

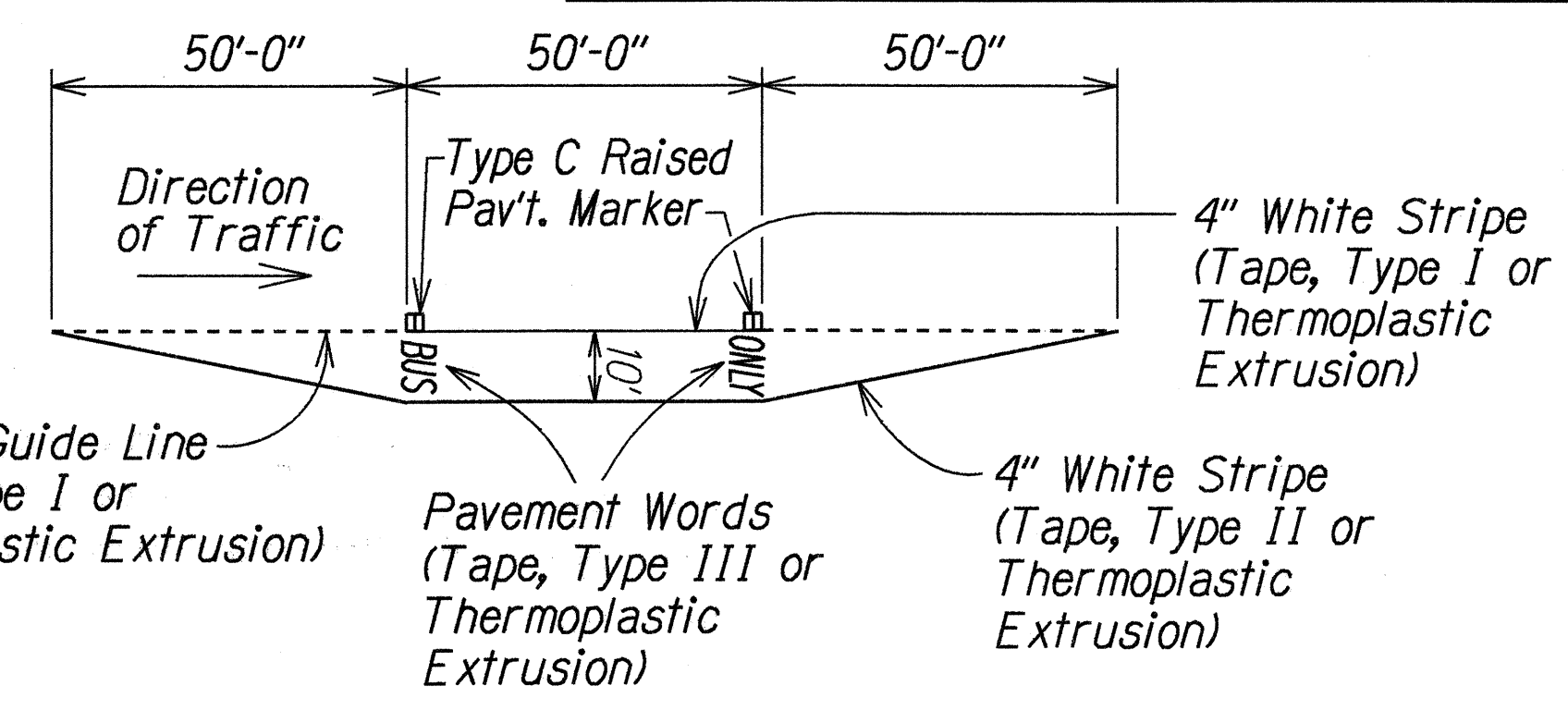
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	32	64

PAVEMENT MARKING LEGEND

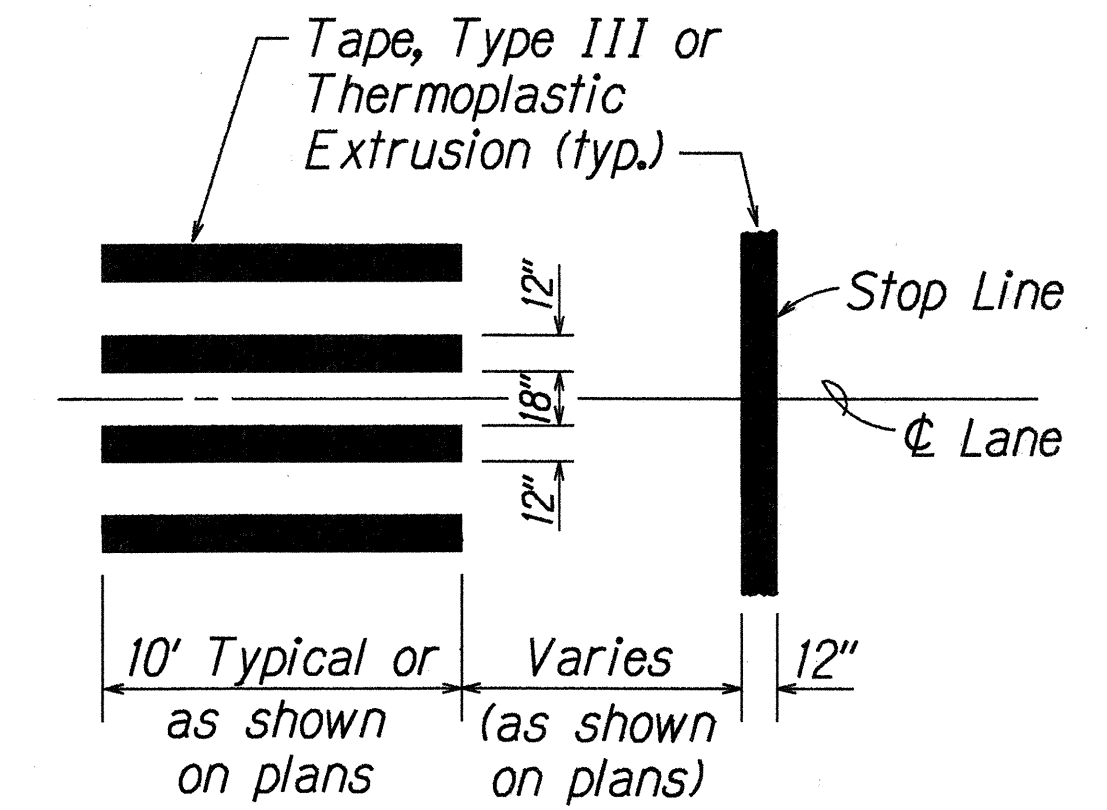
- 4 each Type A Raised Pavement Markers
Type C Raised Pavement Markers @ 40'-0" o.c.
- 4 each Type J Raised Pavement Markers
Type D Raised Pavement Markers @ 40'-0" o.c.
- 8" White Stripe with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow with Type D Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- 4" Double Solid Yellow Stripes with Type H Raised Pavement Markers @ 20'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" Yellow Edge Stripe with Type H Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" Double Solid White Stripes with Type C Raised Pavement Markers @ 20'-0" o.c. (Tape, Type I or Thermoplastic Extrusion)
- Lane Change Restriction Marking
4 each Type A Raised Pavement Markers
Type C Raised Pavement Markers @ 20'-0" o.c.
4" White Stripe (Tape, Type I or Thermoplastic Extrusion)
- 4" or 8" White Edge Stripe with Type C Raised Pavement Markers @ 40'-0" o.c. (Tape, Type II or Thermoplastic Extrusion)
- 4" White Guide Lines (Tape, Type III or Thermoplastic Extrusion except for bus bays)
- Transverse Median Marking (Tape, Type II or Thermoplastic Extrusion)
- Transverse Shoulder Marking (Tape, Type II or Thermoplastic Extrusion)
- Channelizing Island or Deceleration Lane Gore (Tape, Type II or Thermoplastic Extrusion)
- Crosswalk and Stop Line. All Stop Lines shall be 10'-0" from Crosswalk unless otherwise noted. The circled number indicates the number of lanes for payment (Tape, Type III or Thermoplastic Extrusion)
- Pavement Arrow (Tape, Type III or Thermoplastic Extrusion)
- Pavement Word (Tape, Type III or Thermoplastic Extrusion)
- 4 Each Type J Raised Pavement Markers
Type D Raised Pavement Markers @ 40'-0" o.c.
Type H Raised Pavement Markers (Reflective Surface facing no-passing direction)
4" Single Solid Yellow Stripe (Tape, Type I or Thermoplastic Extrusion)
- Extension of Edge Line, 4" Wide x 2'-0" Long White Stripe @ 10'-0" o.c. w/Type C Markers @ 40'-0" o.c. (Tape, Type III or Thermoplastic Extrusion)

NOTES

1. Layout of pavement markings and striping shall be done by the Contractor and approved by the Engineer prior to any installation work.
2. Existing pavement markings and striping not incorporated in the final traffic pattern shall be removed as directed by the Engineer. The removal of the existing pavement markings shall not be paid for separately but shall be considered incidental to the various pavement marking items.
3. Raised pavement markers shall not be installed within crosswalks.
4. Final locations of all signs shall be approved by the Engineer prior to any installation work.
5. Existing signs not shown on these plans shall remain as posted unless otherwise directed by the Engineer. Removal and disposal of existing signs and/or posts as designated on these plans or directed by the Engineer shall not be paid for and shall be considered incidental to the various signing items.
6. Final locations of all Stop Lines shall be approved by the Engineer prior to installation.
7. All pavement striping shall be as noted on the Legend or plans.
8. All preformed pavement marking tapes over existing pavement shall be applied with an approved primer as recommended by the tape manufacturer and as approved by the Engineer. The primer shall be allowed to dry to the tacky stage prior to tape application.
9. Removal of Existing Delineators and Posts as directed by the Engineer shall be considered incidental to the various signing items.
10. Existing signs that are to be replaced shall not be removed until new signs are installed as replacements, or the messages are no longer necessary.
11. Backing for all new regulatory and warning signs shall not be spliced.
12. All sign panels shall conform to Section 621 of Special Provisions and the latest editions and amendments of the following FHWA publications:
 - a. "Manual on Uniform Traffic Control Devices for Street and Highways" (MUTCD)
 - b. "Standard Highway Signs"
 - c. "Standard Alphabets for Highway Signs"
13. All new and relocated signs and markers installed on pipe post or light standard are to be mounted with band brackets and steel braces.
14. The Contractor shall erect at the beginning of the project and at the end of the project advance construction warning signs as indicated on the plans or as directed by the Engineer for the duration of the highway project and shall be maintained by the Contractor. These signs shall be placed in addition to the required traffic control signs called for in Section 645-Traffic Control. The advance construction warning signs shall be new and become the property of the State. The Contractor shall remove, clean, and deliver the signs and posts to the Oahu District Baseyard or as directed by the Engineer at the end of the project.
15. The Contractor shall notify the Oahu Transit Services Inc. (OTS), Ed Sniffen, at 848-4571 or Lowell Tom at 848-4578 two weeks prior to beginning any work, informing them of location, scope of work, proposed closure of any street or traffic lanes, and the need to relocate any bus stop.
16. The Contractor shall install new Type II Object Marker on all utility poles that are within the State Highway Right-of-Way as directed by the Engineer. (32 Each)



