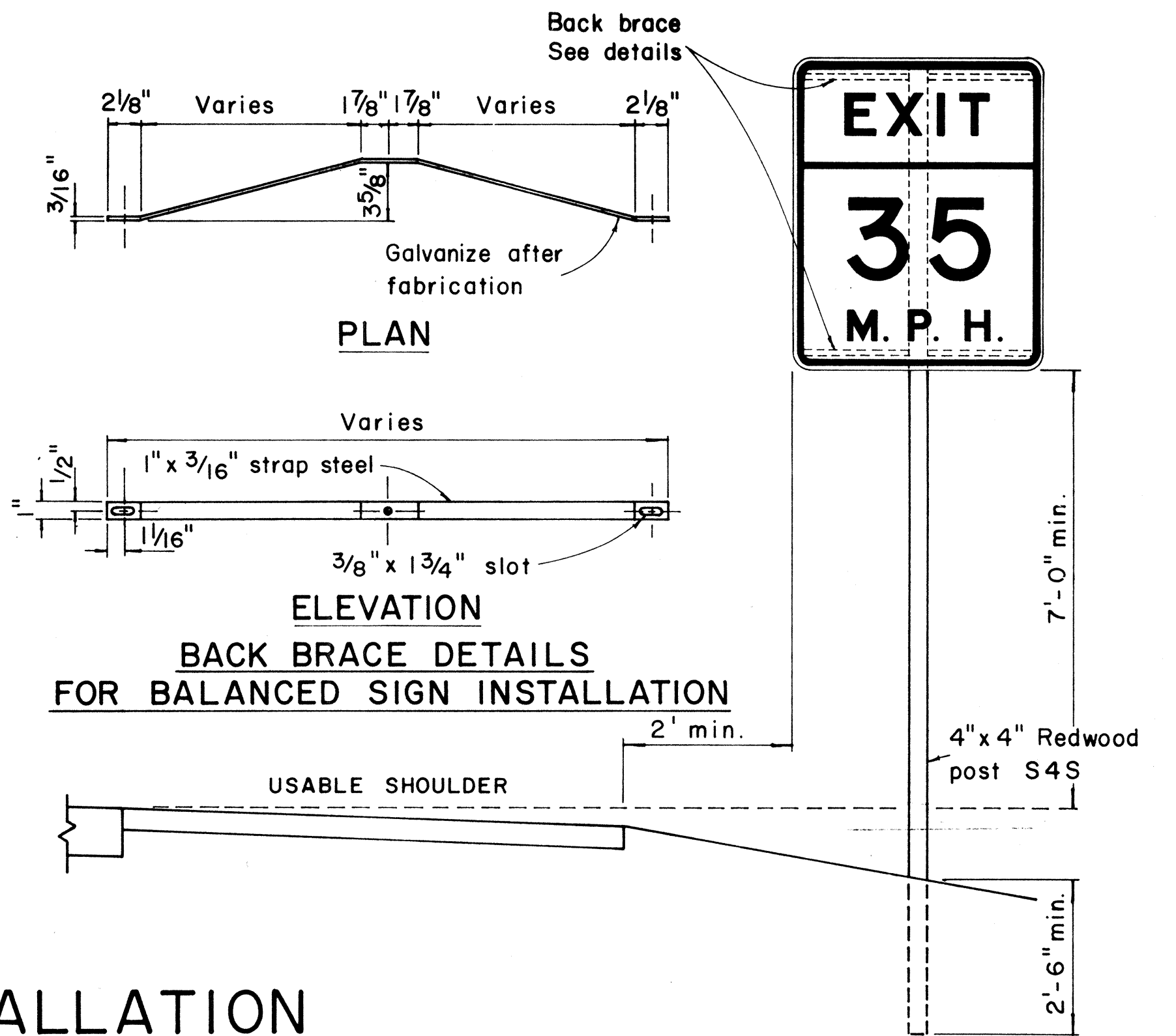
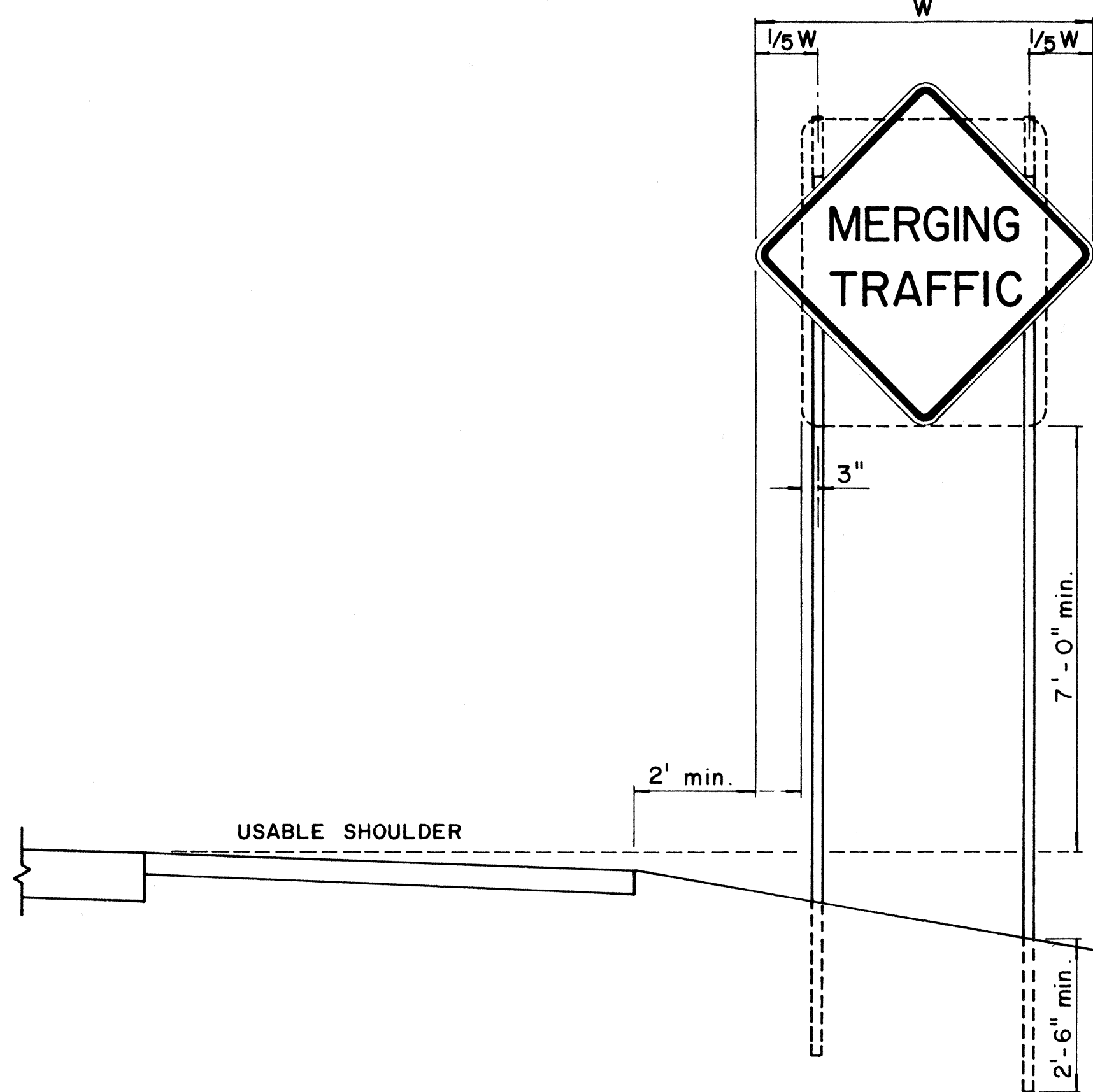
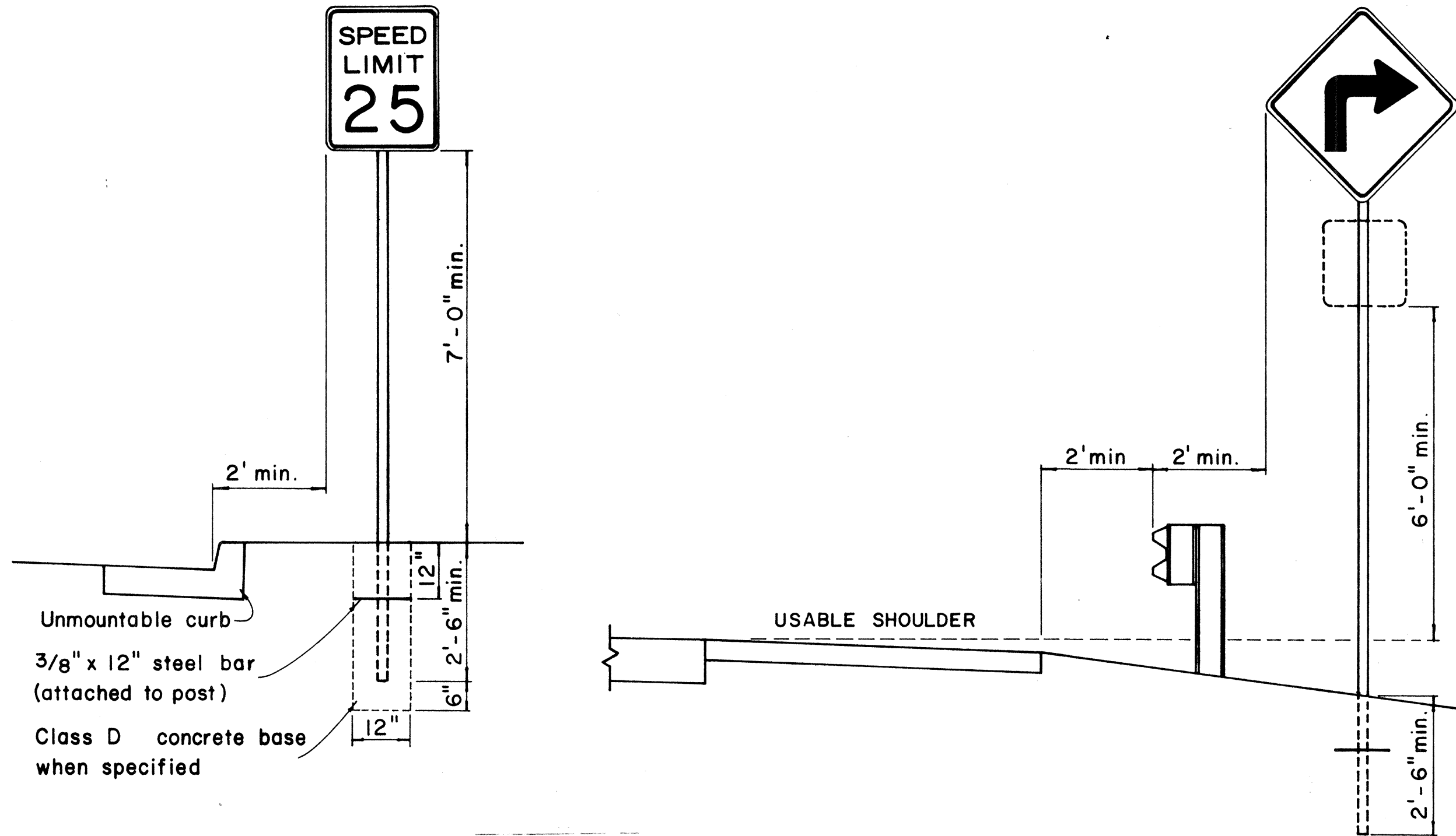
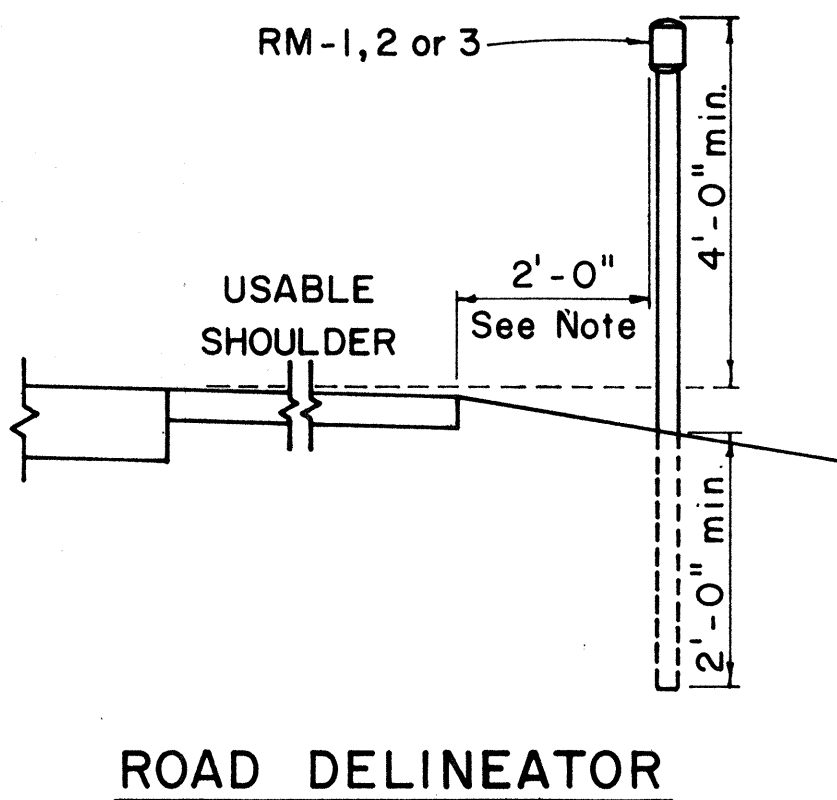


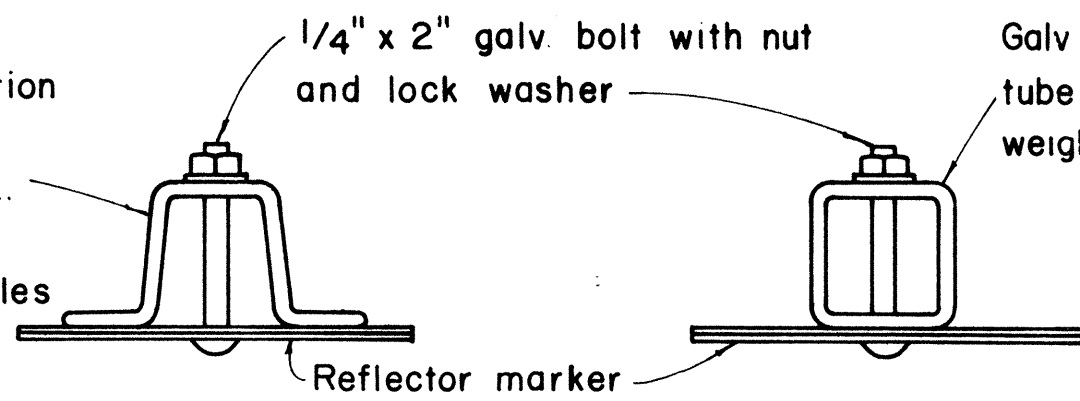
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(113)-13	1976	44	63



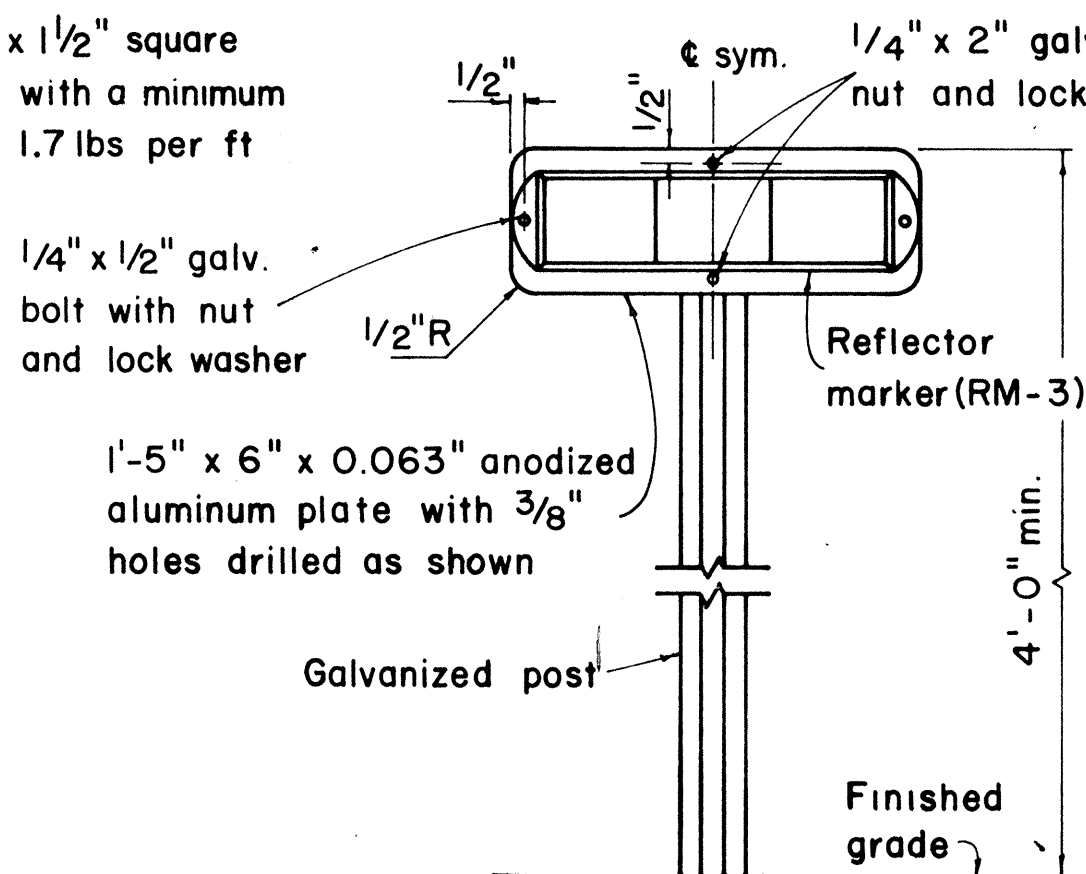
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



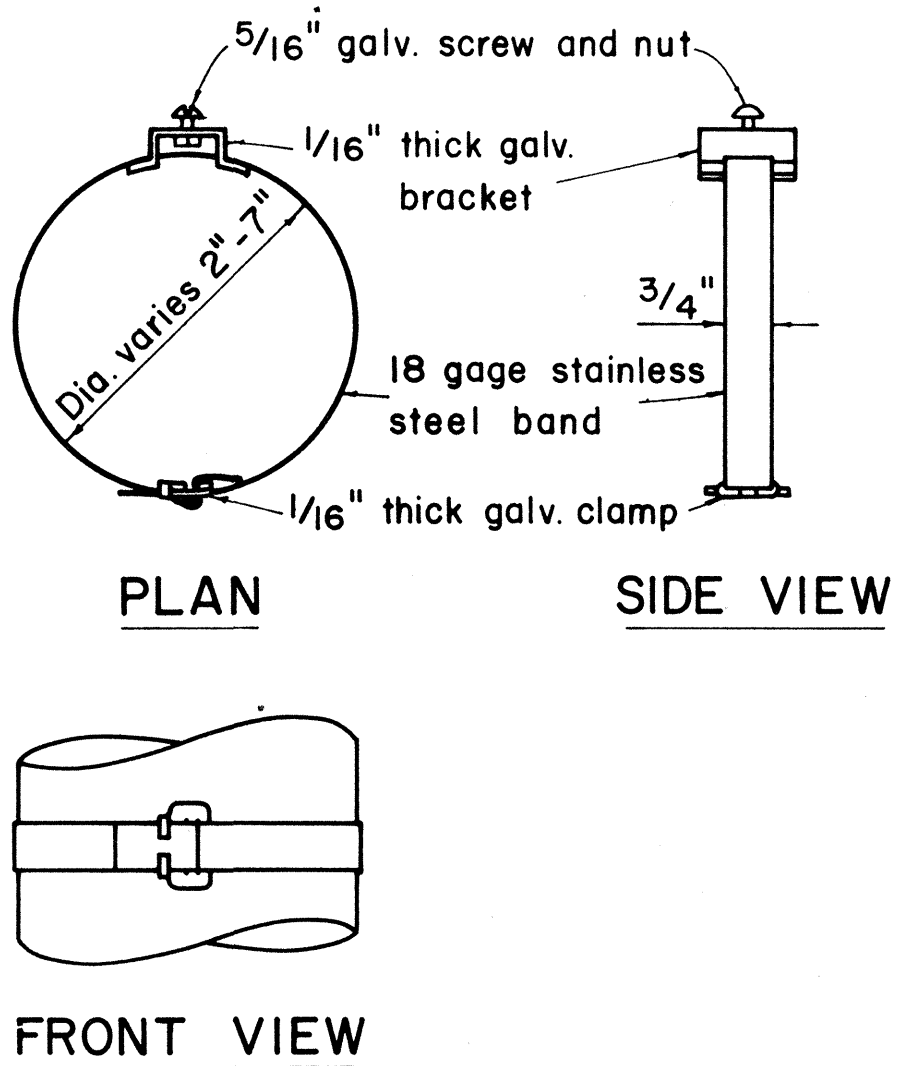
Galv. flanged channel
1/8" x 3 1/16" rolled section
post with a minimum
weight of 2 lbs. per ft.
Upper 2 ft. shall have
a single row of 3/8" holes
centered in the web at
1" o.c.



TYPICAL SECTION OF ROAD DELINEATOR



TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



TYPICAL BAND BRACKET FOR
MOUNTING TRAFFIC SIGNS

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

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
12/29/69
DATE

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

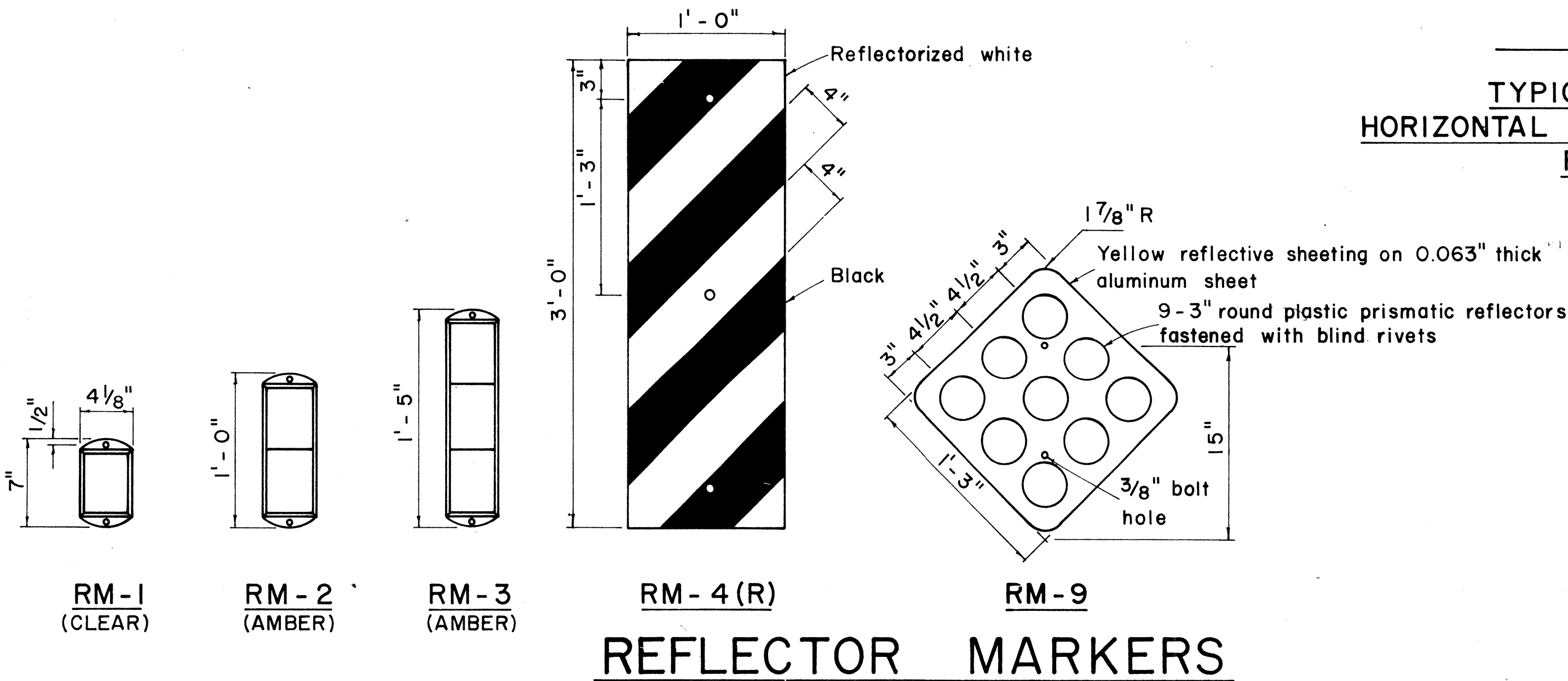
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale
March, 1968

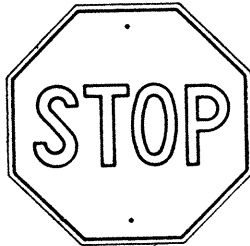
SHEET No. 1 OF 20 SHEETS DT 100

DATE	REVISION	APPROVED BY	DATE
12/29/69	1	TRAFFIC ENGINEER	12/29/69
12-30-69	2	ASSISTANT CHIEF, ENGINEERING	12-30-69



REFLECTOR MARKERS

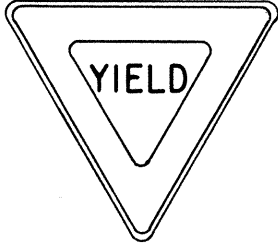
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-H-1(113)13	1976	45	63



R1-1 30" x 30"
R1-1-A 36" x 36"

4-WAY

R1-3 12" x 6"
R1-3-A 18" x 9"



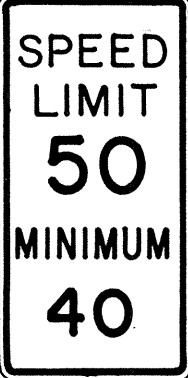
R1-2 36"x36"x36"
R1-2-A 48"x48"x48"



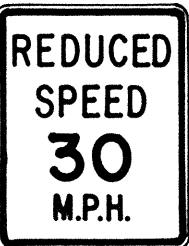
R2-1(50) 24"x 30"
R2-1(50)-A 48"x 60"



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"x24"
24"x18"
R3-1-A 48"x48"
48"x36"



R3-2 24"x24"
24"x18"
R3-2-A 48"x48"
48"x36"



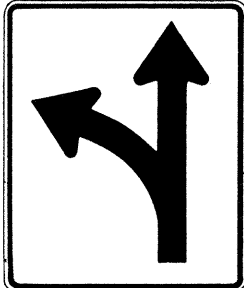
R3-3 24"x 24"
R3-3-A 48" x 48"



R3-4 24"x 24"
24"x18"
R3-4-A 48"x48"
48"x 36"



R3-5(L) 30"x36"
R3-5(L)-A 48"x60"



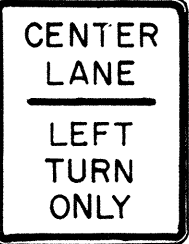
R3-6(L) 30"x36"
R3-6(L)-A 48"x60"



R3-7(R) 30"x30"
R3-7(R)-A 48"x48"



R3-8(L) 30"x30"
R3-8(L)-A 36"x36"
R3-8(L)-B 48"x48"



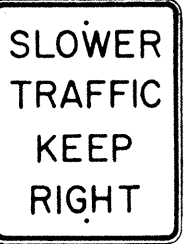
R3-9 24"x 30"



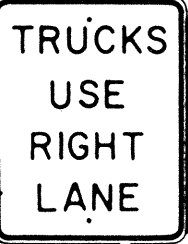
R4-1 24"x 30"



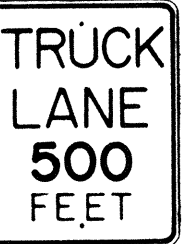
R4-2 24"x 30"



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



R4-5 24"x 30"



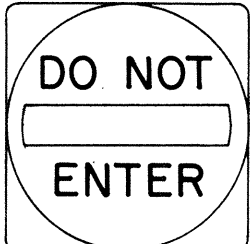
R4-6(500) 24"x 30"



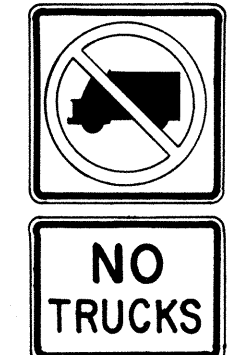
R4-7 24"x30"
24"x18"



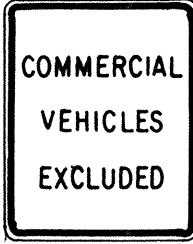
R4-8 24"x30"
24"x18"



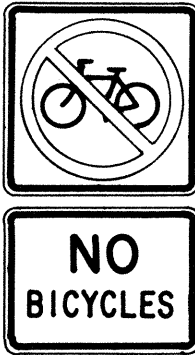
R5-1 30"x 30"
R5-1-A 48"x 48"



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



R5-4 24" x 30"



R5-6 24"x24"
24"x18"



R5-9 36" x 24"



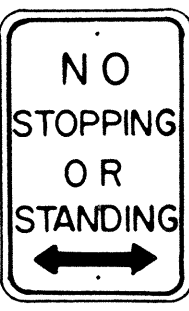
R6-1 (R) 36"x12"



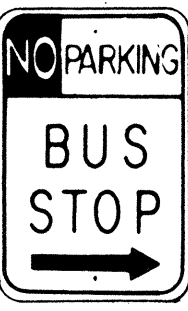
R6-2(R) 18"x24"



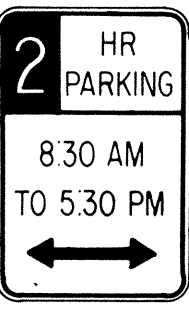
R7-1 12"x18"
R7-1-A 24"x30"



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



R7-107(R) 12"x18"



R7-108 12"x18"



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



R8-1 24" x 30"



R8-2 24" x 30"



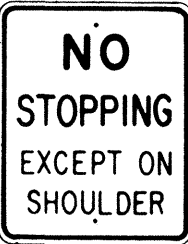
R8-3 24" x 30"



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



R8-5 24" x 30"



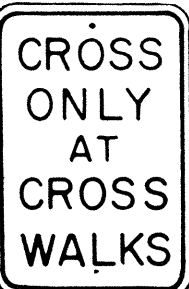
R8-6 24" x 30"



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



R9-1 18" x 24"



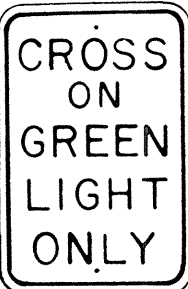
R9-2 12" x 18"



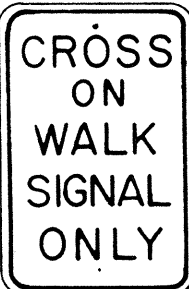
R9-3 12" x 18"



R9-4 18" x 24"



R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



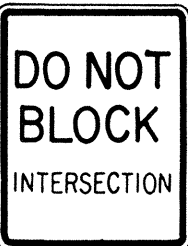
R10-4 9" x 12"



R10-5 24" x 30"



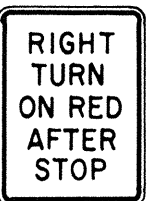
R10-6 24" x 36"



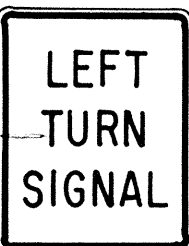
R10-7 24" x 30"



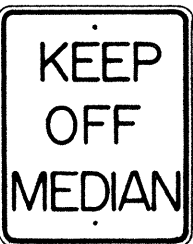
R10-8 24" x 30"



R10-9 24" x 30"



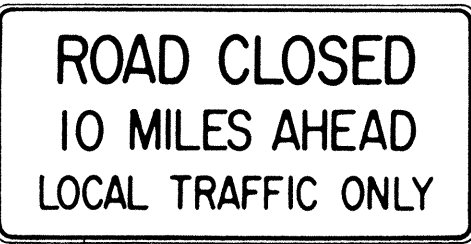
R10-10 24" x 30"



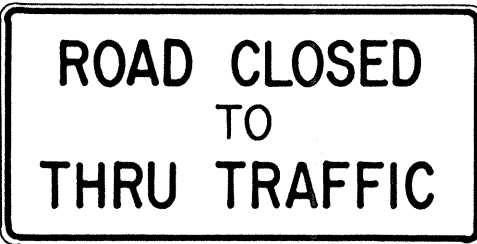
R11-1 24" x 30"



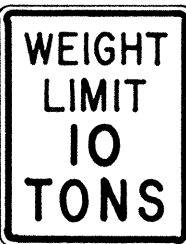
R11-2 48" x 30"



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.

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

APPROVED:
Robert J. Roberts
ASSISTANT CHIEF, ENGINEERING
3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.L.	3/20/72
2	Revised General Note 1.	H.L.	10/10/74

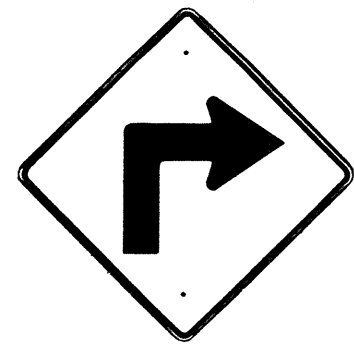
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE
SHEET No. 2 OF 20 SHEETS DT 101

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
QUANTITIES BY	
NO.	

