

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	42	114

## GENERAL NOTES

### A. Expressway (E) & Directional (DIR) Signs

1. Signs shall conform to the latest editions and amendments of the following FHWA publications:
  - a. "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD),
  - b. "Standard Highway Signs", and
  - c. "Standard Alphabets for Highway Signs".

#### 2. Letter Size

- a. When letters are all uppercase, use Series "E".
- b. When initial uppercase letter is used in conjunction with lowercase letters, use Series "E"(M) for uppercase letter.

3. Borders shall be 2-inches wide unless otherwise noted, and corner radii shall be approximately one-eighth of the lesser side dimension of the sign. The maximum corner radius shall be 12-inches.

4. Interstate Route Marker symbols shall conform to details shown on the plans and as specified in the MUTCD.

### B. Expressway (E) Signs

1. New sign panels shall be laminated aluminum or extruded aluminum.
2. Overlays shall be as specified in Section 621 of the Special Provisions.
3. The Contractor shall verify the locations and dimensions of existing Expressway Sign panels and supports.
4. The amount and center-to-center spacing of Expressway Sign Luminaires shall be in accordance with the luminaire manufacturer's instructions. Maximum center-to-center spacing of luminaires shall be 10-feet.
5. The clearance between the highest point on the pavement and the lowest point on the overhead sign luminaires shall be 17 feet.
6. The final positions of sign panels above the roadway shall be approved by the Engineer.
7. For details of Exit Number Panels, see sheet no. T21.

### C. Directional (Dir) Signs

1. Legends and borders shall be white reflective sheeting on a green reflective sheeting background.
2. Corners of the sign panels shall be rounded to fit the border.

3. Contractor shall submit all sign splicing details to the Engineer for approval. All backing for signs 4 feet by 8 feet or less shall be of one sheet.

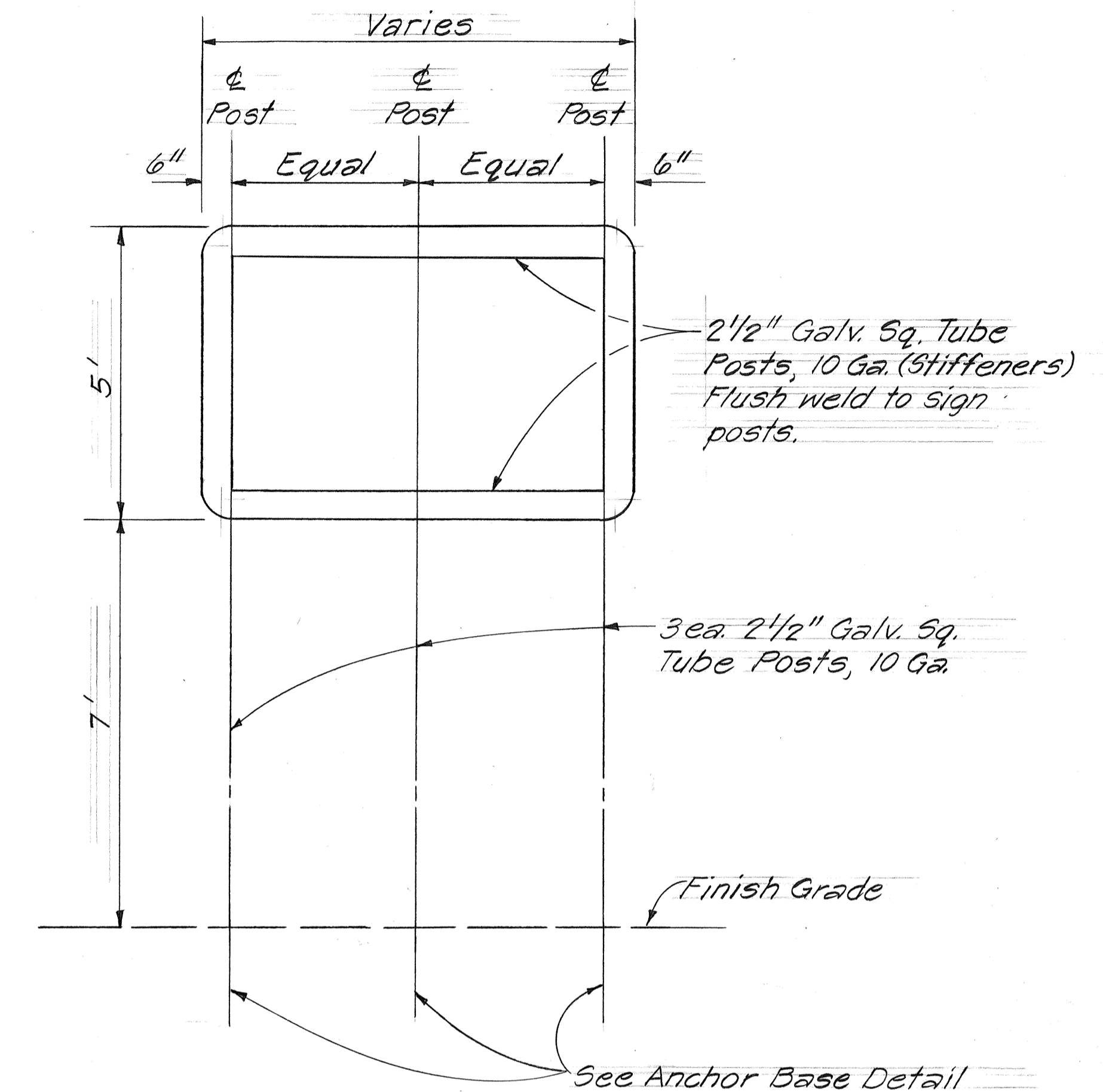
4. Sign panels shall have  $\frac{3}{8}$ "  $\phi$  bolt holes drilled at appropriate locations and shall be attached to the support with  $\frac{5}{16}$ "  $\phi$  galvanized bolt, nut, lock washer and  $\frac{7}{8}$ " x 0.06" stainless steel flat washer with neoprene rubber gasket.

5. For details of Gore Exit Signs, see sheet no. T21.

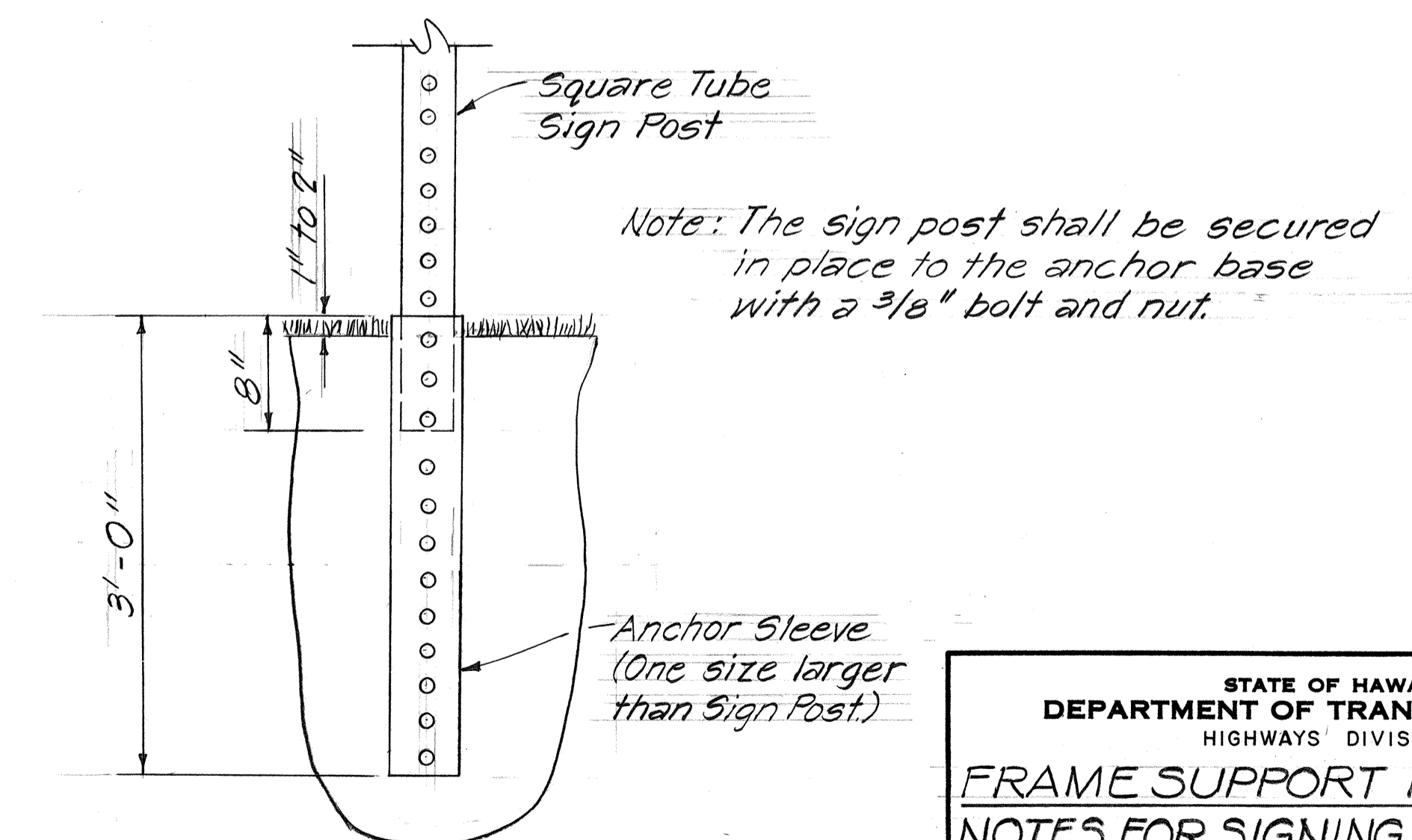
6. New sign panels shall use 0.100-inch thick sheet aluminum backing.

### D. Miscellaneous

1. All existing Regulatory and Warning Signs shall be removed, unless otherwise noted or directed by the Engineer. However, existing signs shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
2. Backing for all new Regulatory and Warning Signs shall not be spliced.
3. The final locations of all signs, lighting standards and luminaires shall be approved by the Engineer.
4. Locations of all new pavement markers, striping and markings shall be staked out by the Contractor for approval by the Engineer prior to installation.
5. Existing pavement markers, striping and markings not incorporated in the final traffic pattern shall be removed as directed by the Engineer.
6. Identification tag for multiple street lighting (see sheet no. T24) shall be engraved with the following information:
  - A= 507
  - B= No. as shown on plans
  - C= N250, N150 or H250 as shown on plans.
  - D= III unless otherwise noted
  - E= Blank
  - F= 120 v



**FRAME SUPPORT FOR  
GORE EXIT SIGN**  
Scale: 1/2" = 1'-0"



**ANCHOR BASE DETAIL  
SQUARE TUBE POST**  
Not to scale

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**FRAME SUPPORT DETAIL &  
NOTES FOR SIGNING, PAVEMENT  
MARKING & LIGHTING  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOIA AVE.  
F.A.I. PROJECT No. IR-HI-1(184)**

SHEET No. T | OF 46 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	43	114

**LEGEND**

- REM. EXISTING HIGHWAY LIGHT STANDARD & LUMINAIRE TO BE REMOVED.
- REL. EXISTING HIGHWAY LIGHT STANDARD & LUMINAIRE TO BE RELOCATED MAX. 10' AWAY.
- RELOCATED HIGHWAY LIGHT STANDARD (LUMINAIRE TYPE AS INDICATED).
- NEW 250 WATT HIGH PRESSURE SODIUM (N250) LUMINAIRE (LIGHT No. AS INDICATED). SEE SHT. #T24
- NEW 150 WATT HIGH PRESSURE SODIUM (N150) LUMINAIRE (LIGHT No. & DISTRIBUTION AS INDICATED). SEE SHT. #T24
- 2 EA. #215 NEW 250 WATT MERCURY VAPOR (H250) EXPRESSWAY SIGN LUMINAIRE. ESTIMATED AMOUNT PER SIGN & LUMINAIRE NO. AS INDICATED.
- #41 NEW HIGHWAY LIGHT STANDARD ATTACHED TO BACK OF CONCRETE BARRIER (LUMINAIRE TYPE AS INDICATED).
- #121, I EXISTING HIGHWAY LIGHT STANDARD W/ NEW BREAKAWAY BASE (LUMINAIRE TYPE AS INDICATED).
- NEW TYPE "B" PULLBOX W/ MODIFIED COVER (ADJUST LOCATION AS REQUIRED). TIE INTO EXISTING WIRING.
- CHANNELIZING ISLAND
  - TYPE "C" RAISED PAVEMENT MARKER
  - 12" WHITE PAVEMENT STRIPING TAPE
  - 8" WHITE PAVEMENT STRIPING TAPE
- LANE CHANGE RESTRICTION ZONE
  - 4 EA. TYPE "A" RAISED PAVEMENT MARKERS.
  - TYPE "C" RAISED PAVEMENT MARKER
  - 4" WHITE PAVEMENT STRIPING TAPE.
- 4" YELLOW PAVEMENT STRIPING TAPE W/ TYPE "H" RAISED PAVEMENT MARKERS 40'-0" oc.
- 8" DOUBLE YELLOW PAVEMENT STRIPING TAPE W/ TYPE "H" RAISED PAVEMENT MARKERS 20'-0" oc. & 12" YELLOW TRANSVERSE LINES (45°) 20'-0" oc.
- 4" DOUBLE YELLOW PAVEMENT STRIPING TAPE W/ TYPE "D" RAISED PAVEMENT MARKERS 20'-0"
- EXISTING HIGHWAY LIGHT CABLE
- Abd. --- EXISTING HIGHWAY LIGHT CABLE TO BE ABANDONED.
- 2"C --- NEW 2" CONDUIT W/ 2-12 #6 7KV SHIELDED COPPER CABLE & SOLID #8 BARE COPPER GROUND WIRE.

TRUE NORTH  
SCALE: 1" = 50'

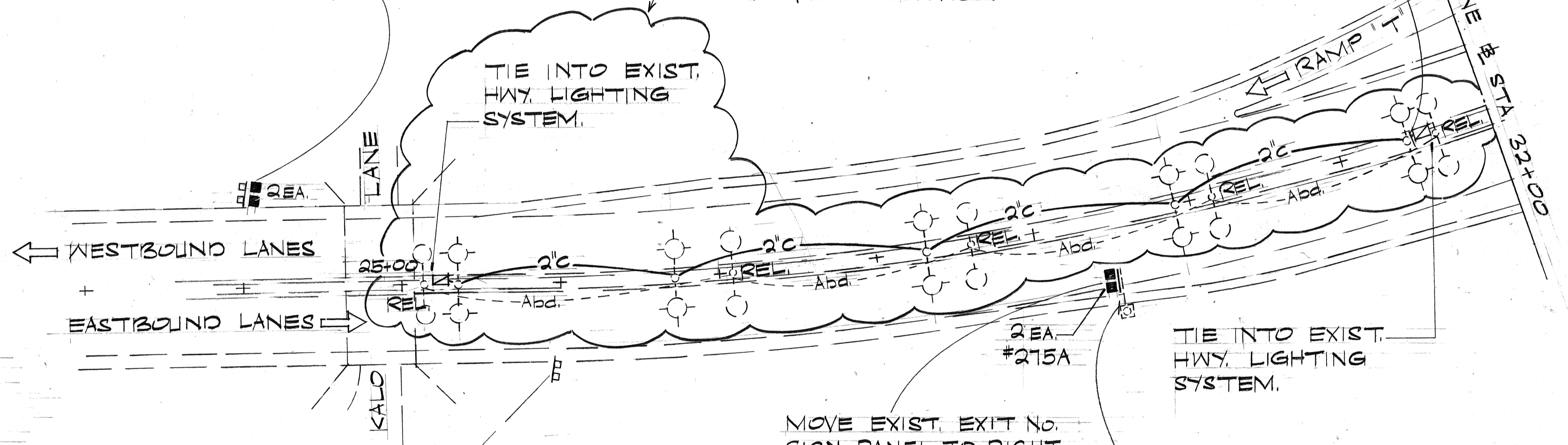
MOVE EXIST. EXIT NO. SIGN PANEL TO RIGHT EDGE OF SIGN



E-1  
INSTALL NEW OVERLAYS W/ MESSAGES OVER EXIST. EXIT No. & SIGN PANELS

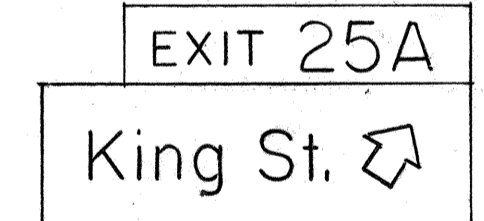
DELETE RELOCATION OF SERIES CKT. SEE SHEET NO. C.O. 43 6-1 FOR CONVERSION OF SERIES CKT. TO MULTIPLE SERVICE.

TIE INTO EXIST. HWY. LIGHTING SYSTEM.

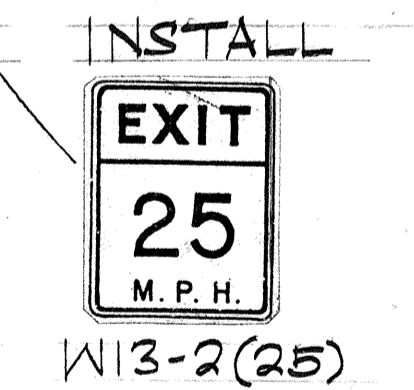
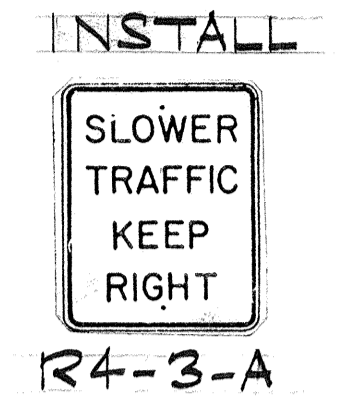


REMOVE EXIST. SIGN PANEL & SUPPORT & DEMOLISH FOOTINGS

MOVE EXIST. EXIT NO. SIGN PANEL TO RIGHT EDGE OF SIGN



E-2  
INSTALL NEW OVERLAYS W/ MESSAGES OVER EXIST. EXIT No. & SIGN PANELS



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

6/12/84	Deleted relocation of series ckt.
Date	Revision

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

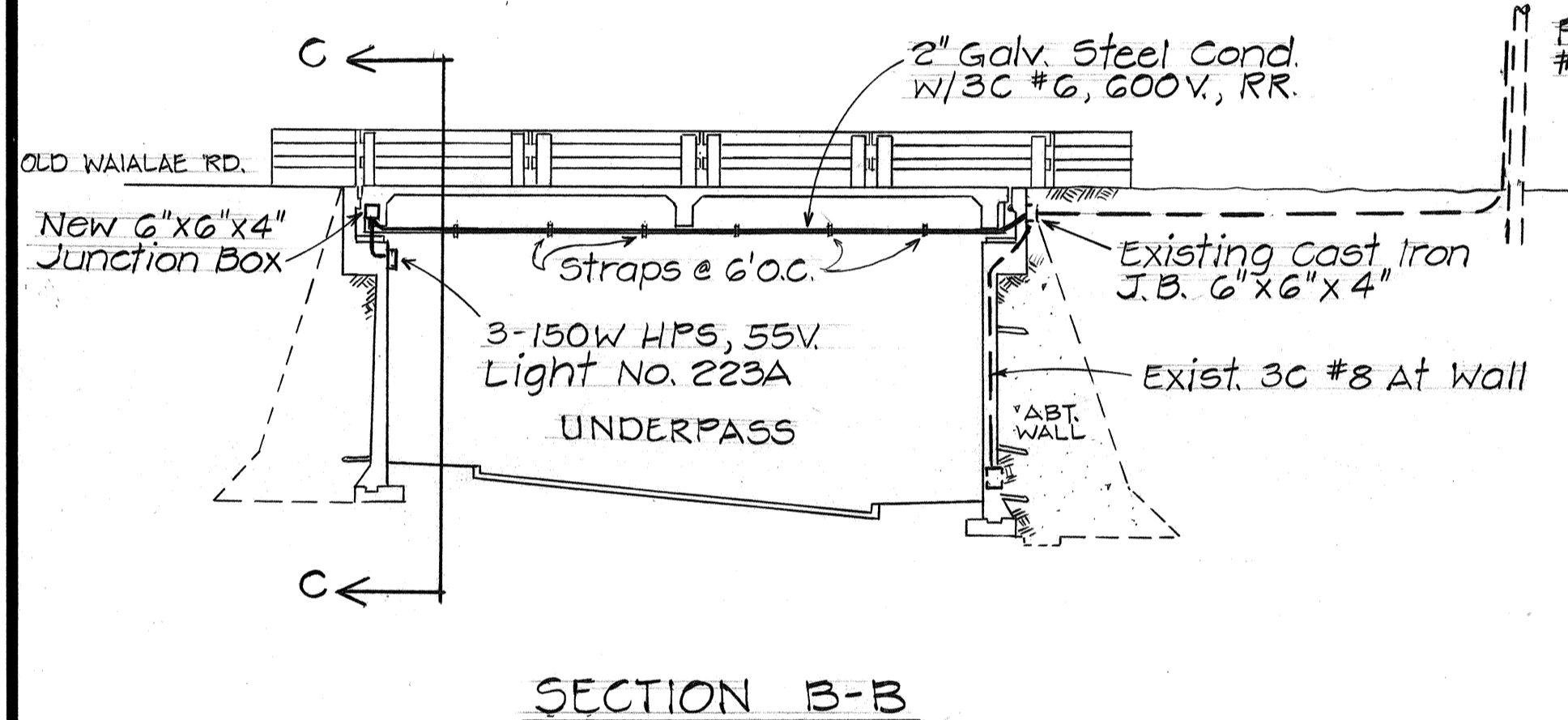
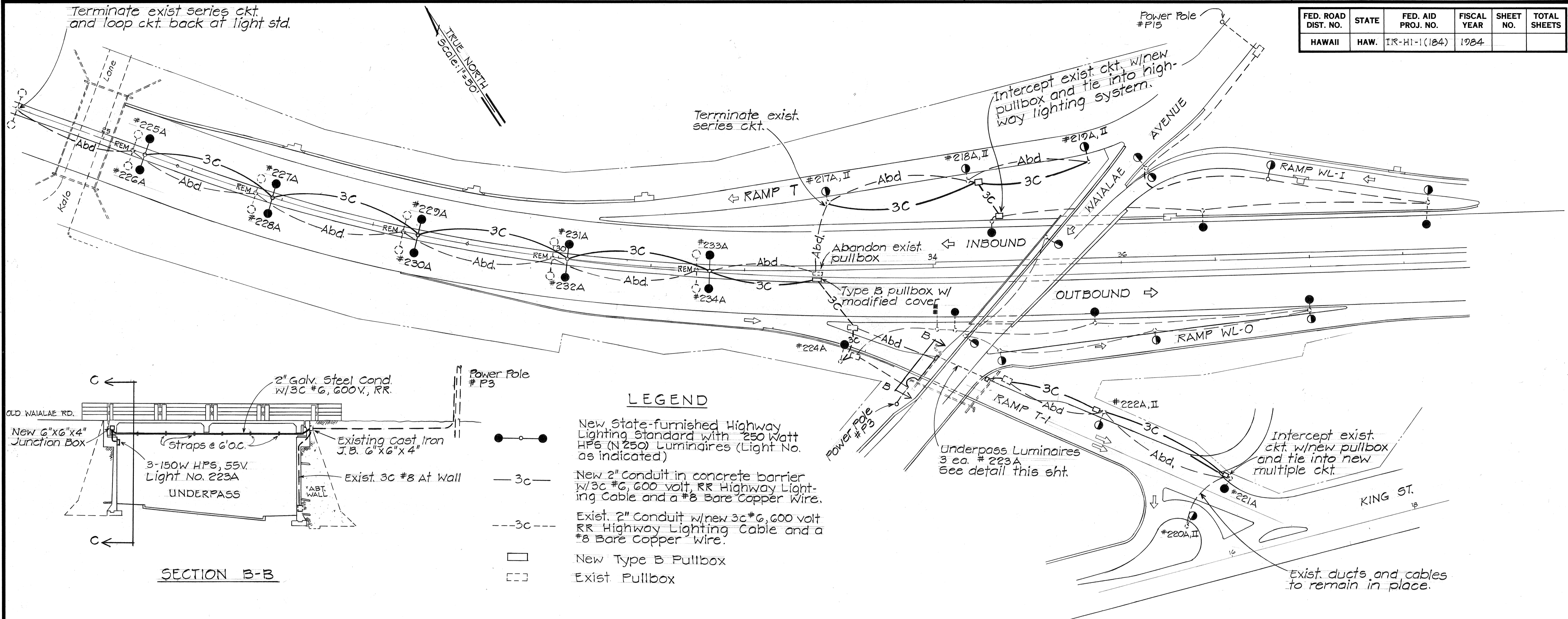
**SIGNING PAVEMENT MARKING & LIGHTING PLAN**

INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOA AVE  
F.A.I. PROJ. NO. IR-HI-1(184)

SCALE: 1" = 50'

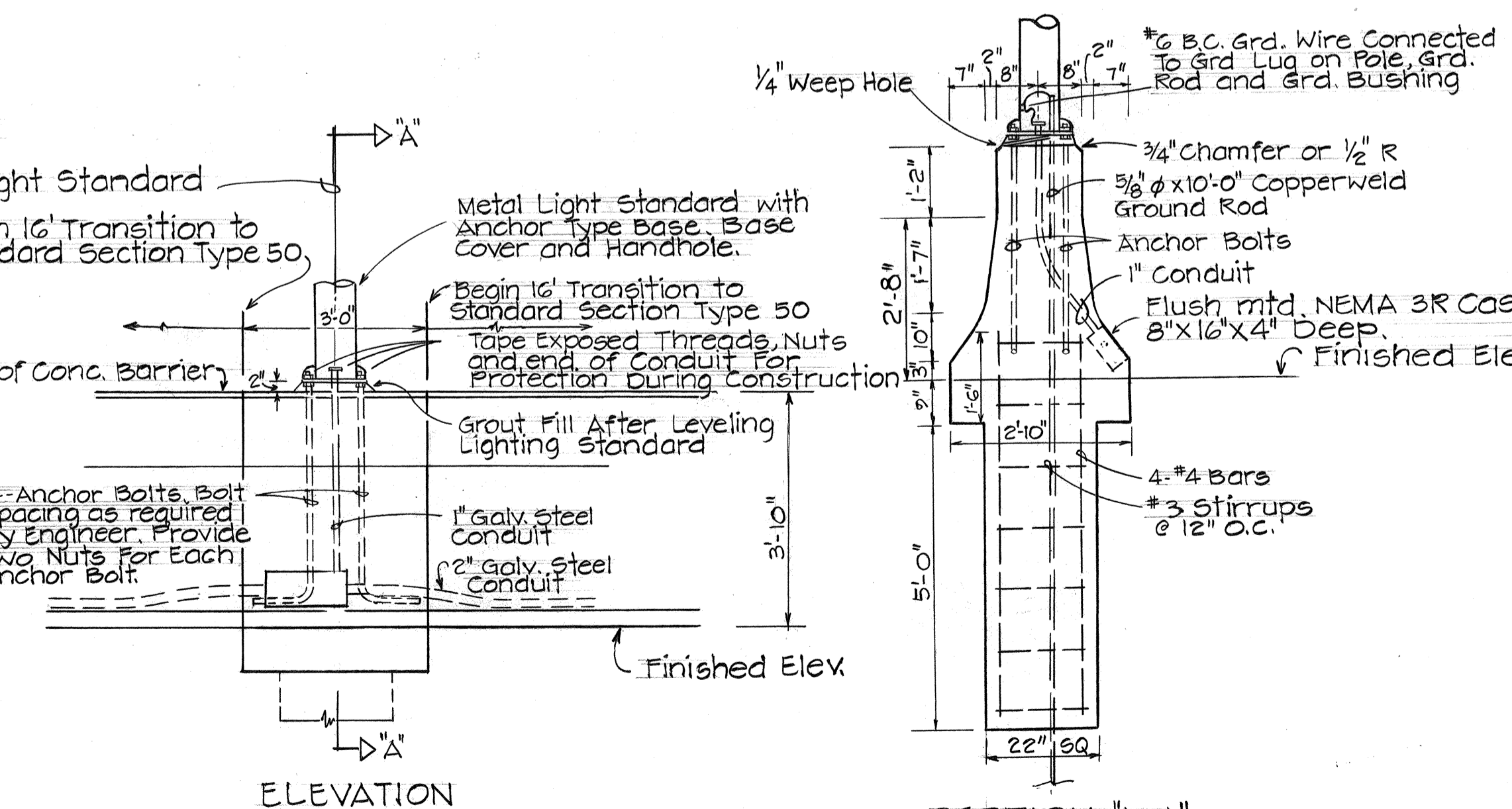
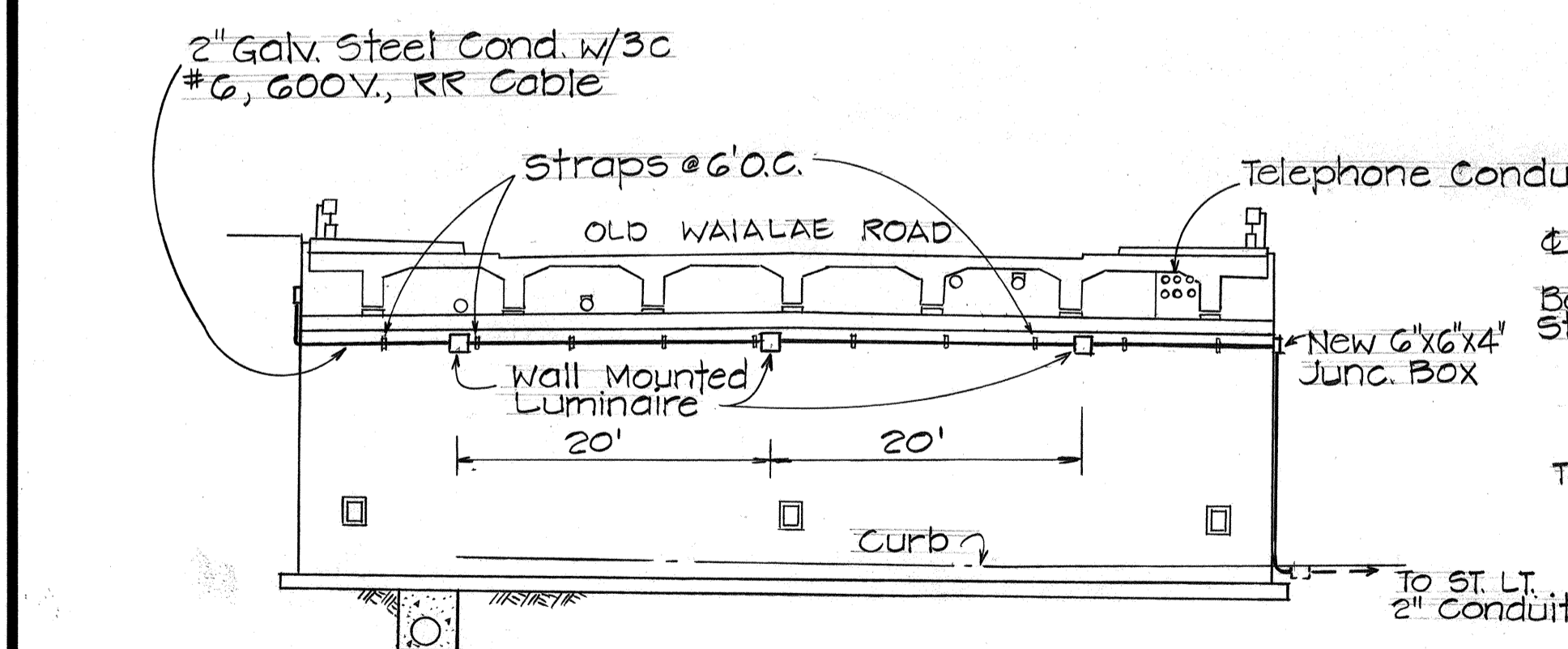
SHEET No. T2 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984		



**LEGEND**

- New State-furnished Highway Lighting Standard with 250 Watt HPS (N250) Luminares (Light No. as indicated)
- 3c— New 2" Conduit in concrete barrier w/3c #6, 600 volt, RR Highway Lighting Cable and a #8 Bare Copper Wire.
- - -3c- - - Exist. 2" Conduit w/new 3c #6, 600 volt RR Highway Lighting Cable and a #8 Bare Copper Wire.
- New Type B Pullbox
- ▭ Exist. Pullbox



- NOTES**
1. The Contractor shall contact Mr. Howard Mau (548-7197) and make all arrangements to transport the state-furnished highway lighting standards from the base-yard to the job site.
  2. See sht. no. 12 S-1 for the concrete barrier construction joint detail.
  3. The Contractor shall use expansion bolts to mount the underpass luminaires at a height of 15 ft. or as directed by the Engineer.
  4. Delete plan sht - nos 13 & 26.

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

**UNDERPASS LIGHTING DETAILS**  
Scale: 1"=10'

Date	Revision
6/12/84	Converted exist. series ckt. on H-1, Ramp T-1, and Ramp T to multiple ckt. Replaced applicable luminaires w/new HPS luminaires.

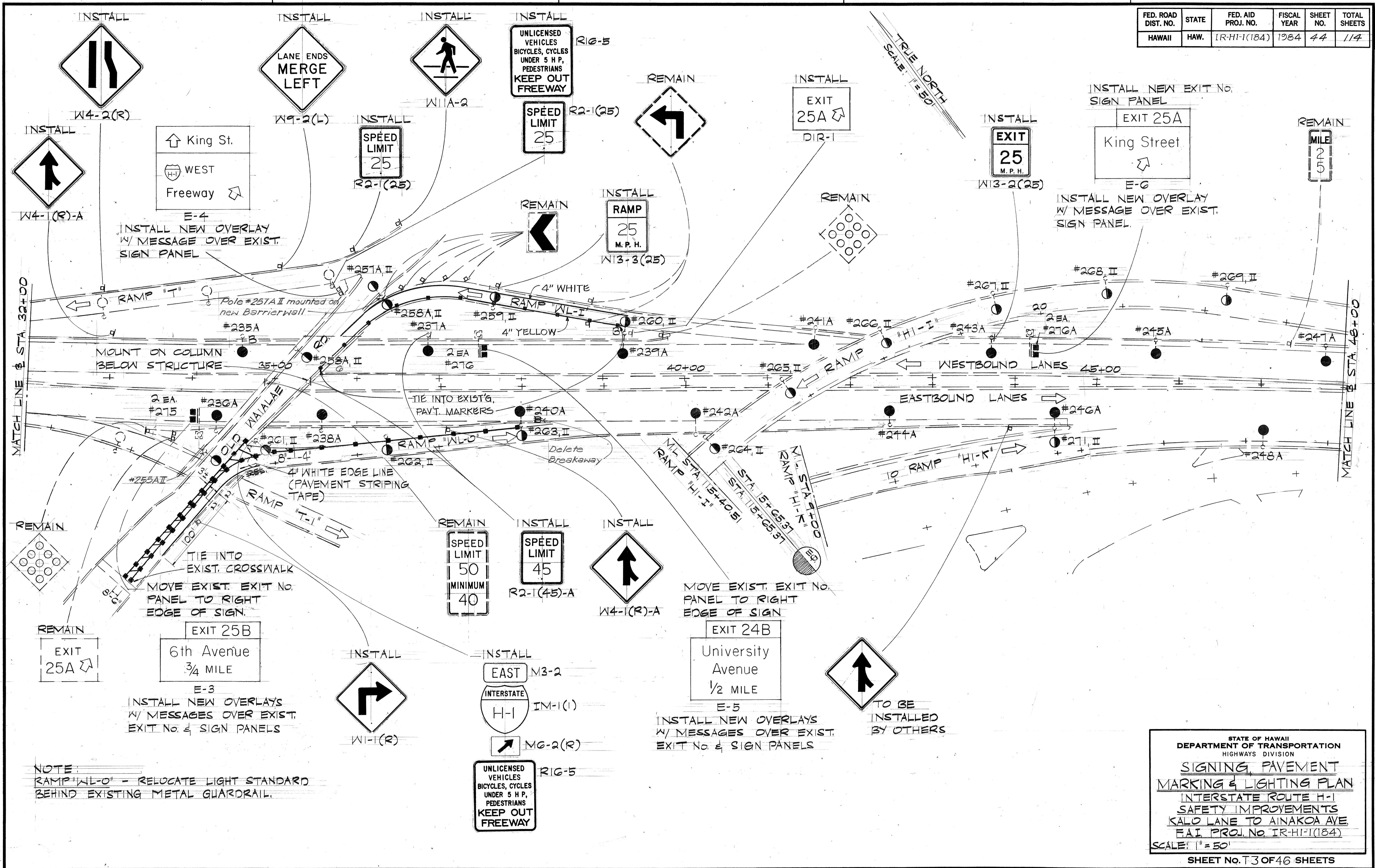
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAYEMENT  
MARKING AND LIGHTING PLAN**

INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKO AVE  
F.A.I. PROJ. NO. IR-HI-1(184)  
SCALE: AS SHOWN DATE: JUNE, 1984

SHEET No. OF SHEETS  
**C.O.43 S-1**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	44	114



DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

**NOTE:**  
 RAMP WL-O - RELOCATE LIGHT STANDARD BEHIND EXISTING METAL GUARDRAIL.

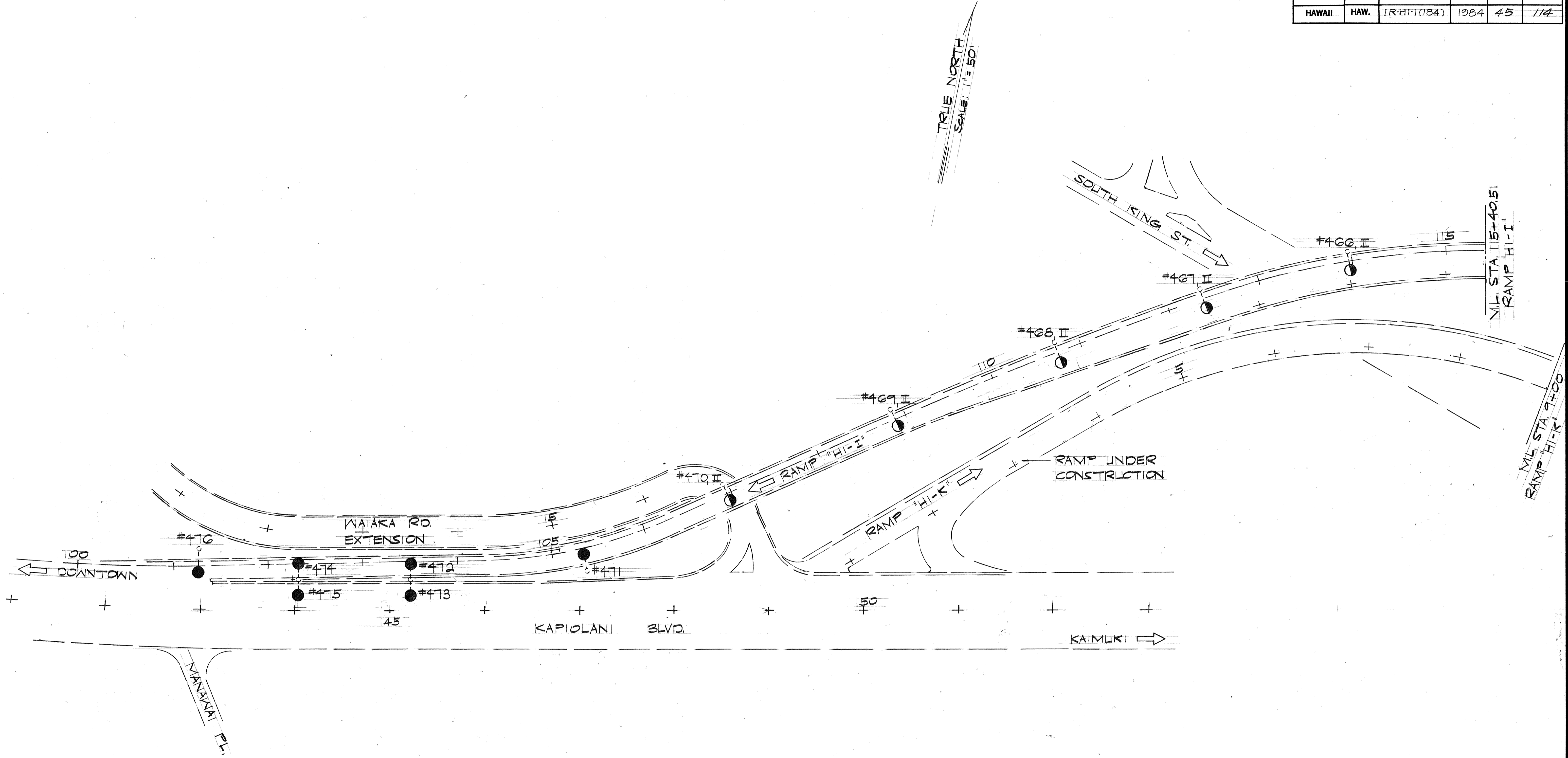
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING & LIGHTING PLAN**  
 INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKOIA AVE  
 F.A.I. PROJ. NO. IR-HI-1(184)  
 SCALE: 1" = 50'

SHEET No. T3 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1(184)	1984	45	114

TRUE NORTH  
SCALE: 1" = 50'

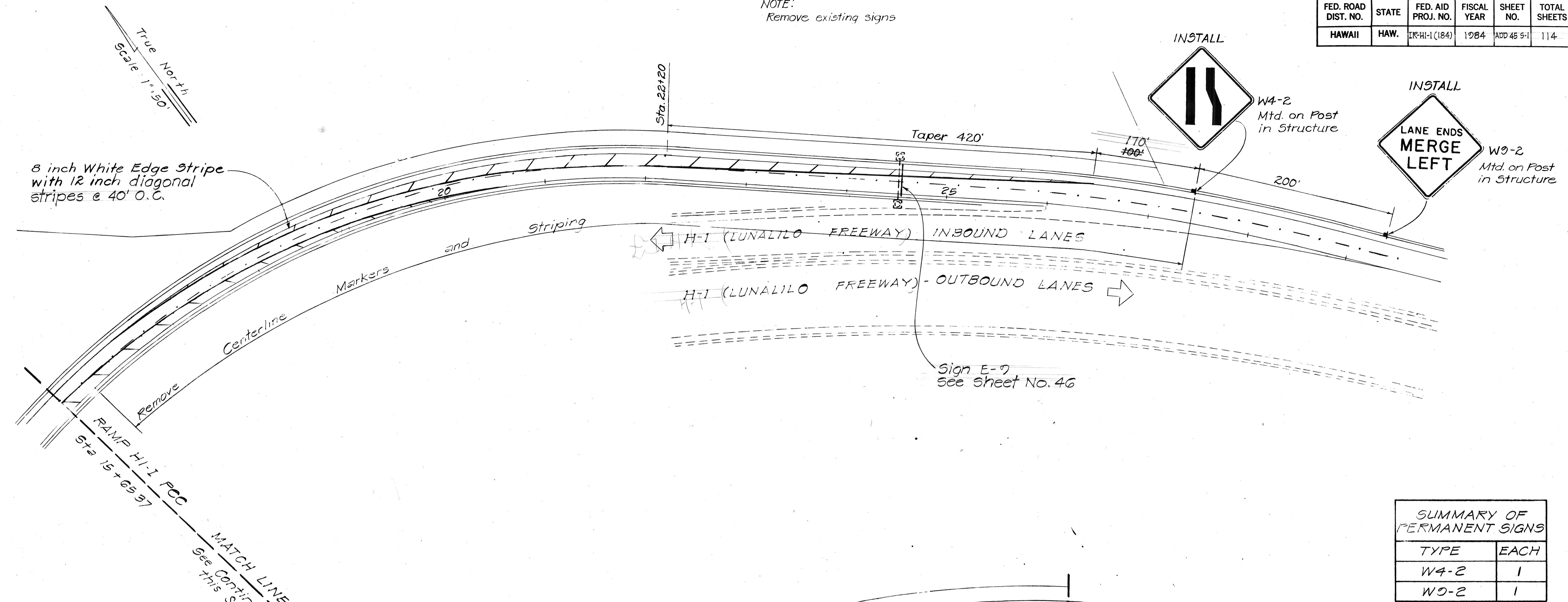


ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**SIGNING, PAVEMENT  
MARKING & LIGHTING PLAN**  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKO'A AVE.  
F.A.I. PROJ. NO. 1R-HI-1(184)  
SCALE: 1" = 50'  
SHEET NO. 74 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	ADD 45 S-1	114

NOTE:  
Remove existing signs

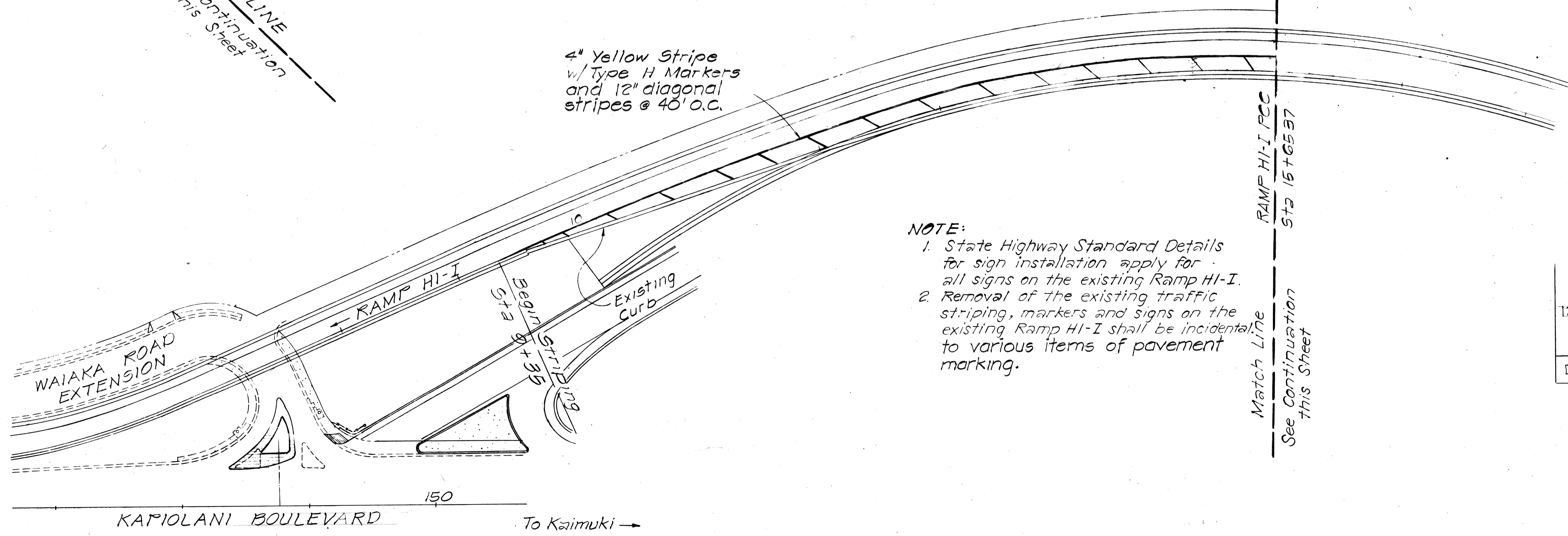


SUMMARY OF PERMANENT SIGNS

TYPE	EACH
W4-2	1
W9-2	1

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

True North  
Scale: 1"=50'



NOTE:  
1. State Highway Standard Details for sign installation apply for all signs on the existing Ramp HI-1.  
2. Removal of the existing traffic striping, markers and signs on the existing Ramp HI-1 shall be incidental to various items of pavement marking.

STRIPING LAYOUT PLAN.  
EXISTING KAPIOLANI OFF-RAMP HI-1  
Scale: 1"=50'

12/27/83	Revised Striping and Signing of existing Kapiolani Off-Ramp HI-1
DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING & LIGHTING**

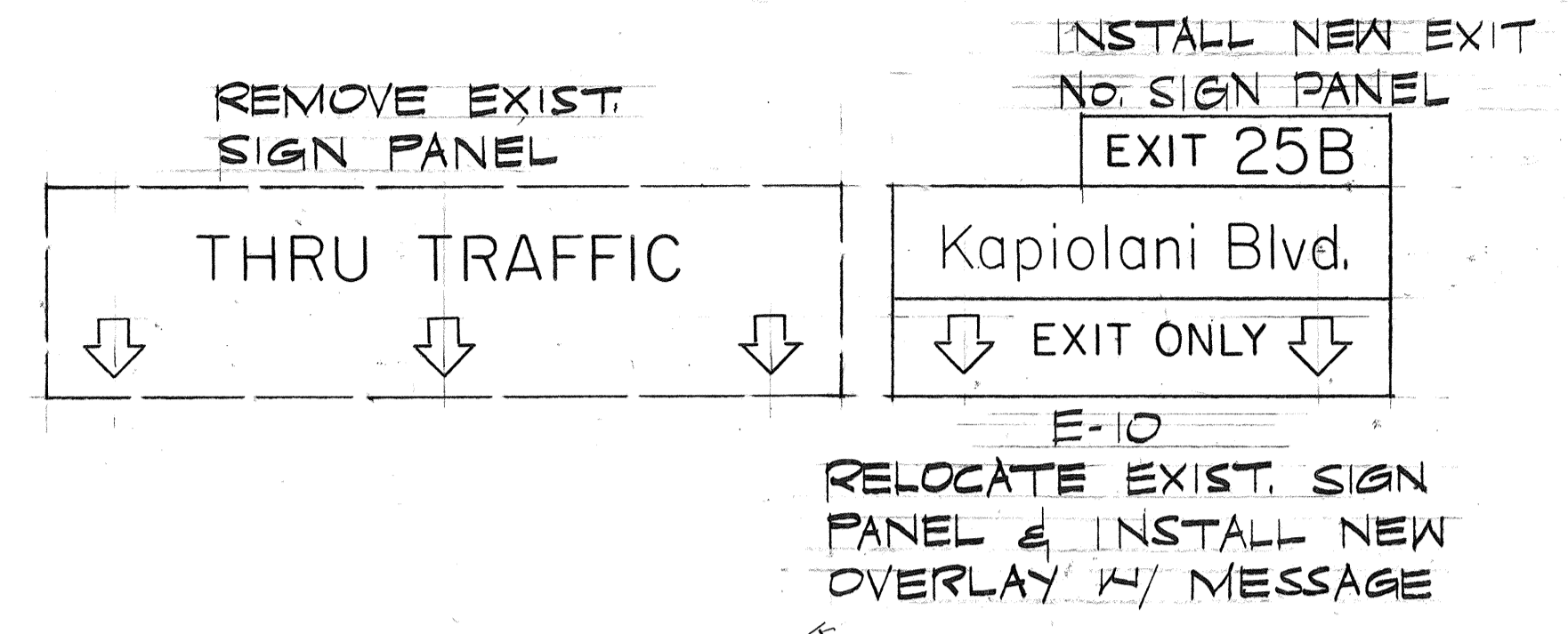
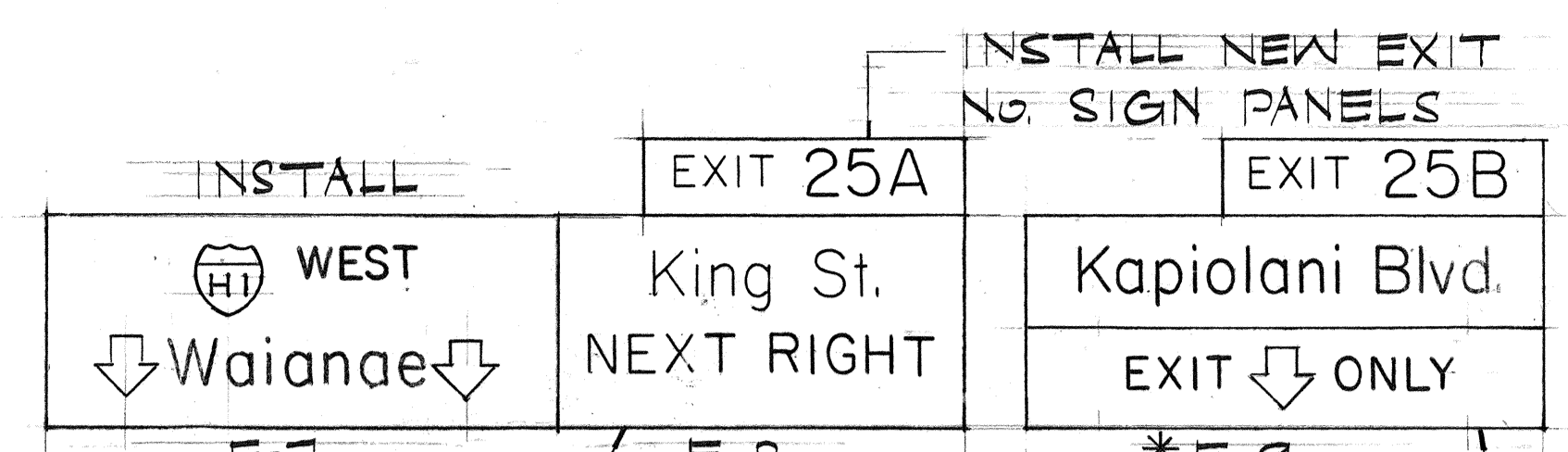
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOIA AVENUE  
F.A.I. PROJ. NO. IR-HI-1(184)

Scale: 1"=50'

SHEET NO. OF SHEETS

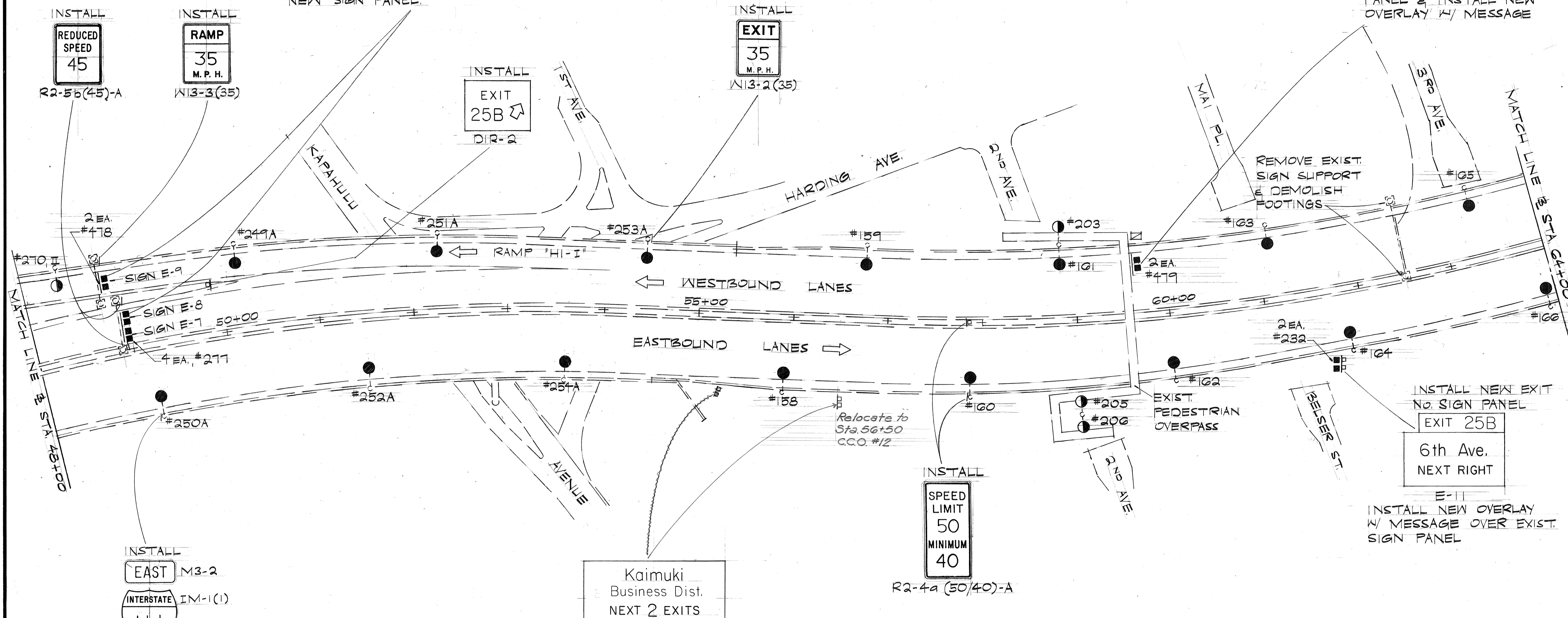
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	46	114

TRUE NORTH  
SCALE: 1"=50'



E-7 REMOVE EXIST. THRU TRAFFIC SIGN. PANEL & INSTALL NEW SIGN PANEL.  
E-8 INSTALL NEW OVERLAYS W/ MESSAGES OVER EXIST. SIGN PANELS.  
\*E-9 \*REPOSITION SIGN E-9 SO THAT DOWN ARROW IS CENTERED OVER LANE.

E-10 RELOCATE EXIST. SIGN PANEL & INSTALL NEW OVERLAY W/ MESSAGE



DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
ORIGINAL PLAN No. \_\_\_\_\_  
NOTE BOOK No. \_\_\_\_\_

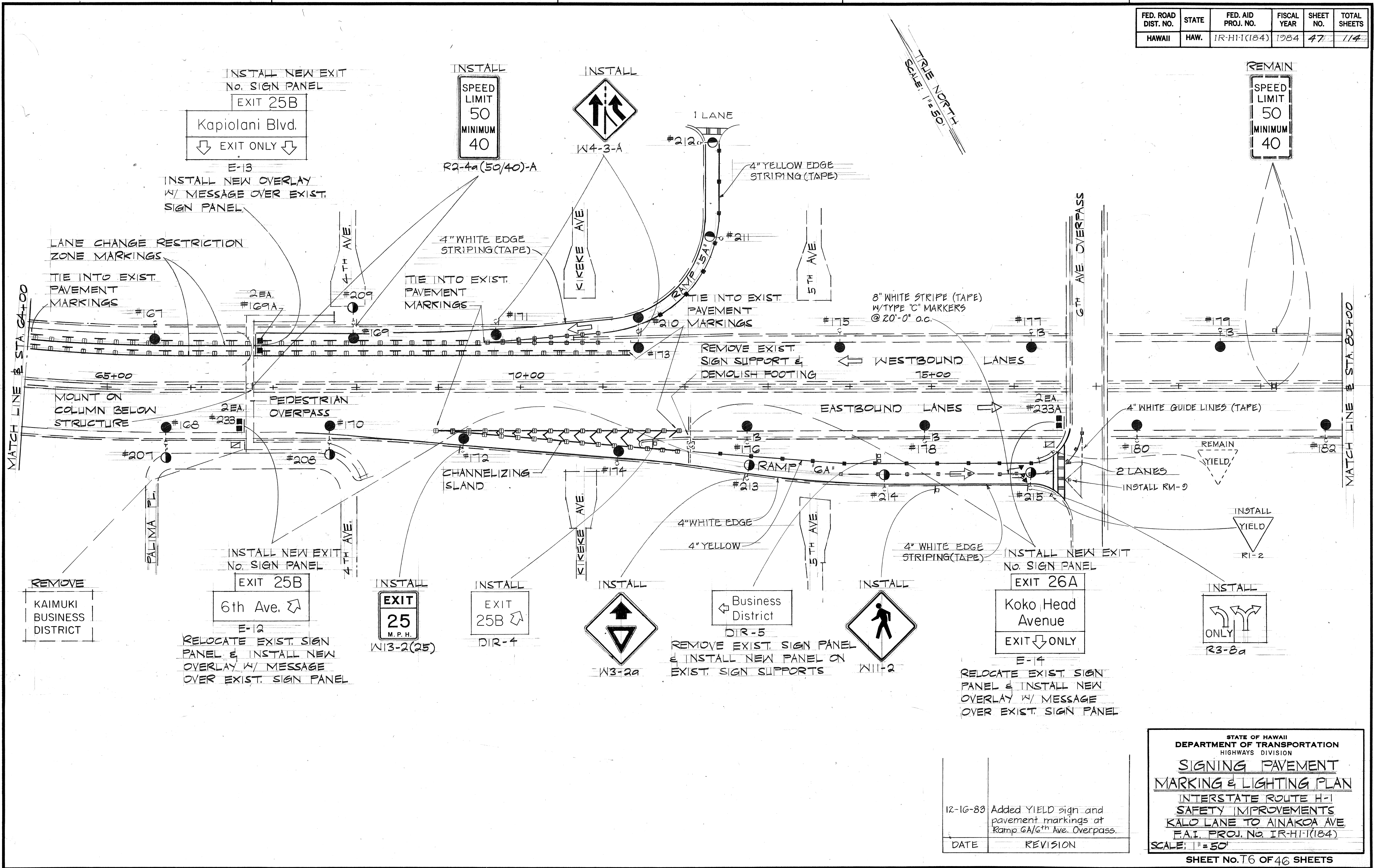
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING & LIGHTING PLAN**

INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKO'A AVE.  
F.A.I. PROJ. NO. IR-HI-1(184)  
SCALE: 1"=50'

SHEET No. T5 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H1-1(184)	1984	47	114



SURVEY PLOTTED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN NO. \_\_\_\_\_

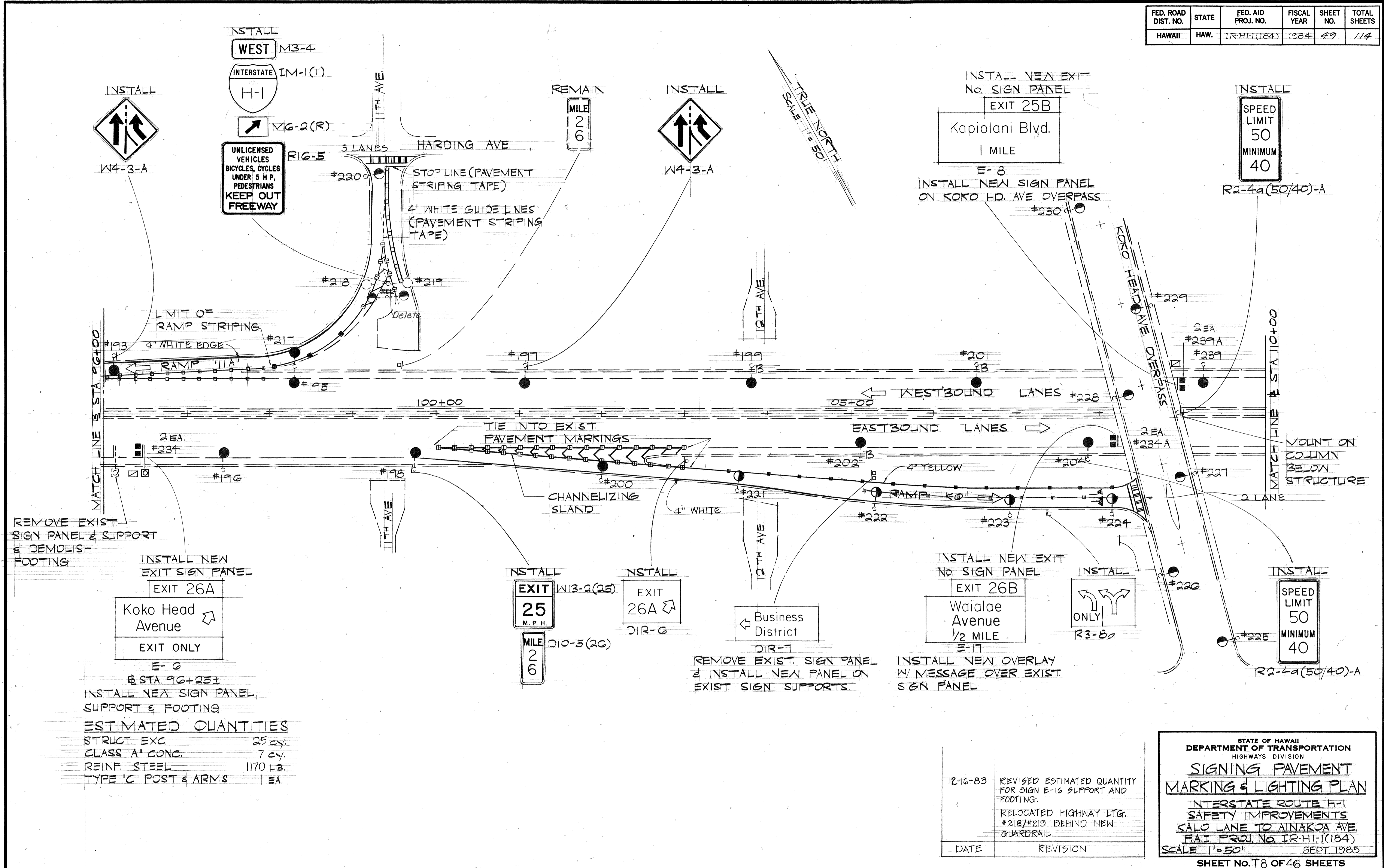
12-16-83	Added YIELD sign and pavement markings at Ramp 6A/6th Ave. Overpass.
DATE	REVISION

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**SIGNING PAVEMENT MARKING & LIGHTING PLAN**  
 INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO AVE  
 F.A.I. PROJ. NO. 1R-H1-1(184)  
 SCALE: 1" = 50'  
 SHEET No. T6 OF 46 SHEETS

ADD. 47



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	49	114



INSTALL WEST M3-4  
 INTERSTATE IM-1(I)  
 MG-2(R)  
 UNLICENSED VEHICLES BICYCLES, CYCLES UNDER 5 H.P., PEDESTRIANS KEEP OUT FREEWAY  
 RIG-5  
 3 LANES HARDING AVE.  
 STOP LINE (PAVEMENT STRIPING TAPE)  
 4" WHITE GUIDE LINES (PAVEMENT STRIPING TAPE)

INSTALL NEW EXIT No. SIGN PANEL  
 EXIT 25B  
 Kapiolani Blvd.  
 1 MILE  
 E-18  
 INSTALL NEW SIGN PANEL ON KOKO HD. AVE. OVERPASS  
 #230

INSTALL  
 SPEED LIMIT 50  
 MINIMUM 40  
 R2-4a(50/40)-A

INSTALL W4-3-A  
 LIMIT OF RAMP STRIPING  
 4" WHITE EDGE  
 RAMP  
 #193 #195 #196 #197 #198

INSTALL W4-3-A  
 TRUE NORTH  
 SCALE: 1" = 50'

INSTALL EXIT 25 M.P.H.  
 MILE 26  
 W13-2(25)  
 D10-5(20)

INSTALL EXIT 26A  
 DIR-G

INSTALL Business District  
 DIR-7

INSTALL NEW EXIT No. SIGN PANEL  
 EXIT 26B  
 Wai'ala'e Avenue  
 1/2 MILE  
 E-17

INSTALL ONLY  
 R3-8a

INSTALL SPEED LIMIT 50 MINIMUM 40  
 R2-4a(50/40)-A

REMOVE EXIST. SIGN PANEL & SUPPORT & DEMOLISH FOOTING  
 INSTALL NEW EXIT SIGN PANEL  
 EXIT 26A  
 Koko Head Avenue  
 EXIT ONLY  
 E-16  
 @ STA. 96+25±  
 INSTALL NEW SIGN PANEL, SUPPORT & FOOTING.

REMOVE EXIST. SIGN PANEL & INSTALL NEW PANEL ON EXIST. SIGN SUPPORTS.

INSTALL NEW OVERLAY W/ MESSAGE OVER EXIST. SIGN PANEL

ESTIMATED QUANTITIES

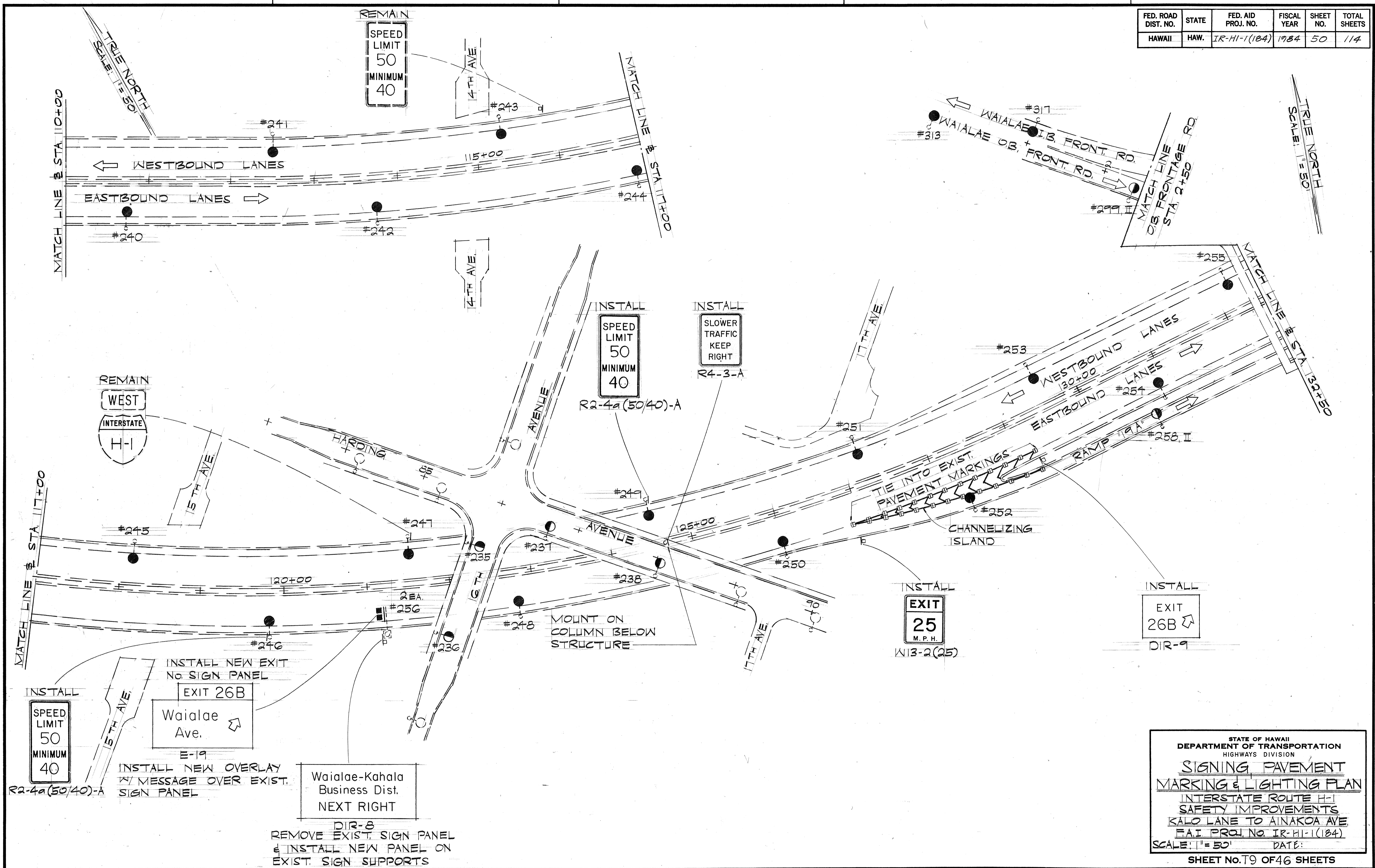
STRUCT. EXC.	25 cy.
CLASS 'A' CONC.	7 cy.
REINF. STEEL	1170 LB.
TYPE 'C' POST & ARMS	1 EA.

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

12-16-83	REVISED ESTIMATED QUANTITY FOR SIGN E-16 SUPPORT AND FOOTING. RELOCATED HIGHWAY LTG. #218/#219 BEHIND NEW GUARDRAIL.
DATE	REVISION

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**SIGNING PAVEMENT MARKING & LIGHTING PLAN**  
 INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO'A AVE.  
 F.A.I. PROJ. NO. IR-HI-1(184)  
 SCALE: 1" = 50' SEPT. 1985  
 SHEET NO. T8 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	50	114



DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

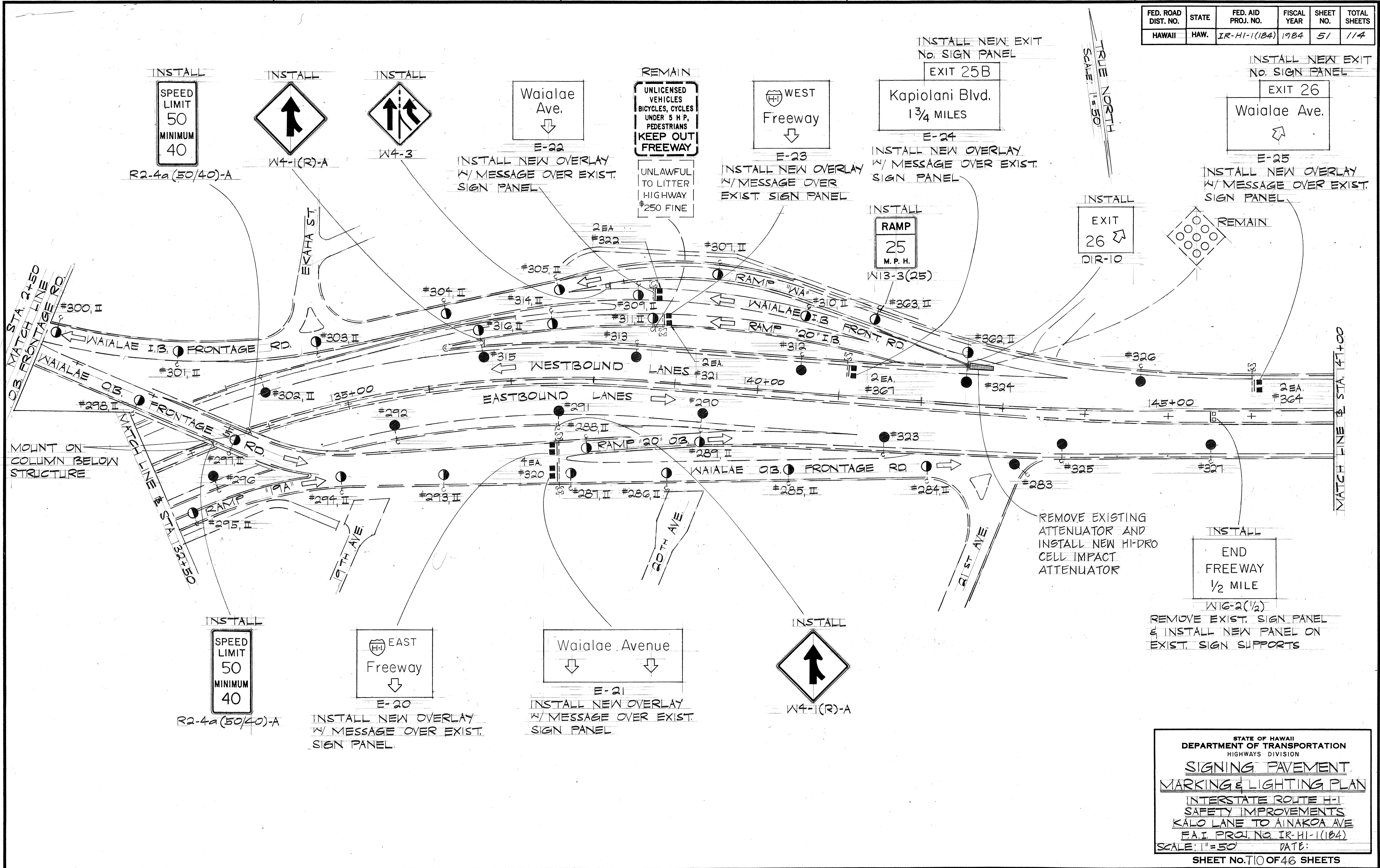
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**SIGNING, PAVEMENT MARKING & LIGHTING PLAN**

INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO AVE  
 F.A.I. PROJ. NO. IR-HI-1(184)  
 SCALE: 1"=50' DATE: \_\_\_\_\_

SHEET No. 49 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(104)	1984	51	114



DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN No. \_\_\_\_\_

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

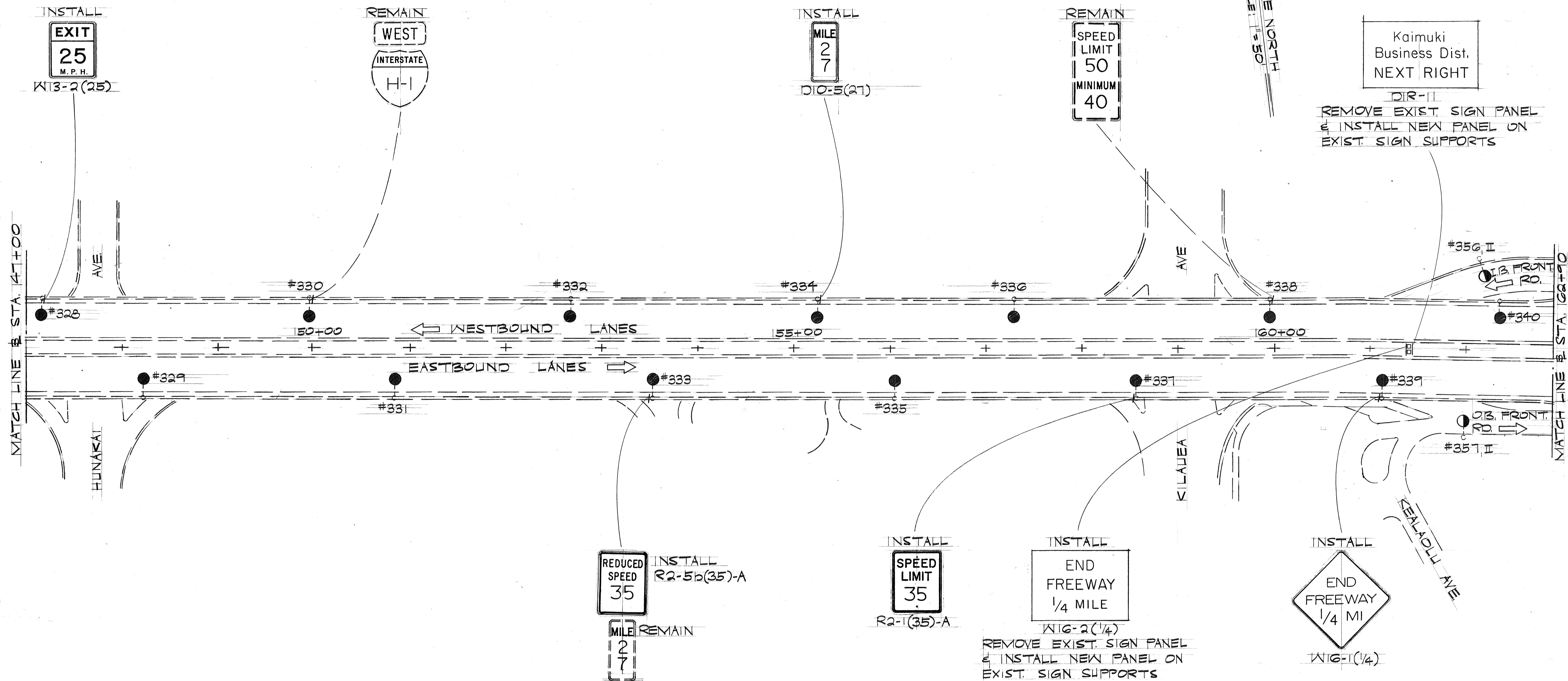
**SIGNING PAVEMENT MARKING & LIGHTING PLAN**

INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO AVE  
 F.A.I. PROJ. NO. IR-HI-1(104)

SCALE: 1"=50' DATE: \_\_\_\_\_

SHEET No. 710 OF 46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	52	114



Kaimuki Business Dist.  
NEXT RIGHT

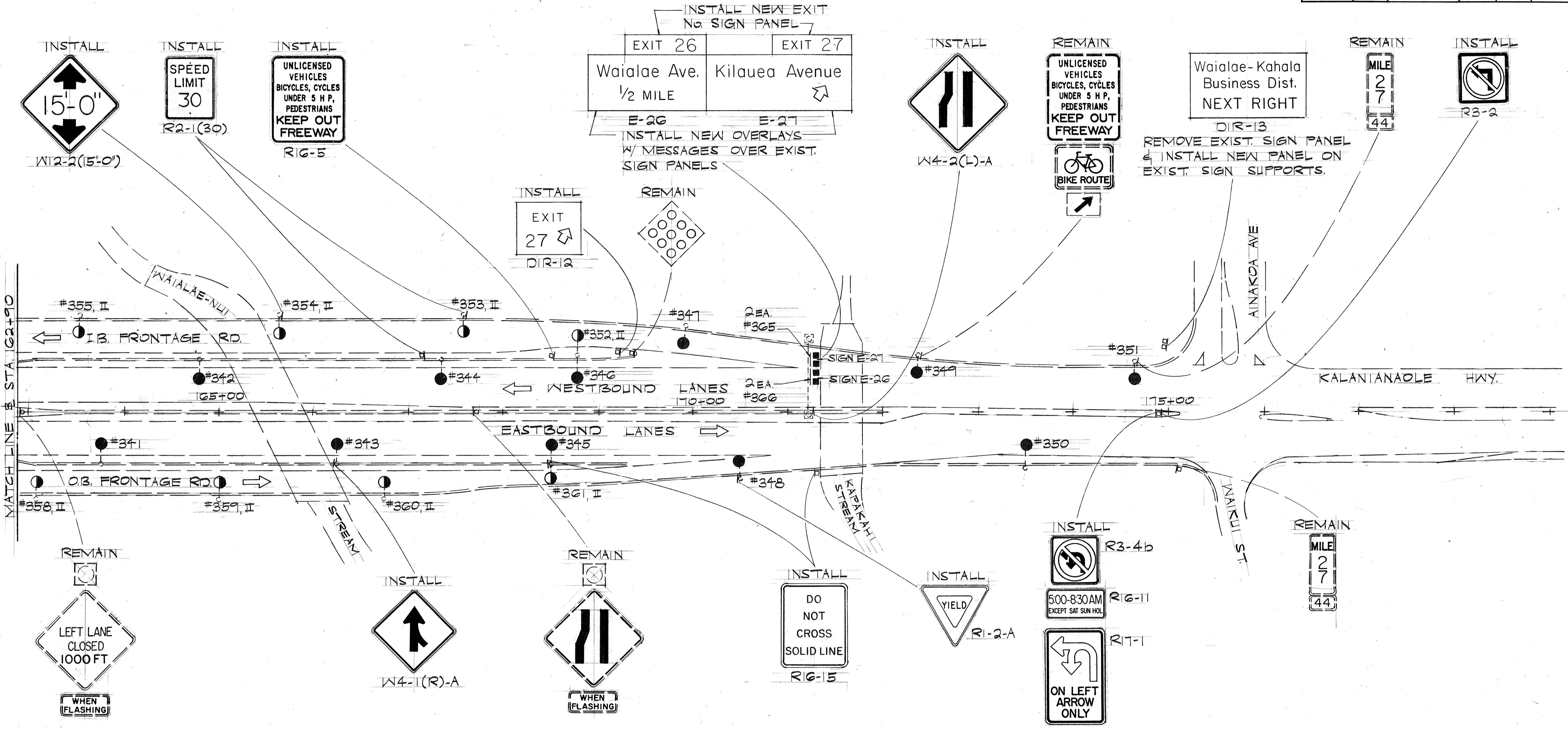
DIR-11  
REMOVE EXIST. SIGN PANEL  
& INSTALL NEW PANEL ON  
EXIST. SIGN SUPPORTS

TRUE NORTH  
SCALE: 1" = 50'

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**SIGNING, PAVEMENT  
MARKING & LIGHTING PLAN**  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOEA AVE  
F.A.I. PROJ. NO. IR-HI-1(184)  
SCALE: 1" = 50' DATE:  
SHEET No. 11 OF 46 SHEETS

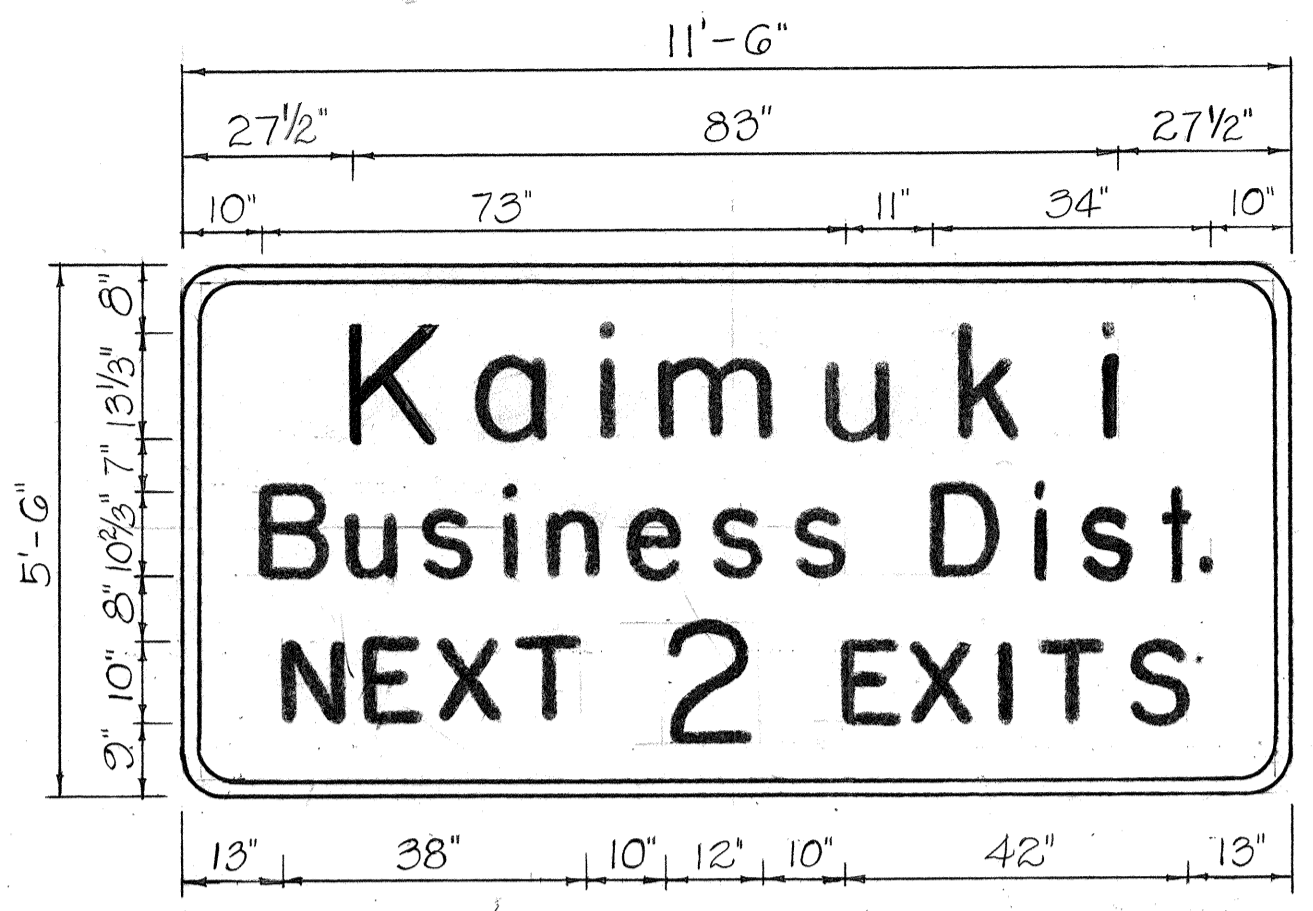
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	53	114



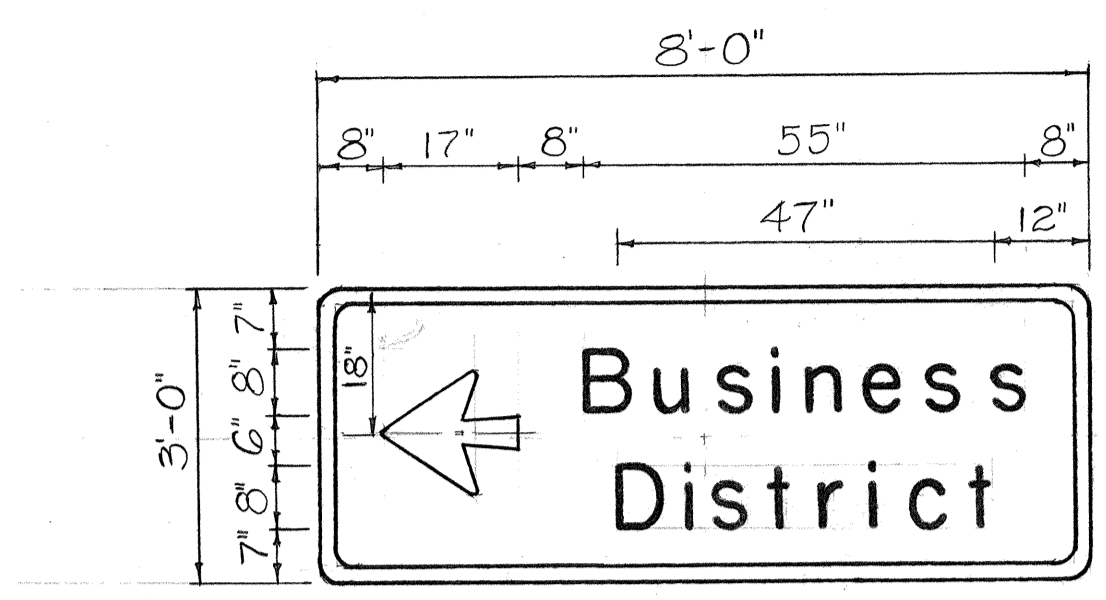
SURVEY PLOTTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 ORIGINAL PLAN No. \_\_\_\_\_

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**SIGNING, PAVEMENT MARKING & LIGHTING PLAN**  
 INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO AVE.  
 F.A.I. PROJ. NO. IR-HI-1(184)  
 SCALE: 1" = 50' DATE: \_\_\_\_\_  
 SHEET No. 712 OF 46 SHEETS

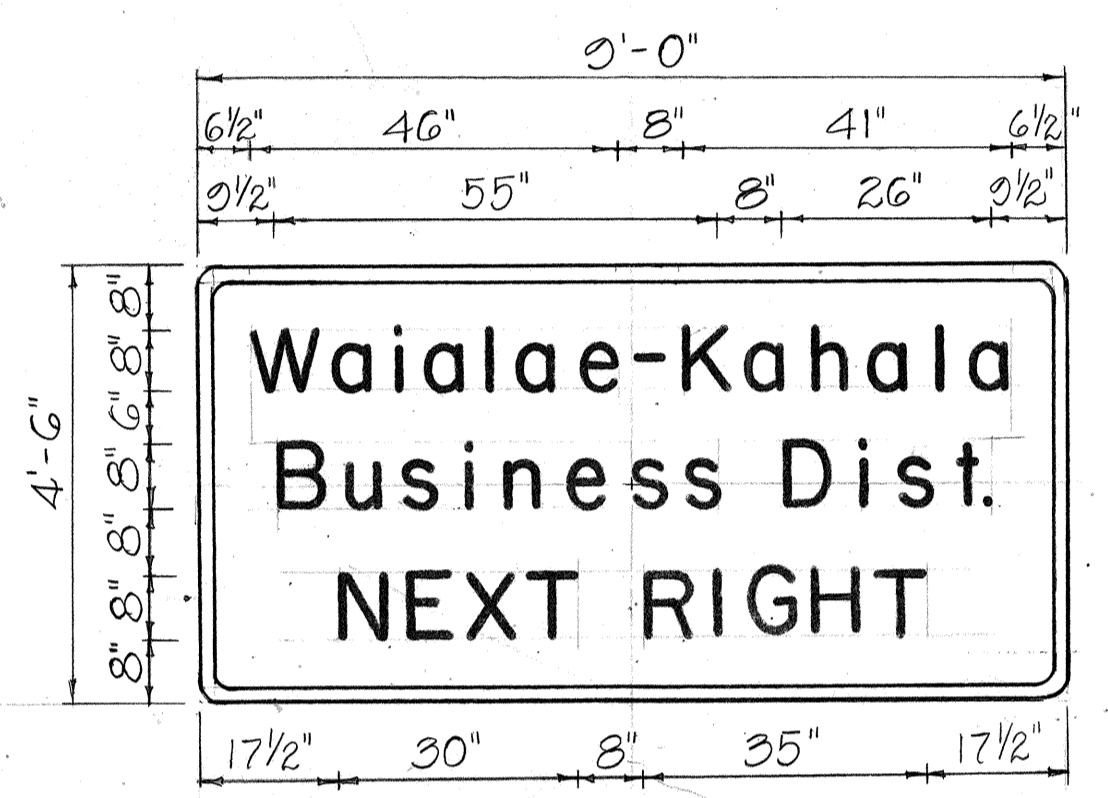
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	54	114



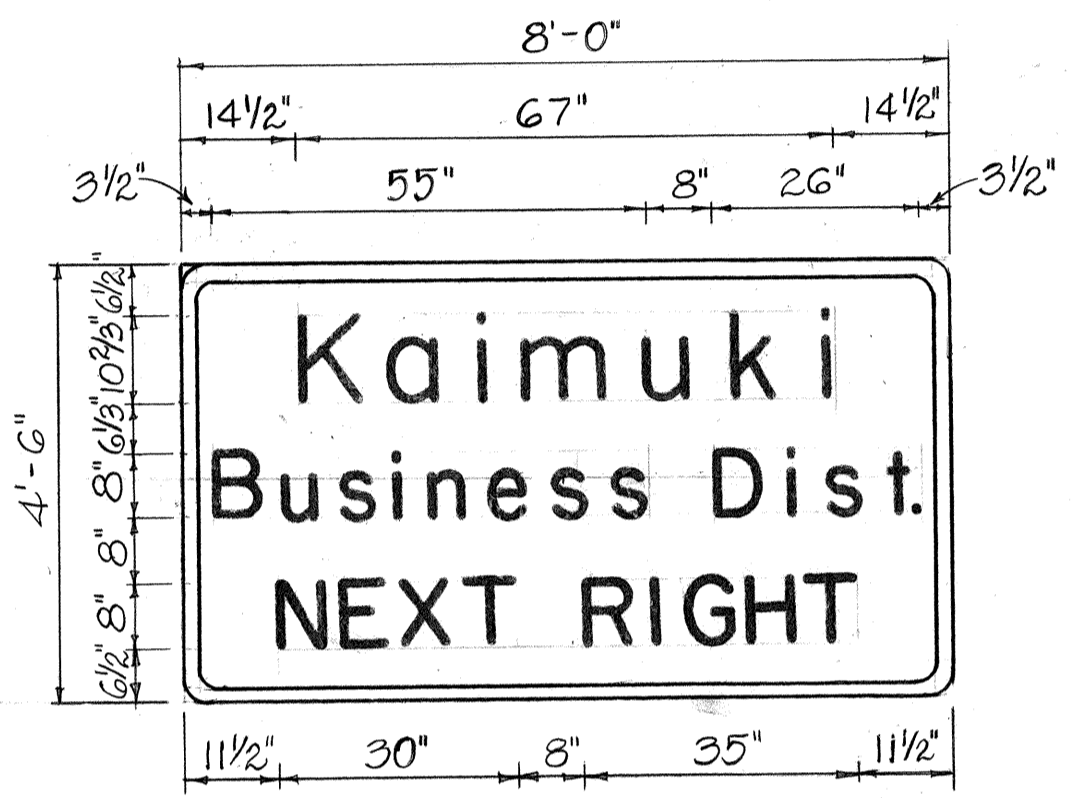
DIR-3



DIR-5 & 7



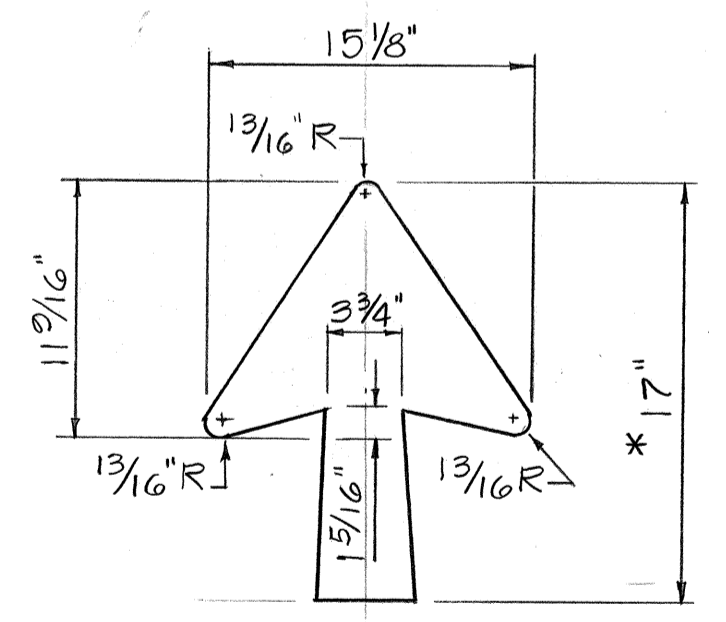
DIR-8 & 13



DIR-11

DIRECTIONAL SIGNS

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

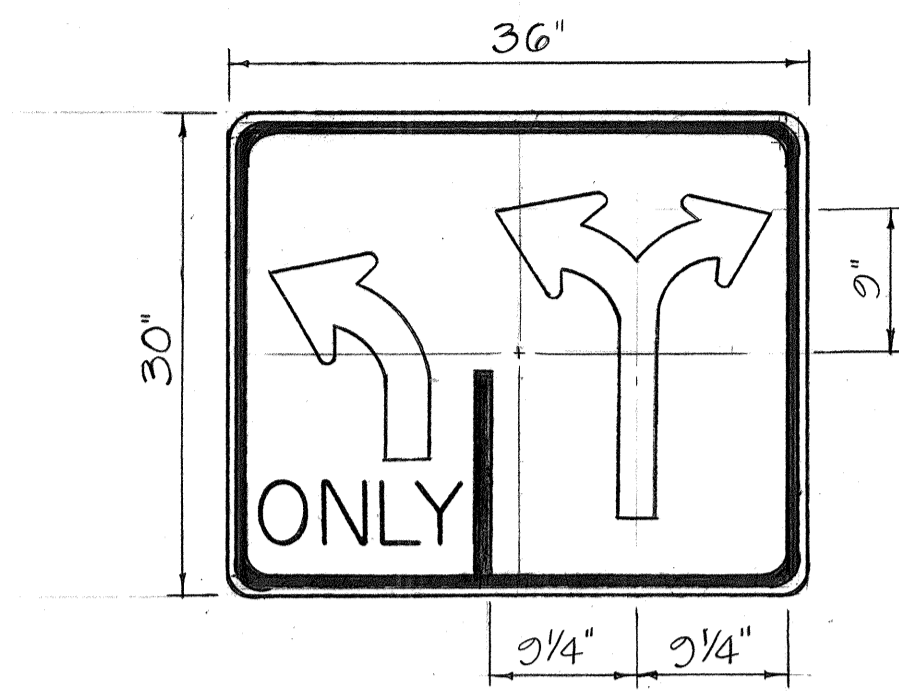


ARROW DETAIL

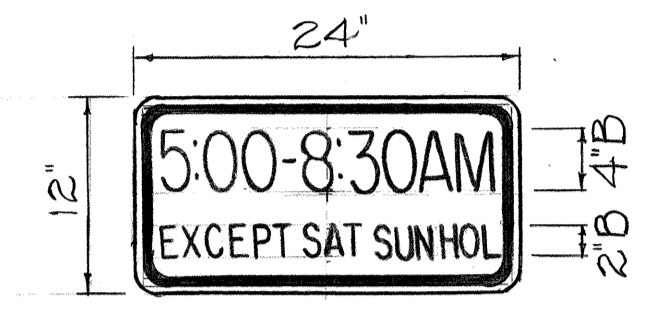
Not to Scale

\* Shaft Taper = 1/2" per ft.

