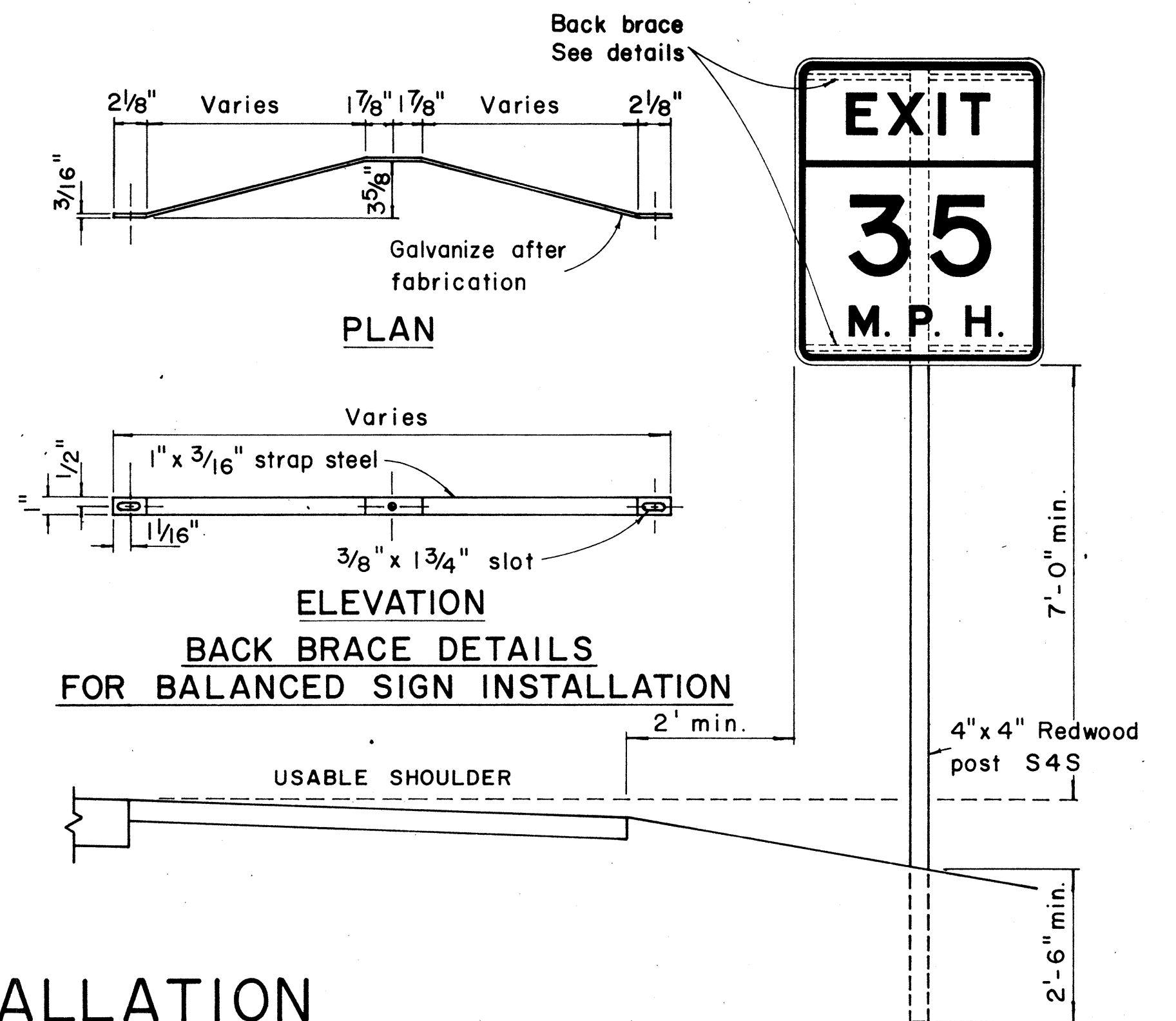
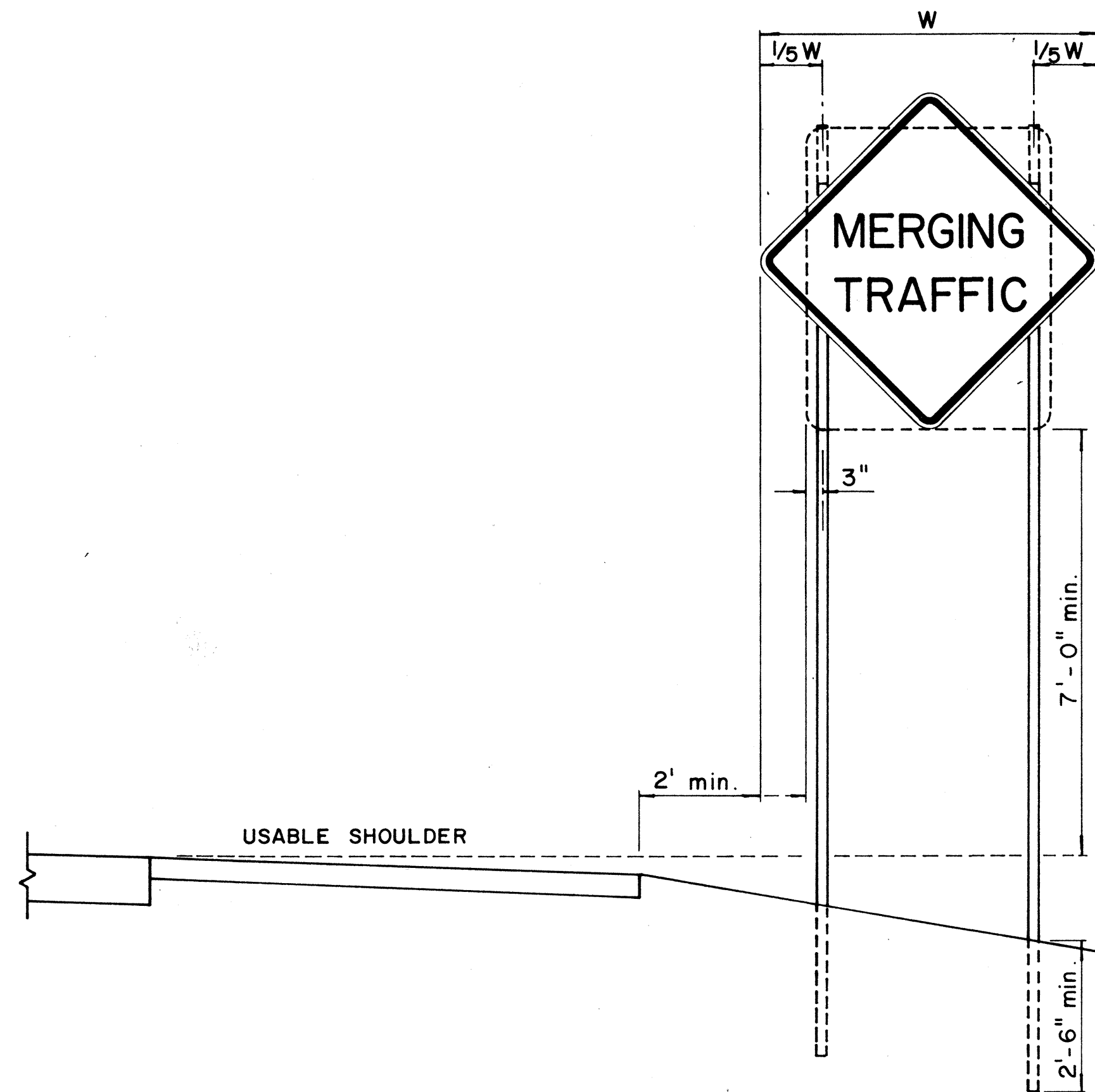
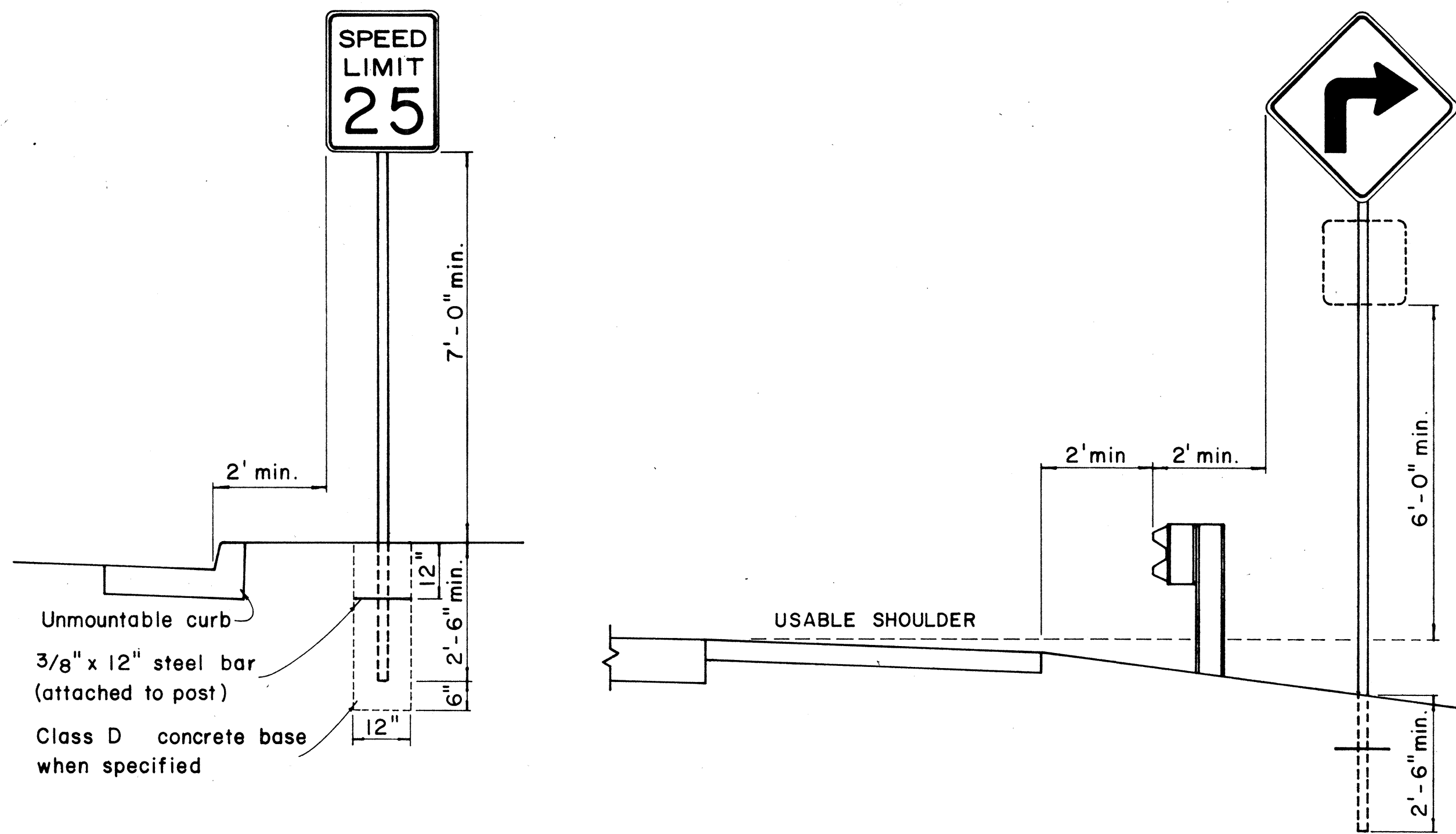
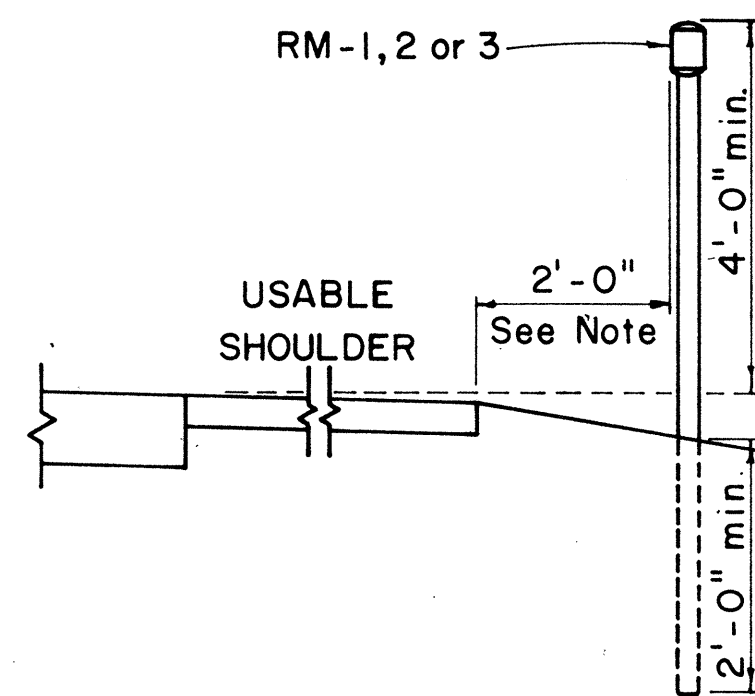


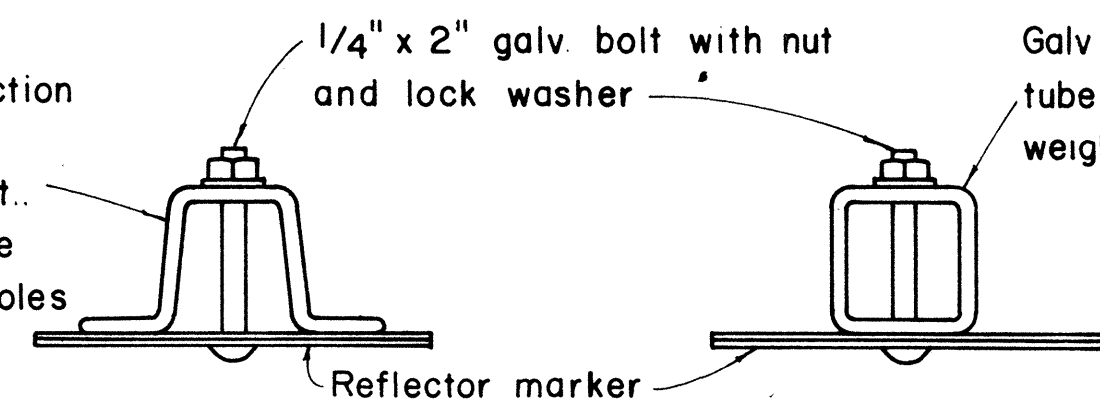
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-11(46)8	1973	43	104



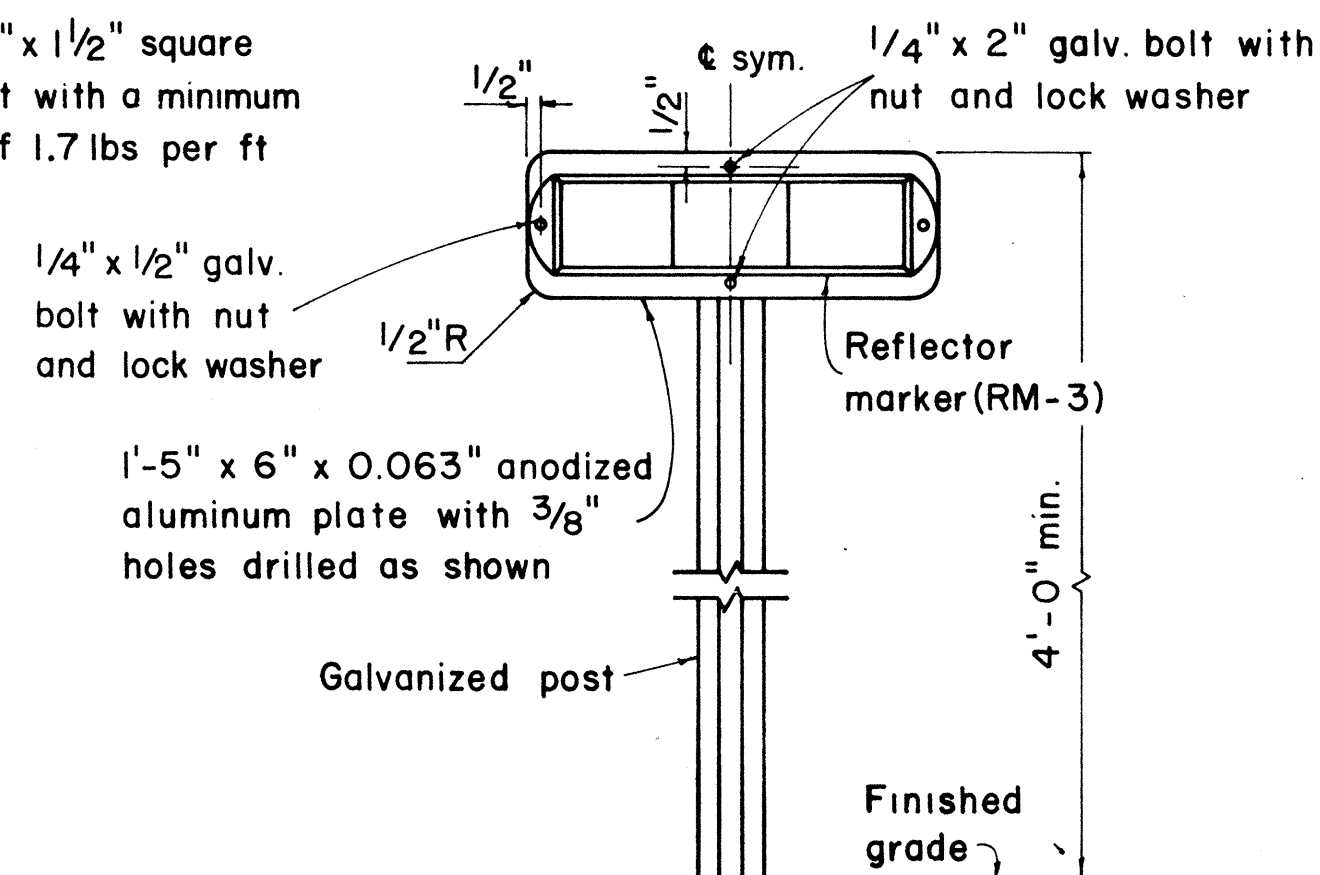
HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION



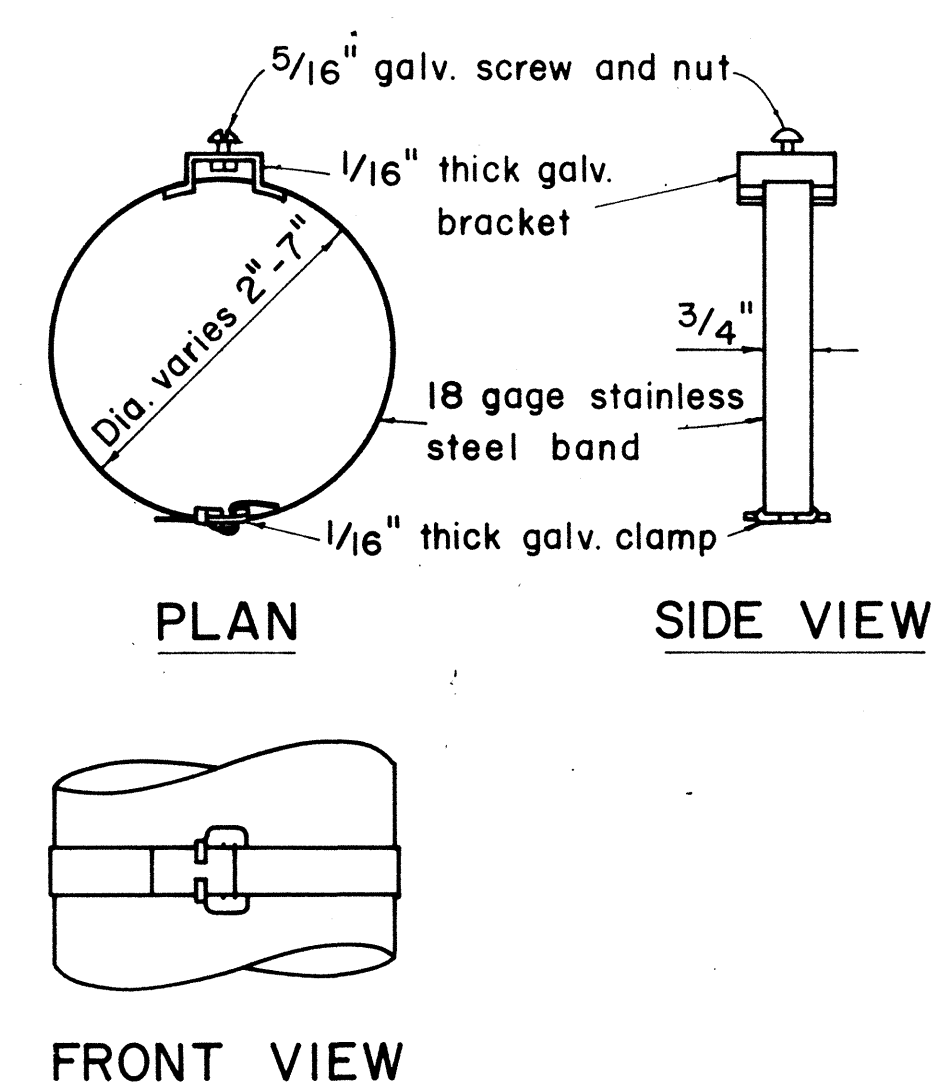
Galv. flanged channel
1/8" x 3 1/16" rolled section
post with a minimum
weight of 2 lbs. per ft.
Upper 2 ft. shall have
a single row of 3/8" holes
centered in the web at
1" o.c.



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:
Eichi Tanaka 12/29/69
TRAFFIC ENGINEER DATE

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

NO.	REVISION	APPROVED BY	DATE

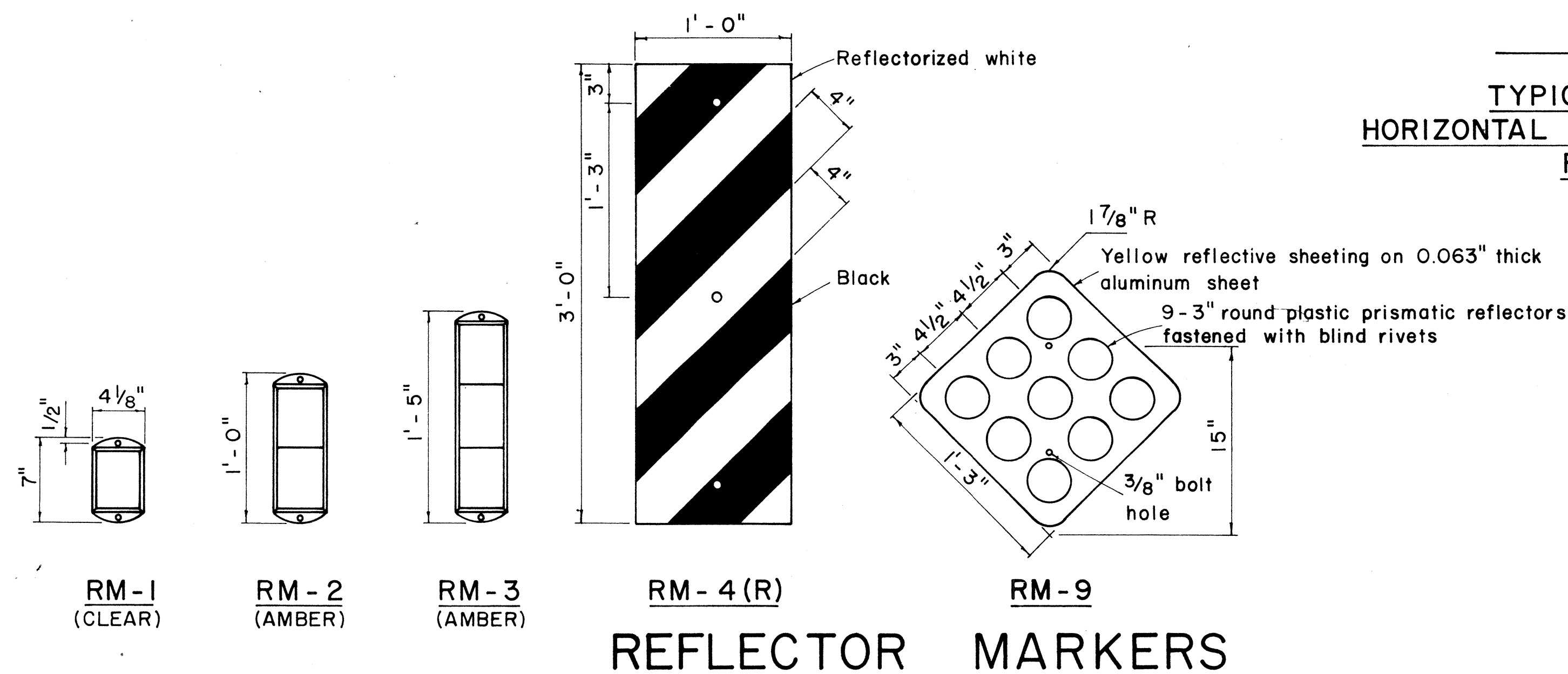
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

SHEET No. 1 OF 35 SHEETS DT 100

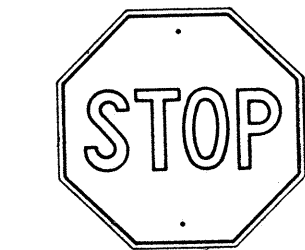
ROAD DELINEATOR



REFLECTOR MARKERS

DATE	
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
NO.	

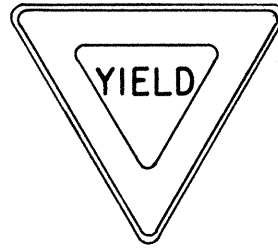
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HJ-1(4b)8	1973	44	104



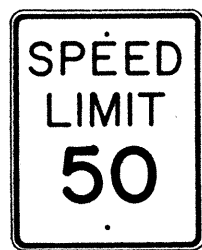
R1-1 30" x 30"
R1-1-A 36" x 36"

4-WAY

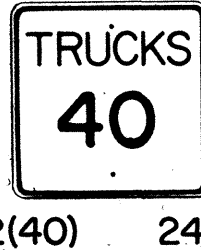
R1-3 12" x 6"
R1-3-A 18" x 9"



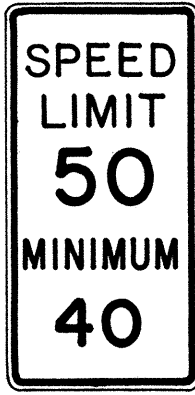
R1-2 36" x 36" x 36"
R1-2-A 48" x 48" x 48"



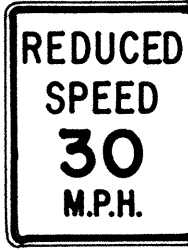
R2-1(50) 24" x 30"
R2-1(50)-A 48" x 60"



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



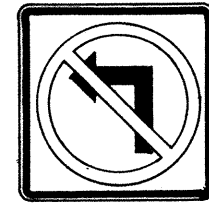
R2-4a(50/40) 24" x 48"
R2-4a(50/40)-A 48" x 96"



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



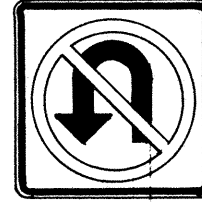
R3-1 24" x 24"
24" x 18"
R3-1-A 48" x 48"
48" x 36"



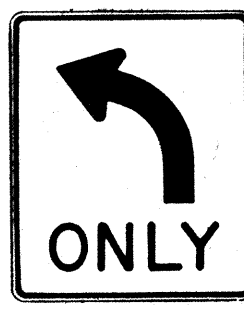
R3-2 24" x 24"
24" x 18"
R3-2-A 48" x 48"
48" x 36"



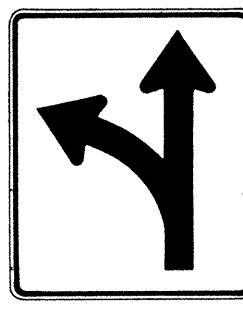
R3-3 24" x 24"
R3-3-A 48" x 48"



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



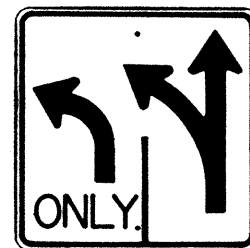
R3-5(L) 30" x 36"
R3-5(L)-A 48" x 60"



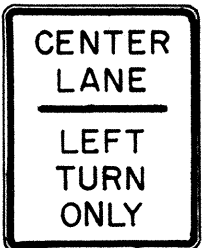
R3-6(L) 30" x 36"
R3-6(L)-A 48" x 60"



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"



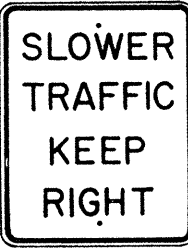
R3-9 24" x 30"



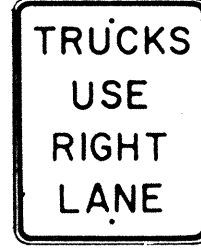
R4-1 24" x 30"



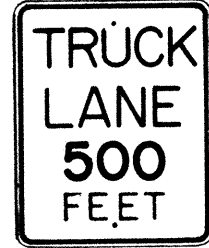
R4-2 24" x 30"



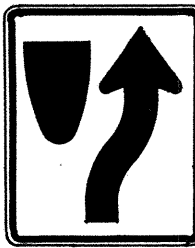
R4-3 24" x 30"
R4-3-A 48" x 60"



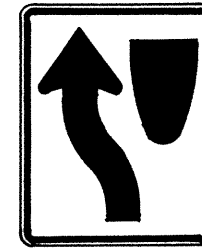
R4-5 24" x 30"



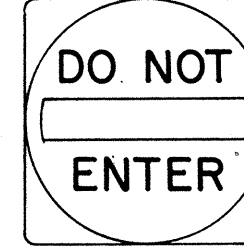
R4-6(500) 24" x 30"



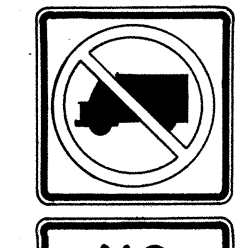
R4-7 24" x 30"
24" x 18"



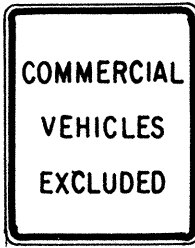
R4-8 24" x 30"
24" x 18"



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"



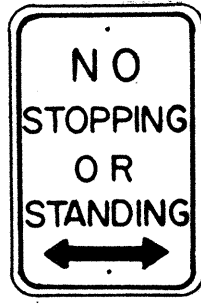
R6-1(R) 36" x 12"



R6-2(R) 18" x 24"



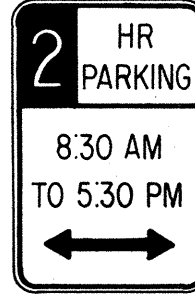
R7-1 12" x 18"
R7-1-A 24" x 30"



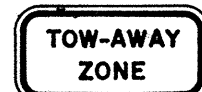
R7-4 12" x 18"
R7-4-A 24" x 30"



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"



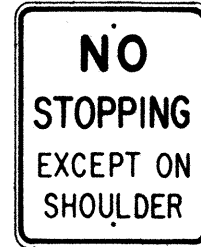
R8-3 24" x 30"



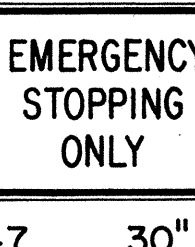
R8-4 30" x 24"
R8-4-A 48" x 36"



R8-5 24" x 30"



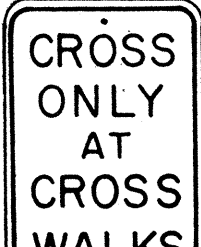
R8-6 24" x 30"



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



R9-1 18" x 24"



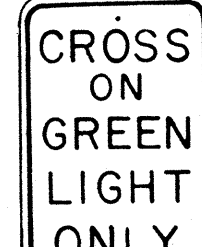
R9-2 12" x 18"



R9-3 12" x 18"



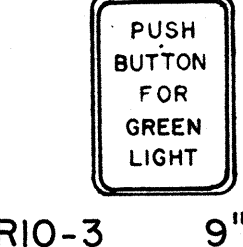
R9-4 18" x 24"



R10-1 12" x 18"



R10-2 12" x 18"



R10-3 9" x 12"



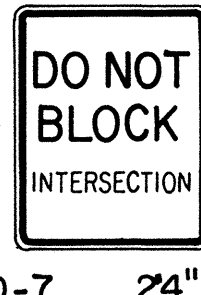
R10-4 9" x 12"



R10-5 24" x 30"



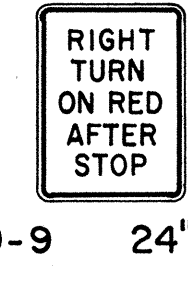
R10-6 24" x 36"



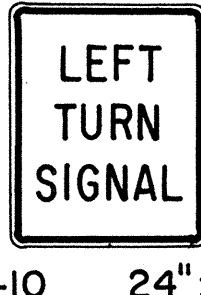
R10-7 24" x 30"



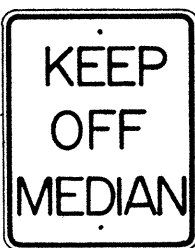
R10-8 24" x 30"



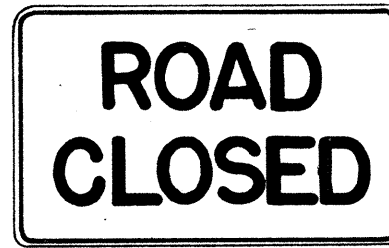
R10-9 24" x 30"



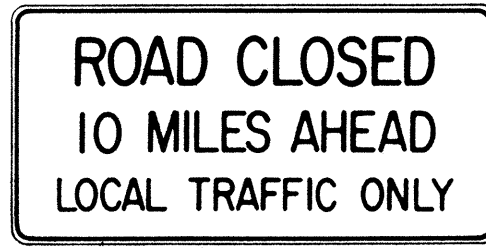
R10-10 24" x 30"



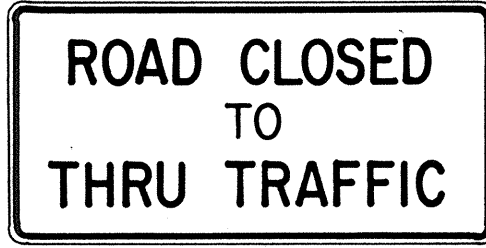
R11-1 24" x 30"



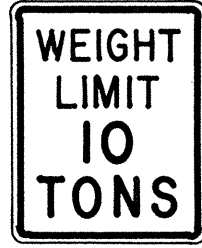
R11-2 48" x 30"



R11-3(10) 60" x 30"



R11-4 60" x 30"



R12-1(10) 24" x 30"

GENERAL NOTES

- Sign details shall conform to the FHWA publications "Manual on Uniform Traffic Control Devices for Streets and Highways," 1971, and "Standard Highway Signs."
- All regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory 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.

