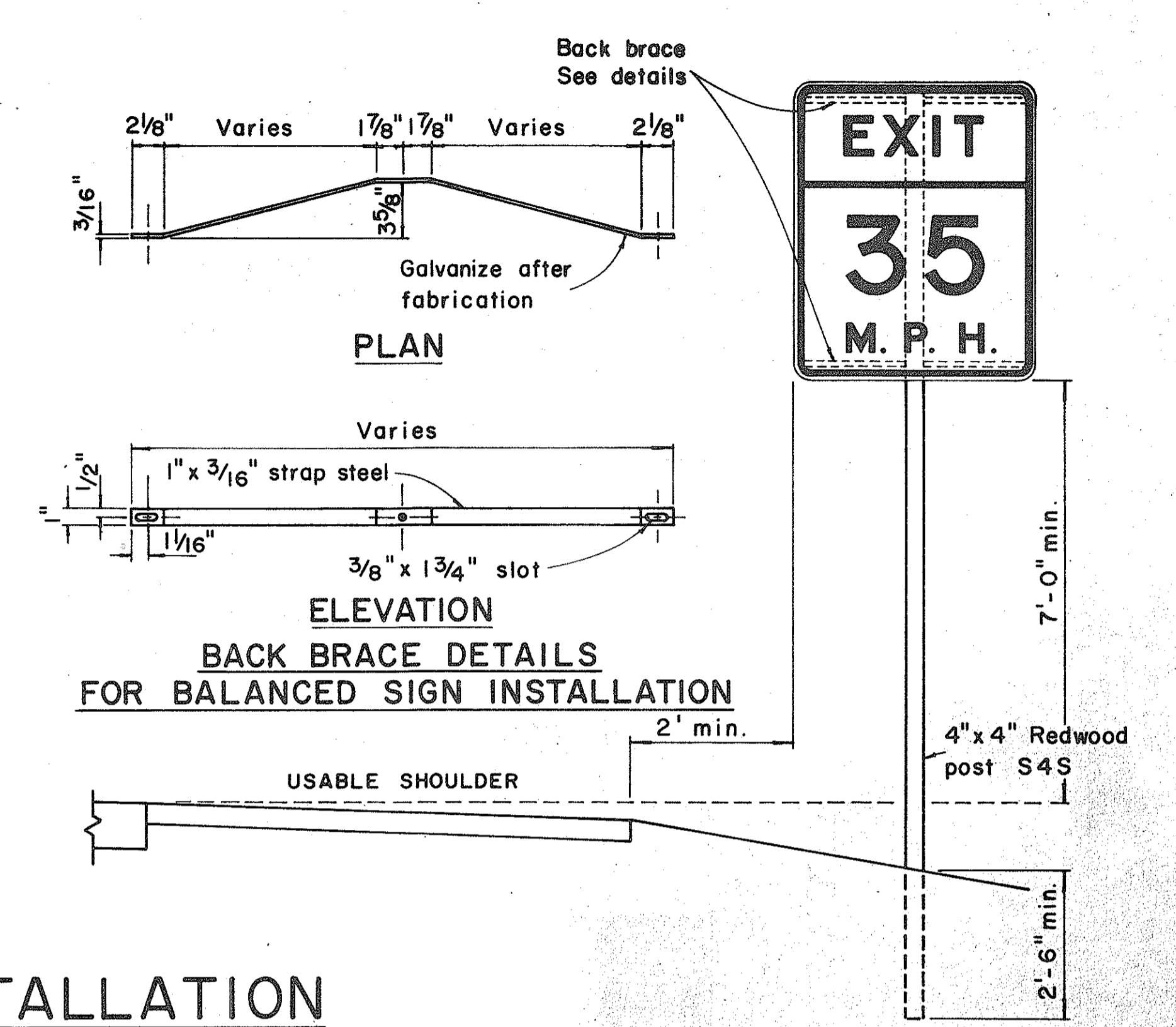
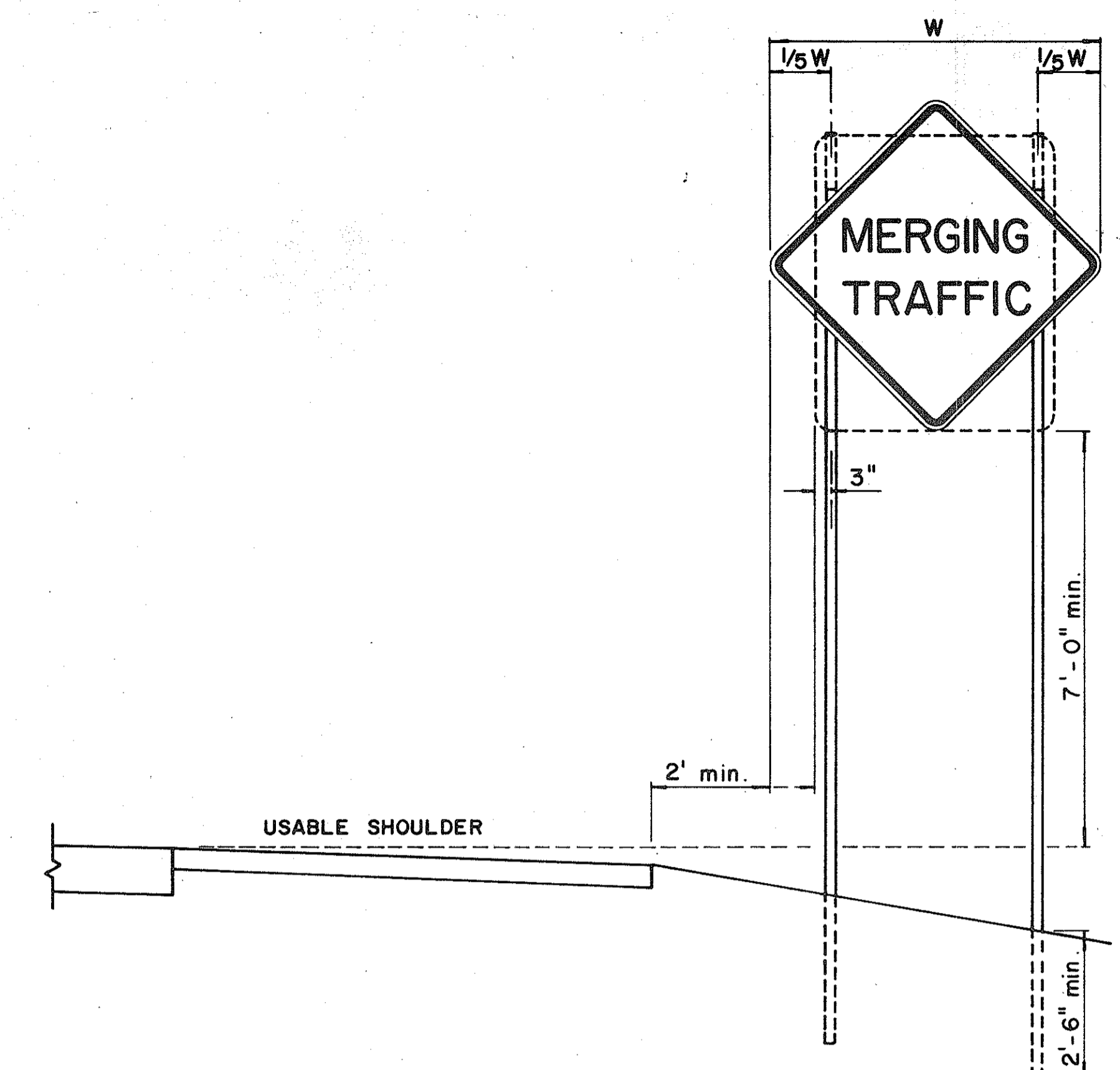
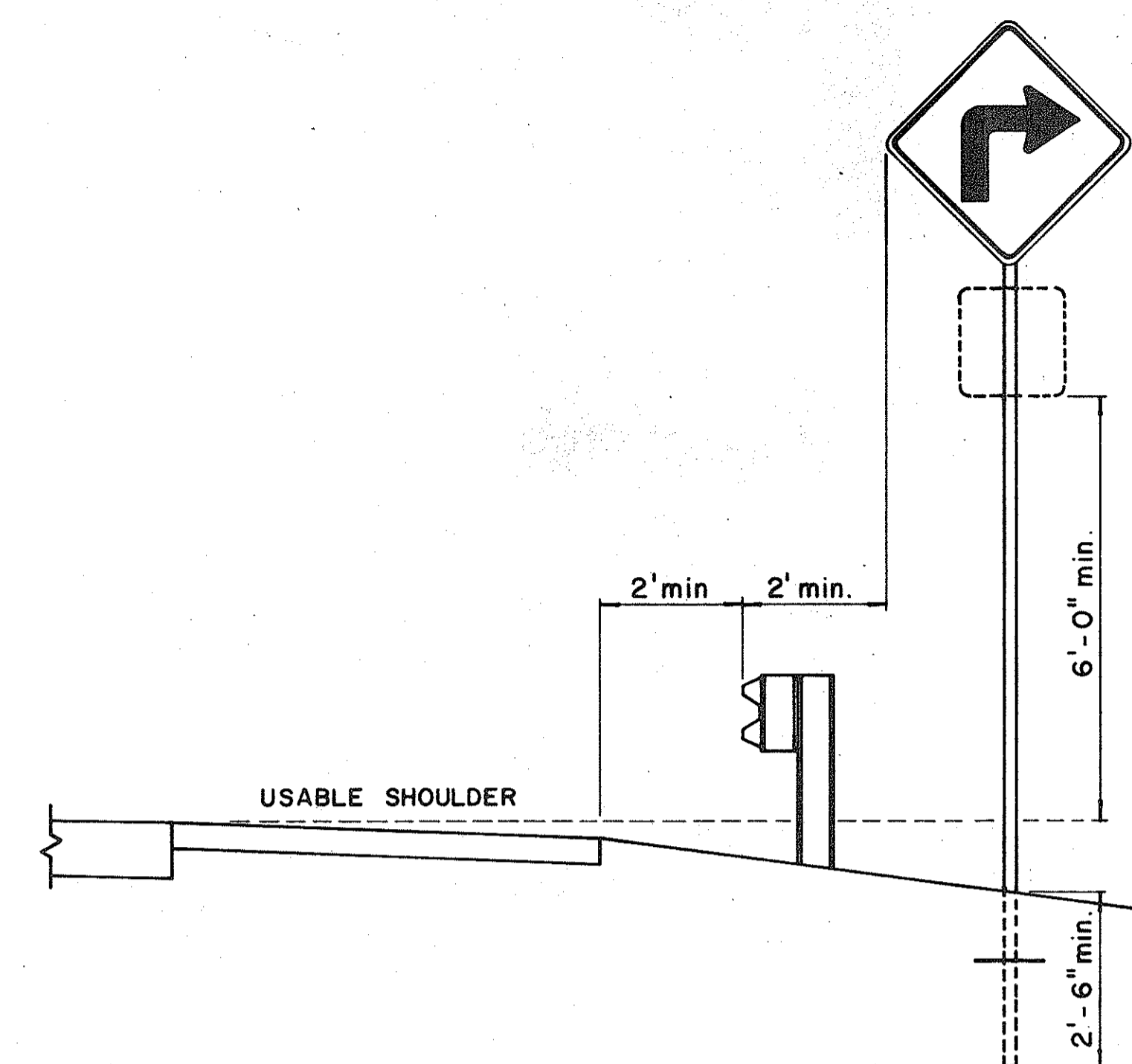
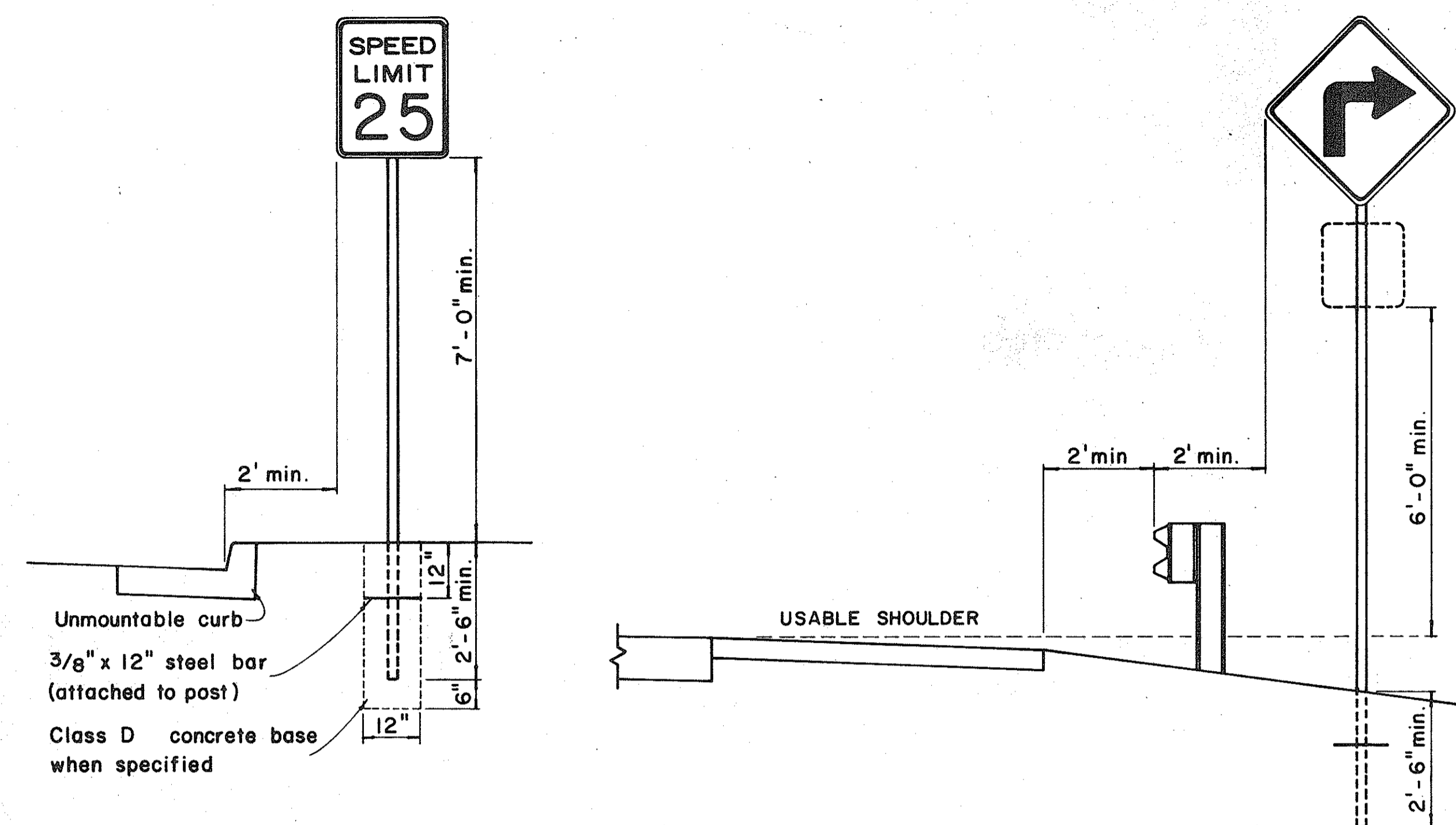
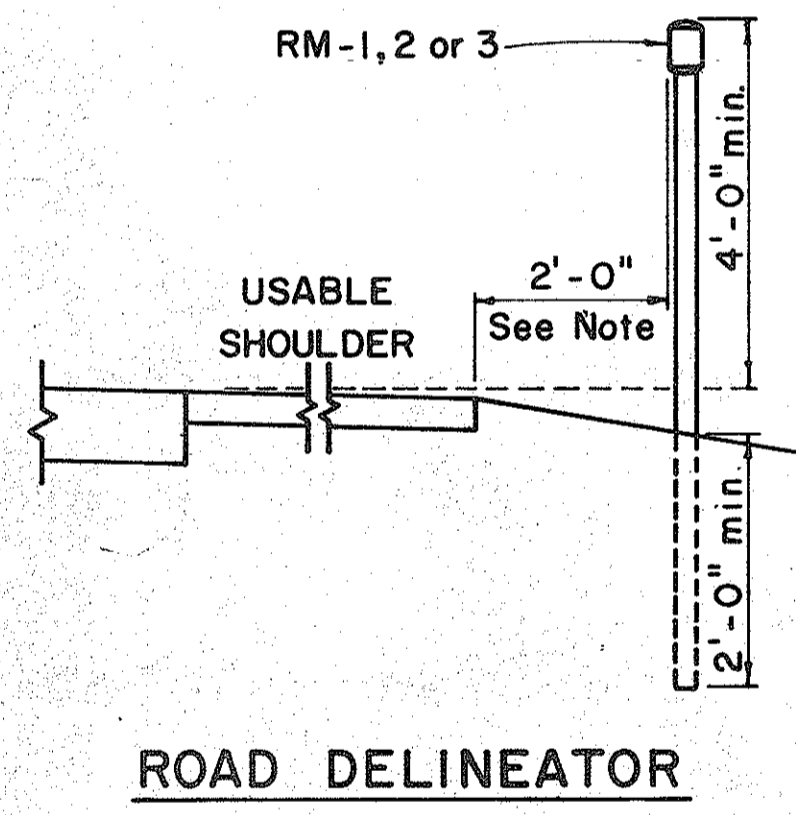