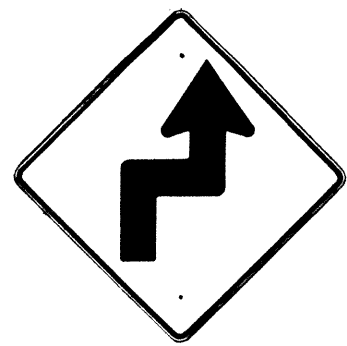
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII *	HAW.	1-HI-1(113)-13	1976	46	63



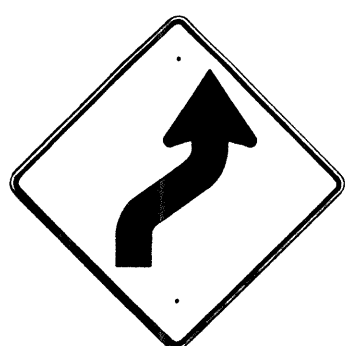
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



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



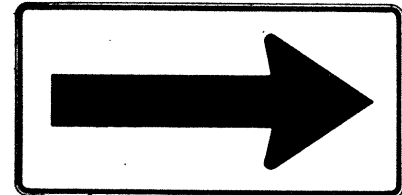
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



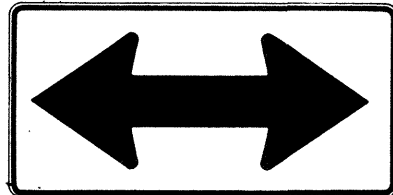
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



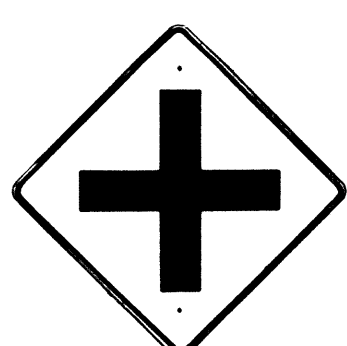
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



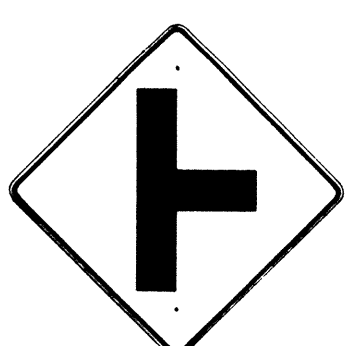
W1-6 48"x24"



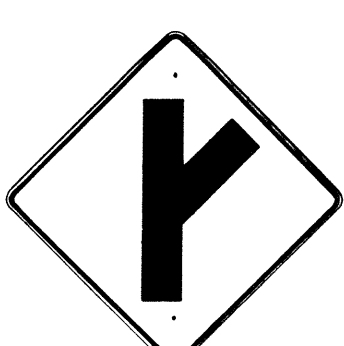
W1-7 48"x24"



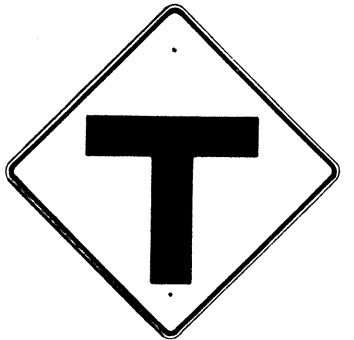
W2-1 30"x30"
W2-1-A 48"x48"



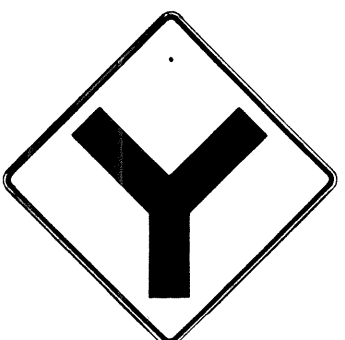
W2-2 30"x30"
W2-2-A 48"x48"



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



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



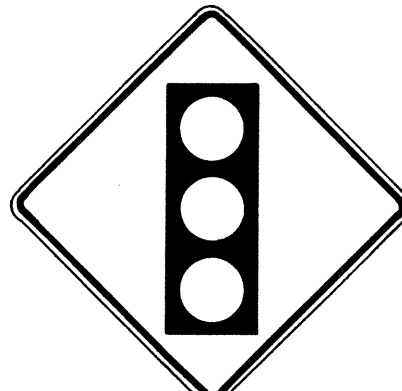
W2-5 30"x30"
W2-5-A 48"x48"



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



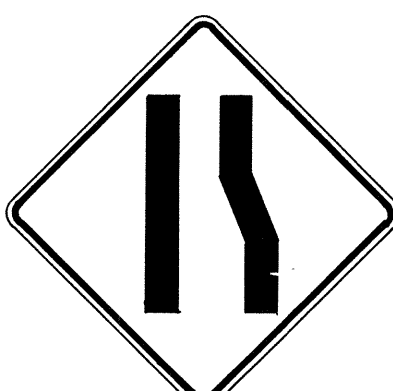
W3-2 30"x30"
W3-2-A 36"x36"



SIGNAL
AHEAD
W3-3 36"x36"
24"x18"



MERGE
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"



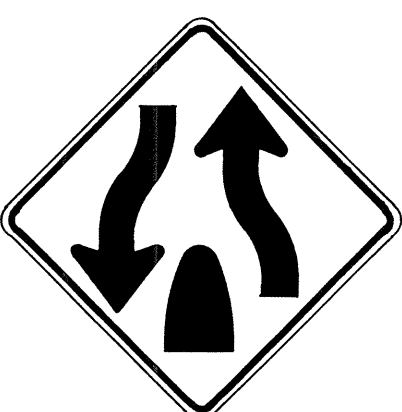
W5-2 30"x30"
W5-2-A 36"x36"



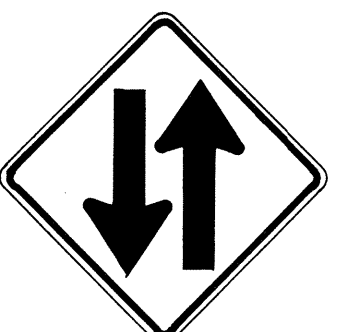
W5-3 36"x36"



DIVIDED
HIGHWAY
W6-1 36"x36"
24"x18"



DIVIDED
HIGHWAY
ENDS
W6-2 36"x36"
24"x18"



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



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



USE LOW
GEAR
W7-2 24"x18"



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



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



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



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



SLIPPERY
WHEN WET
W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



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



LANE ENDS
MERGE
LEFT
W9-2(L) 36"x36"
W9-2(L)-A 48"x48"



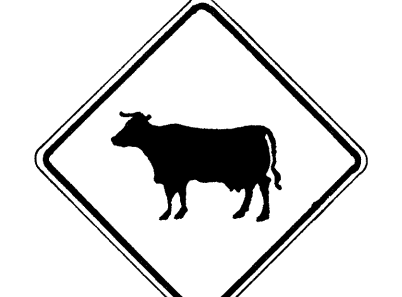
W10-1 36" Diameter



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



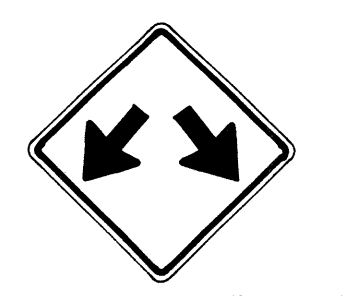
PED
XING
W11-2 30"x30"
24"x18"
W11-2-A 36"x36"
24"x18"



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



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



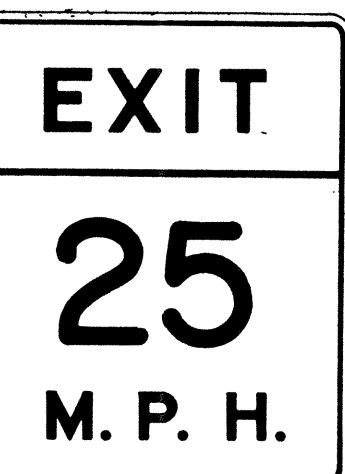
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



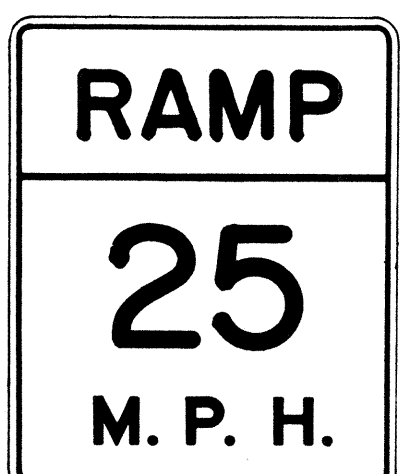
LOW
CLEARANCE
W12-2(12'-6") 36"x36"
24"x18"



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.

APPROVED: _____
ASSISTANT CHIEF, ENGINEER

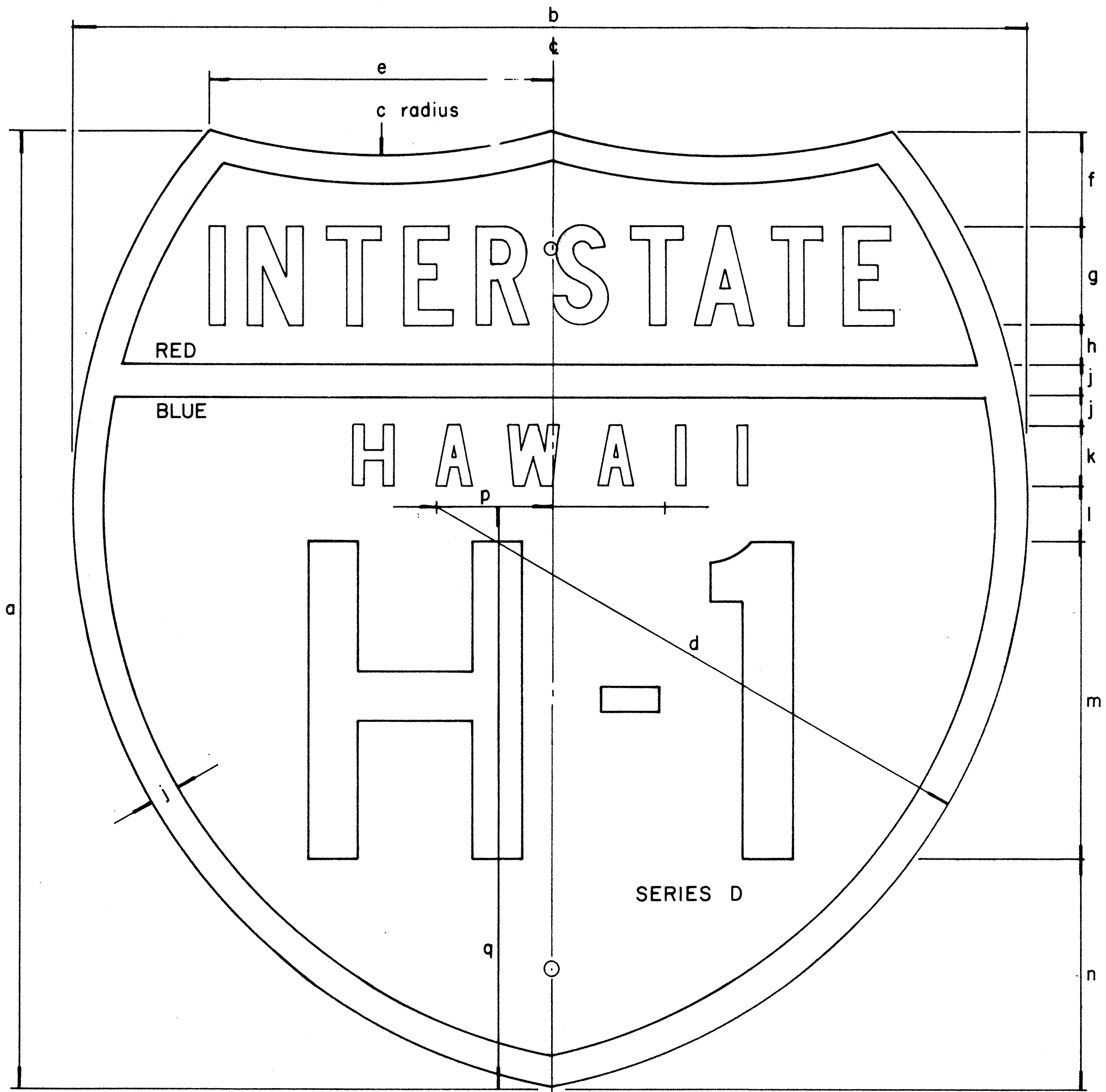
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS WARNING SIGNS

NOT TO SCALE
SHEET No. 3 OF 20 SHEETS

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

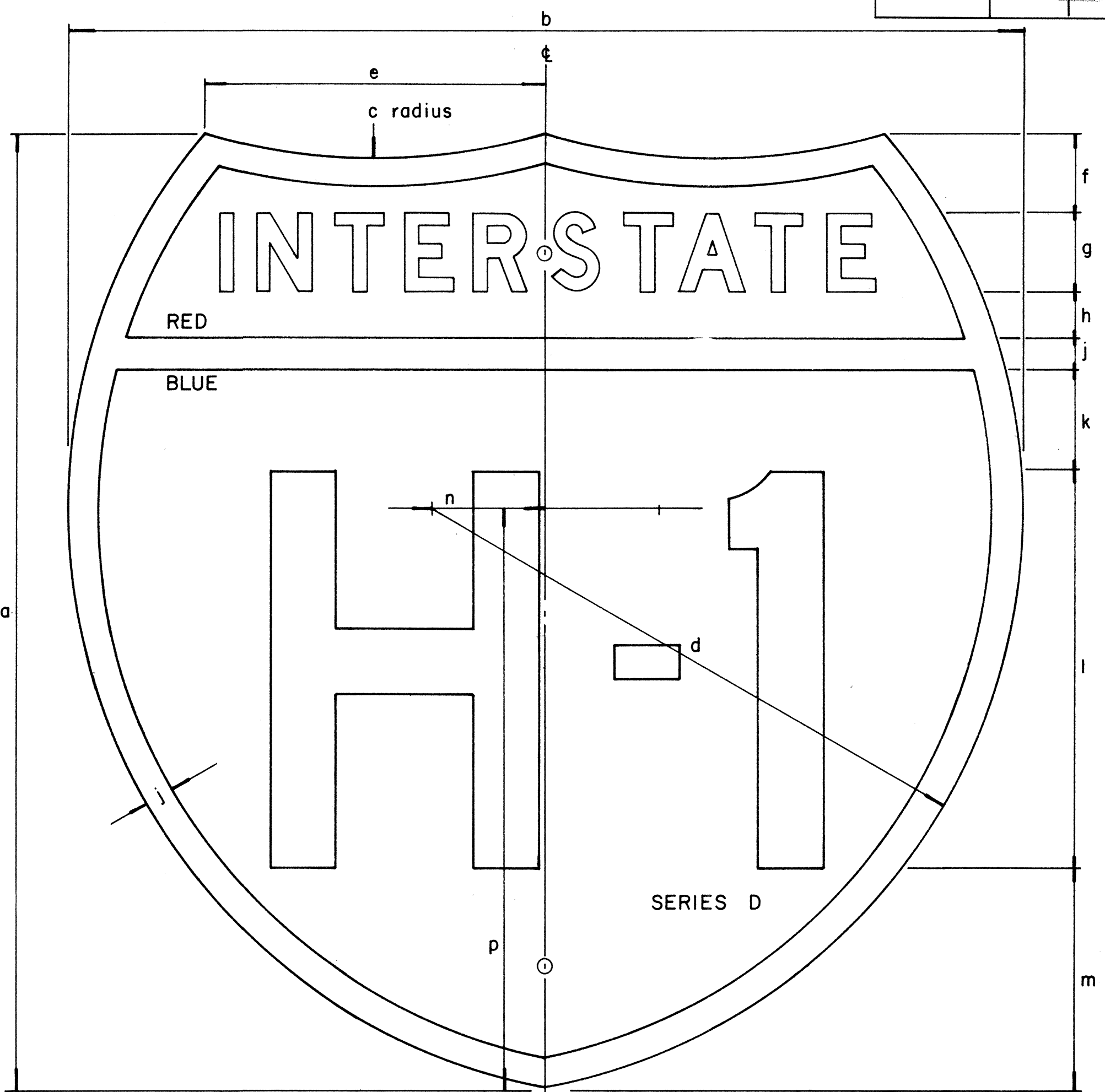
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HI-1(113)13	1976	48	63



INTERSTATE ROUTE MARKER
IM-1()

INTERSTATE SHIELDS - INDEPENDENT USE

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



INTERSTATE ROUTE MARKER
IM-2()

INTERSTATE SHIELDS ON GUIDE SIGNS

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

GENERAL NOTES

- 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.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.
- The Interstate Route Marker shall be a cut-out shield, in a red, white and blue design as shown on the plans.

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

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

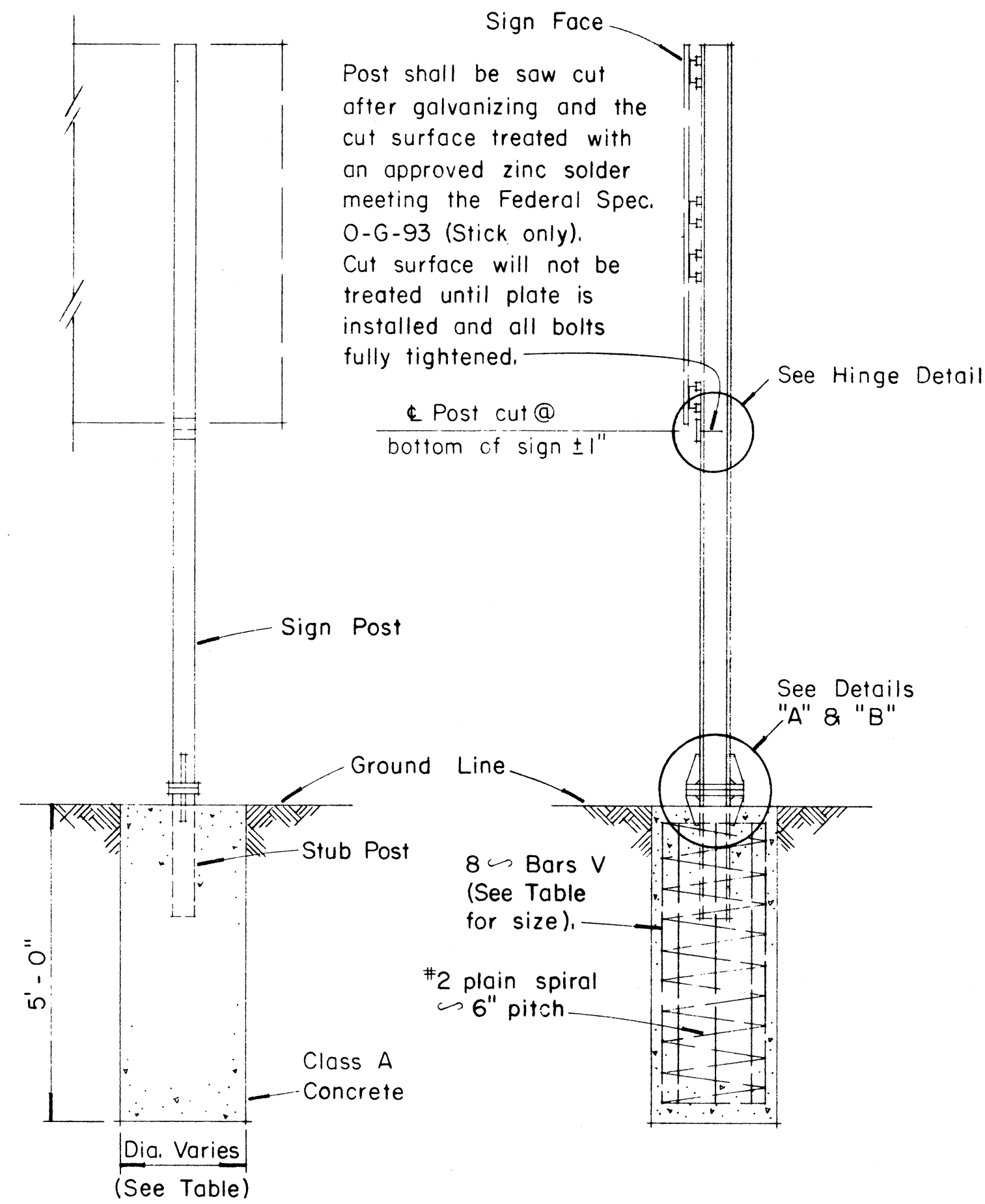
NO.	REVISION	APPROVED BY	DATE
1	Revised General Notes	Ht.	10/16/14

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

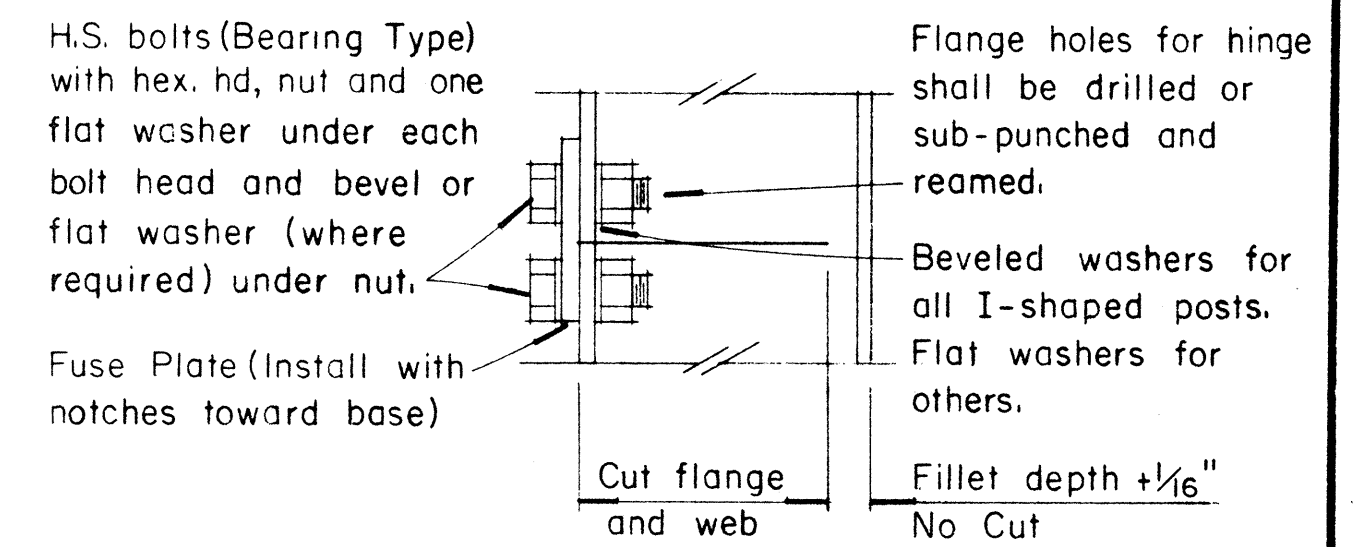
STANDARD DETAILS
INTERSTATE ROUTE MARKERS

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

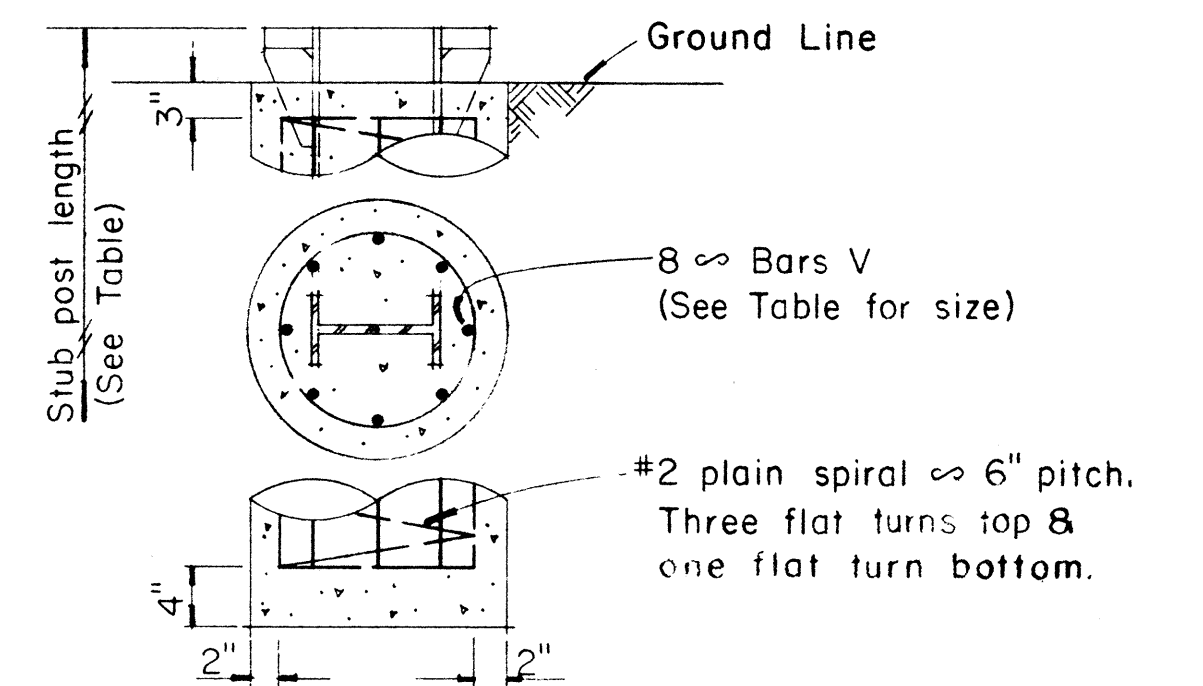
	BASE CONNECTION DATA TABLE										FUSE PLATE DATA TABLE											FOUNDATION DATA			
Post Size	Bolt Size & Torque	A	B	C	D	E	t ₁	t ₂	W	R	F	G	H	J	K	L	N	d ₁	t ₃	Bolt Dia.	Wt. of each Fuse Pl.	Stub Length	Stub Projection	Footing Diameter	Bars V Size
6 B 8.5	5/8" ϕ x 2 3/4" Torque = 450*#	5"	2"	1 1/4"	2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



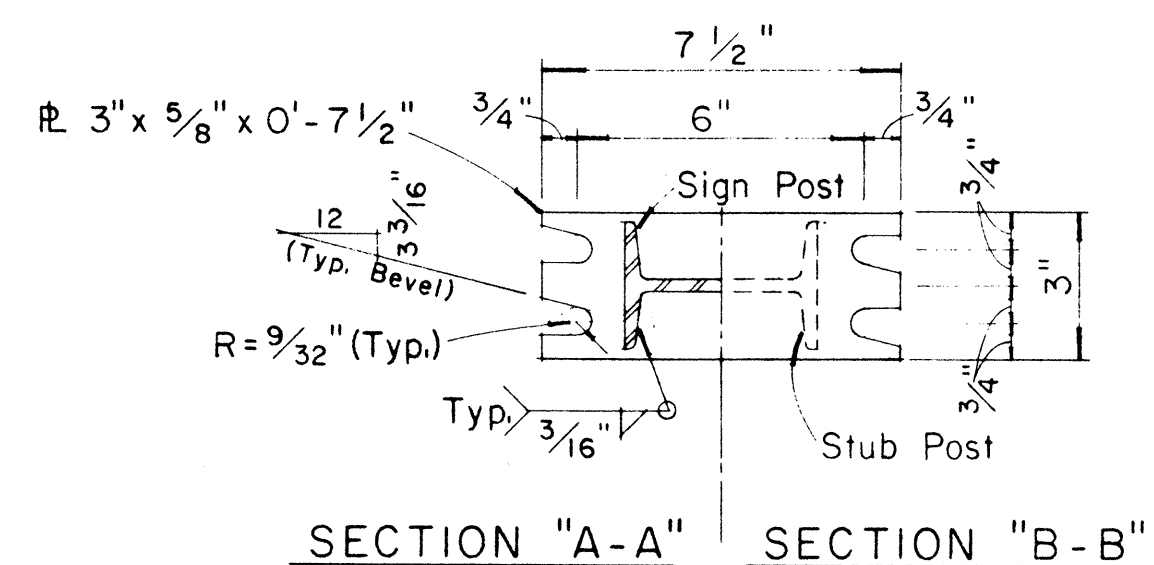
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-11(13)13	1976	49	63



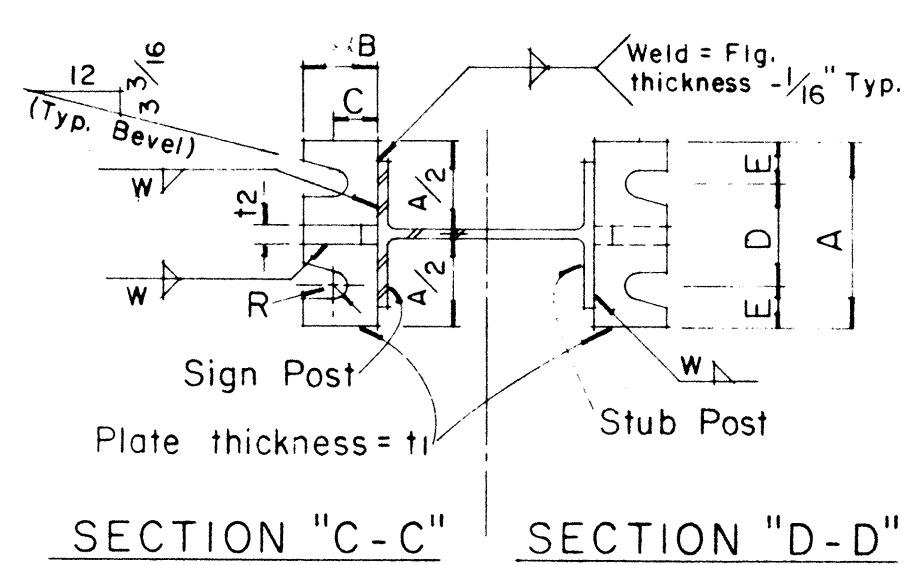
HINGE DETAIL



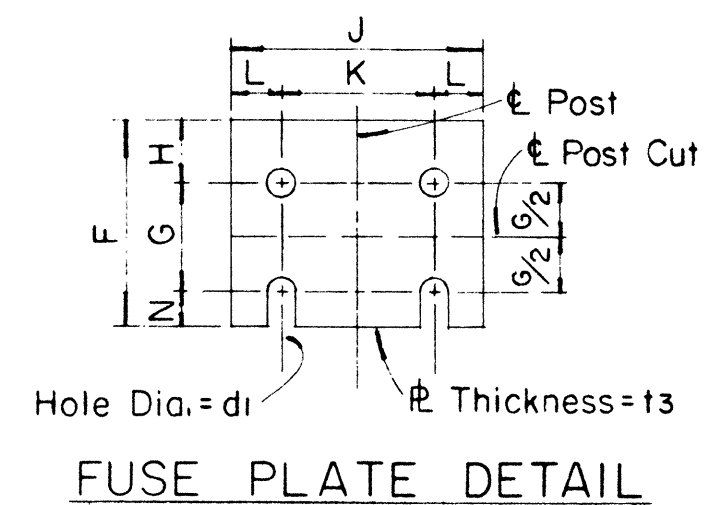
FOUNDATION DETAIL



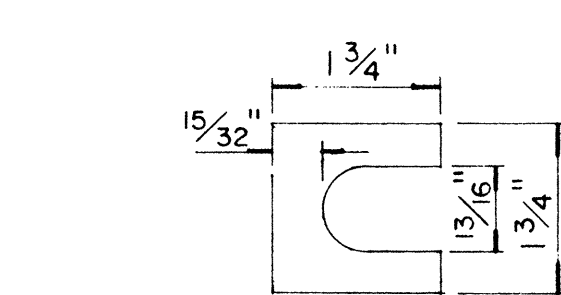
NOTE:
Sections shown are for installations on right shoulder and in gore. Reverse plate slot bevels for installations on left shoulder.



STIFFENER PLATE DETAIL



FUSE PLATE DETAIL



SHIM DETAIL

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

GENERAL NOTES

- Design conforms with AASHTO Specifications for the design and Construction of Structural Supports for Highway Signs.
- Materials and Fabrication shall conform to the requirements of the Standard Specifications and Special Provisions.
- All holes shall be drilled. All plate cuts shall preferably be saw cuts, however; flame cutting will be permitted provided all edges are ground. Metal projecting beyond the plane of the plate face will not be tolerated.
- Tighten the high strength bolts in the base connection only to the torque shown, do not overtighten. All bolts other than high strength bolts shall conform to ASTM A 307, Class A.
- All structural steel, bolts, nuts and washers shall be galvanized as per the Standard Specifications and Special Provisions. Structural steel to be galvanized after fabrication except as noted.
- Structural steel shall conform with the requirements of ASTM A 441.
- Galvanizing of all posts shall be projection above concrete plus 6" minimum.
- All friction fuse bolts shall be tightened in the shop following a method approved by the Engineer. Tightening shall be to such a degree as to obtain the following minimum residual tension in each bolt:

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

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

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
BREAK-AWAY SIGN SUPPORTS
FOR
GROUND MOUNTED GUIDE SIGNS

Not to Scale

SHEET No. 6 OF 20 SHEETS DT204

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1(13)18	1976	50	23

(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG B	SUPPORT SPACING C or C ₁
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:

Eishi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

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

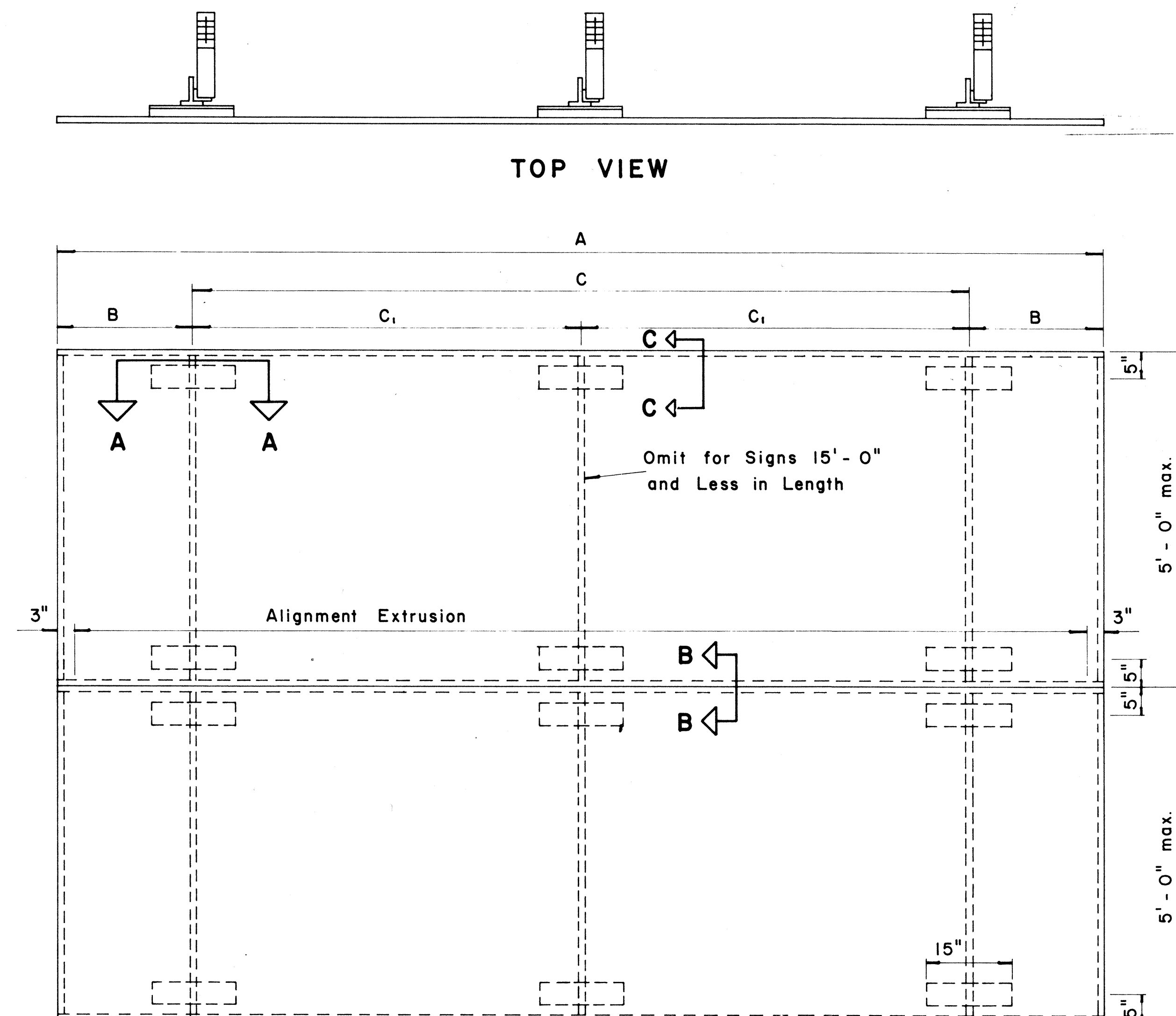
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(OVERHEAD)