TYPICAL BUS BAY STRIPING
Not to Scale



CROSSWALK STRIPING DETAIL
Not to Scale

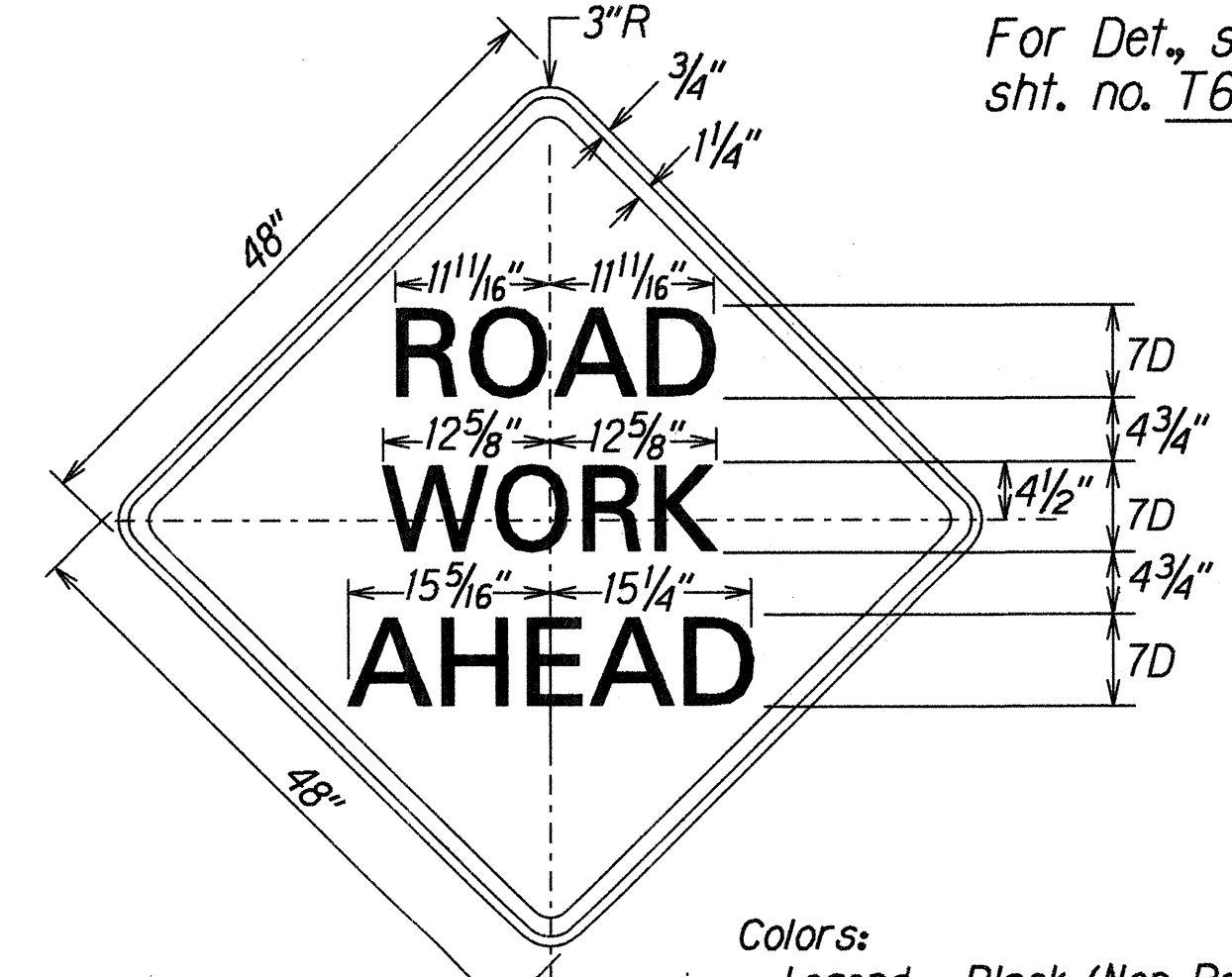
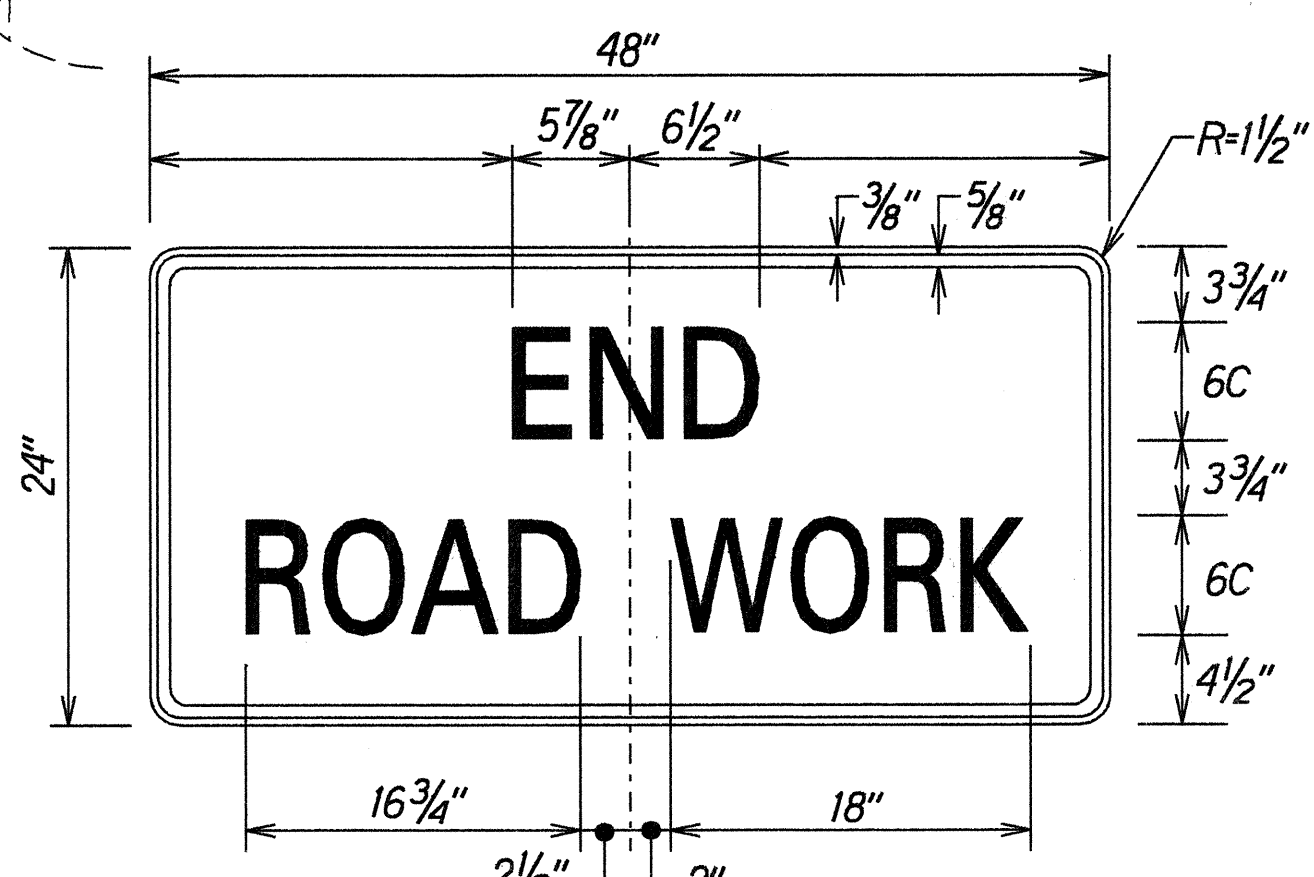
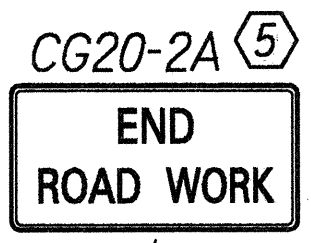
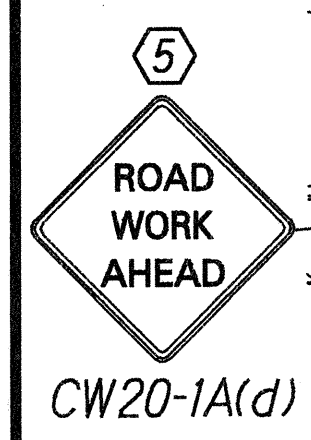
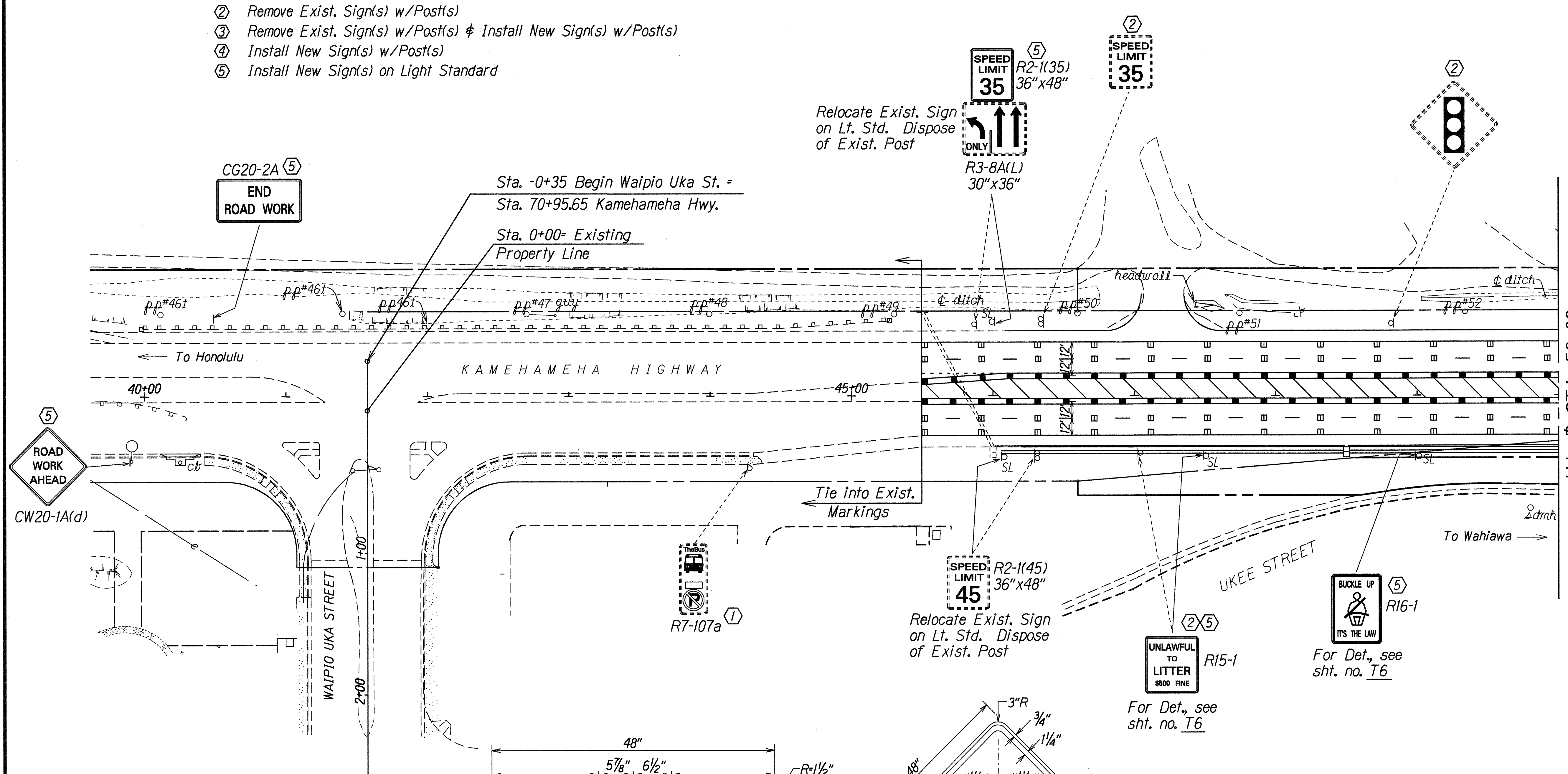
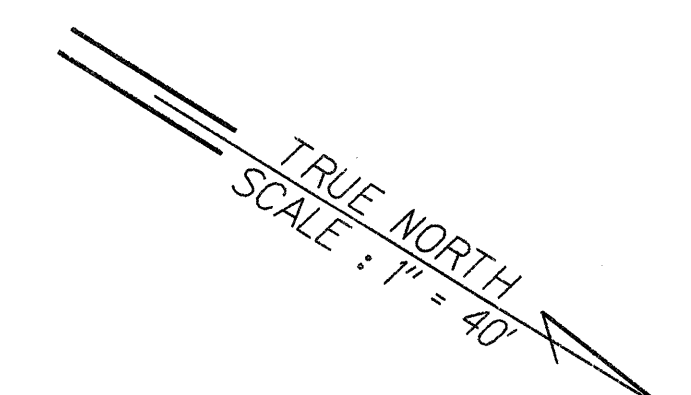
DATE: 2/24/96
 SURVEY PLOTTED BY: []
 PLAN: []
 DRAWN BY: []
 DESIGNED BY: []
 CHECKED BY: []
 ORIGINAL: []
 NOTE BOOK: []
 TO: []
 FROM: []
 N. C. []