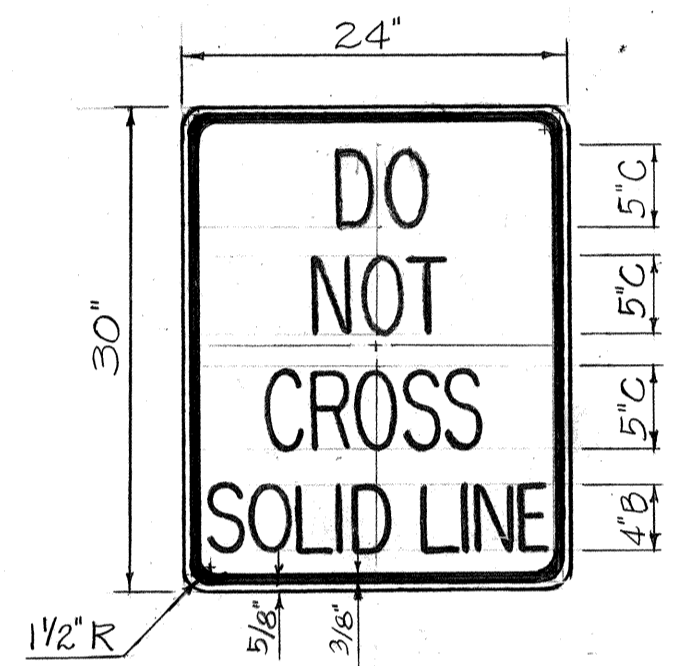
DESTINATION & DIRECTIONAL SIGN SUMMARY		
TYPE	DESCRIPTION	AREA (SQ. FT.) NEW PANEL
D-1	EXIT 25 A (w/Posts)	37.50
D-2	EXIT 25 B (w/Posts)	37.50
DIR-3	Kaimuki Business District	63.25
D-4	EXIT 25 B (w/Posts)	37.50
DIR-5	Business District	24.00
D-6	EXIT 26 A (w/Posts)	37.50
DIR-7	Business Dist.	24.00
DIR-8	Waialae-Kahala Business Dist.	40.50
D-9	EXIT 26 B (w/Posts)	37.50
D-10	EXIT 26 (w/Posts)	30.00
DIR-11	Kaimuki Business Dist.	36.00
D-12	EXIT 27 (w/Posts)	30.00
DIR-13	Waialae-Kahala Business Dist.	40.50
TOTAL		475.75



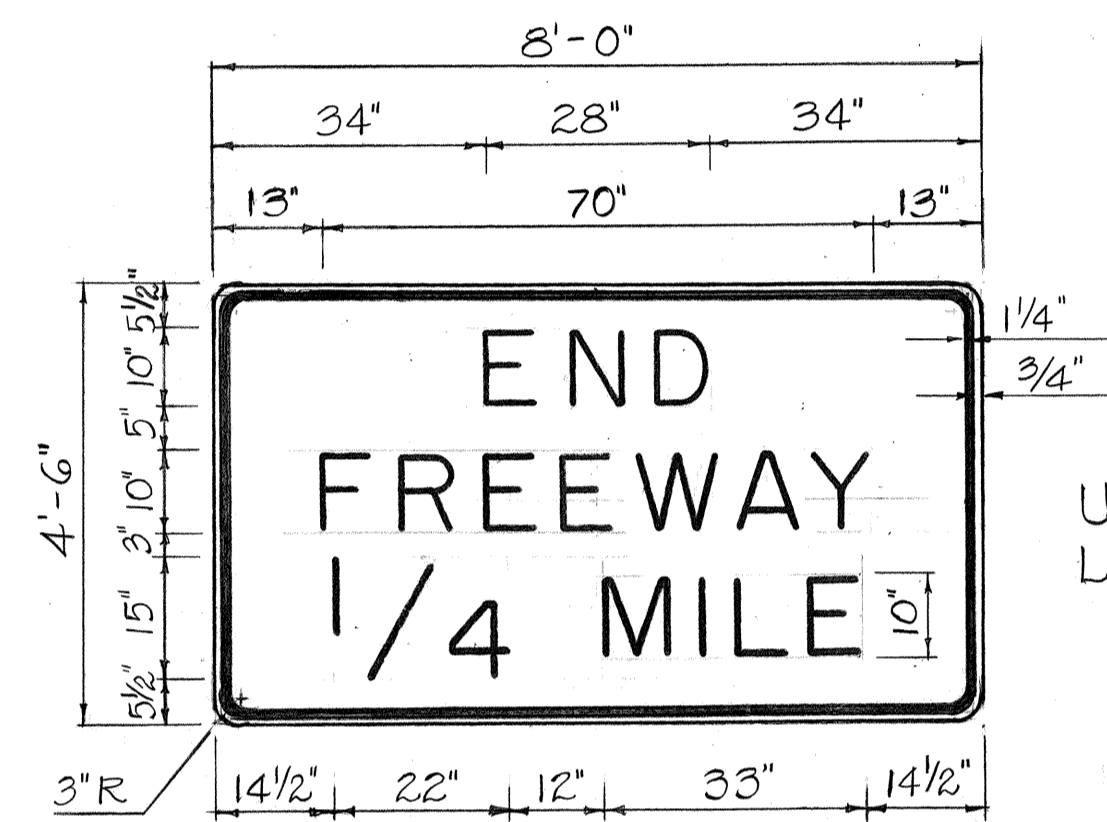
R3-8a 36"x30"  
Scale: 1" = 1'-0"



R16-11 24"x12"  
Scale: 1" = 1'-0"



R16-15 24"x30"  
Scale: 1" = 1'-0"



W16-2(1/4)  
Scale: 1/2" = 1'

Use Series "E" Letters & Numerals

REGULATORY & WARNING SIGNS

Scale: As Shown

NOTE:

- Sign R3-8a is a variation of Sign R3-8. Except where noted Plate & Arrow Details shall conform to Sign R3-8.
- Sign W16-2(1/2) same dimensions as W16-2(1/4) except fraction is 1/2".

7/3/84	Changed designation of gore exit signs
DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

MISCELLANEOUS SIGNS

INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOIA AVE.  
F.A.I. PROJ. NO. IR-HI-1(184)

Not to Scale

SHEET No. 713 OF 46 SHEETS

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
TRACED 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.	IR-HI-1(184)	1984	55	114

### TRAFFIC SIGN SUMMARY

TYPE	DESCRIPTION	W/POST(S) W/O POST	
R1-2-A	YIELD	1	1
R2-1(25)	SPEED LIMIT 25	1	1
R2-1(30)	SPEED LIMIT 30	1	1
R2-1(35)-A	SPEED LIMIT 35	1	1
R2-1(45)-A	SPEED LIMIT 45	1	2
R2-4a(50/40)-A	SPEED LIMIT 50 MINIMUM 40	1	10
R2-5b(35)-A	REDUCED SPEED 35	1	1
R2-5b(45)-A	REDUCED SPEED 45	1	2
R3-2		1	1
R3-4b		1	1
R3-8a		1	1
R4-3-A	SLOWER TRAFFIC KEEP RIGHT	1	2
R16-5	KEEP OUT FREEWAY	2	2
R16-11	5:00-8:30 AM.	1	1
R16-15	DO NOT CROSS SOLID LINE	1	2
R17-1	ON LEFT ARROW ONLY	1	1
W3-2a		1	1
W4-1(R)-A		2	3
W4-2(R)		1	1
W4-2(L)-A		1	1
W4-3		1	1
W4-3-A		1	4
W9-2(L)	LANE ENDS MERGE LEFT	1	1
W9-3(L)	THRU TRAFFIC MERGE LEFT	1	1
W11-2		1	1
W11A-2		1	1
W12-2(15'-0")	15'-0"	1	1
W13-2(25)	EXIT 25 MPH	1	5
W13-2(35)	EXIT 35 MPH	1	1
W13-3(25)	RAMP 25 MPH	1	1
W13-3(35)	RAMP 35 MPH	1	1
W16-1(1/4)	END FREEWAY 1/4 MI.	1	1
W16-2(1/4)	END FREEWAY 1/4 MILE	1	1
W16-2(1/2)	END FREEWAY 1/2 MILE	1	1
D10-5(26)	MILE 26	1	1
D10-5(27)	MILE 27	1	1
IM-1(1)	H-1	1	3
M3-2	EAST	1	2
M3-4	WEST	1	1
MG-2(R)		1	2
WI-1(R)		1	1
RM-9	OBJECT MARKER	1	1

### EXPRESSWAY SIGN SUMMARY

TYPE	DESCRIPTION	AREA(Sq. FT.)	
		PANEL	OVERLAY
E-1	University Ave.		110.00
E-2	King St.		74.25
E-3	6th Avenue, 3/4 MILE		82.50
E-4	Freeway		52.50
E-5	University Avenue, 1/2 MILE		152.00
E-6	King St.		116.00
E-7	Waianae	110.50	
E-8	King St, NEXT RIGHT		84.50
E-9	Kapiolani Blvd, EXIT ONLY		120.25
E-10	Kapiolani Blvd, EXIT ONLY		120.25
E-11	6th Ave, NEXT RIGHT		68.75
E-12	6th Ave.		87.00
E-13	Kapiolani Blvd, EXIT ONLY		120.25
E-14	Koko Head Avenue, EXIT ONLY		119.00
E-15	Kapiolani Blvd, EXIT ONLY	120.25	
E-16	Koko Head Avenue, EXIT ONLY	144.00	
E-17	Waialae Ave, 1/2 MILE		119.00
E-18	Kapiolani Blvd, 1 MILE	120.25	
E-19	Waialae Ave.		91.00
E-20	Freeway		76.50
E-21	Waialae Avenue		104.00
E-22	Waialae Avenue		72.25
E-23	Freeway		76.50
E-24	Kapiolani Blvd, 1 3/4 MILES		120.25
E-25	Waialae Ave.		104.00
E-26	Waialae Ave, 1/2 MILE		96.00
E-27	Kilauea Avenue		114.00
TOTALS		495.00	2280.75

### EXIT NUMBER PANEL SUMMARY

INSTALLED ABOVE SIGN No.	DESCRIPTION	AREA(Sq. FT.)	
		PANEL	OVERLAY
E-1	EXIT 24 B		19.00
E-2	EXIT 25 A		19.00
E-3	EXIT 25 B		19.00
E-5	EXIT 24 B		19.00
E-6	EXIT 25 A	19.00	
E-8	EXIT 25 A	19.00	
E-9	EXIT 25 B	19.00	
E-10	EXIT 25 B	19.00	
E-11	EXIT 25 B	19.00	
E-12	EXIT 25 B	19.00	
E-13	EXIT 25 B	19.00	
E-14	EXIT 26 A	19.00	
E-15	EXIT 25 B	19.00	
E-16	EXIT 26 A	19.00	
E-17	EXIT 26 B	19.00	
E-18	EXIT 25 B	19.00	
E-19	EXIT 26 B	19.00	
E-24	EXIT 25 B	19.00	
E-25	EXIT 26	15.00	
E-26	EXIT 26	15.00	
E-27	EXIT 27	15.00	
TOTALS		311.00	76.00

### HIGHWAY LIGHTING SUMMARY

DESCRIPTION	QUANTITY
High Pressure Sodium Luminaire:	
150 W	87 EA.
250 W	131 EA.
Mercury Vapor Luminaire:	
250 W	52 EA.
Type "B" Pullbox (1/2 Modified Cover)	8 EA.
Modified Bases	10 EA.

### PAVEMENT MARKING SUMMARY

DESCRIPTION	QUANTITY
Raised Pavement Markers:	
Type "A"	170 EA.
Type "C"	206 EA.
Type "D"	8 EA.
Type "H"	103 EA.
Pavement Striping Tape:	
WHITE	5022 LF.
YELLOW	3455 LF.
4"	3835 LF.
8"	480 LF.
12"	900 LF.
430 LF.	

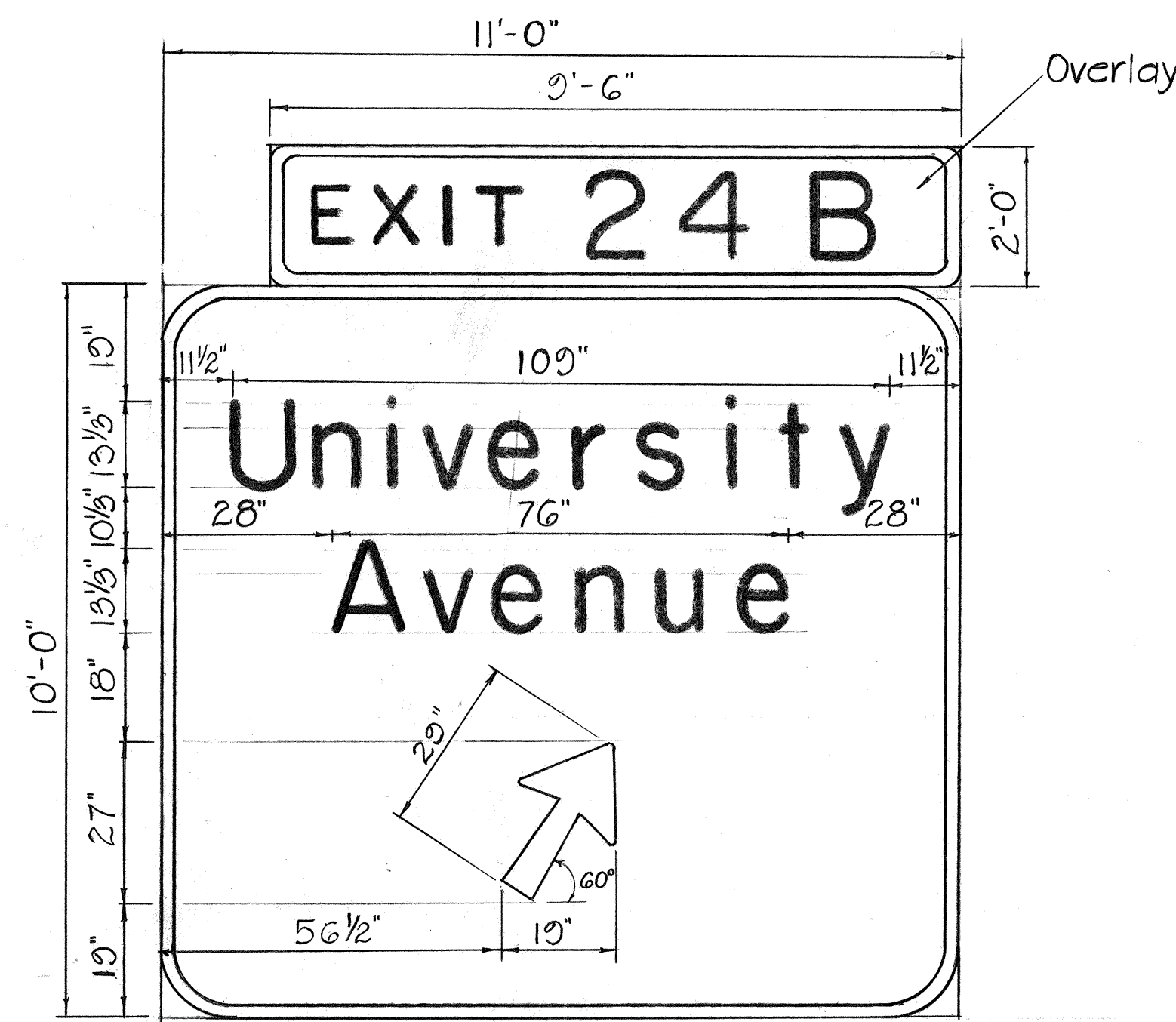
SURVEY PLANNED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 No. \_\_\_\_\_

12-16-83 REVISED QUANTITIES.

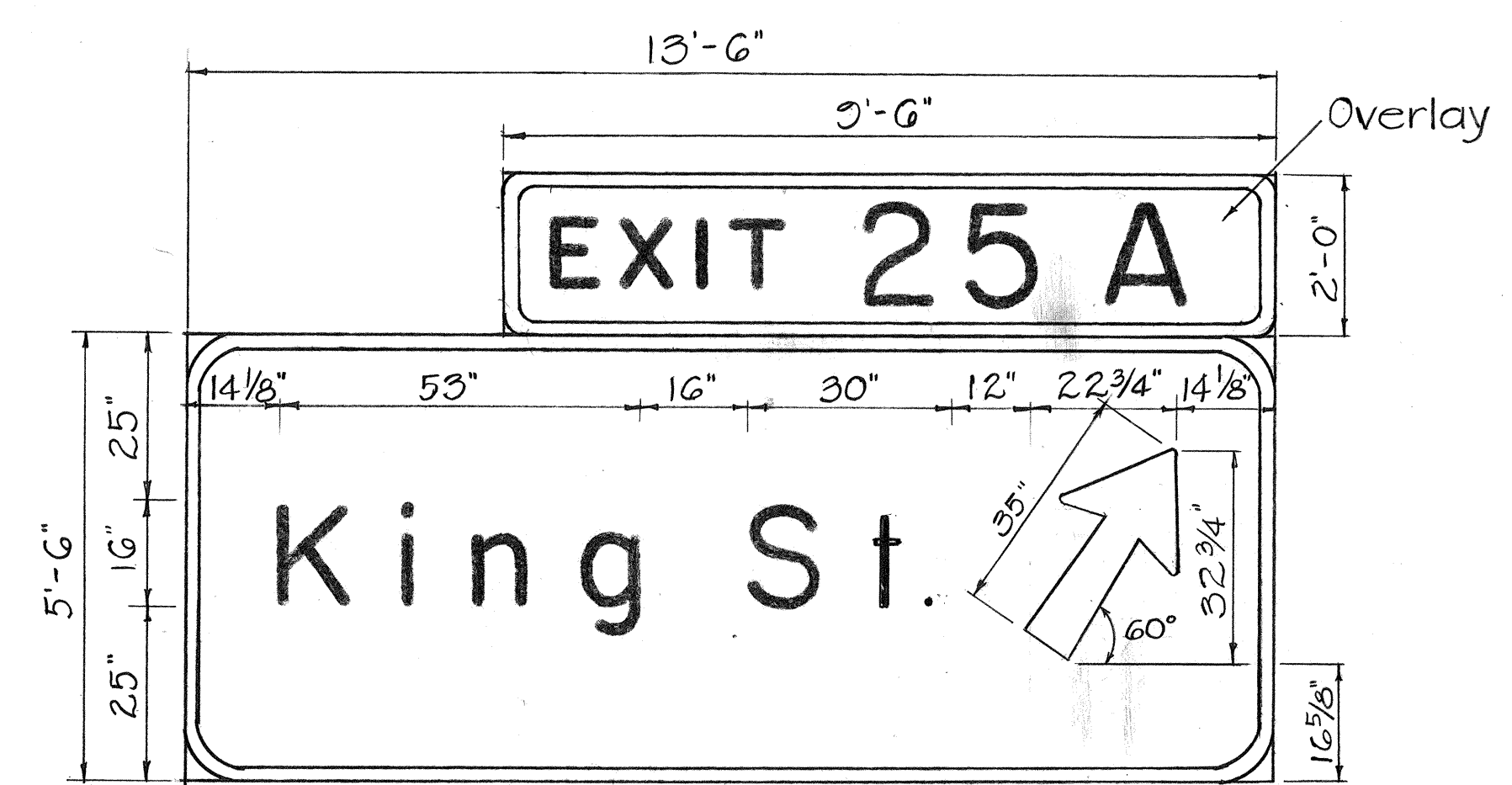
DATE REVISION

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**MISCELLANEOUS**  
**SUMMARIES**  
 INTERSTATE ROUTE H-1  
 SAFETY IMPROVEMENTS  
 KALO LANE TO AINAKO AVE.  
 E.A.I. PROJ. NO. IRHI-1(184)  
 SCALE: 1" = 50'  
 SHEET No. 114 OF 46 SHEETS

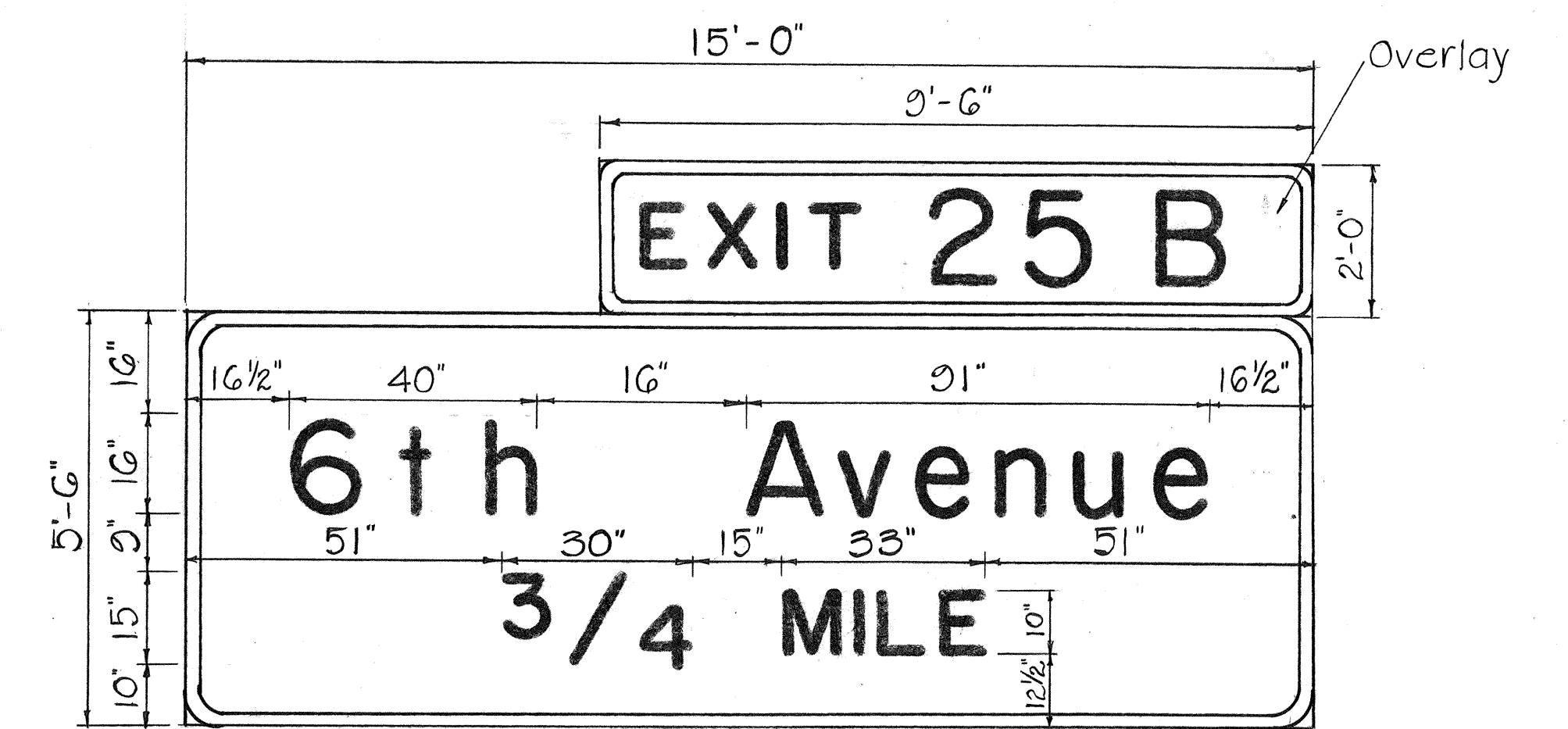
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-1(184)	1984	56	114



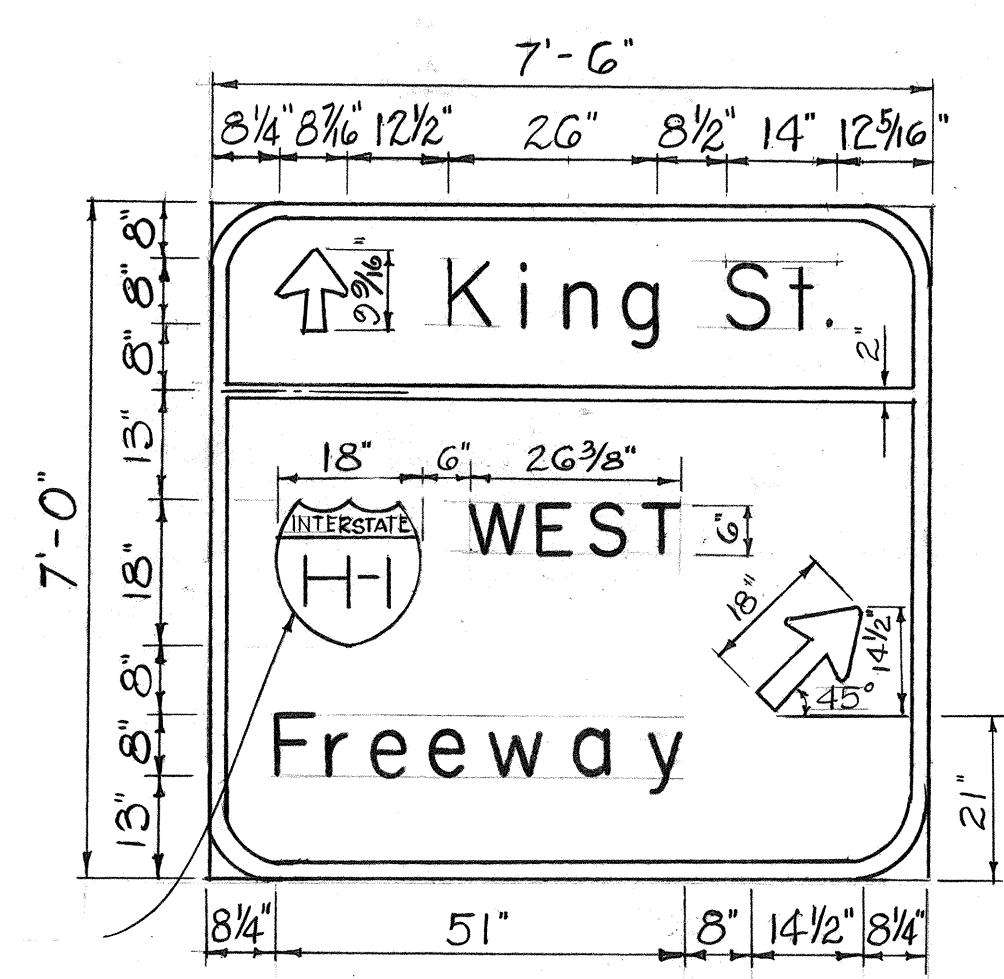
E-1 (Overlay)



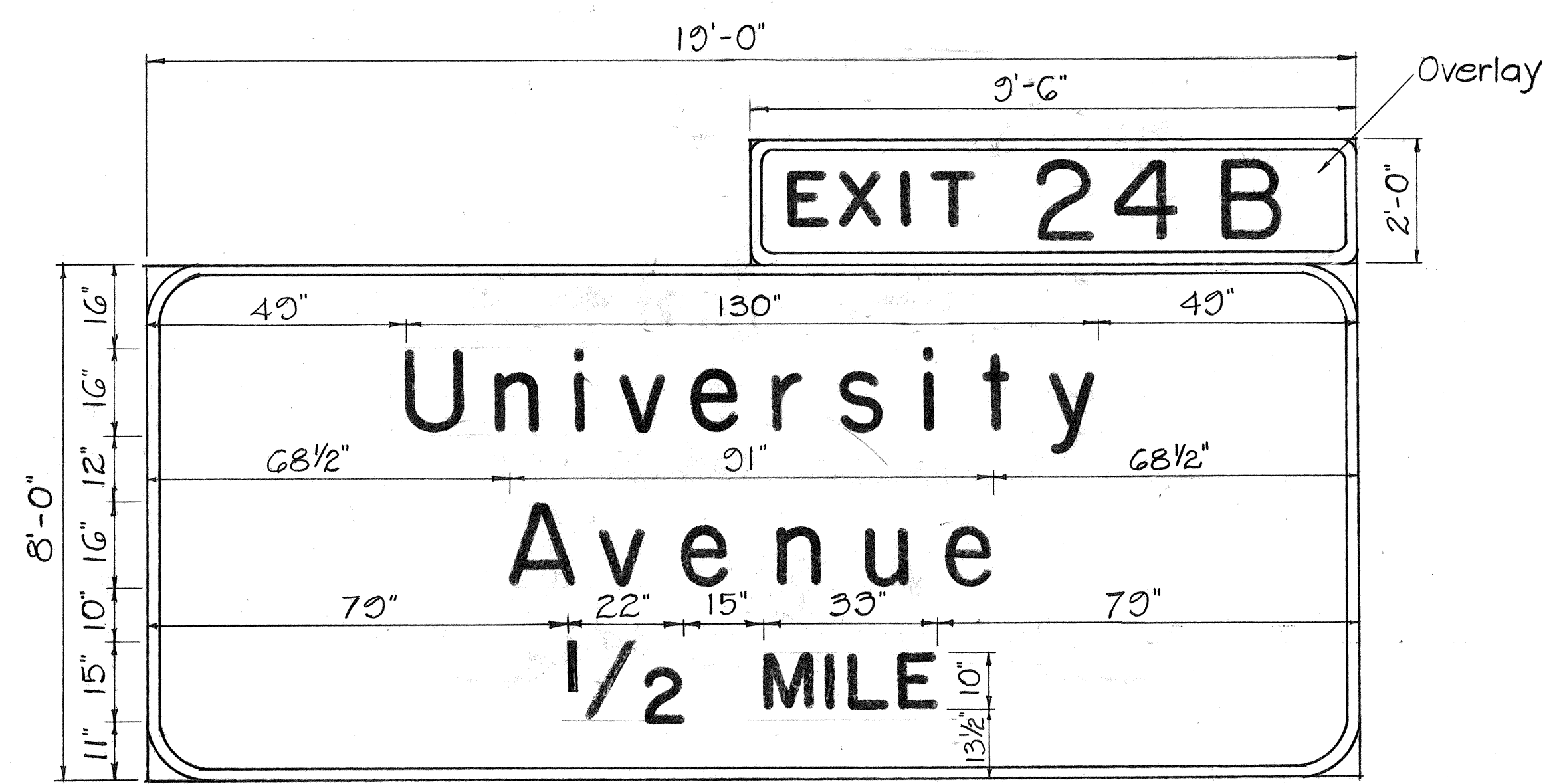
E-2 (Overlay)



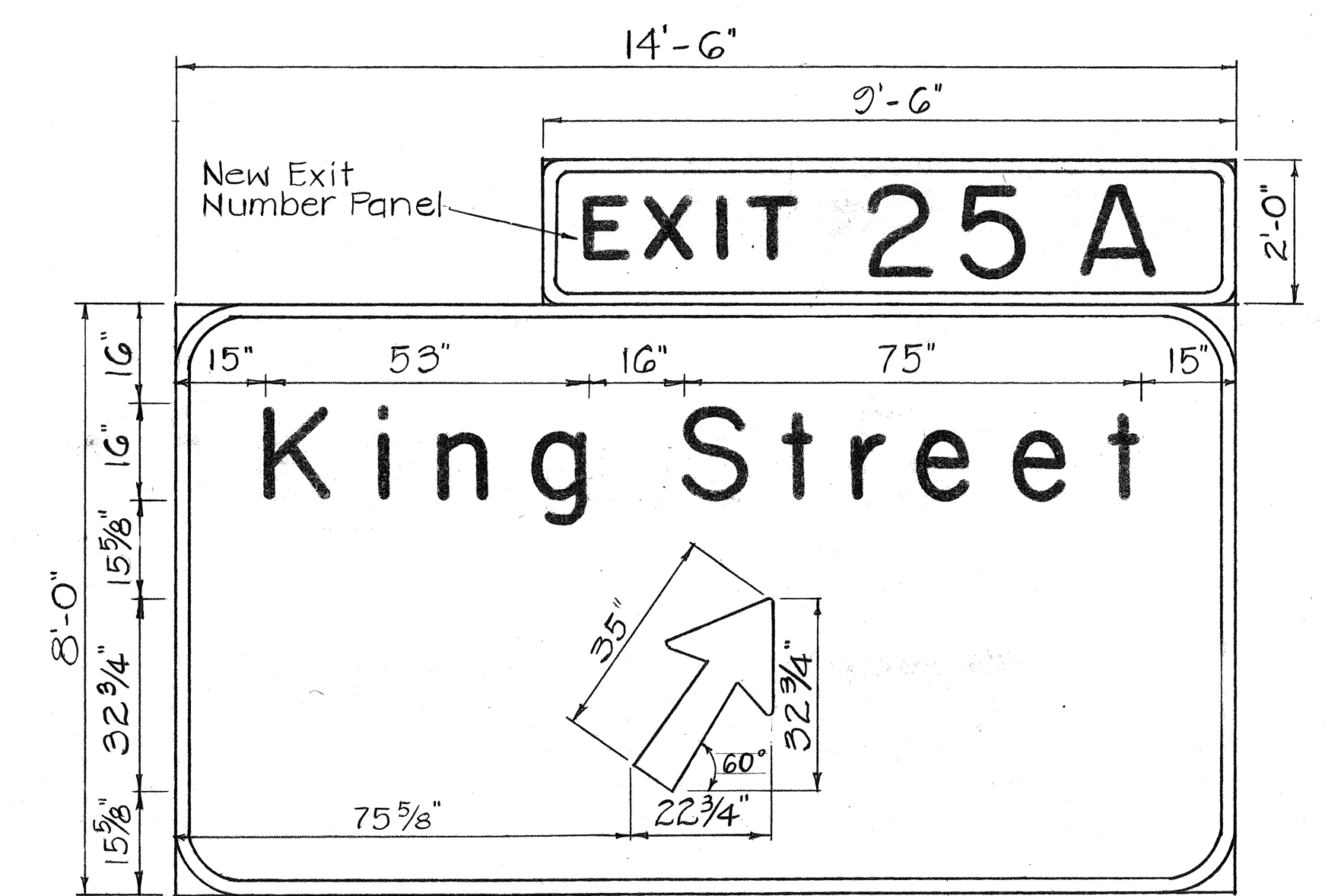
E-3 (Overlay)



E-4 (Overlay)



E-5 (Overlay)



E-6 (Overlay)

See Sht. # DT 106

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

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

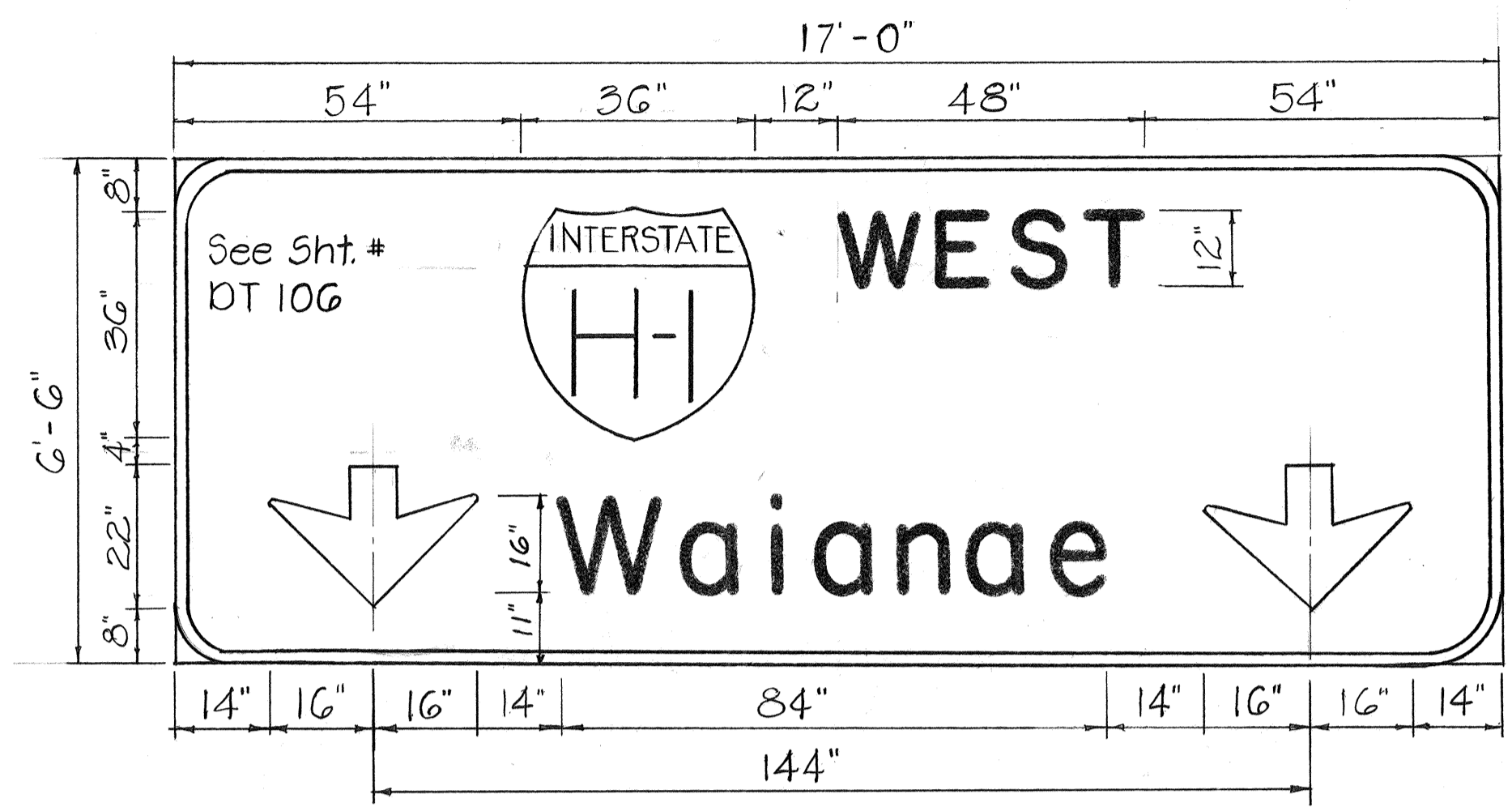
**EXPRESSWAY SIGN  
PANEL LAYOUTS**

INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOA AVE.  
F.A.I. PROJ. NO. IR-HI-1(184)

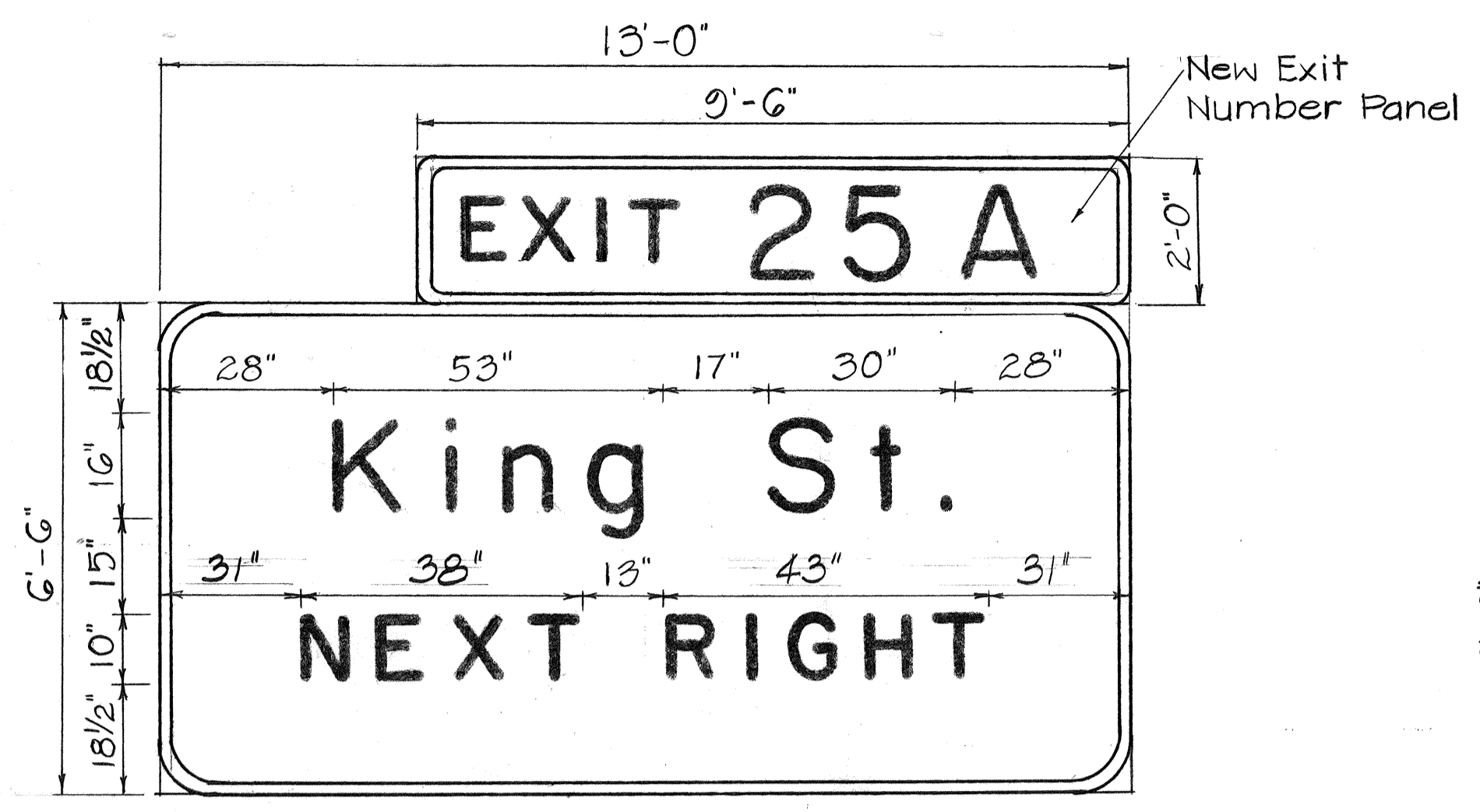
Not to scale

SHEET No. 715 OF 46 SHEETS

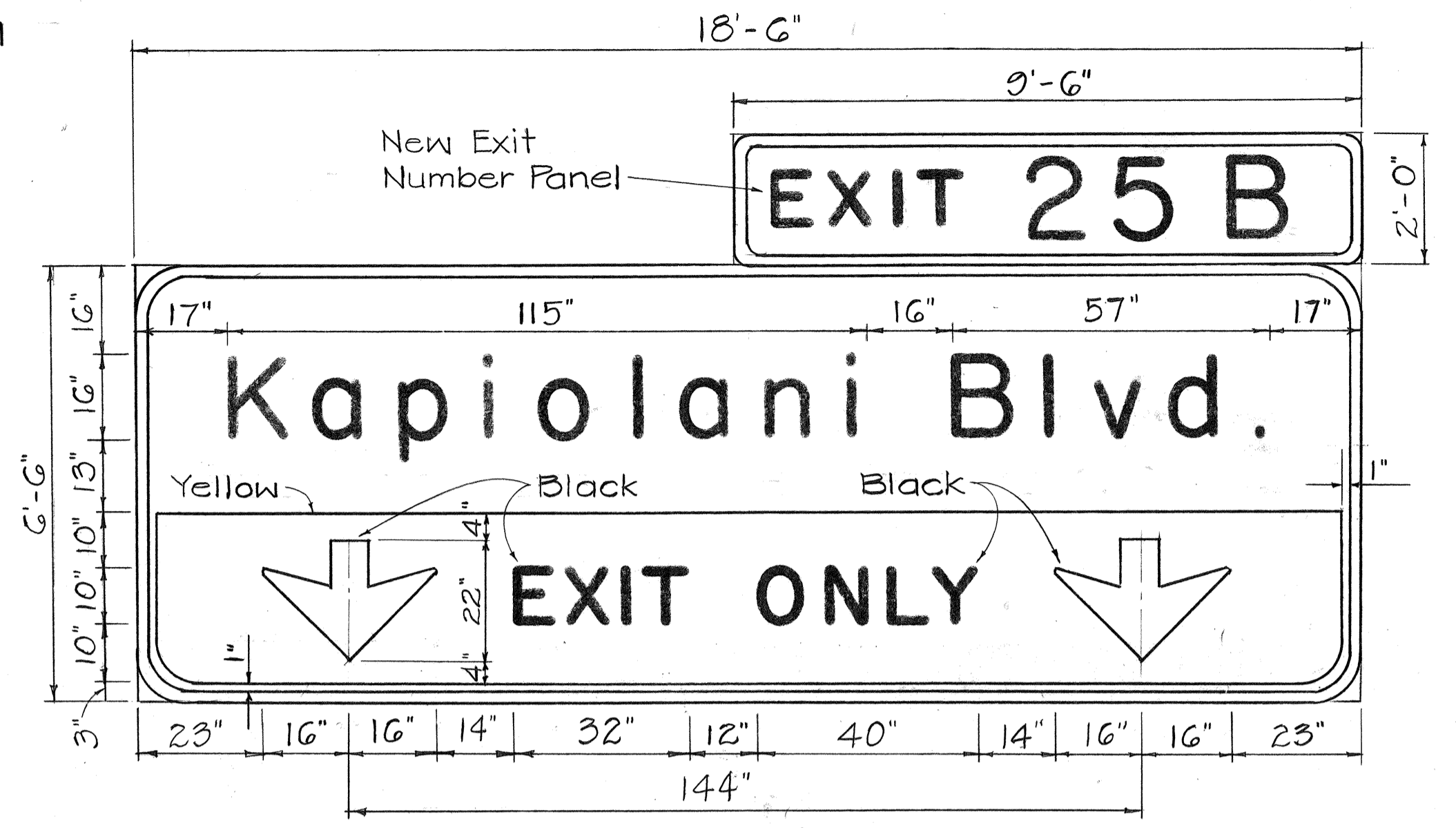
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1(184)	1984	57	114



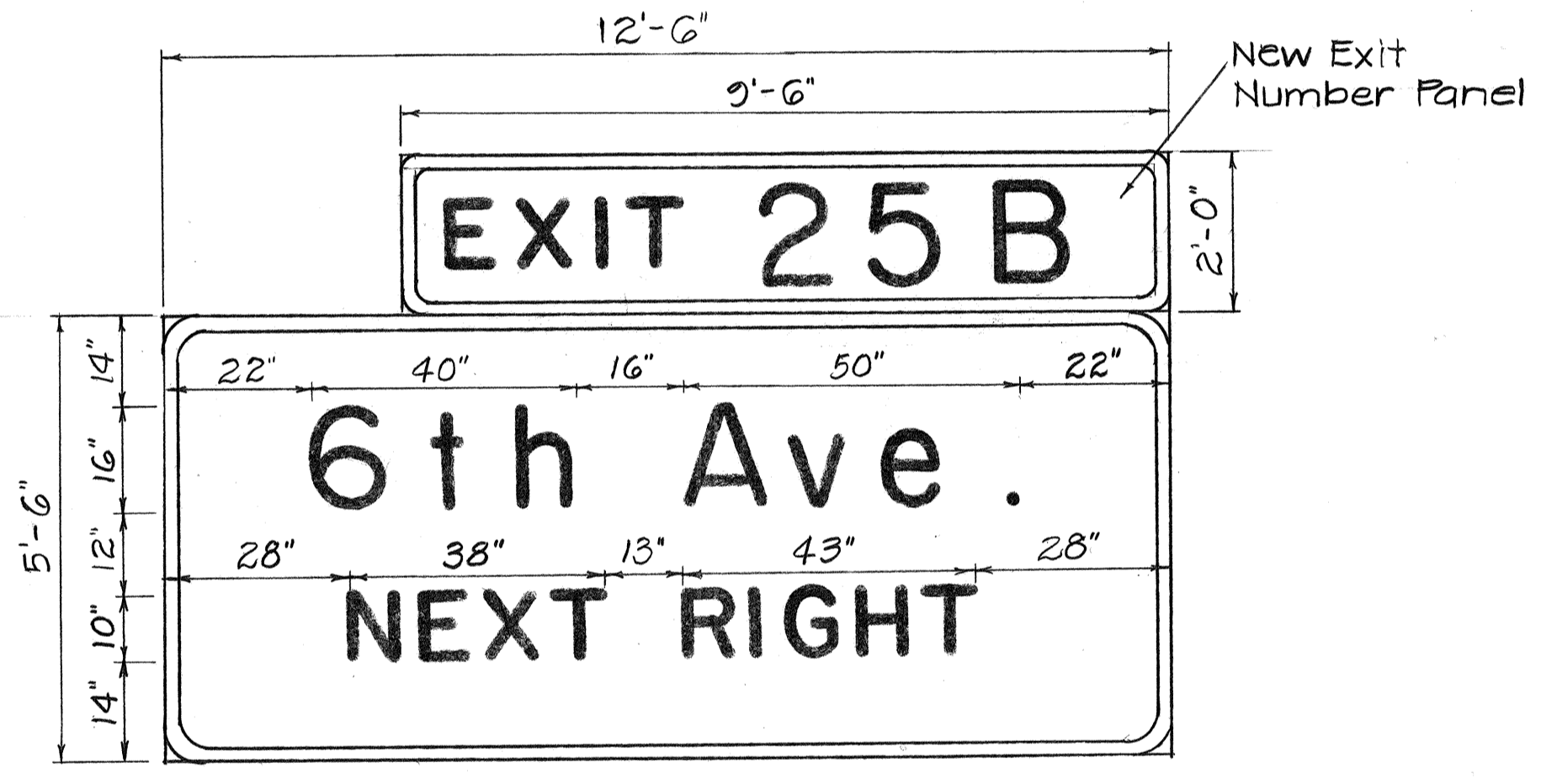
E-7 (New Sign Panel)



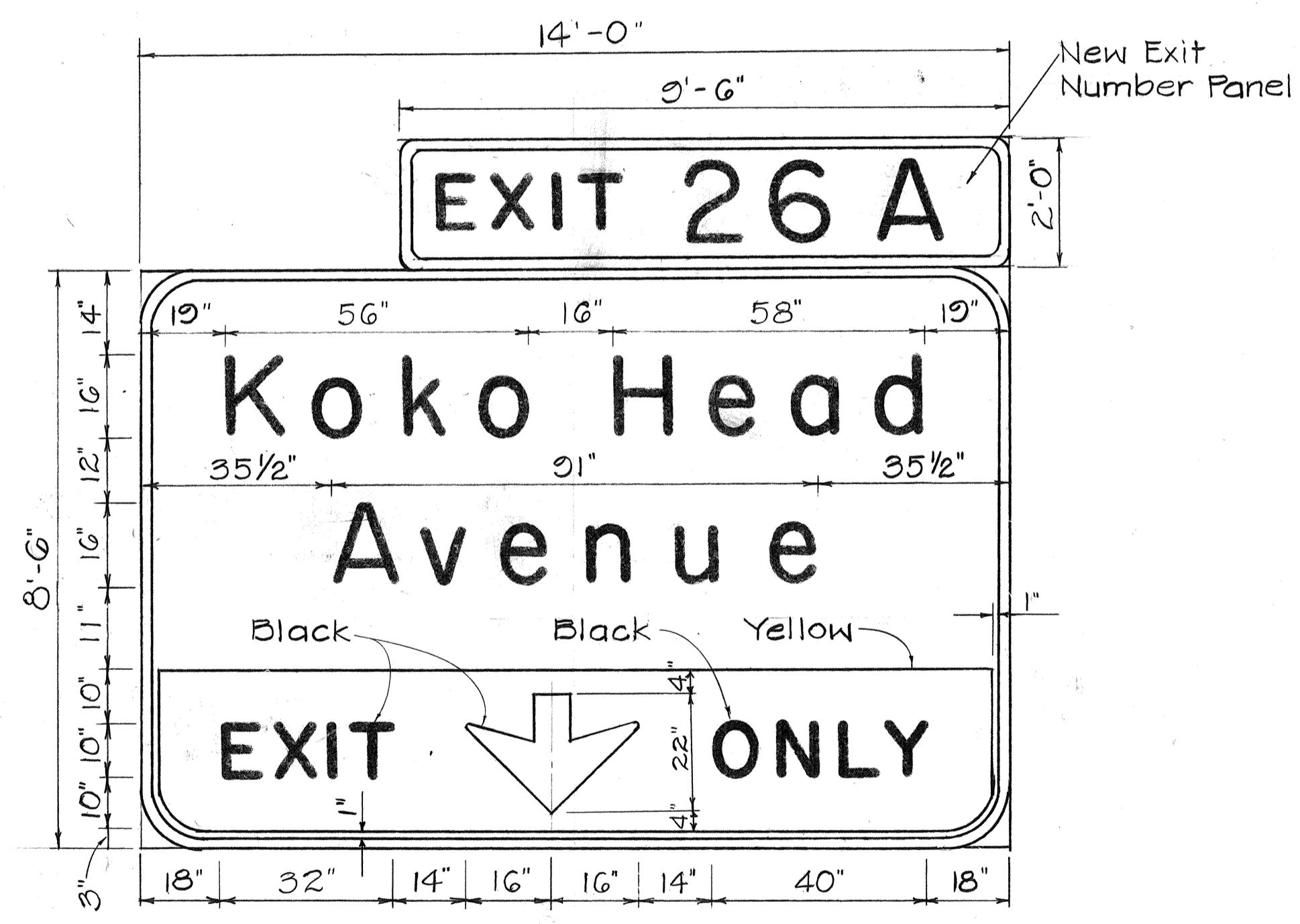
E-8 (Overlay)



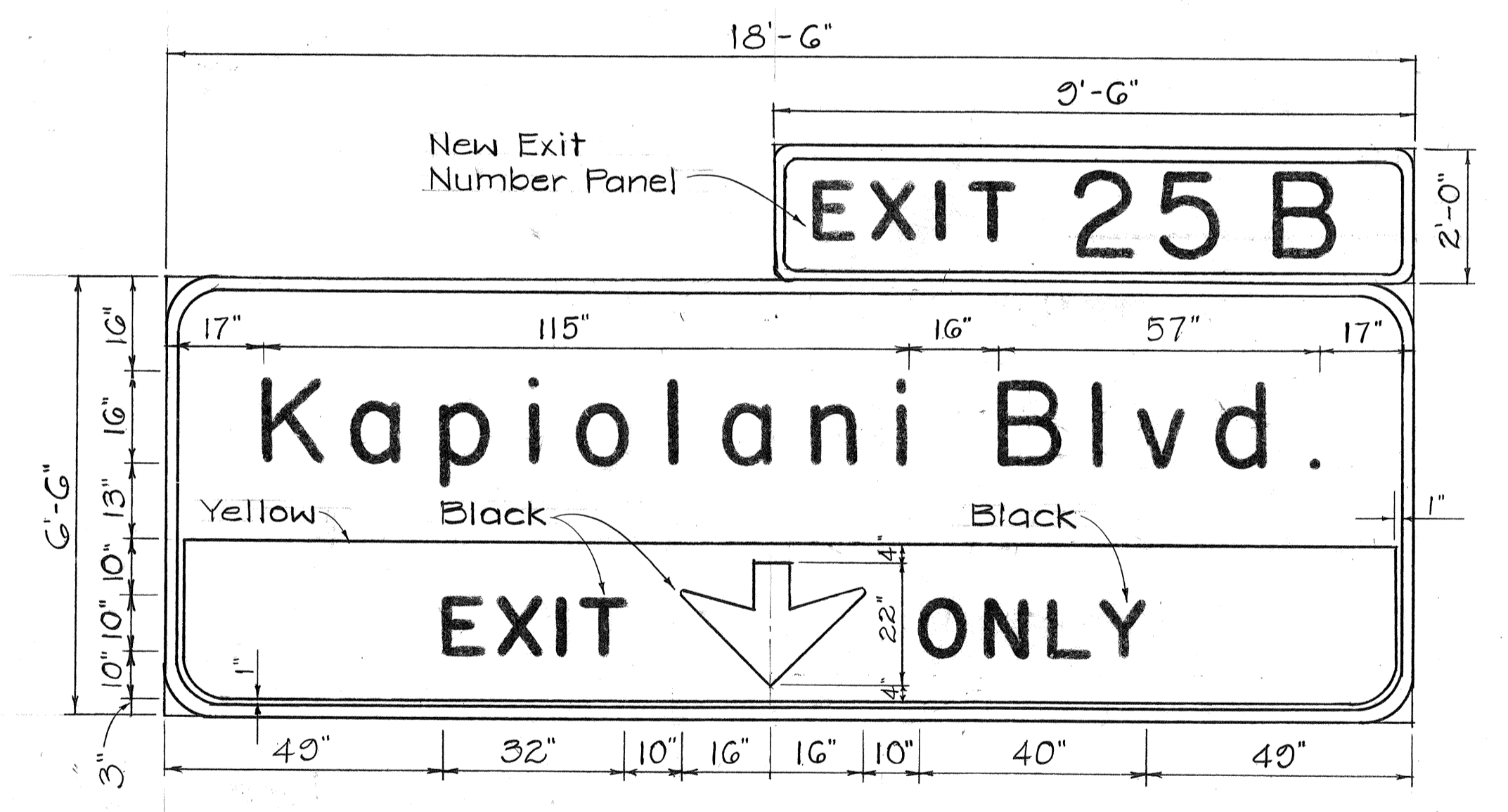
E-10, E-13 (Overlays)



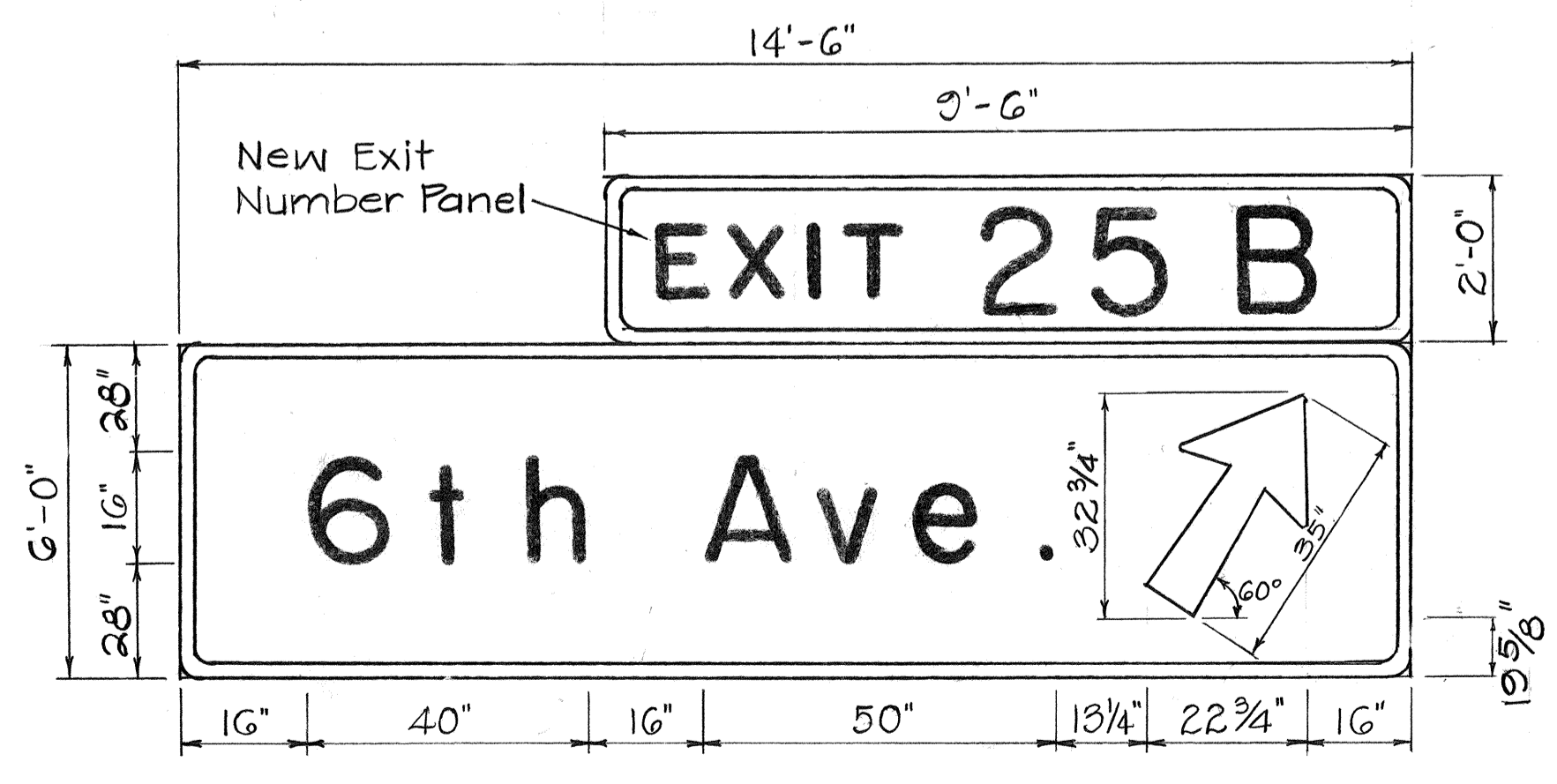
SIGN E-11 (Overlay)



E-14 (Overlay)



E-9 (Overlay)  
E-15 (New Sign Panel)



E-12 (Overlay)

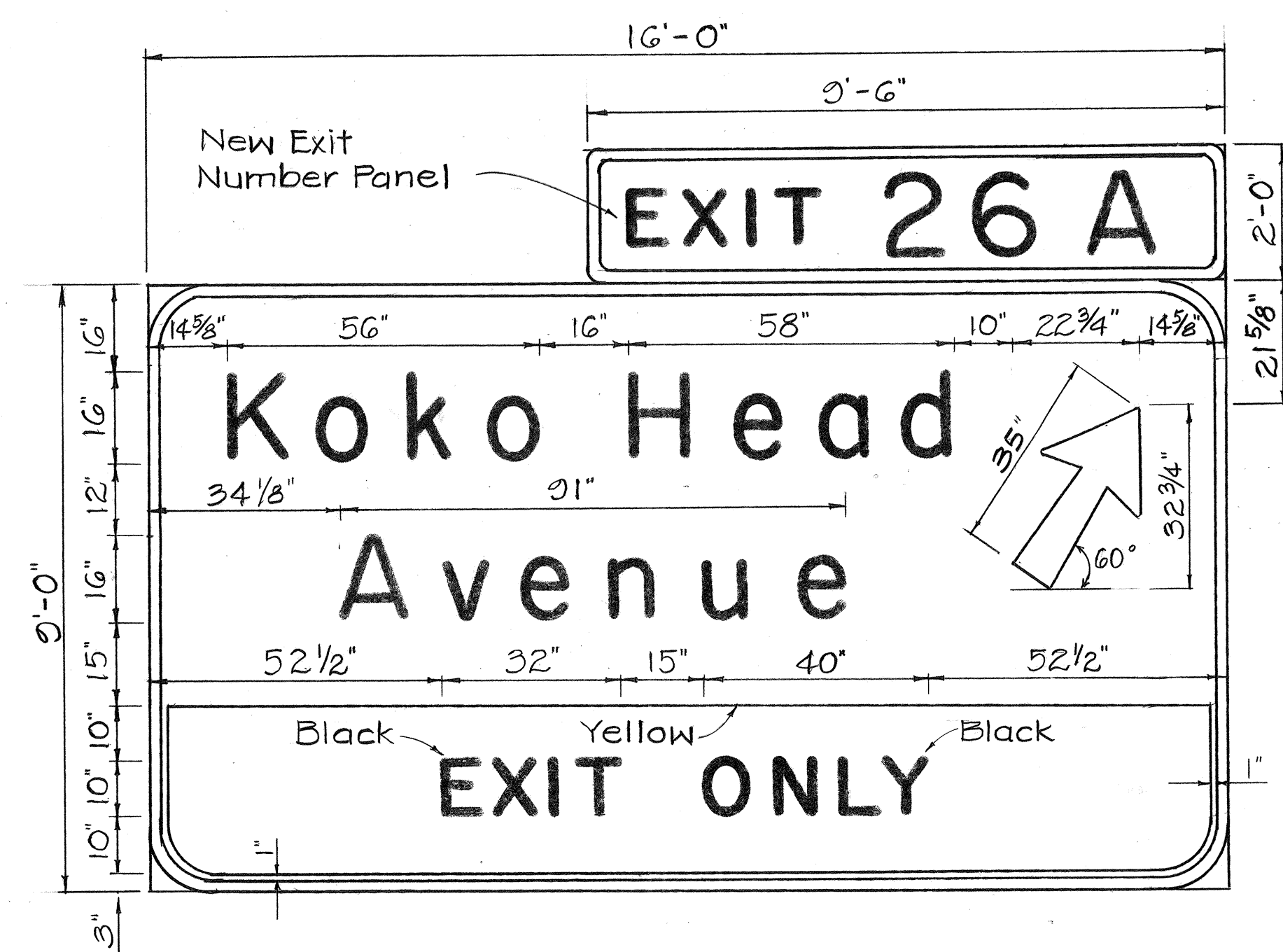
ORIGINAL PLAN	DATE
SURVEY PLACED BY	
DRAWN BY	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

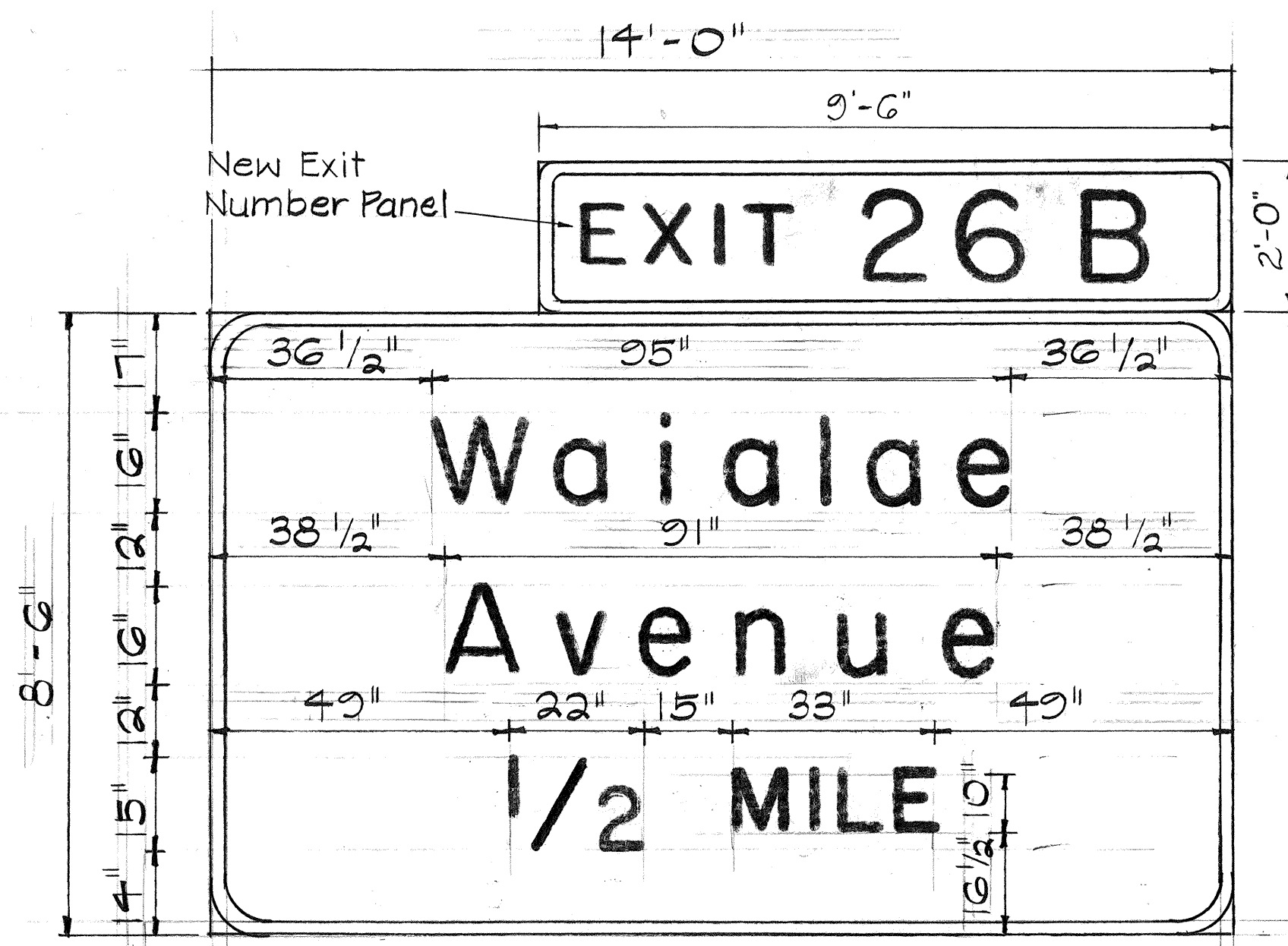
EXPRESSWAY SIGN  
PANEL LAYOUTS  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOA AVE.  
F.A.I. PROJ. NO. IR-HI-1(184)  
Not to Scale

SHEET No. 716 OF 46 SHEETS

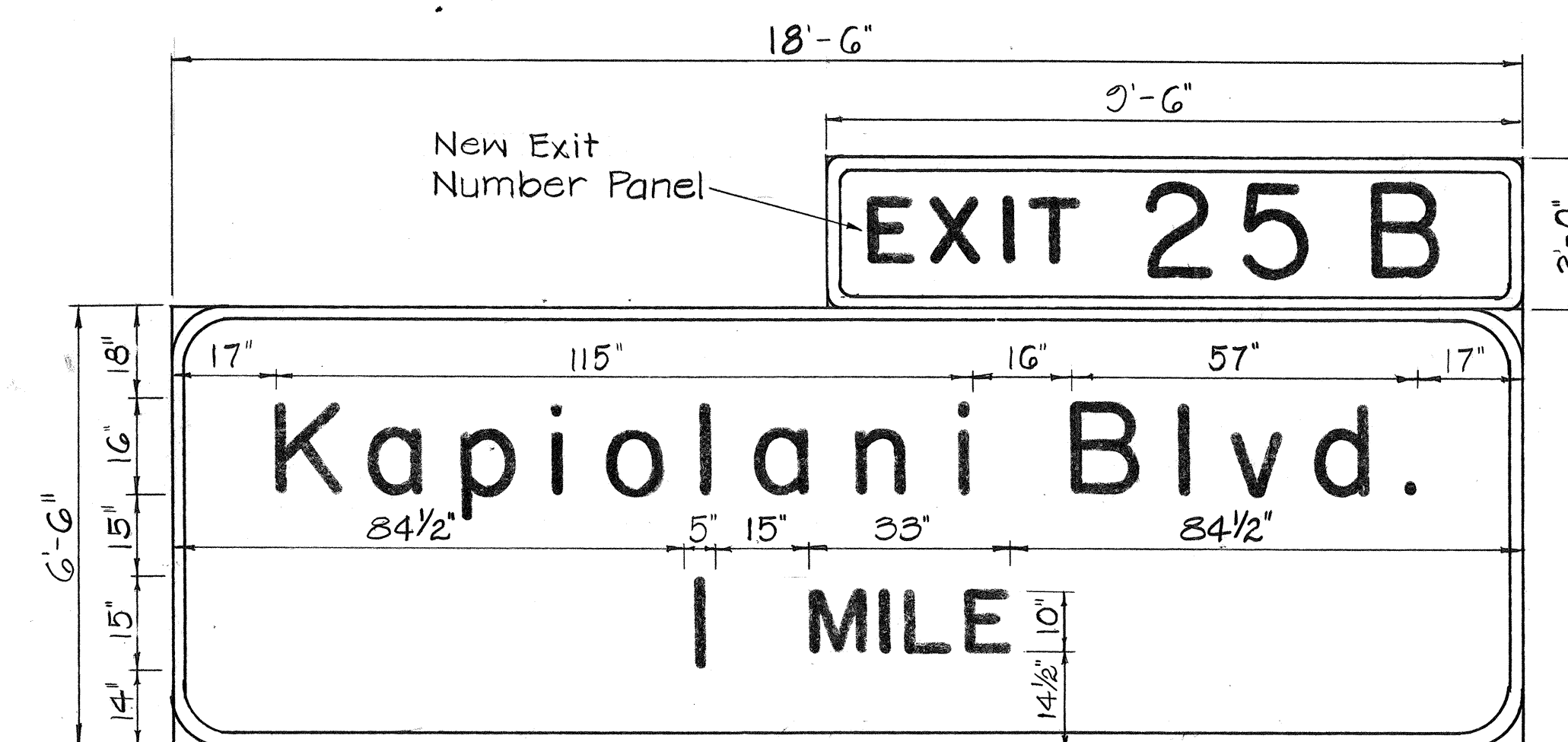
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1(184)	1984	58	714



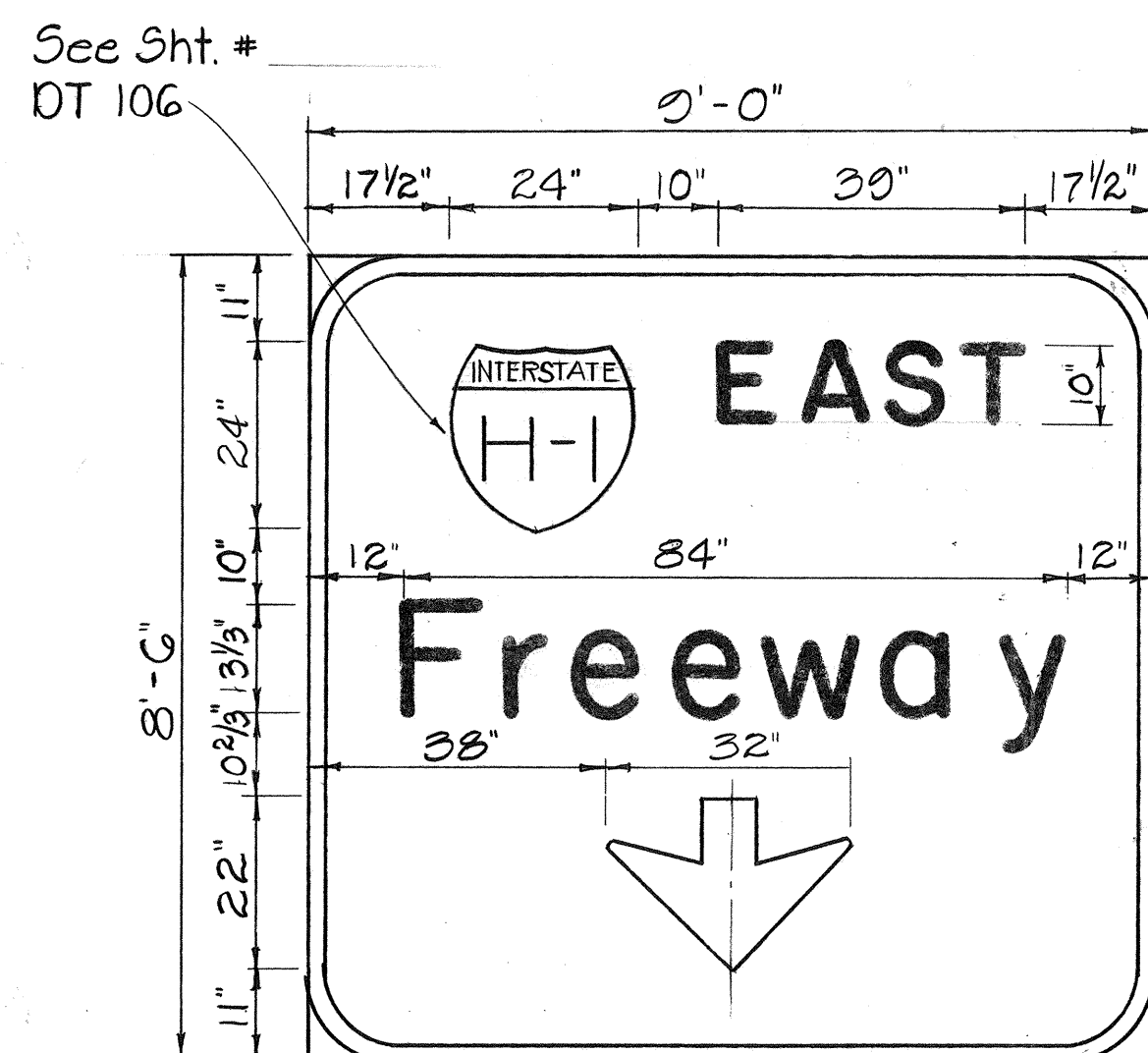
E-16 (New Sign Panel)



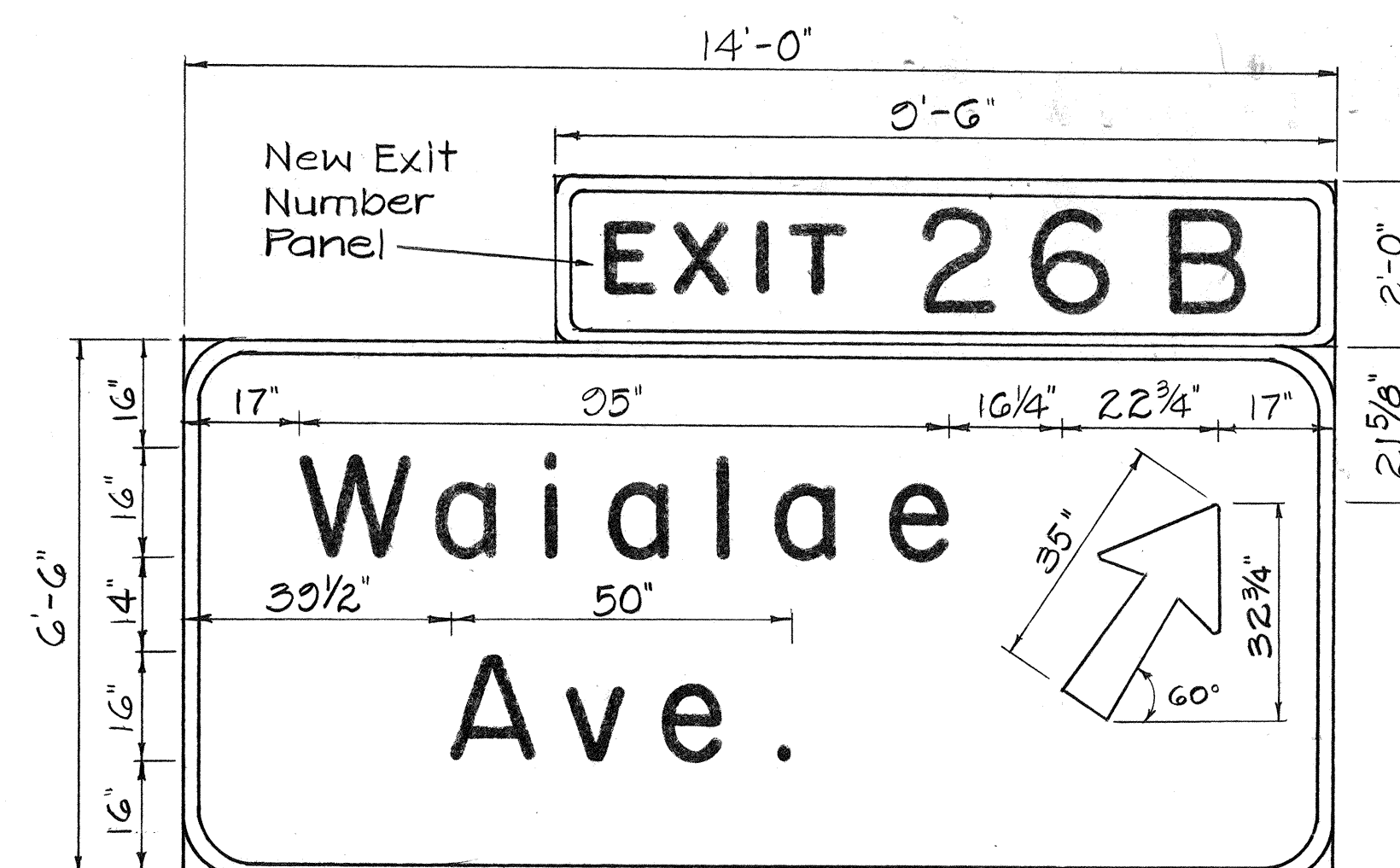
E-17 (Overlay)



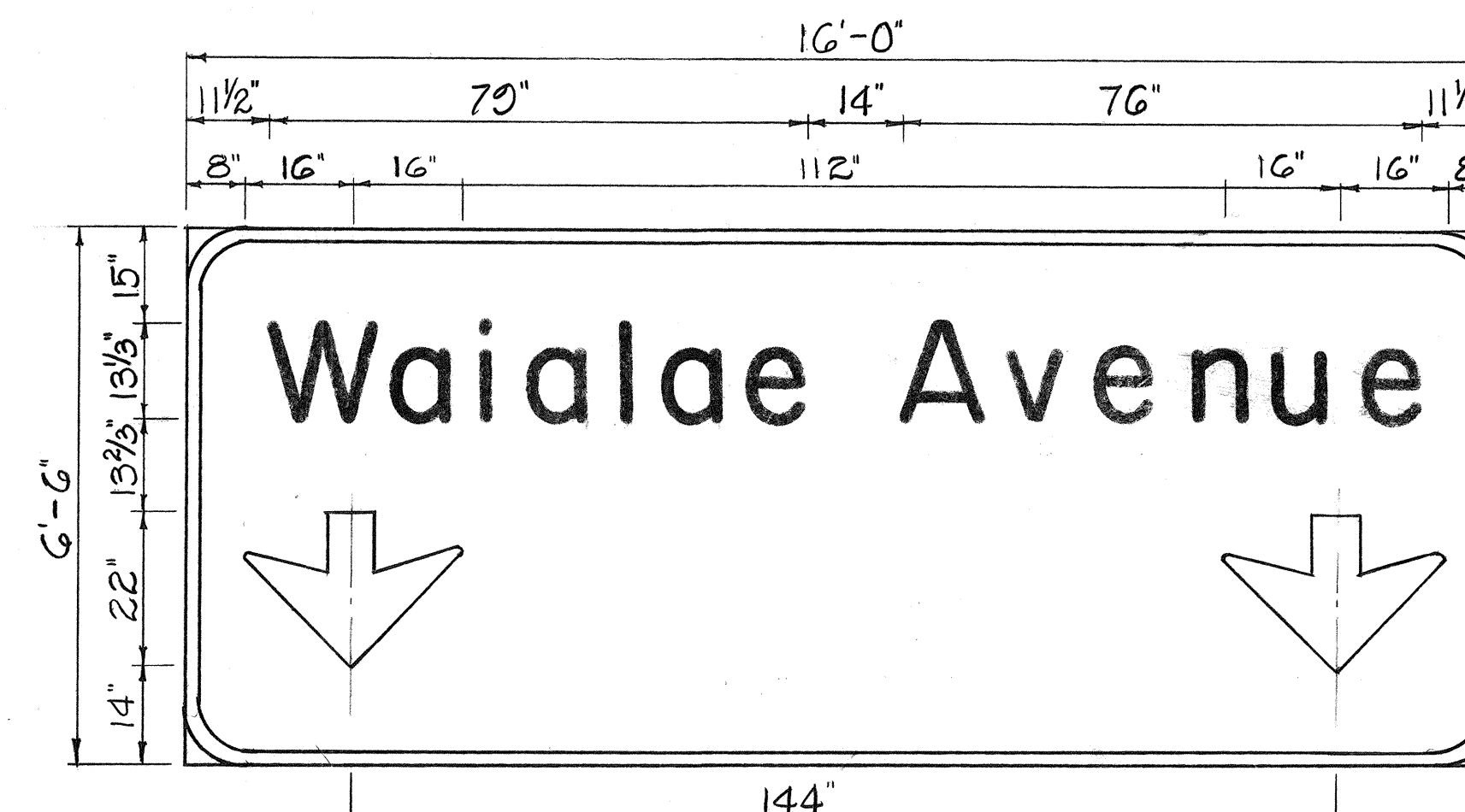
E-18 (New Sign Panel)