Scale: As Shown

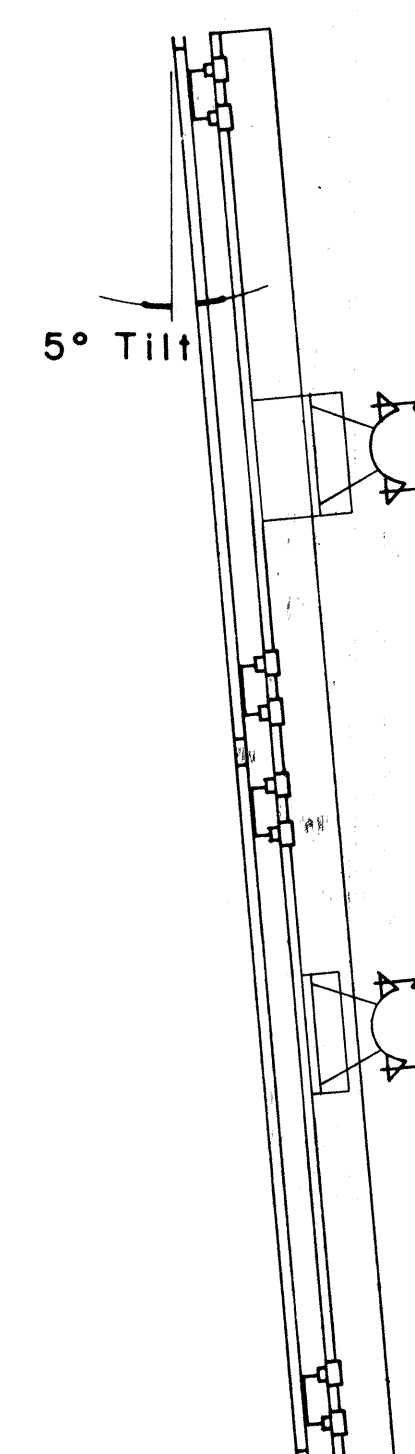
SHEET No. 7 OF 20 SHEETS DT 205



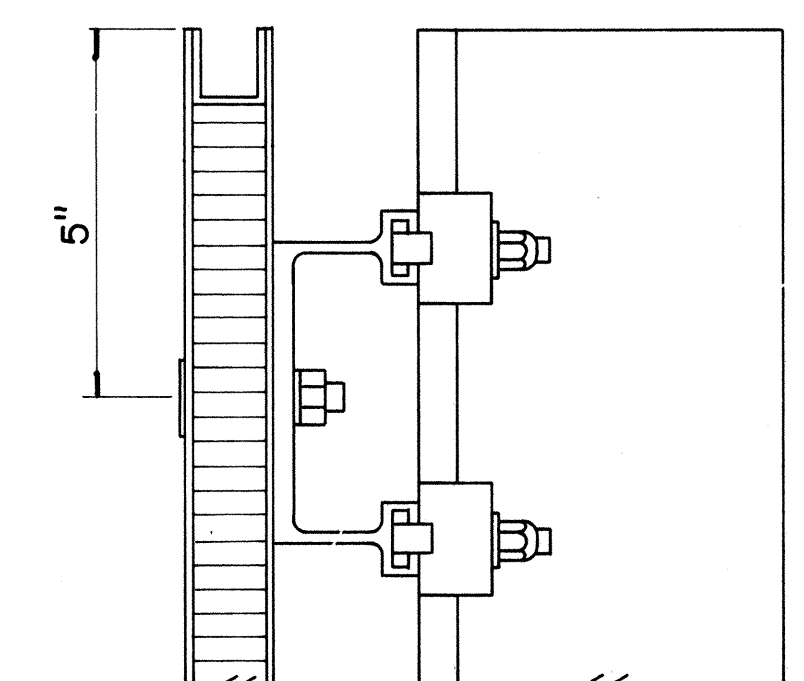
ELEVATION

TYPICAL SIGN ASSEMBLY

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

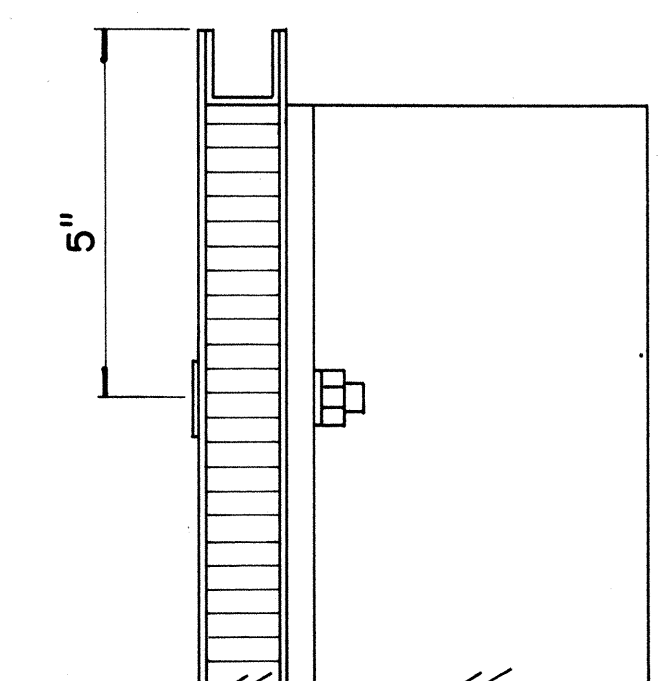


SIDE VIEW



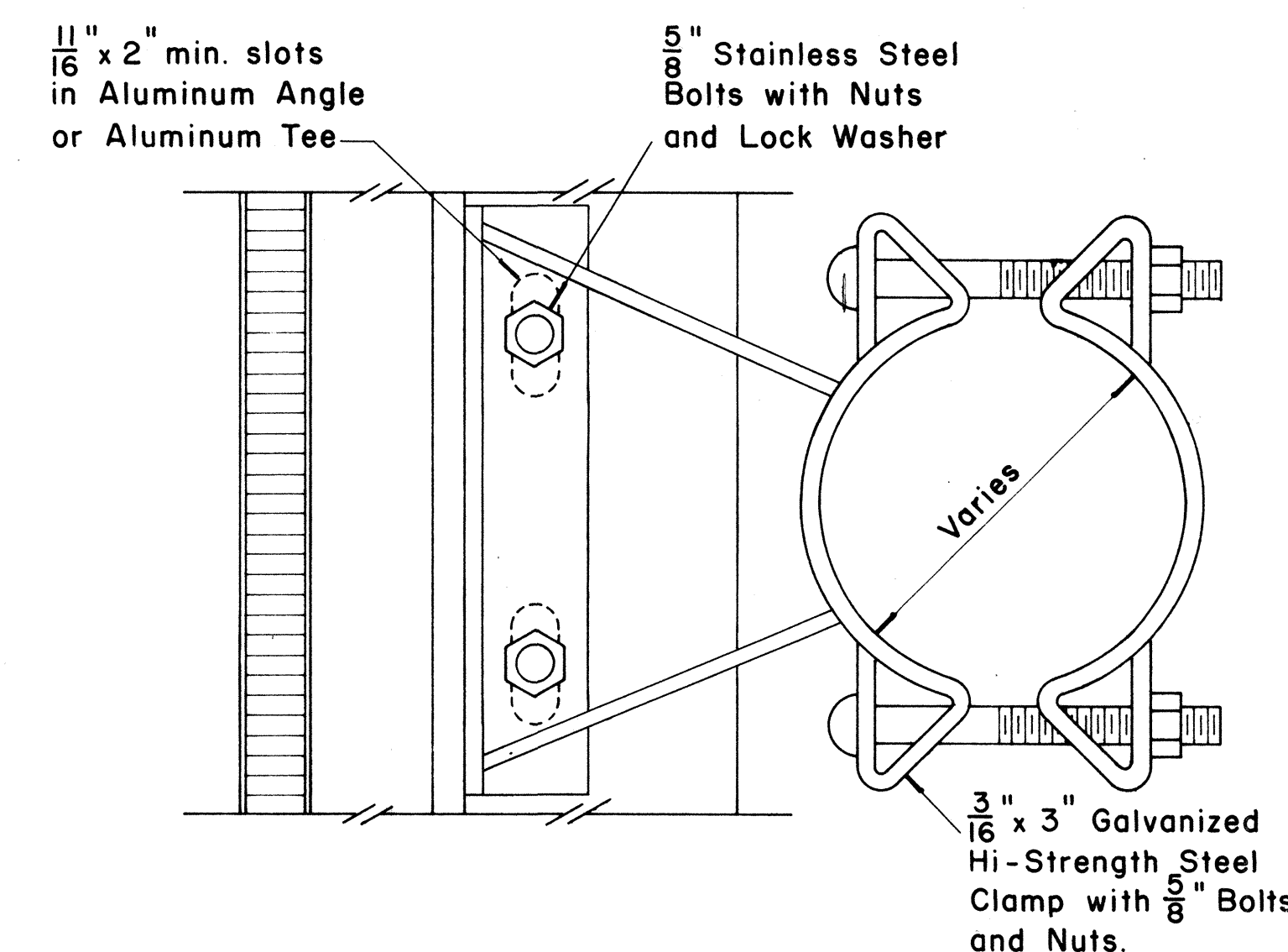
SECTION "C-C"

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



SECTION "C-C" (Alternate)

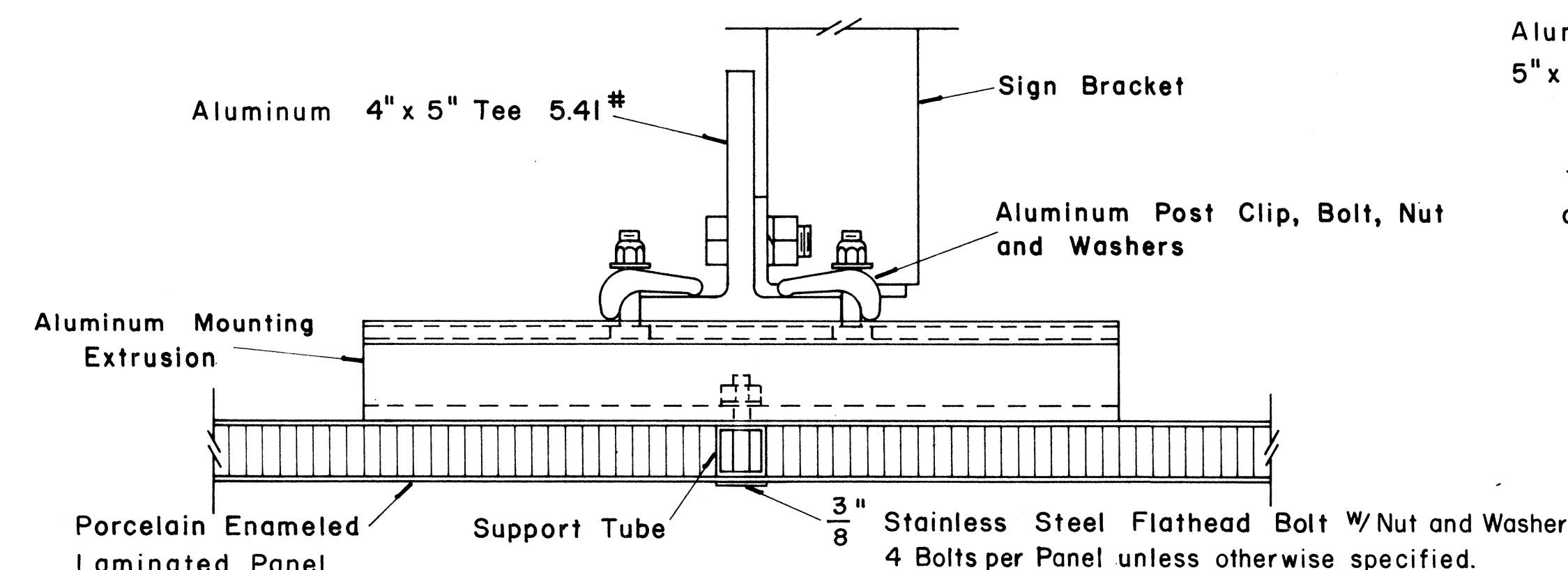
Scale: $\frac{3}{8}$ " = 1"



SIGN BRACKET ASSEMBLY

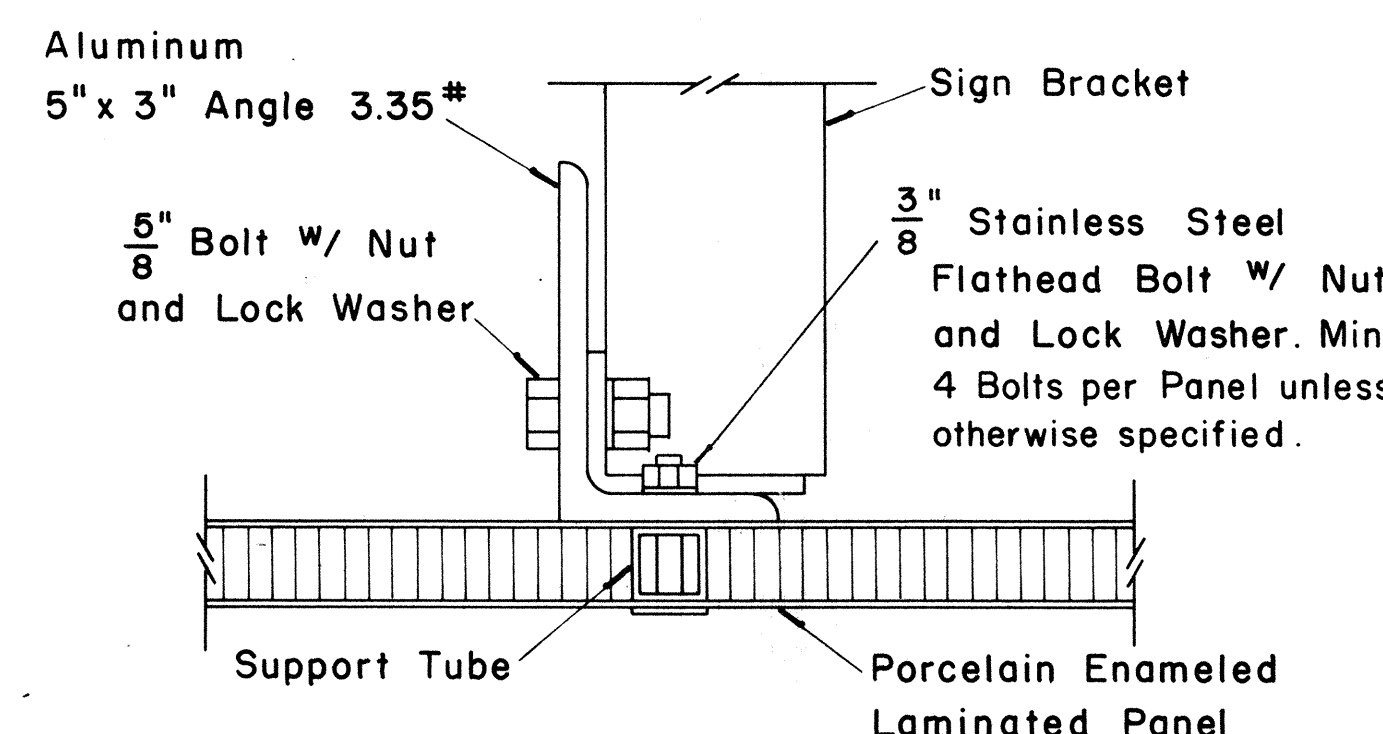
Scale: $\frac{3}{8}$ " = 1"

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



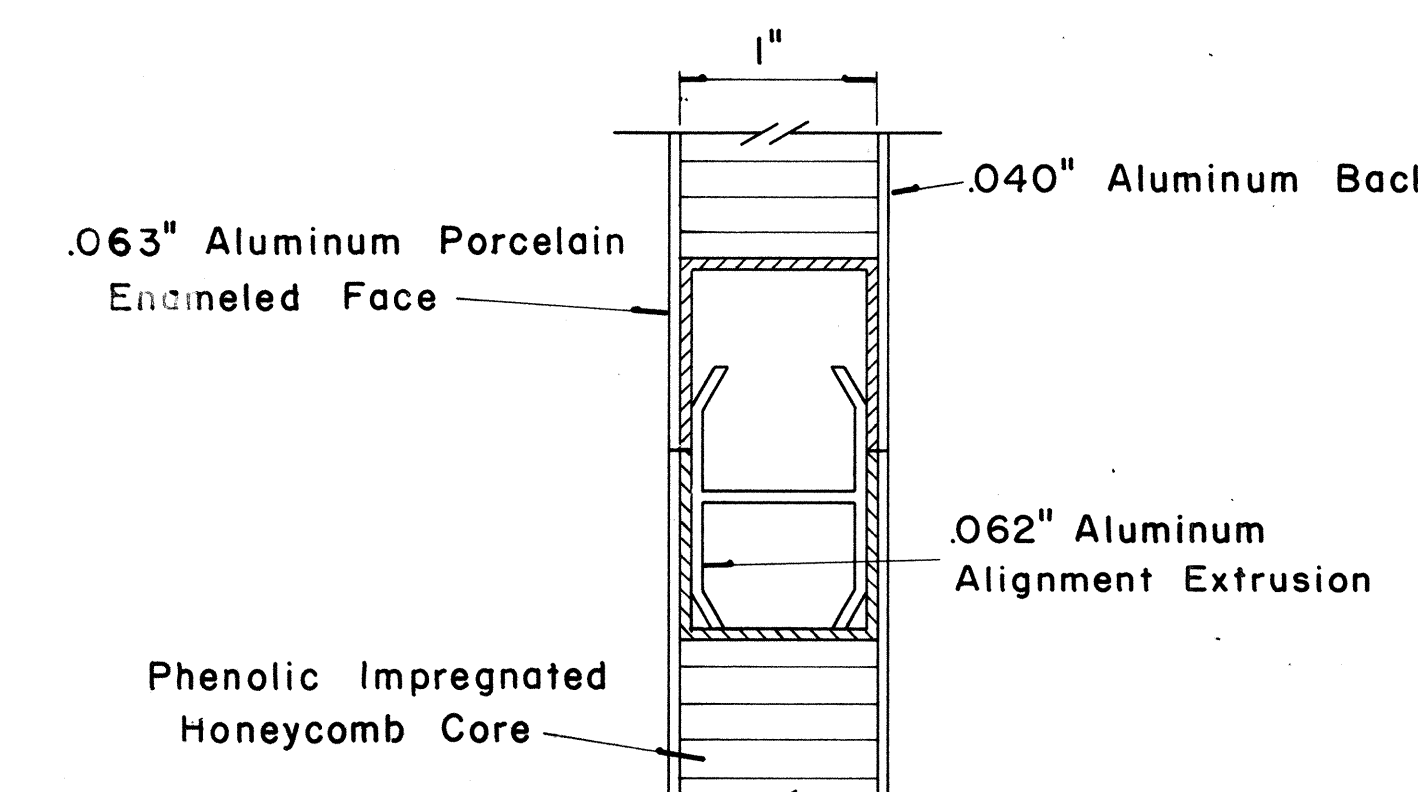
SECTION "A-A"

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



SECTION "A-A" (Alternate)

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

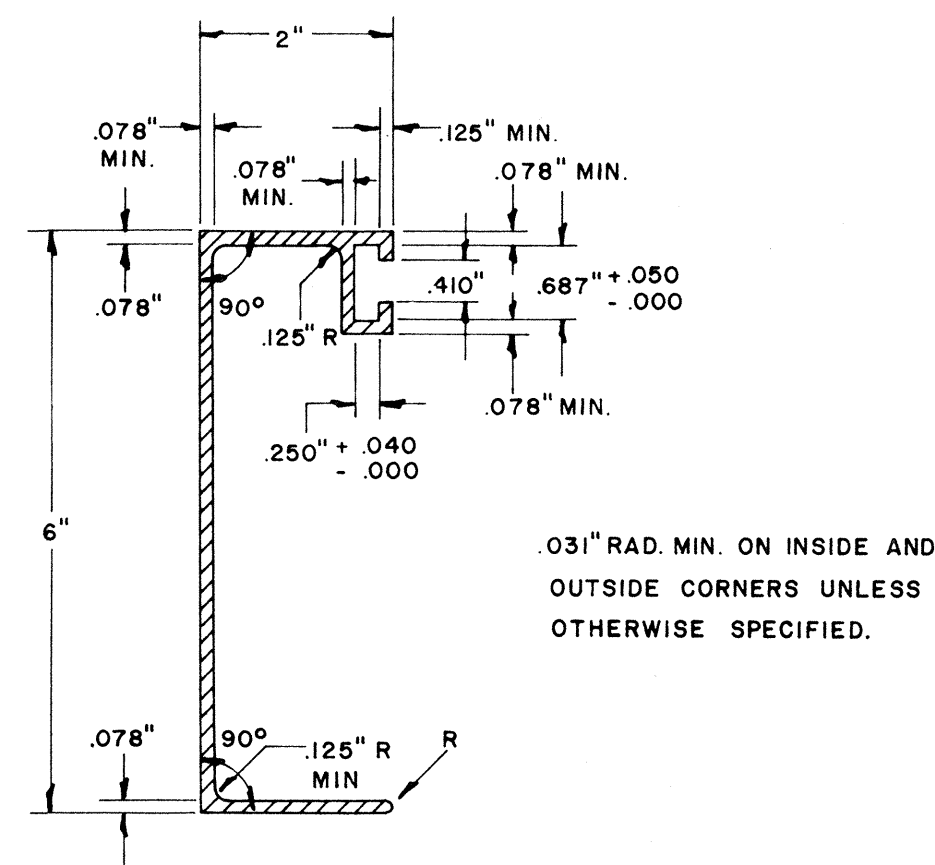
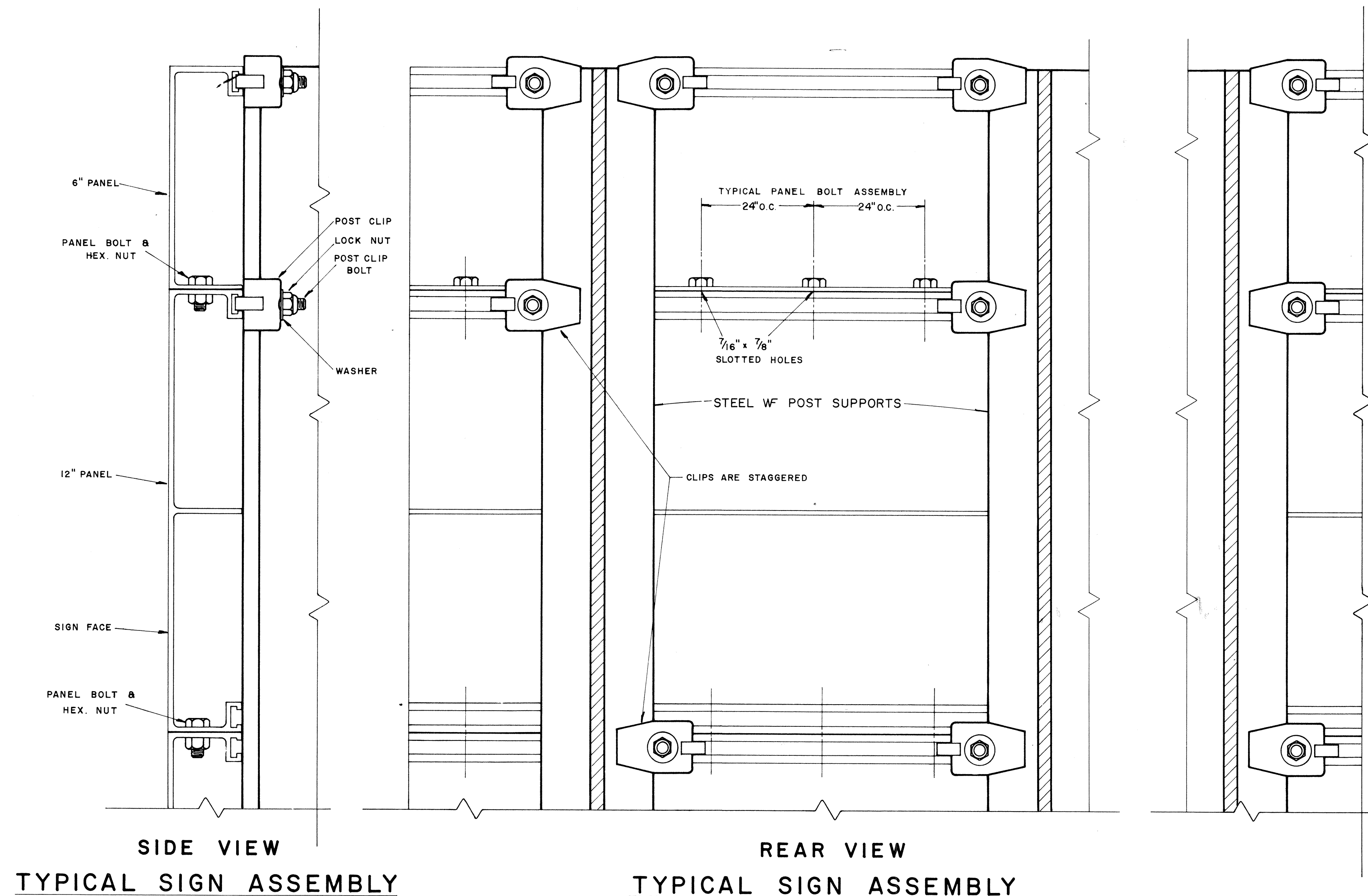


CLOSURE DETAIL SECTION "B-B"

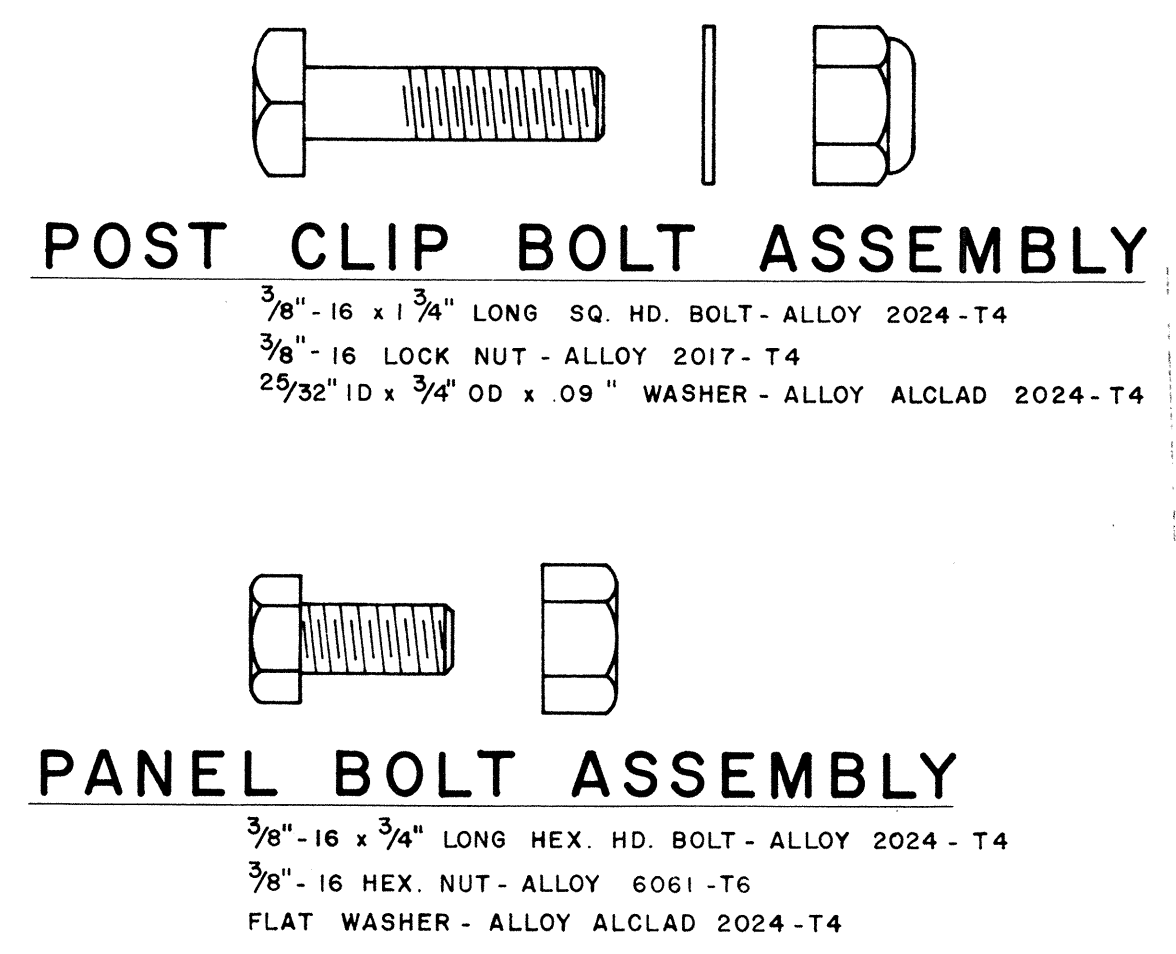
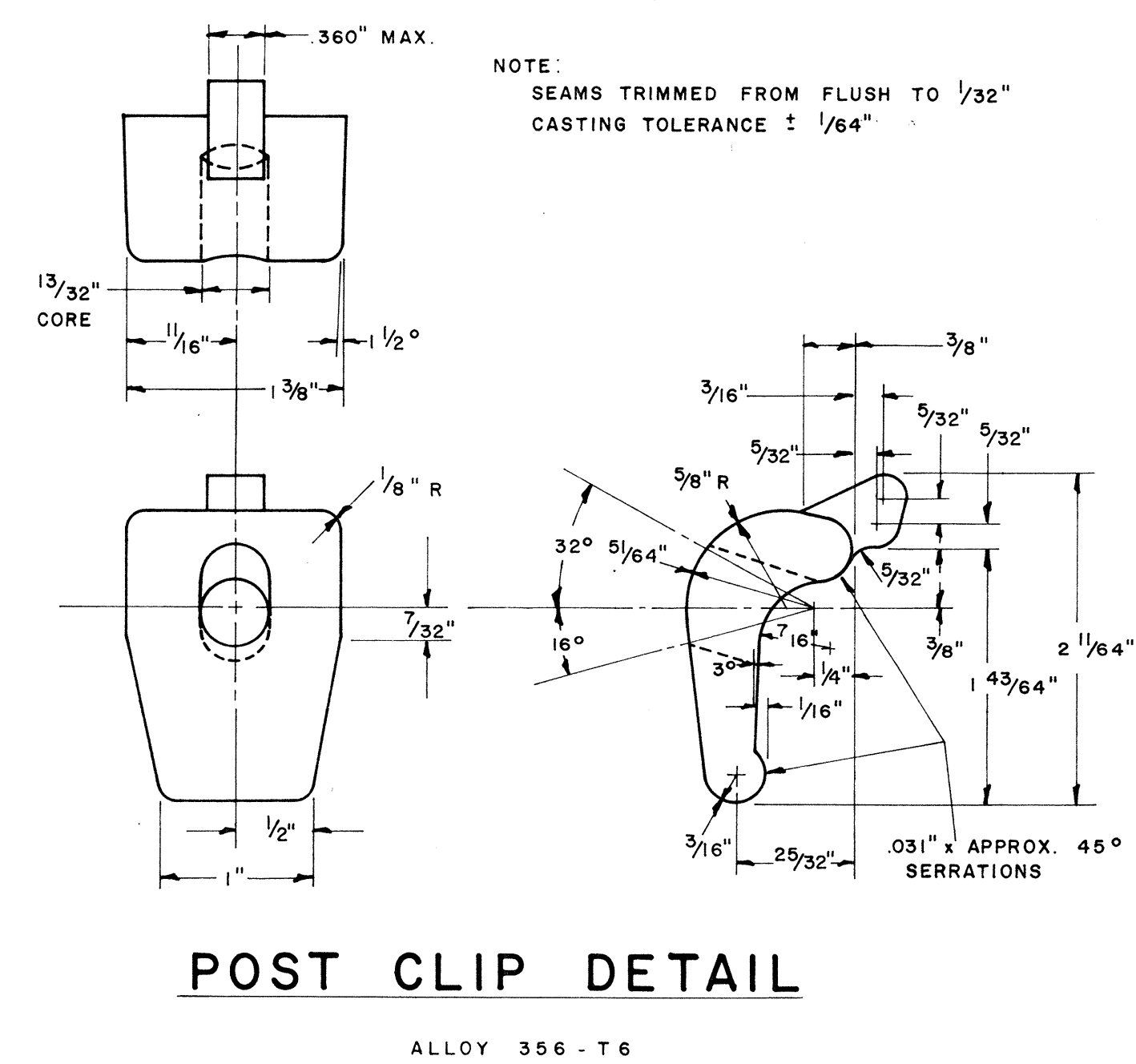
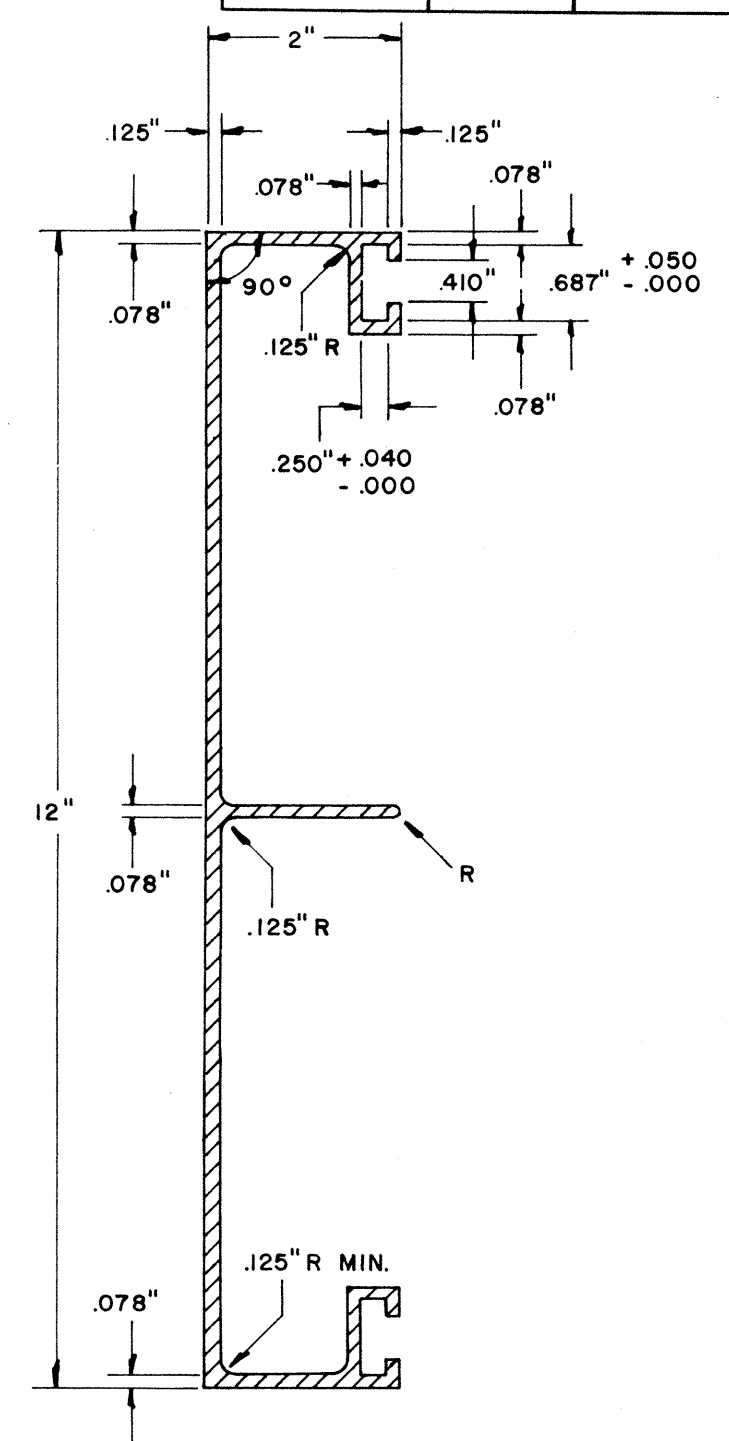
FULL SCALE

DATE	
DESIGNED BY	
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(113)13	1976	51	63



SOLID EXTRUDED SIGN
PANEL DETAILS



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

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

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
SOLID ALUMINUM
EXTRUDED SIGN PANEL
AND
ACCESSORY DETAILS

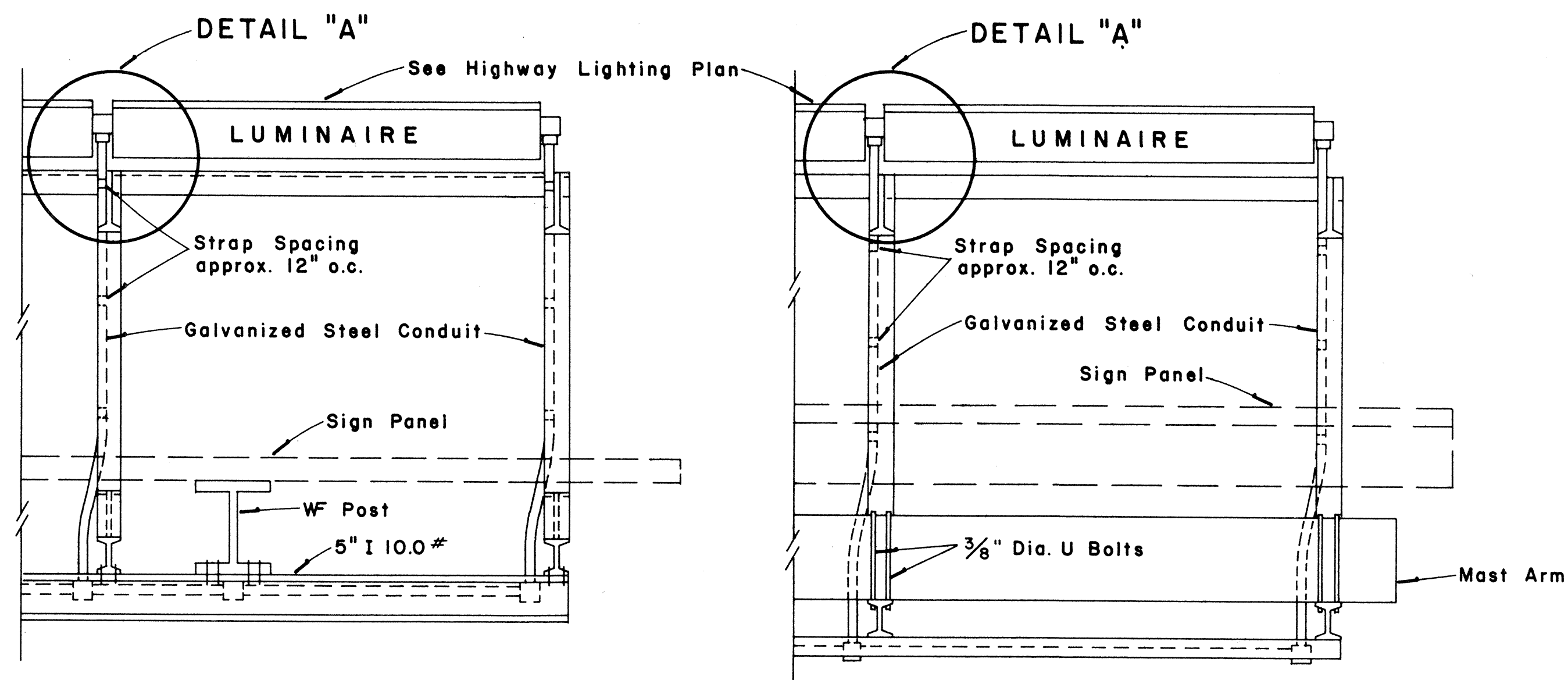
SCALE:

DATE	
SURVEY PLOTTED BY	
DESIGNED BY	
TRACED BY	
QUANTITIES CHECKED BY	
CHECKED BY	
NOTE BOOK	
No.	