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
PAVEMENT MARKINGS & SIGNING
LEGEND, DETAIL & NOTES
 KAMEHAMEHA HIGHWAY WIDENING
 Waipio Uka Street to Ka Uka Boulevard
 F.A. Project No. NH-STP-099-1(12)
 Not to Scale Date: Dec., 1995

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	33	64

KEY:

- ① Exist. Sign(s) & Post(s) to Remain
- ② Remove Exist. Sign(s) w/Post(s)
- ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
- ④ Install New Sign(s) w/Post(s)
- ⑤ Install New Sign(s) on Light Standard



Colors:
Legend: Black (Non Refl)
Background: Orange

Colors:
Legend: Black (Non Refl)
Background: Orange

DATE	12/5/94
SURVEY PLOTTED BY	
DRAWN BY	B. Ach
DESIGNED BY	C. Abe
CHECKED BY	
NOTE BOOK	102 rby
SCALE	As Noted

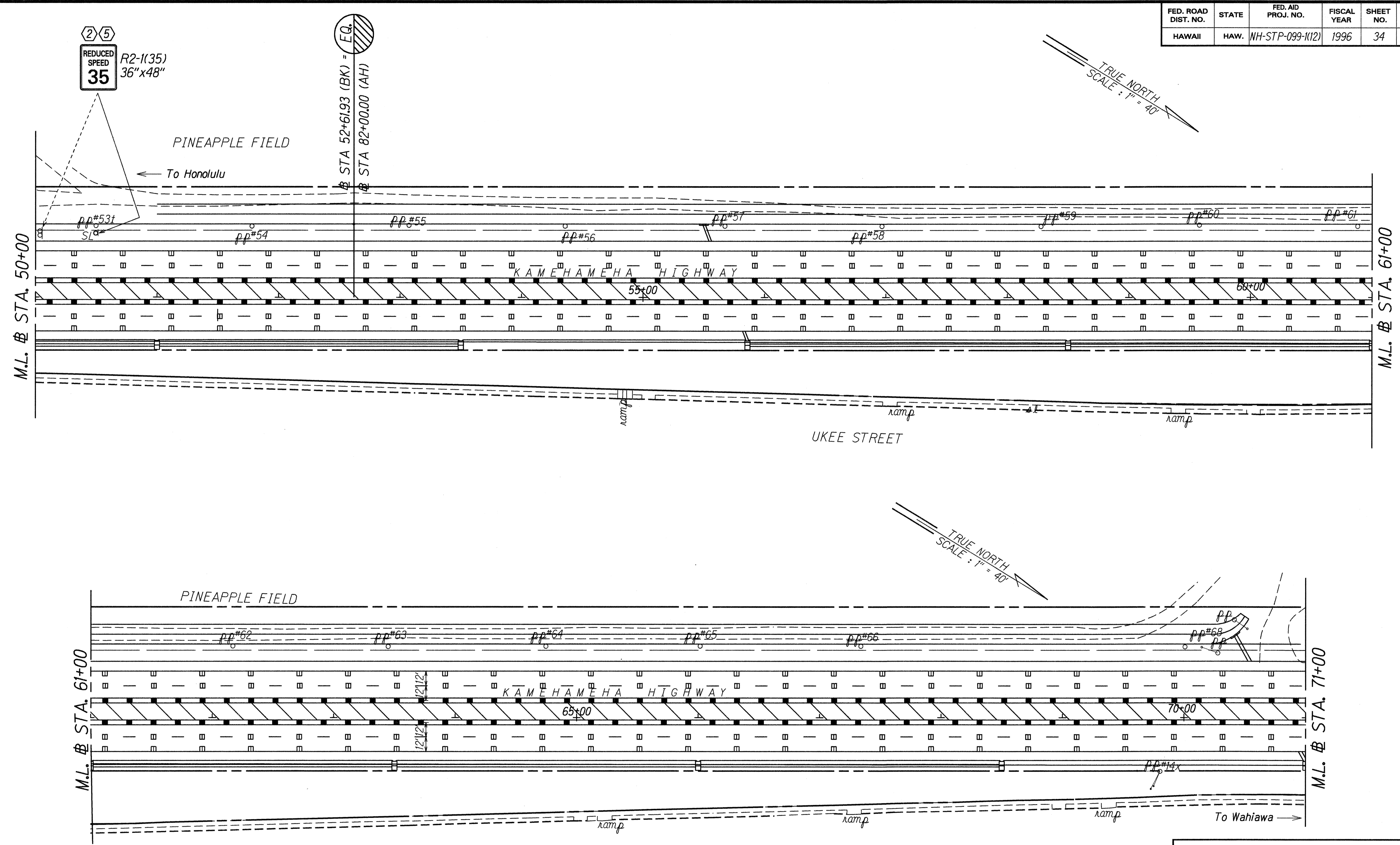
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PAVEMENT MARKING
& SIGNING PLAN**

KAMEHAMEHA HIGHWAY WIDENING
Waipio Uka Street to Ka Uka Boulevard
F.A. Project No. NH-STP-099-1(12)
Scale: As Noted Date: Dec., 1995

SHEET No. T2 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	34	64



ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	3/27/95
DRAWN BY	G. Hill
TRACED BY	G. Hill
DESIGNED BY	G. Hill
CHECKED BY	N. clamping

- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign(s) on Light Standard

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

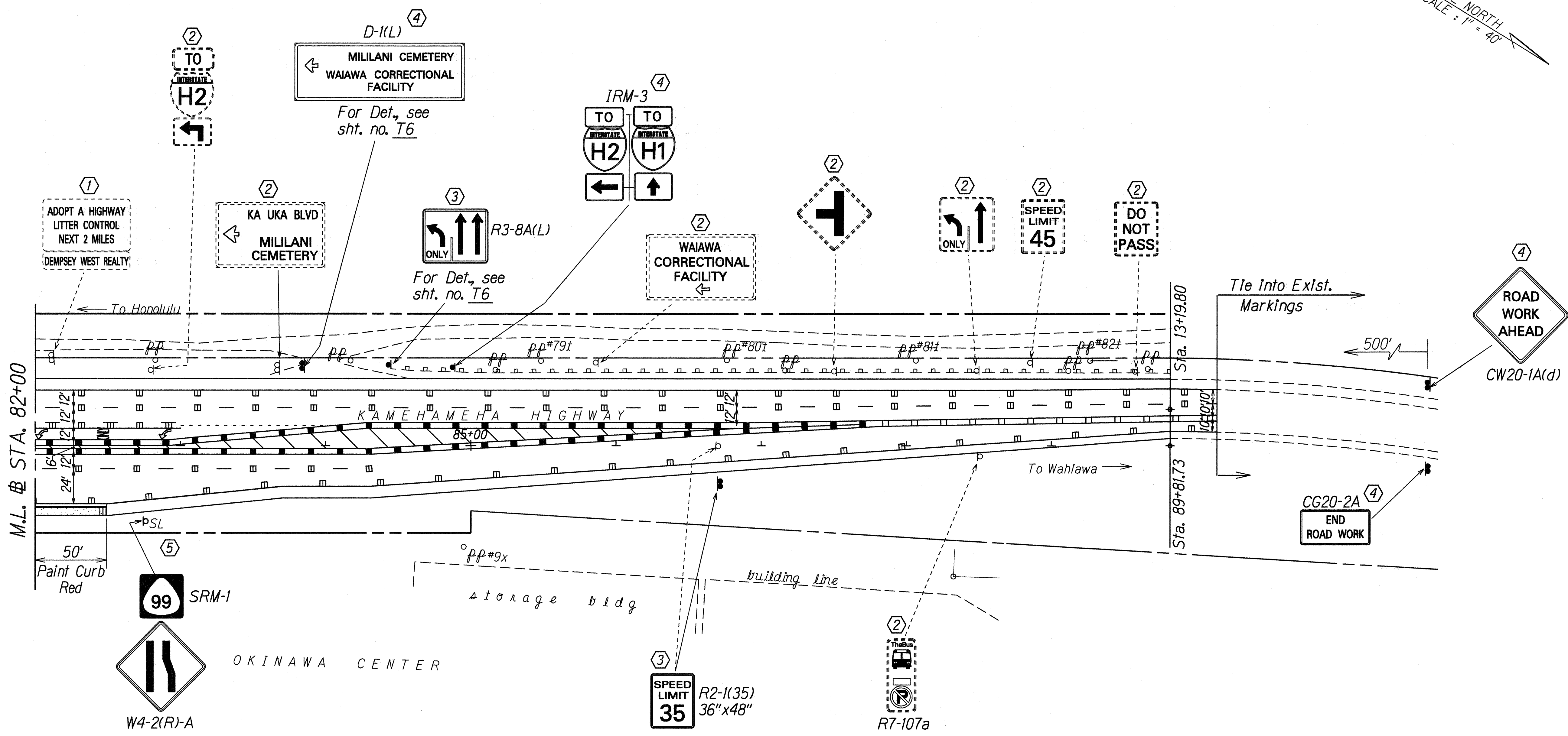
PAVEMENT MARKING
& SIGNING PLAN

KAMEHAMEHA HIGHWAY WIDENING
Waipio Uka Street to Ka Uka Boulevard
F.A. Project No. NH-STP-099-1(12)
Scale: 1" = 40' Date: Dec., 1995

SHEET No. T3 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	36	64

TRUE NORTH
SCALE: 1" = 40'