E-20 (Overlay)



E-19 (Overlay)



E-21 (Overlay)

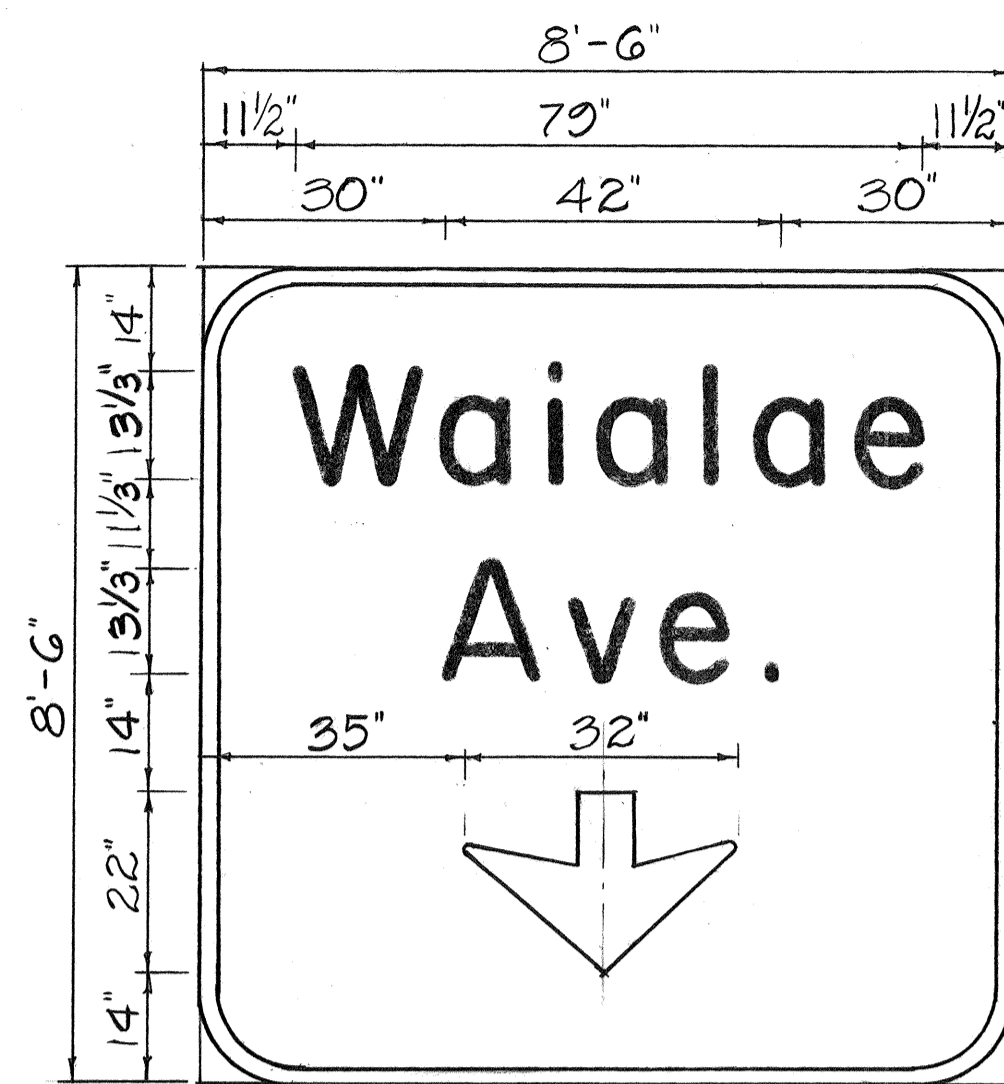
DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
NO.	_____

See Sht. #  
DT 106

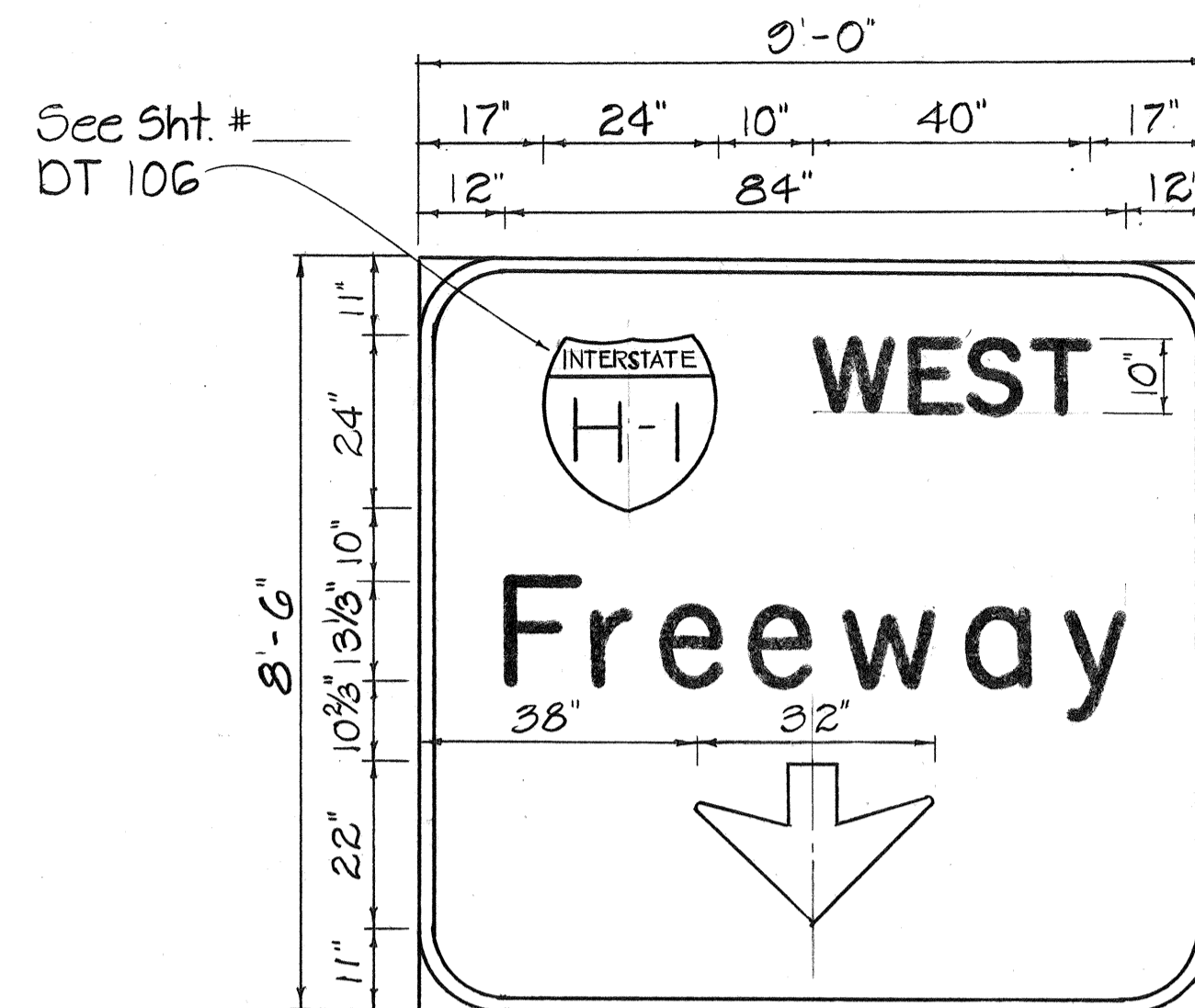
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

EXPRESSWAY SIGN  
PANEL LAYOUTS  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOA AVE.  
F.A.I. PROJ. NO. 1R-HI-1(184)  
Not to Scale  
SHEET No. T17 OF 46 SHEETS

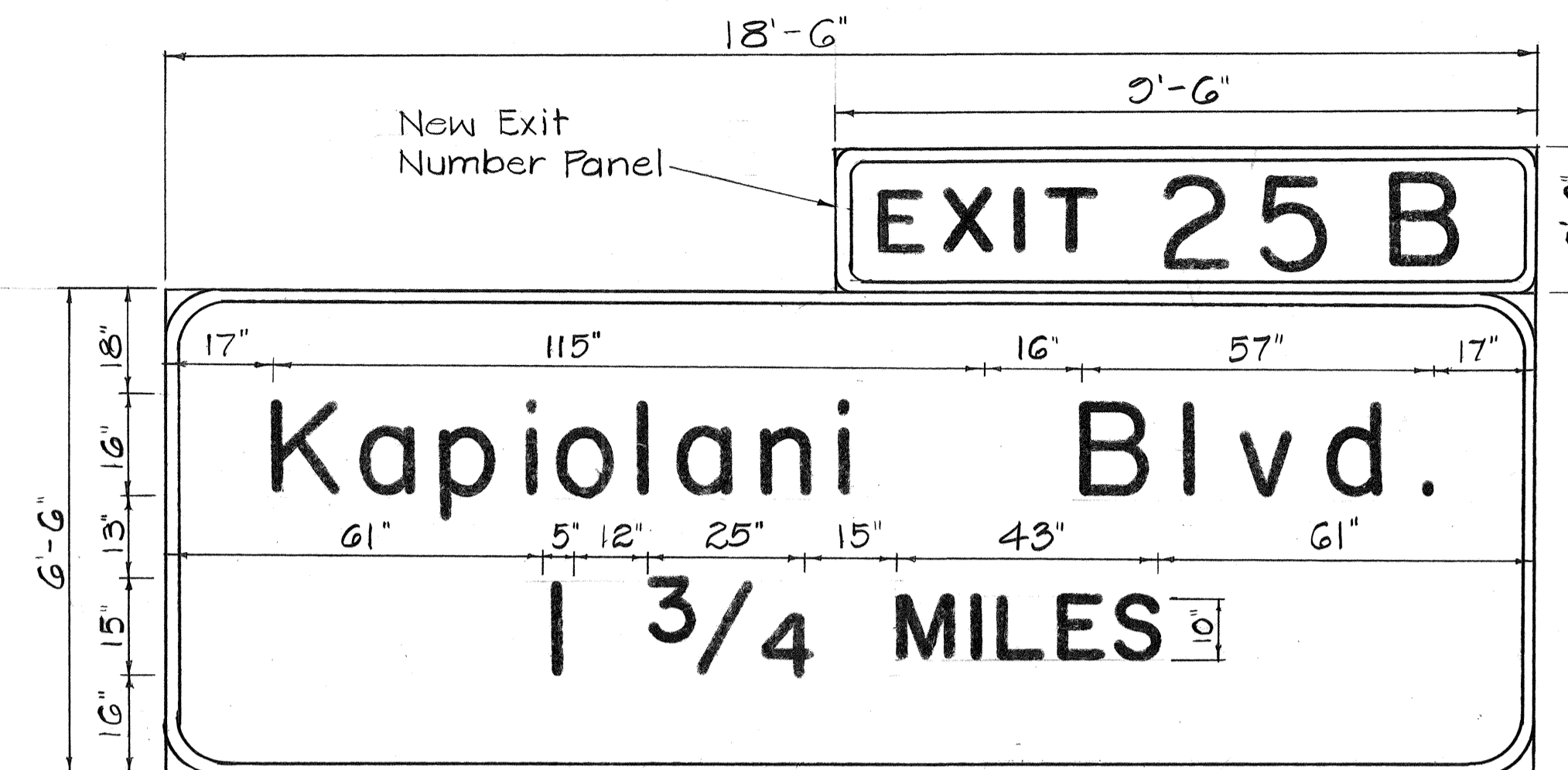
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H1-1(184)	1984	59	114



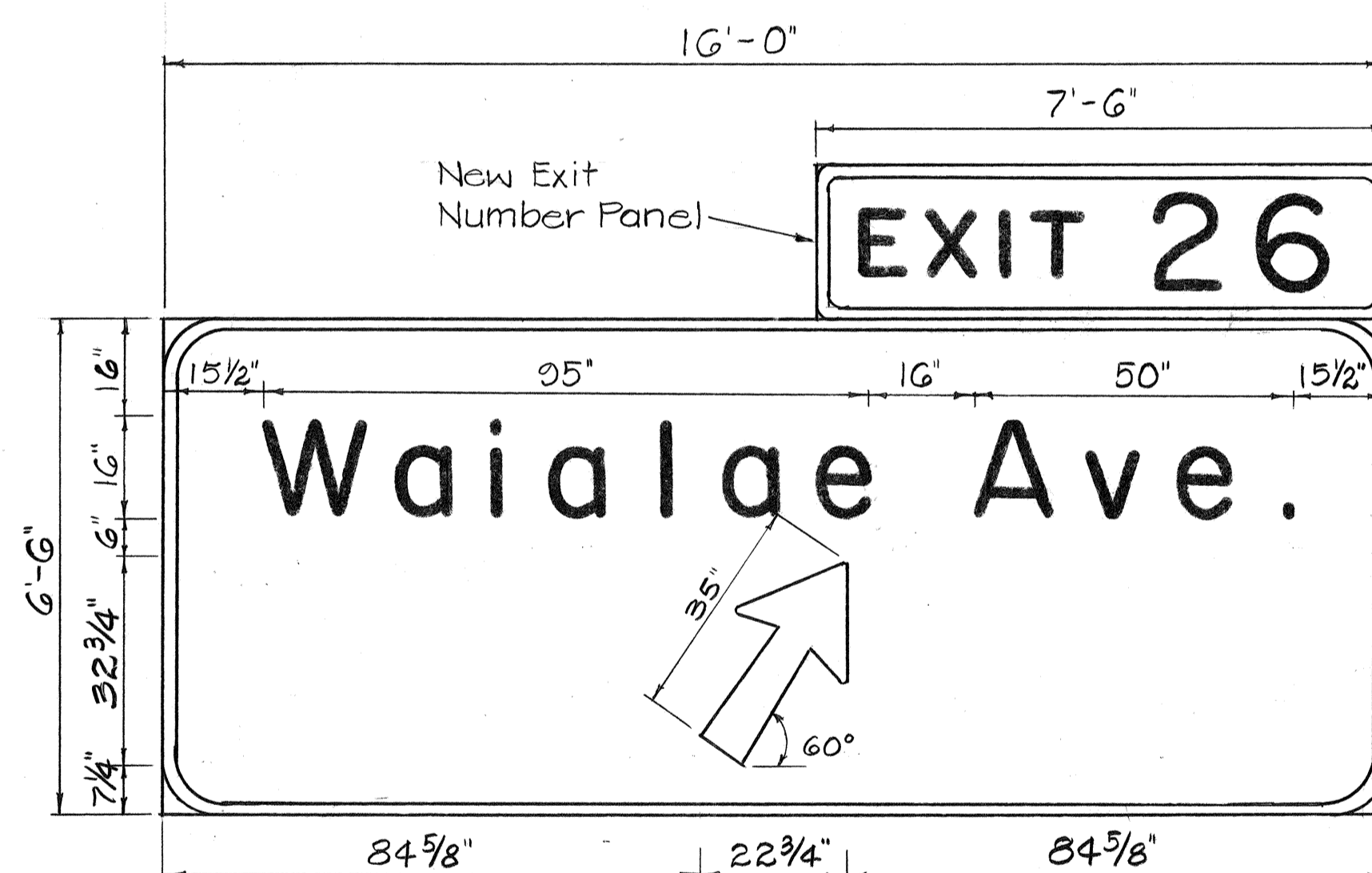
E-22 (Overlay)



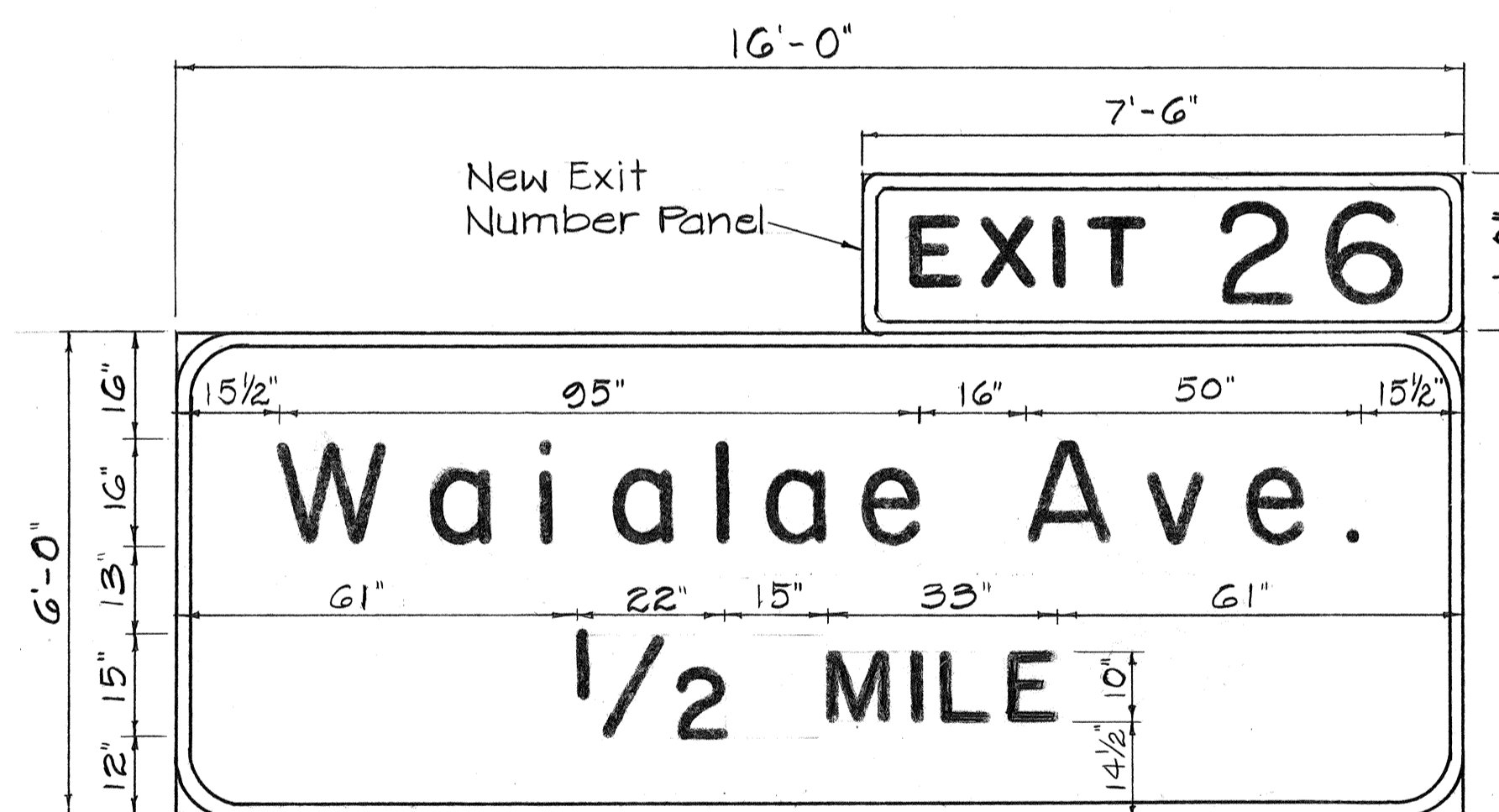
E-23 (Overlay)



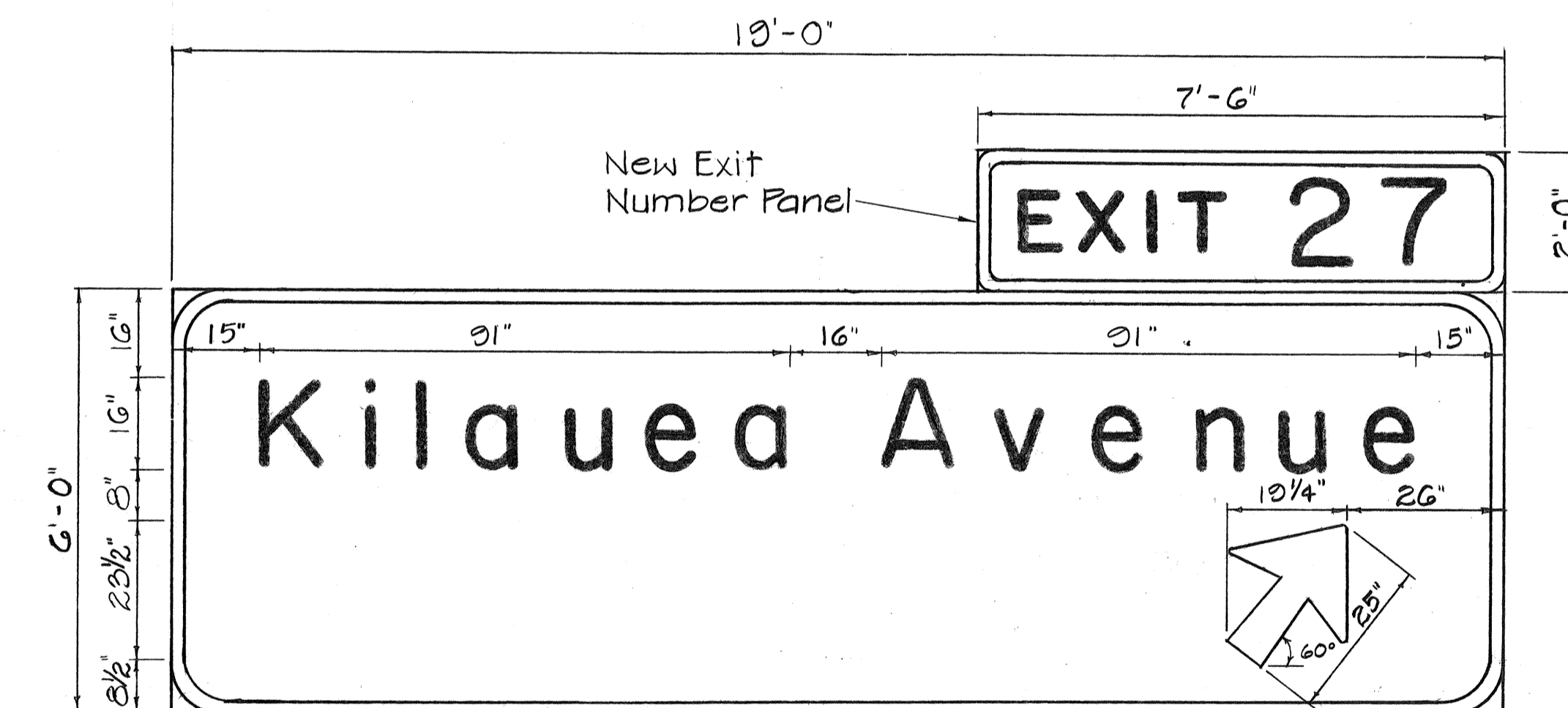
E-24 (Overlay)



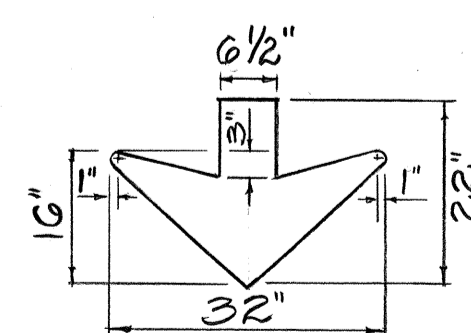
E-25 (Overlay)



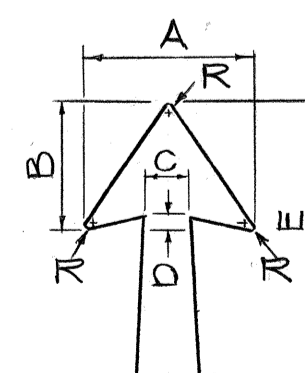
E-26 (Overlay)



E-27 (Overlay)



ARROW DETAIL  
NOT TO SCALE



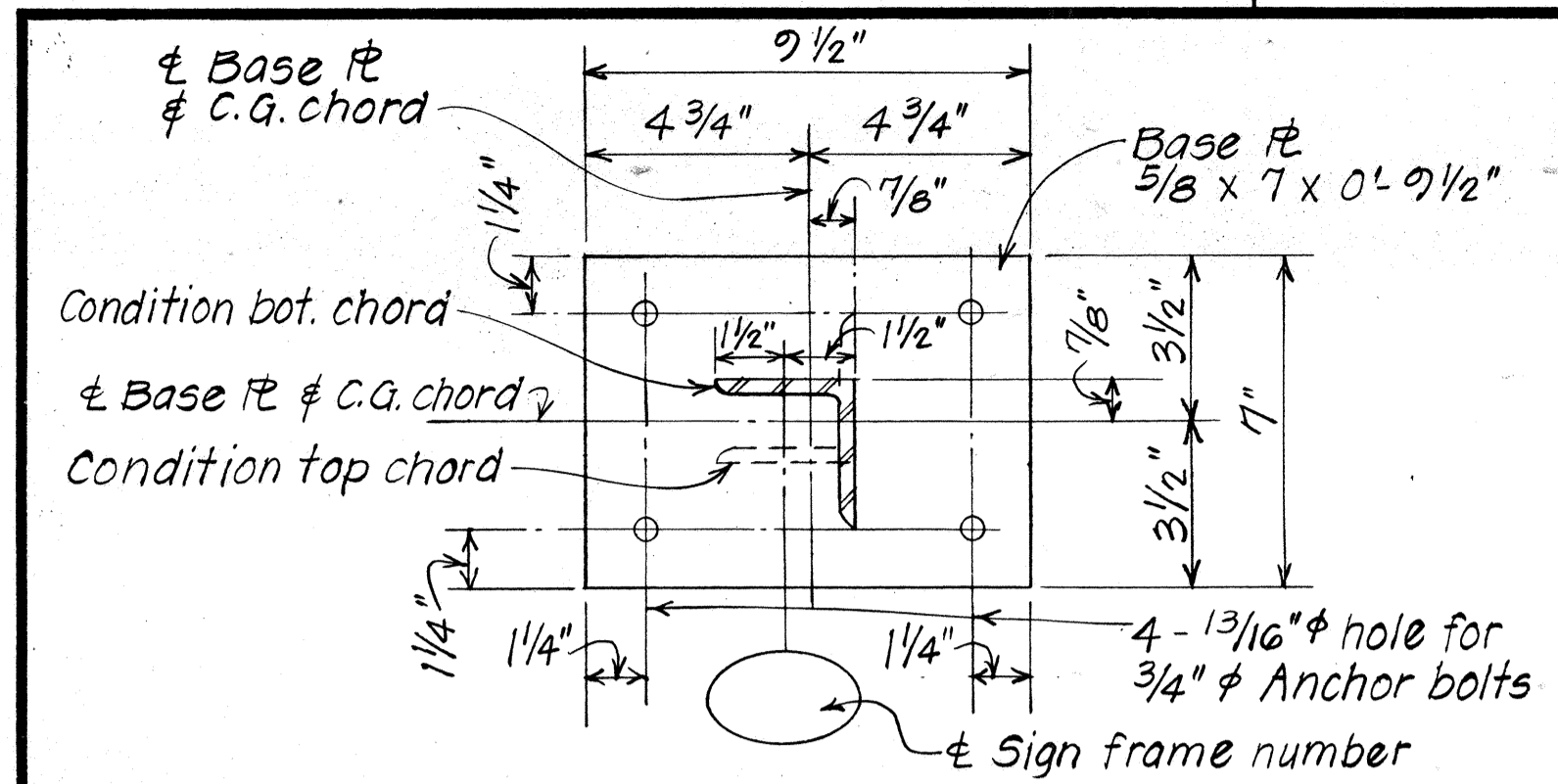
LETTER SIZE (Upper Case)	Dimensions (Inches)					
	A	B	C	D	*E	R
8"	15 1/8	11 1/16	3 3/4	15/16	18	13/16
1 3/8"	18 1/4	14	4 1/2	1 1/2	29	3/4
1 6"	22 1/4	17	5 3/8	1 3/4	**35	1

\* 1/2" Per Ft. Taper  
\*\* Sign E-27: "E" = 25"

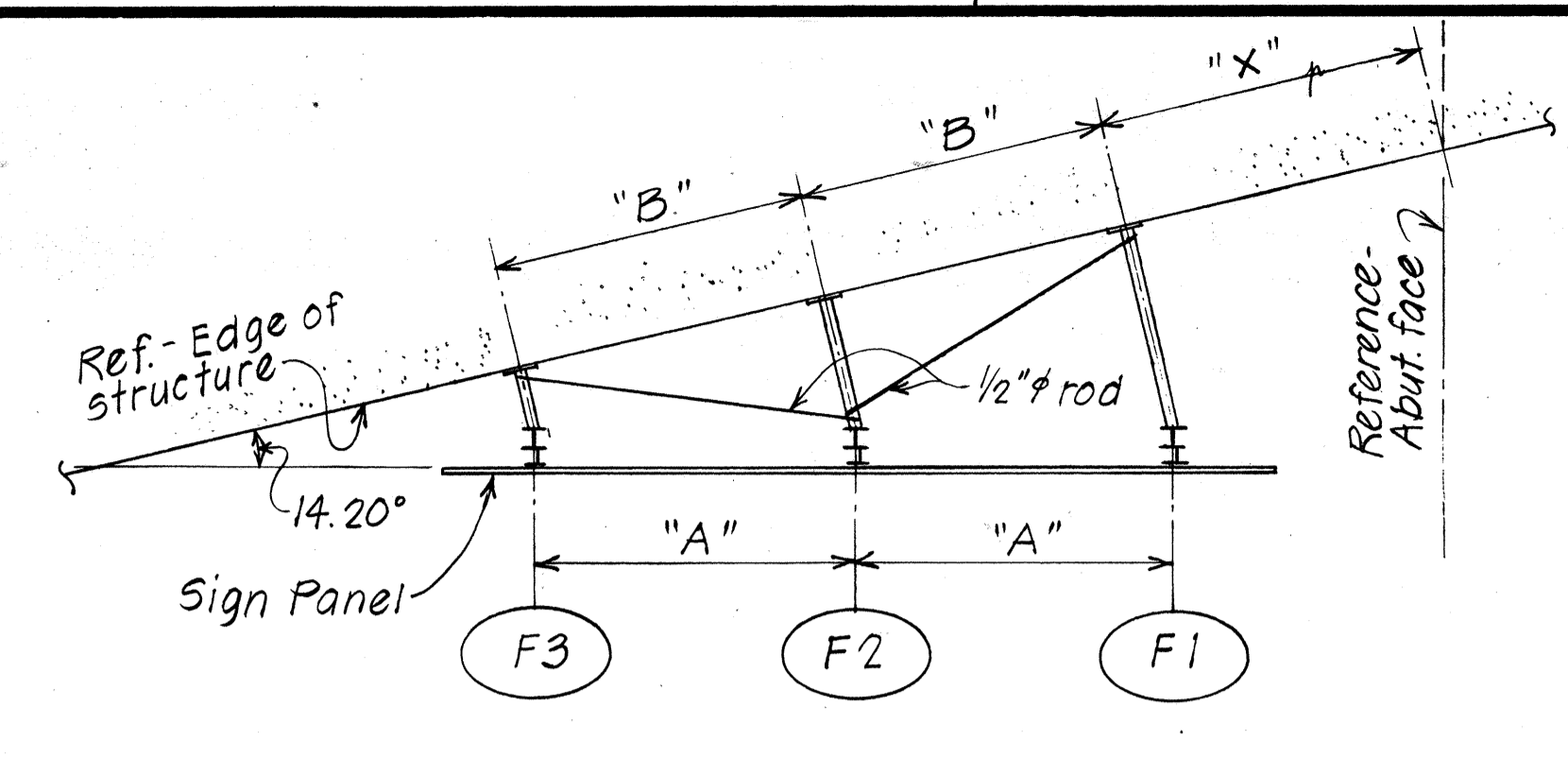
ORIGINAL PLAN  
DATE  
SURVEY PLANNED BY  
DRAWN BY  
TRACED BY  
DESIGNED BY  
QUANTITIES BY  
CHECKED BY

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
EXPRESSWAY SIGN  
PANEL LAYOUTS  
INTERSTATE ROUTE H-1  
SAFETY IMPROVEMENTS  
KALO LANE TO AINAKOA AVE.  
F.A.I. PROJ. NO. 1R-H1-1(184)  
Not to Scale  
SHEET No. T18 OF 46 SHEETS

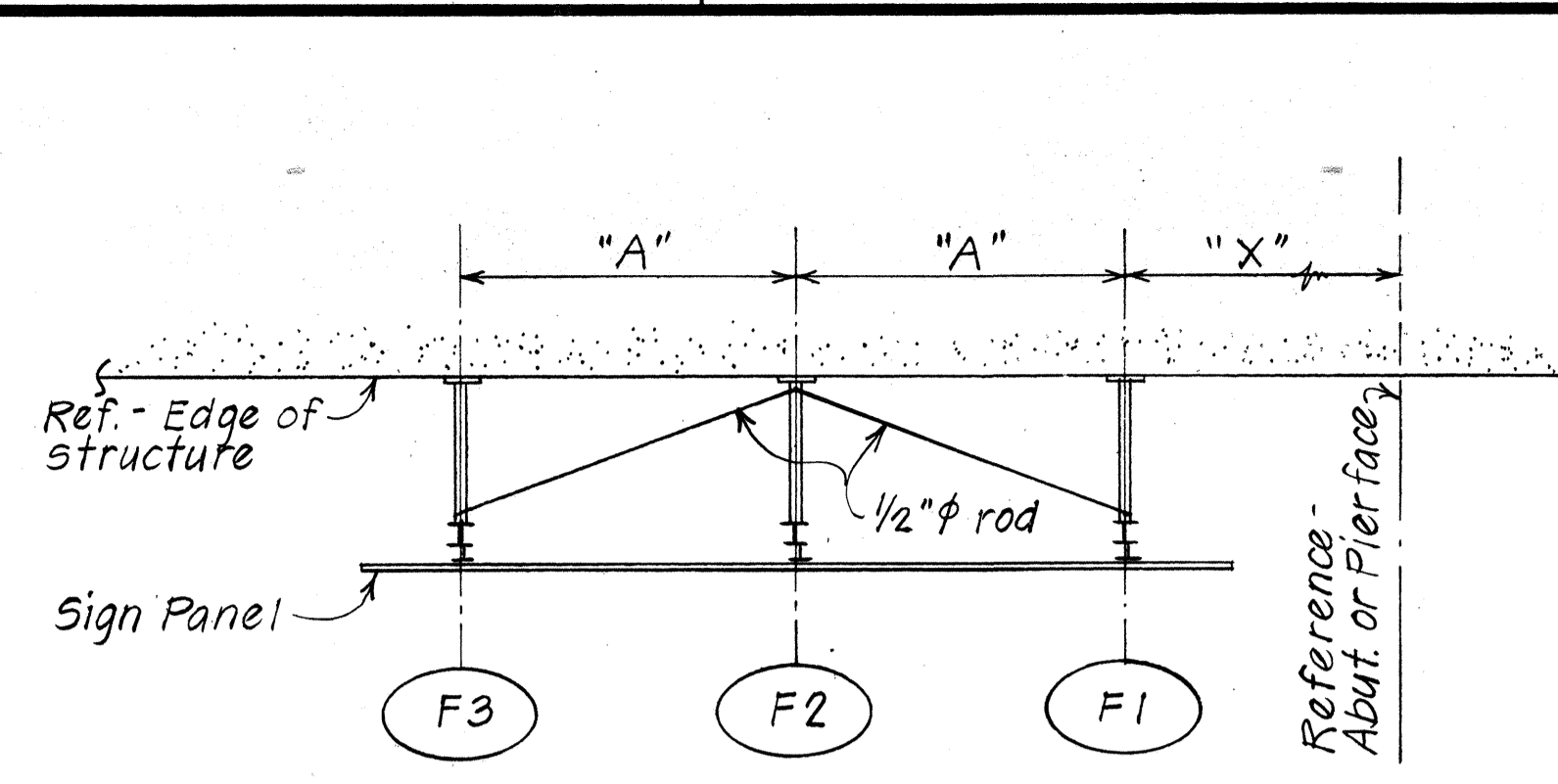
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H-1054	1984	60	114



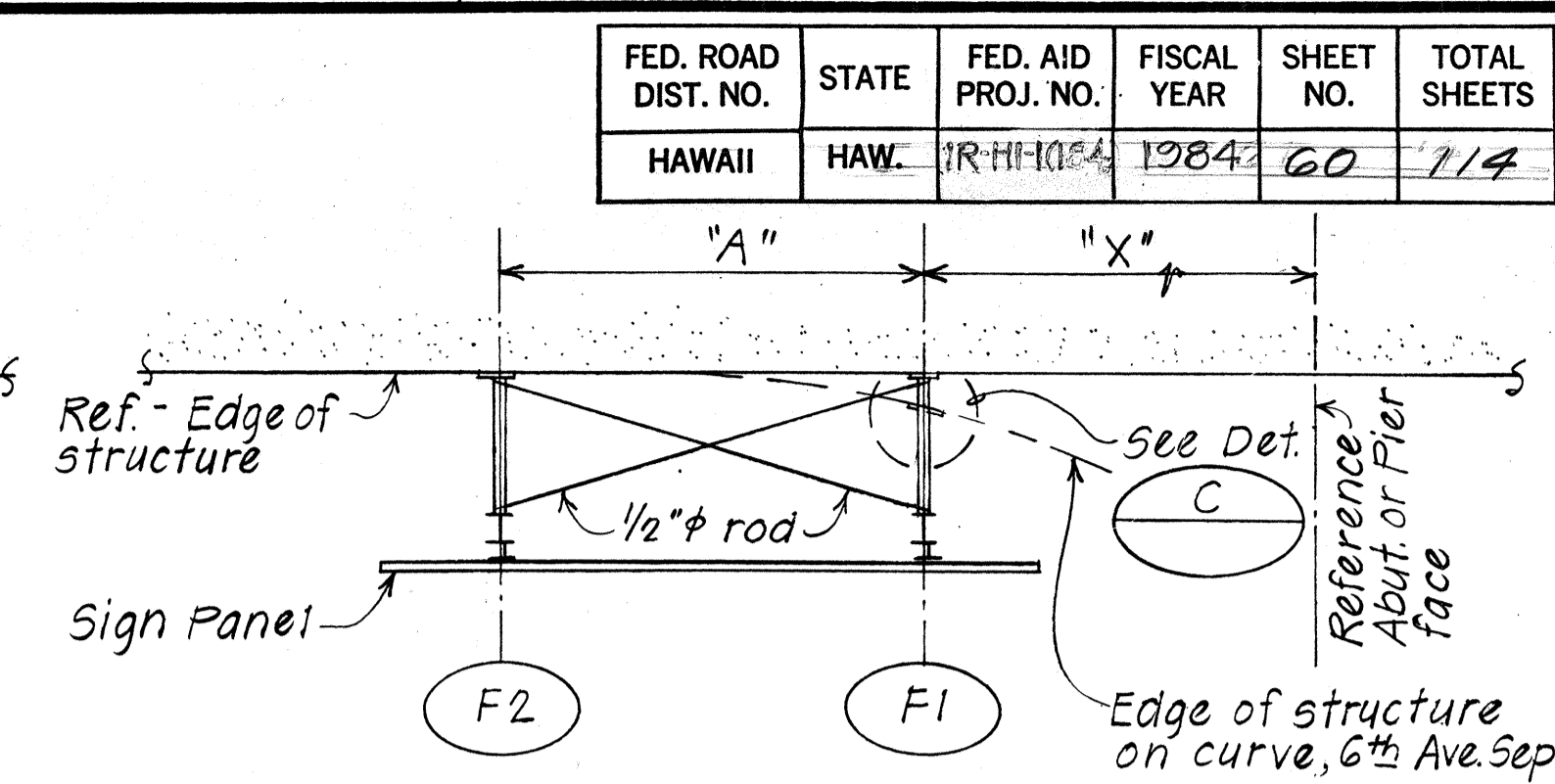
**TYPICAL BASE PLATE DETAIL**  
Scale: 3"=1'-0"



FOR 18'-6" x 6'-6" SIGN (KOKO HEAD SEP.)

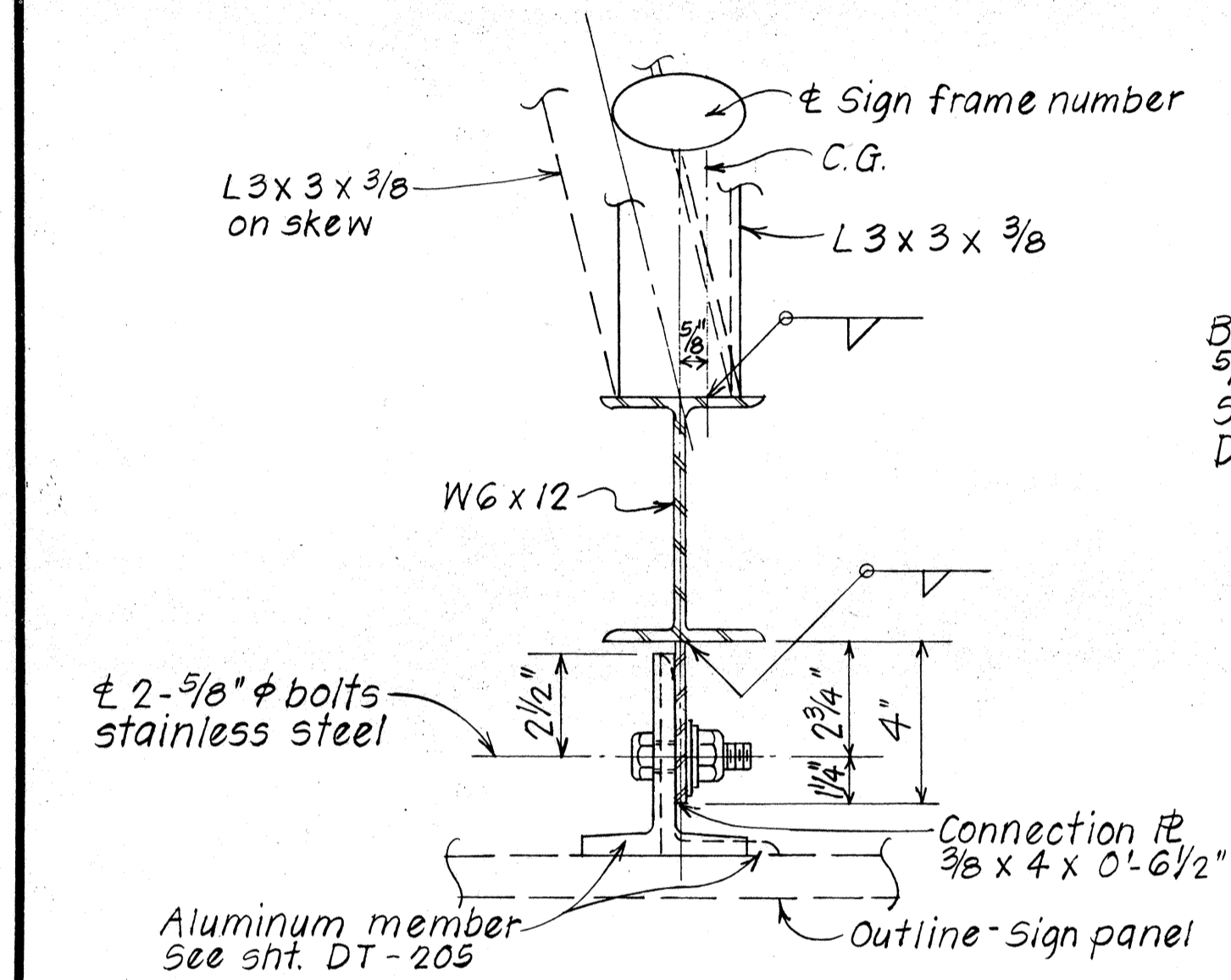


FOR 18'-6" x 6'-6" SIGN

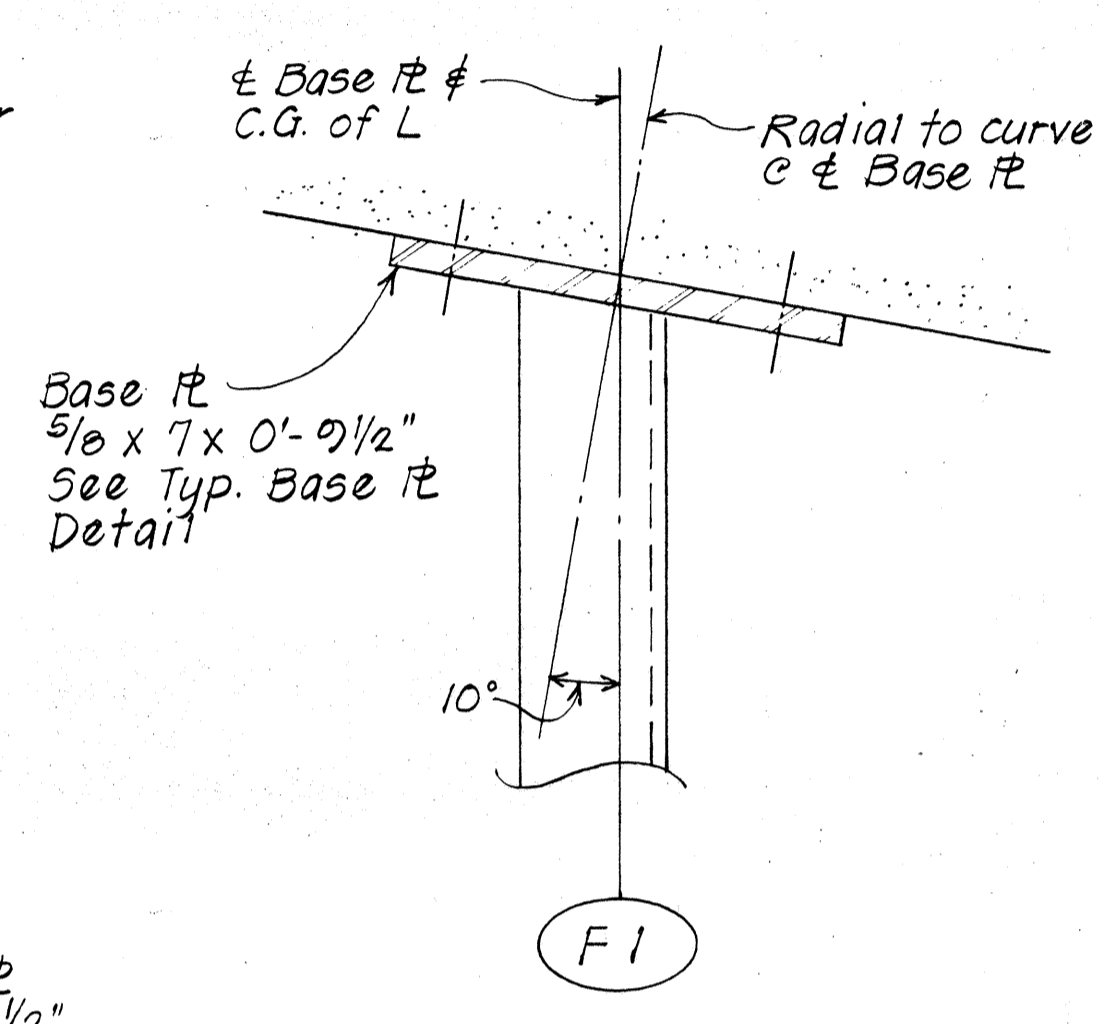


FOR 14'-0" x 8'-6" SIGN & 14'-6" x 6'-0" SIGN

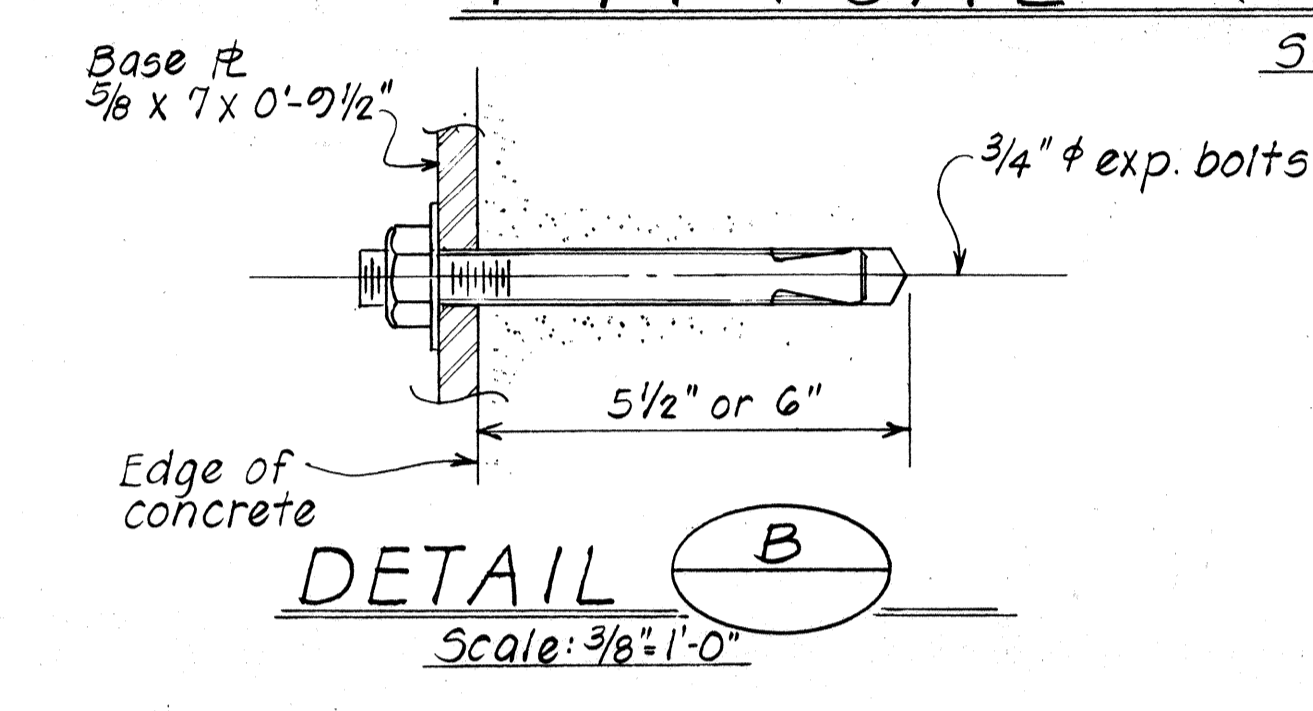
**TYPICAL FRAME PLAN**  
Scale: 1/4"=1'-0"



**DETAIL A**  
Scale: 3"=1'-0"



**DETAIL C (6TH AVE SEP.)**  
Scale: 3"=1'-0"



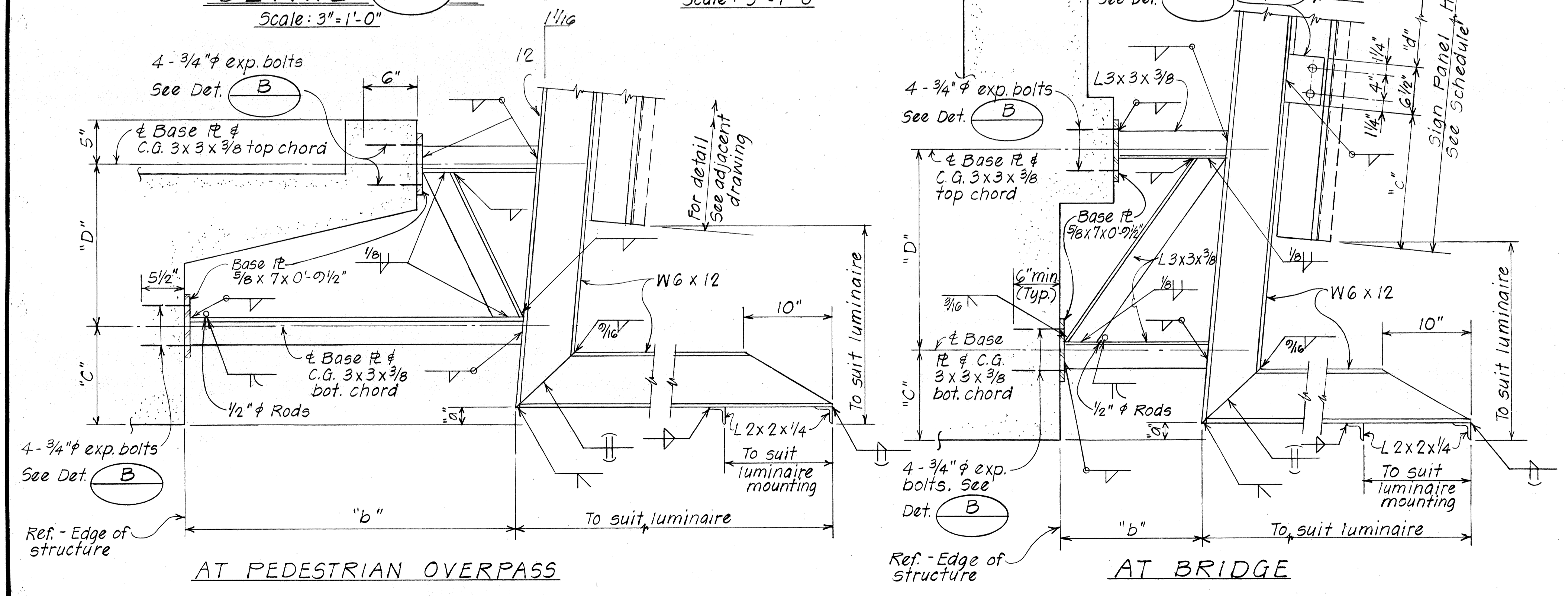
**DETAIL B**  
Scale: 3/8"=1'-0"

**EXPRESSWAY SIGN - DIMENSION SCHEDULE**

SIGN NO.	STRUCTURE	SIGN PANEL	SIGN SUPPORT									
			FRAME	"X"	"A"	"B"	"C"	"D"	"a"	"b"	"c"	"d"
E-10	2ND AVENUE PEDESTRIAN OVERPASS	18'-6" x 6'-6"	F1	16'-6"	7'-0"	—	11"	1'-6"	8 1/8"	3'-1"	1'-0"	3'-5"
			F2	16'-6"	7'-0"	—	11"	1'-6"	5 1/8"	3'-1"	1'-0"	3'-5"
			F3	16'-6"	7'-0"	—	11"	1'-6"	2"	3'-1"	1'-0"	3'-5"
E-12	4TH AVENUE PEDESTRIAN OVERPASS	14'-6" x 6'-0"	F1	12'-0"	9'-0"	—	7"	1'-10"	2"	3'-1"	1'-0"	2'-11"
			F2	12'-0"	9'-0"	—	7"	1'-10"	3 1/8"	3'-1"	1'-0"	2'-11"
E-15	7TH AVENUE SEPARATION	18'-6" x 6'-6"	F1	9'-0"	7'-0"	—	10 1/2"	2'-13/4"	8 1/8"	1'-3 1/2"	1'-0"	3'-5"
			F2	9'-0"	7'-0"	—	10 1/2"	2'-13/4"	7 1/8"	1'-3 1/2"	1'-0"	3'-5"
E-14	6TH AVENUE SEPARATION	14'-0" x 8'-6"	F1	11'-6"	9'-0"	—	10 1/2"	2'-13/4"	2 3/4"	1'-3 1/2"	1'-6"	4'-5"
			F2	11'-6"	9'-0"	—	10 1/2"	2'-13/4"	2"	1'-11 1/4"	1'-6"	4'-5"
E-18	KOKO HEAD SEPARATION	18'-6" x 6'-6"	F1	10'-6"	7'-0"	6'-9 1/8"	10"	1'-10 1/2"	7 9/16"	4'-9 1/8"	1'-0"	3'-5"
			F2	10'-6"	7'-0"	6'-9 1/8"	10"	1'-10 1/2"	4 3/4"	3'-0 3/8"	1'-0"	3'-5"
			F3	10'-6"	7'-0"	6'-9 1/8"	10"	1'-10 1/2"	2"	1'-4"	1'-0"	3'-5"

**GENERAL NOTES**

- Structural steel shapes, plates & bars shall conform to ASTM A-36.
- Electrodes shall be E60XX, and welds shall be 3/16" fillet welds unless noted otherwise.
- All dimensions for sign bracket assemblies shall be verified by the Contractor before fabrication and any discrepancy shall be promptly reported to the Engineer.
- All structural steel assemblies and hardware shall be hot dip galvanized after fabrication.
- No percussion or impact drills shall be permitted in making holes in the existing structure.



**TYPICAL EXPRESSWAY SIGN FRAME DETAIL**  
Scale: 1/2"=1'-0"

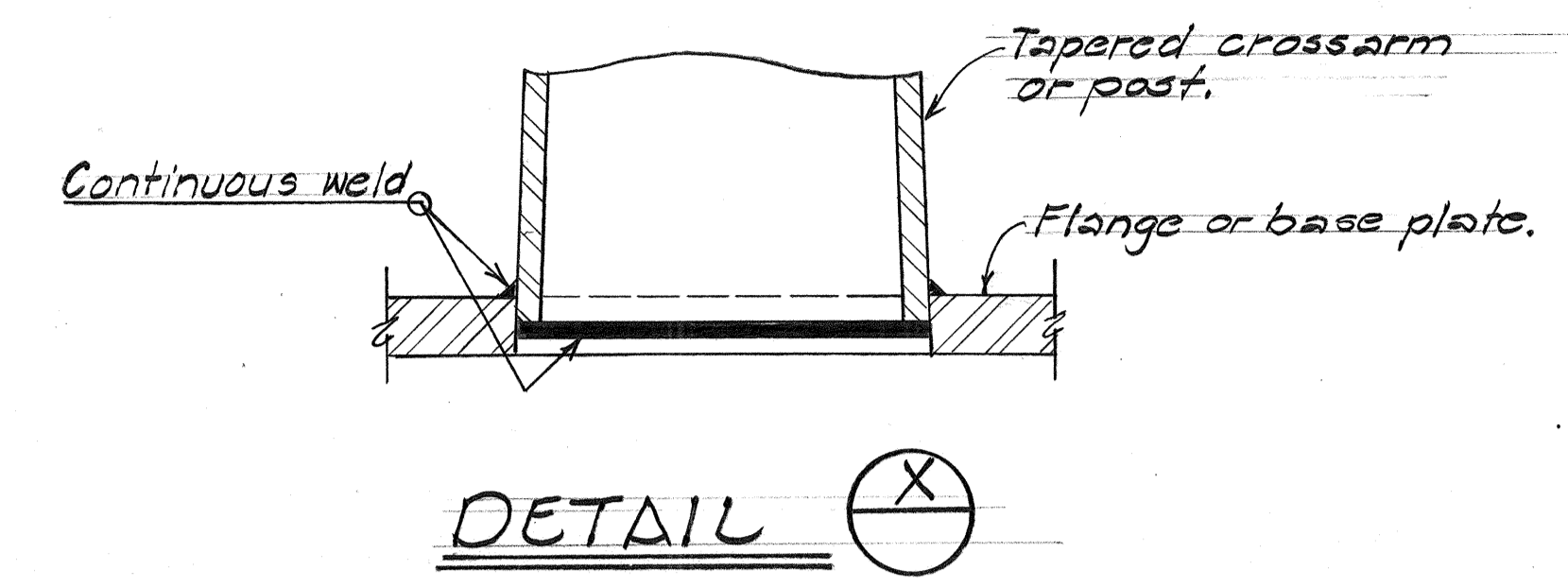
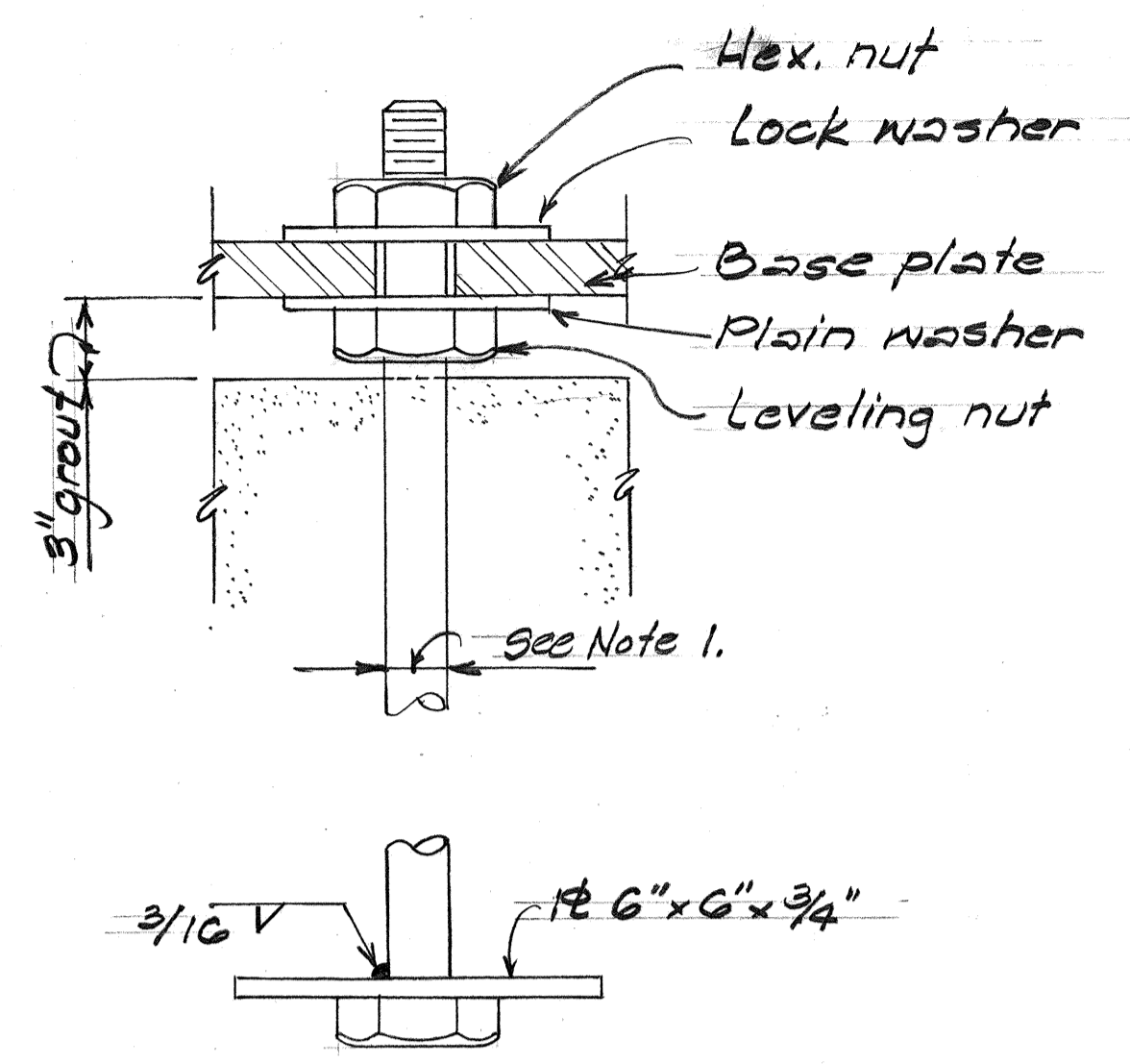
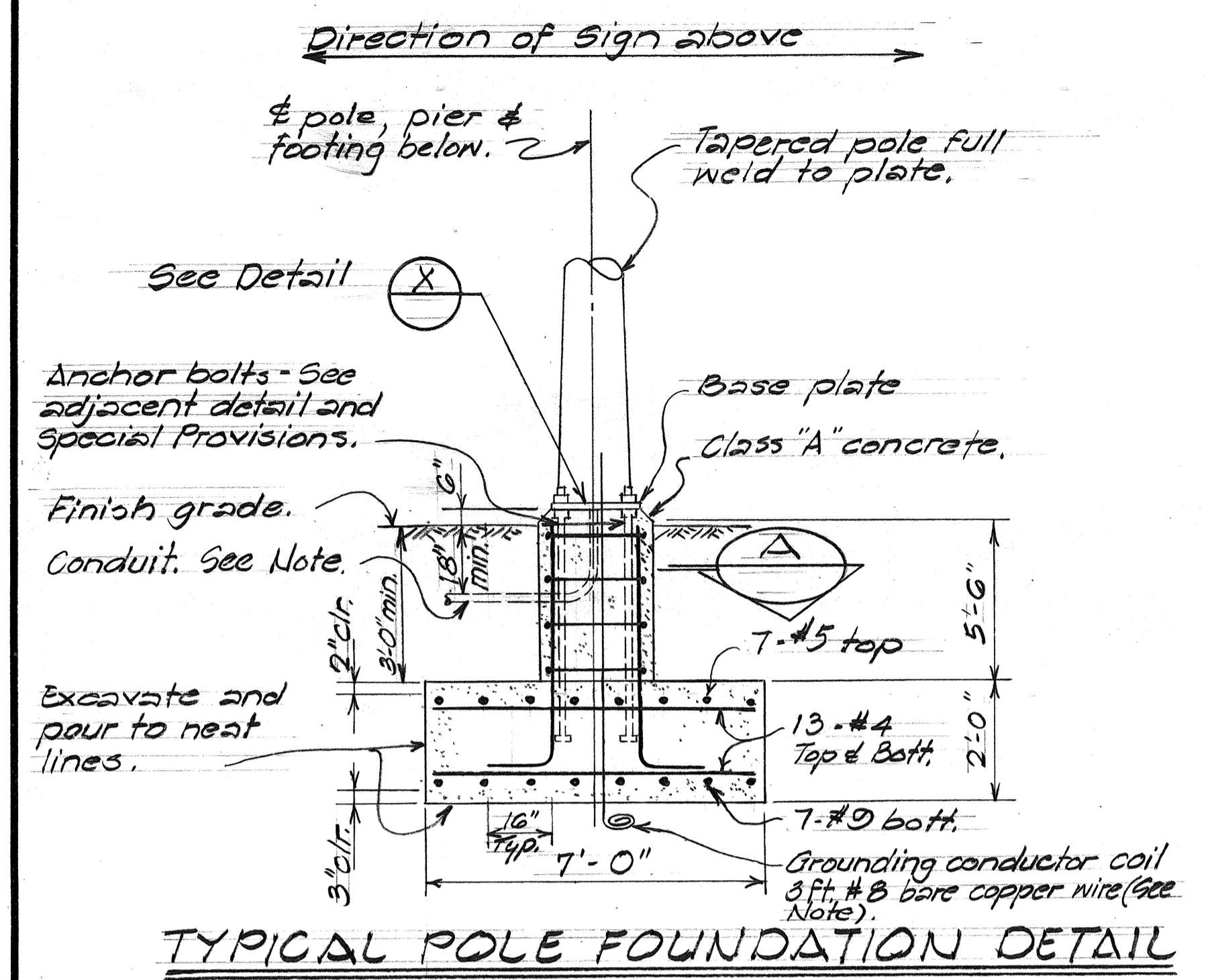
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS**  
**EXPRESSWAY SIGN**

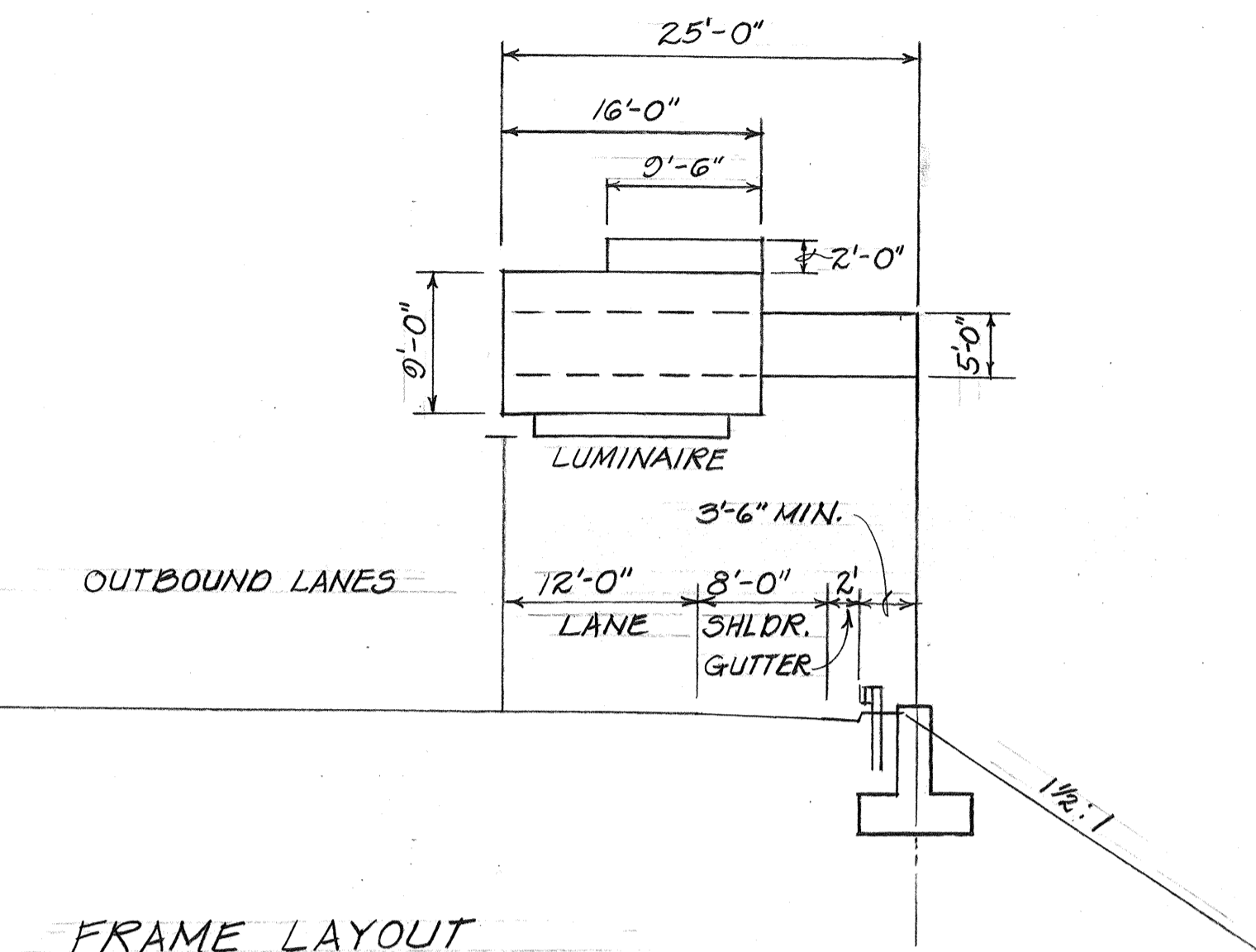
Scale: As shown Date: \_\_\_\_\_  
SHEET No. T19 OF 46 SHEETS

ORIGINAL PLAN  
DATE: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
NO. \_\_\_\_\_

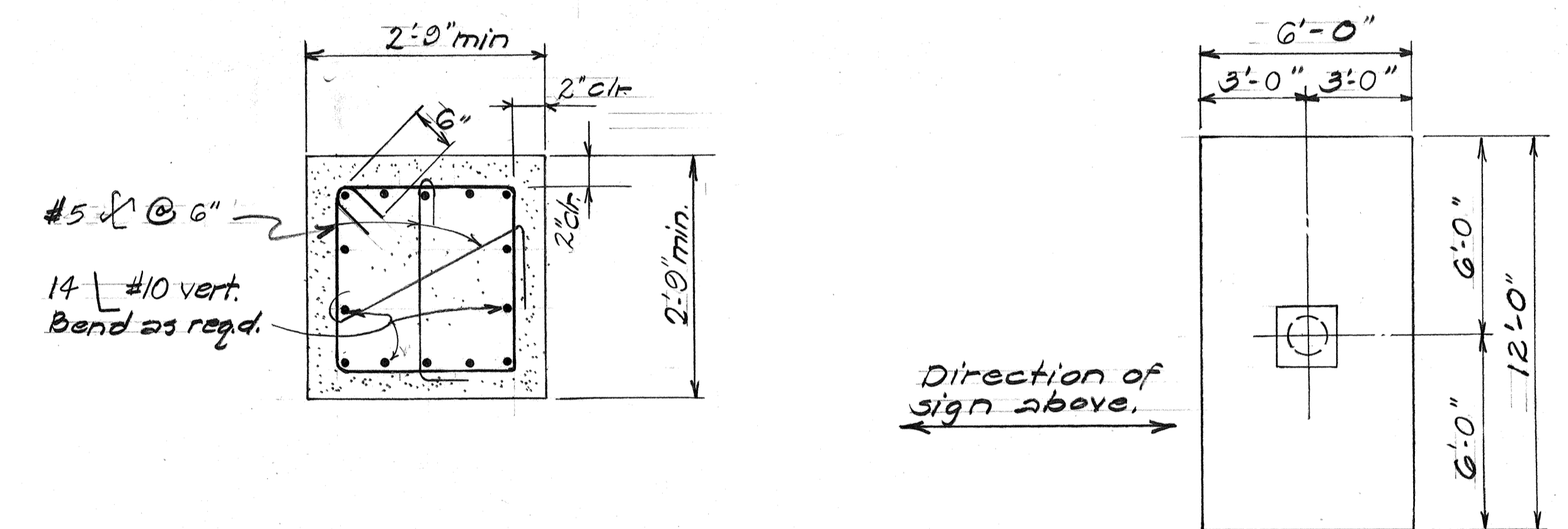
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H-1(184)	1984	61	114



- NOTES:**
1. Except specified otherwise, Contractor shall determine the detail requirements of the Base Plate & Anchor Bolts in accord with type of sign post selected.
  2. Total number of conduits into pole foundation as indicated on lighting plans. Conduits shall slope away from pole foundation. Conduit shall stub out 5'-0" min. for direct burial entry.
  3. Grounding conductor shall be bonded to sign support.
  4. Anchor bolts shall extend at least 1'-0" into footing.



FRAME LAYOUT FOR SIGN E-16  
Sta. 26+25 ±



SECTION A SIGN E-16 PEDESTAL PLAN  
TYPICAL FOOTING DETAIL

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

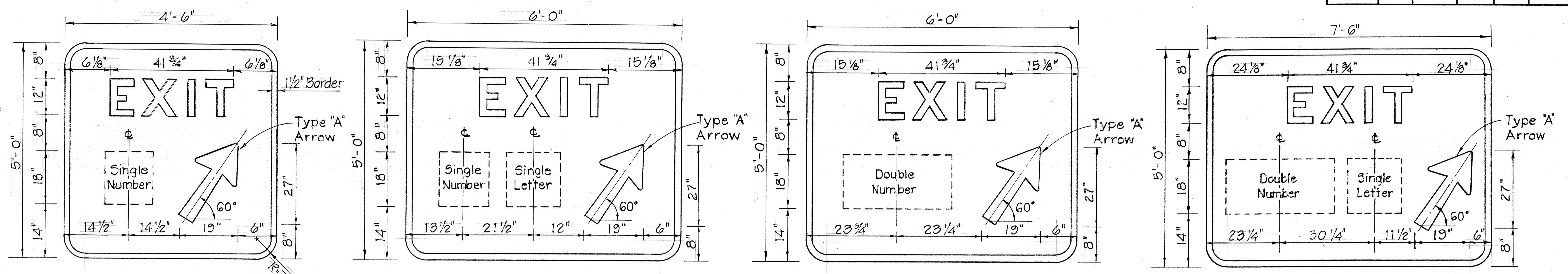
12-16-83	REVISED TYPICAL FOOTING DETAIL. ADDED FRAME LAYOUT.
DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS**  
**EXPRESSWAY SIGN FOOTING**

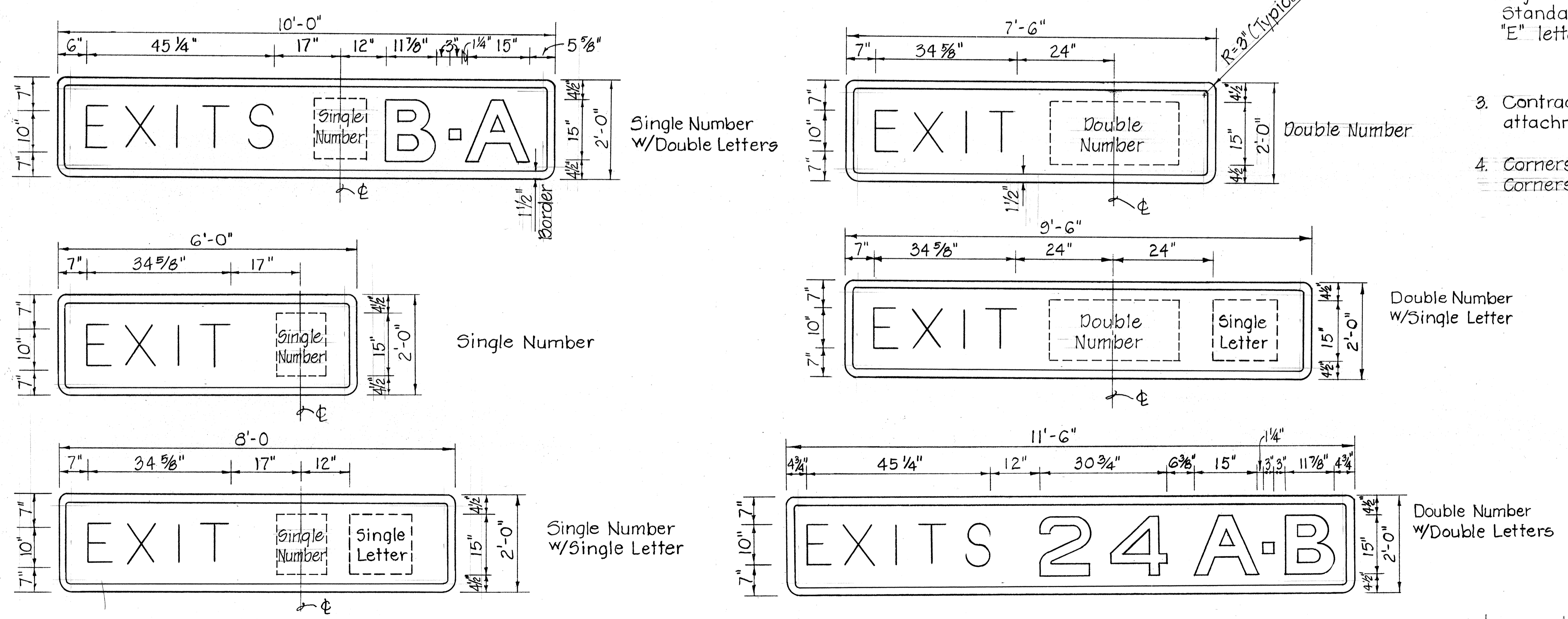
Scale: As Shown Date: July 1981  
SHEET NO 200F46 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IRRH084	1984	62	114

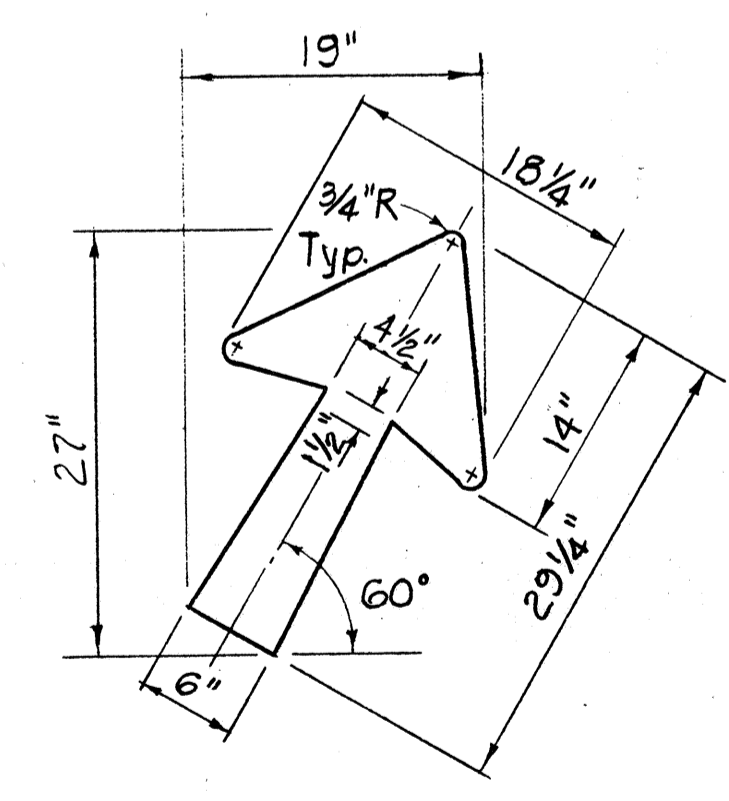


**GORE EXIT SIGNS**  
Scale: N.T.S.

- Exit Number Panel Backing may be either extruded or laminated aluminum panels. The face of each Exit Number Panel shall be in line with the face of the sign panel to which it will be attached.
- Sign message shall be lettered in uppercase according to Standard Alphabets for Highway Signs, FHWA, 1966. Use Series "E" letters unless otherwise noted.
- Contractor shall submit for approval, shop drawings for the attachment of Exit Number Panels to Sign Panels.
- Corners of Gore Exit Signs shall be trimmed along the border. Corners of Exit Number Panels need not be trimmed.



**EXIT NUMBER PANELS**  
Scale: N.T.S.



**TYPE "A" DIAGONAL ARROW DETAIL**  
N.T.S.

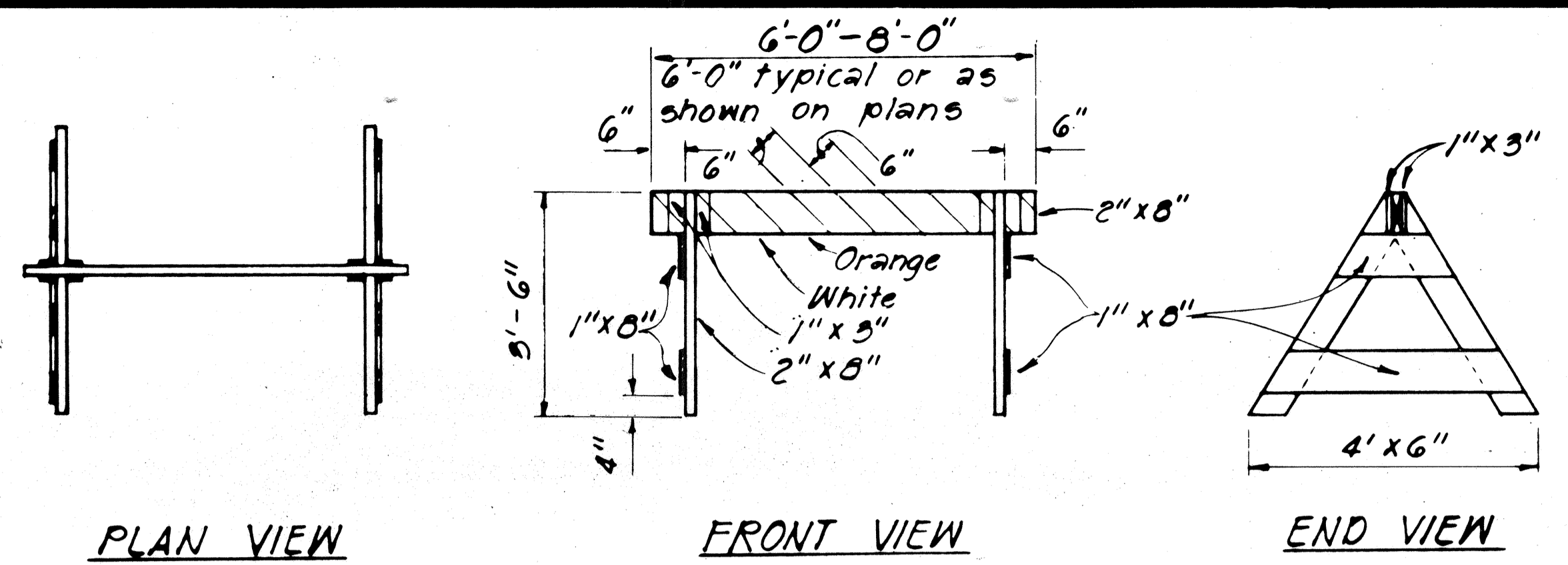
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL EXIT NUMBER SIGN PANEL LAYOUT**

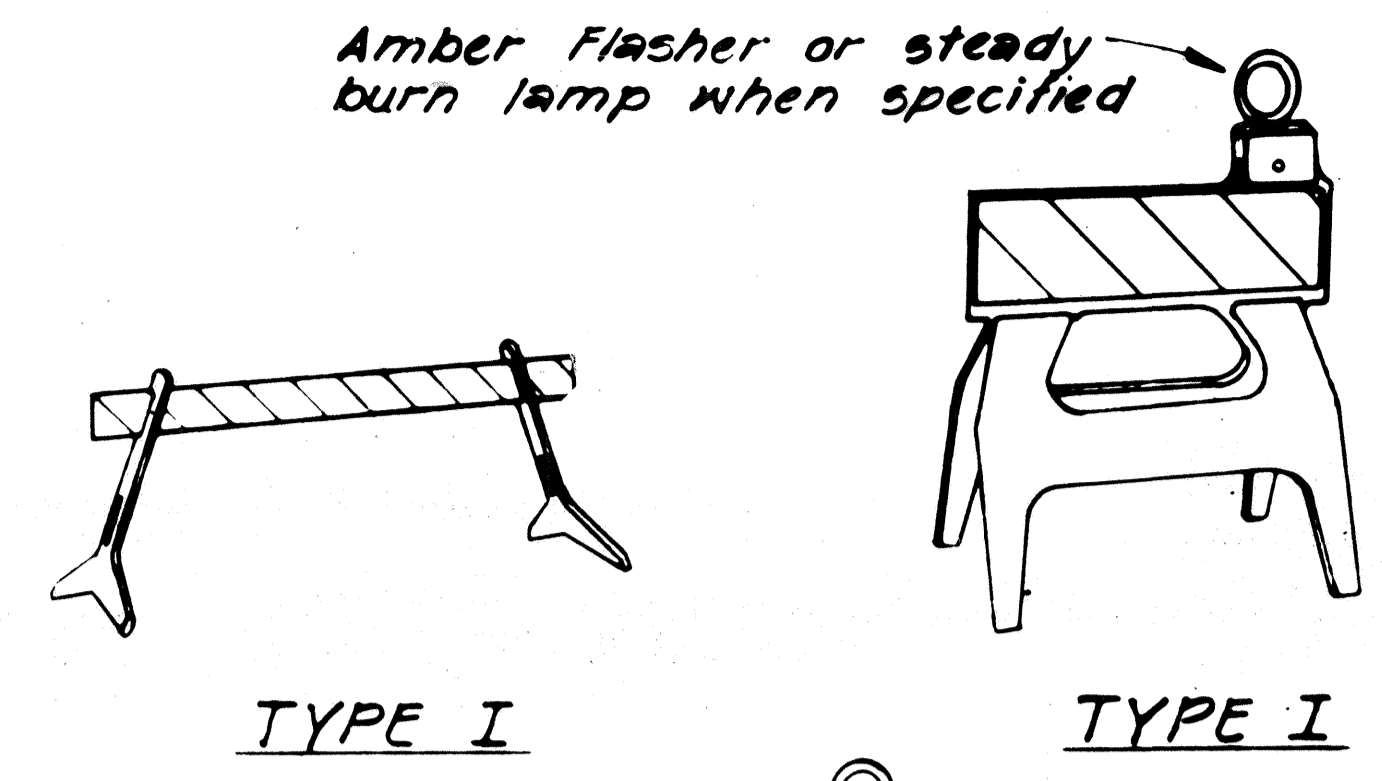
12-16-83	REVISED NOTE #1
DATE	REVISION

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

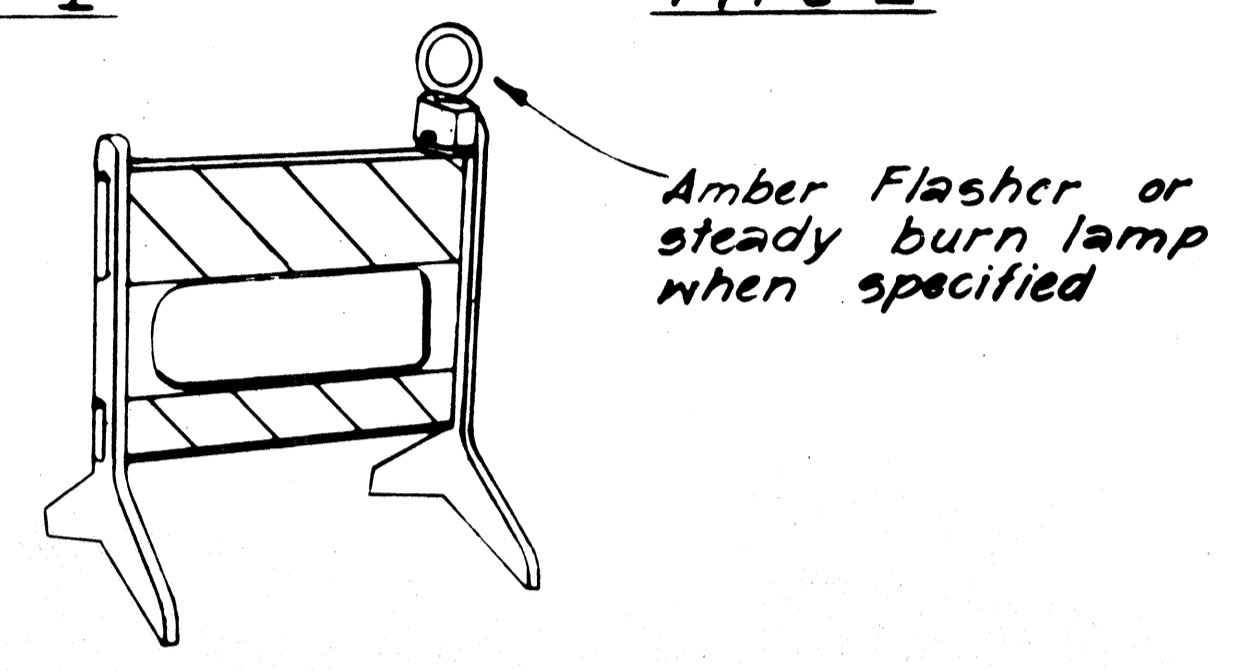
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IRH-1(184)	1984	63	114



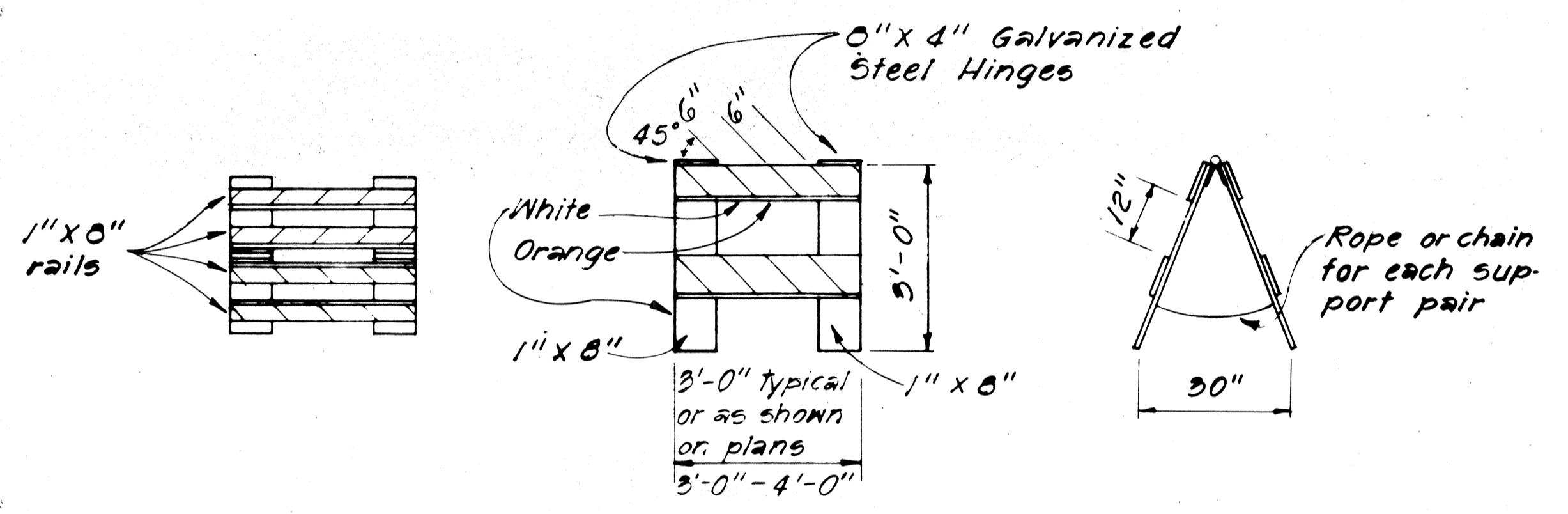
**TYPE I BARRICADE**  
Scale: 1/2" = 1'-0"



**TYPE I**



**TYPE II**



**TYPE II BARRICADE**  
Scale: 1/2" = 1'-0"

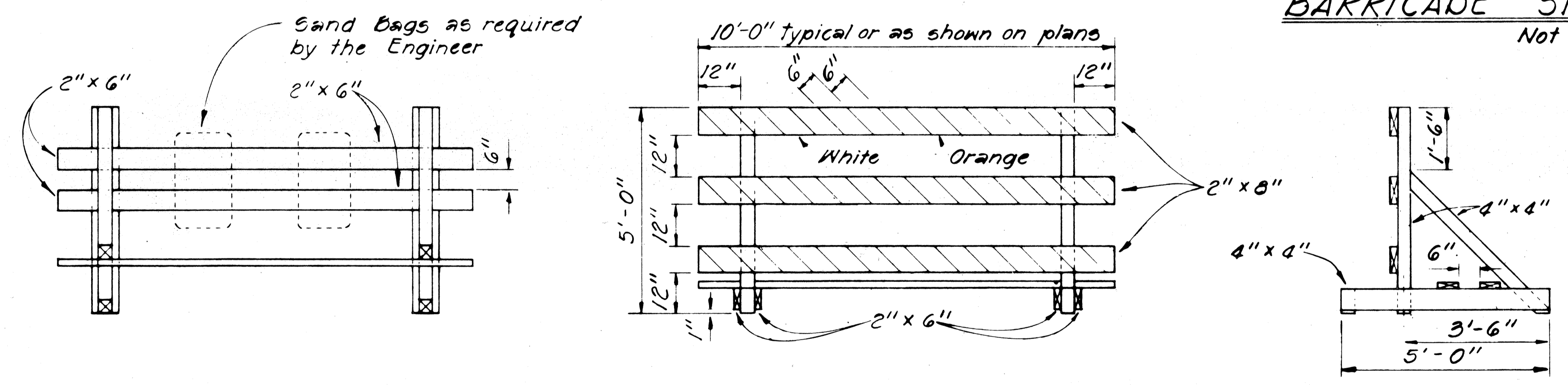
**PLASTIC MOLDED BARRICADE OPTIONS \***

Not to Scale  
\* Shop Drawings must be submitted for approval.