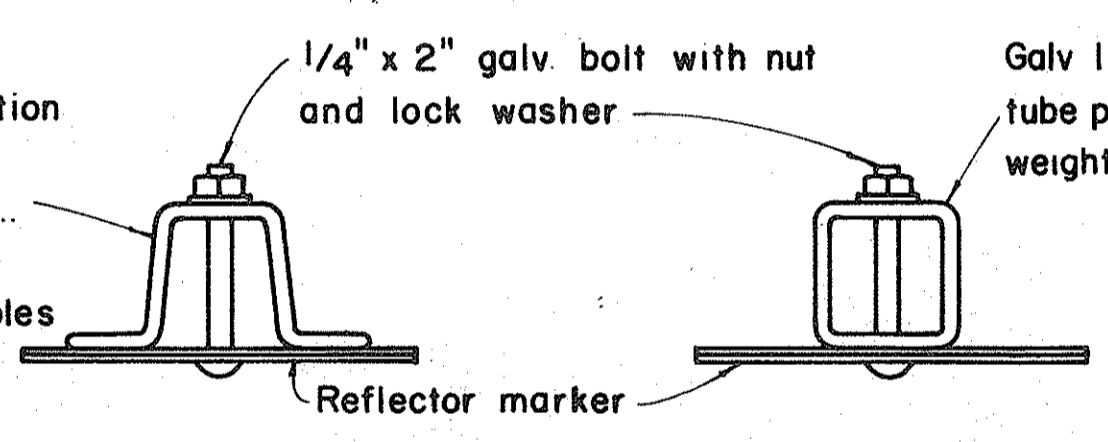
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-078-1(5)	1975	5	10



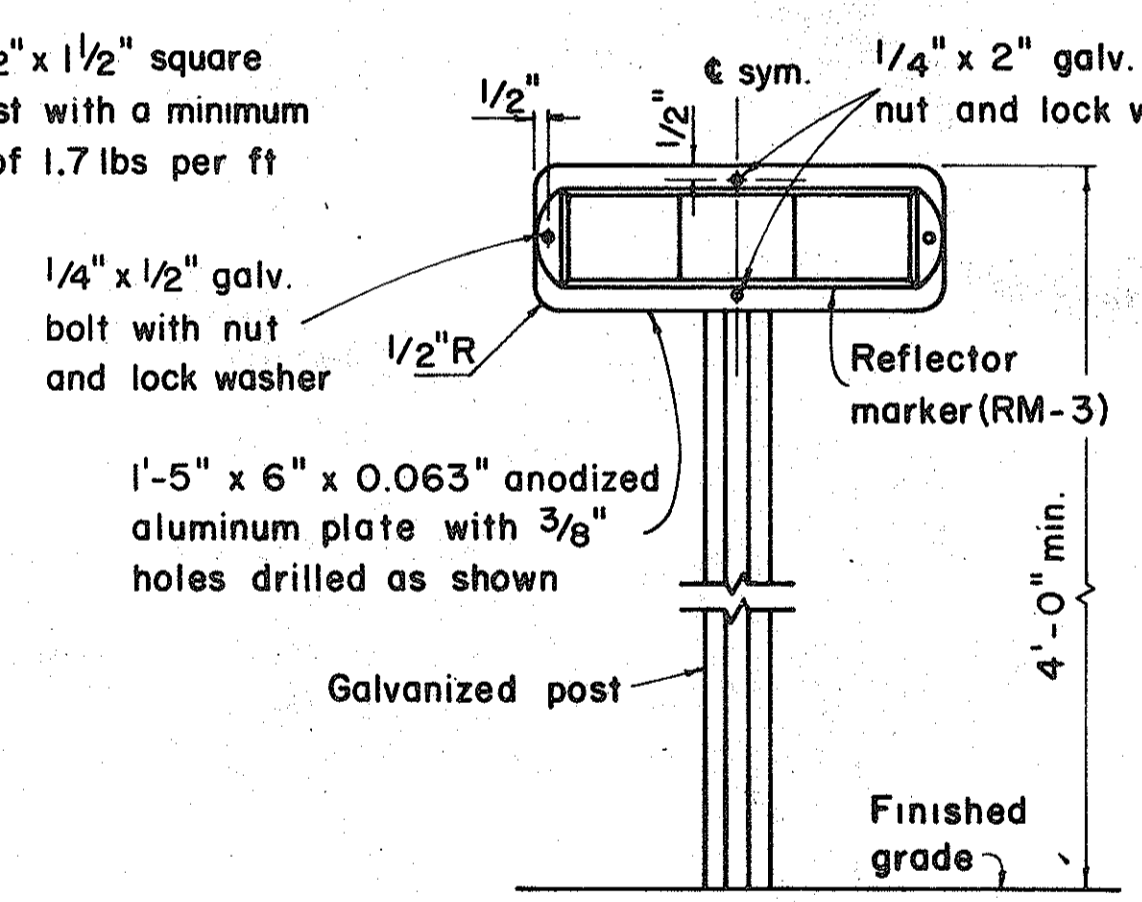
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



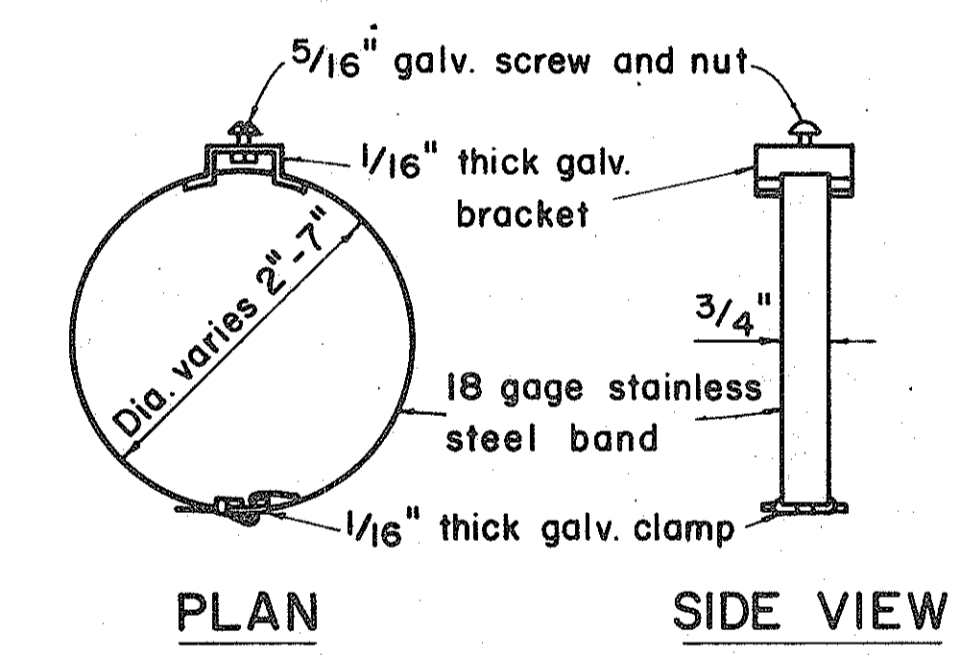
Galv. flanged channel
1/8" x 3/16" rolled section
post with a minimum
weight of 2 lbs. per ft..
Upper 2 ft. shall have
a single row of 3/8" holes
centered in the web at
1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



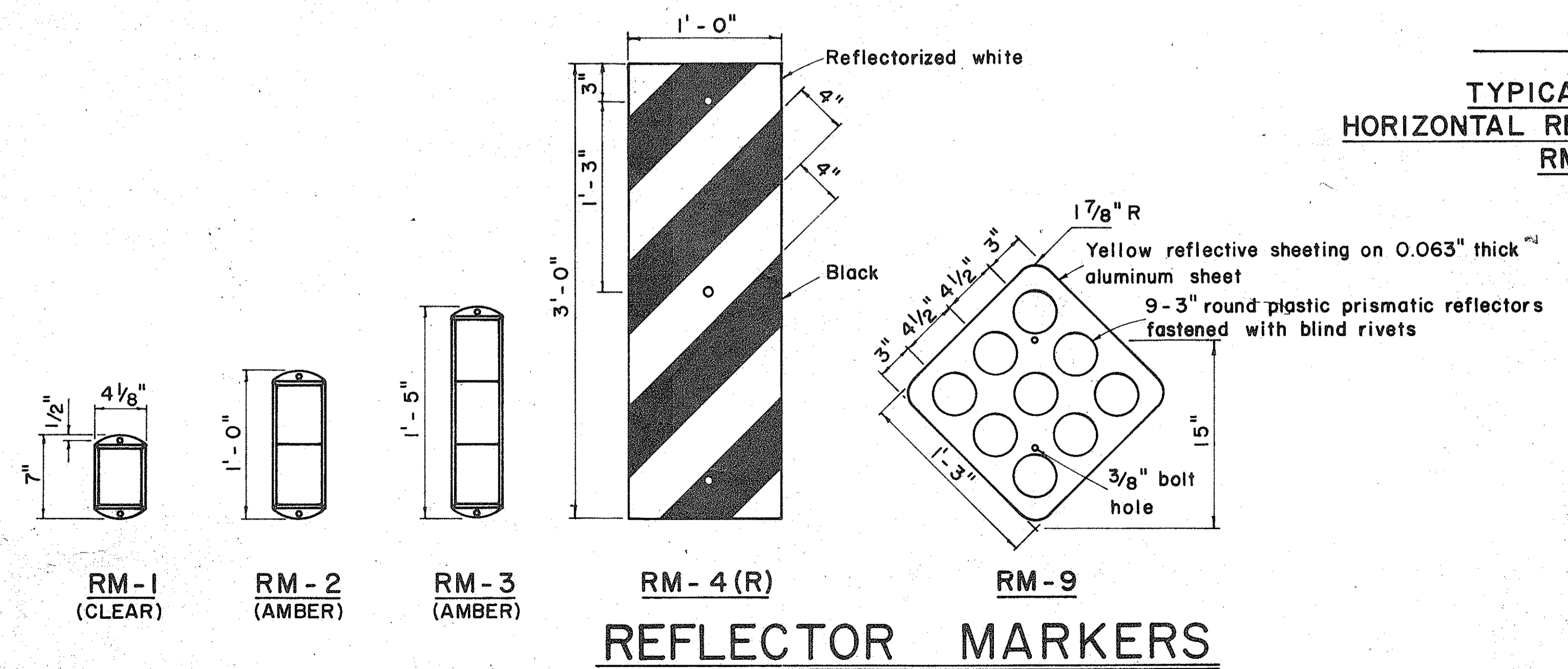
PLAN SIDE VIEW
FRONT VIEW

TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS

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

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

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



REFLECTOR MARKERS

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

SHEET No. 5 OF 10 SHEETS DT 100

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-078-1(19)	1975	6	10

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

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

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

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

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

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

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

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

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

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

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

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

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

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

R3-9 24" x 30"

R4-1 24" x 30"

R4-2 24" x 30"

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

R4-5 24" x 30"

R4-6(500) 24" x 30"

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

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

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

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

R5-4 24" x 30"

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

R5-9 36" x 24"

R6-1(R) 36" x 12"

R6-2(R) 18" x 24"

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

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

R7-107(R) 12" x 18"

R7-108 12" x 18"

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

R8-1 24" x 30"

R8-2 24" x 30"

R8-3 24" x 30"

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

R8-5 24" x 30"

R8-6 24" x 30"

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

R9-1 18" x 24"

R9-2 12" x 18"

R9-3 12" x 18"

R9-4 18" x 24"

R10-1 12" x 18"

R10-2 12" x 18"

R10-3 9" x 12"

R10-4 9" x 12"

R10-5 24" x 30"

R10-6 24" x 36"

R10-7 24" x 30"

R10-8 24" x 30"

R10-9 24" x 30"

R10-10 24" x 30"

R11-1 24" x 30"

R11-2 48" x 30"

R11-3(10) 60" x 30"

R11-4 60" x 30"

R12-1(10) 24" x 30"

GENERAL NOTES

1. Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs," 1972, 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.
4. Numerals in () indicates numerals to be inserted for sign message. (R) or (L) indicates right or left.