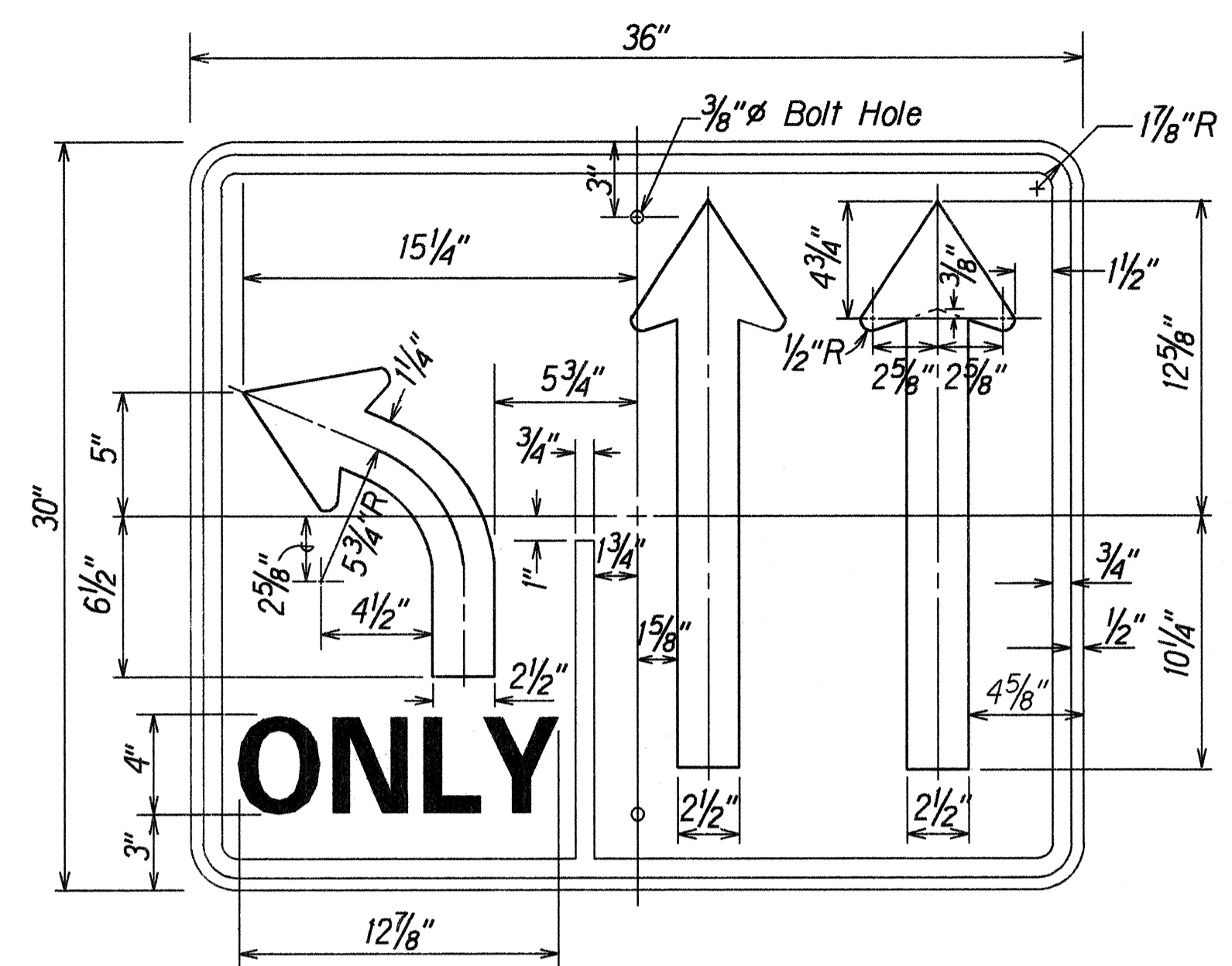


- KEY:**
- ① Exist. Sign(s) & Post(s) to Remain
 - ② Remove Exist. Sign(s) w/Post(s)
 - ③ Remove Exist. Sign(s) w/Post(s) & Install New Sign(s) w/Post(s)
 - ④ Install New Sign(s) w/Post(s)
 - ⑤ Install New Sign(s) on Light Standard

ORIGINAL PLAN SURVEY PLATTED BY DATE: 3/16/95
 DRAWN BY: J. A. C. H.
 TRACED BY: C. A. B.
 DESIGNED BY: C. A. B.
 CHECKED BY: C. A. B.

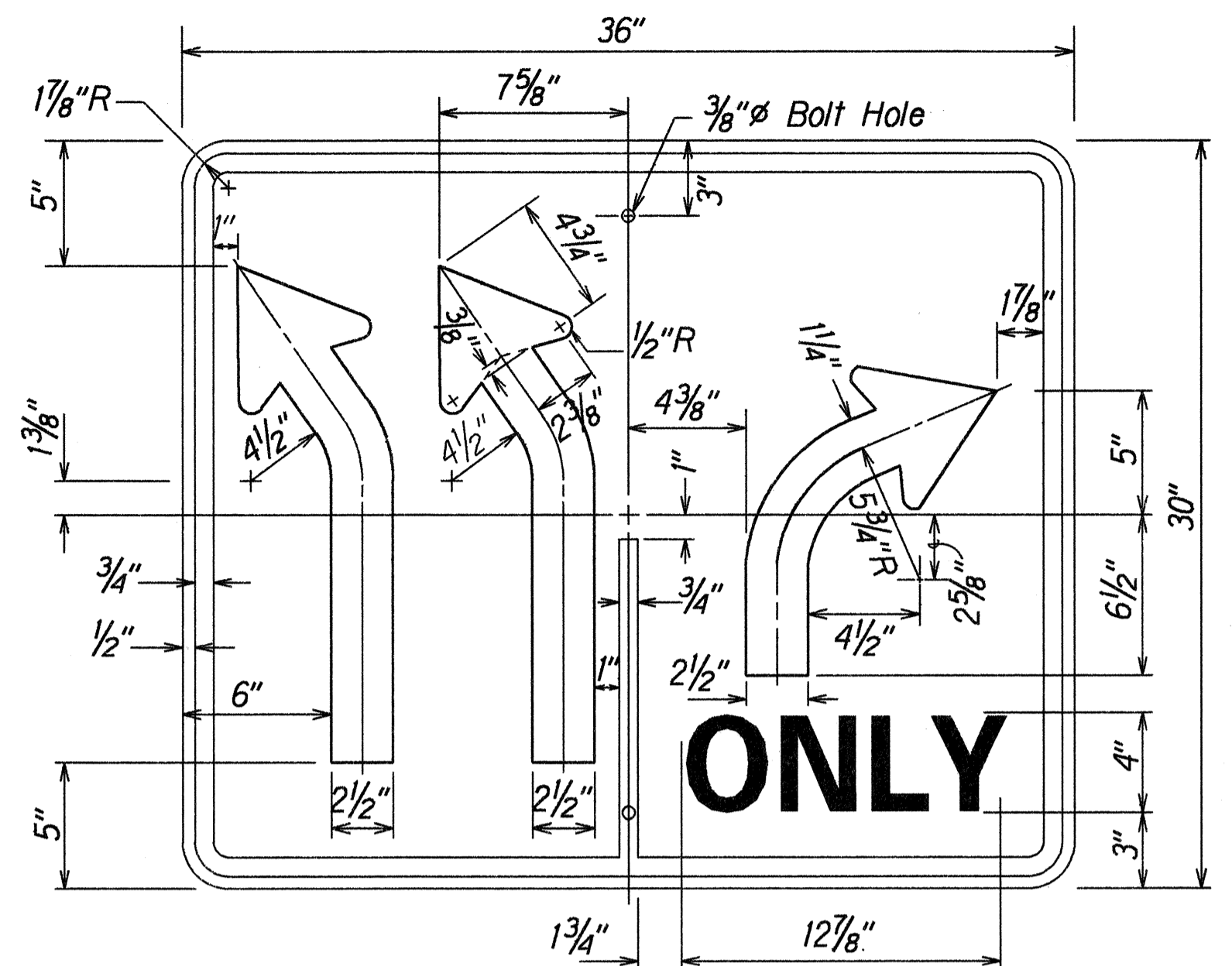
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
PAVEMENT MARKING
& SIGNING PLAN
 KAMEHAMEHA HIGHWAY WIDENING
 Waipio Uka Street to Ka Uka Boulevard
 F.A. Project No. NH-STP-099-1(12)
 Scale: 1" = 40' Date: Dec., 1995
 SHEET No. T5 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	37	64



