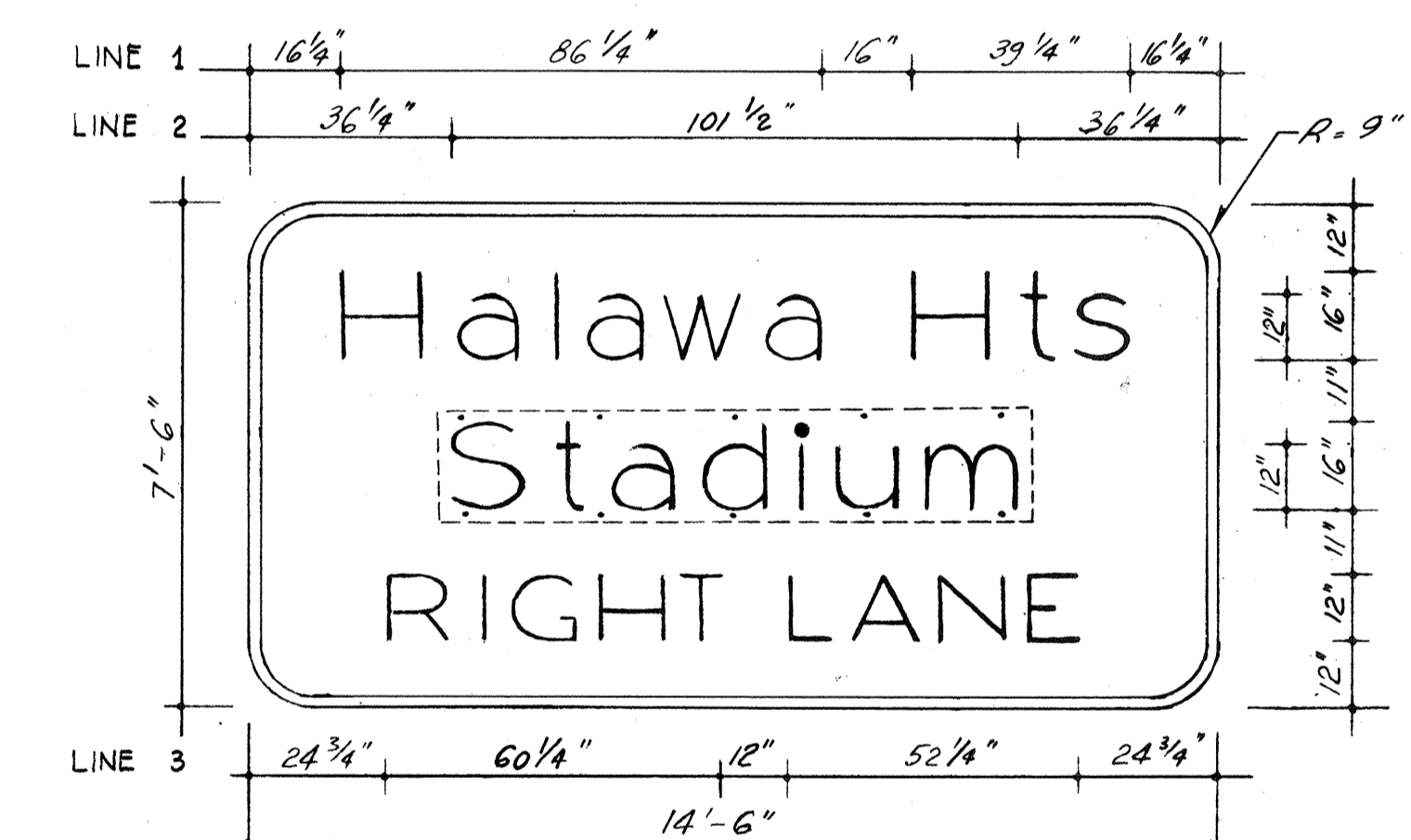
SIGN ASSEMBLY E-2
MOANALUA FREEWAY INBOUND STA. 136+80



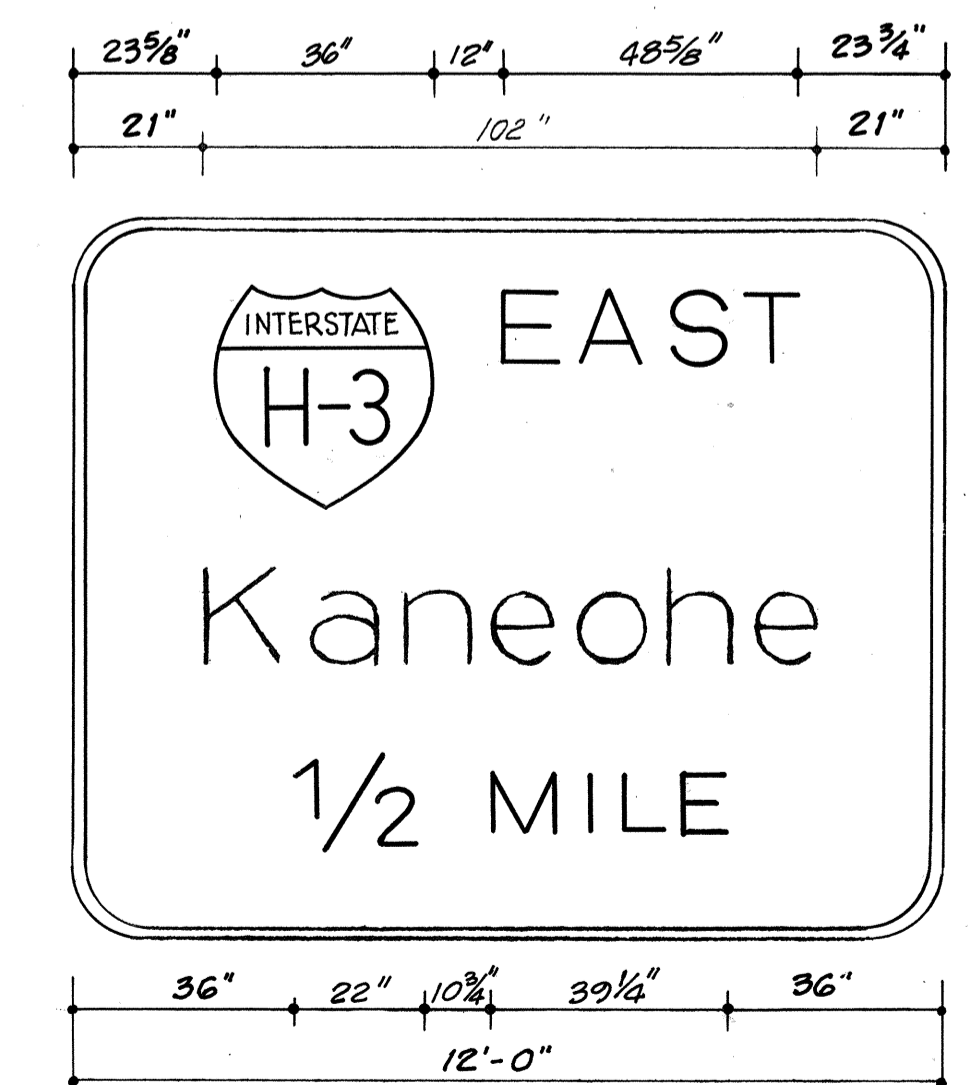
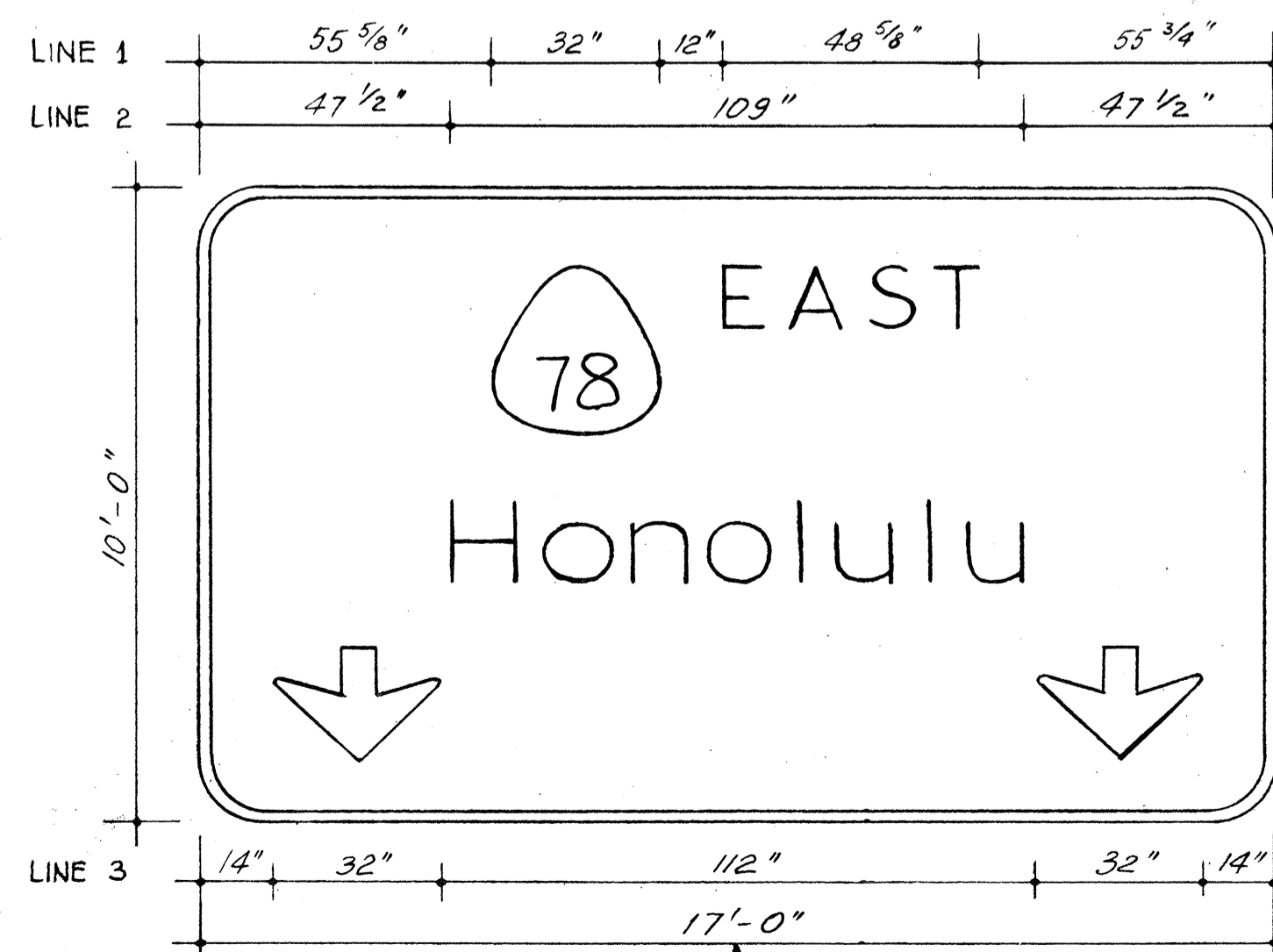
SIGN ASSEMBLY E-3
MOANALUA FREEWAY OUTBOUND STA. 136+80



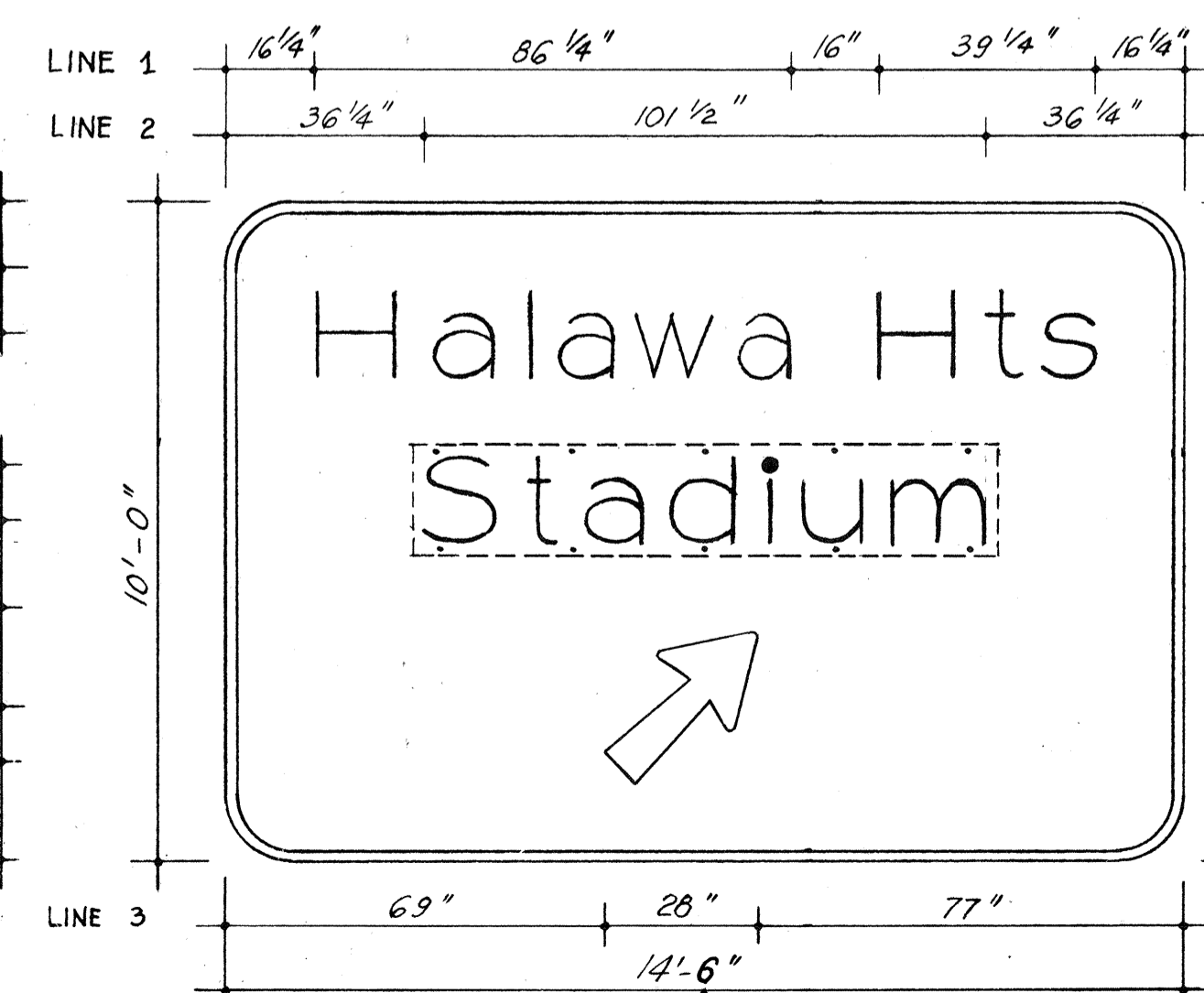
SIGN E-4
MOANALUA FREEWAY OUTBOUND STA. 145+00



SIGN E-5
MOANALUA FREEWAY INBOUND STA. 150+90



SIGN ASSEMBLY E-6
MOANALUA FREEWAY INBOUND STA. 158+90



NOTES

- FOR ADDITIONAL NOTES PERTAINING TO EXPRESSWAY AND DESTINATION SIGNS, SEE SHEET 157.
- SUMMARY TABLES FOR ALL EXPRESSWAY AND DESTINATION SIGNS ARE LOCATED ON SHEET 159.
- OUTLINES OF OVERLAY PANELS MASKING TEMPORARILY CERTAIN PORTIONS OF SIGN PANEL MESSAGE ARE SHOWN IN BROKEN LINES.
- LAYOUT OF OVERLAY PANELS WITH MESSAGES ARE SHOWN ON SHEET 15G.
- SUMMARY TABLES FOR ALL BLANK OVERLAY PANELS AND OVERLAY PANELS WITH MESSAGES ARE SHOWN ON SHEET 159.
- THE WORDS "EXIT... ONLY" AND "NEXT RIGHT" SHALL BE BLACK ON REFLECTORIZED YELLOW BACKGROUND.



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J. Andrew Schuchardt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

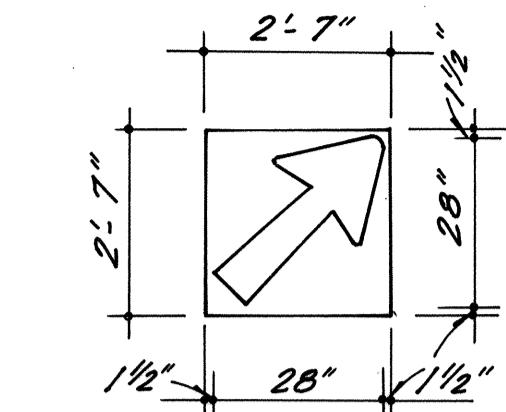
SIGN FACE DETAILS

INTERSTATE ROUTE HI
PROJECT NO. I-HI-1(88)13

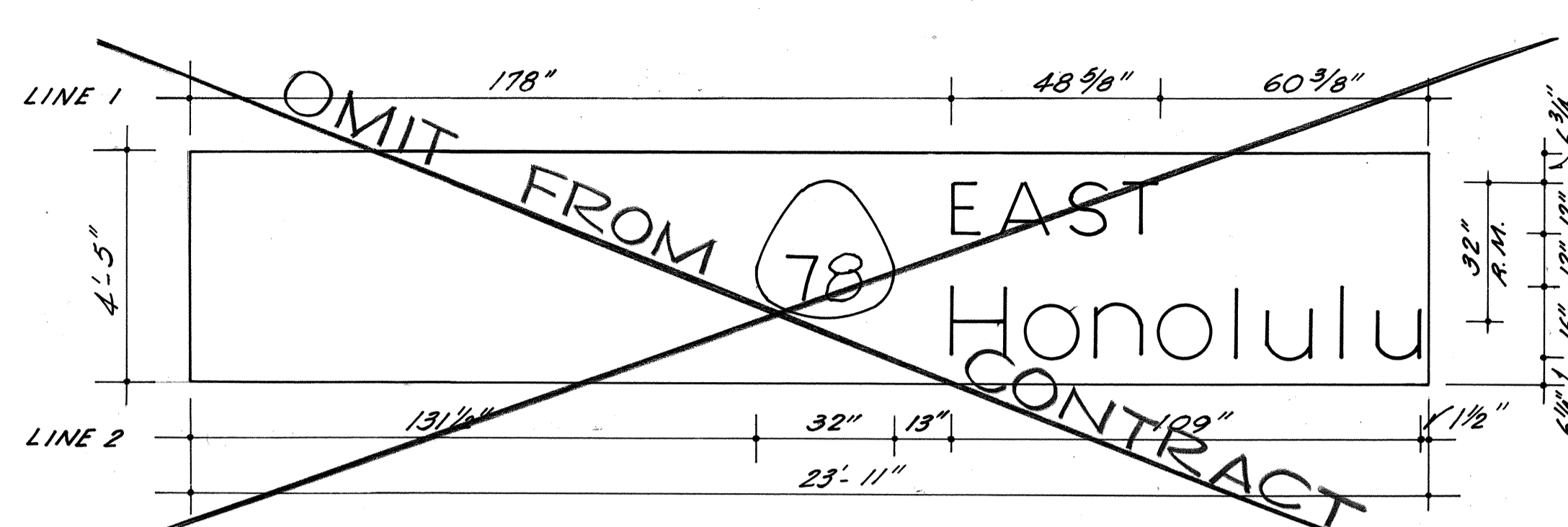
SCALE: 3/8" = 1'-0" DATE: JULY 17, 1970

DATE: 6-22-69
DRAWN BY: MAX SAVA
DESIGNED BY: E.S. MOONRAY/M. SAVA
QUANTITIES BY: MAX SAVA
CHECKED BY: E.S. MOONRAY

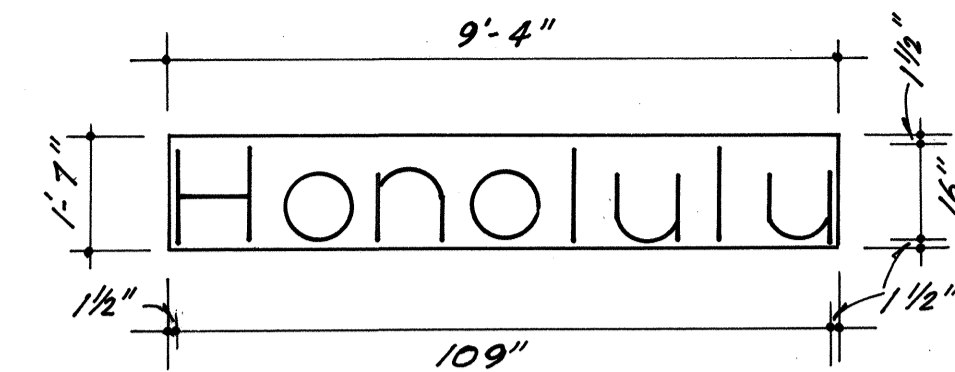
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88):13	1971	156	457



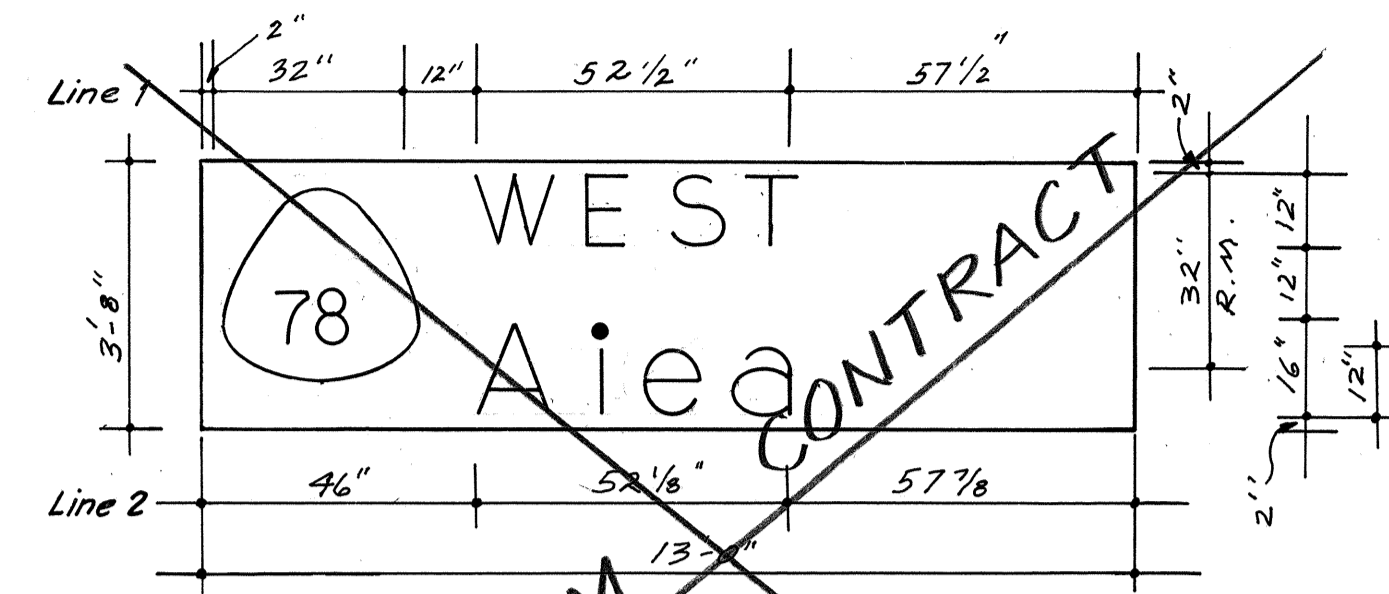
OVERLAY PANELS (2) FOR SIGN ASSEMBLY E-10 (RIGHT PANEL)



OVERLAY PANEL FOR SIGN ASSEMBLY E-8 (LEFT PANEL) (NOT IN CONTRACT)

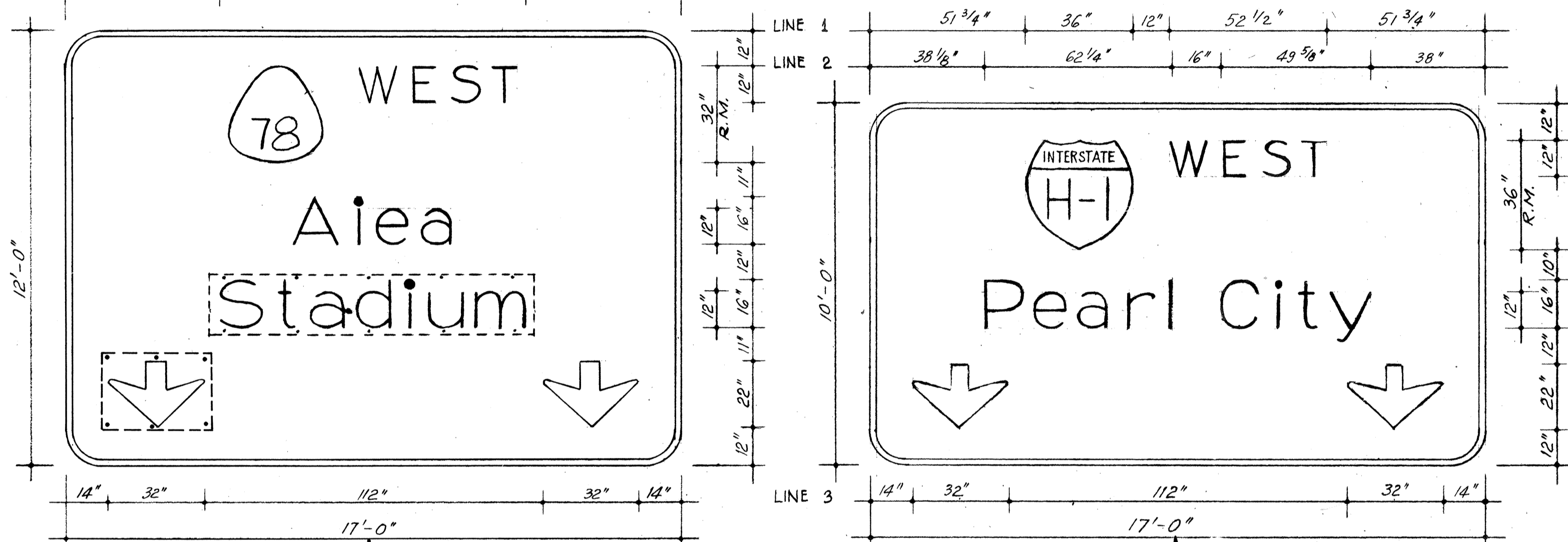
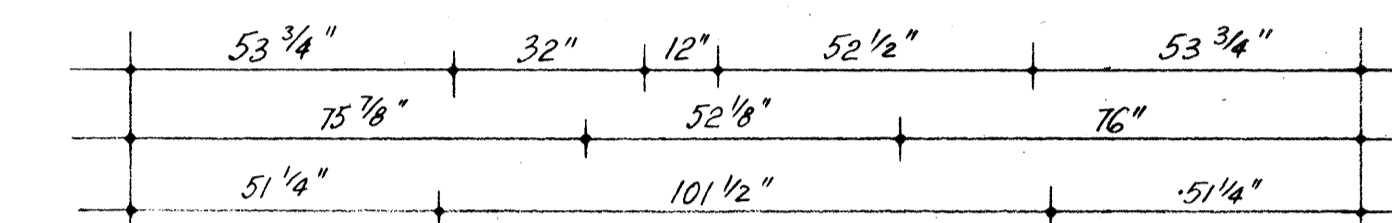


OVERLAY PANEL FOR SIGN ASSEMBLY E-10 (RIGHT PANEL)

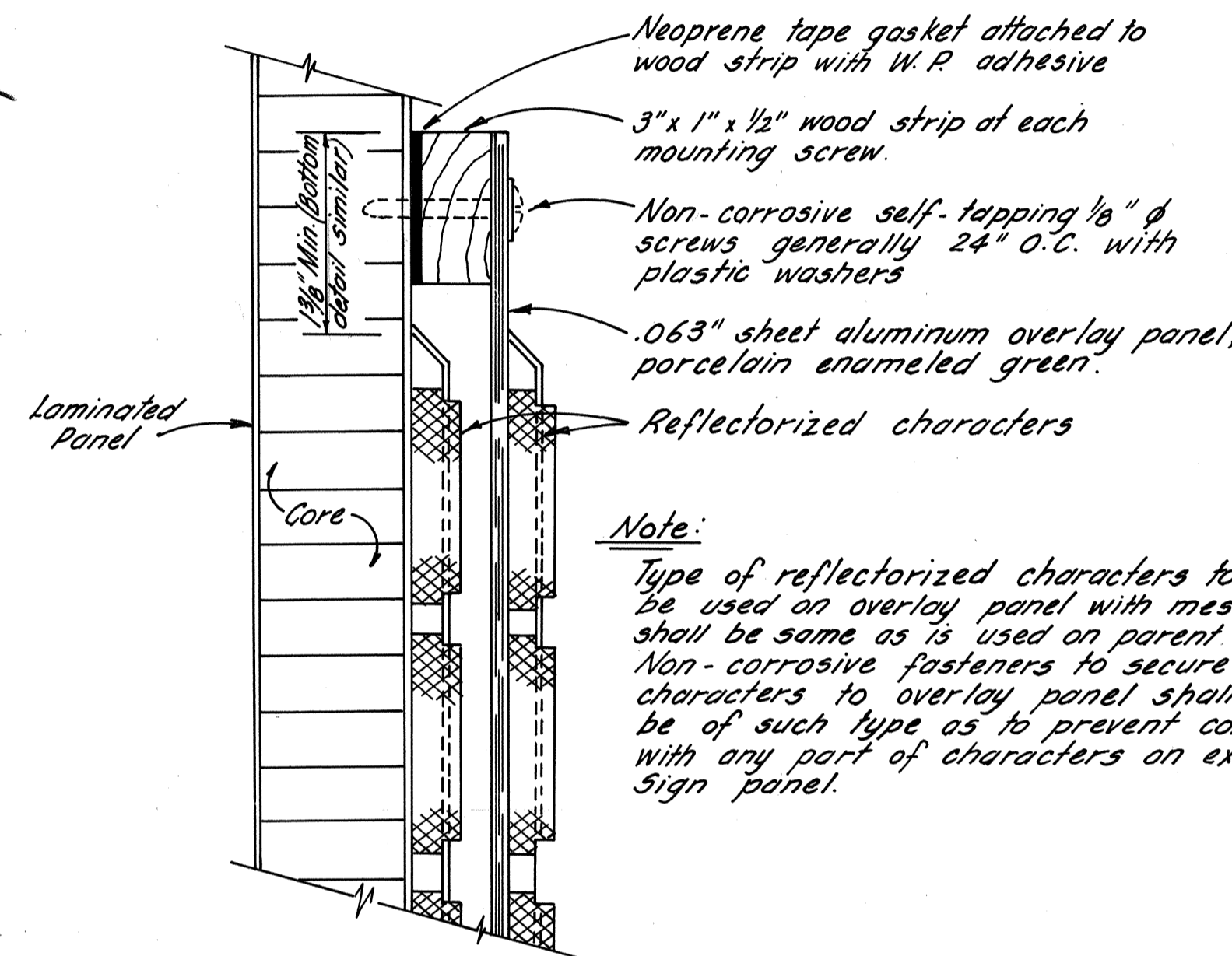


OVERLAY PANEL FOR SIGN ASSEMBLY E-8 (RIGHT PANEL) TO REPLACE BLANK OVERLAY PANELS BY OTHERS DURING INITIAL CONSTRUCTION PHASES

(Blank Overlay Panels to be replaced upon the opening to traffic of Ramps A and B)



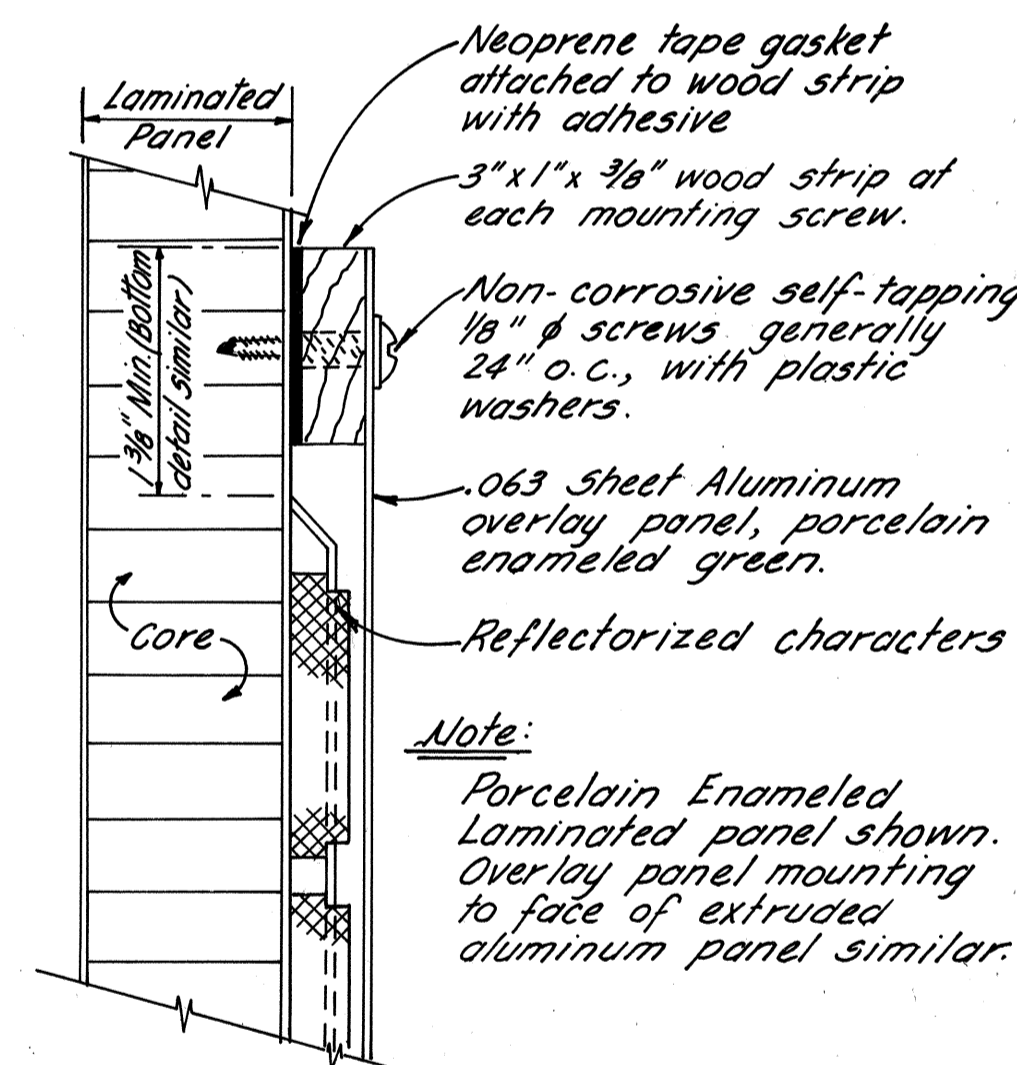
SIGN ASSEMBLY E-7



DETAIL OF OVERLAY PANEL WITH MESSAGE

Scale: Full Size

Note:
Type of reflectorized characters to be used on overlay panel with message shall be same as is used on parent sign. Non-corrosive fasteners to secure characters to overlay panel shall be of such type as to prevent contact with any part of characters on existing sign panel.



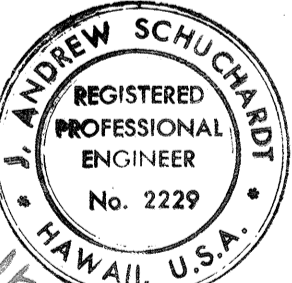
DETAIL OF OVERLAY PANEL

Scale: Full Size

For Notes See Sheet No. 155.

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J. Andrew Schuchardt
HAWAII, U.S.A.



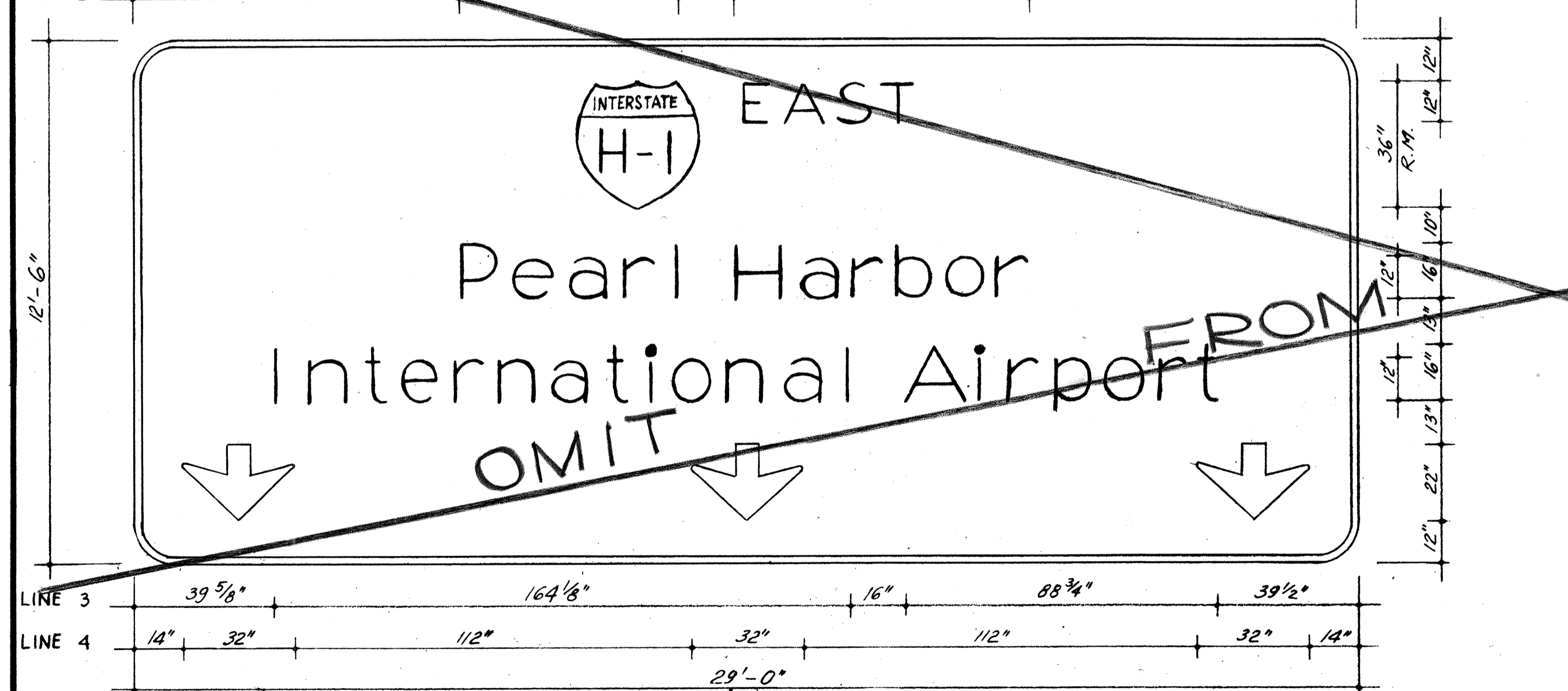
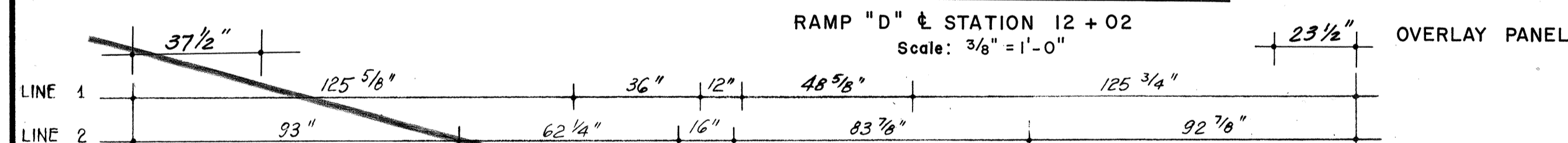
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN FACE DETAILS

INTERSTATE ROUTE H1
PROJECT NO. I-HI-1(88):13

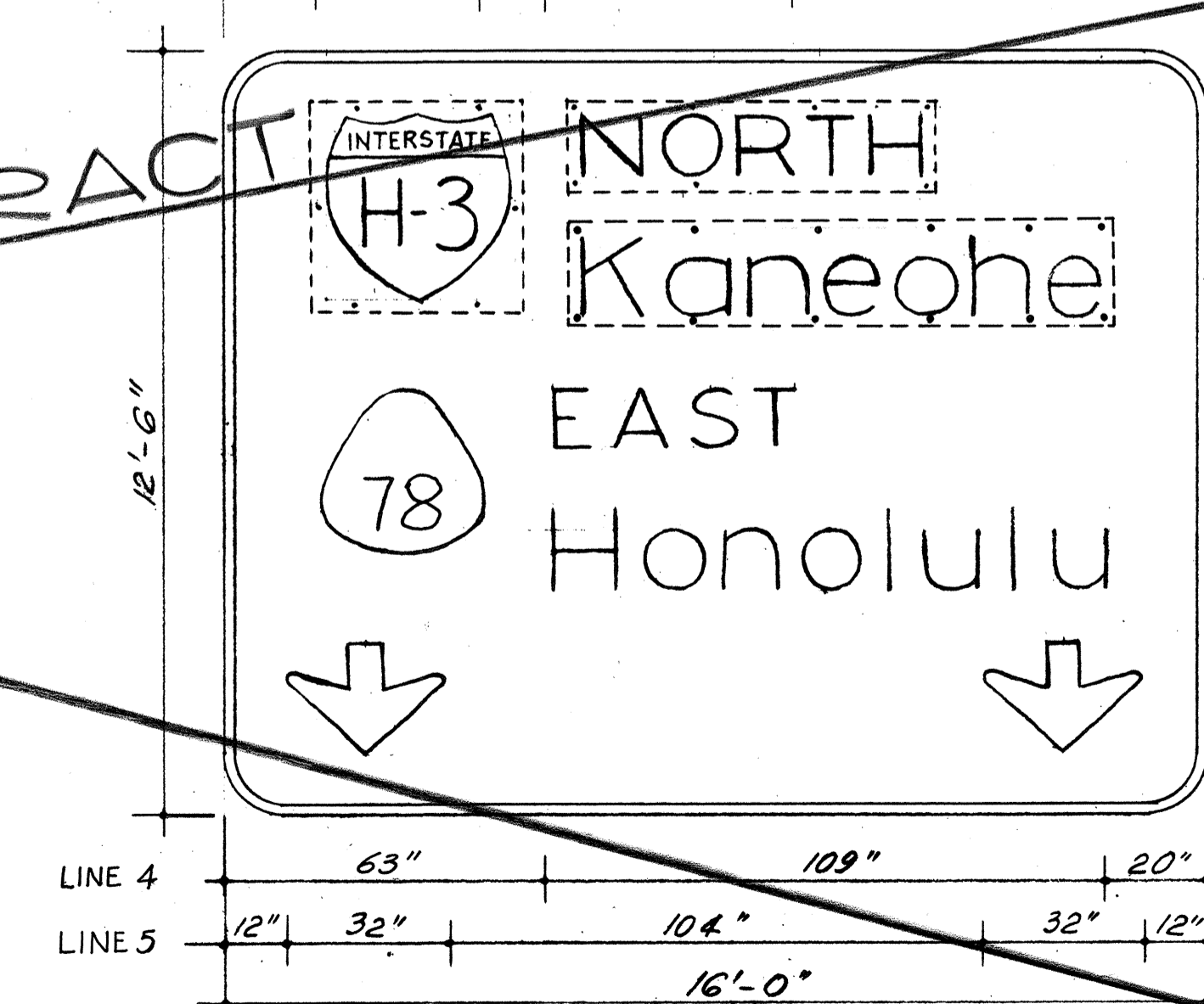
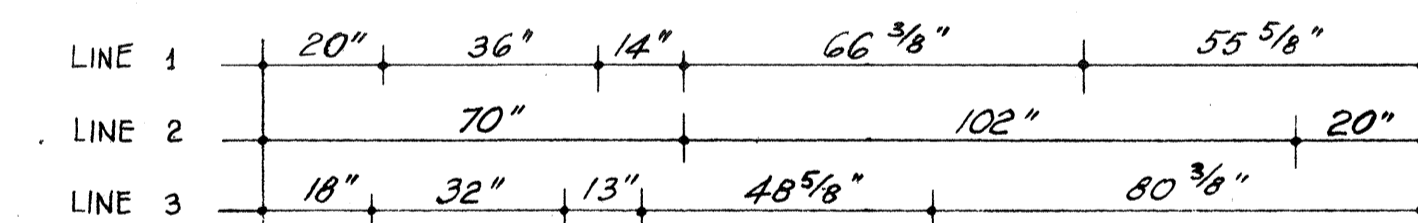
SCALE: AS SHOWN DATE: JULY 17, 1970

SHEET No. 7 OF 25 SHEETS



(NOT IN CONTRACT)
SIGN ASSEMBLY E-8

INT. H-1 STATION 200 + 65 (INBOUND)
Scale: 3/8" = 1'-0"



DESIGNED BY: _____ DATE: _____
CHECKED BY: _____
DRAWN BY: _____
NOTED BY: _____
QUANTITY BY: _____
REVISIONS BY: _____

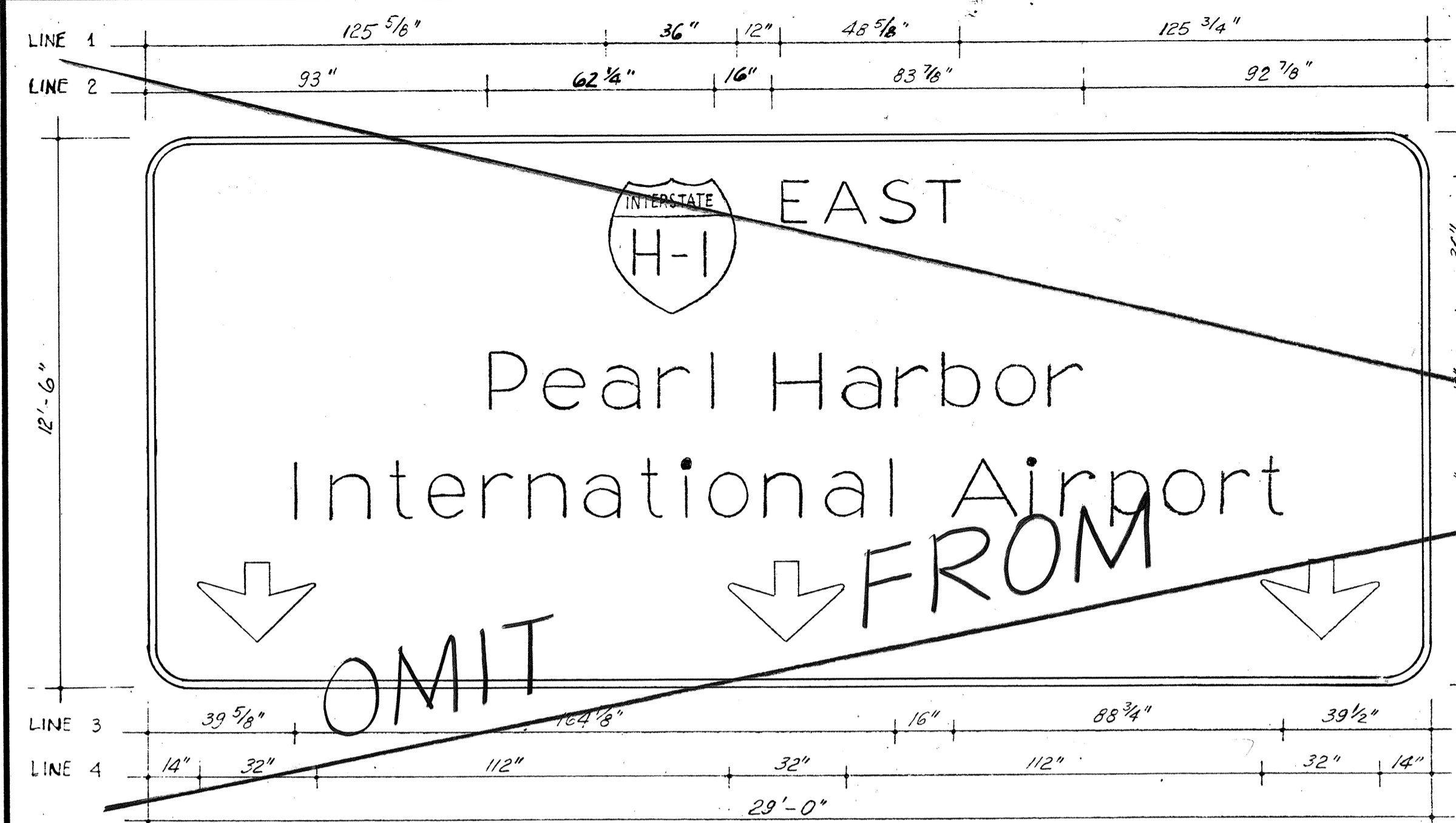
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-1(88):13	1971	157	457