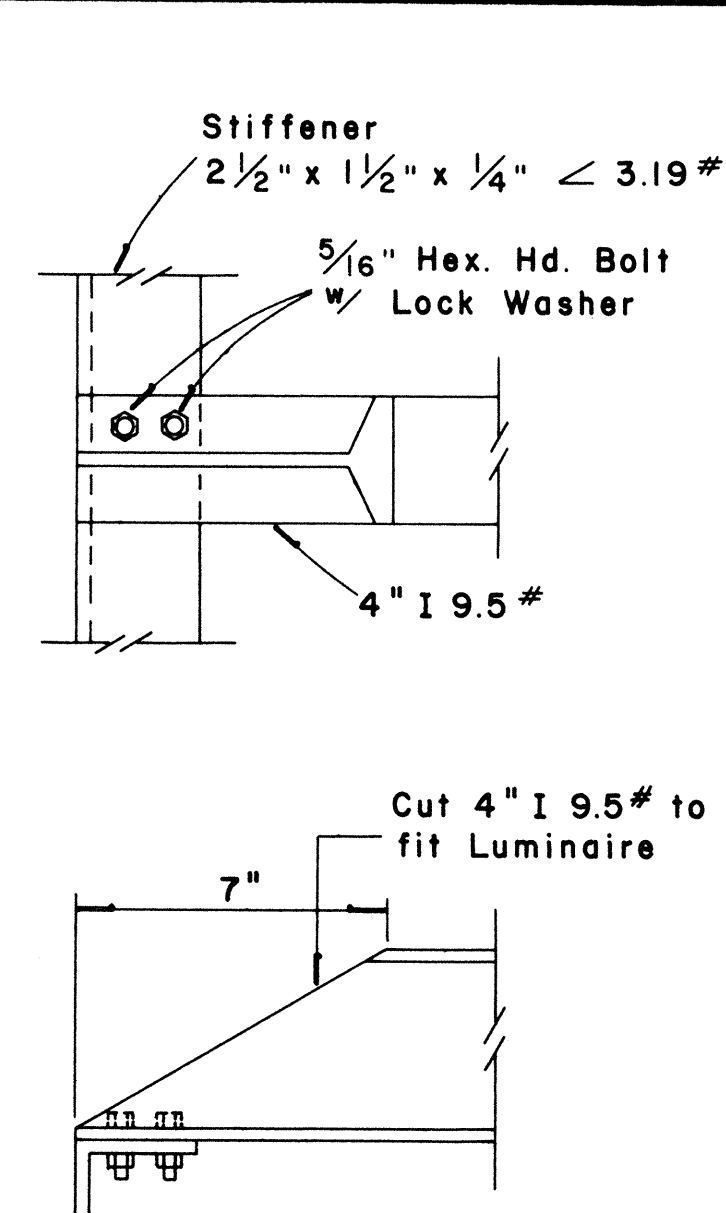
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FH-1(113)13	1976	52	63

GENERAL NOTES

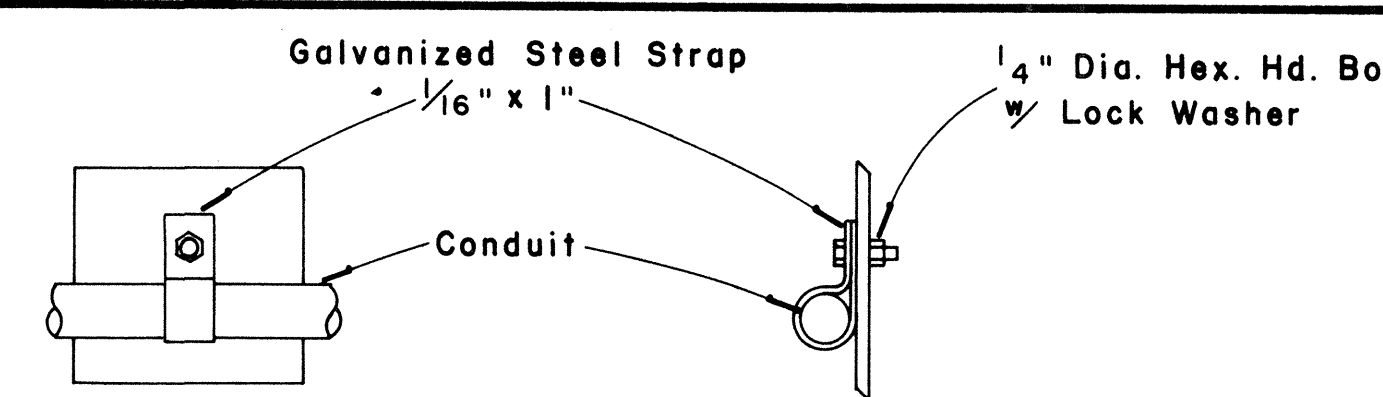
- Conduit sizes: $\frac{3}{4}$ " diameter for one or two Luminaire Units, 1" diameter for three or more Luminaire Units.
- Fluorescent Fixtures shall be installed as recommended by the manufacturer.
- Luminaire brackets shall be spaced to fit 4'-0" to 6'-0" luminaires with fittings. Eight feet (8'-0") luminaires shall have an additional bracket at midpoint.
- All parts of the bracket shall be hot-dip galvanized, prime coated with a suitable primer and painted with three coats of dark green enamel.



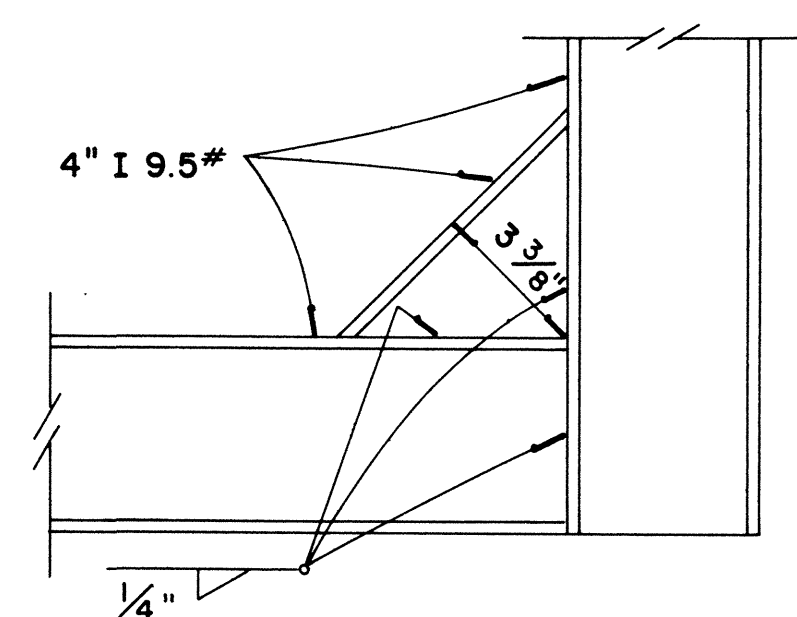
GROUND MOUNTED
OVERHEAD
TOP VIEW
LUMINAIRE MOUNTING
Scale: 1" = 1'-0"



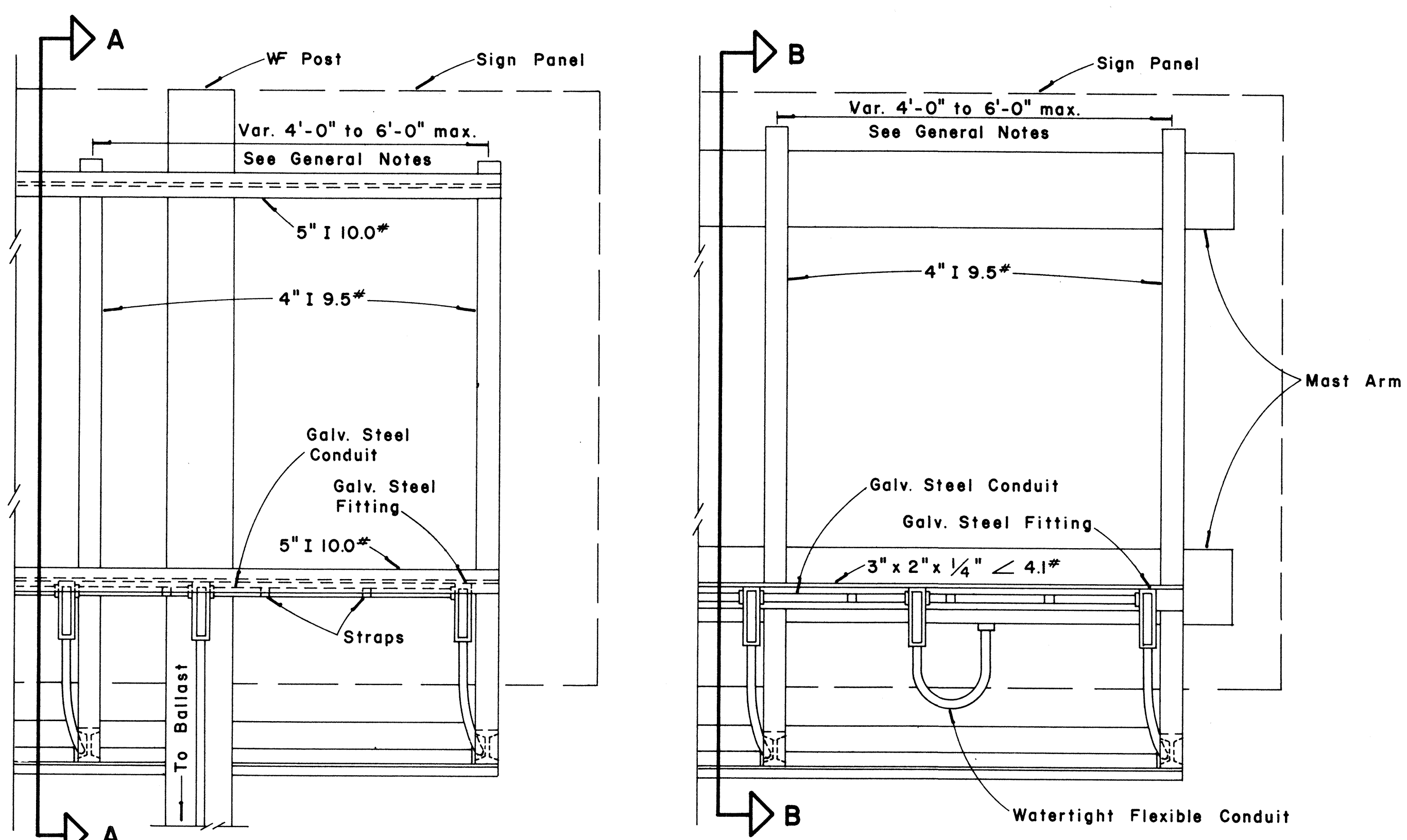
DETAIL "A"
Scale: 3" = 1'-0"



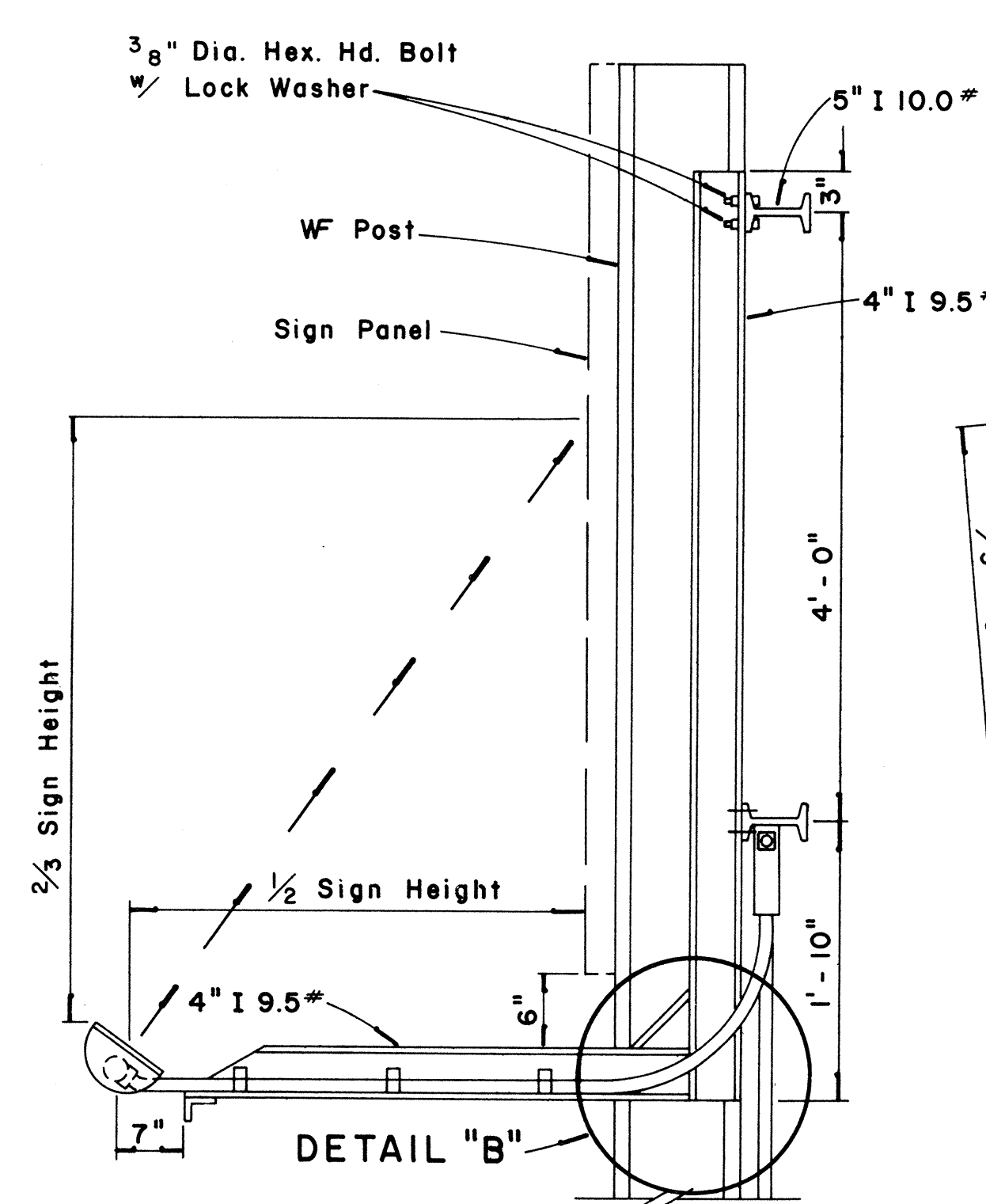
CONDUIT STRAP DETAIL
Scale: 3" = 1'-0"



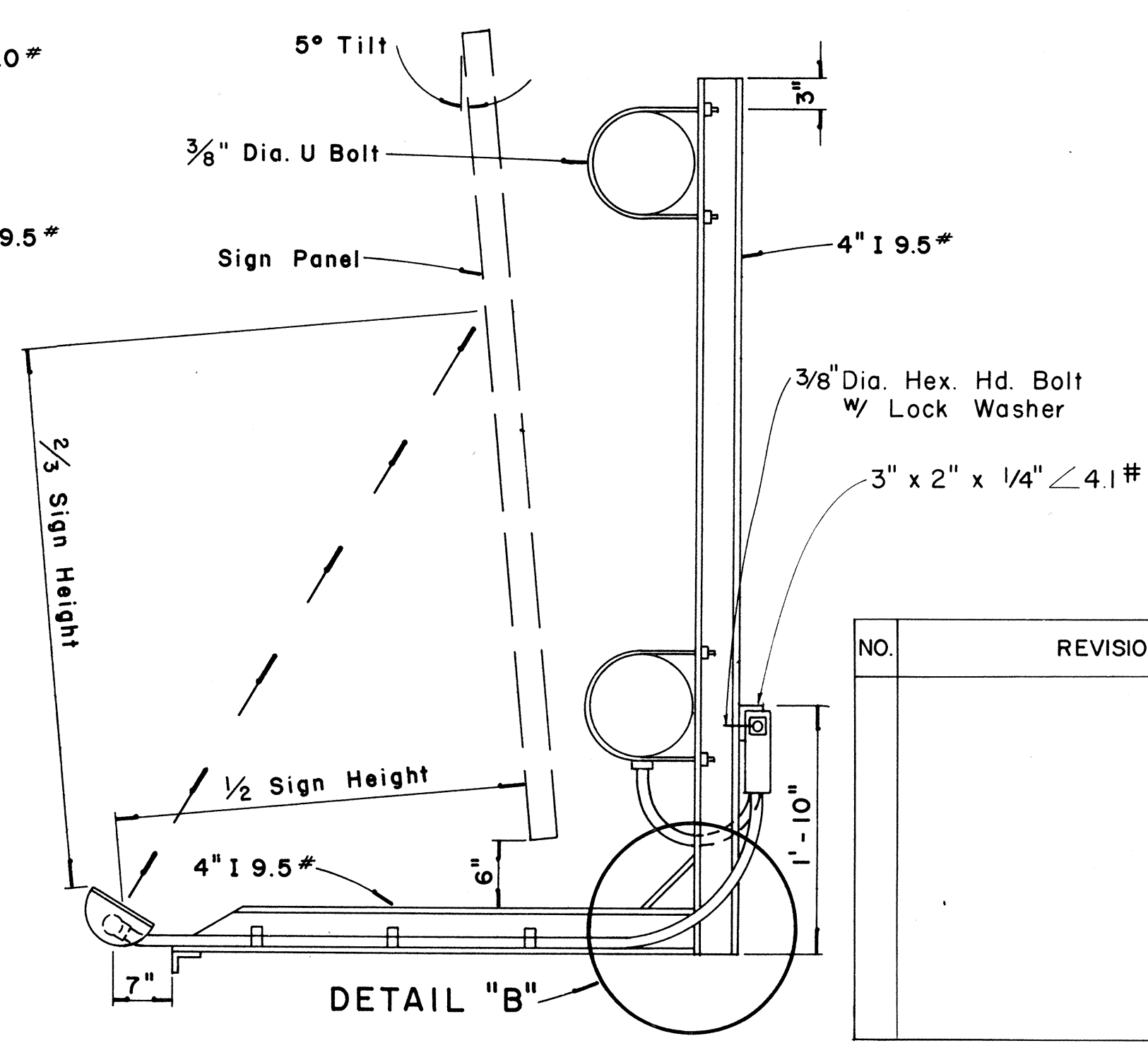
DETAIL "B"
Scale: 3" = 1'-0"



GROUND MOUNTED
OVERHEAD
REAR VIEW
LUMINAIRE MOUNTING
Scale: 1" = 1'-0"



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



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

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

APPROVED:
W. J. J. J.
ASSISTANT CHIEF, ENGINEERING
12/30/62
DATE

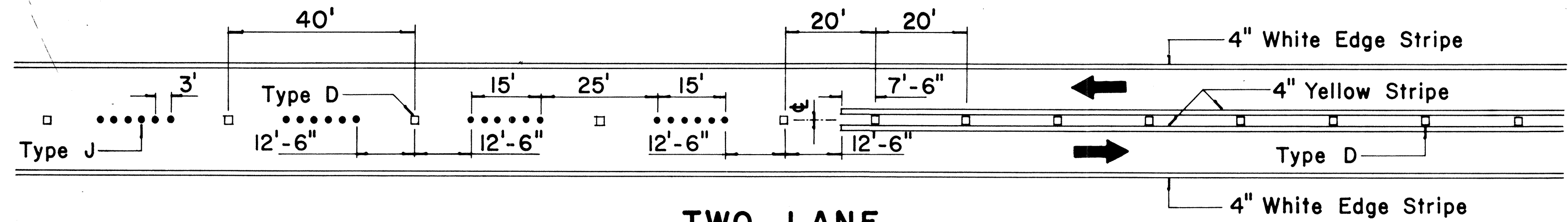
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

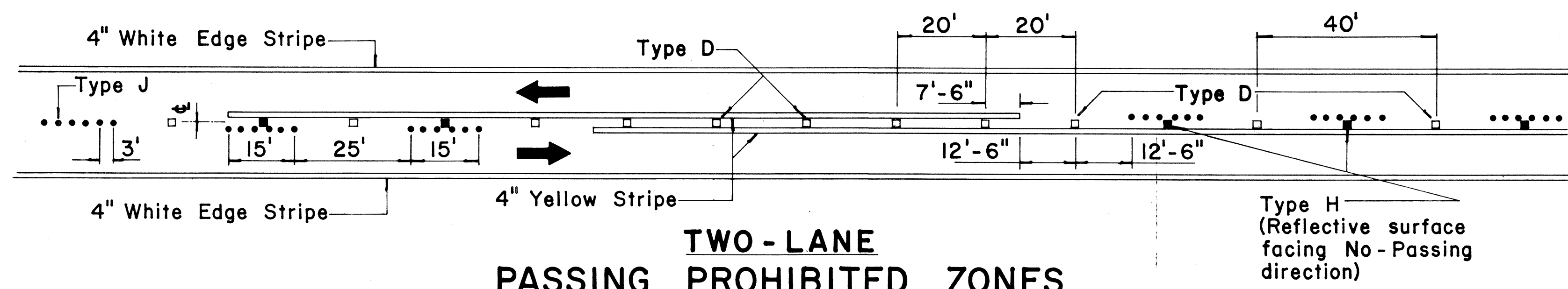
EXPRESSWAY SIGNS LUMINAIRE MOUNTINGS

ORIGINAL PLAN
DATE
DRAWN BY
CHECKED BY
NOTE BOOK
No.

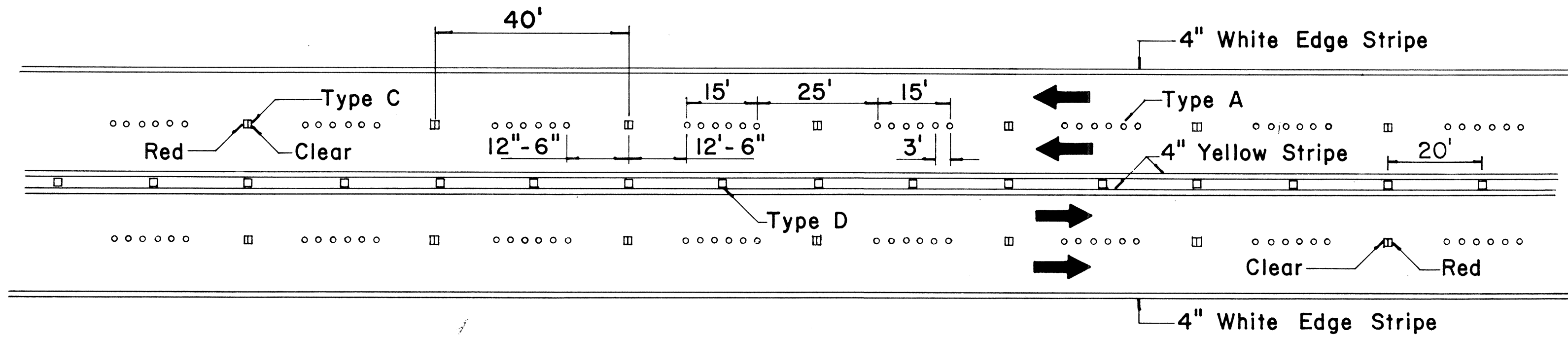
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(113)13	1976	54	63



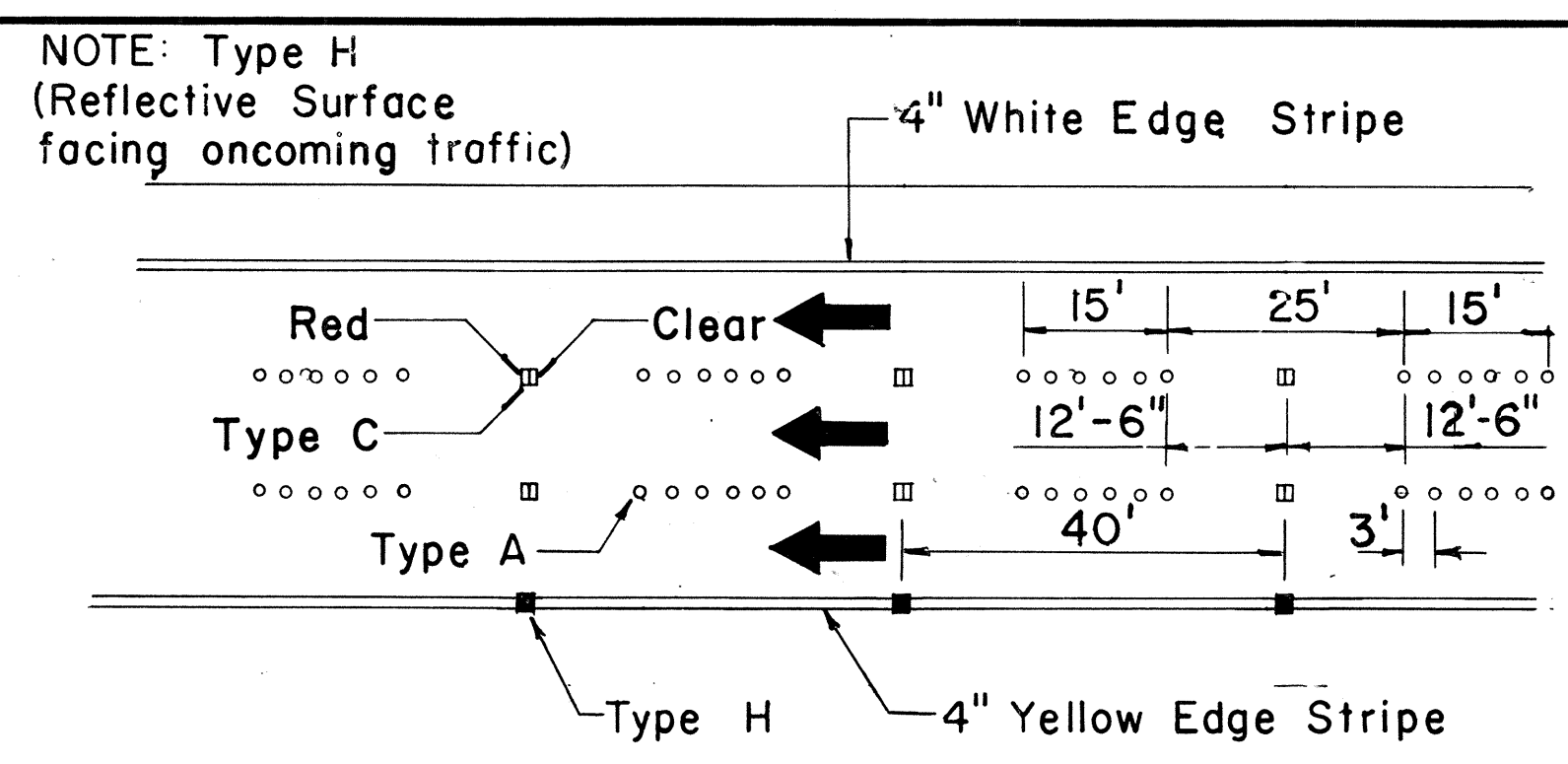
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



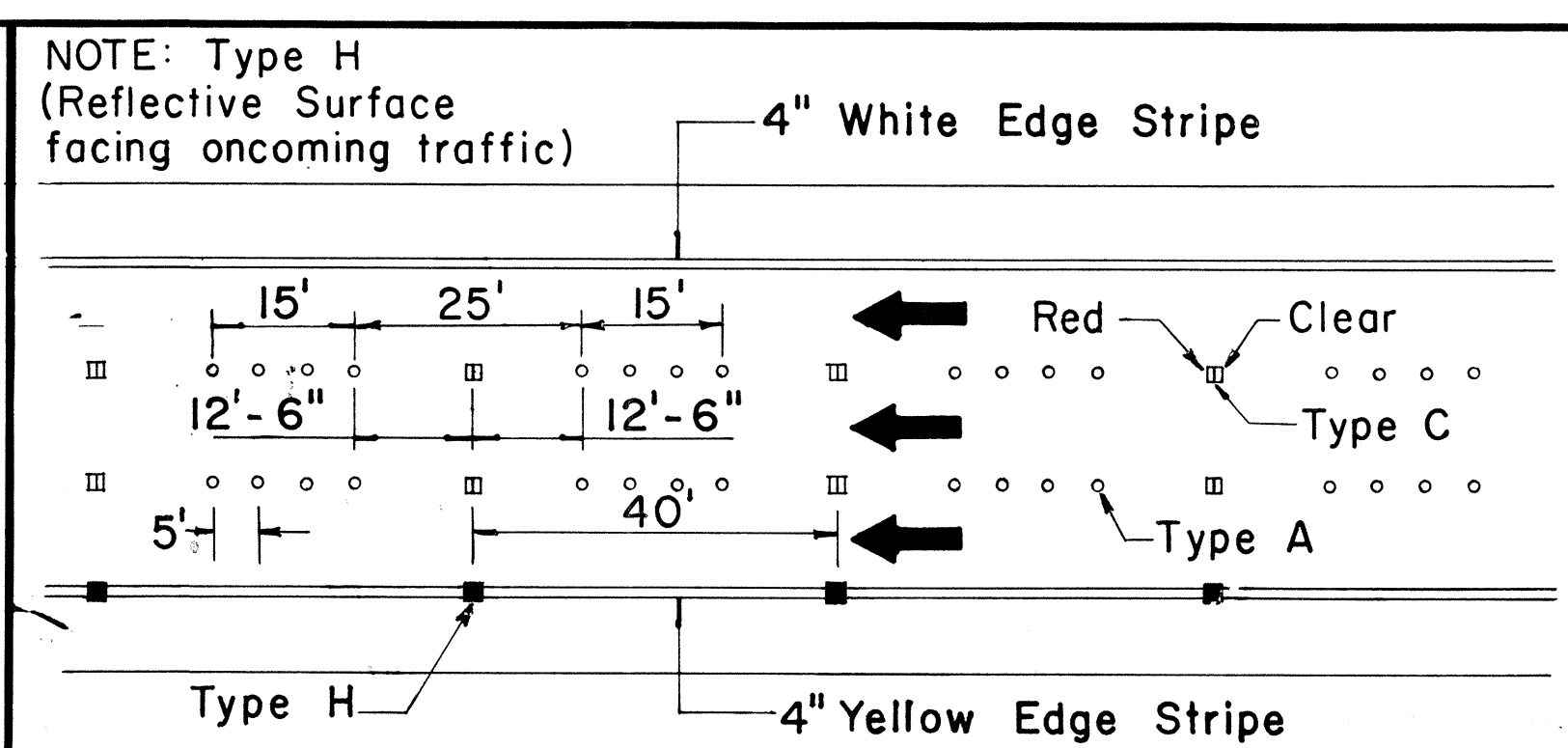
**TWO-LANE
PASSING PROHIBITED ZONES**



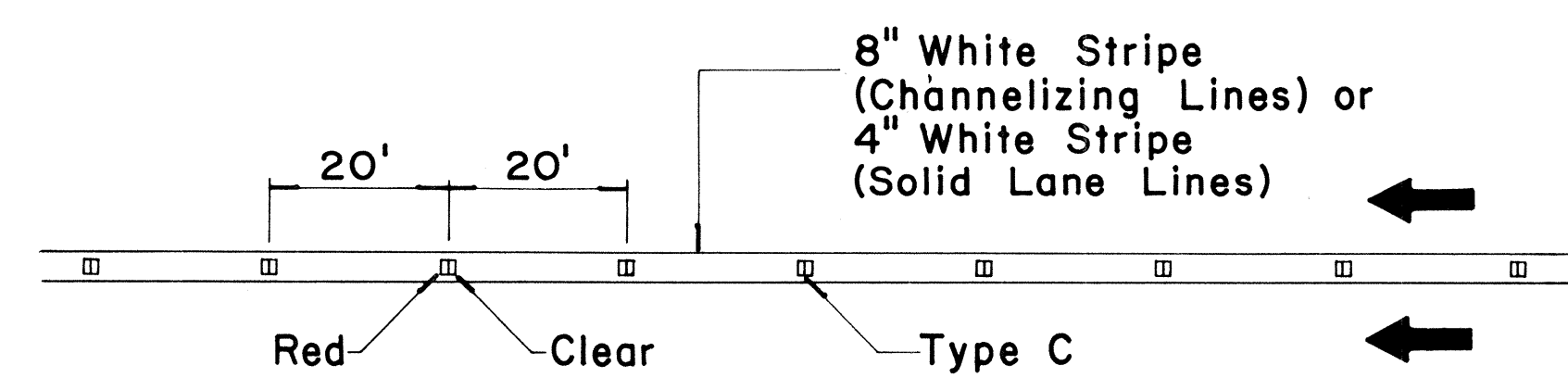
**MULTI-LANE
LANE LINES AND CENTER LINE**