APPROVAL RECOMMENDED:

Enrique Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:

Robert Zabin
ASSISTANT CHIEF, ENGINEERING

3-20-72
DATE

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 101 Approved 12-30-69	H.C.	3/20/72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

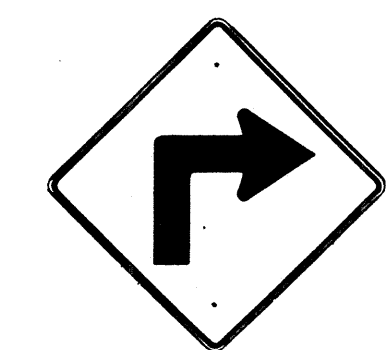
STANDARD DETAILS REGULATORY SIGNS

NOT TO SCALE

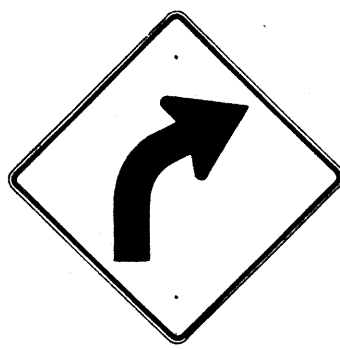
SHEET No. 2 OF 35 SHEETS DT 101

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

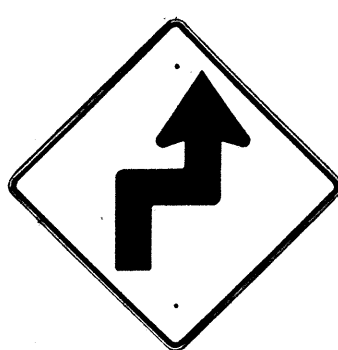
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)8	1973	45	104



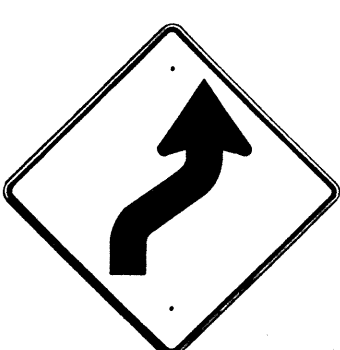
W1-1(R) 30"x30"
W1-1(R)-A 48"x48"



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



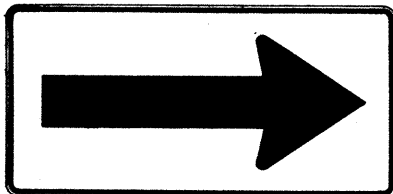
W1-3(R) 30"x30"
W1-3(R)-A 48"x48"



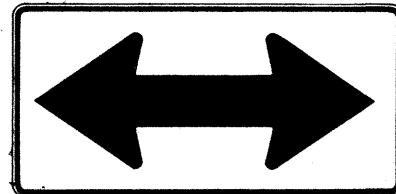
W1-4(R) 30"x30"
W1-4(R)-A 48"x48"



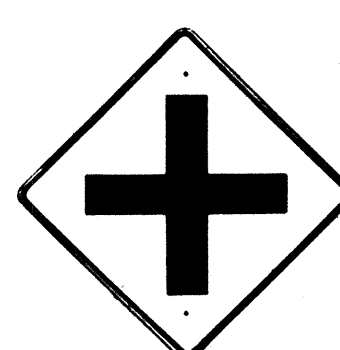
W1-5(R) 30"x30"
W1-5(R)-A 48"x48"



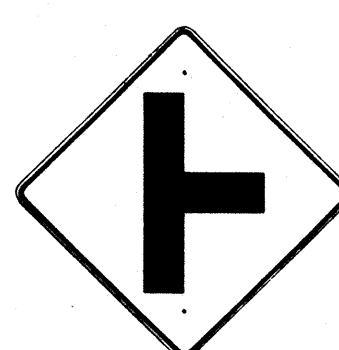
W1-6 48"x24"



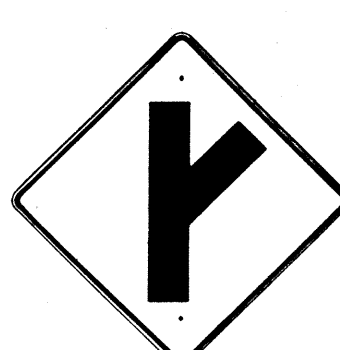
W1-7 48"x24"



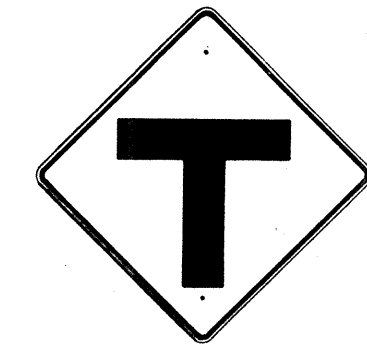
W2-1 30"x30"
W2-1-A 48"x48"



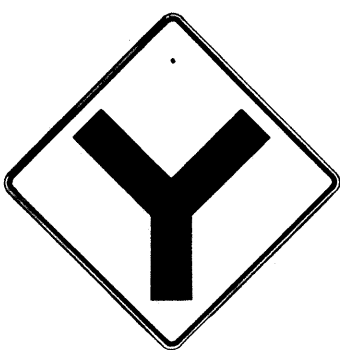
W2-2 30"x30"
W2-2-A 48"x48"



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



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



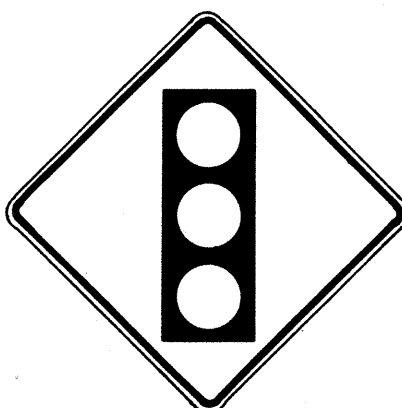
W2-5 30"x30"
W2-5-A 48"x48"



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



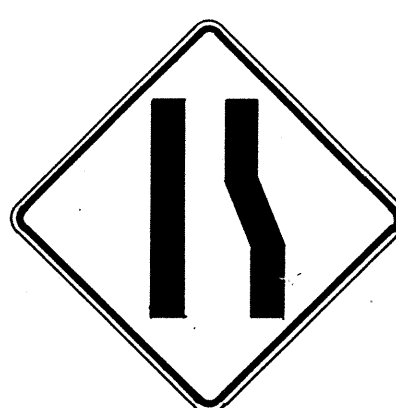
W3-2 30"x30"
W3-2-A 36"x36"



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"



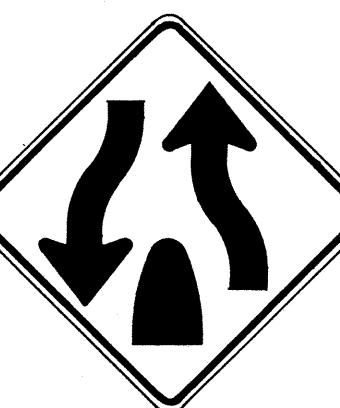
W5-2 30"x30"
W5-2-A 36"x36"



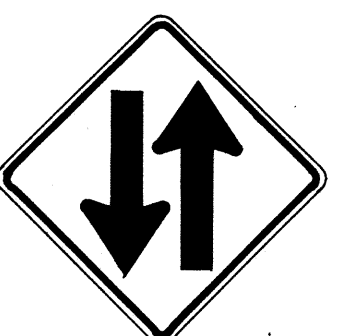
W5-3 36"x36"



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"



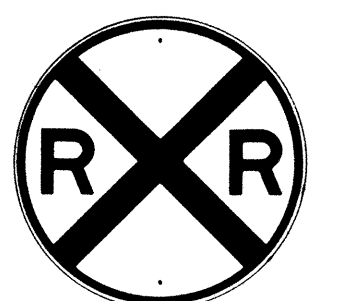
W8-5 30"x30"
24"x18"
W8-5-A 36"x36"
24"x18"



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"



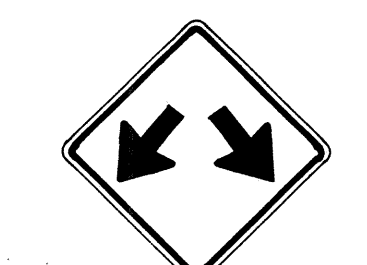
W11-2 30"x30"
24"x18"
W11-2-A 36"x36"
24"x18"



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"



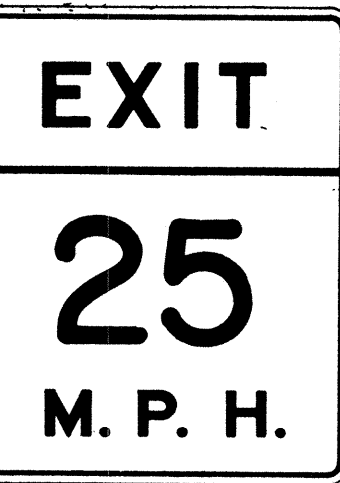
W12-1 24"x24"
W12-1-A 36"x36"
W12-1-B 48"x48"



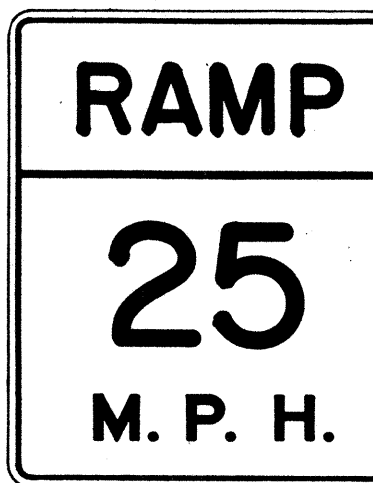
W12-2(12'-6") 36"x36"
24"x18"



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."
- 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:
E. Tanaka
TRAFFIC ENGINEER

3/17/72
DATE

APPROVED:
W. J. ...
ASSISTANT CHIEF, ENGINEERING

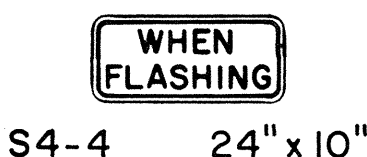
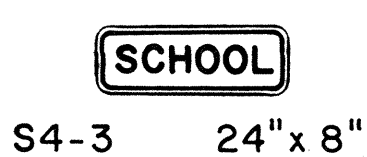
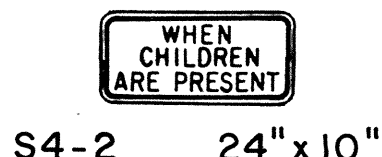
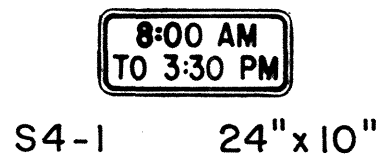
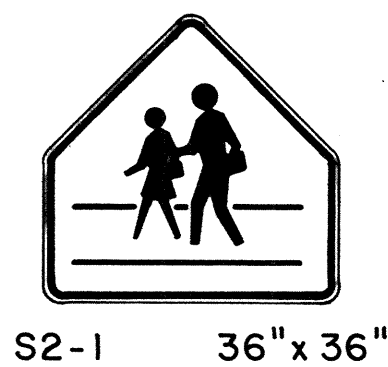
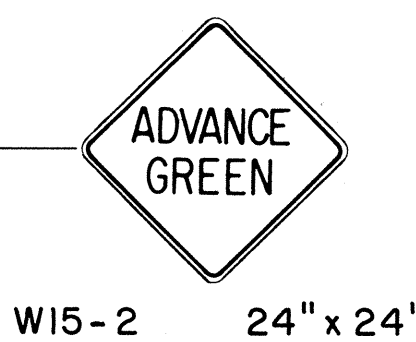
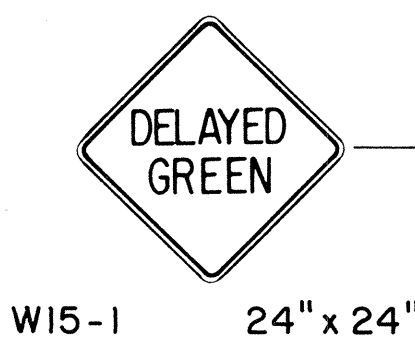
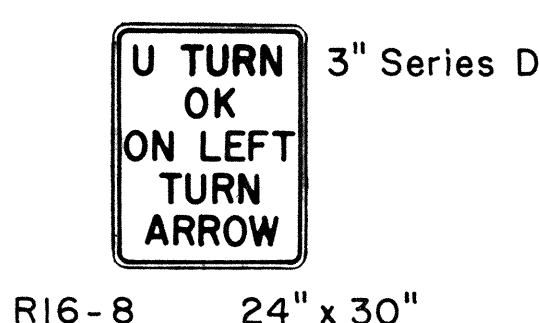
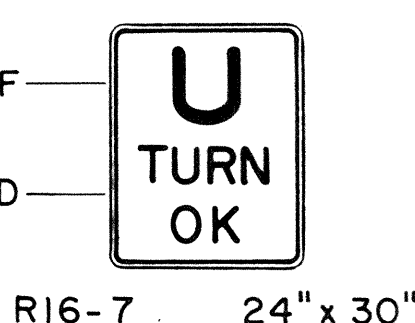
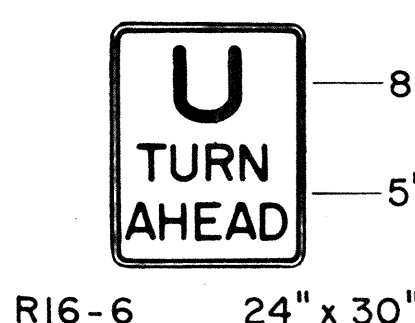
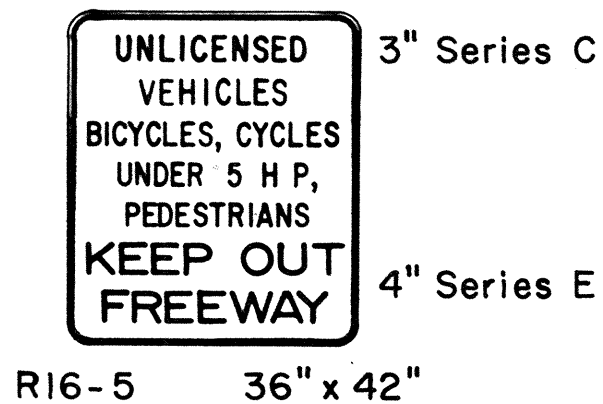
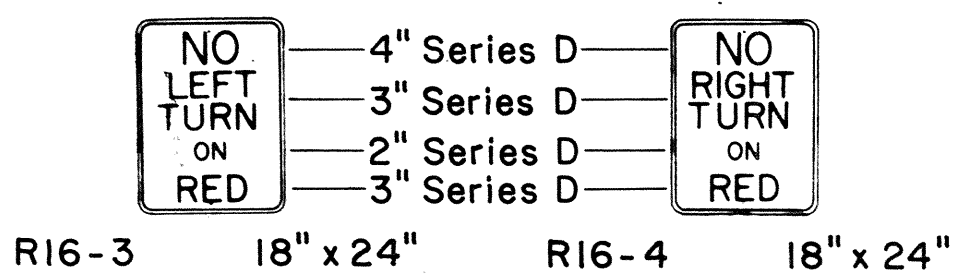
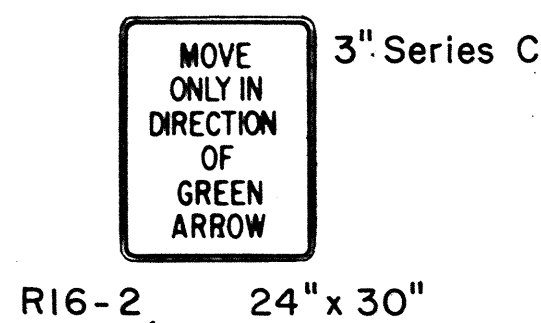
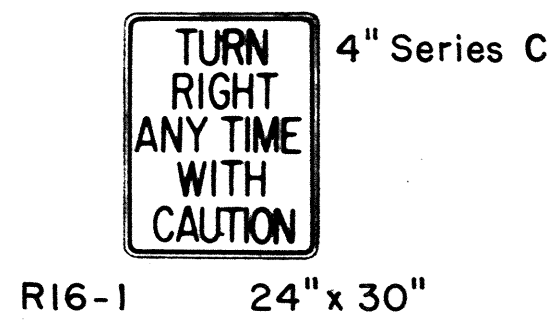
3-20-72
DATE

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

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS WARNING SIGNS
NOT TO SCALE

SHEET No. 3 OF 35 SHEETS DT 102

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)B	1973	46	104



GENERAL NOTES

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

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

APPROVED:
Shigeru Sato
ASSISTANT CHIEF, ENGINEERING
DATE 3-20-72

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

NOT TO SCALE
SHEET No. 4 OF 35 SHEETS DT 103

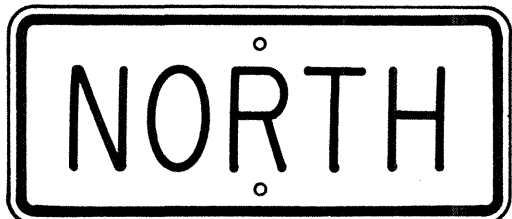
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)8	1973	47	104

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."
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have 3/8" bolt holes drilled at appropriate locations.
- Numerals in () indicates numerals to be inserted for marker message. (R) or (L) indicates right or left.
- Sign message of Cardinal Direction Marker (M3 series) shall be denoted by the following:

M3-1 : NORTH
M3-2 : EAST
M3-3 : SOUTH
M3-4 : WEST

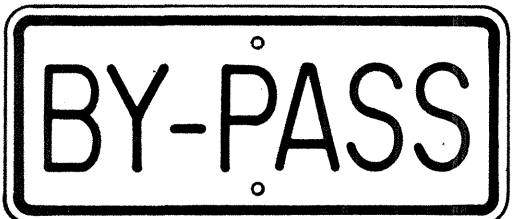
- Markers prefixed with "IM" on the plans shall have a white legend on a blue background.



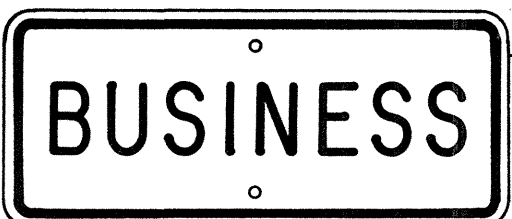
M3-1 24"x 12"
M3-1-A 36"x 18"



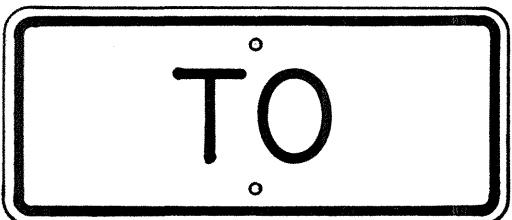
M4-1 24"x 12"



M4-2 24"x 12"



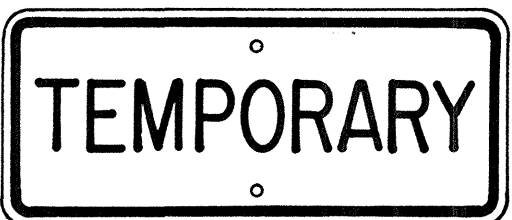
M4-3 24"x 12"



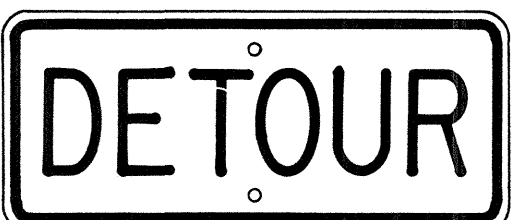
M4-5 24"x 12"



M4-6 24"x 12"



M4-7 24"x 12"

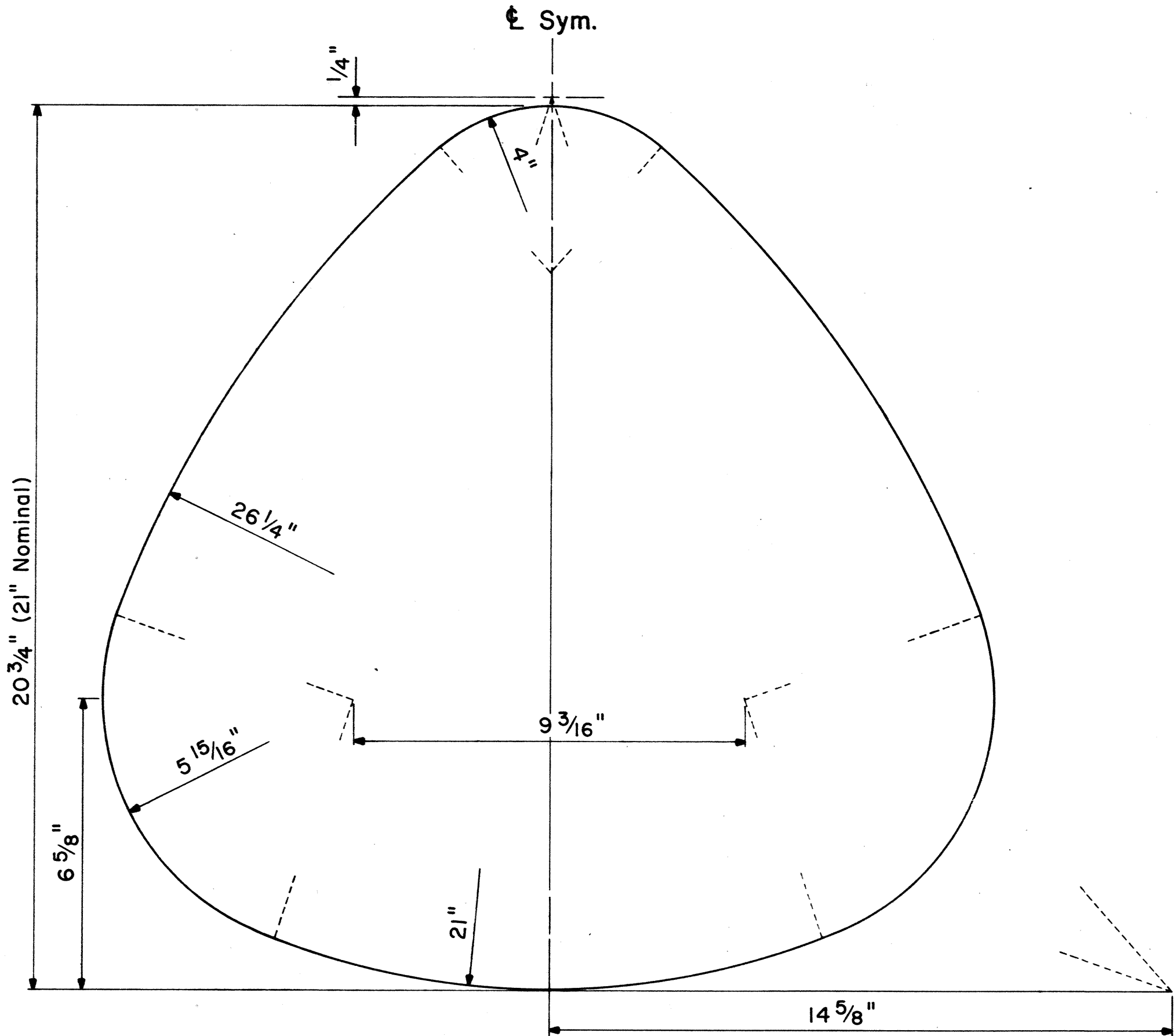


M4-8 24"x 12"

NO.	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 105 Approved 12-30-69	H.K.	6/1/72

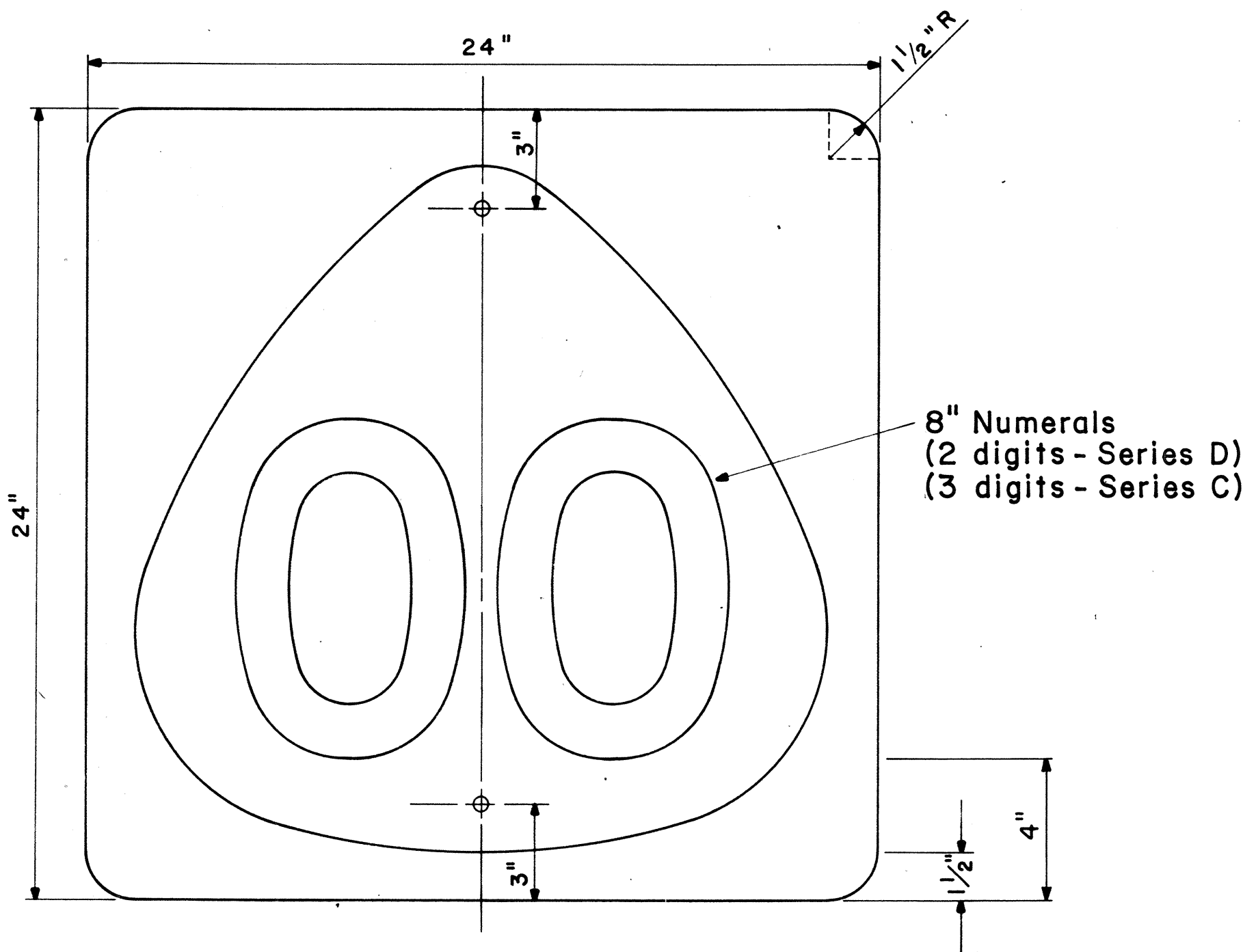
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STANDARD DETAILS STATE ROUTE MARKER AND AUXILIARY MARKERS
Scale: As Shown

SHEET No 5 OF 35 SHEETS DT105



STATE ROUTE MARKER DETAIL

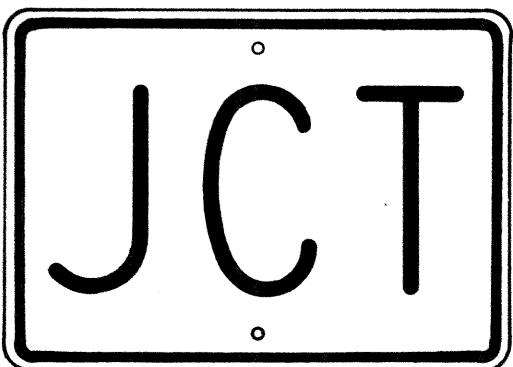
Not to Scale



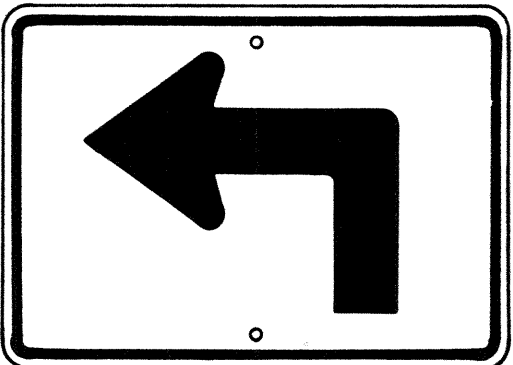
STATE ROUTE MARKER

MI-6 (00) 24"x 24"