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

APPROVED:
Robert J. ... 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

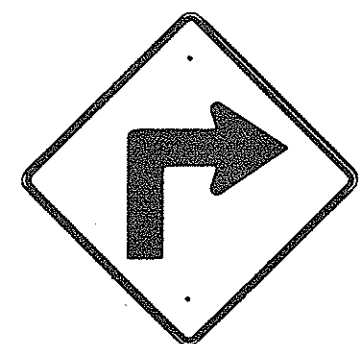
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

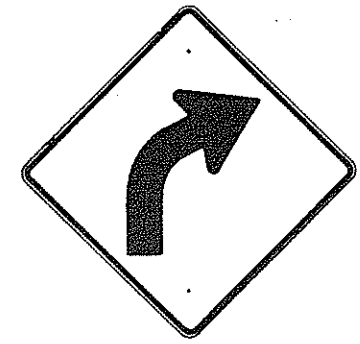
NOT TO SCALE
SHEET No. 6 OF 10 SHEETS DT 101

DATE
DESIGNED BY
CHECKED BY
NO.

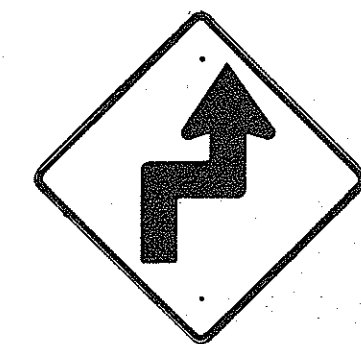
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII*	HAW.	U-078-1(18)	1975	7	10



W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



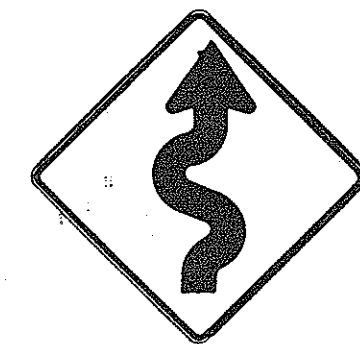
W1-2(R) 30"x30"
W1-2(R)-A 48"x48"



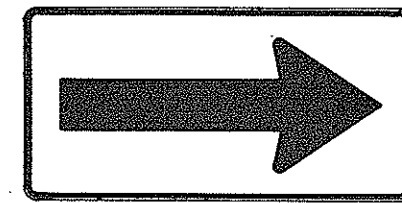
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



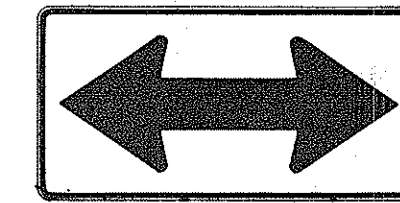
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



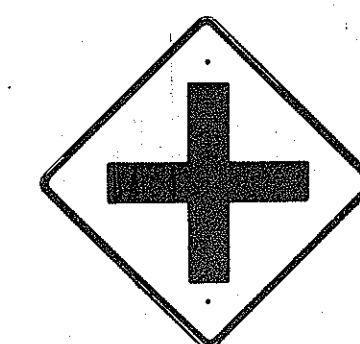
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



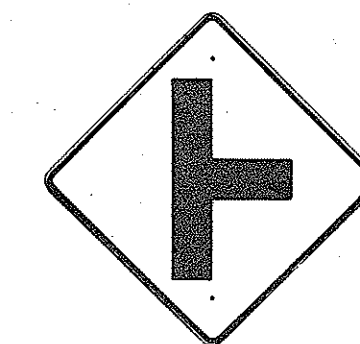
W1-6 48"x24"



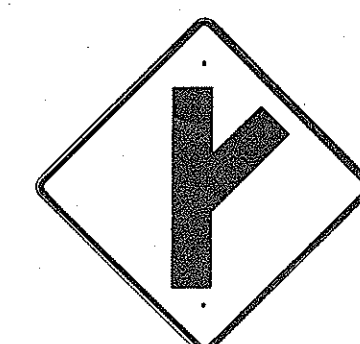
W1-7 48"x24"



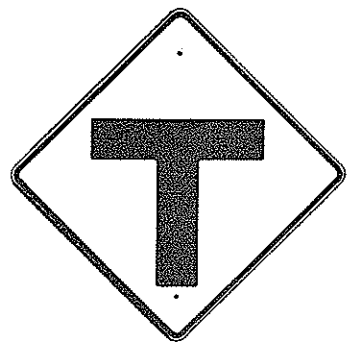
W2-1 30"x30"
W2-1-A 48"x48"



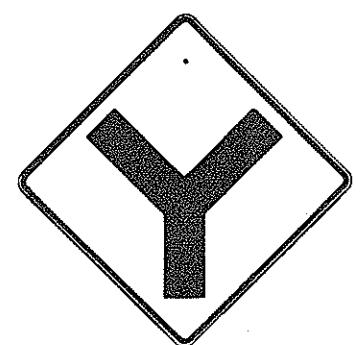
W2-2 30"x30"
W2-2-A 48"x48"



W2-3(R) 30"x30"
W2-3(R)-A 48"x48"



W2-4 30"x30"
W2-4-A 48"x48"



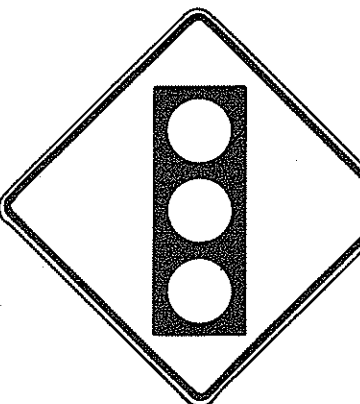
W2-5 30"x30"
W2-5-A 48"x48"



W3-1 30"x30"
W3-1-A 36"x36"



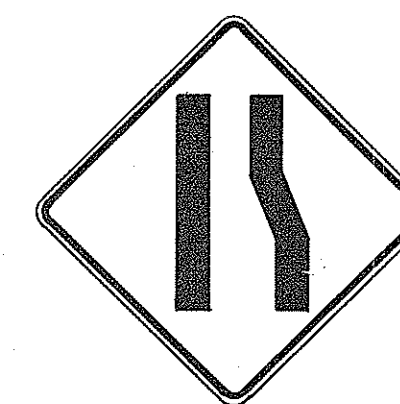
W3-2 30"x30"
W3-2-A 36"x36"



W3-3 36"x36"
24"x18"



W4-1(R) 30"x30"
24"x18"
W4-1(R)-A 48"x48"
24"x18"



W4-2(R) 36"x36"
W4-2(R)-A 48"x48"



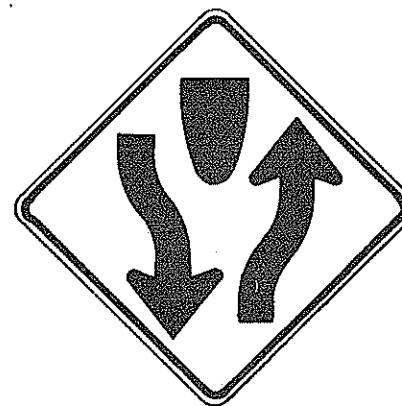
W5-1 36"x36"



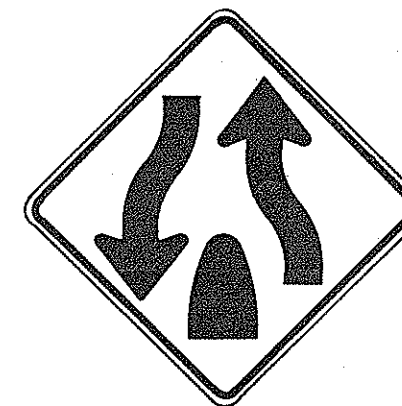
W5-2 30"x30"
W5-2-A 36"x36"



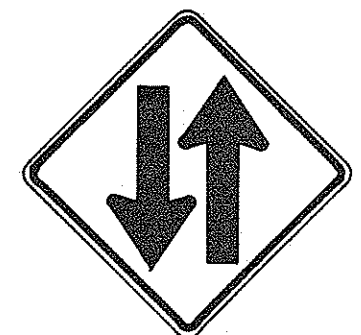
W5-3 36"x36"



W6-1 36"x36"
24"x18"



W6-2 36"x36"
24"x18"



W6-3 30"x30"
24"x18"
W6-3-A 36"x36"
24"x18"
W6-3-B 48"x48"
24"x18"



W7-1 30"x30"
24"x18"
W7-1-A 36"x36"
24"x18"



W7-2 24"x18"



W8-1 30"x30"
W8-1-A 36"x36"



W8-2 30"x30"
W8-2-A 36"x36"



W8-3 30"x30"
W8-3-A 36"x36"



W8-4 30"x30"
W8-4-A 36"x36"



W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



W9-1(R) 30"x30"
W9-1(R)-A 36"x36"
W9-1(R)-B 48"x48"



W9-2(L) 36"x36"
W9-2(L)-A 48"x48"



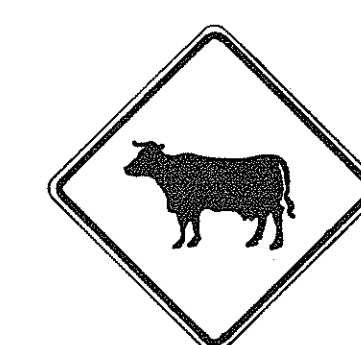
W10-1 36" Diameter



W11-1 30"x30"
24"x18"
W11-1-A 36"x36"
24"x18"



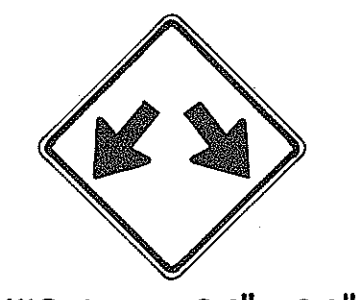
W11-2 30"x30"
24"x18"
W11-2-A 36"x36"
24"x18"



W11-4 30"x30"
24"x18"
W11-4-A 36"x36"
24"x18"



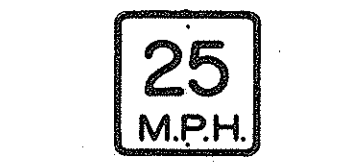
W11-5 30"x30"
24"x18"
W11-5-A 36"x36"
24"x18"



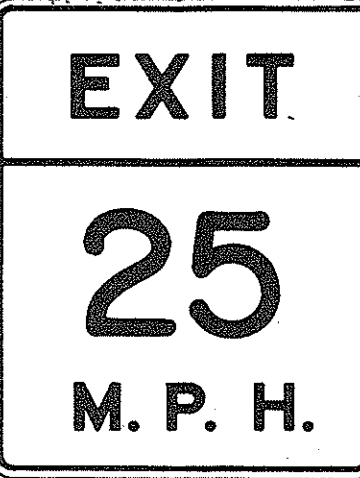
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



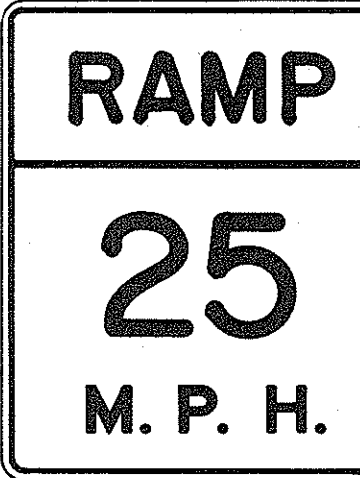
W12-2(12'-6") 36"x36"
24"x18"



W13-1(25) 18"x18"
W13-1(25)-A 24"x24"



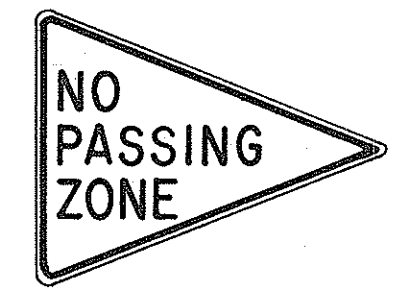
W13-2(25) 48"x60"



W13-3(25) 48"x60"



W14-1 30"x30"



W14-3 36"x48"x48"

GENERAL NOTES

- 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.