NOTES PERTAINING TO EXPRESSWAY (E) SIGNS AND DESTINATION (D) SIGNS

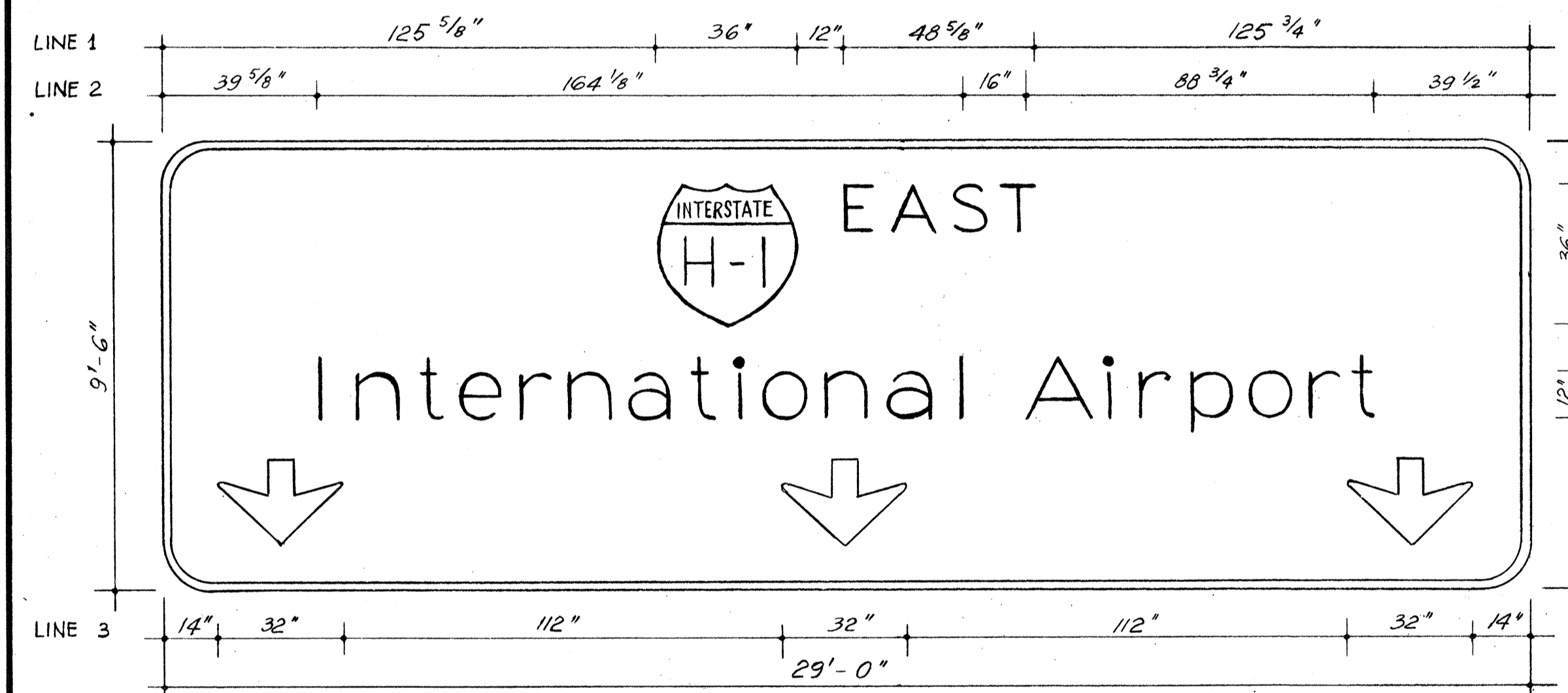
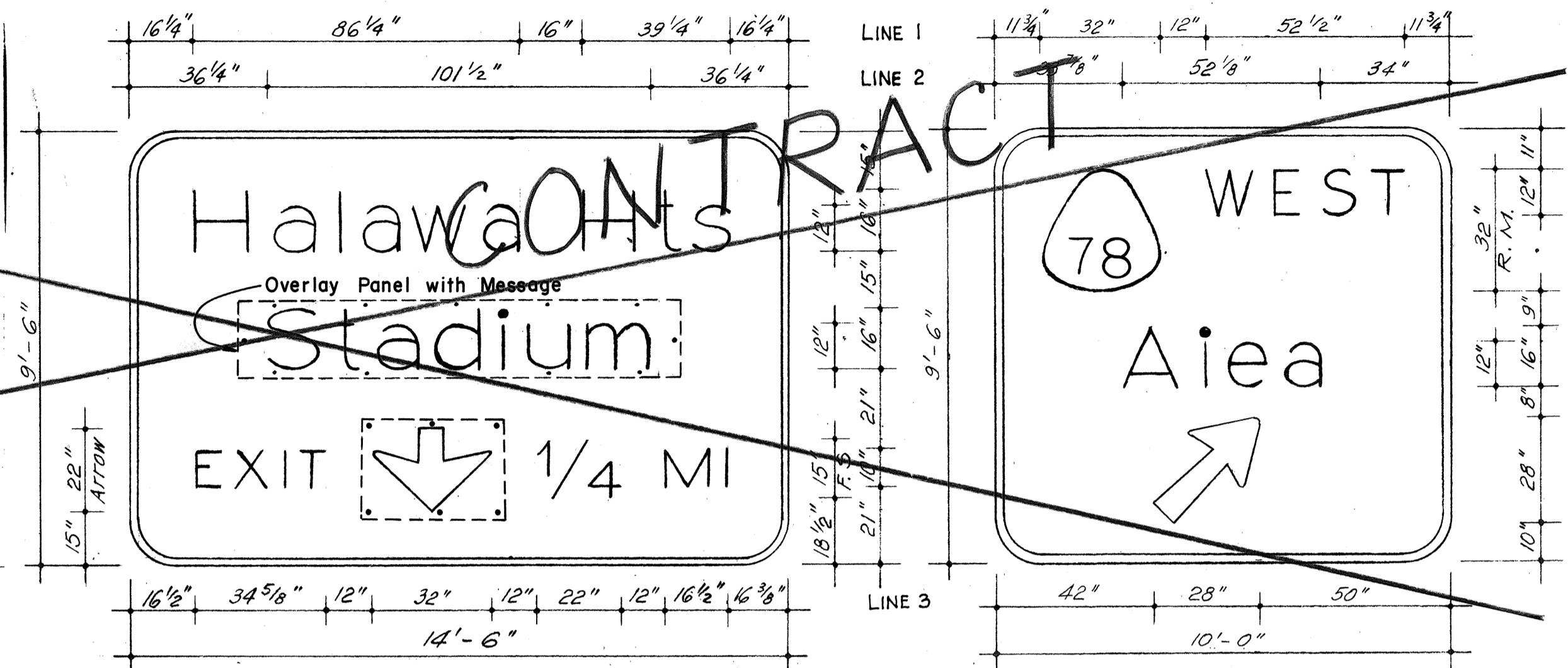
- DESIGN OF THE COMPANION UPPER AND LOWER CASE CHARACTERS, MODIFIED SERIES "E" CAPITAL LETTERS AND DIGITS, AND INTERCHARACTER SPACING FOR LINE MESSAGES SHALL MEET THE REQUIREMENTS ESTABLISHED BY THE BUREAU OF PUBLIC ROADS, U.S. DEPARTMENT OF COMMERCE, IN ITS REFERENCE GUIDE, "STANDARD ALPHABETS FOR HIGHWAY SIGNS", 1966 EDITION.
 - UNLESS OTHERWISE NOTED, SIGN BORDERS AND CORNER RADII FOR ALL SIGN FACES DETAILED HEREIN SHALL BE 2 INCHES WIDE, AND 12 INCHES, RESPECTIVELY.
 - STATE AND INTERSTATE ROUTE MARKERS INCORPORATED ON SIGN PANELS SHALL CONFORM TO THE DIMENSIONS AS SHOWN. MARKER SHAPE, COLOR, LETTER AND NUMERAL SERIES, ETC., ARE TO COMPLY WITH THOSE OF THE OFFICIAL MARKER DESIGNS ON THE STANDARD DETAIL SHEETS.
 - ALL ARROWS SHALL BE AS PRESCRIBED FOR SIGNS ON THE NATIONAL SYSTEM OF INTERSTATE AND DEFENSE HIGHWAYS.
 - EMBOSSED ALUMINUM CUT-OUTS WITH APPLIED SILVER-WHITE REFLECTIVE SHEETING MATERIAL; OR
 - WHITE PORCELAIN ENAMELED ALUMINUM FRAMES IN WHICH ARE INSTALLED PLASTIC REFLEX REFLECTORS.
 - ALL ARTIFICIALLY ILLUMINATED EXPRESSWAY SIGNS SHALL HAVE REFLECTORIZED MESSAGE AND BORDER ON A GREEN PORCELAIN ENAMELED BACKGROUND. DESTINATION SIGNS SHALL BE COMPLETELY REFLECTORIZED WITH SILVER-WHITE REFLECTIVE SHEETING FOR MESSAGE CUT-OUTS AND BORDER STRIPS, AND GREEN REFLECTIVE SHEETING FOR SIGN BACKGROUND.*
 - FASTENERS:

DEMOUNTABLE CHARACTERS SHALL BE FASTENED TO SIGN PANELS WITH BLIND RIVETS. OVERLAY PANELS SHALL BE FASTENED TO PARENT SIGN PANELS WITH SELF-TAPPING SCREWS AS SHOWN.
 - DEMOUNTABLE CHARACTERS, EXCEPT AS OTHERWISE SPECIFIED, SHALL BE OF ONE TYPE ON ANY SIGN PANEL OR GROUP OF SIGN PANELS MOUNTED ON A COMMON SUPPORT, AND SHALL INCLUDE LETTERS, NUMERALS, ARROWS AND BORDERS.
 - WHERE MORE THAN ONE SIGN PANEL IS MOUNTED ON THE SAME OVERHEAD SIGN PANEL SUPPORT, THE LEFT TO RIGHT POSITION OF SIGN FACES OF PANELS ON THE SUPPORT (AS VIEWED BY APPROACHING TRAFFIC) IS REPEATED IN THE SAME ORDER ON THESE SIGN FACE DETAIL SHEETS.
- * NON-ILLUMINATED EXPRESSWAY SIGN PANELS SHALL BE FABRICATED IN ACCORDANCE WITH SPECIFICATIONS FOR DESTINATION SIGNS.

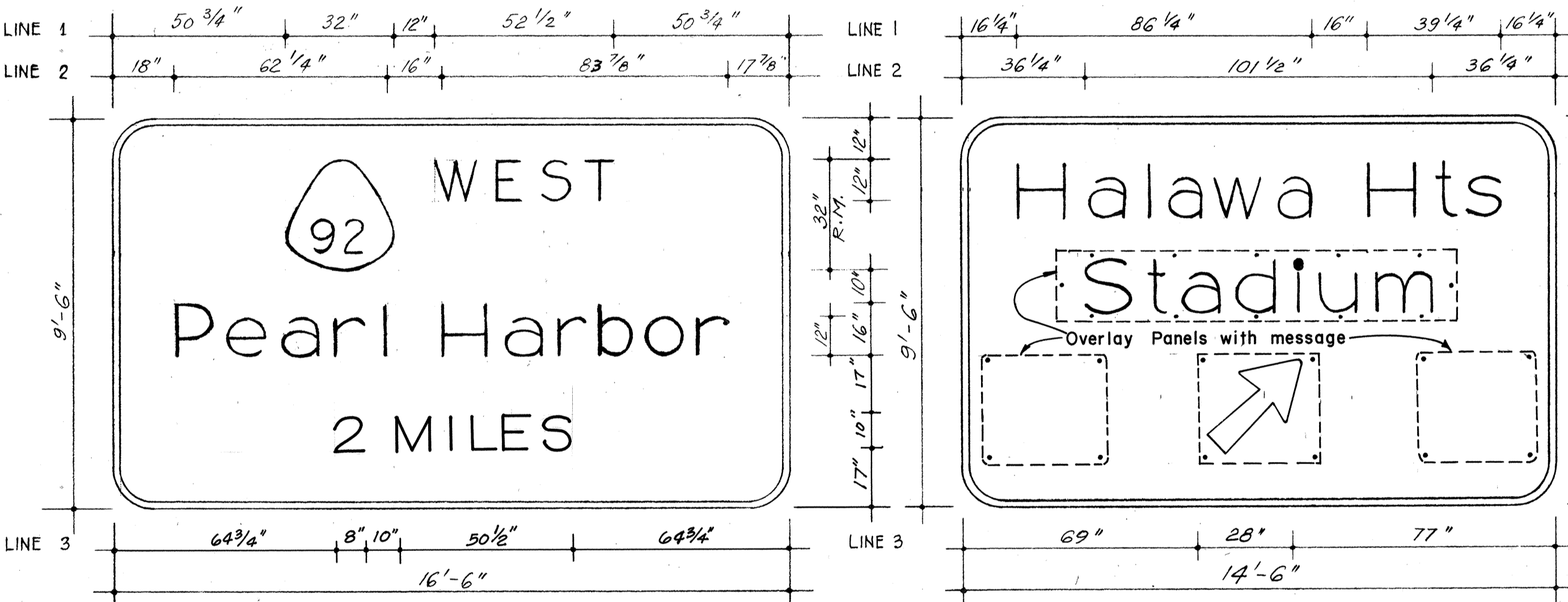
For Additional Notes, See Sheet No. 155.



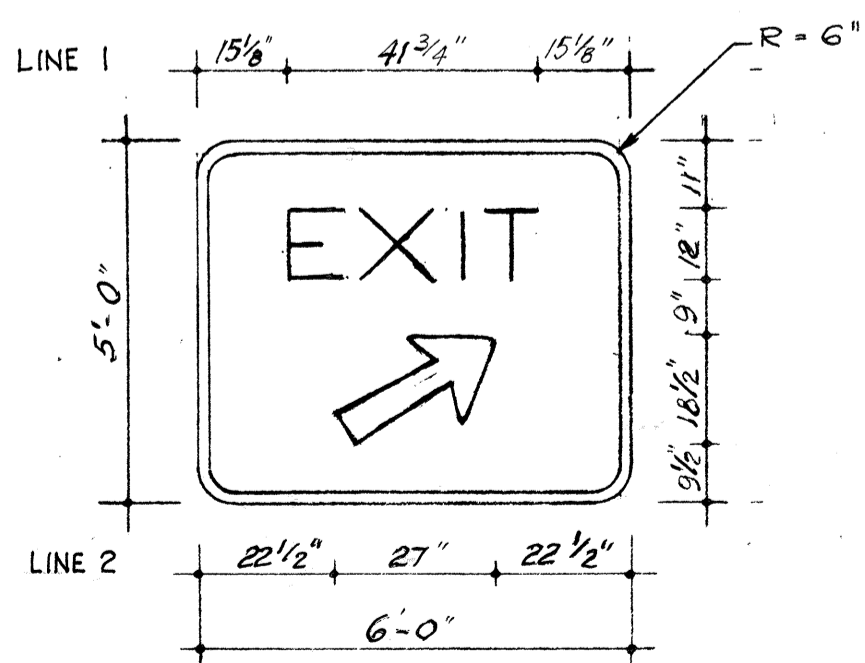
SIGN ASSEMBLY E-9
INTERSTATE ROUTE H-1 INBOUND STA.208+75



SIGN ASSEMBLY E-10
INTERSTATE ROUTE H-1 INBOUND STA.219+00



SURVEY PLOTTED BY	DATE
DRAWN BY	7-1-69
DESIGNED BY	7-1-69
QUANTITIES BY	7-1-69
CHECKED BY	7-1-69
ORIGINAL PLAN	
NOTE BOOK	



SIGN D-II
INTERSTATE ROUTE H-1 OUTBOUND STA.220+50
(SIGN D-42 AND D-43 SIMILAR)
INTERSTATE ROUTE H-1 INBOUND STA.223+70
MOANALUA FREEWAY INBOUND STA.162+15



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J. Andrew Schuchardt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SIGN FACE DETAILS

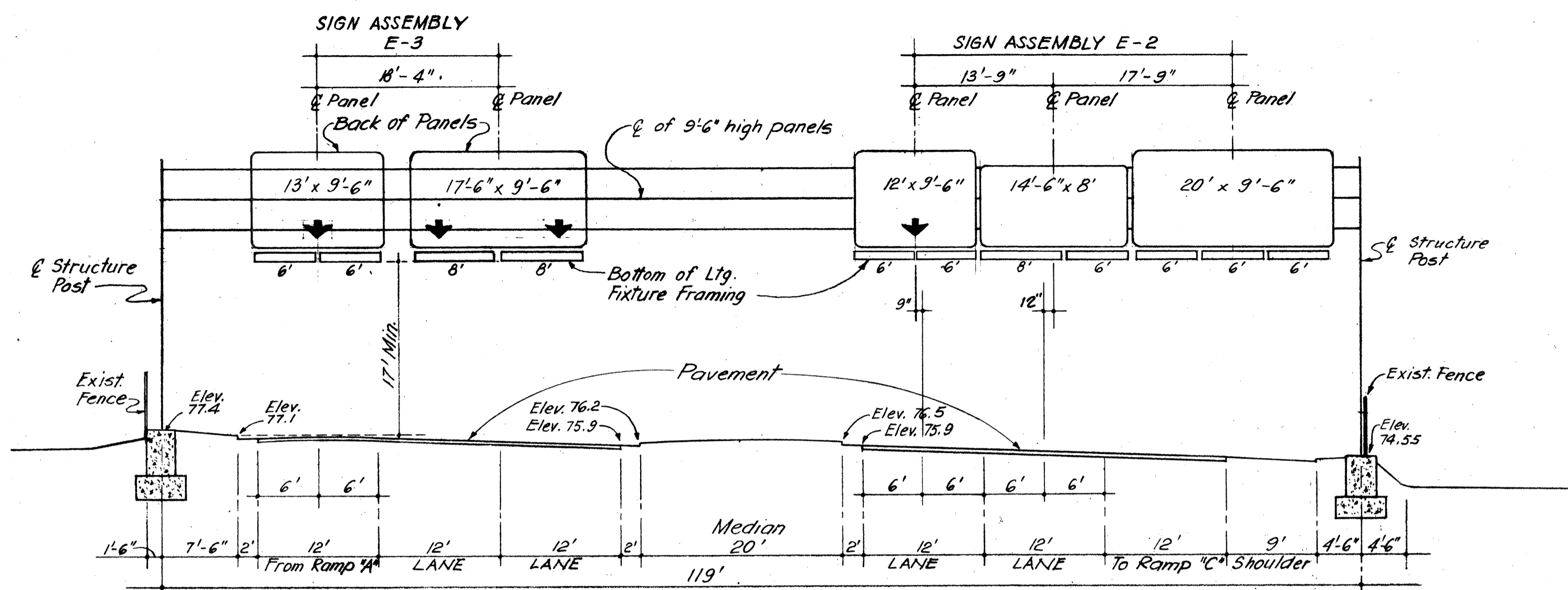
INTERSTATE ROUTE H1
PROJECT NO. I-41-1(88):13

SCALE: 3/8" = 1'-0" DATE: JULY 17, 1970

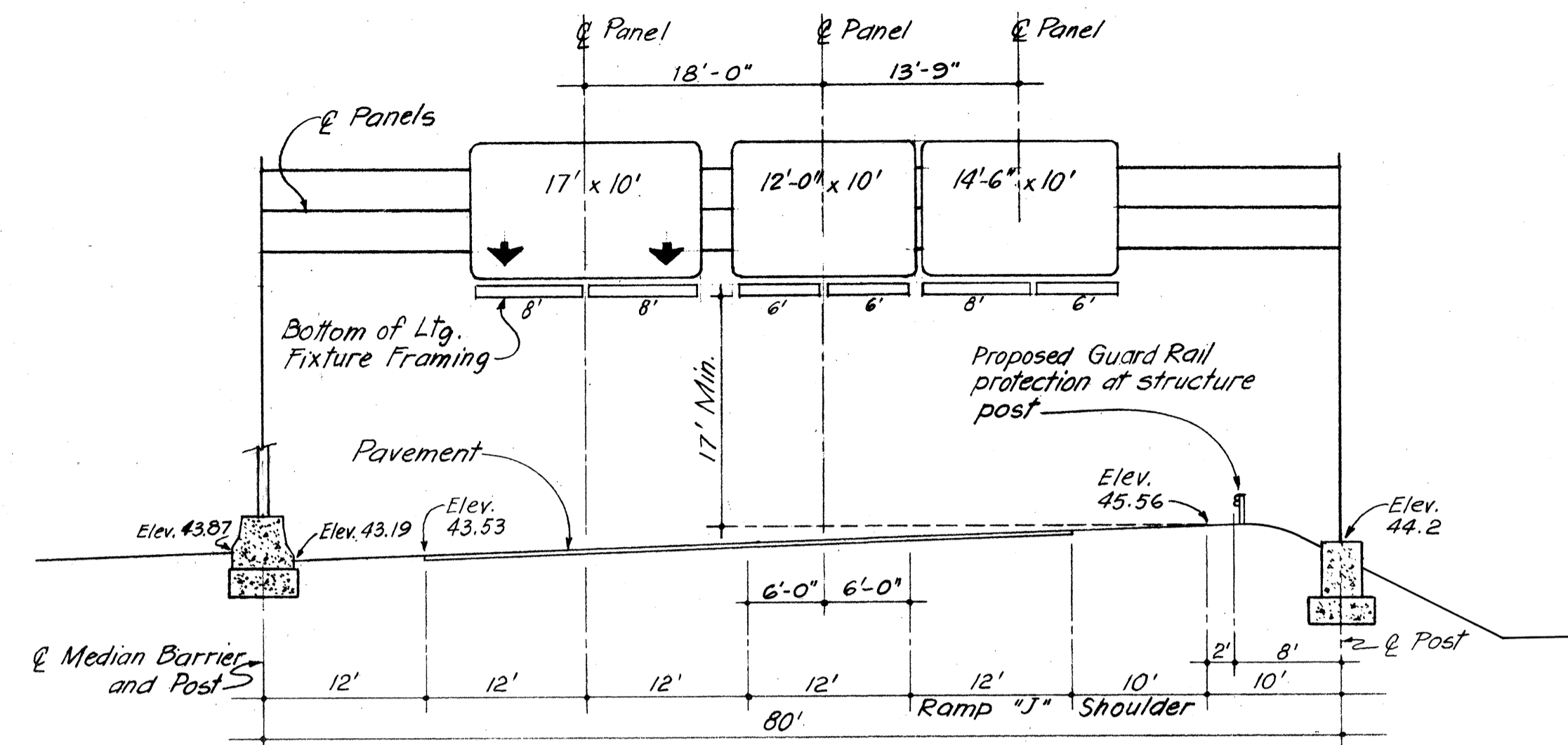
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(88)13	1971	158	457

NOTES

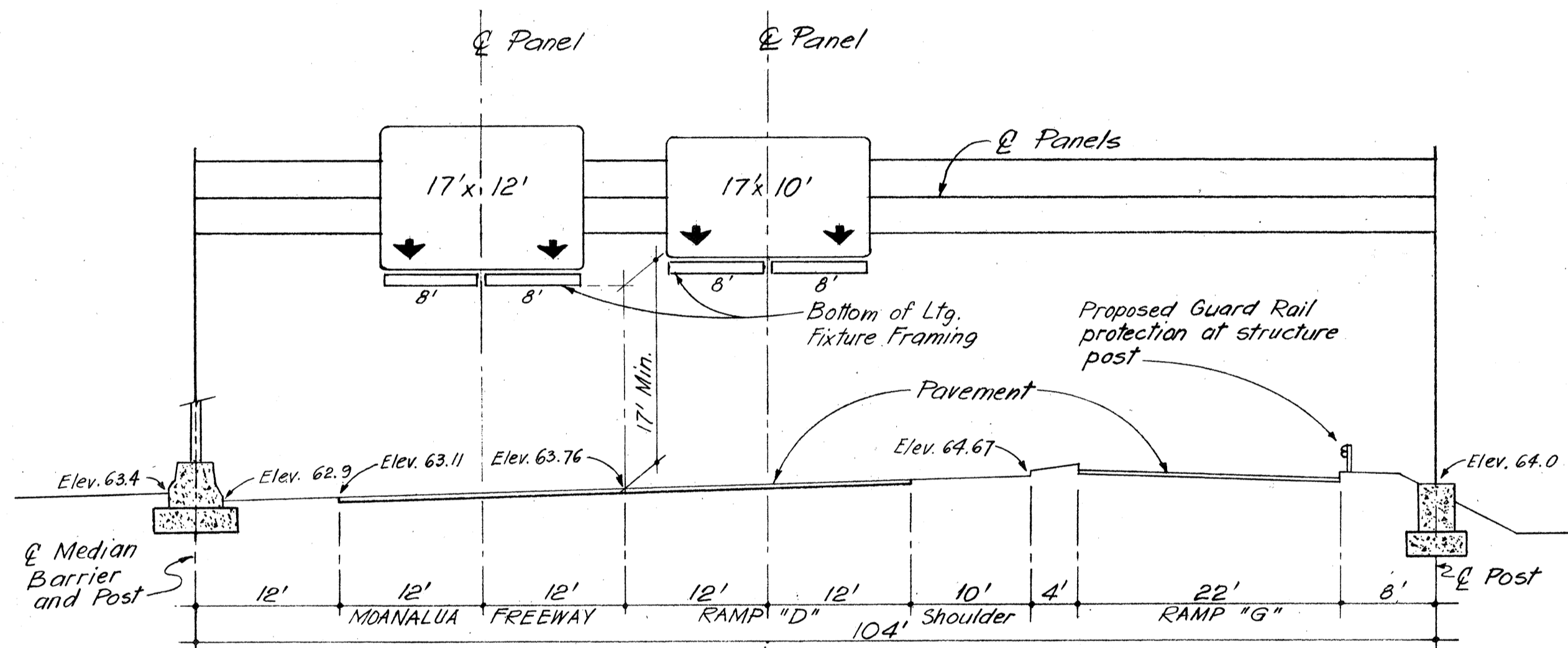
- FOR SIGN FACE DETAILS OF PANELS MOUNTED ON OVERHEAD SIGN STRUCTURES, SEE SHEETS 155, 156 AND 157.
- FOR DETAILS OF (A) OUTRIGGER BRACKETS SUPPORTING SIGN PANEL LIGHTING FIXTURES, (B) OVERHEAD SIGN STRUCTURES, (C) STRUCTURE FOOTINGS, (D) SPECIAL CONCRETE MEDIAN BARRIER SECTION AT OVERHEAD SIGN STRUCTURE POSTS, (E) SIGN PANEL BRACKETS, SEE SHEETS 186 AND 160 TO 167.
- SEE ELECTRICAL DRAWINGS FOR SIGN PANEL LIGHTING FIXTURE TYPES, INSTALLATION DETAILS, ETC.
- FOR PROTECTIVE TREATMENT OF EXPOSED OVERHEAD SIGN STRUCTURE SUPPORTS, SEE SPECIAL GUARD RAIL INSTALLATIONS ON GENERAL LOCATION PLANS, SPECIFICATIONS AND STANDARD DETAILS.



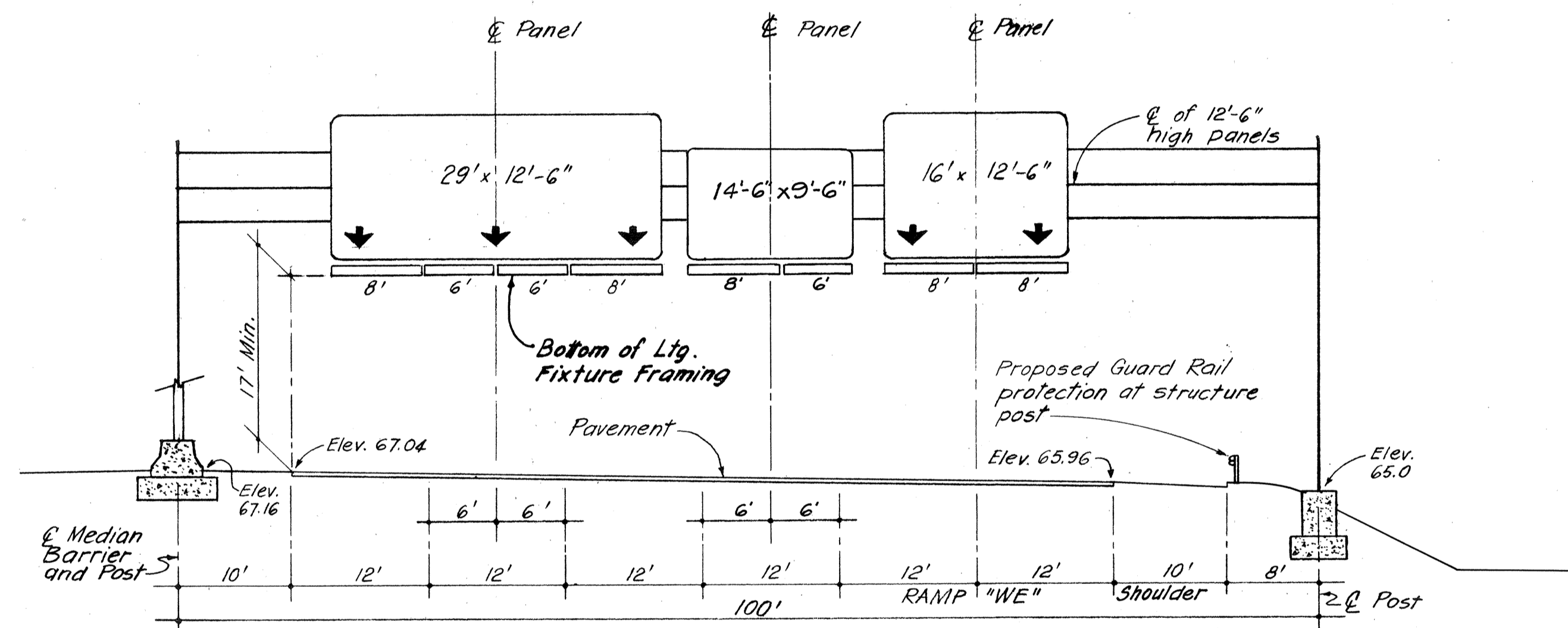
ELEVATION SIGN ASSEMBLIES E-2 AND E-3
MOANALUA FREEWAY INBOUND STA. 136+80



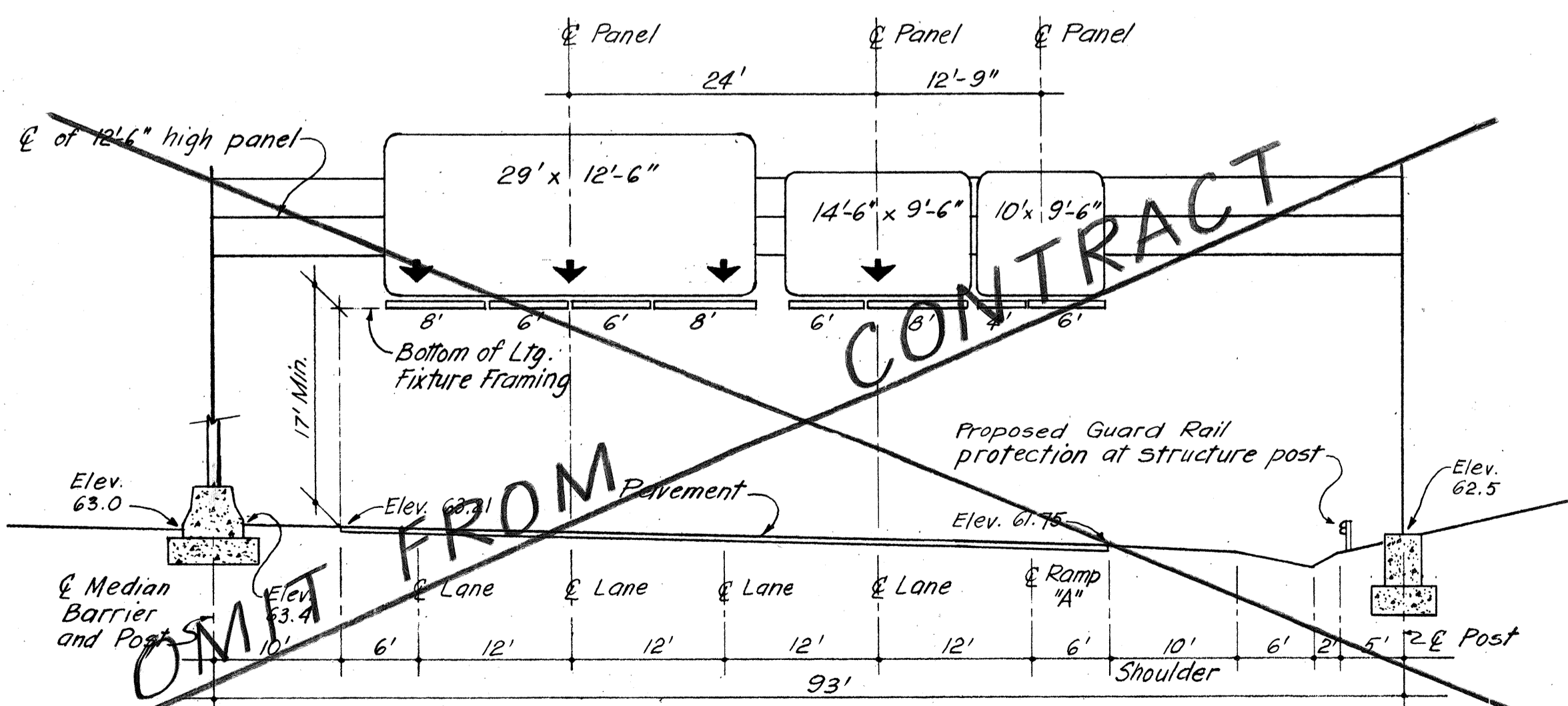
ELEVATION SIGN ASSEMBLY E-6
MOANALUA FREEWAY INBOUND STA. 158+90



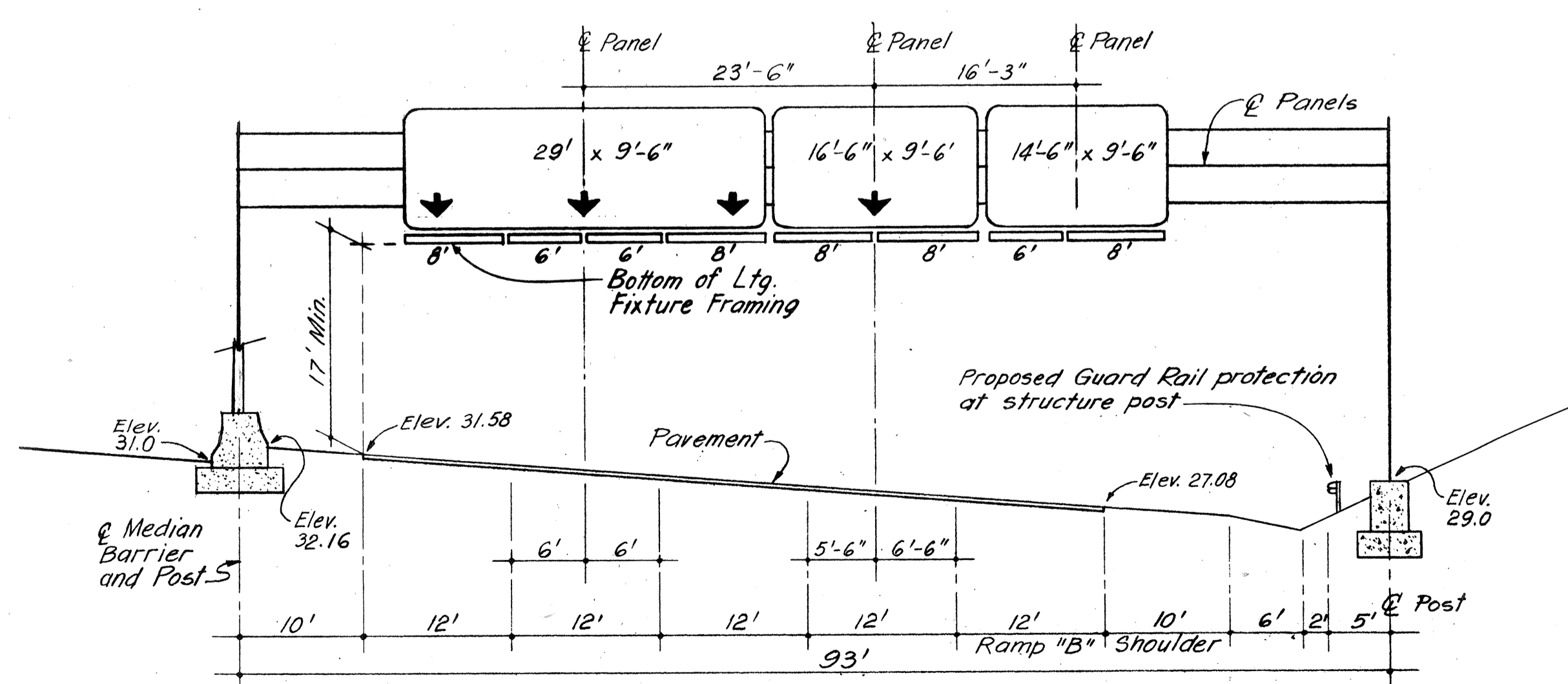
ELEVATION SIGN ASSEMBLY E-7
RAMP "D" STA. 12+02
(MOANALUA FREEWAY OUTBOUND STA. 166+04)



ELEVATION SIGN ASSEMBLY E-8
INTERSTATE ROUTE H-1 INBOUND STA. 200+65
(NOT IN CONTRACT)



ELEVATION SIGN ASSEMBLY E-9
INTERSTATE ROUTE H-1 INBOUND STA. 208+75



ELEVATION SIGN ASSEMBLY E-10
INTERSTATE ROUTE H-1 INBOUND STA. 219+00

DATE	2-22-69
DESIGNED BY	M. S. S. S. S.
DRAWN BY	E. S. M. S. S.
CHECKED BY	M. S. S. S.
IN CHARGE	E. S. M. S. S.
APPROVED	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
J. Andrew Schuchardt

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LINE DIAGRAMS OF OVERHEAD
SIGNS AND SIGN STRUCTURES

INTERSTATE ROUTE H1
PROJECT NO. I-H-1(88)13

SCALE: 1"=10' DATE: JULY 17, 1970

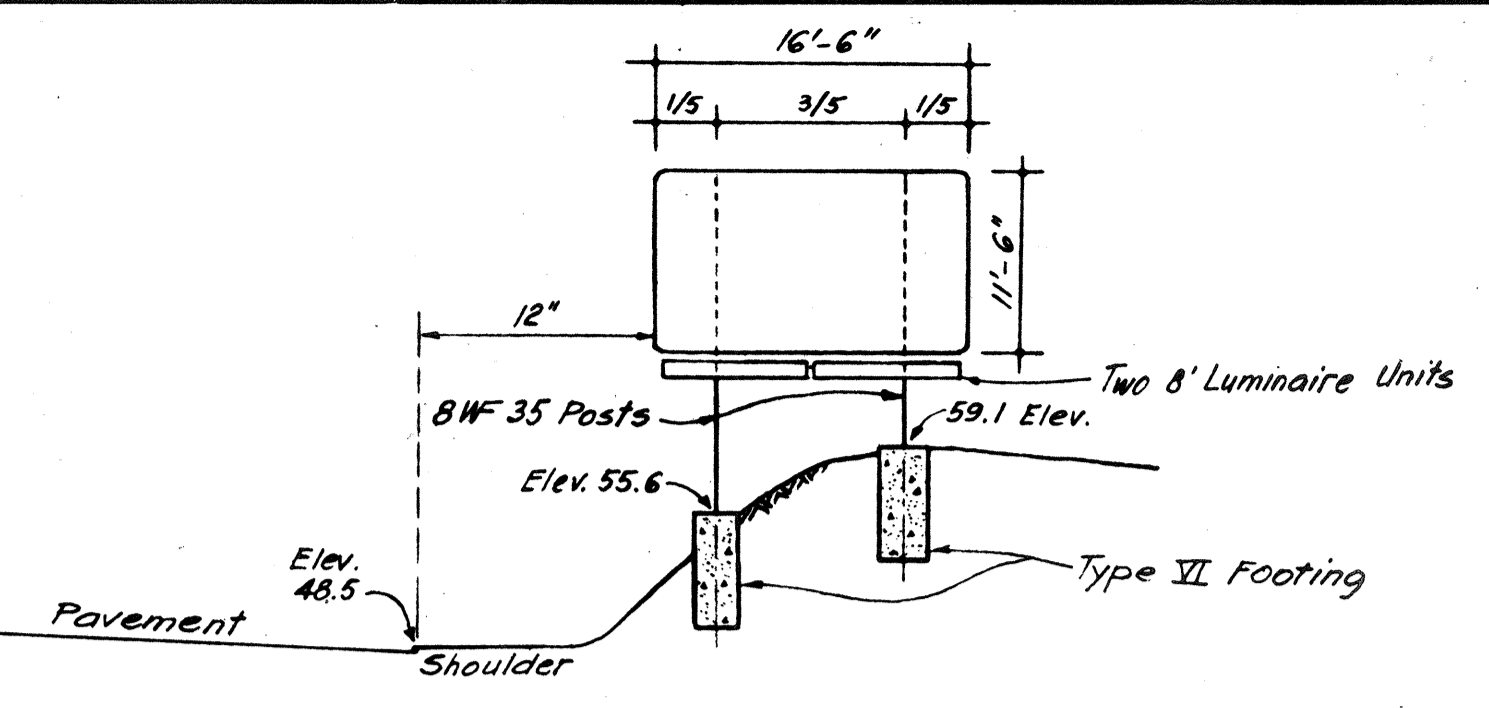
SHEET No. 9 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-11(188)13	1971	150	457

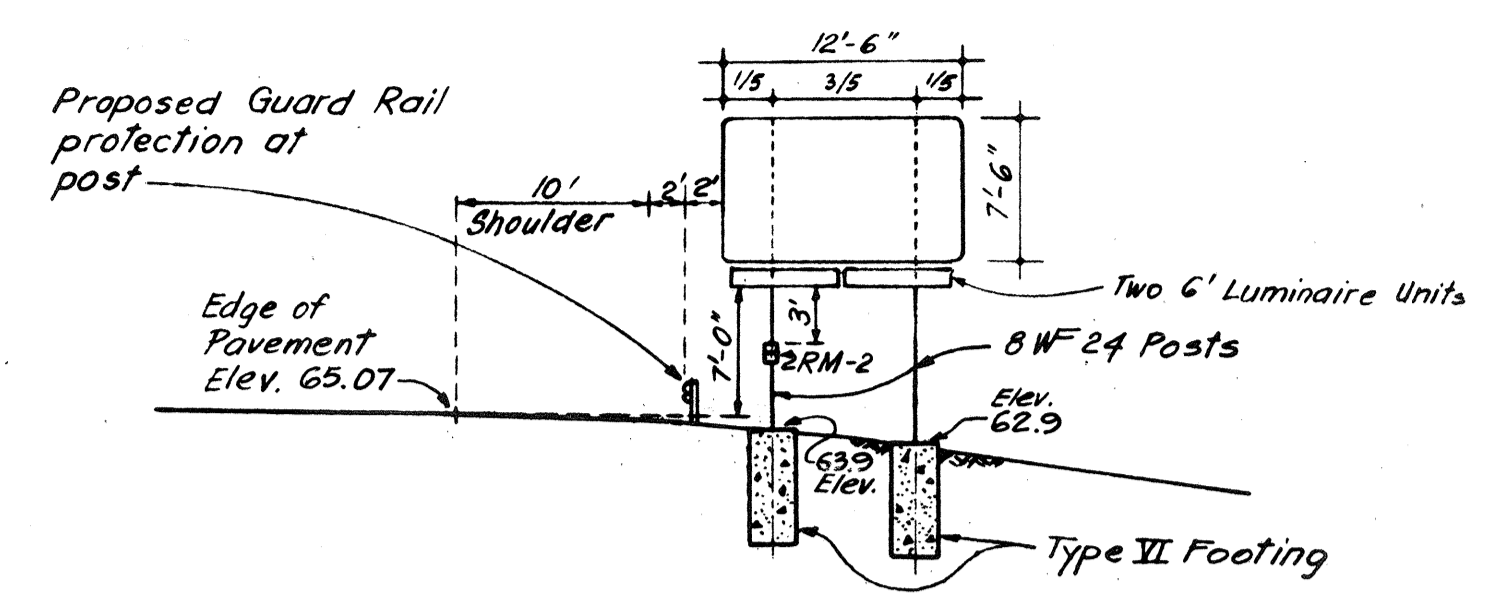
NOTES

- FOR SIGN FACE DETAILS OF PANELS MOUNTED ON STRUCTURAL STEEL POSTS SEE SHEETS 155, 156 AND 157.
- FOR DETAILS OF OUTRIGGER BRACKETS SUPPORTING SIGN PANEL LIGHTING FIXTURES, SEE SHEET 188.
- SEE ELECTRICAL DRAWINGS FOR SIGN PANEL LIGHTING FIXTURE TYPES, INSTALLATION DETAILS, ETC.

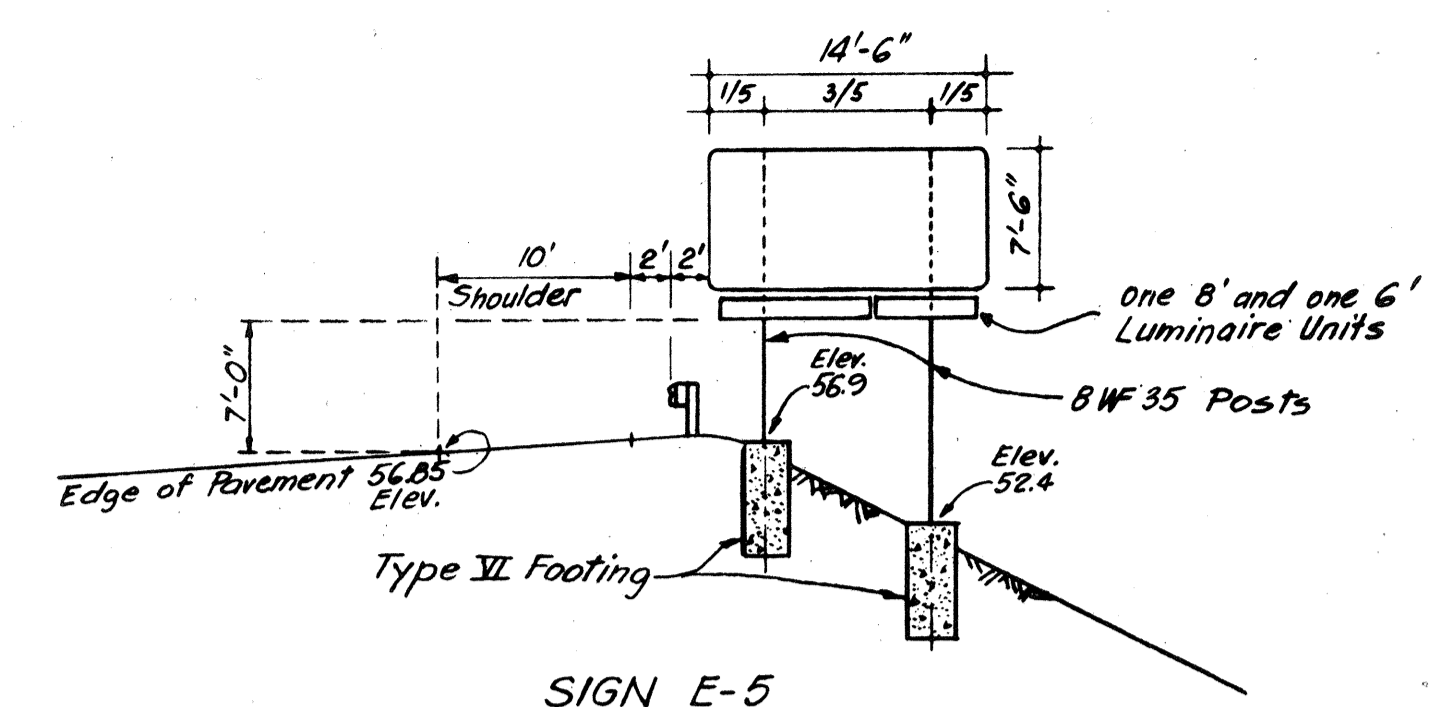
SUMMARY OF RAISED PAVEMENT MARKERS		
SHEET NO.	QUANTITY	
	TYPE A	TYPE C
1T	249	21
2T	859	78
3T	849	95
4T	672	81
5T	300	58
TOTAL	2,929	333



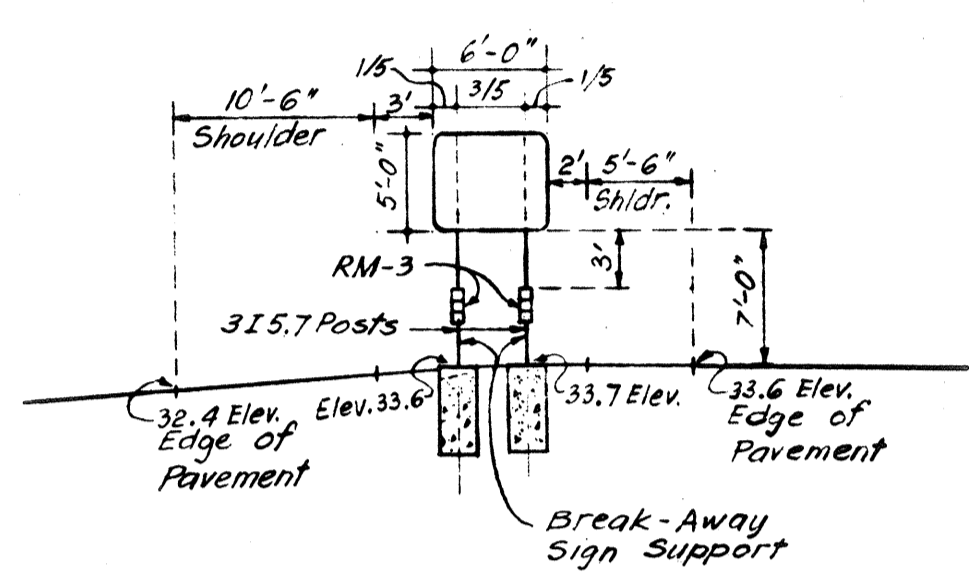
SIGN E-1
MOANALUA FREEWAY
INBOUND STA. 128+10
Scale: 1"=10'-0"



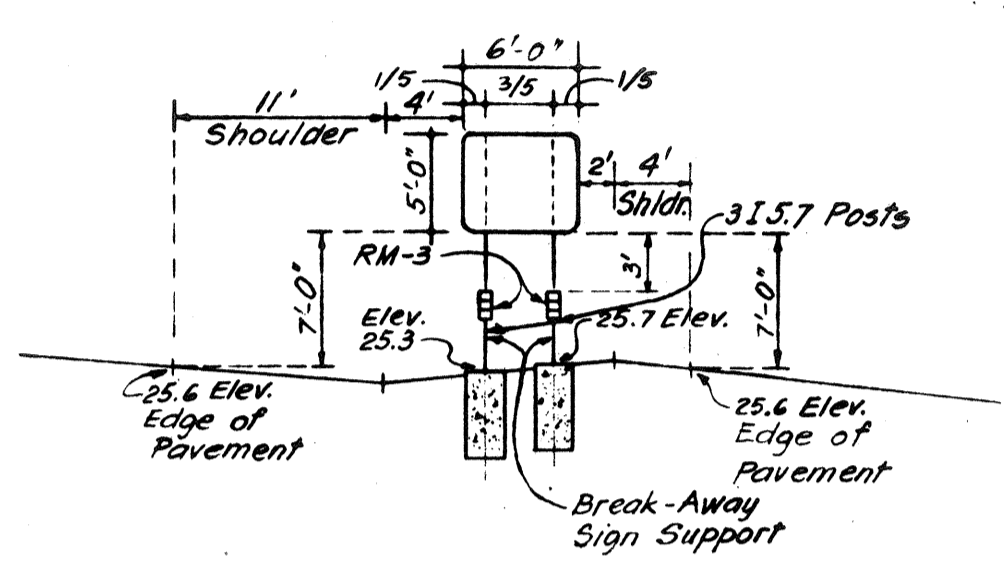
SIGN E-4
MOANALUA FREEWAY
OUTBOUND STA. 145+00
Scale: 1"=10'-0"



SIGN E-5
MOANALUA FREEWAY
INBOUND STA. 150+90
Scale: 1"=10'-0"



SIGN D-11
INTERSTATE ROUTE H-1
OUTBOUND STA. 220+50
Scale: 1"=10'-0"