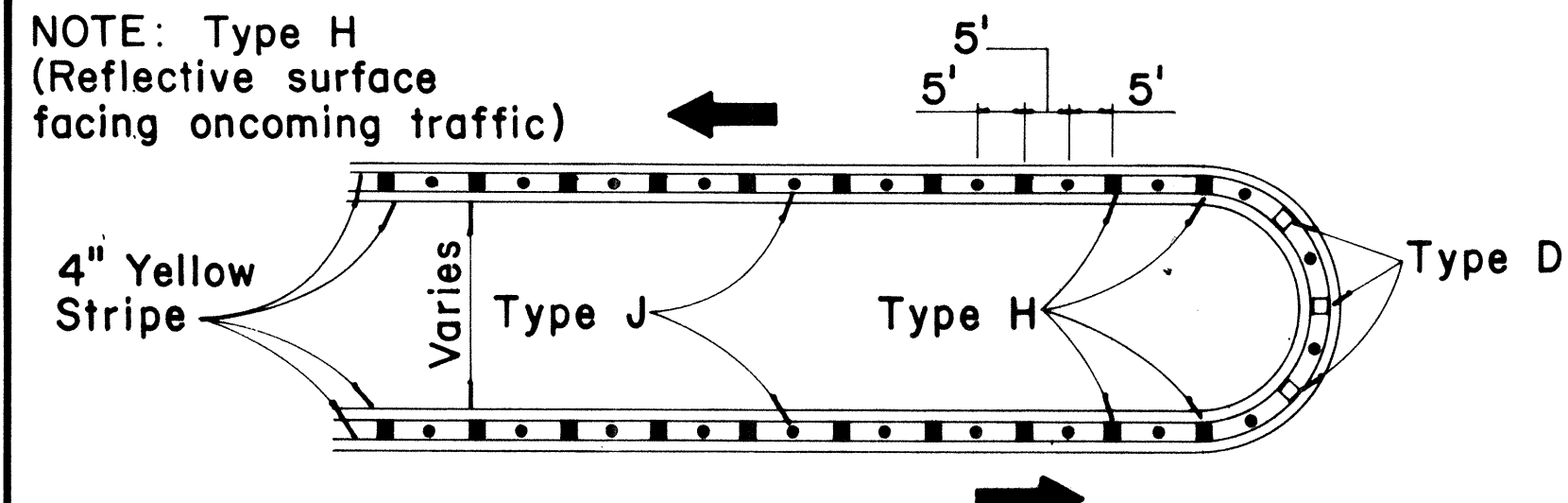
DIVIDED HIGHWAY LANE LINES



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



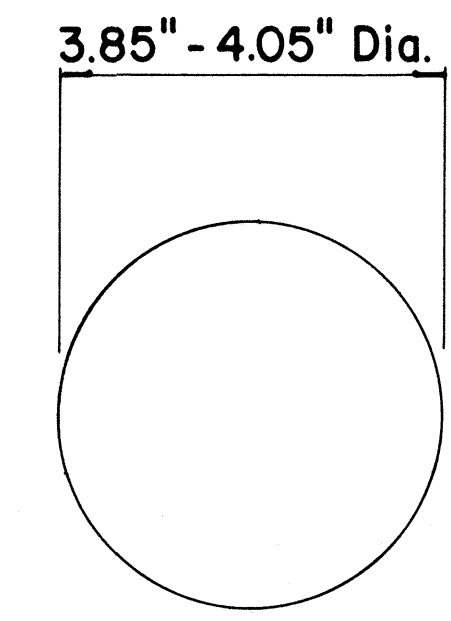
MEDIAN NOSE DELINEATION

TWO - LANE

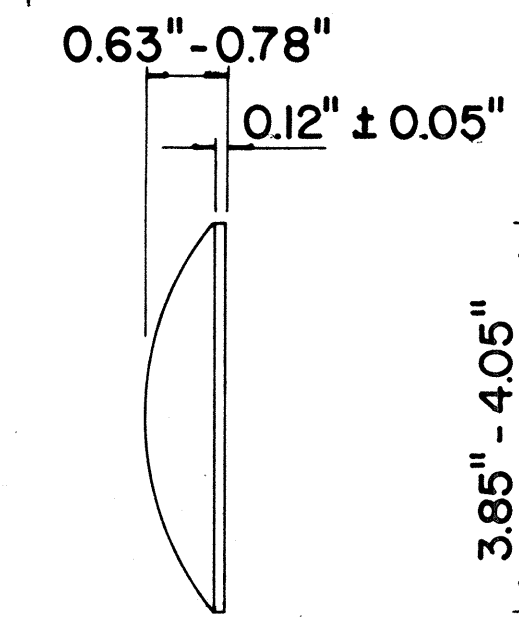
MULTI - LANE

**DIVIDED HIGHWAY
AND
FREEWAY**

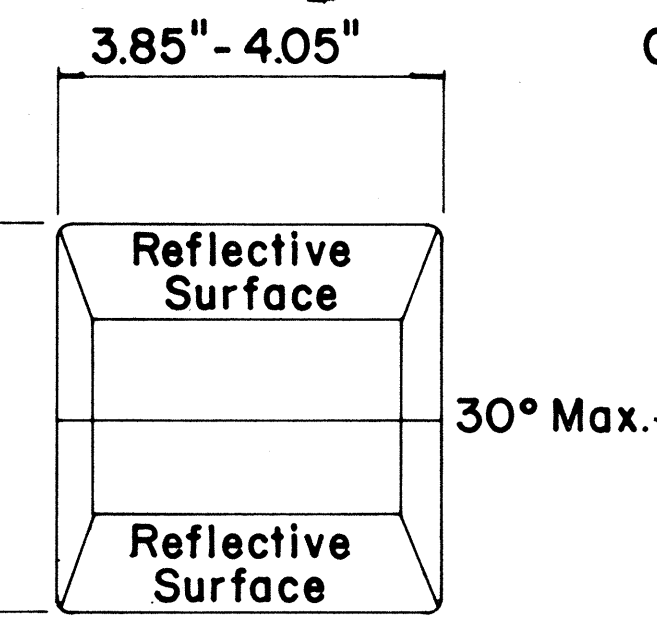
MISCELLANEOUS



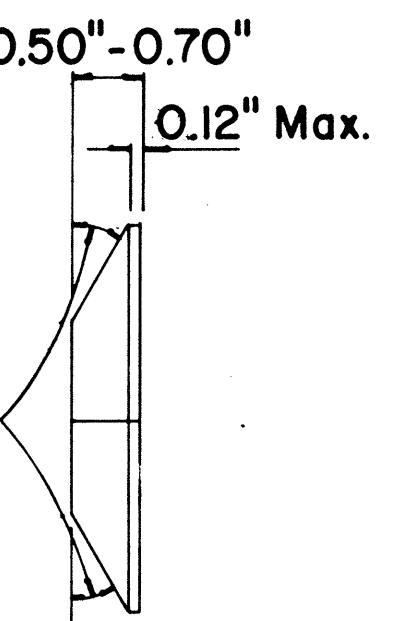
**TYPE A
NON-REFLECTIVE WHITE MARKER**



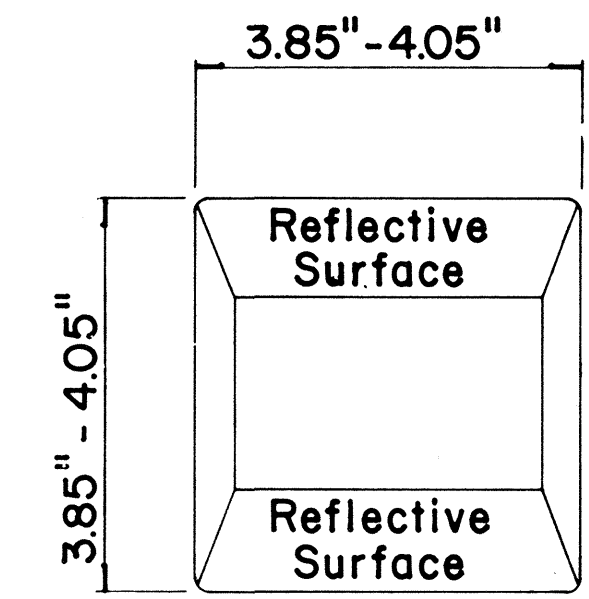
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



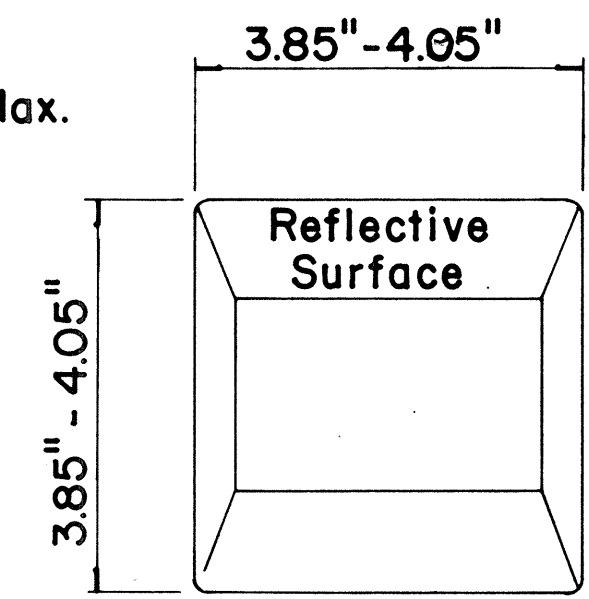
**TYPE C
RED-CLEAR REFLECTIVE MARKER**



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



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



GENERAL NOTES

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

LEGEND

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

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

APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER
DATE 11/18/71

APPROVED:
Shirley Sato
ASSISTANT CHIEF, ENGINEERING
DATE 11/18/71

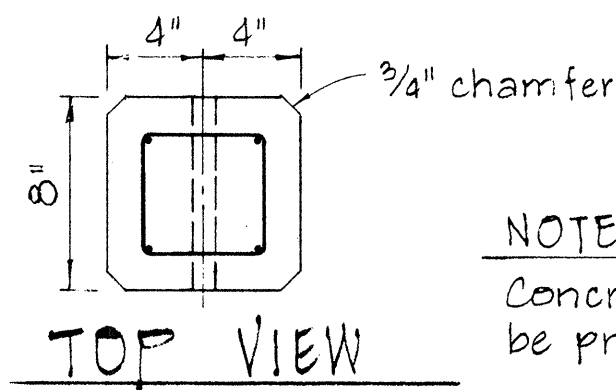
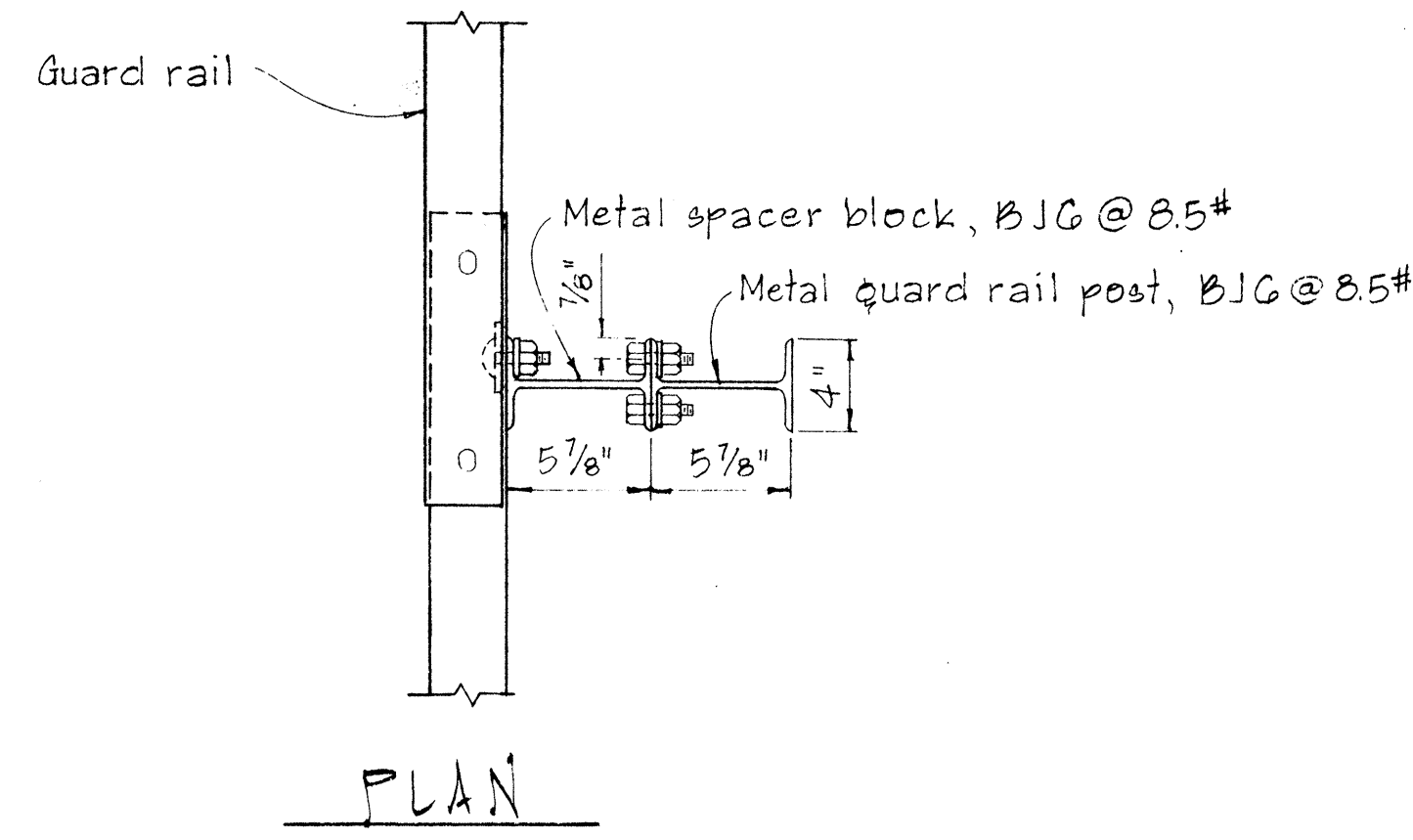
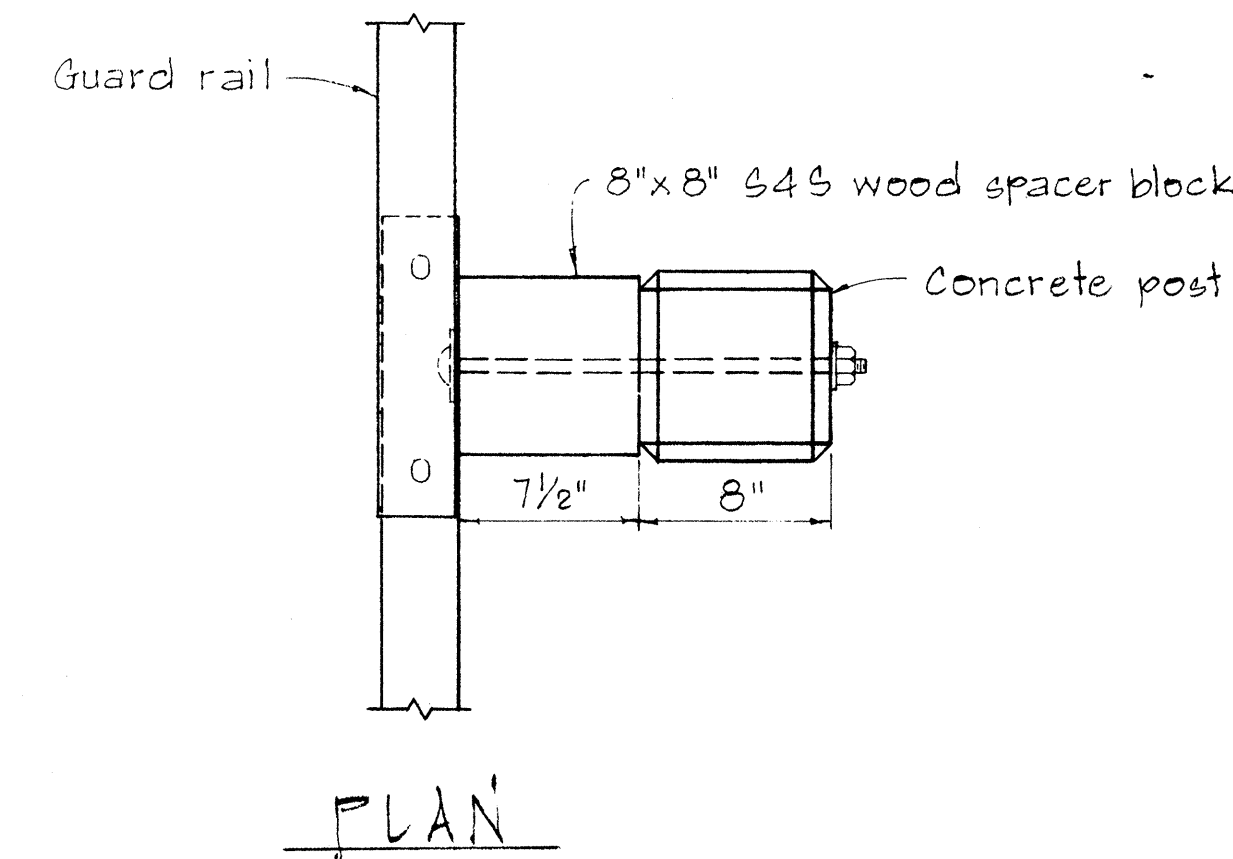
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
RAISED PAVEMENT MARKERS**

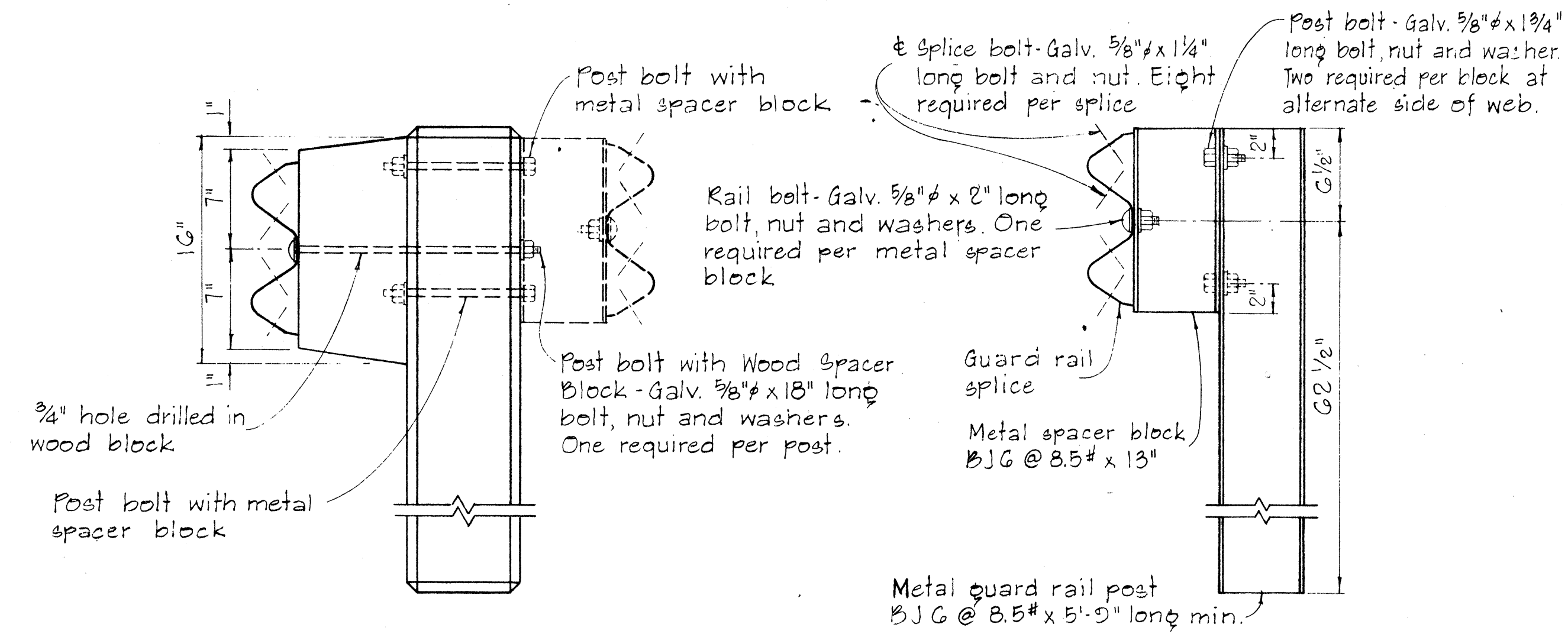
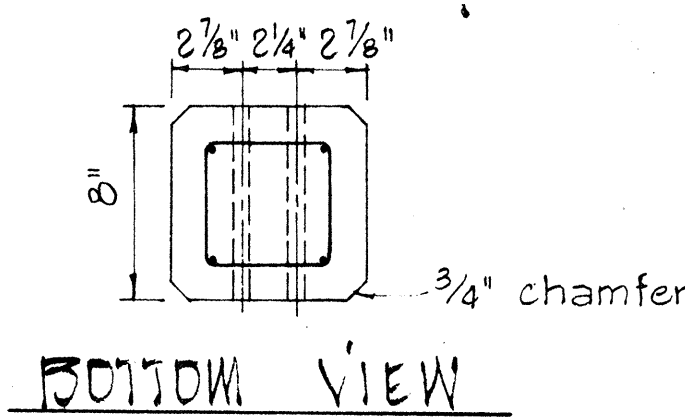
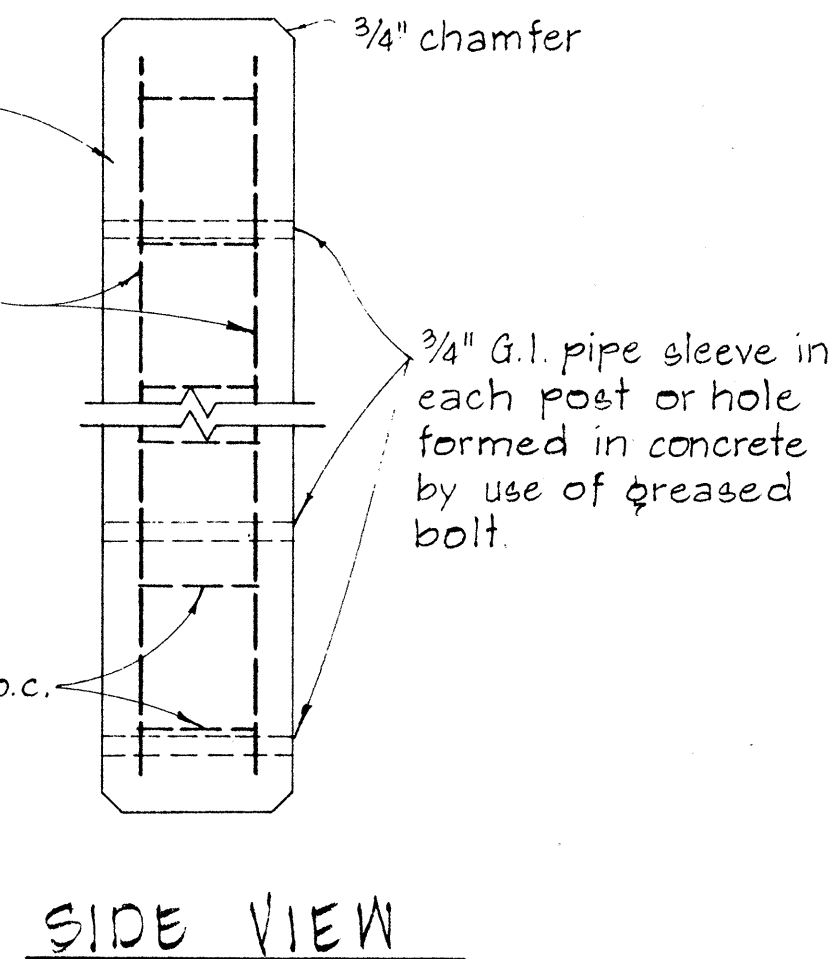
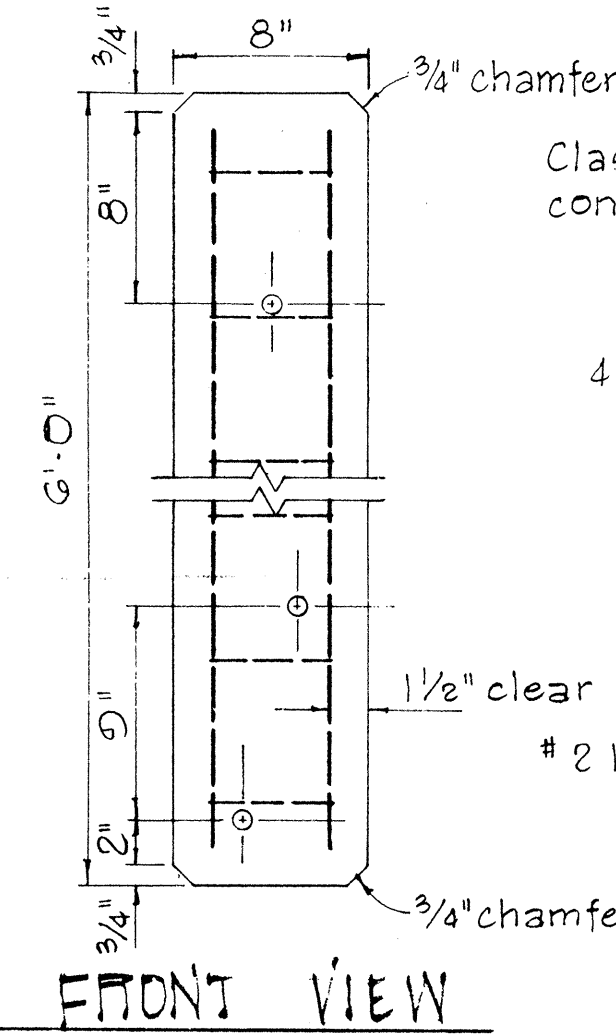
Not to Scale
October 1971
SHEET No. 11 OF 20 SHEETS DT 300

ORIGINAL PLAN	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

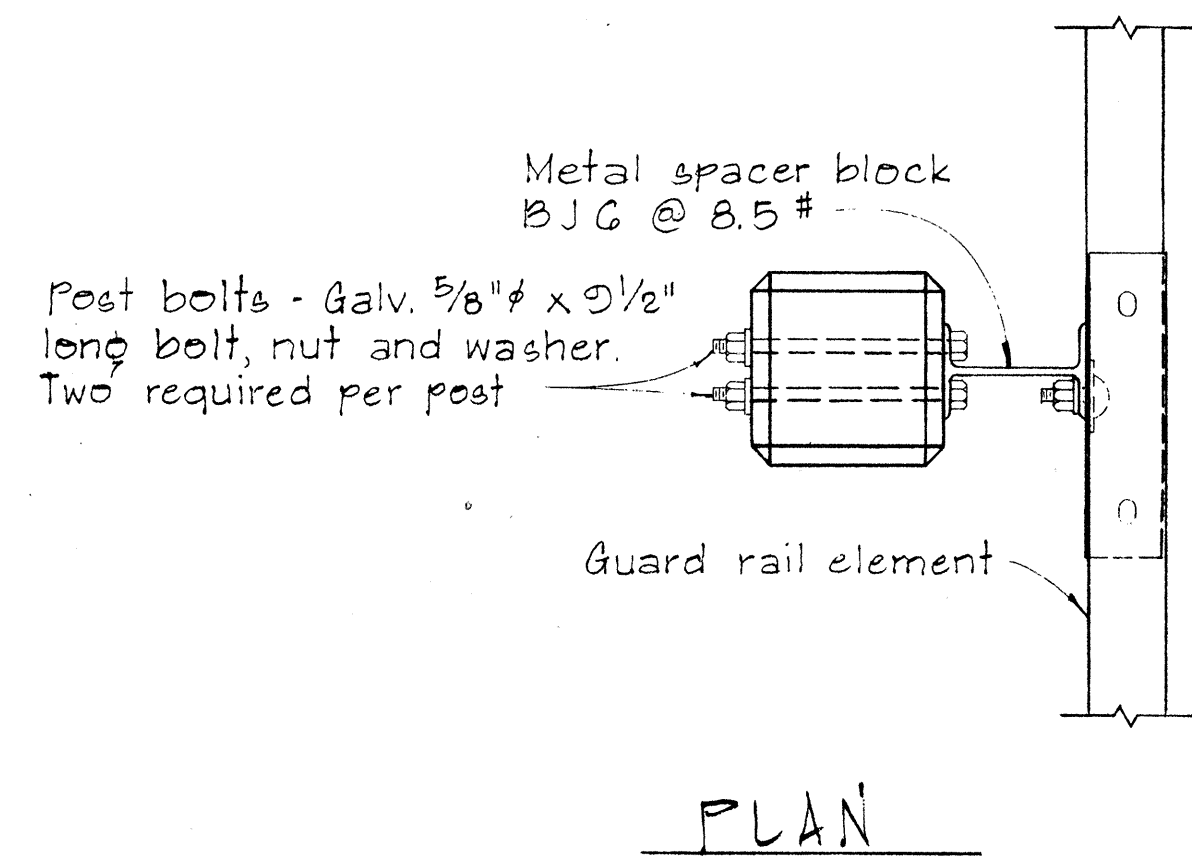
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(13):13	1976	55	63



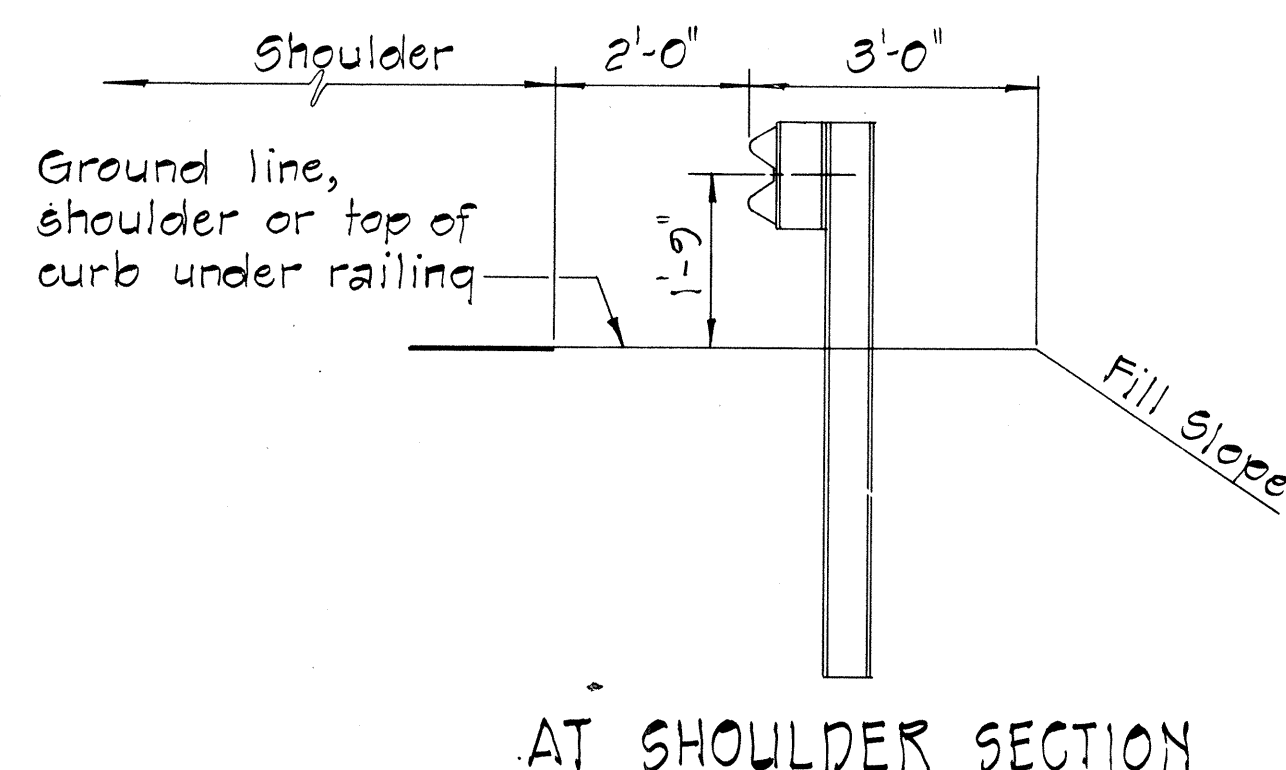
NOTE:
Concrete post shall be precast



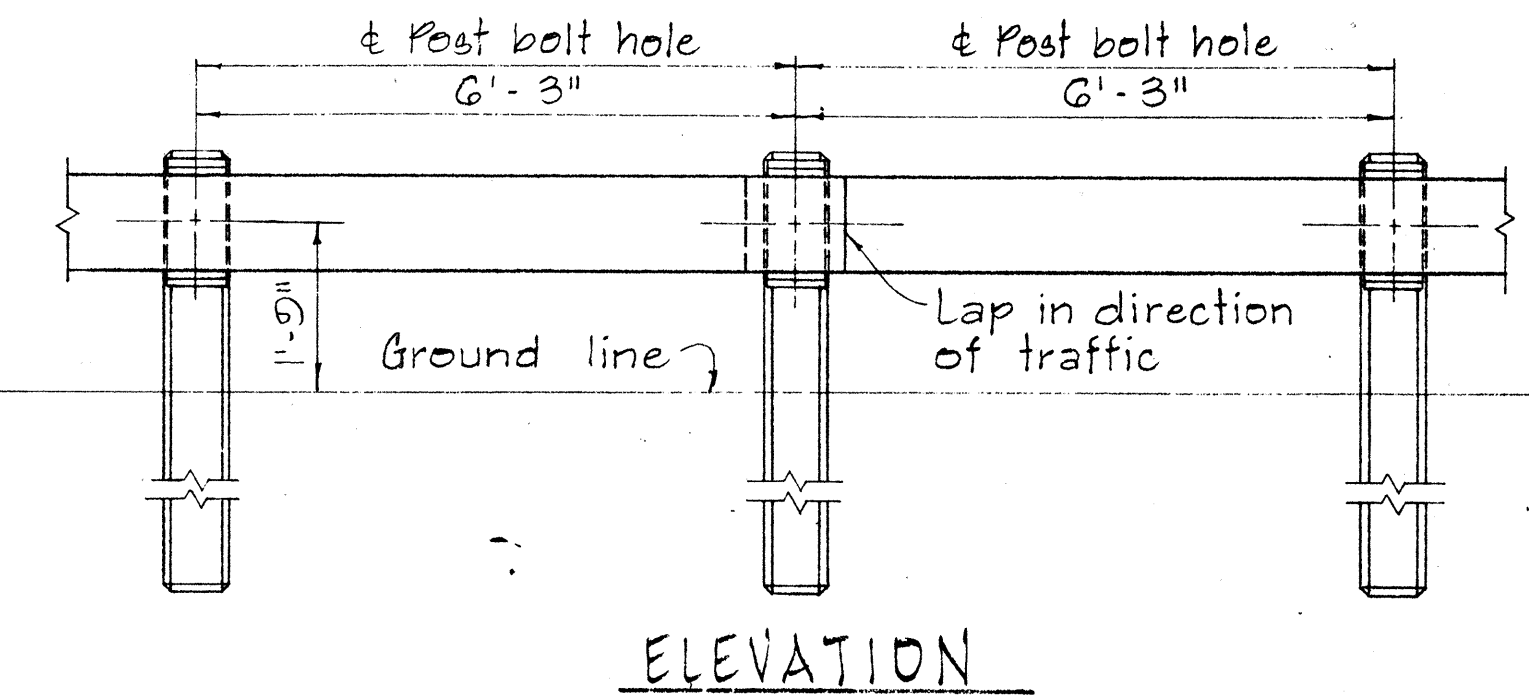
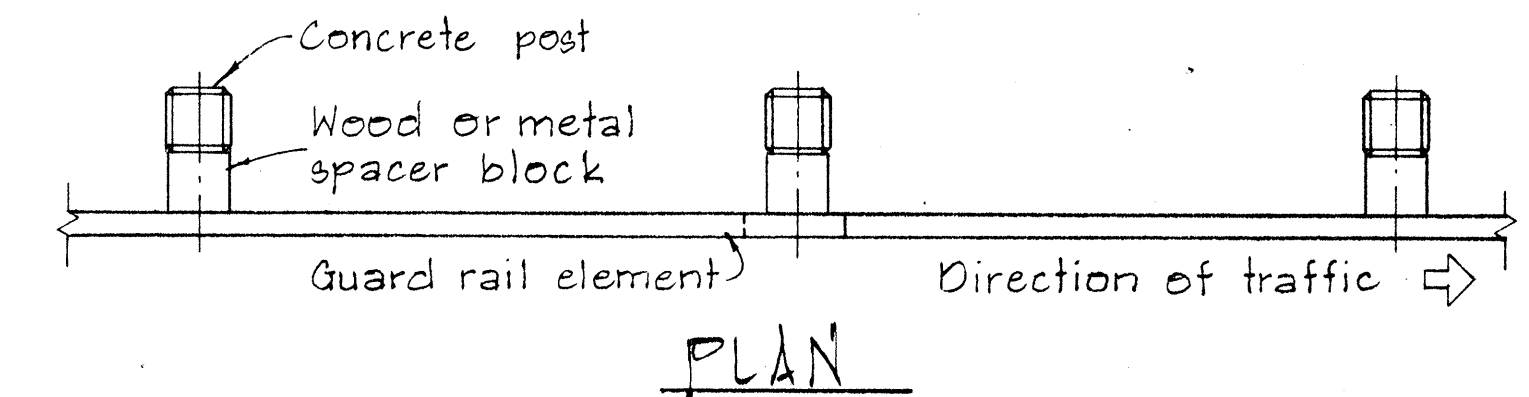
SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"