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

APPROVED:
Robert Ralsin 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.	10/10/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE
SHEET No. 7 OF 10 SHEETS DT 102

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-078-(16)	1975	8	10



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"



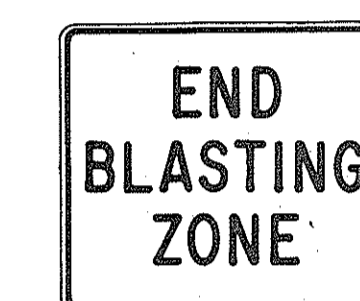
CW21-6 30" x 30"



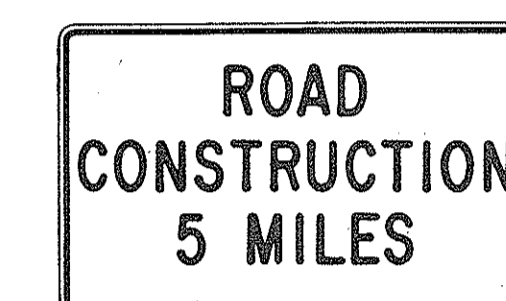
CW22-1b 48" x 48"



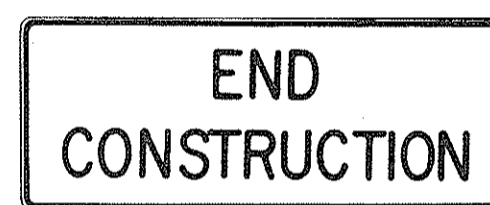
CW22-2 42" x 36"



CW22-3 42" x 36"



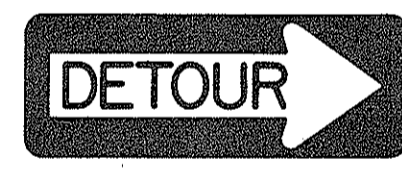
CG20-1(5) 60" x 36"



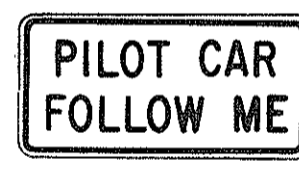
CG20-2 60" x 24"



CM4-9(R) 30" x 24"



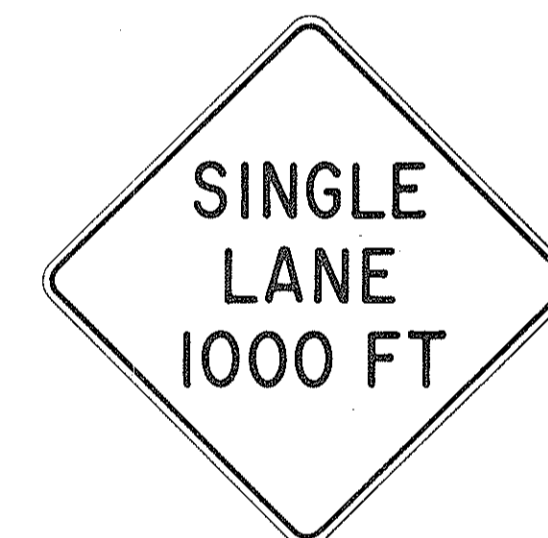
CM4-10(R) 48" x 18"



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 unless otherwise specified.
- All construction signs shall have $\frac{3}{8}$ " 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:
Eisaku Tanaka
TRAFFIC ENGINEER

3/21/72
DATE

APPROVED:
Shigeru Saito
ASSISTANT CHIEF, ENGINEERING

2/22/72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 104 Approved 12-30-69	H.T.	2/23/72
2	Revised General Note 1	H.T.	10/16/74

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS CONSTRUCTION SIGNS

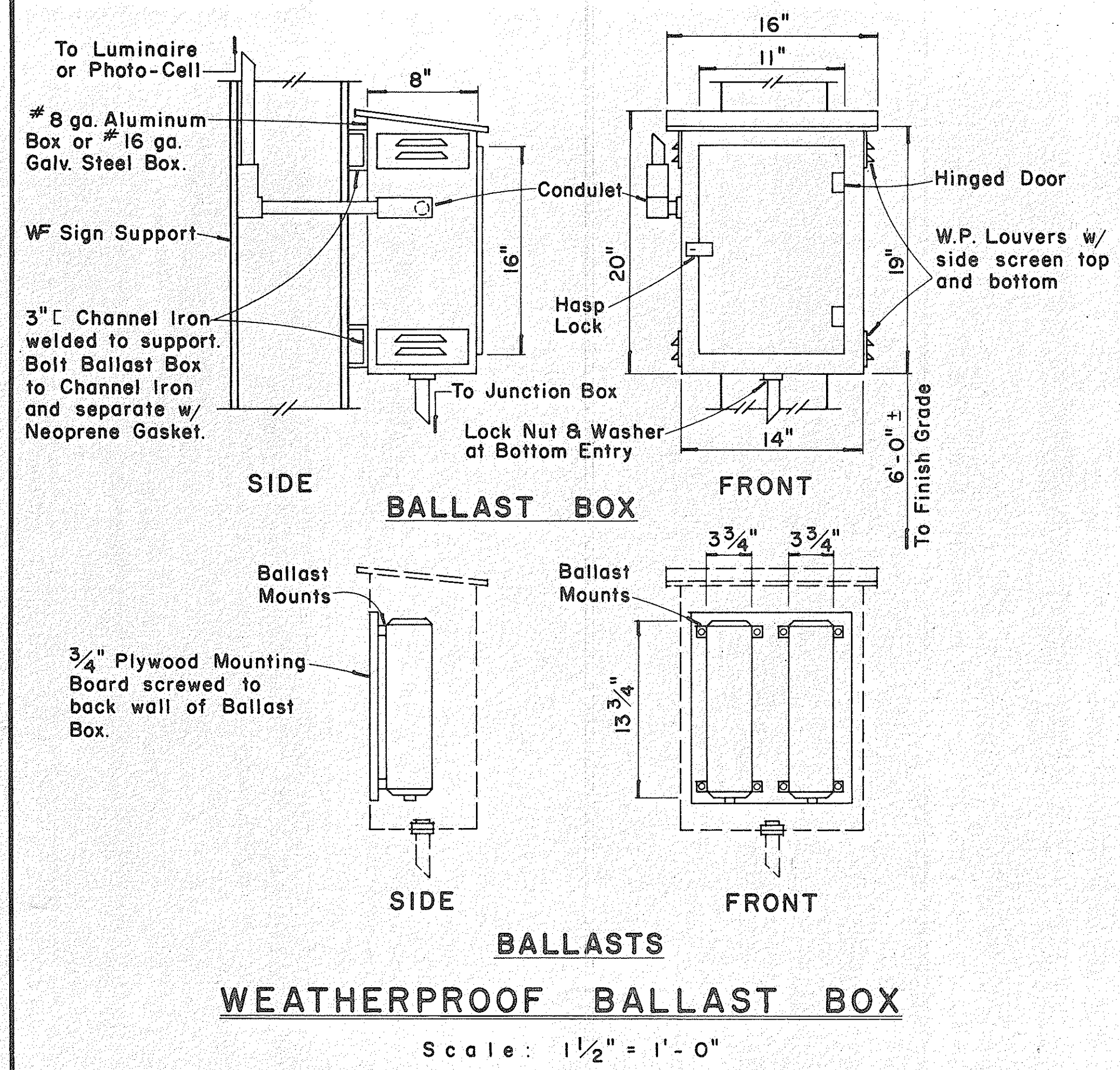
NOT TO SCALE

SHEET No. 8 OF 10 SHEETS DT 104

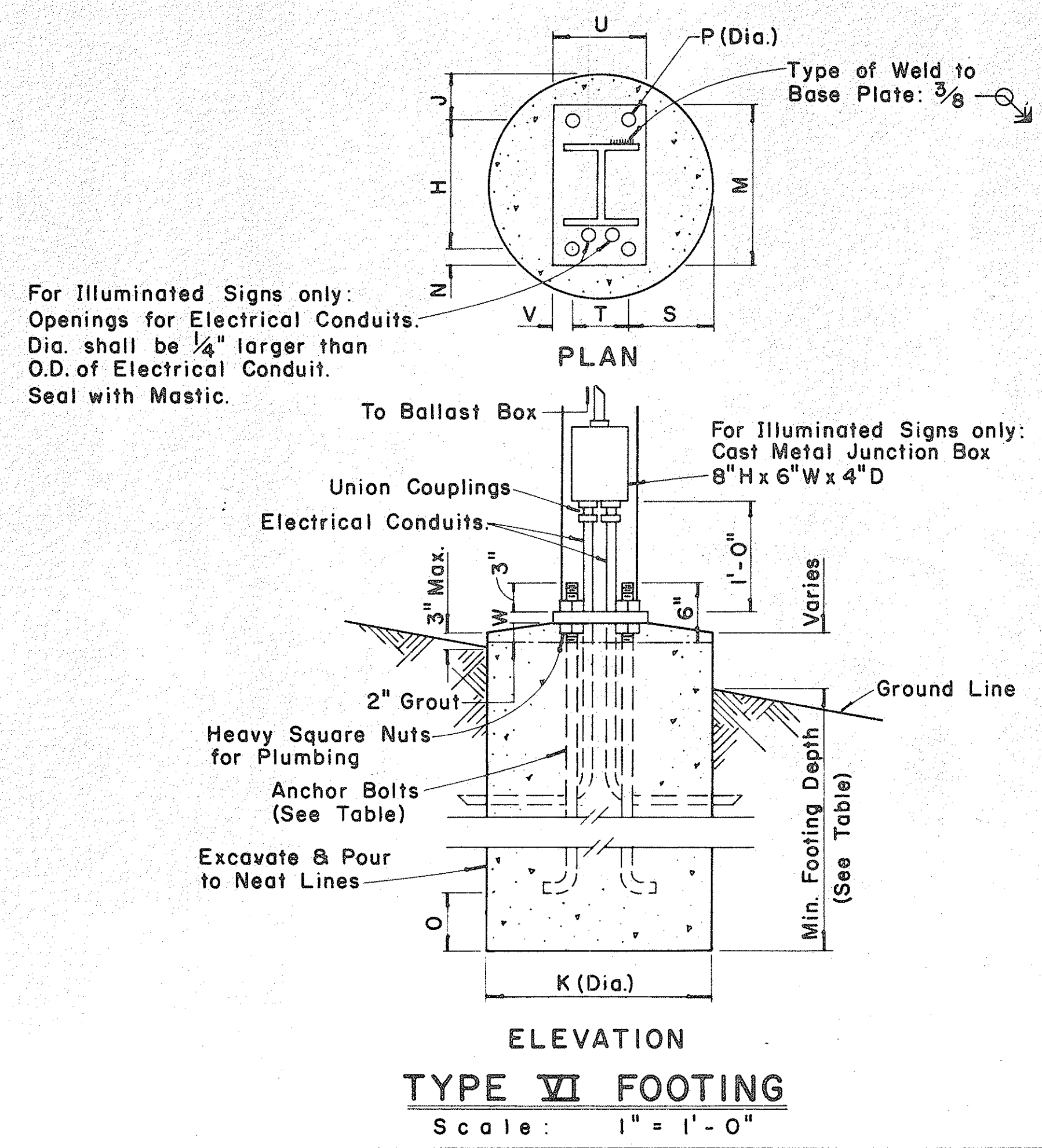
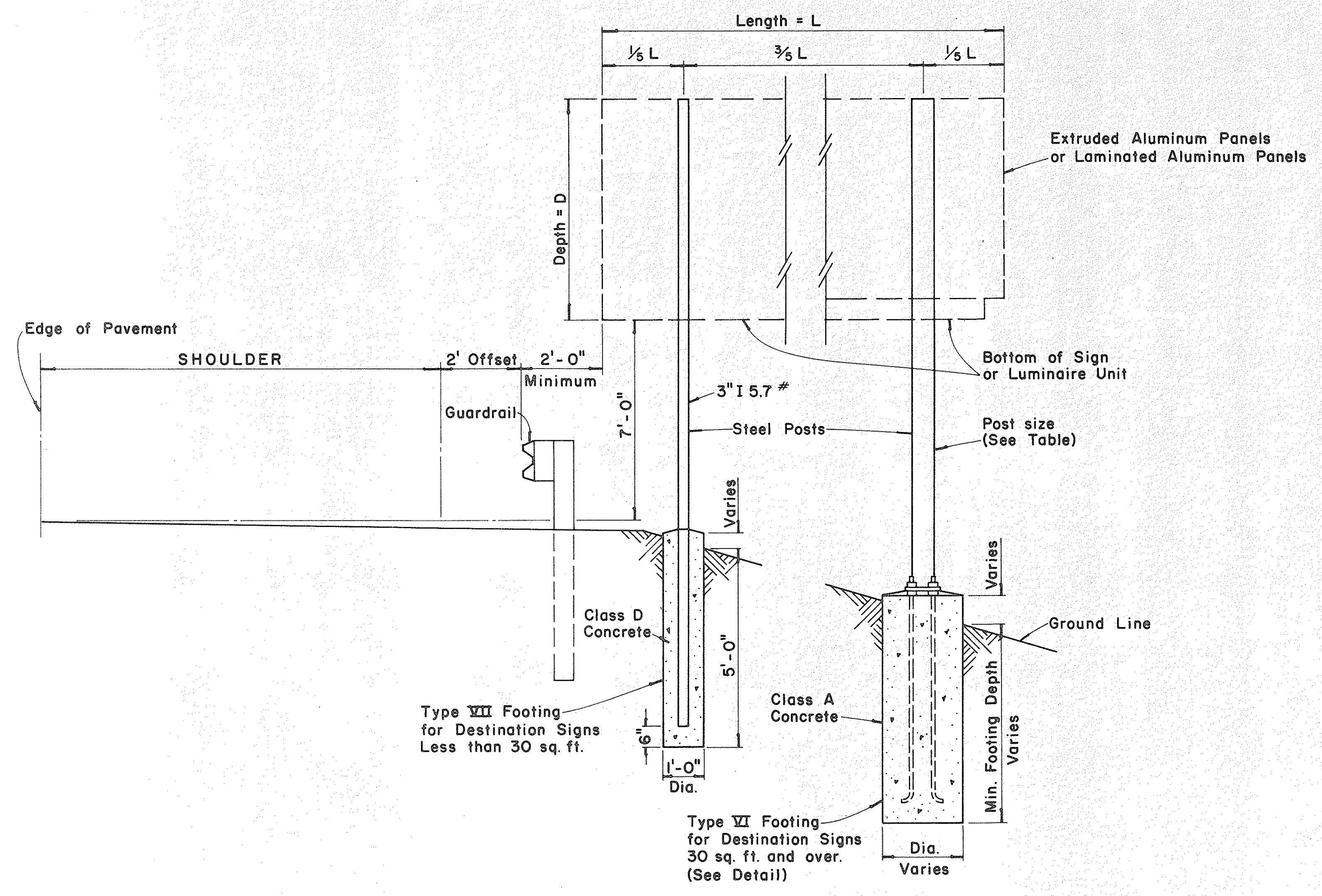
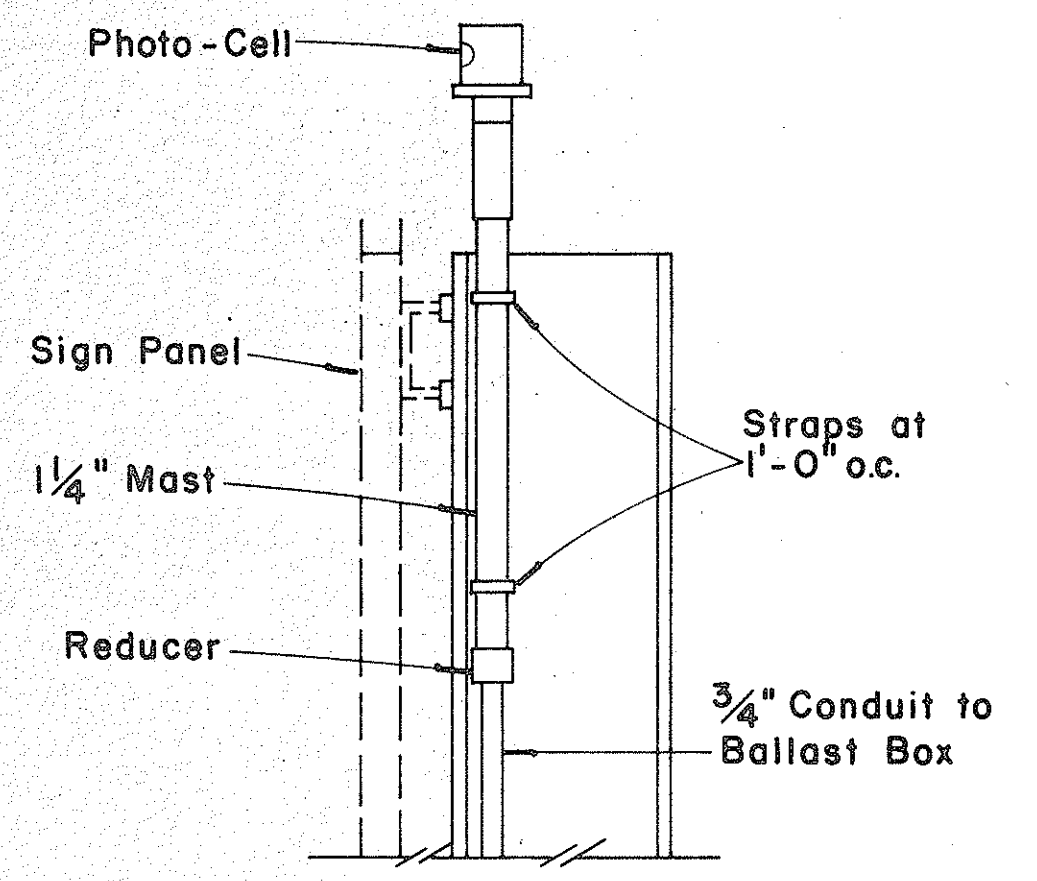
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