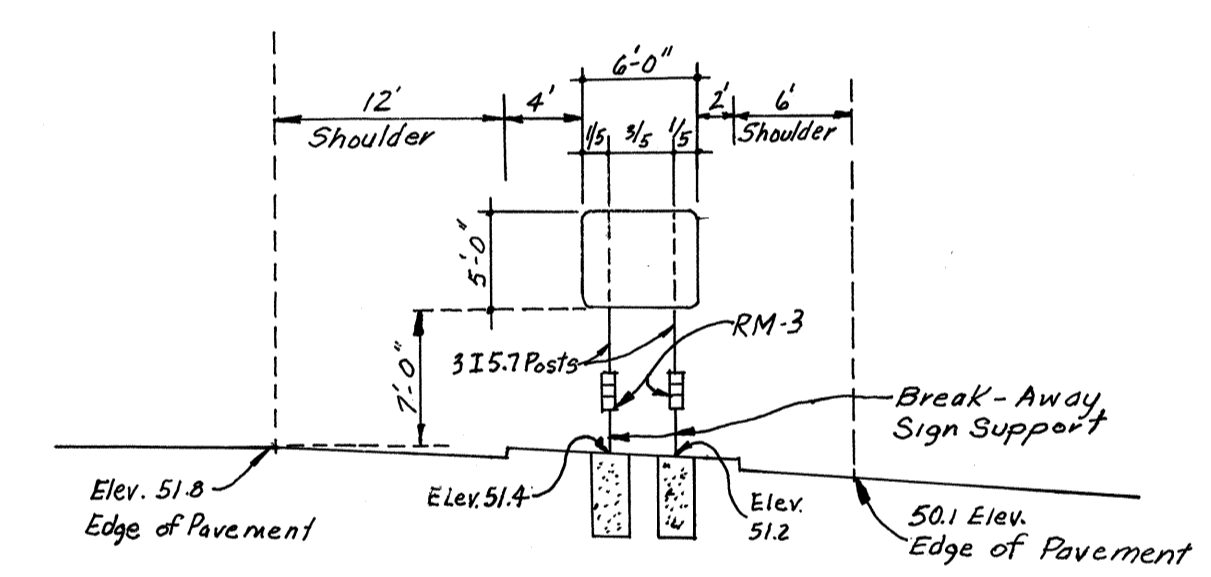
SIGN D-42
INTERSTATE ROUTE H-1
INBOUND STA. 223+70
Scale: 1"=10'-0"

SUMMARY OF REFLECTOR MARKERS								
SHEET NO.	RM-1 CLEAR		RM-2 AMBER		RM-3 AMBER		RM-3H AMBER	
	W/POST	W/O POST	W/POST	W/O POST	W/POST	W/O POST	W/POST	W/O POST
1T	7	-	7	-	-	1	-	-
2T	18	3	21	2	-	-	-	-
3T	-	-	111	8	4	4	2	-
4T	11	1	46	3	2	2	1	-
5T	-	1	24	-	1	-	-	-
TOTAL	36	5	209	13	7	7	3	-

SUMMARY OF EXPRESSWAY SIGNS		
SIGN NO.	MESSAGE	AREA (SQ. FT.)
E-1	PEARL HARBOR	189.75
E-2	HONOLULU, HALAWA HTS, PEARL HARBOR	420.00
E-3	KAM. HIGHWAY, AIEA	290.75
E-4	AIEA	93.75
E-5	HALAWA HTS	108.75
E-6	HONOLULU, KANEHOE, HALAWA HTS	435.00
E-7	AIEA, PEARL CITY	374.00
E-8	PEARL HARBOR, HALAWA HTS, KANEHOE (NIC)	-
E-10	INTERNATIONAL AIRPORT, PEARL HARBOR, HALAWA HTS	570.00
TOTAL		2,482.00

SUMMARY OF WARNING SIGNS				
TYPE	MESSAGE	QUANTITY		
		W/POST	W/O POST	
W1-2(R)	(CURVED ARROW)	-	1	
W13-1(30)-X A	30 M.P.H.	1	-	
W4-1-X(R)-A	MERGING TRAFFIC MERGE	X8	-	
W4-1-1	MERGING TRAFFIC	3	-	
W13-X(30)	EXIT 30 M.P.H.	3	1	
W1-2(R)-A	(CURVED ARROW)	-	2	
W13-1(25)-X A	25 M.P.H.	-	-	
TOTAL		12	4	

SUMMARY OF DESTINATION SIGNS		
SIGN NO.	MESSAGE	AREA (SQ. FT.)
D-11	EXIT	30.00
D-42	EXIT	30.00
D-43	EXIT	30.00
TOTAL		90.00

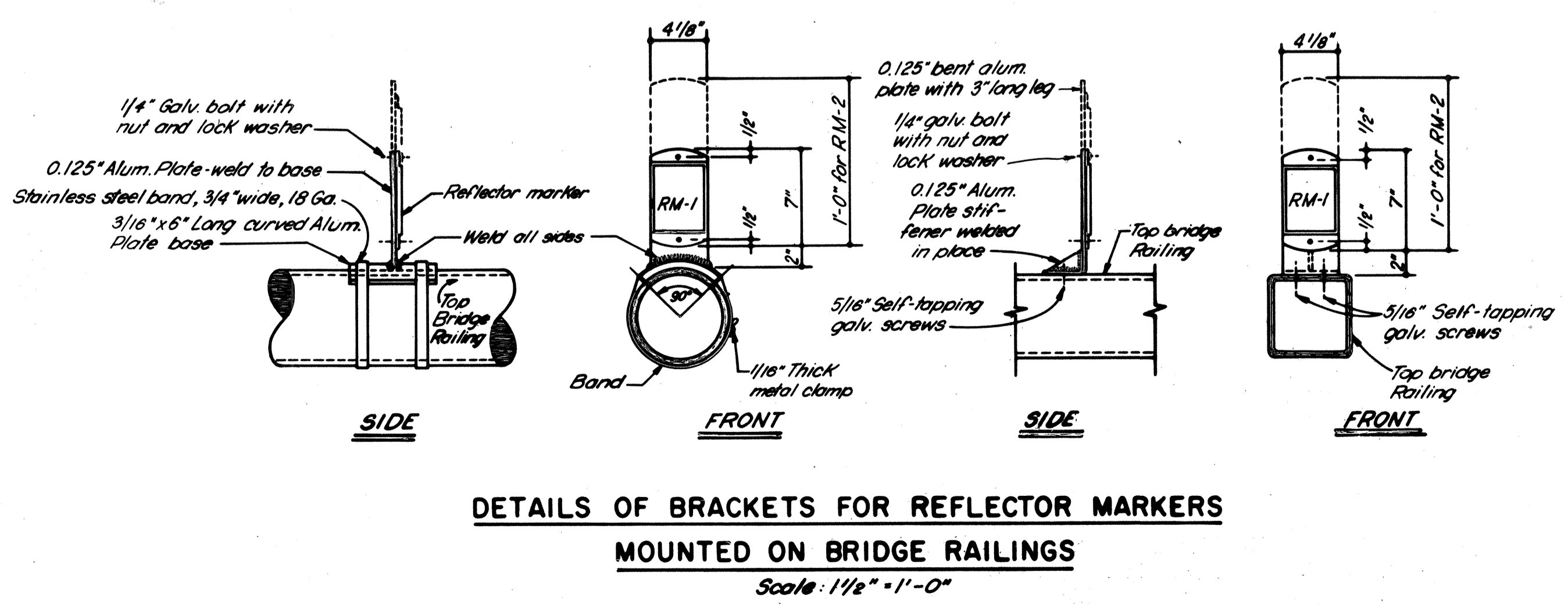


SIGN D-43
MOANALUA FREEWAY INBOUND STA. 162+15
Scale: 1"=10'-0"

SUMMARY OF BLANK OVERLAY PANELS		
SIGN NO.	MESSAGE COVERED	AREA (SQ. FT.)
E-3	STADIUM	14.25
E-4	STADIUM	14.25
E-5	STADIUM	14.25
E-6	STADIUM	14.25
E-7	STADIUM	14.25
E-7	(ARROW)	6.08
E-8	INT. H-1 EAST (NOT IN CONTRACT)	-
E-8	(ARROW) (NOT IN CONTRACT)	-
E-8	INT. H-3 (NOT IN CONTRACT)	-
E-8	NORTH (NOT IN CONTRACT)	-
E-8	KANEHOE (NOT IN CONTRACT)	-
TOTAL		77.33

SUMMARY OF REGULATORY SIGNS			
TYPE	MESSAGE	QUANTITY	
		W/POST	W/O POST
R2-1(40)-X A	SPEED LIMIT (40)	1	-
R2-1(50)-X A	SPEED LIMIT (50)	1	-
TOTAL		2	-

SUMMARY OF OVERLAY PANELS WITH MESSAGES		
SIGN NO.	MESSAGE	AREA (SQ. FT.)
E-10	HONOLULU	14.74
E-10	(2 x 6.66)	13.32
TOTAL		28.06



DETAILS OF BRACKETS FOR REFLECTOR MARKERS MOUNTED ON BRIDGE RAILINGS
Scale: 1/2"=1'-0"

DRAWN BY: M. S. M. SOLO
 CHECKED BY: M. S. M. SOLO
 DATE: 7-17-72
 PROJECT NO. I-11(188)13
 SHEET NO. 150 OF 457

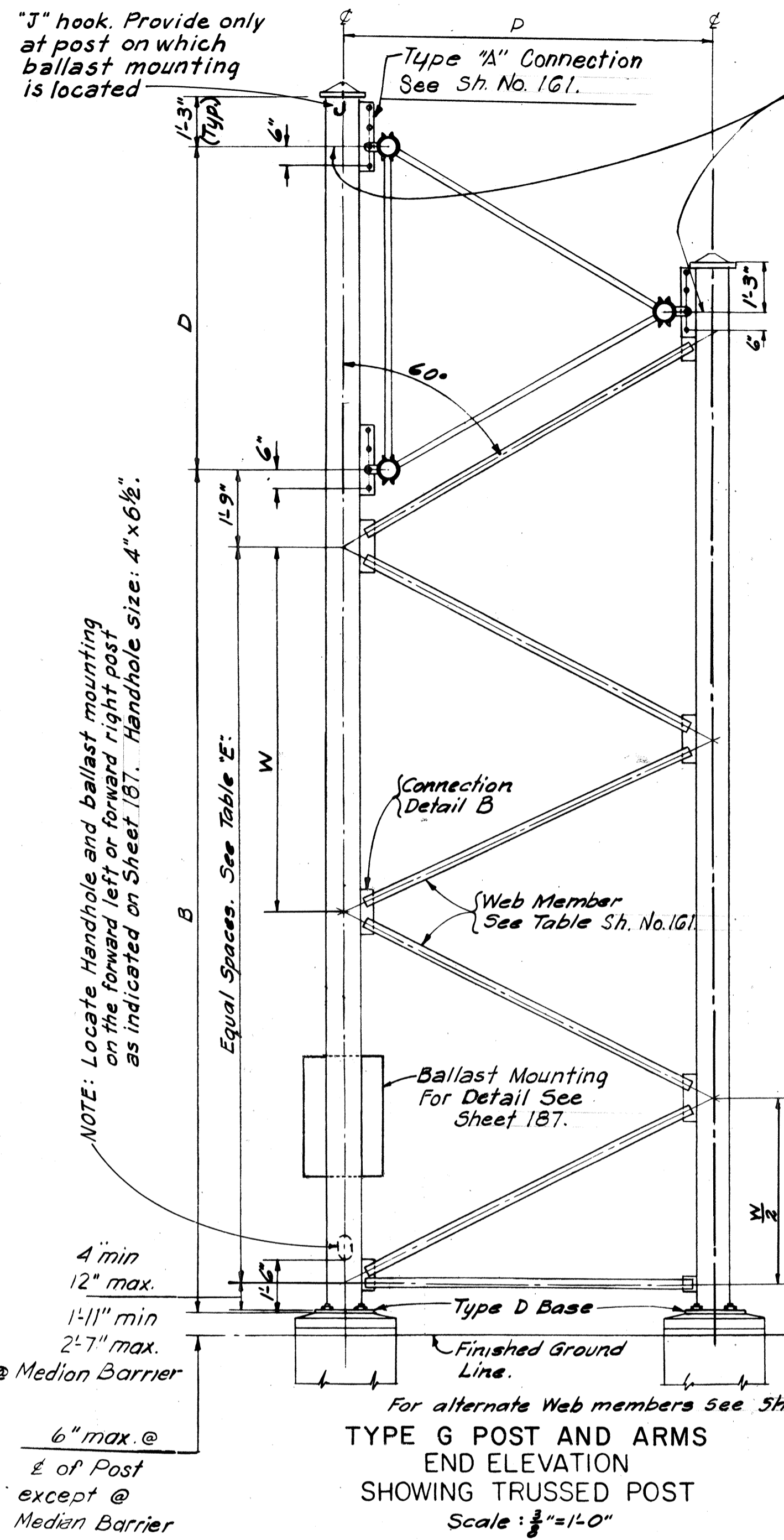
DATE	REVISION
7-17-72	Revised Regulatory and Warning sign summaries



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
 LINE DIAGRAM OF GROUND MOUNTED SIGNS & SIGN SUPPORTS
 INTERSTATE ROUTE H1
 PROJECT NO. I-11(188)13
 SCALE: AS SHOWN DATE: JULY 17, 1970
SHEET No. 10 OF 25 SHEETS

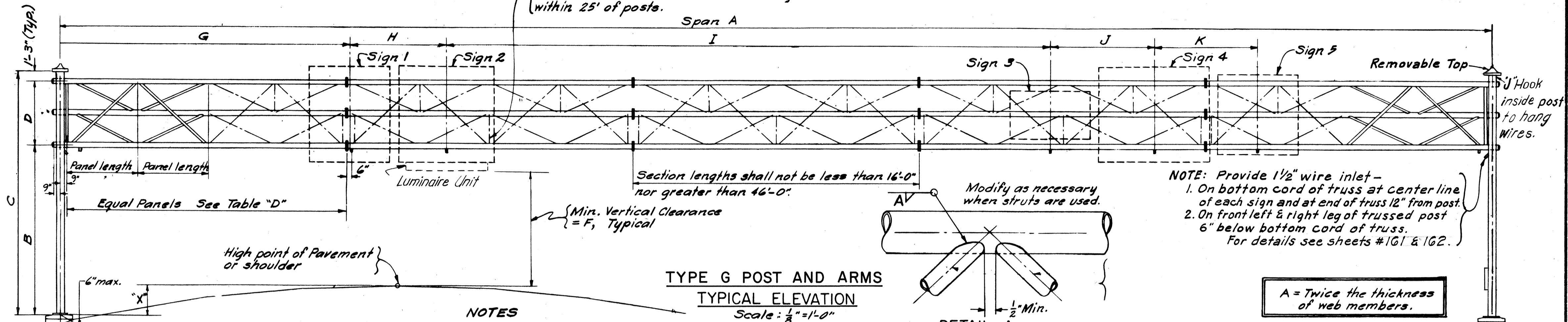
C.O. 1159

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-11(88)13	1971	160	457

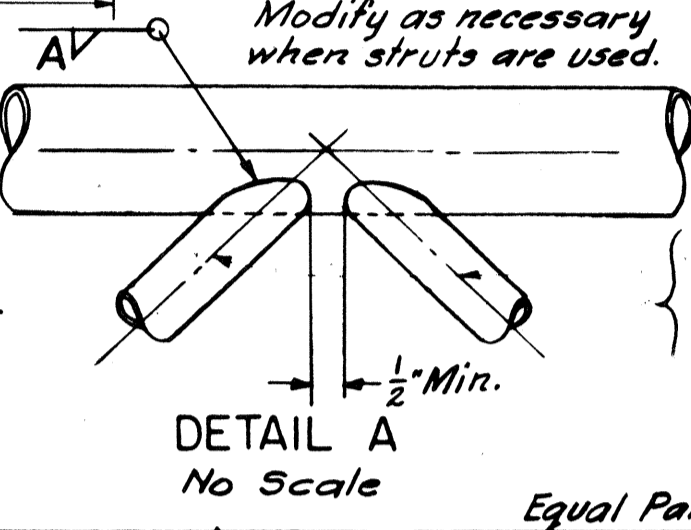


Design mounting location of truss chord. Dimensions "B" and "C" are based on chord being mounted opposite this hole. In the case of changes in "X" dimensions or sign heights after the trussed posts are fabricated, the truss should be mounted so that the minimum vertical clearance "F" is not exceeded by more than 6".

Use struts on 6'-0" and 8'-0" deep trusses only. Make struts same size as diagonal web members. Locate struts as shown in this view. Struts are not necessary within 25' of posts.



TYPE G POST AND ARMS
TYPICAL ELEVATION
Scale: 1/8" = 1'-0"

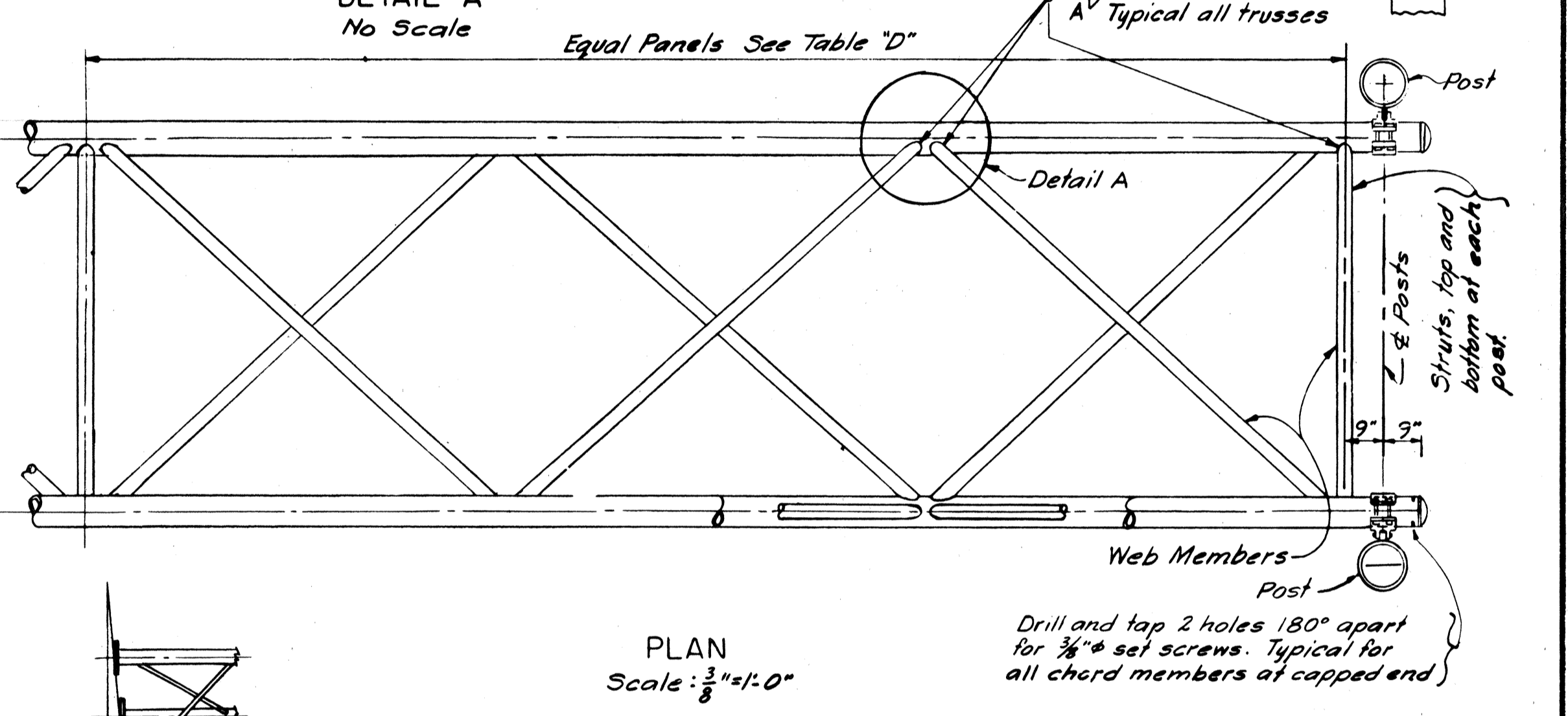


NOTE: Provide 1/2" wire inlet -
1. On bottom cord of truss at center line of each sign and at end of truss 12" from post.
2. On front left & right leg of trussed post 6" below bottom cord of truss.
For details see sheets #161 & 162.

NOTES
For dimensions of Type "D" bases and anchor bolts see Sh. No. 161
For Connection Detail "B" and for the alternate details of web members of trussed posts see Sh. No. 162
For flanged connections and post Cap details see Sh. No. 162

Tri-truss span and brackets are fabricated of Aluminum.
Galvanized Steel in contact with Aluminum must be separated by "Fibco" or "Fibreka" pads.
Single and double poles, base plates and post to truss connections are fabricated of galvanized steel.

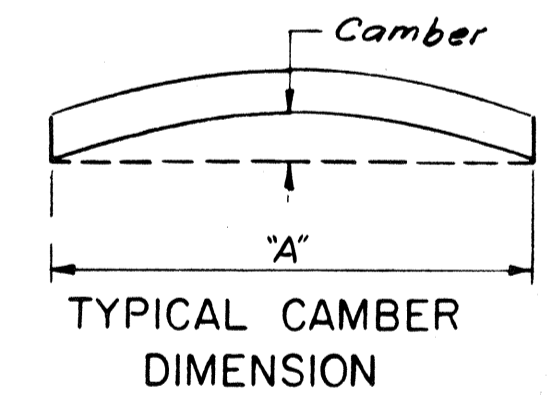
EQUIVALENT SIZES FOR TRUSSED POSTS			
ASTM A53 TYPE B	ASTM A595	ASTM A252 GRADE 3	API 5Lx 52
6" Schedule 40s	3 Gauge 6"	6" Schedule 40s	6" Schedule 40s
8" Schedule 20	3 Gauge 8"	8" Schedule 20	8" Schedule 20
8" Schedule 30	3 Gauge 8"	8" Schedule 20	8" Schedule 20
8" Schedule 40s	3 Gauge 8"	8" Schedule 20	8" Schedule 20
8" Schedule 60	0 Gauge 8"	8" Schedule 40s	8" Schedule 30
8" Schedule 80x	7+7 Gauge 8"	8" Schedule 60	8" Schedule 60
10" Schedule 20	3 Gauge 10"	10" Schedule 20	10" Schedule 20
10" Schedule 30	3 Gauge 10"	10" Schedule 20	10" Schedule 20
10" Schedule 40s	3 Gauge 11"	10" Schedule 30	10" Schedule 20
10" Schedule 60x	0 Gauge 11"	10" Schedule 60x	10" Schedule 40s
10" Schedule 80	7+3 Gauge 10"	10" Schedule 60x	10" Schedule 60x
12" Schedule 20	3 Gauge 12"	12" Schedule 20	12" Schedule 20
12" Schedule 30	3 Gauge 12"	12" Schedule 30	12" Schedule 20
12" Schedule 40s	0 Gauge 12"	12" Schedule 30	12" Schedule 20
12" Schedule 60	0 Gauge 12"	12" Schedule 30	12" Schedule 30
12" Schedule x	7+7 Gauge 12"	12" Schedule 40	12" Schedule s
12" Schedule 60	7+3 Gauge 12"	12" Schedule x	12" Schedule s
12" Schedule 80	3+3 Gauge 12"	12" Schedule 60	12" Schedule x



PLAN
Scale: 3/8" = 1'-0"

METHOD OF OBTAINING CAMBER

Washers having the same O.D. as flanges and with holes punched for bolts may be used to obtain camber.



CAMBER DETAILS			
SPAN A	CAMBER	SPAN A	CAMBER
Up to 50'	2"	125' to 150'	8"
50' to 75'	3"	150' to 170'	9"
75' to 100'	4"	170' to 190'	10"
100' to 125'	6"	190' to 210'	12"

SIGN NO	SPAN A FT IN N/8	TYPE	PIPE SIZE (2)	LEFT POST				RIGHT POST				TRUSS				SIGN 1 FT IN N/8	SIGN 2 FT IN N/8	SIGN 3 FT IN N/8	SIGN 4 FT IN N/8	SIGN 5 FT IN N/8	
				B	C	XL (3)	P	B	C	XR (3)	F	D	CHORD SIZE	WEB SIZE							
E283	119 0 0	T	10" SCH 20	19 7 5	26 10 5	-4 7 2	7 2	T	10" SCH 20	22 5 7	29 8 7	2 5 3	17 0 0	6 0 0	6" X 1/4"	3" X 3/16"	15 6 0	18 4 0	41 3 0	13 9 0	17 9
E 6	80 0 0	T	8" SCH 20	21 9 6	27 0 6	0 6 2	5 2	T	8" SCH 20	22 7 1	27 10 1	1 3 5	17 0 0	4 0 0	4" X 3/8"	2" X 3/16"	24 0 0	18 0 0	13 9 0		
E 7	104 0 0	T	8" SCH 20	20 6 7	27 9 7	0 8 5	7 2	T	8" SCH 20	21 0 5	28 3 5	0 2 7	17 0 0	6 0 0	4" X 5/16"	2 1/2" X 1/4"	24 0 0	24 0 0			
E 8	100 0 0	T	10" SCH 20	20 6 7	27 9 7	0 8 5	7 2	T	10" SCH 20	21 0 5	28 3 5	0 2 7	17 0 0	6 0 0	5" X 3/8"	3" X 3/16"	28 0 0	25 0 0	17 0 0		
E 9	93 0 0	T	10" SCH 20	20 6 7	27 9 7	1 2 6	7 2	T	10" SCH 20	22 3 0	29 4 0	0 8 4	17 0 0	6 0 0	6" X 1/4"	3" X 3/16"	28 0 0	24 0 0	12 9 0		
E 10	93 0 0	T	8" SCH 20	18 6 4	25 9 4	-1 3 1	7 2	T	8" SCH 30	22 7 4	29 10 4	2 7 0	17 0 0	6 0 0	6" X 1/4"	3" X 3/16"	28 0 0	23 6 0	16 3 0		

have the same O.D. as the pipe specified in the table
 (3) XL L refers to X dimension in "Typical Elev" for left Post.
 XR R refers to X dimension in "Typical Elev" for right Post. This dimension to be verified by contractor in field.
 (4) The number and arrangement of panels in each section must be such that the web members in each face of the truss form a continuous trussing in the structure from post to post.

- (1) T = Trussed Post.
- (2) The pipe sizes listed in this column are for ASTM A53 steel. See the table "Equivalent Post Sizes" on this sheet when using another type of steel. Tapered poles may be used for the structures shown on this sheet. Modify connections to fit taper. Large end of tapered sections must

- (4) For details of Footings see Sh. No. 164.
- (5) For Sign Panel and Bracket details see Sh. No. 163.
- (6) For Luminaire Mounting details see Sh. No. 163.

TABLE "D"		
D'	Panel Lengths	
	Min.	Max.
4'-0"	3'-6"	4'-4"
6'-0"	5'-3"	6'-9"
8'-0"	7'-2"	8'-10"

TABLE "E"		
P	"W" Min.	"W" Max.
5'-2"	4'-8"	5'-8"
7'-2"	6'-8"	7'-8"
9'-2 3/4"	8'-8"	9'-8"

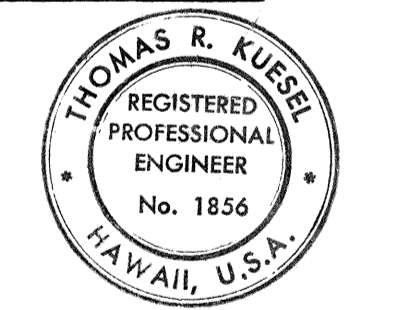
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

OVERHEAD SIGN SUPPORT
3 CHORD TRUSS

INTERSTATE ROUTE H1
PROJECT NO. I-11(88)13

SCALE: AS SHOWN DATE: JULY 17, 1970

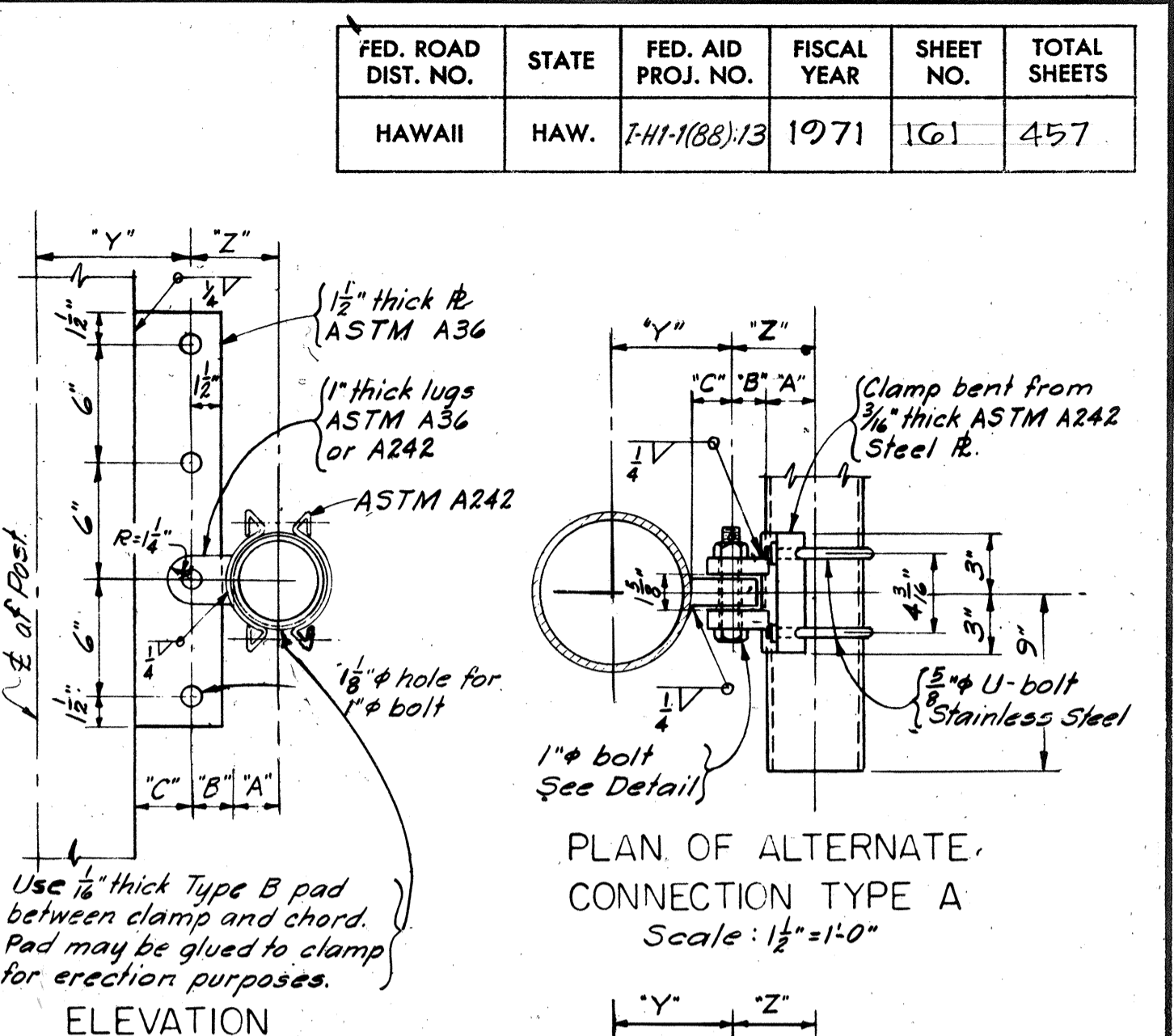
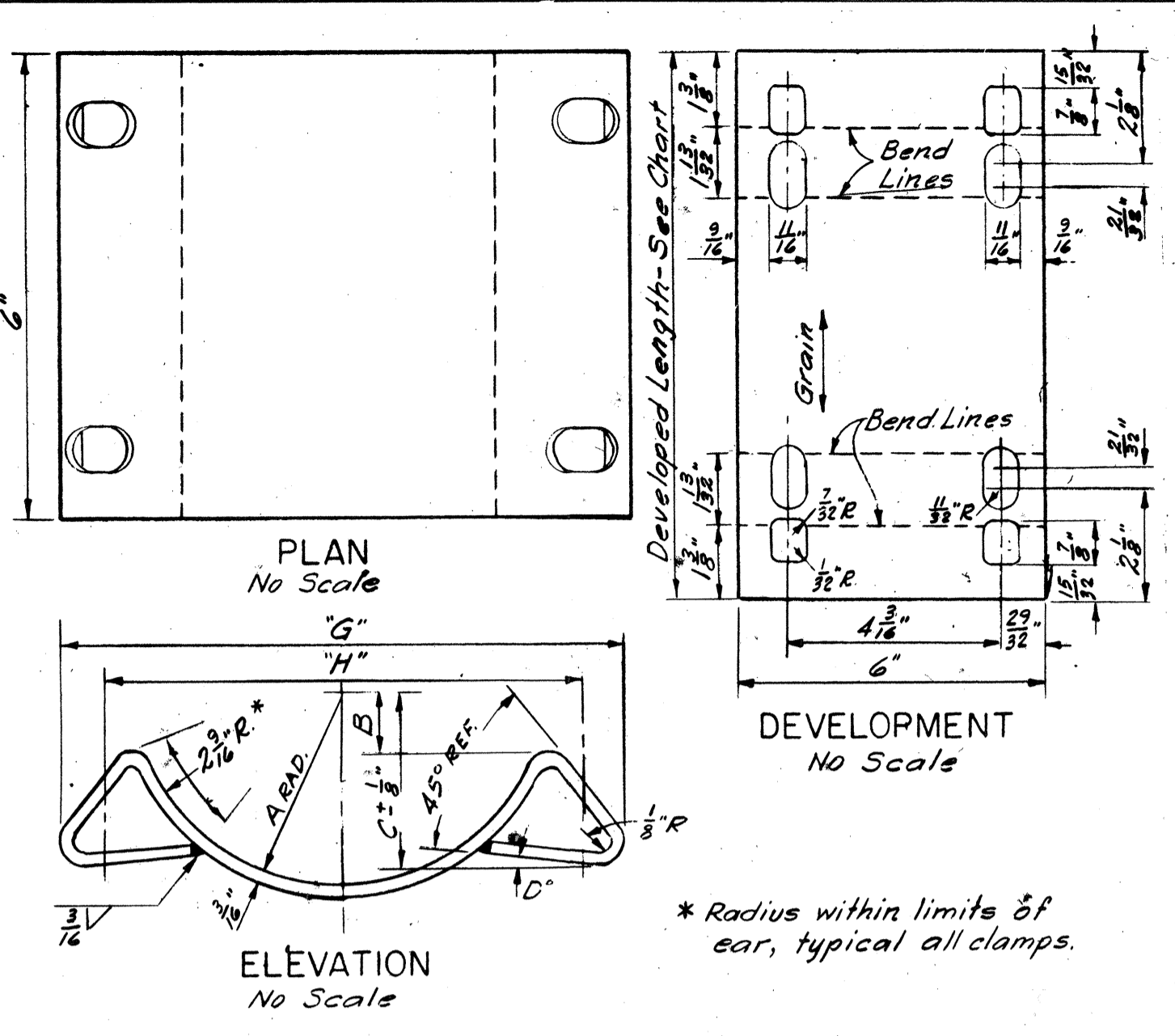
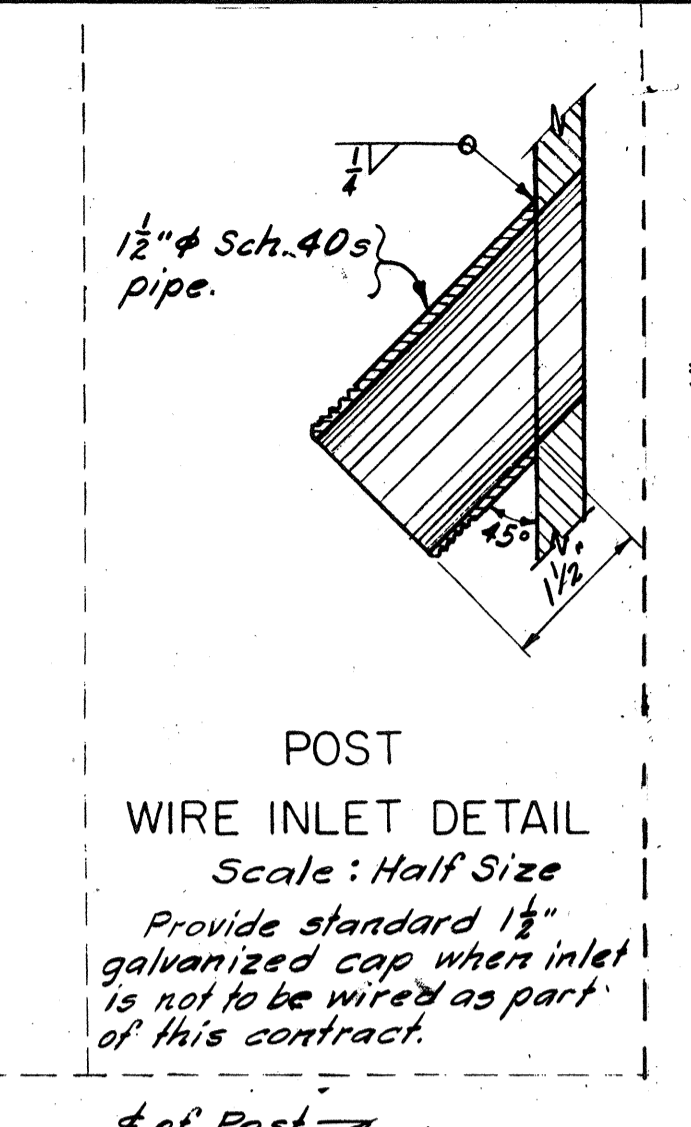
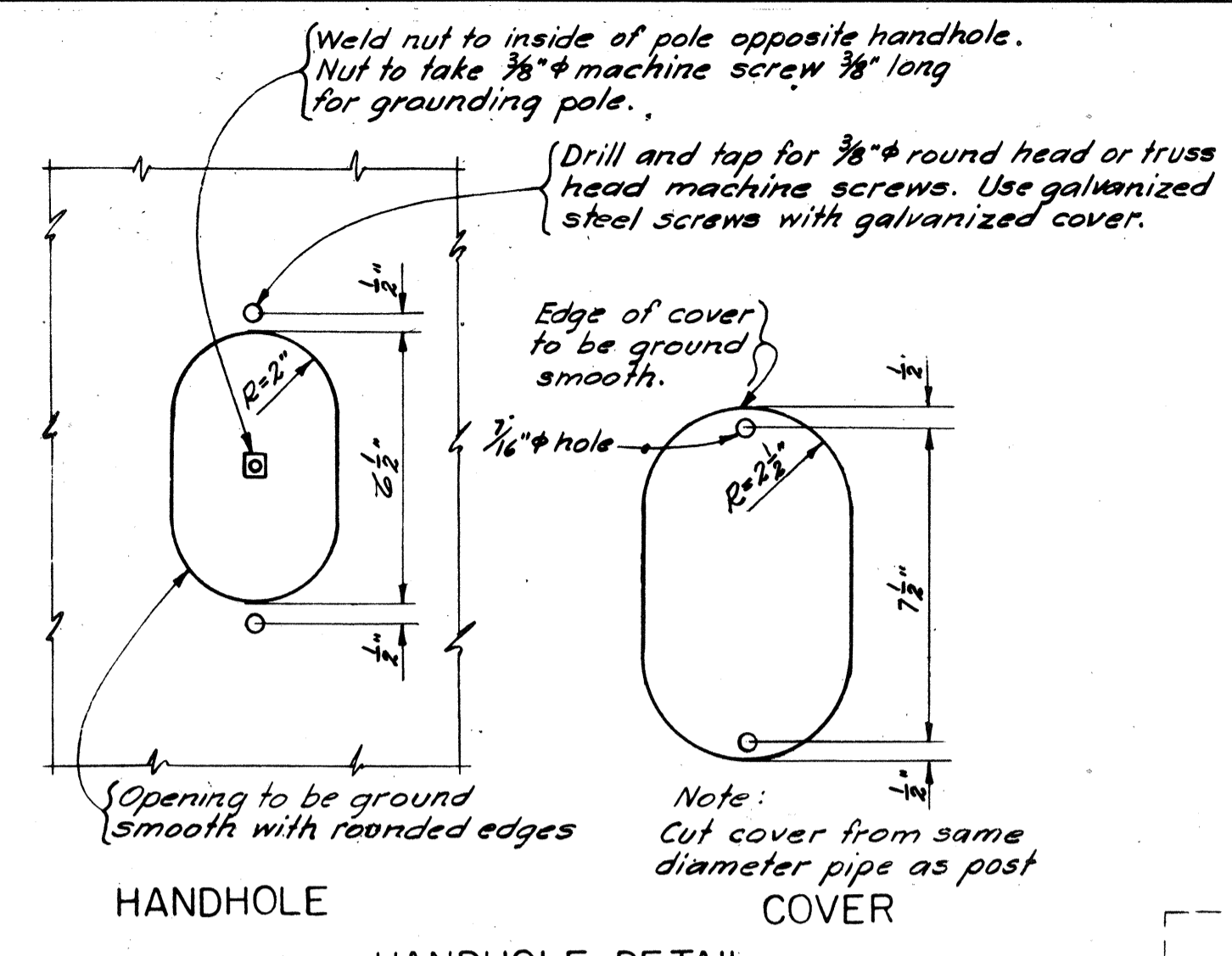
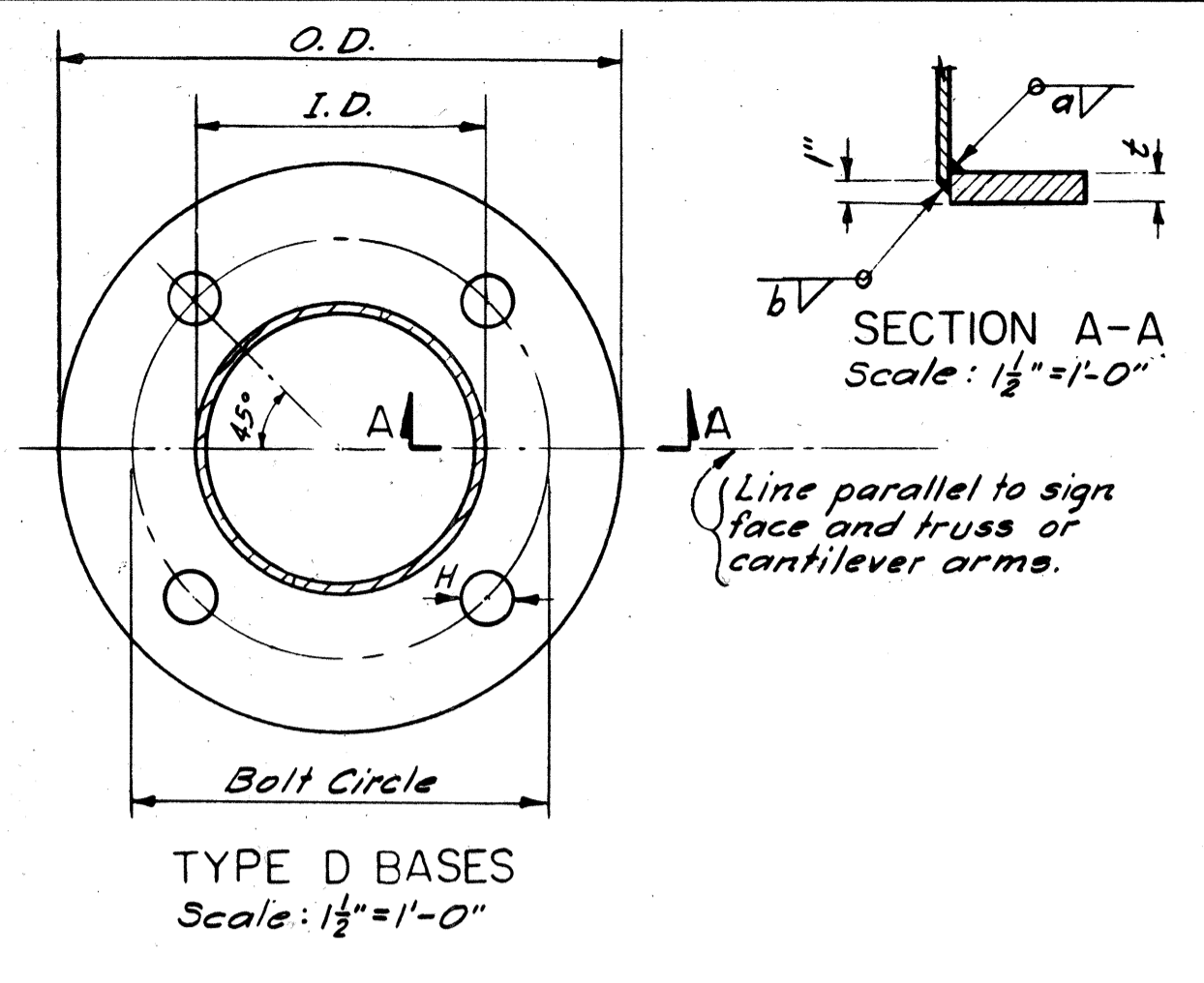
SHEET No. 11 OF 25 SHEETS



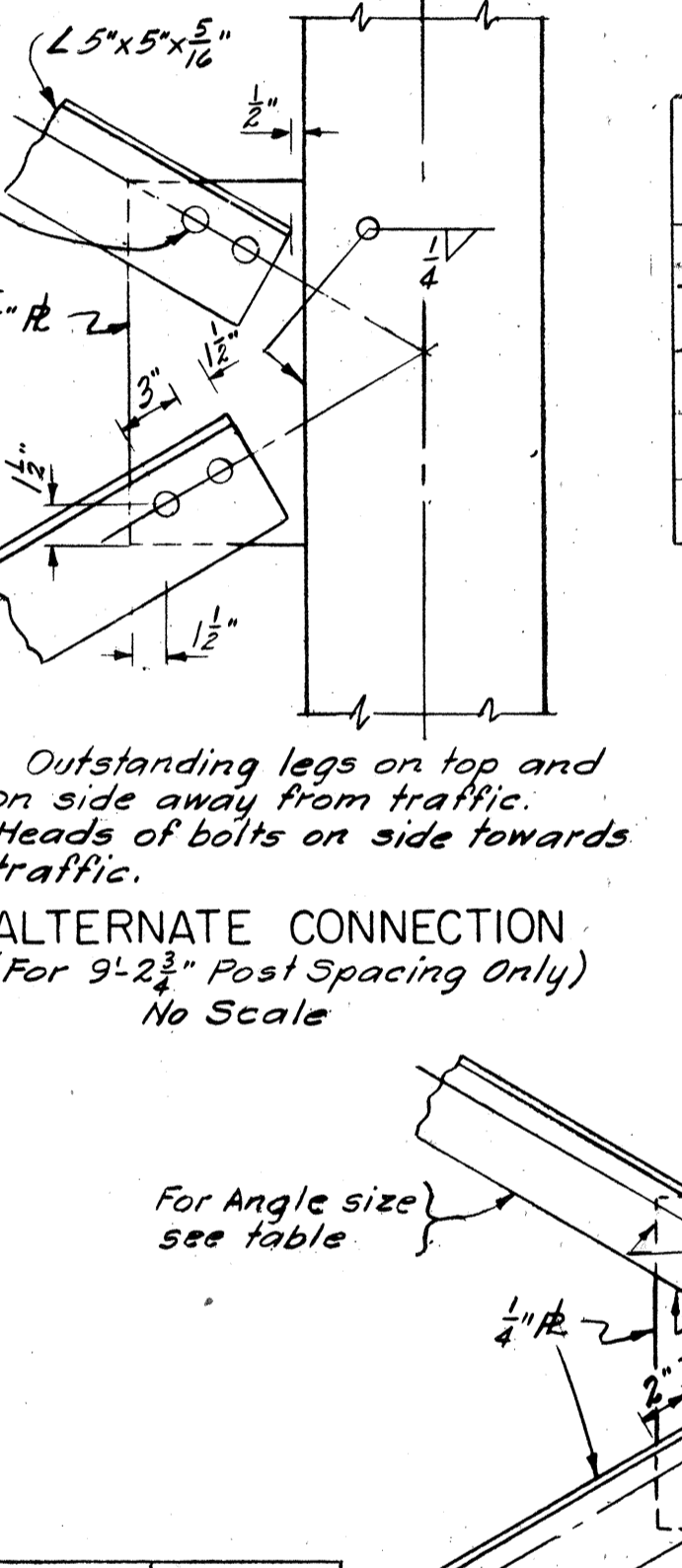
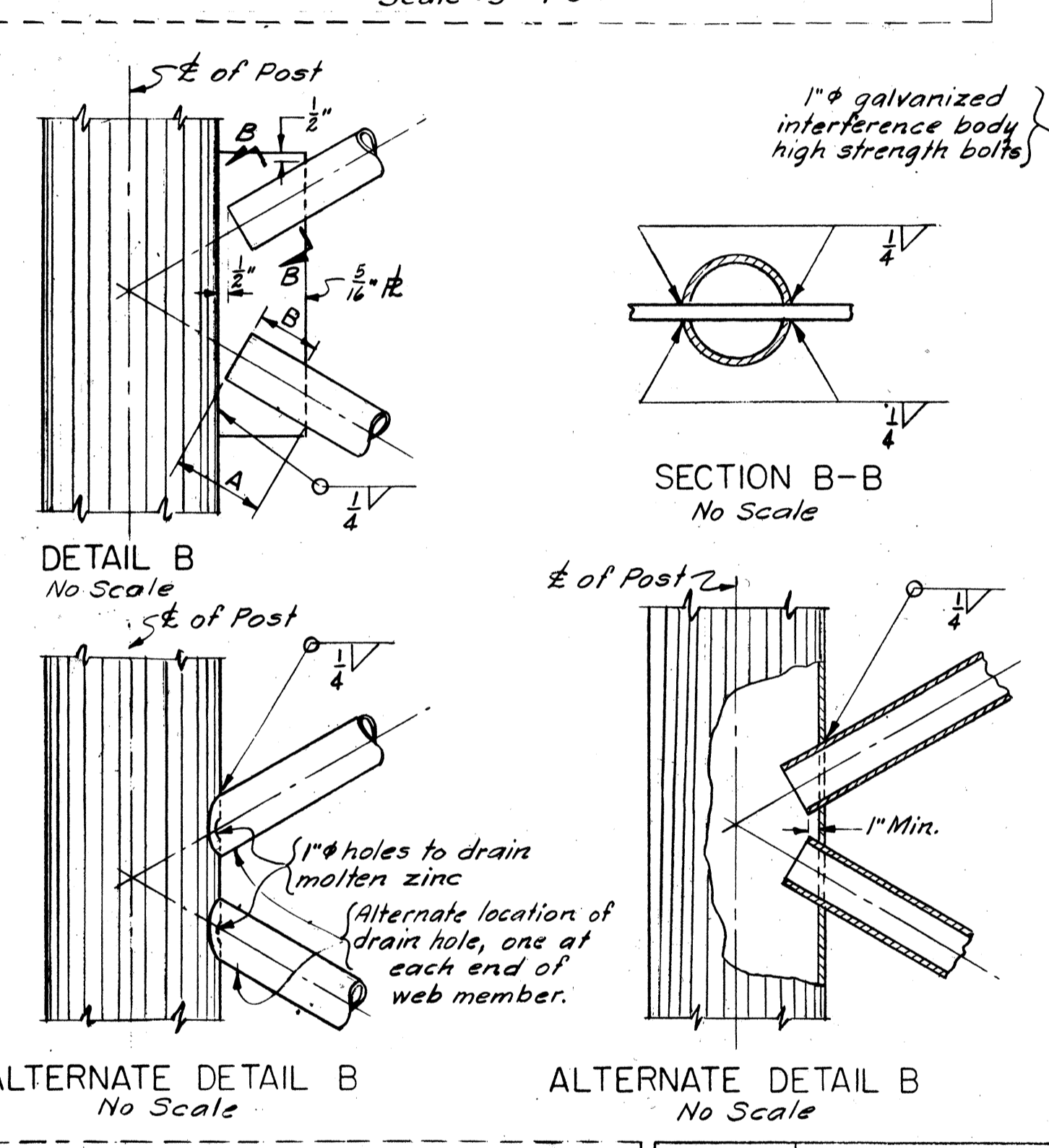
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Thomas R. Kusek