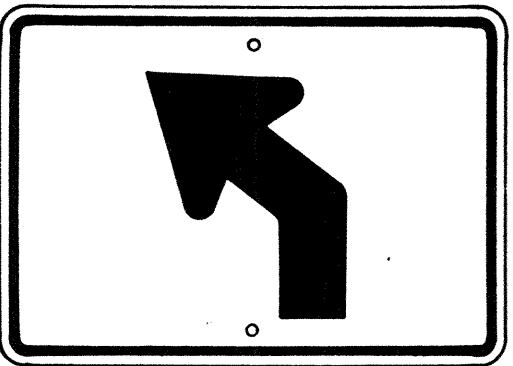
Scale: 1/4" = 1"



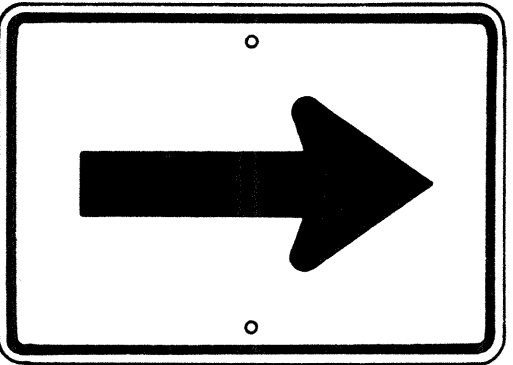
M2-1 21"x 15"



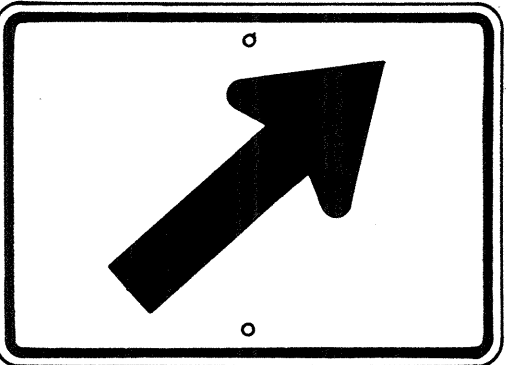
M5-1(L) 21"x 15"



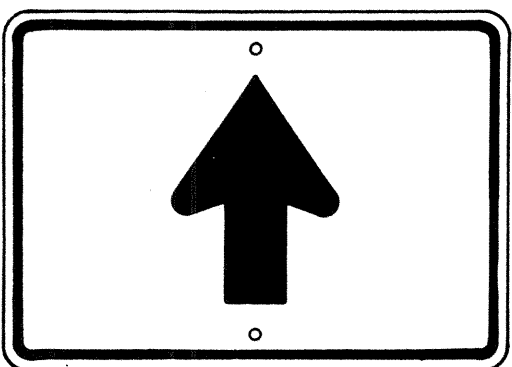
M5-2(L) 21"x 15"



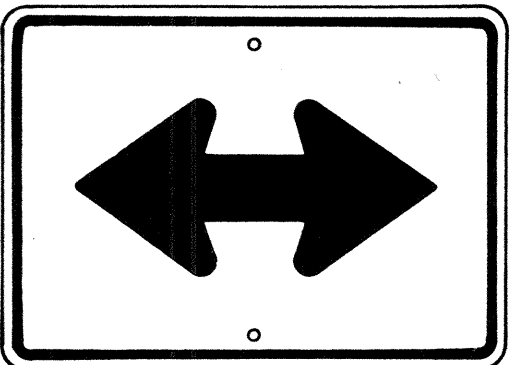
M6-1 21"x 15"



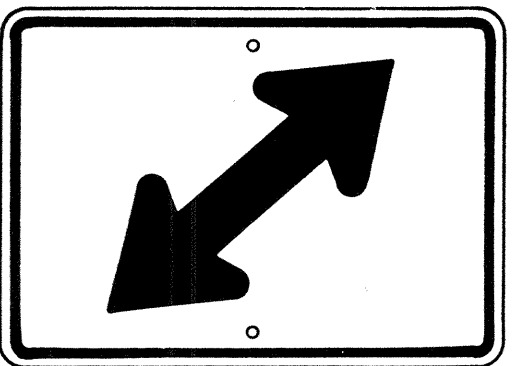
M6-2(R) 21"x 15"



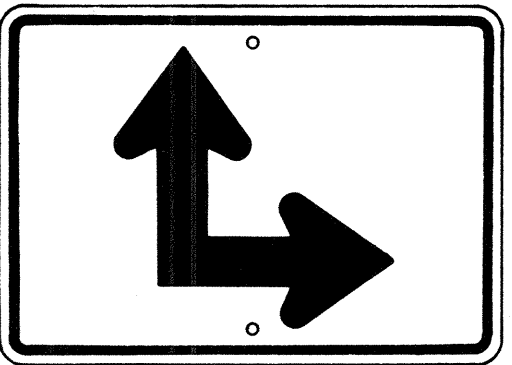
M6-3 21"x 15"



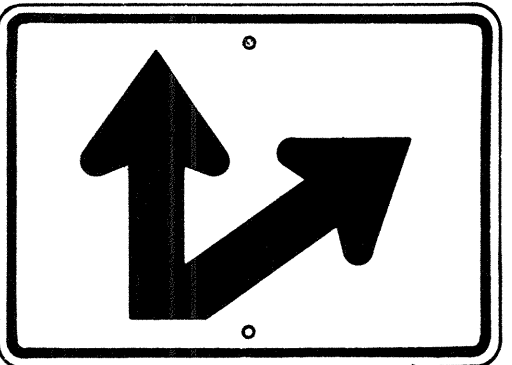
M6-4 21"x 15"



M6-5(R) 21"x 15"



M6-6(R) 21"x 15"



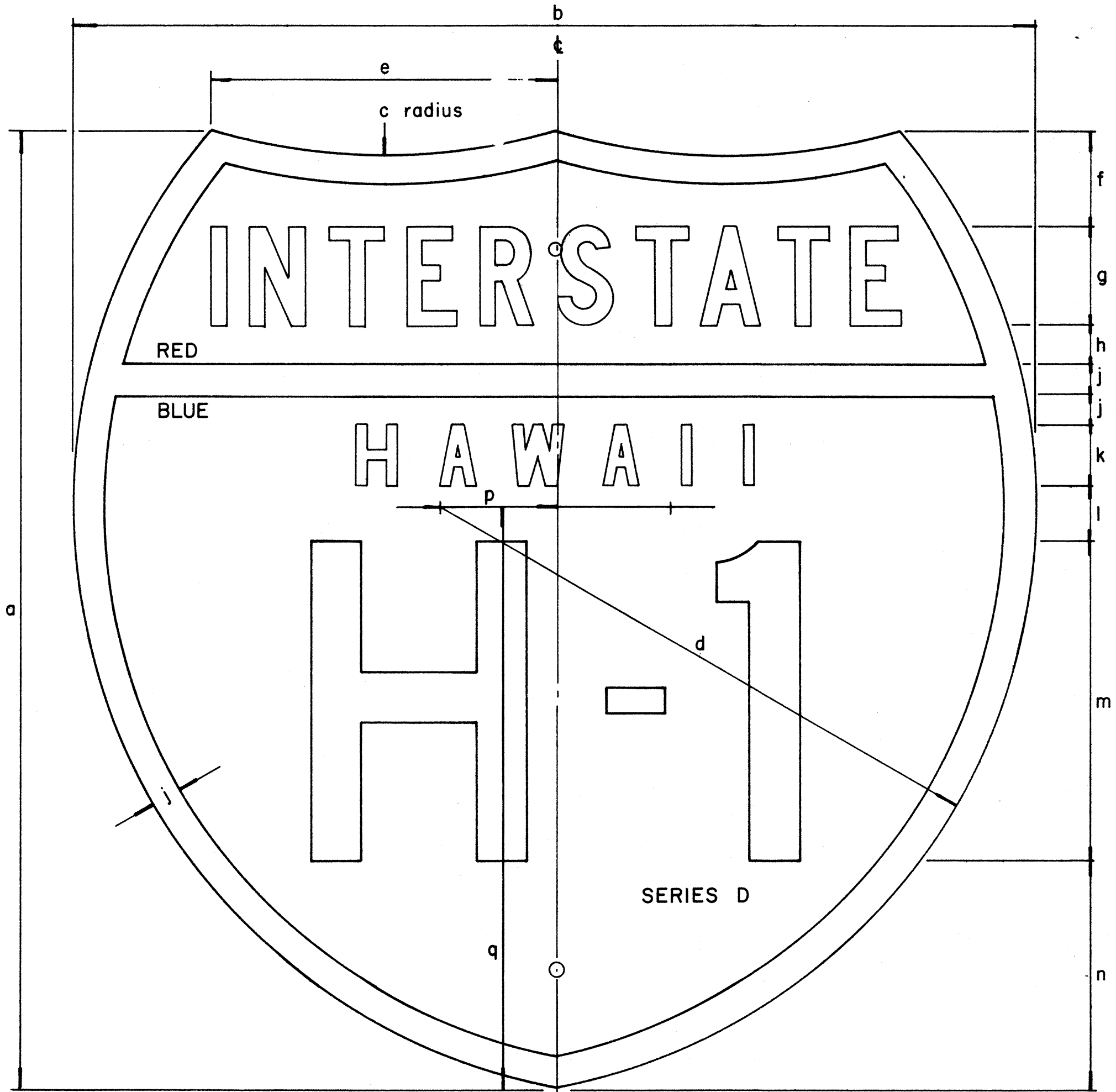
M6-7(R) 21"x 15"

AUXILIARY MARKERS

Not to Scale

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

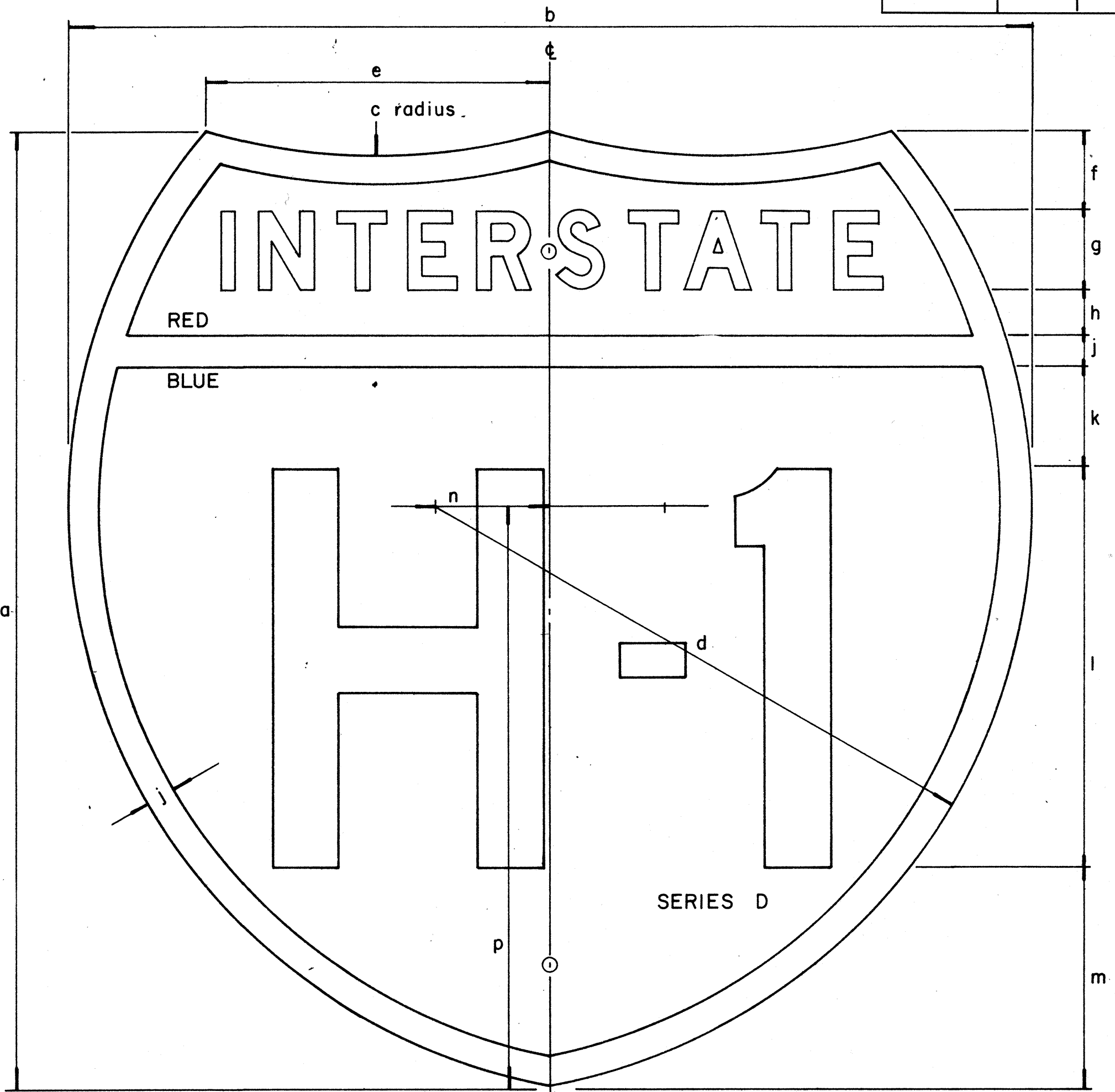
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46):8	1973	48	104



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

- The shape, dimensions, symbols, wording, lettering, color and reflectorizing of all signs shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June, 1961 and the BPR manual "Standard Highway Signs," dated September, 1961, unless otherwise specified.
- All letters and figures shall conform to the manual "Standard Alphabets for Highway Signs," Dept. of Commerce, Bureau of Public Roads, 1966
- 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 P. [Signature]
 ASSISTANT CHIEF, ENGINEERING
 12-29-69
 DATE

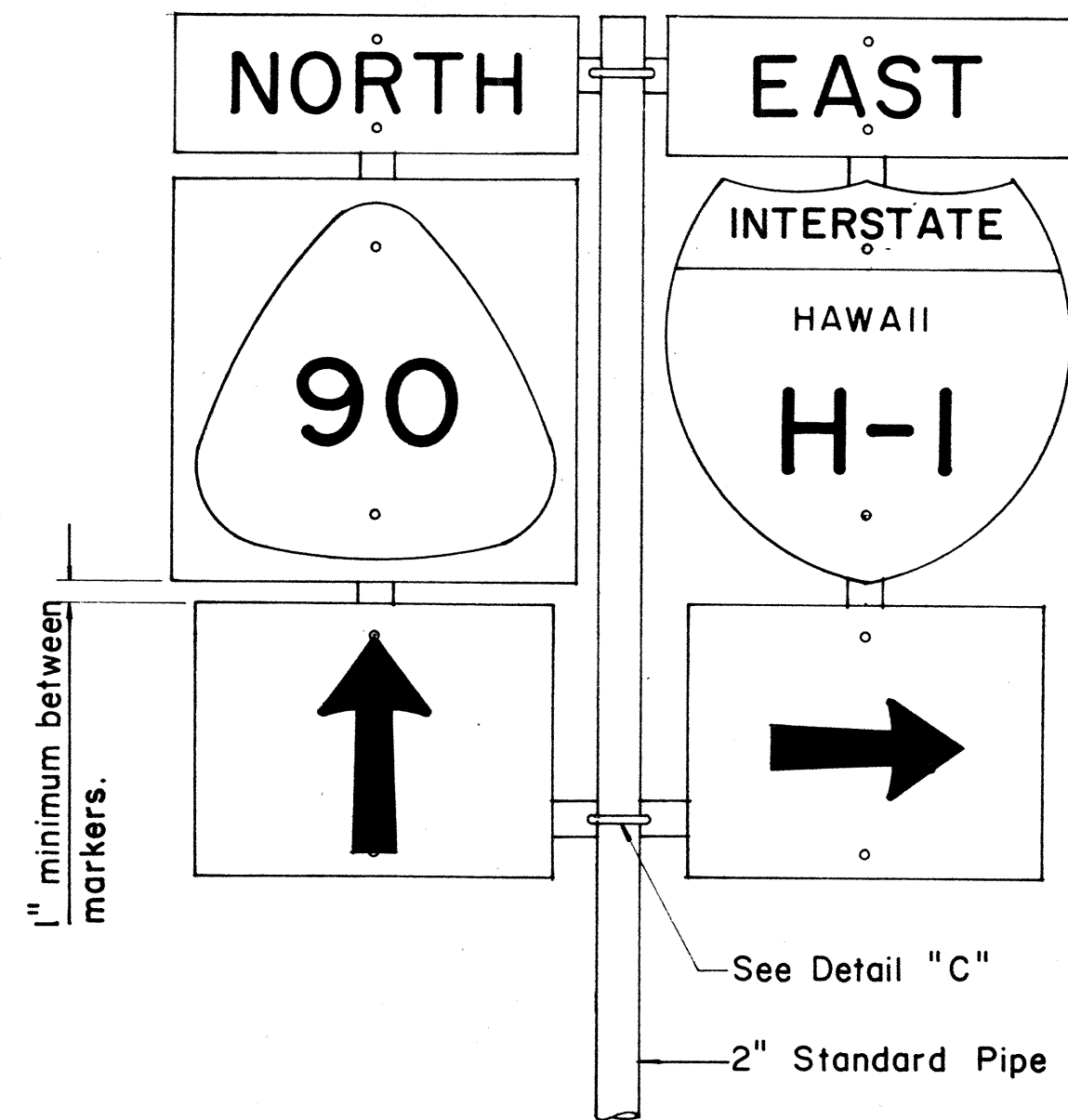
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
INTERSTATE ROUTE MARKERS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

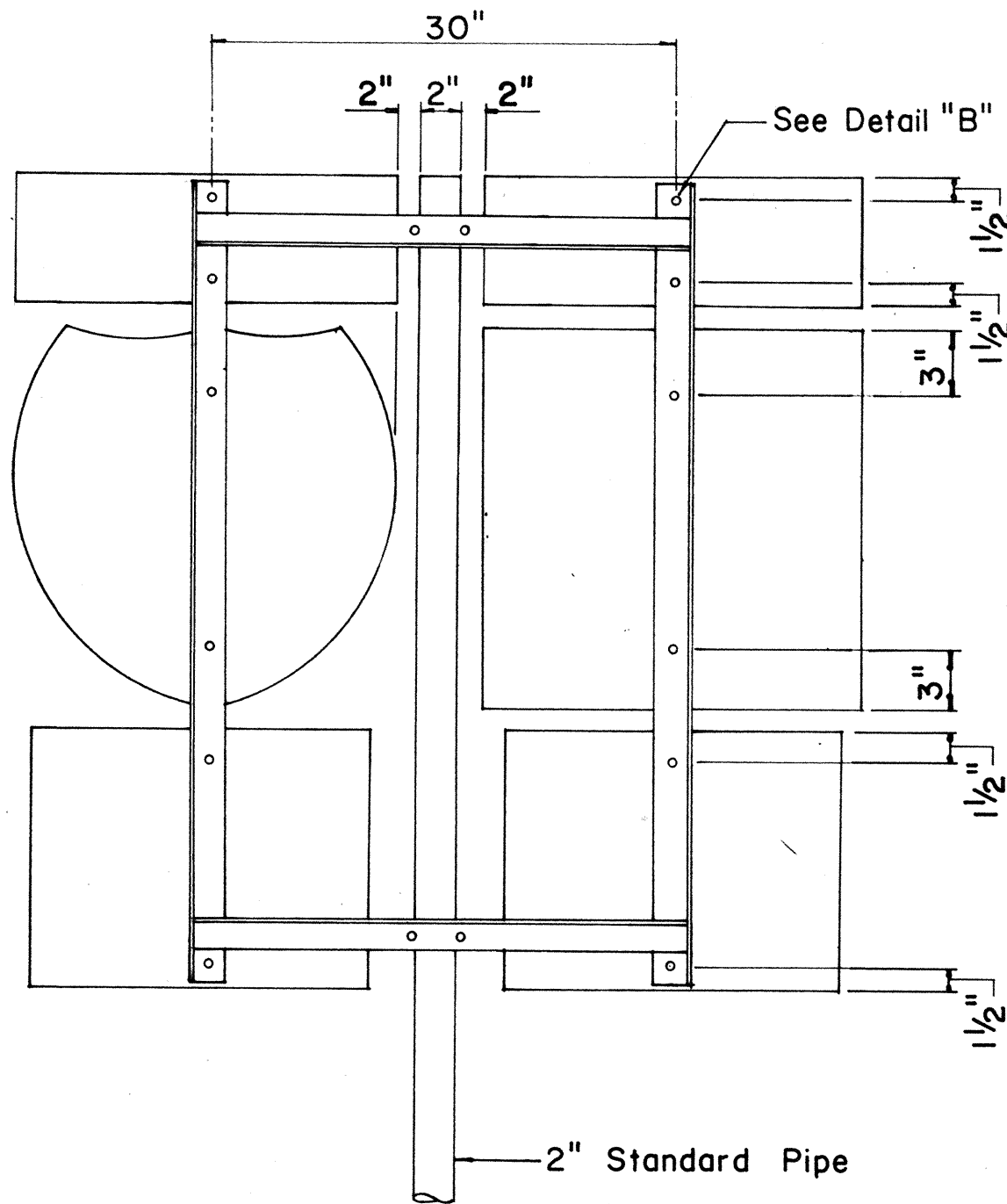
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46):8	1973	49	104



FRONT ELEVATION

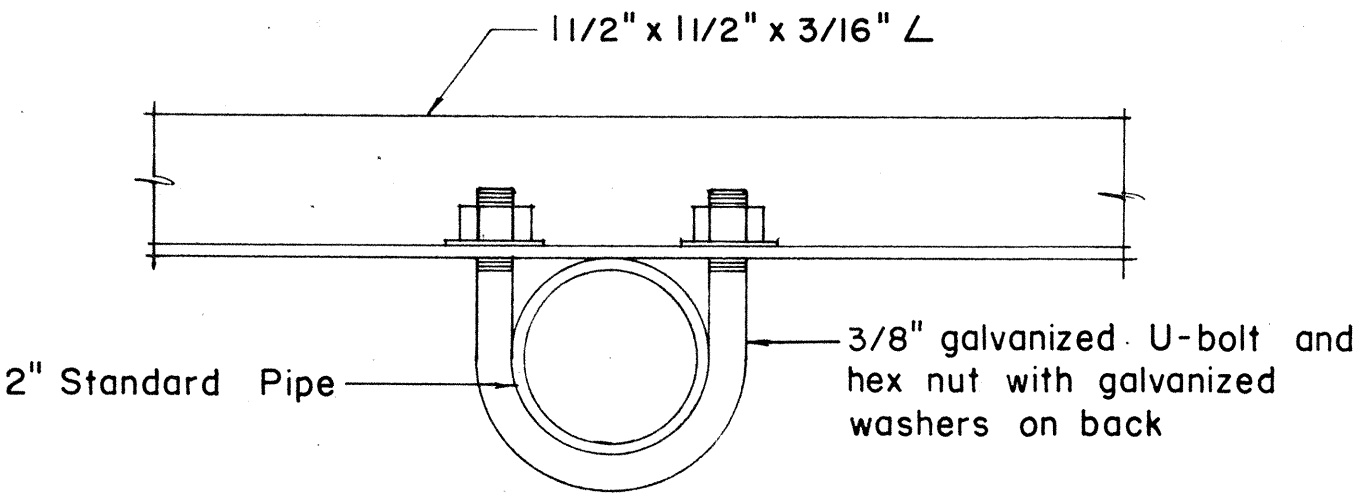
TYPE "B" ASSEMBLY

Not to Scale

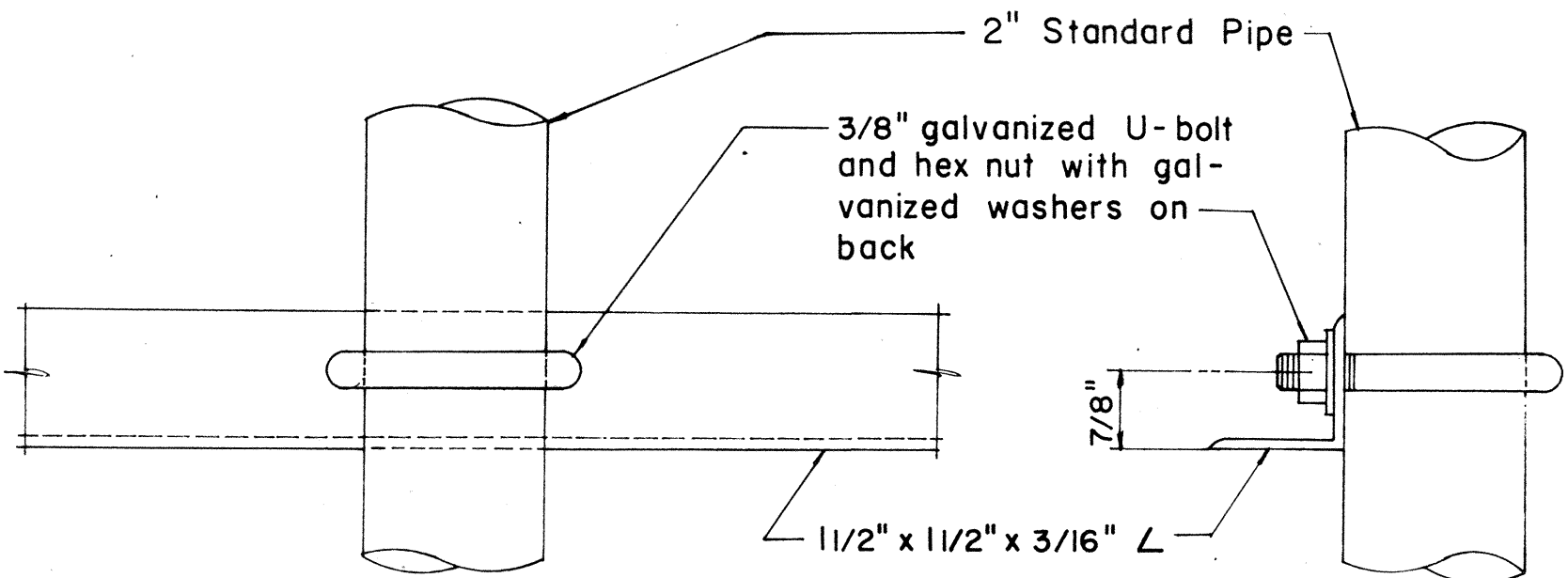


REAR ELEVATION

- NOTE:
1. Minimum clearance between markers shall be one inch. (Larger clearances shall be in multiples of one inch.)
 2. Pipe post for Type "A" & Type "B" Assembly shall be 2" Standard Pipe.



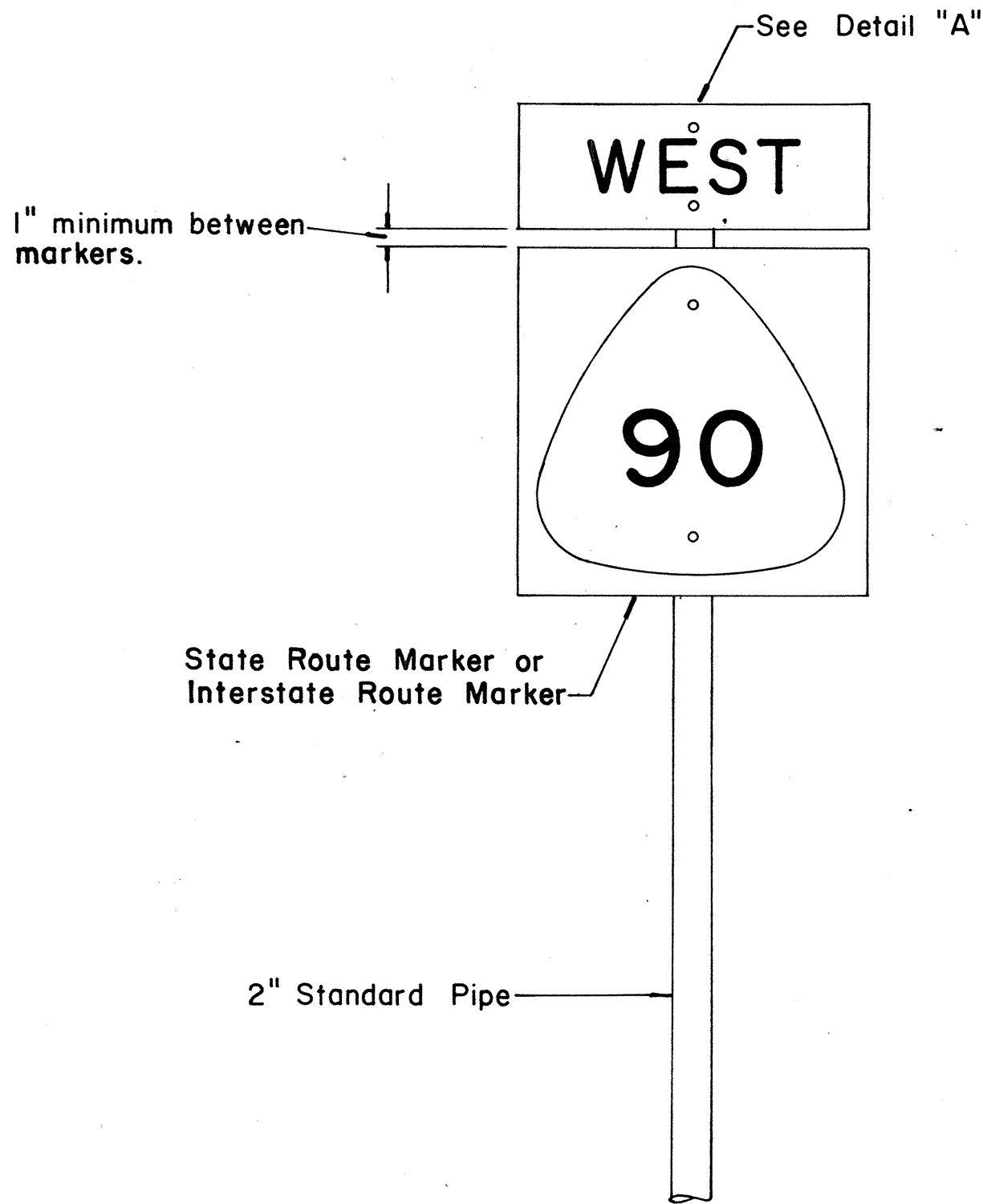
PLAN



FRONT ELEVATION

SIDE ELEVATION

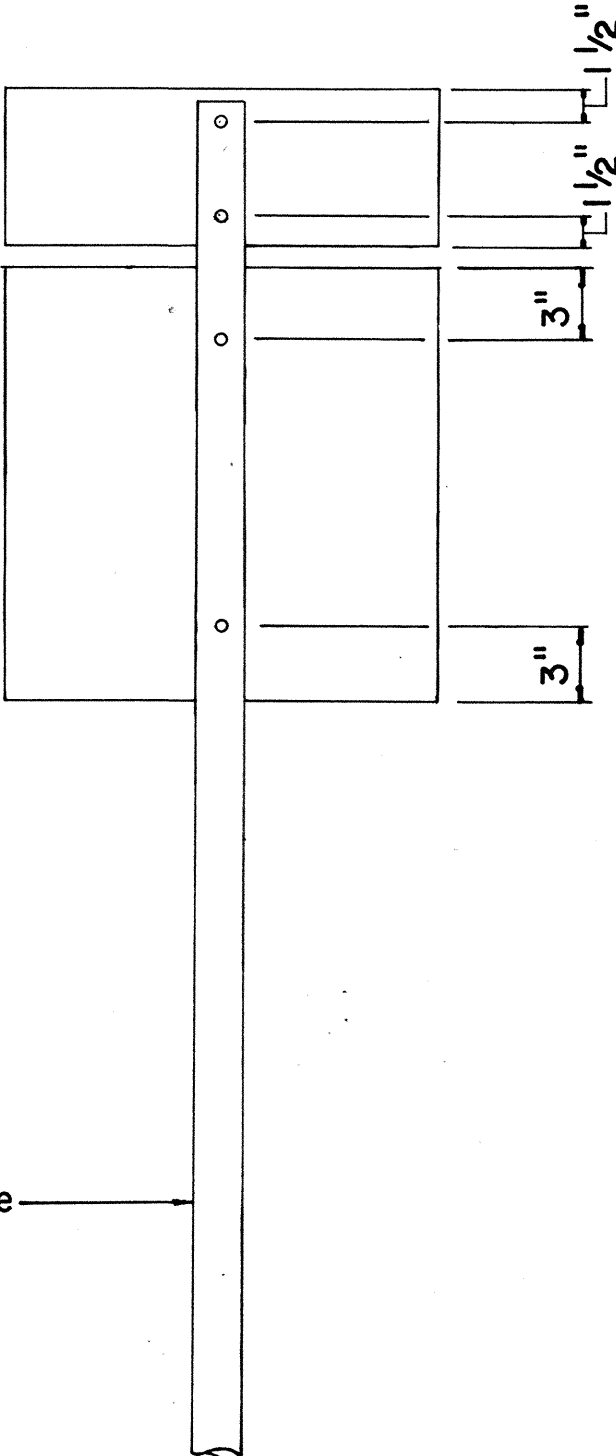
DETAIL "C"