* 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 J 10	50 sq. ft.	14'	14"	5"	24"	17 1/4"	15 5/8"	6"	1 1/4"	9"	6"	10"	2"	1"	1 1/8" Ø	4 1/2'	4 1/2'
8 WF 24	90 sq. ft.	21'															5'
8 WF 35	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 WF 45	190 sq. ft.	25'															
10 WF 45	200 sq. ft.	25'															
12 WF 50	230 sq. ft.	25'														7'	
12 WF 50	250 sq. ft.	23'															



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	4-078-1(19)	1975	9	10



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

APPROVED:
Andy J. Salas 12-29-69
 ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

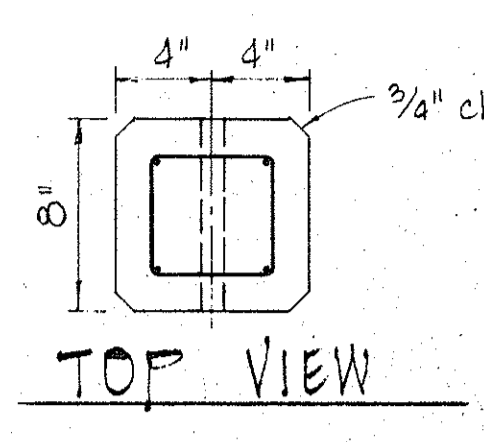
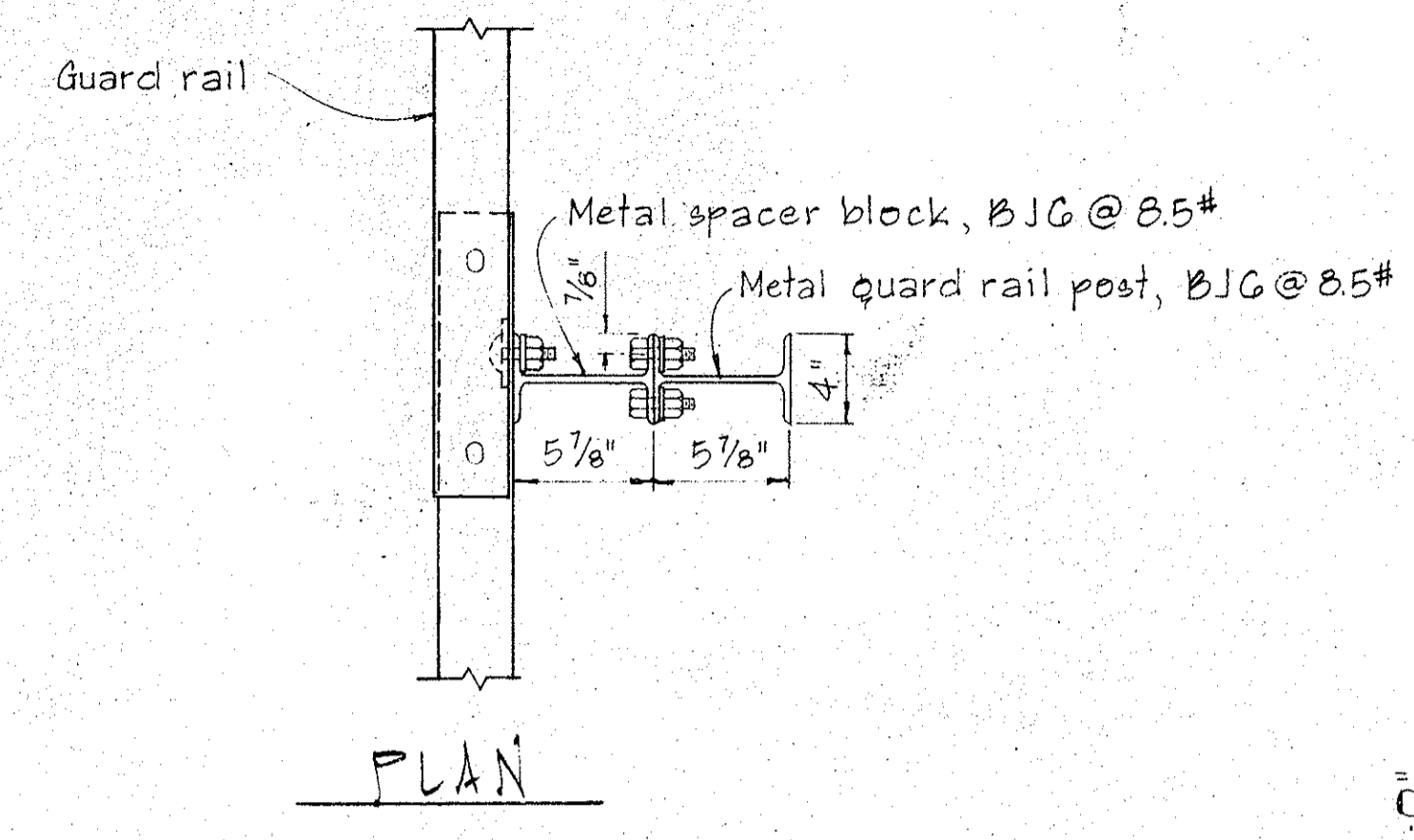
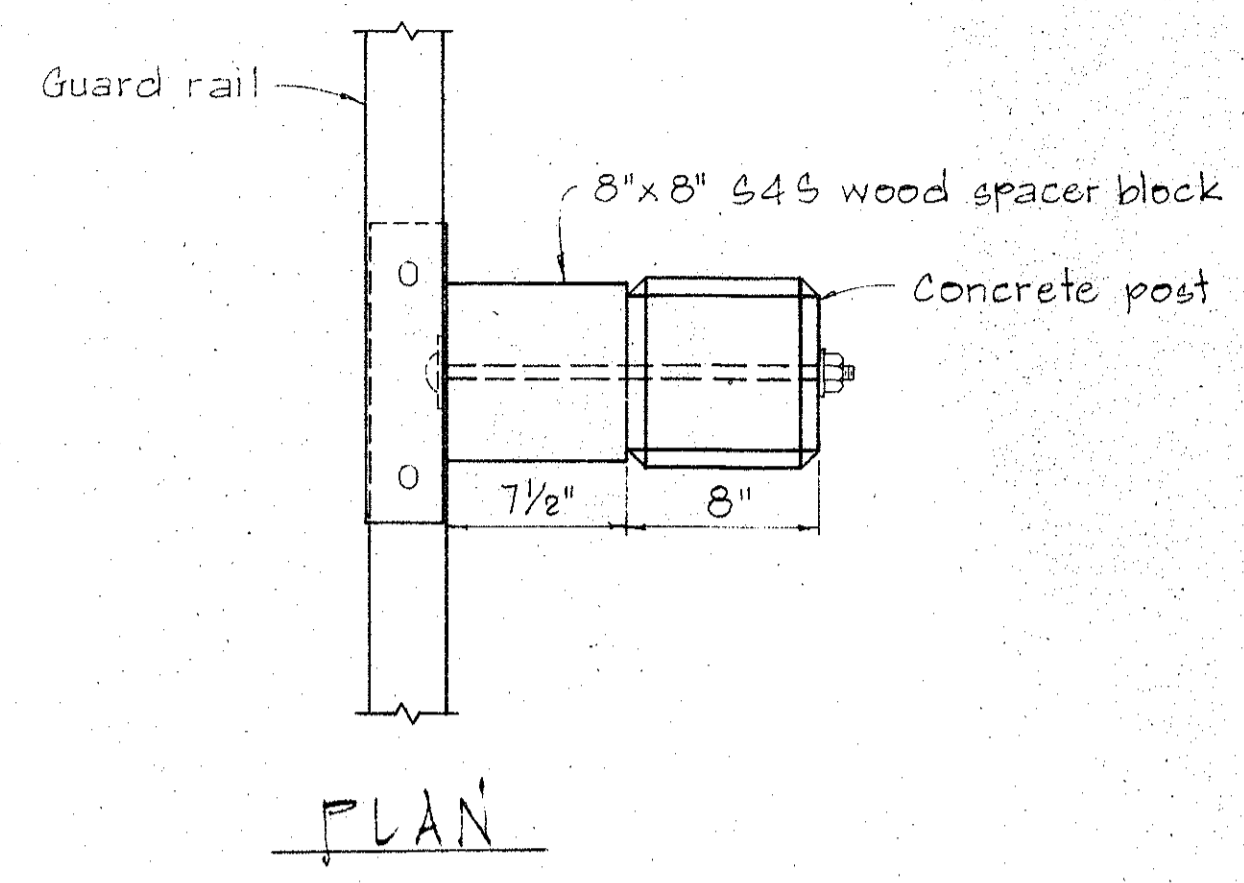
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
DESTINATION & GROUND MOUNTED EXPRESSWAY SIGNS