DATE	July 6, 1970
DESIGNED BY	Lundie
CHECKED BY	Lundie
QUANTITIES BY	Lundie
NOTED BY	Lundie
ORIGINAL PLAN	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-11(88)-13	1971	161	457

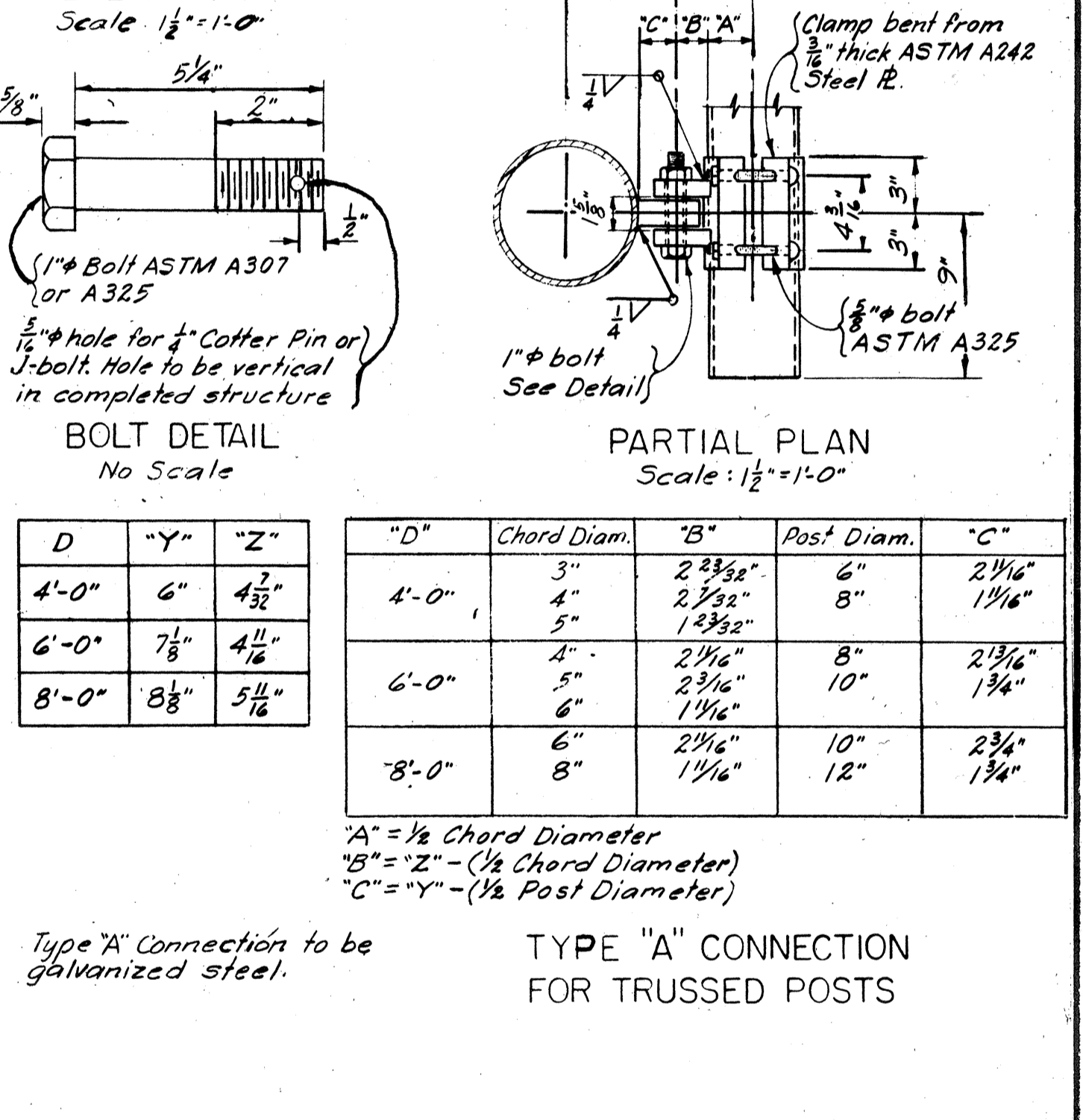


POST	BASE #	BASE # O. D.	BASE # I. D.	MIN. t	BOLT CIRCLE	BOLT DIA.	HOLE DIA.	WELD a	WELD b
6 Sch 40s	14.0"	6 3/8"	1 1/8"	1 1/2"	1 3/8"	1 3/8"	1 3/8"	1/2"	1/4"
6 Sch 80x	14.0"	6 3/8"	1 3/8"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	3/8"	3/8"
8 Sch 20	17.0"	8 3/8"	1 1/4"	1 3/4"	1 3/4"	2"	2"	3/8"	1/4"
8 Sch 30	17.0"	8 3/8"	1 1/4"	1 3/4"	1 3/4"	2"	2"	1/2"	1/4"
8 Sch 40s	17.0"	8 3/8"	1 3/8"	1 3/4"	1 3/4"	2"	2"	1/2"	3/16"
8 Sch 60	18.0"	8 3/8"	1 1/2"	1 4"	2"	2 1/4"	2 1/4"	3/8"	3/8"
8 Sch 80x	18.0"	8 3/8"	1 1/2"	1 4"	2"	2 1/4"	2 1/4"	3/4"	1/2"
10 Sch 20	20.0"	10 3/4"	1 3/8"	1 6"	1 3/4"	2"	2"	1/2"	1/4"
10 Sch 30	20.0"	10 3/4"	1 3/8"	1 6"	2"	2 1/4"	2 1/4"	1/2"	1/4"
10 Sch 40s	20.0"	10 3/4"	1 3/8"	1 6"	2"	2 1/4"	2 1/4"	3/8"	3/16"
10 Sch 60x	21.0"	10 3/4"	1 3/8"	1 7"	2 1/4"	2 1/4"	2 1/4"	3/4"	1/2"
10 Sch 80	21.0"	10 3/4"	2 1/8"	1 7"	2 1/2"	2 3/4"	2 3/4"	3/8"	1/4"
12 Sch 20	24.0"	12 3/4"	1 1/2"	1 9"	2"	2 1/4"	2 1/4"	3/8"	1/4"
12 Sch 30	24.0"	12 3/4"	1 1/2"	1 9"	2 1/4"	2 1/4"	2 1/4"	1/2"	3/16"
12 Sch s	24.0"	12 3/4"	1 1/2"	1 9"	2 1/4"	2 1/2"	2 1/2"	3/8"	3/8"
12 Sch 40	25.0"	12 3/4"	1 3/8"	2 0"	2 1/4"	2 1/4"	2 1/4"	3/8"	3/8"
12 Sch x	25.0"	12 3/4"	2 1/8"	2 0"	2 1/2"	2 3/4"	2 3/4"	3/4"	1/2"
12 Sch 40	25.0"	12 3/4"	2 1/8"	2 0"	2 3/4"	3"	3"	1/2"	1/4"
12 Sch 80	25.0"	12 3/4"	2 1/8"	2 0"	2 3/4"	3"	3"	1"	3/8"
14 Sch 10	25.0"	14"	1 3/8"	2 0"	2"	2 1/4"	2 1/4"	3/8"	1/4"
14 Sch 20	25.0"	14"	1 3/8"	2 0"	2 1/4"	2 1/2"	2 1/2"	1/2"	3/16"
14 Sch 30s	27.0"	14"	1 3/8"	2 2"	2 1/4"	2 1/4"	2 1/4"	5/8"	3/8"
14 Sch 40	27.0"	14"	2 1/8"	2 2"	2 1/2"	2 3/4"	2 3/4"	3/4"	3/8"
16 Sch 10	27.0"	16"	1 3/8"	2 2"	2 1/4"	2 1/2"	2 1/2"	3/8"	1/4"
16 Sch 30s	29.0"	16"	2 1/8"	2 3 1/2"	2 1/2"	2 3/4"	2 3/4"	5/8"	3/8"
16 Sch 40x	29.0"	16"	2 3/8"	2 3 1/2"	3"	3 1/4"	3 1/4"	3/4"	3/8"
18 Sch 10	30.0"	18"	1 3/8"	2 4 1/2"	2 1/4"	2 1/4"	2 1/4"	1/2"	1/4"
18 Sch 20	30.0"	18"	2 1/8"	2 4 1/2"	2 3/4"	3"	3"	1/2"	3/16"
18 Sch x	32.0"	18"	2 3/8"	2 6"	3"	3 1/4"	3 1/4"	3/4"	1/2"
20 Sch 30x	33.0"	20"	2 1/8"	2 8"	3 1/4"	3 1/2"	3 1/2"	3/4"	1/2"

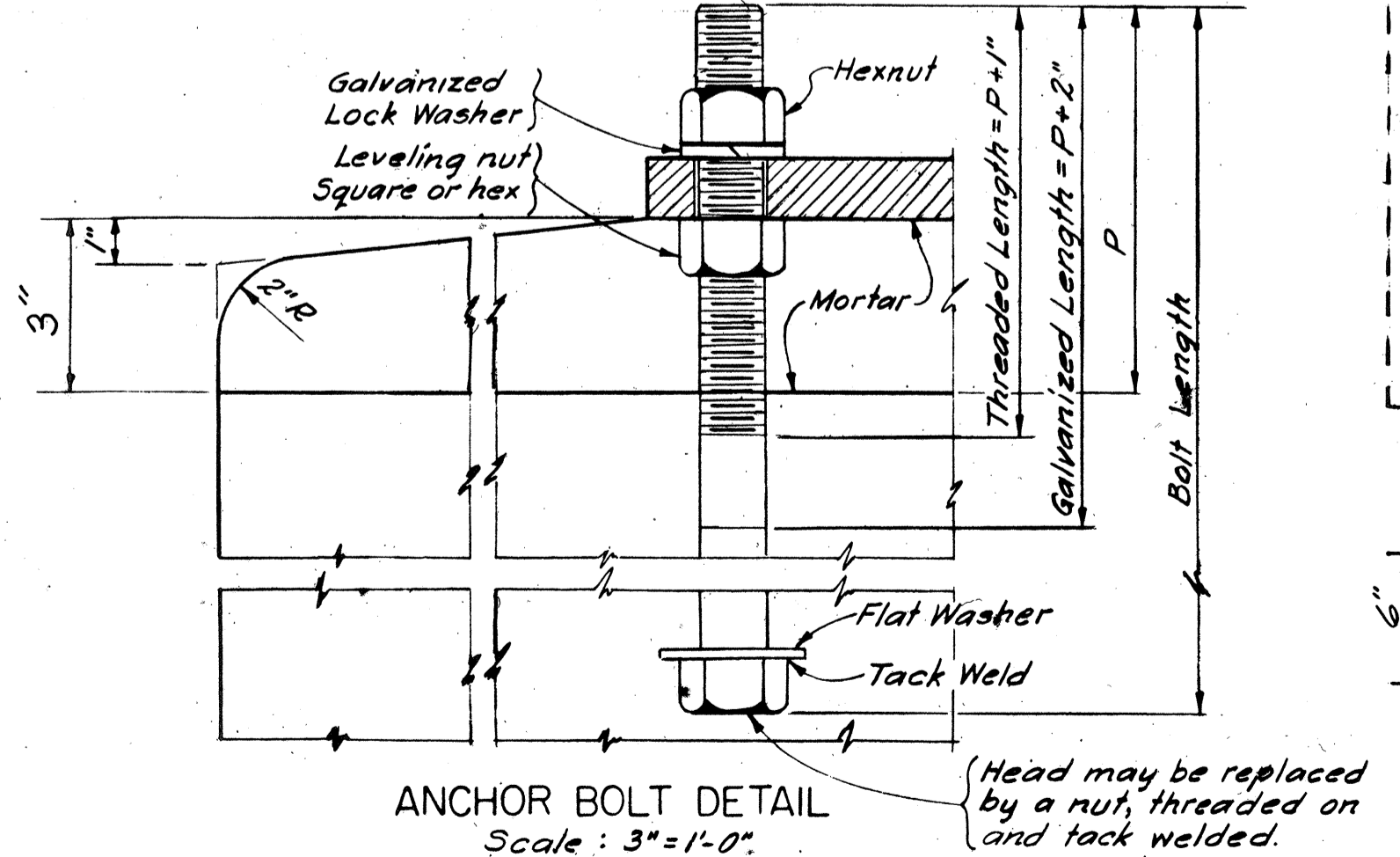


CHORD DIAM.	DEVELOPED LENGTH	DIMENSIONS						BOLT LENGTH
		A	B	C	D	G	H	
3	10 5/8"	1 1/8"	1 1/2"	1 1/8"	7"	5 1/2"	4 3/8"	4"
4	11 1/4"	2 1/4"	3 1/2"	2 3/2"	1 1/2"	6 3/16"	5 3/16"	5"
5	12 3/8"	2 3/8"	3 3/8"	2 3/2"	7"	7 1/4"	5 3/2"	5"
6	13 1/8"	3"	4 1/8"	2 1/2"	5"	8 1/8"	6 23/32"	6"
8	16 1/8"	4 1/8"	5 3/8"	2 3/4"	3 1/2"	10 3/32"	8 15/16"	7"

CLAMP DETAILS

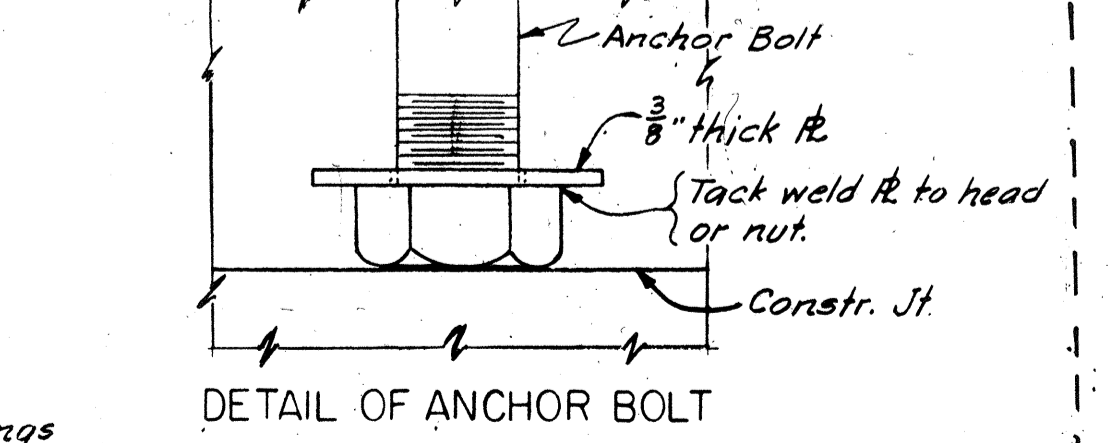
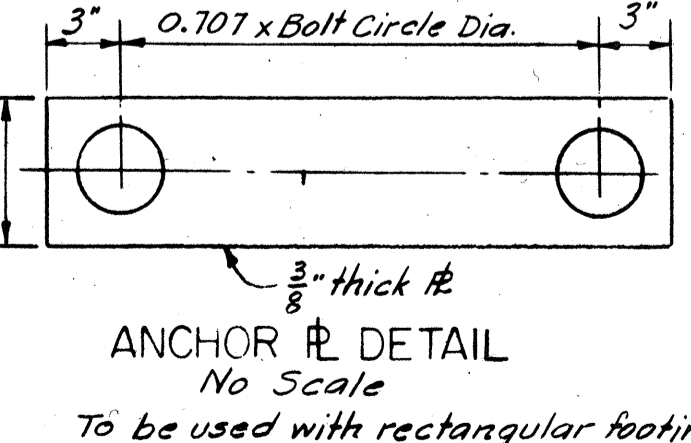


BOLT DIA	BOLT LENGTH	P
1 3/8"	4'-1"	7"
1 1/2"	4'-5"	8"
1 3/4"	5'-0"	8"
2"	5'-9"	9"
2 1/4"	6'-5"	9"
2 1/2"	7'-1"	9"
2 3/4"	7'-9"	10"
3"	8'-5"	10"
3 1/4"	9'-1"	11"



P	PIPE SIZE	DIAGONALS * ANGLE SIZE	WELD LENGTH A+B
5'-2"	2 1/2" Sch. 40s	(Do not use)	6"
7'-2"	2 1/2" Sch. 40x	4" x 4" x 1/4"	6"
9'-2 3/4"	3" Sch. 40s	5" x 5" x 5/16"	7"

* Use pipe when assembly is to be single dip galvanized.
Use welded angles when assembly is to be double dip galvanized.
Use bolted angles only when assembly cannot be double dip galvanized.



Where used with pedestals on rectangular footings these anchor bolts may be shortened if necessary so that the lower end rests on the top of the rectangular footing. 3/8" thick anchor plates will be required, see detail at right

To be used with rectangular footings when nominal bolt length exceeds height of pedestal plus (1" x 3").

DATE: July 6, 1971
DESIGNED BY: L. L. B. / L. L. B.
CHECKED BY: L. L. B. / L. L. B.

THOMAS R. KUSEL
REGISTERED PROFESSIONAL ENGINEER
No. 1854
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

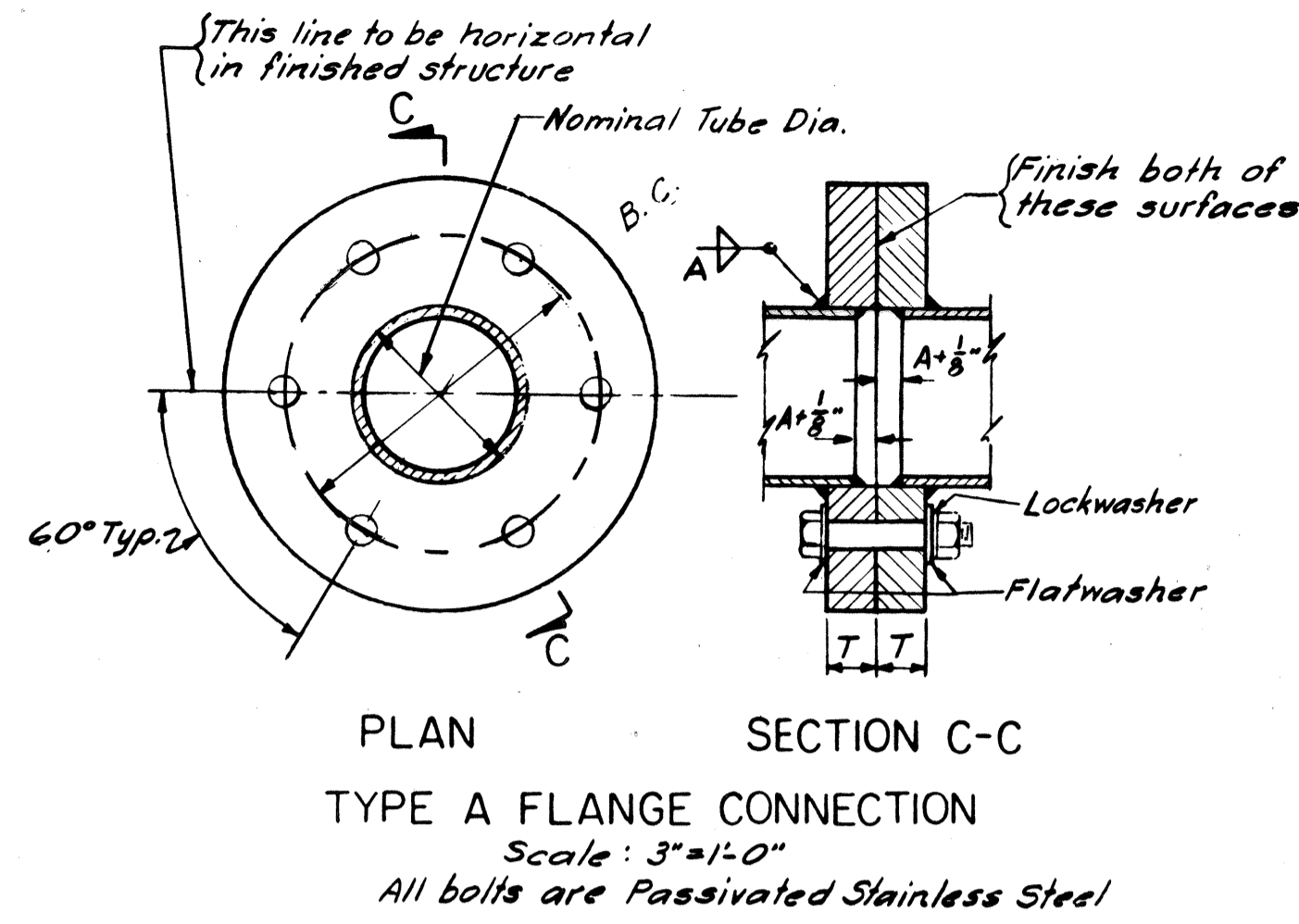
BASES & CONNECTION
DETAILS

INTERSTATE ROUTE HI
PROJECT NO. I-HI-11(88)-13

Scale: As Shown Date: JULY 17, 1970

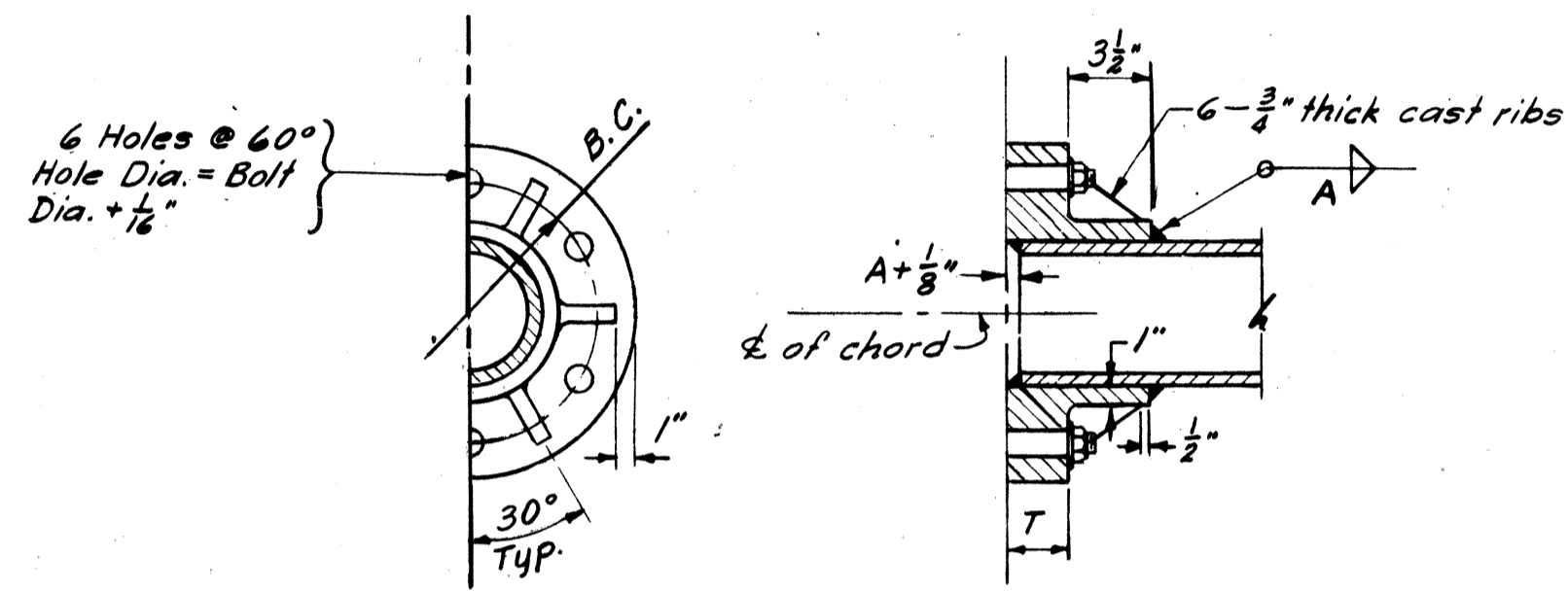
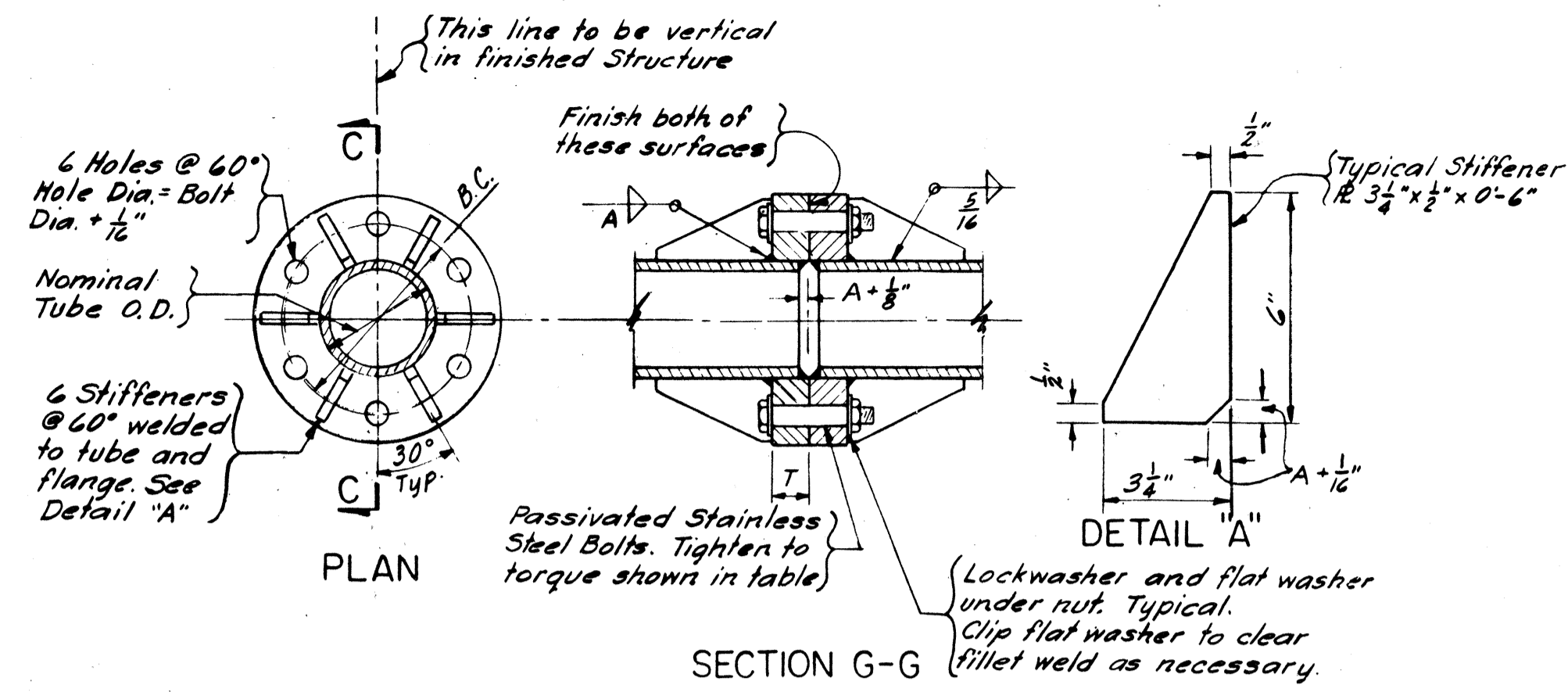
SHEET NO. 12 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(88)-13	1971	162	457

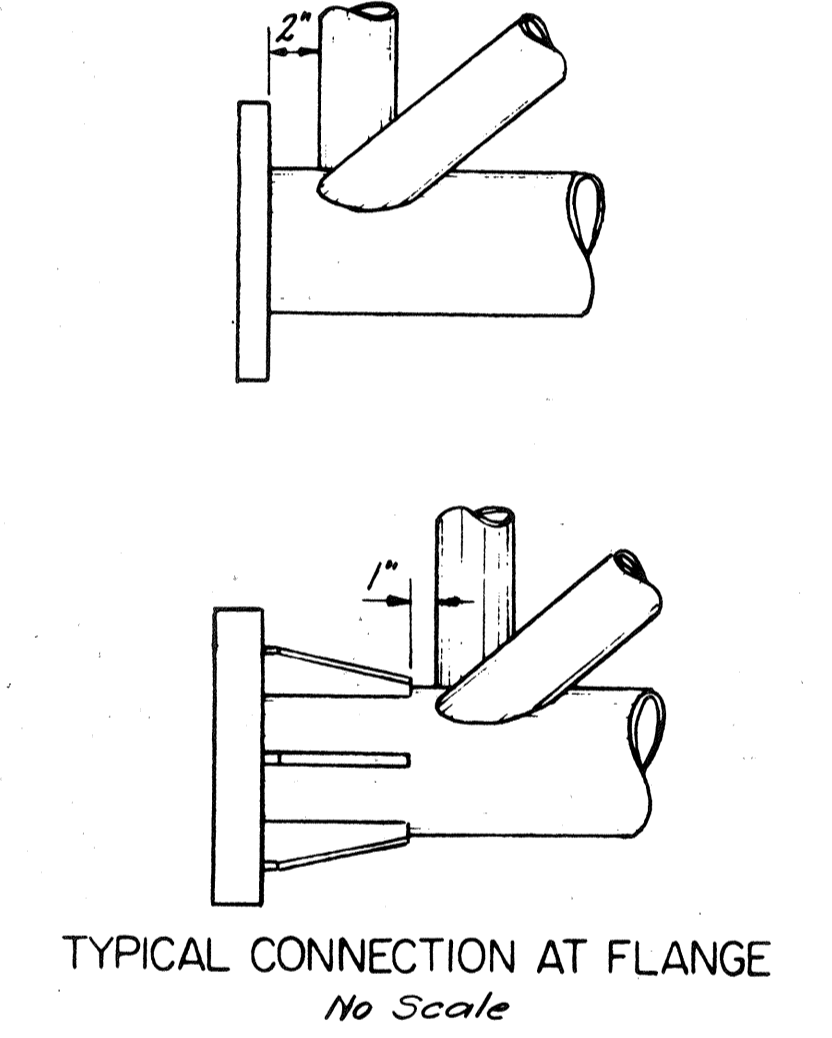
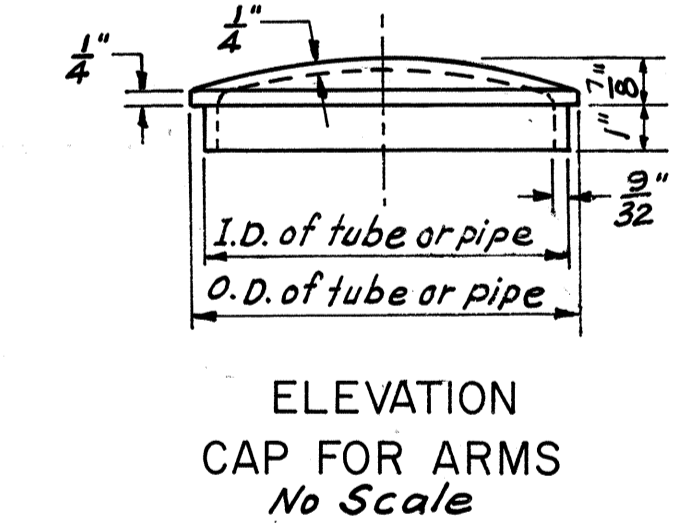
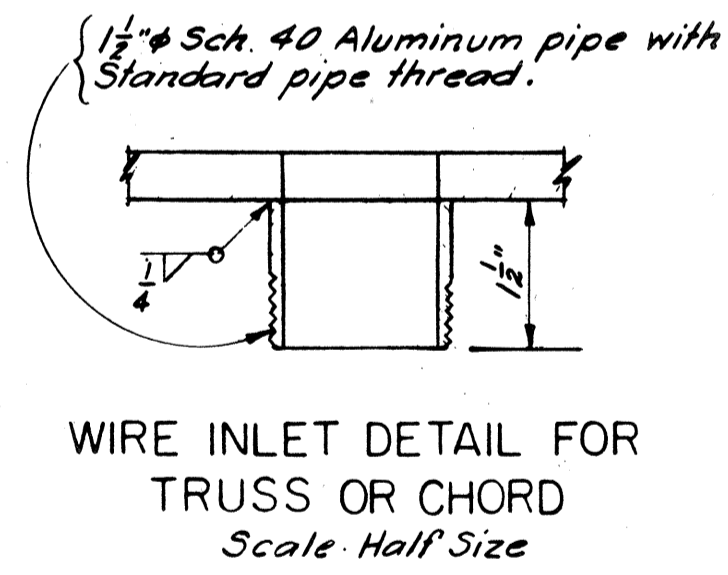


CHORD SIZE	FLANGE		BOLT DIA.	BOLT CIRCLE	BOLT TORQUE FT. LBS.
	"A"	O.D. "T"*			
3" x 3/16"	3/16"	7"	7/8"	5"	100
3" x 1/4"	1/4"	7"	7/8"	5"	100
3" x 5/16"	5/16"	7"	7/8"	5"	100
4" x 1/4"	1/4"	8 1/2"	7/8"	6 1/2"	150
4" x 3/16"	3/16"	8 1/2"	7/8"	6 1/2"	150
4" x 3/8"	3/8"	8 1/2"	7/8"	6 1/2"	150
5" x 5/16"	5/16"	9 1/2"	1"	7 1/2"	150
5" x 3/8"	3/8"	9 1/2"	1"	7 1/2"	150
6" x 1/4"	1/4"	11 1/2"	1 1/4"	9"	200
6" x 5/16"	5/16"	11 1/2"	1 1/4"	9"	200
6" x 3/8"	3/8"	11 1/2"	1 1/4"	9"	200
8" x 1/4"	1/4"	13 1/2"	1 1/4"	11"	200
8" x 5/16"	5/16"	13 1/2"	1 1/4"	11"	200
8" x 3/8"	3/8"	13 1/2"	1 1/4"	11"	200

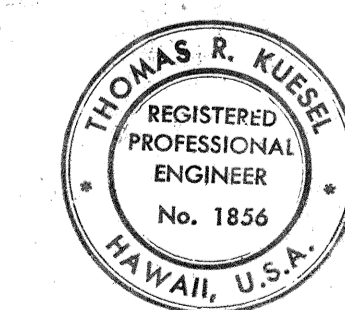
* Cast flanges may be used. All dimensions will be the same except that the thickness "T" shall be 1/4" greater in each case.



	CHORD SIZE	FLANGE		BOLT DIA.	BOLT CIRCLE	BOLT TORQUE FT. LBS.
		A	O.D. T			
FABRICATED FLANGE	5" x 1/2"	3/8"	10 1/2"	1"	3/4"	75
	6" x 1/2"	3/8"	11 1/2"	1 1/4"	3/4"	75
	8" x 1/2"	3/8"	13 1/2"	1 1/4"	7/8"	75
	8" x 5/8"	1/2"	13 1/2"	1 1/4"	1"	100
CAST FLANGE	8" x 3/4"	3/8"	13 1/2"	1 1/4"	1"	150
	5" x 1/2"	1/2"	13"	1 1/4"	3/4"	100
	6" x 1/2"	1/2"	14"	1 1/2"	3/4"	100
	8" x 1/2"	1/2"	16"	1 1/2"	7/8"	100
	8" x 5/8"	3/8"	16"	1 1/2"	1"	150
	8" x 3/4"	3/4"	16"	1 1/2"	1"	200



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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Thomas R. Kuesel

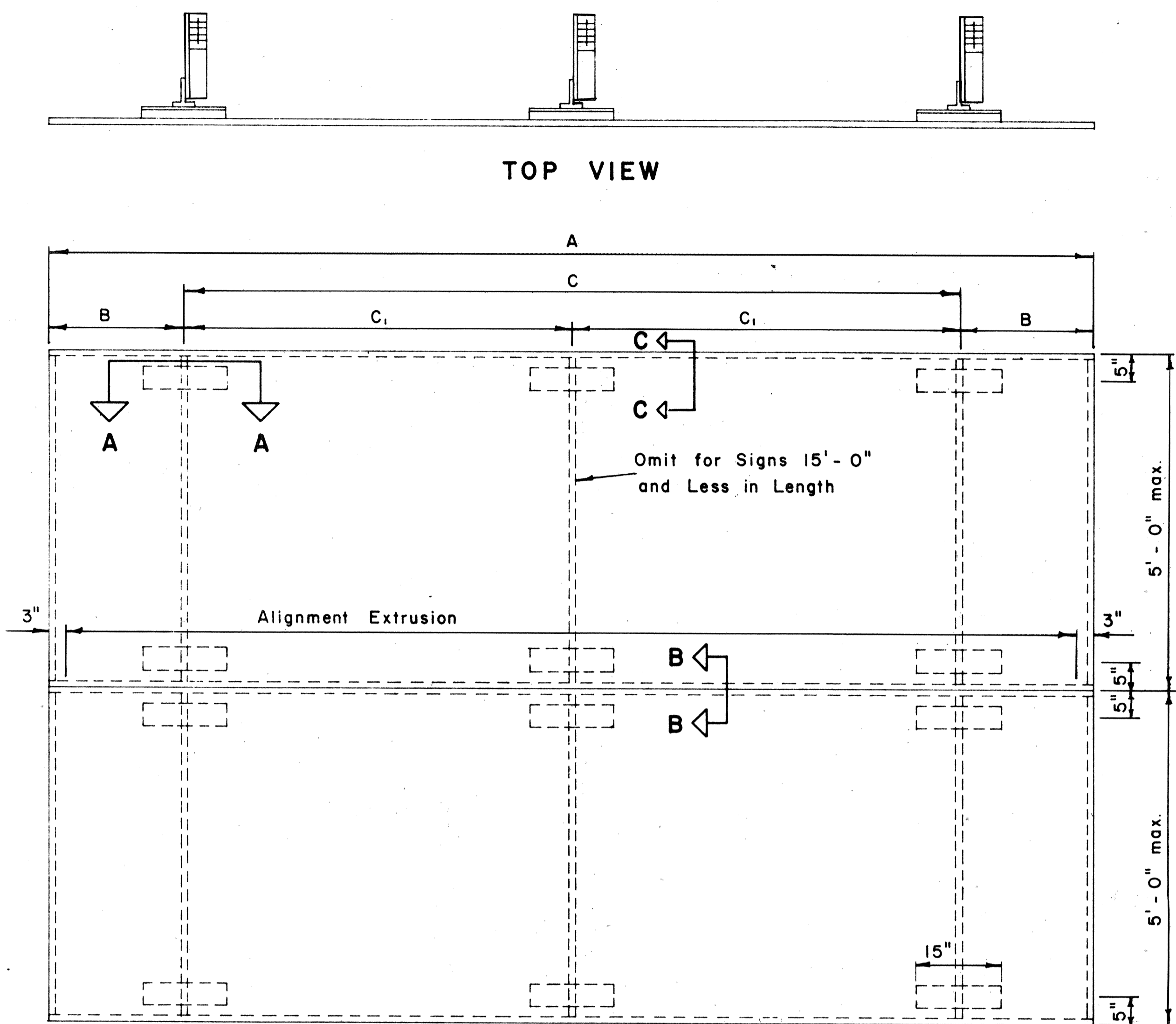
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FLANGE CONNECTIONS

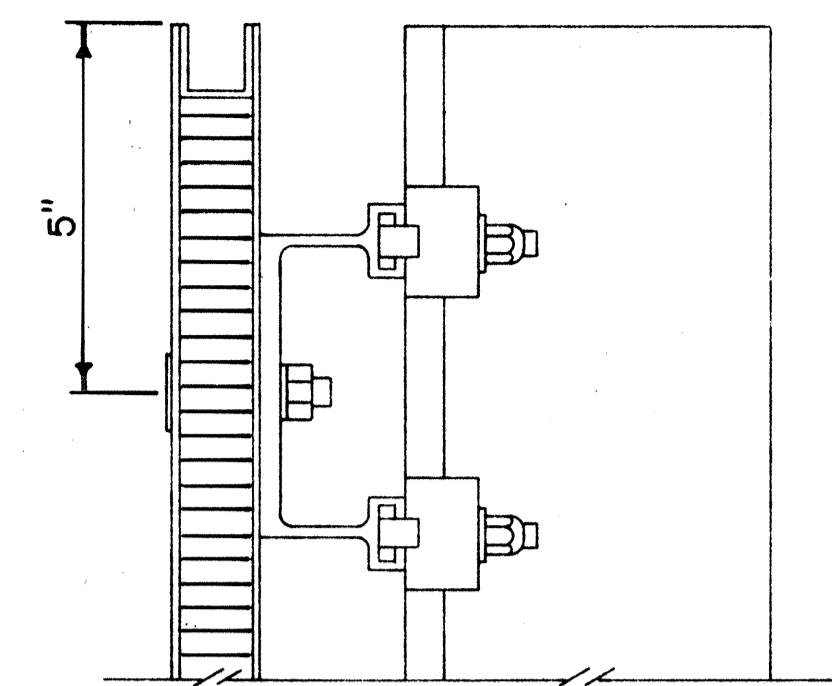
INTERSTATE ROUTE HI
PROJECT NO. I-HI-(88)-13

Scale: As Shown DATE: JULY 17, 1970
SHEET No. 13 OF 25 SHEETS

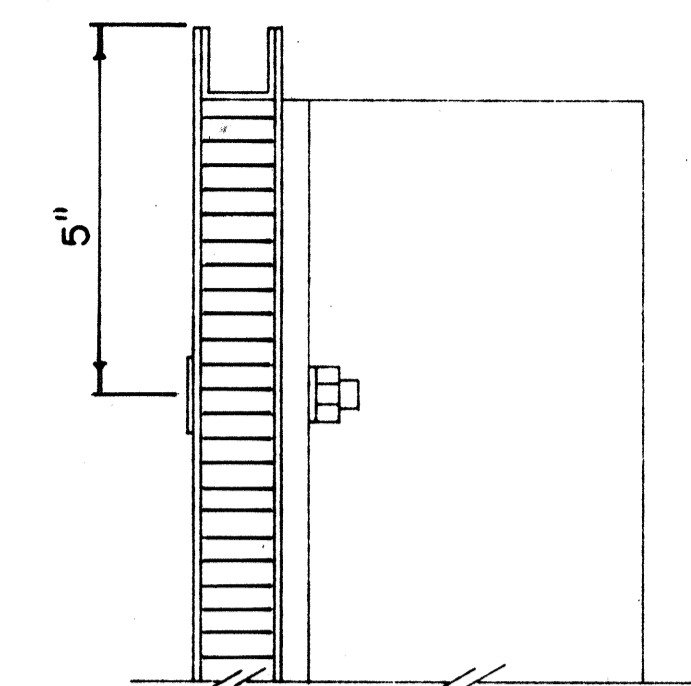
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1188-12	1971	163	457



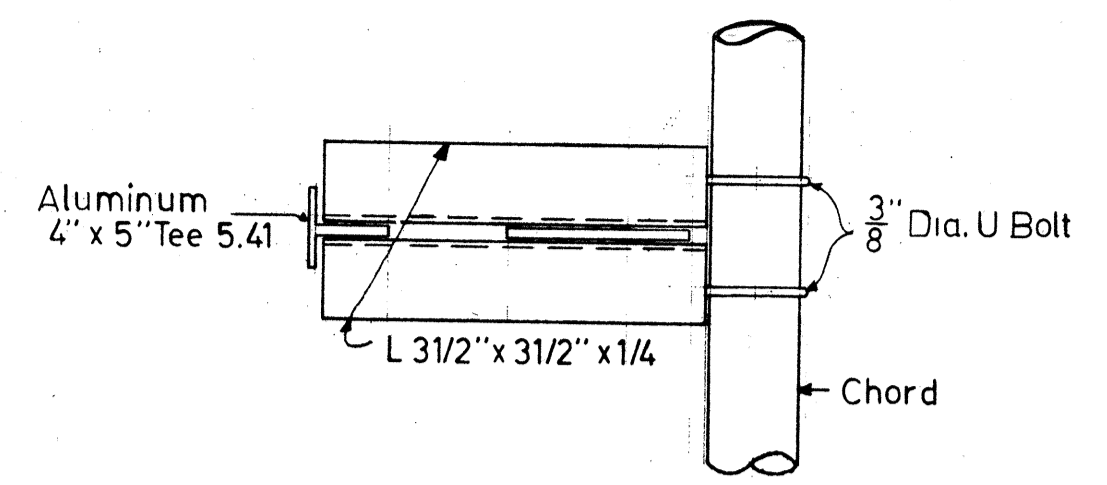
TYPICAL SIGN ASSEMBLY
Scale: $\frac{3}{4}$ " = 1' - 0"



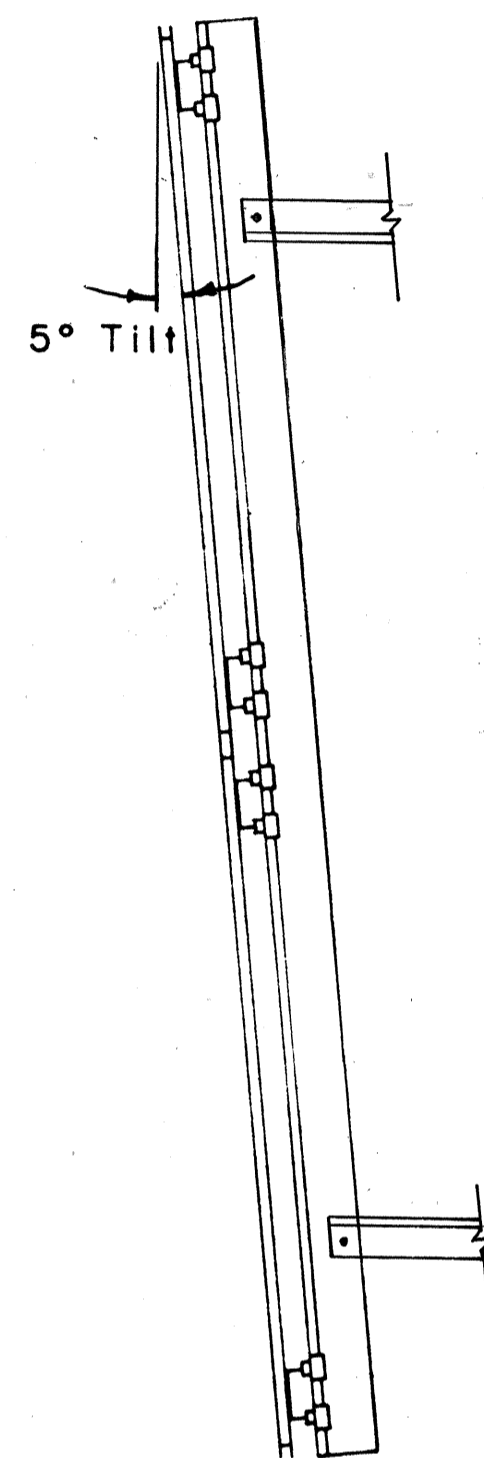
SECTION "C-C"
Scale: $\frac{3}{8}$ " = 1"



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

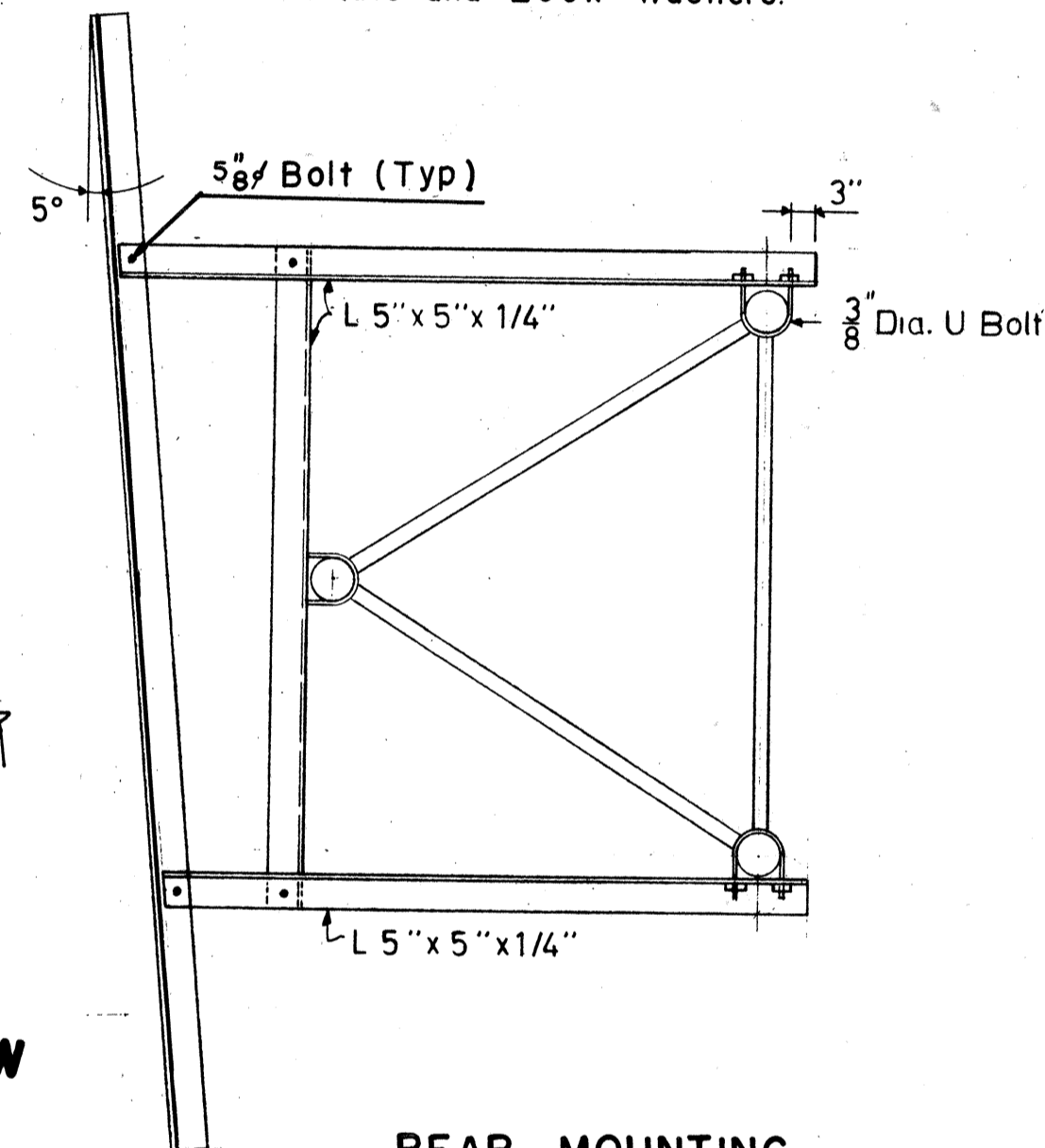


SECTION D-D
Scale: 1" = 1' - 0"

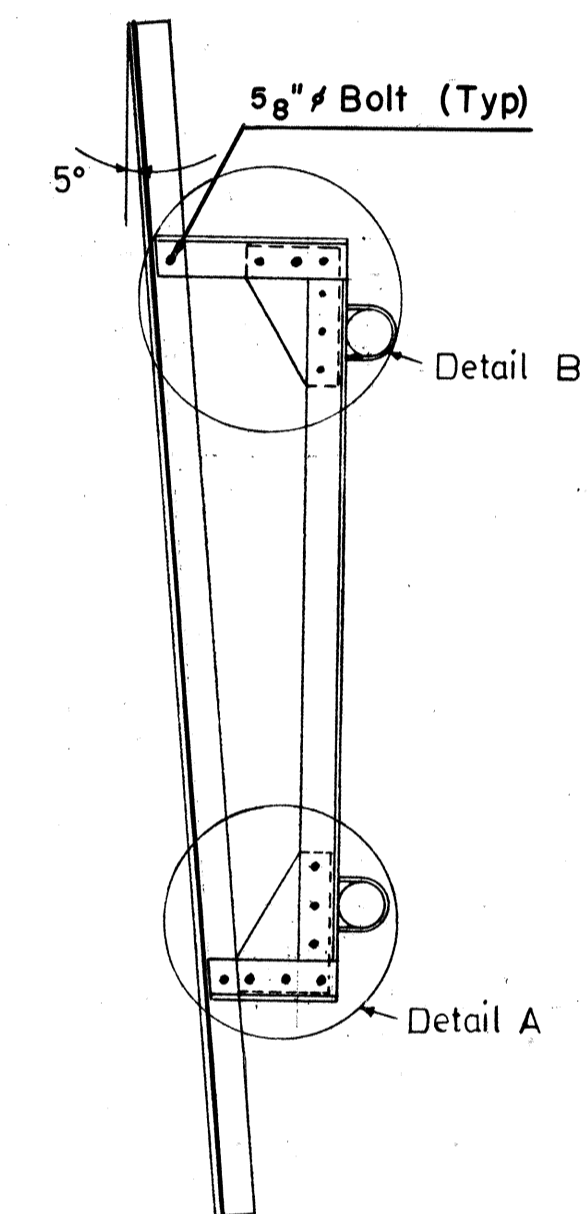


SIDE VIEW

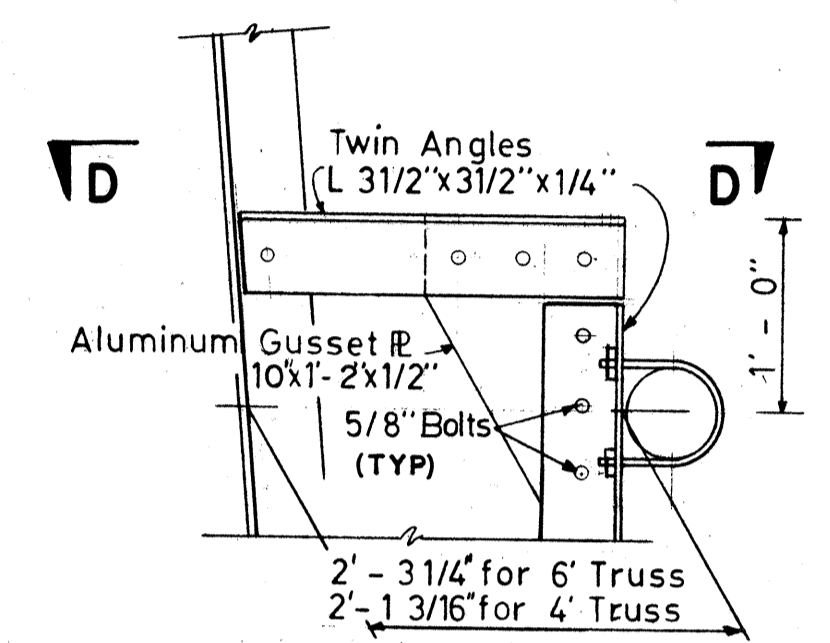
NOTE: $\frac{3}{8}$ " Dia. "U" Bolts to be Stainless Steel with hex nuts and washers.
 $\frac{5}{8}$ " Bolts to be Stainless Steel with Nuts and Lock Washers.