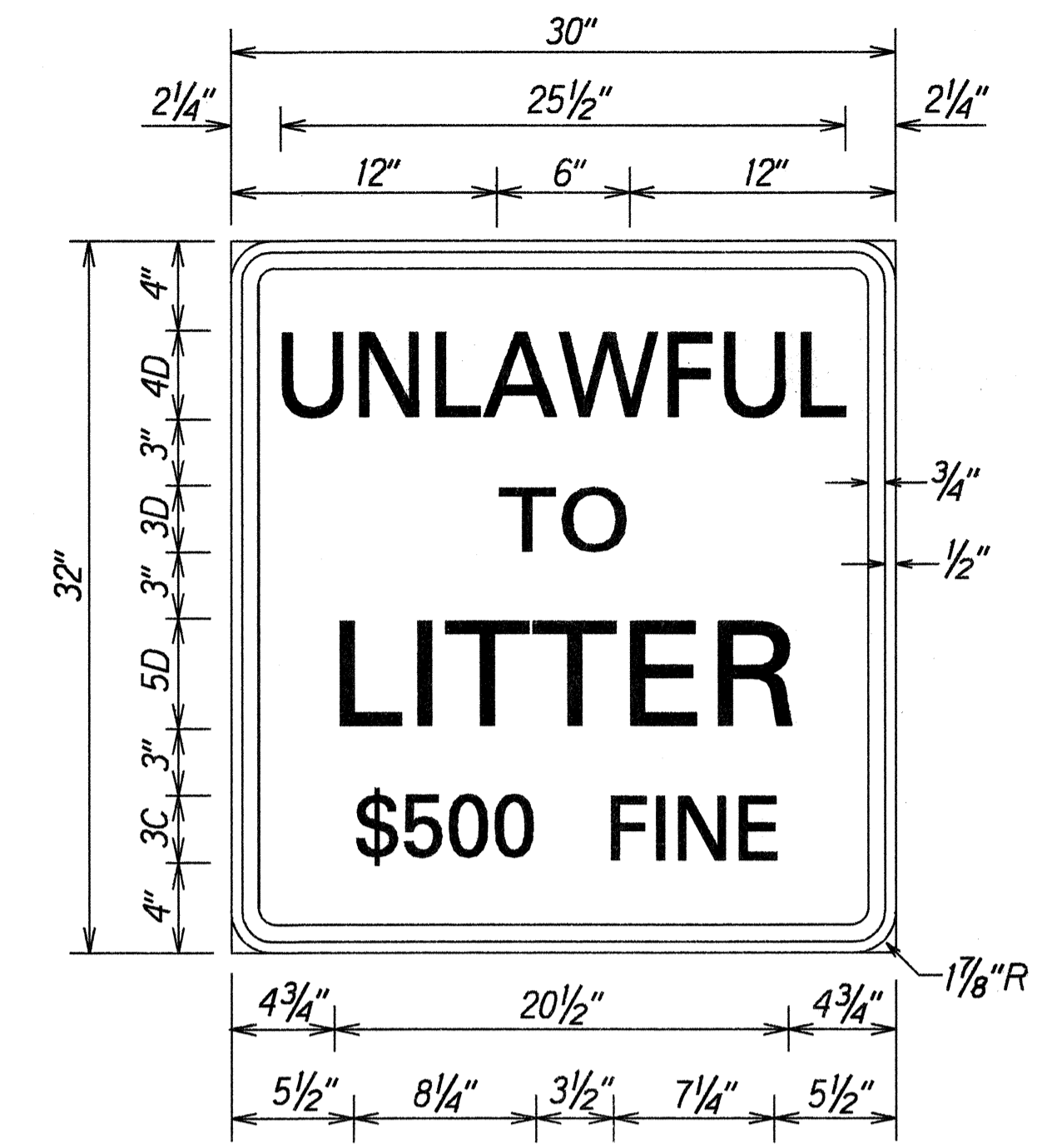
R3-8A(L) *

R3-8A(R) MIRROR IMAGE

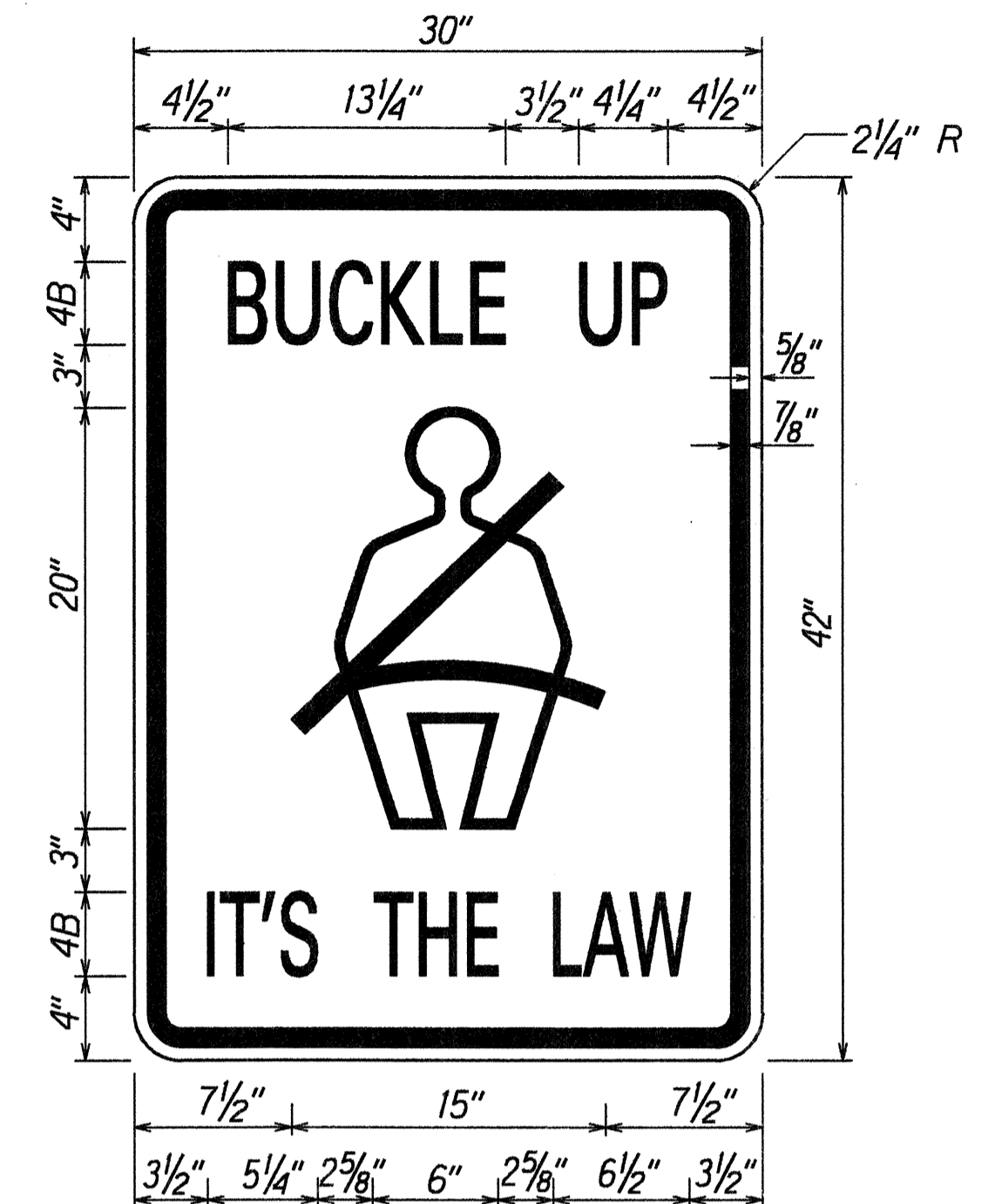


R3-12 *

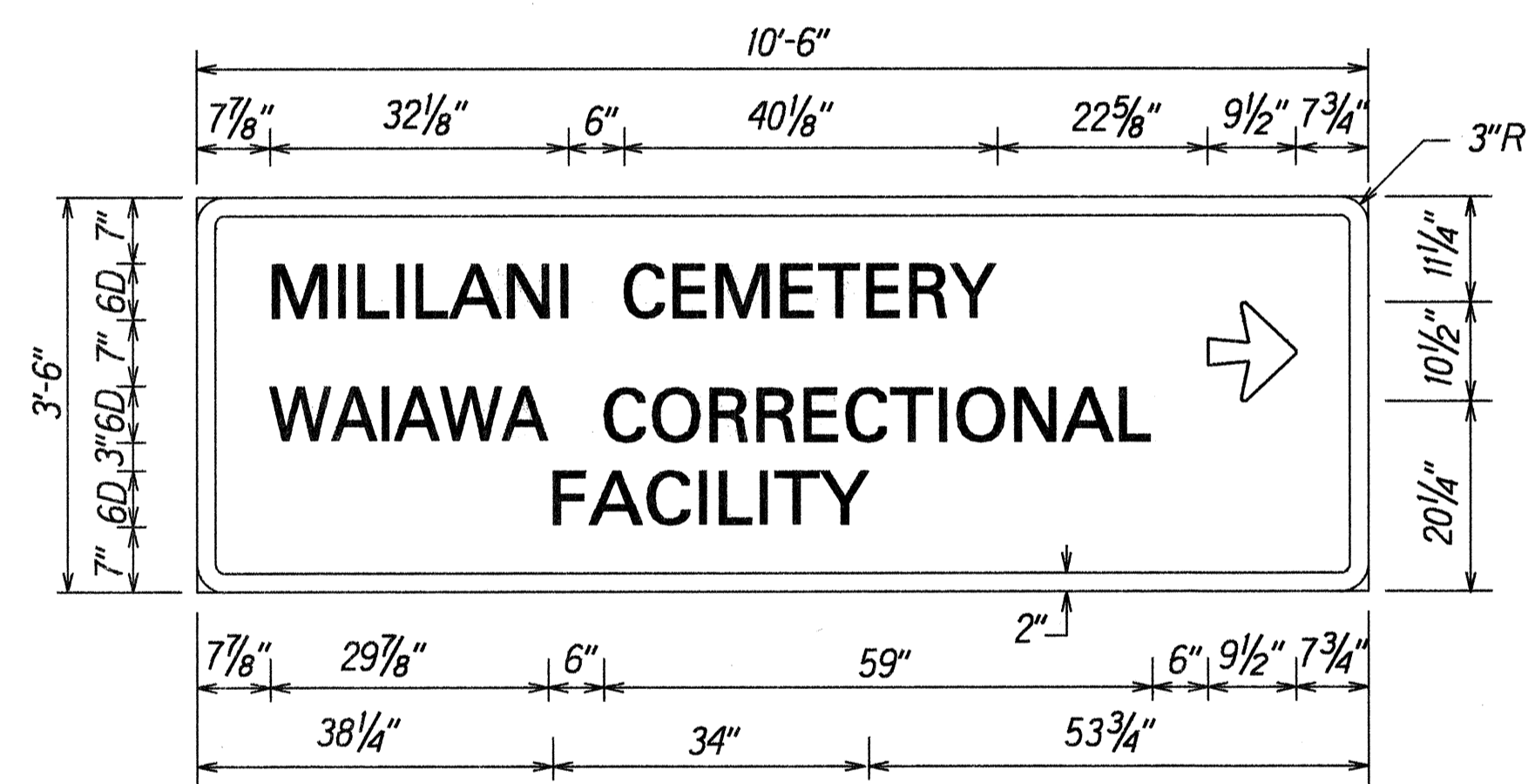
* NOTE:
Use Series "D" Letters.
Black Legend on Reflectorized
White Background