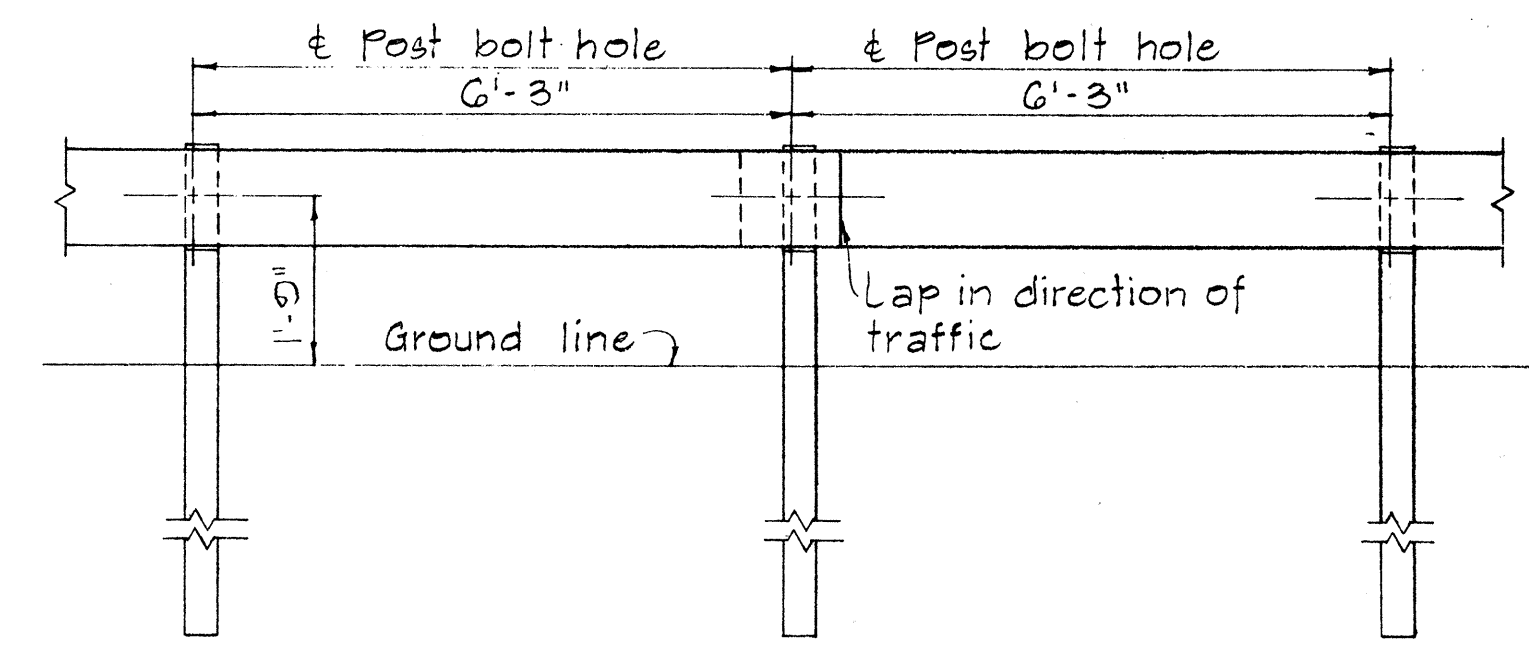
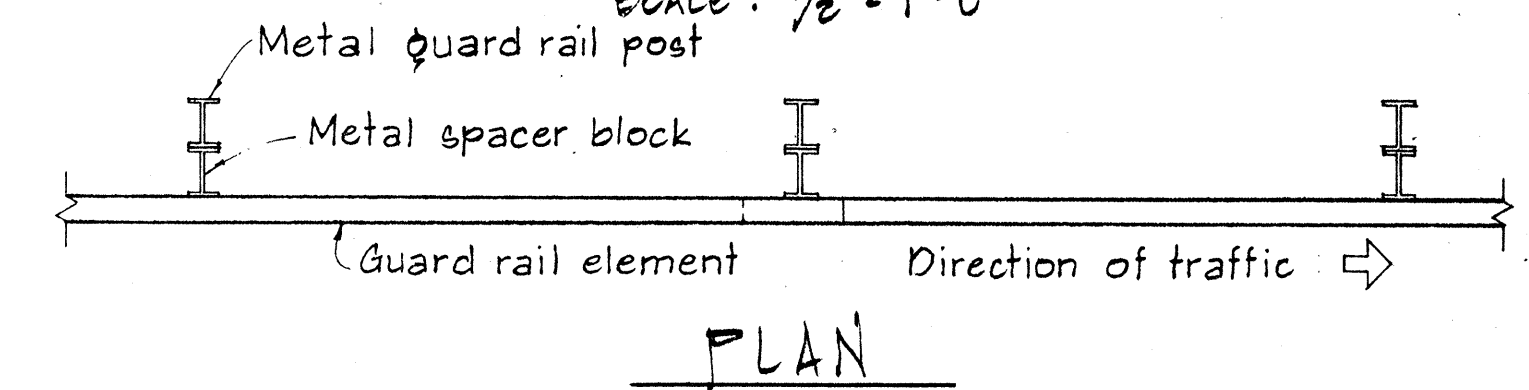
SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
SCALE: 1 1/2" = 1'-0"



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



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"

NO.	REVISION	APPROVED BY	DATE

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

APPROVED:
Richard J. Schuler
ASSISTANT CHIEF, ENGINEERING
12-30-69
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

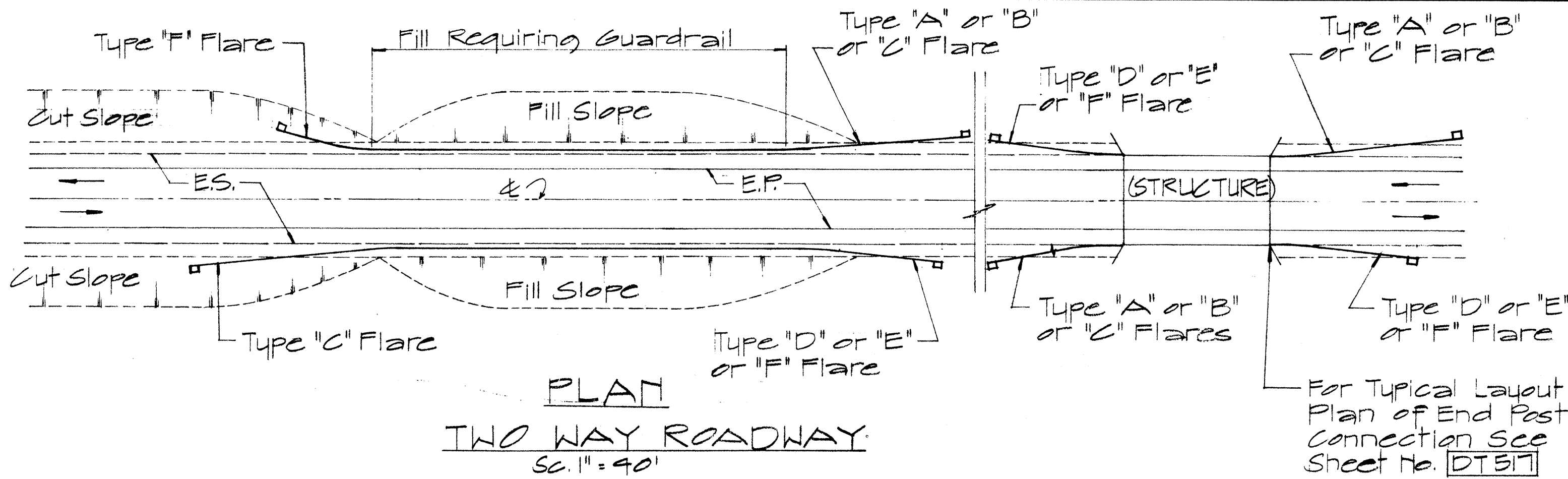
STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN
NOV. 1968

SHEET No. 12 OF 20 SHEETS

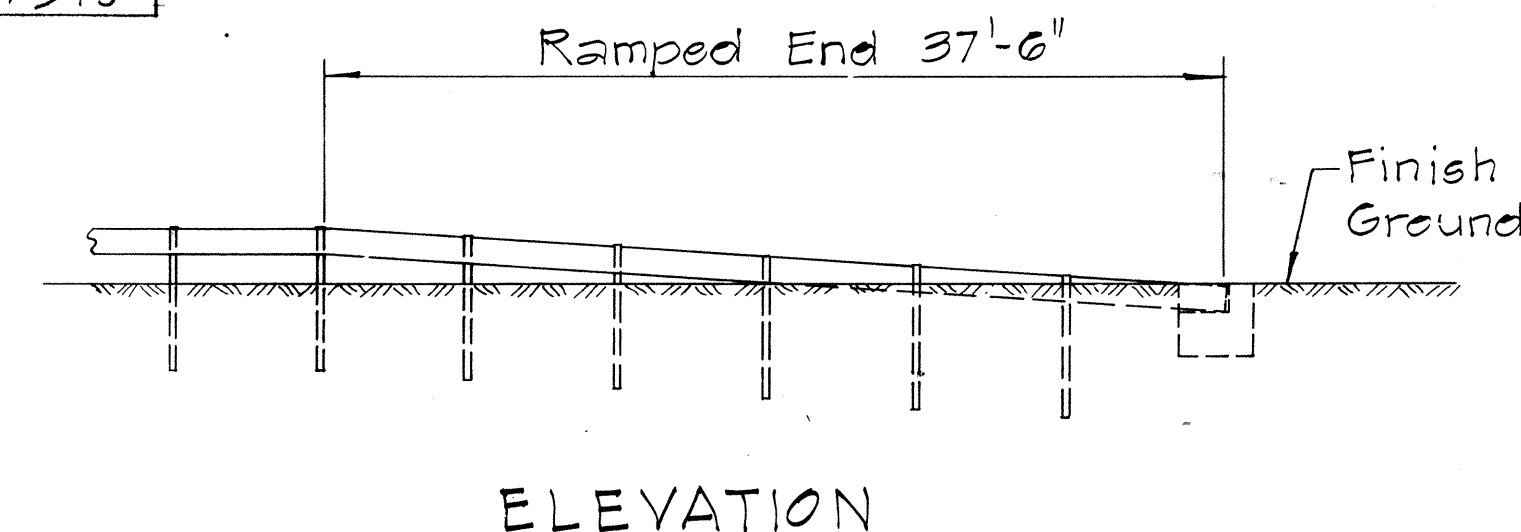
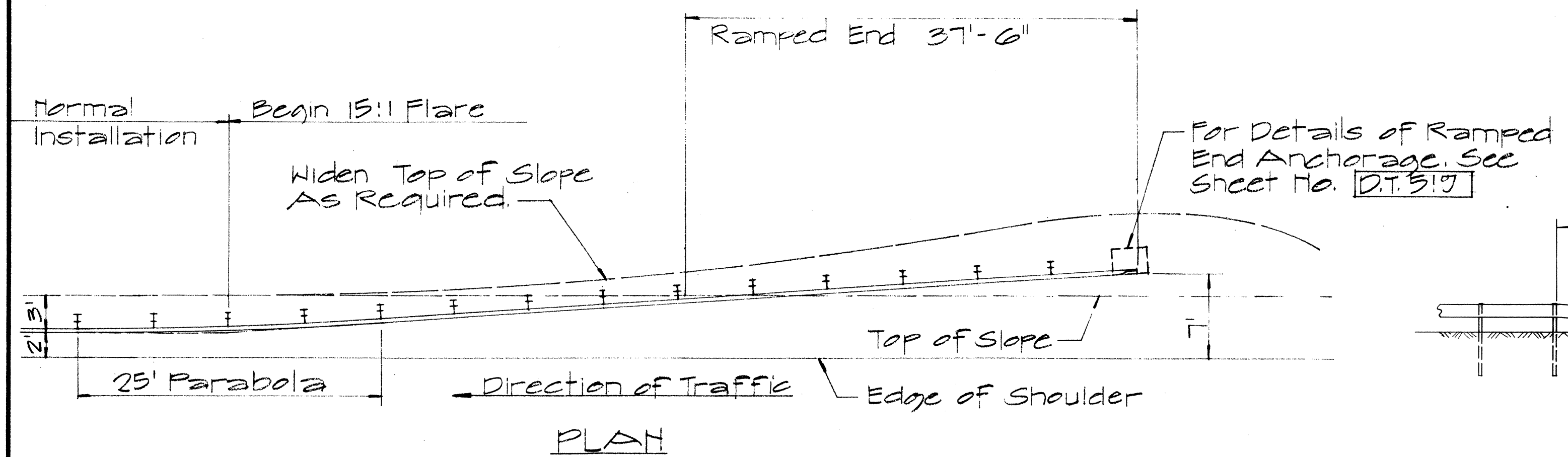
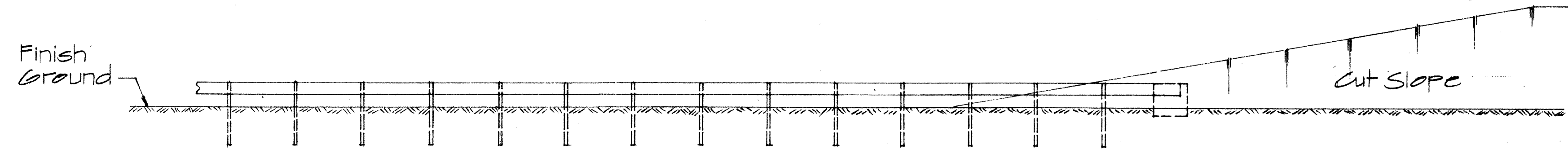
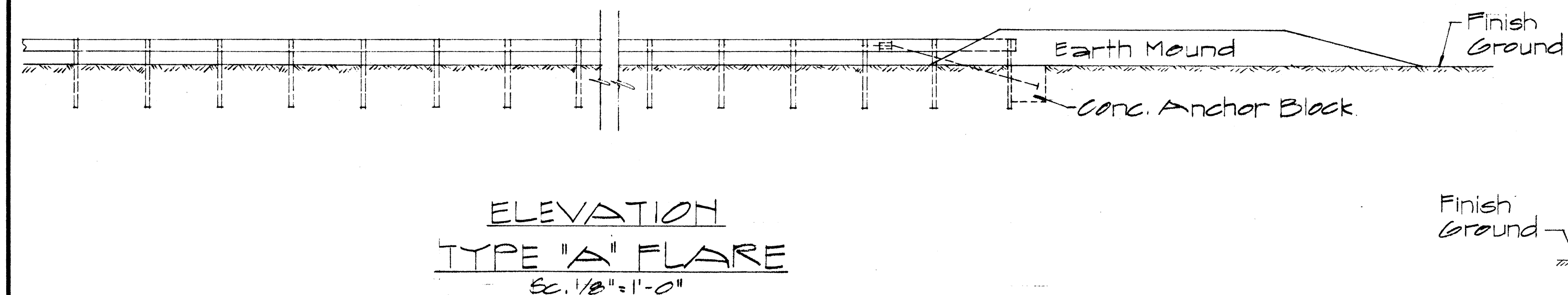
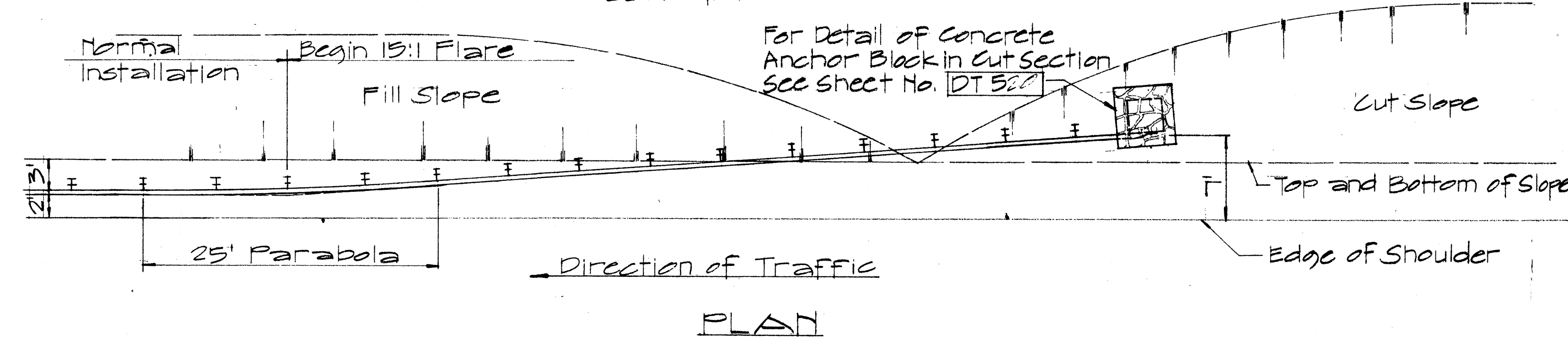
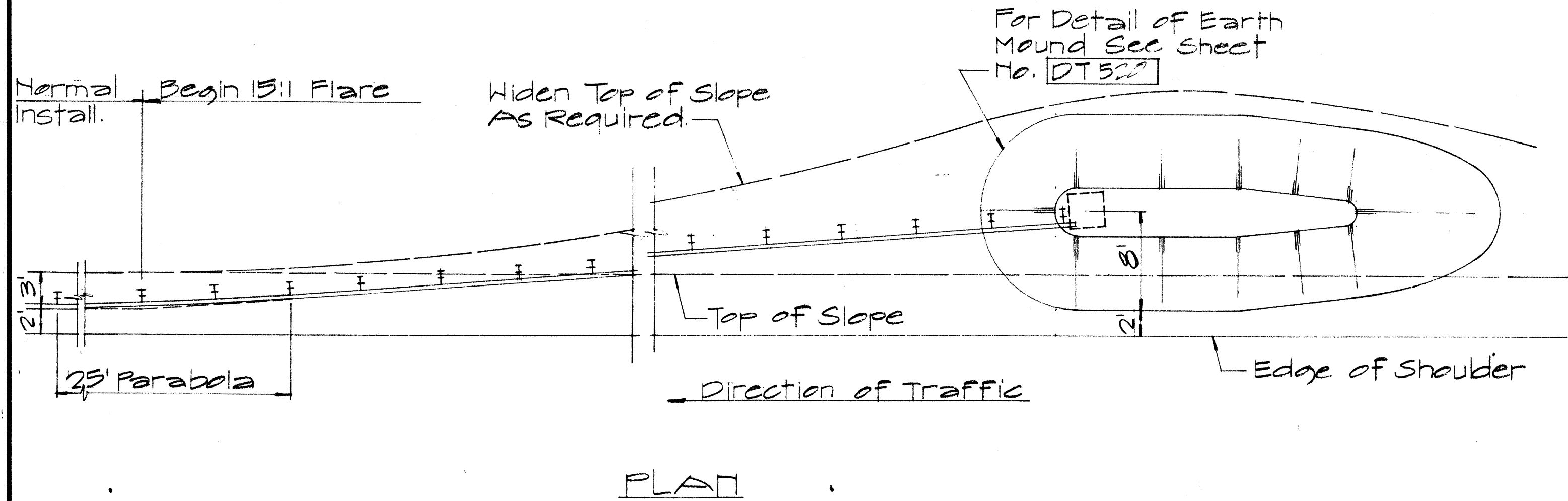
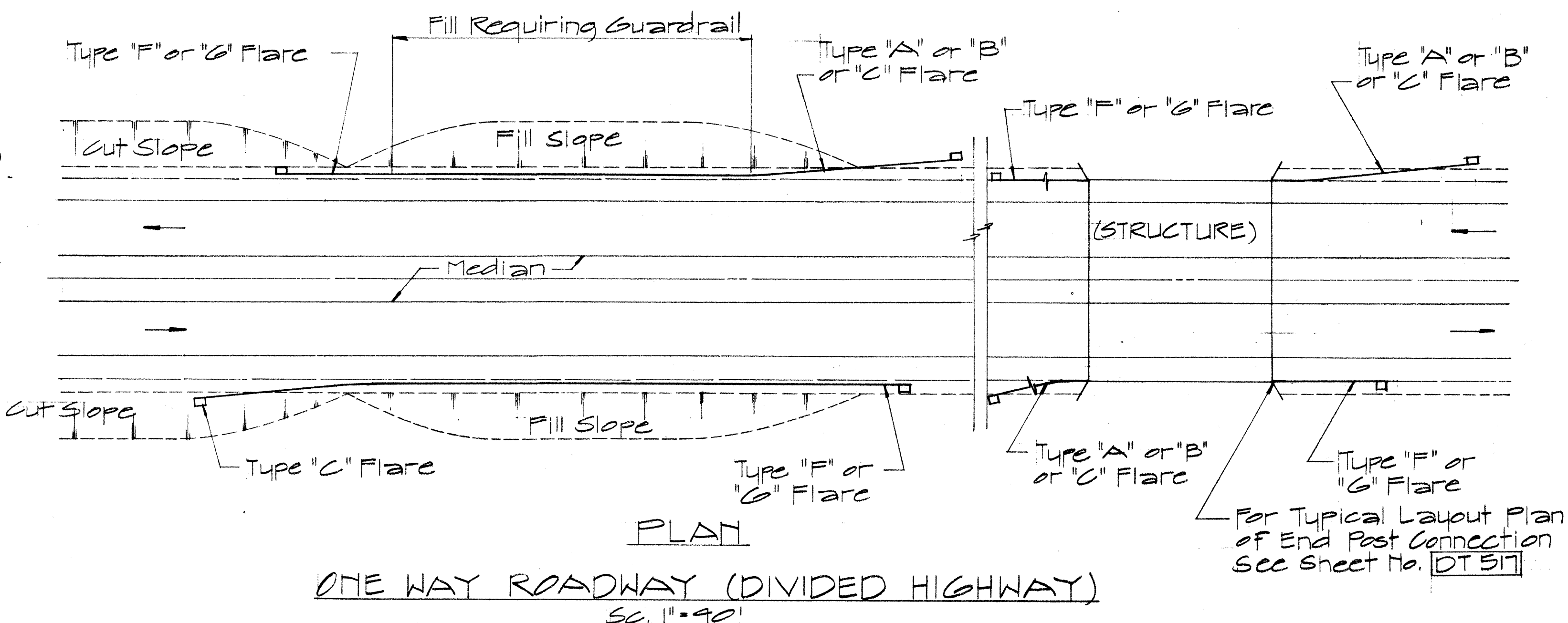
DT 500

DATE	
SURVEY PLOTTED BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
NO.	



NOTE:
Metal guard rail connection to structures requires End Post Connection. See structure plans.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(113)13	1976	57	63



ELEVATION
TYPE "C" FLARE
Sc. 1/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE

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

APPROVED:
W. B. [Signature] 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

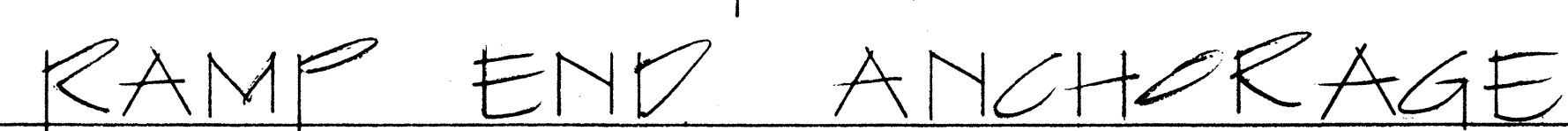
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY**

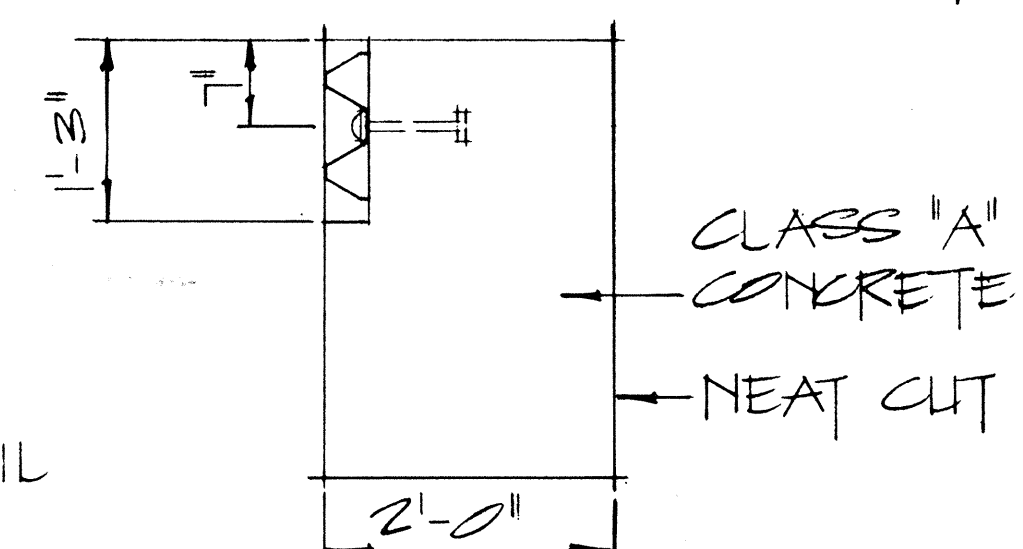
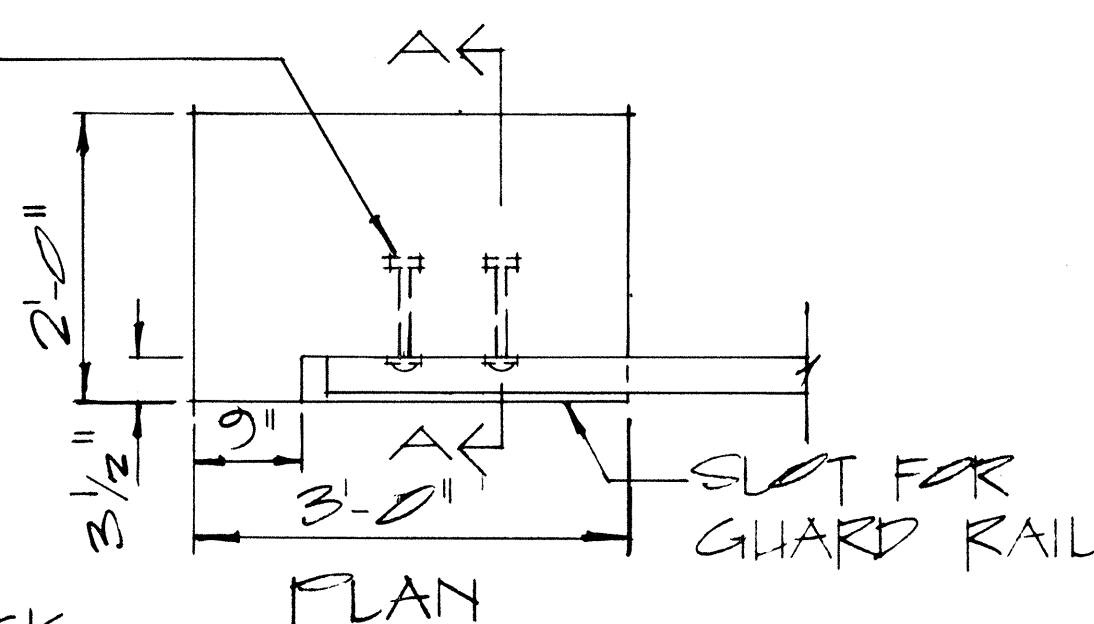
Sc. As Noted April 1969

ORIGINAL PLAN
DESIGNED BY
CHECKED BY
DATE

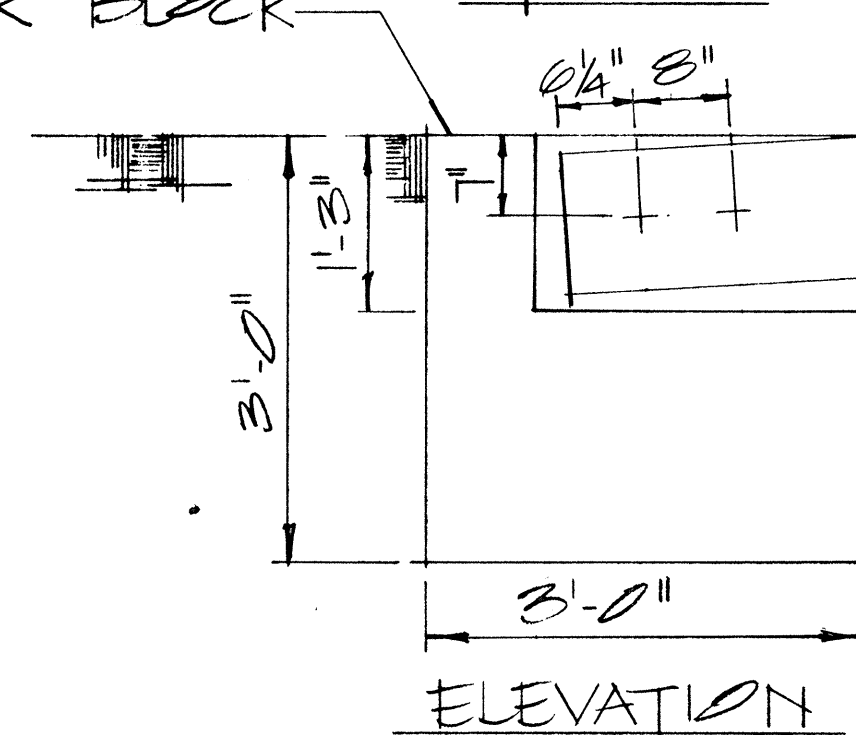
Hand-drawn plan view of a guard rail assembly. The diagram shows a series of vertical posts connected by a top rail and a bottom rail. The top rail is labeled "6'-3"



2-5/8" x 7/4" LONG BOLTS,
w/ NUTS & WASHERS
INCIDENTAL TO METAL
GUARD RAIL. ALL
METAL PIECES SHALL
BE GALVANIZED.



SECTION "A-A"



GROUND
- LINE

NOTE:
CONCRETE, EXCAVATION AND
MISCELLANEOUS APPURTENANCES
NECESSARY TO ANCHOR THE GUARD
RAIL ENDS, SHALL BE INCIDENTAL
TO THE METAL GUARD RAIL.