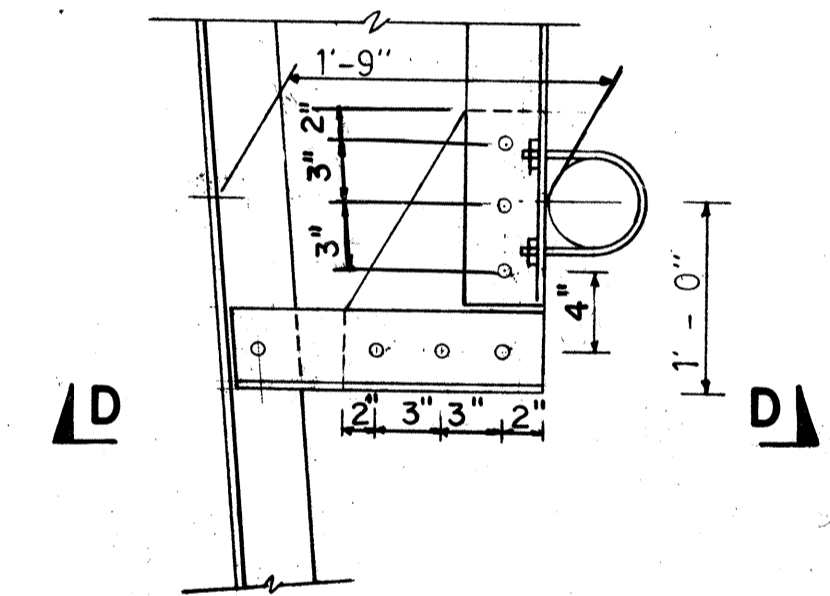
REAR MOUNTING
Scale: $\frac{1}{2}$ " = 1' - 0"



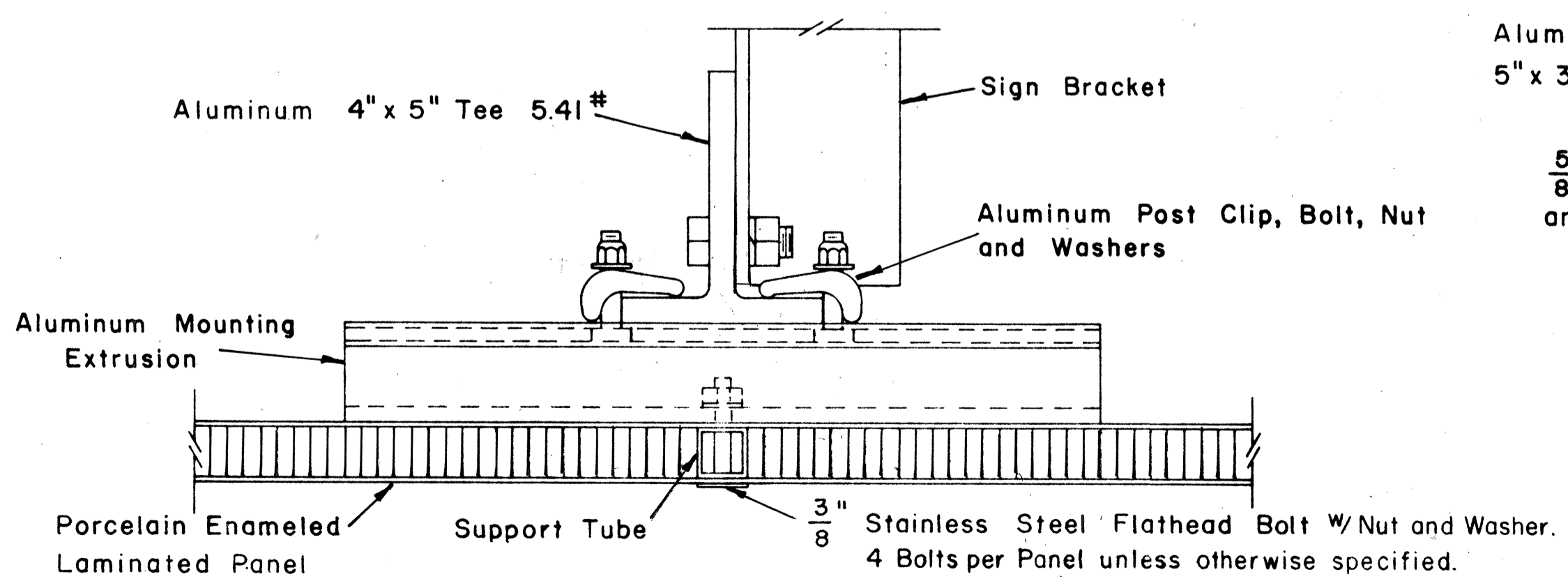
FRONT MOUNTING
Scale: $\frac{1}{2}$ " = 1' - 0"



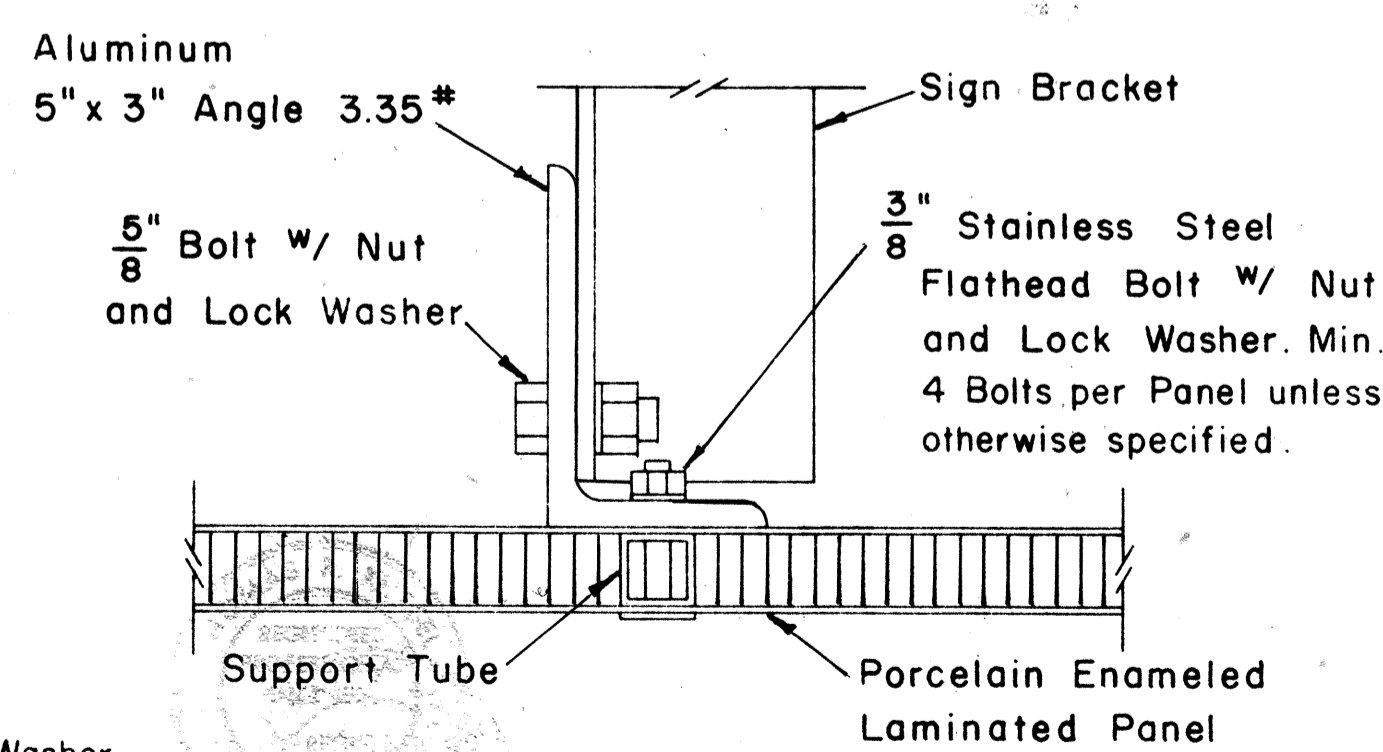
DETAIL B
Not to Scale



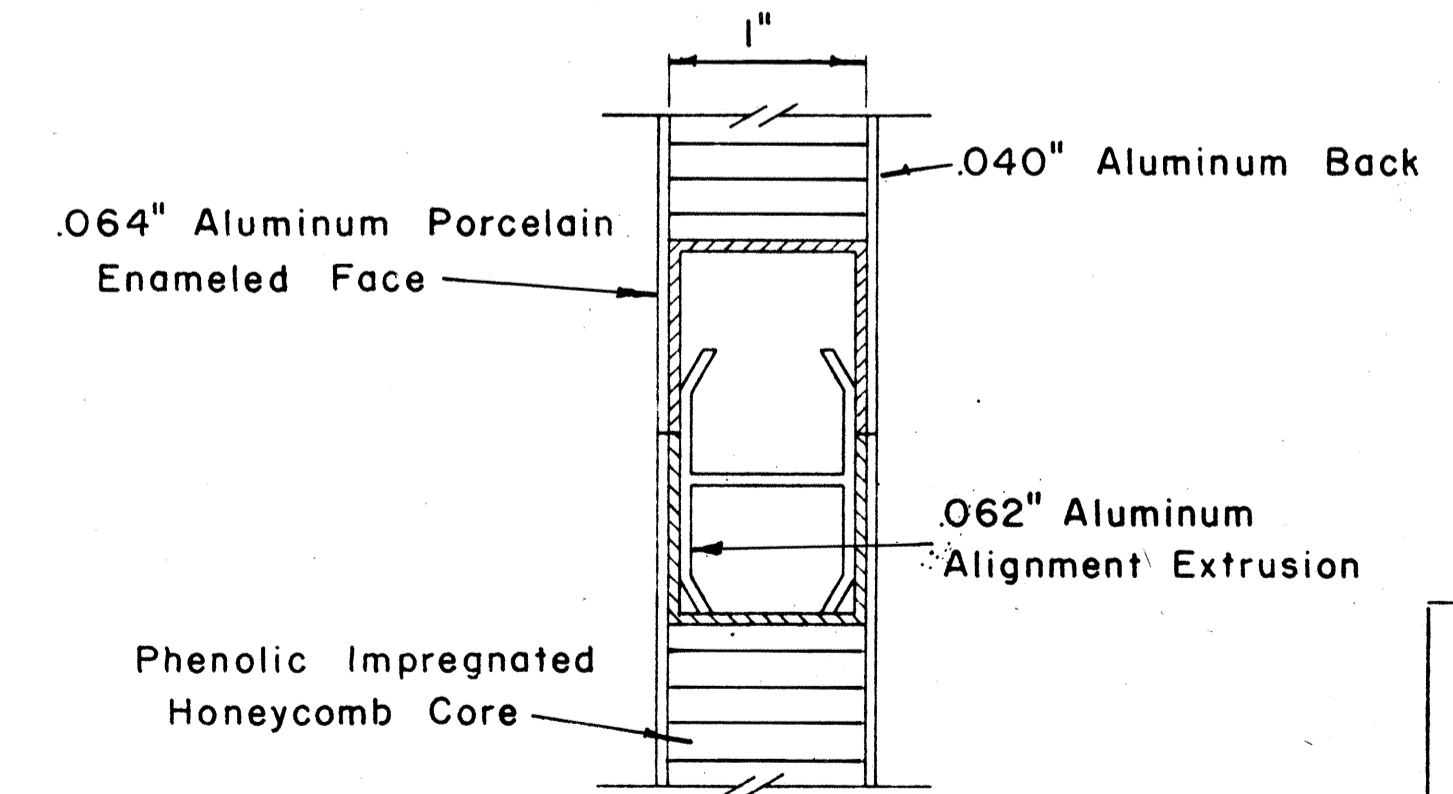
DETAIL A
Not to Scale



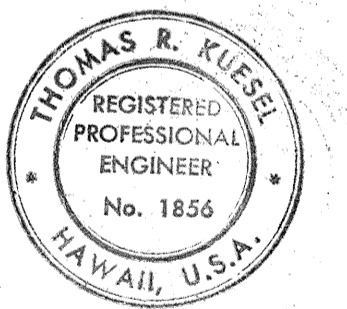
SECTION "A-A"
Scale: $\frac{3}{8}$ " = 1"



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



CLOSURE DETAIL SECTION "B-B"
FULL SCALE



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Thomas R. Kiesel

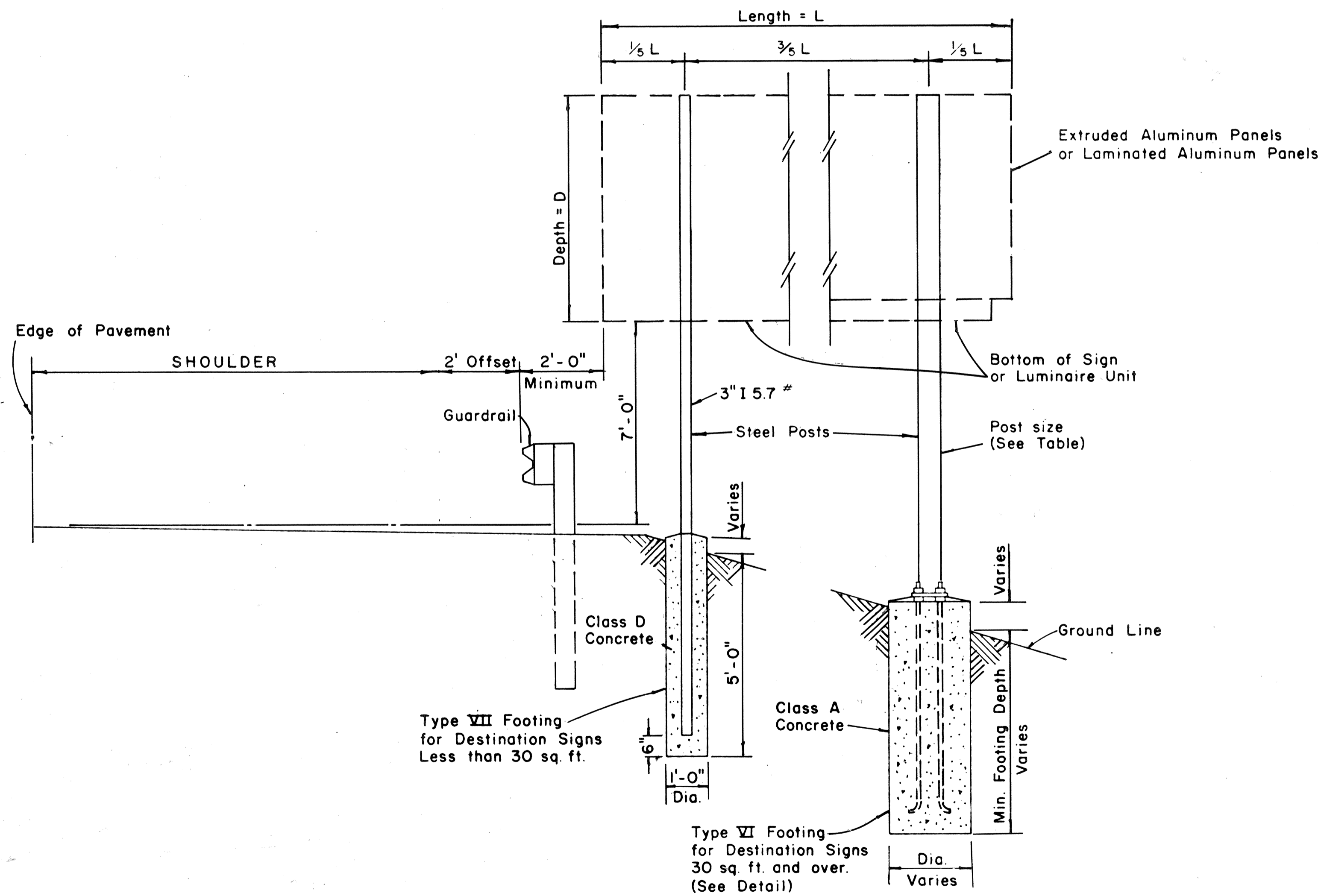
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(OVERHEAD)
Scale: As Shown

DATE: 5/16/67
DESIGNED BY: L. Wade
CHECKED BY: L. Wade
NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)-13	1971	165	457

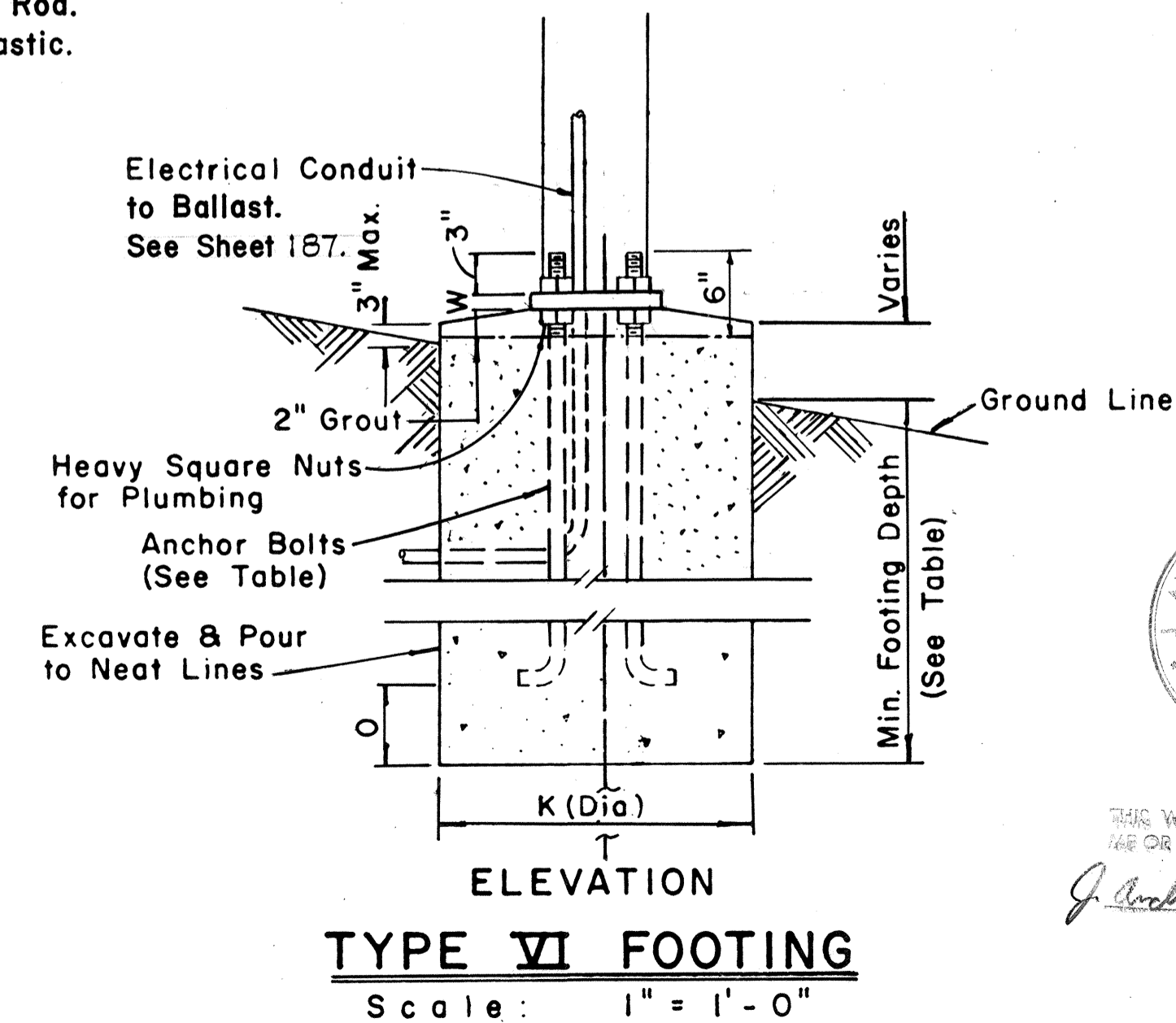
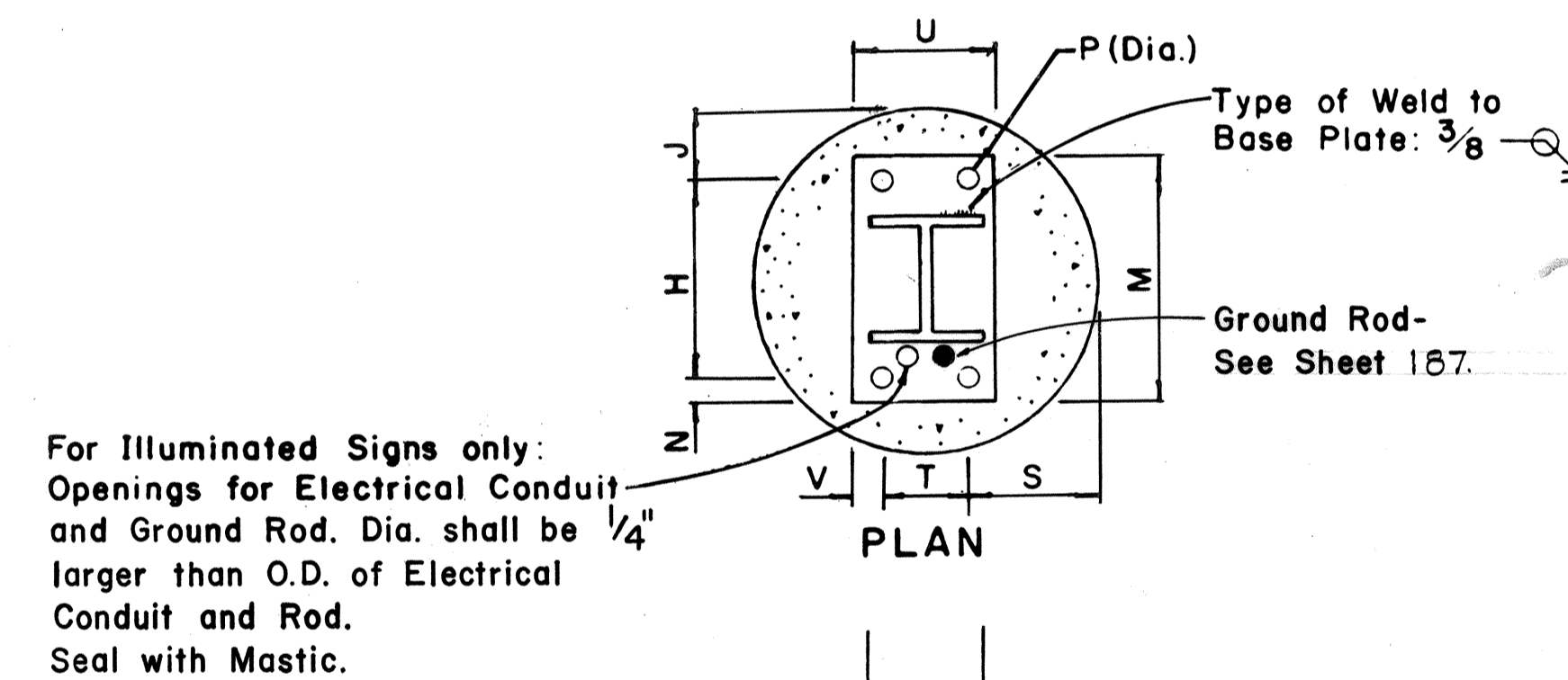
* For moment calculations only. Post shall be from top of foundation to top of sign.
 ** For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4½ feet.

POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT TOP OF FOUNDATION TO CENTER OF SIGN *	DIMENSIONS													ANCHOR BOLT DIA.	MINIMUM FOOTING DEPTH	
			H	J	K	M	N	O	P	S	T	U	V	W	CUT		FILL **	
			14"	5"	24"	17½"	1¾"	6"	1¼"	9"	6"	10"	2"	1"	1½"Ø		4½'	4½'
8 J10	50 sq. ft.	14'	14"	5"	24"	17½"	1¾"	6"	1¼"	9"	6"	10"	2"	1"	1½"Ø	4½'	4½'	
8 WF24	90 sq. ft.	21'	14"	5"	24"	17½"	1¾"	6"	1¼"	9"	6"	10"	2"	1"	1½"Ø	4½'	5'	
8 WF35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1¾"	11¾"	6½"	10"	1¾"	1"	1½"Ø	6'	7'	
10 WF45	190 sq. ft.	25'	16½"	6¾"	30"	20"	1¾"	6"	1¾"	11¾"	6½"	10"	1¾"	1"	1½"Ø	6'	7'	
10 WF45	200 sq. ft.	25'	16½"	6¾"	30"	20"	1¾"	6"	1¾"	11¾"	6½"	10"	1¾"	1"	1½"Ø	6'	7'	
12 WF50	230 sq. ft.	25'	16½"	6¾"	30"	20"	1¾"	6"	1¾"	11¾"	6½"	10"	1¾"	1"	1½"Ø	7'	7'	
12 WF50	250 sq. ft.	23'	16½"	6¾"	30"	20"	1¾"	6"	1¾"	11¾"	6½"	10"	1¾"	1"	1½"Ø	7'	7'	



TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

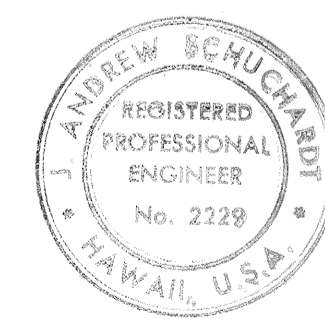
Not to Scale



TYPE VI FOOTING

Scale: 1" = 1'-0"

DATE: _____
 SURVEY PLOTTED BY: _____
 ORIGINAL PLAN: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NOTE BOOK: _____
 NO. _____

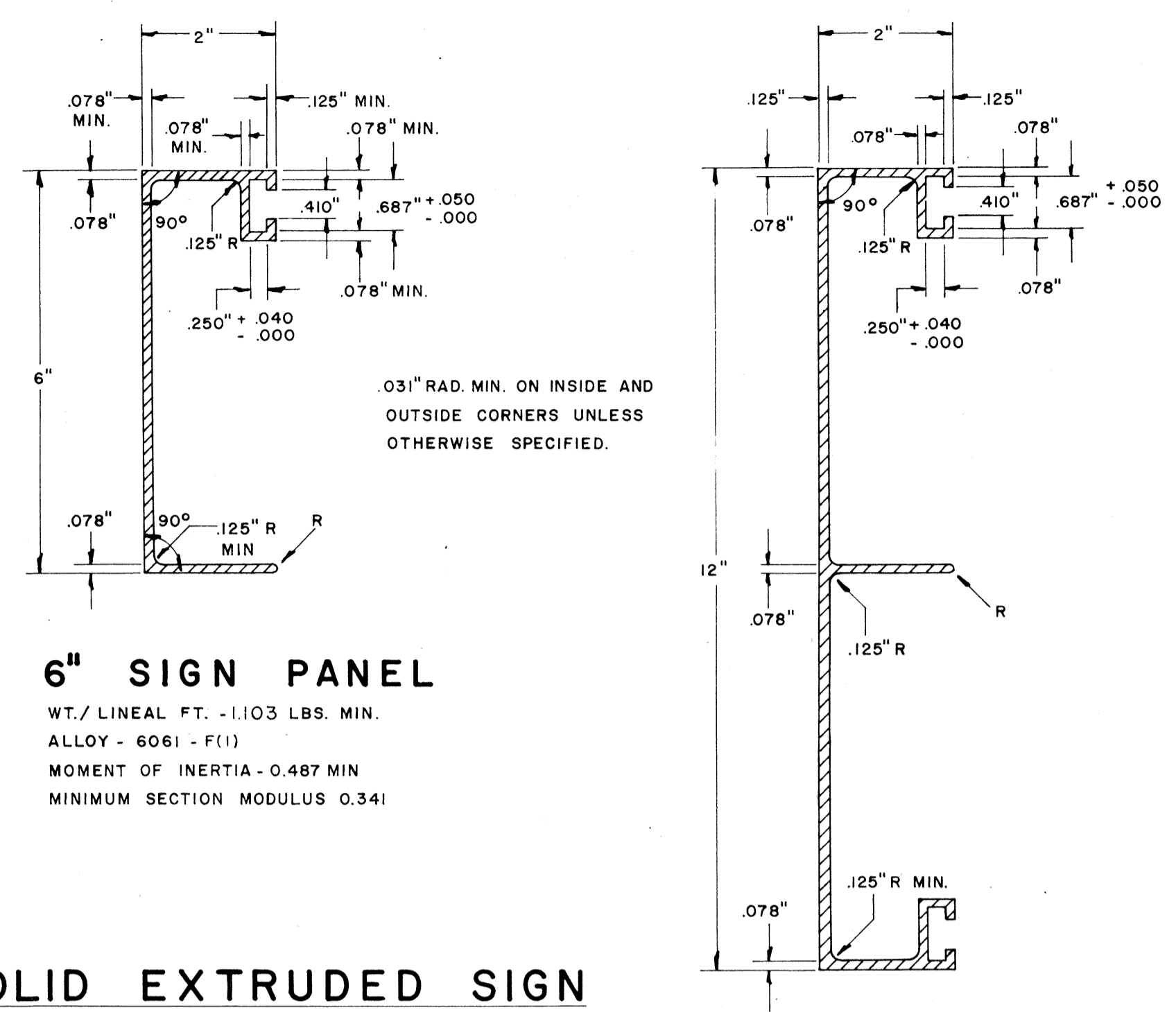
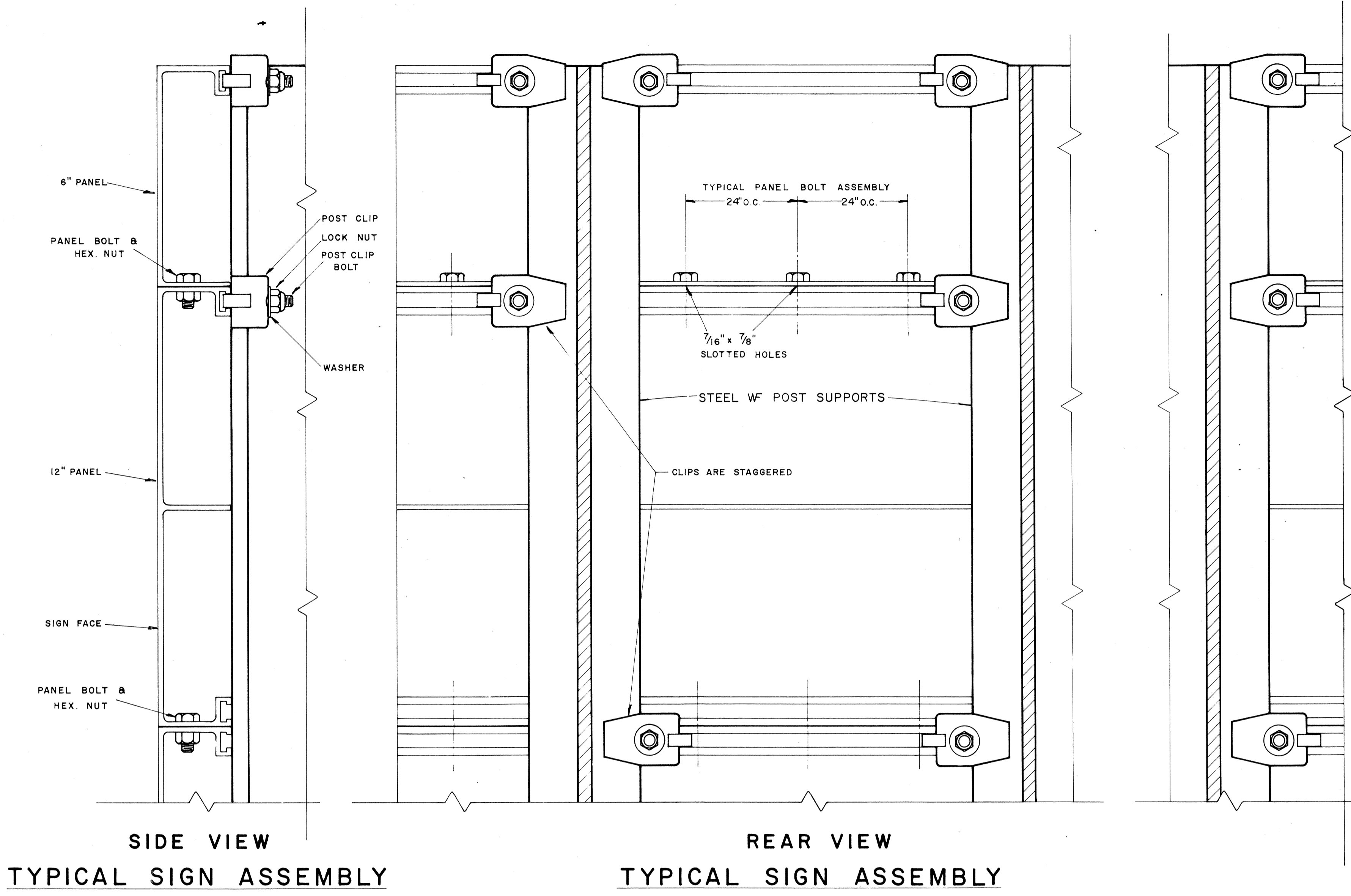


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J. Andrew Schuchardt

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

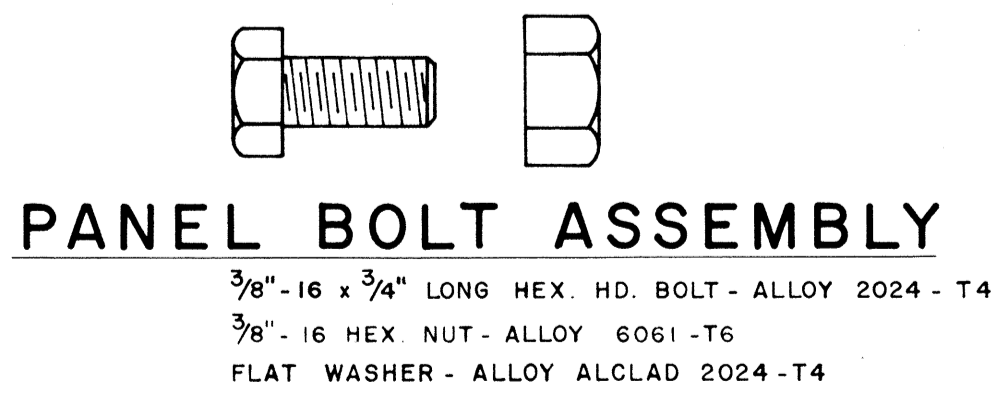
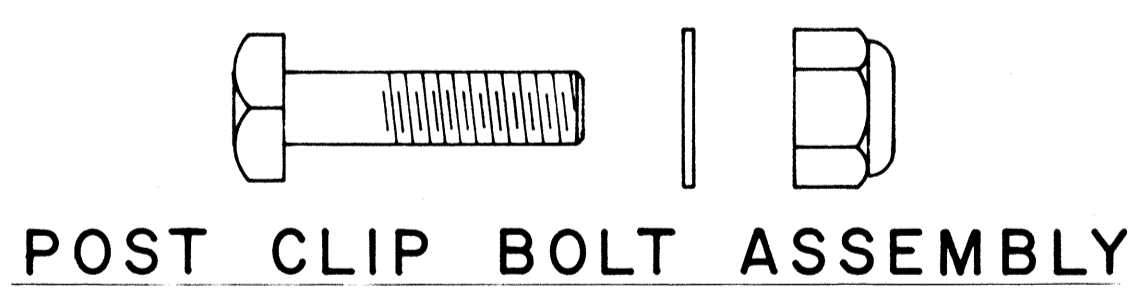
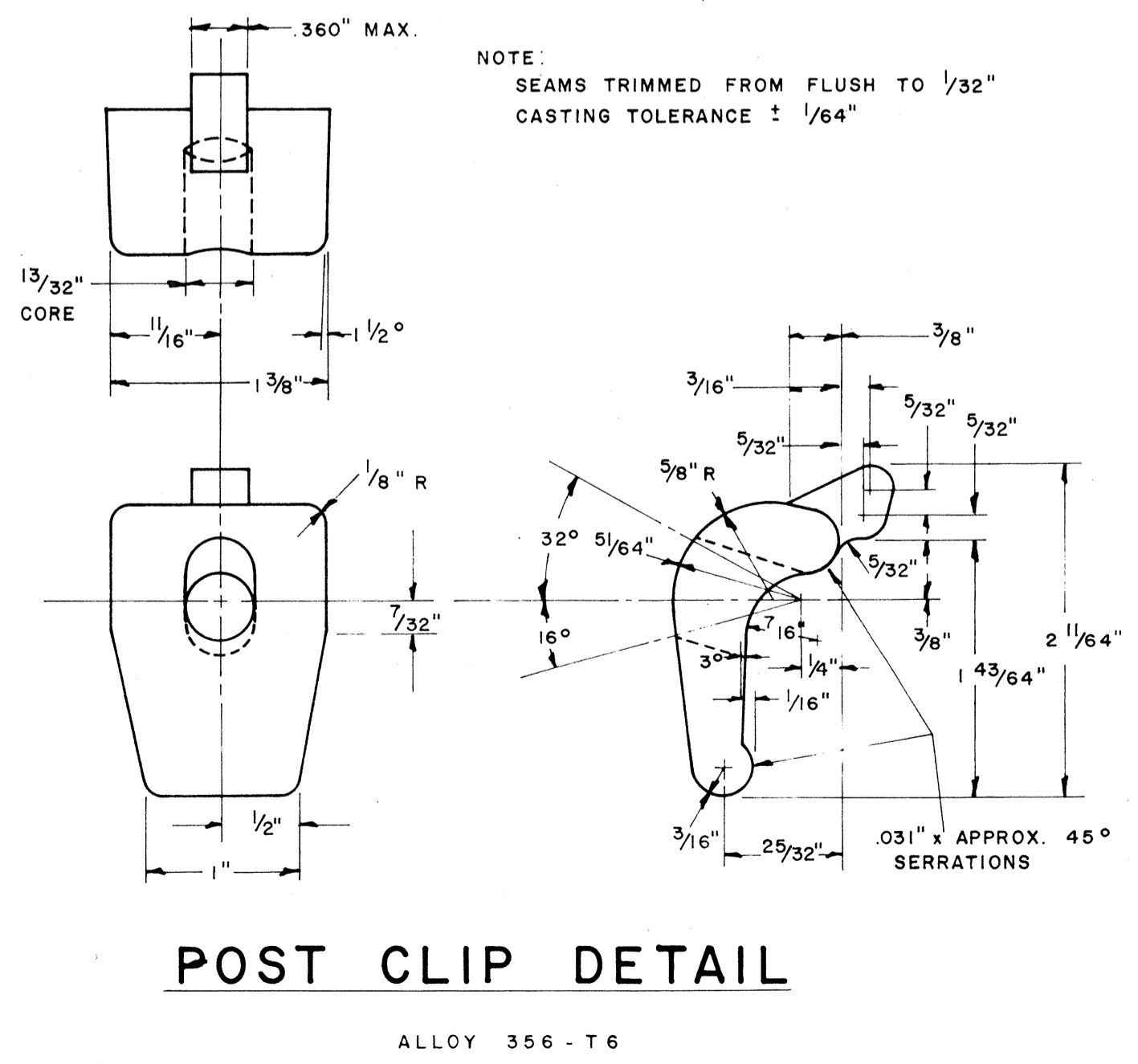
DETAILS
 DESTINATION & GROUND MOUNTED
 EXPRESSWAY SIGNS

Scale: As Shown
 SHEET No. 16 OF 25 SHEETS



SOLID EXTRUDED SIGN PANEL DETAILS

DATE:
SURVEY PLOTTED BY:
DRAWN BY:
NOTE BOOK QUANTITIES CHECKED BY:
No.



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

APPROVAL RECOMMENDED:
Eishi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

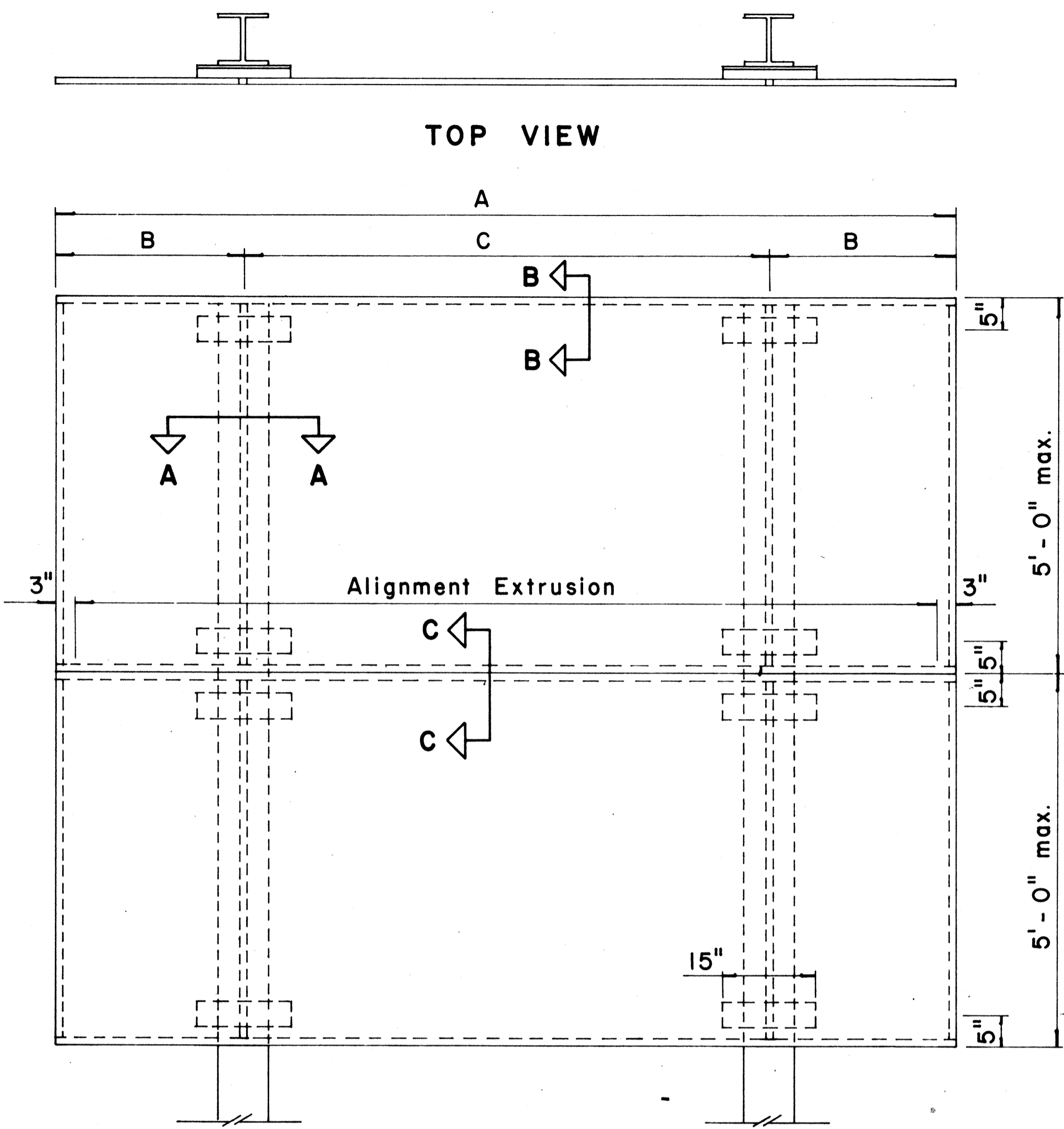
APPROVED:
Adolf S. S. S. 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS
SCALE:

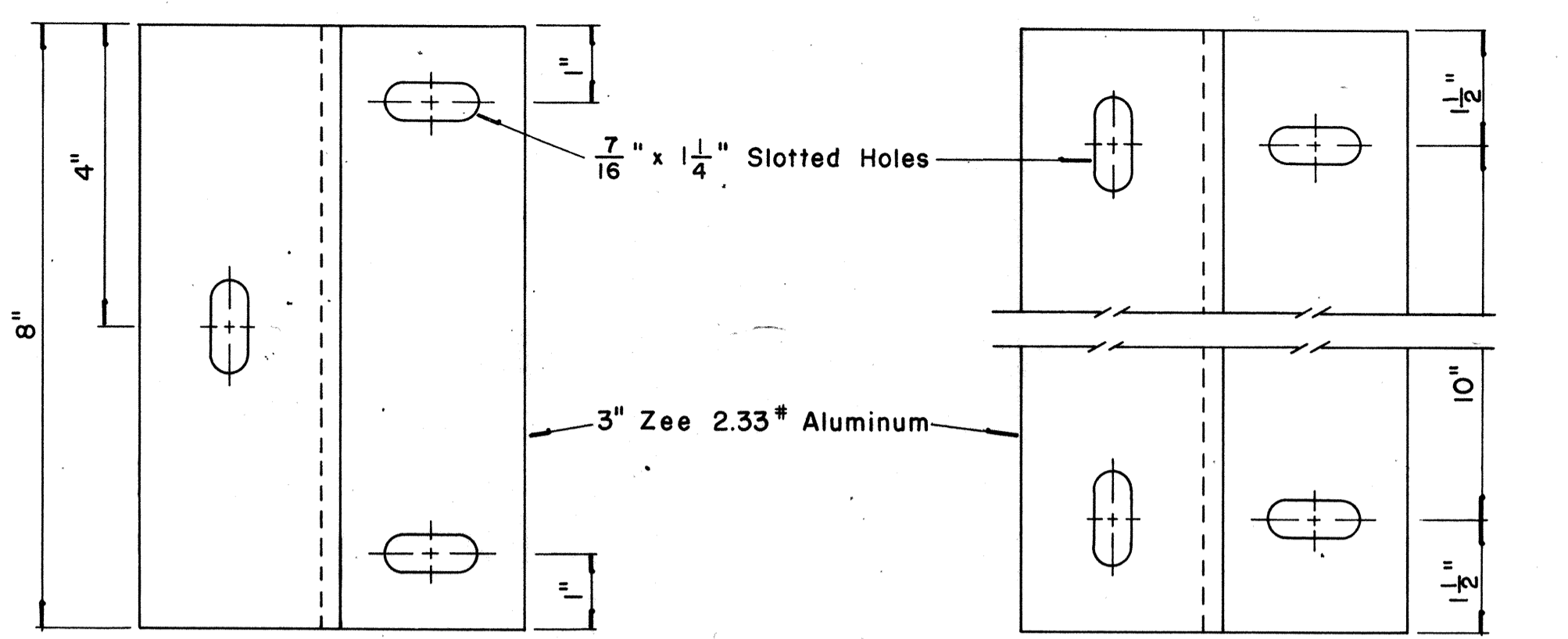
(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

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"