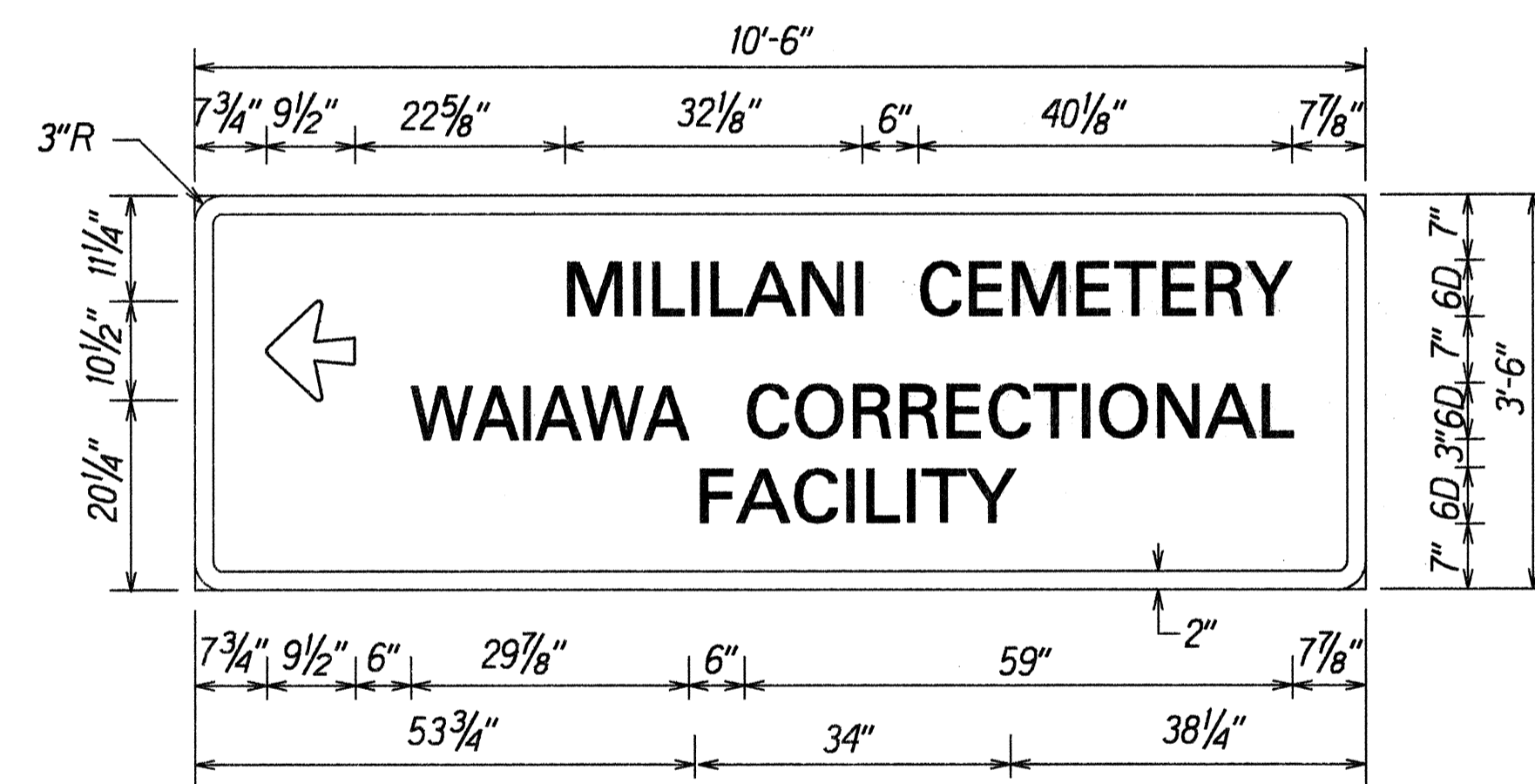
R15-1



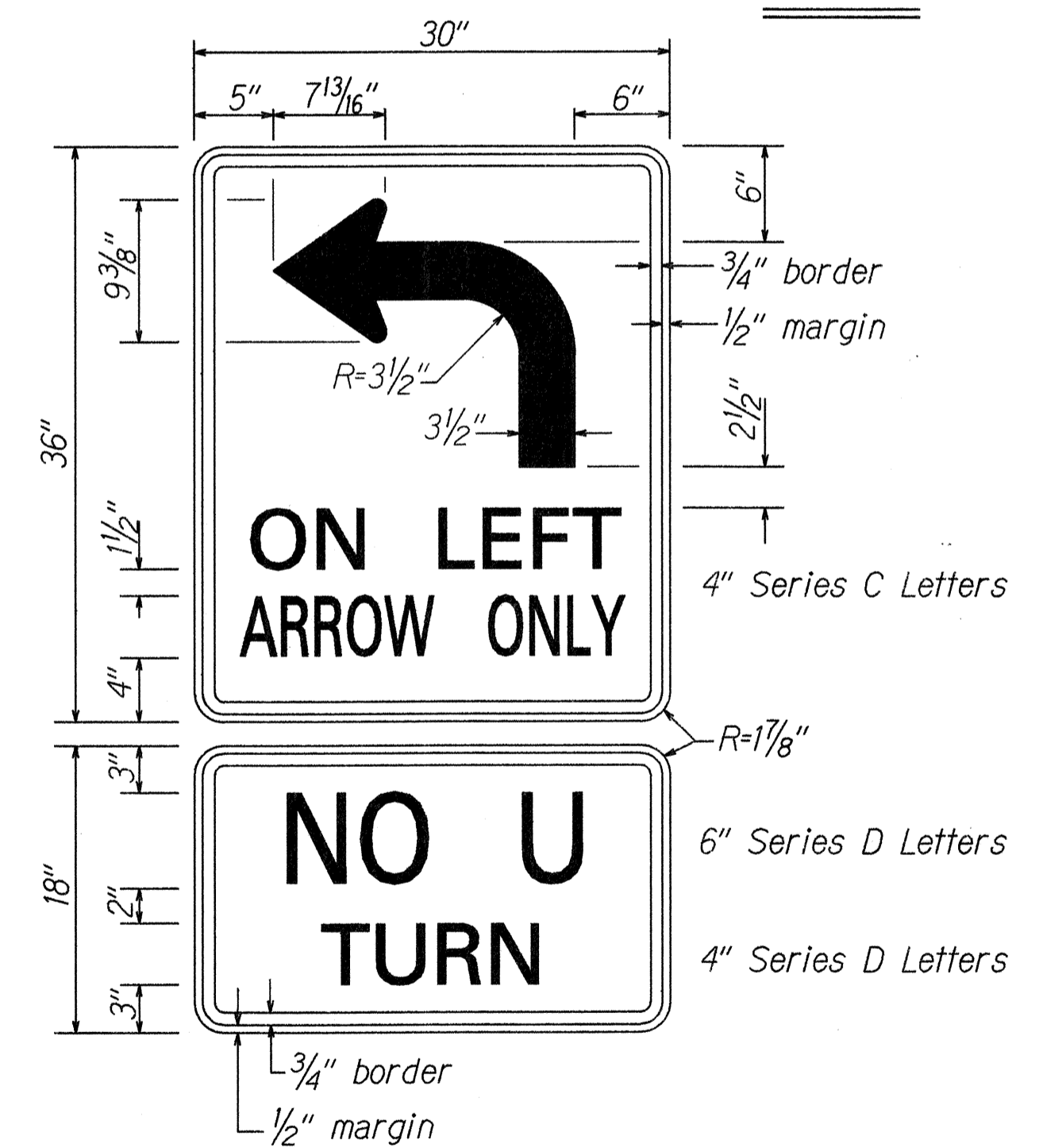
R16-1



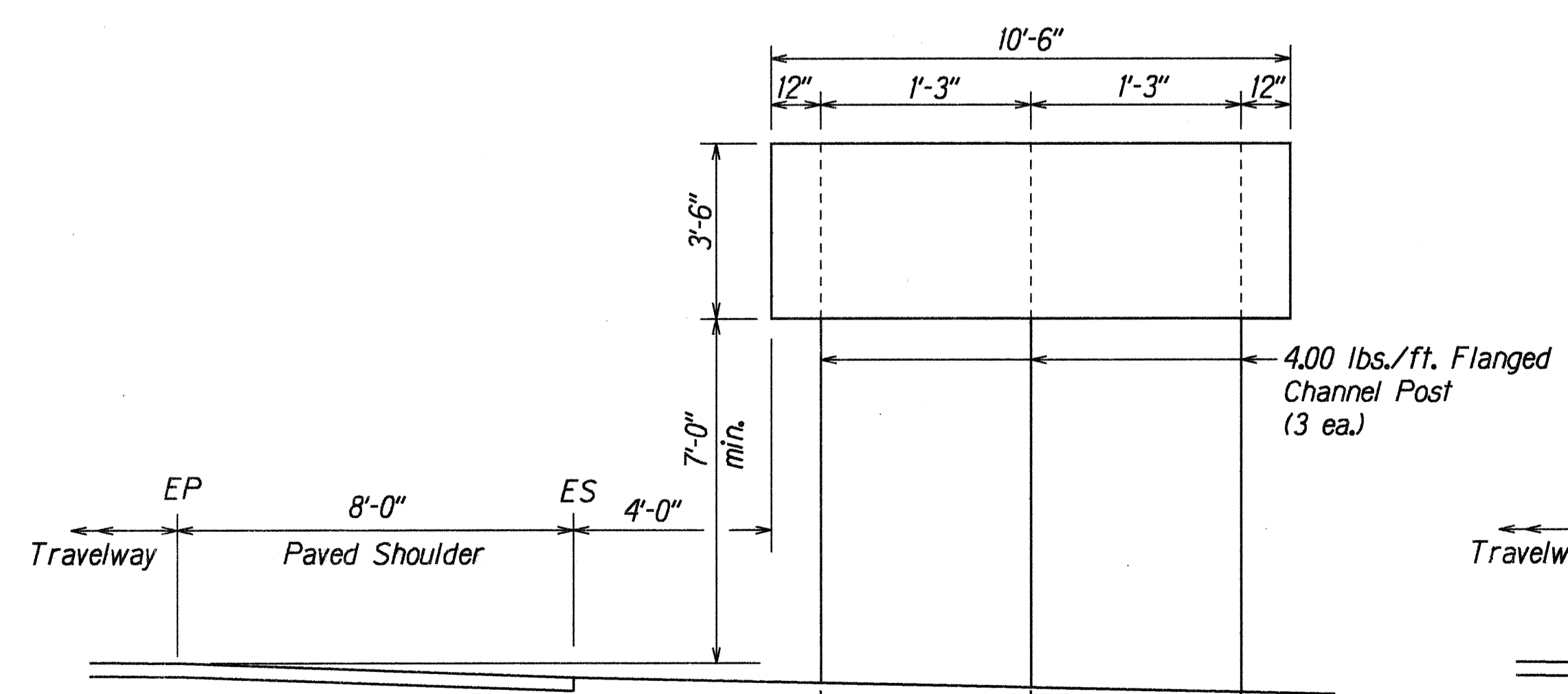
D-1(R)



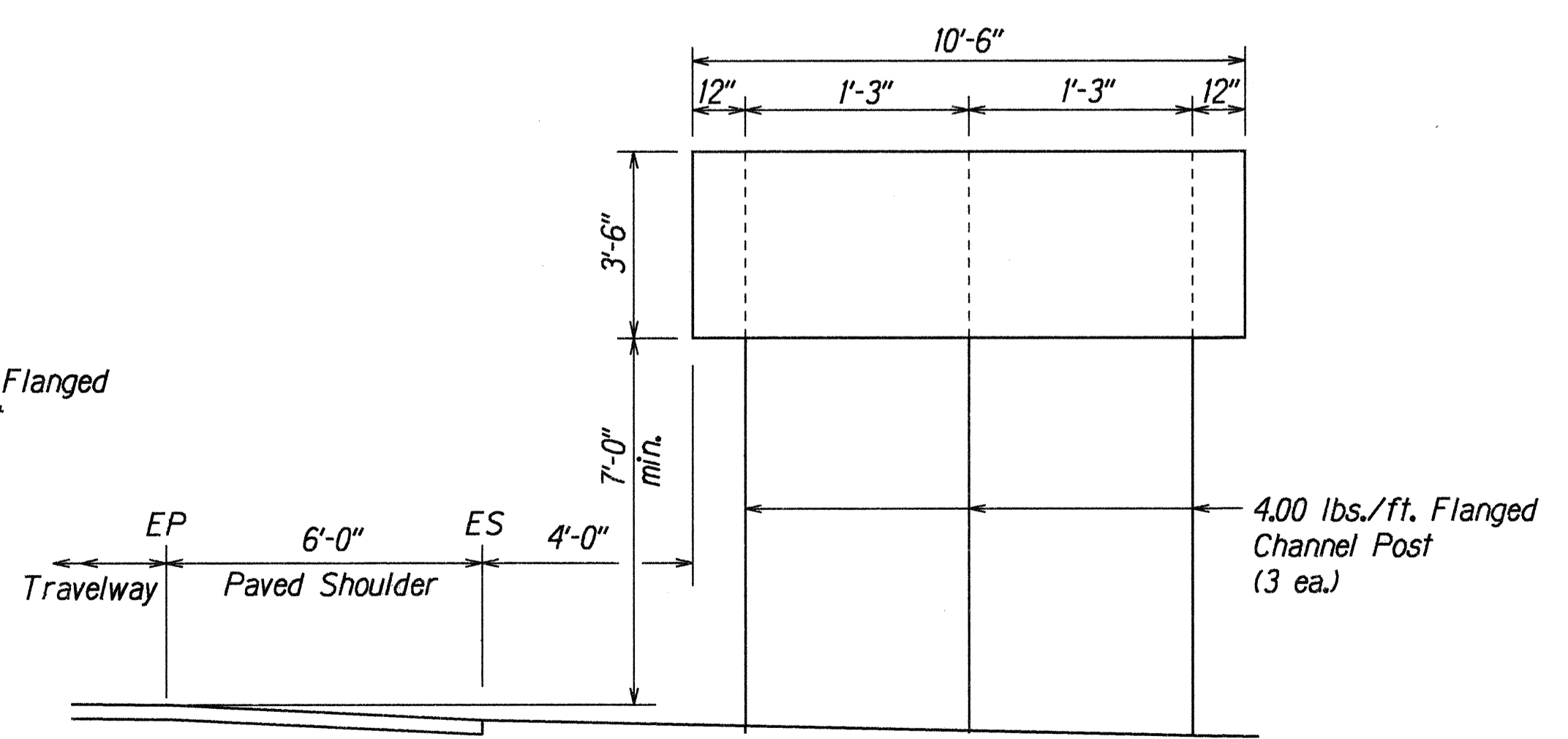
D-1(R)



R17-3
Not to Scale



D-1(R)
STA. 75+00± RT.