FRONT ELEVATION

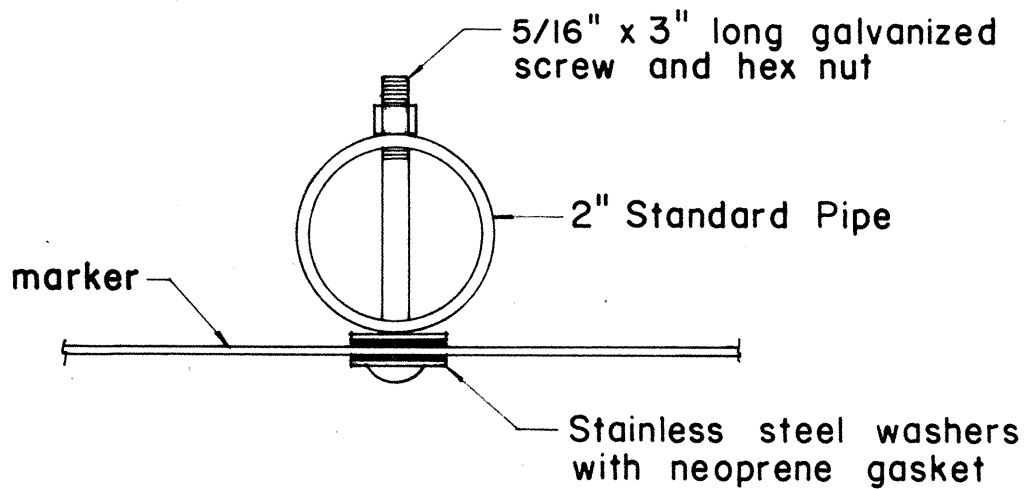
TYPE "A" ASSEMBLY

Not to Scale

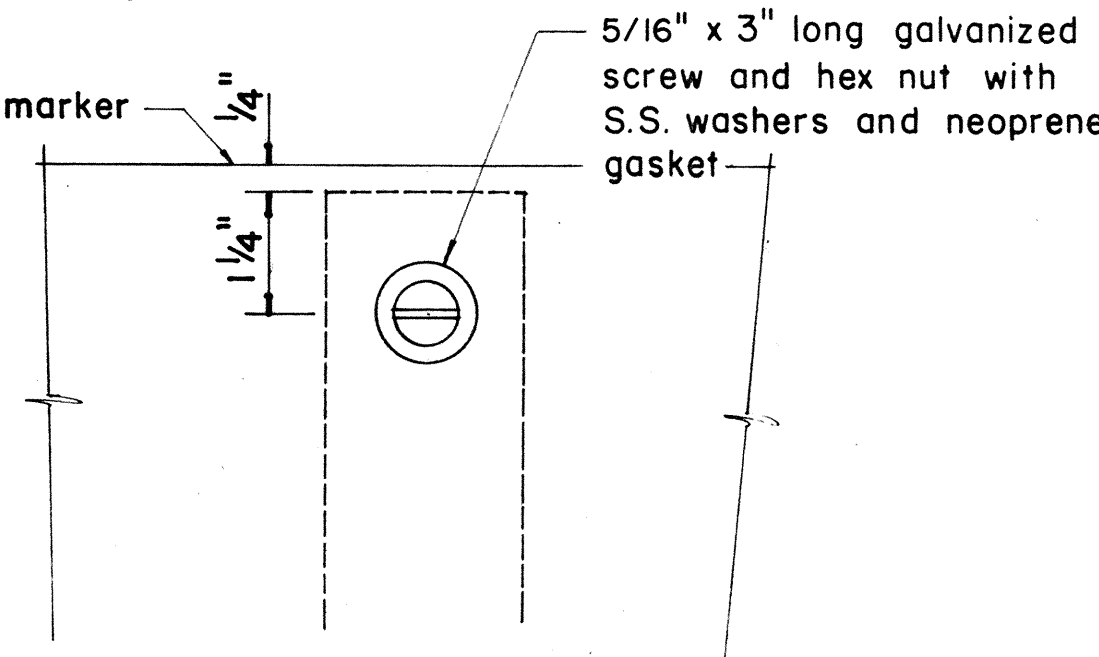


REAR ELEVATION

- NOTE:
- For height and lateral location of Route Marker Assembly, see plan sheet DT 100.

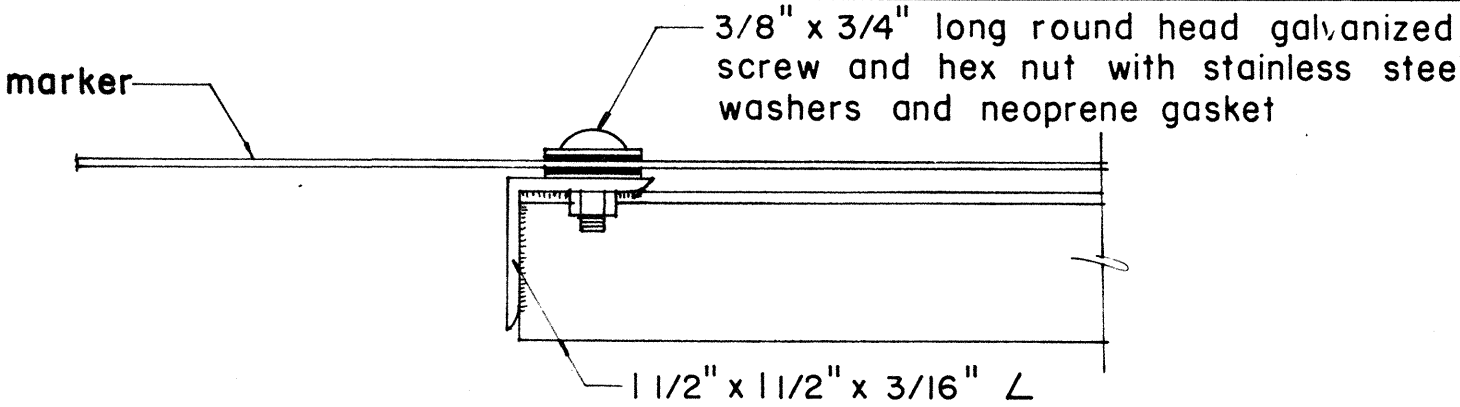


PLAN

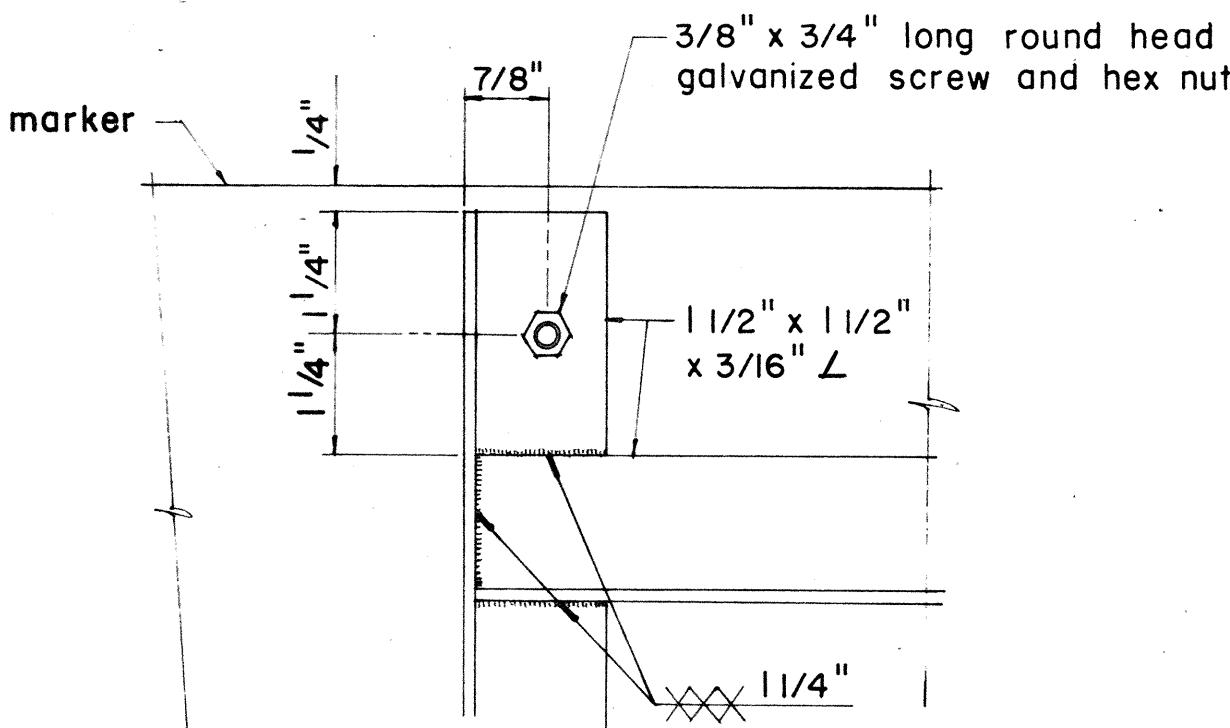


FRONT ELEVATION

DETAIL "A"



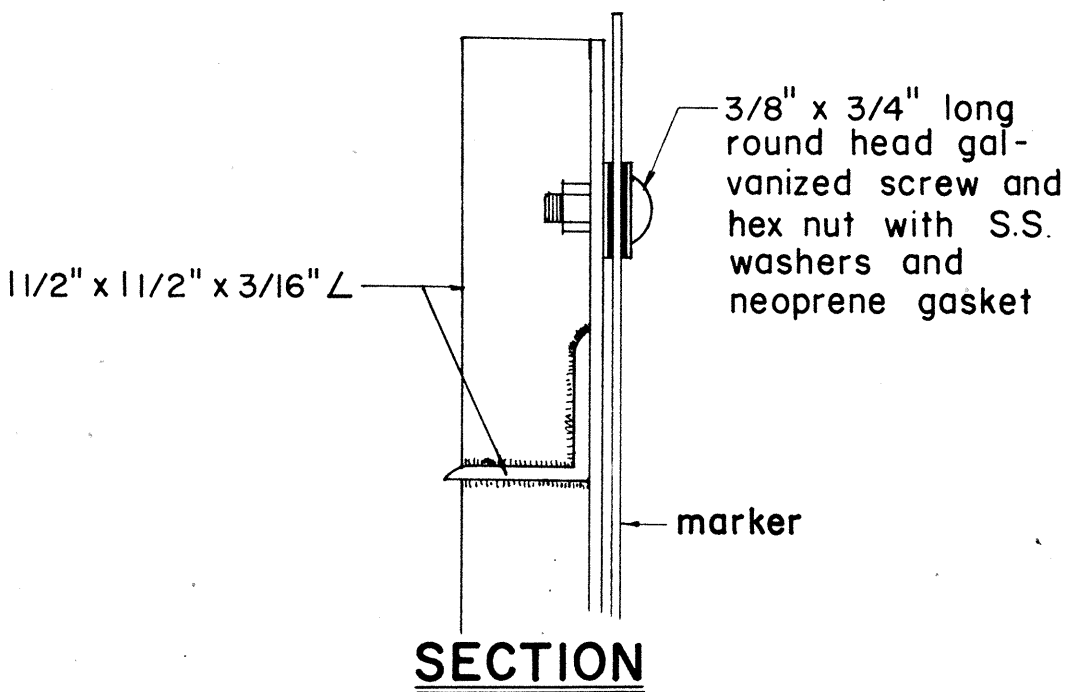
PLAN



ELEVATION

DETAIL "B"

NO.	REVISION	APPROVED BY	DATE
1	Revisions to Route Marker Assemblies.	H.T.	6/1/72



SECTION

APPROVAL RECOMMENDED:

Erich Tanaka 12/29/69

TRAFFIC ENGINEER DATE

APPROVED:

John J. Patek 12-30-69

ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

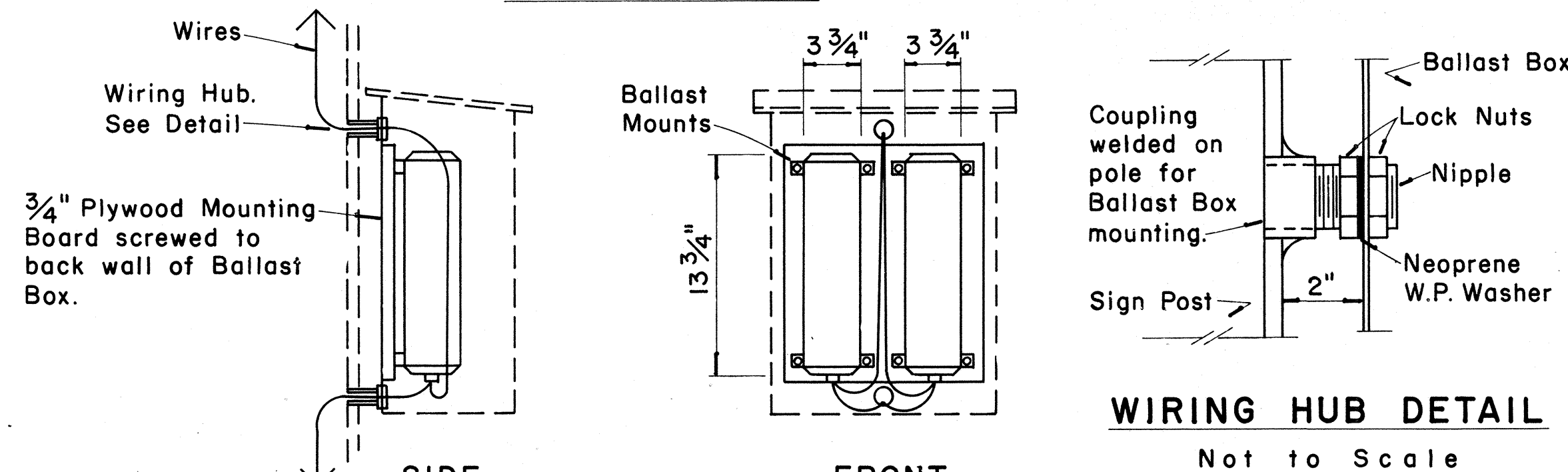
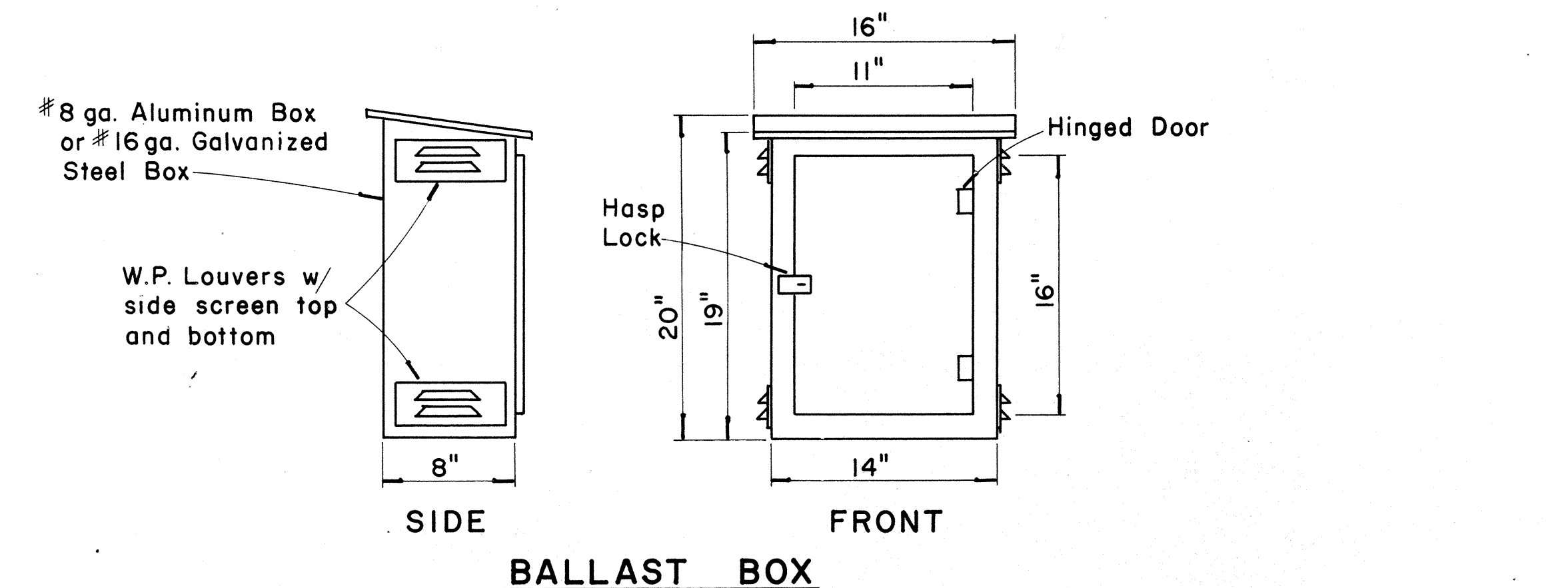
STANDARD DETAILS