**FRONT FACE**      **BACK FACE**

**BARRICADE STRIPING DETAILS**  
Not to Scale



**TYPE III BARRICADE**  
Scale: 1/2" = 1'-0"

- GENERAL NOTES**
1. The Contractor shall construct, install and maintain the barricades at the locations shown on the Plans, or as when called for.
  2. The barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property, unless otherwise specified.
  3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized with reflective sheeting.
  4. Both faces of the barricade rails shall be striped. See Striping Detail Arrangement.
  5. Contractor may submit alternate designs for approval.
  6. Barricade details shall conform to the "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, by the Federal Highway Administration and as amended.
  7. If wooden rails are used, 26 ga. galv. steel sheet shall be first tacked on to the rails and then overlaid with reflective sheeting.

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**TYPICAL DETAILS**

**BARRICADES**

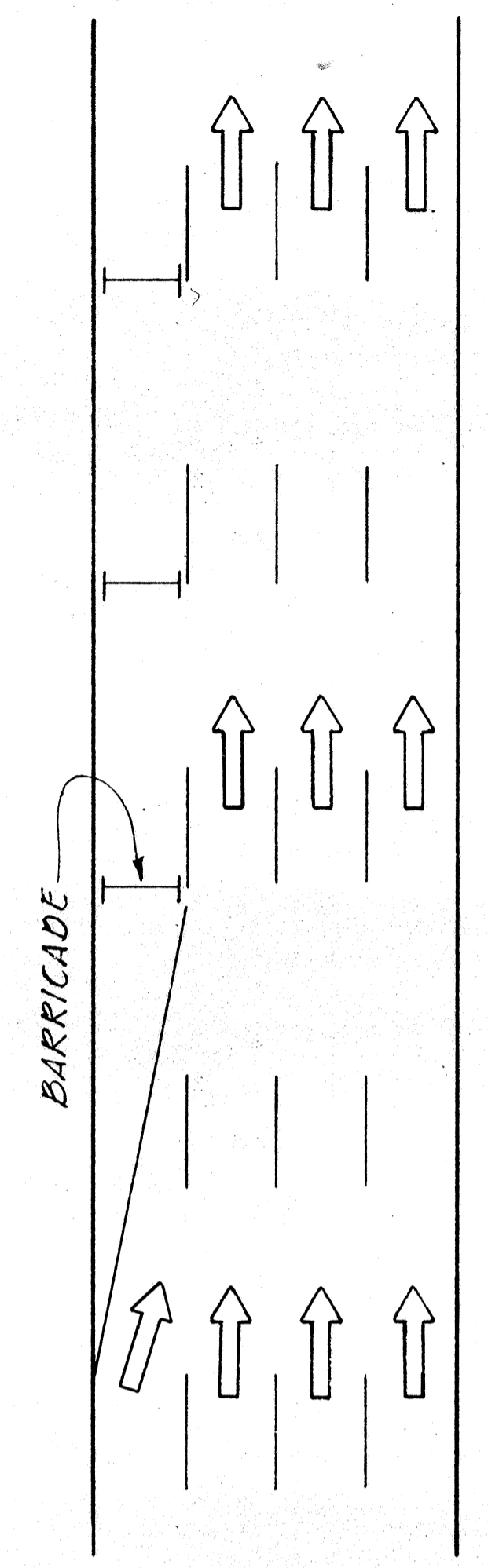
SCALE: As Shown  
SHEET NO. 22 OF 46 SHEETS

REVISIONS  
DATE  
BY  
CHECKED BY  
DATE  
BY  
CHECKED BY

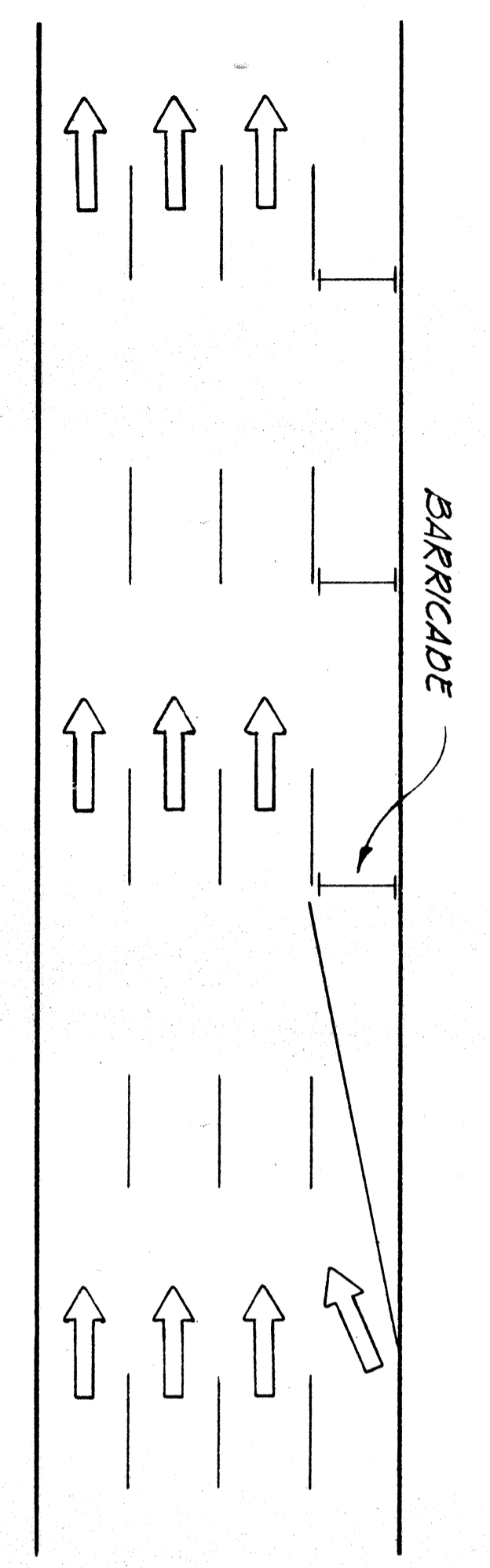
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IRH1(184)	1984	64	114

GENERAL NOTES

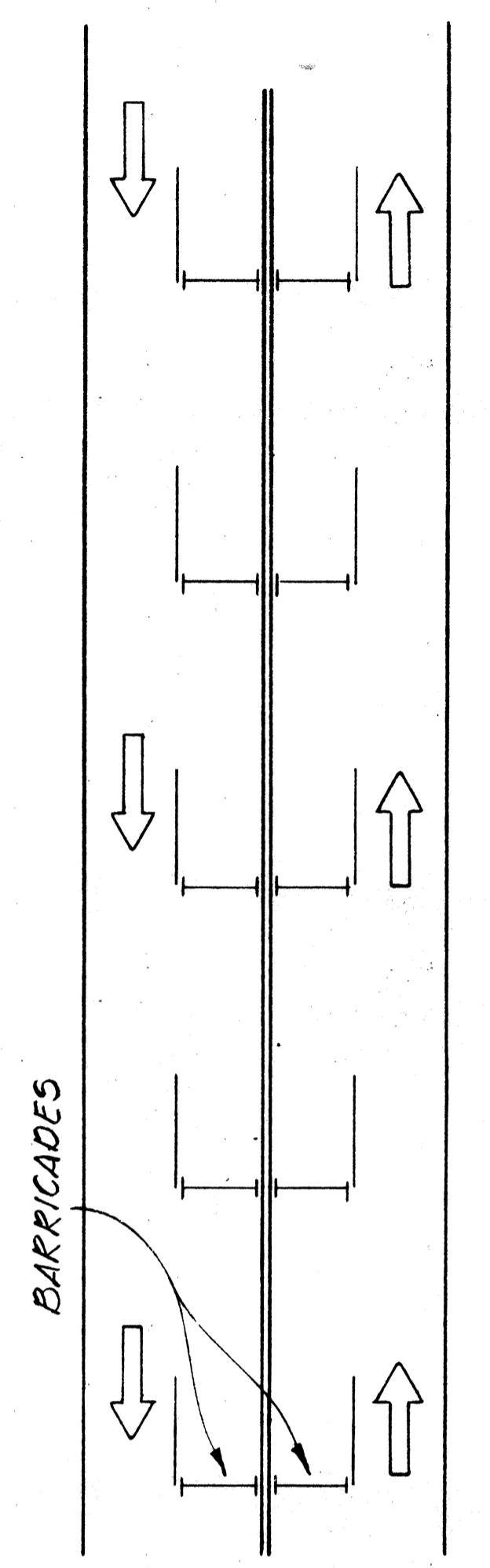
1. Barricade Type, Placement, and Arrangement shall be as shown on the Construction Plans or as when called for.



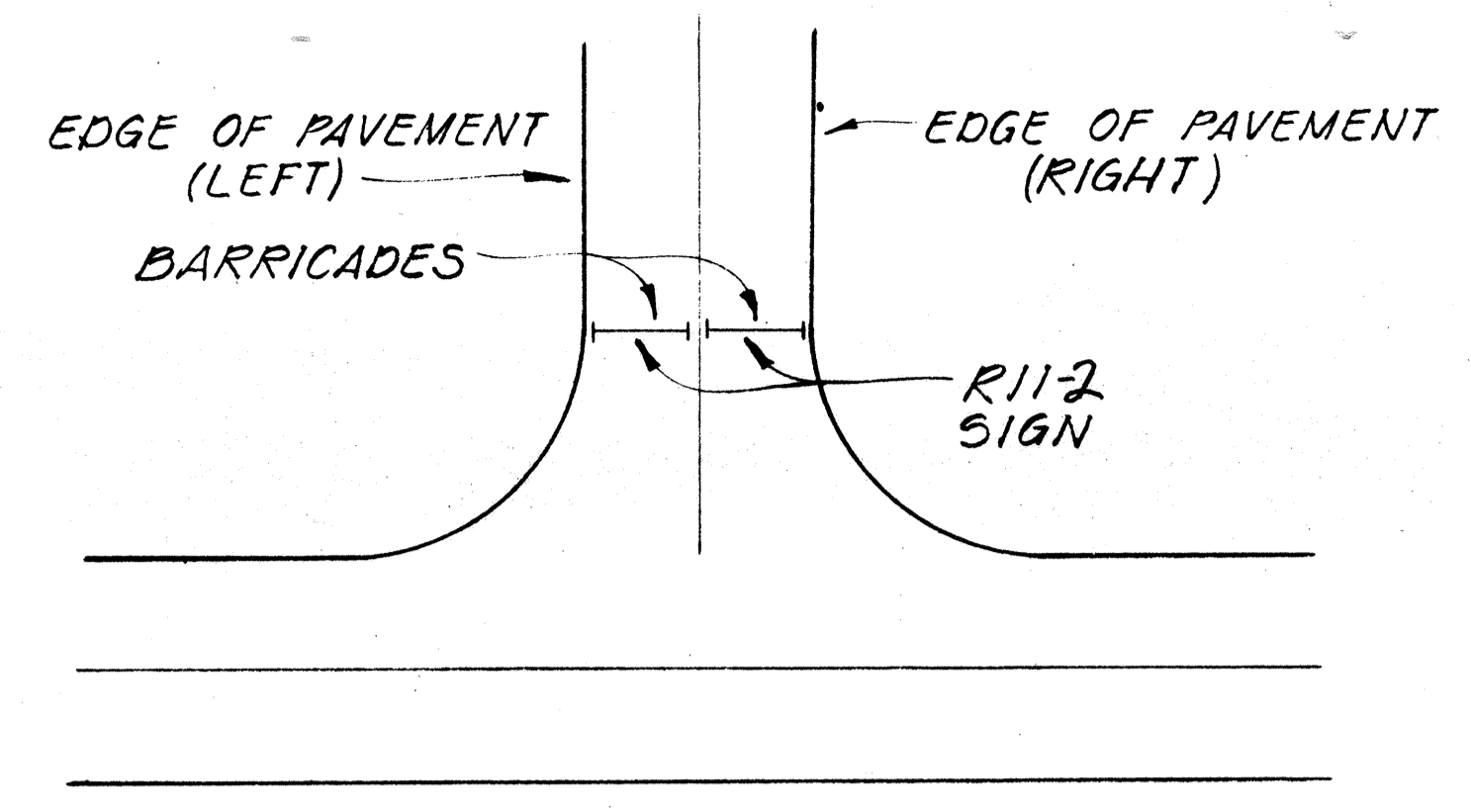
ROADWAY DELINEATION TO THE RIGHT  
NOT TO SCALE



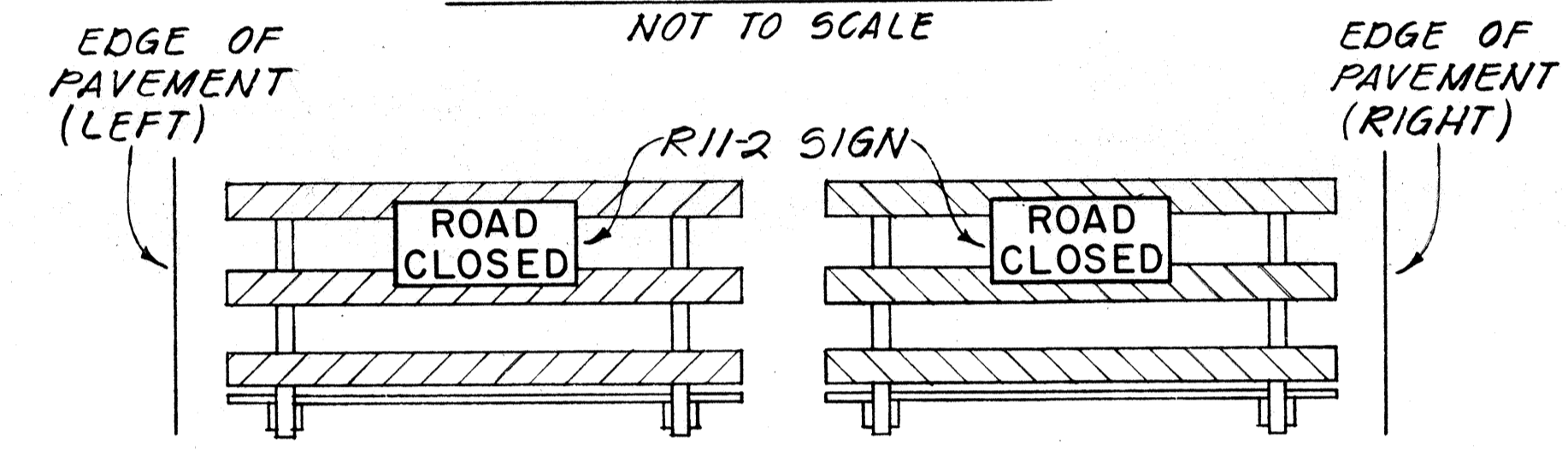
ROADWAY DELINEATION TO THE LEFT  
NOT TO SCALE



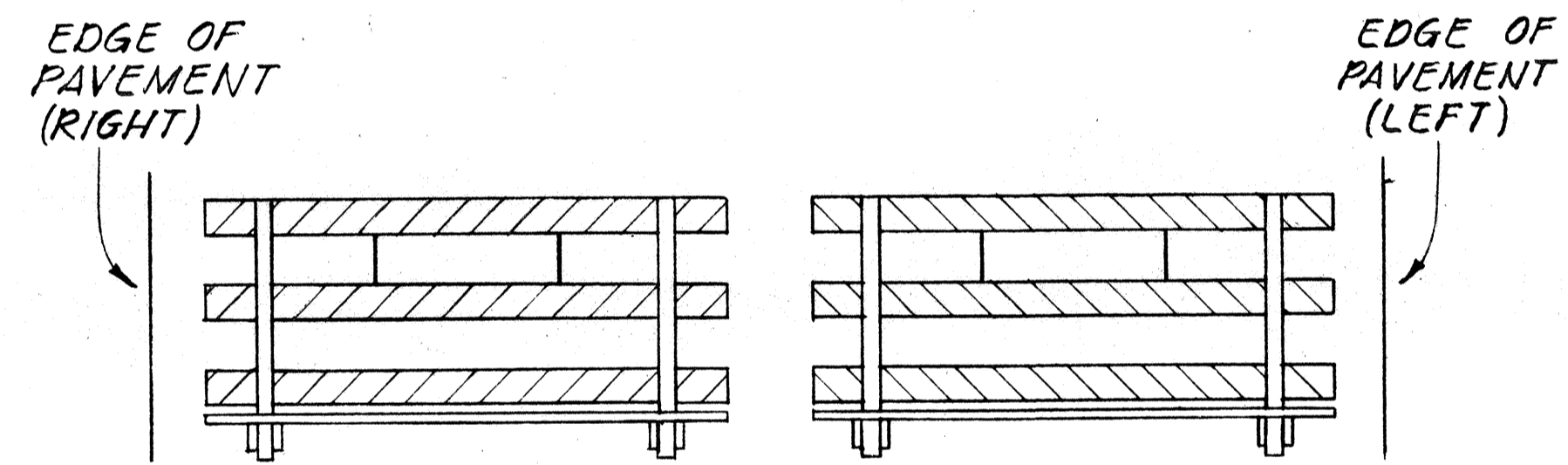
ROADWAY DELINEATION FOR 2-WAY TRAFFIC  
NOT TO SCALE



ROADWAY CLOSED  
NOT TO SCALE

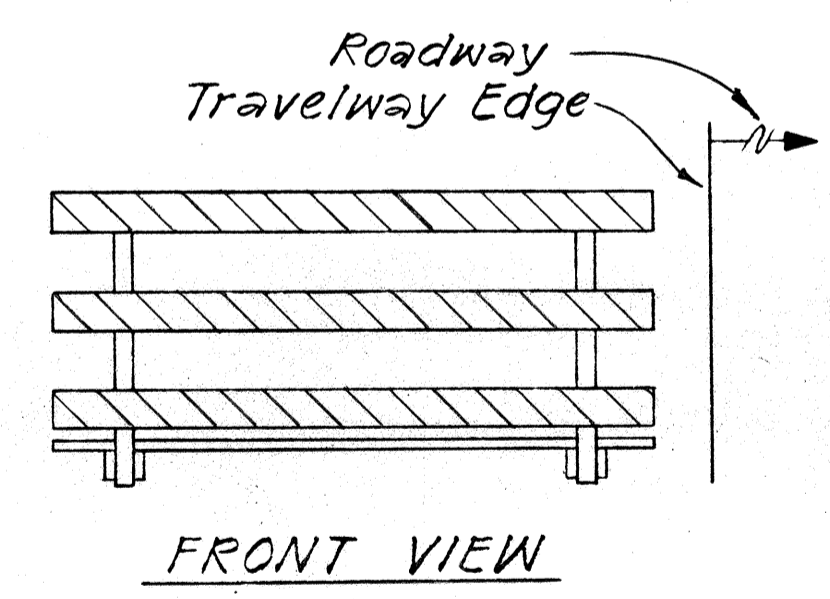


FRONT VIEW

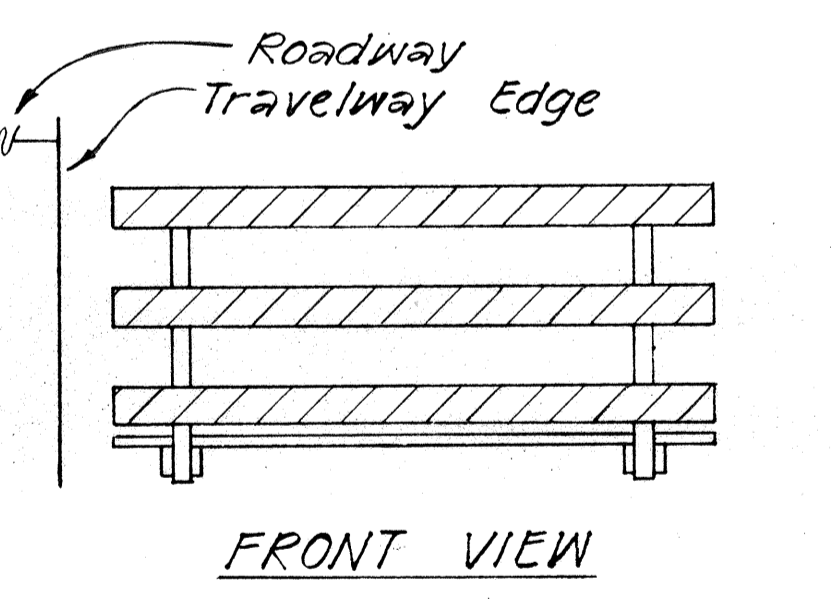


BACK VIEW

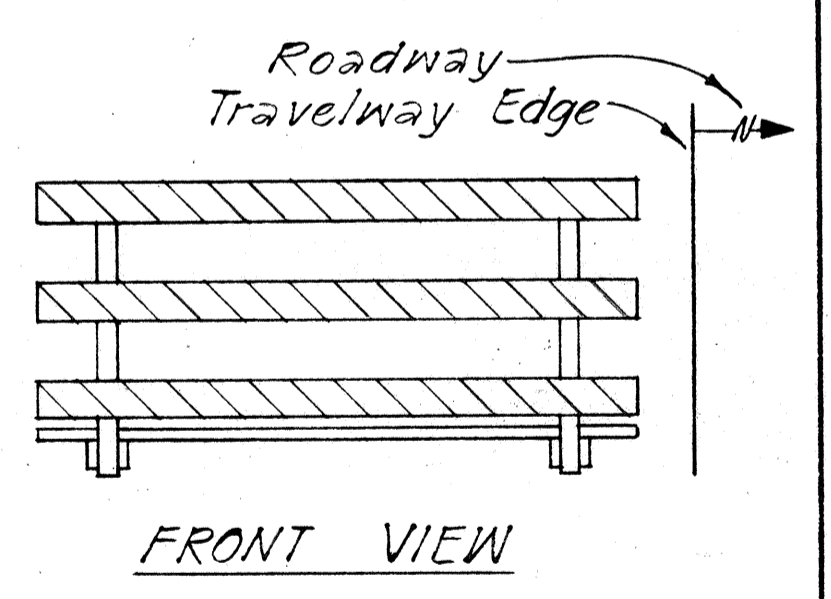
BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE



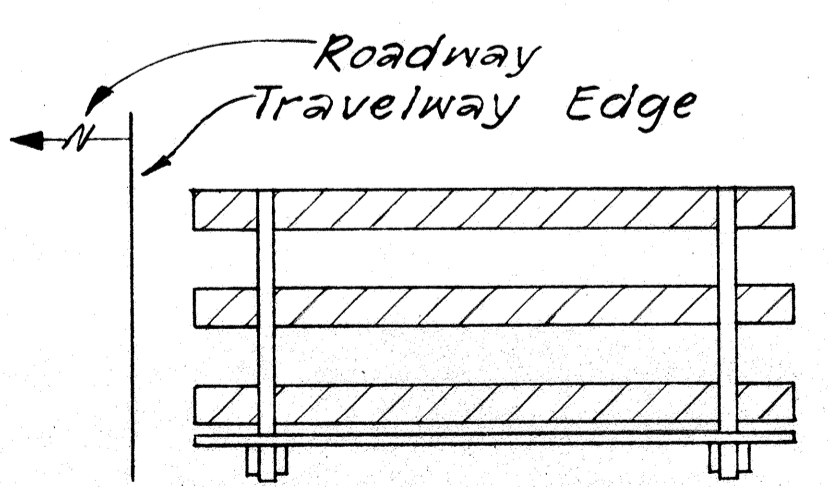
FRONT VIEW



FRONT VIEW

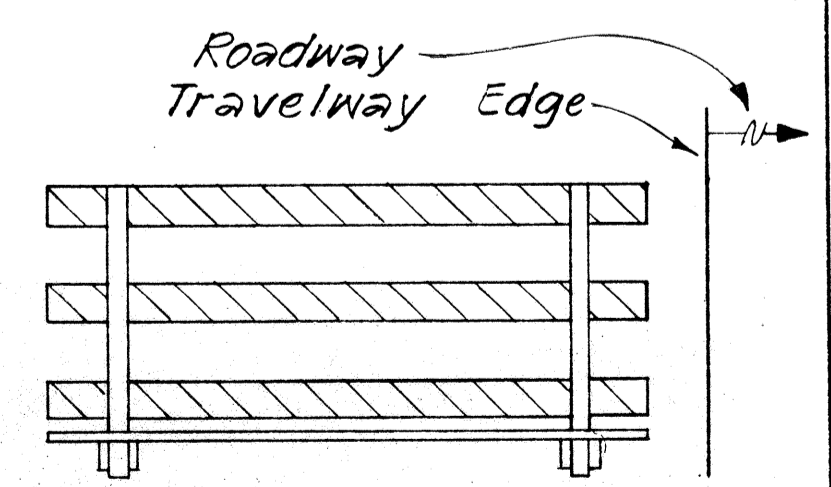


FRONT VIEW



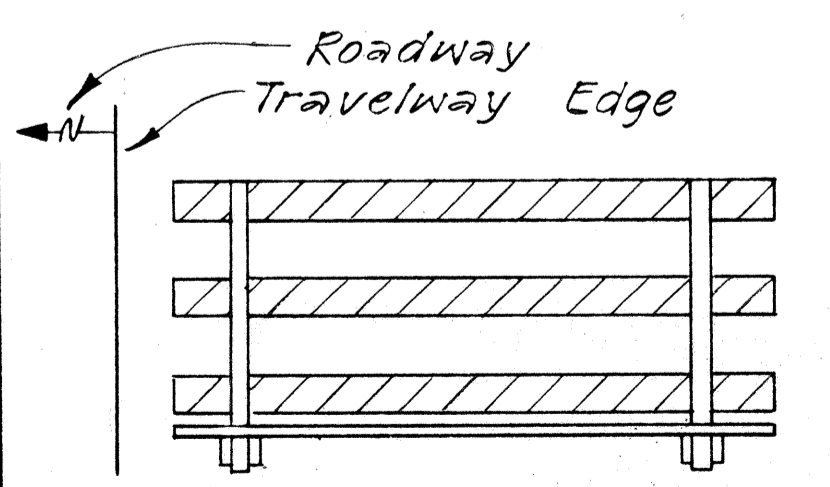
BACK VIEW

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE



BACK VIEW

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE



BACK VIEW

BARRICADE STRIPING ARRANGEMENT  
NOT TO SCALE

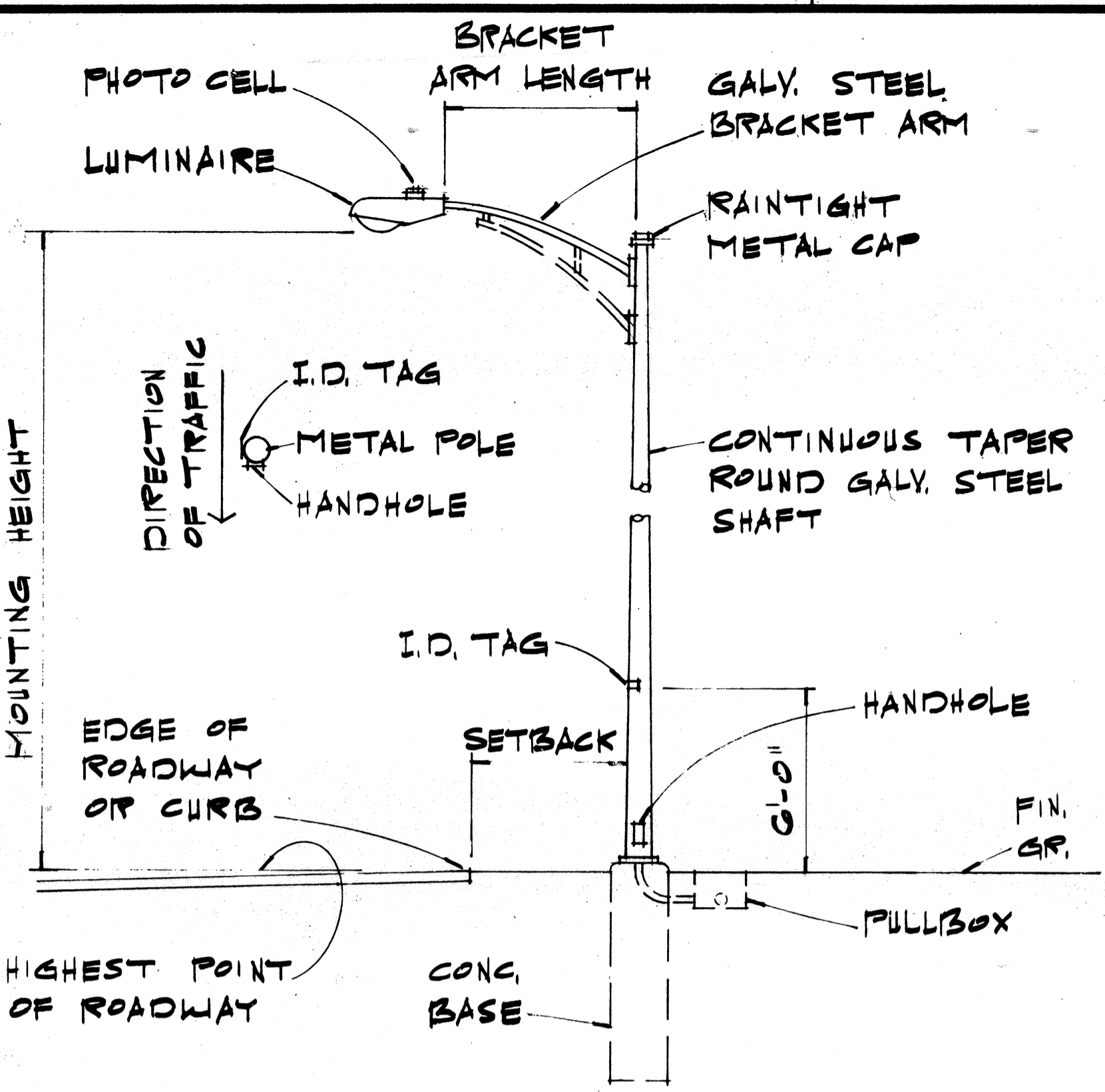
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
TYPICAL DETAILS  
BARRICADE STRIPING DETAILS

DATE: \_\_\_\_\_  
SURVEY ELICITED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1RHH(154)	1984	65	114

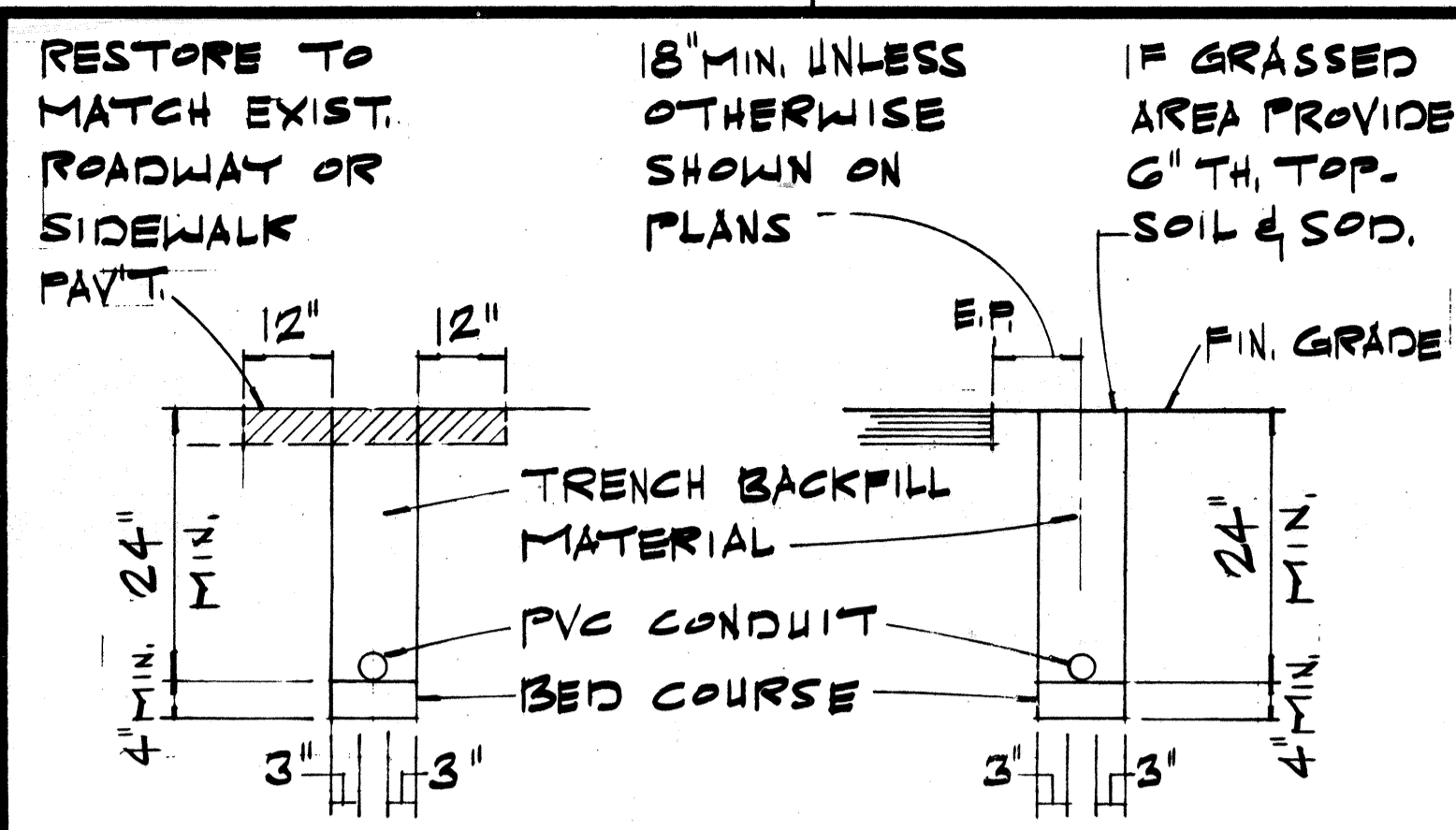
**GENERAL NOTES**

1. ALL LUMINAIRES SHALL BE HIGH PRESSURE SODIUM TYPE W/ WATTAGE & IES TYPE LIGHT DISTRIBUTION AS SHOWN ON PLANS.
2. ALL SECONDARY CIRCUIT EXTENSIONS TO H.E.CO. SERVICE SHALL BE PROVIDED BY CONTRACTOR. ALL CONNECTIONS MADE BY H.E.CO. SUBJECT TO CHARGE SHALL BE PAID BY THE CONTRACTOR.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING & INFORMING H.E.CO. OF STREET LIGHT LOCATIONS ON PROJECT SITE PRIOR TO INSTALLATION OF H.E.CO. SECONDARY CIRCUIT CONNECTION.
4. THE CONTRACTOR SHALL NOTIFY & COORDINATE WORK W/ THE STATE ELECTRICAL MAINTAINANCE SECTION, 727 KAKOI ST., PH.#548-4077 72 HOURS IN ADVANCE OF COMMENCING INSTALLATION OF STREET LIGHT SYSTEM.
5. THE CONTRACTOR SHALL LOCATE & VERIFY EXISTING STREET LIGHT SECONDARY VOLTAGE BEFORE ORDERING LIGHTING EQUIPMENT.



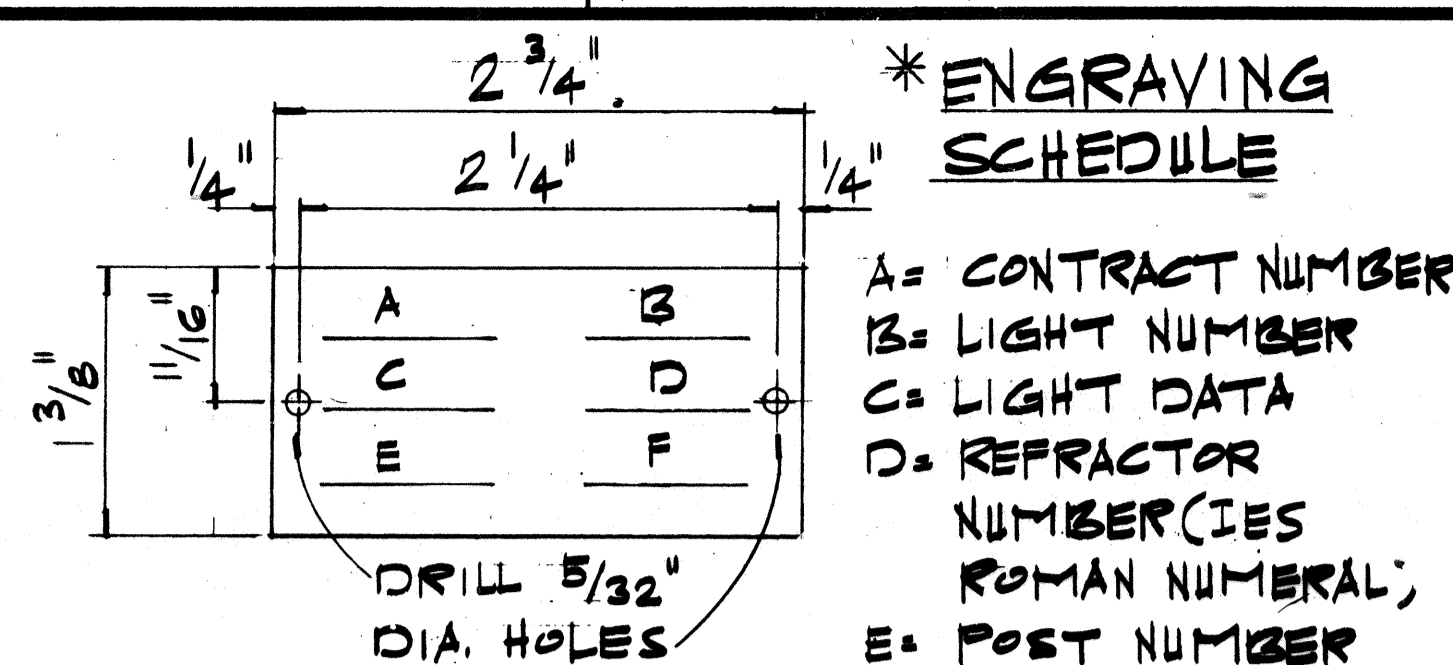
**STREET LIGHT DETAIL**

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



**TYPICAL DUCT SECTION DETAIL**

NOTE: SCALE: 1/2" = 1'-0"  
FOR MULTIPLE CONDUIT LAYOUTS PROVIDE 3" CL. SPACING BETWEEN CONDUITS.

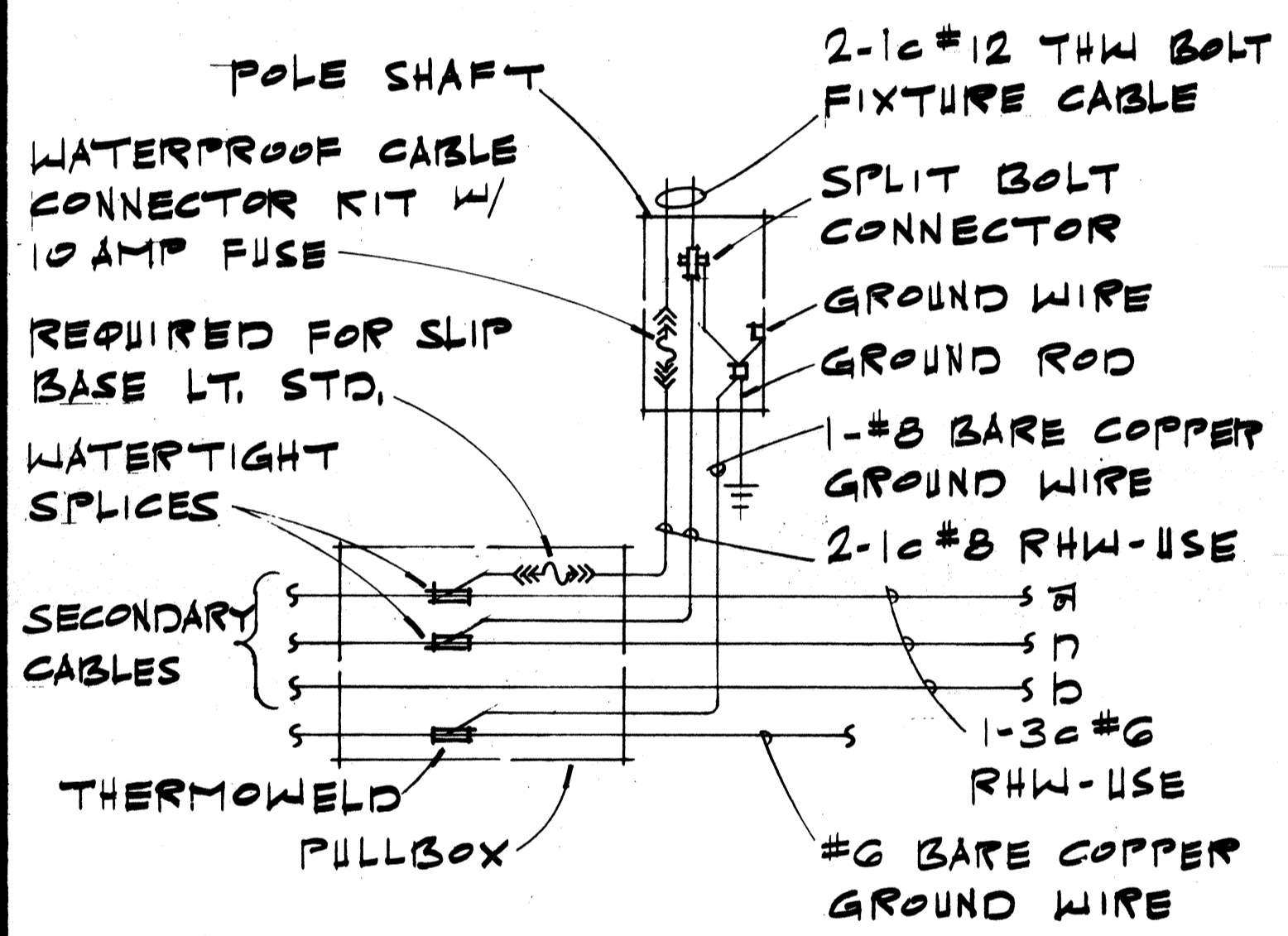


**IDENTIFICATION TAG FOR MULTIPLE STREET LIGHTING**

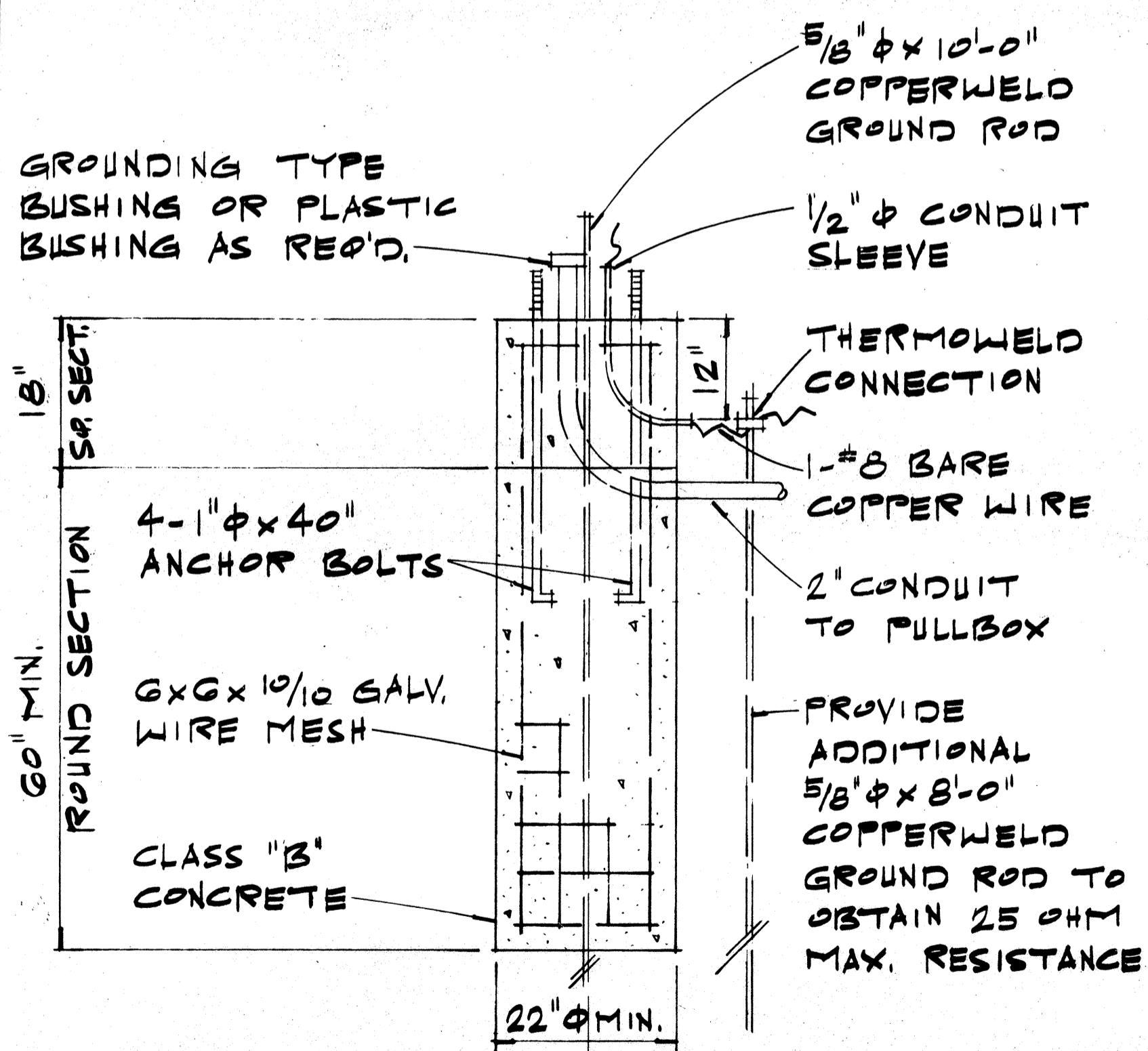
- NOT TO SCALE  
NOTE:  
1. MAKE FROM 3-PLY LAMINATED PLASTIC (BLACK-WHITE-BLACK) W/ 1/5" HIGH COMMERCIAL GOTHIC LETTERS ENGRAVED.  
2. ATTACH TO POLE W/ #7 CADMIUM PLATED SCREWS.

**TYPICAL I.D. TAG INFORMATION:**

- A = 507
- B = AS SHOWN ON PLANS
- C = AS SHOWN ON PLANS (N250, N150 OR H250)
- D = III, OR AS OTHERWISE NOTED.
- E = BLANK
- F = 120/240

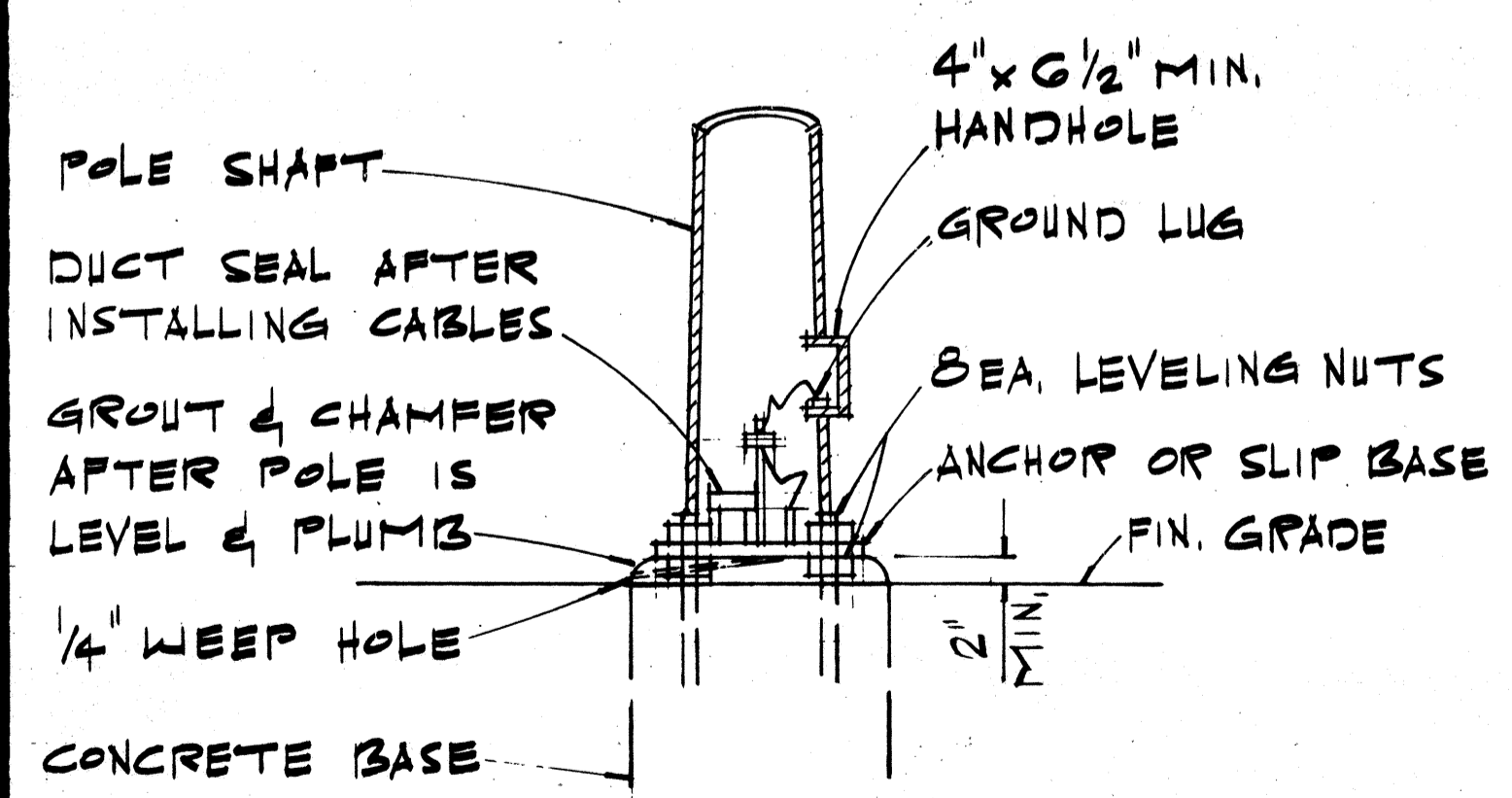


**WIRING CONNECTION DIAGRAM**



**CONCRETE BASE DETAIL**

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

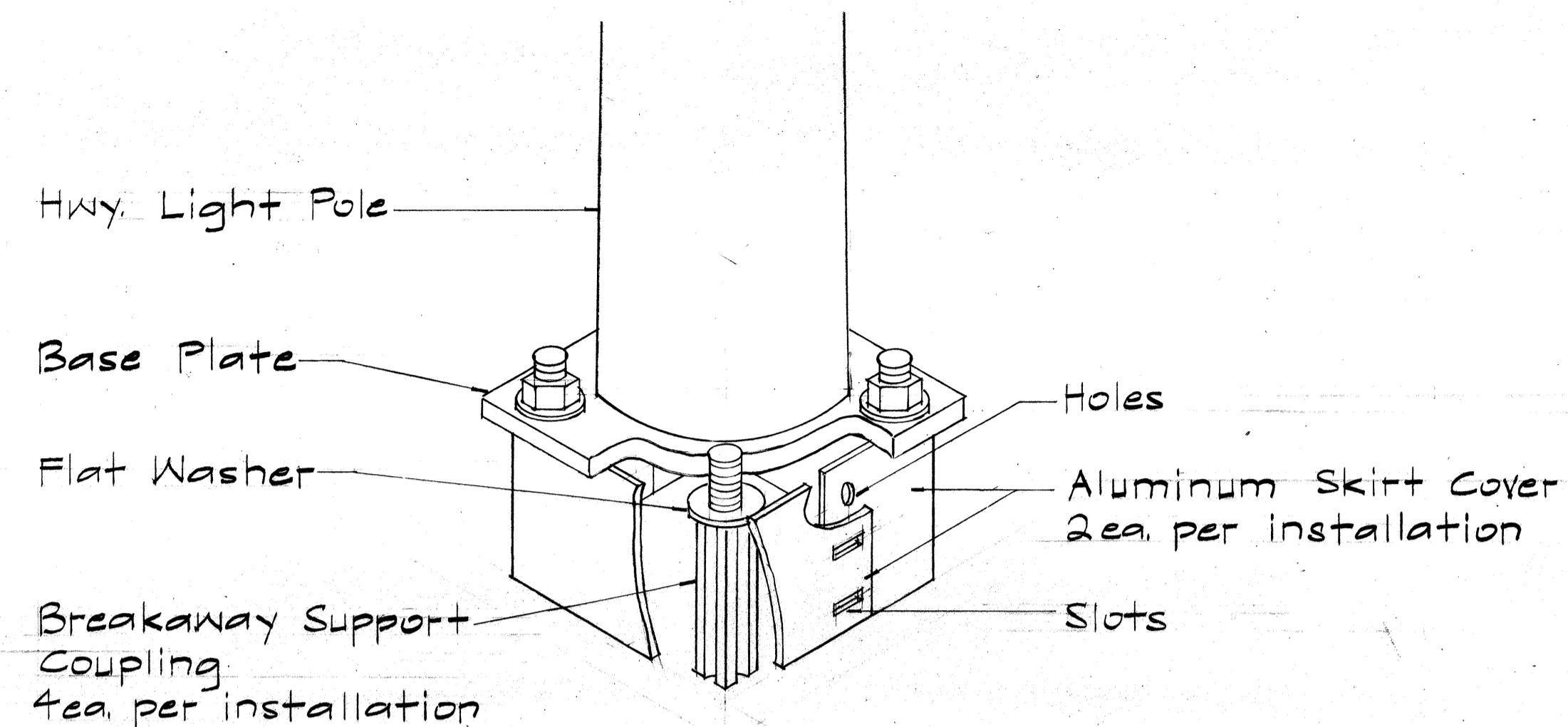


**POLE MOUNTING DETAIL**

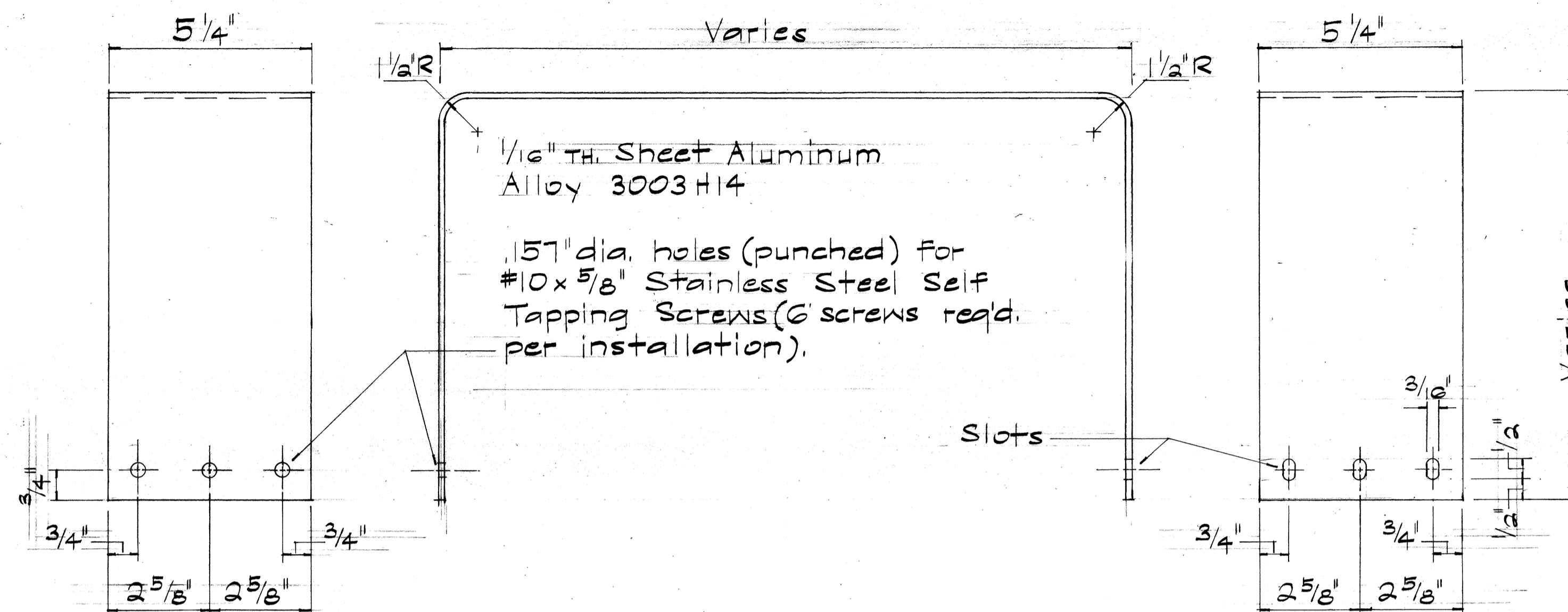
SCALE: 3/4" = 1'-0"

DATE	DESIGNED BY	CHECKED BY

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
ADDITIONAL HIGHWAYS DIVISIONS  
TYPICAL DETAILS  
**HIGHWAY LIGHTING LUMINAIRE MOUNTED ON METAL POLE**  
SCALE: AS SHOWN  
SHEET No. 24 OF 46 SHEETS



SKIRT COVER DETAIL



LEFT SIDE VIEW

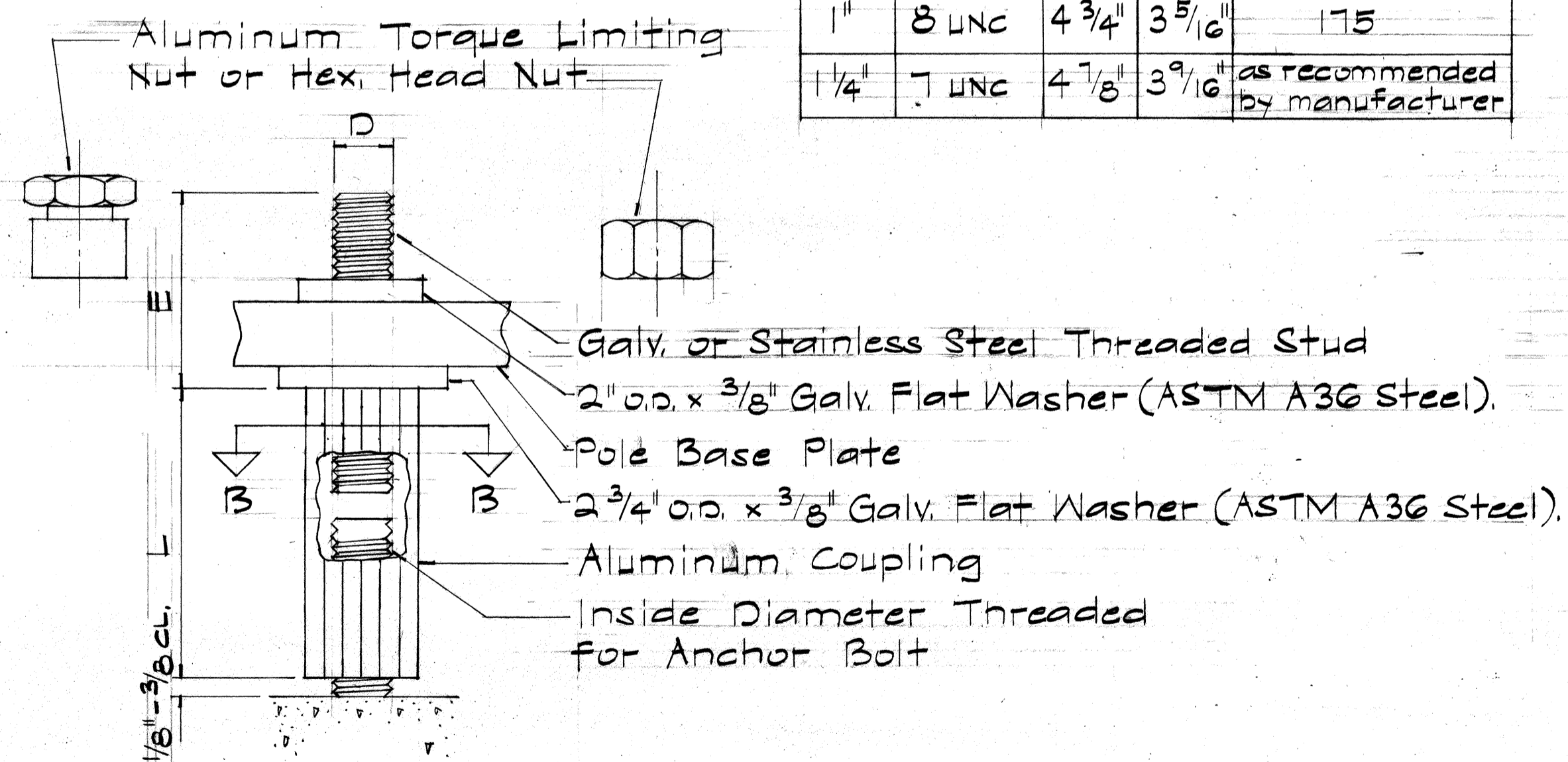
TOP VIEW

RIGHT SIDE VIEW

SKIRT COVER FOR BREAKAWAY SUPPORT COUPLING

Not to Scale

SECTION "B-B"



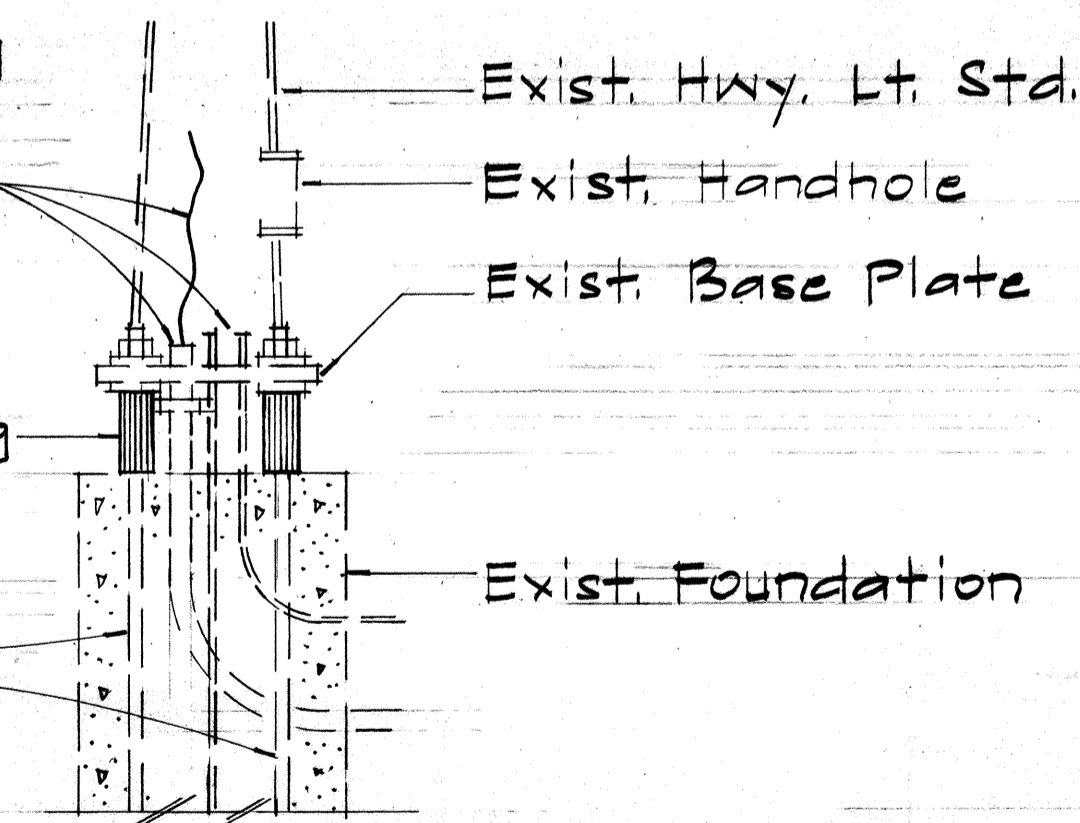
DETAIL "A"  
Not to Scale

DIMENSION SCHEDULE				
D	THREAD	L	E	NUT TORQUE ± 25 FT. LBS.
1"	8 UNC	4 3/4"	3 5/16"	175
1/4"	7 UNC	4 7/8"	3 9/16"	as recommended by manufacturer

Extend Cable & Conduit as req'd (Extensions to match existing)

Breakaway Support Coupling (See Detail "A")

Exist. Anchor Bolts.



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

GENERAL NOTES:

- Contractor shall verify size of exist. anchor bolts & base plates prior to ordering couplings & skirt covers.
- Breakaway support coupling shall conform to the applicable requirements of AASHTO standards & shall be fabricated from either die cast aluminum alloy 380 according to ASTM B85, or extruded from alloy 2024-T8511 according to ASTM B 221.
- Hex. nut shall meet the requirements of ASTM A 563 grade A, and ANSI B 18.2.2.
- Torque nut shall be fabricated from aluminum alloy and grooved to separate at the specified torque.
- Threaded stud shall meet the requirements of ASTM A 675 grade 90 or AISI stainless steel.

DATE \_\_\_\_\_  
SURVEY PLOTTED BY \_\_\_\_\_  
DESIGNED BY \_\_\_\_\_  
NOTE BOOK \_\_\_\_\_  
QUANTITIES BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_  
No. \_\_\_\_\_

BREAKAWAY SUPPORT COUPLING

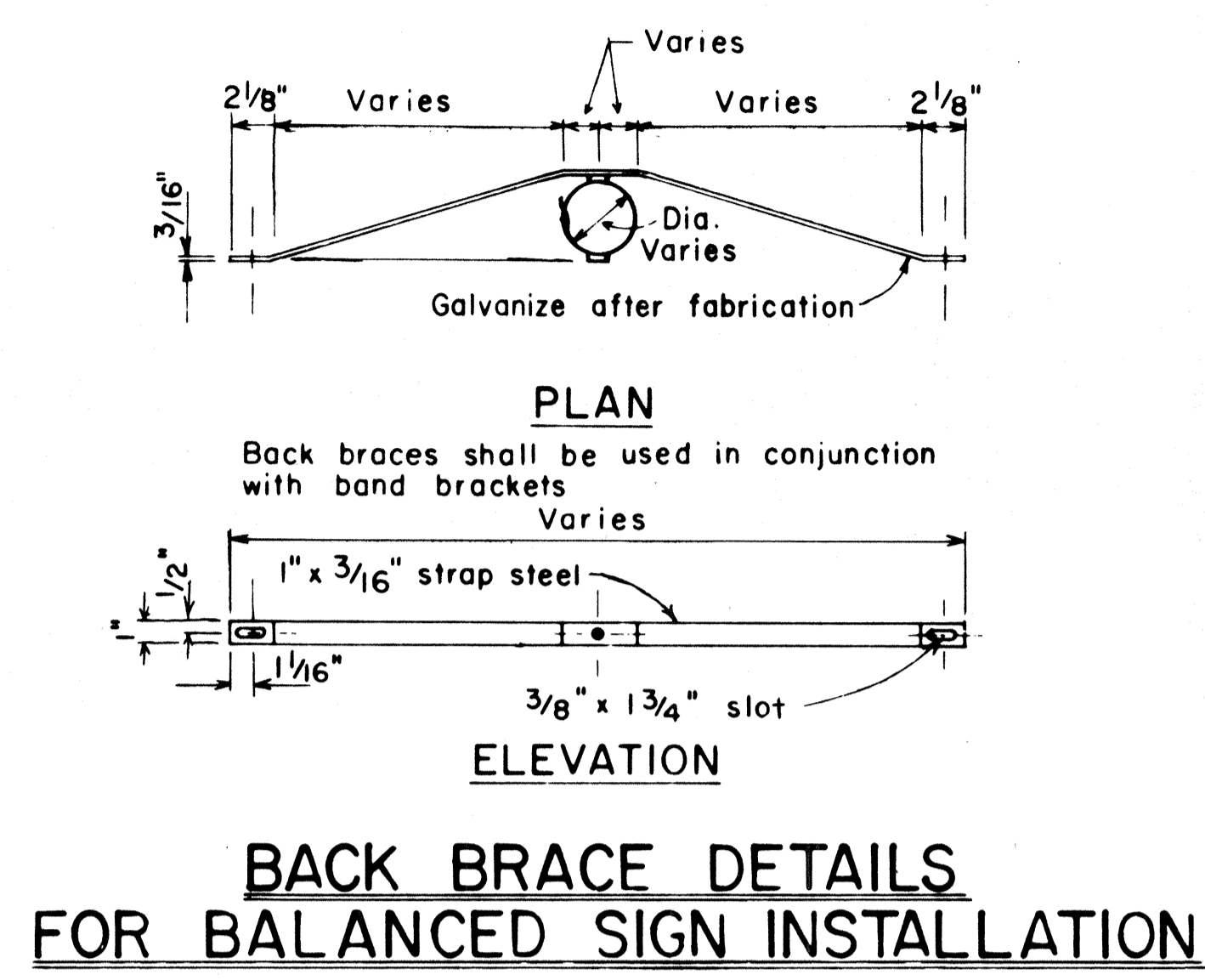
Scale: As Shown

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND TRANSPORTATION FACILITIES DIVISION  
TYPICAL DETAILS  
BREAKAWAY SUPPORT  
COUPLING & SKIRT COVER  
Scale: As Shown  
SHEET No. 25 OF 46 SHEETS

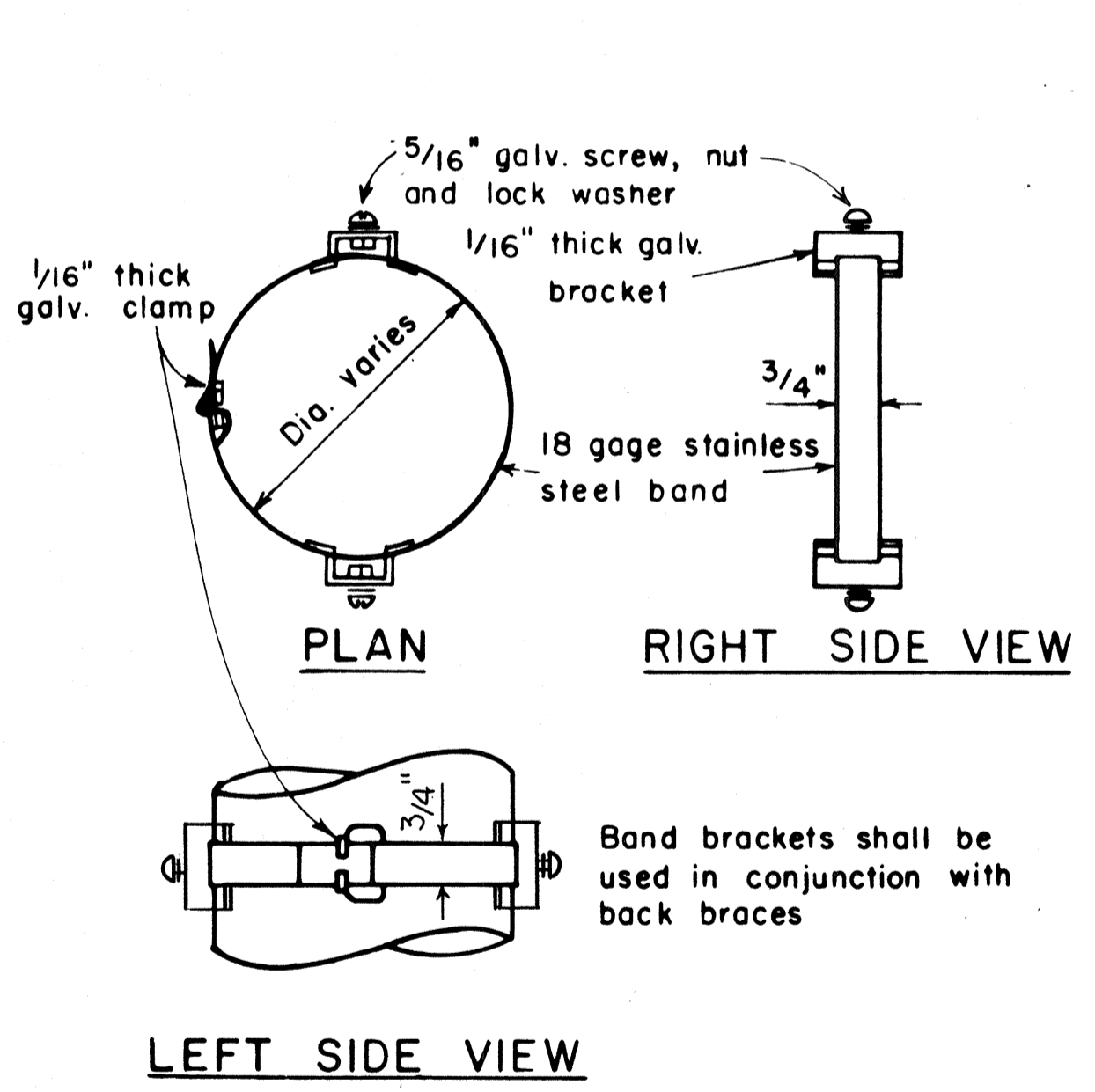
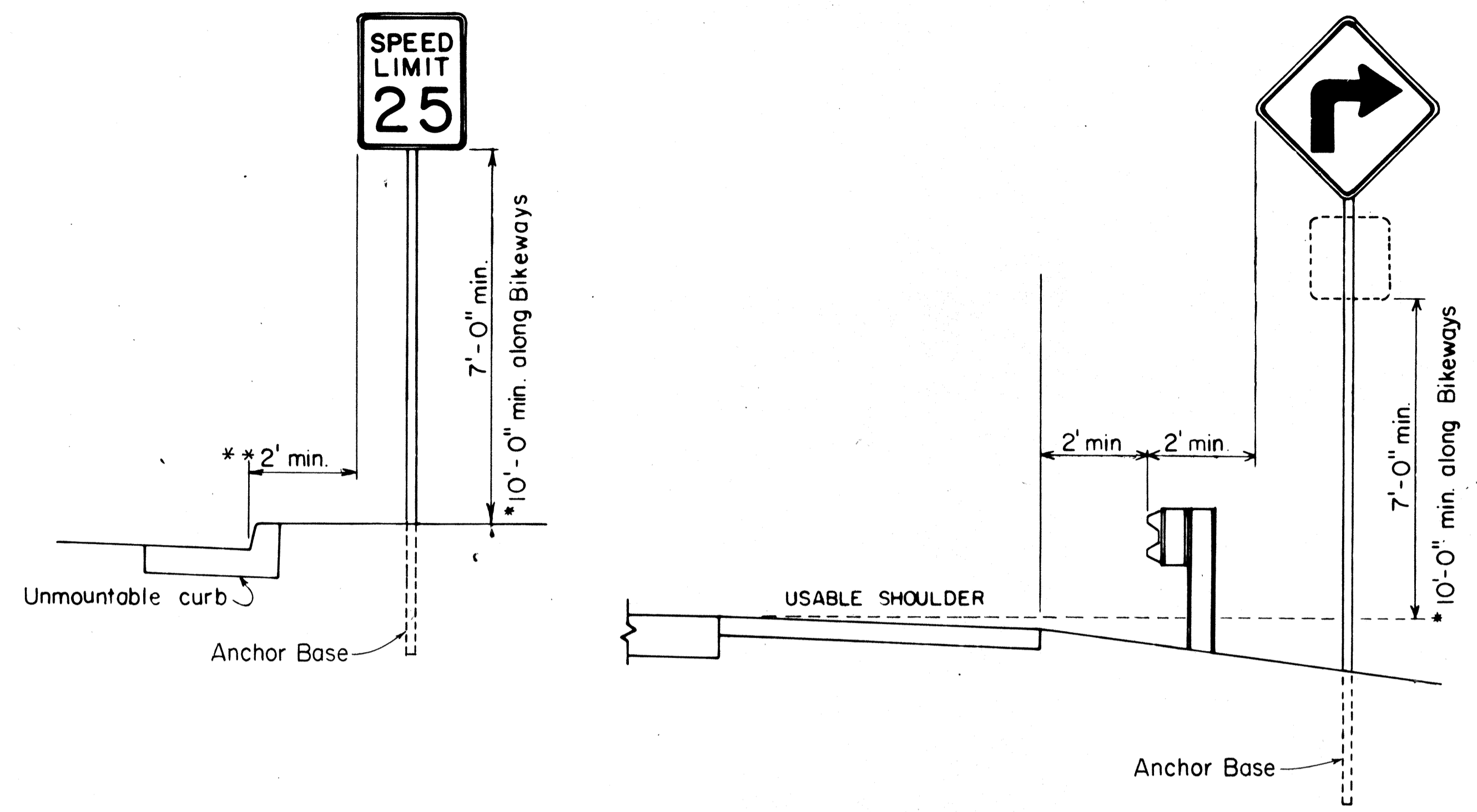
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HF-1084	1984	67	114

**GENERAL NOTES**

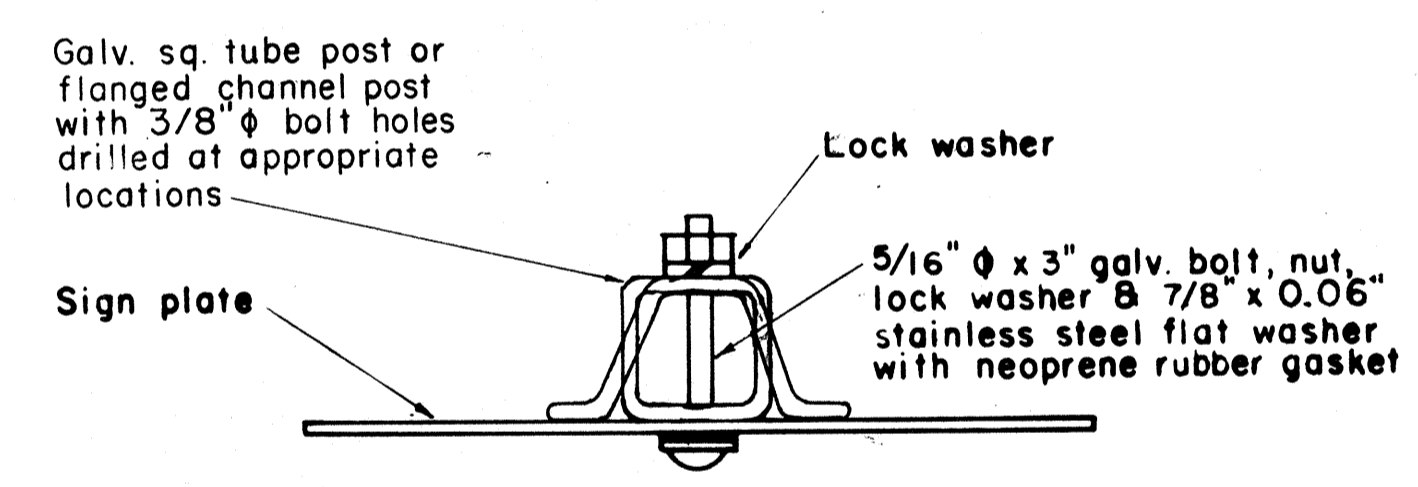
1. Signs shall be placed in conformance with positions shown and described in the "Manual on Uniform Traffic Control Devices for Streets and Highways", 1978, Part II, Section 2A-21, as amended, and as supplemented herein.
2. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two sign posts except as noted below.
3. Signs 48" and wider or larger than 10 sq. ft. in area may be mounted on other than two sign posts (i.e. on highway lighting poles) as follows:
  - a. Signs larger than 10 sq. ft. and less than 28 sq. ft. in area shall be mounted with a minimum of two sets of band brackets and back braces.
  - b. Signs larger than 28 sq. ft. in area shall be mounted with a minimum of three sets of band brackets and back braces.
4. All parking restriction signs with arrows shall be mounted 45° to the line of traffic flow.
5. Sign posts shall extend 3 1/2" above each sign, where required, for attachment of City and County street name signs.
6. (R) or (L) indicates right or left and shall be shown on the plans.
- \* 7. See plans for special details of signs along bikeways.
- \*\* 8. The minimum lateral distances shown are guidelines and shall be exceeded whenever possible. The Contractor shall place signs at the maximum practical lateral distance from the edge of the traveled way up to 30 feet and shall utilize protected locations whenever possible. Final locations of all signs shall be approved by the Engineer.
9. Signs in medians shall be placed at midpoint of median up to a maximum distance of 30 feet from the edge of traveled way. When appropriate, signs for opposing directions shall be placed back to back.
10. Anchor bases shall be installed for all signpost installations, unless otherwise shown or directed. See sheets DT 100A and DT 100B.



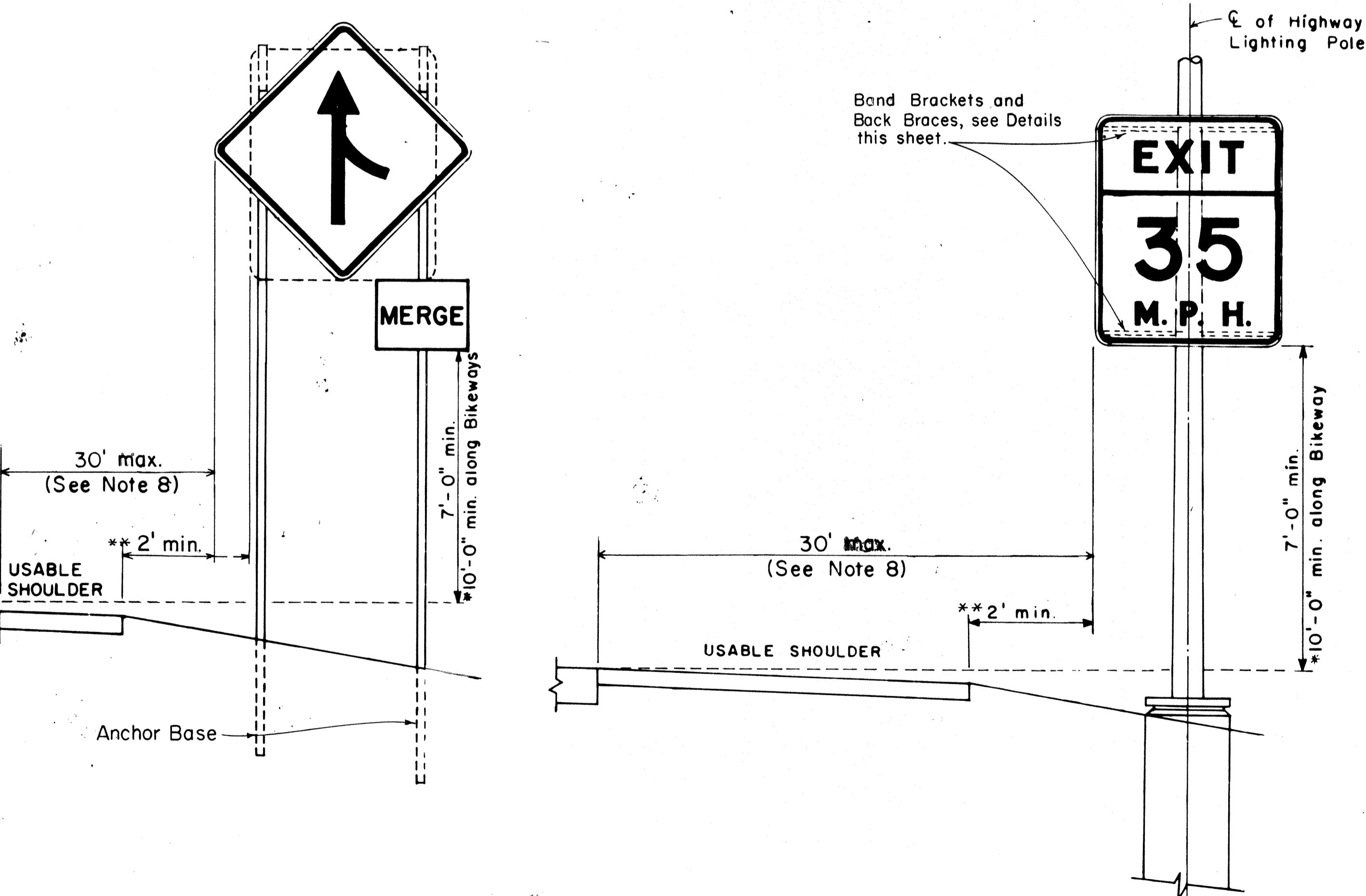
**BACK BRACE DETAILS FOR BALANCED SIGN INSTALLATION**



**BAND BRACKET**



**GALVANIZED SQUARE TUBE OR FLANGED CHANNEL POST**



**HEIGHT AND LATERAL LOCATION OF SIGNS TYPICAL INSTALLATION**

**TYPICAL MOUNTING DETAILS**

NOT TO SCALE

APPROVAL RECOMMENDED:  
*Etsuko Tanaka* 11/10/77  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Robert S. Gabeisho* 11/15/77  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT-100 approved 12/30/69	H.T.	11/15/77
2	Revised depth of signpost	H.T.	5/8/79
3	Added Notes No. 8 & No. 9	H.T.	3/18/79
4	Revised Gen. Note #4 & Mounting Details	H.T.	4/23/80
5	Revised General Notes, Lateral Sign Locations and Mounting Details	H.T.	5/15/81
6	Added Note 10. Minor revisions to notes and details.	H.T.	1/22/82

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**

MISCELLANEOUS SIGN DETAILS

Not to scale June, 1977

DATE: \_\_\_\_\_  
 SURVEY OBTAINED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-H-1(184)	1984	68	114

A or A,	C	C,
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 4.