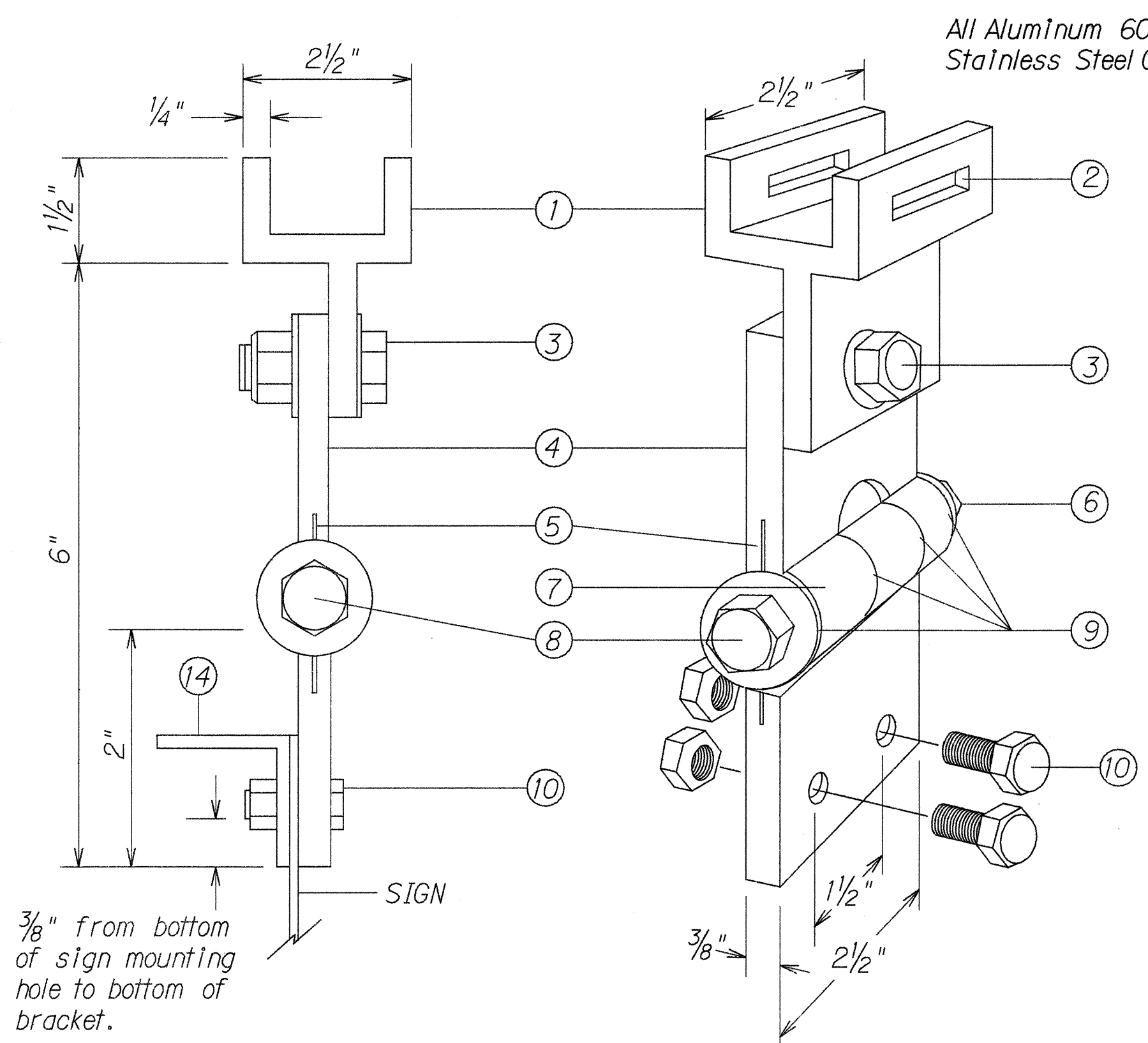


D-1(L)
STA. 83+85± LT.

ORIGINAL PLAN
DATE: 3/16/91
SURVEY PLATTED BY: DAYE
DRAWN BY: R. A. Hill
NOTE BOOK
REVISIONS BY: C. A. Hill
CHECKED BY: N. Chamisoli

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
SIGN DETAILS
AND FRAME LAYOUT
KAMEHAMEHA HIGHWAY WIDENING
Waipio Uka Street to Ka Uka Boulevard
F.A. Project No. NH-STP-099-1(12)
Not to Scale Date: Dec., 1995
SHEET No. T6 OF 23 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-STP-099-1(12)	1996	38	64

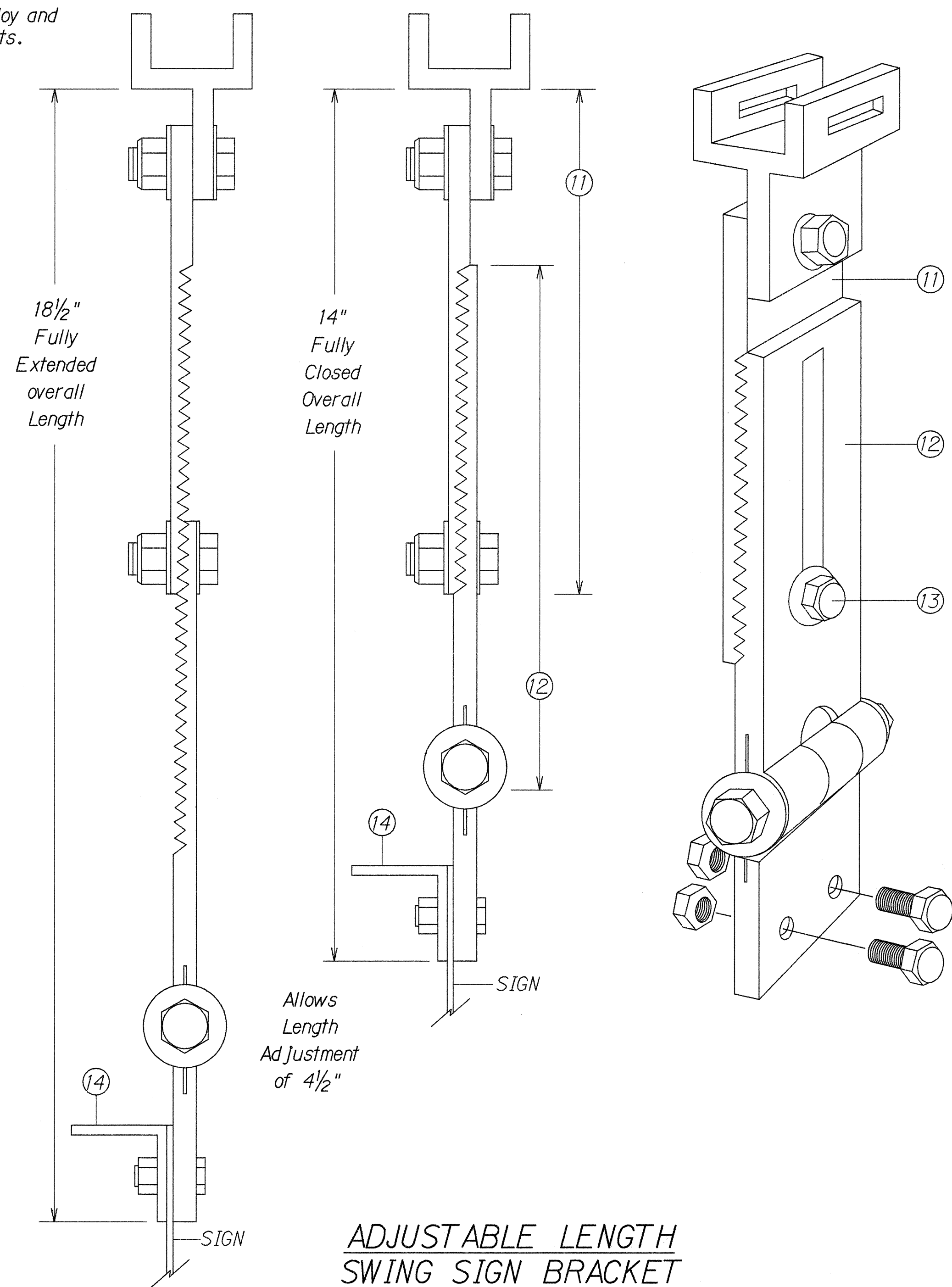


FIXED LENGTH NON-ADJUSTABLE SWING SIGN BRACKET

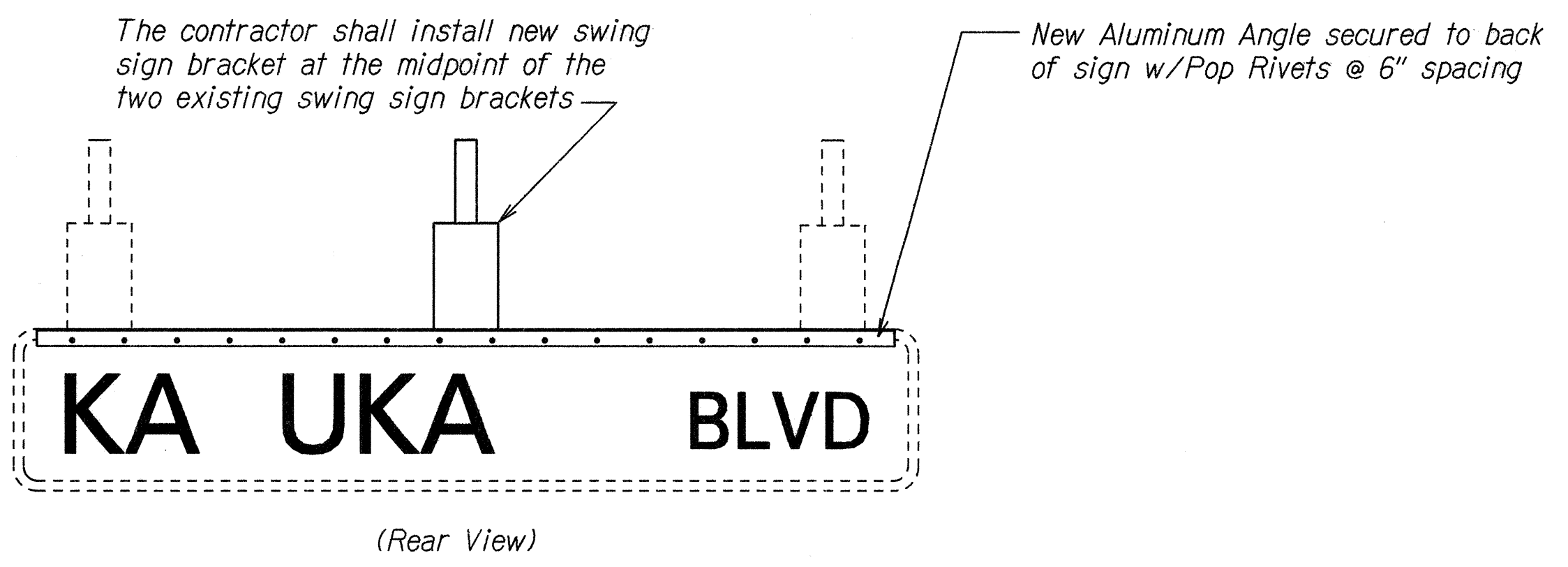
- ① Pivotal Upper Bracket
- ② 1 5/8" x 1/4" Slot for double strapping to electrolier mast arm. (M2G-34S(HD) .030" x 3/4" Heavy Duty Stainless Steel Strap with M2G-34B(HD) Buckle recommended.)
- ③ 1/2" - 13 x 1 1/2" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washer (both sides). Allows upper bracket to pivot and align with electrolier mast arm.
- ④ 6" Overall drop with Fixed Length Sign Bracket
- ⑤ Stainless Steel Dampener Spring (Removable)
- ⑥ Stainless Steel Hex Lock Nut with 1/16" Stainless Steel Washer
- ⑦ 1" O.D. Axle Housing
- ⑧ 1/2" - 13 x 4" Stainless Steel Hex Head Bolt with 1/16" Stainless Steel Washer
- ⑨ O111te Bushing
- ⑩ Sign Mounting Sets, consisting of two each 5/16" - 18 x 1" Stainless Steel Hex Head Bolt with Stainless Steel Hex Lock Nut. Two holes on 1/2" centers provide positive lock sign mounting to bracket.
- ⑪ 8 1/4" overall length Upper Adjustable Sign Bracket section
- ⑫ 9" overall length Lower Adjustable Sign Bracket section, including Axle Housing (8" overall length to top of Axle Housing)
- ⑬ 1/2" - 13 x 1 1/2" Stainless Steel Hex Bolt with Stainless Steel Hex Lock Nut and 1/16" Stainless Steel Washers (both sides). Loosen lock nut, adjust bracket teeth to level sign.
- ⑭ 1 1/4" x 1 1/4" x 1/8" Aluminum Angle

Note: Dimensions may vary slightly.