CONCRETE ANCHOR BLOCK

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

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

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

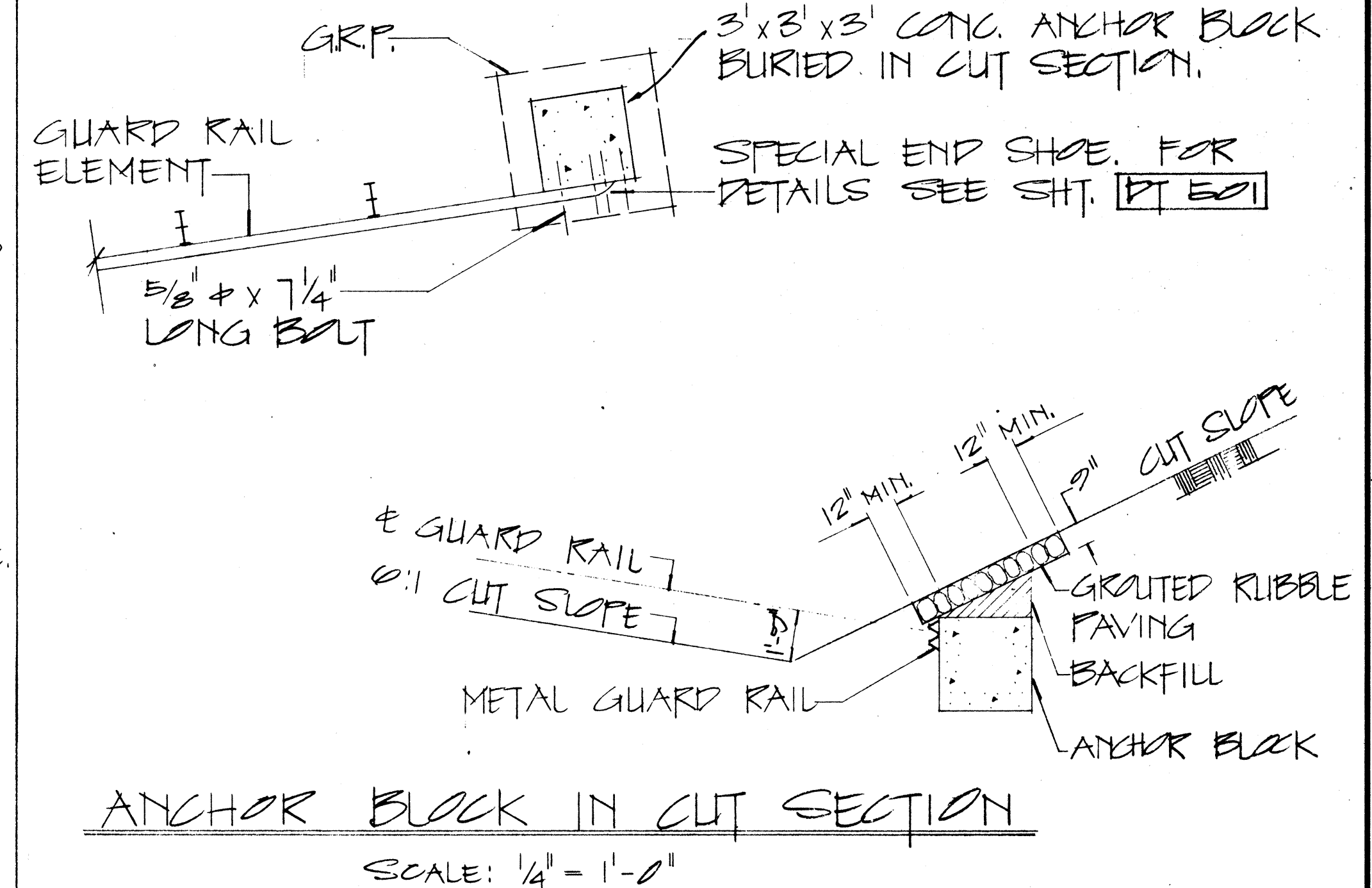
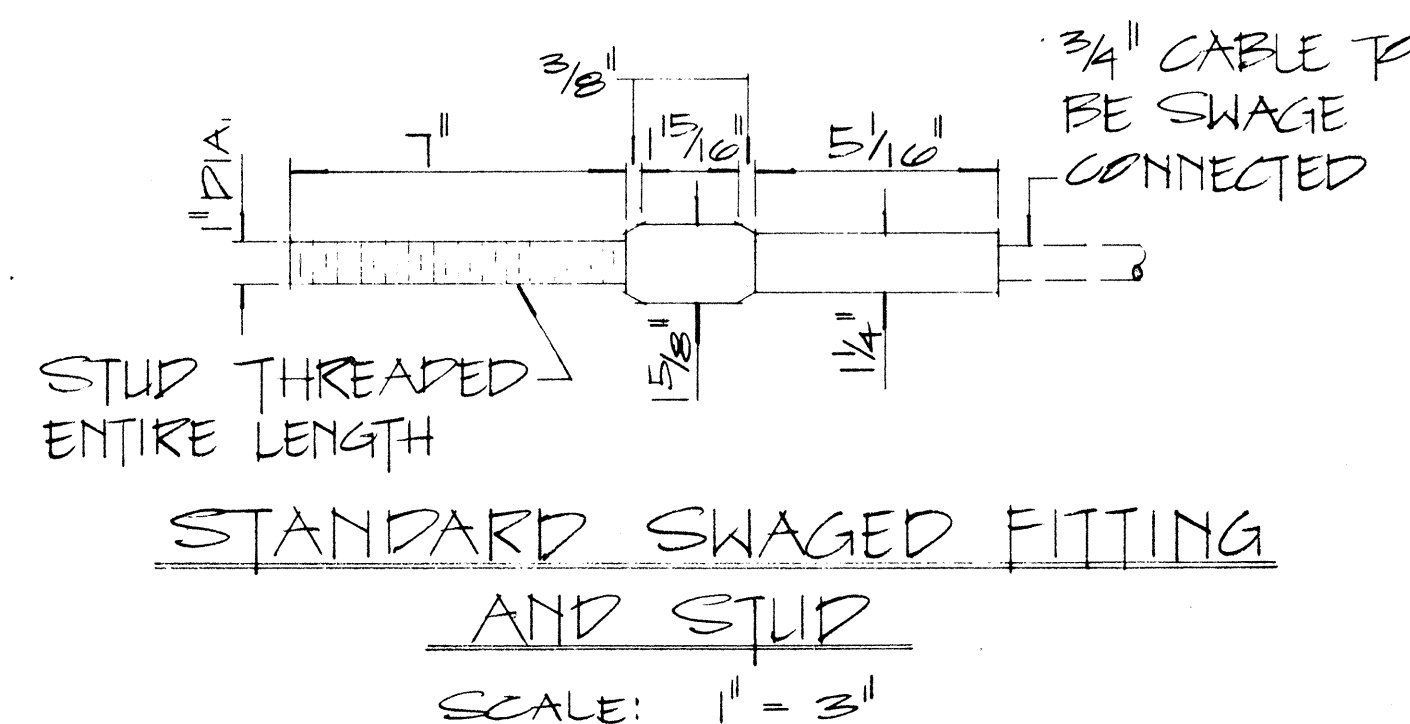
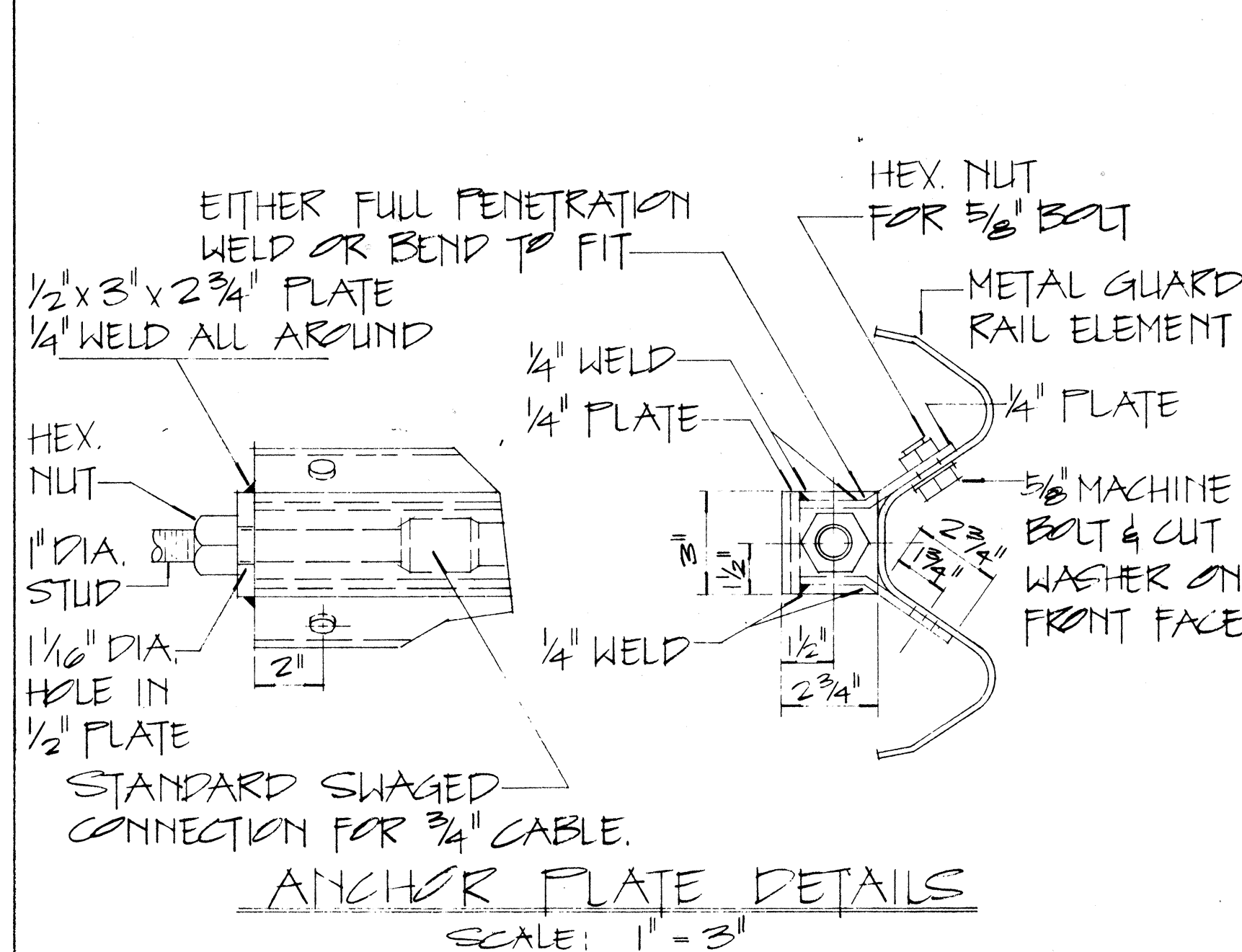
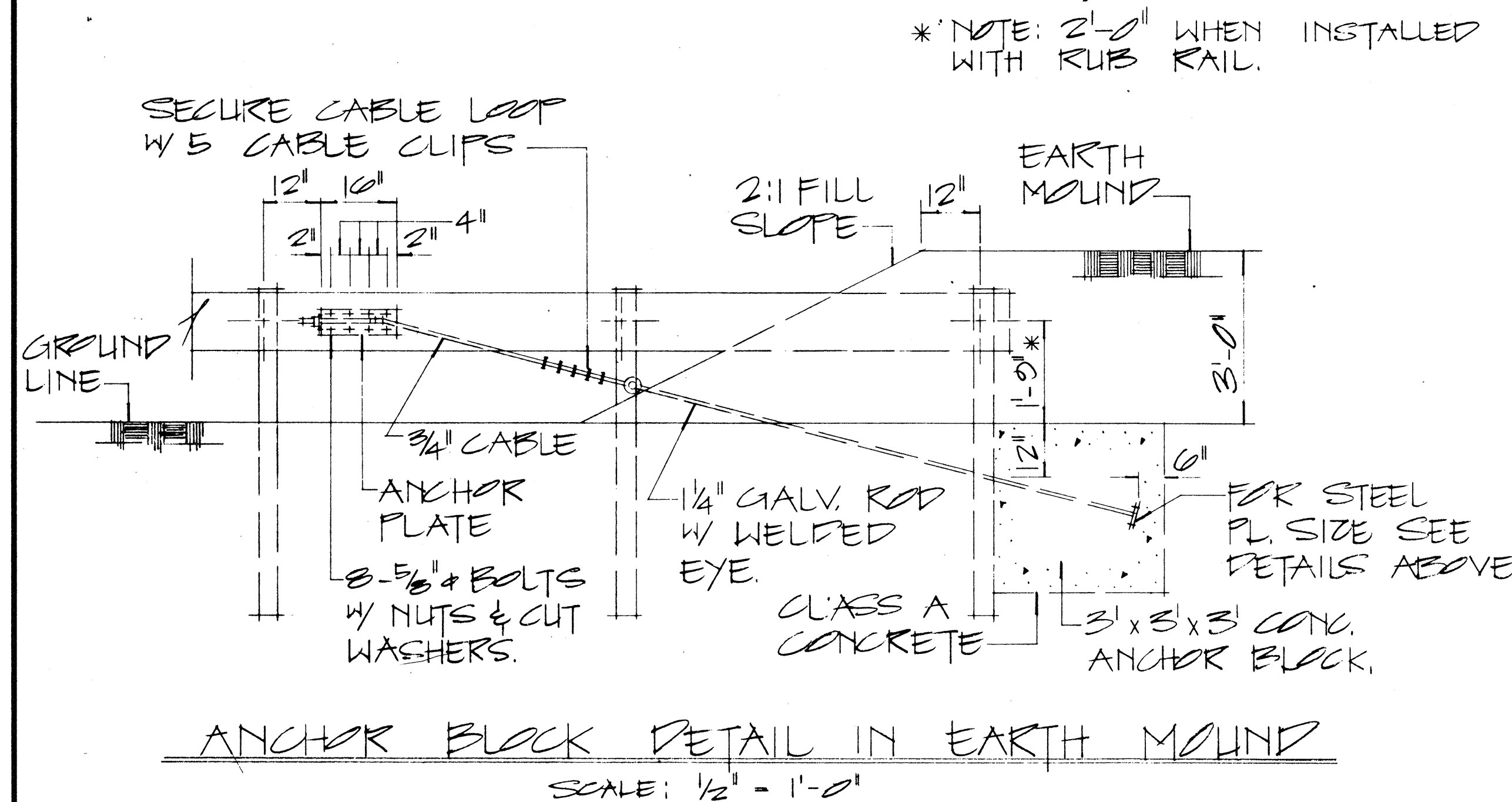
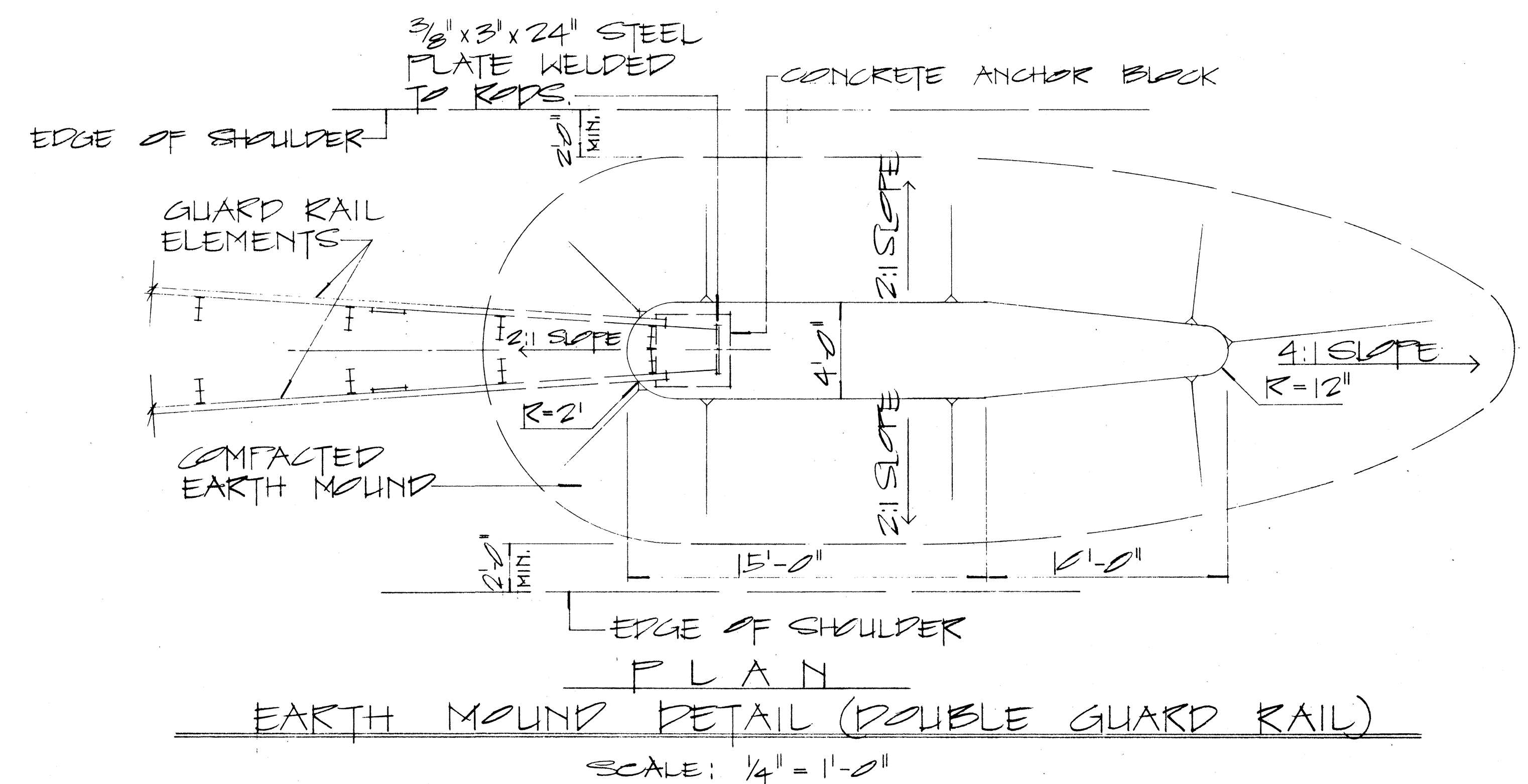
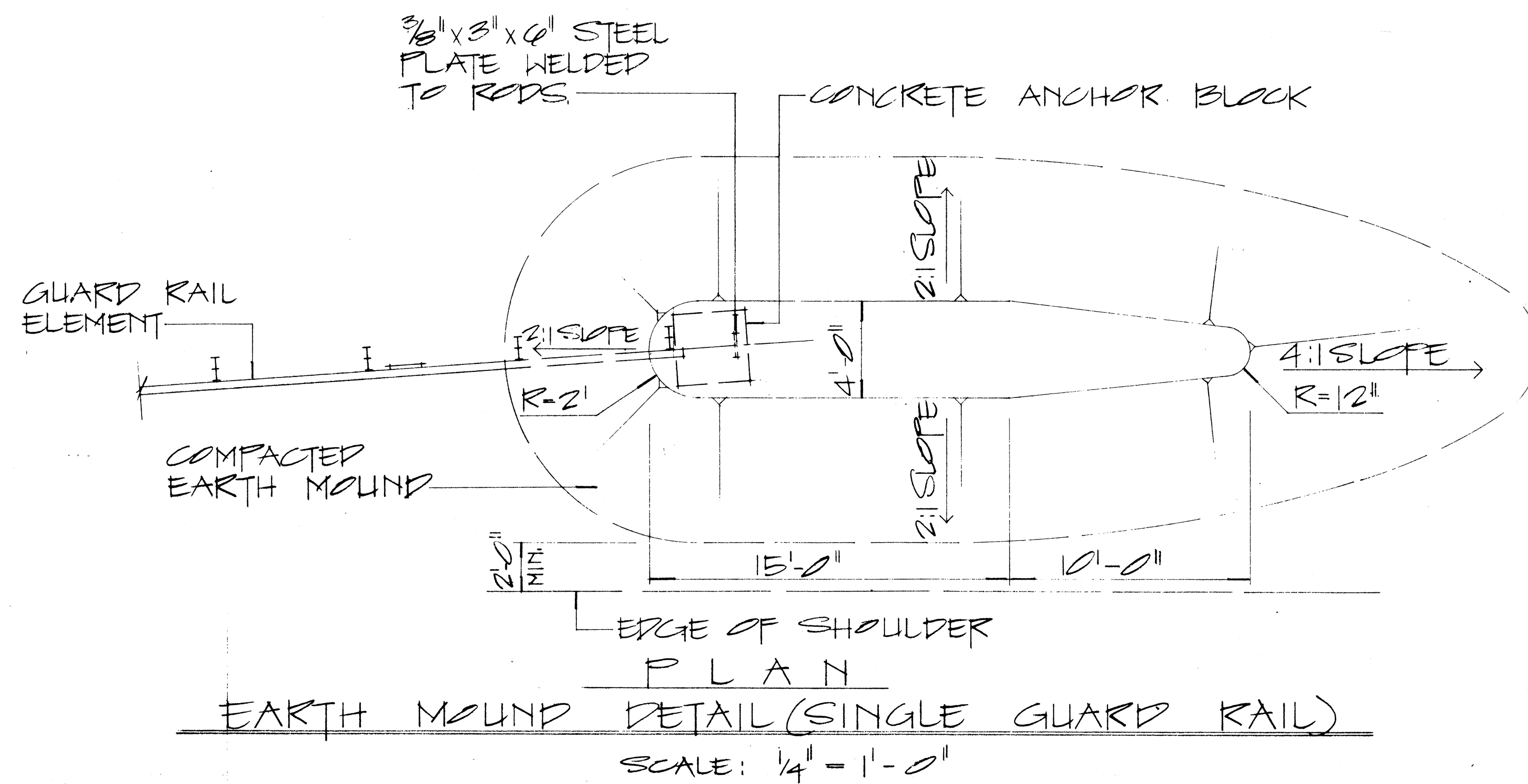
**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

STANDARD DETAILS
GUARD RAIL, TYPE 3
RAMP END ANCHORAGE

SCALE: AS SHOWN

SHEET No. 15 OF 20 SHEETS DT 512

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(113)13	1976	59	63



NOTE:

1. GALVANIZED ANCHOR ROD, METAL GUARD RAIL AND FAST BURIED IN GROUND SHALL BE COVERED WITH A MIN. 20-MIL thickness of COAL TAR ENAMEL, CONFORMING TO AWWA STANDARD: C 203
2. CONCRETE, GRP, EXCAVATION, EARTH MOUND, ANCHOR RODS AND MISCELLANEOUS APPURTENANCES NECESSARY TO ANCHOR THE GUARD RAIL ENDS SHALL BE INCIDENTAL TO THE METAL GUARD RAIL.

APPROVAL RECOMMENDED:		
<i>Eishi Tanaka</i>		<i>12/29/69</i>
TRAFFIC ENGINEER		DATE
APPROVED:		
<i>2nd Lt. [Signature]</i>		<i>12-30-69</i>
ASSISTANT CHIEF, ENGINEERING		DATE
NO.	REVISION	APPROVED BY

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

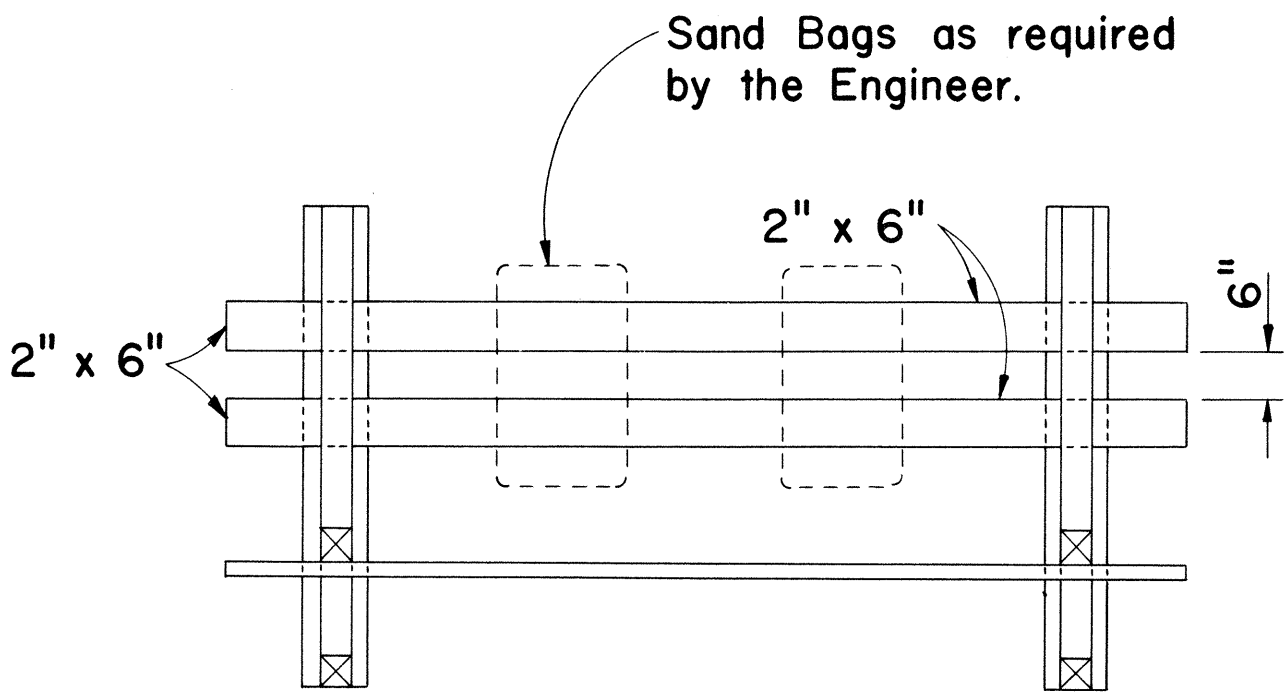
STANDARD DETAILS
EARTH MOUND AND
ANCHOR BLOCK DETAILS

SCALE: AS SHOWN OCT 1969

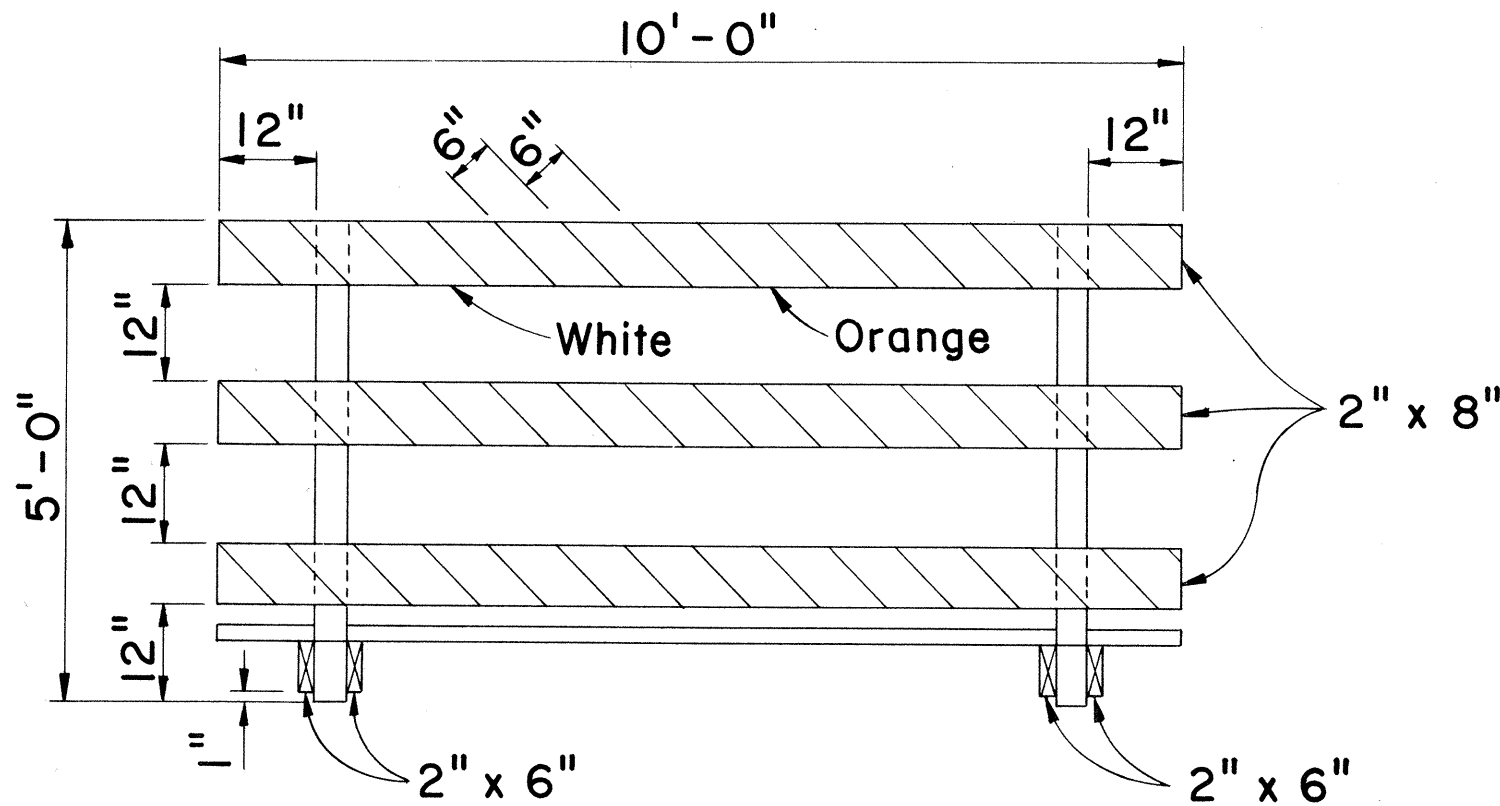
SHEET No. 16 OF 20 SHEETS PT 520

60

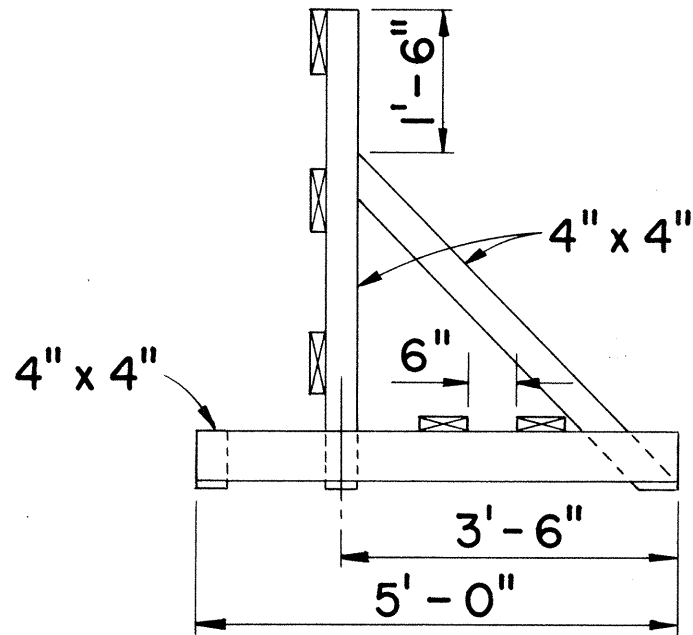
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(119)13	1976	61	63



PLAN VIEW



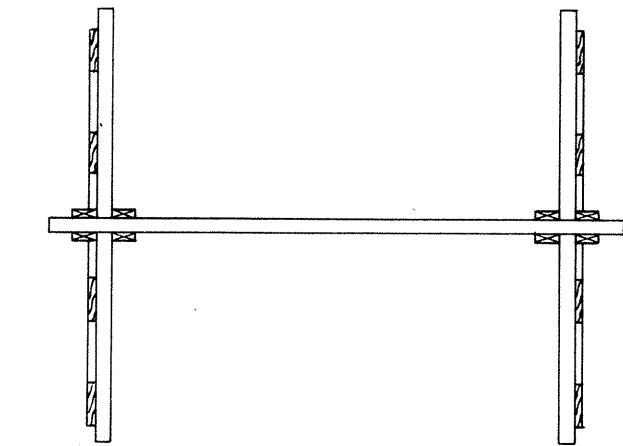
FRONT VIEW



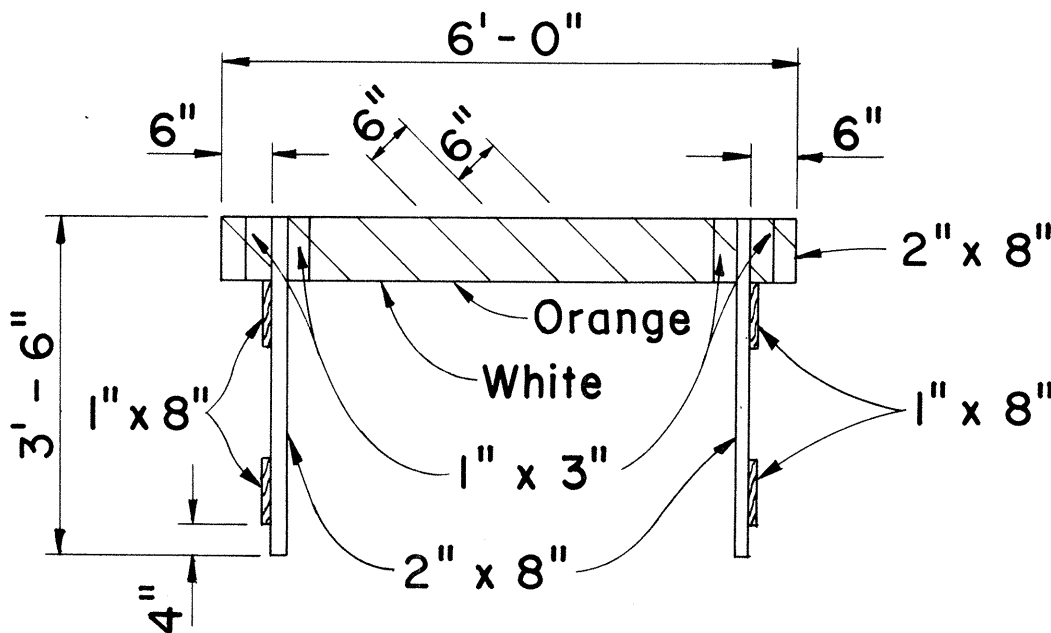
END VIEW

CLASS I BARRICADE

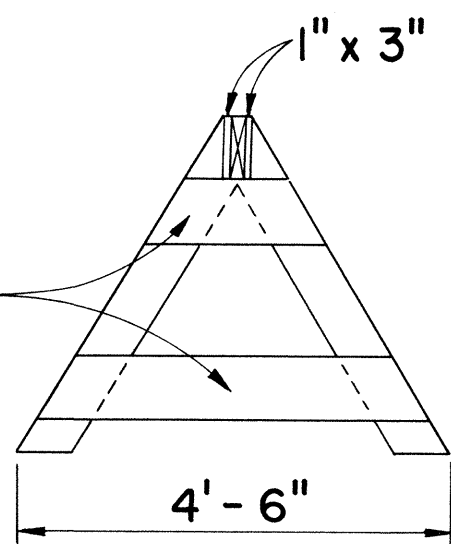
Scale: 1/2" = 1'-0"



PLAN VIEW



FRONT VIEW



END VIEW

CLASS II BARRICADE

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

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.

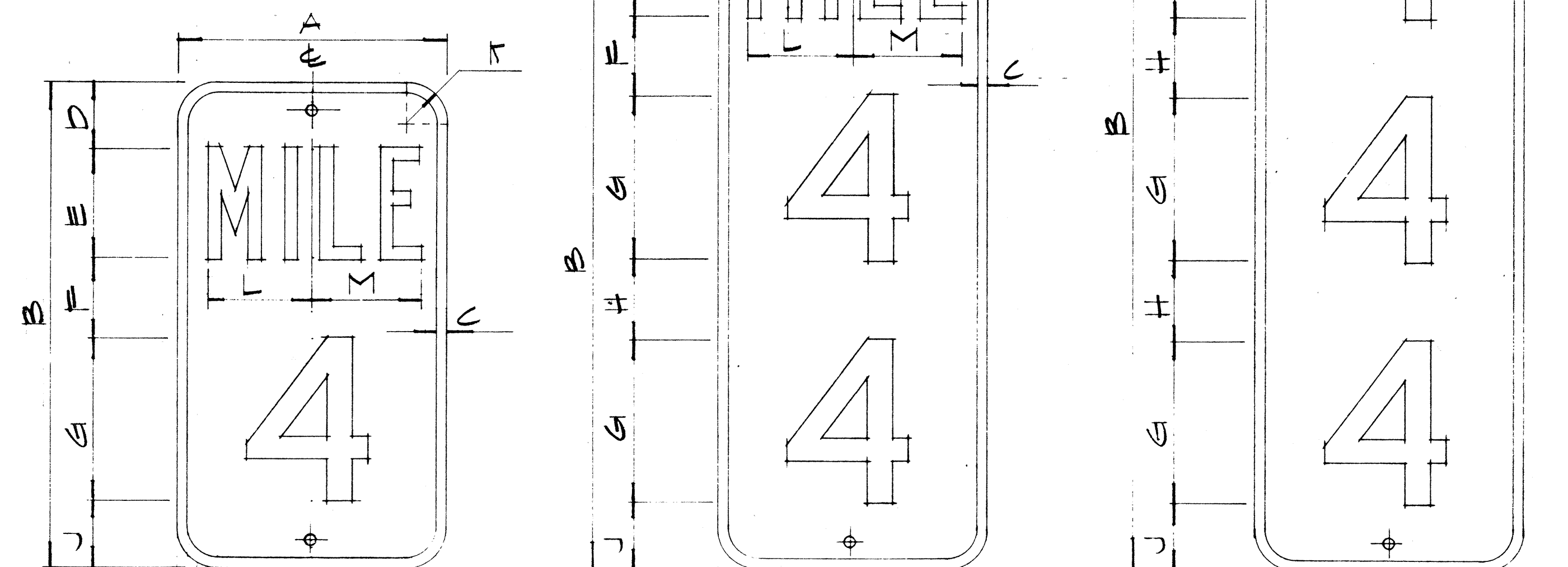
Date	Revision
9/14/76	Revise General Note 3.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
TYPICAL DETAILS
BARRICADES
SCALE: As Shown DATE:
SHEET No. 18 OF 20 SHEETS

C.O. 61

NOTE:

- LETTERS AND NUMERALS SHALL CONFORM TO THE 'STANDARD ALPHABETS FOR HIGHWAY SIGNS', BUREAU OF PUBLIC ROADS, 1966.
- MILEPOST PLATES SHALL BE .0063" THICK ALUMINUM ALLOY 6061-T6 WITH REFLECTORIZED WHITE BORDERS & LEGEND ON A REFLECTORIZED GREEN BACKGROUND.
- DRAW 3/8" BOLT HOLES AT APPROPRIATE LOCATIONS.



D10-1 10' x 18"
D10-4 12' x 24"
D10-2 10' x 27"
D10-5 12' x 36"
D10-3 10' x 36"
D10-6 12' x 48"

MILEPOST PLATES

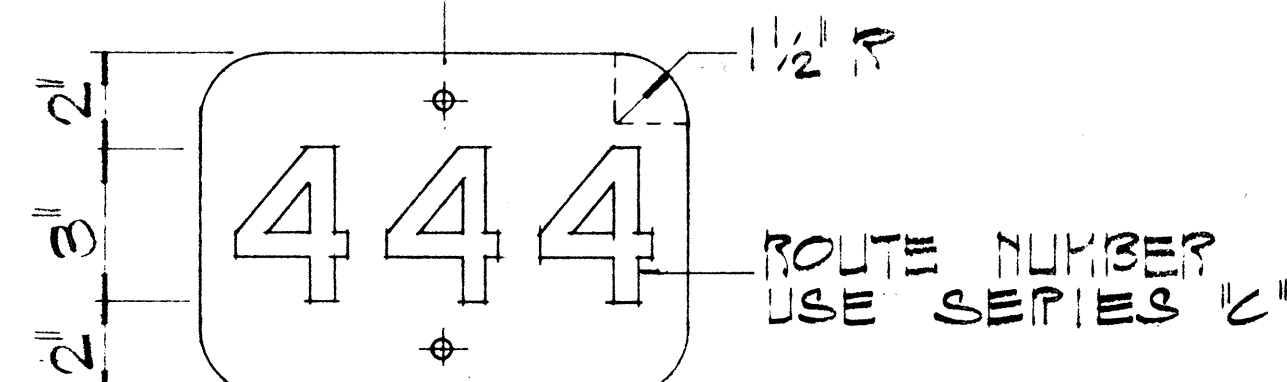
Scale: 1/2" = 1'

MILEPOST PLATE SCHEDULE

NAME	SIZE	A	B	C	D	E	F	G	H	J	K	L	M	LETTER SERIES	NUMERAL SERIES
D10-1 D10-4	10' x 18" 12' x 24"	10 12	18 24	1/2 1/2	2 3	4 4	2 3	0 0		4 4	1 1/2 1 1/2	3 5/8 4 5/8	3 7/8 4 7/8	B C	C
D10-2 D10-5	10' x 27" 12' x 36"	10 12	27 36	1/2 1/2	2 3	4 4	2 3	0 0	3 3	4 4	1 1/2 1 1/2	3 5/8 4 5/8	3 7/8 4 7/8	B C	C
D10-3 D10-6	10' x 36" 12' x 48"	10 12	36 48	1/2 1/2	2 3	4 4	2 3	0 0	3 2 1/2	4 3	1 1/2 1 1/2	3 5/8 4 5/8	3 7/8 4 7/8	B C	C

NOTE:

HIGHWAY ROUTE NUMBER PLATES FOR URBAN & RURAL STREET MILEPOSTS SHALL BE .0063" THICK ALUMINUM ALLOY 6061-T6 WITH BLACK NUMERALS & BORDERS ON A REFLECTORIZED WHITE BACKGROUND.