### GENERAL NOTES

- Sign posts and base posts shall be flanged channel type structural steel conforming to ASTM A 499 and galvanized in accordance with ASTM A 123.  
**NOMINAL DIMENSIONS:**  
2.50 lbs./ft. - 3.125" x 1.562"  
4.00 lbs./ft. - 3.500" x 1.750"
- Retainer - Spacer Strap shall be AISI 1020 steel and galvanized in accordance with ASTM A 123.
- Retainer and Connector Bolts shall be 5/16 - 18 UNC x 1.75" long hex. head, integral flange conforming to ASTM A 354 Grade BC. Nuts shall be 5/16 - 18 UNC hex. head, integral flange conforming to ASTM A 563 Grade D. All bolts and nuts shall be cadmium plated per Federal spec. QQP 416 B, Class 2, Type 2.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:  
Factor =  $A \times B \times H$   
Therefore, if sign area (A x B) is known,  
Maximum H =  $\frac{\text{Factor}}{\text{sign area (A x B)}}$   
and if H is known,  
Maximum sign area (A x B) =  $\frac{\text{Factor}}{H}$

APPROVAL RECOMMENDED:

*Eishi Tanaka* 9/21/82  
TRAFFIC ENGINEER DATE

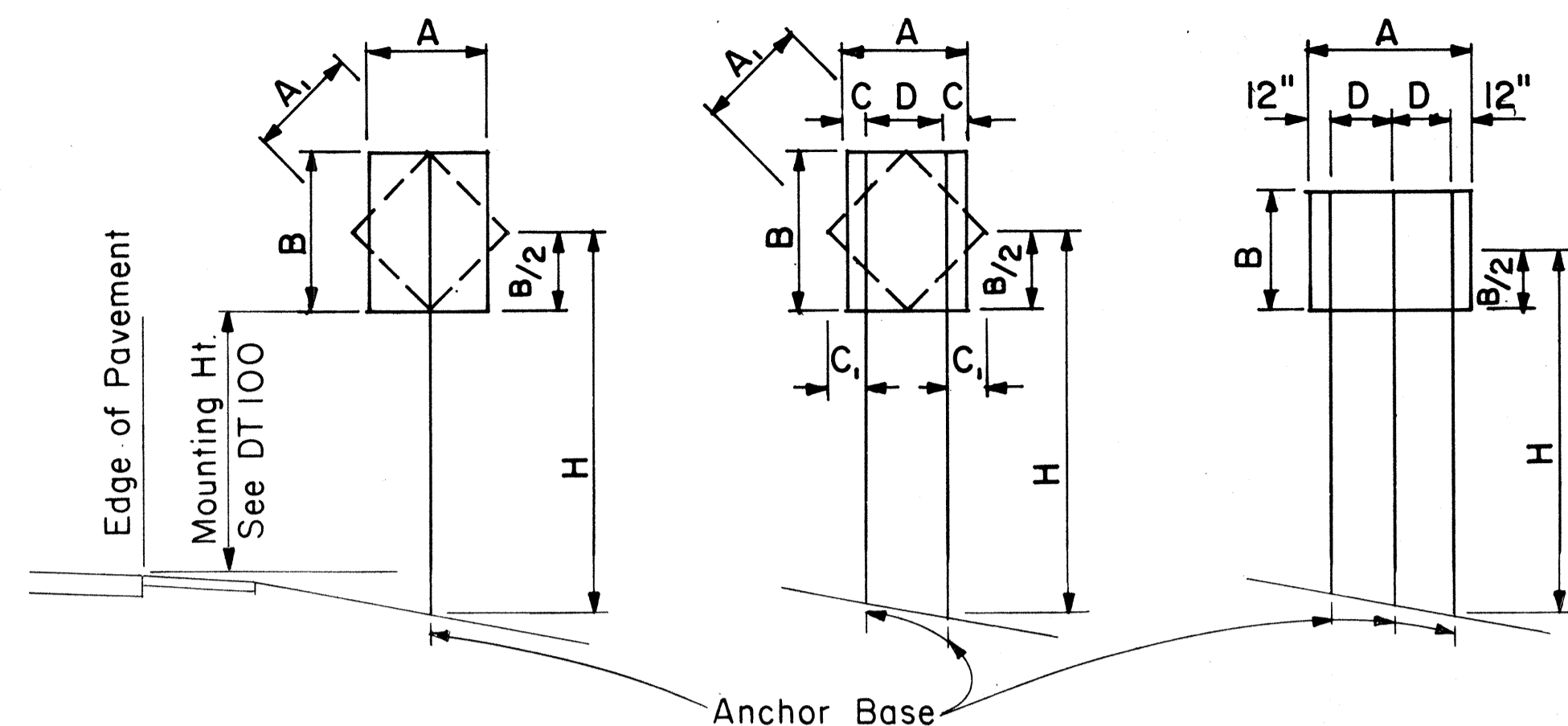
APPROVED:

*Richard J. ...* 9/21/82  
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STANDARD DETAILS  
GALVANIZED FLANGED CHANNEL  
SIGN POST MOUNTING

Scale: As Shown Date: Sept. 1982  
SHEET No. 727 OF 46 SHEETS DT 100A



**1-POST** Sign area 10 sq. ft. and less  
**2-POST** Sign area greater than 10 sq. ft. or A=48"-60"  
**3-POST** A = greater than 60"

### TYPICAL INSTALLATION

Not to Scale

#### FLANGED CHANNEL: 1-POST INSTALLATION

Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	57	8.14	7.13	6.33	5.70	5.18	4.75	9.33
4.00 lbs./ft.	112	-	-	-	-	-	-	

#### FLANGED CHANNEL: 2-POST INSTALLATION

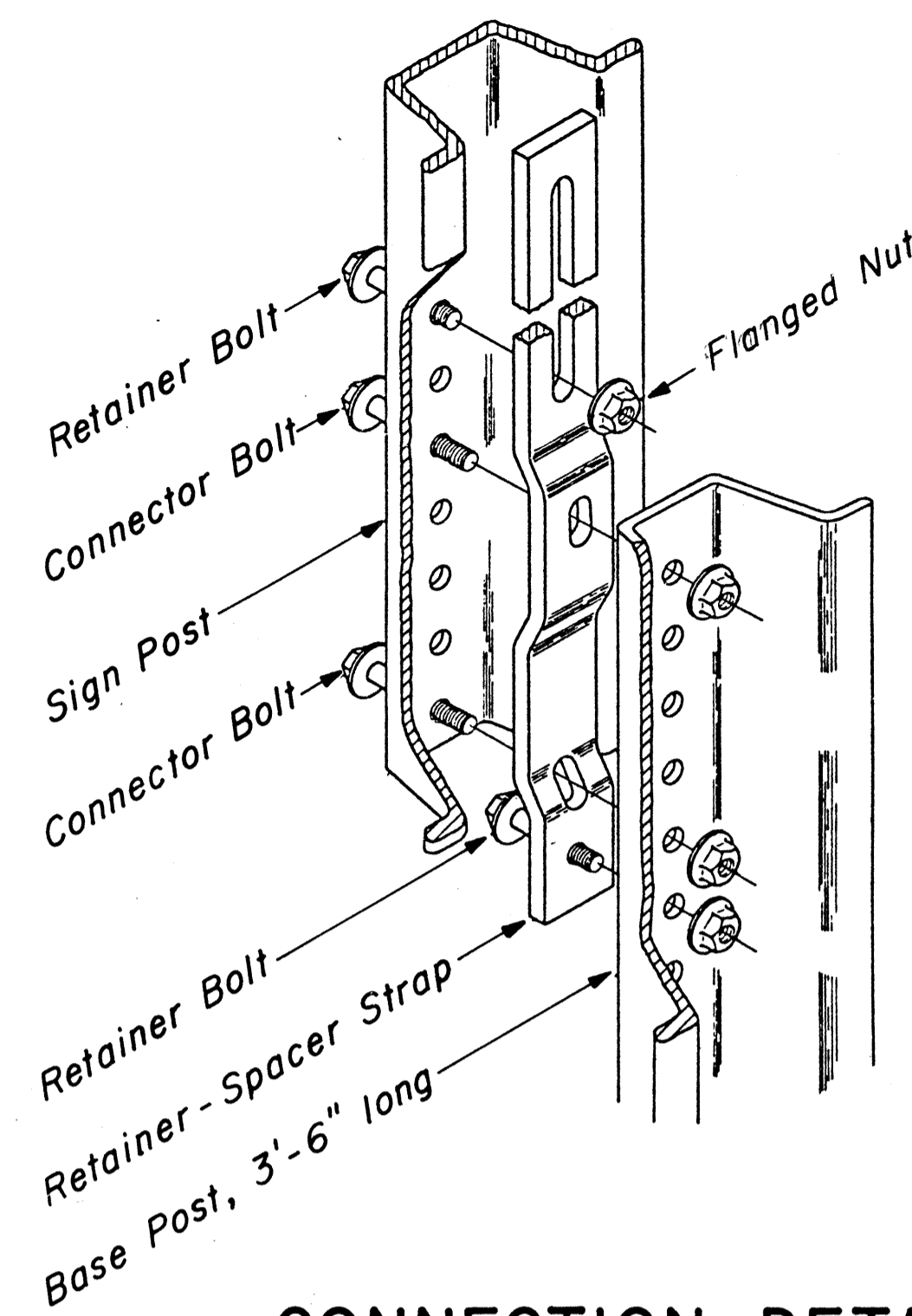
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	124	17.71	15.50	13.77	12.40	11.27	10.33	20.08
4.00 lbs./ft.	241	34.43	30.13	26.78	24.10	21.91	20.08	

#### FLANGED CHANNEL: 3-POST INSTALLATION

Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)						A x B (Area, sq. ft.)
		7	8	9	10	11	12	
2.50 lbs./ft.	187	26.71	23.38	20.78	18.70	17.00	15.58	30.17
4.00 lbs./ft.	362	51.71	45.25	40.22	36.20	32.91	30.17	

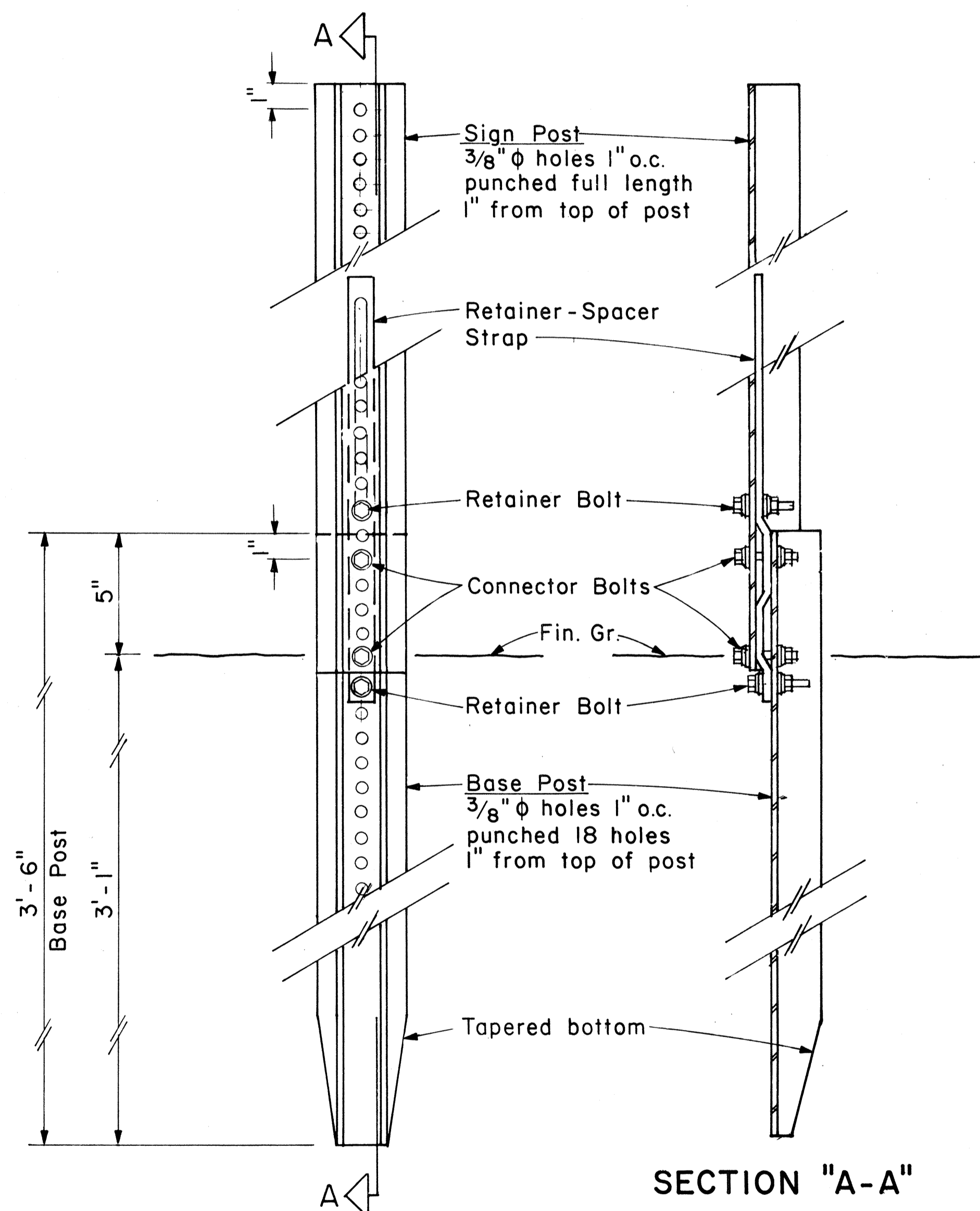
### WINDLOAD CHARTS

NO.	REVISION	APPROVED BY	DATE



### CONNECTION DETAIL

Not to Scale

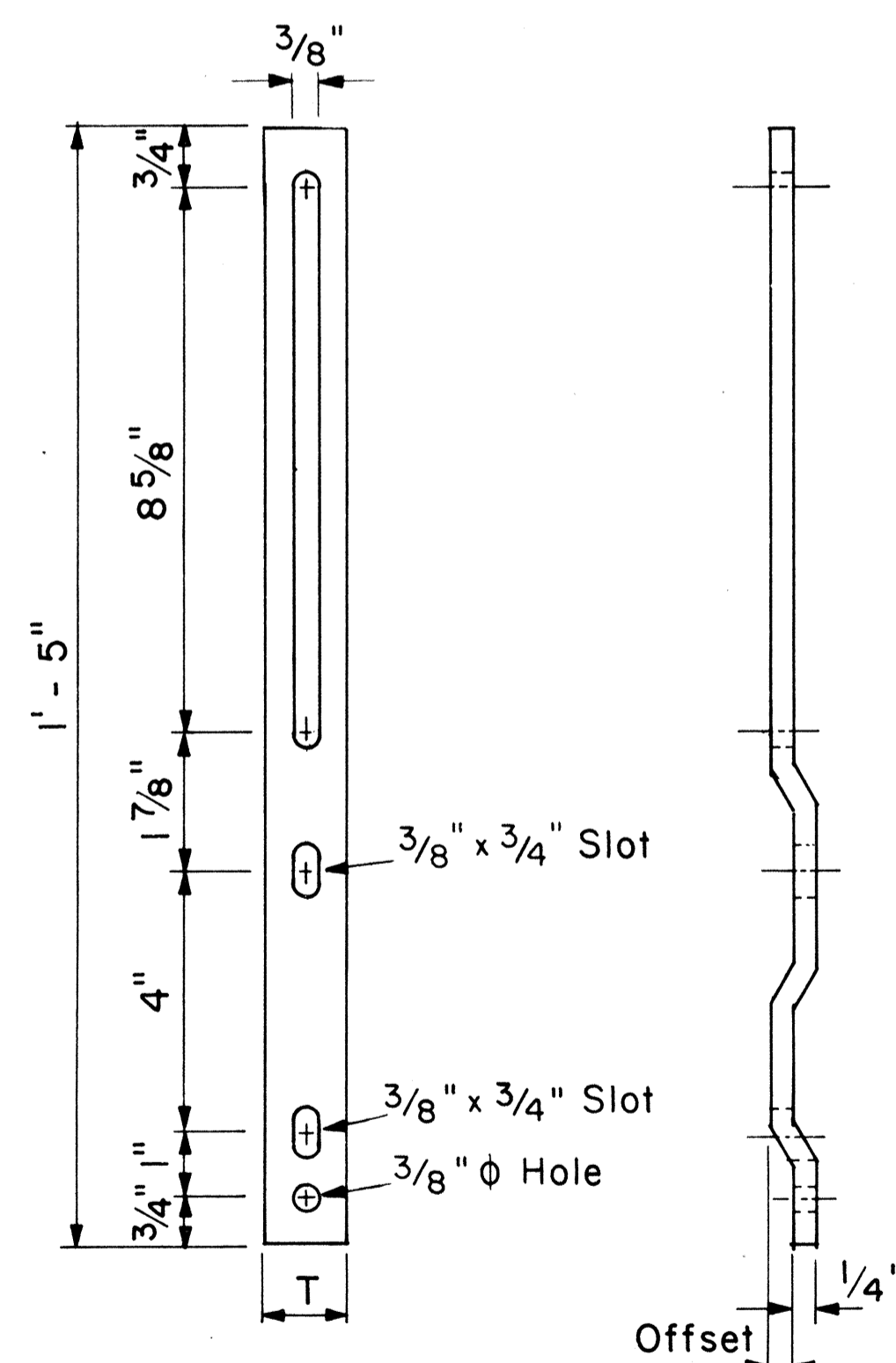


BACK VIEW

SECTION "A-A"

### ANCHOR BASE DETAIL

Scale: 3" = 1'-0"



### RETAINER-SPACER STRAP

Not to Scale

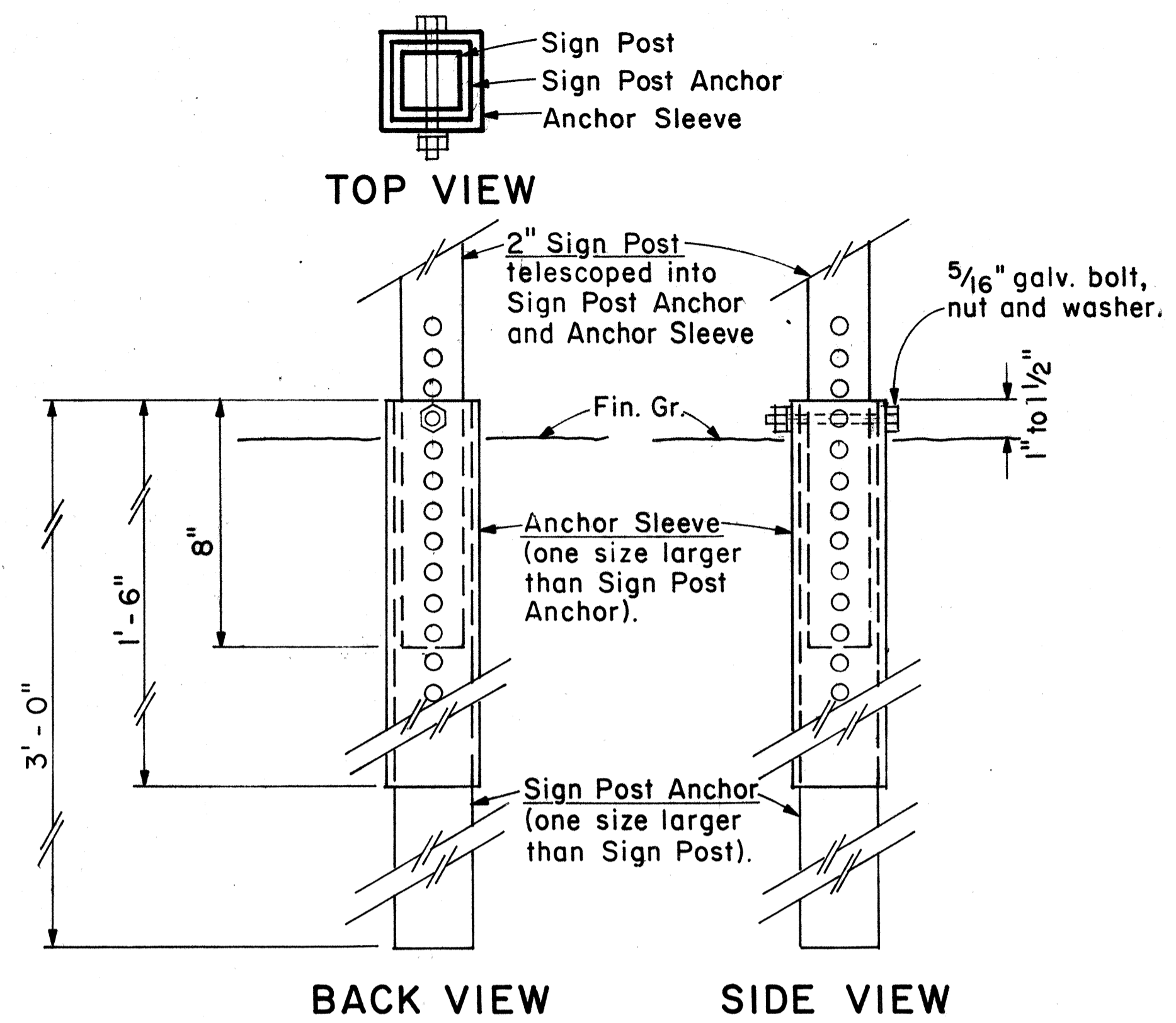
#### RETAINER-SPACER STRAP

Post Size	T	Offset
2.50 lbs./ft.	1.00"	0.145"
4.00 lbs./ft.	1.12"	0.280"

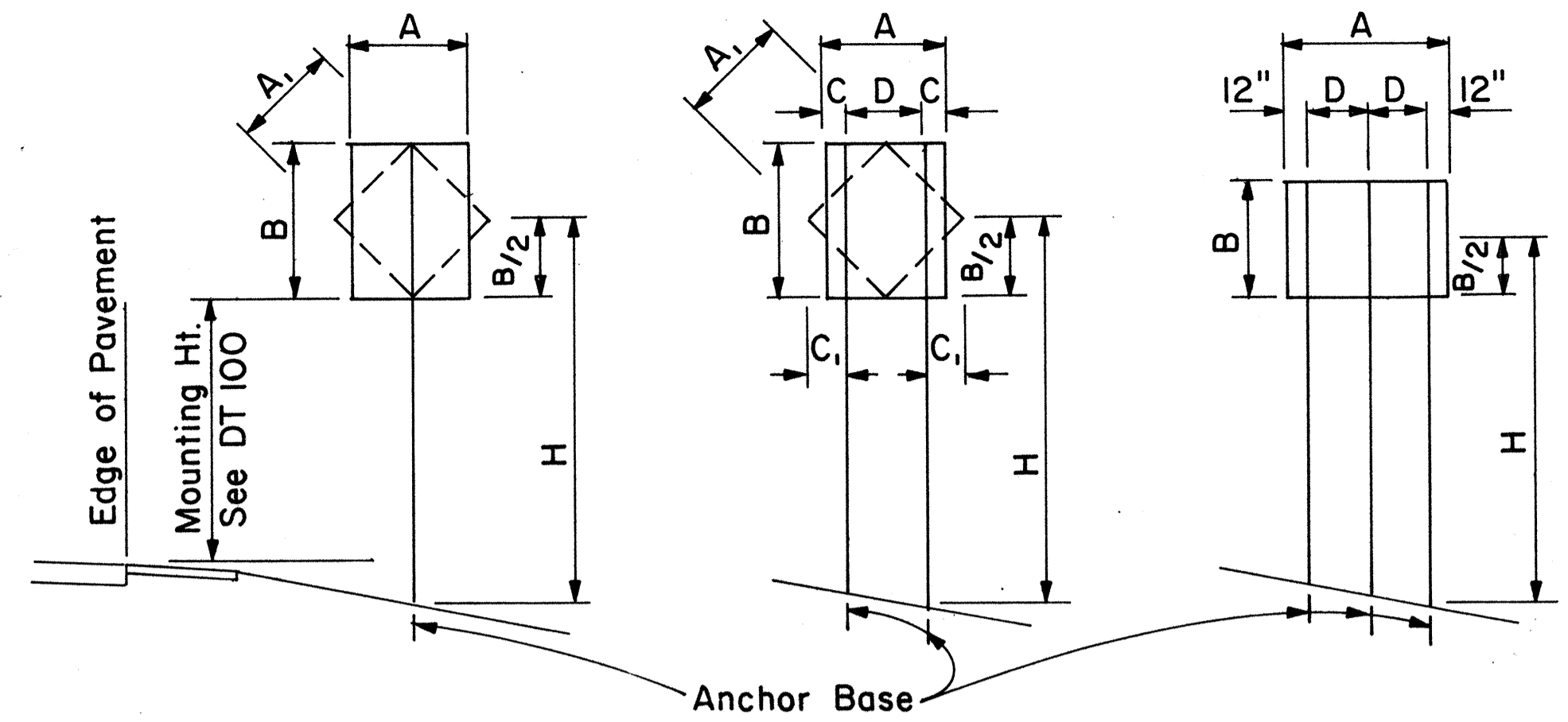
DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
NOTE BOOK DESIGNED BY: \_\_\_\_\_  
QUANTITIES BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
No. \_\_\_\_\_

### GENERAL NOTES

- Square tube sign posts shall conform to Subsection 713.11(C) Square Tube Posts of the Specifications.
- All accessories, fittings and stiffener details (as required) shall be submitted to Engineer for approval 20 days prior to installation.
- Square tube posts shall be perforated with 7/16"  $\phi$  holes, 1" o.c., 4 sides, along entire length of post.
- All posts shall be 12 gage unless otherwise specified or shown on the plans.
- For additional details see sht. DT 100.
- Basic formulas for use with the windload charts:  
 $Factor = A \times B \times H$   
Therefore, if sign area (A x B) is known,  
 $Maximum\ H = \frac{Factor}{sign\ area(A \times B)}$   
and if H is known,  
 $Maximum\ sign\ area(A \times B) = \frac{Factor}{H}$



**2" SIGN POST INSTALLATION**



**1-POST** Sign area 10 sq. ft. and less  
**2-POST** Sign area greater than 10 sq. ft. or A=48"-60"  
**3-POST** A= greater than 60"

### TYPICAL INSTALLATION

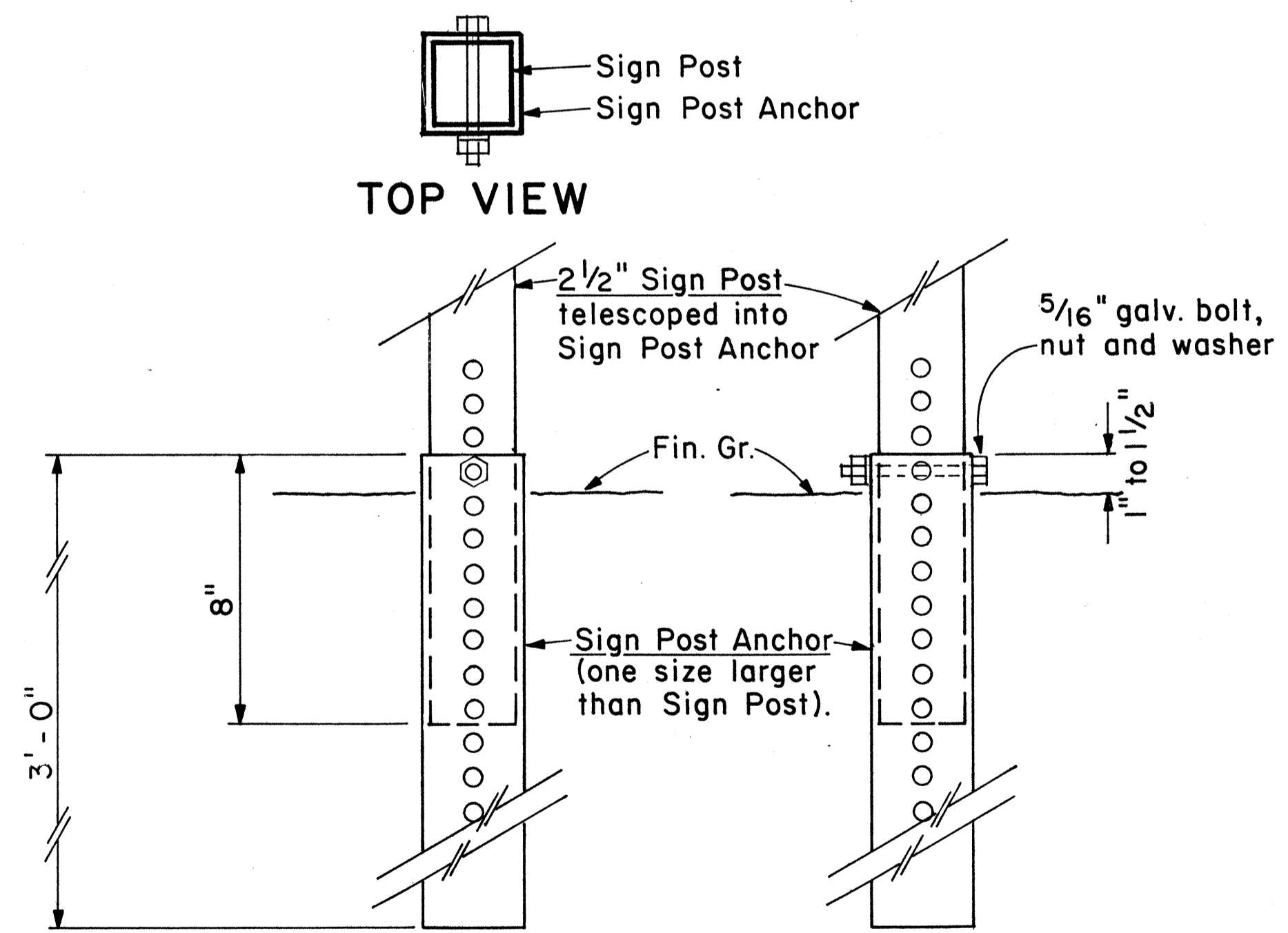
Not to Scale

SQUARE TUBE: 1-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	62	8.8	7.7	6.8	6.1	5.6	4.8
2 1/2"	107	-	-	-	-	9.6	8.8

SQUARE TUBE: 2-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	122	17.4	15.2	13.5	12.2	11.0	10.1
2 1/2"	212	30.2	26.5	23.5	21.1	19.2	17.6
2 1/2", 10 ga.	260	37.0	32.0	28.6	26.0	23.5	21.5

SQUARE TUBE: 3-POST INSTALLATION							
Post Size	A x B x H (Factor)	H = Ground Level to Midpoint (ft.)					
		7	8	9	10	11	12
2"	183	26.0	22.8	20.3	18.2	16.6	15.2
2 1/2"	318	45.4	39.5	35.2	31.5	28.8	26.5
2 1/2", 10 ga.	388	55.0	48.5	43.0	38.5	35.0	32.0

### WINDLOAD CHARTS



**2 1/2" SIGN POST INSTALLATION**

### ANCHOR BASE DETAIL

Scale: 3" = 1'-0"

A or A <sub>1</sub>	C	C <sub>1</sub>
36"	6"	-
48"	9"	19"
60"	12"	24"

NOTE: Frame stiffeners are required when D is greater than 24". See Gen. Note 2.

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

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 9/21/82  
TRAFFIC ENGINEER DATE  
APPROVED:  
*Harbert Sakaiishi* 9/22/82  
ASSISTANT CHIEF, ENGINEERING DATE

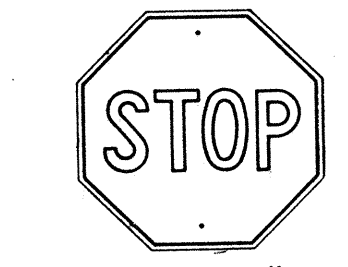
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

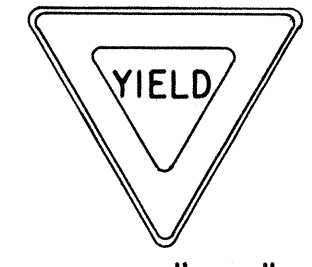
STANDARD DETAILS  
GALVANIZED SQUARE TUBE  
SIGN POST MOUNTING

Scale: As Shown Date: Sept. 1982  
SHEET No. T28 OF 46 SHEETS DT 100B

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IRH1(184)	1984	70	114



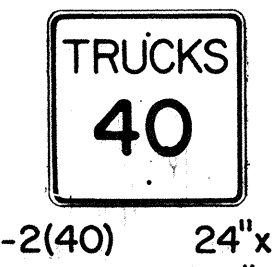
R1-1 30" x 30"  
R1-1-A 36" x 36"  
4-WAY  
R1-3 12" x 6"  
R1-3-A 18" x 9"



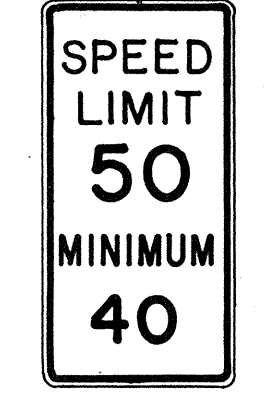
R1-2 36" x 36" x 36"  
R1-2-A 48" x 48" x 48"



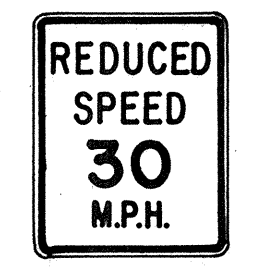
R2-1(50) 24" x 30"  
R2-1(50)-A 48" x 60"



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"



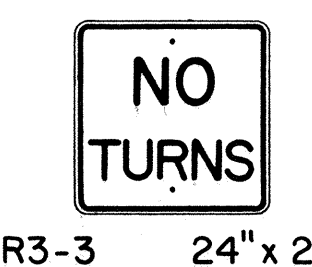
R2-5b(30) 24" x 30"  
R2-5b(30)-A 48" x 60"



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"



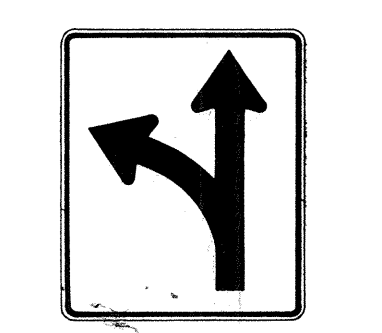
R3-3 24" x 24"  
R3-3-A 48" x 48"



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



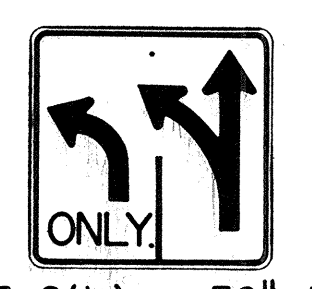
R3-5(L) 30" x 36"  
R3-5(L)-A 48" x 60"



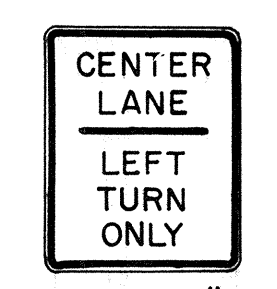
R3-6(L) 30" x 36"  
R3-6(L)-A 48" x 60"



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"



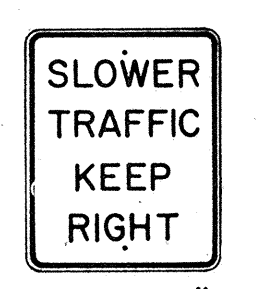
R3-9 24" x 30"



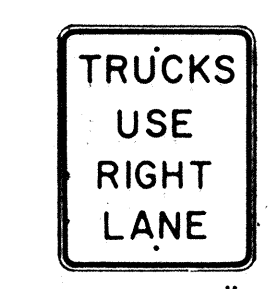
R4-1 24" x 30"



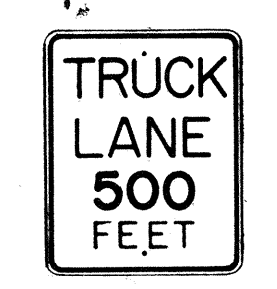
R4-2 24" x 30"



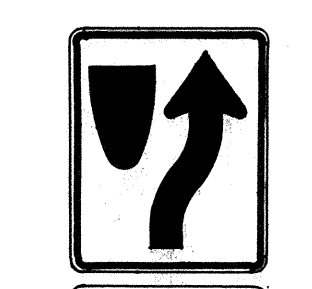
R4-3 24" x 30"  
R4-3-A 48" x 60"



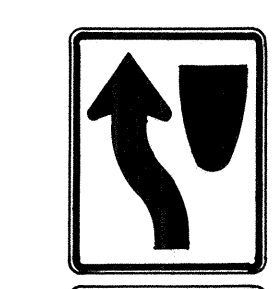
R4-5 24" x 30"



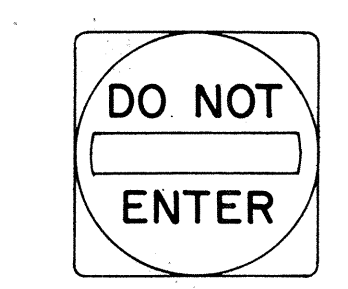
R4-6(500) 24" x 30"



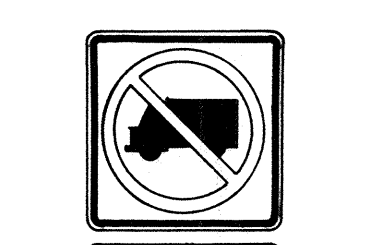
R4-7 24" x 30"  
24" x 18"



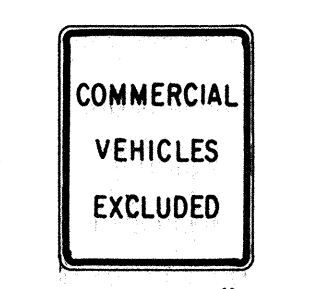
R4-8 24" x 30"  
24" x 18"



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



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



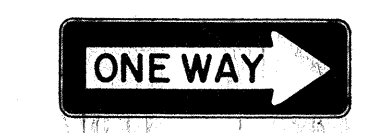
R5-4 24" x 30"



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"



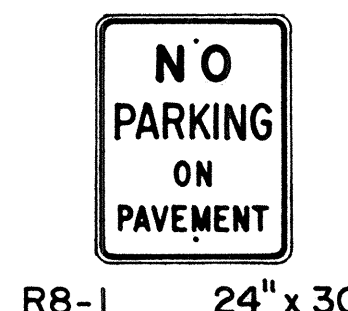
R7-1,7(R) 12" x 18"



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"



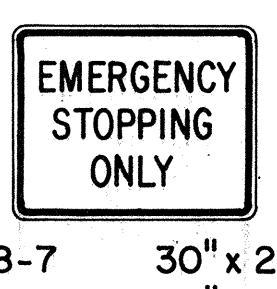
R8-4 30" x 24"  
R8-4-A 48" x 36"



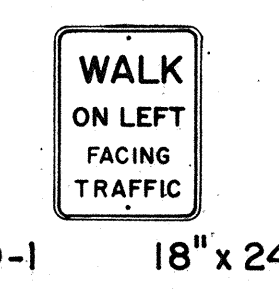
R8-5 24" x 30"



R8-6 24" x 30"



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



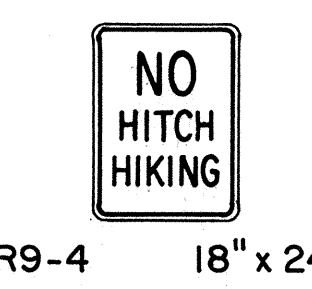
R9-1 18" x 24"



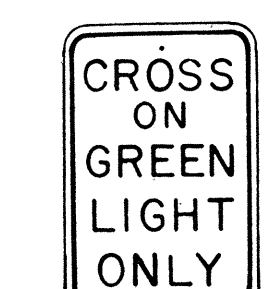
R9-2 12" x 18"



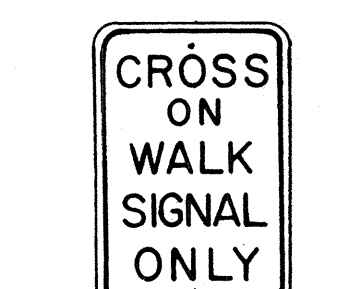
R9-3 12" x 18"



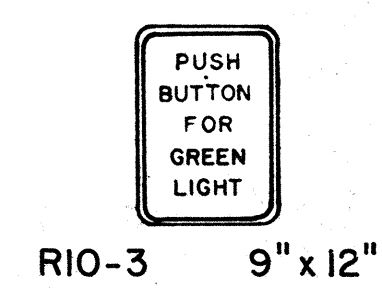
R9-4 18" x 24"



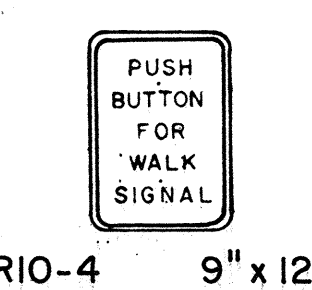
R10-1 12" x 18"



R10-2 12" x 18"



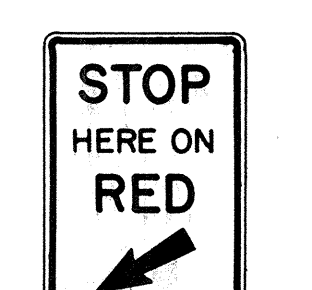
R10-3 9" x 12"



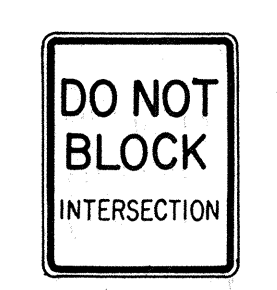
R10-4 9" x 12"



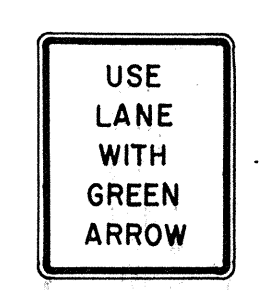
R10-5 24" x 30"



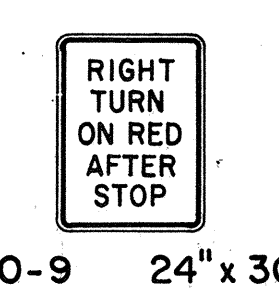
R10-6 24" x 36"



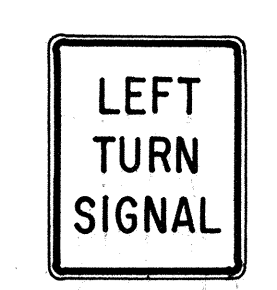
R10-7 24" x 30"



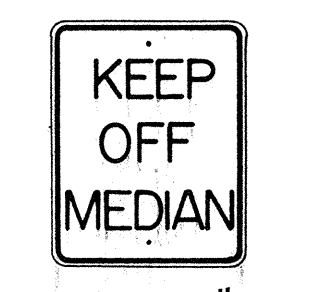
R10-8 24" x 30"



R10-9 24" x 30"



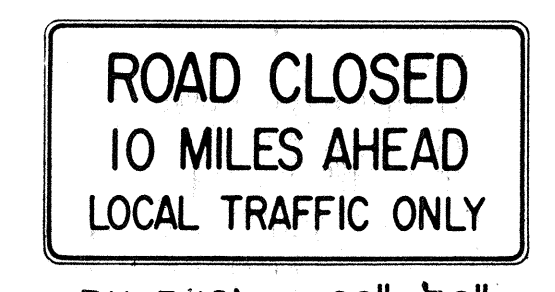
R10-10 24" x 30"



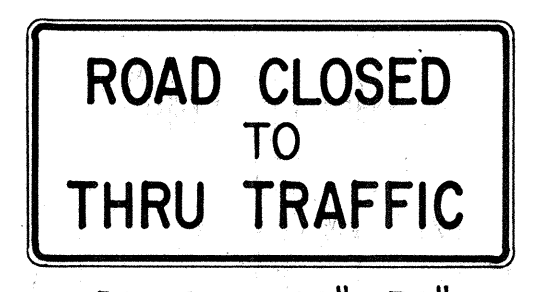
R11-1 24" x 30"



R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

**GENERAL NOTES**

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- All signs shall be erected without educational plaques unless called for in the plans.

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

APPROVED:  
*Julius Datsis* 3-20-72  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.T.	3/20/72
2	Revised General Note 1.	H.T.	10/10/74
3	Added General Note 5	H.T.	8/9/79

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION



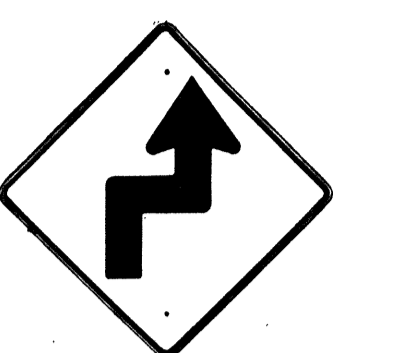
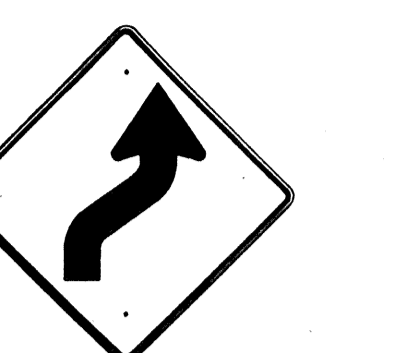

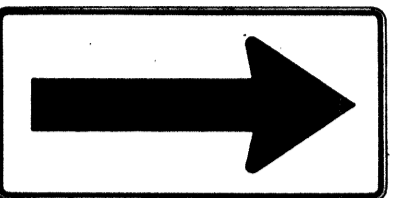
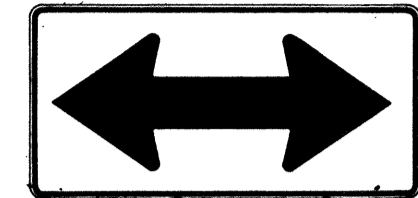
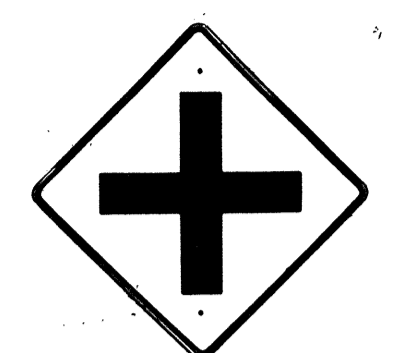
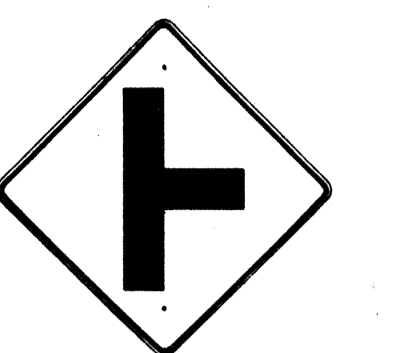
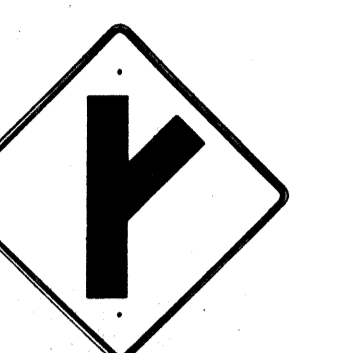
**STANDARD DETAILS**  
**REGULATORY SIGNS**

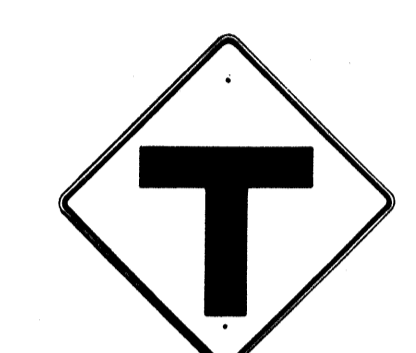
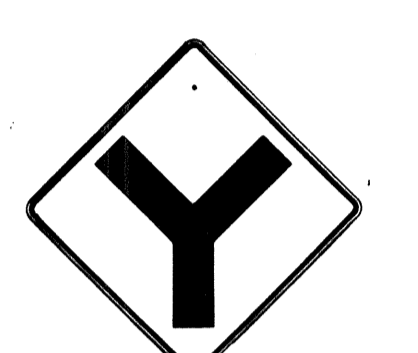


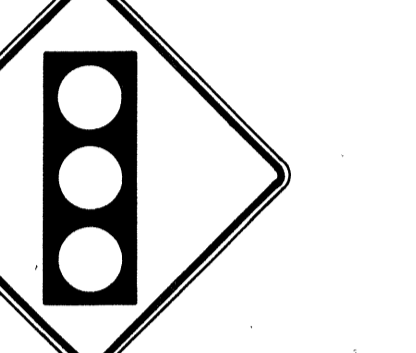

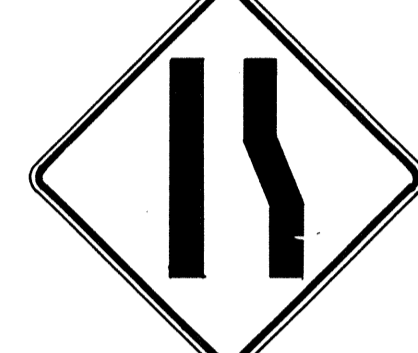



NOT TO SCALE


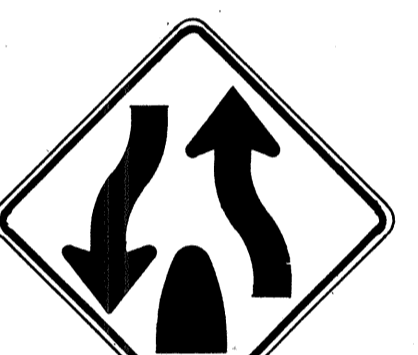
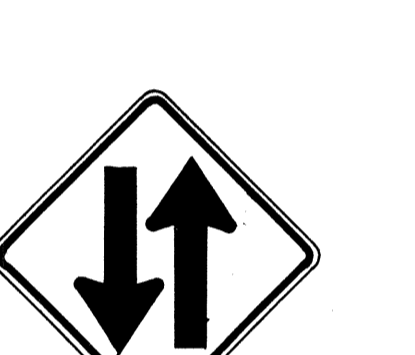

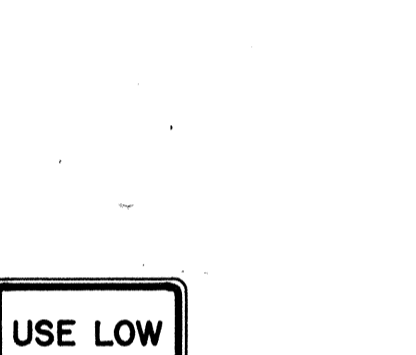





SHEET No. 70 OF 46 SHEETS DT 101








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

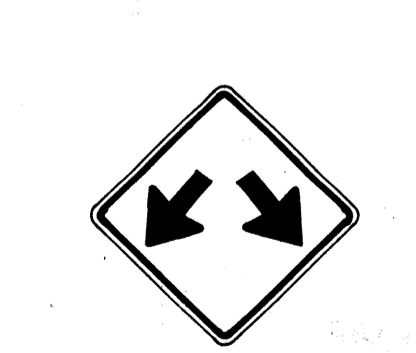

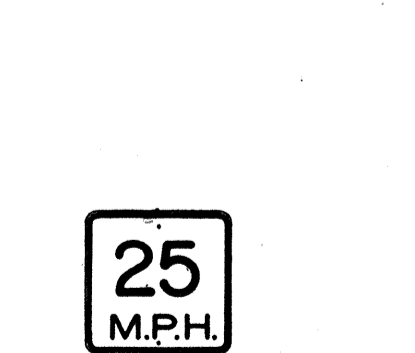

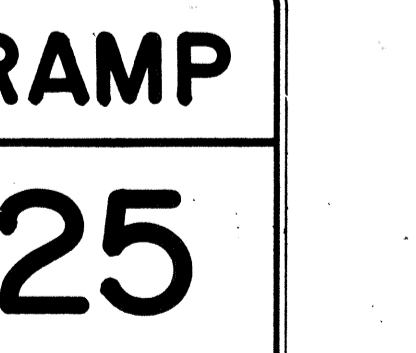


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII*	HAW.	1RHH(184)	1984	71	114

 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"
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 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"
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 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"
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 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"
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 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**

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All warning signs shall be reflectorized unless otherwise specified.
- All warning signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized.

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 3/17/72  
TRAFFIC ENGINEER DATE

APPROVED:  
*Shigeru Sakai* 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
2	Revised General Note 1	H.T.	10/16/74
3	Revised General Note 5	M.H.	9-16-75
4	Revised General Note 5	M.H.	9-14-76
5	Added Note 1	H.T.	11-9-79

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**WARNING SIGNS**

NOT TO SCALE

NOTE  
1. All signs shall be erected without educational plaques unless called for in the plans.

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R111(184)	1984	72	114

**General Notes**

- Sign details shall conform to the latest editions of the following FHWA publications:
  - "Standard Alphabets for Highway Signs," and as amended.
  - "Standard Highway Signs," and as amended.
  - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- All signs shall be reflectorized with reflective sheeting, unless otherwise specified.
- All signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicate numerals to be inserted for sign message. (R) or (L) indicates right or left.
- Signs prefixed with "CW" on the plans shall indicate orange and black construction signs, and shall be reflectorized with reflective sheeting.
- All signs shall be erected without educational plaques unless called for in the plans.

**ALL WAY**  
R1-4 18" x 6"

**REDUCED SPEED AHEAD**  
R2-5d(35) 24" x 30"  
R2-5d(35)-A 48" x 60"

**SPEED LIMIT ENFORCED BY VASCAR**  
4" Series D  
4" Series C  
3" Series D  
5" Series C  
R2-10 24" x 30"

**CENTER LANE ONLY**  
R3-9b 24" x 36"

**BUS STOP**  
R7-107(R) 12" x 24"

**RESERVED PARKING**  
R7-8 12" x 18"  
R7-8-A 24" x 30"

**NO PARKING ANY TIME**  
4" Series C  
1 1/2"  
R8-3a 24" x 24"  
24" x 18"  
R8-3a-A 48" x 48"

**NO PED XING**  
R9-3a 18" x 18"  
18" x 12"  
R9-3a-A 24" x 24"  
24" x 18"

**USE CROSSWALK**  
R9-3b(R) 18" x 12"

**USE CROSSWALK**  
R9-3b(L) 18" x 12"

**NO TURN ON RED**  
R10-11a 24" x 30"

**TURN RIGHT ANY TIME WITH CAUTION**  
4" Series C  
R16-1 24" x 30"

**NO LEFT TURN ON RED**  
4" Series D -  
3" Series D -  
2" Series D -  
3" Series D -  
R16-3 18" x 24"

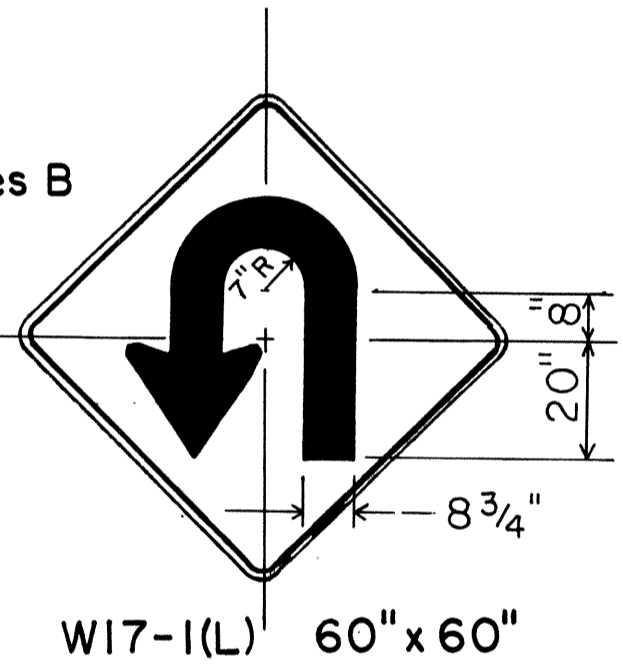
**NO RIGHT TURN ON RED**  
R16-4 18" x 24"

**UNLICENSED VEHICLES BICYCLES, CYCLES UNDER 5 H P, PEDESTRIANS KEEP OUT FREEWAY**  
3" Series C  
4" Series E  
R16-5 36" x 42"

**TURN AHEAD**  
8" Series F  
5" Series D  
R16-6 24" x 30"

**U TURN OK**  
8" Series F  
5" Series D  
R16-7 24" x 30"

**MOTOR-DRIVEN CYCLES PROHIBITED**  
4" Series B  
R5-8 30" x 24"



**STOP AHEAD**  
W3-1a 36" x 36"  
24" x 18"  
W3-1a-A 48" x 48"  
24" x 18"

**YIELD AHEAD**  
W3-2a 36" x 36"  
24" x 18"  
W3-2a-A 48" x 48"  
24" x 18"

**STOP AHEAD WHEN FLASHING**  
6" Series C  
W3-4 48" x 48"

**TRUCK CROSSING**  
W8-6 30" x 30"  
W8-6-A 36" x 36"

**THRU TRAFFIC MERGE LEFT**  
6" Series E  
W9-3(L) 48" x 48"

**EQUESTRIAN XING**  
W11-7 36" x 36"  
24" x 18"  
W11-7-A 48" x 48"  
24" x 18"

**FIRE STATION**  
W11-8 36" x 36"  
24" x 18"  
W11-8-A 48" x 48"  
24" x 18"

**WHEELCHAIR ACCESSIBLE**  
W11-9 36" x 36"  
W11-9-A 48" x 48"

**LIMITED SIGHT DISTANCE**  
W14-4 36" x 36"  
W14-4-A 48" x 48"

**DELAYED GREEN** - 4" Series C  
W15-1 24" x 24"

**ADVANCE GREEN**  
W15-2 24" x 24"

**END FREEWAY 1/2 MI**  
8" Series E  
CW16-1(1/2) 60" x 60"

**RIGHT LANE EXIT ONLY**  
8" Series E  
W18-1 48" x 60"

**SCHOOL CHILDREN**  
S1-1 36" x 36"

**SCHOOL CHILDREN**  
S2-1 36" x 36"

**SCHOOL BUS STOP AHEAD**  
S3-1 30" x 30"

**8:00 AM TO 3:30 PM**  
S4-1 24" x 10"

**WHEN CHILDREN ARE PRESENT**  
S4-2 24" x 10"

**SCHOOL**  
S4-3 24" x 8"

**WHEN FLASHING**  
S4-4 24" x 10"

**SIDEWALK CLOSED**  
7" Series D  
CW23-4 48" x 48"

**USE SIDEWALK**  
4" Series C  
R18-1 24" x 18"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht DT103 approved 3/20/72	H.T.	5/3/78
2	Added General Note 6	H.T.	11/9/79

APPROVAL RECOMMENDED:  
*Etschi Tanaka* 5/2/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Robert Z. Sakai* 2/3/78  
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**

MISCELLANEOUS SIGNS

NOT TO SCALE DATE: MAY, 1978  
SHEET No. 731 OF 46 SHEETS DT 103

ORIGINAL SURVEY PLOTTED BY: DAVE  
DRAWN BY:  
TRACED BY:  
DESIGNED BY:  
QUANTITIES BY:  
CHECKED BY:  
No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	JRHH(084)	1984	73	114



CW20-1a 48" x 48"



CW20-2d 48" x 48"



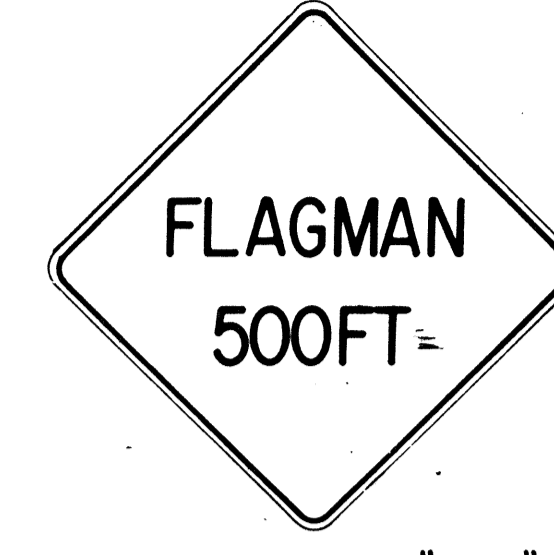
CW20-3b 48" x 48"



CW20-4d 48" x 48"



CW20-5d(L) 48" x 48"



CW20-7c 48" x 48"



CW21-1 30" x 30"



CW21-2 30" x 30"



CW21-3 36" x 36"



CW21-4 36" x 36"



CW21-5 30" x 30"



CW21-6 30" x 30"



CW22-1b 48" x 48"



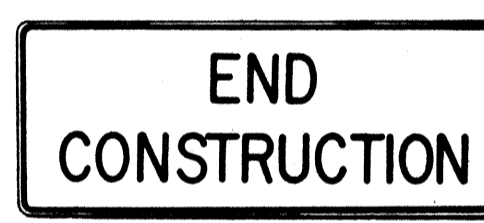
CW22-2 42" x 36"



CW22-3 42" x 36"



CG20-1(5) 60" x 36"



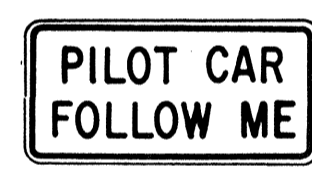
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



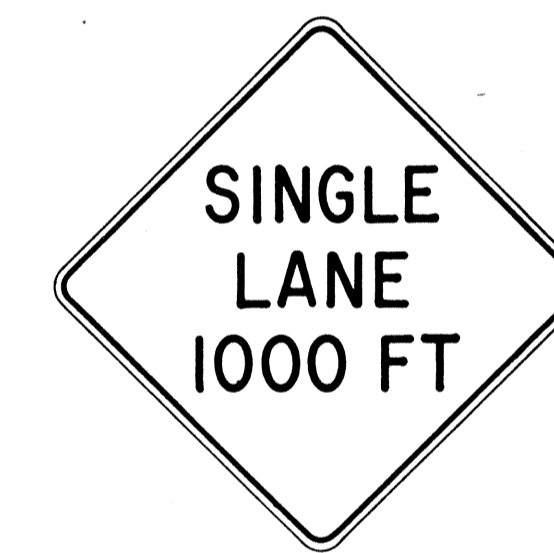
CM4-10(R) 48" x 18"



CG20-4 36" x 18"



CW23-1 36" x 36"



CW23-2b 48" x 48"



CW23-3(R) 48" x 48"

**GENERAL NOTES**

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, and as amended.
- All construction signs shall be reflectorized.
- All construction signs shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in ( ) indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.
- For "CW" series signs, suffixes a,b,c and d are as follows:  
a-1500 FT, b-1000 FT, c-500 FT and d-AHEAD.

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 3/21/72  
TRAFFIC ENGINEER DATE

APPROVED:  
*Muhammad Saleh* 3/23/72  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	3/23/72
2	Revised General Note 1	H.T.	10/10/74
3	Revised General Note 2	H.T.	9-16-75
4	Revised General Note 2 and sign CG20-1(5)	H.T.	9-14-76

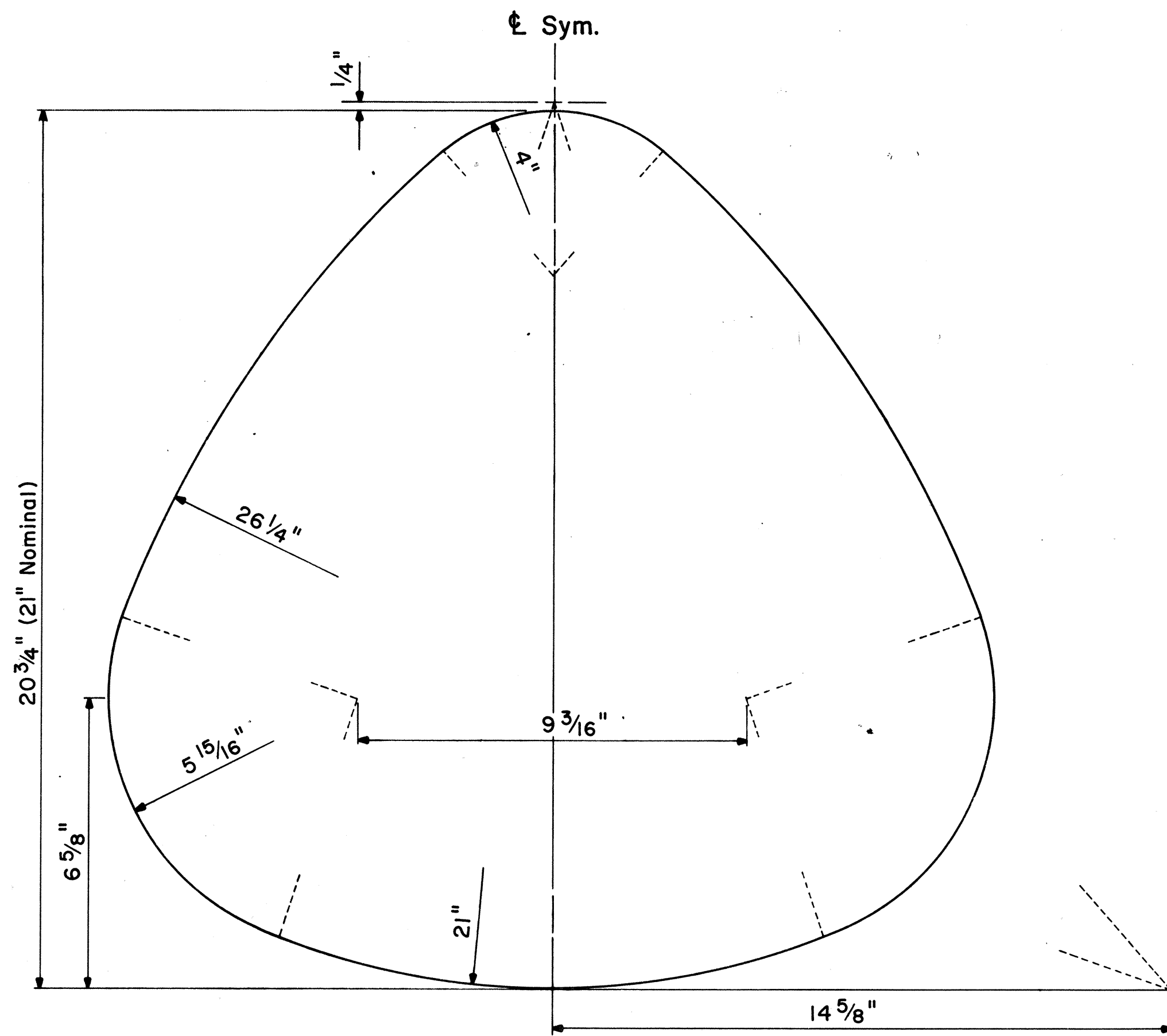
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**CONSTRUCTION SIGNS**

NOT TO SCALE

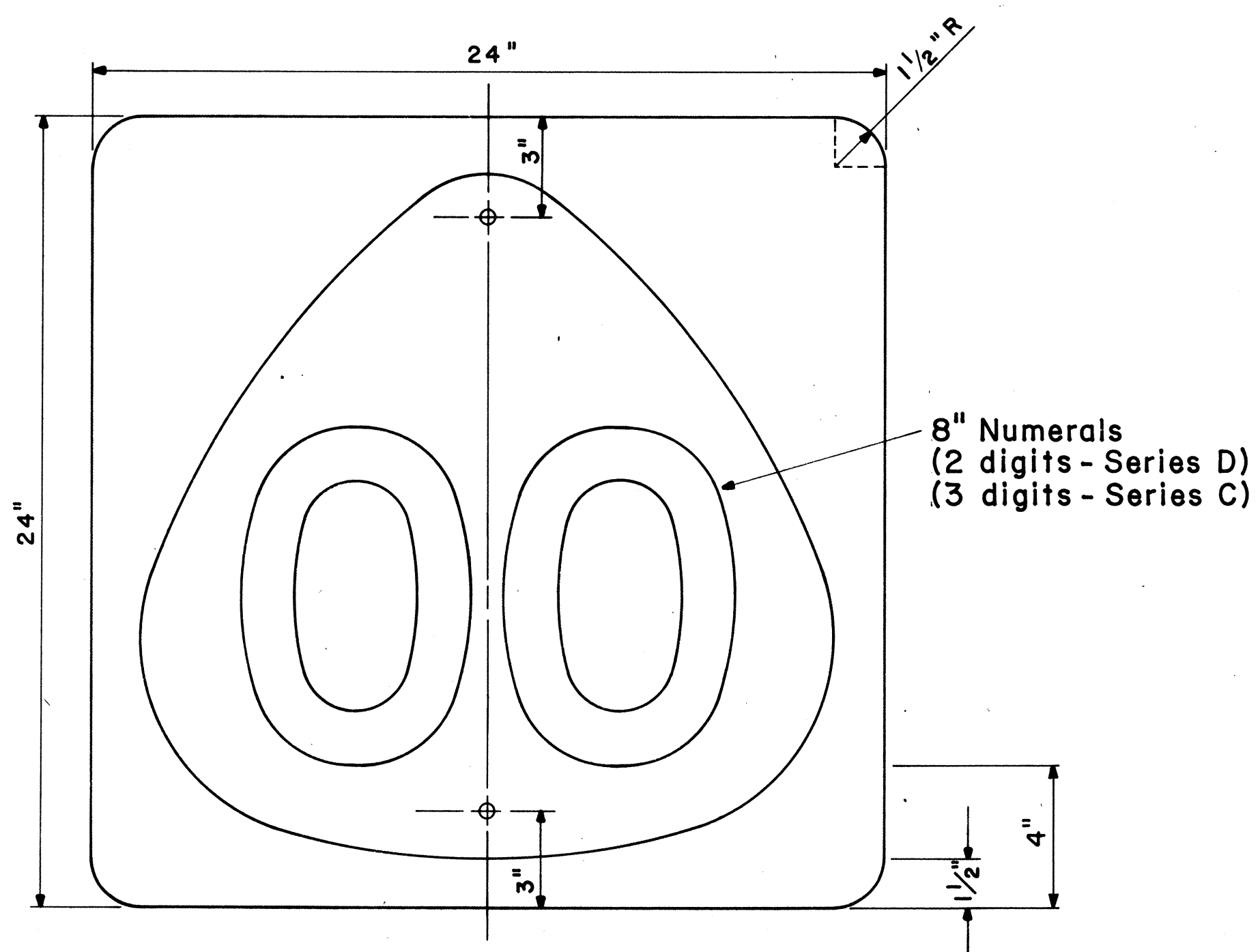
DESIGNED BY	DATE
CHECKED BY	
QUANTITIES BY	
DESIGNED BY	
PLANNED BY	
REVISIONS	
DATE	
BY	
REVISIONS	
DATE	
BY	
REVISIONS	
DATE	
BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1RHH(104)	1984	74	114



**STATE ROUTE MARKER DETAIL**

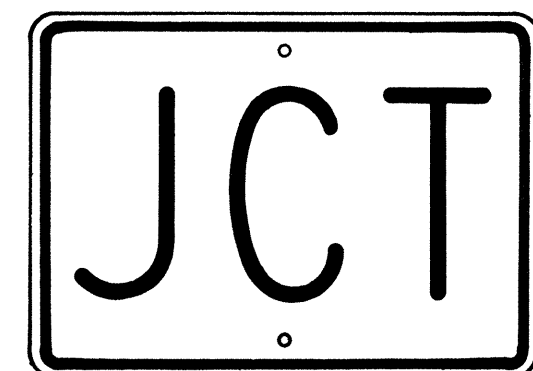
Not to Scale



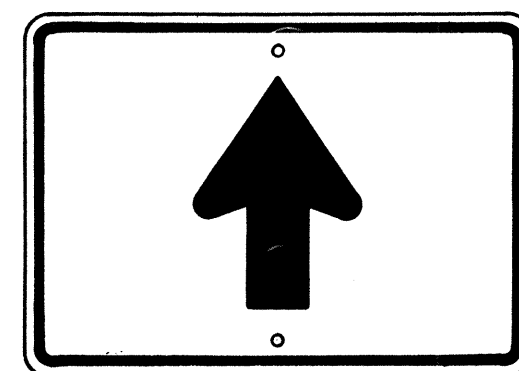
**STATE ROUTE MARKER**

MI-6 (00) 24" x 24"

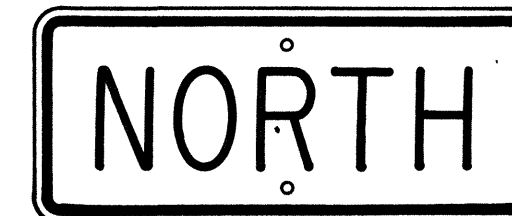
Scale: 1/4" = 1"



M2-1 21" x 15"



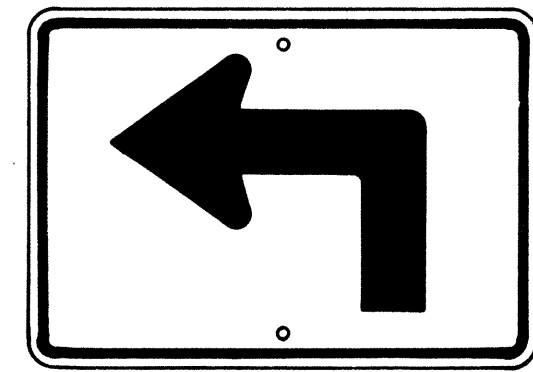
M6-3 21" x 15"



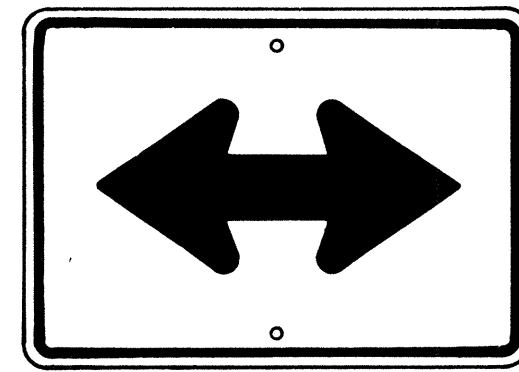
M3-1 24" x 12"  
M3-1-A 36" x 18"



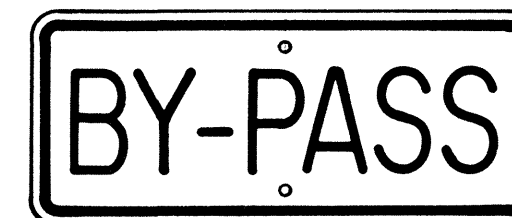
M4-1 24" x 12"



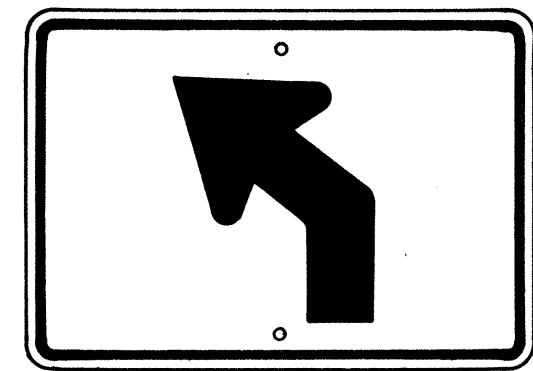
M5-1(L) 21" x 15"



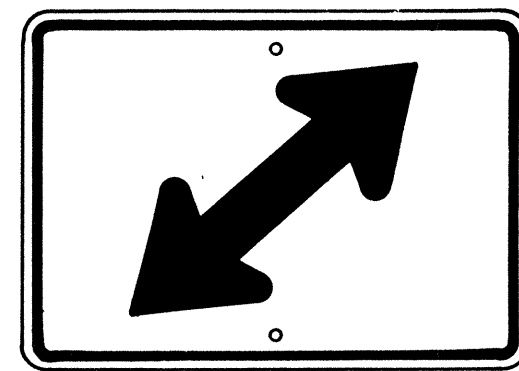
M6-4 21" x 15"



M4-2 24" x 12"



M5-2(L) 21" x 15"



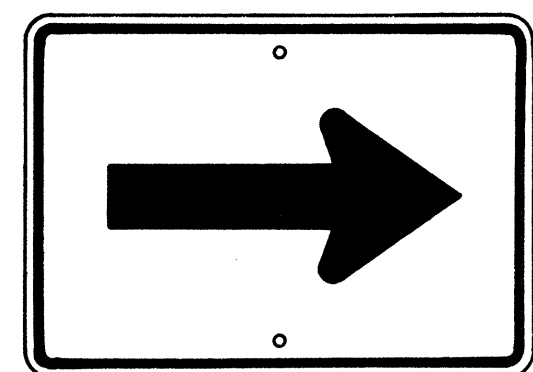
M6-5(R) 21" x 15"



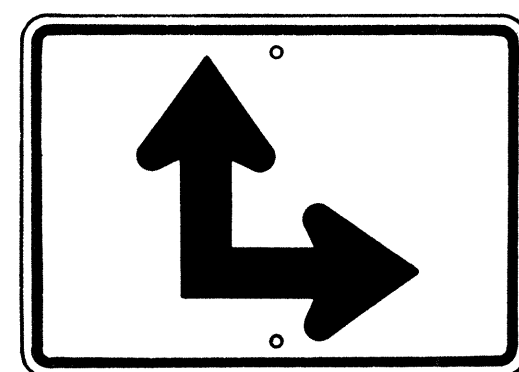
M4-3 24" x 12"



M4-5 24" x 12"



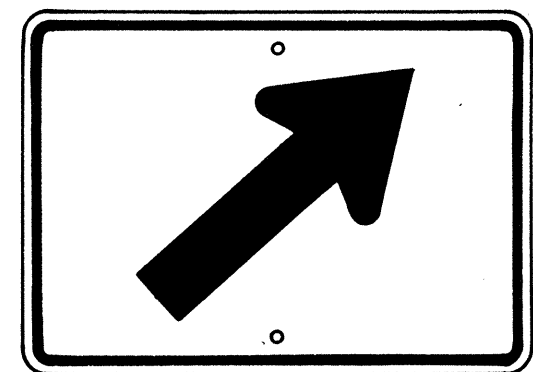
M6-1 21" x 15"



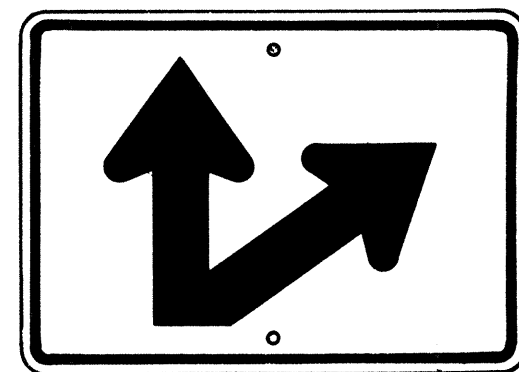
M6-6(R) 21" x 15"



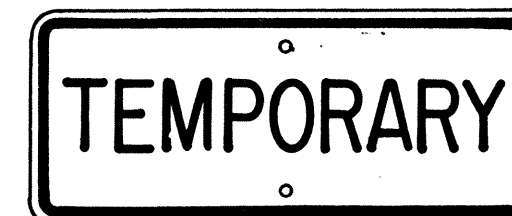
M4-6 24" x 12"



M6-2(R) 21" x 15"



M6-7(R) 21" x 15"



M4-7 24" x 12"



M4-8 24" x 12"

**GENERAL NOTES**

1. Marker details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, "Standard Alphabets for Highway Signs," 1966, and "Standard Highway Signs," 1972, and as amended.
2. All markers shall be reflectorized unless otherwise specified.
3. All markers shall have 3/8" bolt holes drilled at appropriate locations.
4. Numerals in ( ) indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
5. Sign message of Cardinal Direction Marker (M3 series) shall be denoted by the following:
  - M3-1 : NORTH
  - M3-2 : EAST
  - M3-3 : SOUTH
  - M3-4 : WEST
6. Markers prefixed with "IM" on the plans shall have a white legend on a blue background.

**AUXILIARY MARKERS**

Not to Scale

APPROVAL RECOMMENDED:  
*Eishi Tanaka* 6/6/72  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Shelton S. Sakai* 6-1-72  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 105 Approved 12-30-69	H.C.	6/1/72
2	Revised General Note 1	H.C.	10/16/74

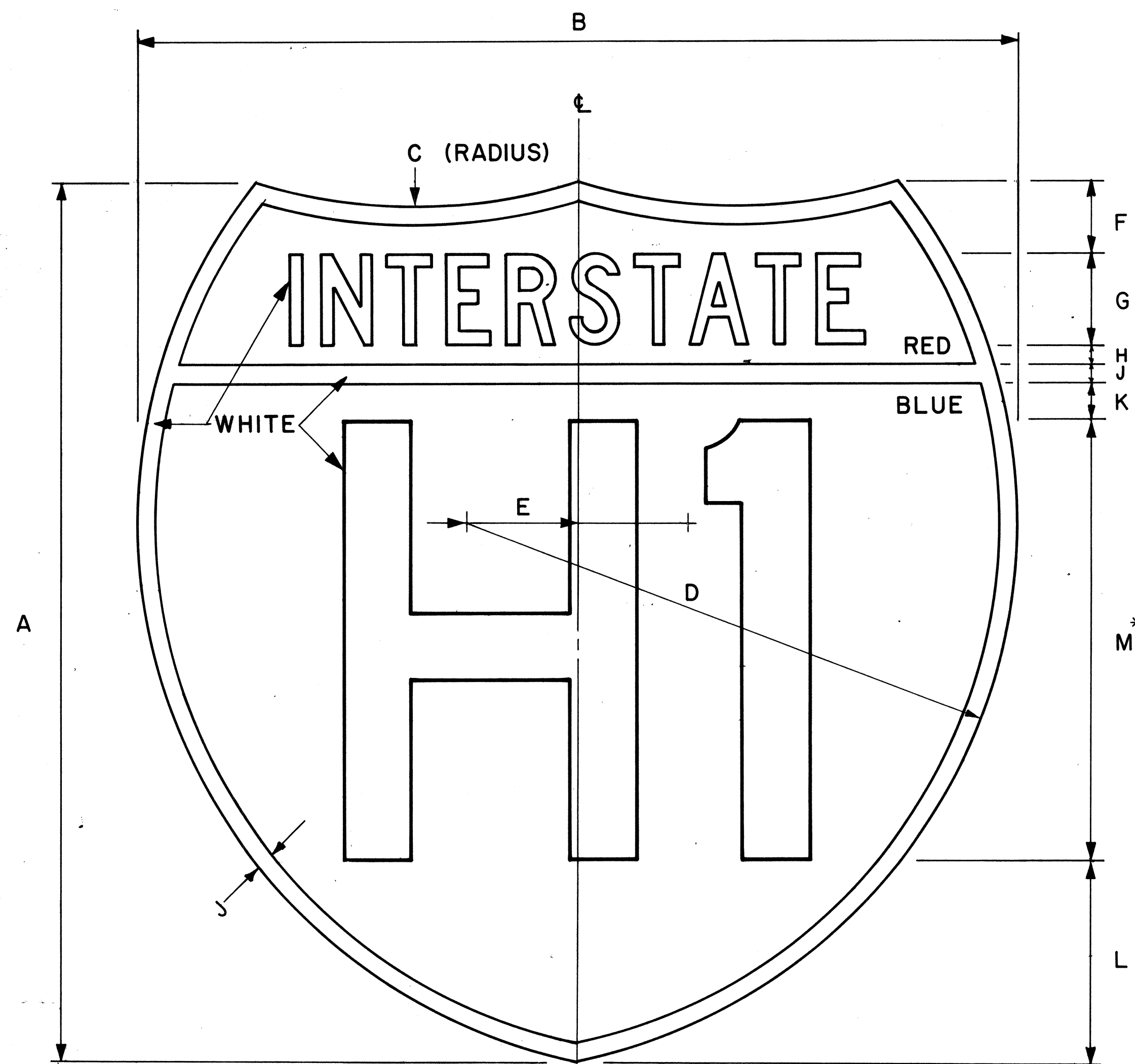
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**STATE ROUTE MARKER**  
**AND AUXILIARY MARKERS**

Scale: As Shown  
 SHEET 74 OF 46 SHEETS DT 105

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_  
 TRACED BY: \_\_\_\_\_  
 DESIGNED BY: \_\_\_\_\_  
 NOTE BOOK: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TRH-1(184)	1984	75	114



**INTERSTATE ROUTE MARKER**  
**IM-1( )**

Scale: 3/8" = 1"

**GENERAL NOTES**

- Interstate route marker details shall conform to the latest FHWA publications:
  - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
  - "Standard Alphabets for Highway Signs," and as amended.
  - "Standard Highway Signs," and as amended.
- All Interstate route markers shall be reflectorized with reflective sheeting.
- All Interstate route markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate route marker shall be a cut-out shield in a red, white and blue design as shown on the plans.

INTERSTATE ROUTE MARKER SCHEDULE (INCHES)												
SIZE ( )	A	B	C	D	E	F	G	H	J	K	L	M
1	24	24	15	15	3	2	2 1/2 C	1/2	1/2	1	5 1/2	12D
2	36	36	22 1/2	22 1/2	4 1/2	3	3 3/4 C	3/4	3/4	1 1/2	8 1/4	18D
3	48	48	30	30	6	4	5 C	1	1	2	11	24D

\* If letters and numerals cannot be accommodated within available space, Series C letters may be used.