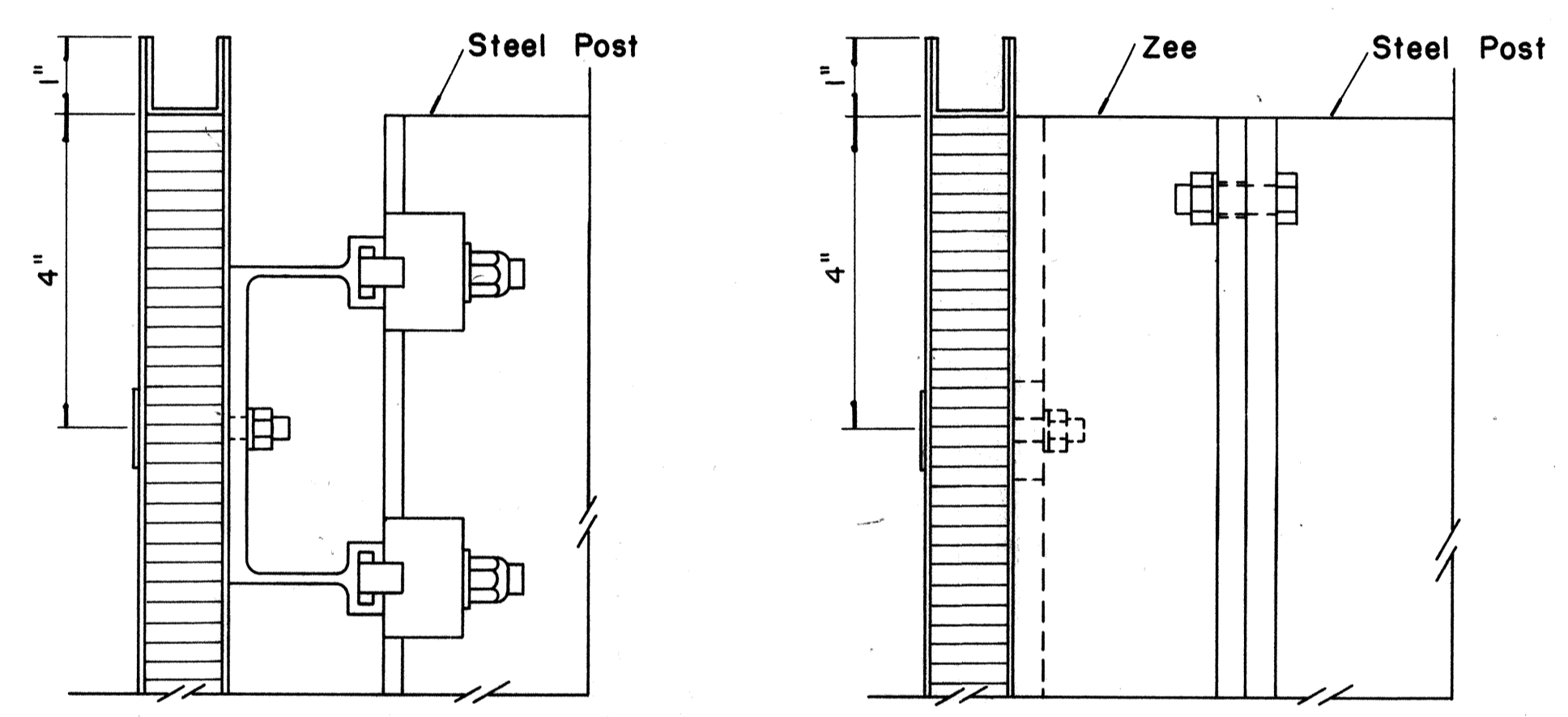
TYPICAL SIGN ASSEMBLY

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



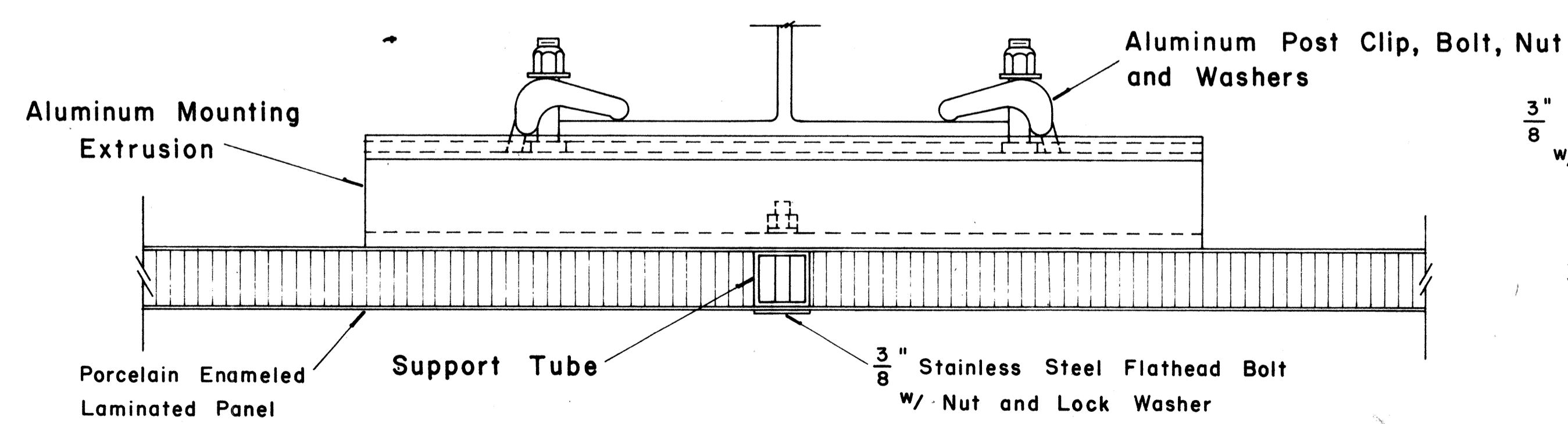
ZEE MOUNTING DETAILS

Scale: 1/2" = 1"



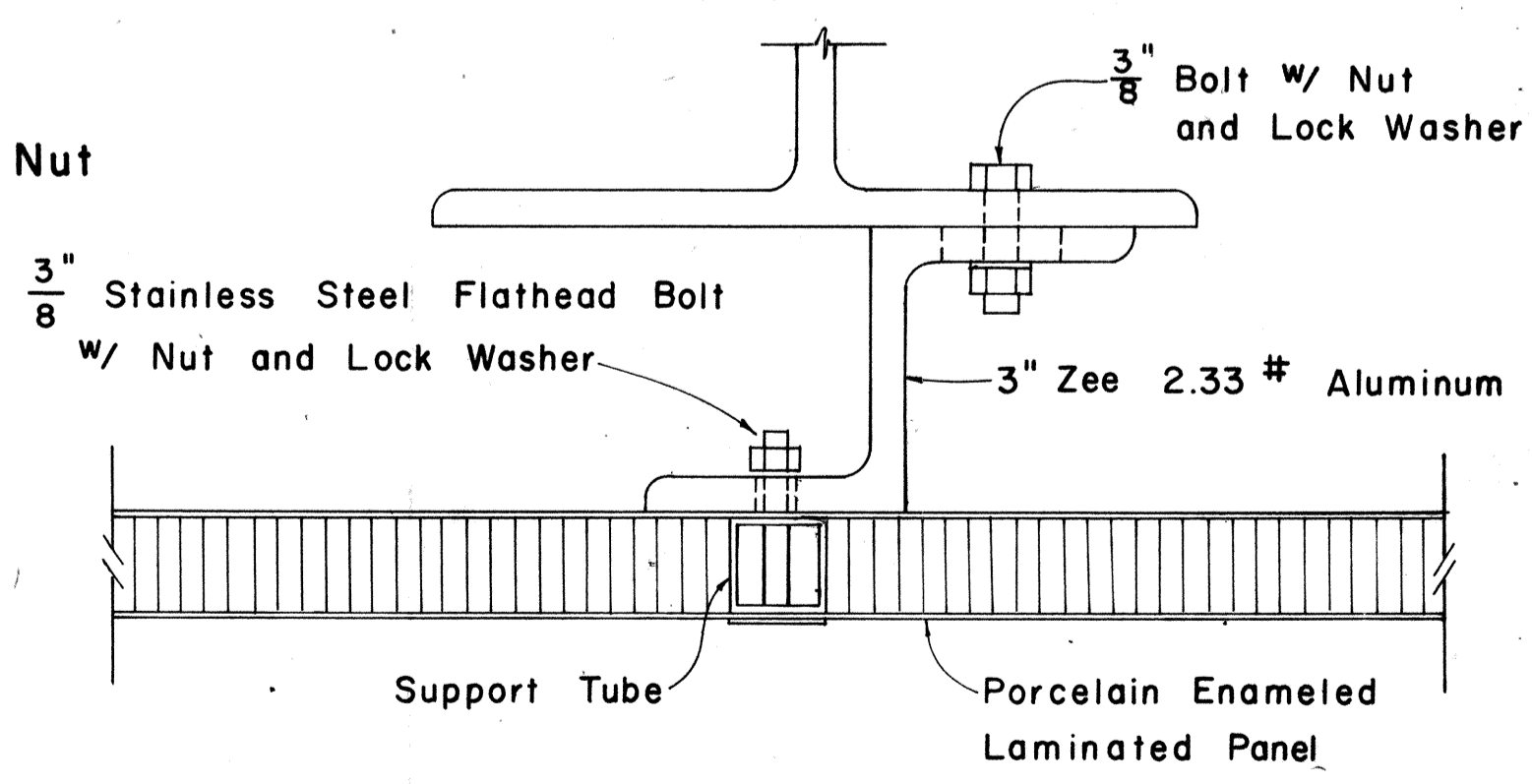
SECTION "B-B" (Alternate)

Scale: 1/2" = 1"



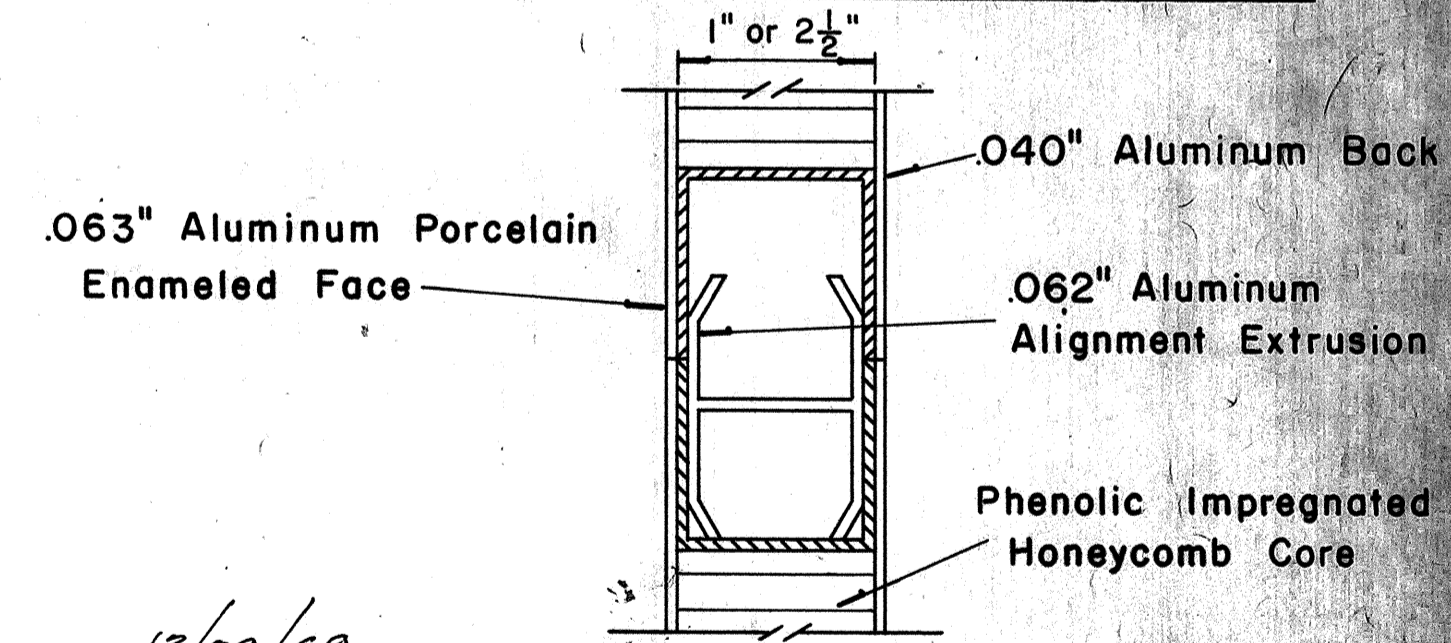
SECTION "A-A"

Scale: 1/2" = 1"



SECTION "A-A" (Alternate)

Scale: 1/2" = 1"



CLOSURE DETAIL SECTION "C-C"

FULL SCALE

APPROVAL RECOMMENDED:
Eischi Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

APPROVED:
John J. [Signature]
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

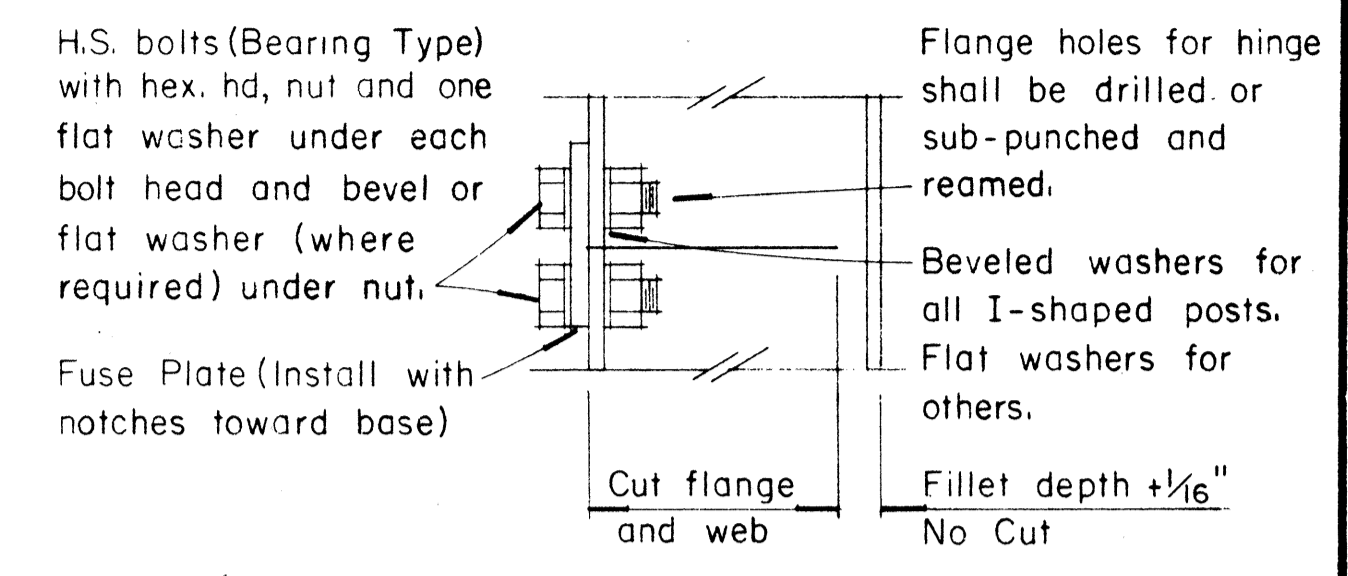
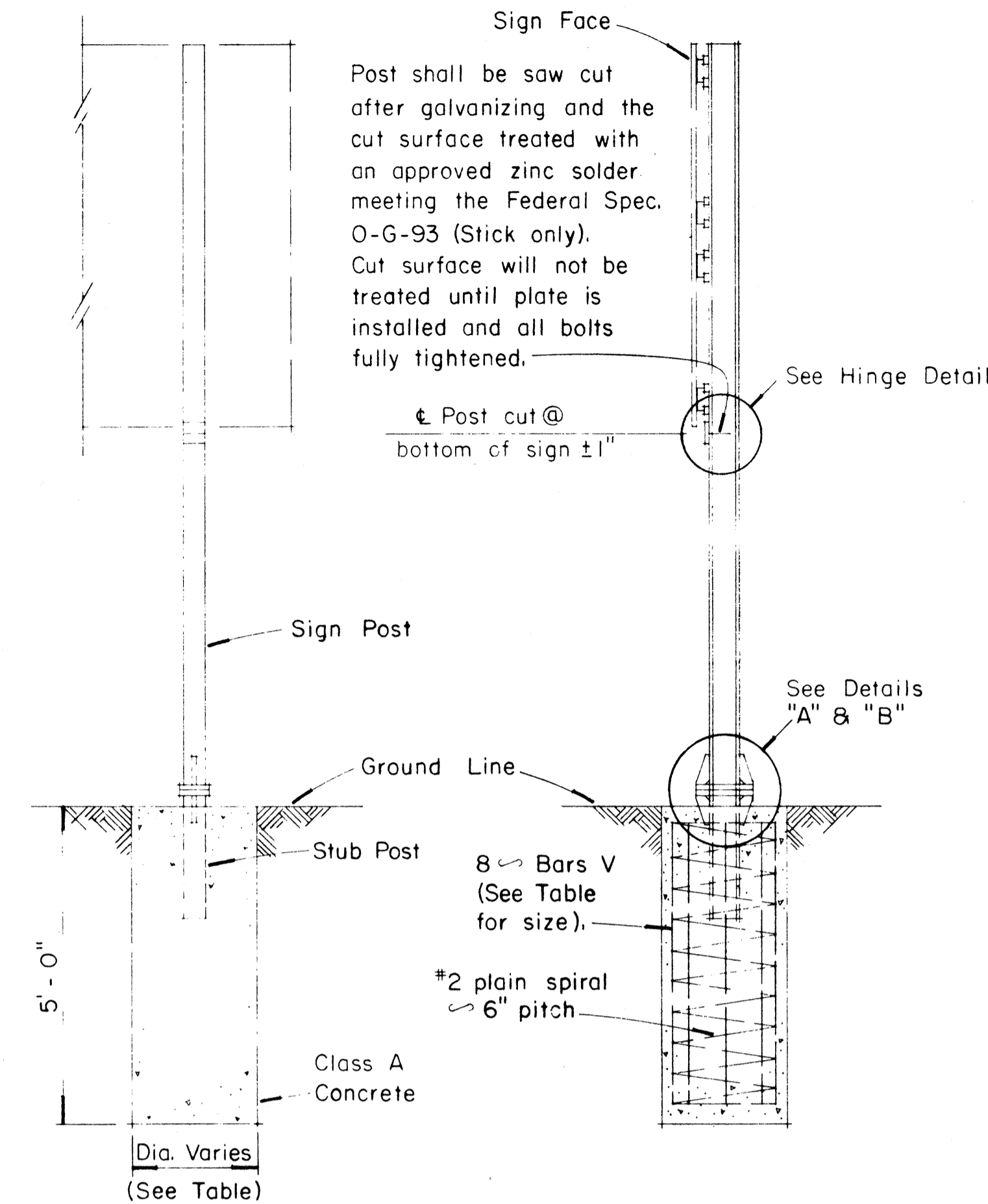
STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)

Scale: As Shown

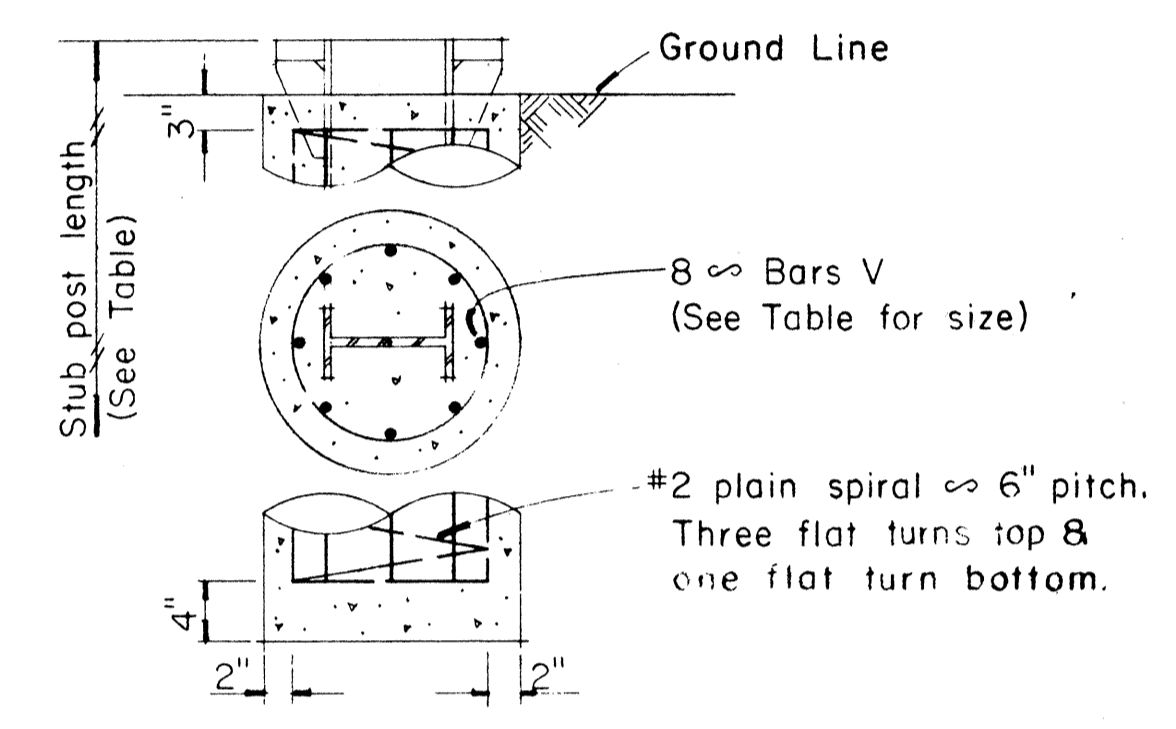
SURVEY PLOTTED BY: _____
 ORIGINAL PLAN: _____
 DRAWN BY: _____
 CHECKED BY: _____
 NOTE BOOK: _____
 No. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HH(88)13	1971	108	457

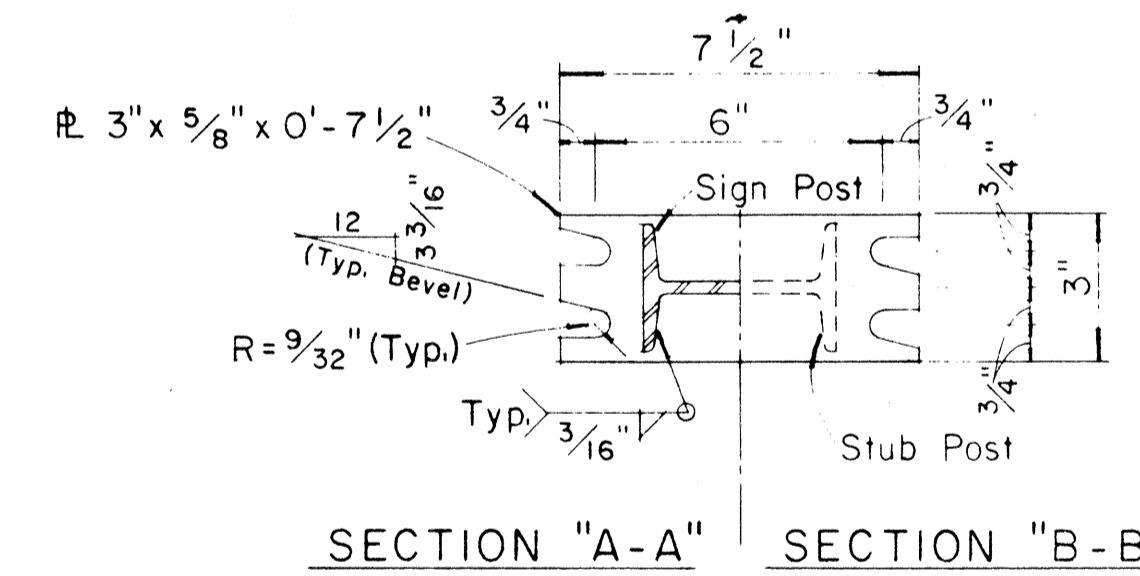
Post Size	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE										FOUNDATION DATA				
	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5											3 5/8"	2"	1 1/8"	4"	2 1/4"	7/8"	1/2"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



HINGE DETAIL

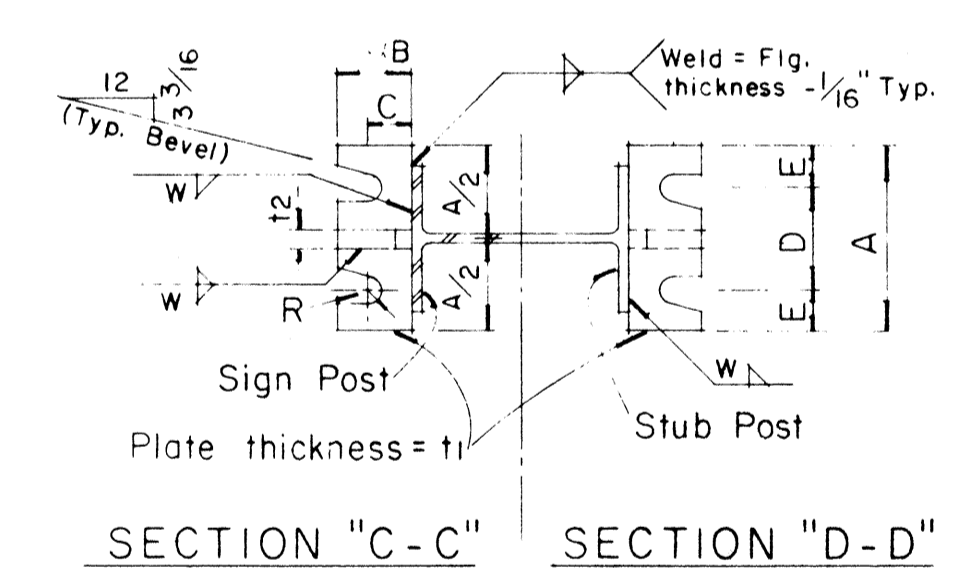


FOUNDATION DETAIL

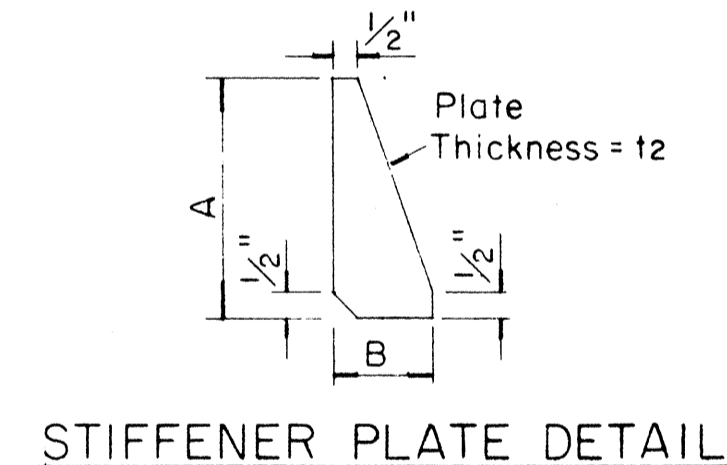


SECTION "A-A" SECTION "B-B"

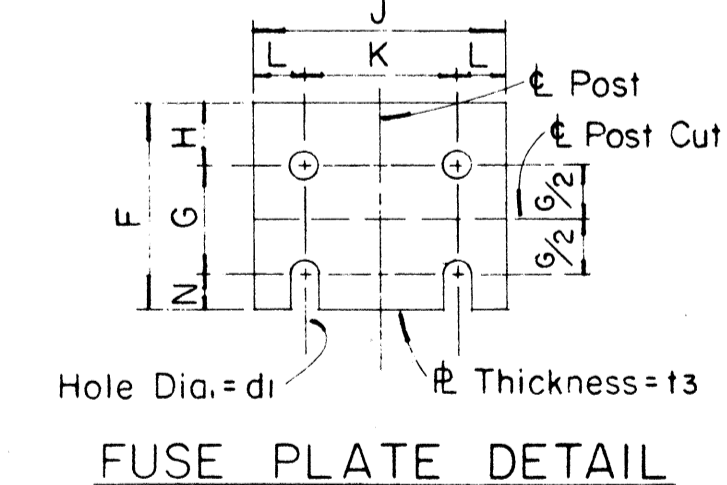
NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



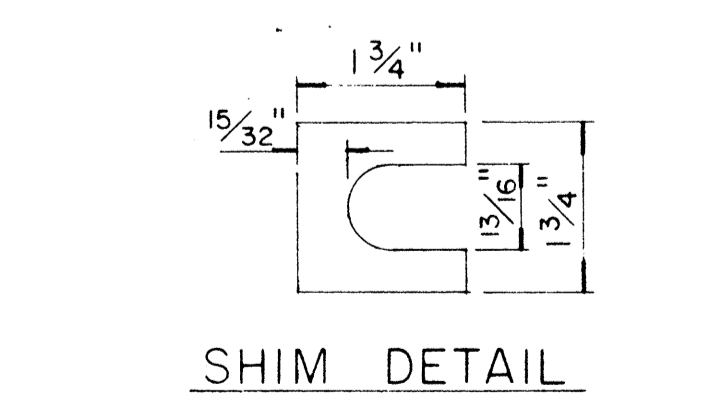
SECTION "C-C" SECTION "D-D"



STIFFENER PLATE DETAIL



FUSE PLATE DETAIL



SHIM DETAIL

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

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- 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.
- 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 A 307, Class A.
- 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.
- Structural steel shall conform with the requirements of ASTM A 441
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

Bolt Size	Min. Tension	Bolt Size	Min. Tension
1/2" ϕ	12050 Lbs.	3/4" ϕ	28400 Lbs.
5/8" ϕ	19200 Lbs.	7/8" ϕ	36050 Lbs.

APPROVAL RECOMMENDED:
Eiichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:
John J. [Signature] 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

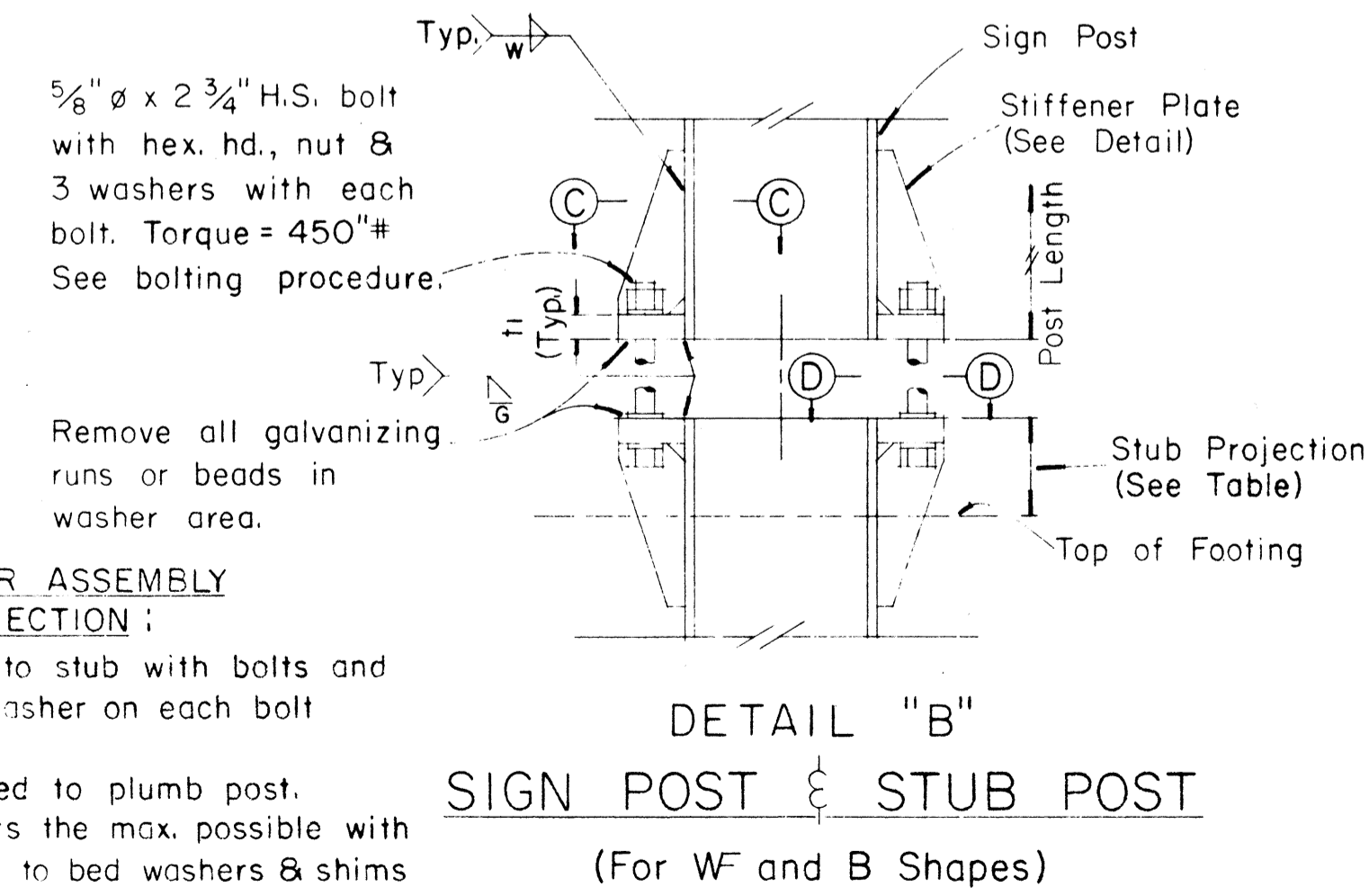
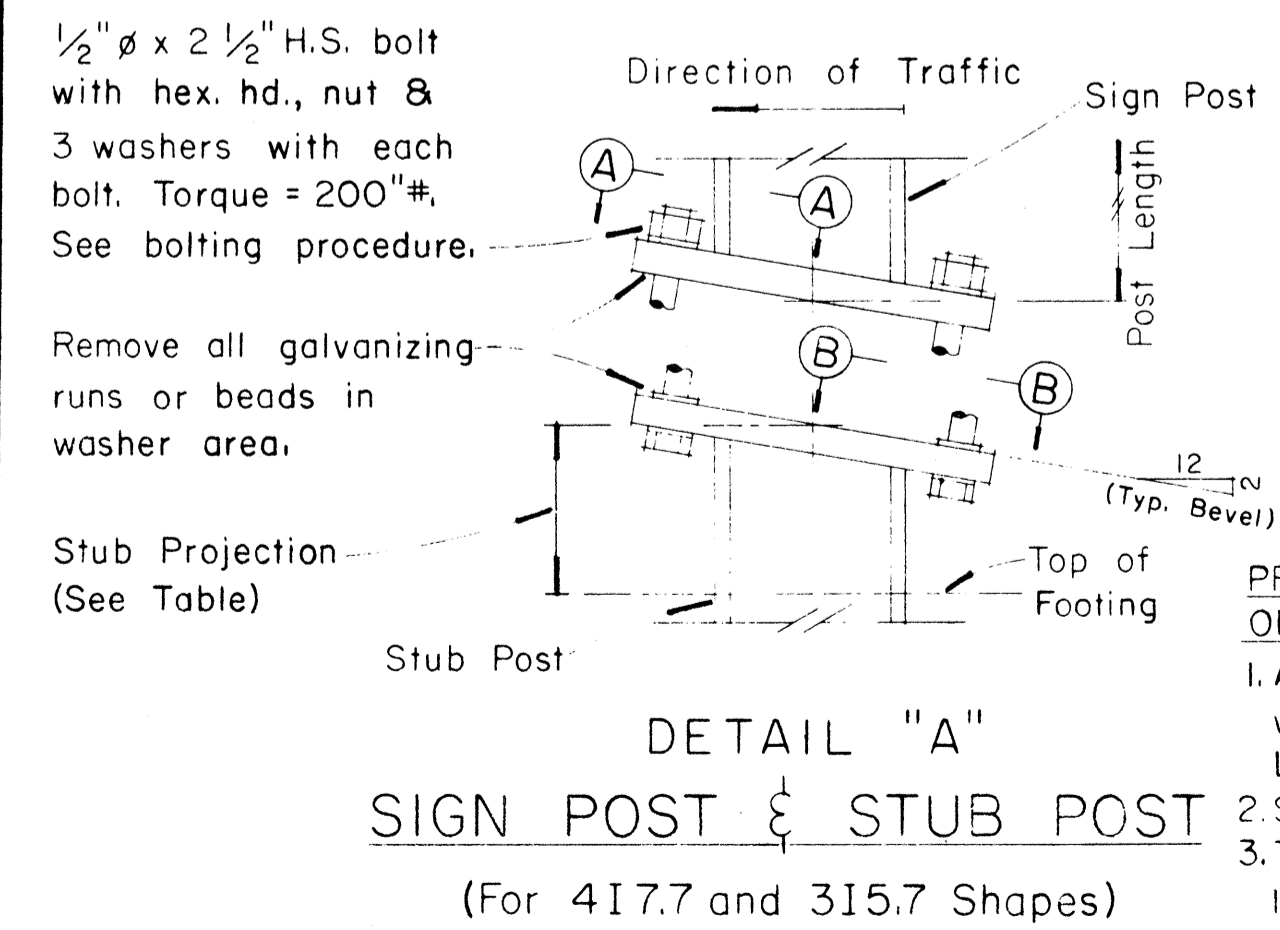
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS

Not to Scale

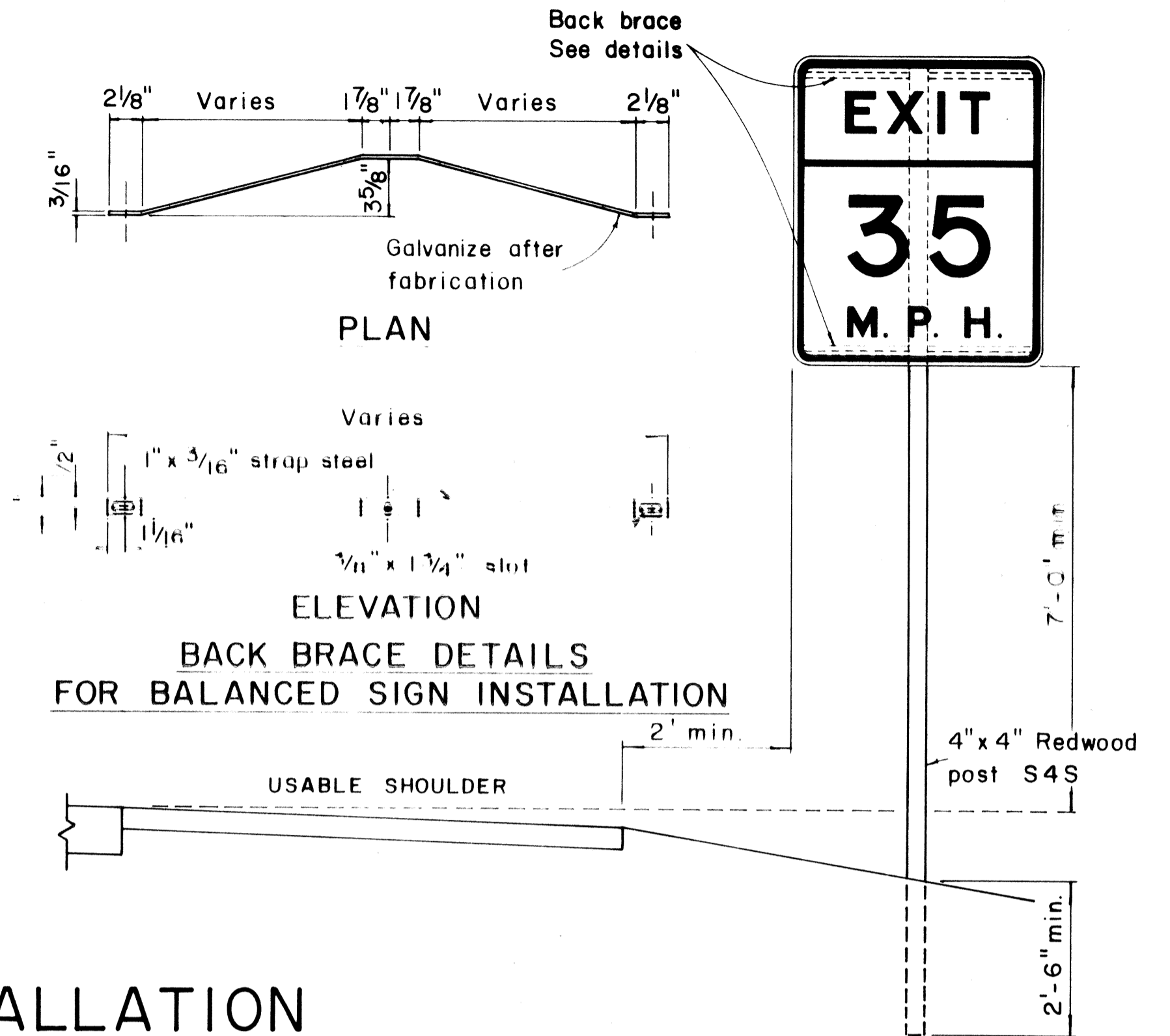
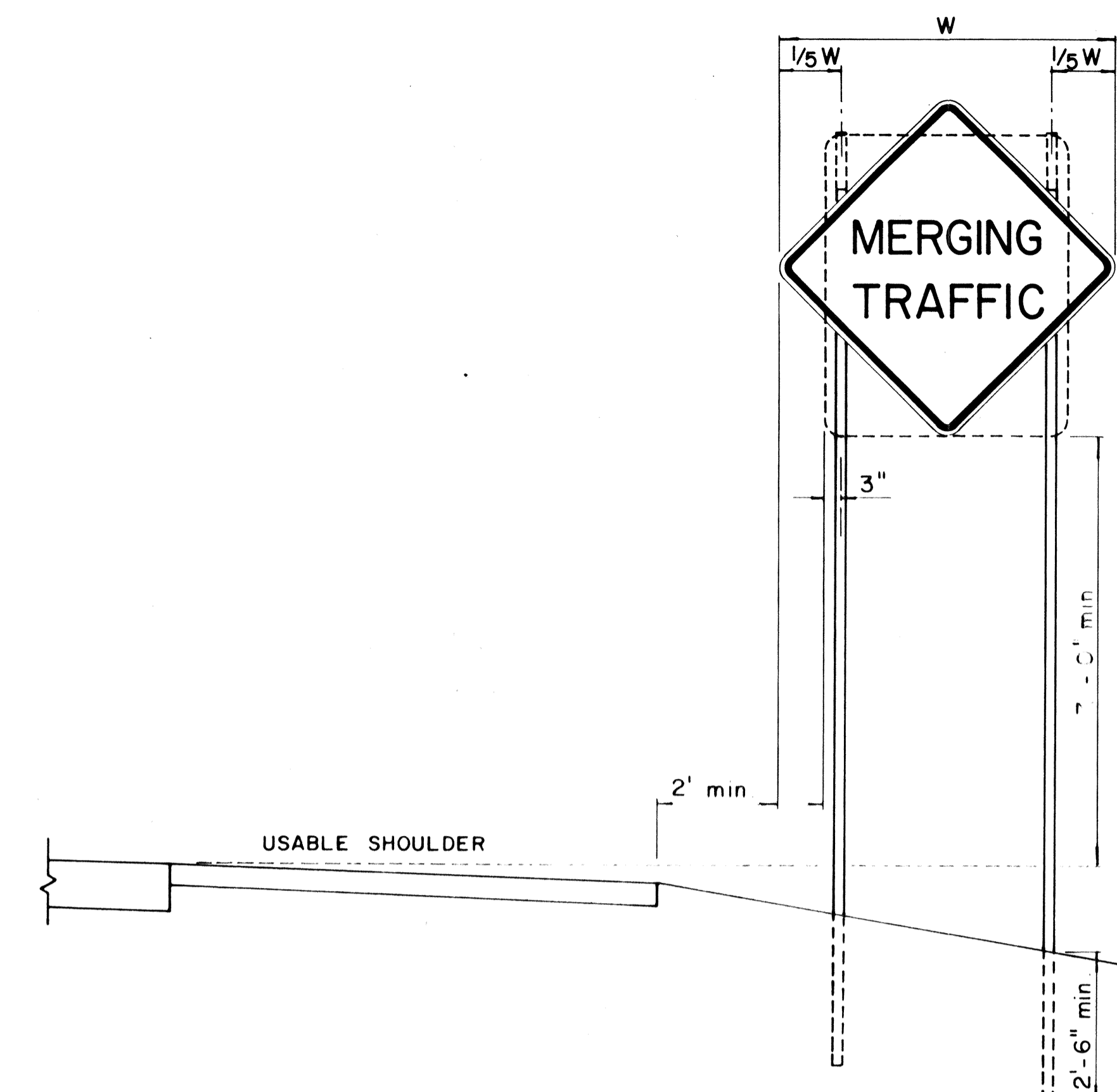
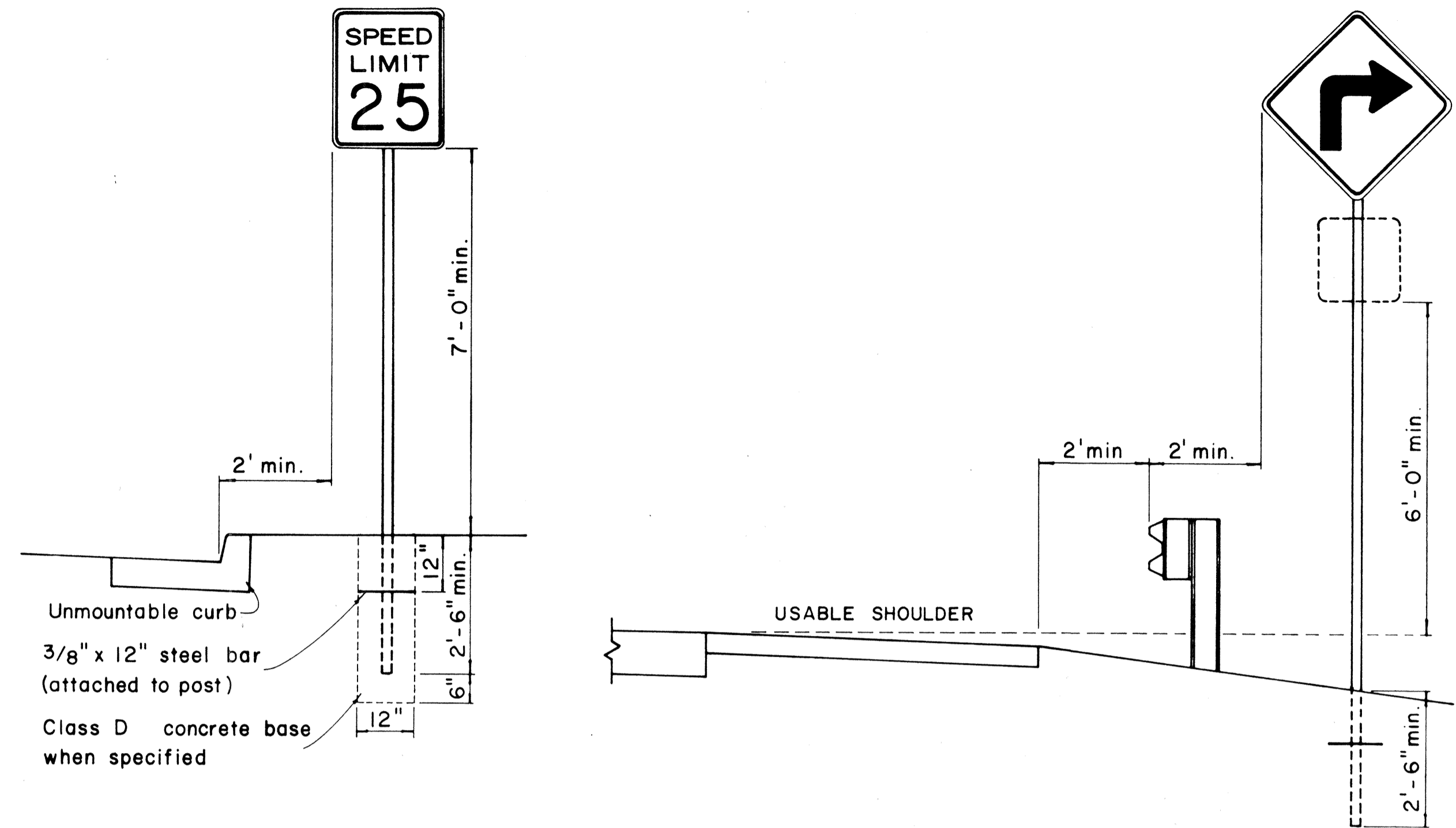
SHEET No. 19 OF 25 SHEETS DT 204

DATE: _____
SURVEY PLOTTED BY: _____
DRAWN BY: _____
DESIGNED BY: _____
NOTE BOOK QUANTITIES BY: _____
CHECKED BY: _____

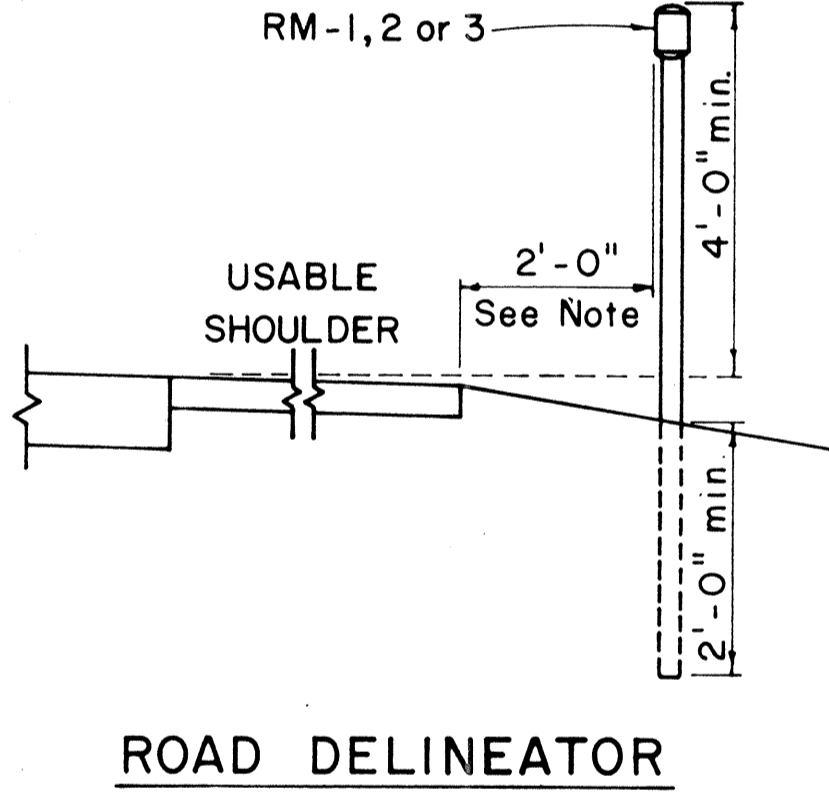


PROCEDURE FOR ASSEMBLY OF BASE CONNECTION:
1. Assemble post to stub with bolts and with one flat washer on each bolt between plates.
2. Shim as required to plumb post.
3. Tighten all bolts the max. possible with 12" to 15" wrench to bed washers & shims and to clean bolt threads then loosen each bolt 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.