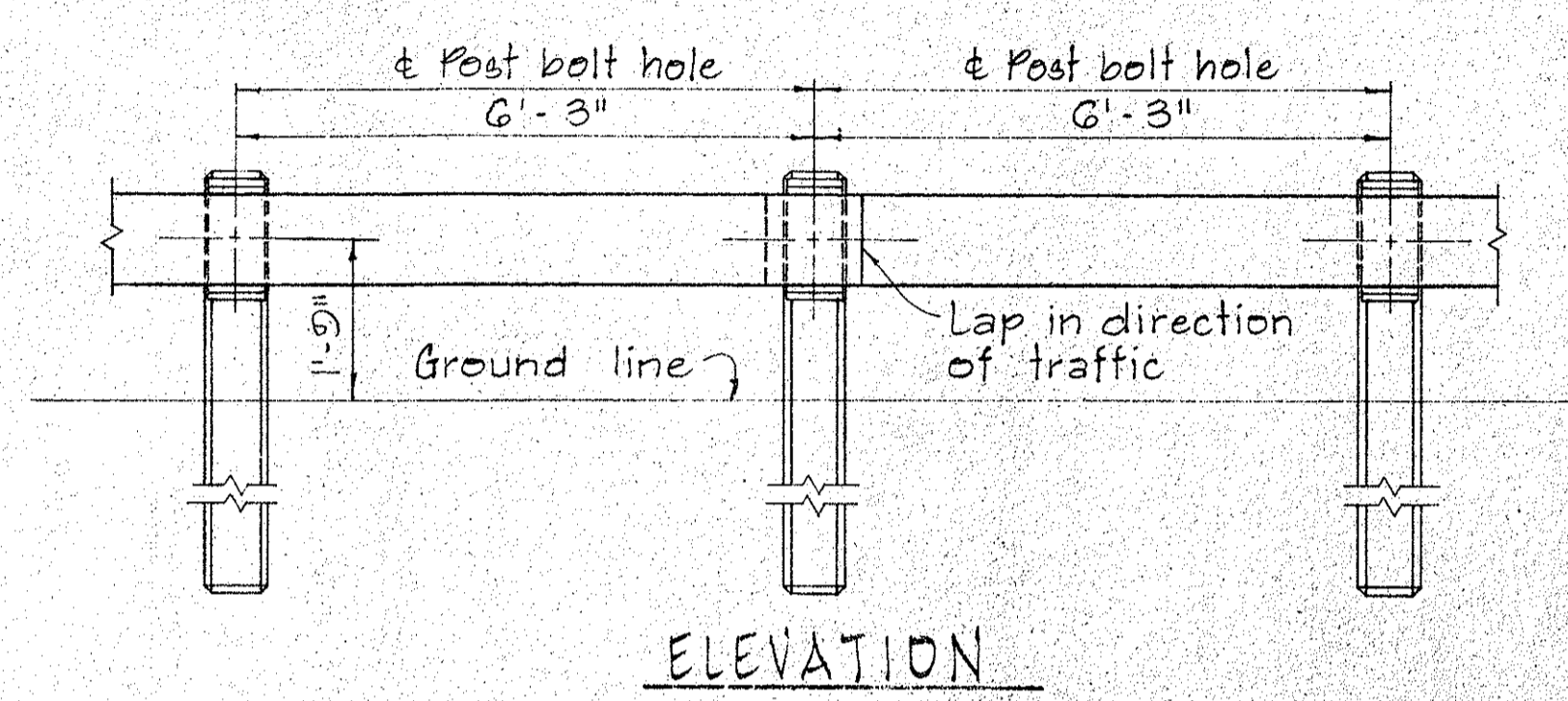
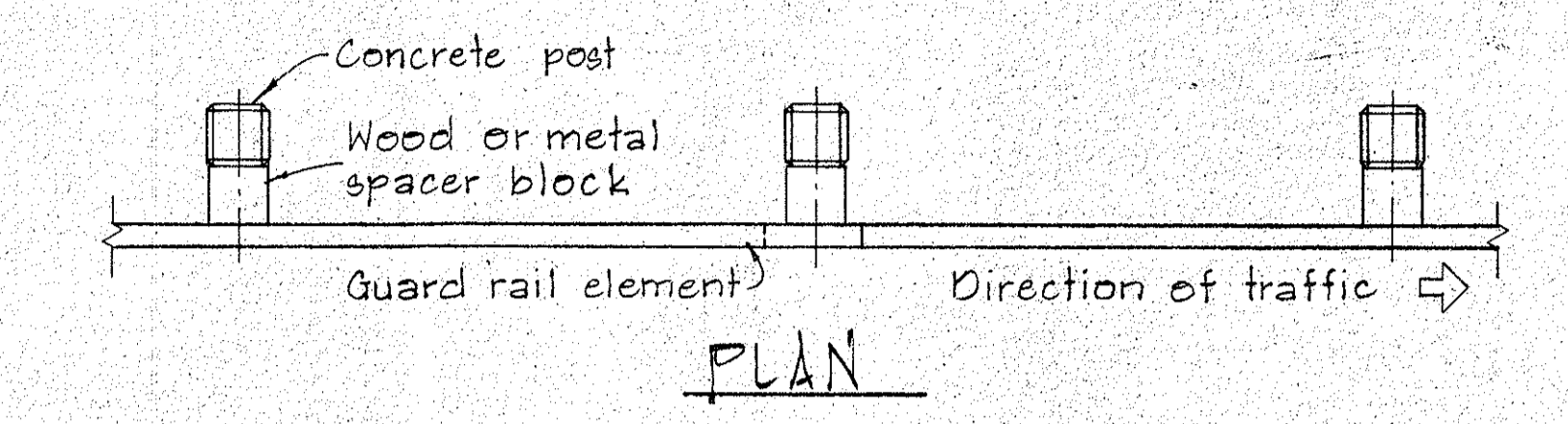
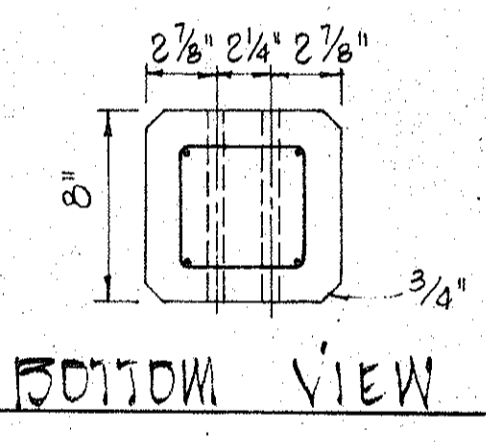
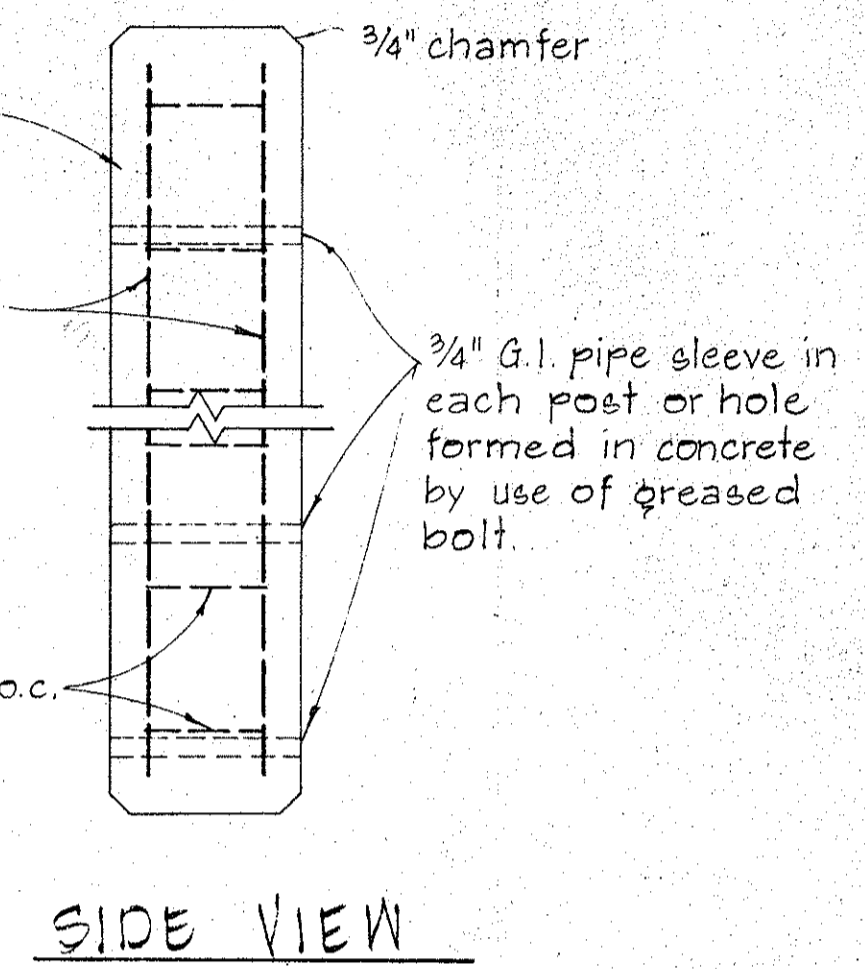
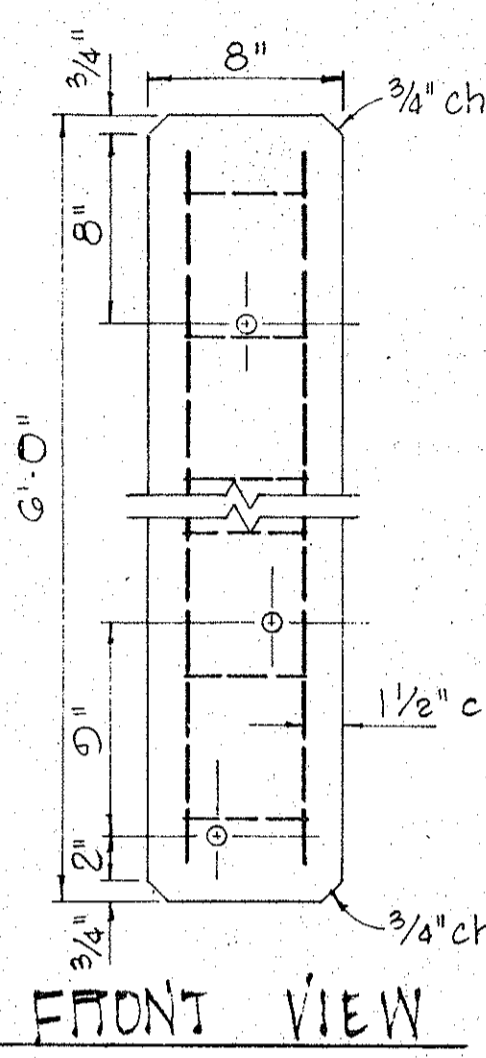
Scale: As Shown
 SHEET No. 9 OF 10 SHEETS DT 203

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

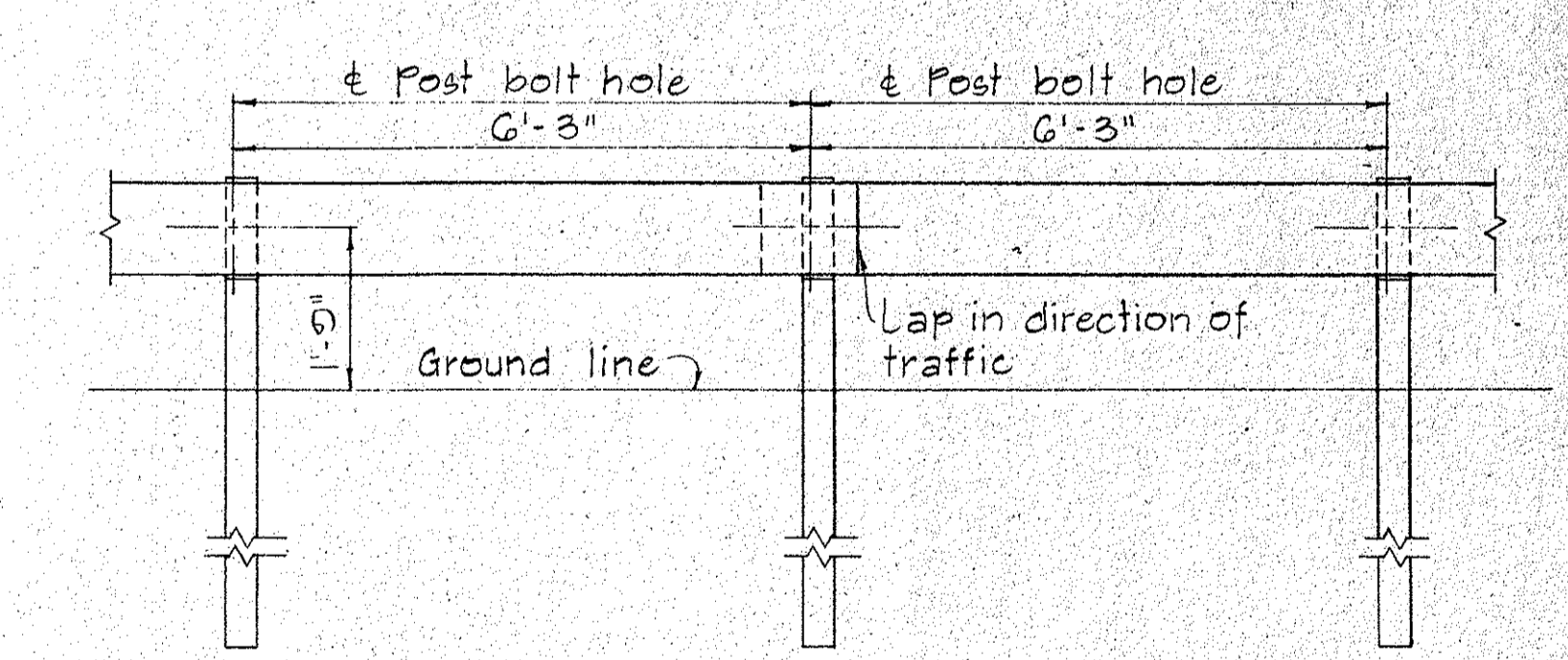
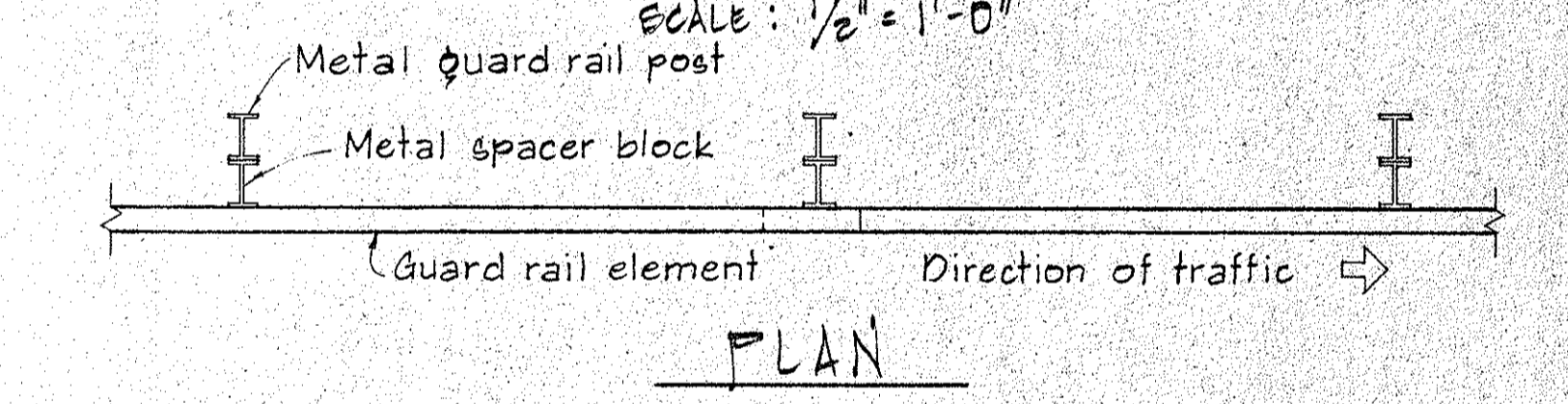
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-018-1(15)	1975	ADD. 9 S-1	10