ROUTE MARKER ASSEMBLIES

Scale: As Shown

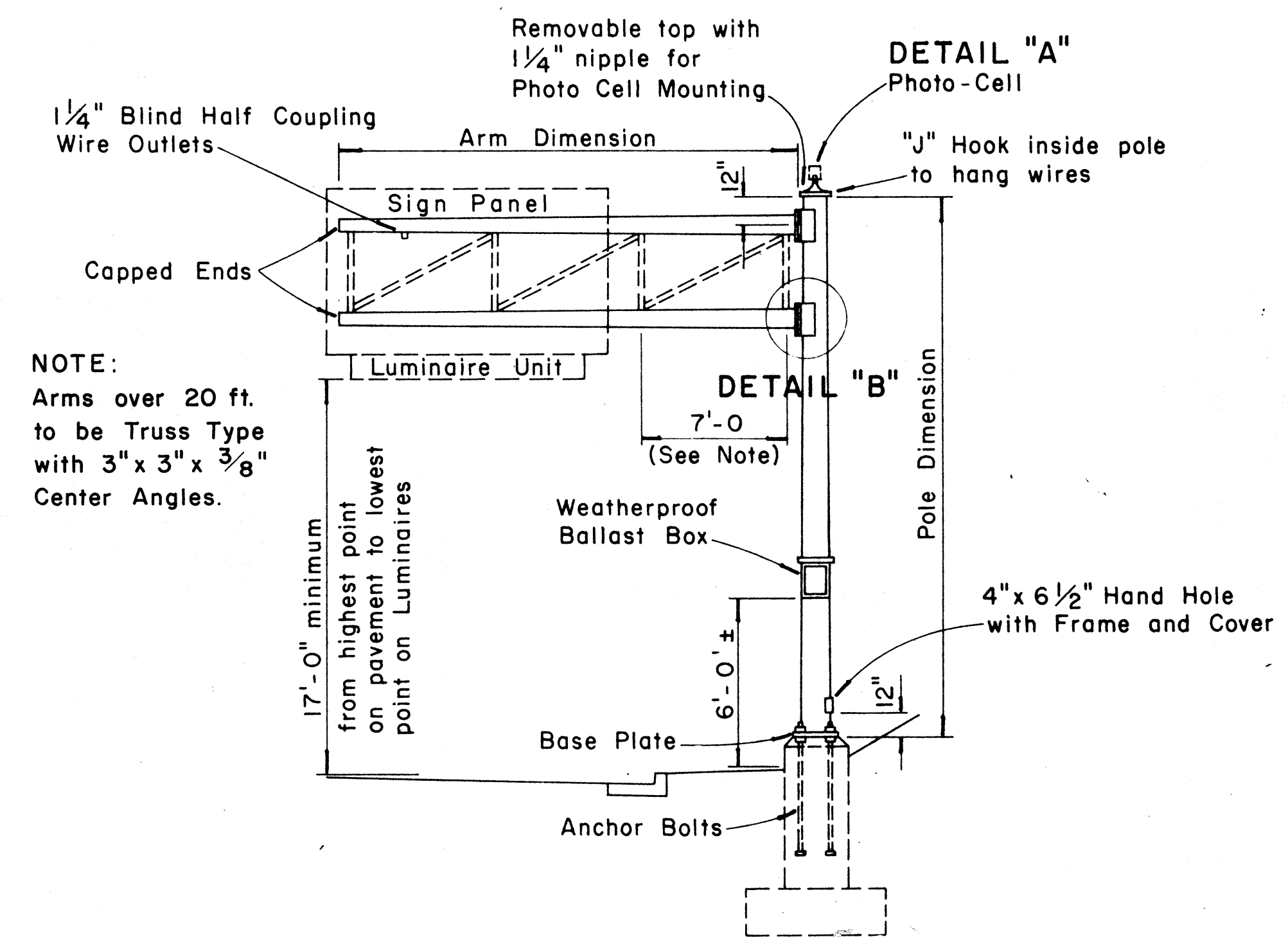
SHEET No. 7 OF 35 SHEETS DT 107

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



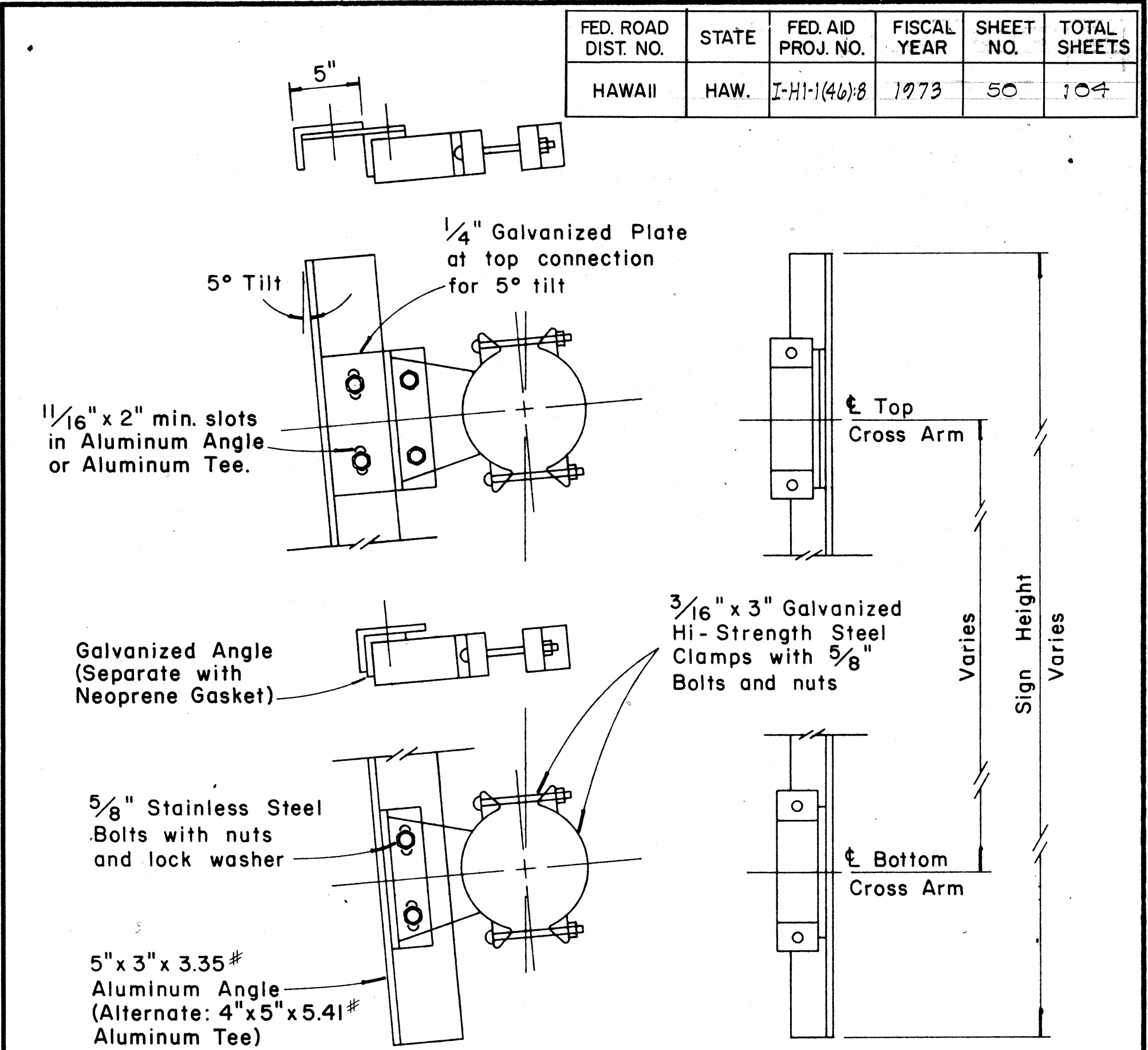
WEATHERPROOF BALLAST BOX

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

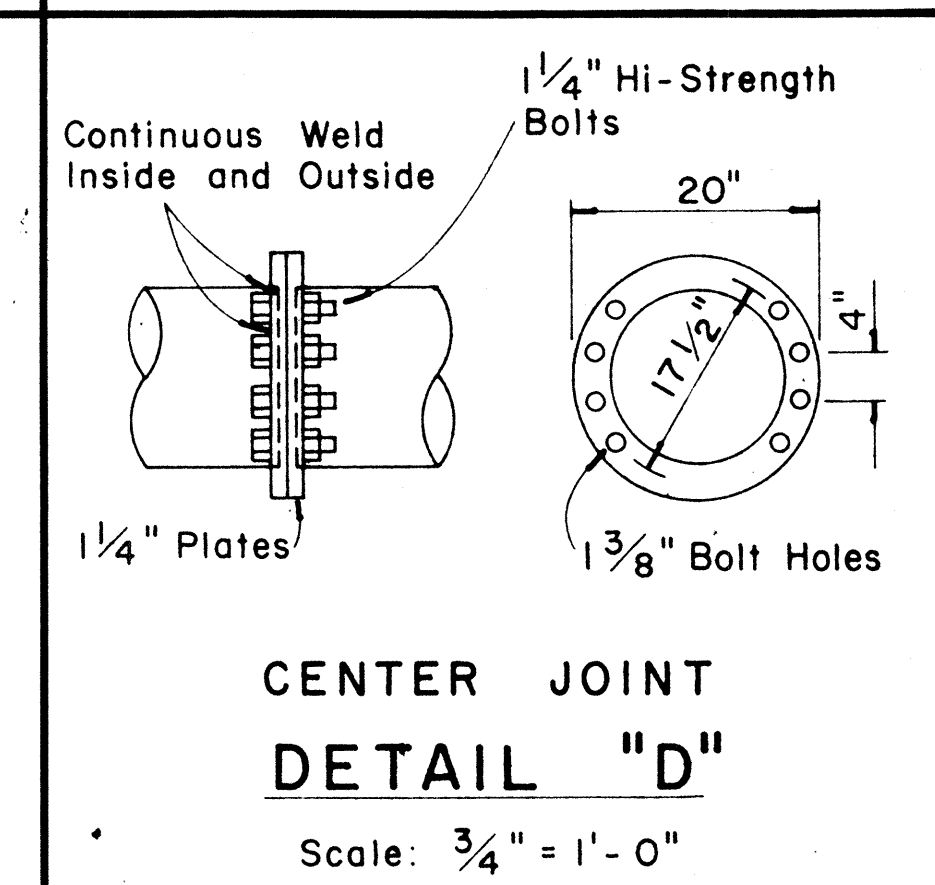
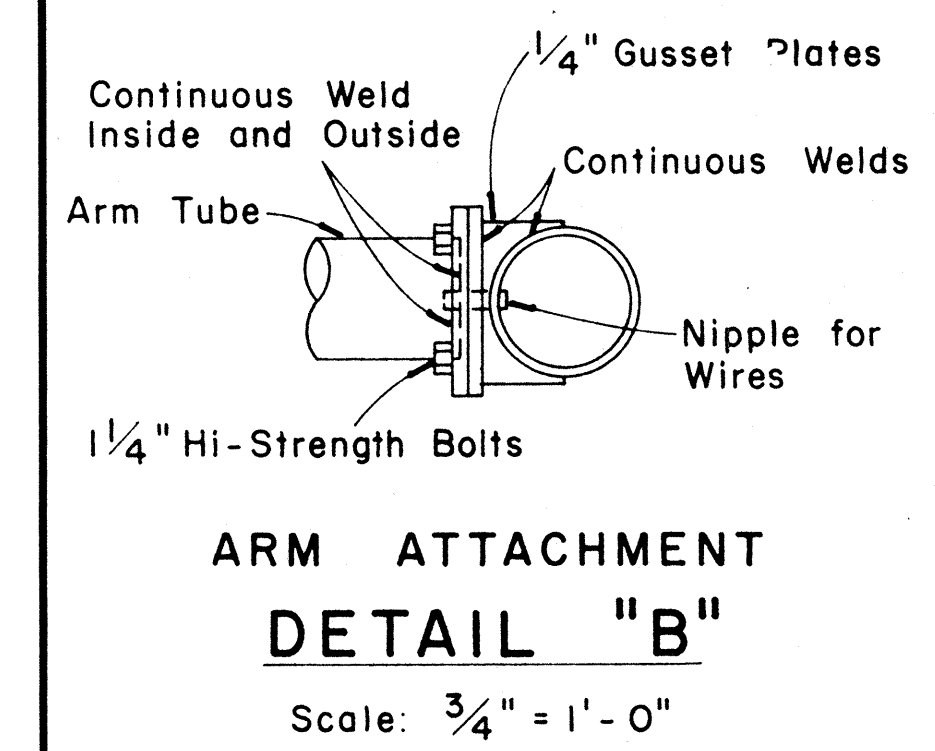
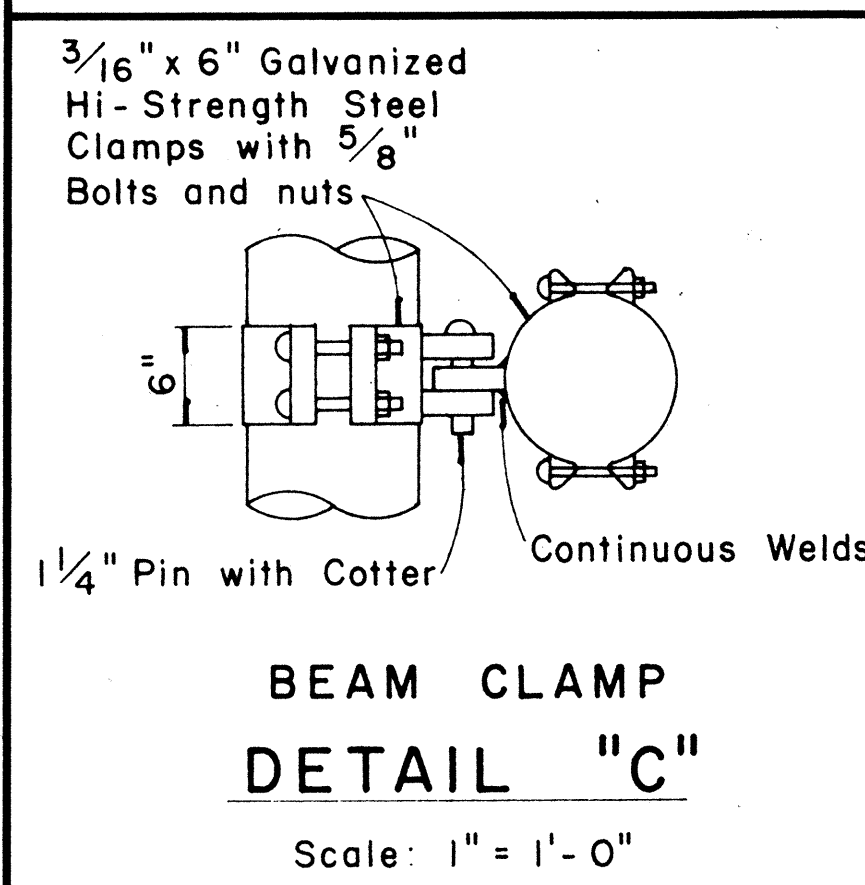
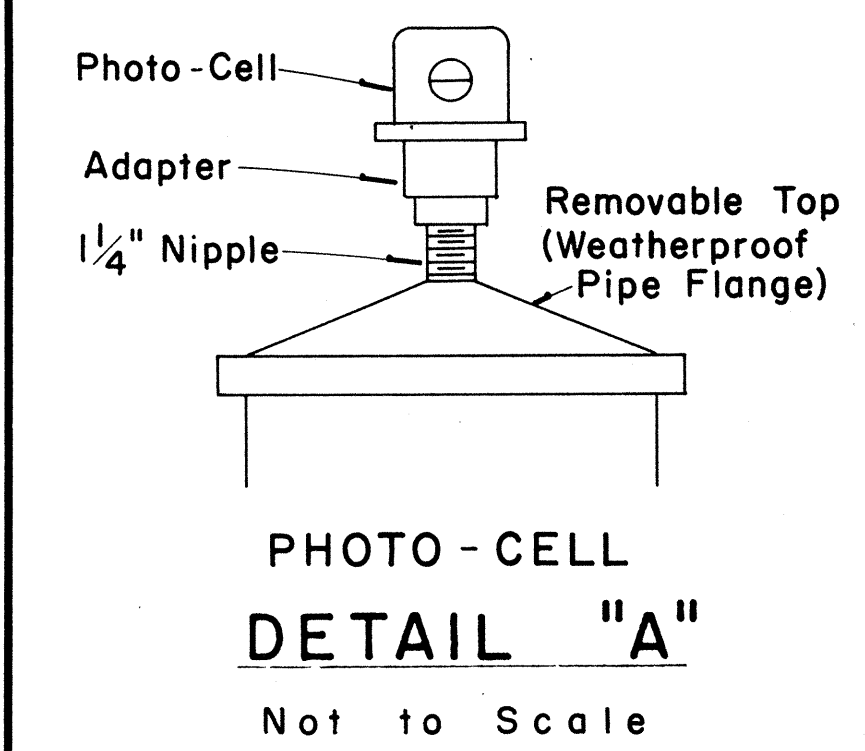
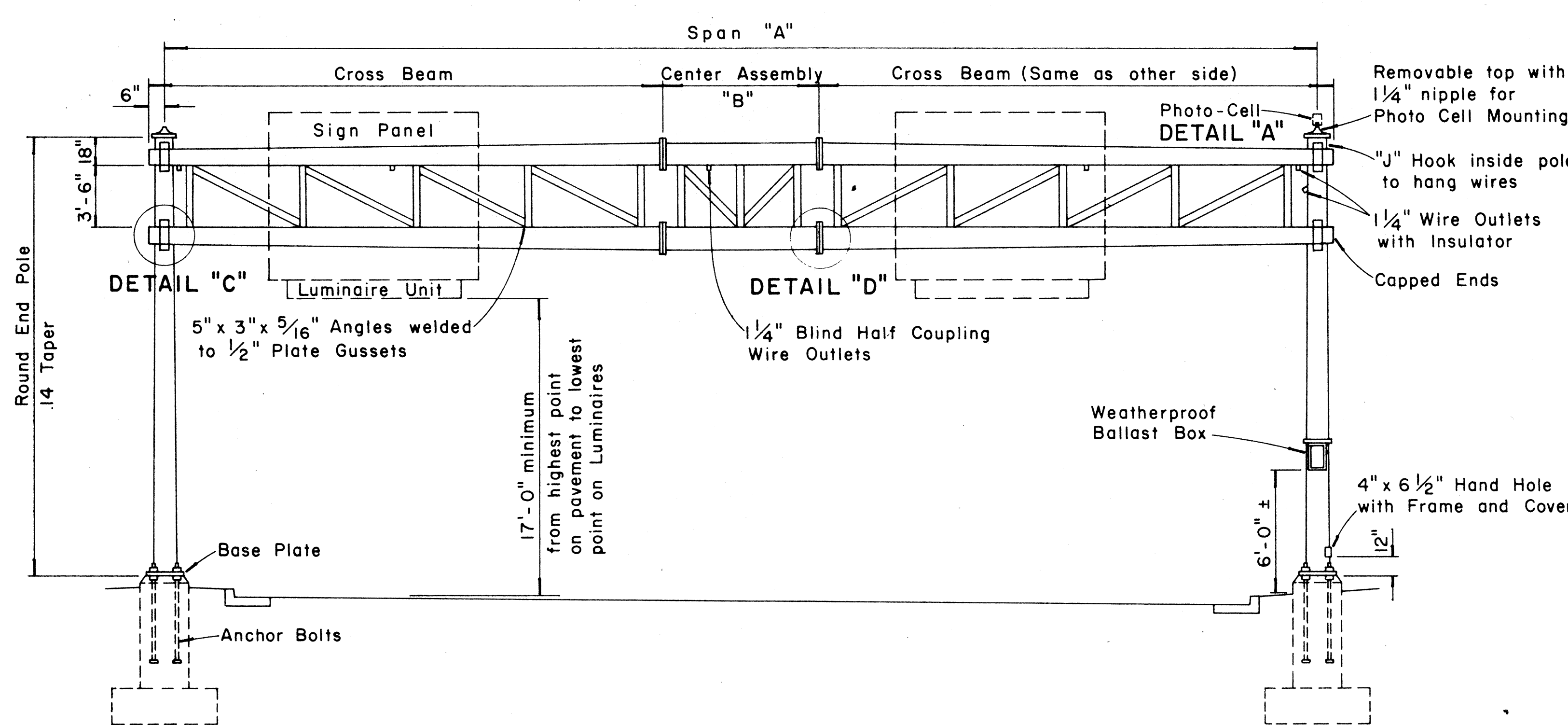


DOUBLE MAST ARM

Scale: 3/16" = 1' - 0"



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)8	1973	50	104



APPROVAL RECOMMENDED: *Erich Tanaka* 12/27/69 DATE
TRAFFIC ENGINEER

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

OVERHEAD SIGN SUPPORTS

DATE: _____

DESIGNED BY: _____

CHECKED BY: _____

NO. _____

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)B	1973	51	104

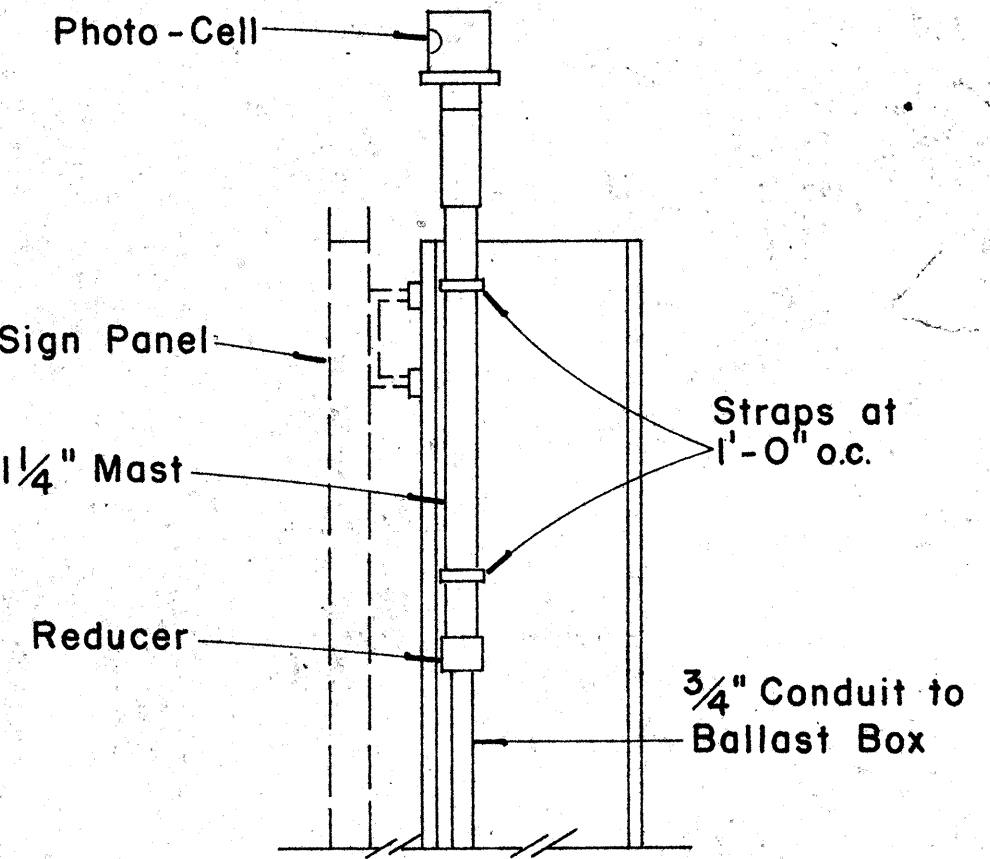


PHOTO-CELL DETAIL

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

APPROVAL RECOMMENDED:

Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE

APPROVED:

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

NO.	REVISION	APPROVED BY	DATE

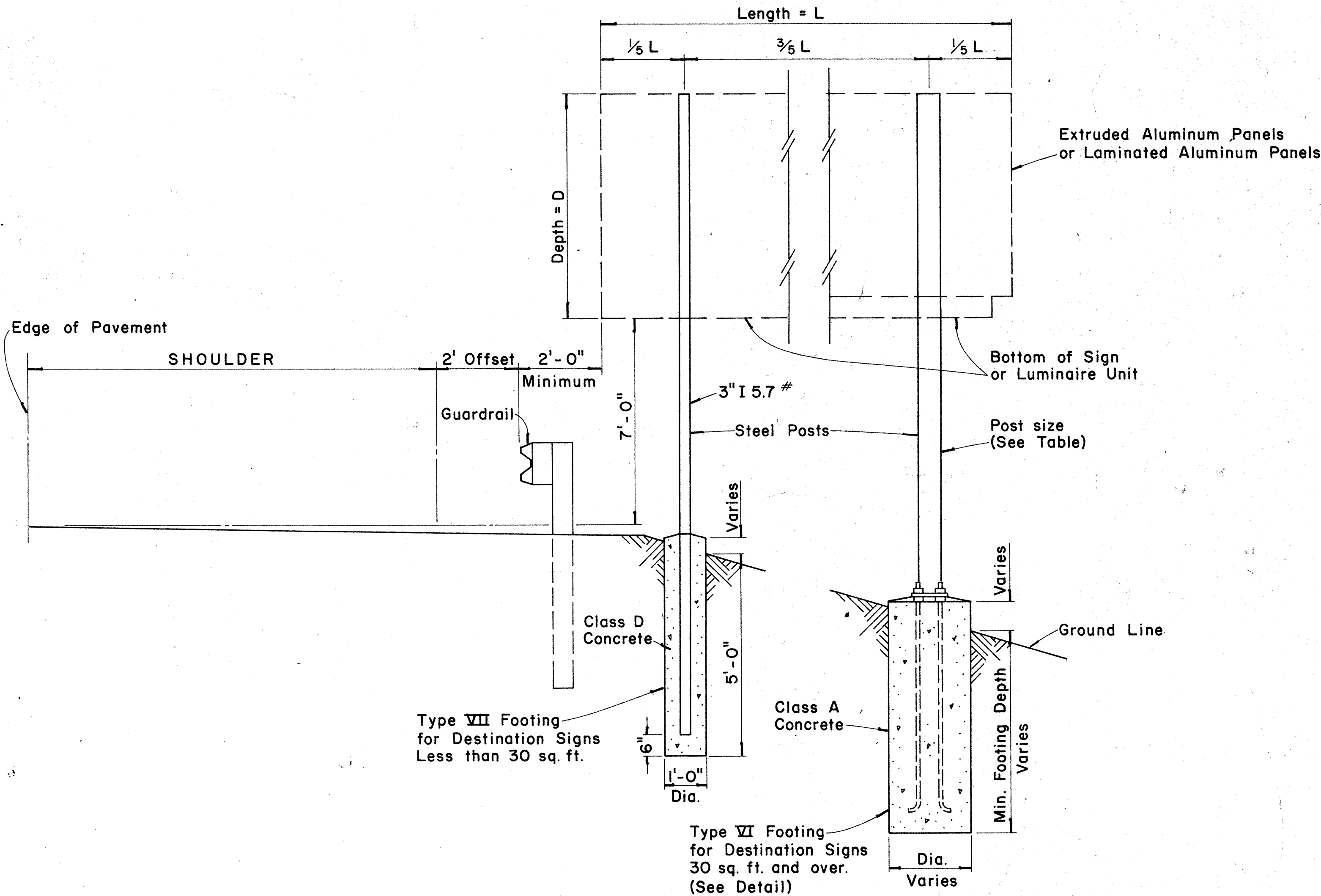
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
DESTINATION & GROUND MOUNTED
EXPRESSWAY SIGNS

Scale: As Shown
SHEET No. 9 OF 35 SHEETS DT 203

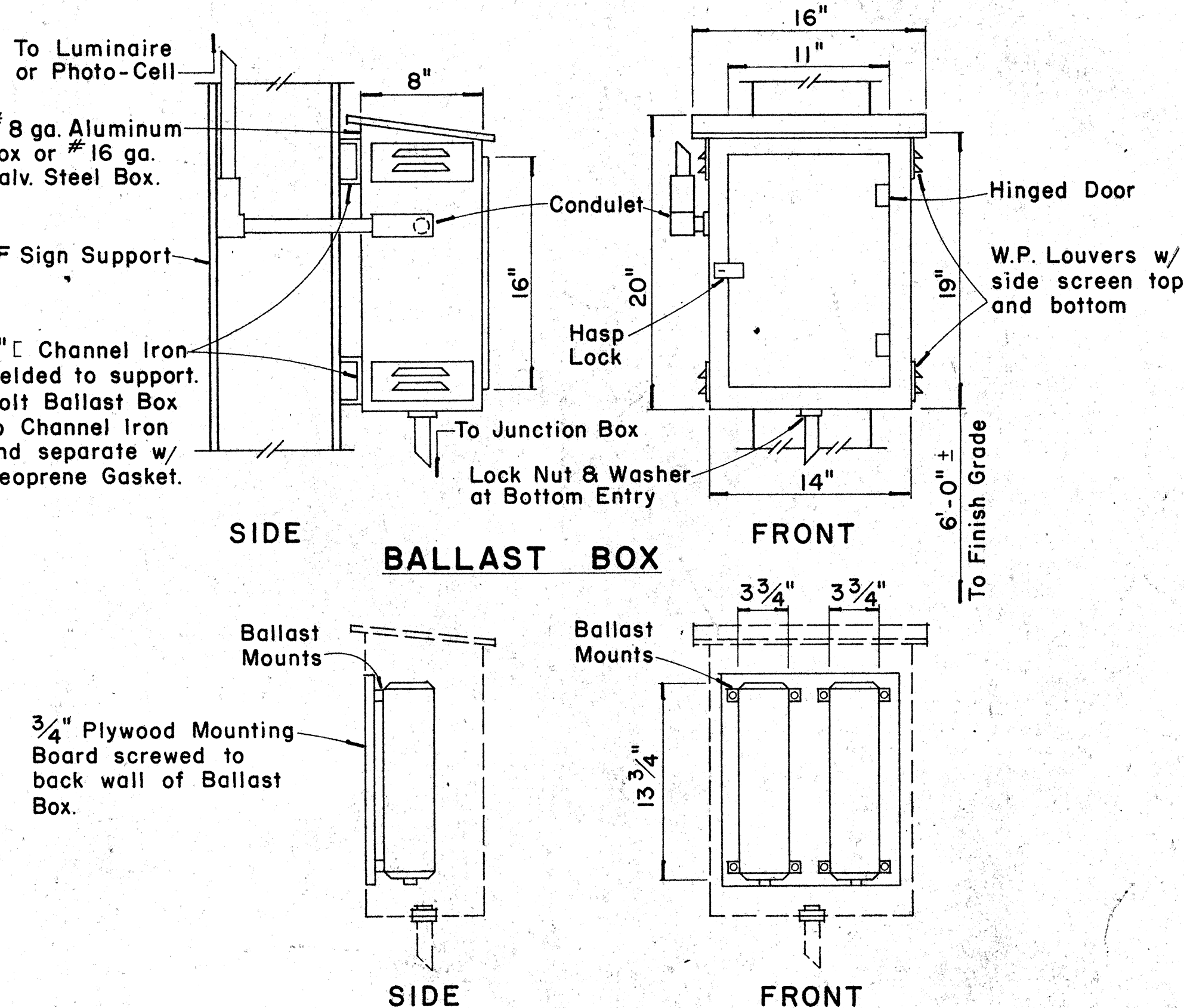
* For moment calculations only. Post shall be from top of foundation to top of sign.
** For fills with side slopes flatter than 4:1, Minimum Footing Depth shall be 4 1/2 feet.

DATA TABLE FOR TYPE VI FOOTING																	
POST SIZE	MAXIMUM SIGN AREA	POST HEIGHT OF FOUNDATION TO CENTER OF SIGN *	D I M E N S I O N S											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"	17¼"	1⅝"	6"	1¼"	9"	6"	10"	2"	1"	1⅝"Ø	4½'	4½'
8 WF 24	90 sq. ft.	21'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	5'
8 WF 35	190 sq. ft.	15'	16½"	6¾"	30"	20"	1¾"	6"	1⅜"	11¾"	6½"	10"	1¾"	1"	1¼"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'	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓



TYPICAL DESTINATION & GROUND MOUNTED EXPRESSWAY SIGN

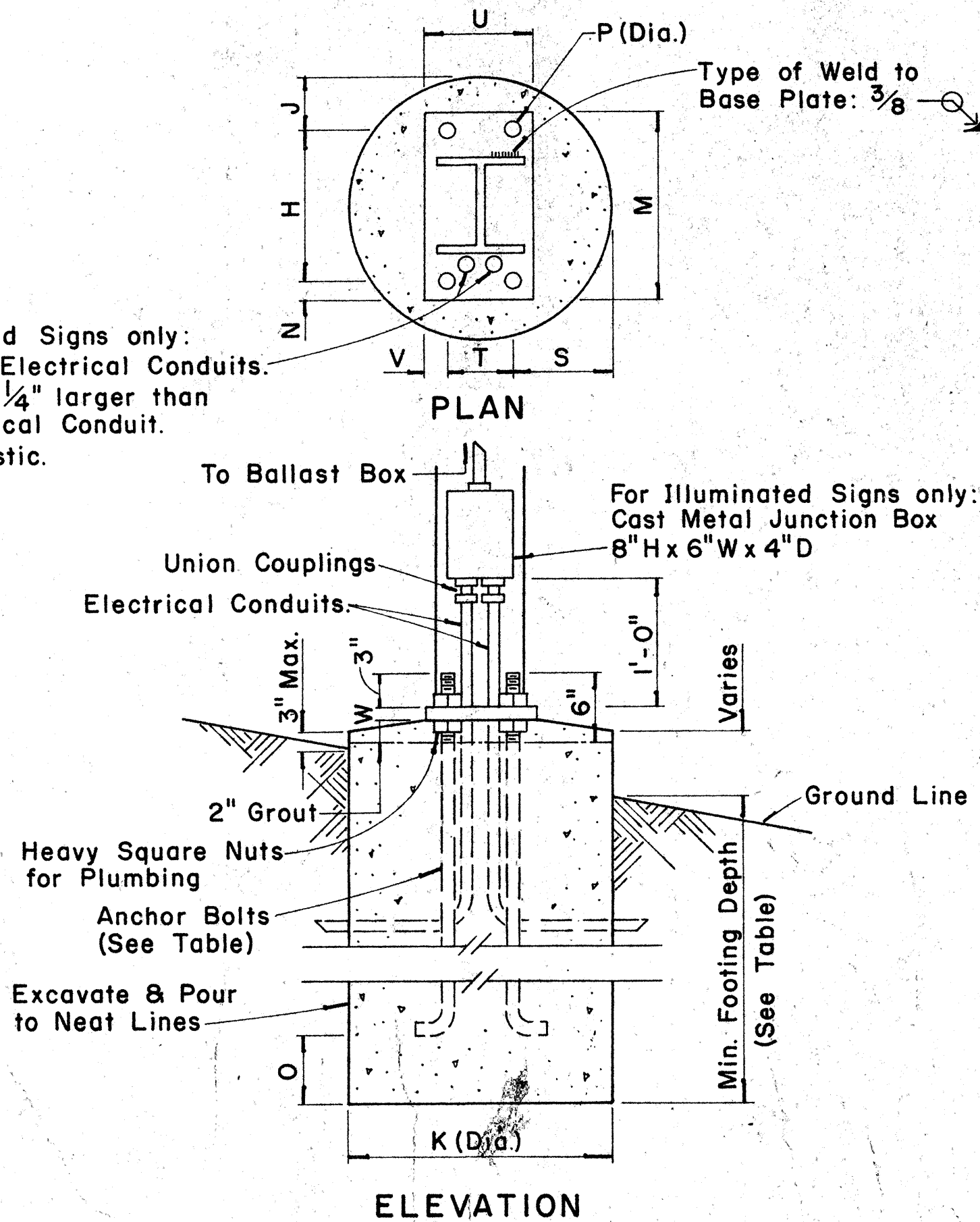
Not to Scale



WEATHERPROOF BALLAST BOX

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

For Illuminated Signs only:
Openings for Electrical Conduits.
Dia. shall be 1/4" larger than
O.D. of Electrical Conduit.
Seal with Mastic.



TYPE VI FOOTING

Scale: 1" = 1'-0"

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)-8	1973	52	104

(OVERHEAD SIGNS)
SUPPORT SPACING TABLE

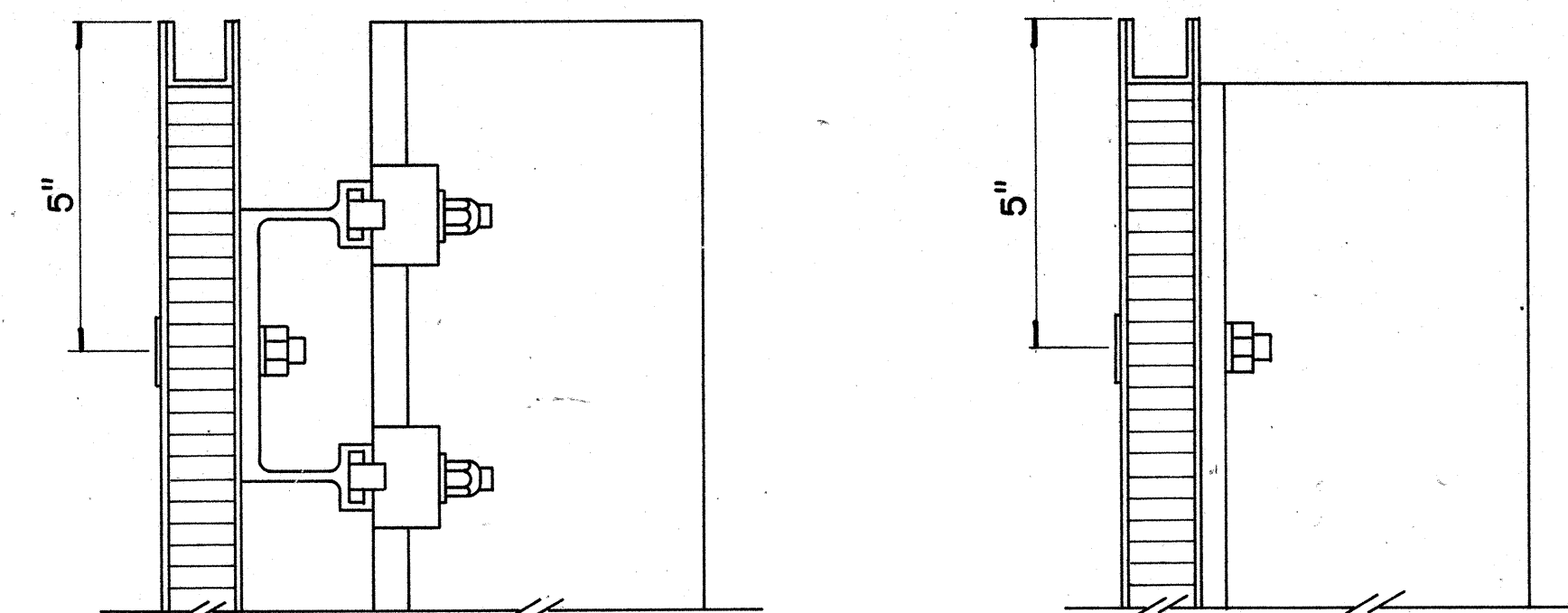
PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG B	SUPPORT SPACING C or C ₁
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	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:
Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE
APPROVED:
[Signature] 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

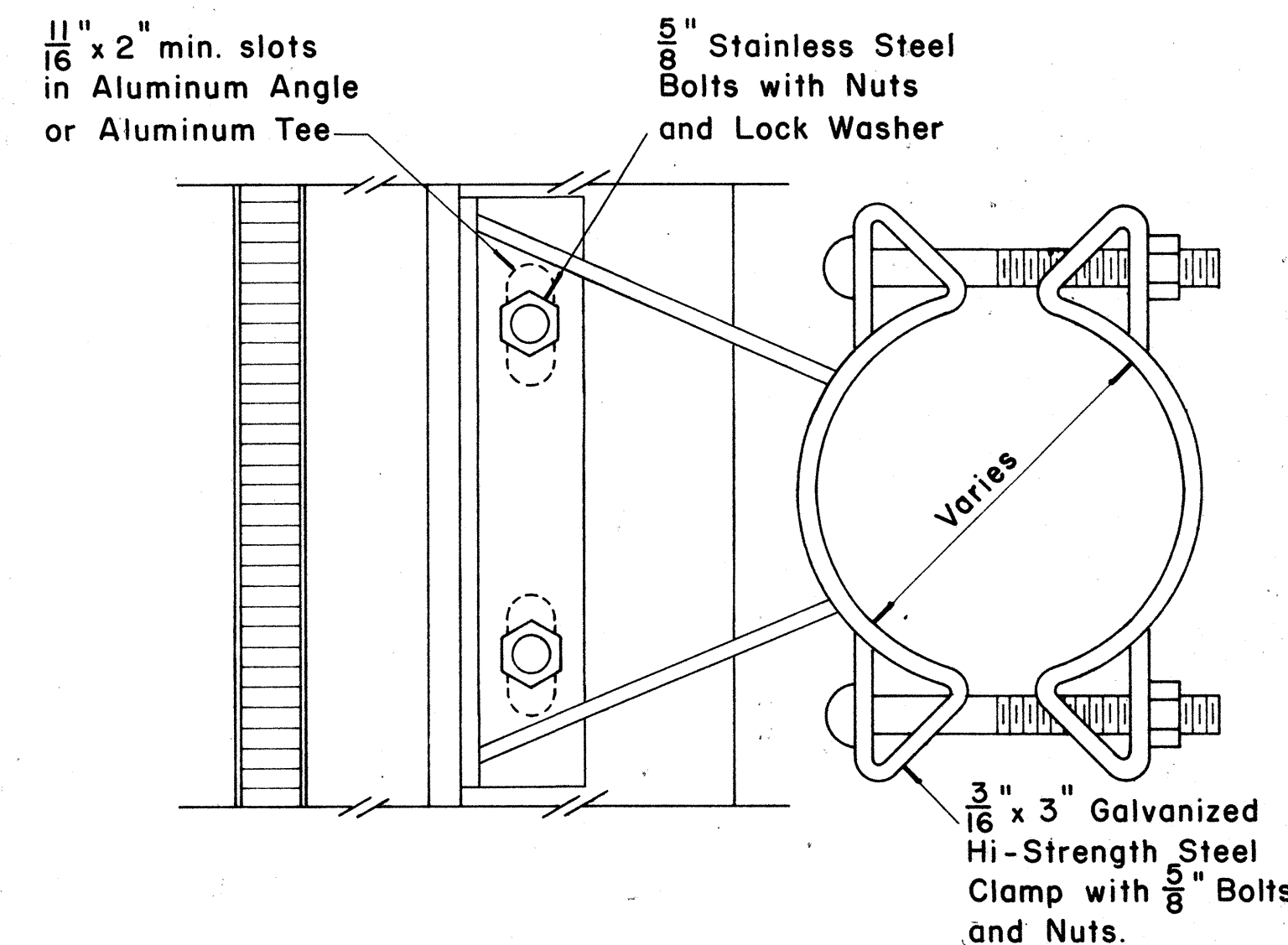
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(OVERHEAD)
Scale: As Shown

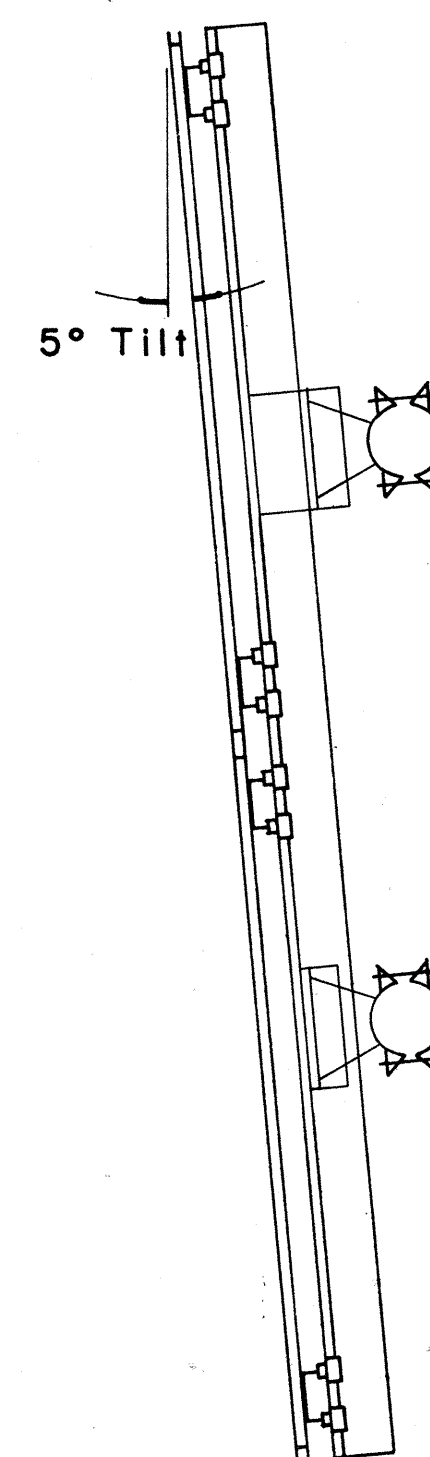


SECTION "C-C" Scale: $\frac{3}{8}$ " = 1"
SECTION "C-C" (Alternate) Scale: $\frac{3}{8}$ " = 1"