APPROVAL RECOMMENDED:

*Eishi Tanaka* 4/17/78  
TRAFFIC ENGINEER DATE

APPROVED:

*Herbert B. Sakai* 4/18/78  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Replaces DT106 Approved 12/30/69.	H.T.	4-18-78

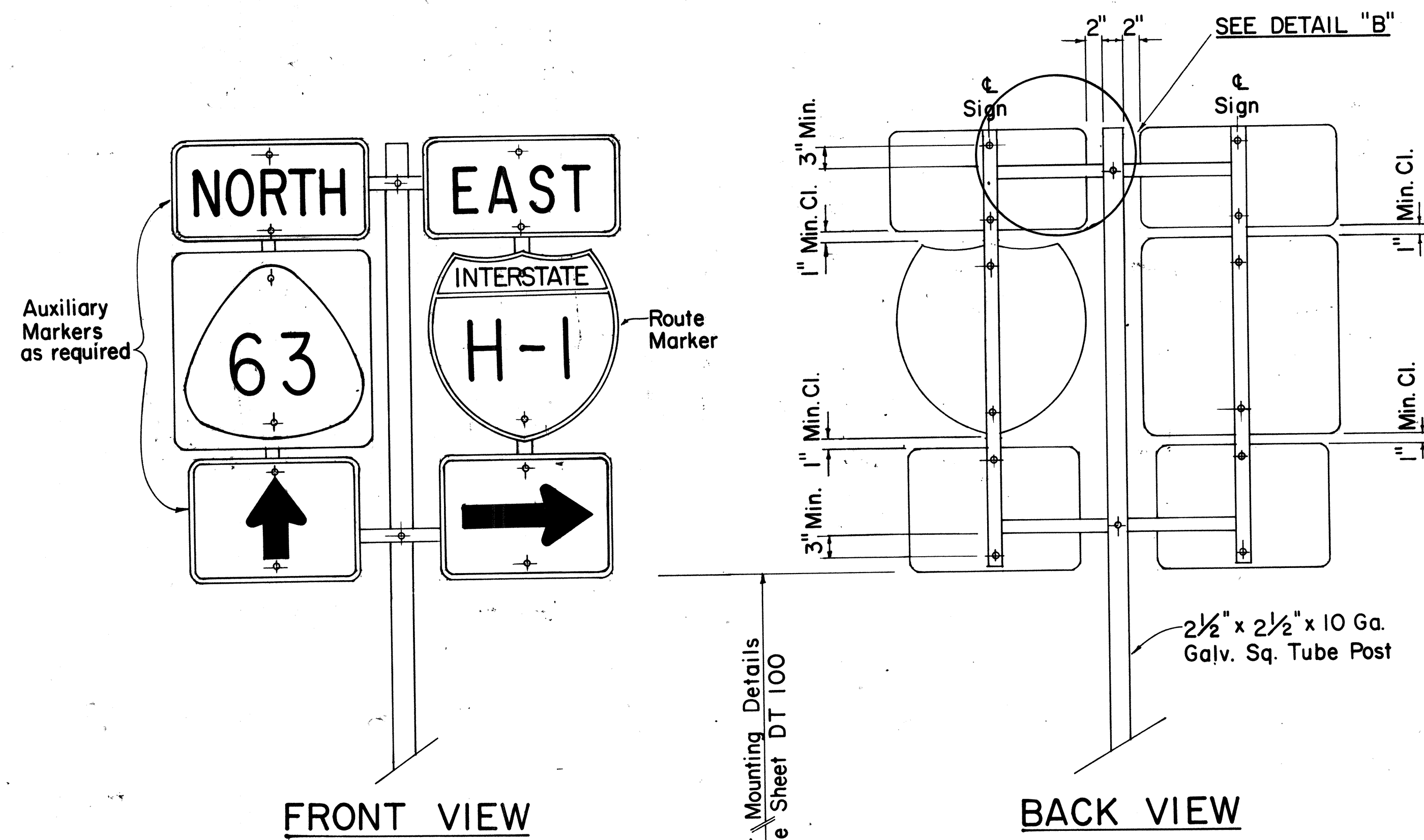
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**INTERSTATE ROUTE MARKER**

Scale: 3/8" = 1" Date: January, 1978

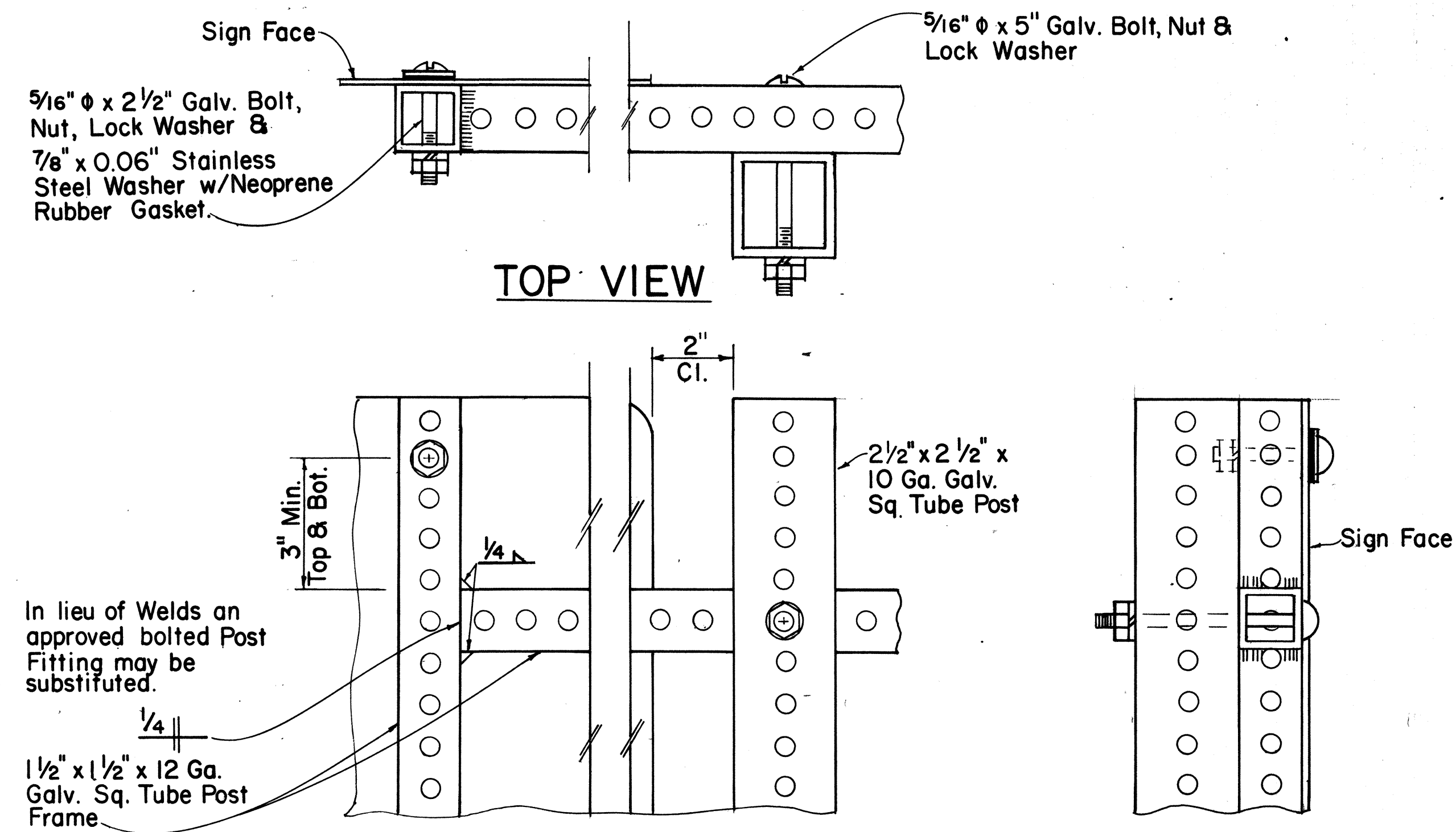
DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
TRACED BY: \_\_\_\_\_  
NOTED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
ORIGINAL PLAN No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TRH-1(84)	1984	76	114



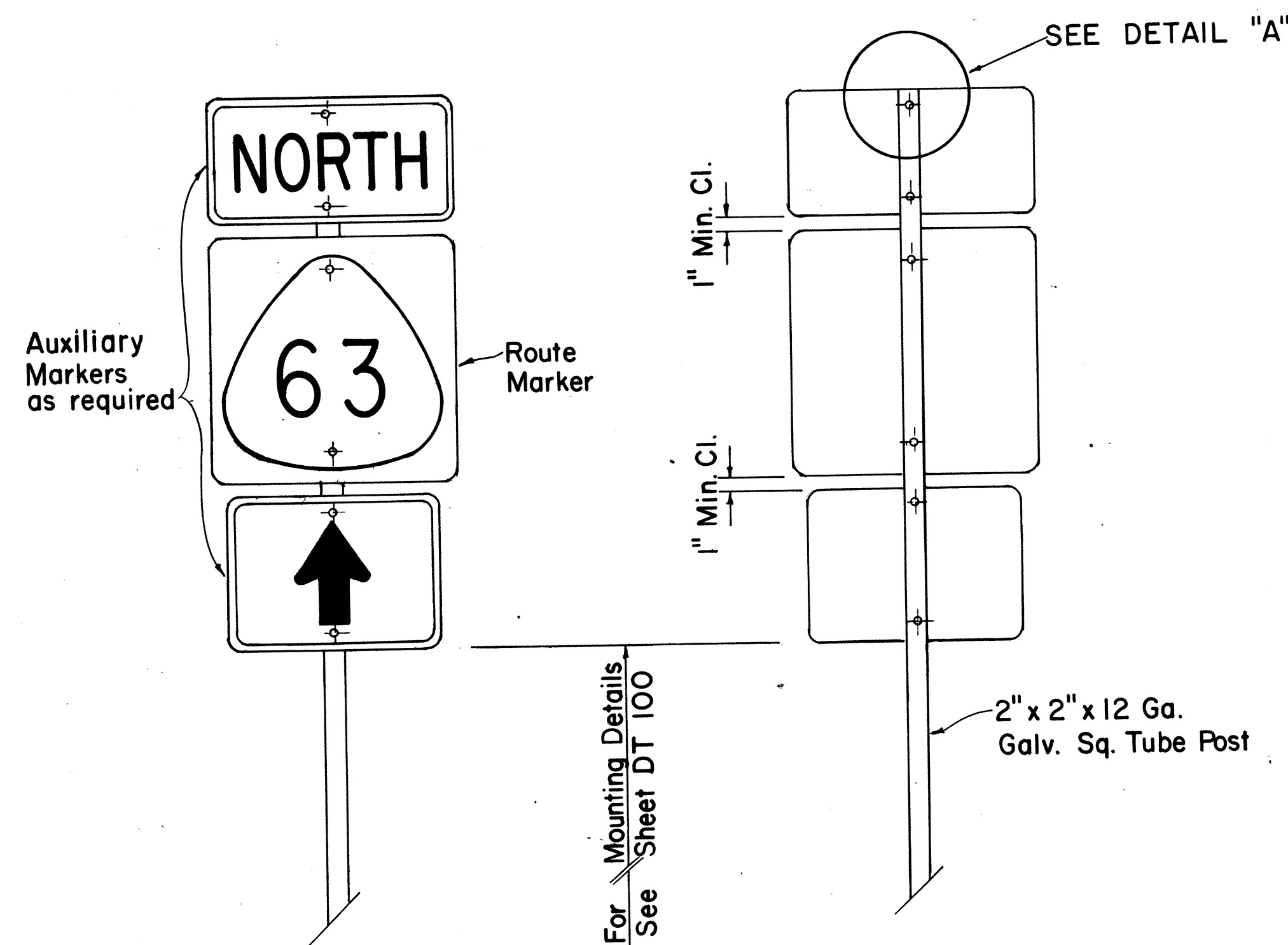
**TYPE "B" ASSEMBLY**

SCALE: 1" = 1'-0"



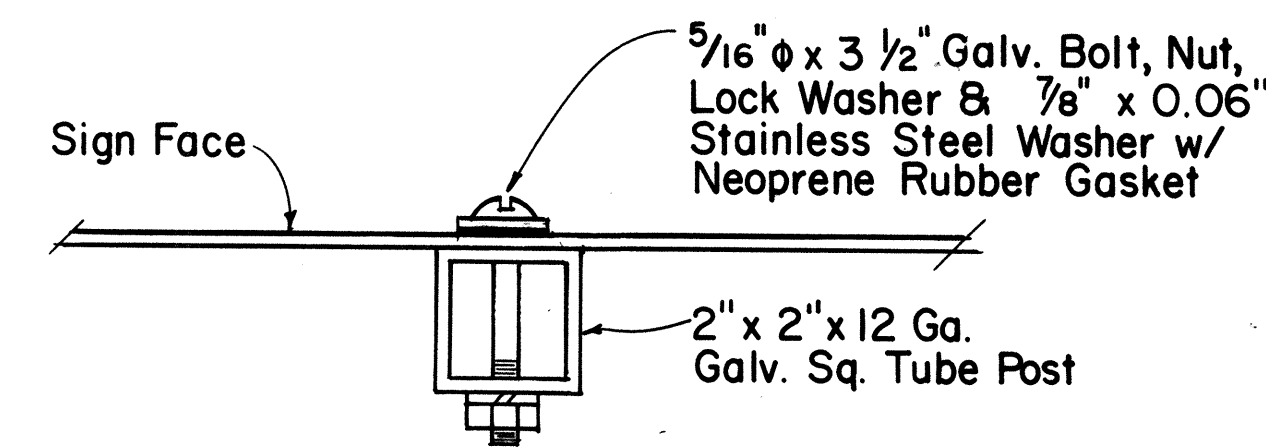
**DETAIL "B"**

SCALE: 3/8" = 1"



**TYPE "A" ASSEMBLY**

SCALE: 1" = 1'-0"



**DETAIL "A"**

SCALE: 3/8" = 1"

APPROVAL RECOMMENDED:

*Eiichi Tanaka* 7/31/80  
TRAFFIC ENGINEER DATE

APPROVED:

*Herbert Zaleski* 1/31/80  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 107 dated 12/30/69.	H.T.	1/31/80

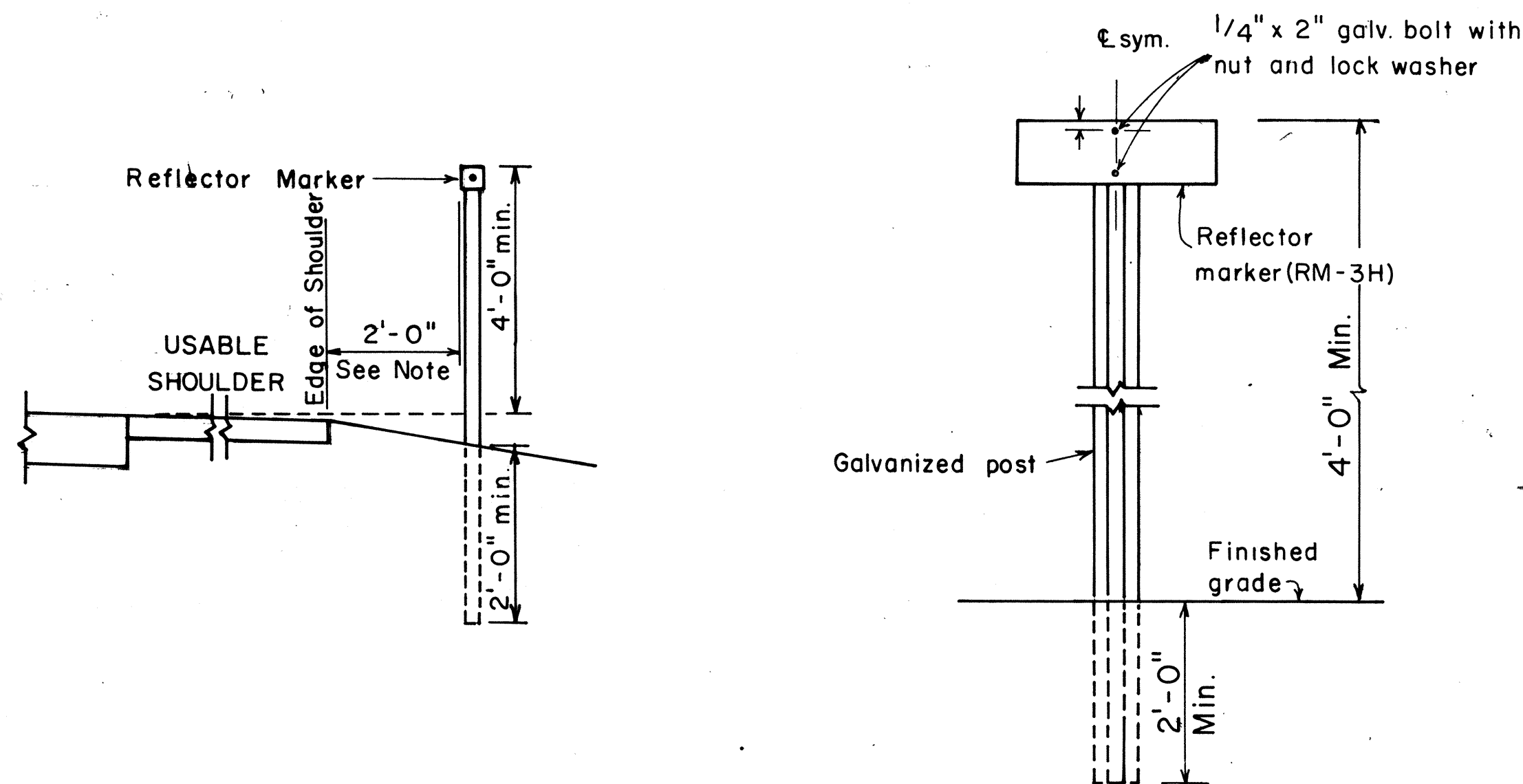
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**ROUTE MARKER**  
**ASSEMBLIES**

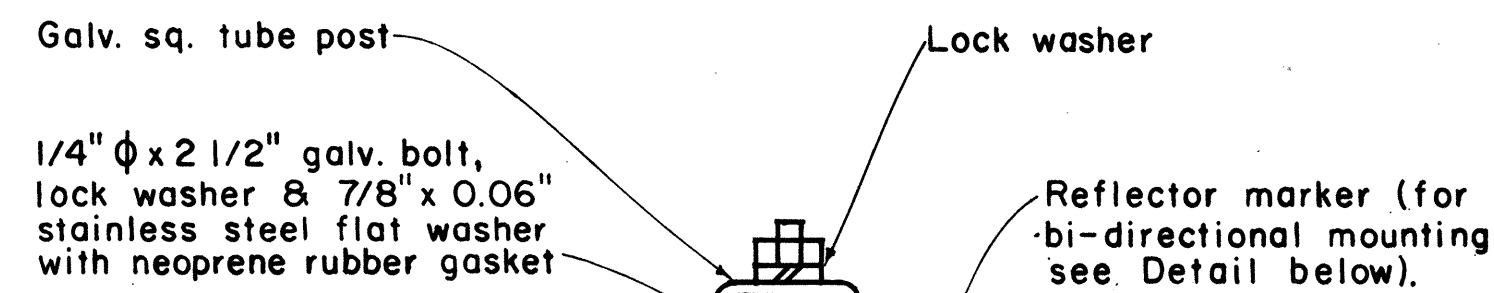
SCALE: AS SHOWN  
SHEET No. 735 OF 46 SHEETS DT 107

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

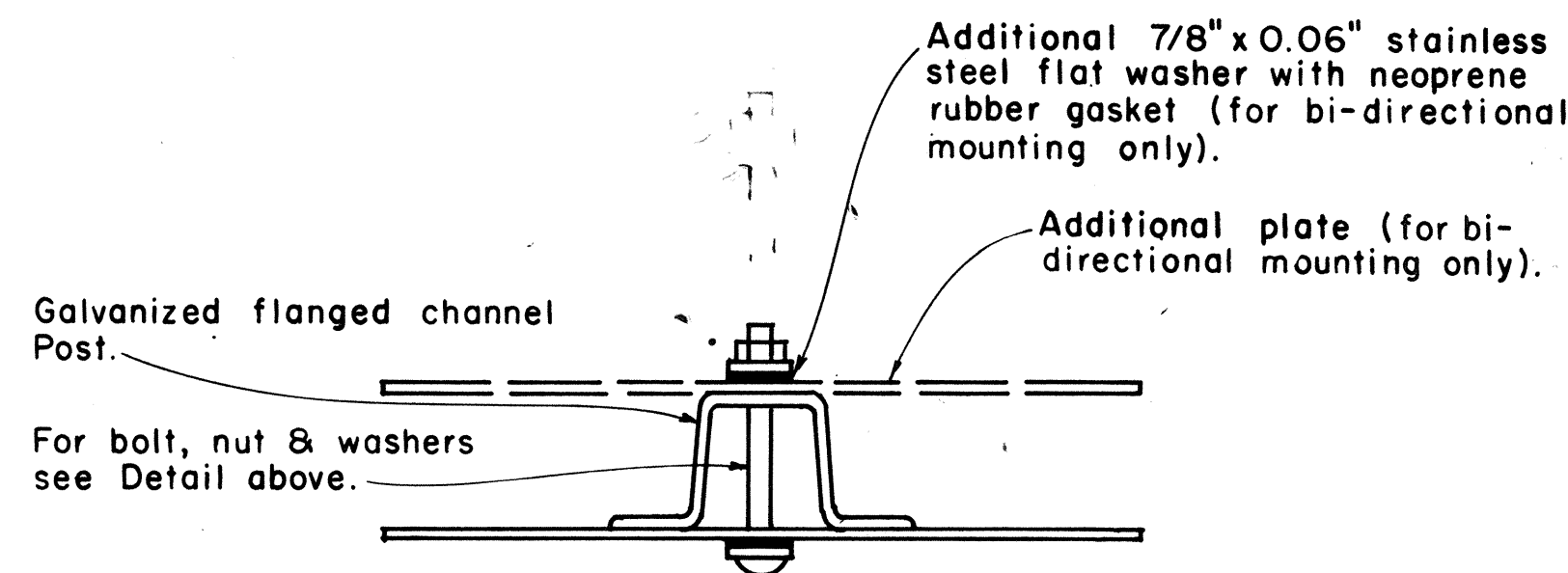
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	TR-111(1084)	1984	77	114



**REFLECTOR MARKER MOUNTING DETAIL**



**GALVANIZED SQUARE TUBE POST**

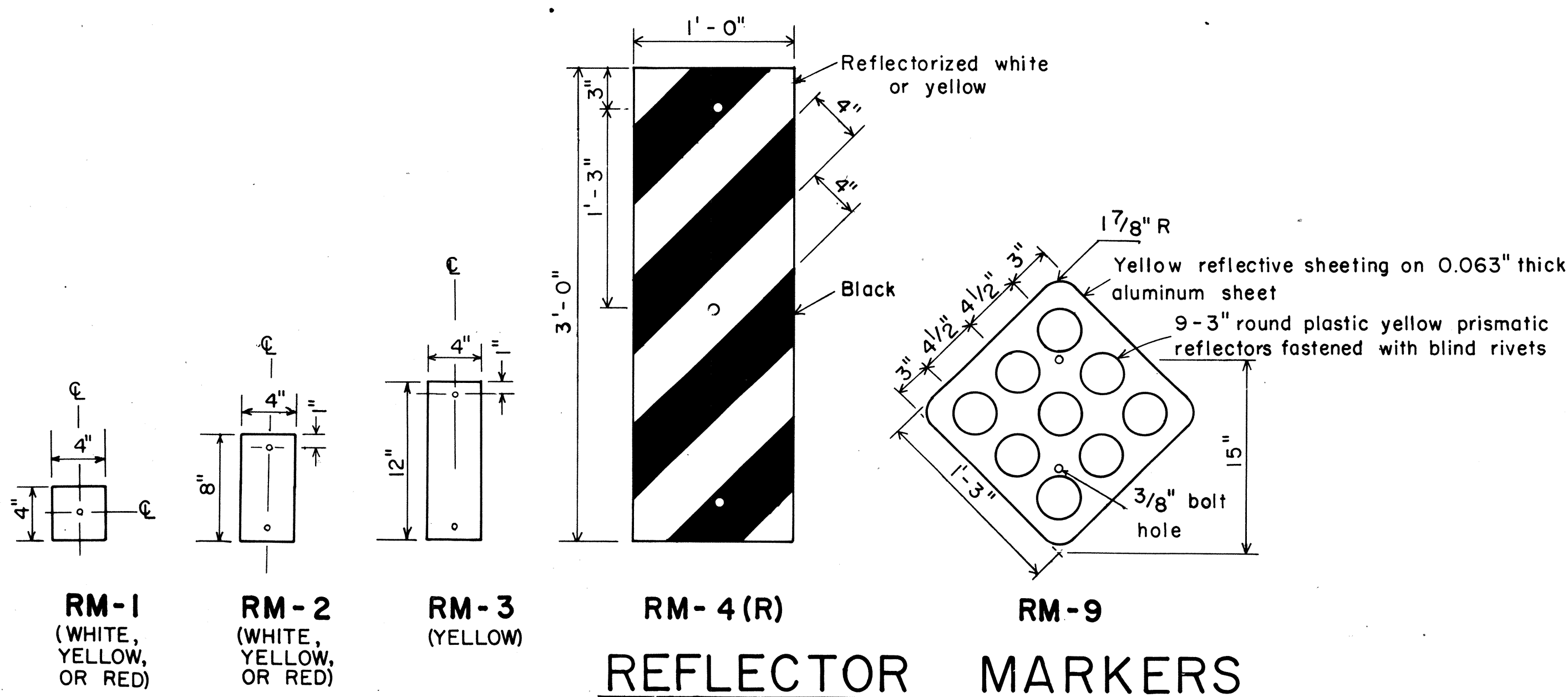


**GALVANIZED FLANGED CHANNEL POST**

**TYPICAL MOUNTING DETAILS**

**GENERAL NOTES:**

1. Clearance markers (RM-3, RM-4) shall be installed with the edge of the marker in line with the inner edge of the obstruction.
2. (R) or (L) indicates right or left and shall be as shown on the plans.
3. Reflector markers RM-1 and RM-2 shall be:
  - a) Yellow if placed along the left edge of divided roadways, one-way roadways, and ramps in the direction of travel.
  - b) White if placed along the right edge of divided roadways, one-way roadways, and ramps in the direction of travel.
4. For reflector marker RM-9, reflective sheeting material may be used as an alternate.
5. For RM-4, the stripes shall slope downward at an angle of 45° in the direction of traffic.



**REFLECTOR MARKERS**

APPROVAL RECOMMENDED:  
*Etschi Tanaka* 11/1/77  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Herbert S. Sakai* 11/15/77  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H-1	4/25/80

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

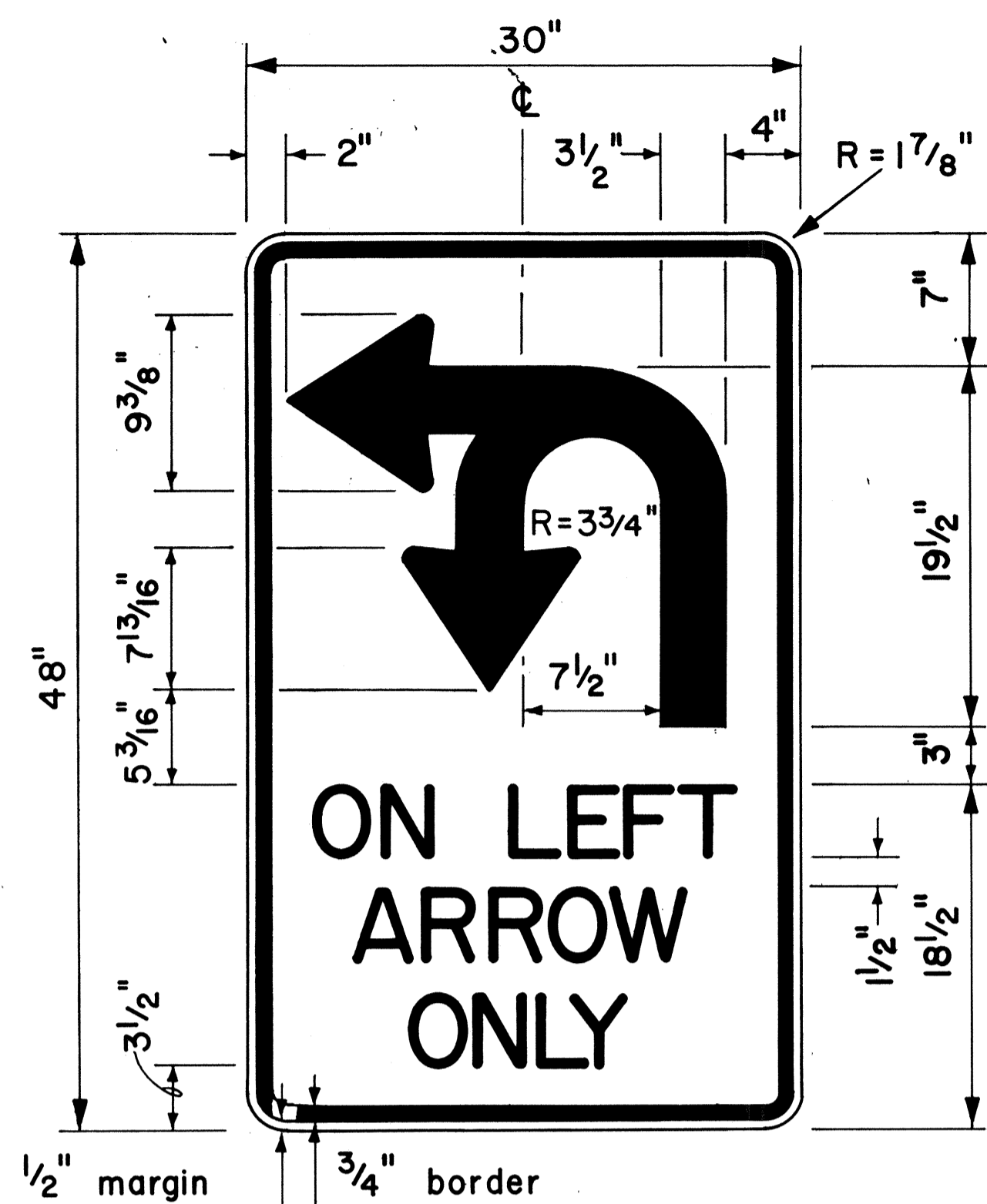
**STANDARD DETAILS**  
 MISCELLANEOUS REFLECTOR MARKERS

Not to scale June, 1977

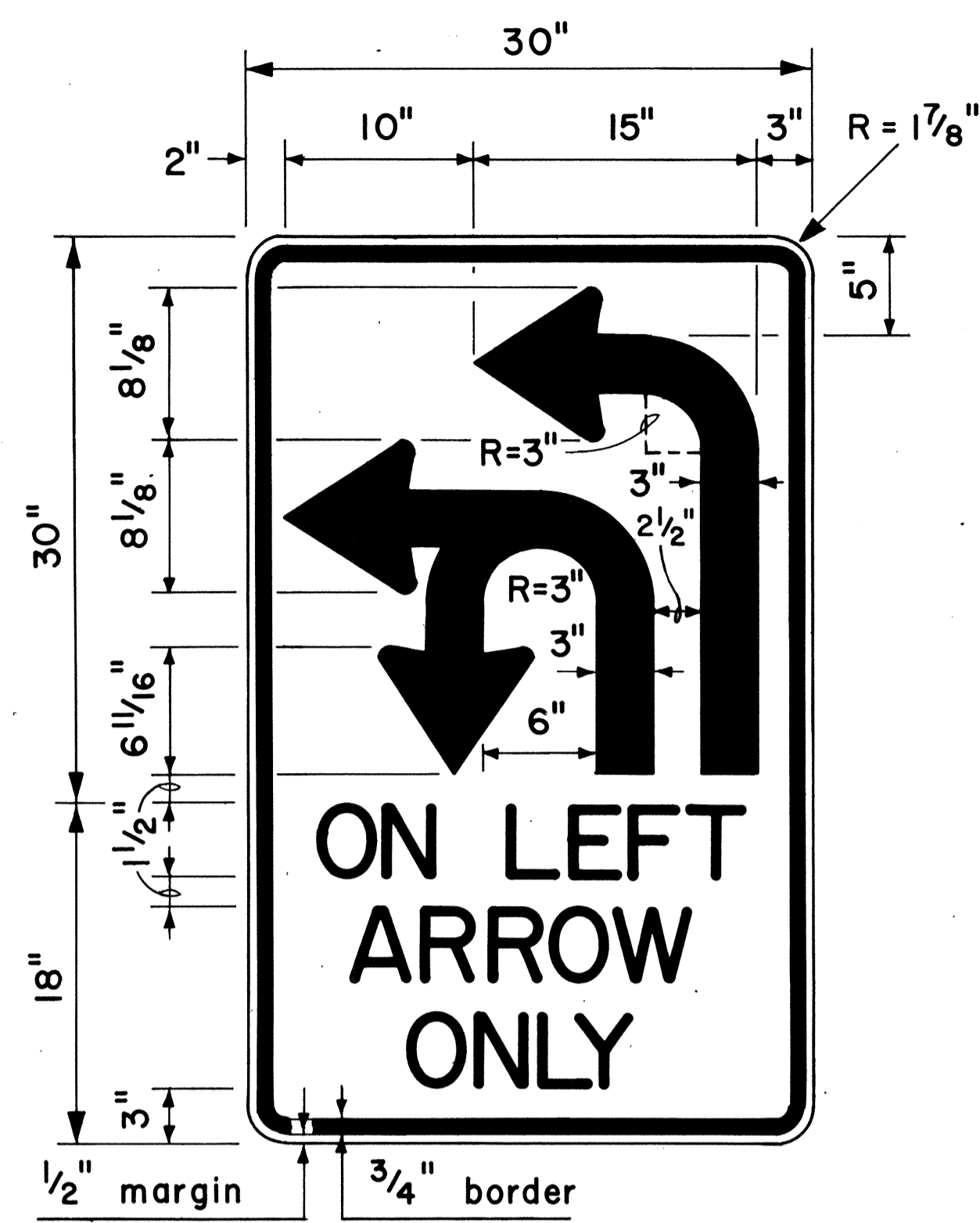
SHEET No. 136 OF 46 SHEETS DT 110

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

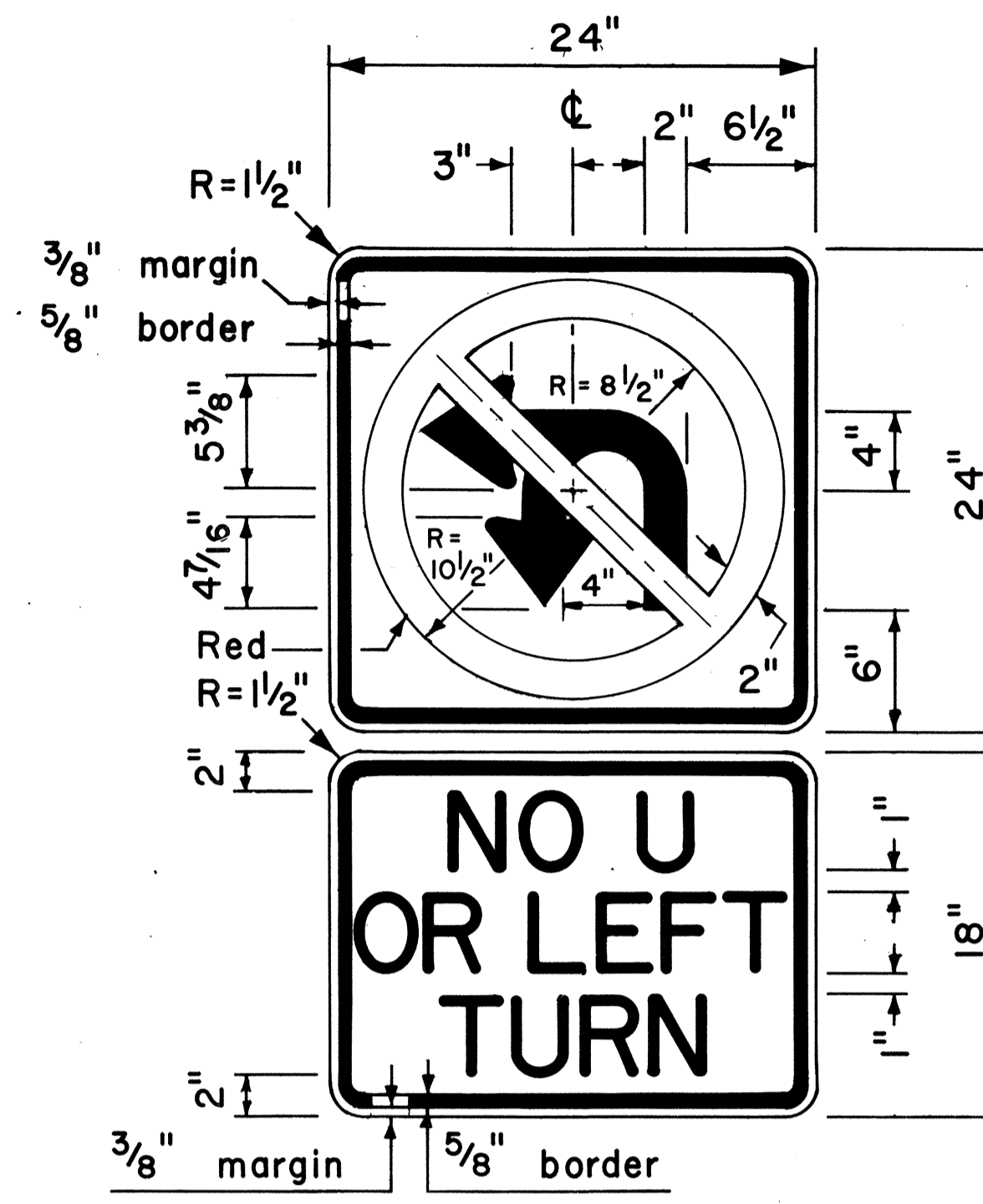
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-111(184)	1984	78	114



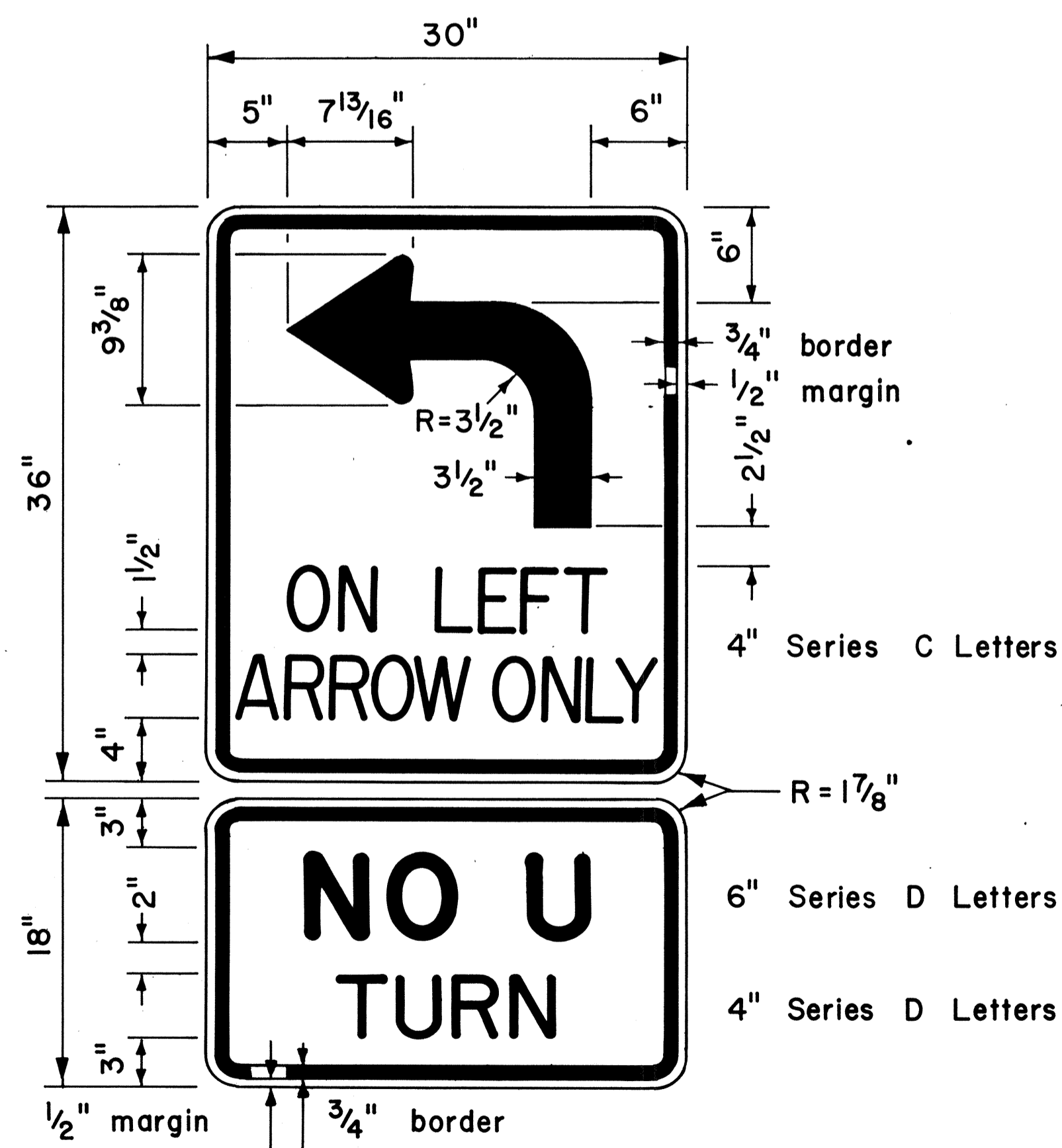
4" Series D Letters  
**R17-1**



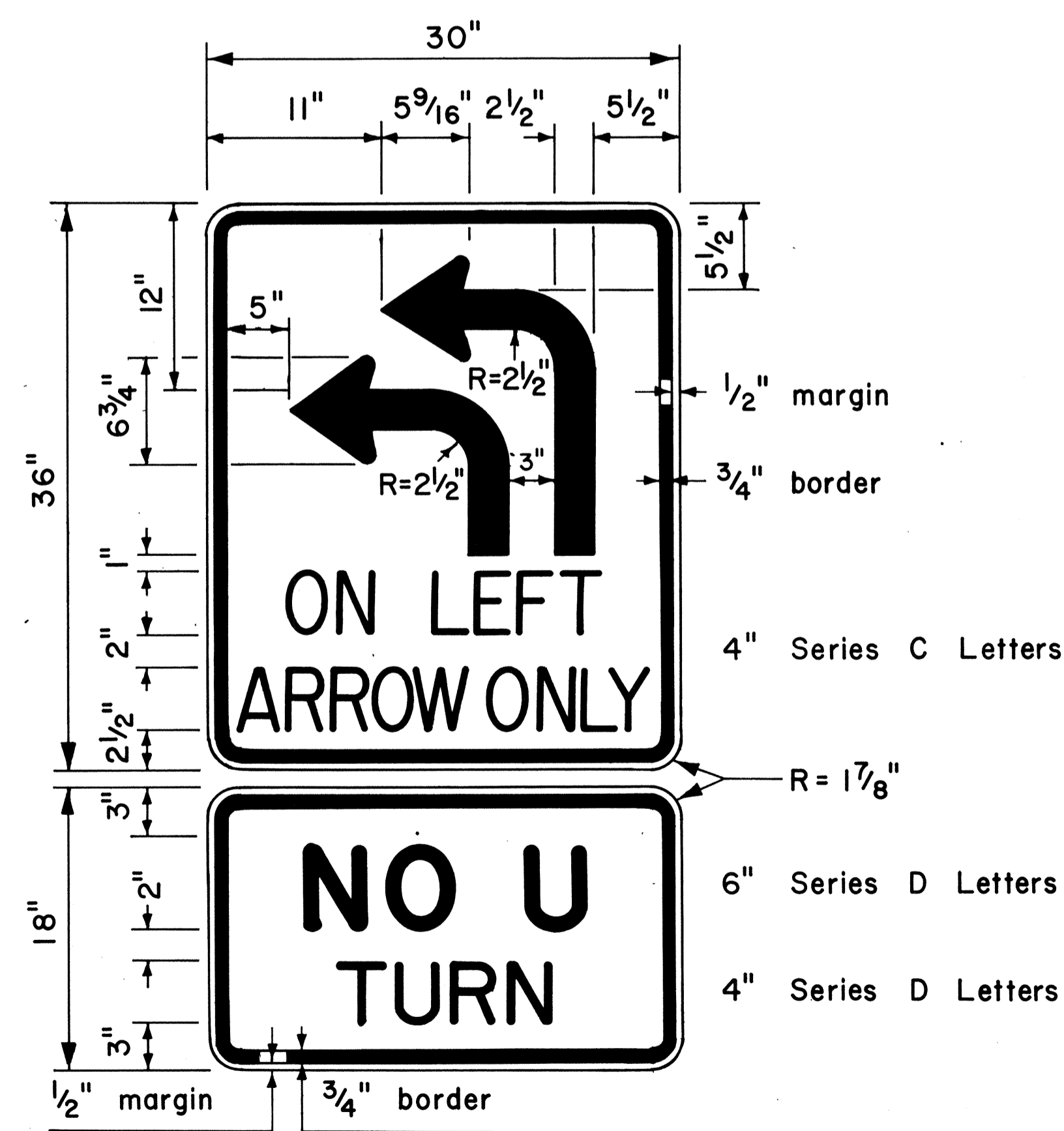
4" Series D Letters  
**R17-2**



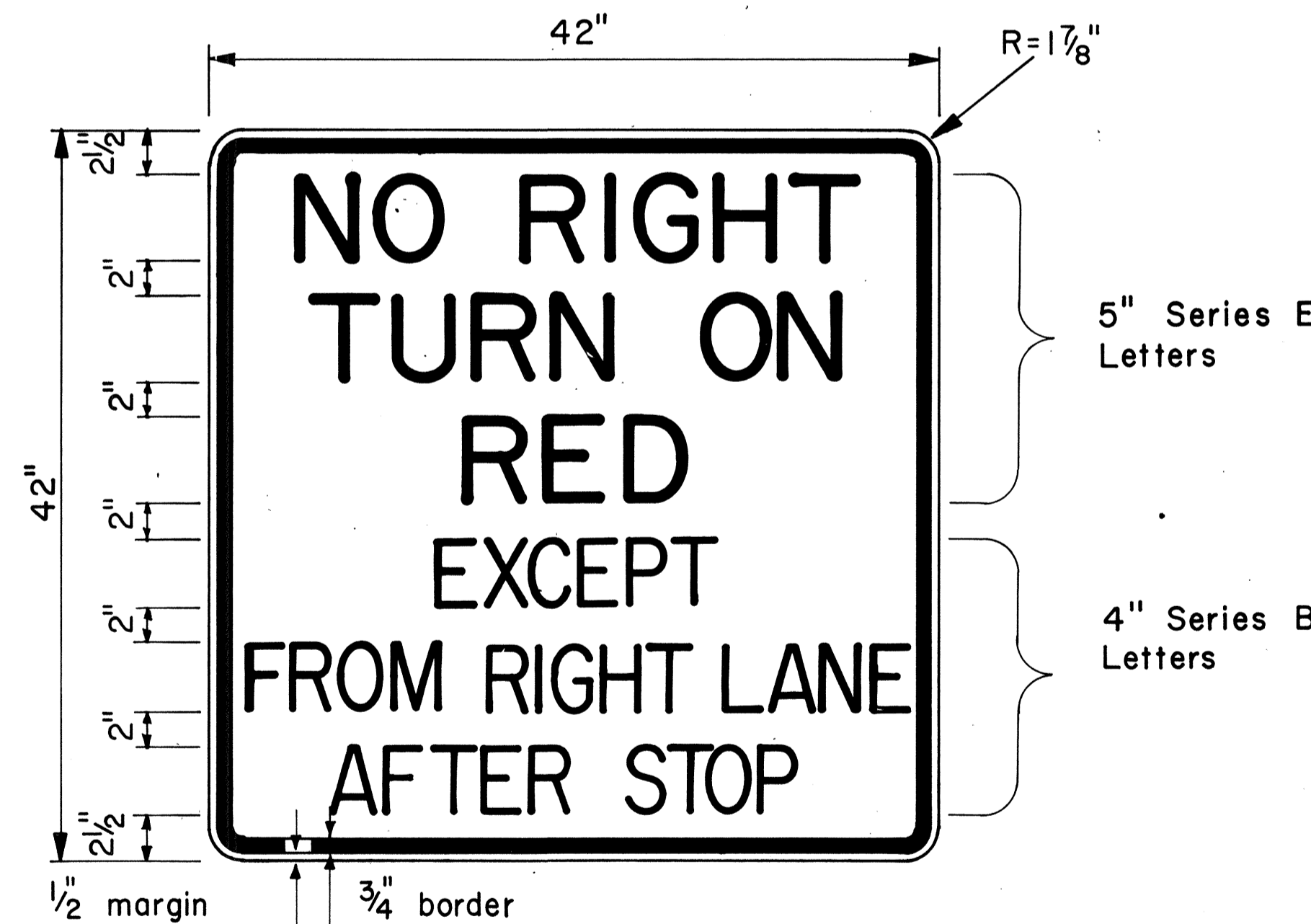
4" Series D Letters  
**R3-4b**



**R17-3**



**R17-4**



**R10-11d**

**GENERAL NOTES**

1. Sign details shall conform to the latest editions of the following FHWA publications: "Manual on Uniform Traffic Control Devices for Streets and Highways," and "Standard Highway Signs," and as amended.
2. All regulatory signs shall be reflectorized unless otherwise specified.
3. All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations.

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

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 8/1/77  
TRAFFIC ENGINEER DATE

APPROVED:  
*Hubert Sakai* 8/1/77  
ASSISTANT CHIEF, ENGINEERING DATE

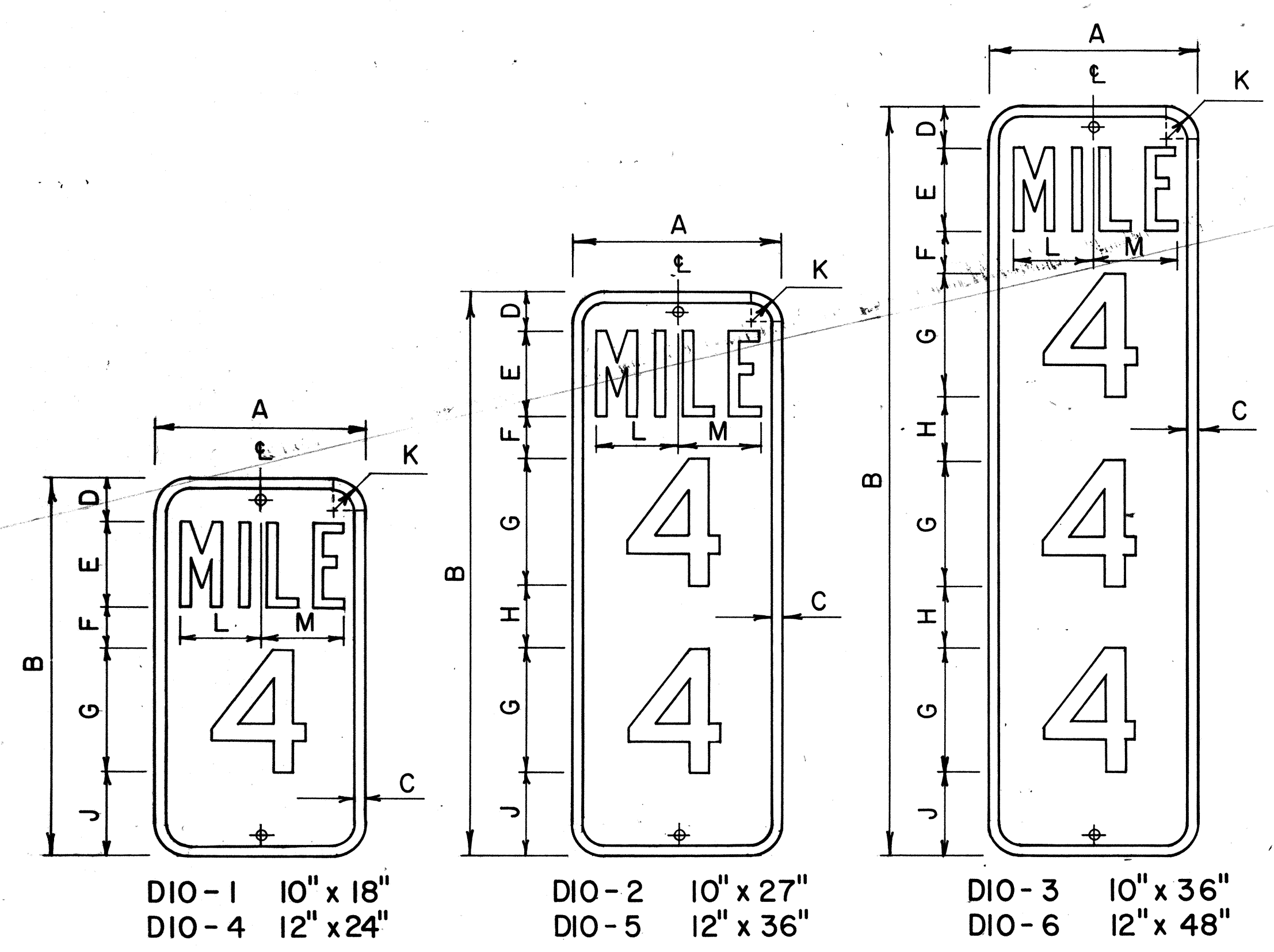
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
LAND AND HIGHWAYS DIVISION  
**STANDARD DETAILS**  
MISCELLANEOUS  
INTERSECTION SIGNS  
Scale: 1/2" = 1'-0" Date: Aug., 1977  
SHEET NO. 78 OF 46 SHEETS DT 112

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HH(104)	1984	79	114

**GENERAL NOTES:**

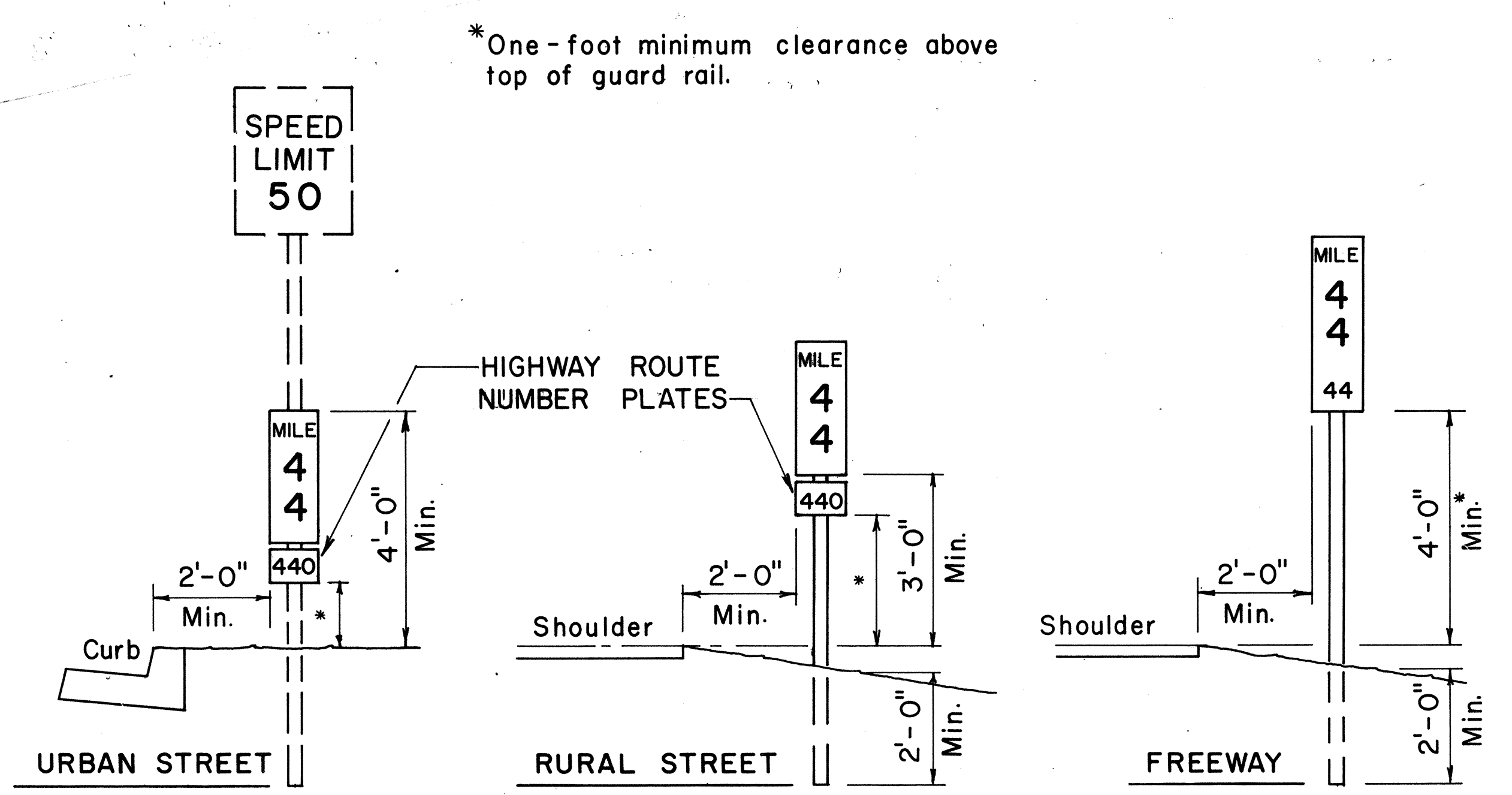
- Milepost marker and highway route number plates shall conform to the latest editions of the following FHWA publications:
  - "Standard Alphabets for Highway Signs," and as amended.
  - "Standard Highway Signs," and as amended.
  - "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
- Milepost markers and highway route numbers shall be completely reflectorized with reflective sheeting as follows:
  - Milepost markers shall have white legends and border on a green background.
  - Highway route numbers shall have black numerals on a white background.
- The plate backings for milepost markers and highway route numbers shall conform to the requirements for standard highway signs. The plates shall have 3/8" bolt holes drilled at appropriate locations.
- Highway route number plates shall be used in conjunction with milepost marker plates on all roadways, except Interstate freeways. Fabrication and installation costs of highway route number plates shall be considered incidental to the milepost marker assembly.
  - Milepost markers shall be installed on all roadways as follows:
    - One milepost on each side of multi-lane roadways.
    - Back-to-back mileposts on one side of 2-lane roadways. (Right side of roadway in direction of increasing mileage.)



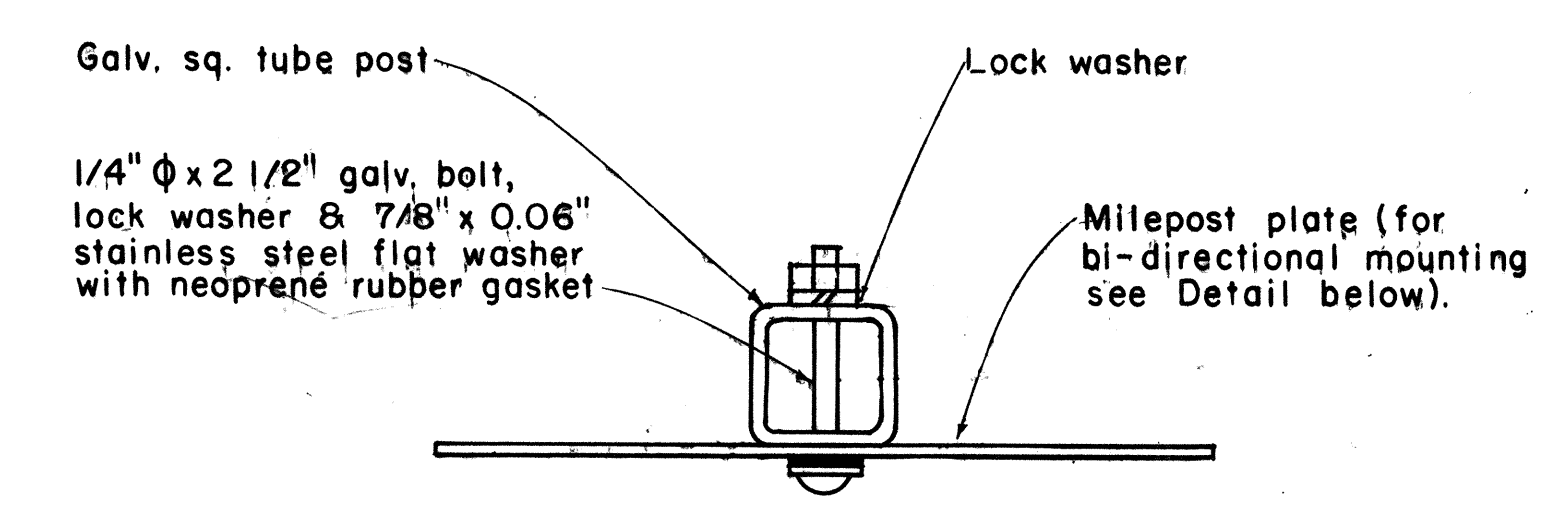
DIO-1 10" x 18"  
DIO-4 12" x 24"  
DIO-2 10" x 27"  
DIO-5 12" x 36"  
DIO-3 10" x 36"  
DIO-6 12" x 48"

**MILEPOST MARKER PLATE DETAILS**  
Scale: 3/16" = 1"

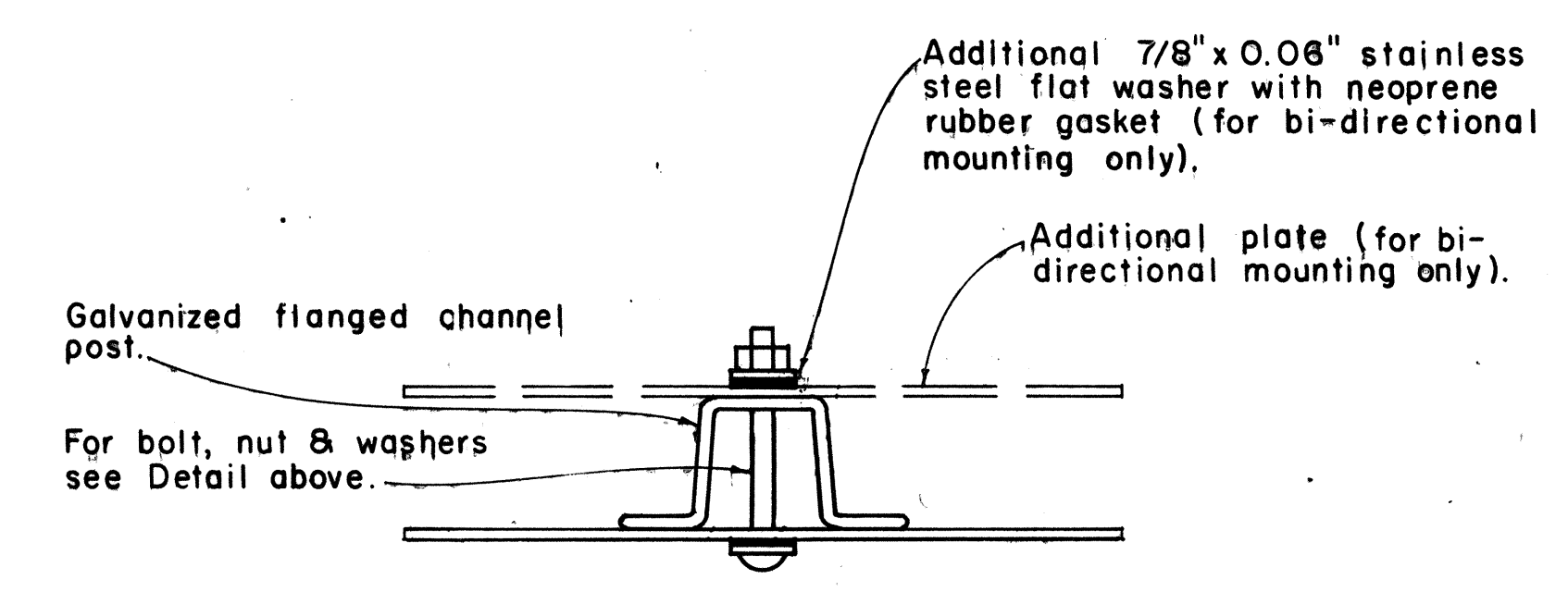
MILEPOST PLATE SCHEDULE (INCHES)															
NAME	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	LETTER SERIES	NUMERAL SERIES
DIO-1	10 x 18	10	18	1/2	2	4	2	6	4	1 1/2	3 3/8	3 3/8		B	C
DIO-4	12 x 24	12	24	1/2	3	4	3	10	4	1 1/2	4 3/8	4 3/8		C	C
DIO-2	10 x 27	10	27	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C
DIO-5	12 x 36	12	36	1/2	3	4	3	10	3	3	1 1/2	4 3/8	4 3/8	C	C
DIO-3	10 x 36	10	36	1/2	2	4	2	6	3	4	1 1/2	3 3/8	3 3/8	B	C
DIO-6	12 x 48	12	48	1/2	3	4	3	10	2 1/2	3	1 1/2	4 3/8	4 3/8	C	C



**TYPICAL ROADSIDE INSTALLATION**  
Scale: 1/2" = 1'-0"

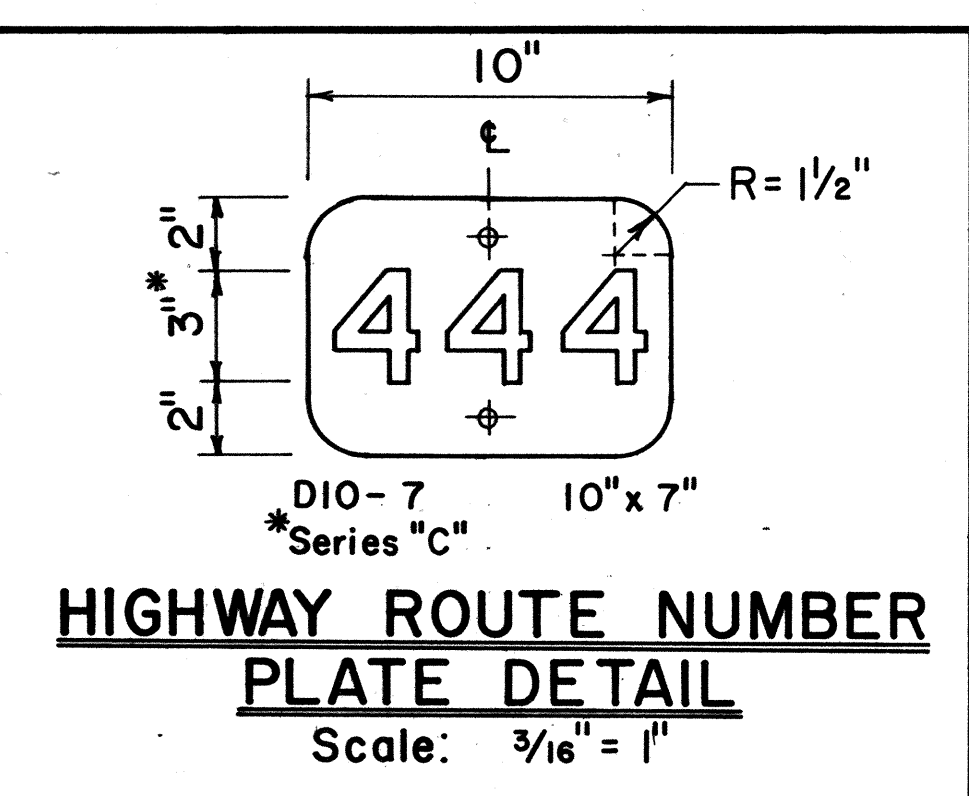


**GALVANIZED SQUARE TUBE POST**

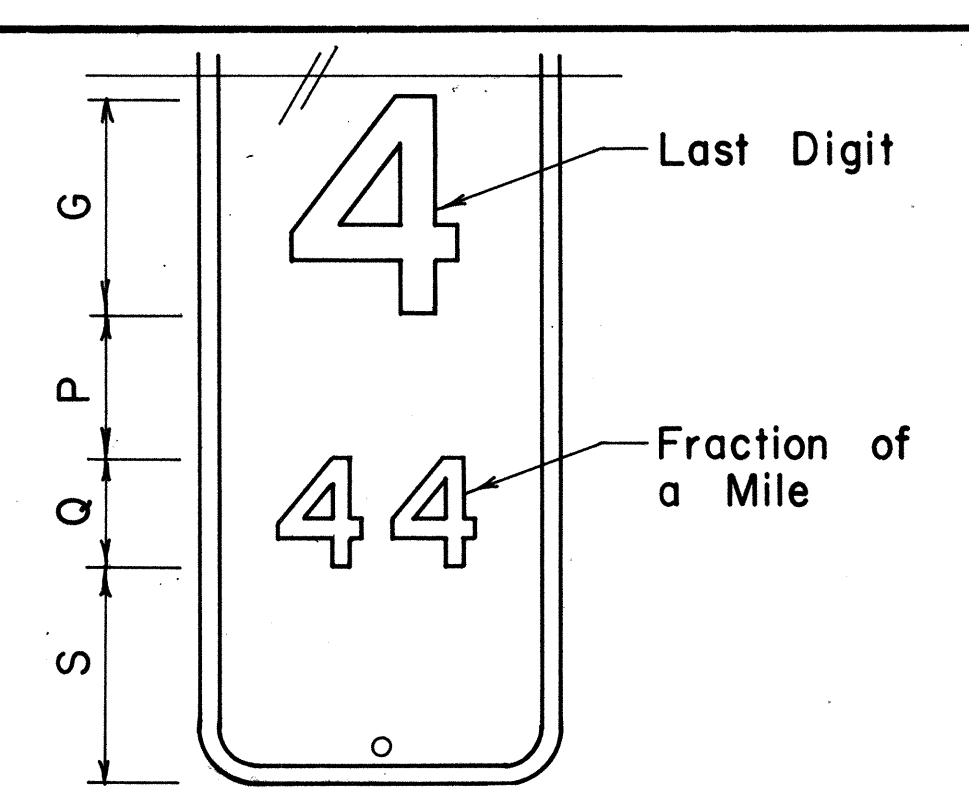


**GALVANIZED FLANGED CHANNEL POST**

**TYPICAL MOUNTING DETAILS**  
Scale: 1/2" = 1"



**HIGHWAY ROUTE NUMBER PLATE DETAIL**  
Scale: 3/16" = 1"



**MILEPOST MARKER FRACTION DETAIL**  
Scale: 3/16" = 1"

MILEPOST PLATE SCHEDULE WITH FRACTION OF A MILE						
NAME	SIZE	G	P	Q	S	NUMERAL SERIES
D10-1a	10" x 27"	6"	4"	3"	6"	C
D10-4a	12" x 36"	10"	4"	5"	7"	C
D10-2a	10" x 36"	6"	4"	3"	6"	C
D10-5a	12" x 48"	10"	4"	5"	6"	C
D10-3a	10" x 45"	6"	4"	3"	6"	C
D10-6a	12" x 60"	10"	4"	5"	6"	C

NO.	REVISION	APPROVED BY	DATE
1	Revised Mounting Details	H.K.	4/23/80

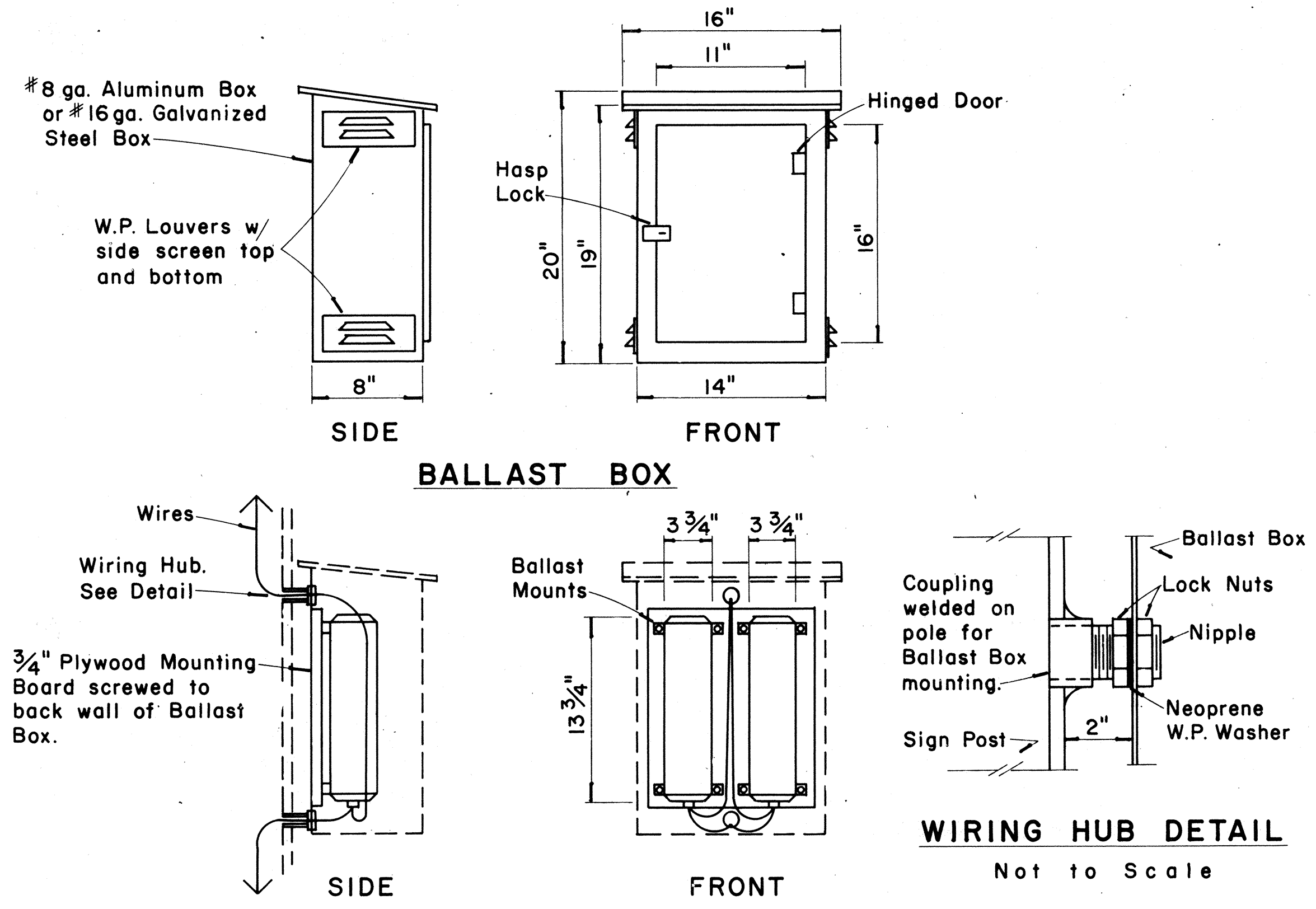
APPROVAL RECOMMENDED:  
*Erich Tanaka* 1/17/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Albert B. Sakai* 1/18/78  
ASSISTANT CHIEF, ENGINEERING DATE

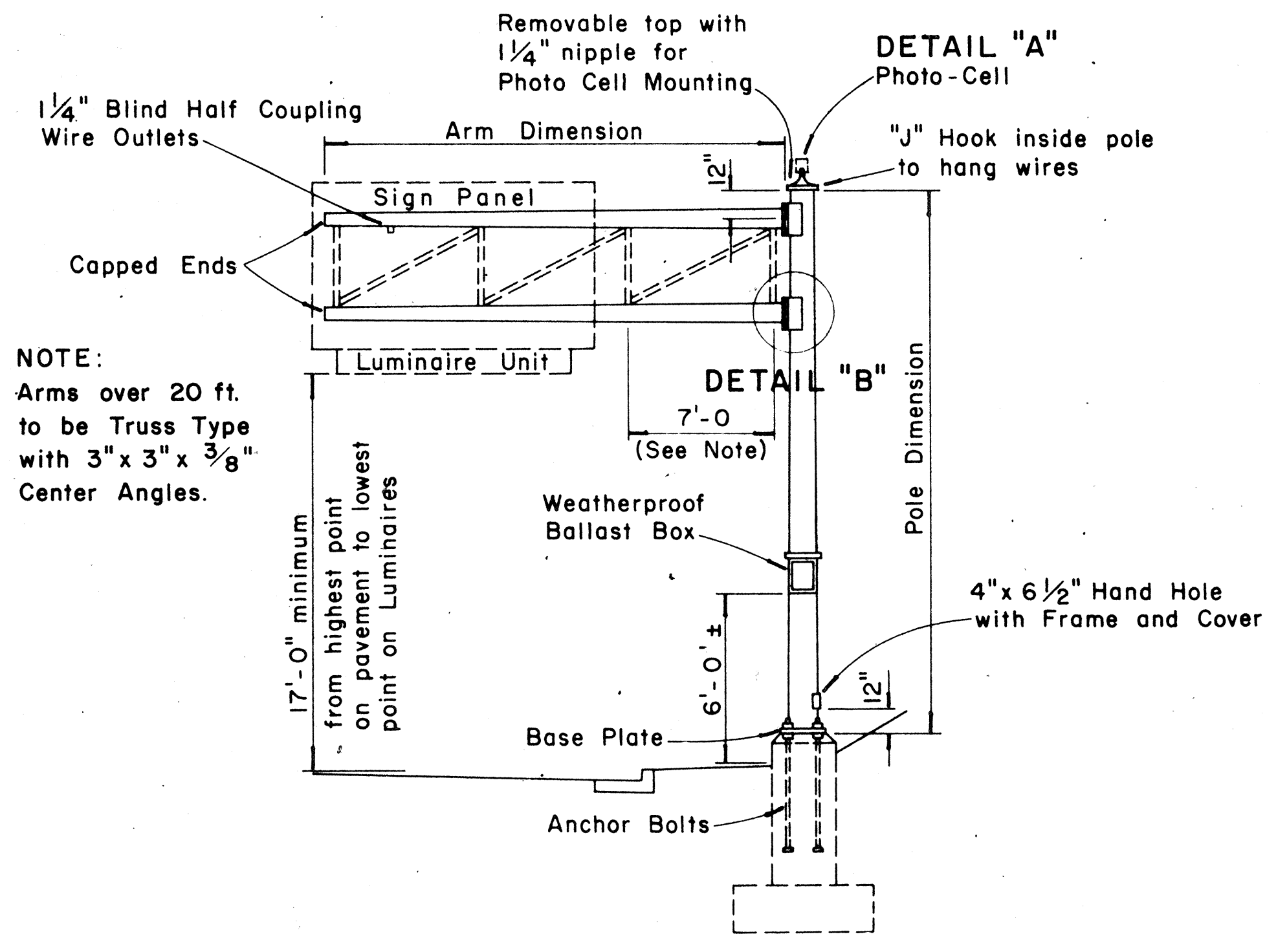
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
**MILEPOSTS**  
SCALE: As Shown DATE: December, 1977  
SHEET No. 38 OF 46 SHEETS DT 116

DATE \_\_\_\_\_  
 DESIGNED BY \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 QUANTITIES BY \_\_\_\_\_  
 TRACED BY \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 PLANNED BY \_\_\_\_\_  
 ORIGINAL PLAN \_\_\_\_\_  
 NO. \_\_\_\_\_

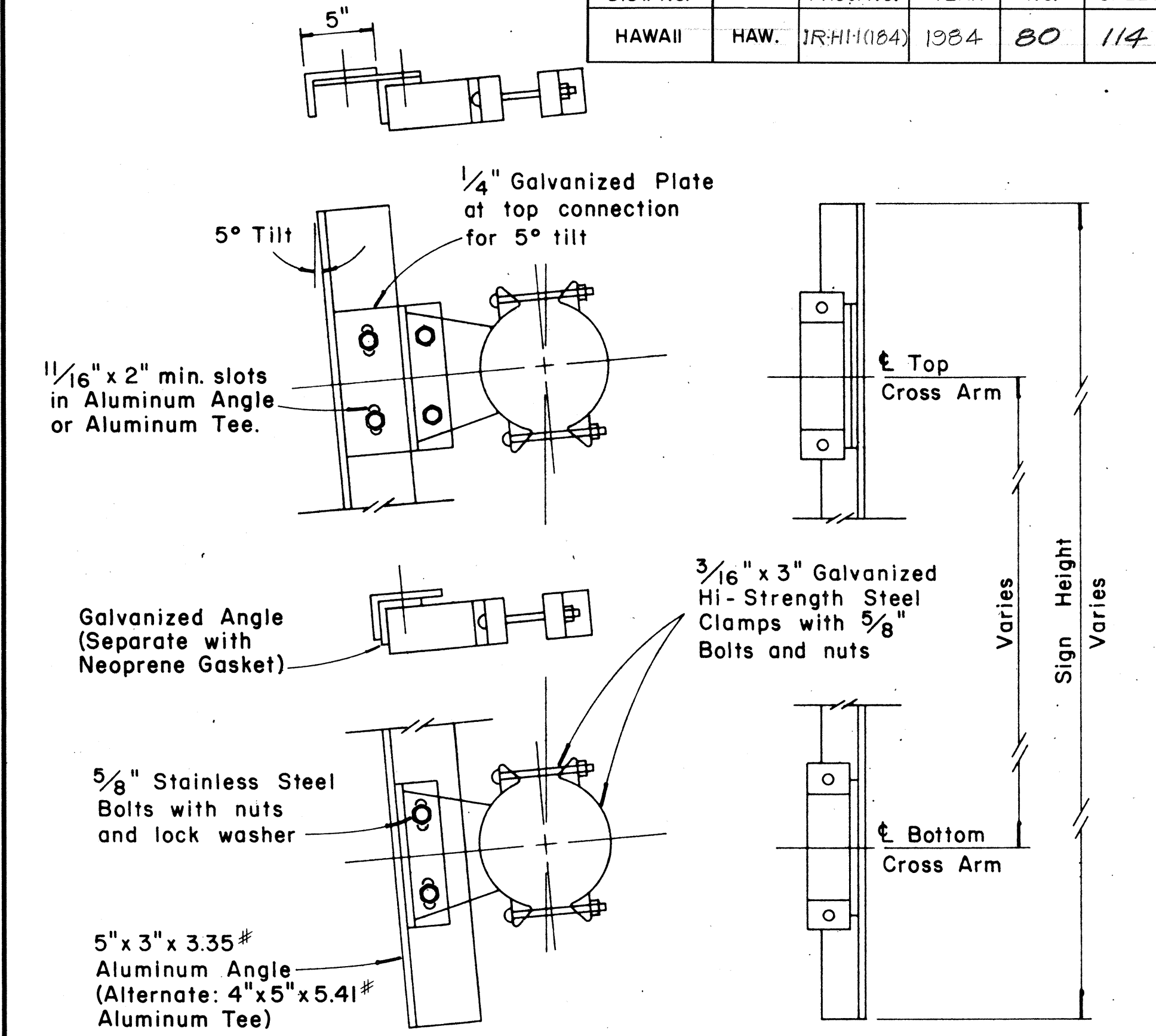
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	JRH11084	1984	80	114



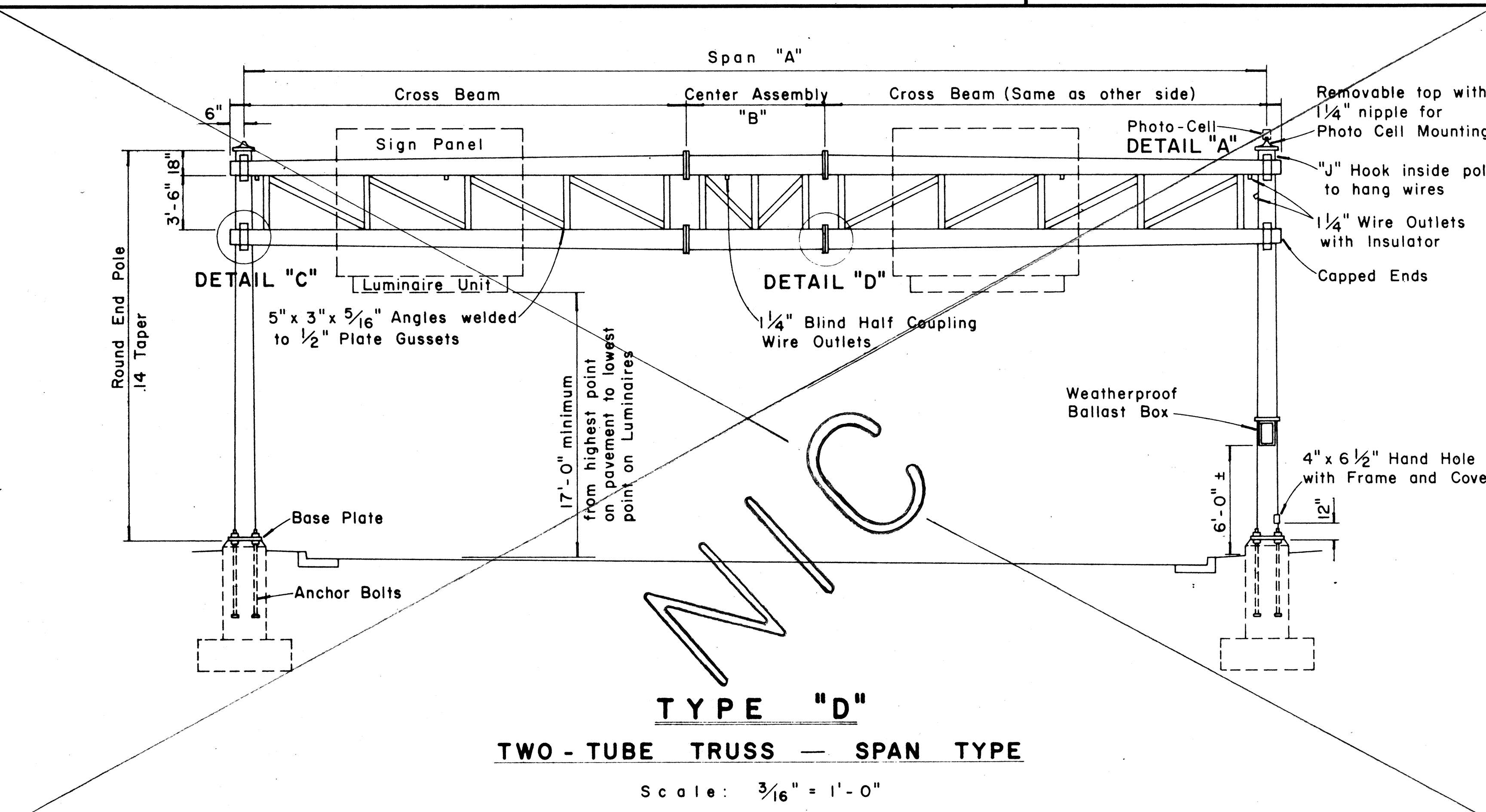
**WEATHERPROOF BALLAST BOX**  
Scale: 1/2" = 1'-0"



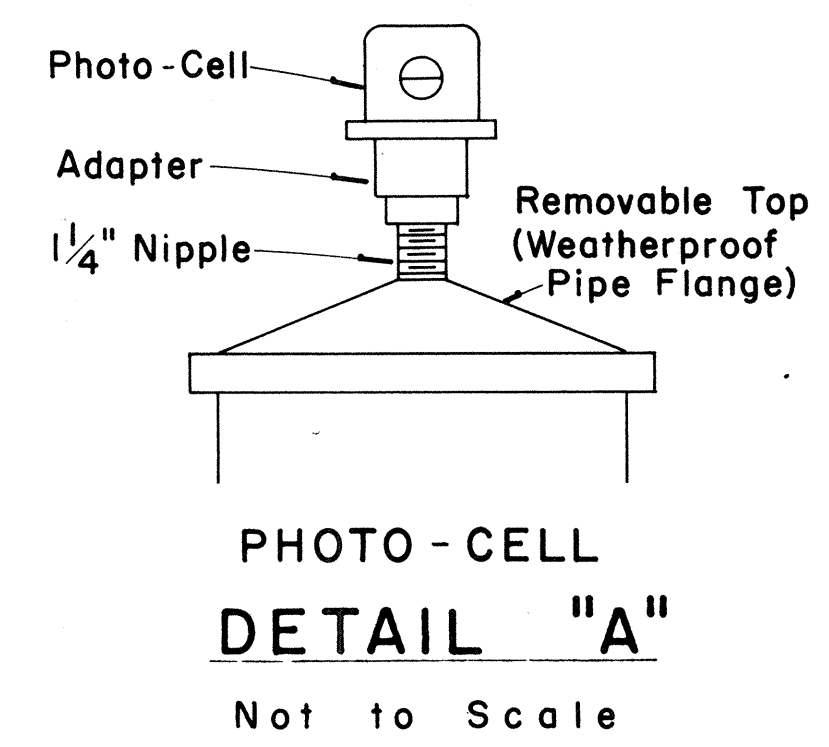
**TYPE "C"**  
**SINGLE SIGN POST — CANTILEVER TYPE**  
**DOUBLE MAST ARM**  
Scale: 3/16" = 1'-0"



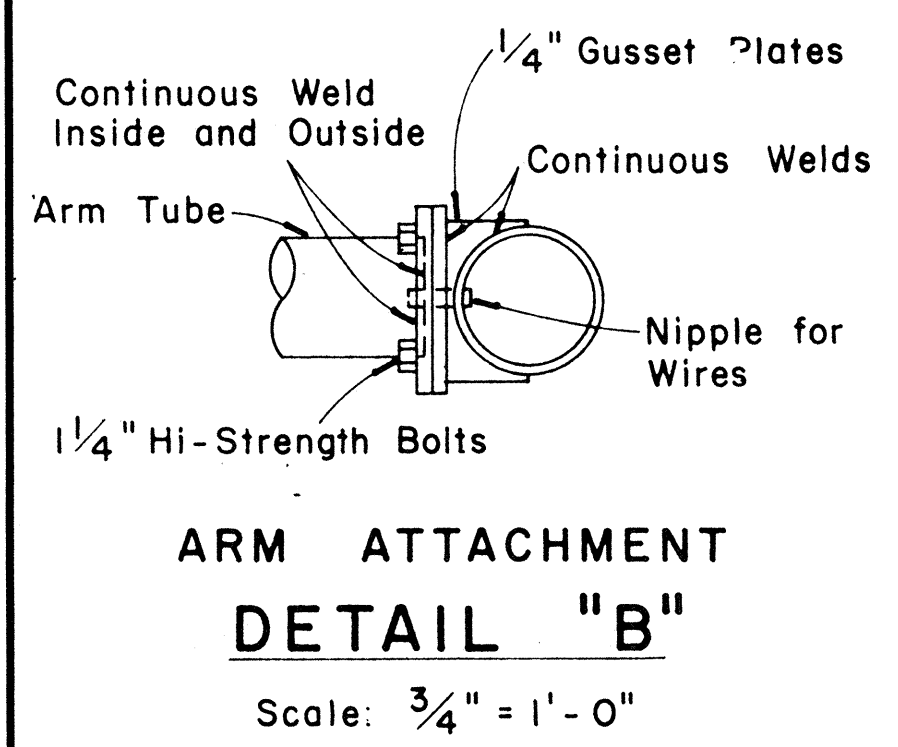
**SIGN BRACKET ASSEMBLY**  
Scale: 1/2" = 1'-0"



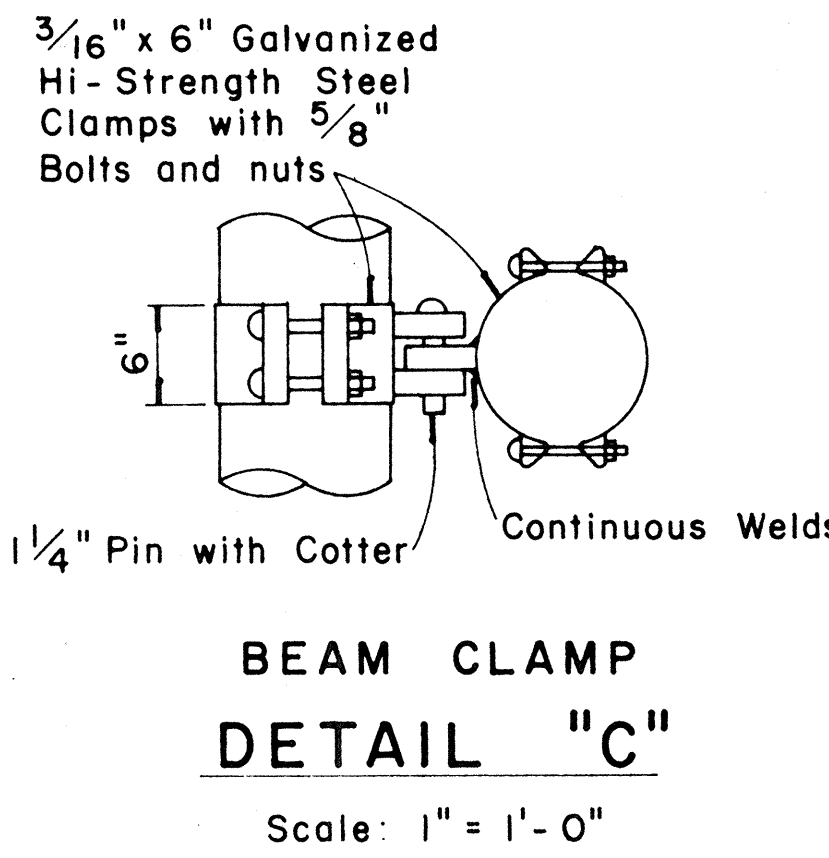
**TYPE "D"**  
**TWO - TUBE TRUSS — SPAN TYPE**  
Scale: 3/16" = 1'-0"



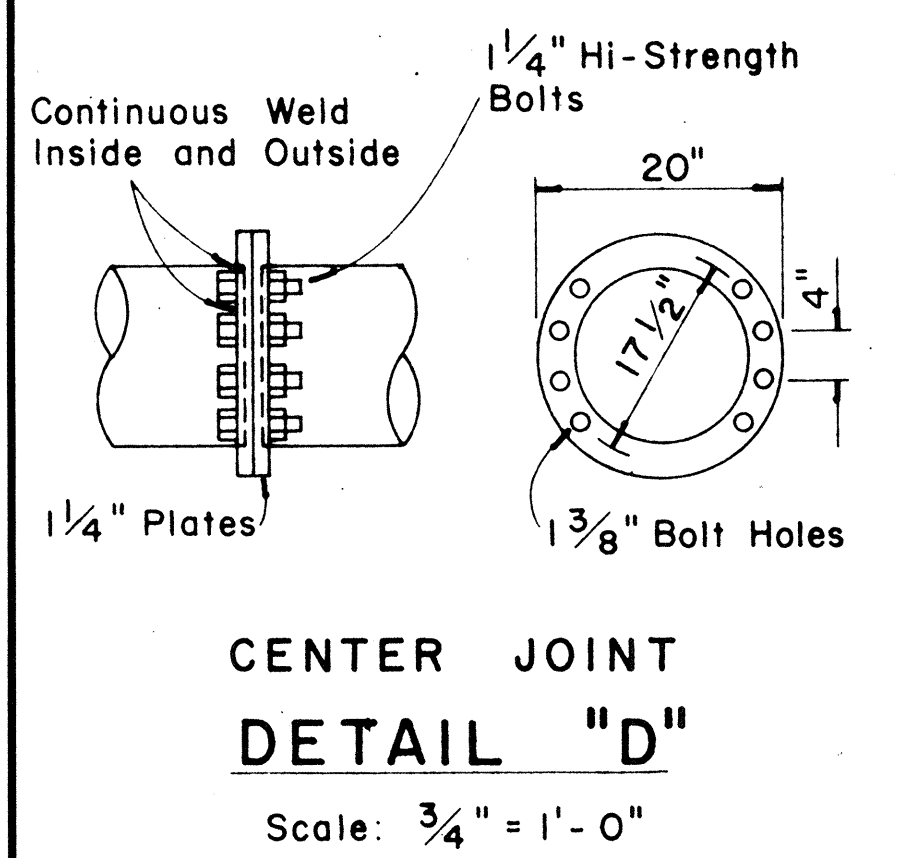
**PHOTO-CELL DETAIL "A"**  
Not to Scale



**ARM ATTACHMENT DETAIL "B"**  
Scale: 3/4" = 1'-0"



**BEAM CLAMP DETAIL "C"**  
Scale: 1" = 1'-0"



**CENTER JOINT DETAIL "D"**  
Scale: 3/4" = 1'-0"

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

APPROVED:  
*William S. Sakai* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

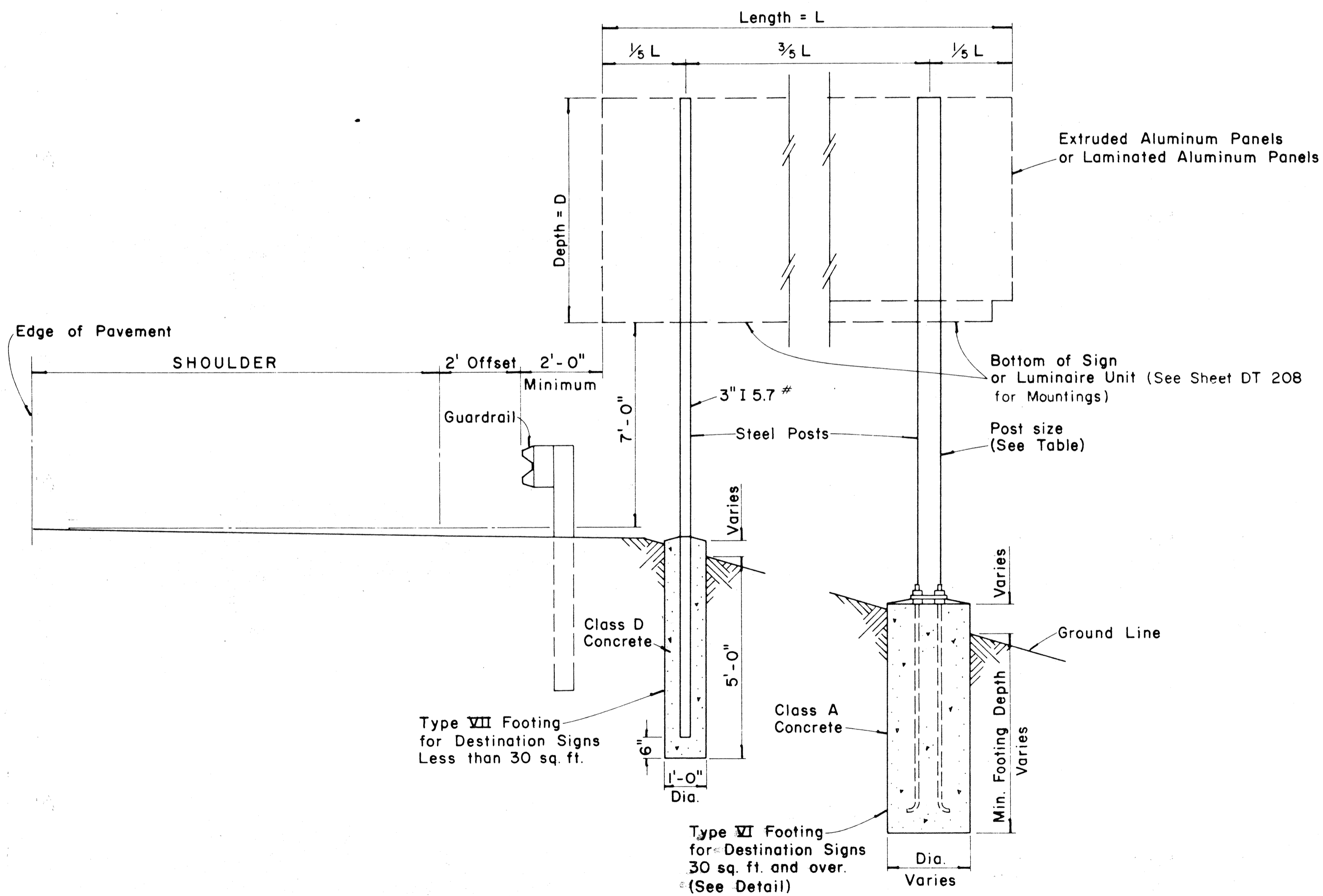
**STANDARD DETAILS**  
**OVERHEAD SIGN SUPPORTS**

Scale: As Shown  
SHEET No. 39 OF 46 SHEETS DT 200

DATE  
SURVEY PLOTTED BY  
DRAWN BY  
CHECKED BY  
NOTE BOOK  
NO.