All Aluminum 6061T6 Alloy and Stainless Steel Components.



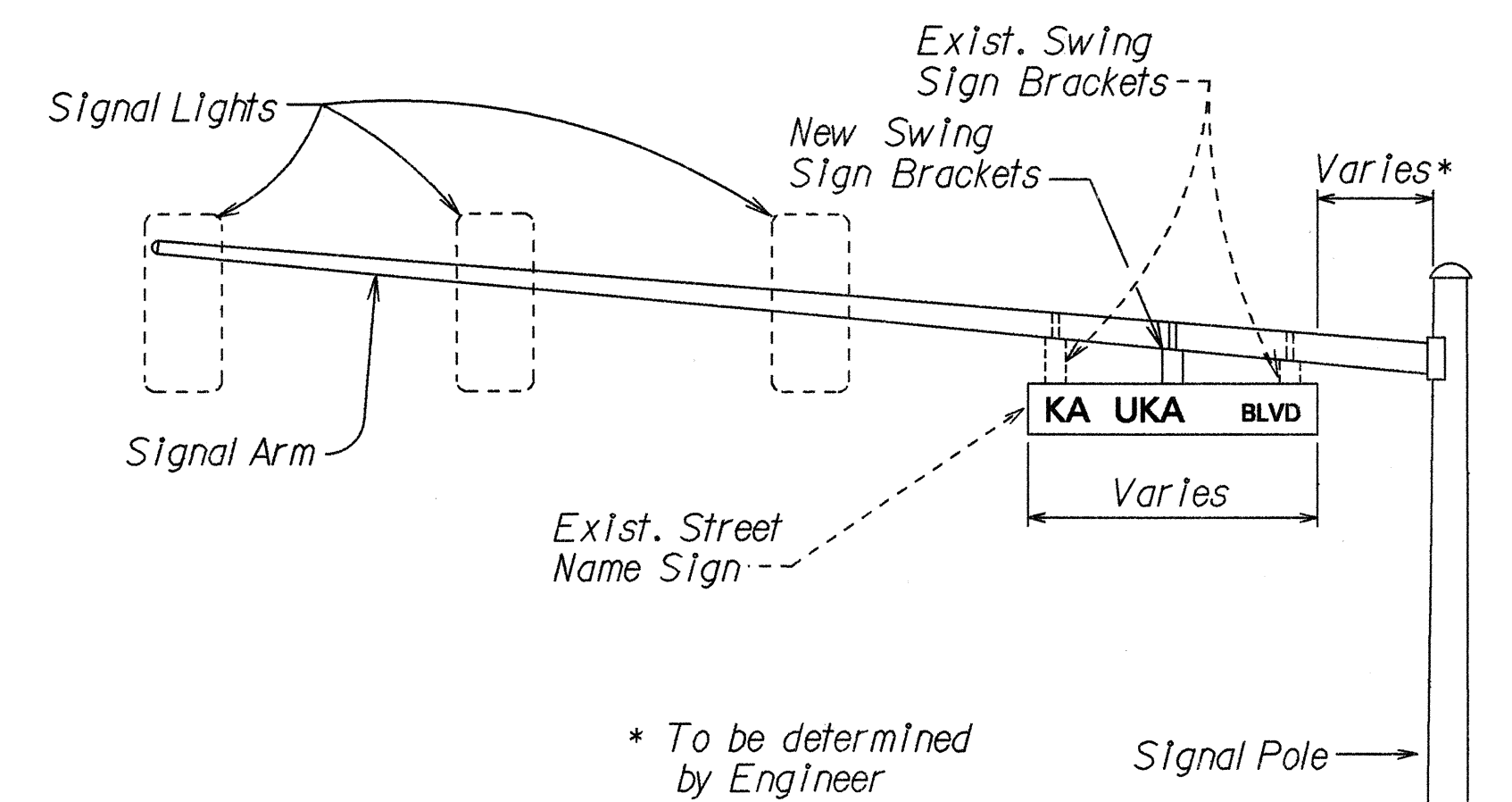
ADJUSTABLE LENGTH SWING SIGN BRACKET



TYPICAL SWING BRACKET LAYOUT

NOTES:

- The Contractor shall relocate the existing Street Name Sign onto the New Traffic Signal Mast Arm using the two (2) existing Swing Sign Brackets and an additional Swing Sign Bracket with Aluminum Angle on the following existing Street Name Sign. Each relocated sign shall have three (3) Swing Sign Brackets (2 existing # 1 new).
- | Street Name | No. of Signs | No. of Brackets w/Aluminum Angle |
|--------------|--------------|----------------------------------|
| KA UKA BLVD. | 2 | 2 |
- The accepted quantities of Swing Sign Brackets w/Aluminum Angle will be paid for at the contract unit price per each, complete in place. The contract unit price paid shall be full compensation for relocating the existing sign with the two (2) existing Swing Sign Brackets, the additional Swing Sign Bracket w/Aluminum Angle for all necessary hardware, equipment, tools, labor, materials, and other incidentals for the installation of the Existing Street Name Sign on the New Traffic Signal Mast Arm.
 - The Swing Sign Brackets w/Aluminum Angle shall be paid under Item No. 621.0220, Relocating Existing Street Name Sign on Traffic Signal Mast Arm.



STREET NAME SIGN MOUNTING ON MAST ARM

SURVEY PLOTTED BY	DATE
DRAWN BY	2/25/95
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
10/1/95	
10/1/95	
10/1/95	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SWING SIGN BRACKET DETAIL

KAMEHAMEHA HIGHWAY WIDENING
Waipio Uka Street to Ka Uka Boulevard
F.A. Project No. NH-STP-099-1(12)
Not to Scale Date: Dec., 1995

SHEET No. T7 OF 23 SHEETS

PAVEMENT MARKING SUMMARY	
DESCRIPTION	QUANTITY
PAVEMENT MARKERS	
TYPE A _____	880 EA.
TYPE C _____	519 EA.
TYPE D _____	12 EA.
TYPE H _____	423 EA.
TAPE - TYPE I OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	560 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	410 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	330 L.F.
TAPE - TYPE II OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	9,190 L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	420 L.F.
8-INCH PAVEMENT STRIPE (WHITE) _____	540 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	190 L.F.
12-INCH PAVEMENT STRIPE (YELLOW) _____	5,980 L.F.
DOUBLE 4-INCH PAVEMENT STRIPE (YELLOW) _____	8,320 L.F.
TAPE - TYPE III OR THERMOPLASTIC EXTRUSION	
4-INCH PAVEMENT STRIPE (WHITE) _____	460 L.F.
4-INCH PAVEMENT STRIPE (YELLOW) _____	60 L.F.
12-INCH PAVEMENT STRIPE (WHITE) _____	130 L.F.
CROSSWALK MARKINGS _____	10 LANES
PAVEMENT ARROW _____	16 EA.
PAVEMENT WORD _____	6 EA.
PAINT	
CONCRETE CURB (RED) _____	150 L.F.

TRAFFIC SIGN SUMMARY					
SIGN NO.	MESSAGE	QUANTITY			
		10 SQ. FT. OR LESS		GREATER THAN 10 SQ. FT.	
		W/POST	W/O POST	W/POSTS	W/O POSTS
R2-1(35)	SPEED LIMIT 35			1	1
R2-1(45)	SPEED LIMIT 45				1
R2-5b(35)	REDUCED SPEED 35				2
R3-8AR		1	1		
R3-8AL		2			
R3-12			2		
R7-107b *		2			
R7-201a			2		
R8-3a		2			
R15-1	UNLAWFUL TO LITTER \$500 FINE		1		
R16-1	BUCKLE UP ITS THE LAW		2		
R17-3	ON LEFT ARROW ONLY NO U TURN			1	
W4-2(R)-A					1
R1-2		1			
TOTAL		7	8	2	5

* For Sign No. R7-107b Detail, contact:
 Alan Kim
 Honolulu Public Authority
 711 Kapiolani Blvd.
 Suite 275
 Honolulu, Hawaii 96813
 Ph. No. 523-4734

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

ROUTE MARKER SUMMARY					
SIGN ASSEMBLY	SIGN NO. AND MESSAGE	TYPE A ASSEMBLY		TYPE B ASSEMBLY	
		W/POST	W/O POST	W/POST	W/O POST
IRM-1	IM4-5 * IM-1(H2) * IM6-1 *		1		
IRM-2	IM4-5 * IM-1(H2) * IM6-3 *		1		
IRM-3	IM4-5 * IM4-5 * IM-1(H2) * IM-1(H2) * IM6-1 * IM6-3 *			1	
SRM-1	M1-6(99)		2		
TOTAL		0	4	1	0

* COLORS: White Legend, Blue Background

DESTINATION SIGN SUMMARY				
SIGN NO.	MESSAGE	SIZE	NEW PANEL AREA (SQ. FT.)	
			W/O POSTS	W/POSTS
D-1(R)	MILILANI CEMETERY WAIAWA CORRECTIONAL FACILITY	3'-6"x10'-6"		36.75
D-1(L)	MILILANI CEMETERY WAIAWA CORRECTIONAL FACILITY	3'-6"x10'-6"		36.75
TOTAL			0	73.50

CONSTRUCTION SIGN SUMMARY			
SIGN NO.	MESSAGE	W/POSTS	W/O POST
CG20-2A	END ROAD WORK	1	2
CW20-1A(d)	ROAD WORK AHEAD	1	2
TOTAL		2	4

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

TRAFFIC SUMMARIES

KAMEHAMEHA HIGHWAY WIDENING
Waipio Uka Street to Ka Uka Boulevard
F.A. Project No. NH-STP-099-1(12)
 Date: Dec., 1995

SURVEY PLOTTED BY _____ DATE 3/7/95
 ORIGINAL PLAN _____
 NOTE BOOK DESIGNED BY C. Ake
 TOLUO QUANTITIES BY _____
 CHECKED BY _____