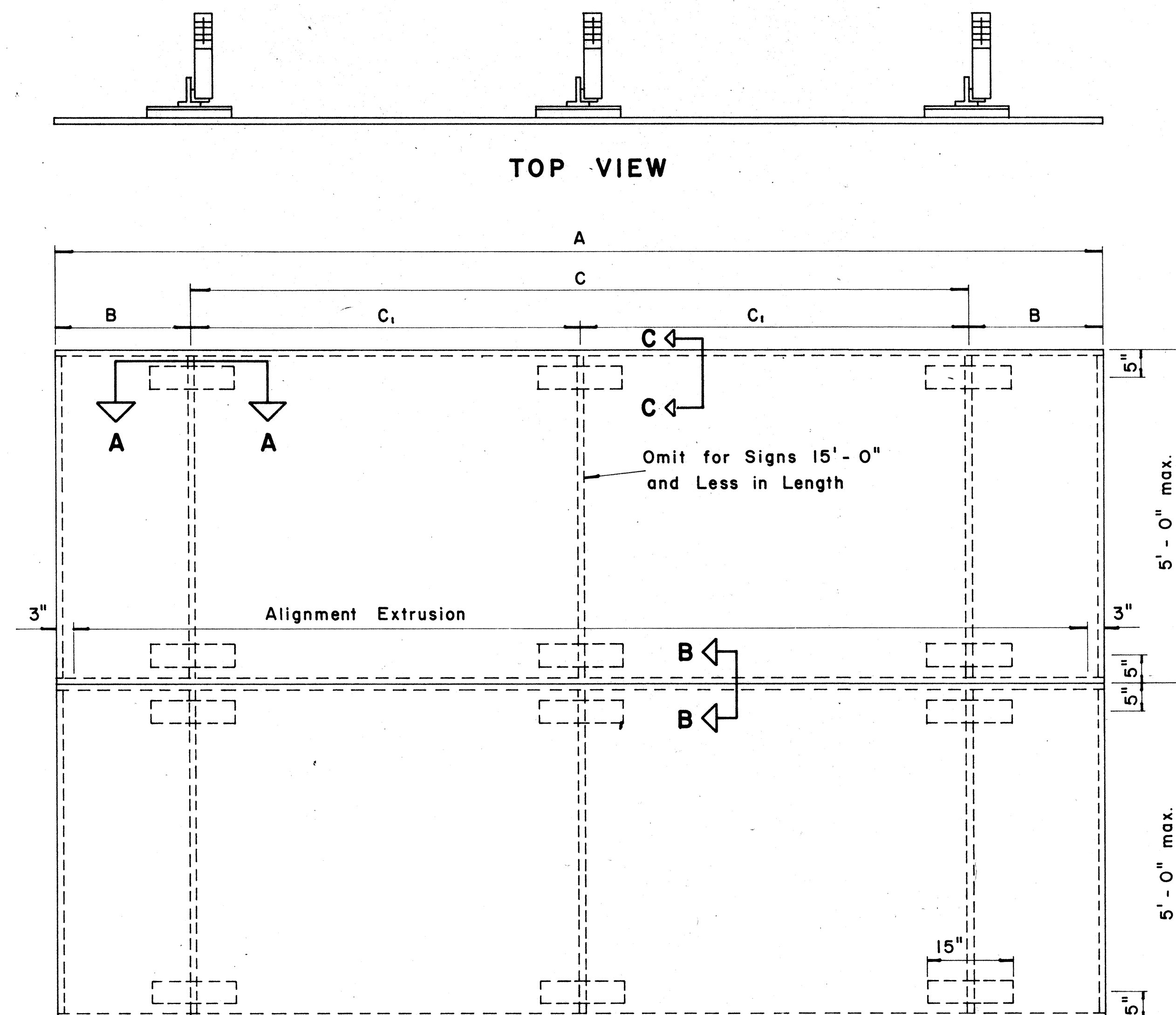


SIGN BRACKET ASSEMBLY Scale: $\frac{3}{8}$ " = 1"

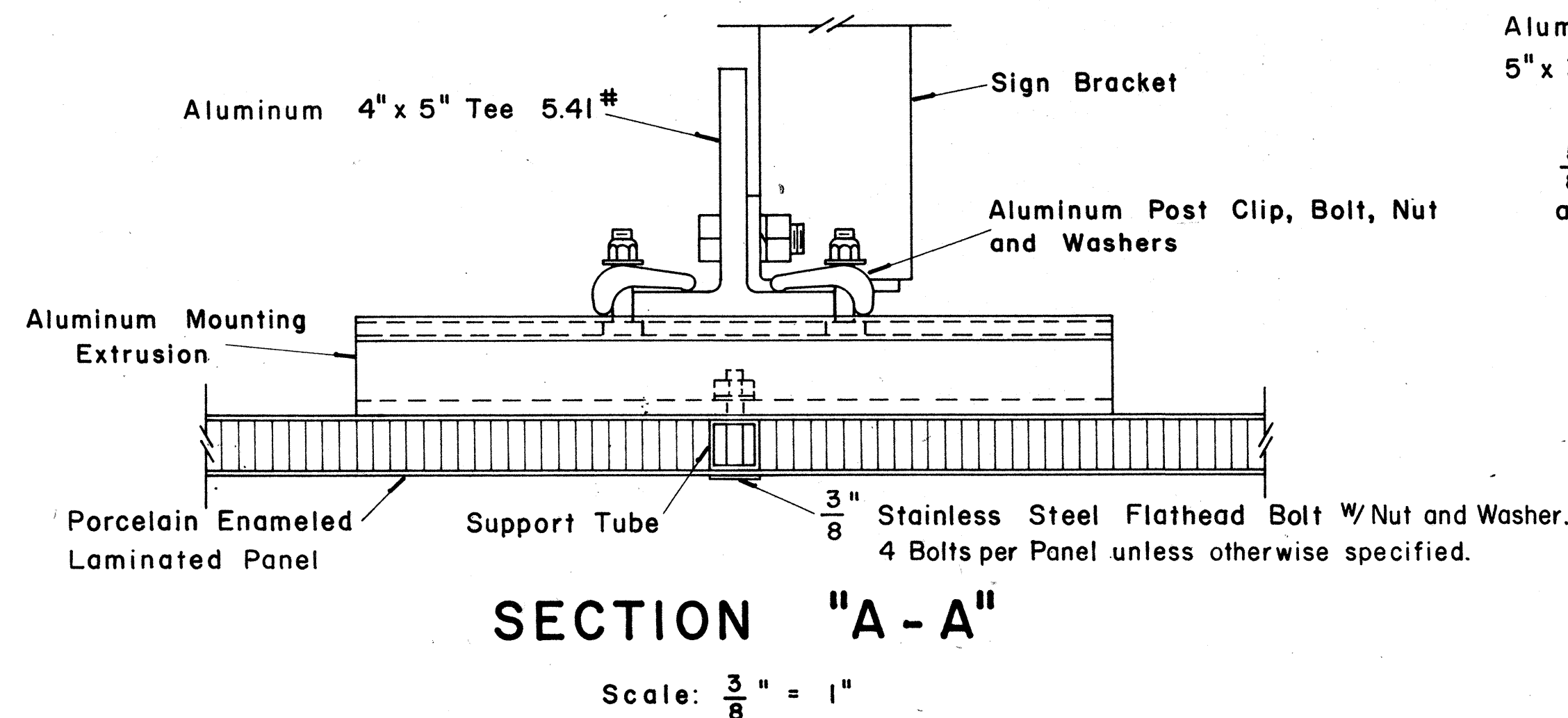
NOTE: For additional details of Sign Bracket Assembly, see Standard Detail Sheet "Overhead Sign Supports."



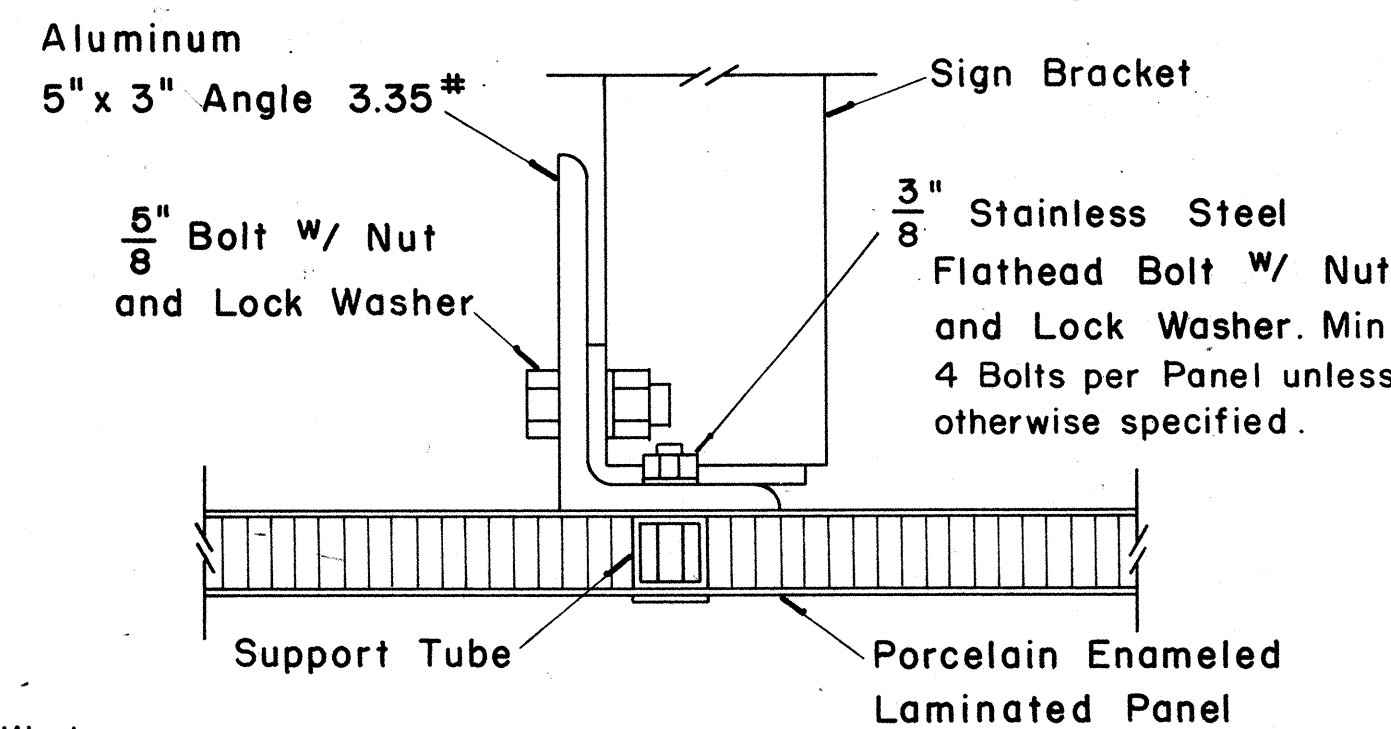
SIDE VIEW



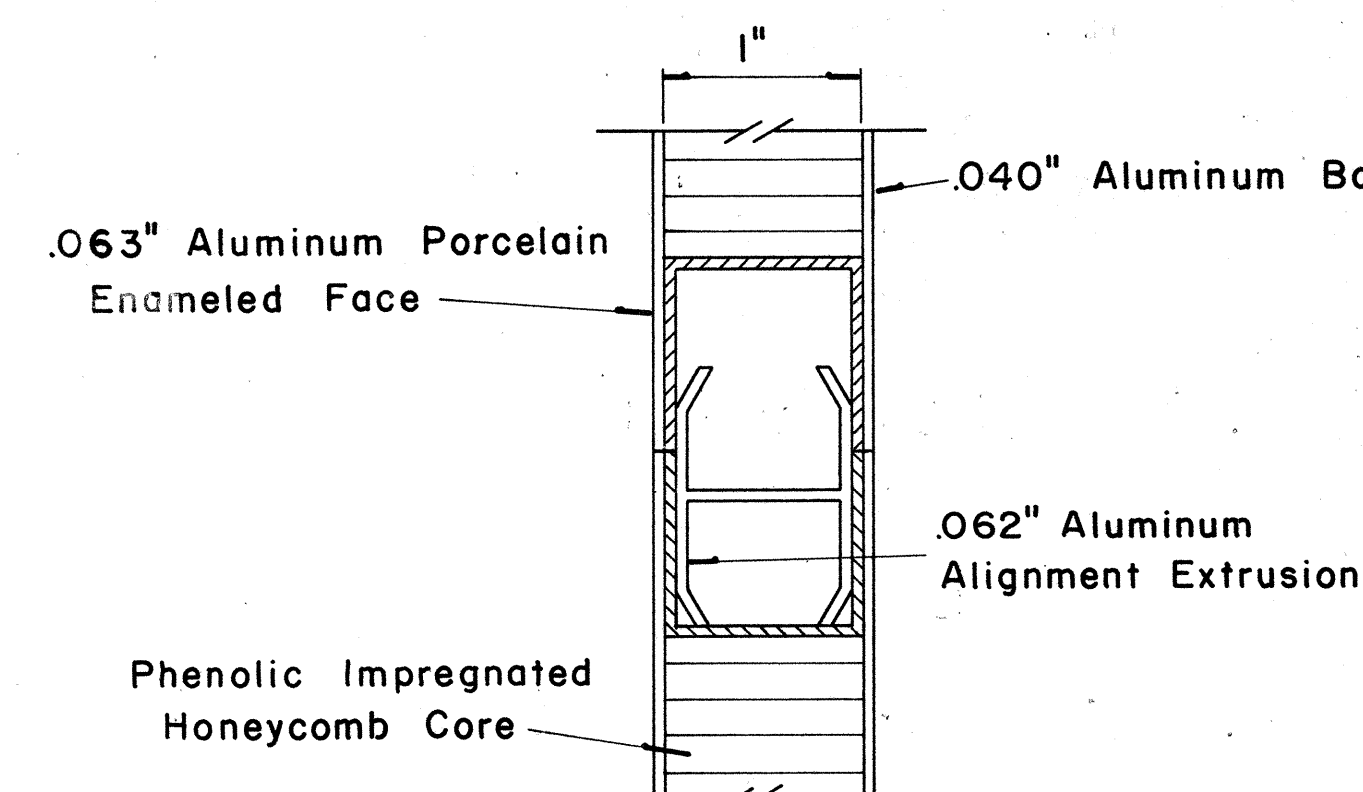
TYPICAL SIGN ASSEMBLY Scale: $\frac{3}{4}$ " = 1'-0"



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



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

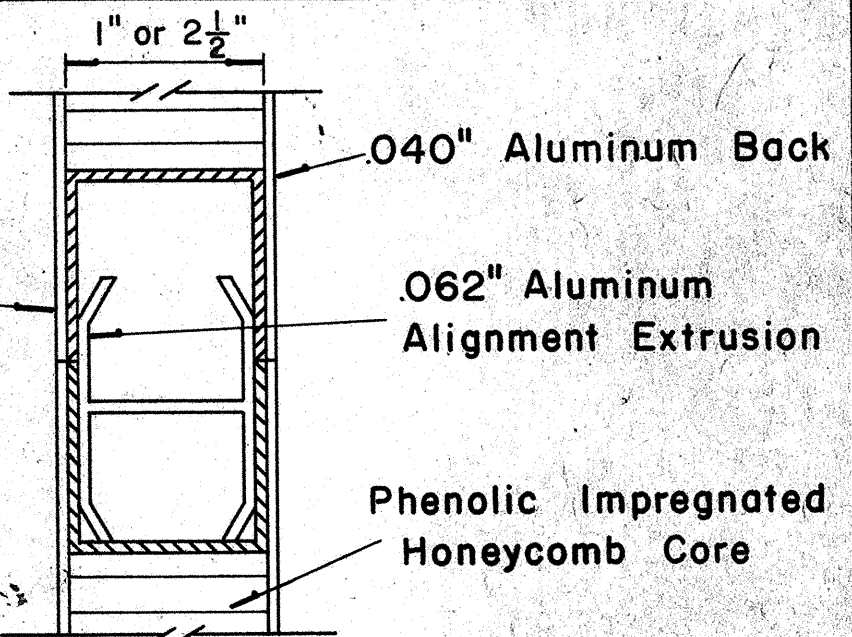


CLOSURE DETAIL SECTION "B-B" FULL SCALE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-41-1(46)8	1979	58	104

(GROUND MOUNTED SIGNS)
SUPPORT SPACING TABLE

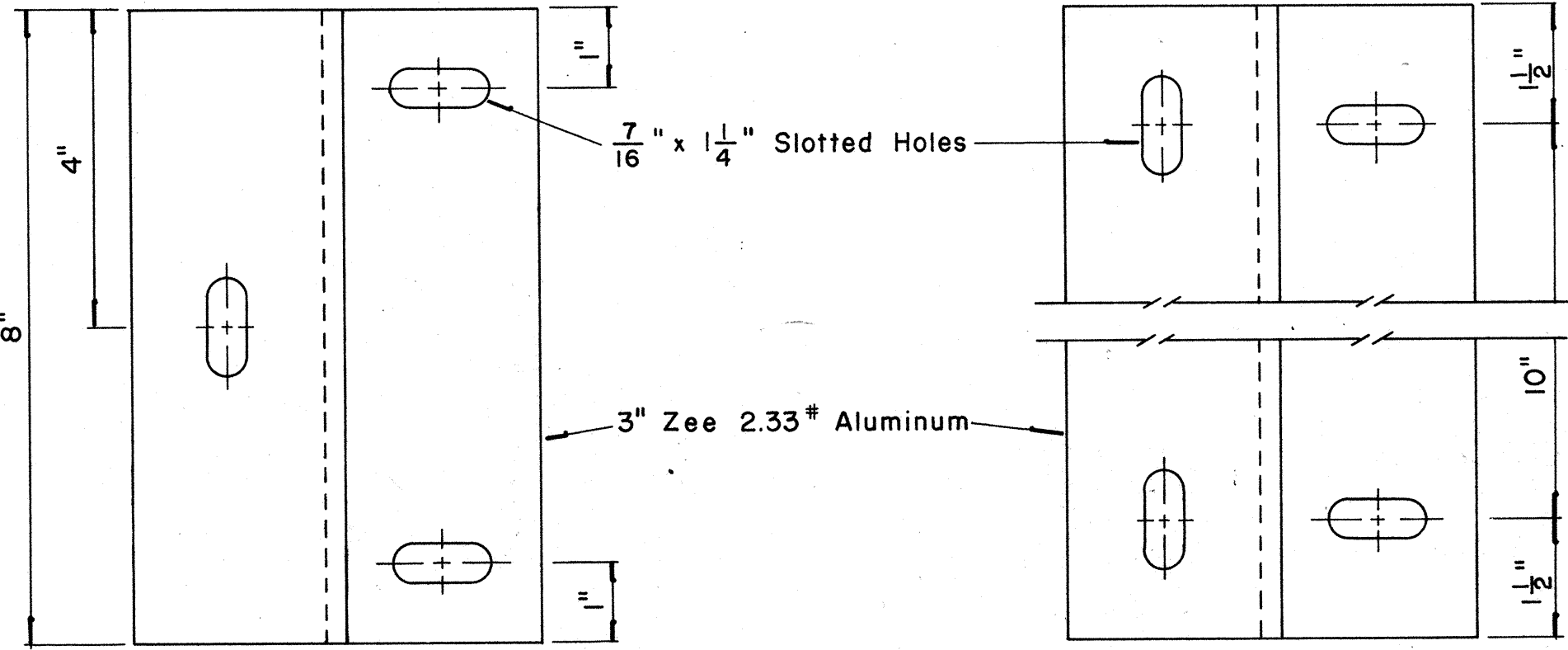
PANEL THICK.	LENGTH OF SIGN A	NO. OF SUPPORTS	OVERHANG B	SUPPORT SPACING C
1"	6'-0"	2	12"	48"
1"	6'-6"	2	15"	48"
1"	7'-0"	2	15"	54"
1"	7'-6"	2	18"	54"
1"	8'-0"	2	18"	60"
1"	8'-6"	2	20"	62"
1"	9'-0"	2	22"	64"
1"	9'-6"	2	23"	68"
1"	10'-0"	2	24"	72"
1"	10'-6"	2	24"	78"
1"	11'-0"	2	24"	84"
1"	11'-6"	2	27"	84"
1"	12'-0"	2	30"	84"
1"	12'-6"	2	30"	90"
1"	13'-0"	2	30"	96"
1"	13'-6"	2	30"	102"
1"	14'-0"	2	30"	108"
1"	14'-6"	2	36"	102"
1"	15'-0"	2	36"	108"
2.5"	15'-6"	2	36"	114"
2.5"	16'-0"	2	39"	114"
2.5"	16'-6"	2	39"	120"
2.5"	17'-0"	2	39"	126"
2.5"	17'-6"	2	42"	126"
2.5"	18'-0"	2	42"	132"
2.5"	18'-6"	2	45"	132"
2.5"	19'-0"	2	45"	138"
2.5"	19'-6"	2	45"	144"
2.5"	20'-0"	2	48"	144"
2.5"	20'-6"	2	48"	150"
2.5"	21'-0"	2	51"	150"
2.5"	21'-6"	2	51"	156"
2.5"	22'-0"	2	51"	162"
2.5"	22'-6"	2	54"	162"
2.5"	23'-0"	2	54"	168"
2.5"	23'-6"	2	54"	174"
2.5"	24'-0"	2	57"	174"



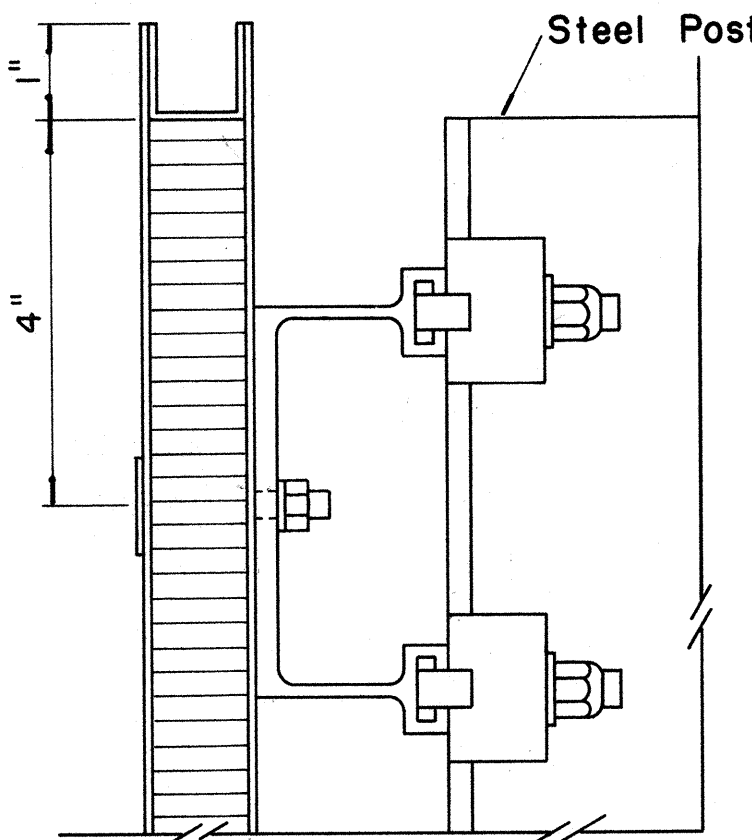
CLOSURE DETAIL
SECTION "C-C"
FULL SCALE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

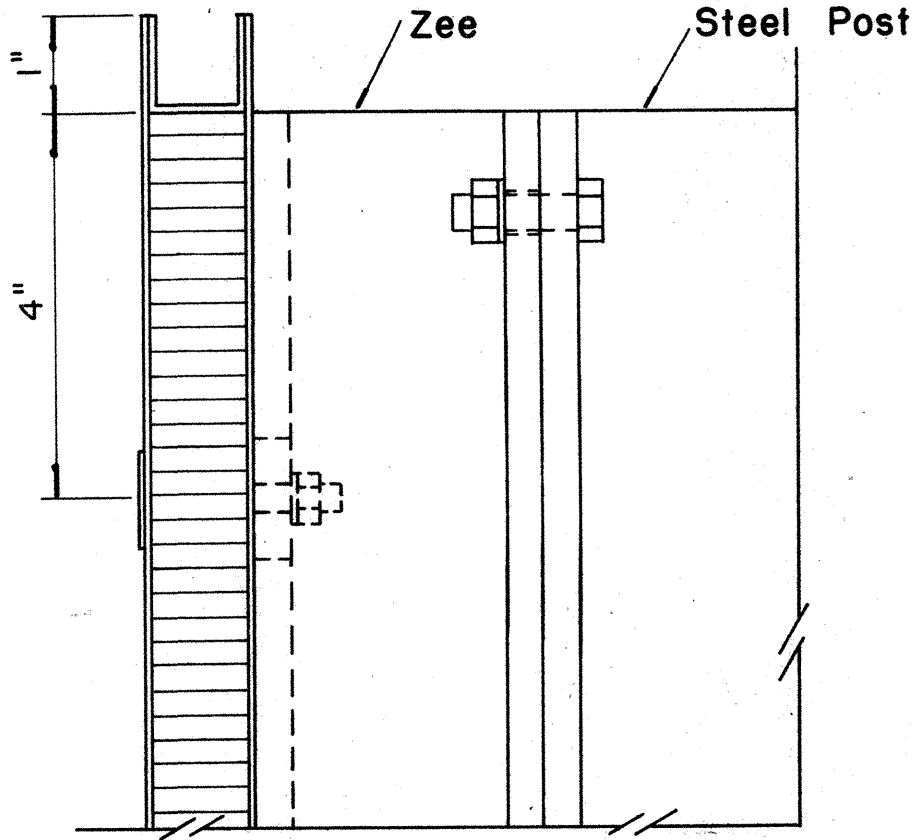
STANDARD DETAILS
LAMINATED ALUMINUM
SIGN PANELS
(GROUND MOUNTED)
Scale: As Shown



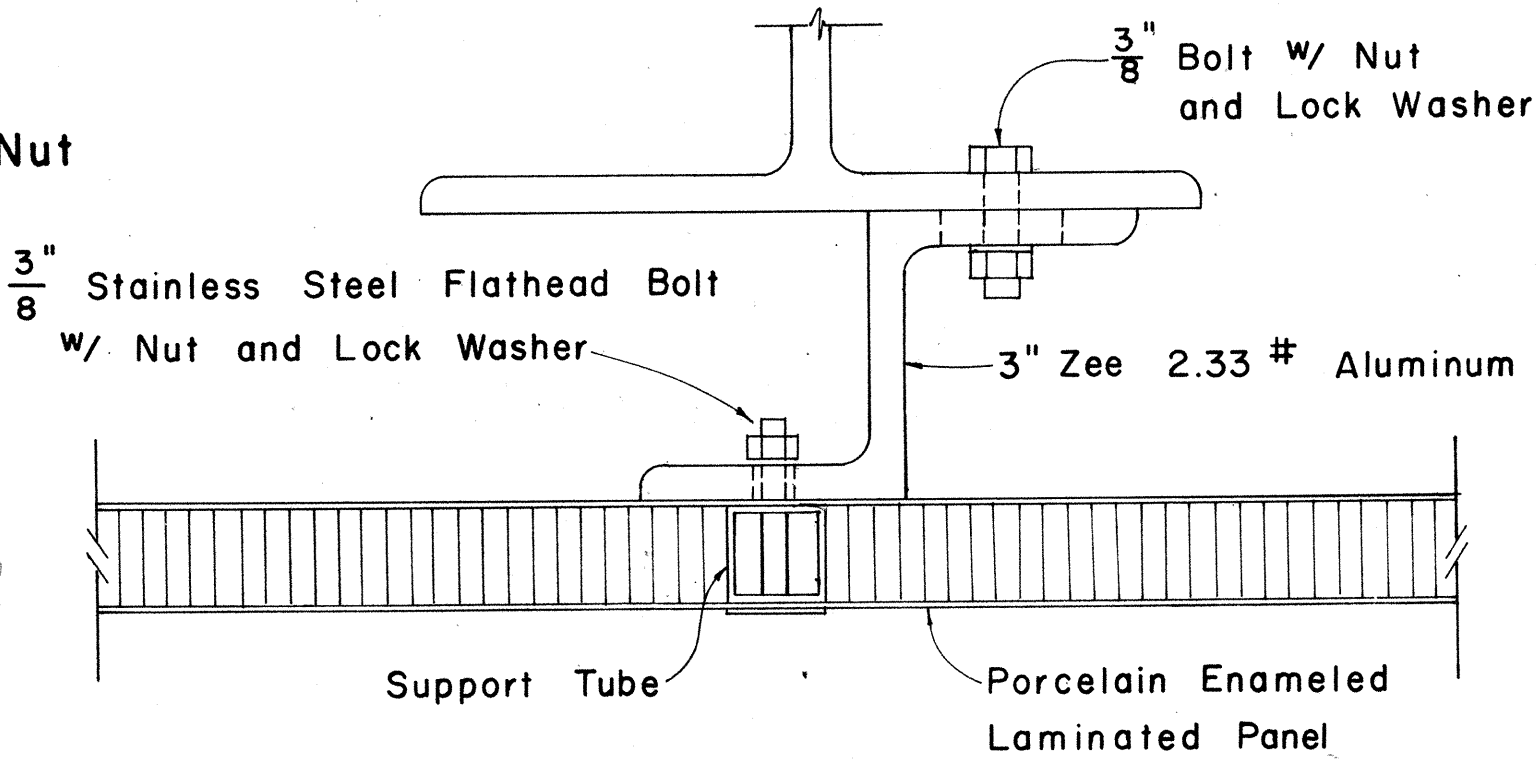
END MOUNTING INTERMEDIATE MOUNTING
ZEE MOUNTING DETAILS
Scale: $\frac{1}{2}$ " = 1"



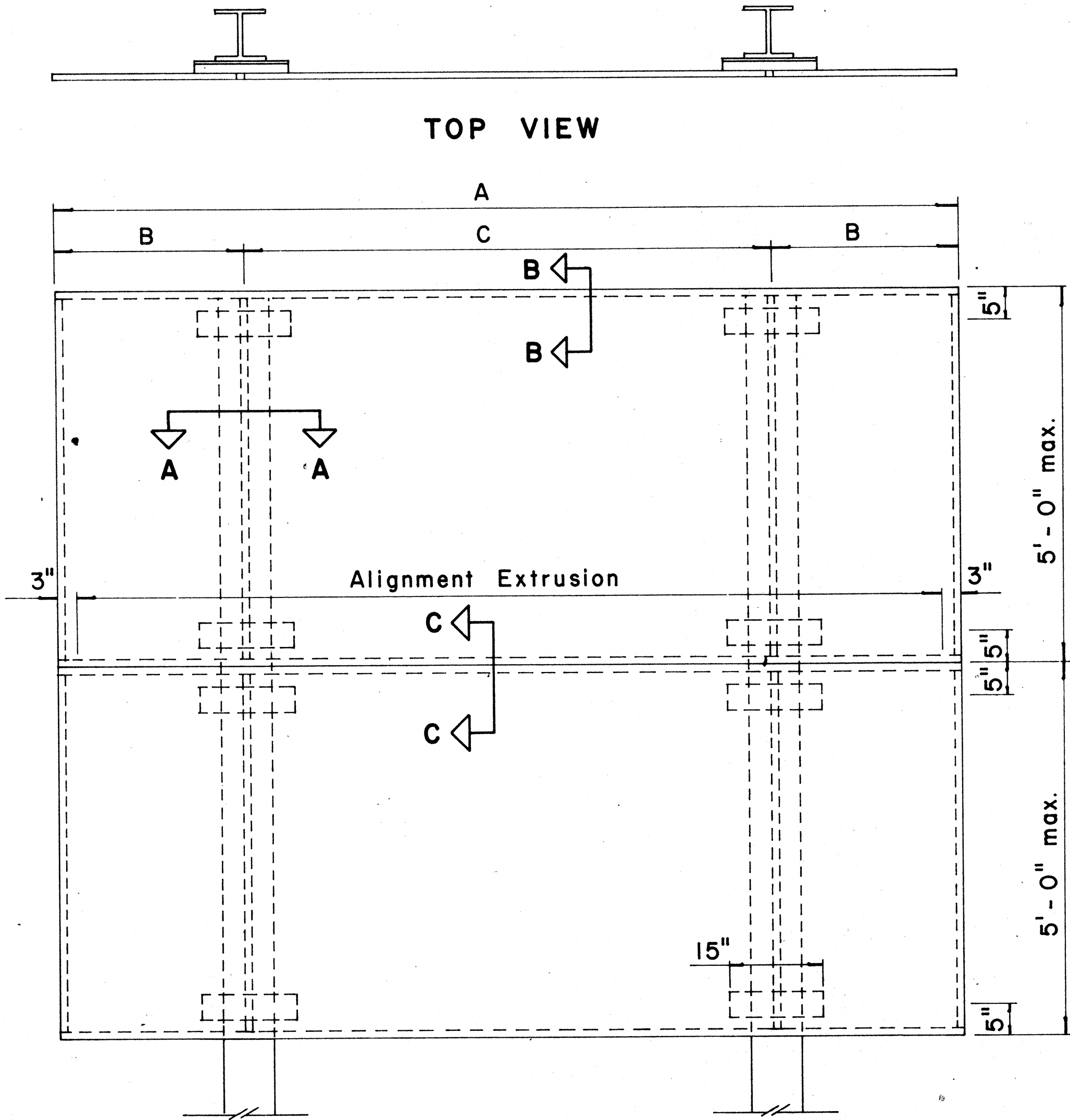
SECTION "B-B"
Scale: $\frac{1}{2}$ " = 1"