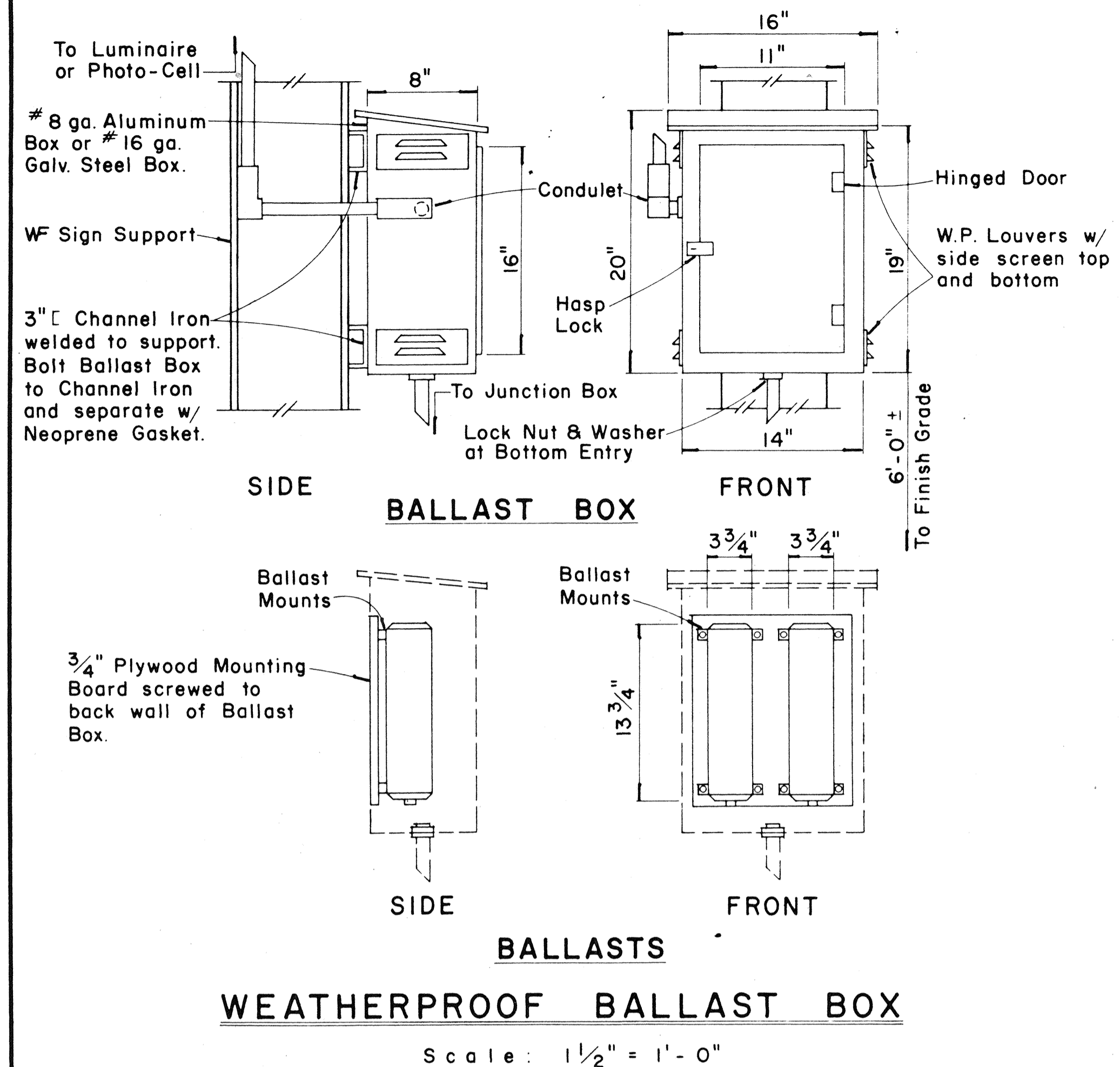
\* For moment calculations only. Post shall be from top of foundation to top of sign.  
 \*\* For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4 1/2 feet.

DATA TABLE FOR TYPE VI FOOTING																	
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**
8 J10	50 sq. ft.	14'	14"	5"	24"	17 1/4"	1 5/8"	6"	1 1/4"	9"	6"	10"	2"	1"	1 1/8" Ø	4 1/2'	4 1/2'
8 WF24	90 sq. ft.	21'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	5'
8 WF35	190 sq. ft.	15'	16 1/2"	6 3/4"	30"	20"	1 3/4"	6"	1 3/8"	11 3/4"	6 1/2"	10"	1 3/4"	1"	1 1/4" Ø	6'	7'
10 WF45	190 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
10 WF45	200 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
12 WF50	230 sq. ft.	25'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	7'
12 WF50	250 sq. ft.	23'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓



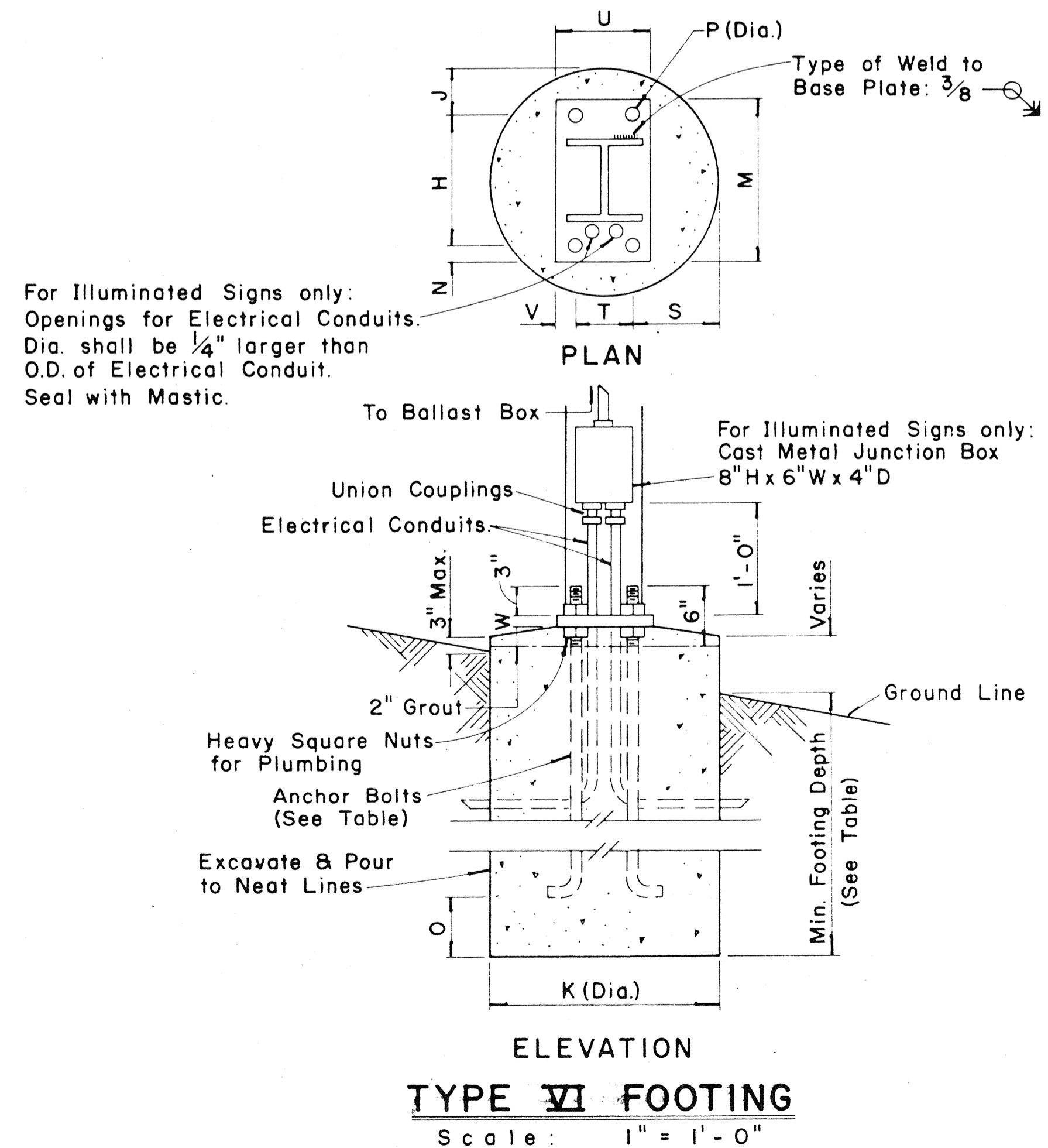
TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

Not to Scale



WEATHERPROOF BALLAST BOX

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



TYPE VI FOOTING

Scale: 1" = 1'-0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-HI-(104)	1984	C.080S-1	114

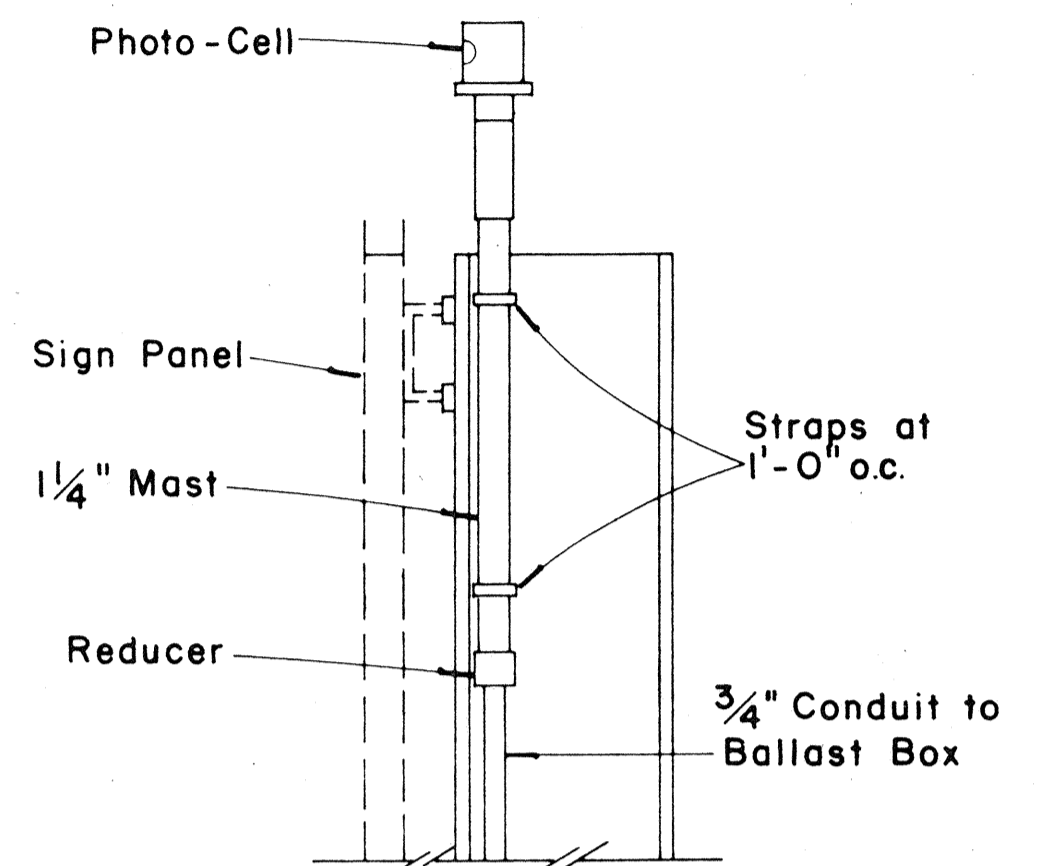


PHOTO-CELL DETAIL

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

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

APPROVED:  
*Walter B. ...* 12-30-69  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE
1	Add note for luminaire mounting.		12-30-69

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 LAND TRANSPORTATION FACILITIES DIVISION  
 STANDARD DETAILS  
 DESTINATION & GROUND MOUNTED  
 EXPRESSWAY SIGNS

Scale: As Shown  
 SHEET No. 1 OF 1 SHEETS DT 203

C.080S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	JR-H-1084	1984	81	114

(OVERHEAD SIGNS)  
SUPPORT SPACING TABLE

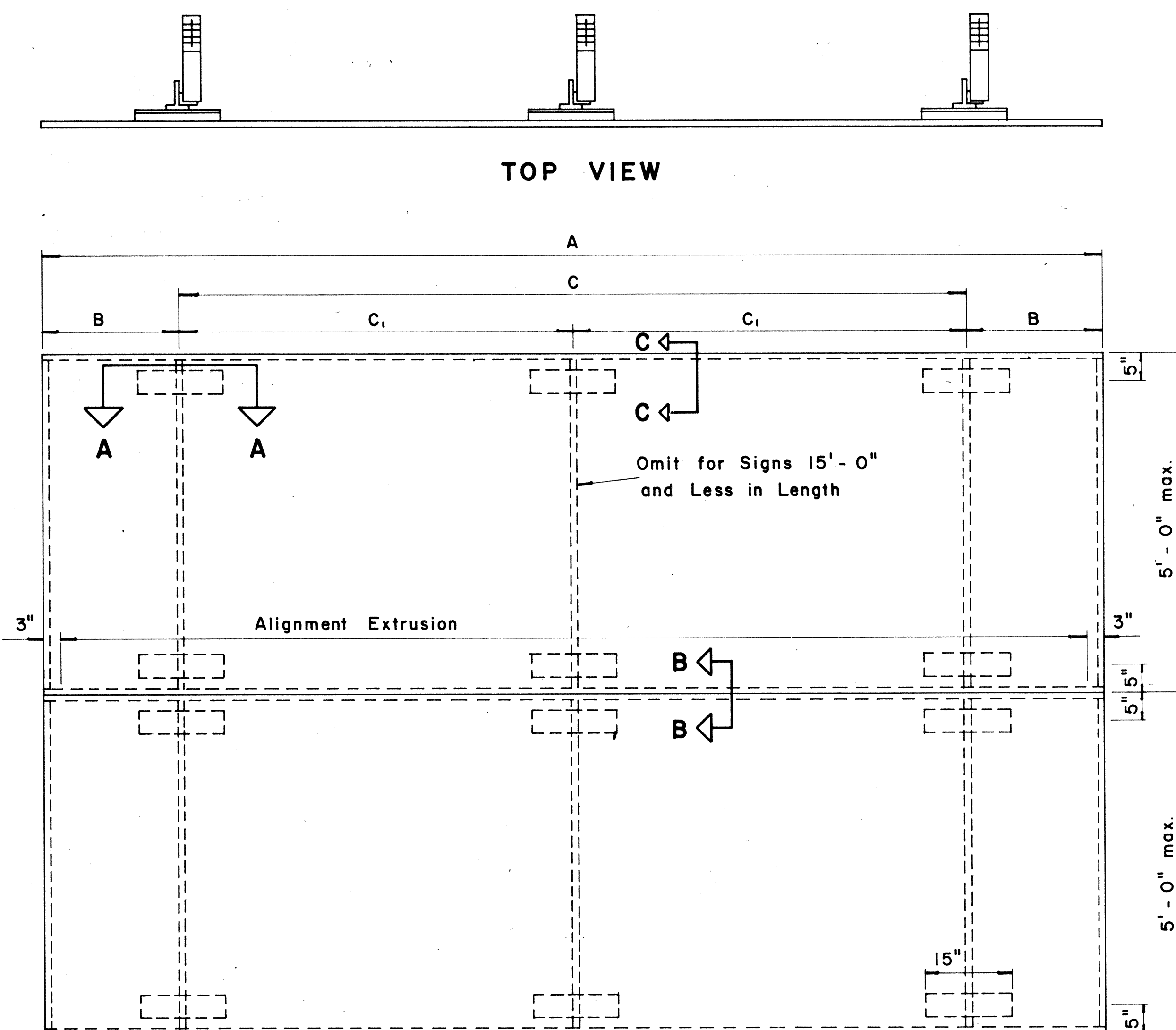
PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG B	SUPPORT SPACING C or C <sub>1</sub>
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
1"	15'-6"	3	24"	69"
1"	16'-0"	3	24"	72"
1"	16'-6"	3	24"	75"
1"	17'-0"	3	24"	78"
1"	17'-6"	3	24"	81"
1"	18'-0"	3	24"	84"
1"	18'-6"	3	27"	84"
1"	19'-0"	3	27"	87"
1"	19'-6"	3	27"	90"
1"	20'-0"	3	30"	90"
1"	20'-6"	3	30"	93"
1"	21'-0"	3	30"	96"
1"	21'-6"	3	33"	96"
1"	22'-0"	3	36"	96"
1"	22'-6"	3	36"	99"
1"	23'-0"	3	36"	102"
1"	23'-6"	3	36"	105"
1"	24'-0"	3	36"	108"

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

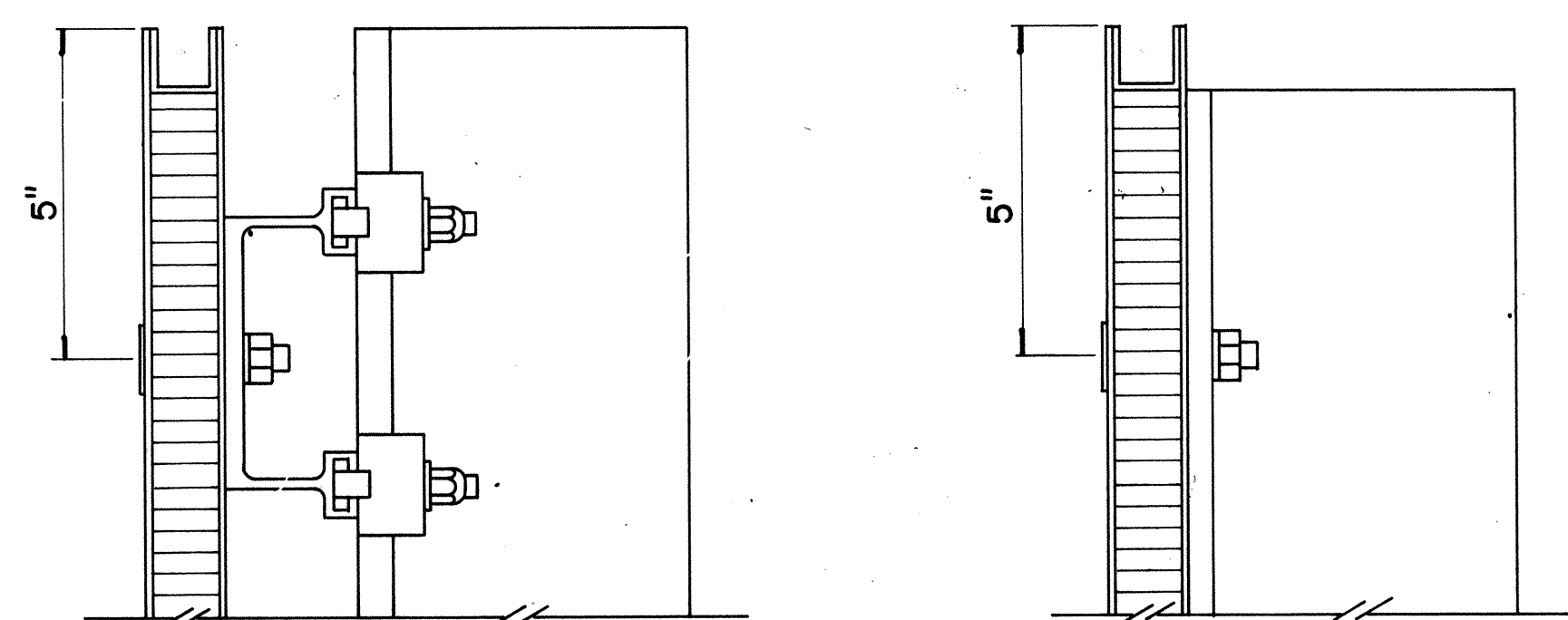
APPROVED:  
*[Signature]* 12-30-69  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

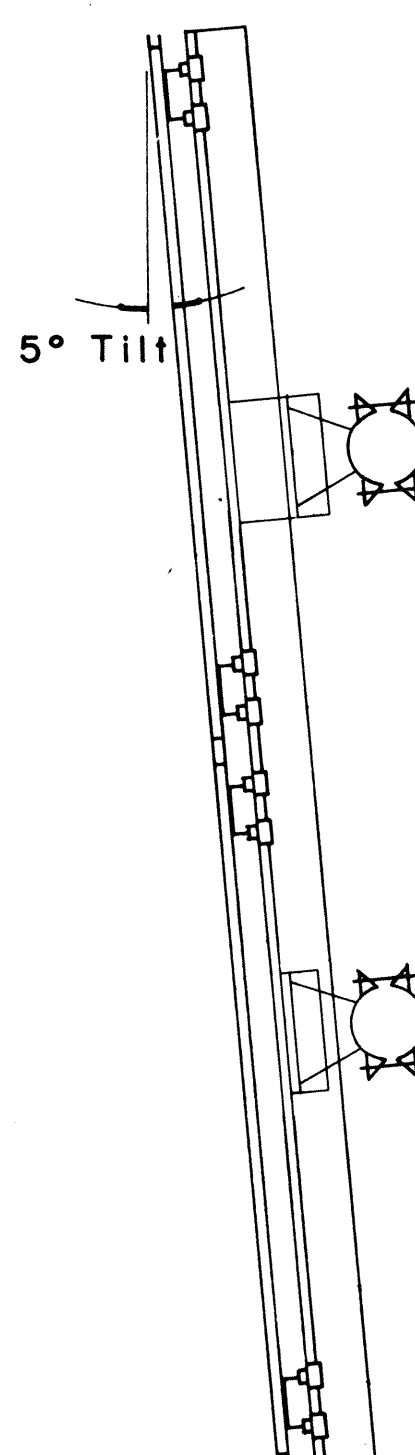
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**STANDARD DETAILS**  
LAMINATED ALUMINUM  
SIGN PANELS  
(OVERHEAD)  
Scale: As Shown



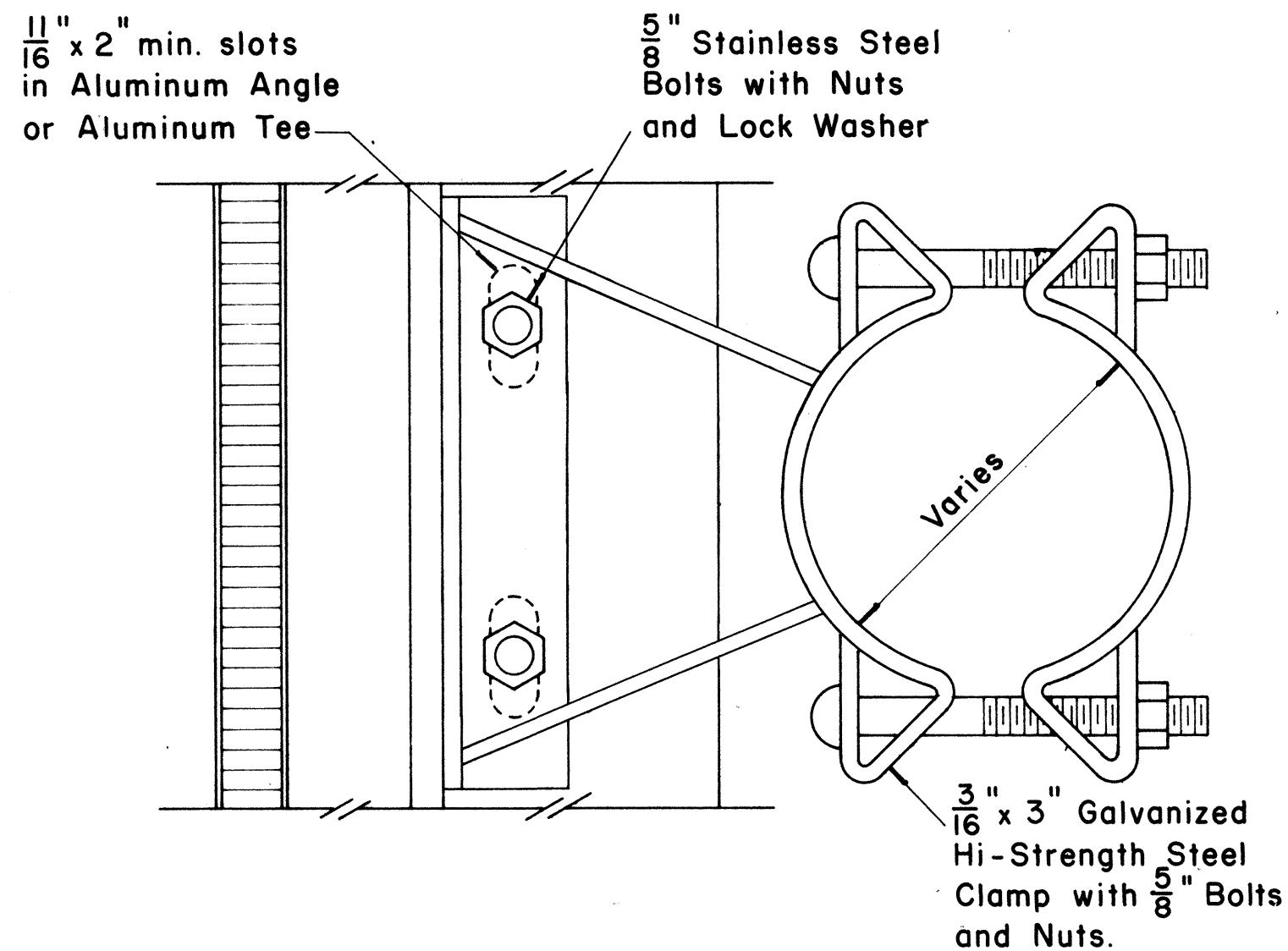
**TYPICAL SIGN ASSEMBLY**  
Scale:  $\frac{3}{4}$ " = 1'-0"



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

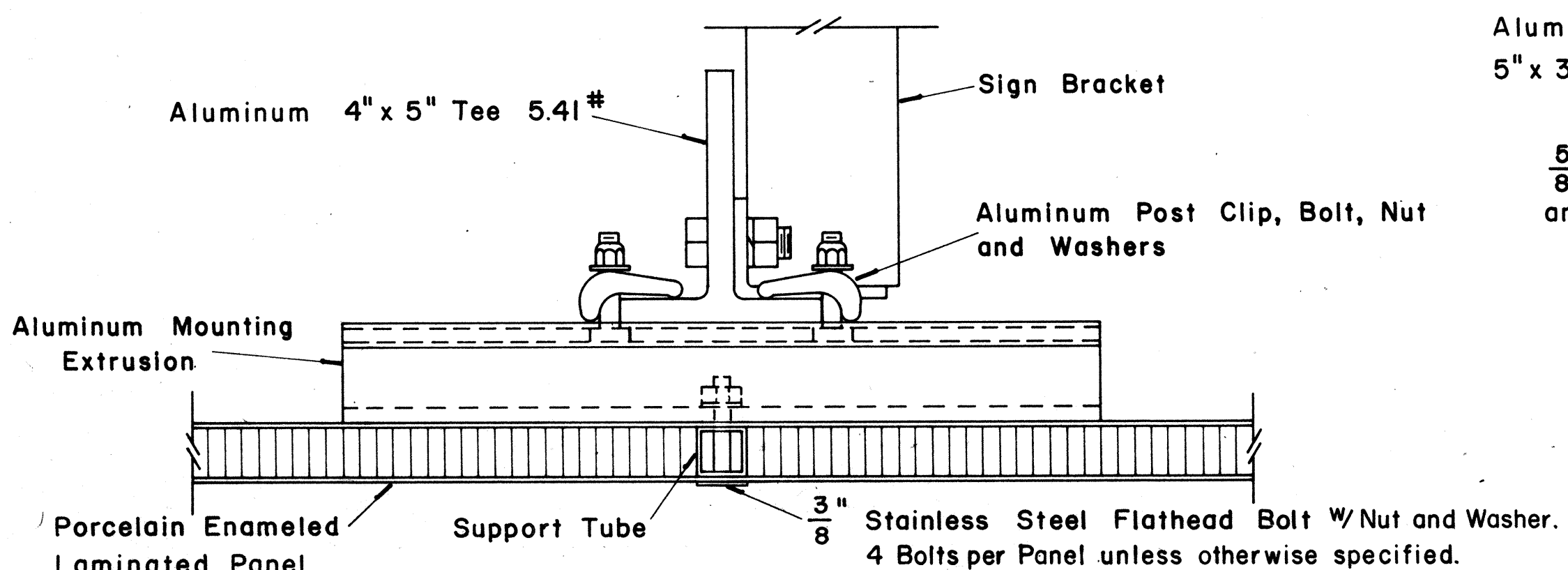


**SIDE VIEW**

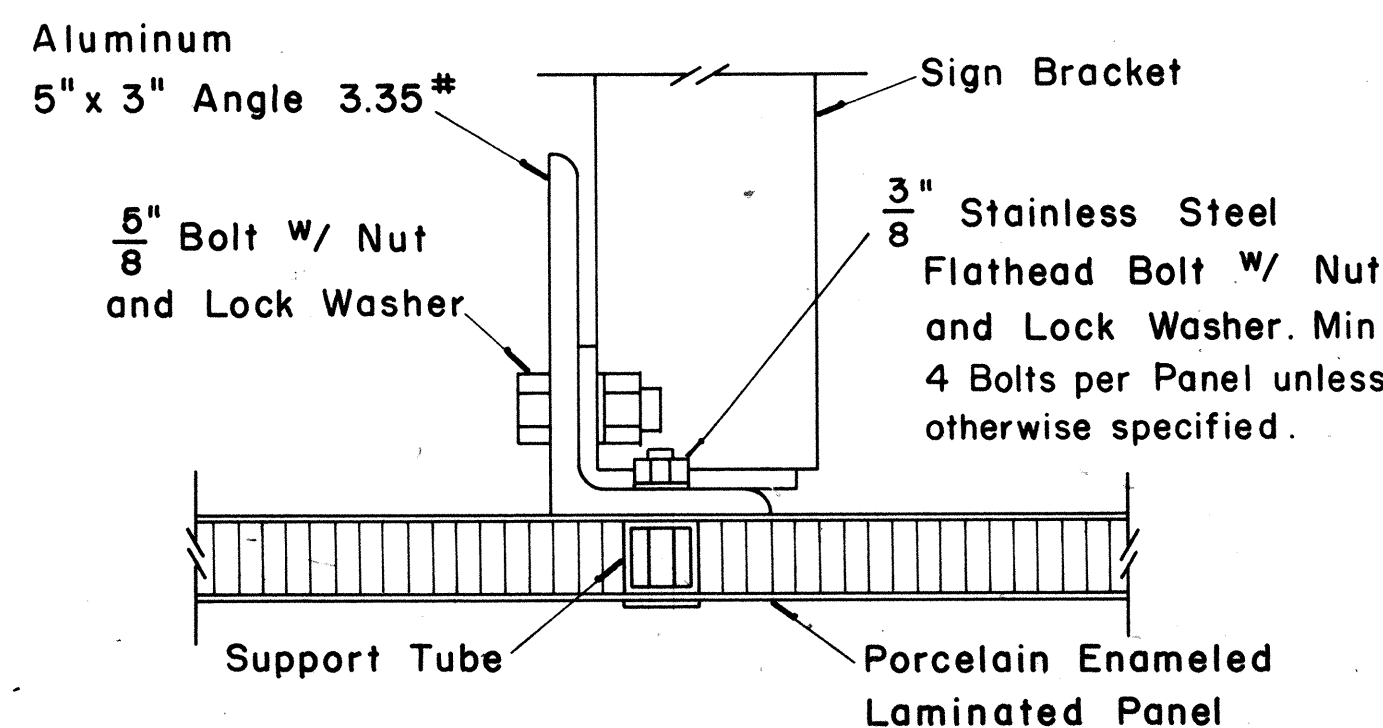


**SIGN BRACKET ASSEMBLY**  
Scale:  $\frac{3}{8}$ " = 1"

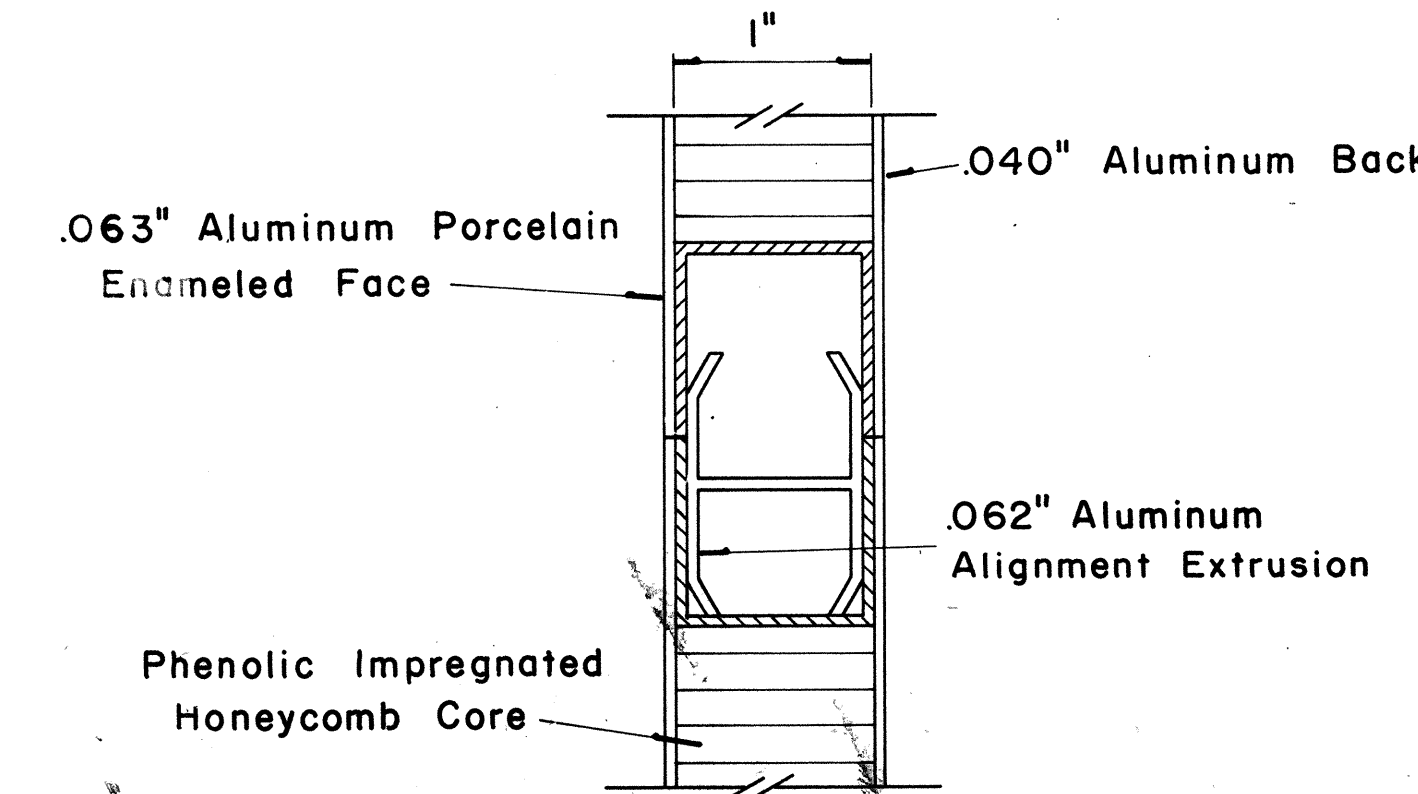
NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



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



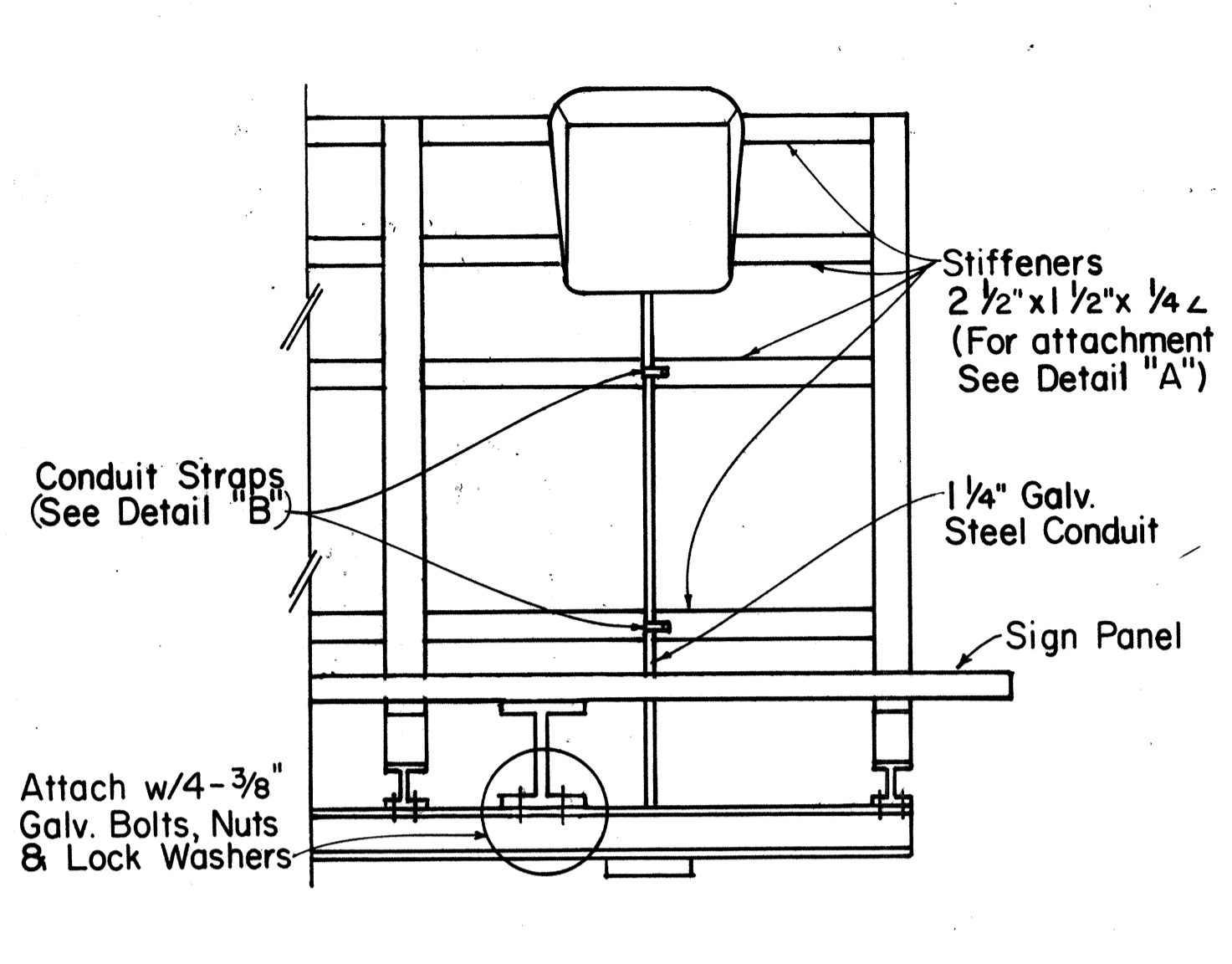
**SECTION "A-A" (Alternate)**  
Scale:  $\frac{3}{8}$ " = 1"



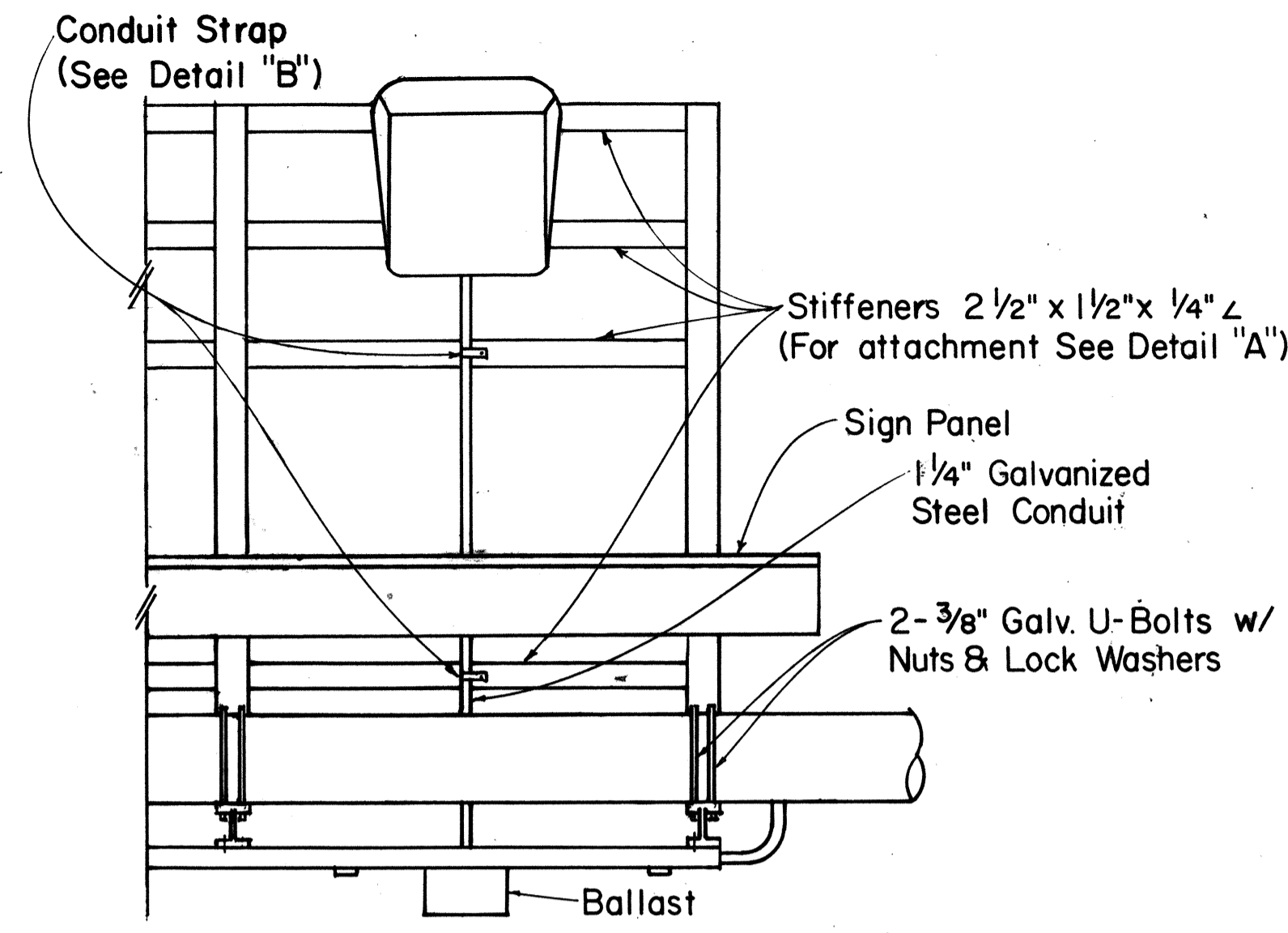
**CLOSURE DETAIL SECTION "B-B"**  
FULL SCALE

SURVEY PLATTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
 DRAWN BY \_\_\_\_\_  
 TRACED BY \_\_\_\_\_  
 NOTE BOOK NO. \_\_\_\_\_  
 CHECKED BY \_\_\_\_\_  
 No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	17R-11(184)	1984	82	114

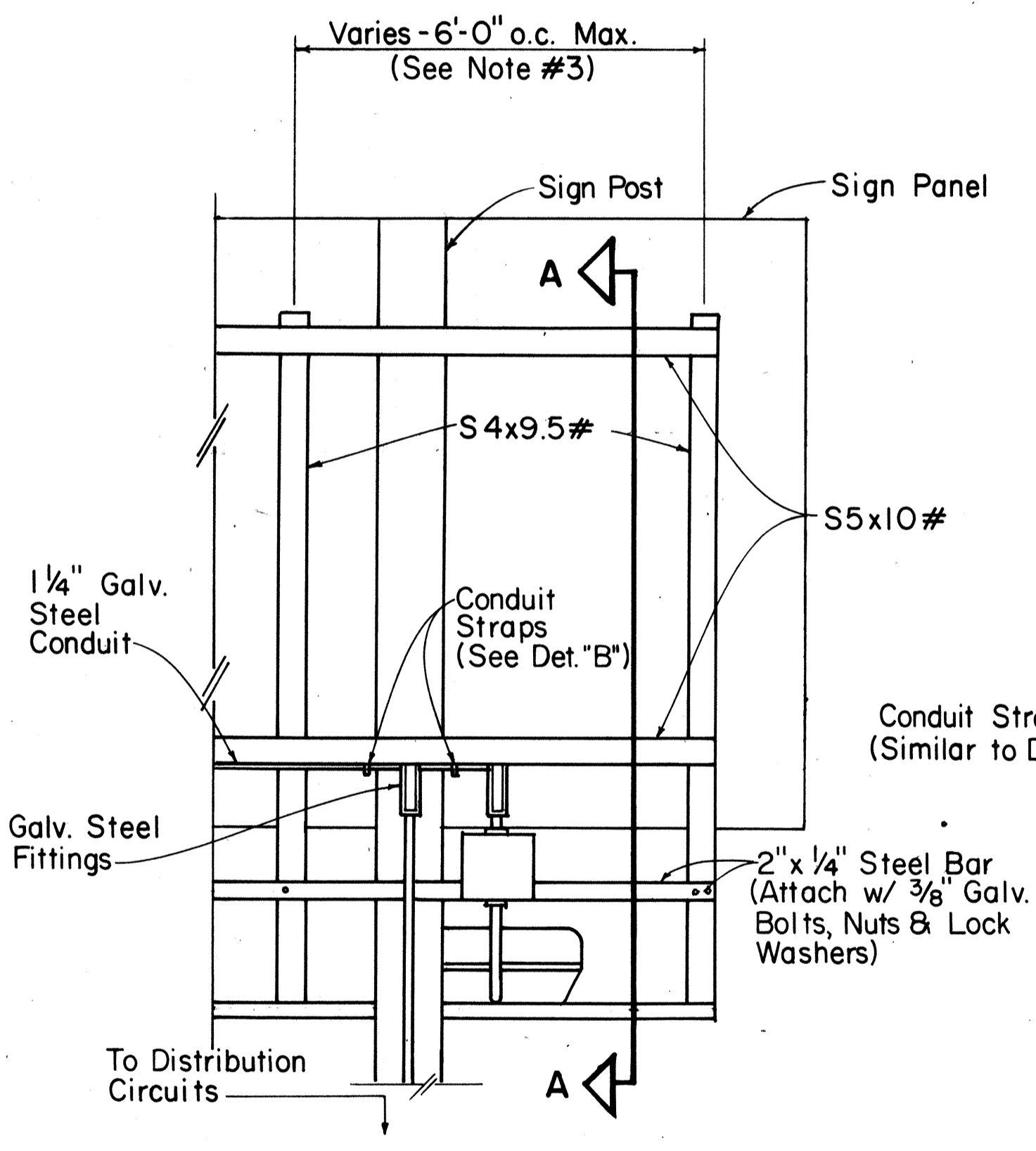


GROUND MOUNTED

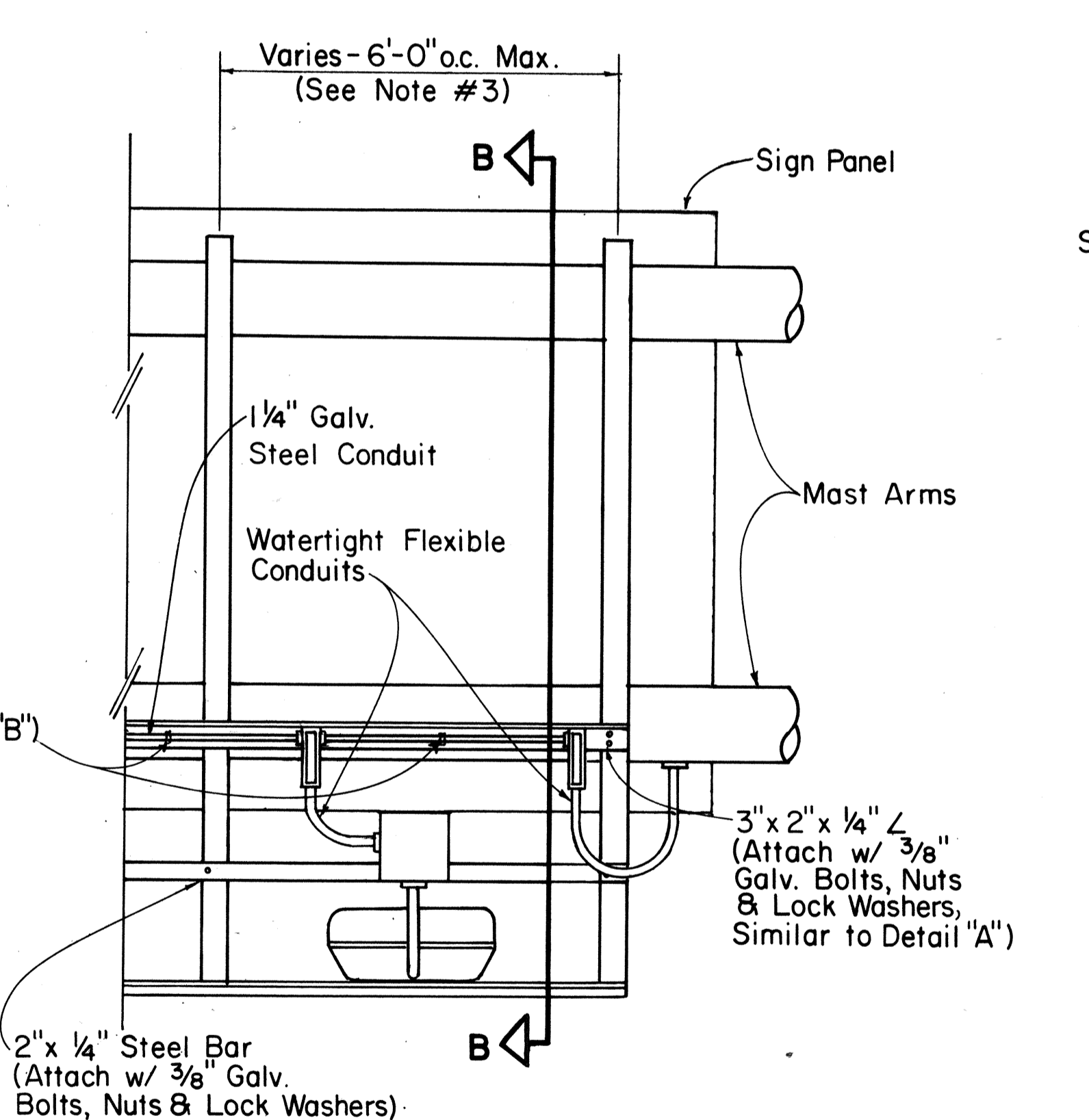


OVERHEAD MOUNTED

TOP VIEW



GROUND MOUNTED

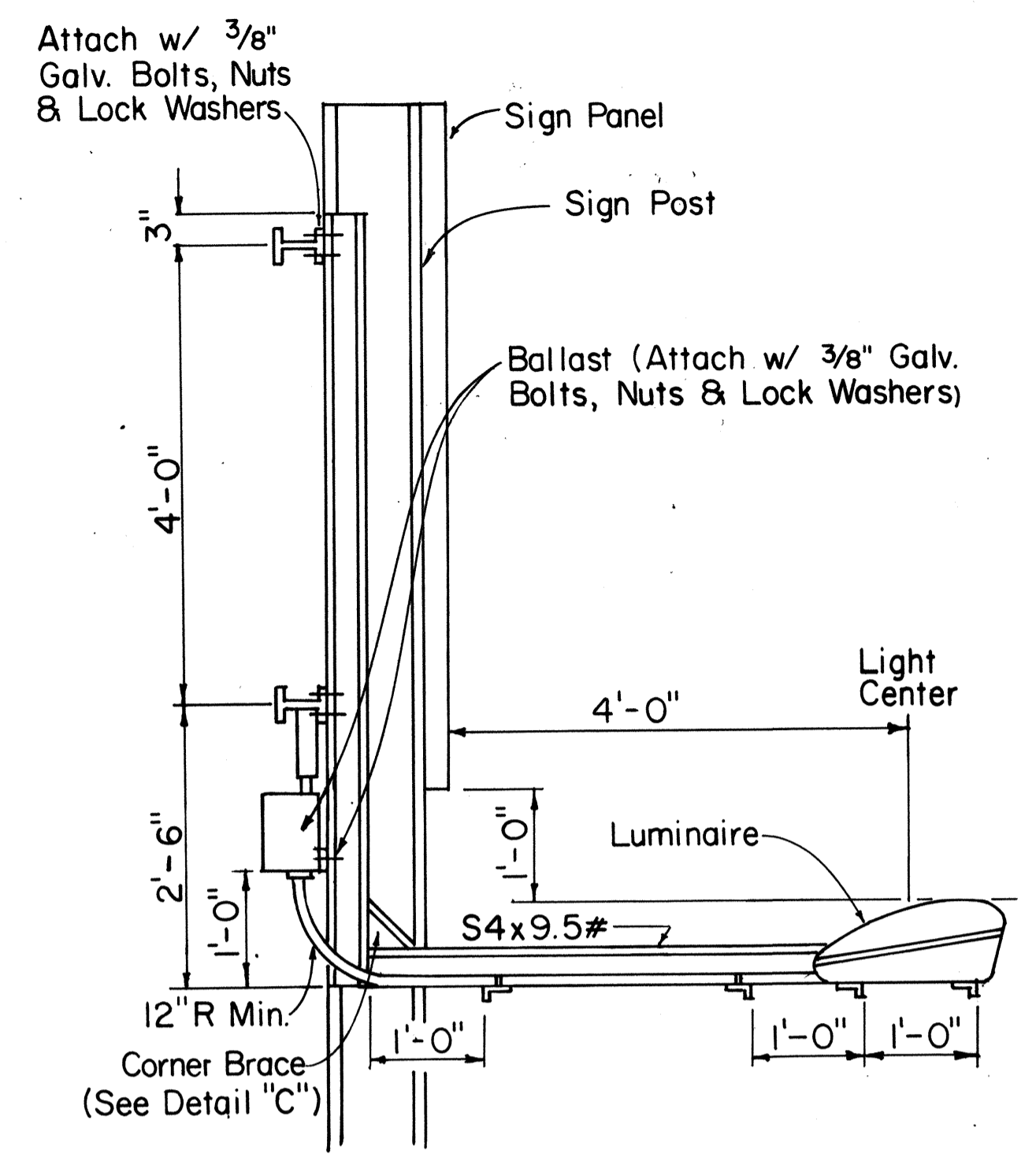


OVERHEAD MOUNTED

REAR VIEW

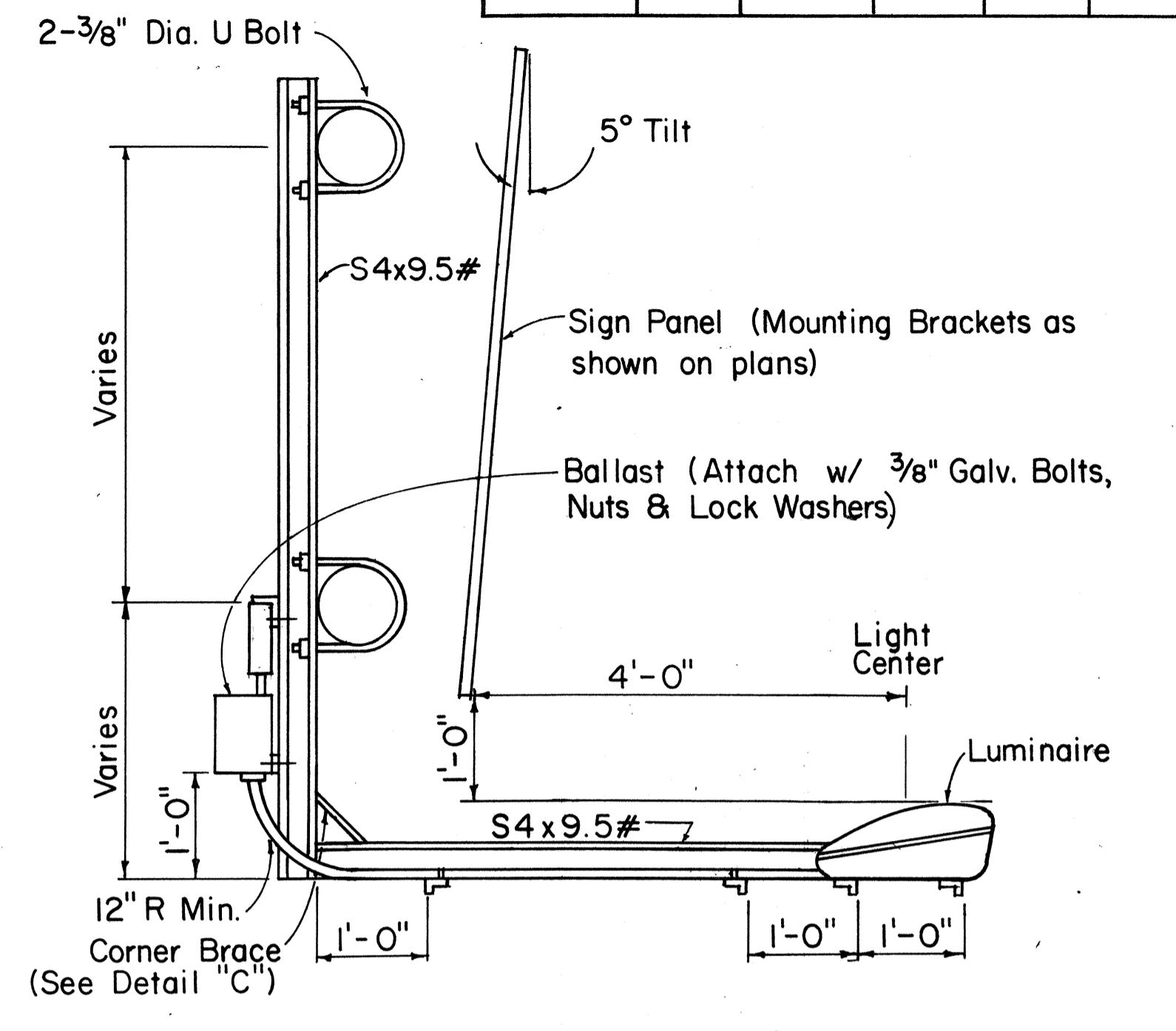
LUMINAIRE MOUNTING

Not to Scale



SECTION A-A

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

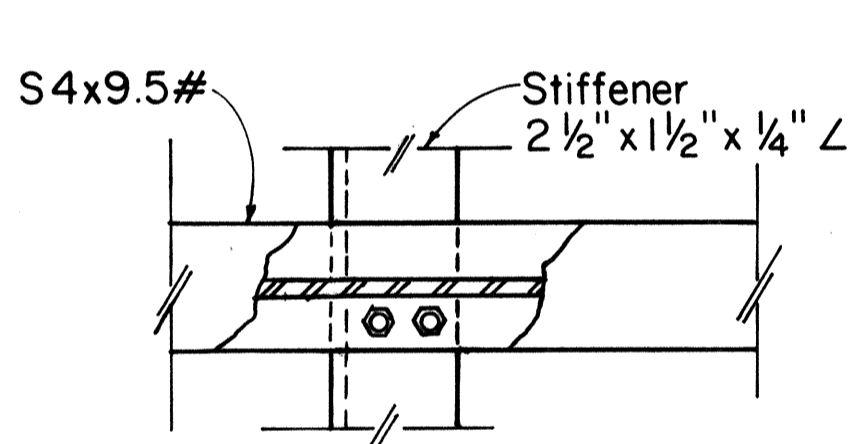


SECTION B-B

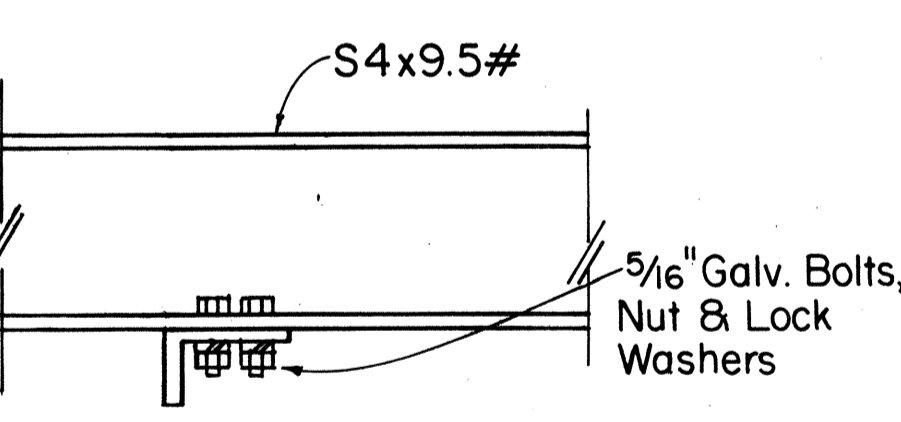
Scale: 3/4" = 1'-0"

GENERAL NOTES:

- All parts of the Luminaire Mounting shall be Hot-Dip Galv., Prime Coated with a suitable Primer and Painted with Three Coats of Dark Green Enamel.
- Luminaire Mounting shall be adjusted as recommended by the manufacturer to provide optimum sign illumination.
- The Contractor shall insure that the luminaire supports do not conflict with the sign supports (see support spacing tables on sheets DT 205 and DT 206). Final spacing shall be approved by the Engineer.
- The Contractor shall determine the amount and spacing of luminaires per sign in accordance with the luminaire manufacturer's instructions, subject to approval by the Engineer. The maximum spacing shall be 10 feet on centers and the maximum height and width illuminated by a single luminaire shall be 10 feet, respectively.



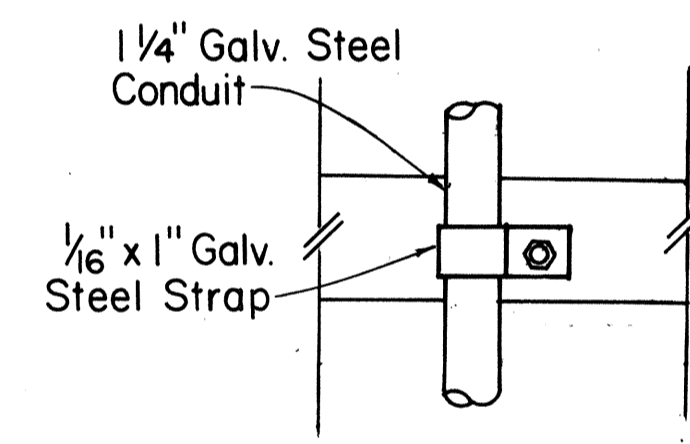
TOP VIEW



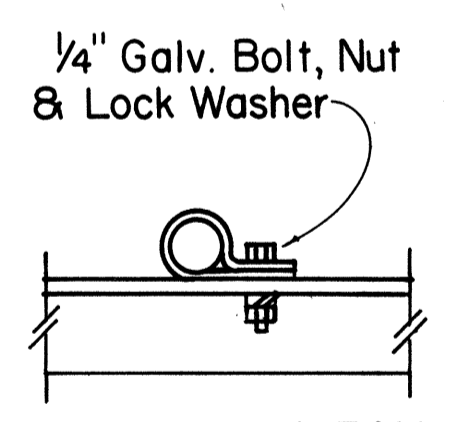
SIDE VIEW

DETAIL "A"

Scale: 3" = 1'-0"



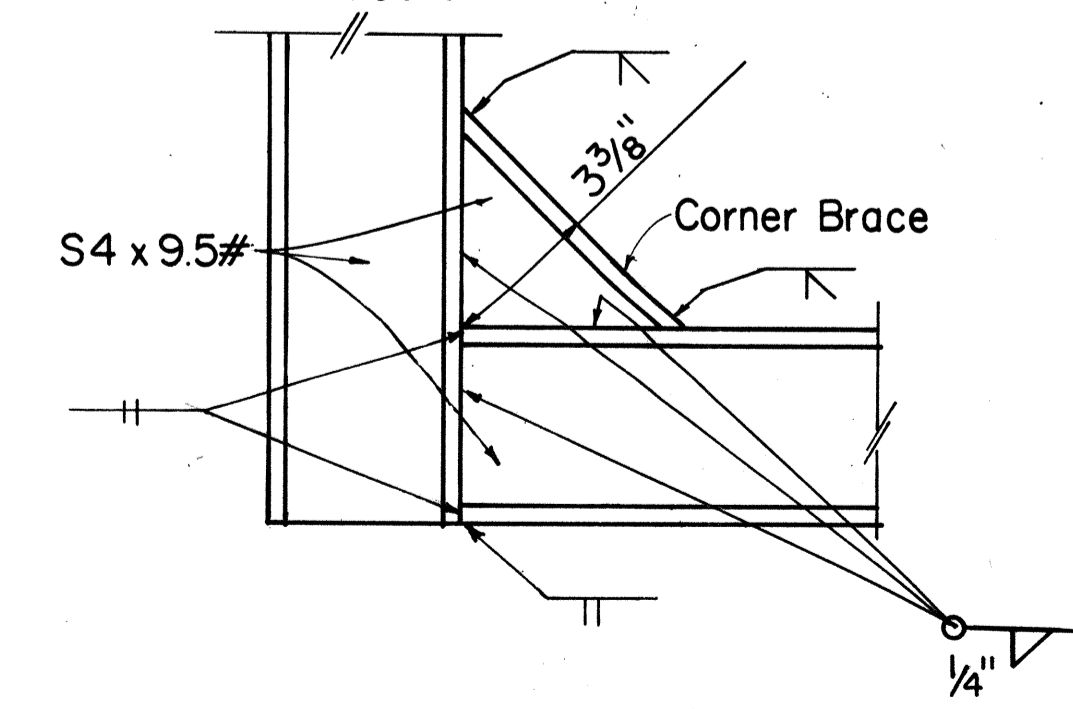
TOP VIEW



SIDE VIEW

DETAIL "B"

Scale: 3" = 1'-0"



DETAIL "C"

Scale: 3" = 1'-0"

APPROVAL RECOMMENDED:  
*Eishi Tanaka*  
 TRAFFIC ENGINEER 5/19/81  
 DATE

APPROVED:  
*Harold Zaleski*  
 ASSISTANT CHIEF, ENGINEERING 5/20/81  
 DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes DT 208 Approved 12/30/69.	H.F.	5/20/81

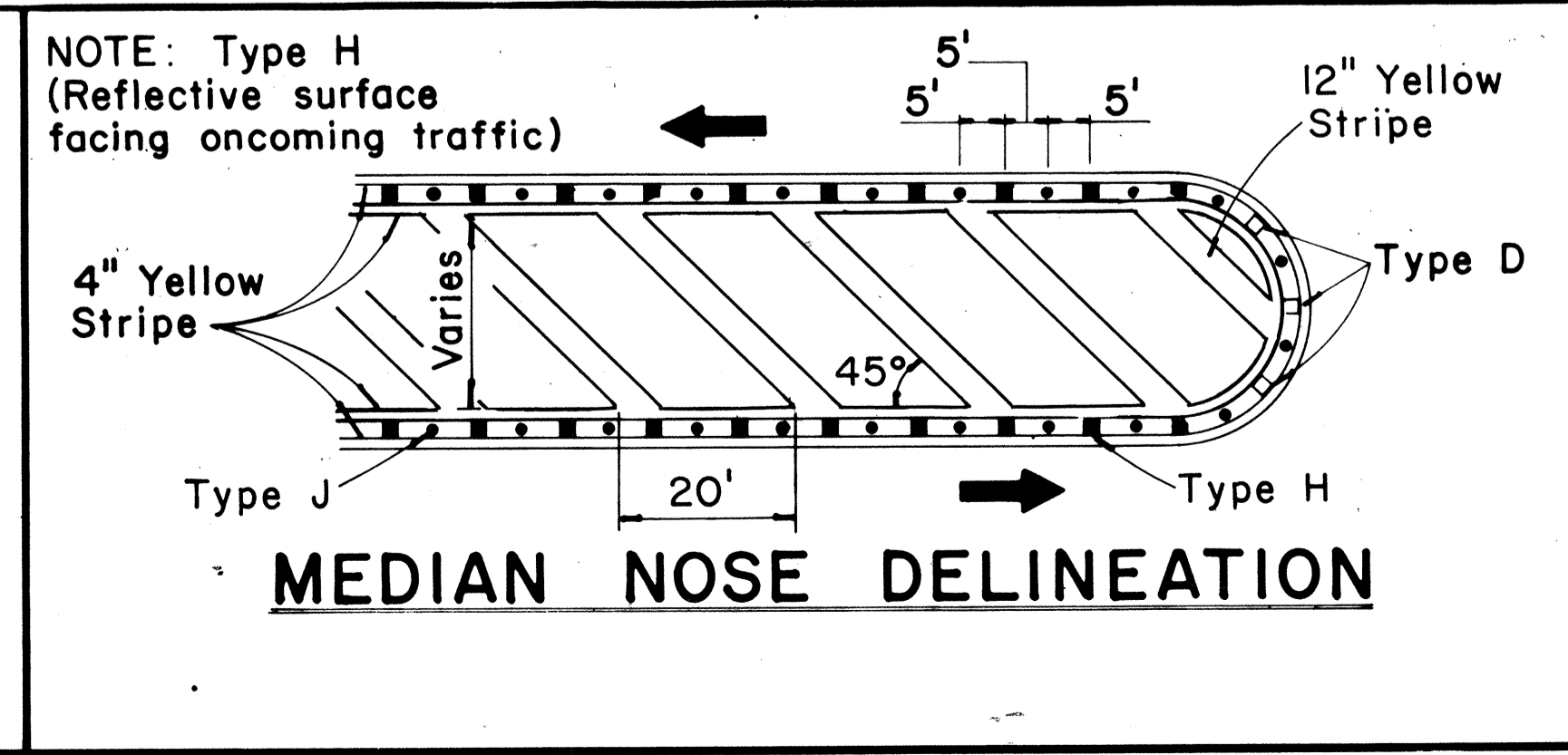
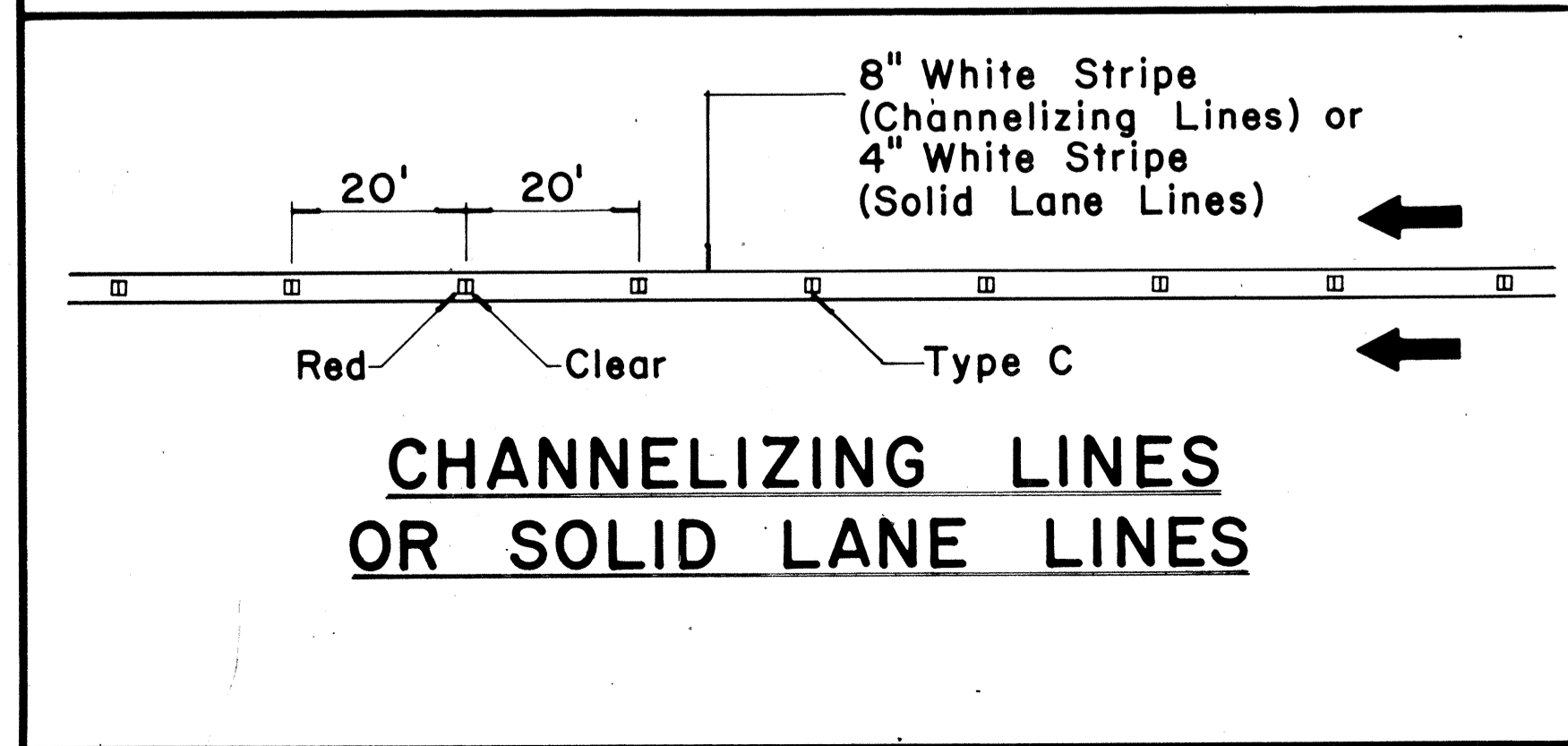
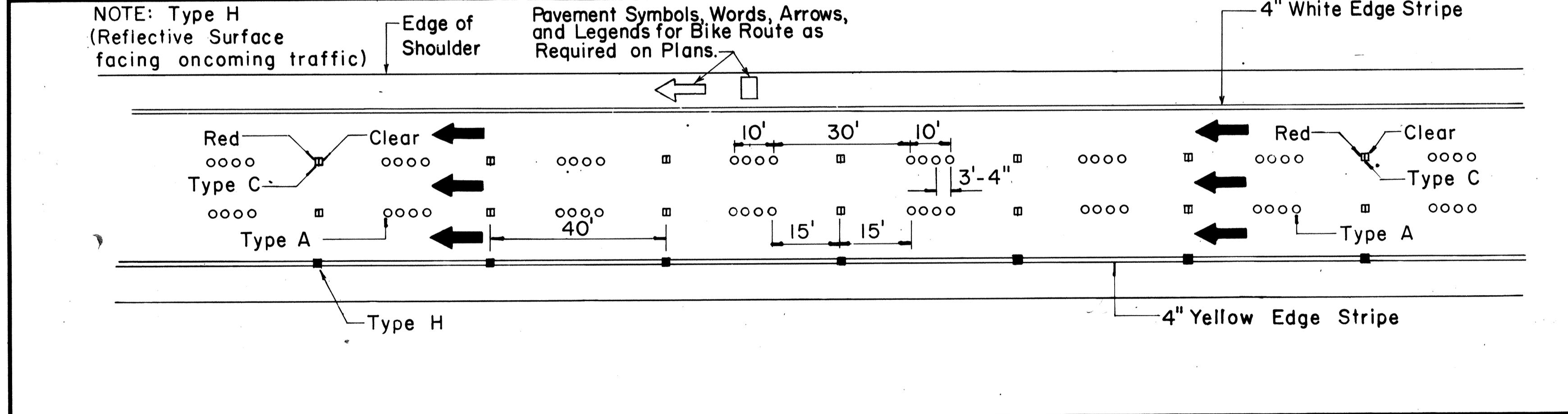
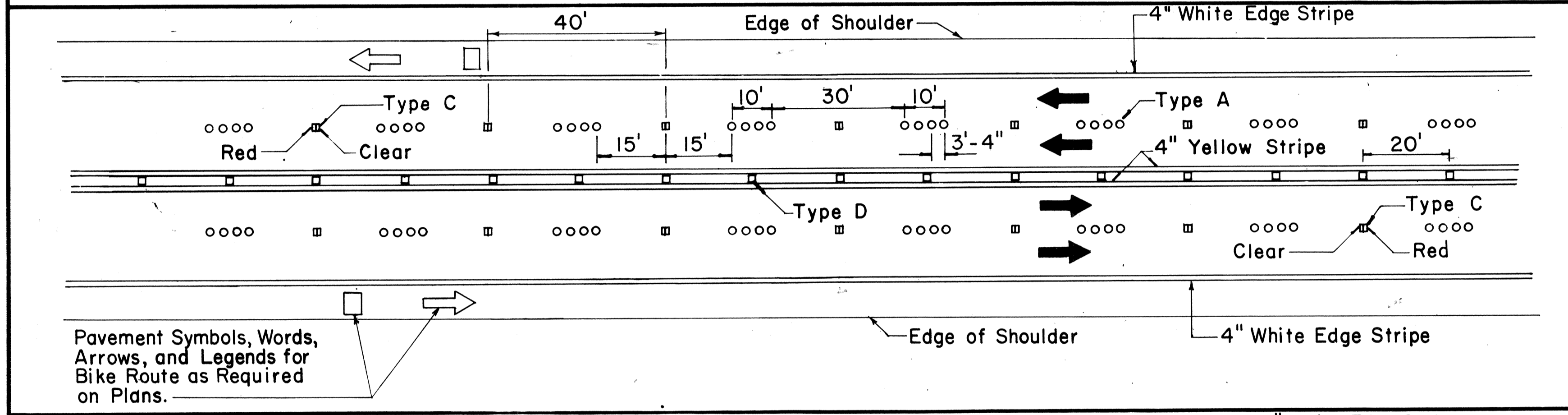
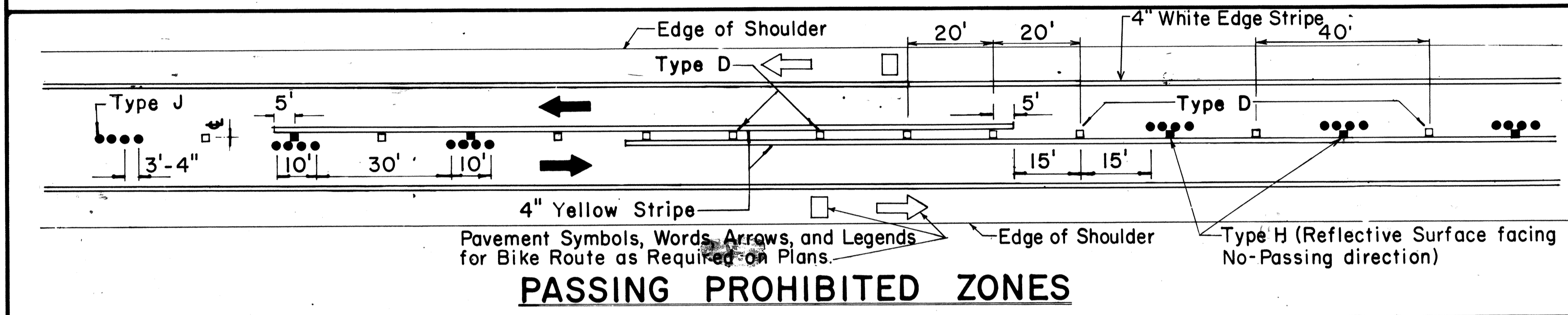
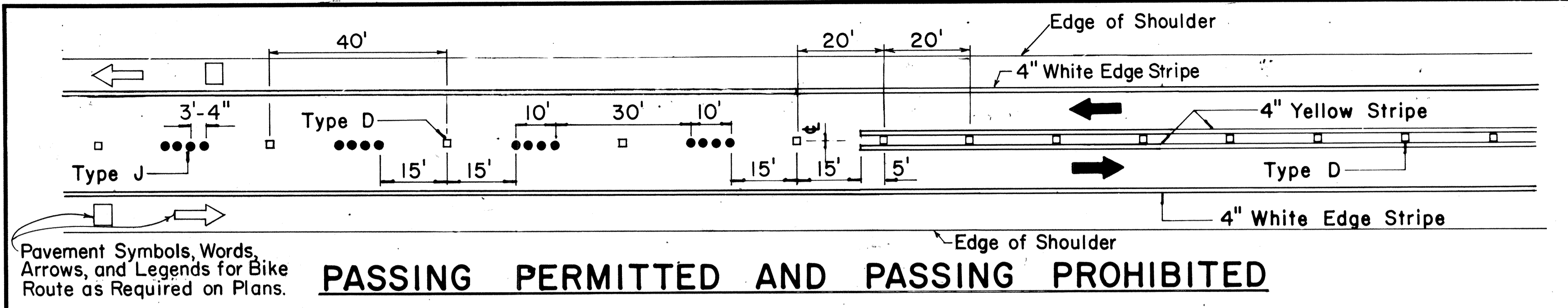
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**GUIDE SIGNS**  
**LUMINAIRE MOUNTINGS**

Scale: As Shown  
 SHEET No. 741 OF 46 SHEETS DT 208

DATE	PLotted
DESIGNED BY	DESIGNED BY
QUANTITIES BY	CHECKED BY
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IRHM(084)	1984	83	114

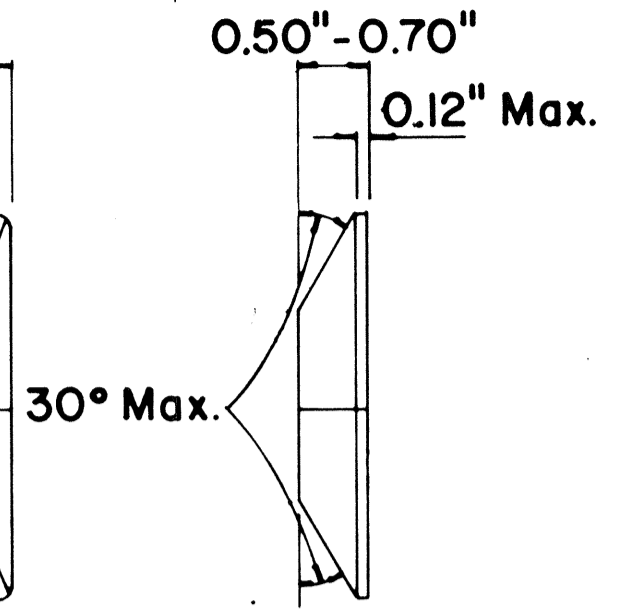
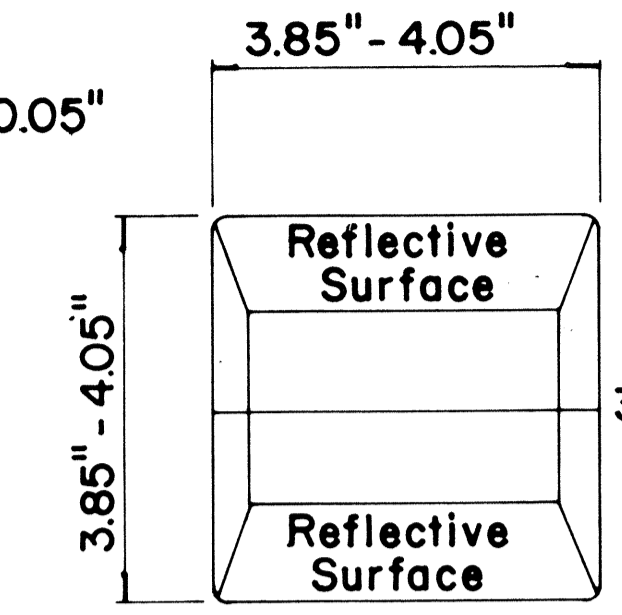
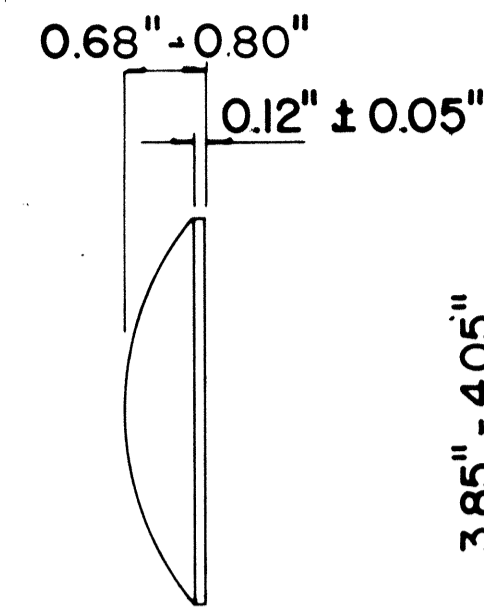
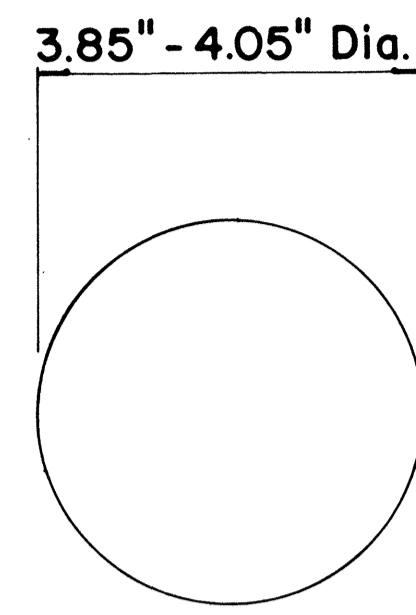


TWO - LANE

MULTI - LANE

DIVIDED HIGHWAY AND FREEWAY

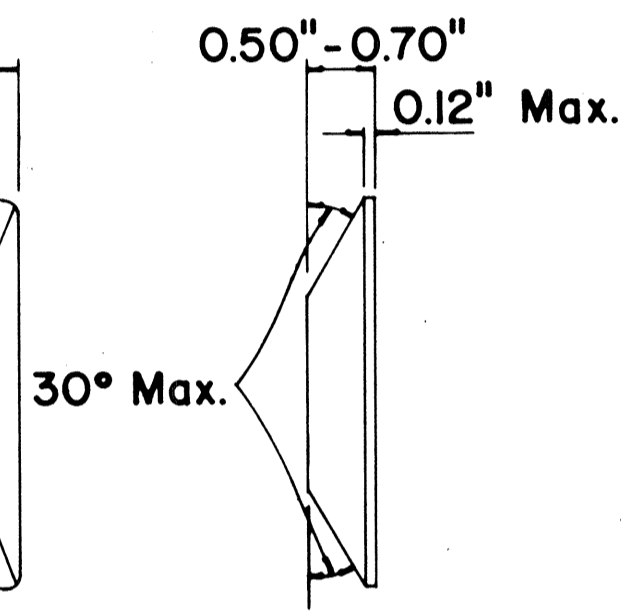
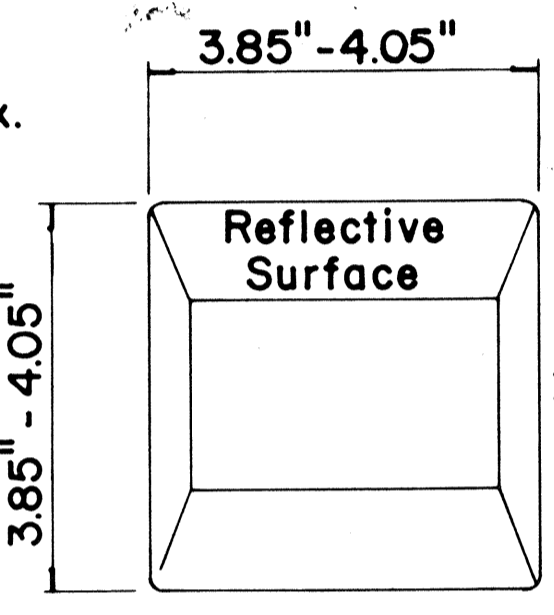
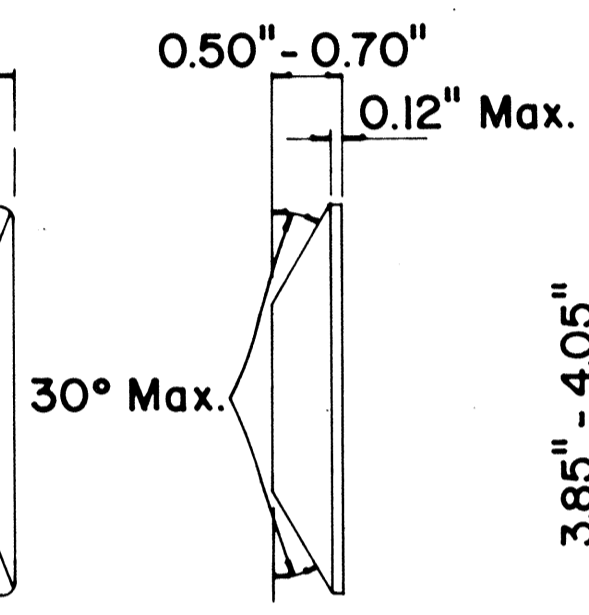
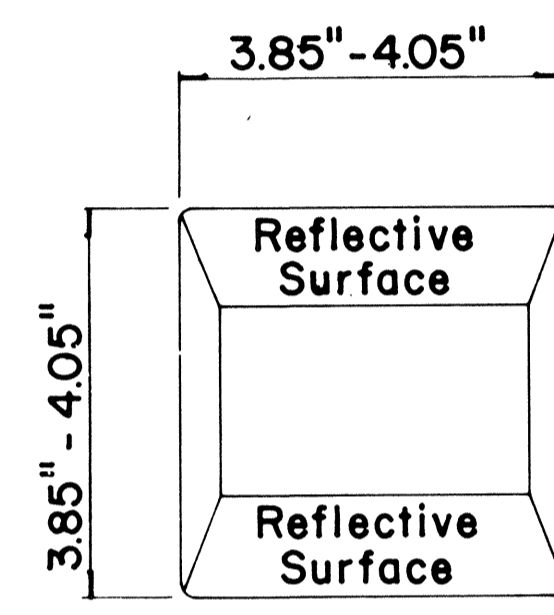
MISCELLANEOUS



**TYPE A**  
NON-REFLECTIVE WHITE MARKER

**TYPE C**  
RED-CLEAR REFLECTIVE MARKER

**TYPE J**  
NON-REFLECTIVE YELLOW MARKER



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

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

**GENERAL NOTES**

1. Pavement marking and striping shall conform to the latest "Manual on Uniform Traffic Control Devices for Streets and Highways," and as amended.
2. Layout and installation of pavement marking and striping shall be done by the Contractor. The Contractor shall check the layouts with the Engineer prior to performing work.