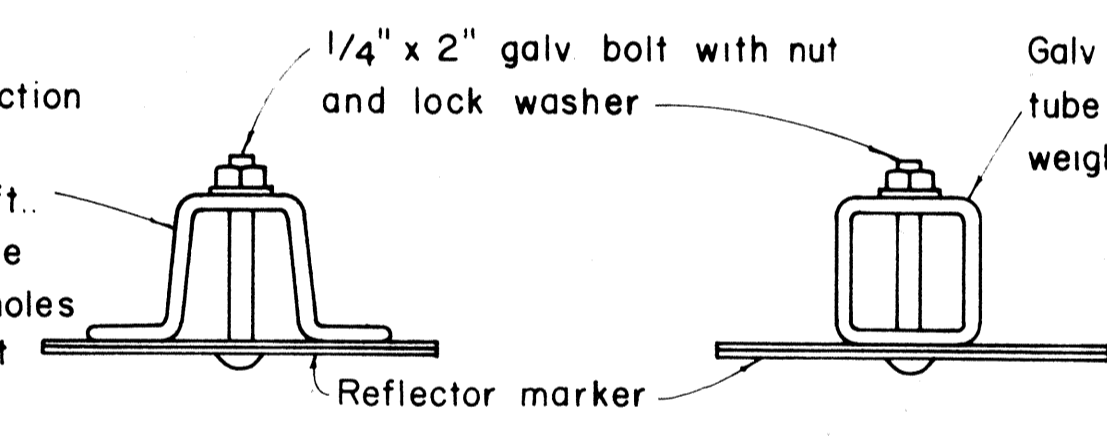
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-(88):13	1971	169	457



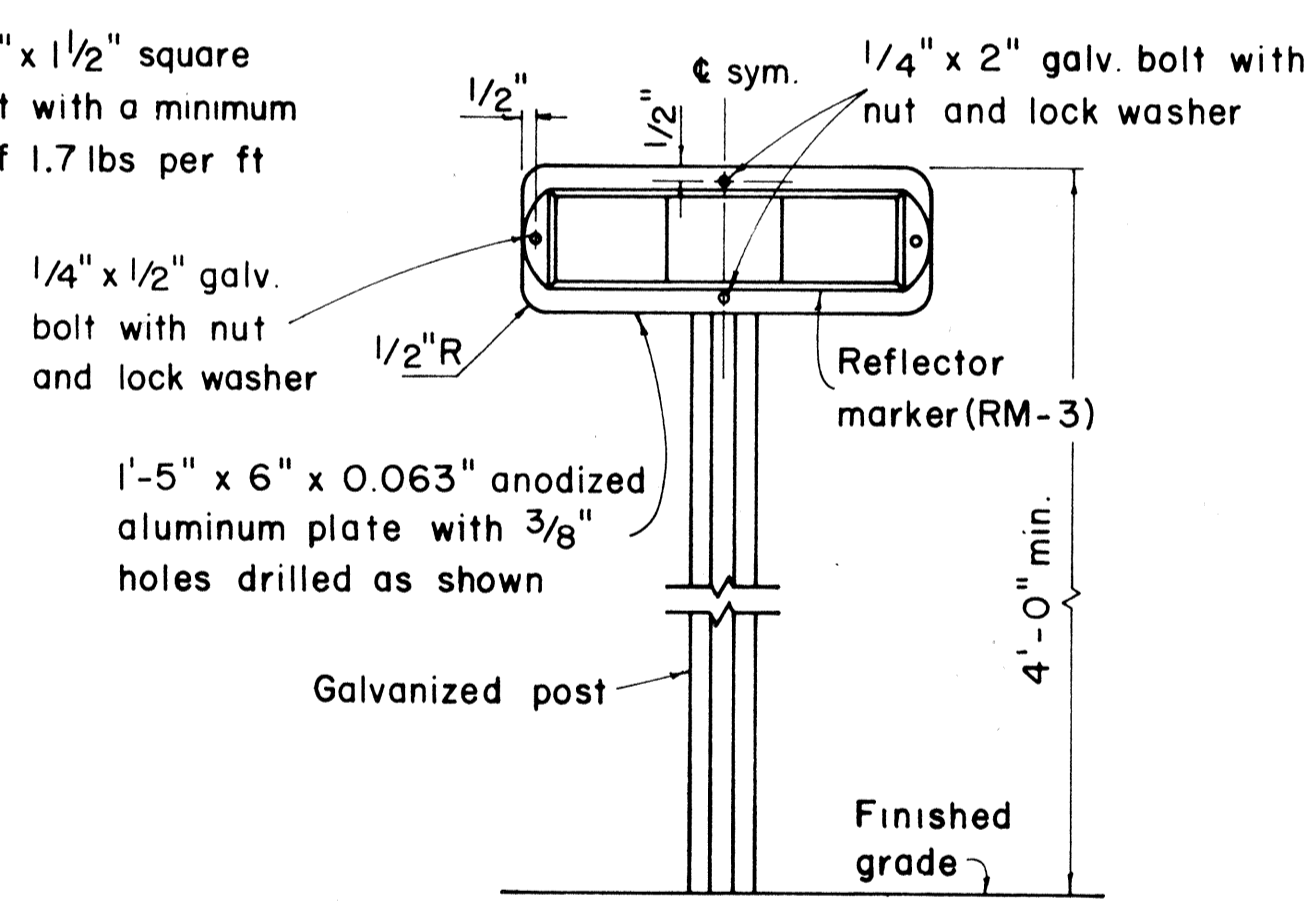
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



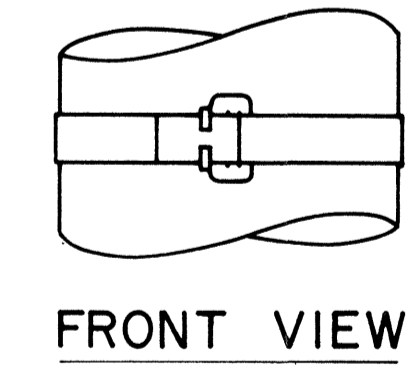
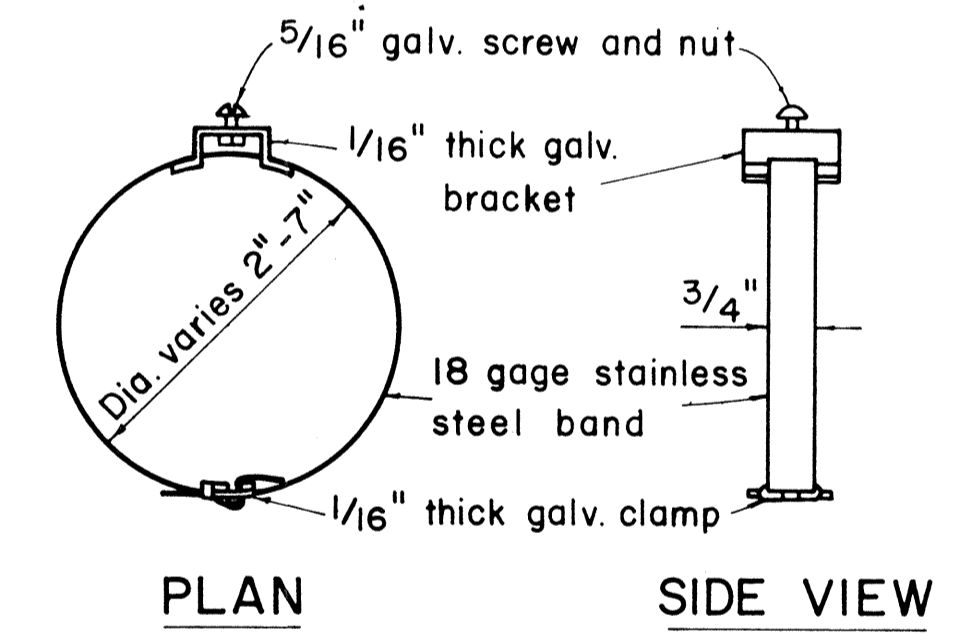
Galv. flanged channel 1/8" x 3/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft shall have a single row of 3/8" holes centered in the web at 1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL HORIZONTAL REFLECTOR MARKER RM-3H

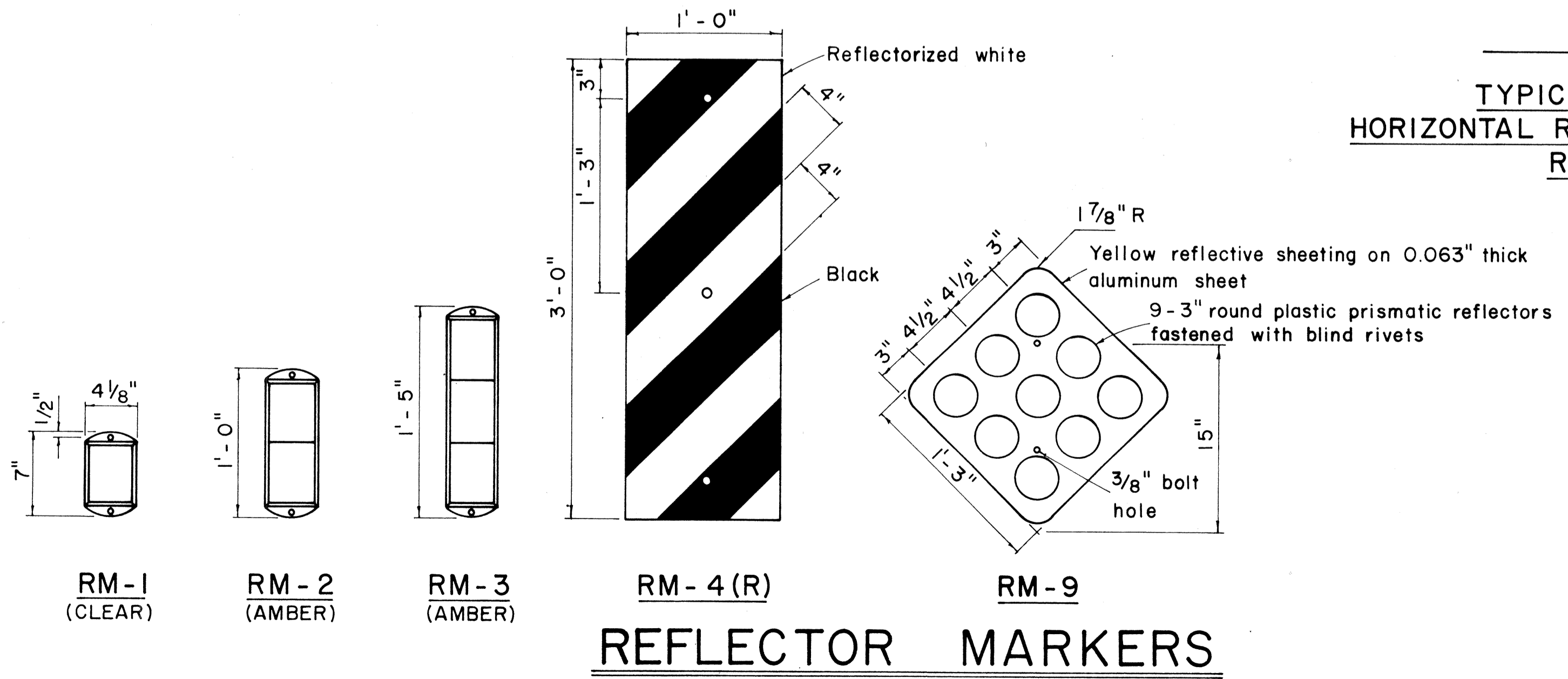


TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

- 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.

APPROVAL RECOMMENDED:
Eiichi Tanaka 12/22/69
TRAFFIC ENGINEER DATE

APPROVED:
Shunji Sato 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE



NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

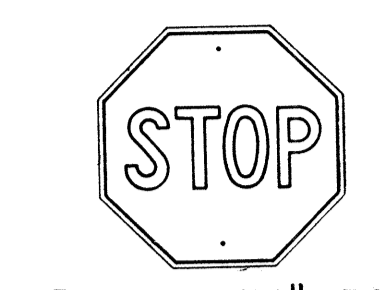
STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale
March, 1968

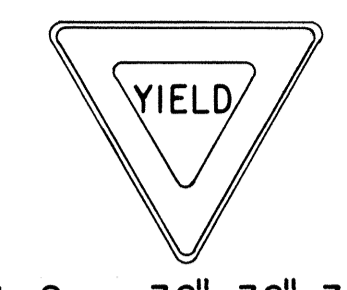
SHEET No. 20 OF 25 SHEETS DT 100

DATE
DESIGNED BY
CHECKED BY
QUANTITIES BY
NO.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(88)13	1972	CO.170	457



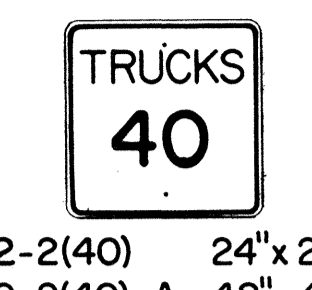
R1-1 30" x 30"
R1-1-A 36" x 36"
4-WAY
R1-3 12" x 6"
R1-3-A 18" x 9"



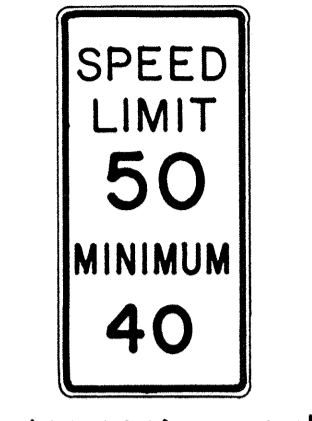
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



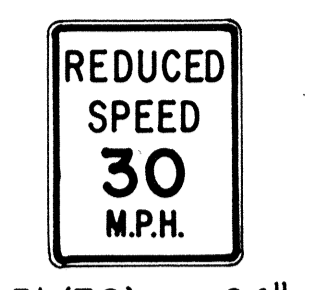
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



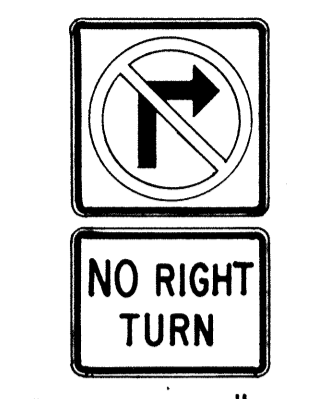
R2-2(40) 24" x 24"
R2-2(40)-A 48" x 48"



R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"



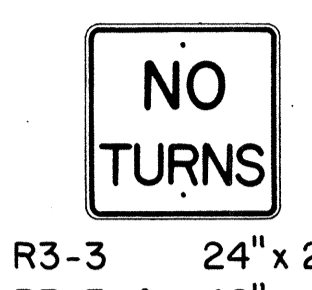
R2-5b(30) 24" x 30"
R2-5b(30)-A 48" x 60"



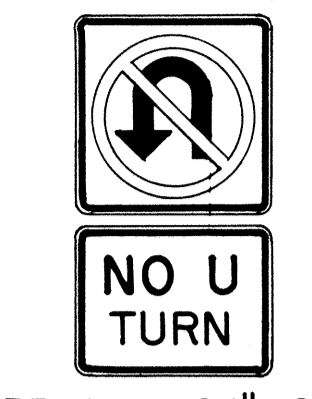
R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"



R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



R3-3 24" x 24"
R3-3-A 48" x 48"



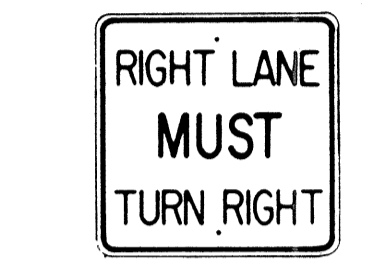
R3-4 24" x 24"
24" x 18"
R3-4-A 48" x 48"
48" x 36"



R3-5(L) 30" x 36"
R3-5(L)-A 48" x 60"



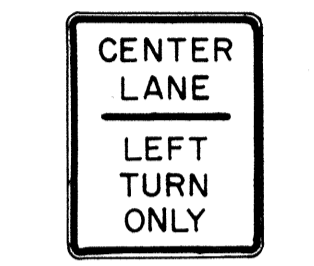
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



R3-7(R) 30" x 30"
R3-7(R)-A 48" x 48"



R3-8(L) 30" x 30"
R3-8(L)-A 36" x 36"
R3-8(L)-B 48" x 48"



R3-9 24" x 30"



R4-1 24" x 30"



R4-2 24" x 30"



R4-3 24" x 30"
R4-3-A 48" x 60"



R4-5 24" x 30"



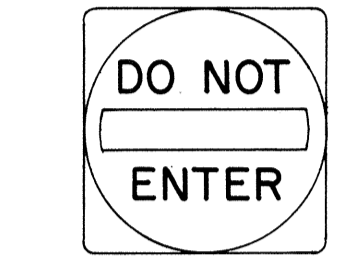
R4-6(500) 24" x 30"



R4-7 24" x 30"
24" x 18"



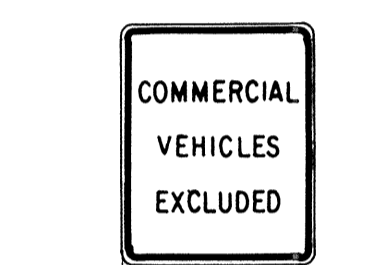
R4-8 24" x 30"
24" x 18"



R5-1 30" x 30"
R5-1-A 48" x 48"



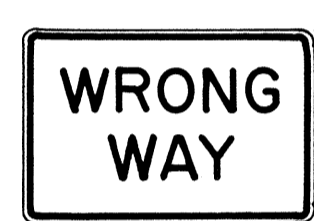
R5-2 24" x 24"
24" x 18"



R5-4 24" x 30"



R5-6 24" x 24"
24" x 18"



R5-9 36" x 24"



R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



R7-1 12" x 18"
R7-1-A 24" x 30"



R7-4 12" x 18"
R7-4-A 24" x 30"



R7-107(R) 12" x 18"



R7-108 12" x 18"



R7-201 12" x 6"
R7-201-A 24" x 12"



R8-1 24" x 30"



R8-2 24" x 30"



R8-3 24" x 30"



R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



R8-6 24" x 30"



R8-7 30" x 24"
R8-7-A 48" x 36"



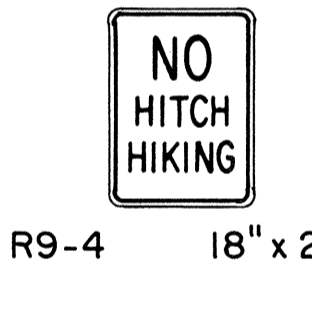
R9-1 18" x 24"



R9-2 12" x 18"



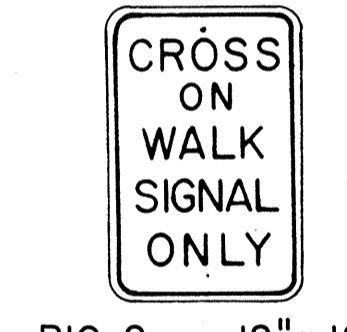
R9-3 12" x 18"



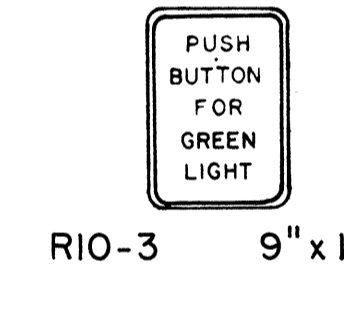
R9-4 18" x 24"



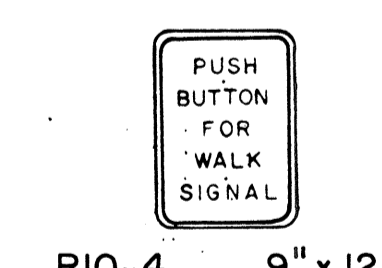
R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



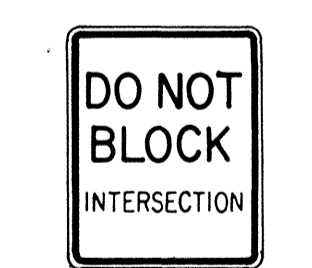
R10-4 9" x 12"



R10-5 24" x 30"



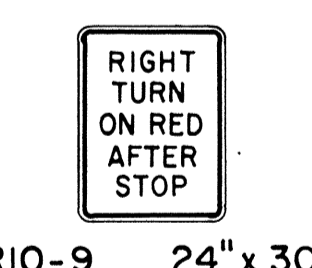
R10-6 24" x 36"



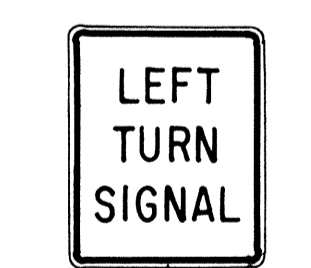
R10-7 24" x 30"



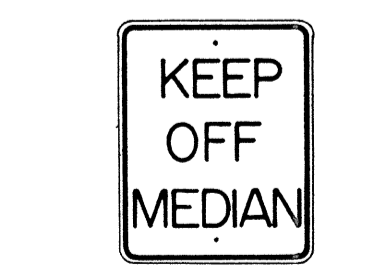
R10-8 24" x 30"



R10-9 24" x 30"



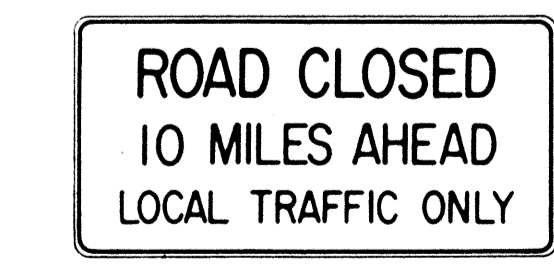
R10-10 24" x 30"



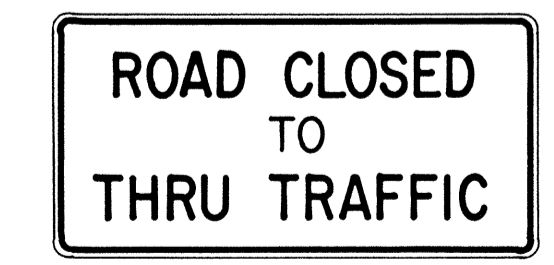
R11-1 24" x 30"



R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
2. All regulatory signs shall be reflectorized unless otherwise specified.
3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

APPROVAL RECOMMENDED:
Etsuki Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
Robert Zolner 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.C.	8/20/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

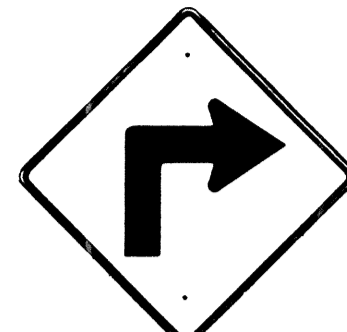
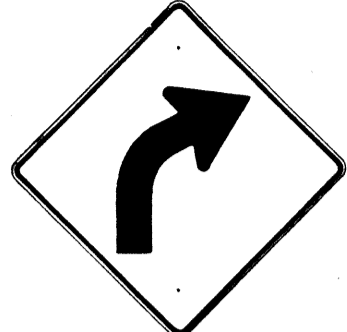
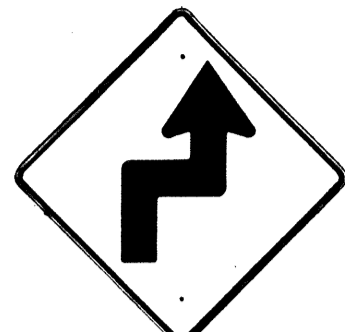
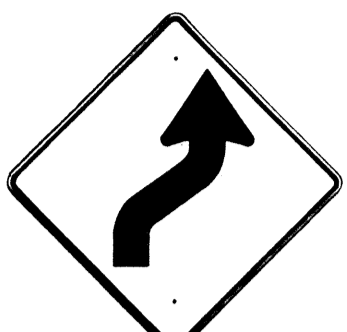

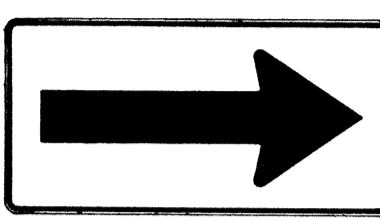
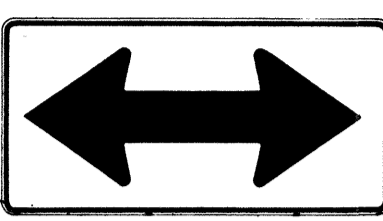
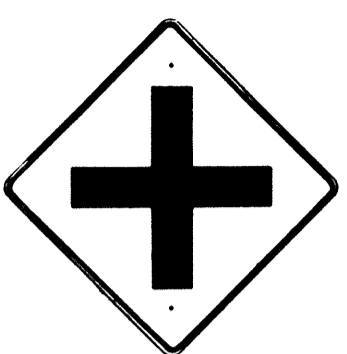
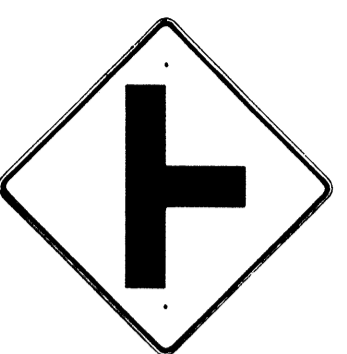
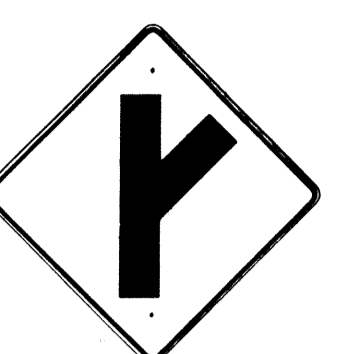
STANDARD DETAILS
REGULATORY SIGNS

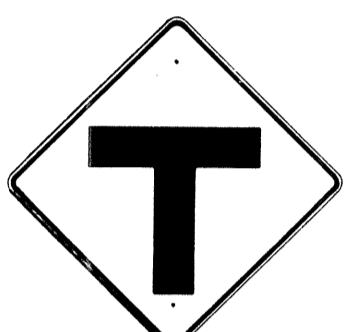



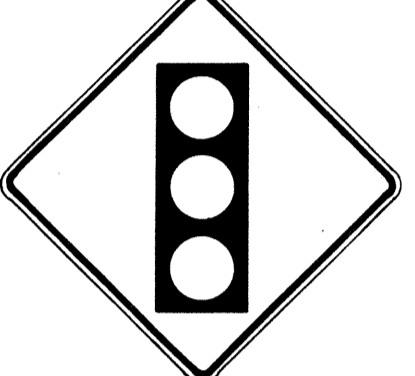

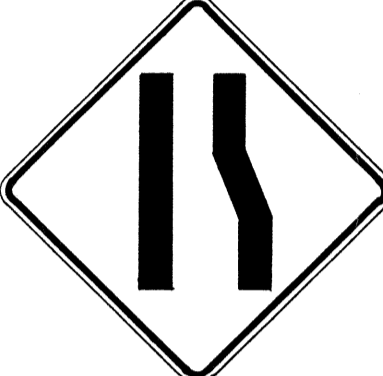



NOT TO SCALE
SHEET No. OF SHEETS DT 101











THIS SHEET SUPERSEDES SHEET NO. 170



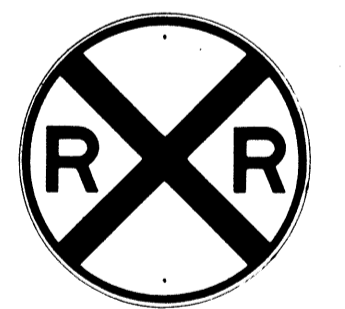




DATE
SURVEY PLOTTED BY
DRAWN BY
DESIGNED BY
CHECKED BY
NOTE BOOK
No.

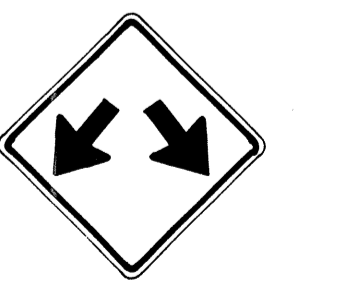


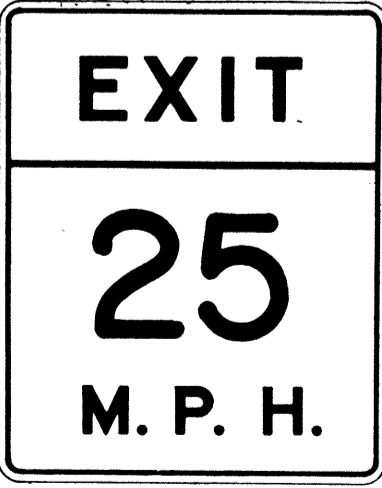
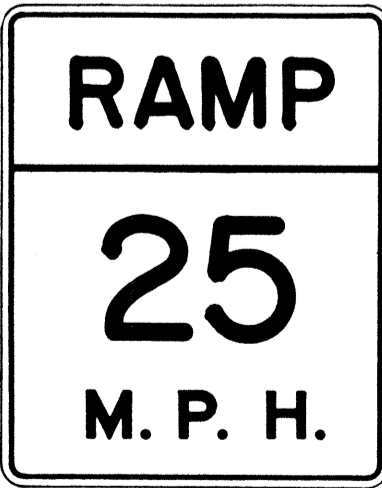


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(88)13	1972	C.O.171	457

 W1-1(R) 30"x30" W1-1(R)-A 48"x48"	 W1-2(R) 30"x30" W1-2(R)-A 48"x48"	 W1-3(R) 30"x30" W1-3(R)-A 48"x48"	 W1-4(R) 30"x30" W1-4(R)-A 48"x48"	 W1-5(R) 30"x30" W1-5(R)-A 48"x48"	 W1-6 48"x24"	 W1-7 48"x24"	 W2-1 30"x30" W2-1-A 48"x48"	 W2-2 30"x30" W2-2-A 48"x48"	 W2-3(R) 30"x30" W2-3(R)-A 48"x48"
---	---	--	---	---	---	---	---	---	---

 W2-4 30"x30" W2-4-A 48"x48"	 W2-5 30"x30" W2-5-A 48"x48"	 W3-1 30"x30" W3-1-A 36"x36"	 W3-2 30"x30" W3-2-A 36"x36"	 W3-3 36"x36" 24"x18"	 W4-1(R) 30"x30" 24"x18" W4-1(R)-A 48"x48" 24"x18"	 W4-2(R) 36"x36" W4-2(R)-A 48"x48"	 W5-1 36"x36"	 W5-2 30"x30" W5-2-A 36"x36"	 W5-3 36"x36"
---	---	--	---	--	---	---	---	---	---

 W6-1 36"x36" 24"x18"	 W6-2 36"x36" 24"x18"	 W6-3 30"x30" 24"x18" W6-3-A 36"x36" 24"x18" W6-3-B 48"x48" 24"x18"	 W7-1 30"x30" 24"x18" W7-1-A 36"x36" 24"x18"	 W7-2 24"x18"	 W8-1 30"x30" W8-1-A 36"x36"	 W8-2 30"x30" W8-2-A 36"x36"	 W8-3 30"x30" W8-3-A 36"x36"	 W8-4 30"x30" W8-4-A 36"x36"	 W8-5 30"x30" 24"x18" W8-5-A 36"x36" 24"x18"
---	---	--	--	--	--	--	--	--	--

 W9-1(R) 30"x30" W9-1(R)-A 36"x36" W9-1(R)-B 48"x48"	 W9-2(L) 36"x36" W9-2(L)-A 48"x48"	 W10-1 36" Diameter	 W11-1 30"x30" 24"x18" W11-1-A 36"x36" 24"x18"	 W11-2 30"x30" 24"x18" W11-2-A 36"x36" 24"x18"	 W11-4 30"x30" 24"x18" W11-4-A 36"x36" 24"x18"	 W11-5 30"x30" 24"x18" W11-5-A 36"x36" 24"x18"
--	---	--	---	---	---	---

 W12-1 24"x24" W12-1-A 36"x36" W12-1-B 48"x48"	 W12-2(12'-6") 36"x36" 24"x18"	 W13-1(25) 18"x18" W13-1(25)-A 24"x24"	 W13-2(25) 48"x60"	 W13-3(25) 48"x60"	 W14-1 30"x30"	 W14-3 36"x48"x48"
--	--	--	--	--	--	--

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
2. All warning signs shall be reflectorized unless otherwise specified.
3. All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
5. Signs prefixed with "CW" on the plans shall indicate orange and black construction signs.

APPROVAL RECOMMENDED:
Eishi Tanaka 3/17/72
TRAFFIC ENGINEER DATE

APPROVED:
Hubert Belsin 3-20-72
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 102 Approved 12-30-69	H.T.	3/20/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

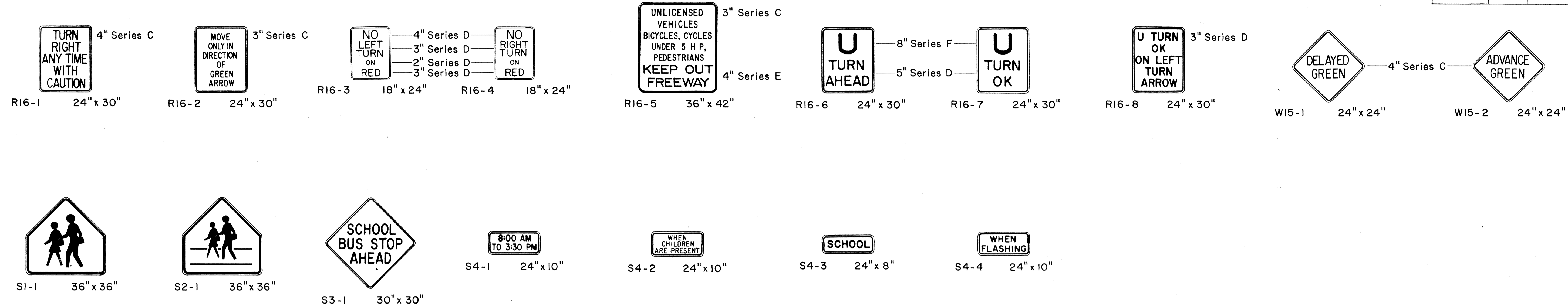
STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

THIS SHEET SUPERSEDES SHEET NO. 171

DESIGNED BY: _____
CHECKED BY: _____
DATE: _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(88)13	1972	C.O.172	457



GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
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.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

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

APPROVAL RECOMMENDED:
Eishi Tanaka 3/17/72
 TRAFFIC ENGINEER DATE

APPROVED:
Robert Zalside 3-20-72
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 103 Approved 12-30-69	H.C.	3/20/72

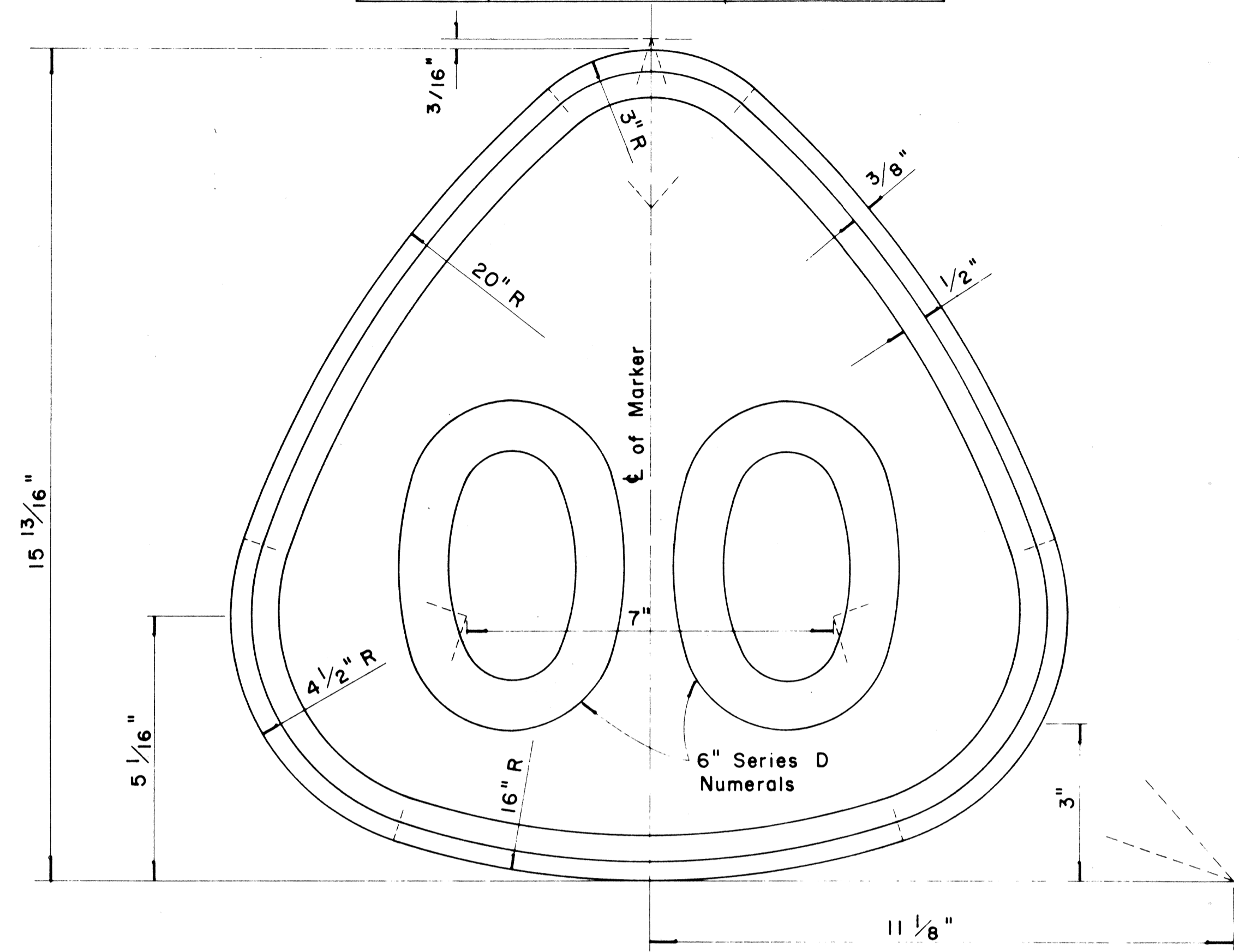
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

NOT TO SCALE
 SHEET No. OF SHEETS DT 103

THIS SHEET SUPERSEDES SHEET NO. 172

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**

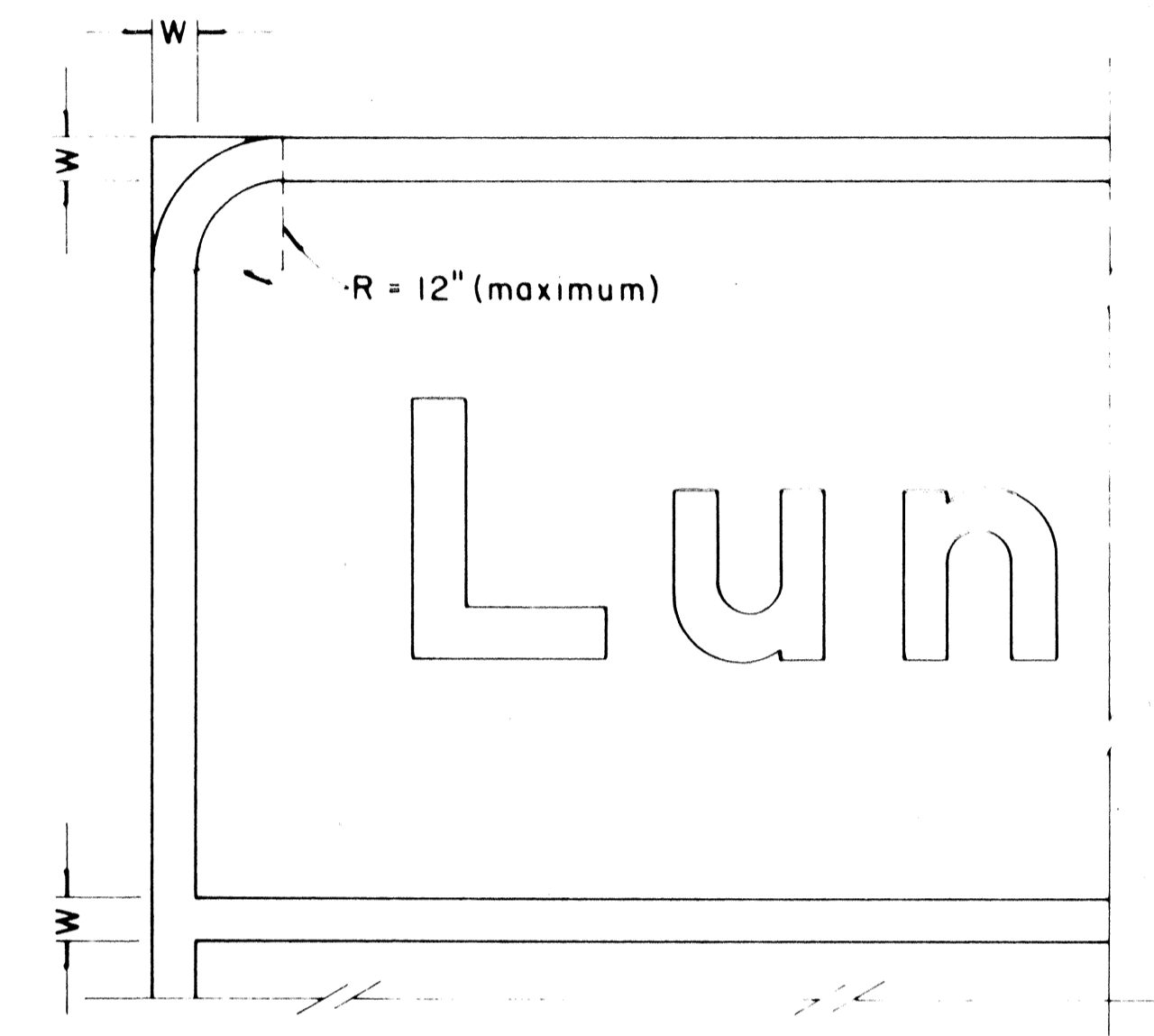
Scale: Half Size

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, 1966.
3. All Cut-outs shall be fastened on sign panel with Aluminum blind rivets. See Standard Specification.

DATE	.....
SURVEY PLOTTED BY	.....
DRAWN BY	.....
TRACED BY	.....
CHECKED BY	.....
DESIGNED BY	.....
NOTED BY	.....
NO.	.....

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.

APPROVAL RECOMMENDED:

Etschi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

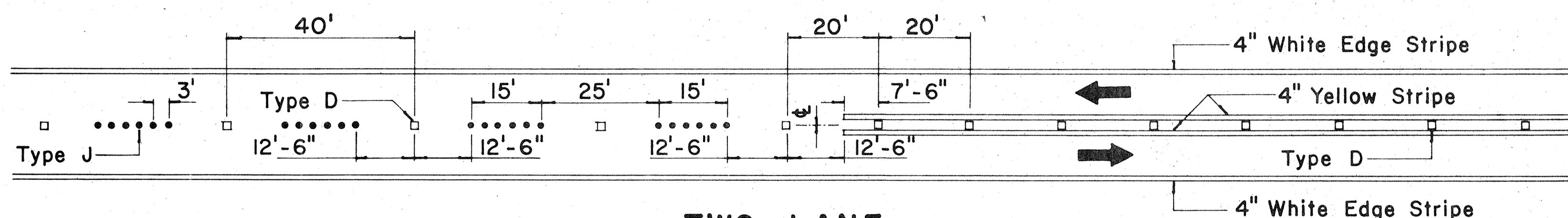
John S. Slat 12/30/69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

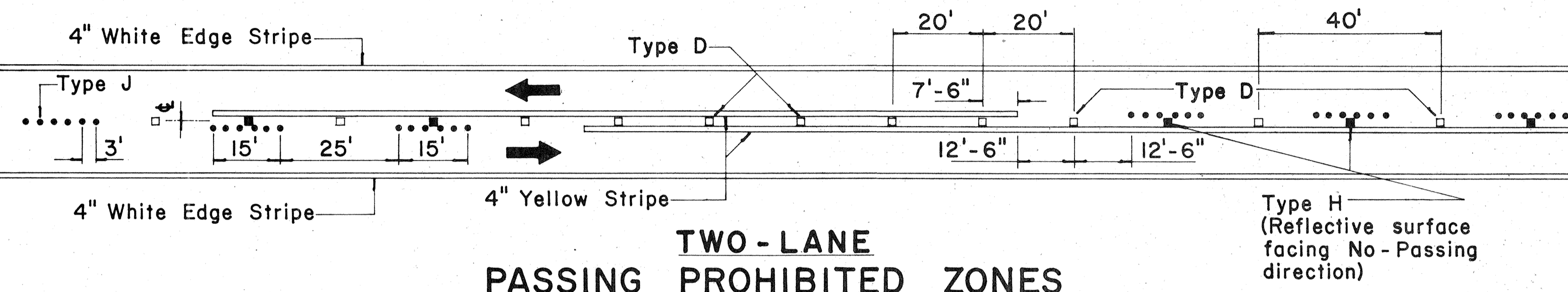
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DESTINATION & EXPRESSWAY SIGNS
STATE ROUTE MARKER
AND
BORDER DETAIL

Scale: As Shown
SHEET No. 24 OF 25 SHEETS DT 209

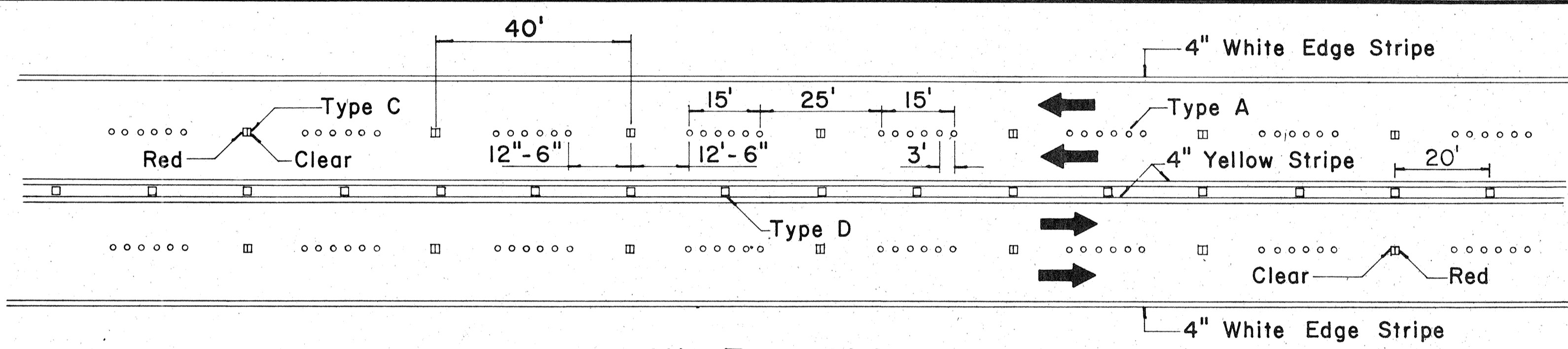
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-1(88)-13	1971	174	457



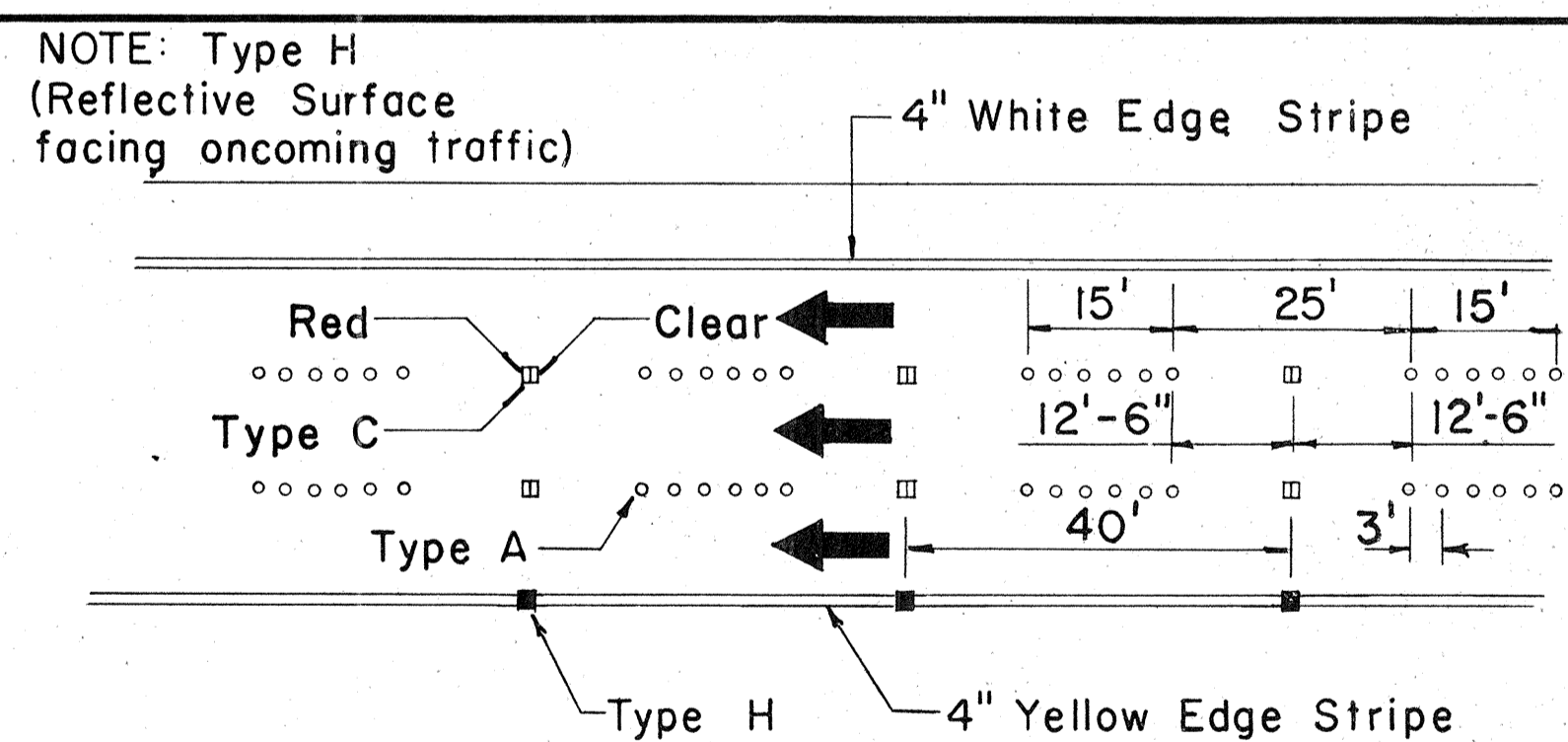
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