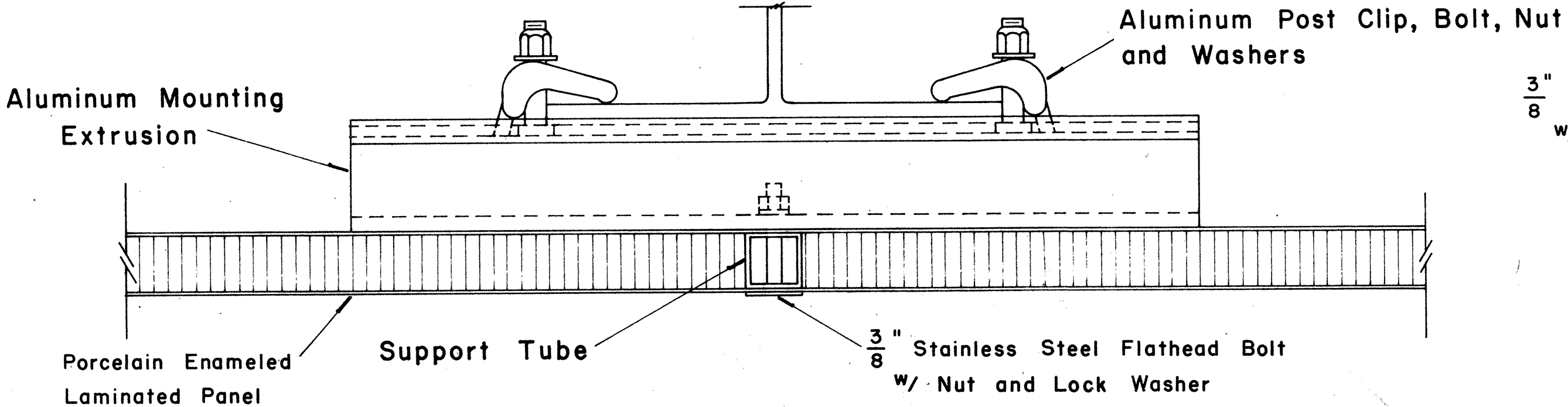
SECTION "B-B"
(Alternate)
Scale: $\frac{1}{2}$ " = 1"



SECTION "A-A"
(Alternate)
Scale: $\frac{1}{2}$ " = 1"



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



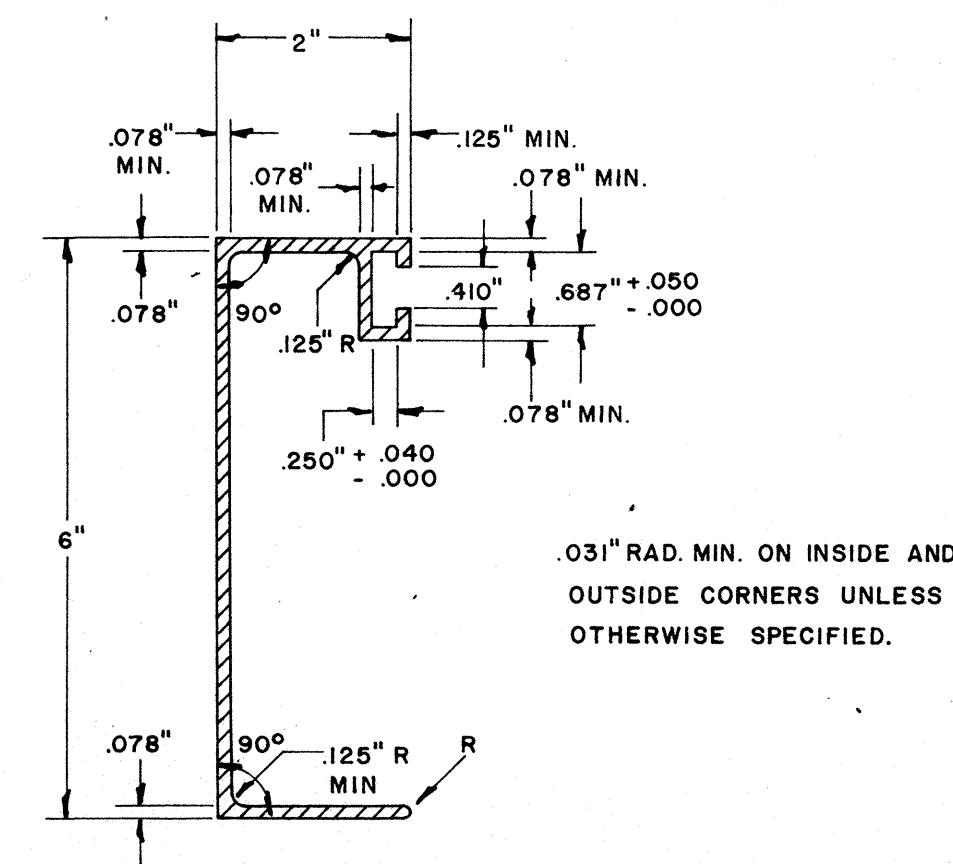
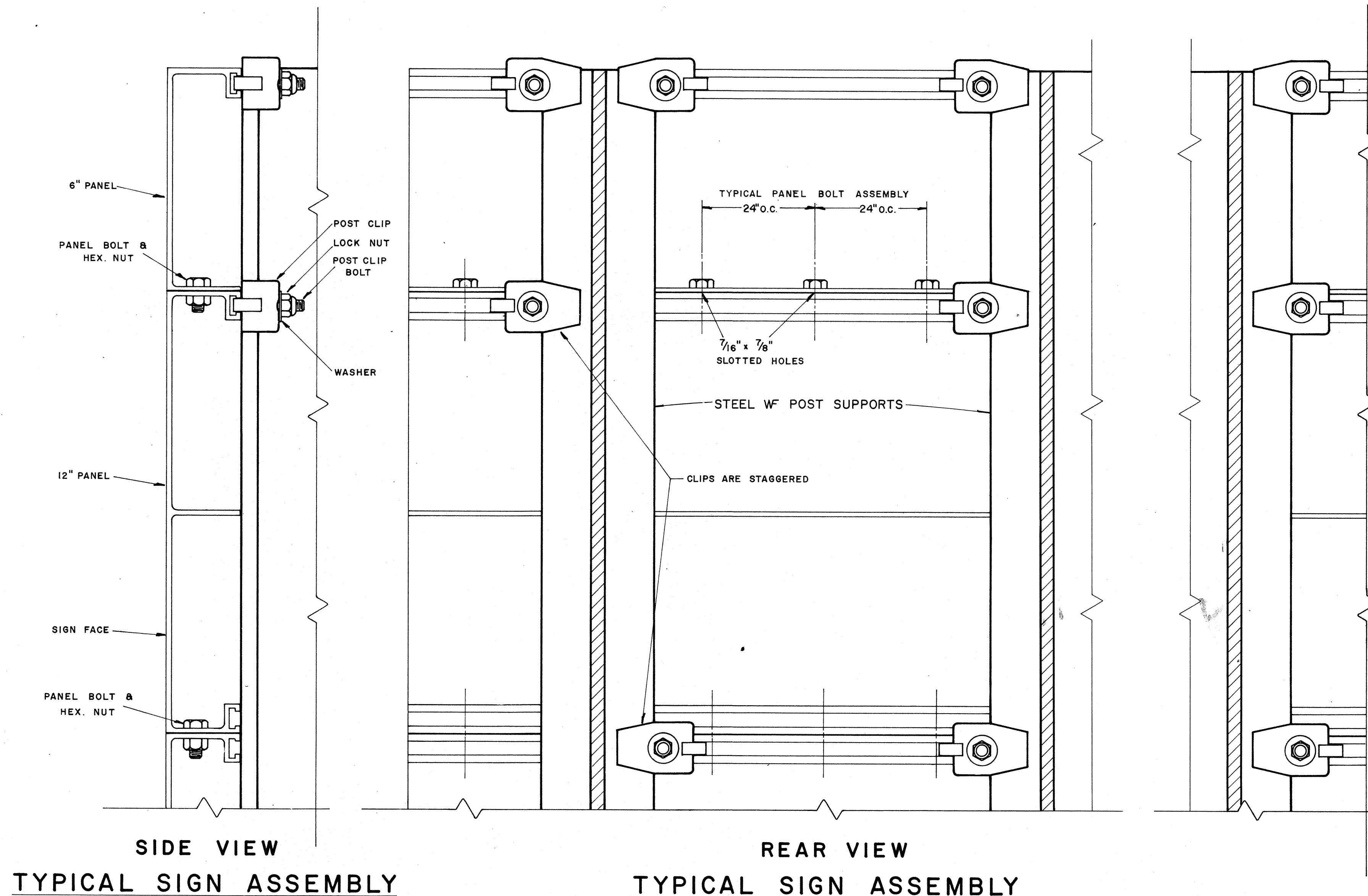
SECTION "A-A"
Scale: $\frac{1}{2}$ " = 1"

APPROVAL RECOMMENDED:
Erich Tanaka 12/29/69
TRAFFIC ENGINEER DATE
APPROVED:
23 Jan 12-30-69
ASSISTANT CHIEF, ENGINEERING DATE

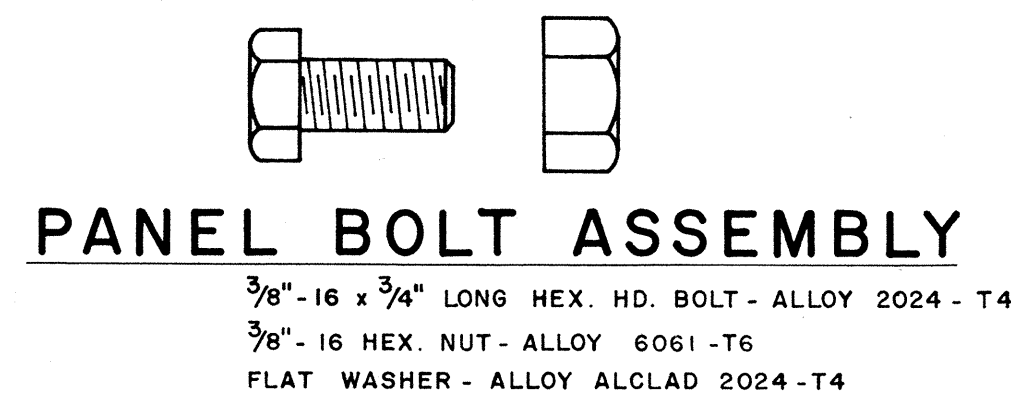
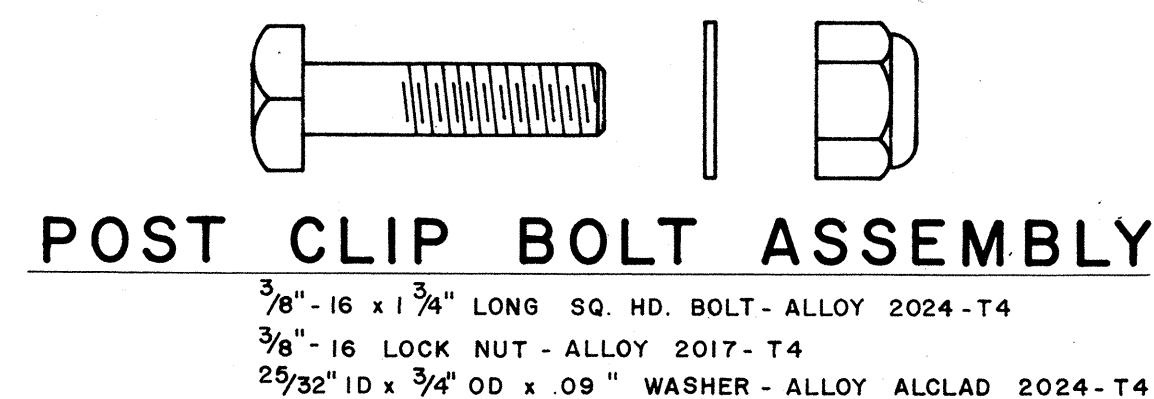
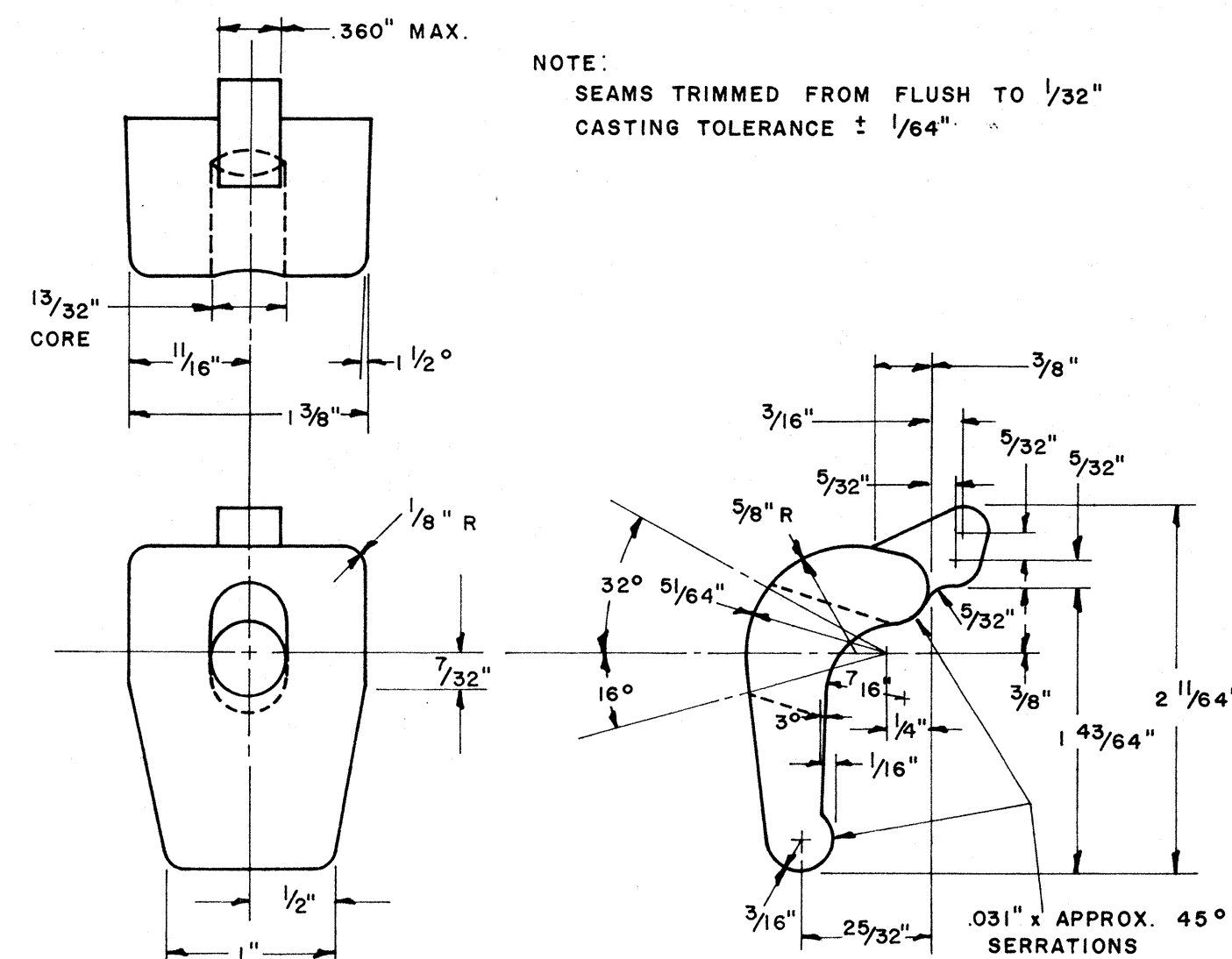
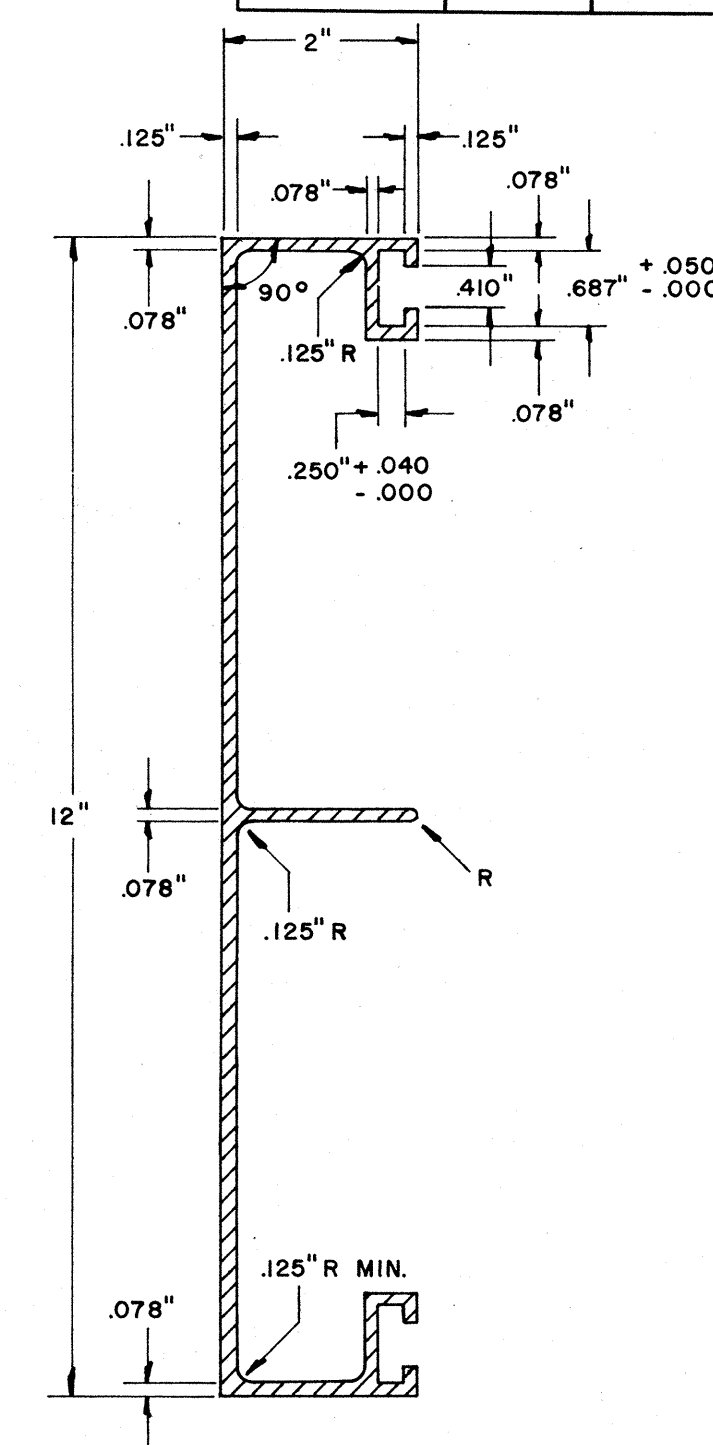
NO.	REVISION	APPROVED BY	DATE

DATE	
DESIGNED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)8	1973	54	104



SOLID EXTRUDED SIGN PANEL DETAILS



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

NO.	REVISION	APPROVED BY	DATE

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

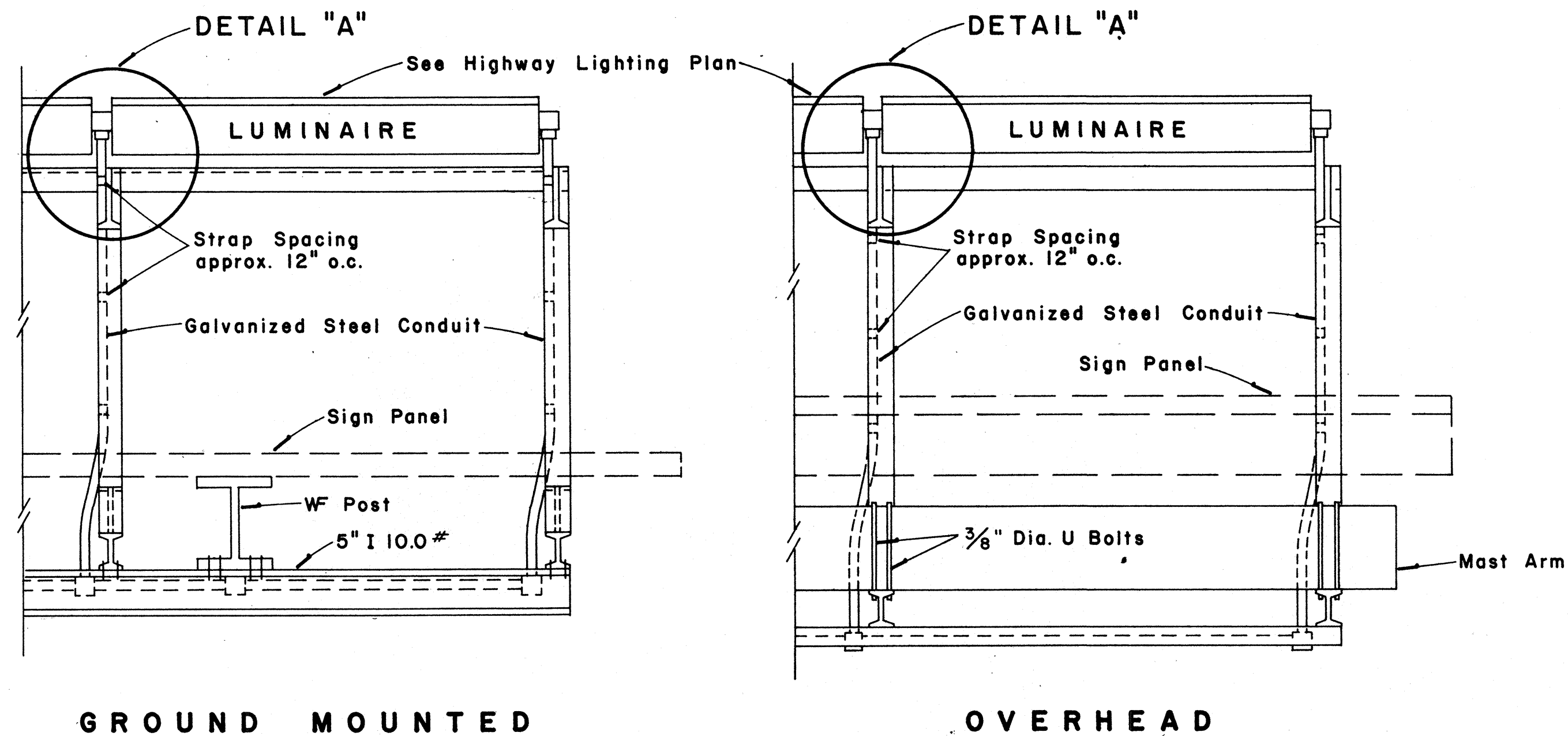
APPROVED:
[Signature] 12-30-62
ASSISTANT CHIEF, ENGINEERING DATE

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)-8	1973	55	104

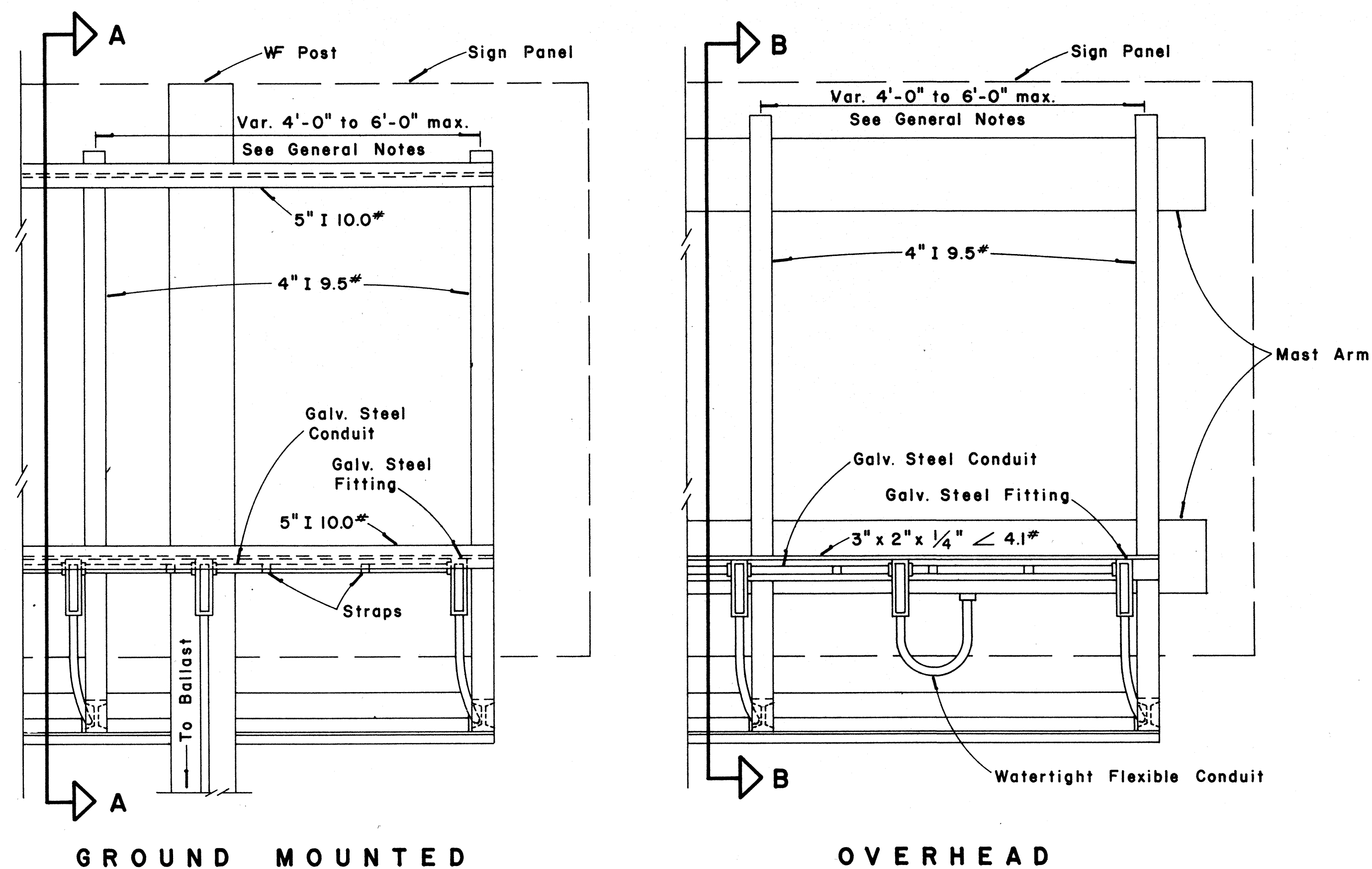
GENERAL NOTES

- 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.