**LEGEND**

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

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 7/21/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Herbert J. Zalewski* 1/24/78  
ASSISTANT CHIEF, ENGINEERING DATE

No.	REVISION	APPROVED BY	DATE
1	Supercedes DT 300 approved 11/18/71.	H.T.	7/24/78
2	Delete Type A Markers from Bike Route Delineation.	H.T.	10/15/79

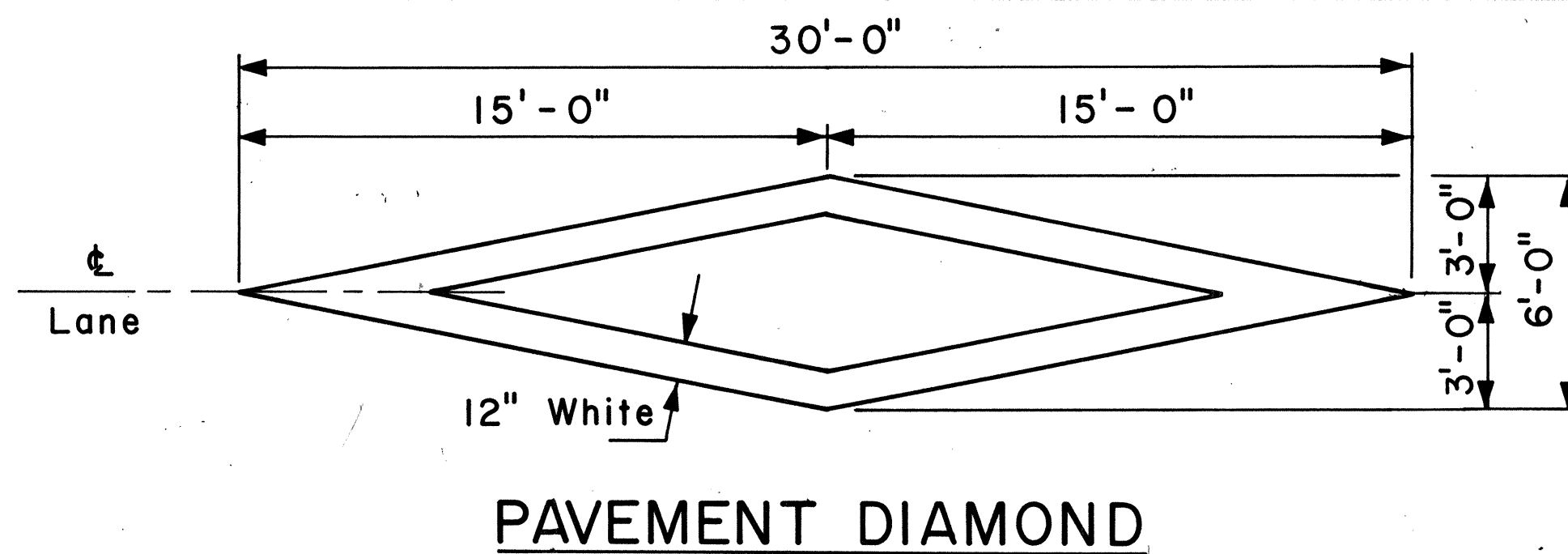
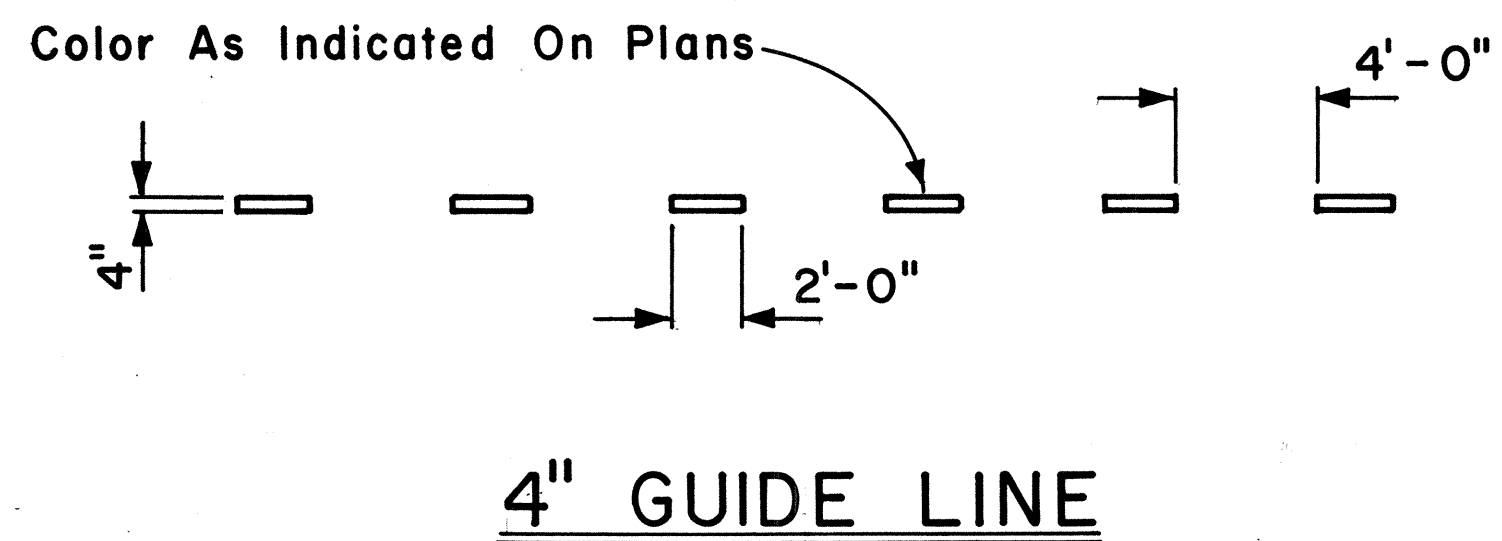
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**RAISED PAVEMENT MARKERS**  
**AND STRIPING**

Not to Scale July 1978  
SHEET No. 42 OF 46 SHEETS DT 300

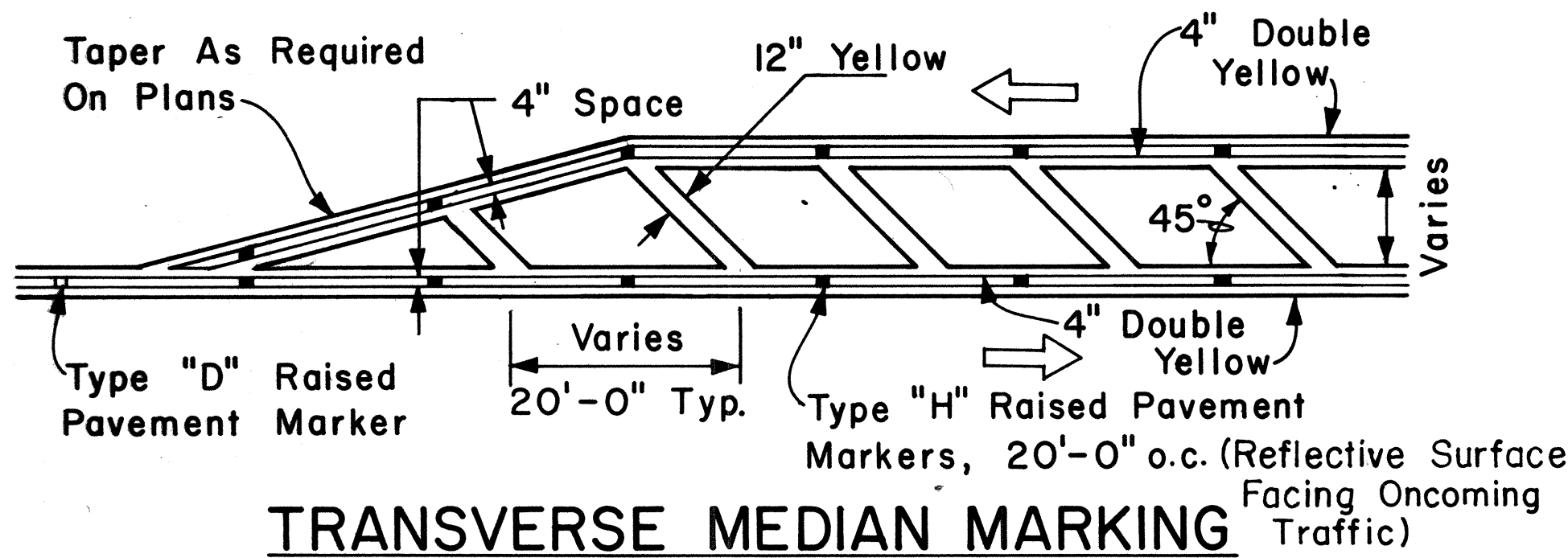
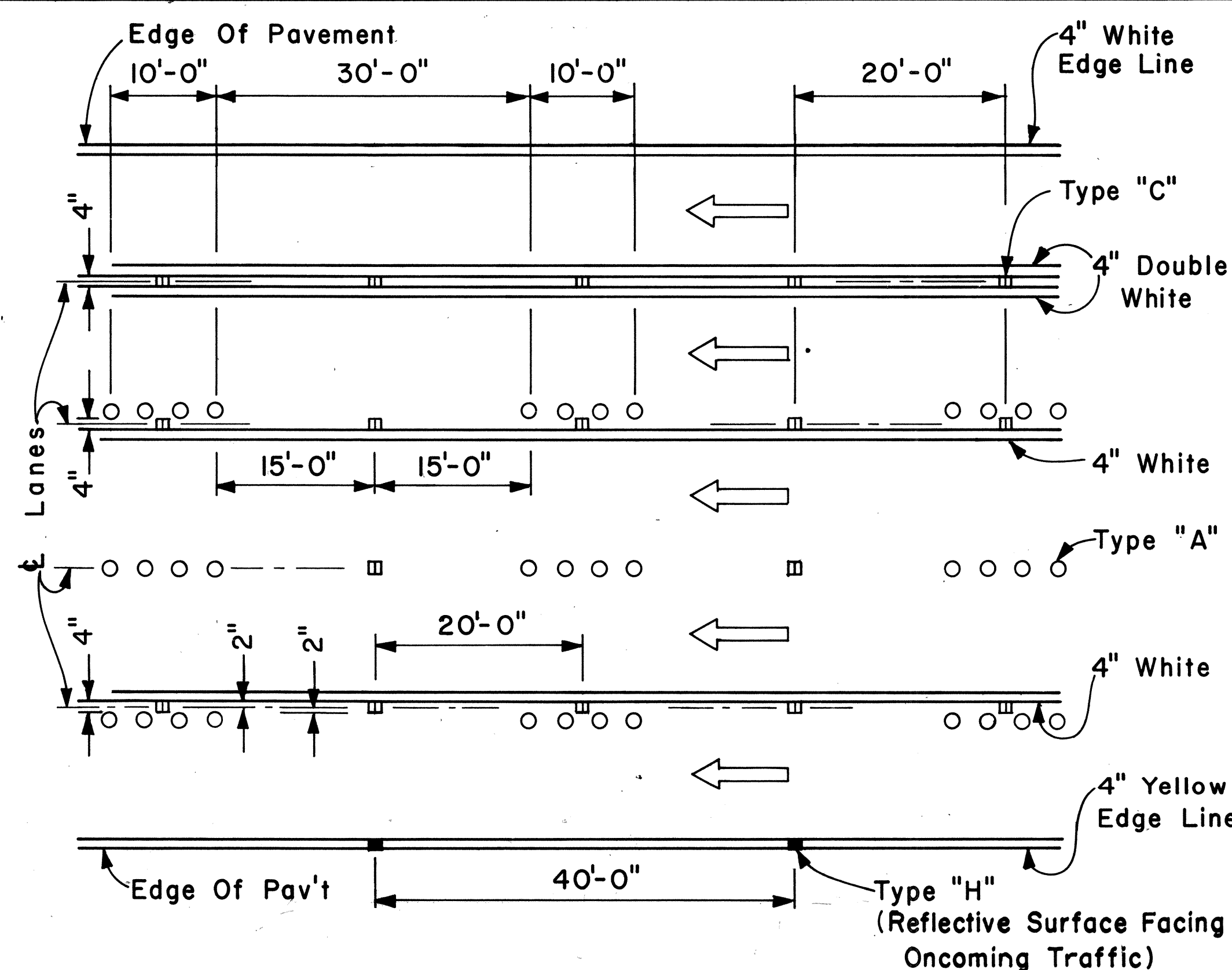
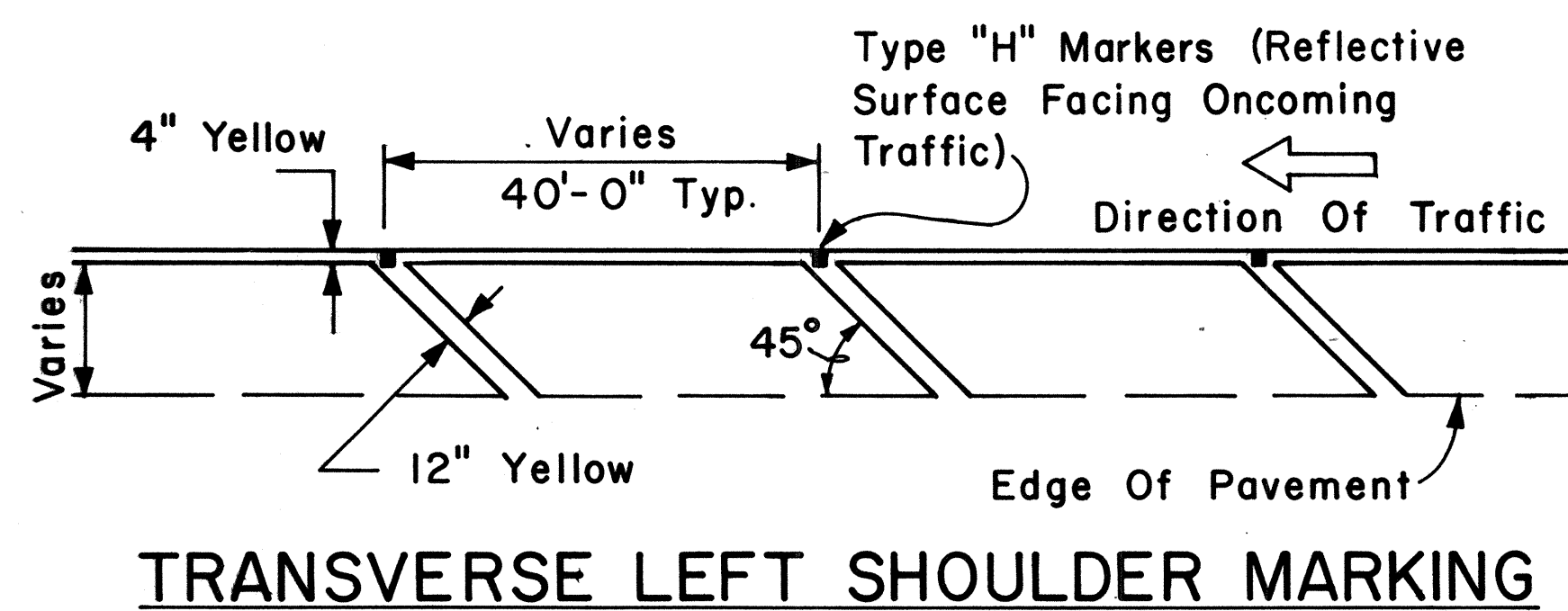
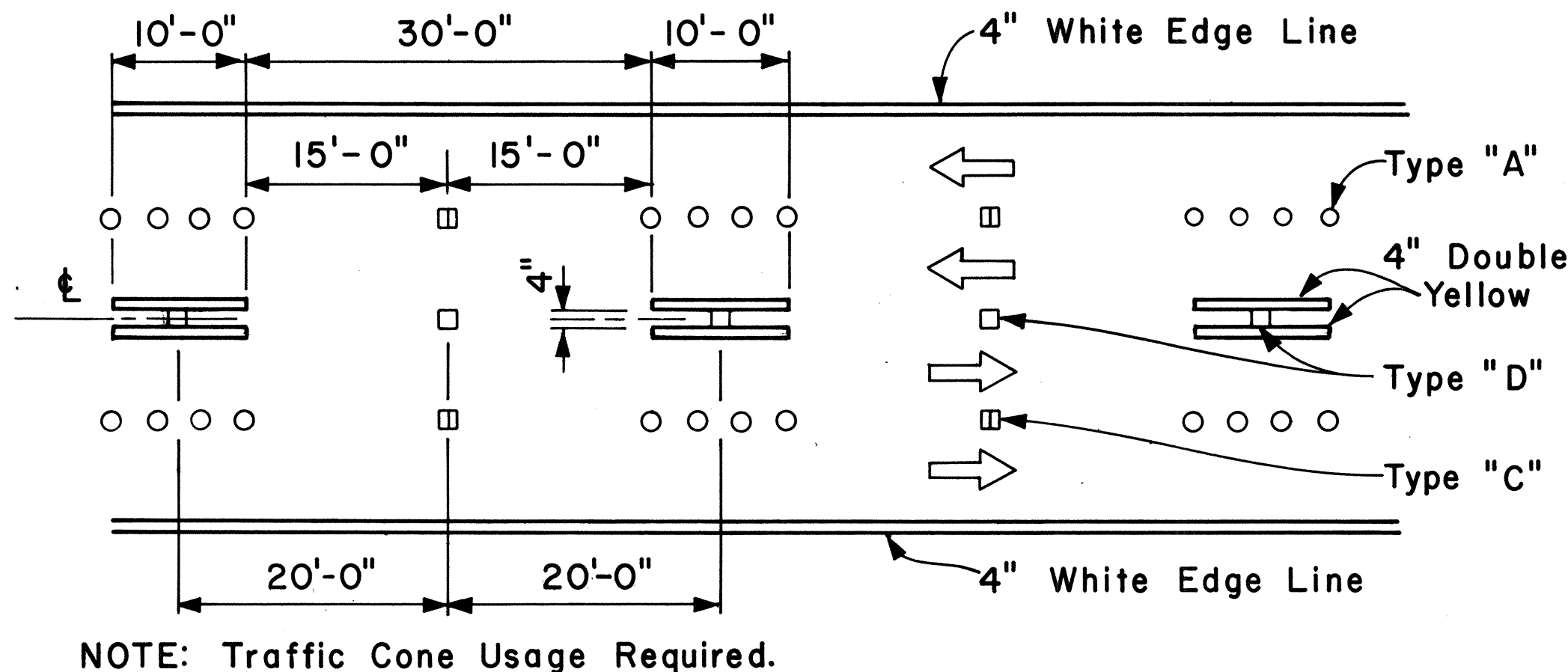
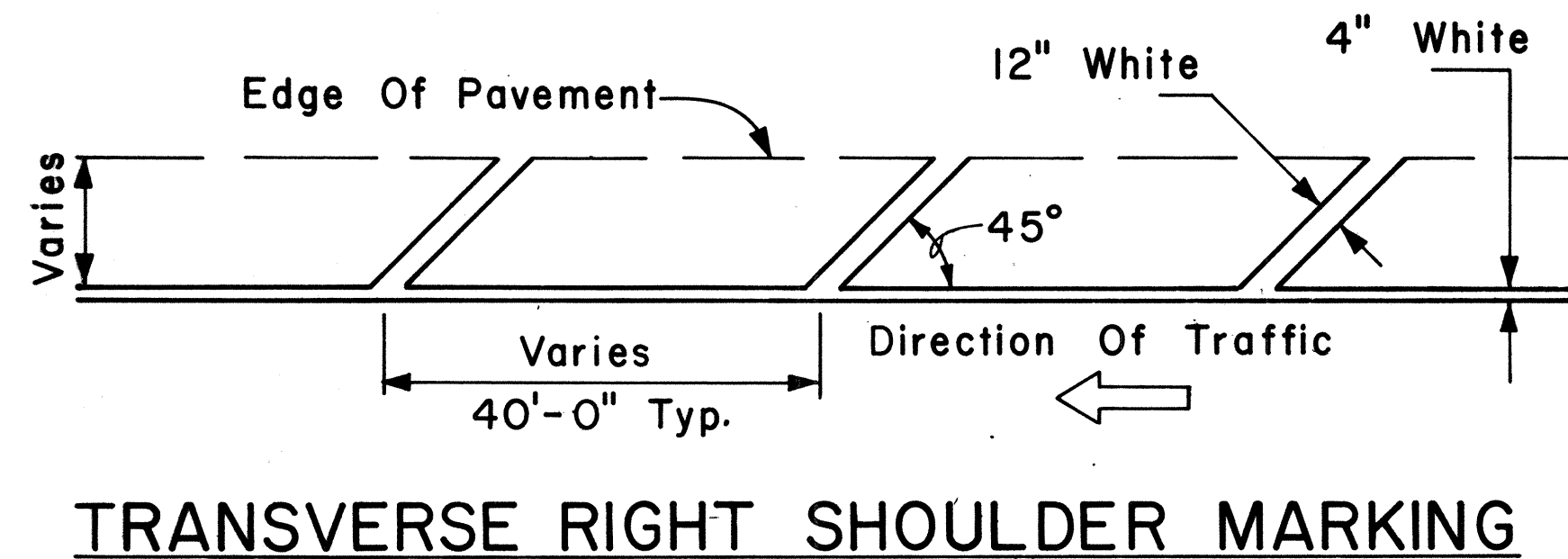
DATE \_\_\_\_\_  
SURVEY PLOTTED BY \_\_\_\_\_  
DRAWN BY \_\_\_\_\_  
TRACED BY \_\_\_\_\_  
NOTED BY \_\_\_\_\_  
CHECKED BY \_\_\_\_\_  
No. \_\_\_\_\_

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1RHH(184)	1984	84	114



**GENERAL NOTES:**

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



APPROVAL RECOMMENDED:  
*Eishi Tanaka* 5/2/78  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Harbor 2. Zaki* 5/3/78  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

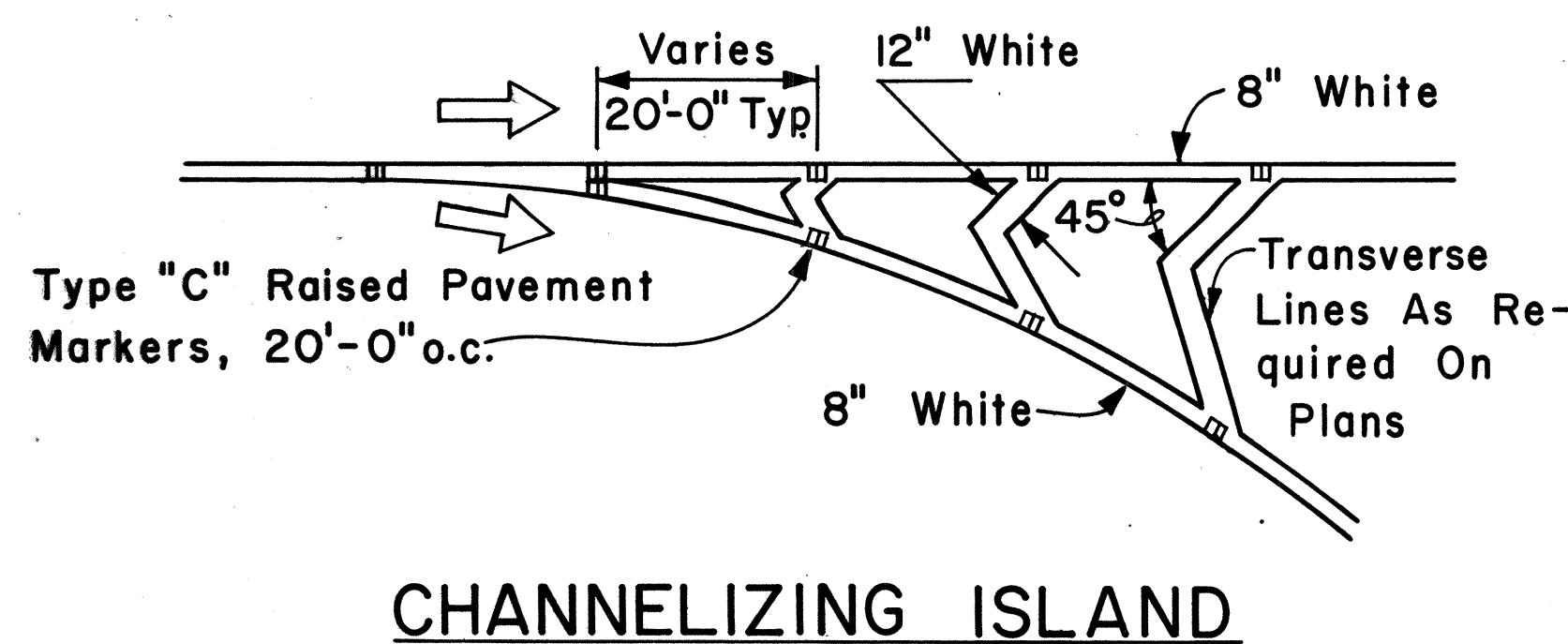
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**

MISCELLANEOUS  
 PAVEMENT MARKINGS

Scale: Not to Scale Date: April, 1978

SHEET No. 743 OF 46 SHEETS DT 302

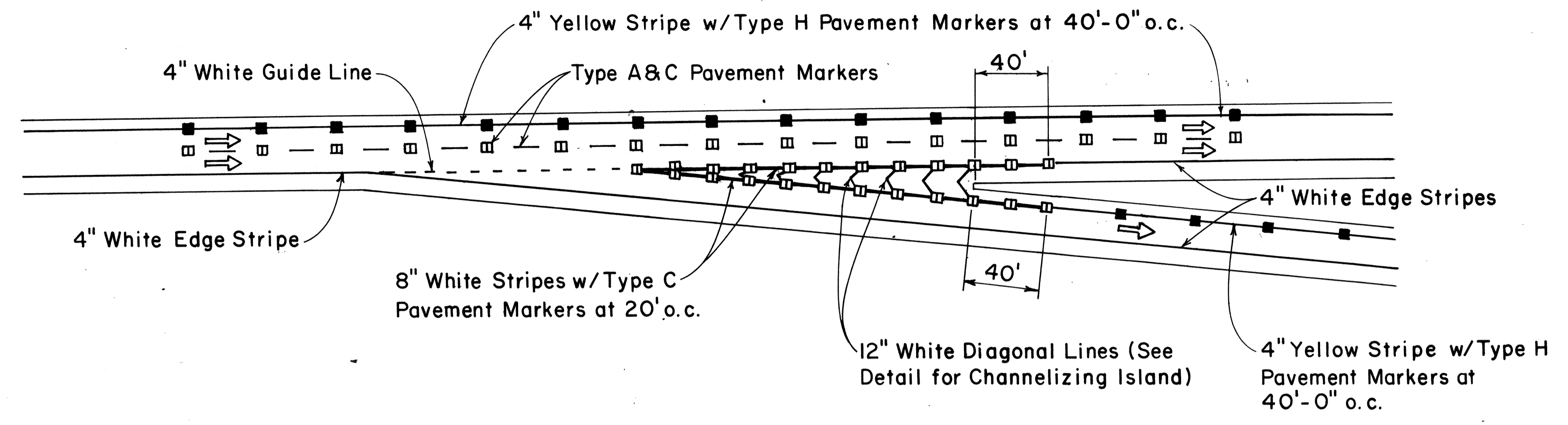


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1R-HI-1084	1984	85	114

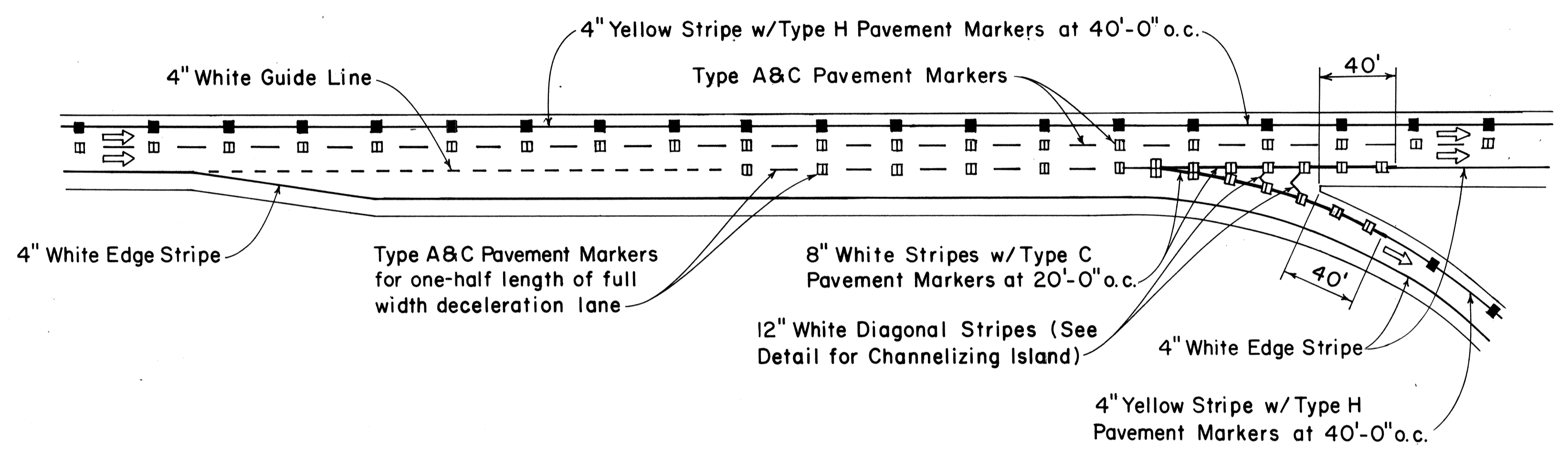
**GENERAL NOTES:**

1. Pavement Markings and Striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of Pavement Markings and Striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional details, see sheet DT 300.

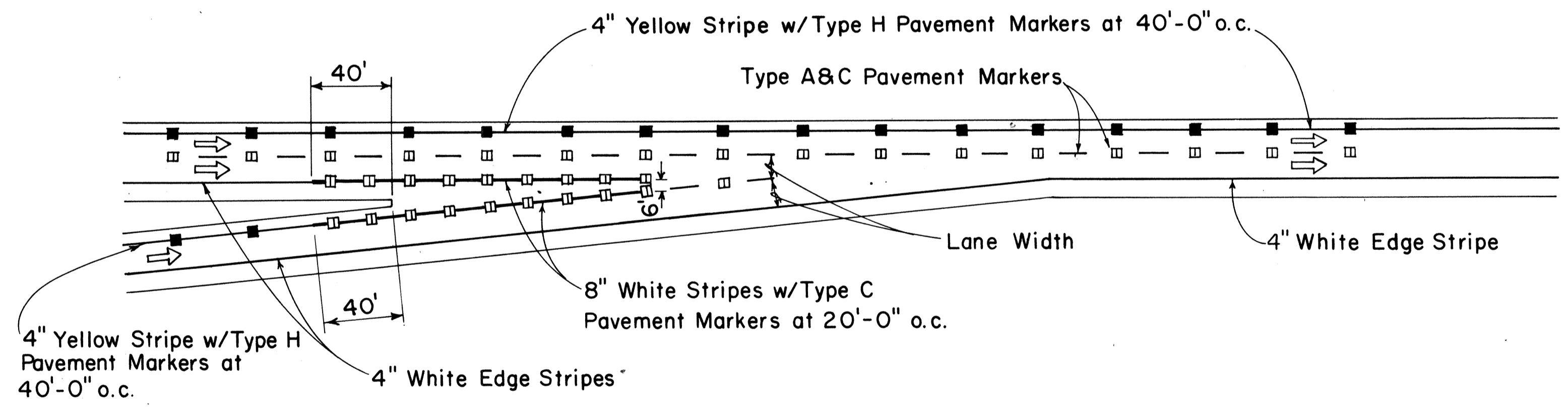
TAPERED DECELERATION LANE



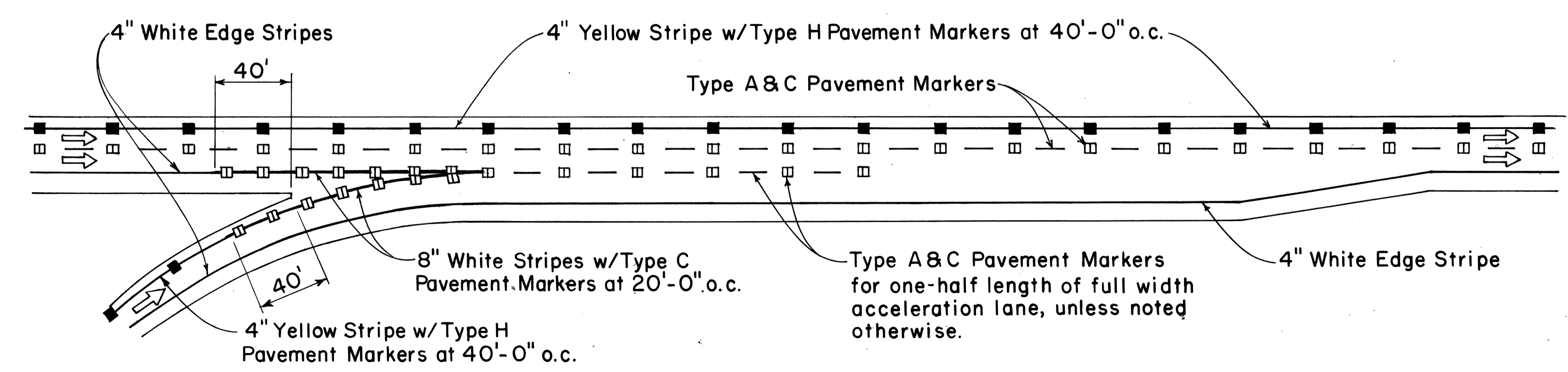
PARALLEL DECELERATION LANE



TAPERED ACCELERATION LANE



PARALLEL ACCELERATION LANE



TYPICAL ROADWAY EXIT MARKINGS

TYPICAL ROADWAY ENTRANCE MARKINGS

APPROVAL RECOMMENDED:  
*Eiichi Tanaka* 7/21/78  
 TRAFFIC ENGINEER DATE

APPROVED:  
*Robert S. Sakai* 7/24/78  
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

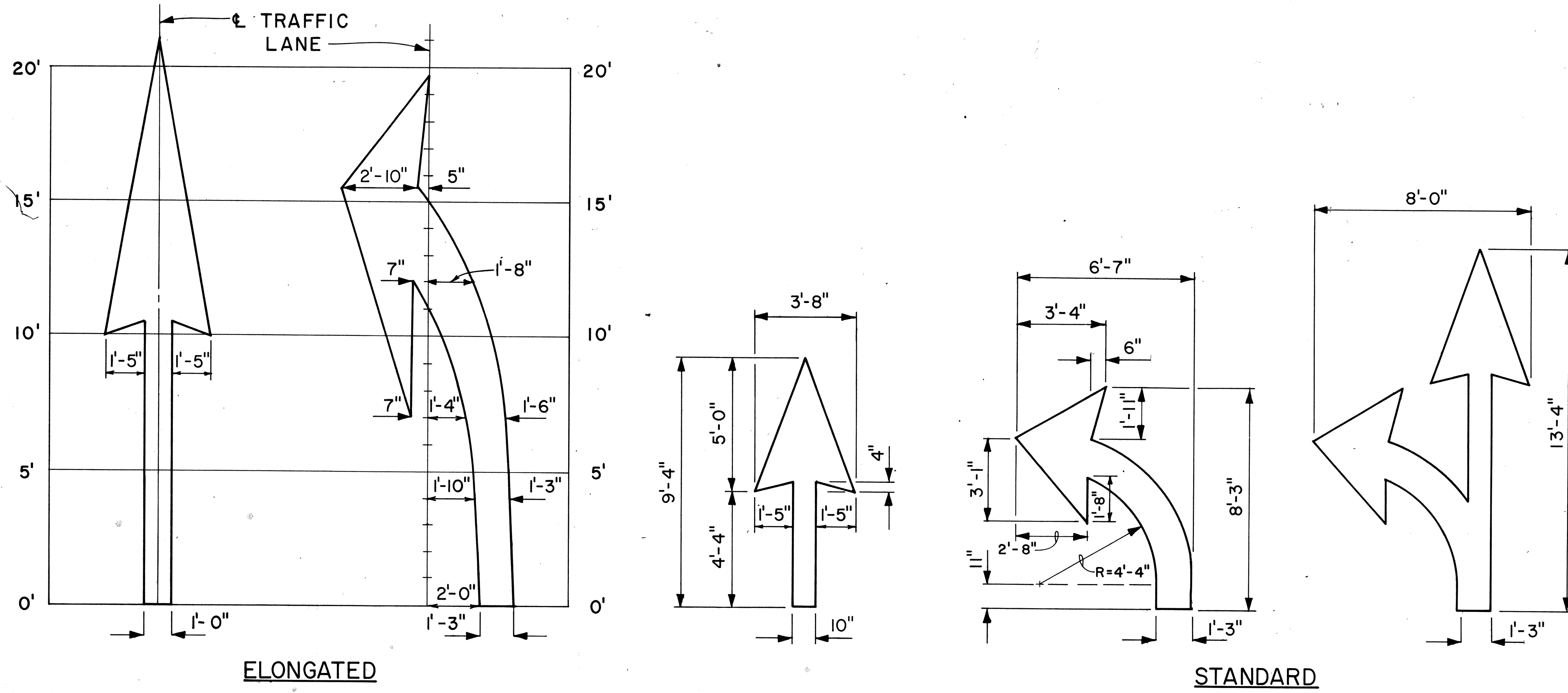
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**STANDARD DETAILS**  
**MISCELLANEOUS**  
**PAVEMENT MARKINGS**

Not to Scale July 1978  
 SHEET No. 44 OF 46 SHEETS DT 304

DATE: \_\_\_\_\_  
 SURVEY PLOTTED BY: \_\_\_\_\_  
 ORIGINAL PLAN DRAWN BY: \_\_\_\_\_  
 NOTE BOOK DESIGNED BY: \_\_\_\_\_  
 QUANTITIES BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_

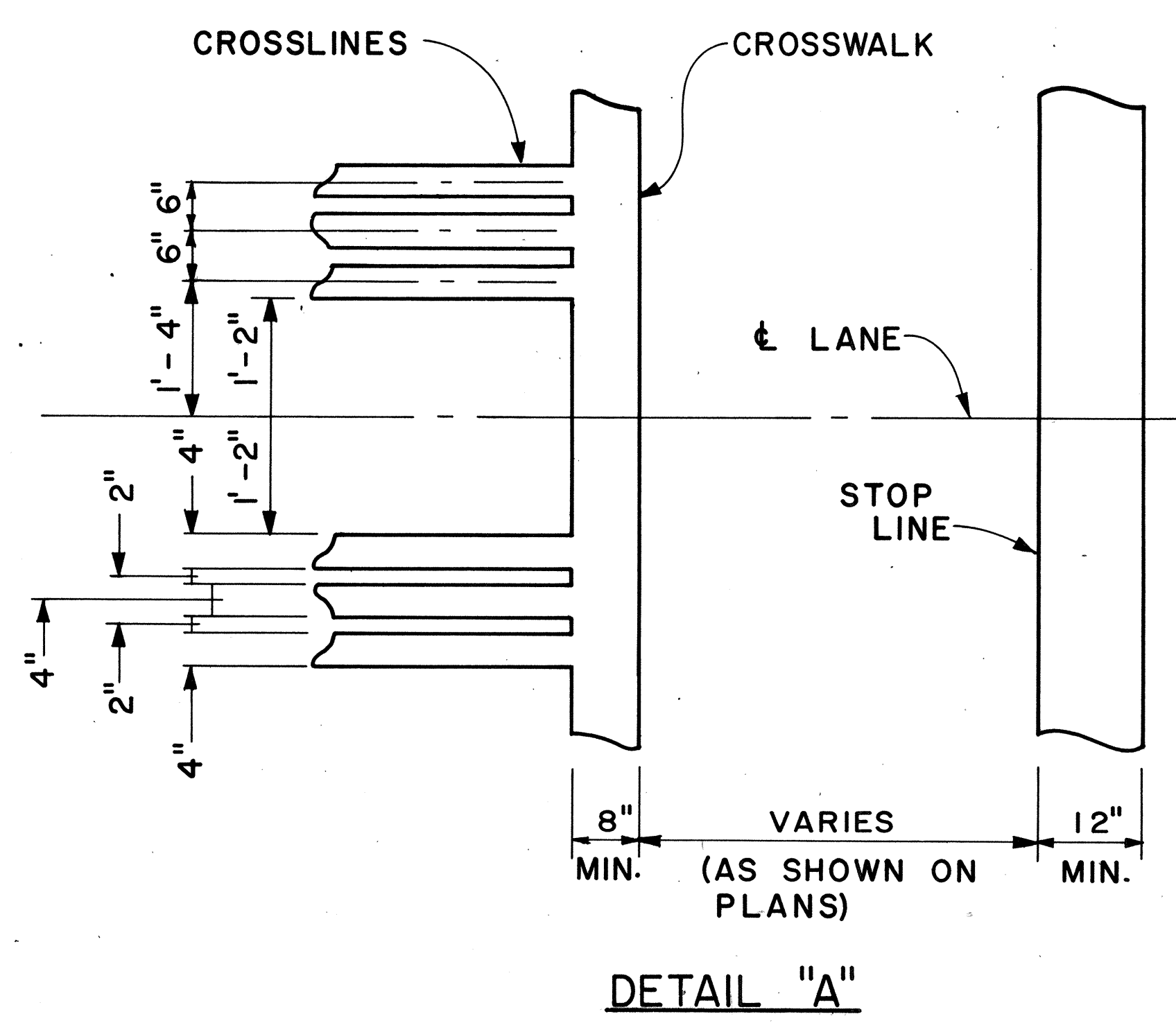
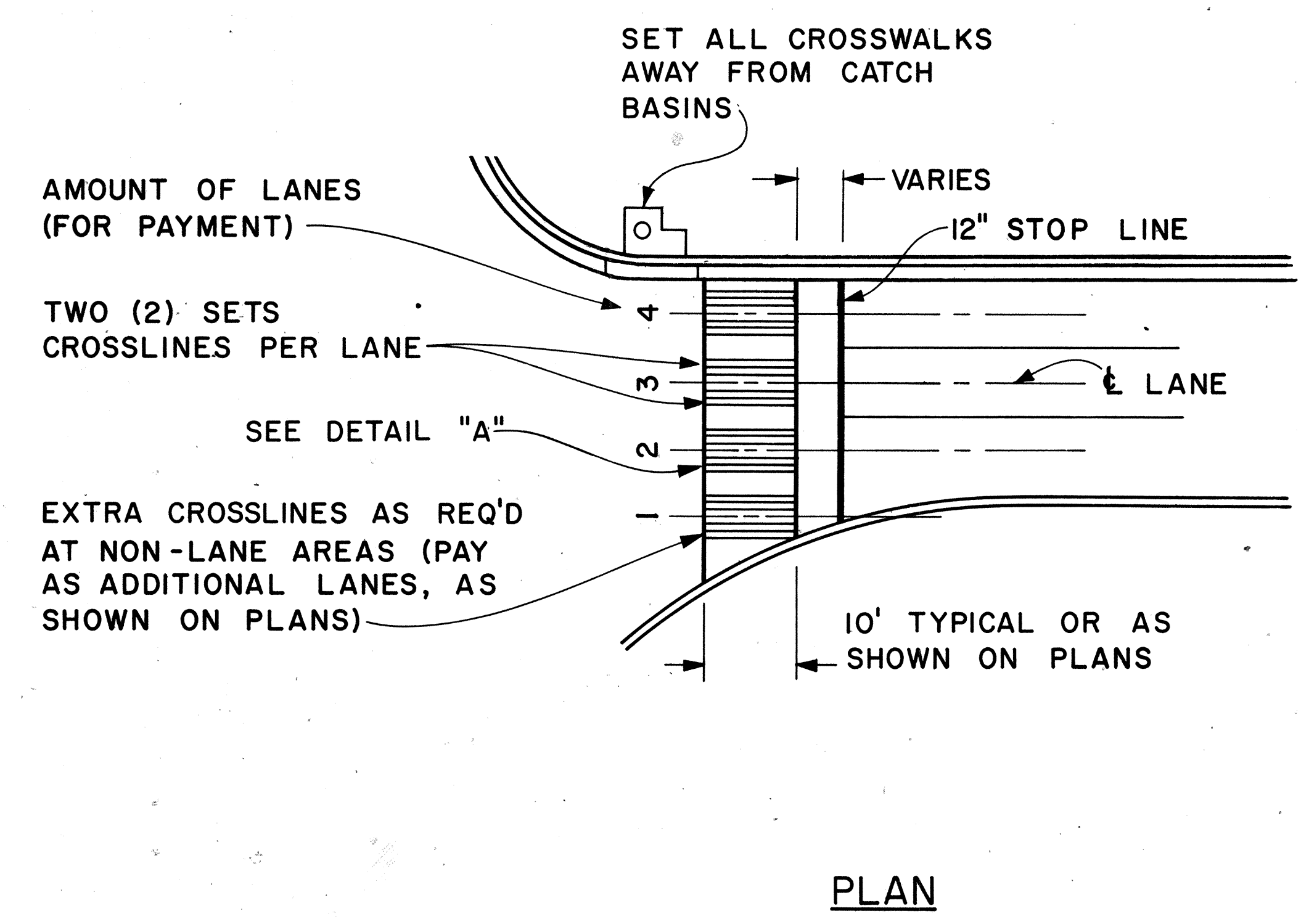
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1RHH-1(184)	1984	86	114



**PAVEMENT ARROWS**  
Scale: 3/8" = 1'

**GENERAL NOTES:**

1. Pavement marking and striping shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices for Streets and Highways," by the FHWA, and as amended.
2. Layout of pavement markings and striping shall be done by the Contractor. The Contractor shall check layout of markings and striping with the Engineer prior to performing work.
3. For additional pavement marking details, see sheet DT 300.



**CROSSWALK & STOP LINE**  
Scale: Not to Scale

APPROVAL RECOMMENDED:  
*Erich Tanaka* 5/2/78  
TRAFFIC ENGINEER DATE

APPROVED:  
*Harold S. Zalski* 5/2/78  
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

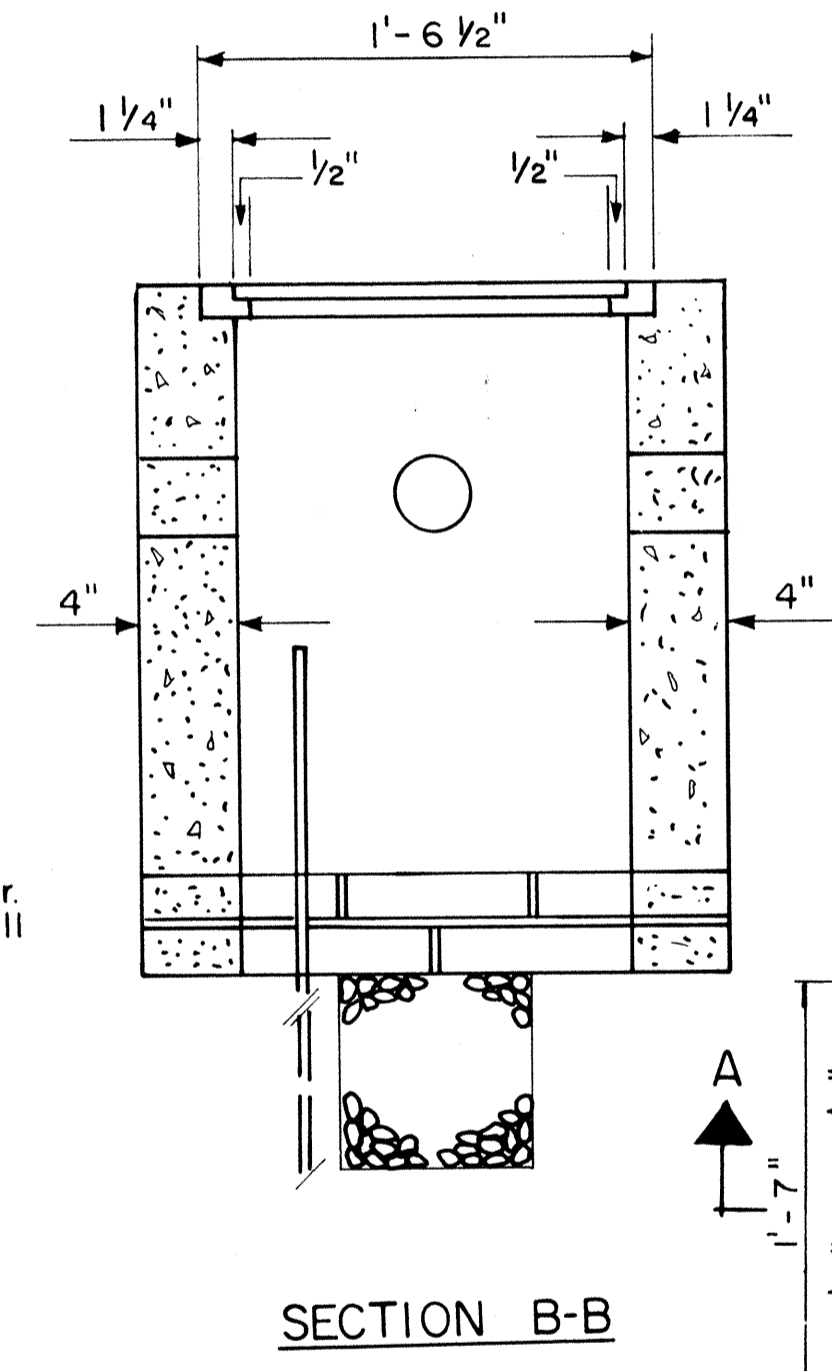
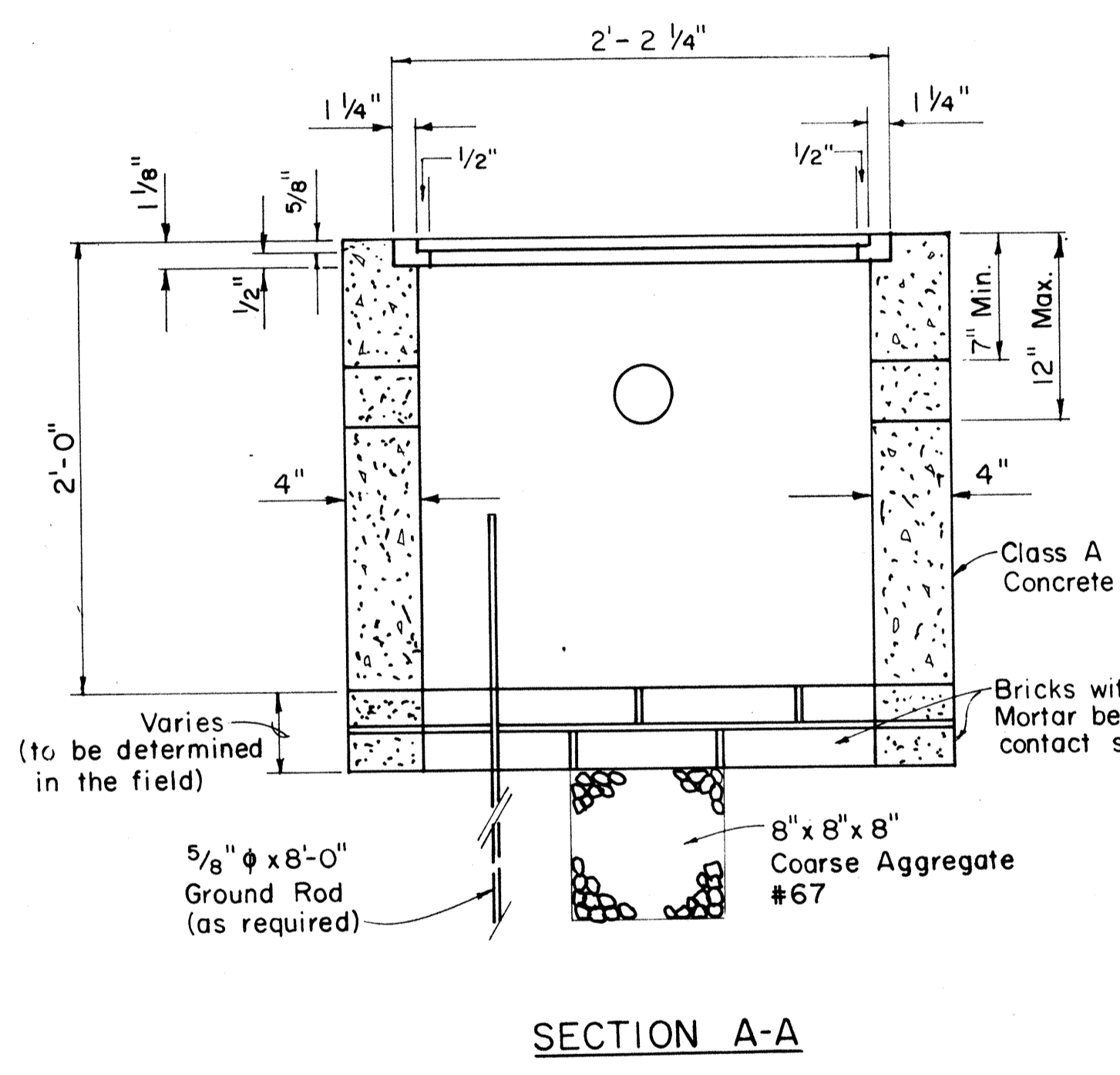
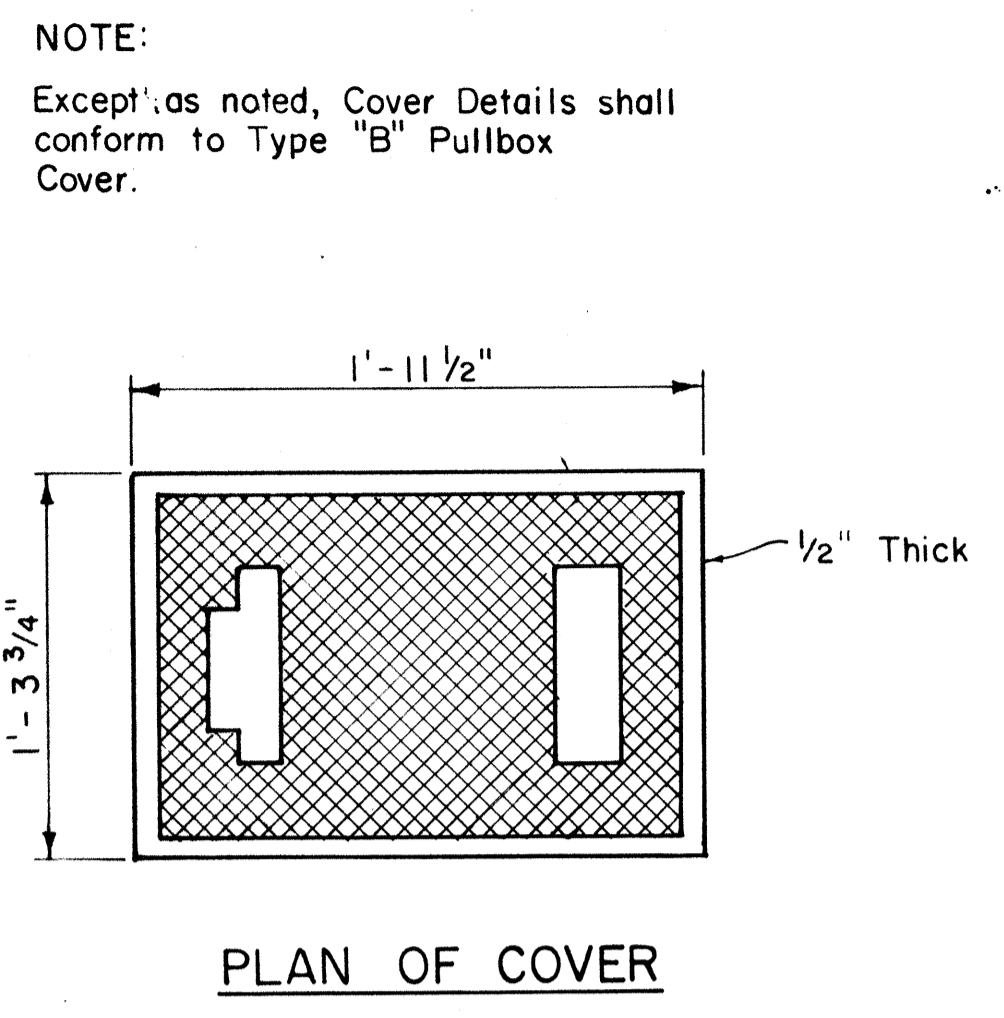
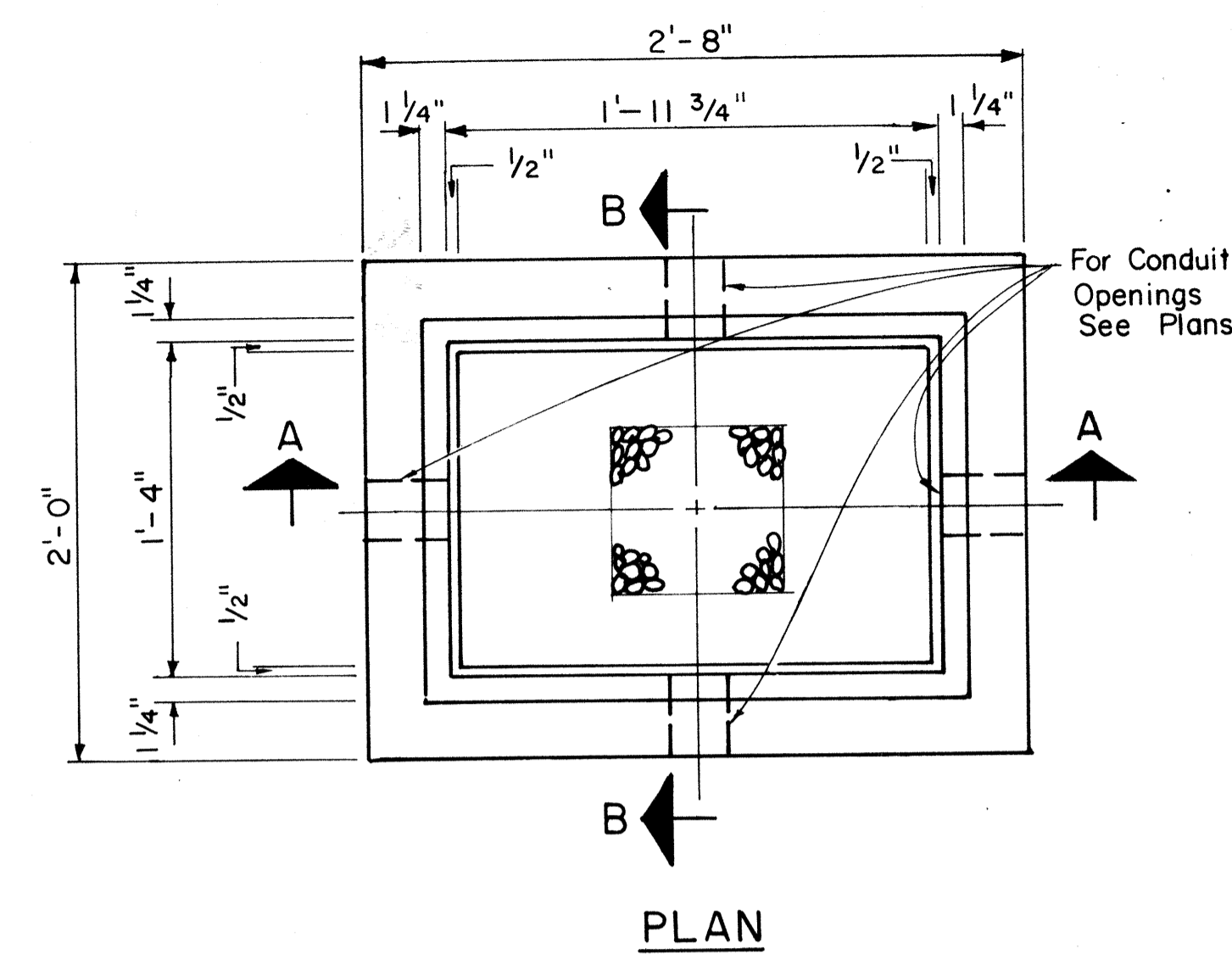
**STANDARD DETAILS**

MISCELLANEOUS  
PAVEMENT MARKINGS

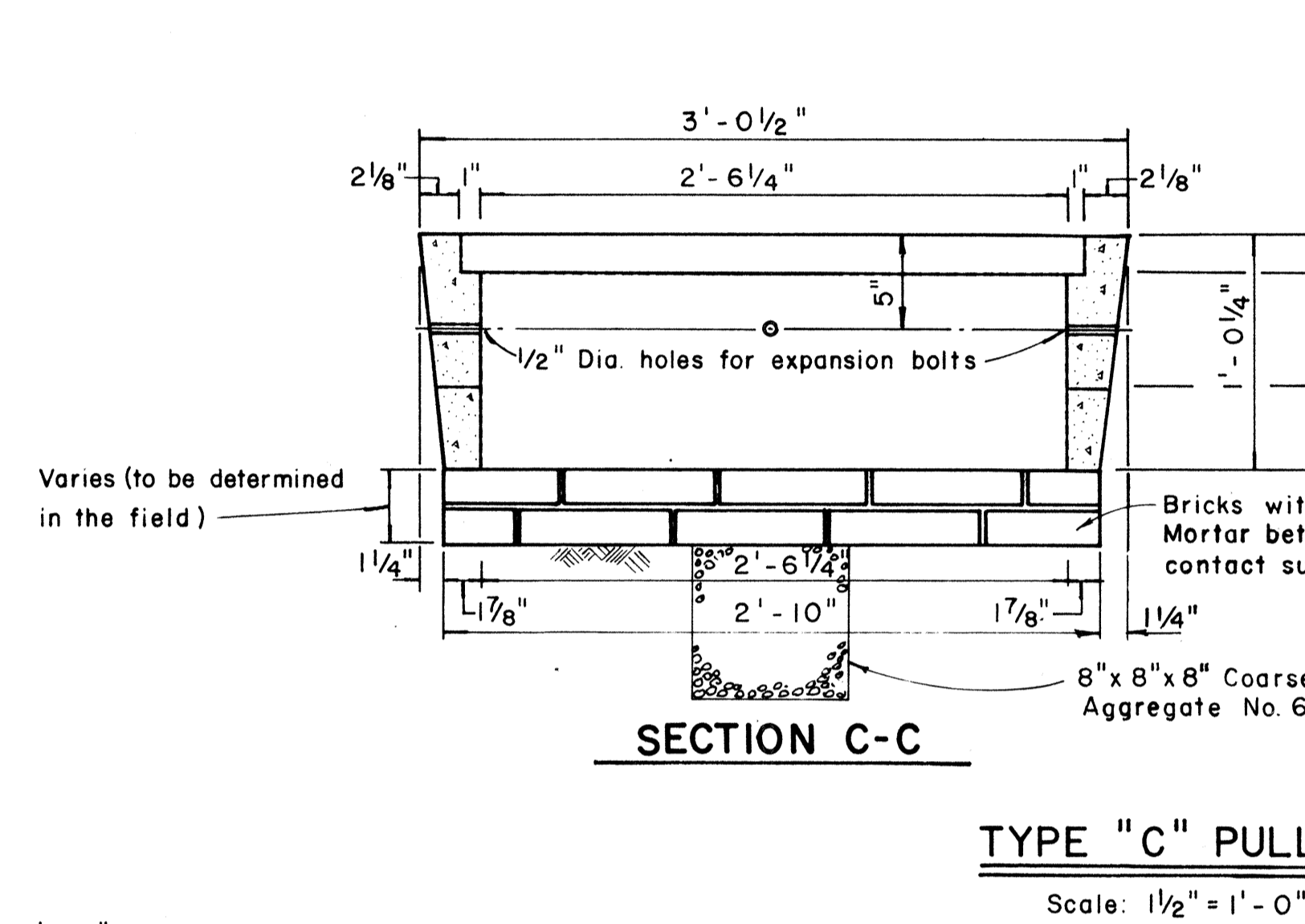
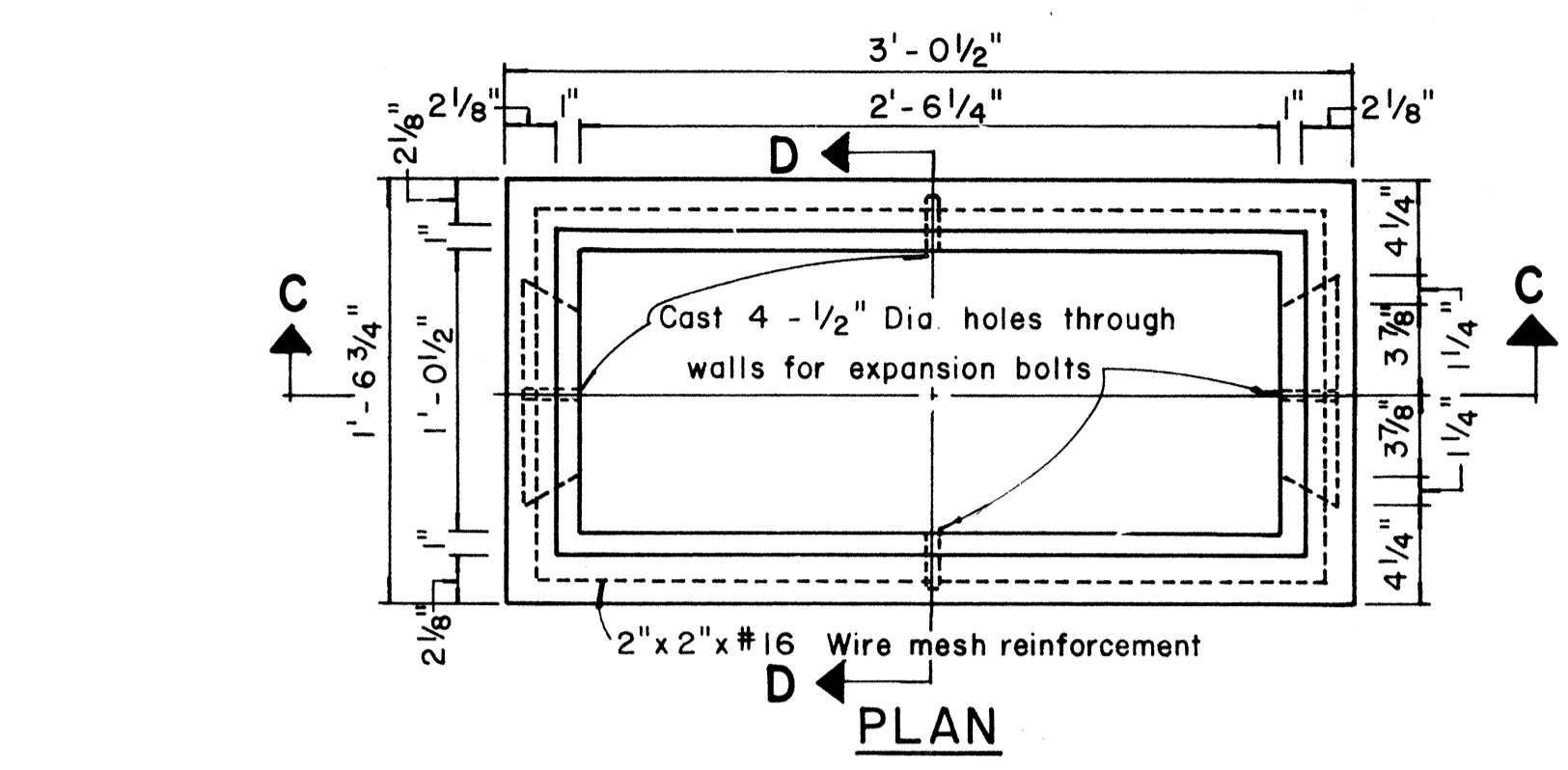
Scale: As Shown Date: March, 1978  
SHEET No. 745 OF 46 SHEETS DT 306

DATE: \_\_\_\_\_  
SURVEY PLOTTED BY: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_  
DESIGNED BY: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
ORIGINAL PLAN: \_\_\_\_\_  
NOTE BOOK: \_\_\_\_\_  
No. \_\_\_\_\_

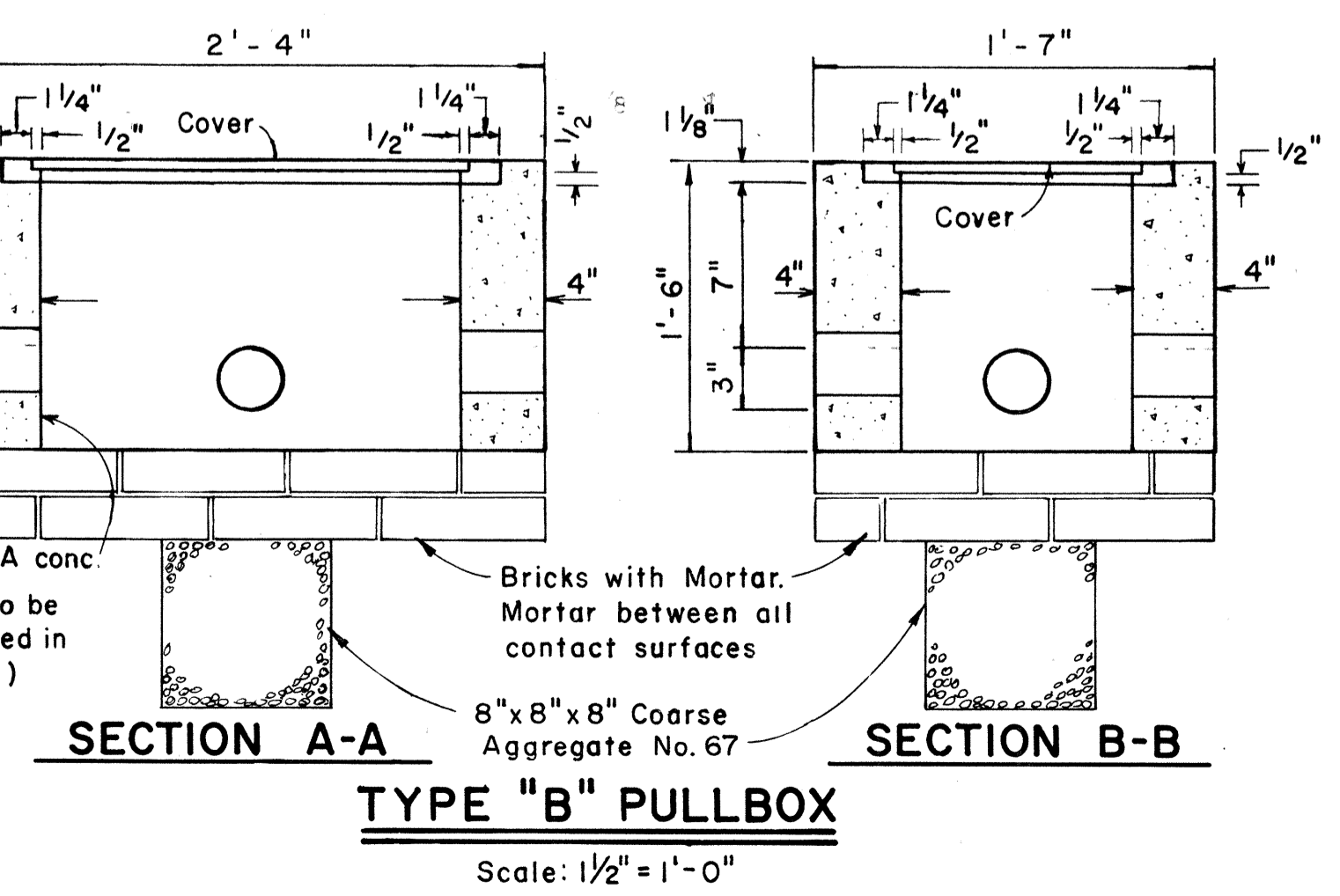
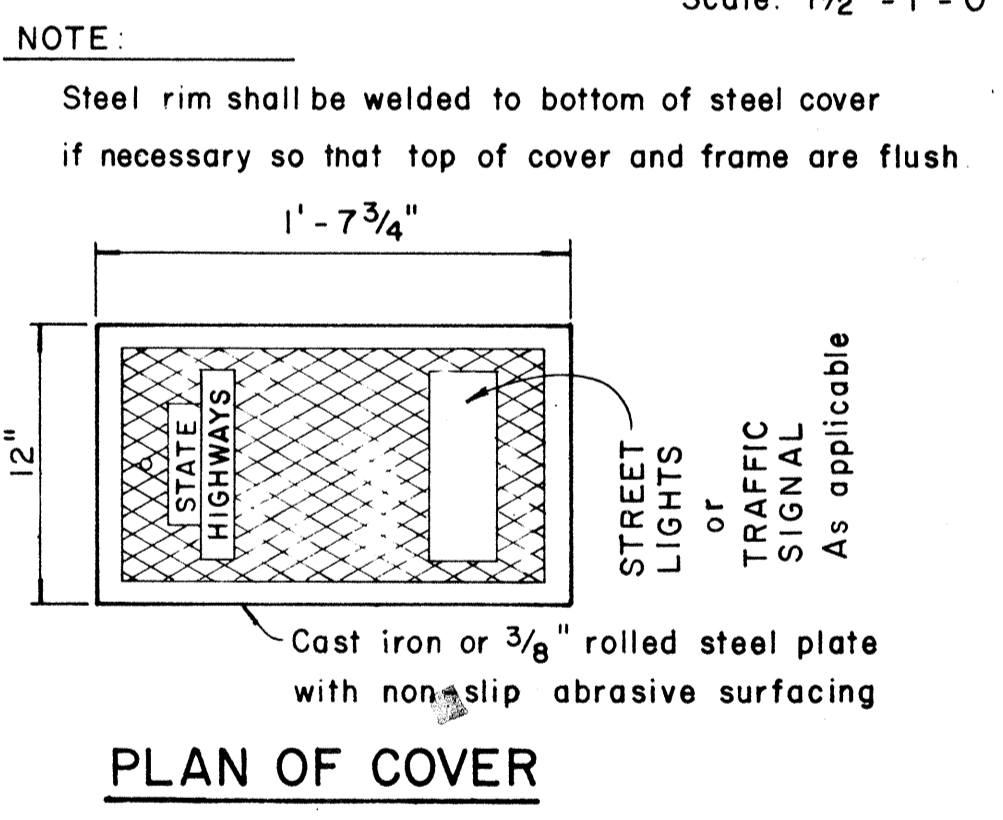
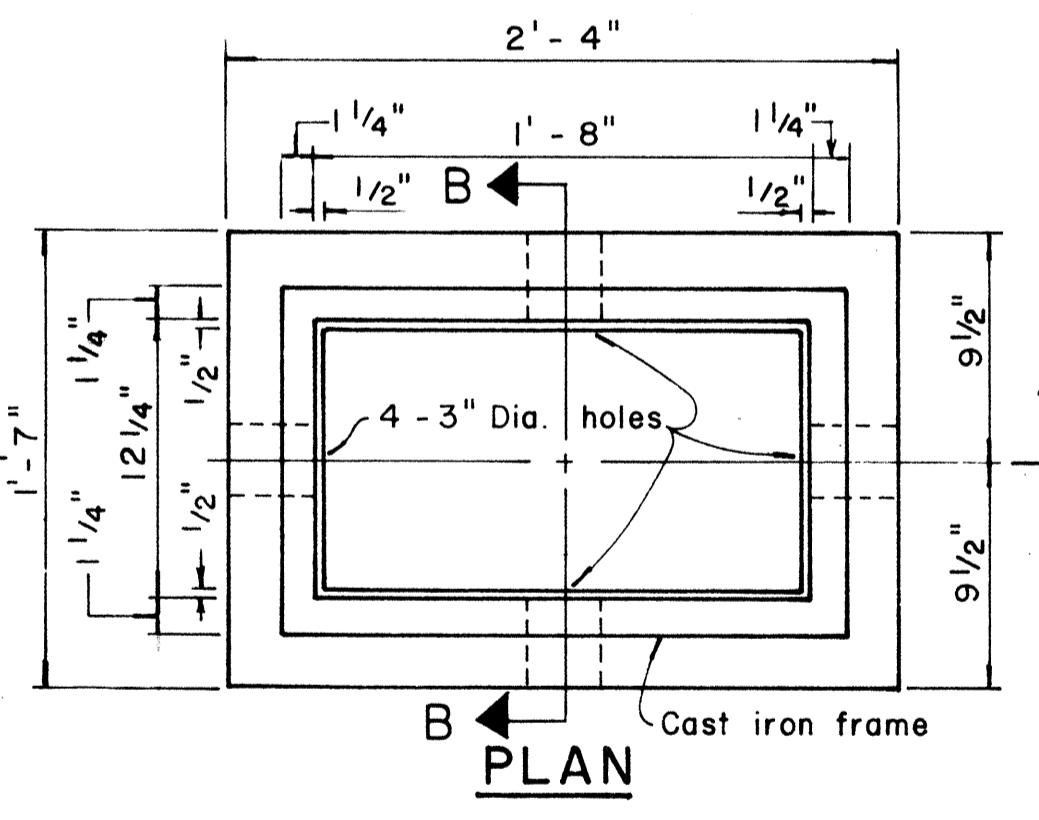
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-111(184)	1984	87	114



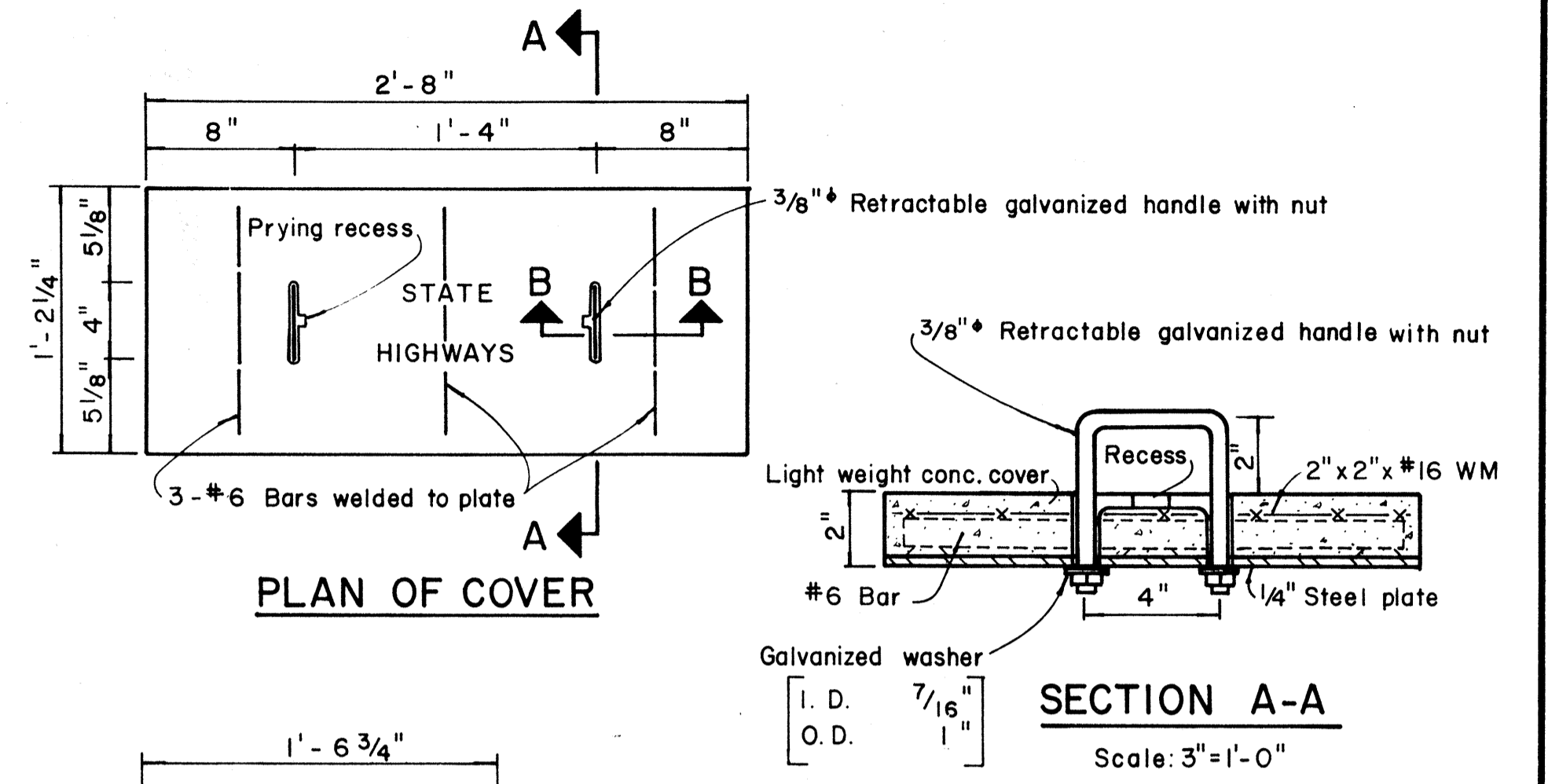
**TYPE "A" PULLBOX**  
Scale: 1/2" = 1'-0"



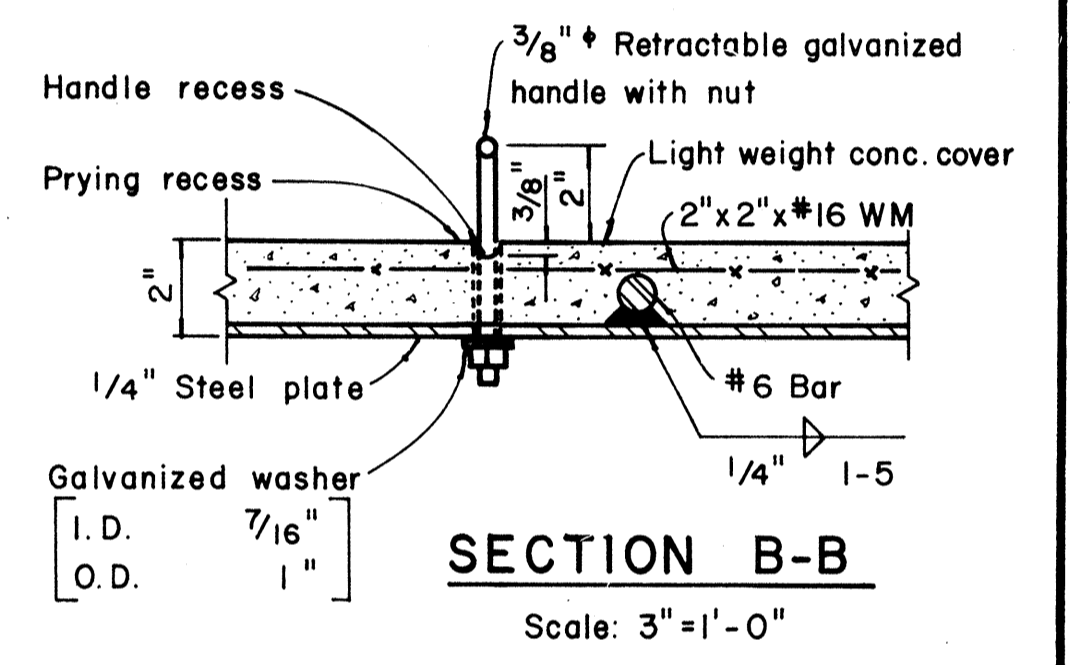
**TYPE "C" PULLBOX**  
Scale: 1/2" = 1'-0"



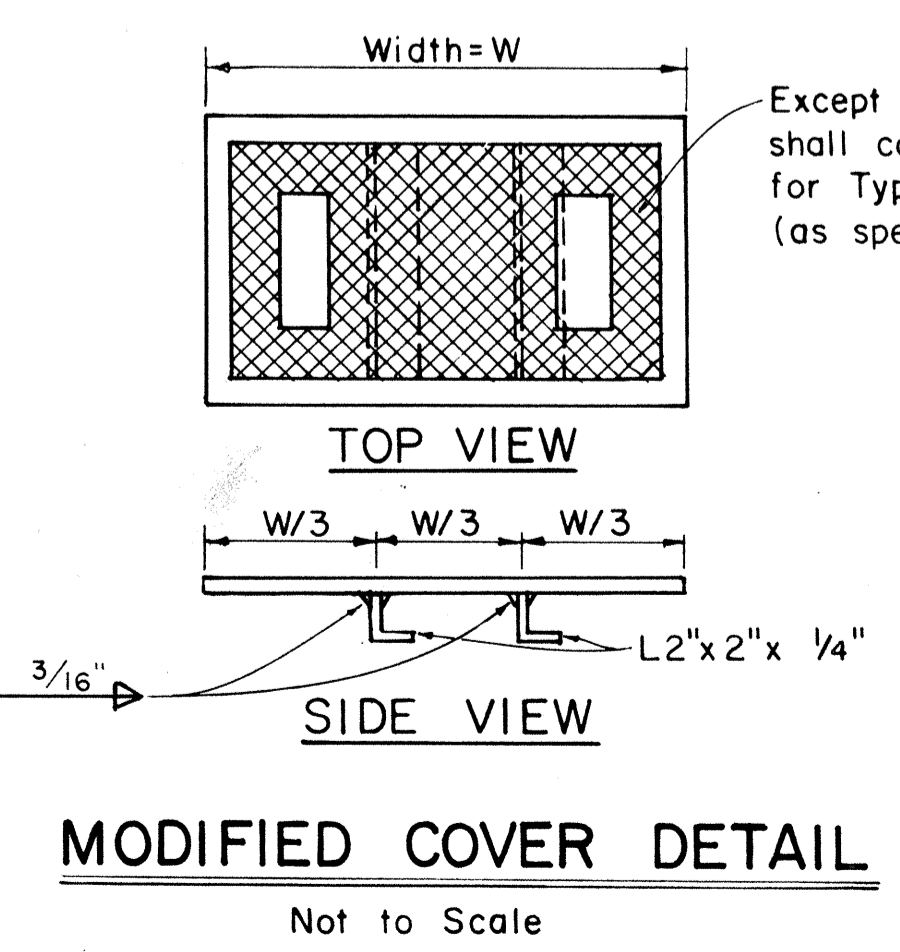
**TYPE "B" PULLBOX**  
Scale: 1/2" = 1'-0"



**SECTION A-A**  
Scale: 3" = 1'-0"



**SECTION B-B**  
Scale: 3" = 1'-0"



**MODIFIED COVER DETAIL**  
Not to Scale

NO.	REVISION	APPROVED BY	DATE
1	Revised Type B & C Pullbox details	H.T.	3-5-76
2	Revised Type "A" Pullbox & Added Modified Cover.	H.T.	1-31-80
3	Revised Type B & C Pullbox details.	H.T.	2-1-83

APPROVAL RECOMMENDED:  
*[Signature]* 12/29/62  
TRAFFIC ENGINEER DATE

APPROVED:  
*[Signature]* 12-20-69  
ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**STANDARD DETAILS**  
**PULLBOXES**

Scale as noted Date

SHEET No. T46 OF 46 SHEETS DT 401

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