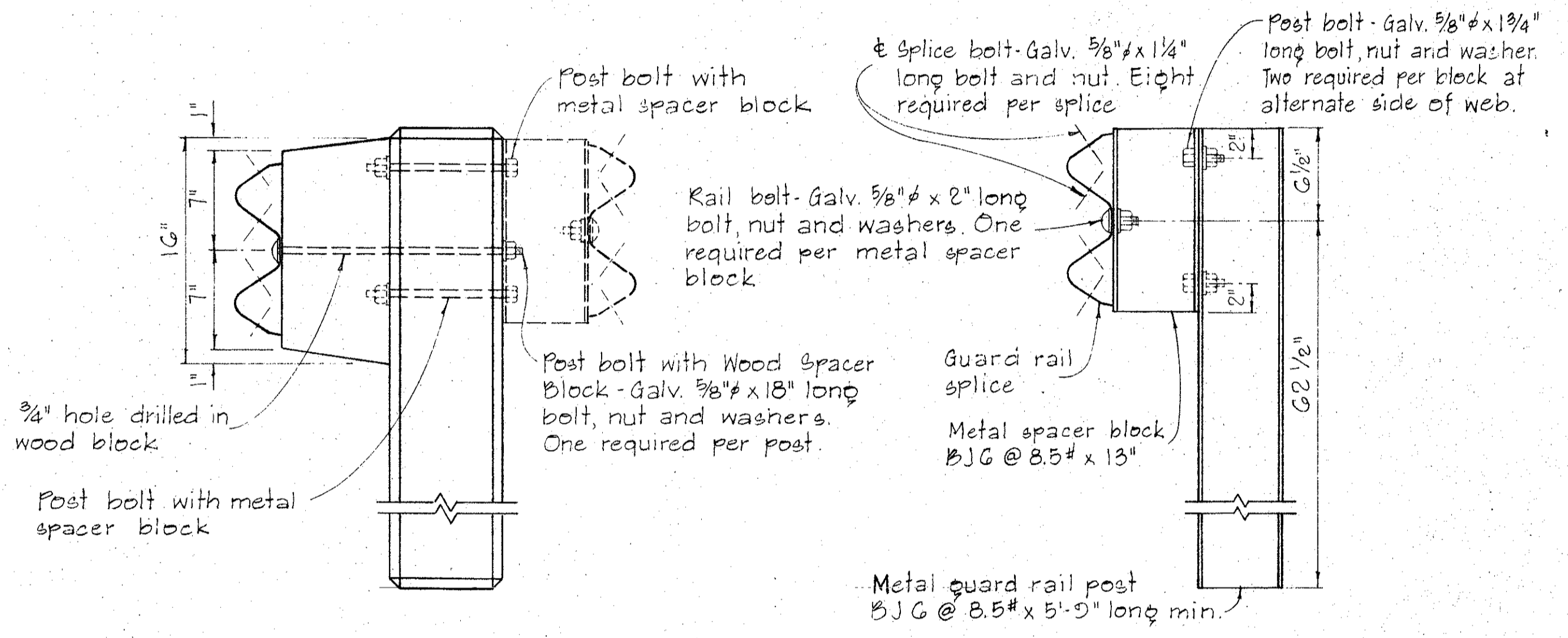
NOTE:
Concrete post shall be precast



METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK.
SCALE: 1/2" = 1'-0"

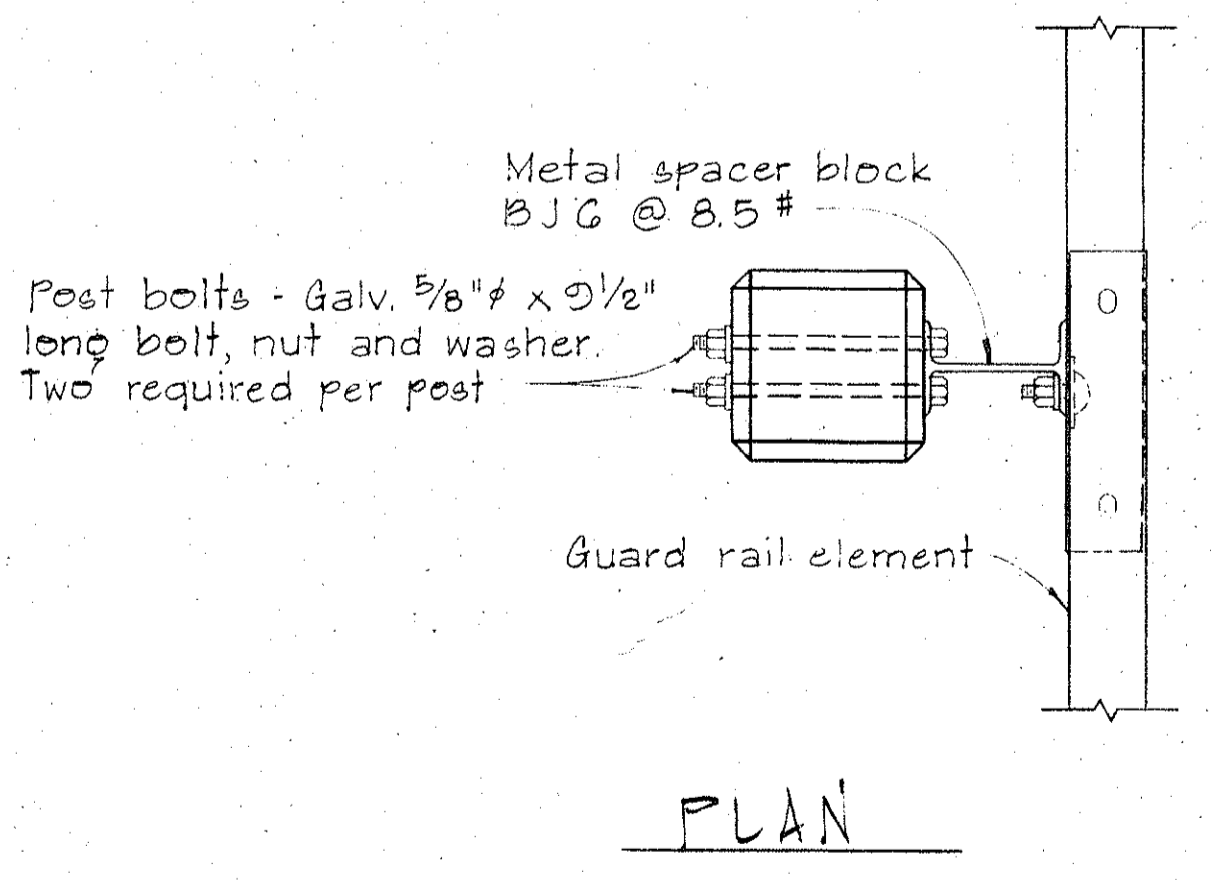


METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK.
SCALE: 1/2" = 1'-0"

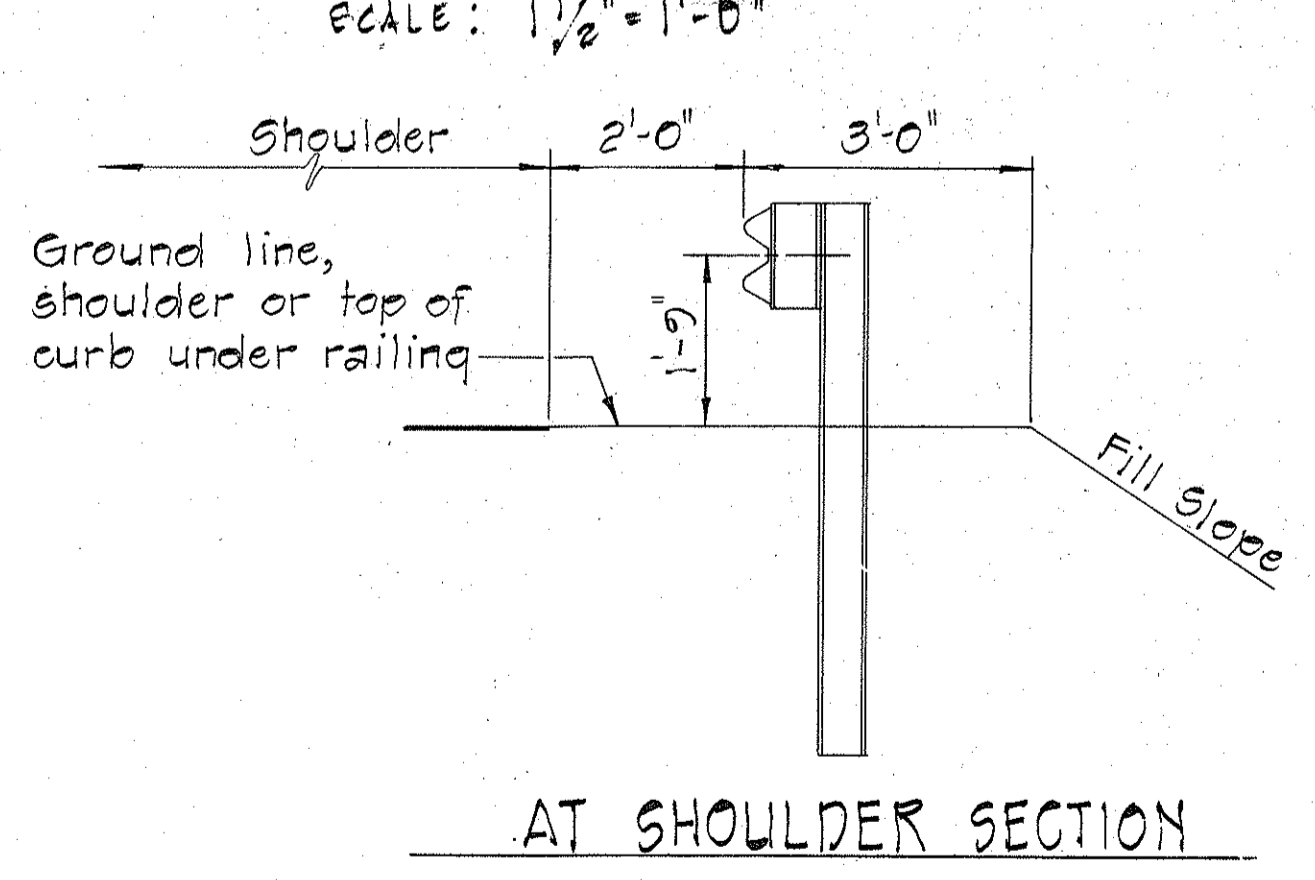


SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"

DETAIL OF CONCRETE POST
SCALE: 1 1/2" = 1'-0"



SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK.
SCALE: 1 1/2" = 1'-0"



TYPICAL METAL GUARD RAIL DETAIL
SCALE: 1/2" = 1'-0"

DATE
DESIGNED BY
CHECKED BY
NO.

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER 12/29/62 DATE

APPROVED:
Hubert J. Jelen
ASSISTANT CHIEF, ENGINEERING 12-30-69 DATE

NO.	REVISION	APPROVED BY	DATE

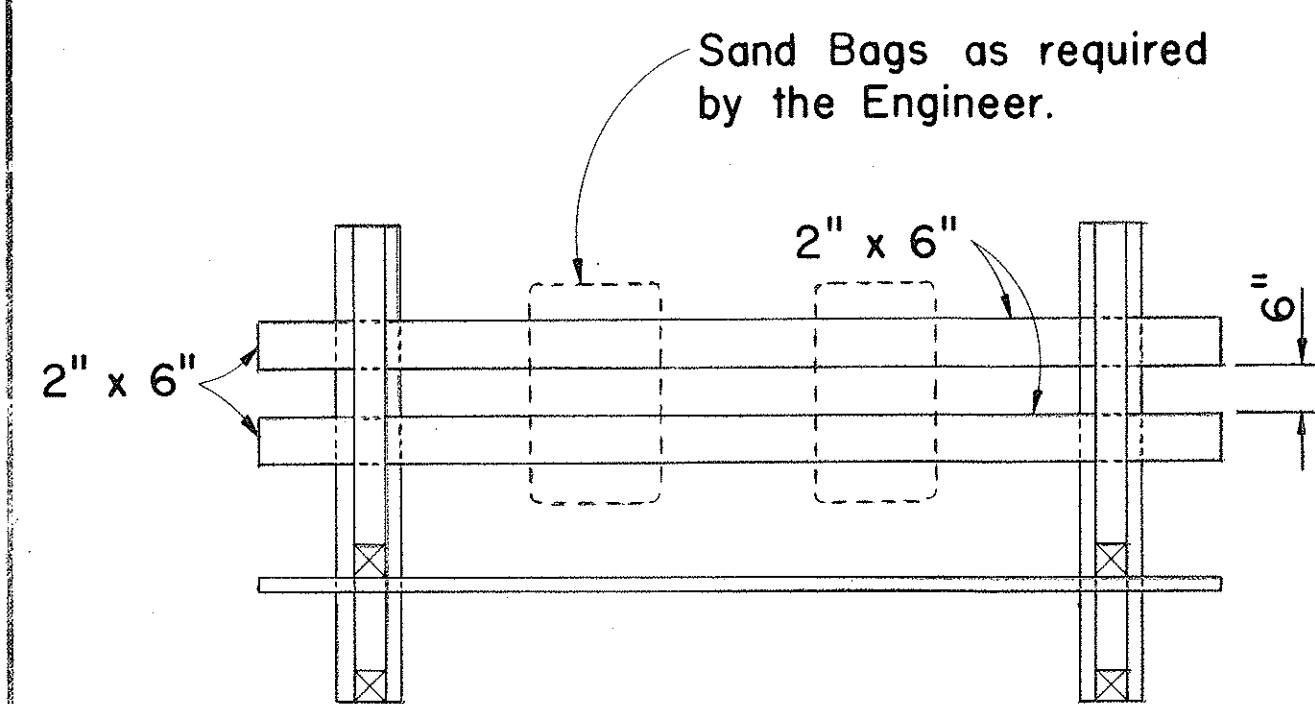
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN NOV. 1968
SHEET No. 9A OF 10 SHEETS DT 500