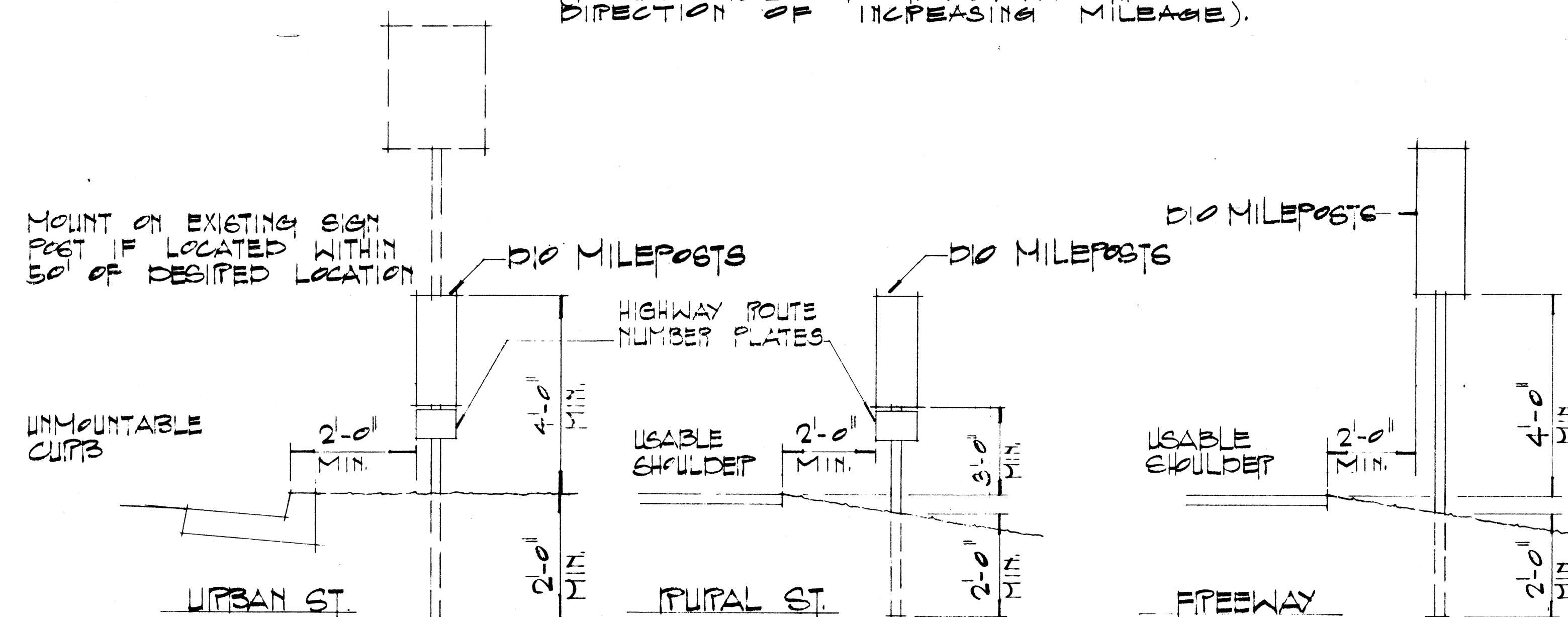


D10-7 10' x 7"
HIGHWAY ROUTE NUMBER PLATE
(FOR URBAN & RURAL STREET MILEPOSTS)

NOTE:

ON MULTI LANE ROADWAYS - ONE MILEPOST ON EACH SIDE OF ROADWAY.
ON TWO LANE ROADWAYS - BACK TO BACK MILEPOSTS ONE SIDE OF ROADWAY (RIGHT SIDE OF ROADWAY IN DIRECTION OF INCREASING MILEAGE).

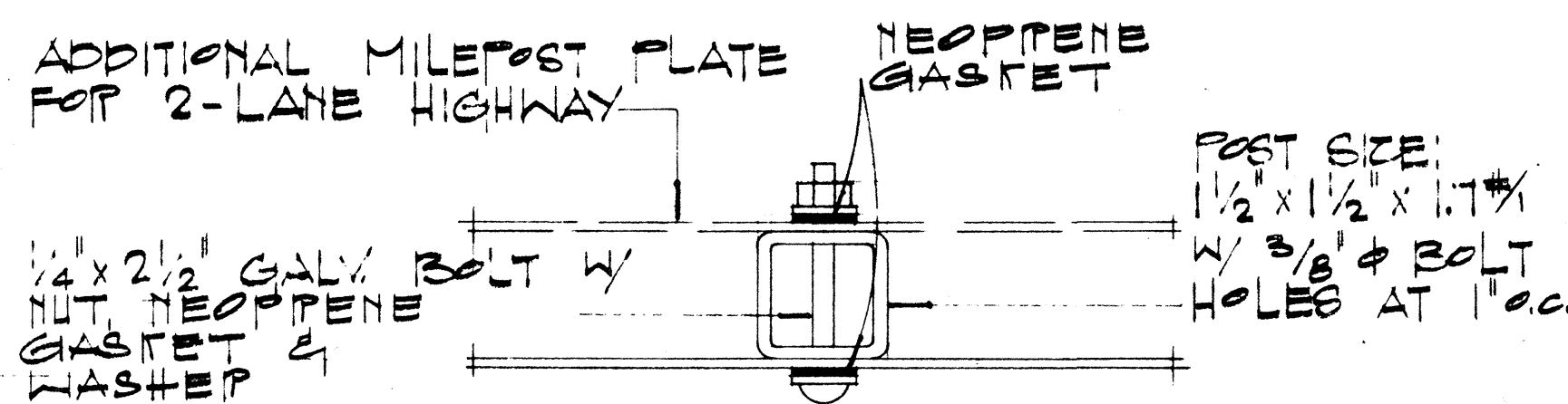
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HI-1(113)13	1976	62	63



TYPICAL ROADSIDE INSTALLATION

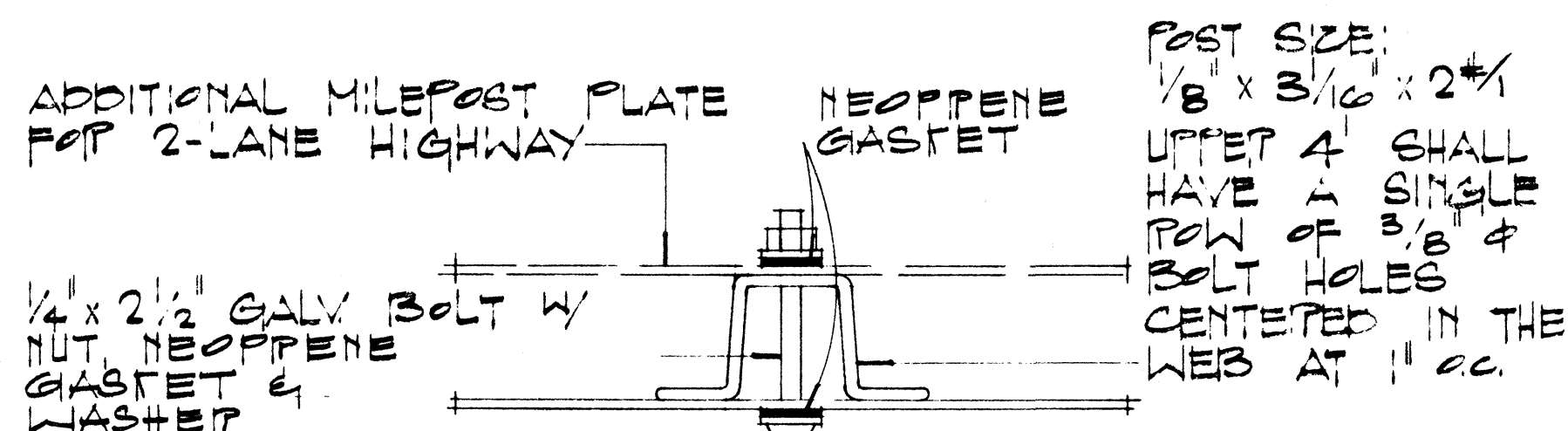
Scale: 1/2" = 1'

ADDITIONAL MILEPOST PLATE FOR 2-LANE HIGHWAY



GALVANIZED SQUARE TUBE POST

ADDITIONAL MILEPOST PLATE FOR 2-LANE HIGHWAY

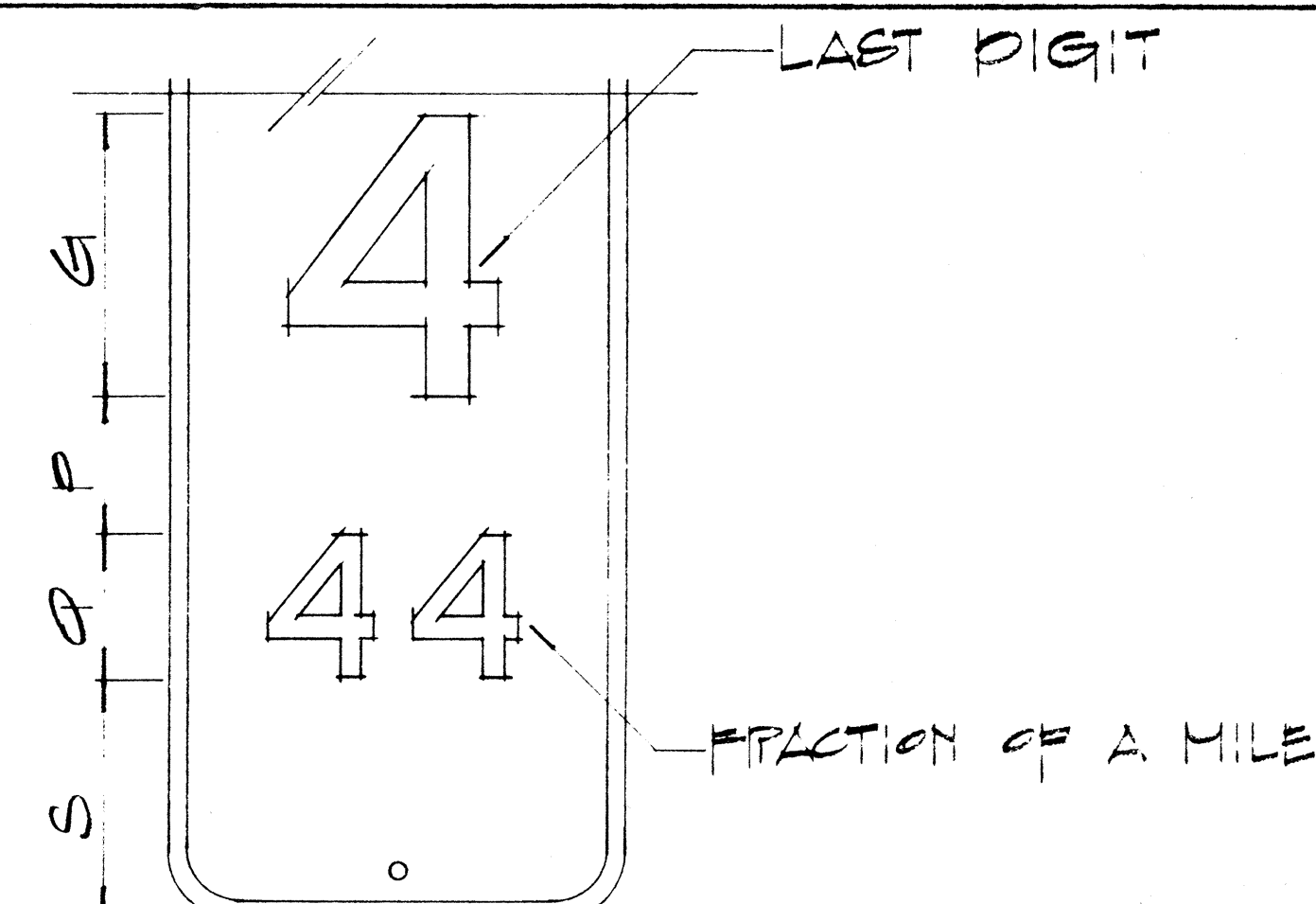


GALVANIZED FLANGED CHANNEL POST

TYPICAL MOUNTING DETAILS

Scale: 1/2" = 1'

No.	REVISION	APPROVED BY	DATE
1	REVISED PLATE DIMENSIONS		



NAME	SIZE	G	P	Q	S	NUMERAL SERIES
D10-1A D10-4A	10' x 18" 12' x 24"	10 12	18 24	1/2 1/2	2 3	C
D10-2A D10-5A	10' x 27" 12' x 36"	10 12	27 36	1/2 1/2	2 3	C
D10-3A D10-6A	10' x 36" 12' x 48"	10 12	36 48	1/2 1/2	2 3	C

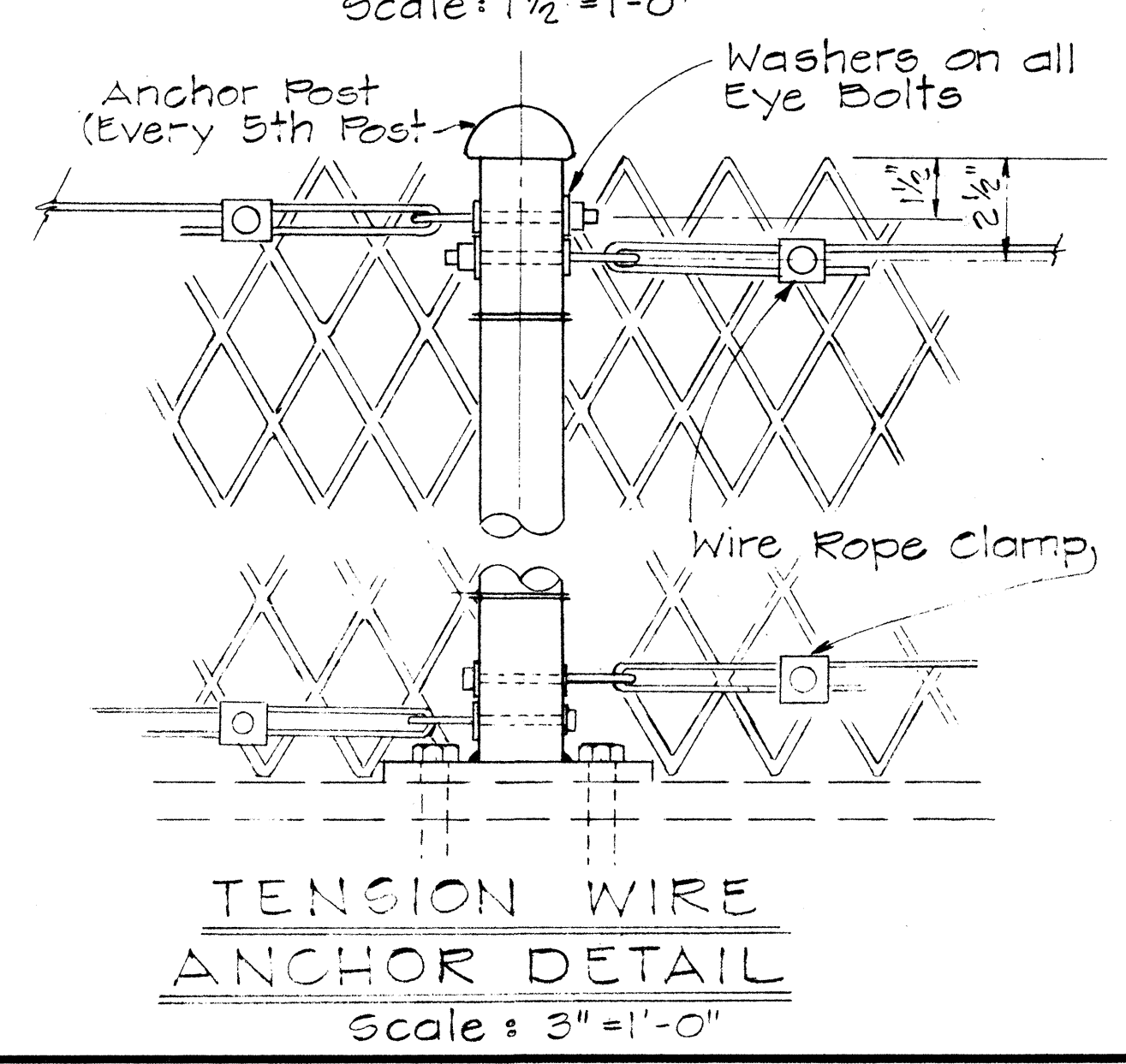
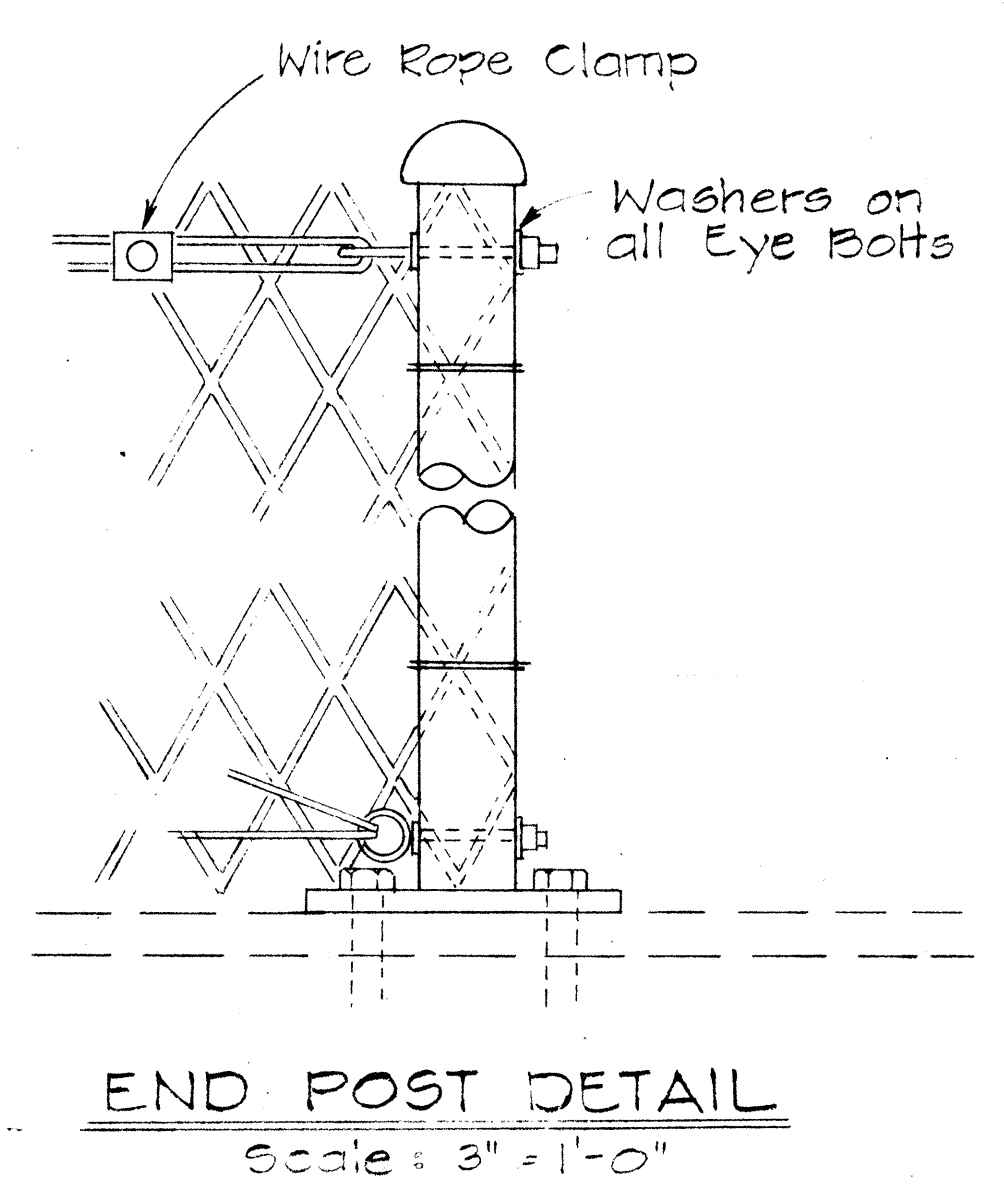
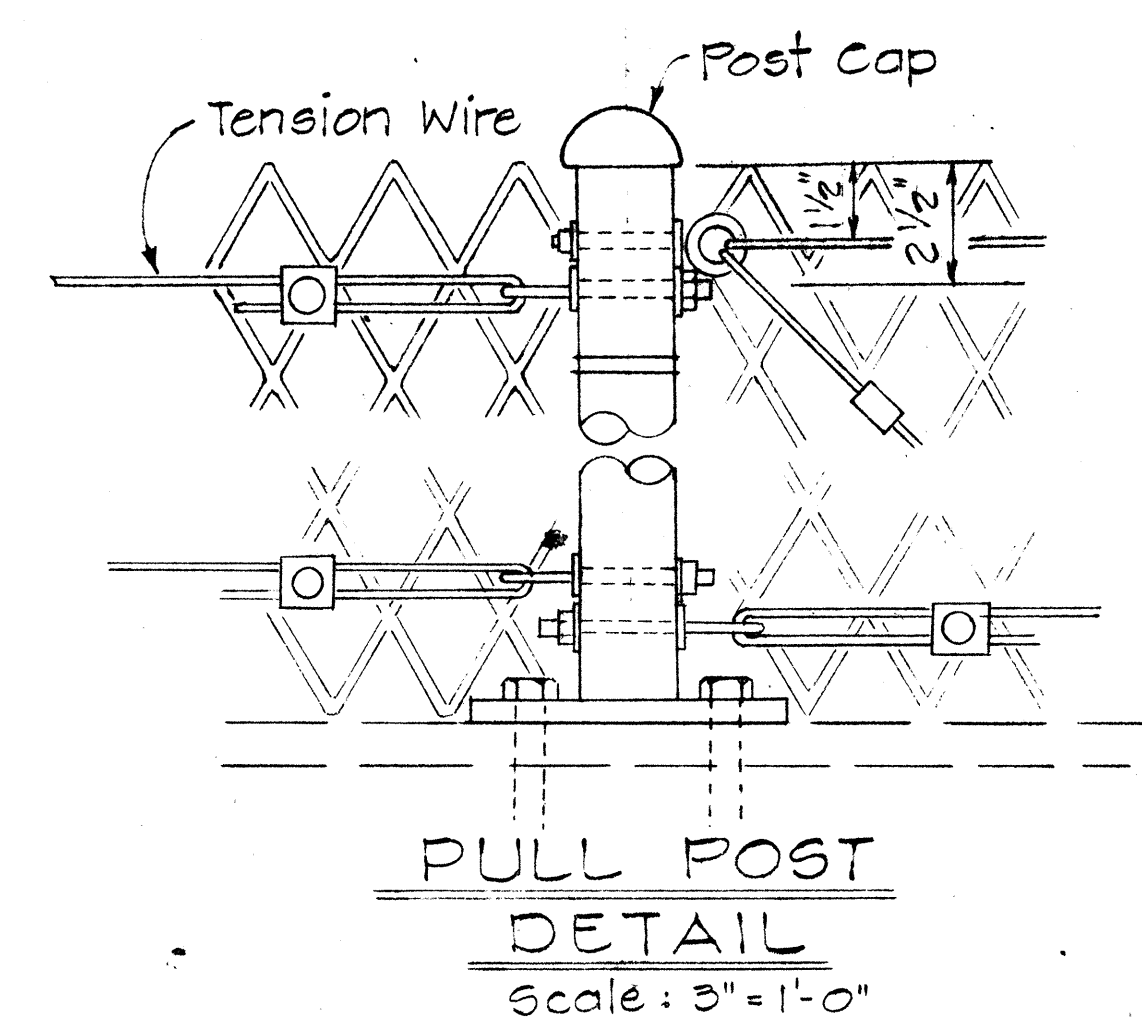
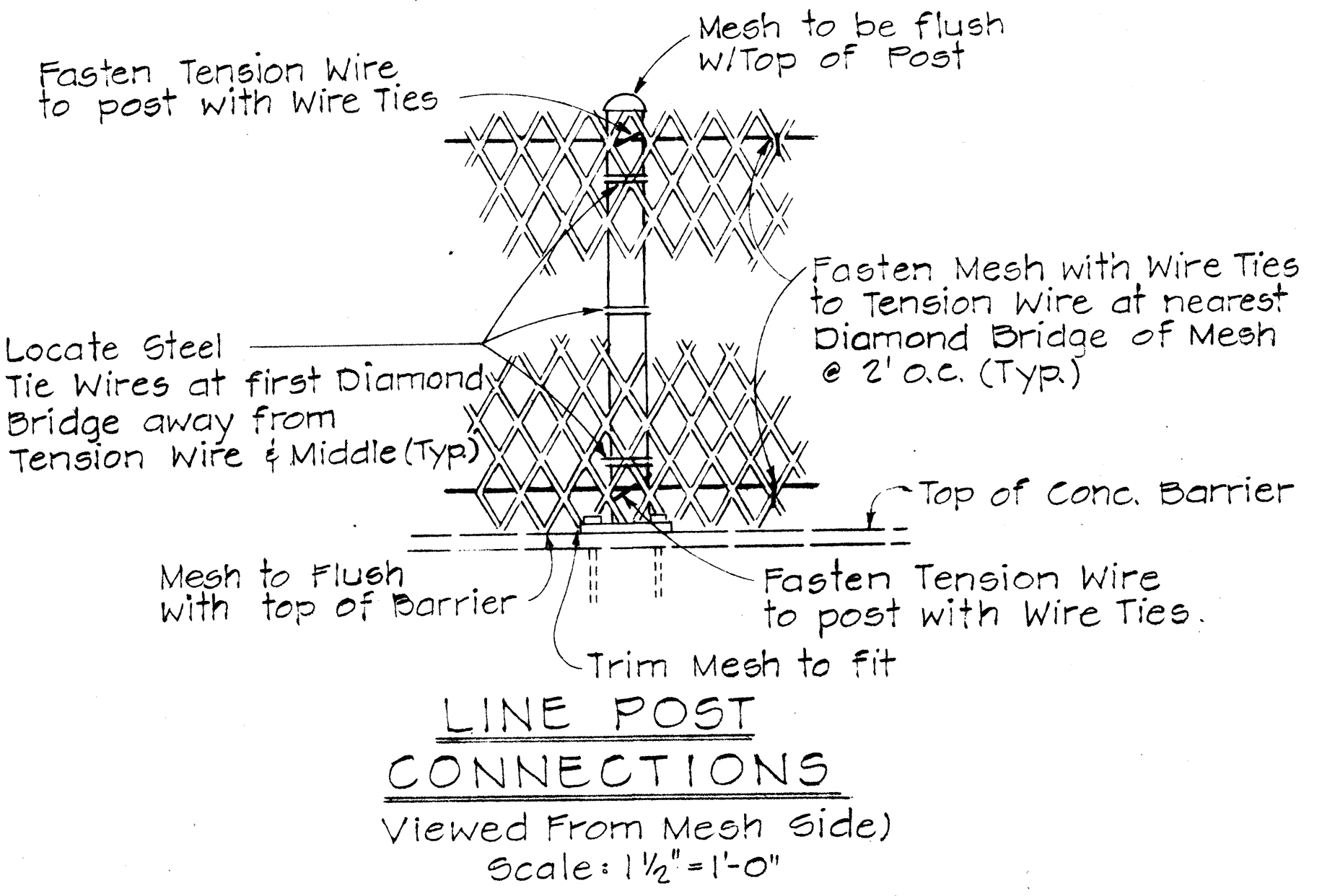
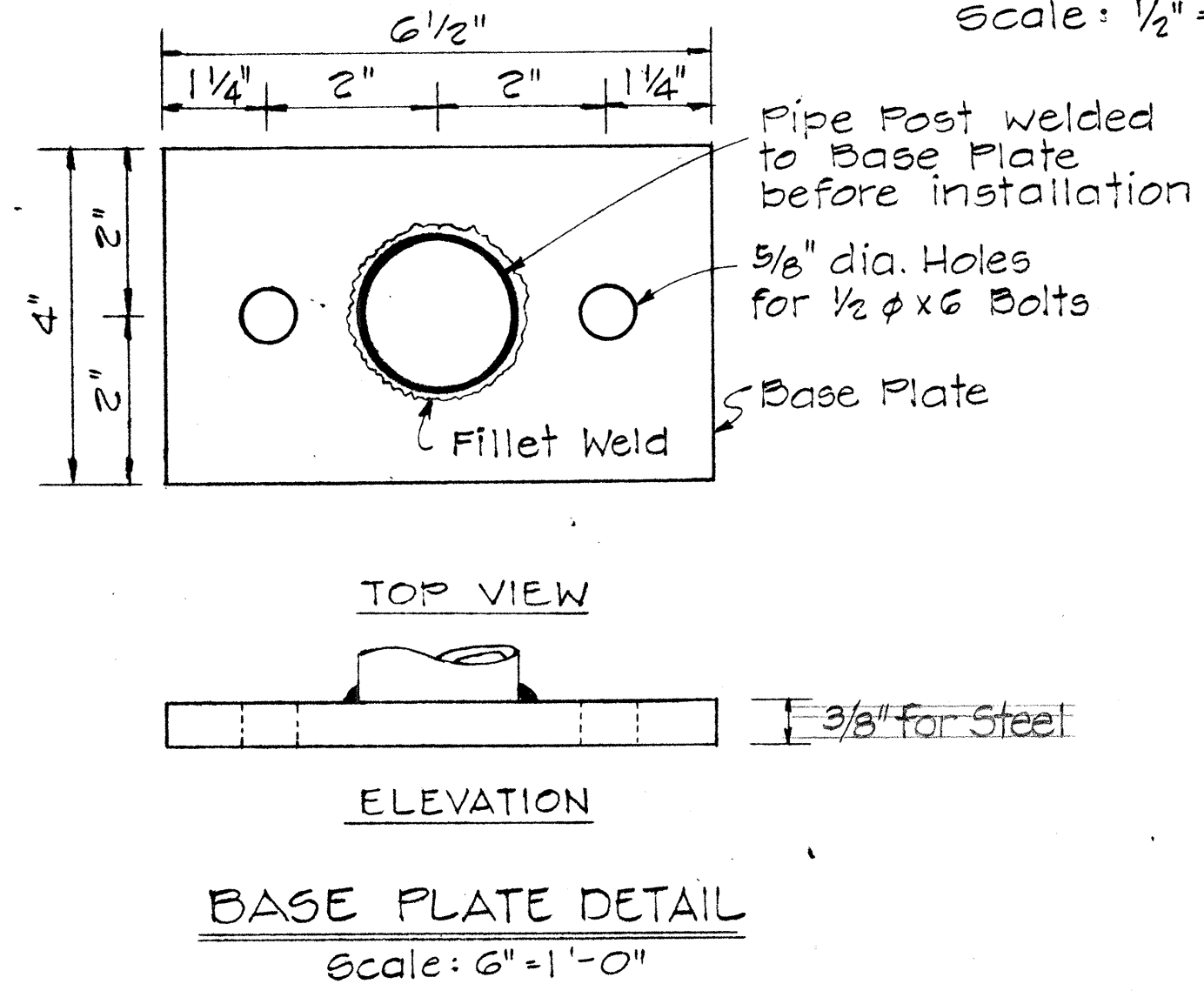
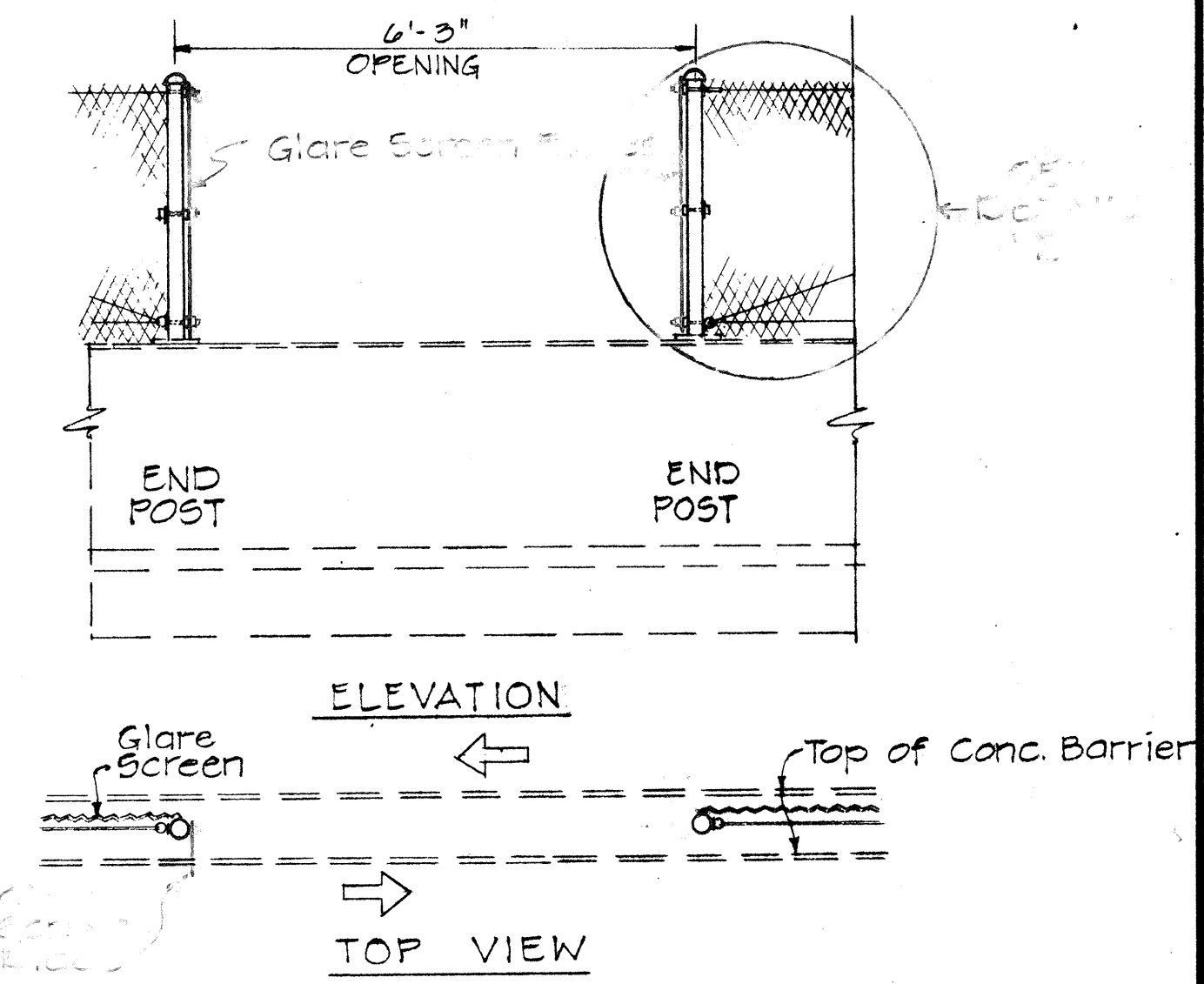
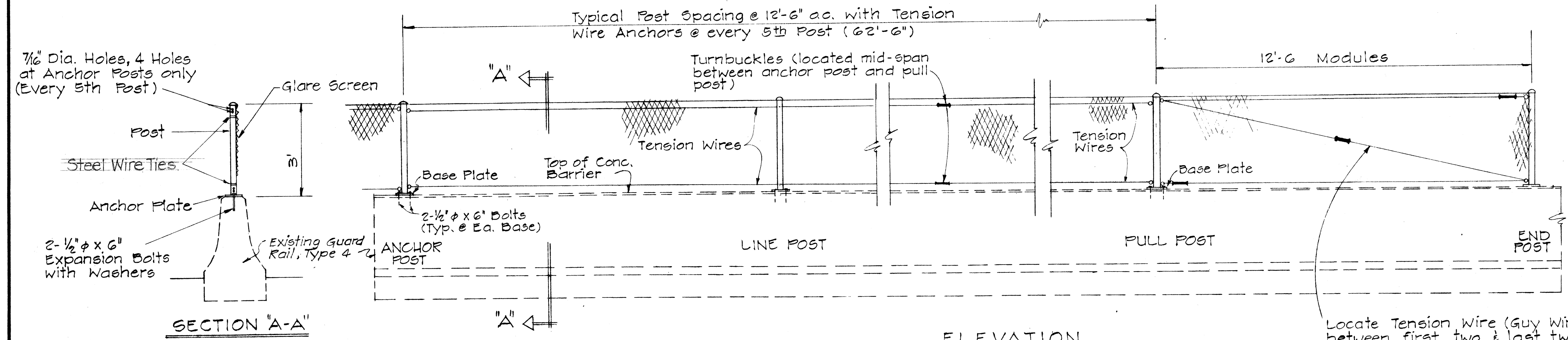
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MILEPOSTS

Scale: As Shown January 1972

SHEET No. 19 OF 20 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(113)-13	1976	63	63



NOTES

- Emergency openings to be located at approximately 600 Ft. intervals or as directed by the Engineer

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

HEADLIGHT

GLARE SCREEN

SHEET No. 20 OF 20 SHEETS

DATE	
SURVEY PLATTED BY	
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
NOTE BOOK	
NO.	