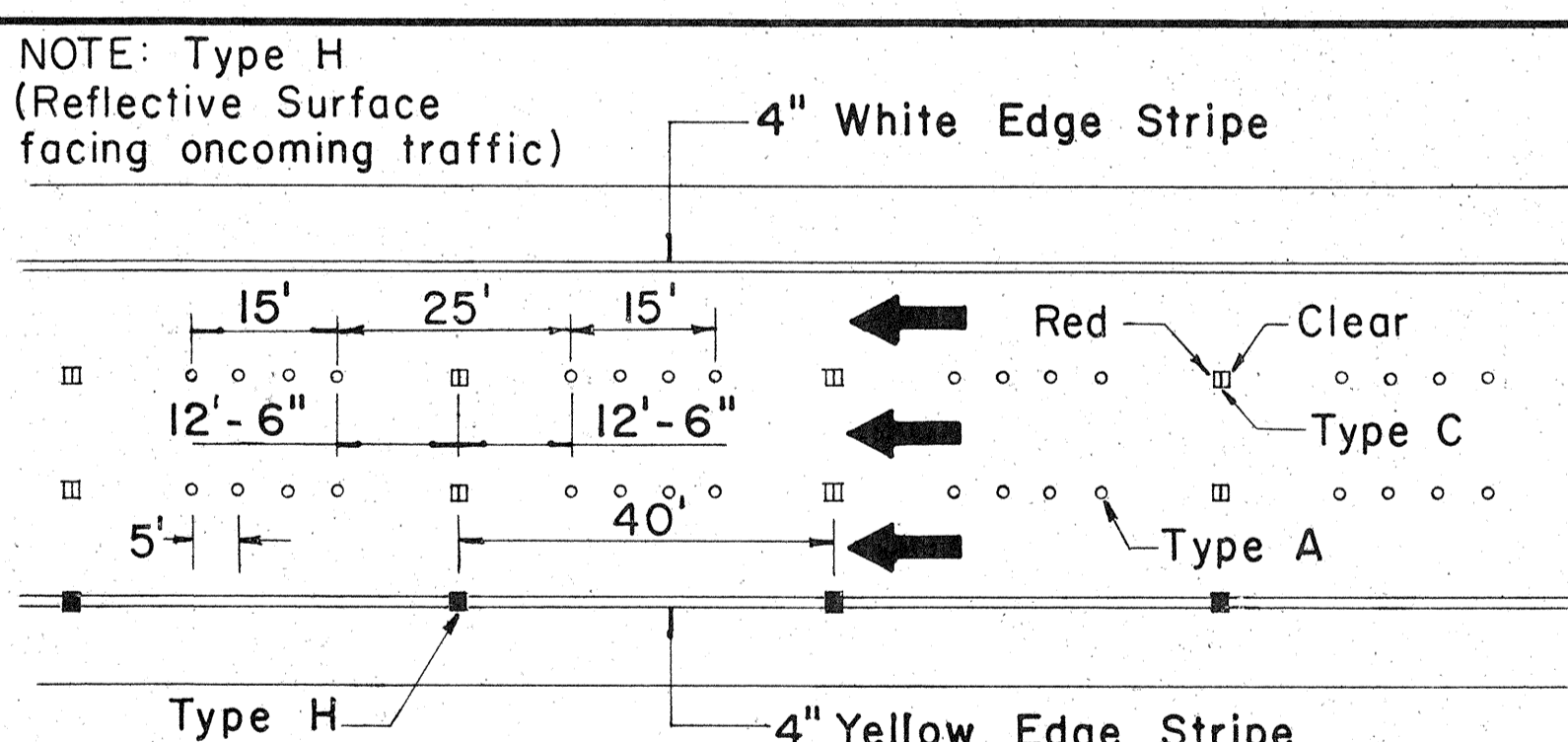
**TWO-LANE
PASSING PROHIBITED ZONES**



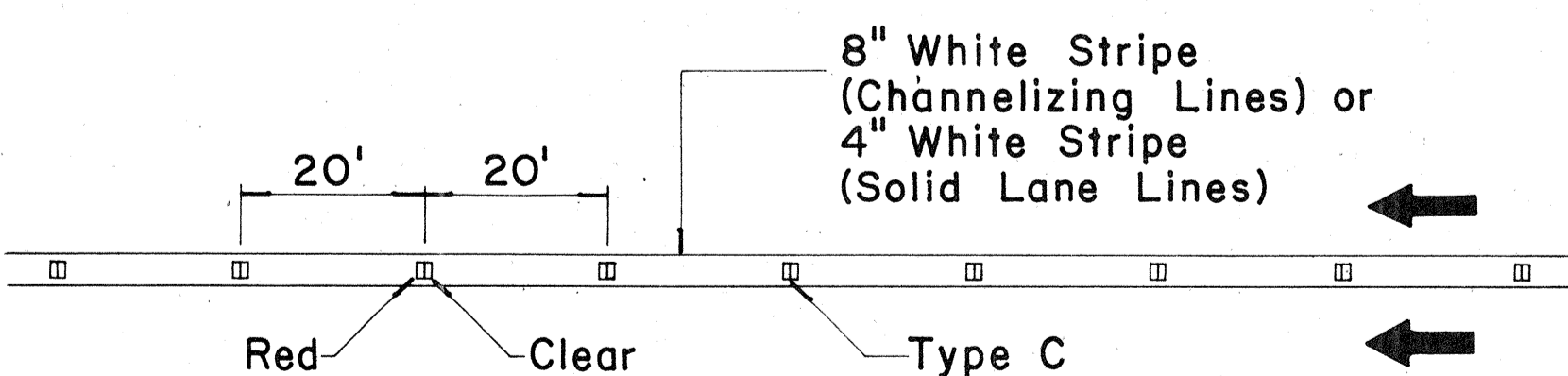
**MULTI-LANE
LANE LINES AND CENTER LINE**



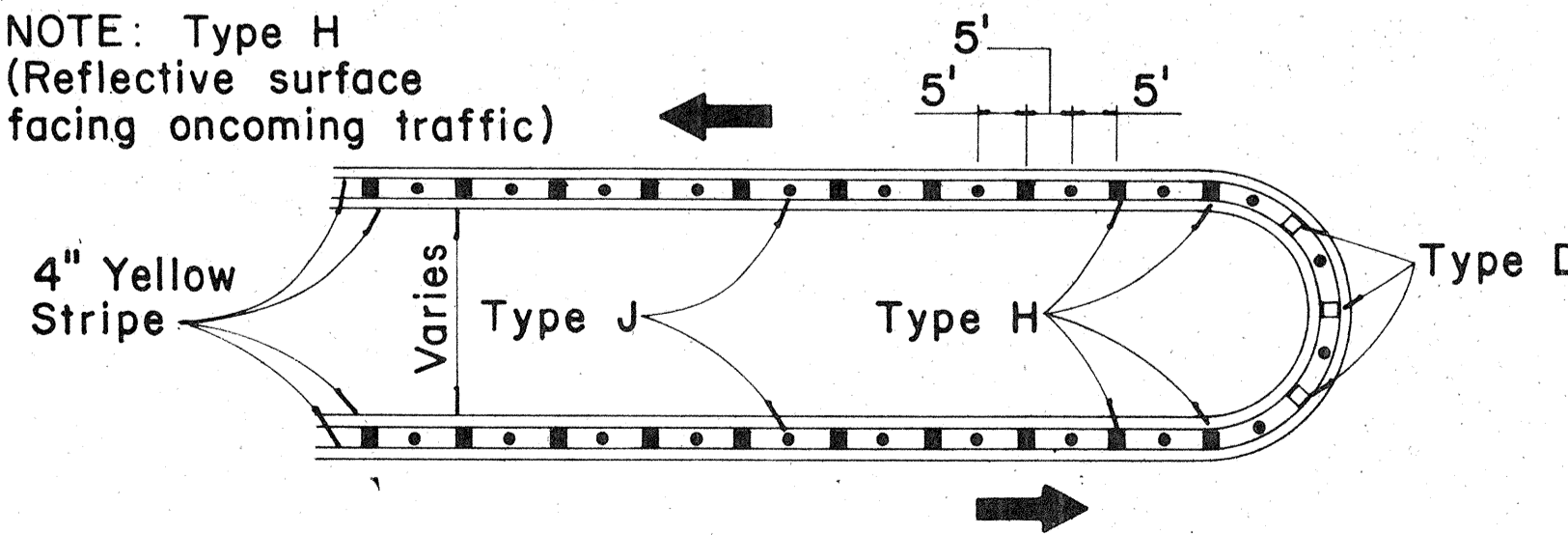
DIVIDED HIGHWAY LANE LINES



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



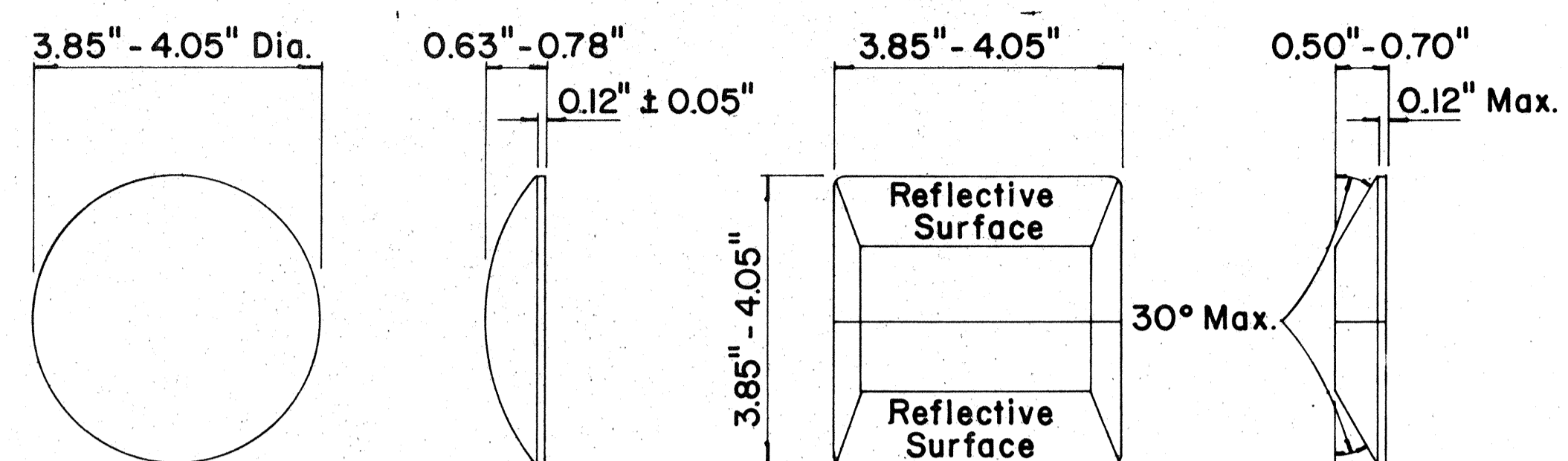
MEDIAN NOSE DELINEATION

TWO - LANE

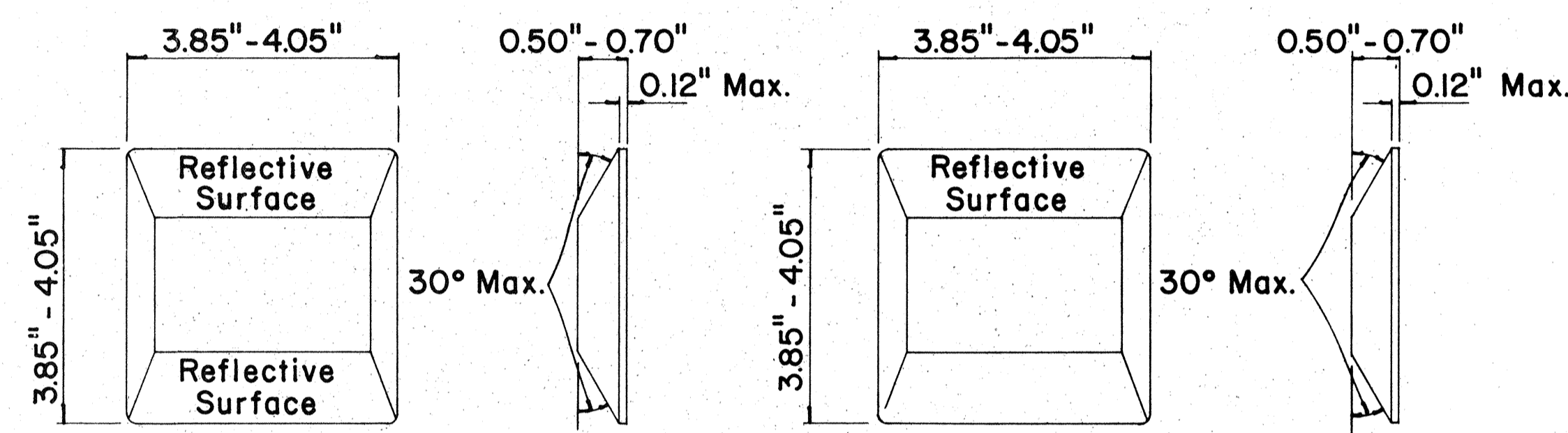
MULTI - LANE

DIVIDED HIGHWAY
AND
FREEWAY

MISCELLANEOUS



**TYPE A
NON-REFLECTIVE WHITE MARKER**
**TYPE J
NON-REFLECTIVE YELLOW MARKER**
**TYPE C
RED-CLEAR REFLECTIVE MARKER**



**TYPE D
TWO-WAY YELLOW REFLECTIVE MARKER**
**TYPE H
ONE-WAY YELLOW REFLECTIVE MARKER**

GENERAL NOTES

1. Painted stripes to be done by Contractor unless otherwise specified.

LEGEND

- Type A
- Type C
- Type D
- Type H
- Type J

APPROVAL RECOMMENDED:
E. Ichi Tanaka 11/18/71
TRAFFIC ENGINEER DATE

APPROVED:
Hubert S. Sato 11/18/71
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Add reflector marker in each line gap.	H.C.	10-21-72
2	Revised General Notes.	H.C.	10-21-72
3	Change 4" white edge stripe to 4" solid yellow edge stripe to left edge of a travel path and Add Type H Reflector Marker	H.C.	5-22-74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS**

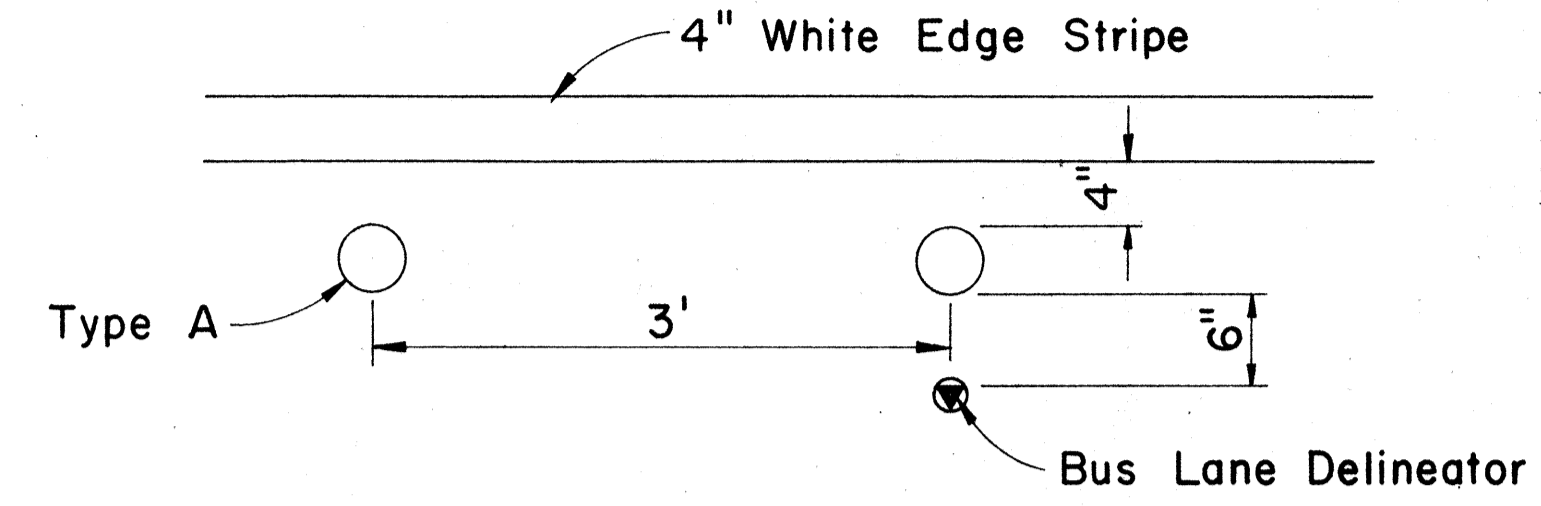
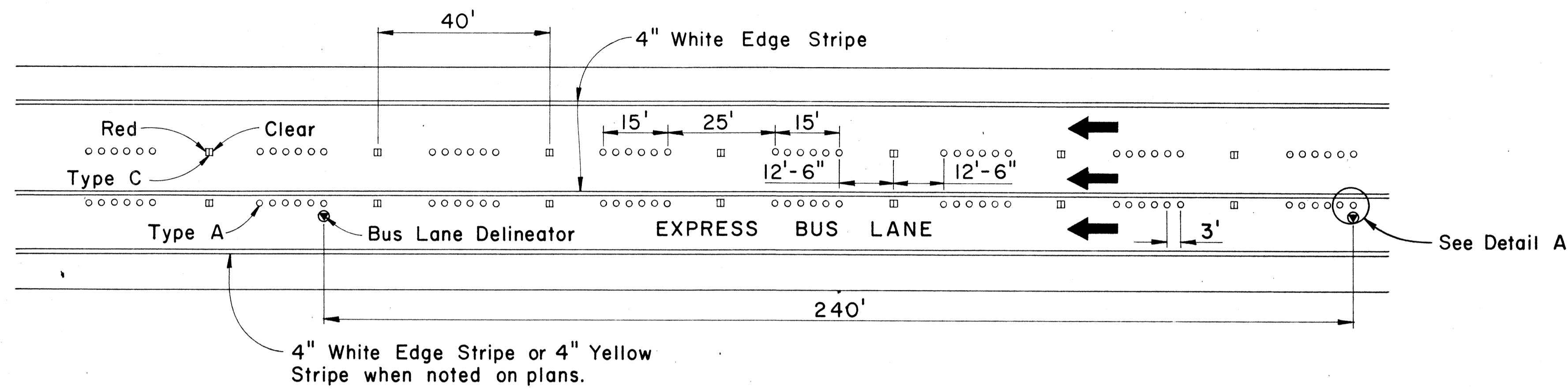
INTERSTATE ROUTE H-1
PROJ. NO. I-41-1(88)-13

Not to Scale October 1971
SHEET No. OF SHEETS DT-300

DATE	.....
SURVEY PLOTTED BY	.....
PLAN CHECKED BY	.....
DESIGNED BY	.....
QUANTITIES BY	.....
CHECKED BY	.....
ORIGINAL PLAN NO.	.....

C.O. 174

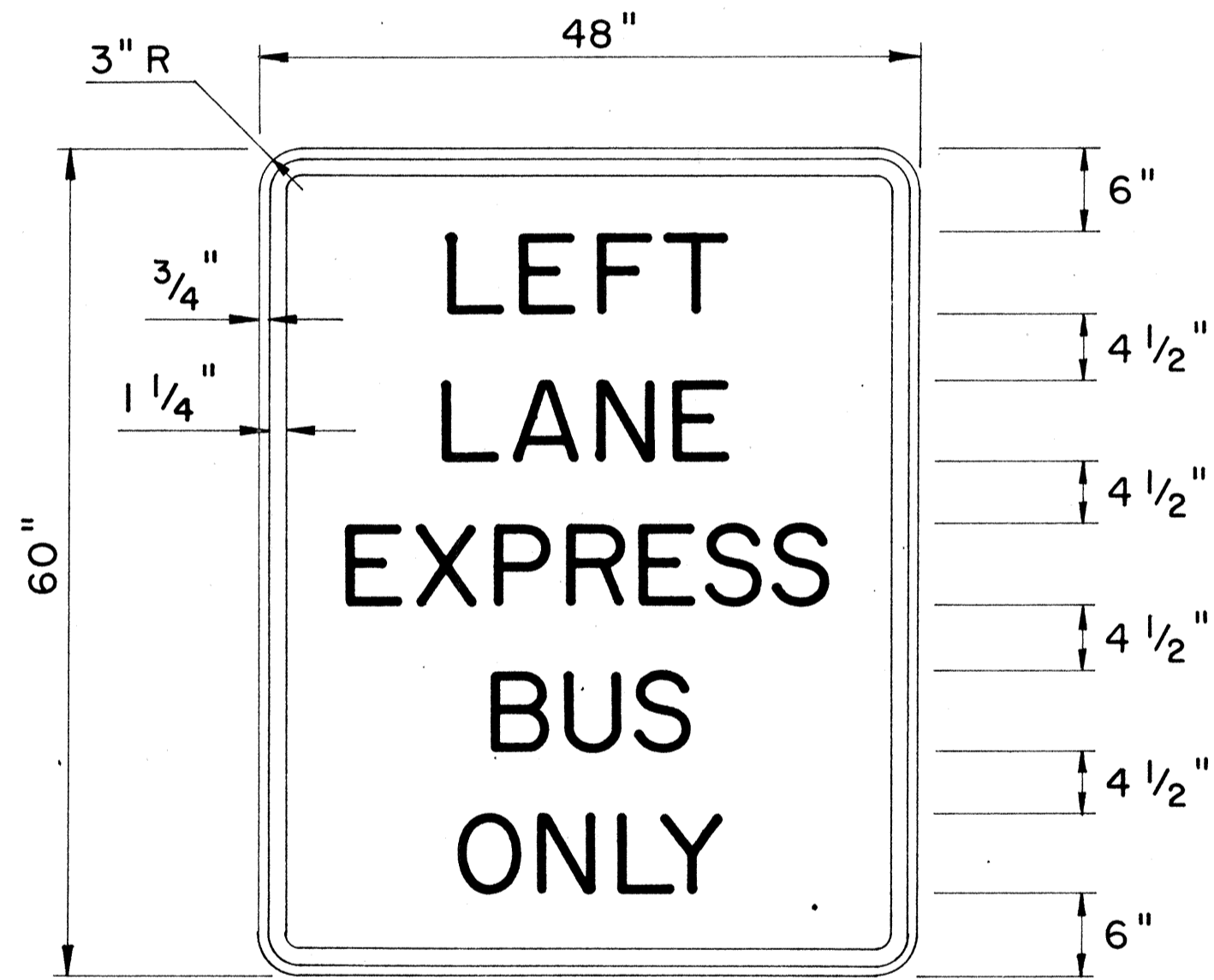
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



DETAIL A
Scale: 1" = 1'-0"

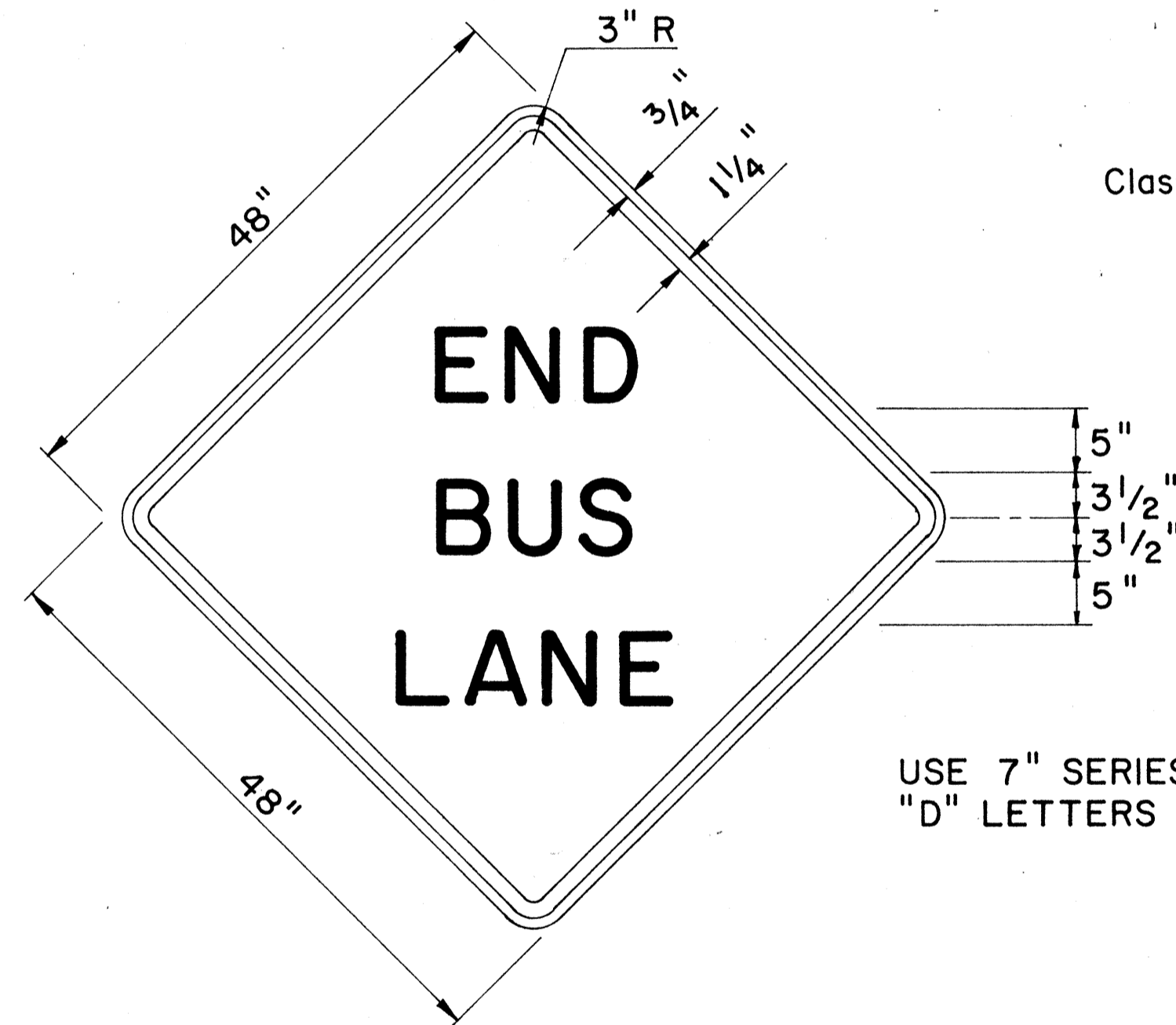
FREWAY LANE LINES WITH EXPRESS BUS LANE

Not To Scale



R17-2

USE 6" SERIES "D" LETTERS



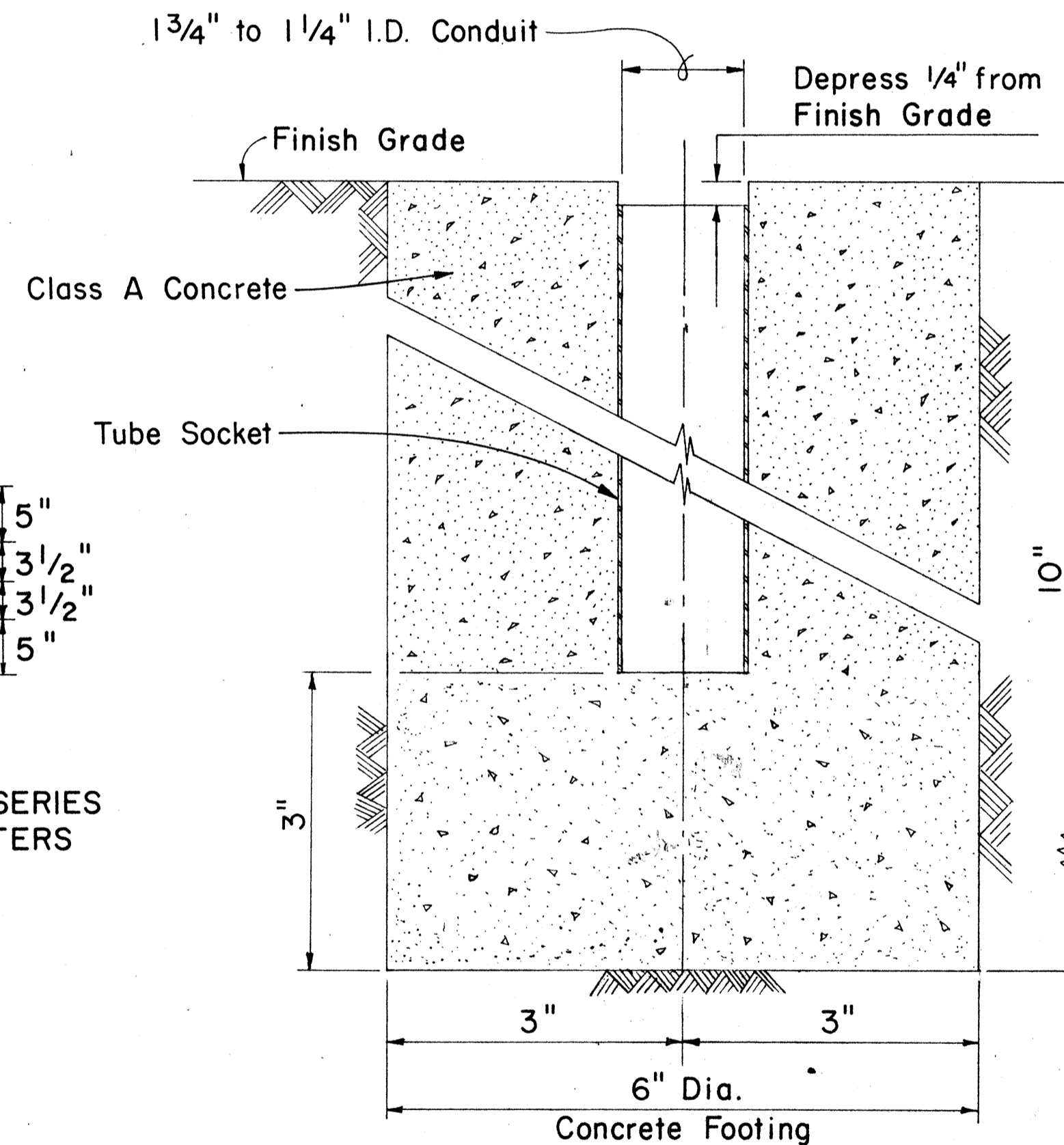
W15-3

USE 7" SERIES "D" LETTERS

MISCELLANEOUS REGULATORY & WARNING SIGNS

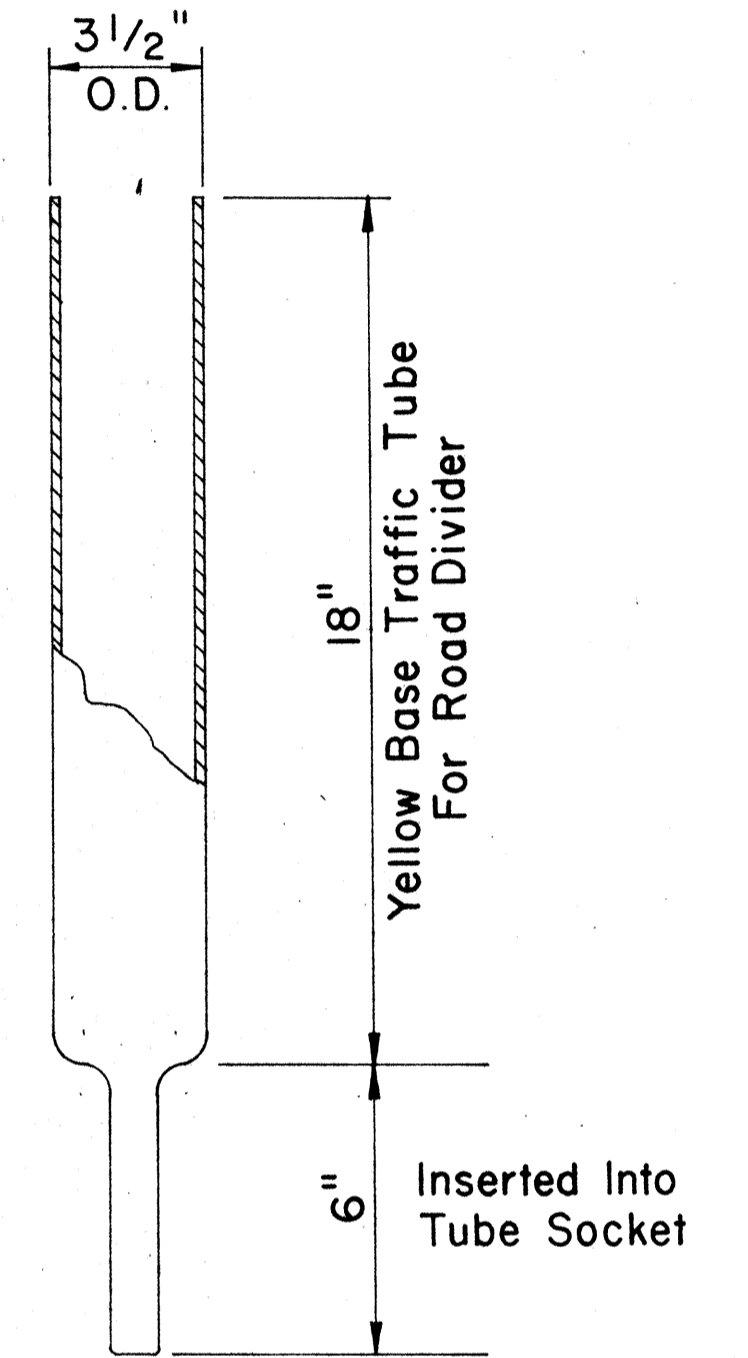
GENERAL NOTES:

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
2. Regulatory Sign (R17-2) and Warning Sign (W15-3) shall be reflectorized unless otherwise specified and shall have 3/8" bolt holes drilled at appropriate locations.
3. For Mounting Details see Standard Detail Sheet (DT-100) and Detail on sheet no. C.O.174 S-2
4. Contractor to check for snug fit of Bus Lane Delineator in Tube Socket prior to installation.



TUBE SOCKET

Scale: 3/4" = 1"



DETACHABLE BUS LANE DELINEATOR

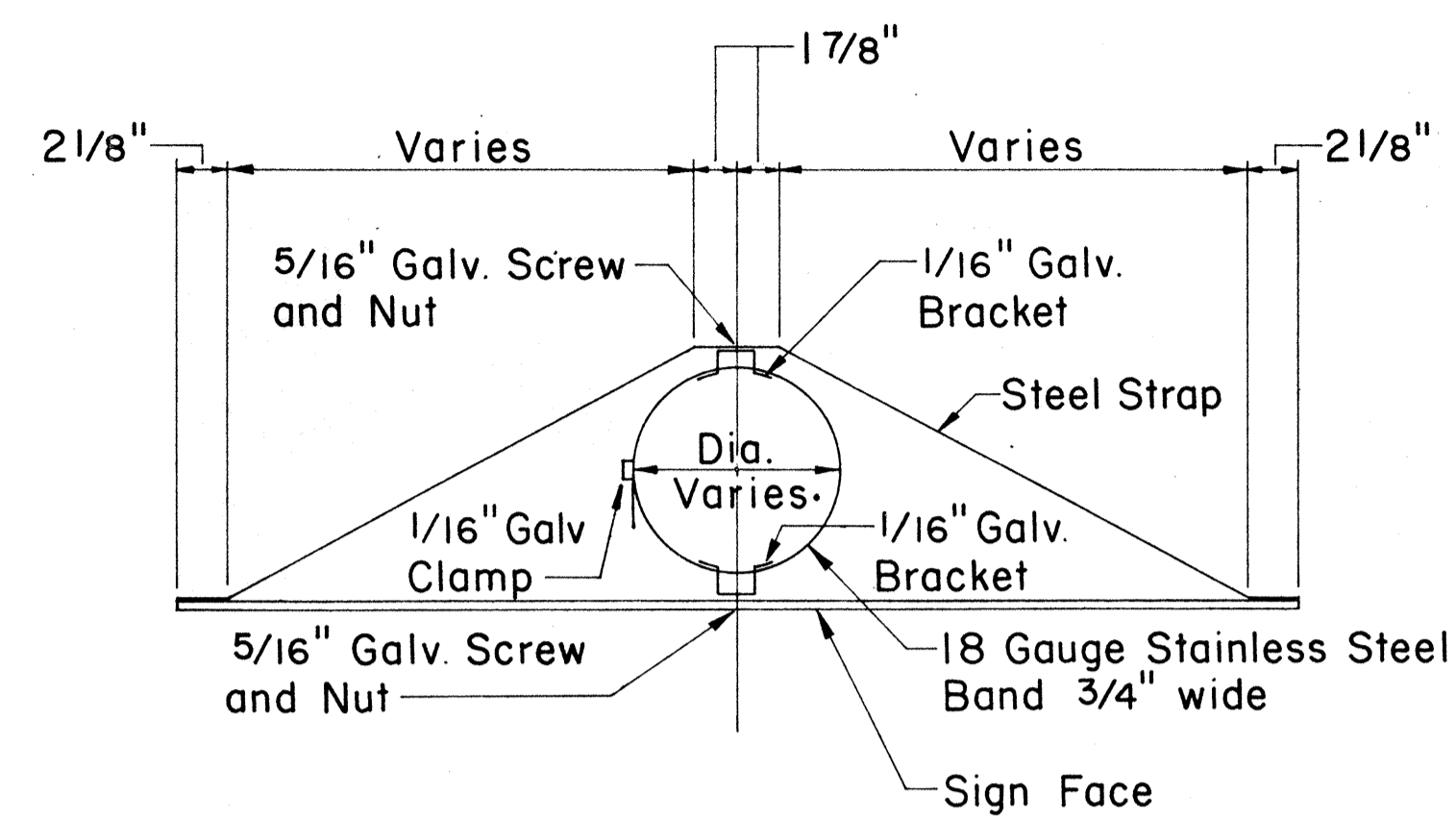
Scale: 1/4" = 1"

DATE	
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
DESIGNED BY	
FRACED BY	
PLAN	
NO.	

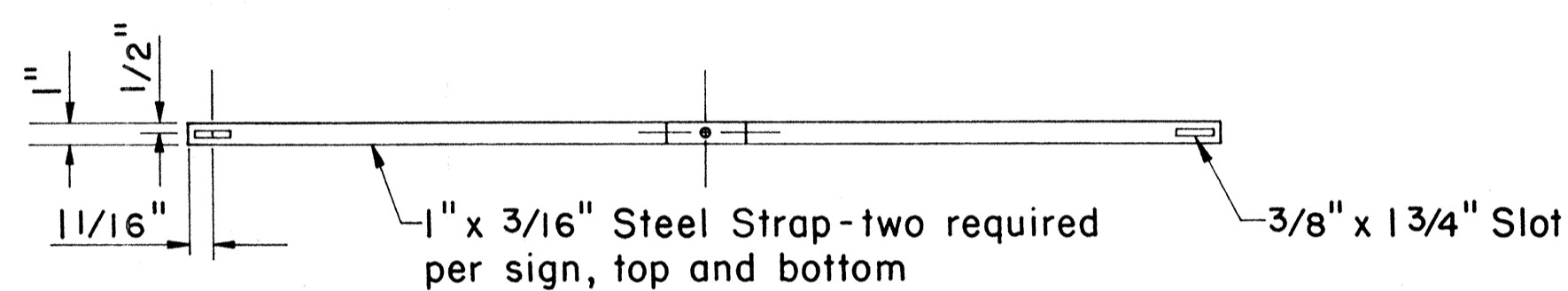
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**MISC. PAVEMENT MARKING
AND SIGNING DETAILS**
INTERSTATE ROUTE H-1
PROJECT No. I-H1-1(88):13
Scale: As Noted
SHEET No. 25A OF 25 SHEETS

C.O.174 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



TOP



FRONT

MOUNTING DETAIL FOR SIGNS RI7-2 AND WI5-3

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

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

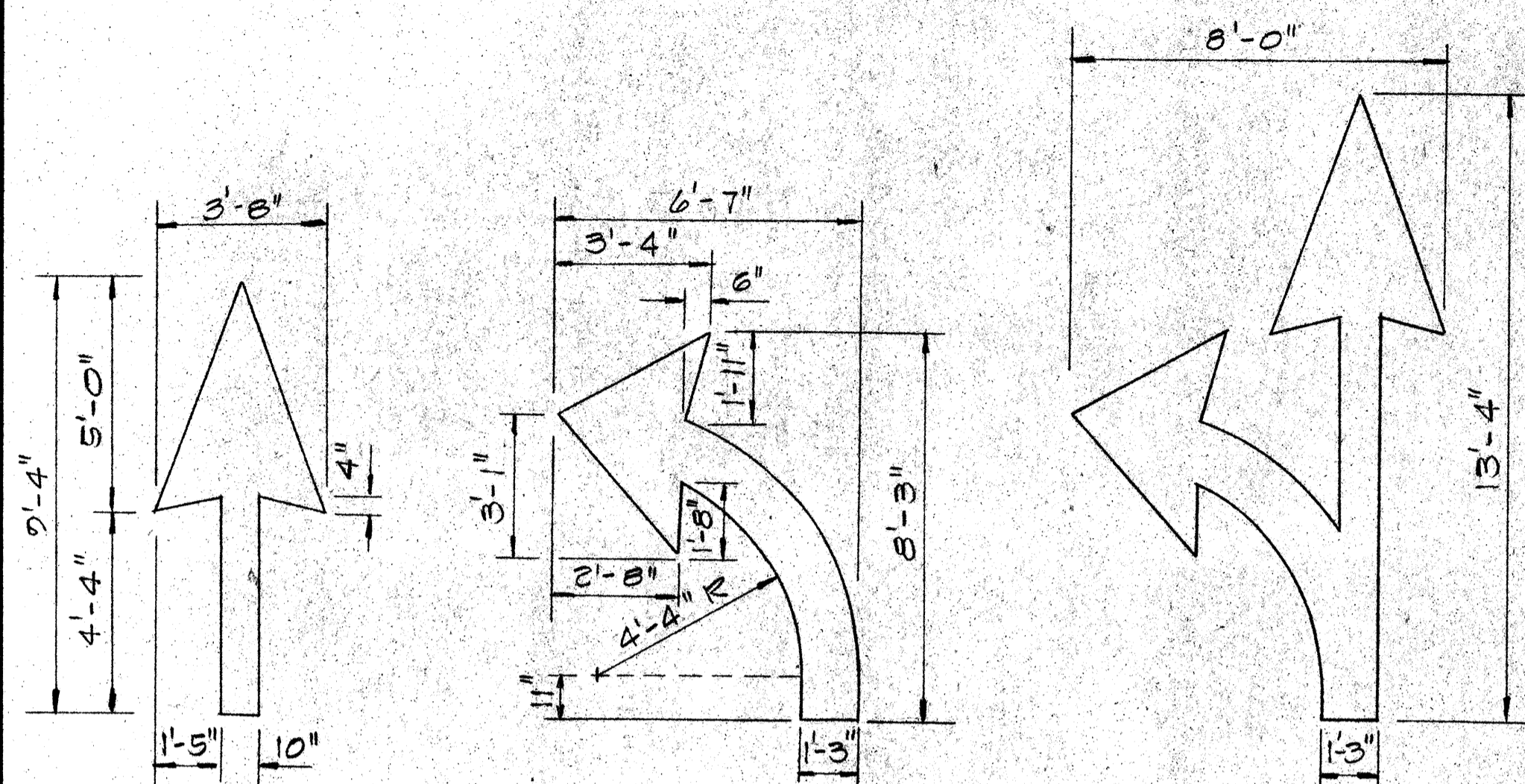
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS
SIGNING DETAIL

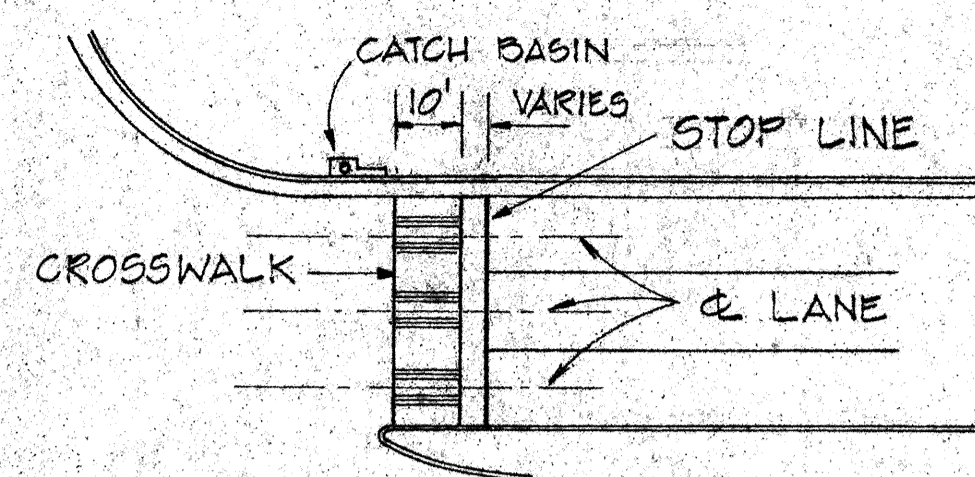
INTERSTATE ROUTE H-1
PROJECT No. I-HI-1(88):13
SCALE: AS NOTED

SHEET No. 25 OF 25 SHEETS

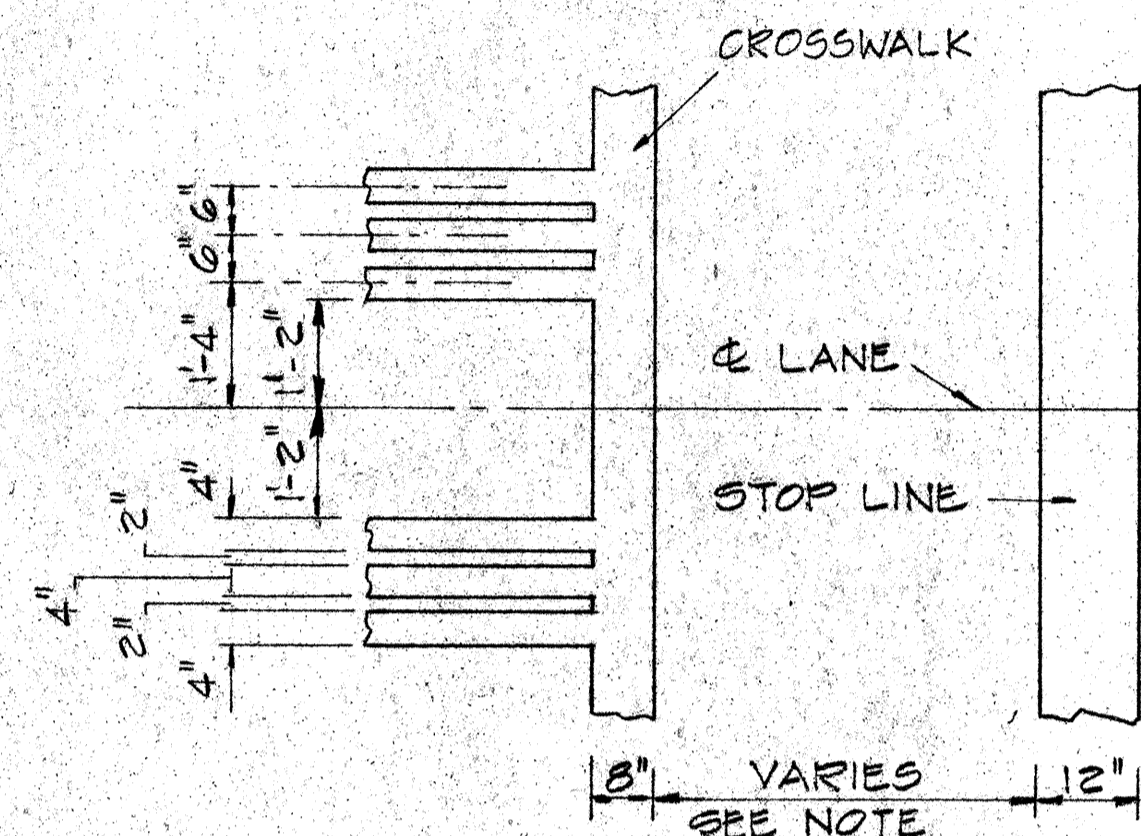
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-1(88):13	1971	1745-3	457



PAVEMENT ARROWS
NOT TO SCALE

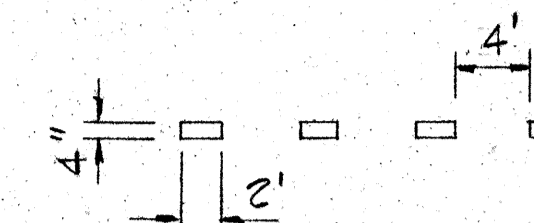


NOTE: SET ALL CROSSWALKS AWAY FROM CATCH BASINS

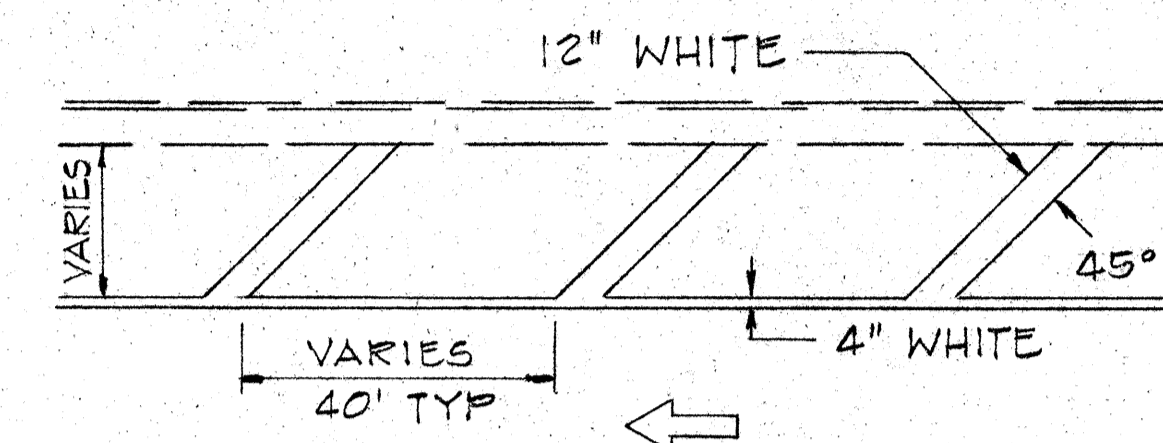


CROSSWALK & STOP LINE
NOT TO SCALE

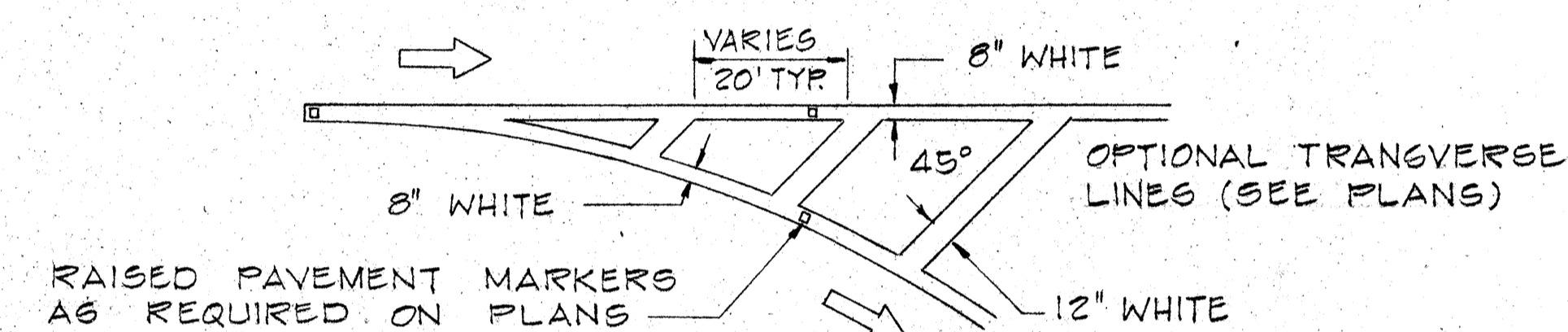
NOTE: STOP LINES AT UNSIGNALIZED INTERSECTIONS AND AT MIDBLOCK CROSSWALKS SHALL BE PLACED A MINIMUM OF 10 FEET BEFORE THE CROSSWALK, HOWEVER A DISTANCE OF 20 FEET IS PREFERABLE. STOP LINES AT SIGNALIZED INTERSECTIONS SHALL BE PLACED A MINIMUM OF FOUR FEET BEFORE THE CROSSWALK.



4" WHITE GUIDE LINE
NOT TO SCALE



TRANSVERSE SHOULDER MARKING
NOT TO SCALE



CHANNELIZING ISLAND
NOT TO SCALE

GENERAL NOTES - PAVEMENT MARKINGS

1. Pavement Markings shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and as shown on the plans.
2. Layout of pavement markings and striping shall be done by the Contractor. Contractor shall check layout of markers & striping with the Engineer prior to performing work.
3. For additional pavement marking details see plan sht #DT 300.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS OF PAVEMENT MARKINGS

INTERSTATE ROUTE H-1
PROJ. NO. I-HI-1(88):13

SCALE: AS SHOWN DATE:

SHEET NO. OF SHEETS

1745-3

C.O. 1745-3

DATE	
SURVEY PLOTTED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANIFIED BY	
CHECKED BY	
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