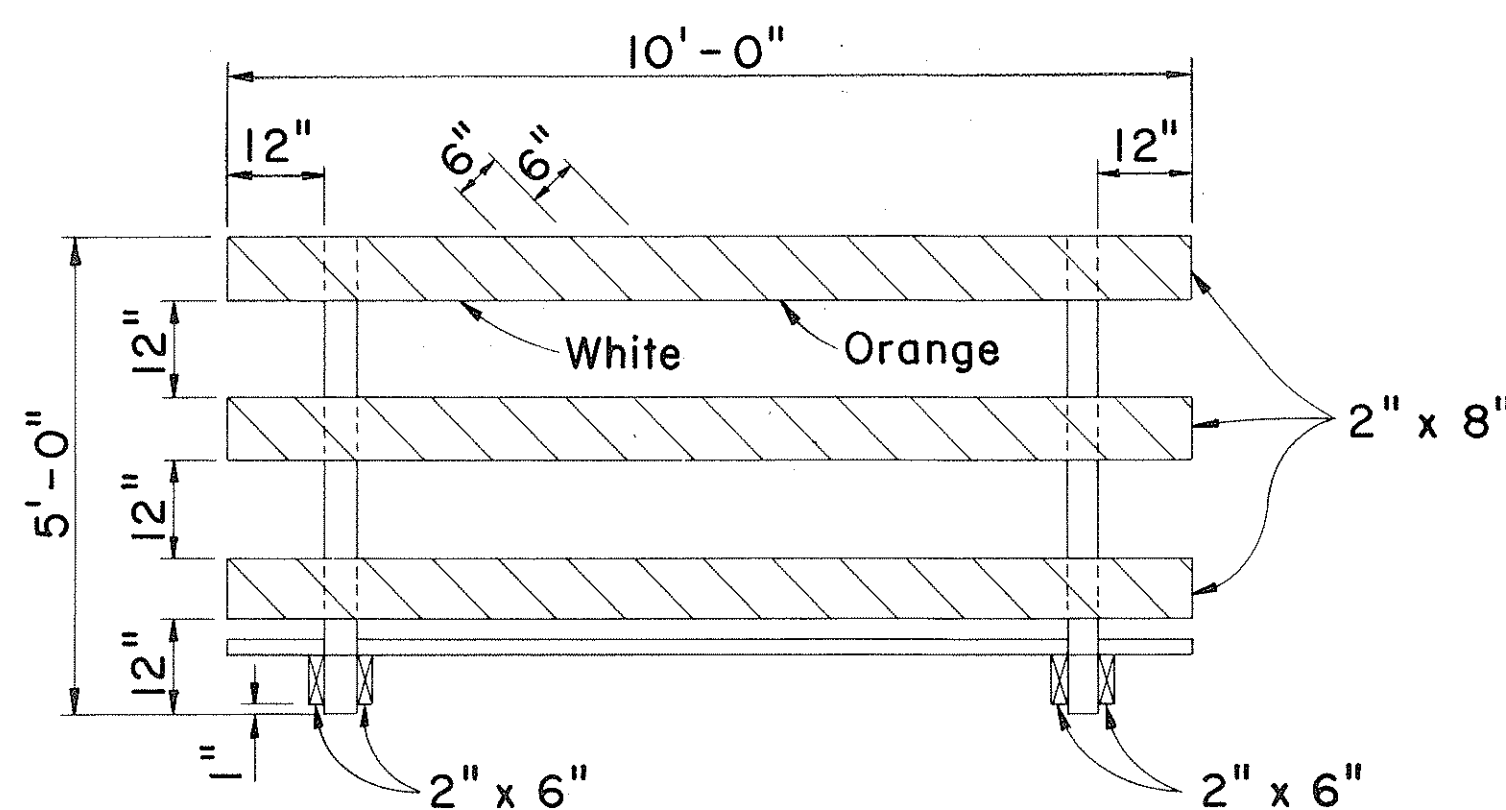
ADD. 9 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-078-1(15)	1975	10	10

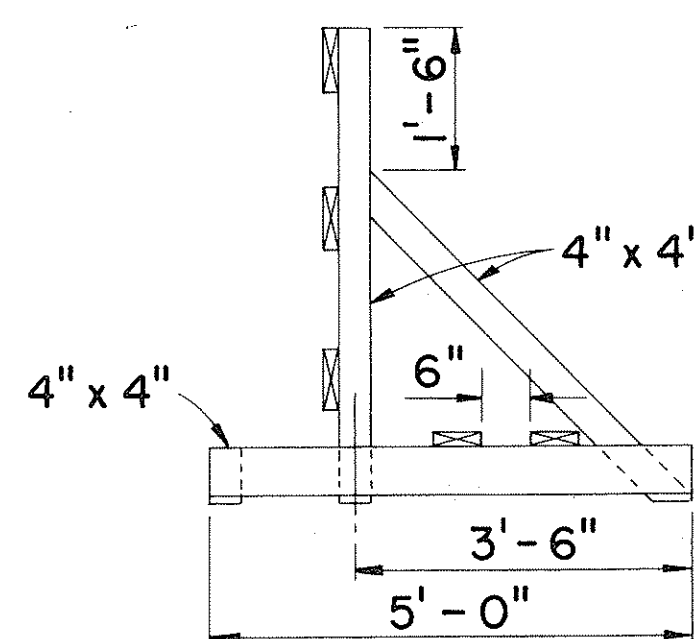


PLAN VIEW

- GENERAL NOTES**
1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
 2. The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.
 3. The orange and white stripes shall slant downward toward the side on which traffic is to pass and shall be reflectorized.



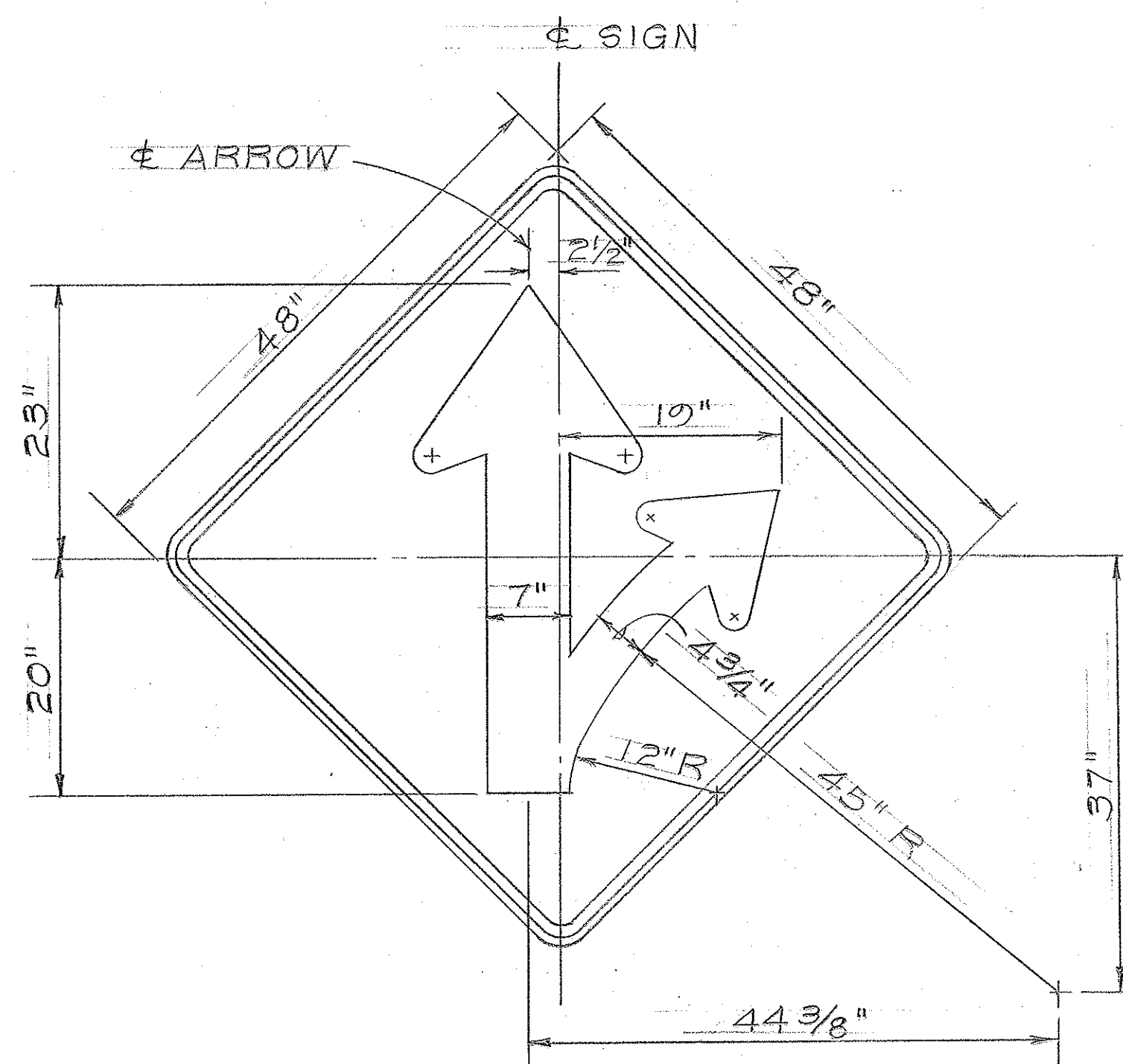
FRONT VIEW



END VIEW

CLASS I BARRICADE

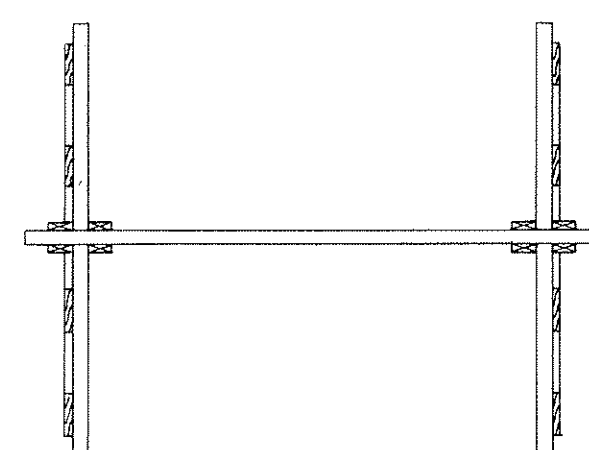
Scale: 1/2" = 1'-0"



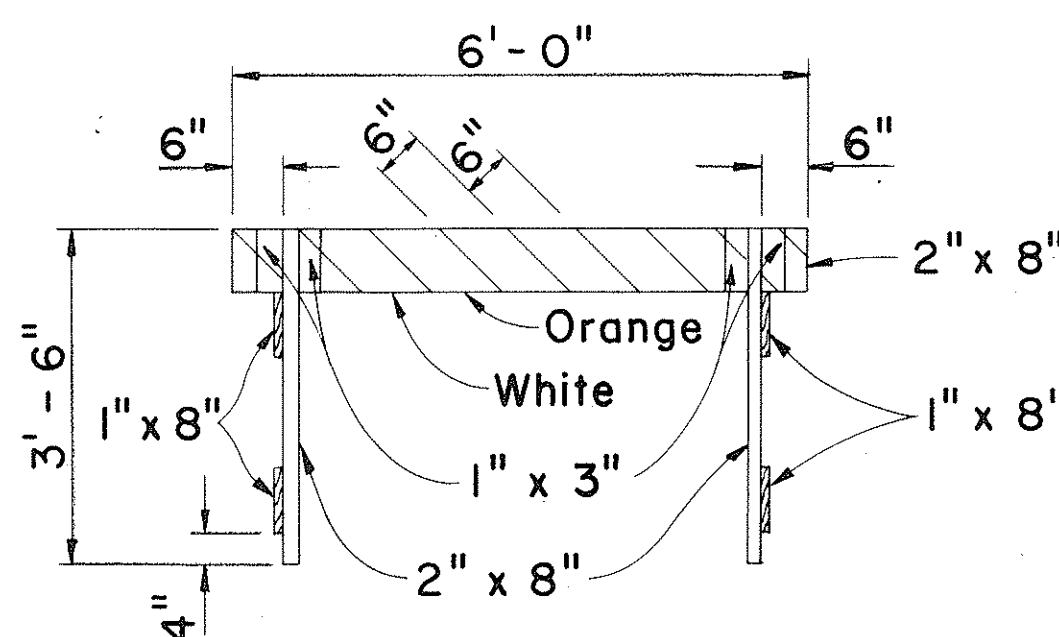
W15-3
48" x 48"
SCALE: 1" = 1'-0"

NOTES

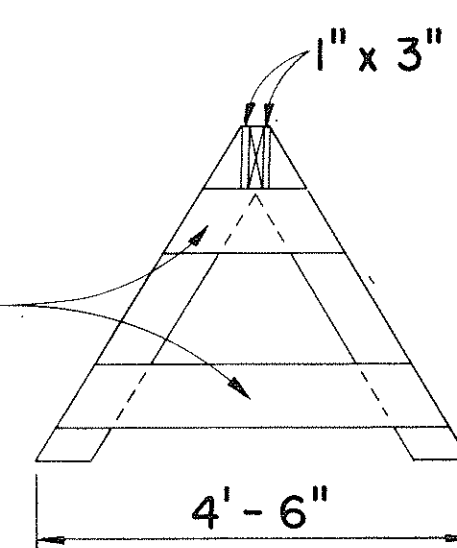
1. FOR SIGN PLATE AND ARROW HEAD DETAILS, SEE FHWA MANUAL "STANDARD HIGHWAY SIGNS" 1972.
2. FOR ADDITIONAL NOTES AND DETAILS, SEE PLAN SHEETS NOS. DT 100 & DT 102.



PLAN VIEW



FRONT VIEW



END VIEW

CLASS II BARRICADE

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

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

DATE	REVISION
7/3/75	Deleted construction Identification Sign (N.I.C.) and added Sign W15-3 detail.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

SIGN DETAIL
AND
WOOD BARRICADES

SCALE: As Shown DATE:

SHEET No. 10 OF 10 SHEETS