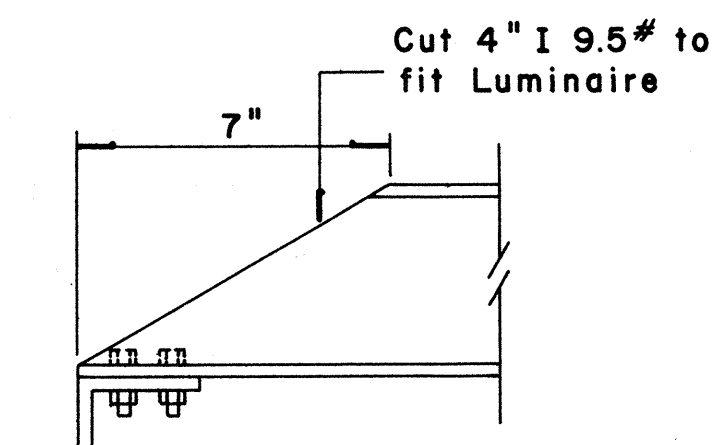
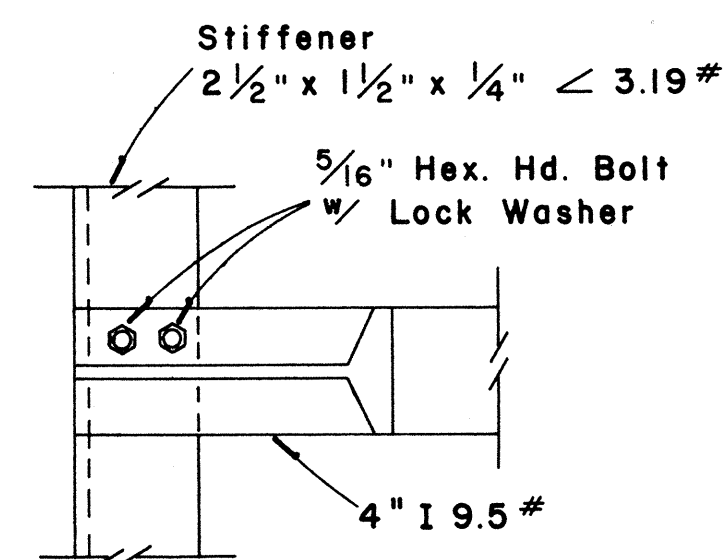
TOP VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



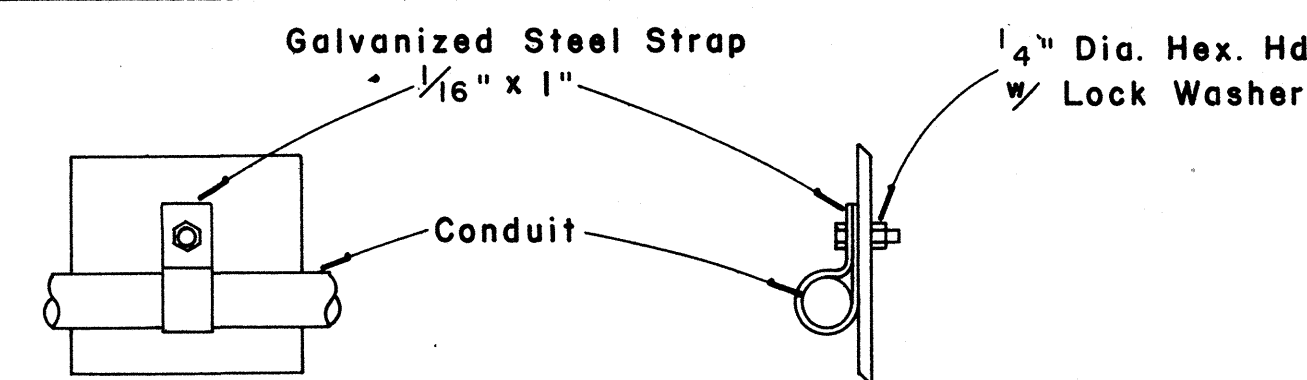
REAR VIEW LUMINAIRE MOUNTING

Scale: 1" = 1'-0"



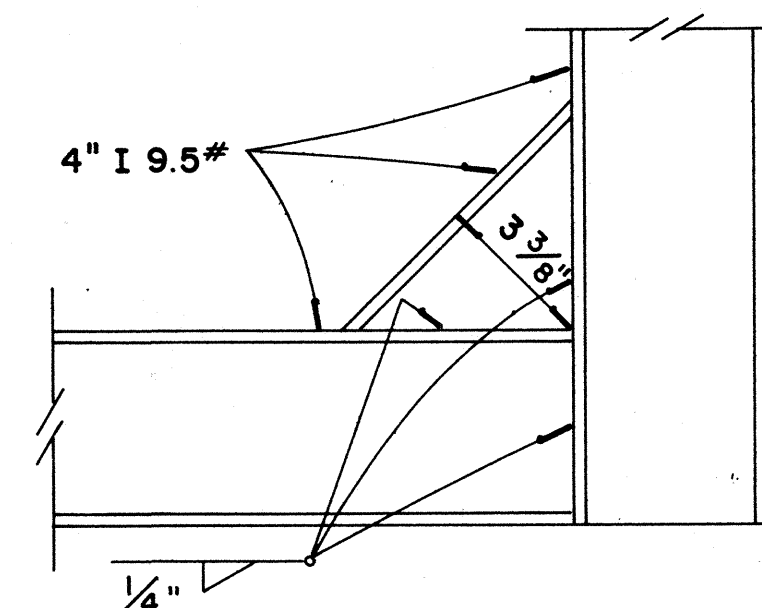
DETAIL "A"

Scale: 3" = 1'-0"



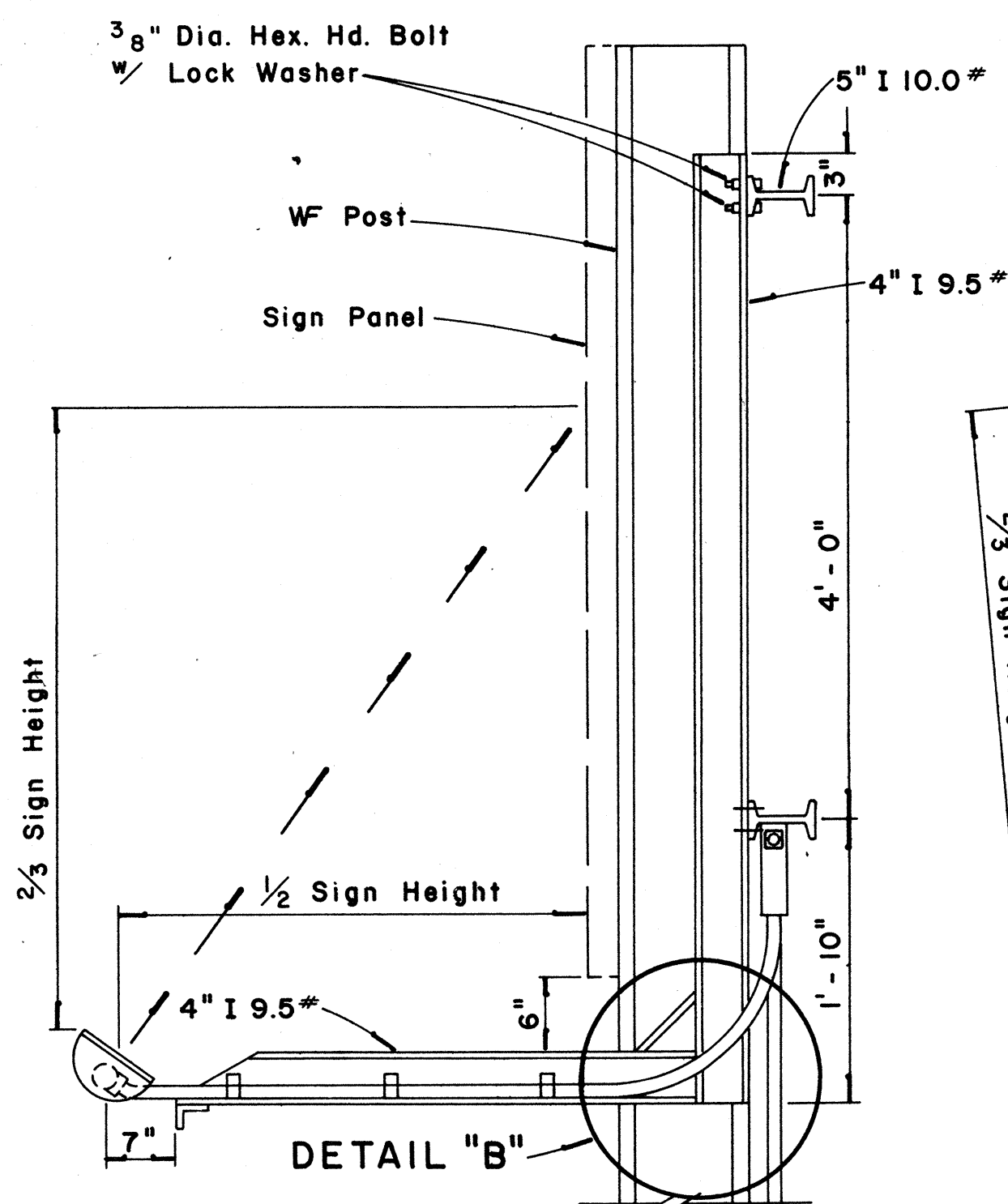
CONDUIT STRAP DETAIL

Scale: 3" = 1'-0"



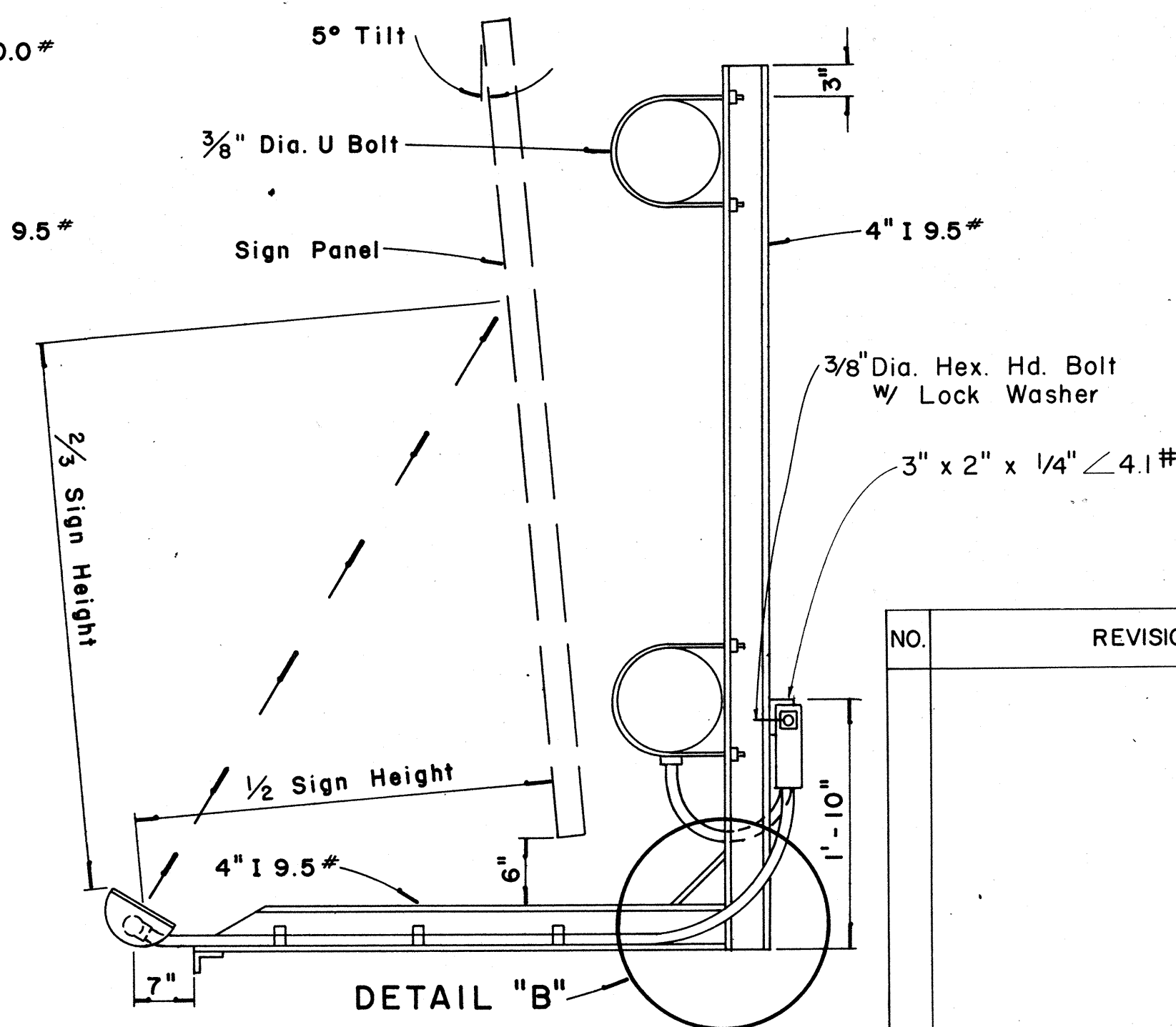
DETAIL "B"

Scale: 3" = 1'-0"



SECTION "A-A"

Scale: 1" = 1'-0"



SECTION "B-B"

Scale: 1" = 1'-0"

APPROVAL RECOMMENDED:

E. J. Tanaka
TRAFFIC ENGINEER

12/29/63
DATE

APPROVED:

W. J. S. S. S.
ASSISTANT CHIEF, ENGINEERING

12/29/63
DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXPRESSWAY SIGNS
LUMINAIRE MOUNTINGS.

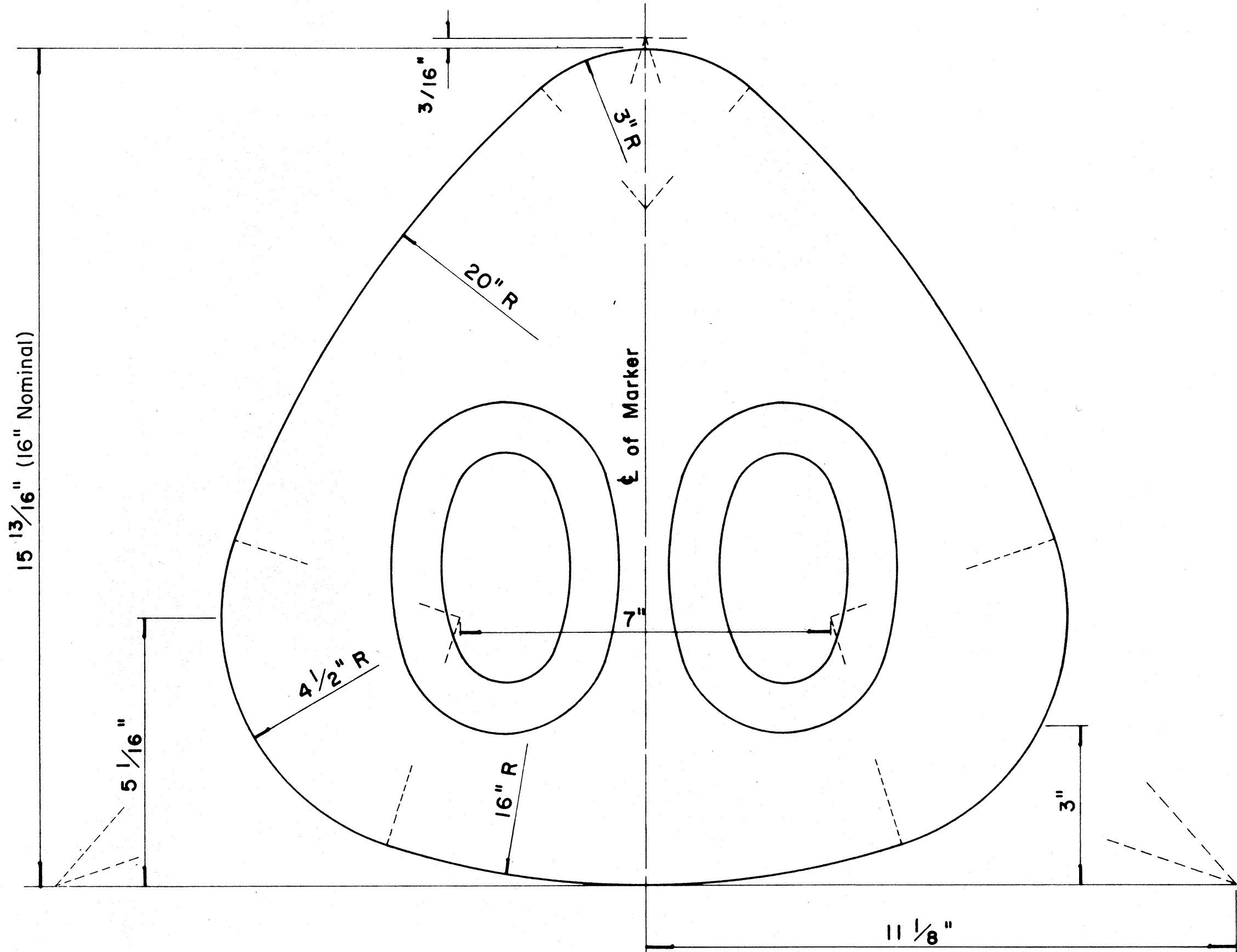
Scale: As Shown

SHEET No. 13 OF 35 SHEETS DT 208

226

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

MARKER SIZE	MULTIPLY DIMENSIONS BY	NUMERAL SIZE
		2 Digit - Series D 3 Digit - Series C
16"	1	6"
21"	1.3	8"
32"	2.0	12"
42"	2.63	16"



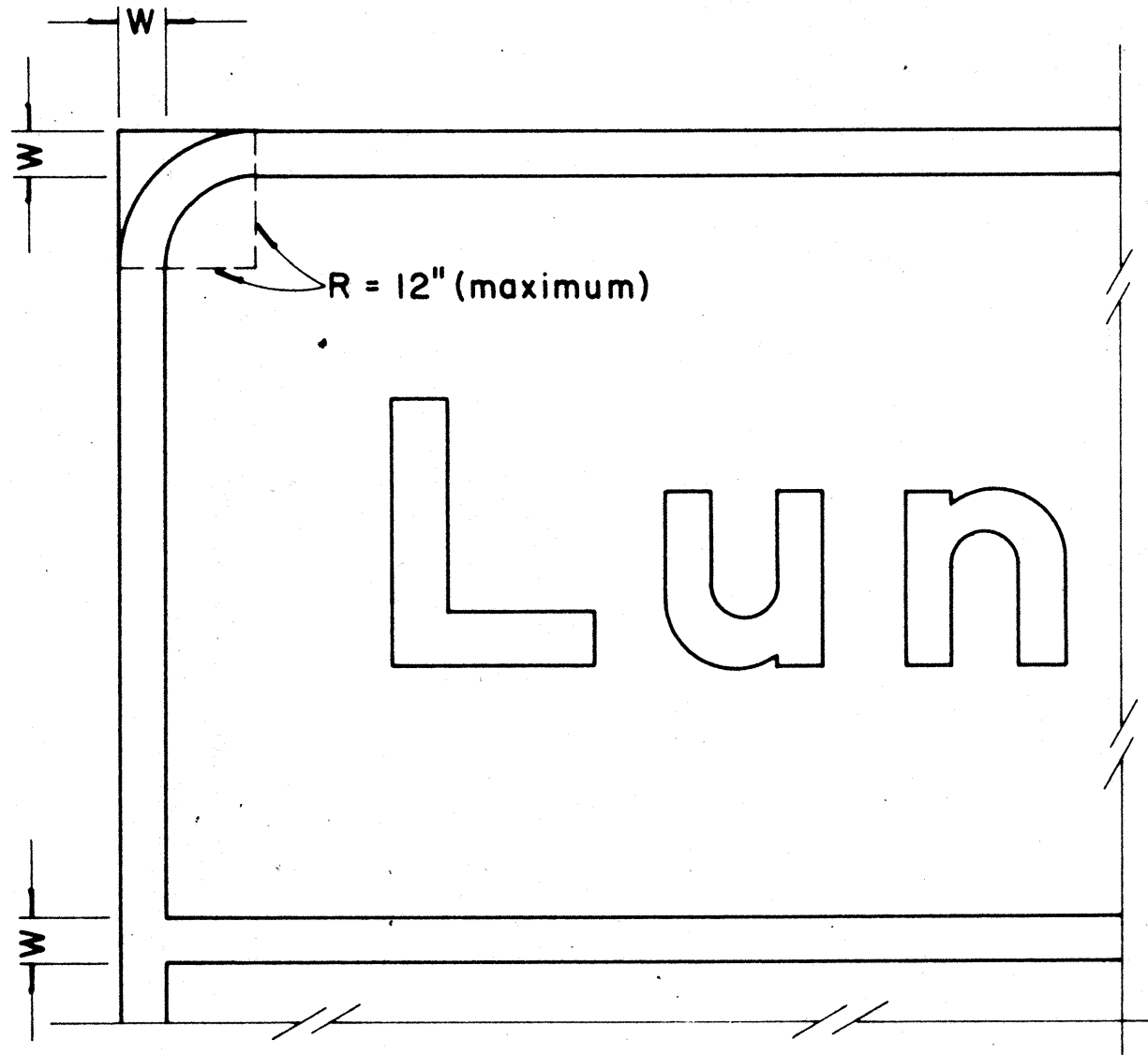
STATE ROUTE MARKER FOR GUIDE SIGNS

Scale: Half Size

NOTE :

- State Route Markers on Guide signs shall have black numerals on a white reflectorized background mounted on a flat aluminum cut-out.
- Numerals shall conform to the FHWA publication "Standard Alphabets for Highway Signs," 1966.
- Cut-outs shall be fastened on sign panel with aluminum blind rivets. See Standard Specifications.
- * The 16" State Route Marker shall be used only with the Construction Identification sign.

RADII FOR SIGNS		
Least Dimension of Sign	W	R
2' - 0" to 4' - 6"	2"	3"
4' - 9" to 5' - 6"	2"	6"
5' - 9" to 7' - 6"	2"	9"
7' - 9" and greater	2"	12"



BORDER DETAIL FOR GUIDE SIGNS

Not to Scale

NOTE:

- Area outside corner radius need not be trimmed.
- All borders shall be embossed cut-outs, white and reflectorized.
- All Guide signs shall have borders.

APPROVAL RECOMMENDED:

Eishi Tanaka 4/11/12
TRAFFIC ENGINEER DATE

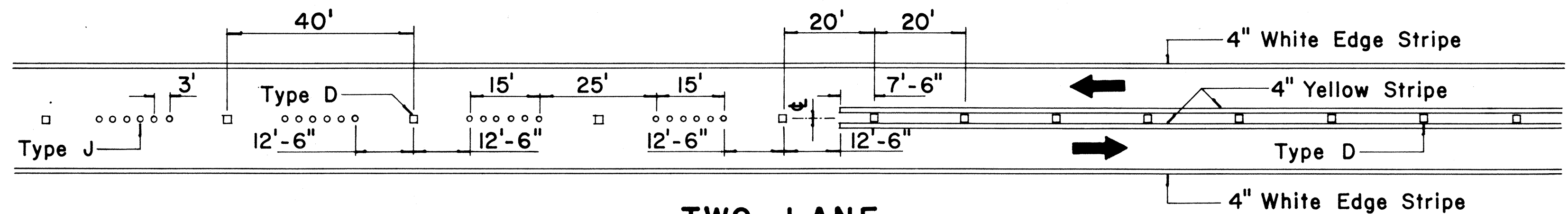
APPROVED:

Shirley S. Salschi 4/12/12
ASSISTANT CHIEF, ENGINEERING DATE

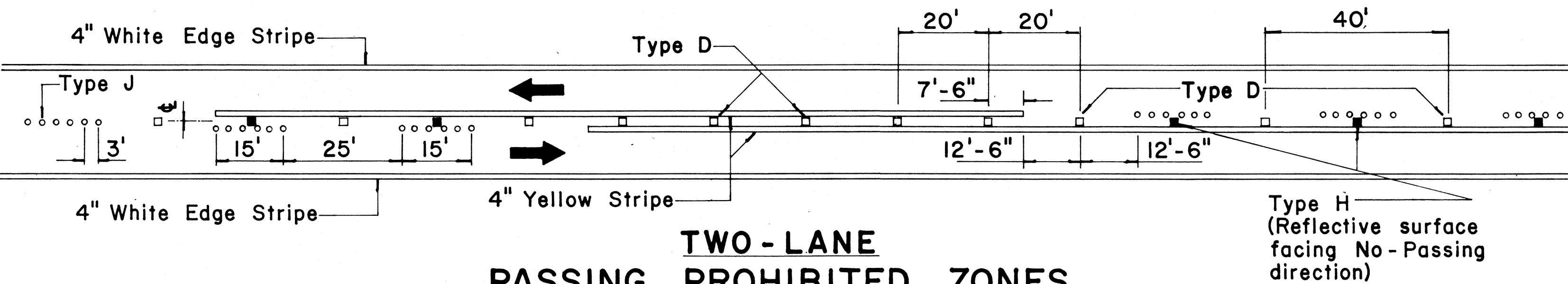
NO	REVISION	APPROVED BY	DATE
1	Supersedes Sht. DT 209 Approved 12-30-69	H.C.	4/12/12

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STANDARD DETAILS STATE ROUTE MARKER AND BORDER DETAIL FOR GUIDE SIGNS Scale: As Shown
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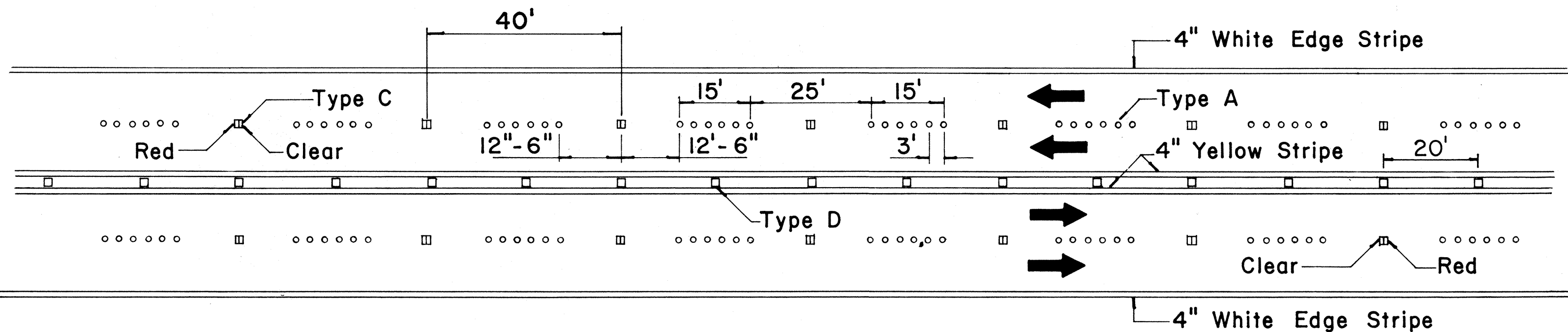
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-111(46)B	1973	57	104



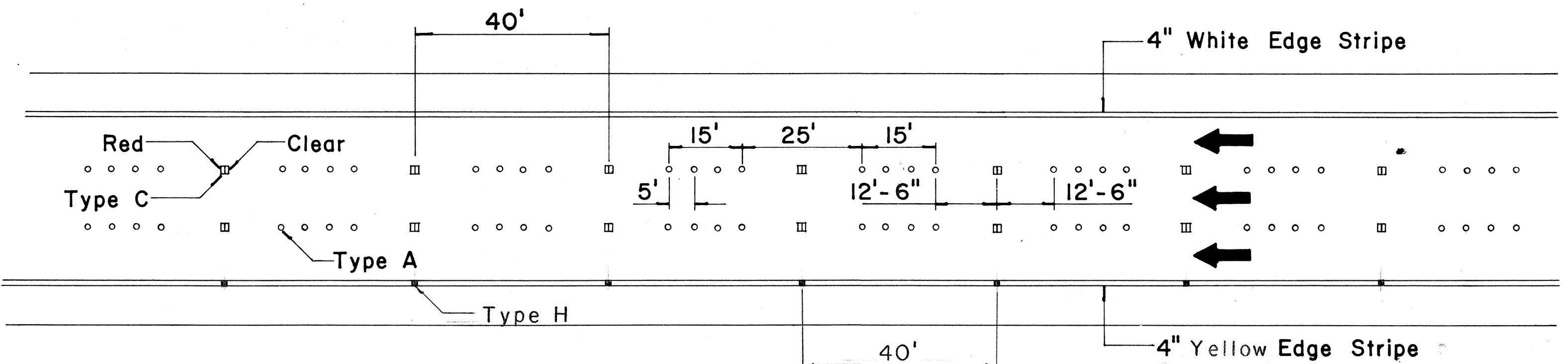
**TWO-LANE
PASSING PERMITTED AND PASSING PROHIBITED**



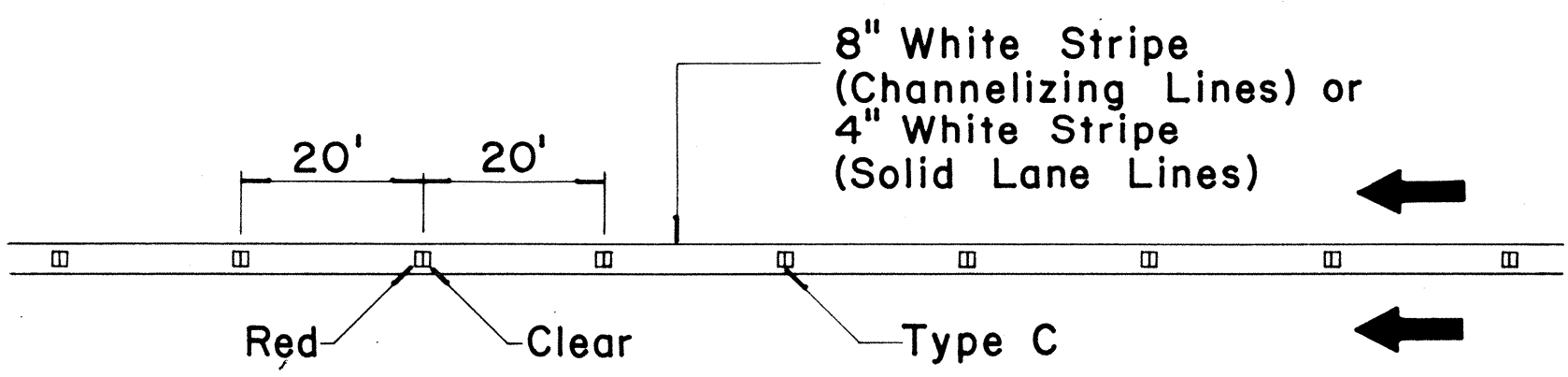
**TWO-LANE
PASSING PROHIBITED ZONES**



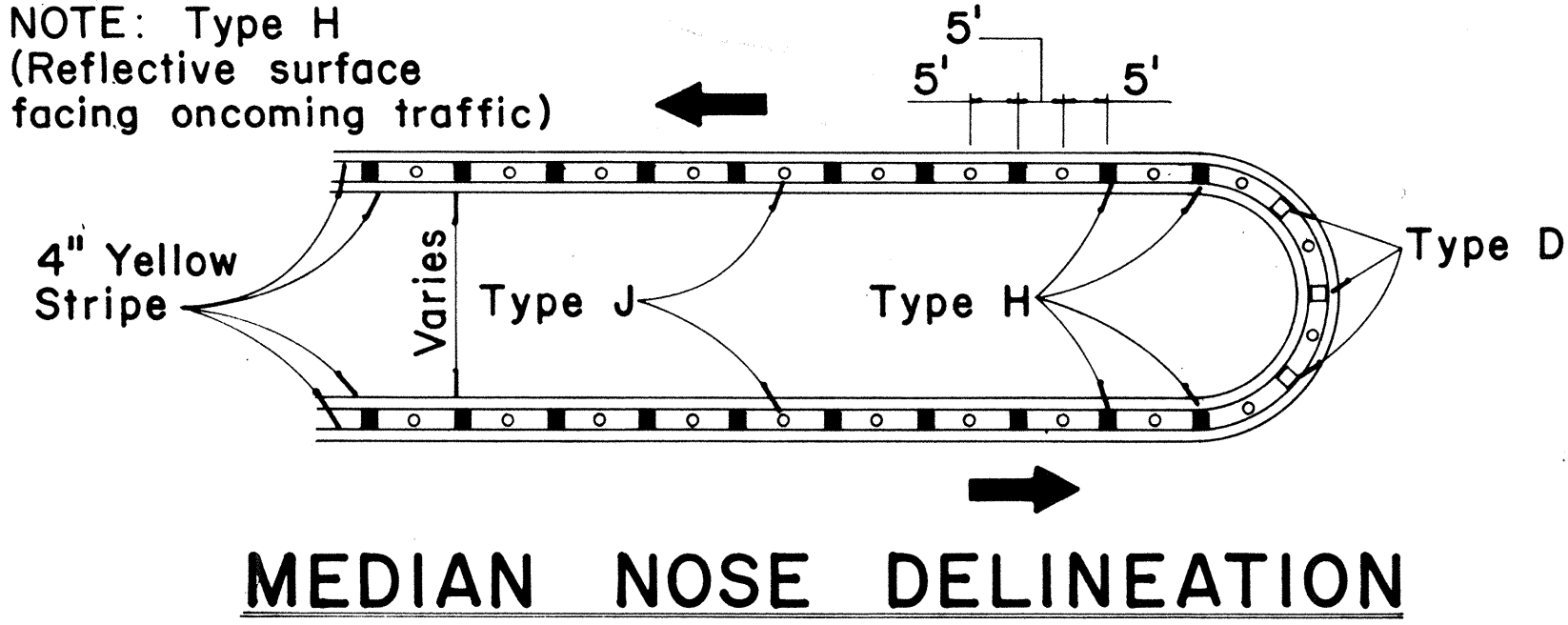
**MULTI-LANE
LANE LINES AND CENTER LINE**



FREEWAY LANE LINES



**CHANNELIZING LINES
OR SOLID LANE LINES**



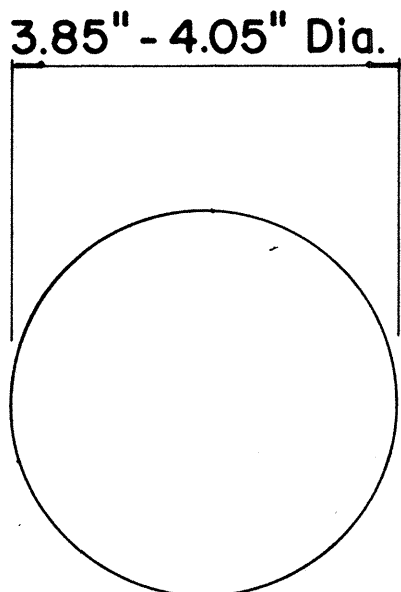
MEDIAN NOSE DELINEATION

TWO - LANE

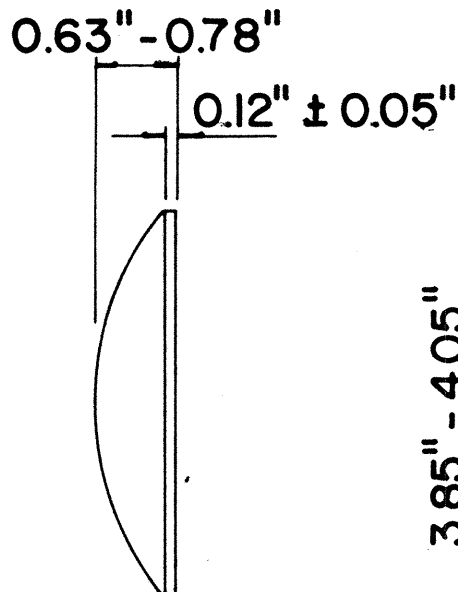
MULTI - LANE

FREEWAY

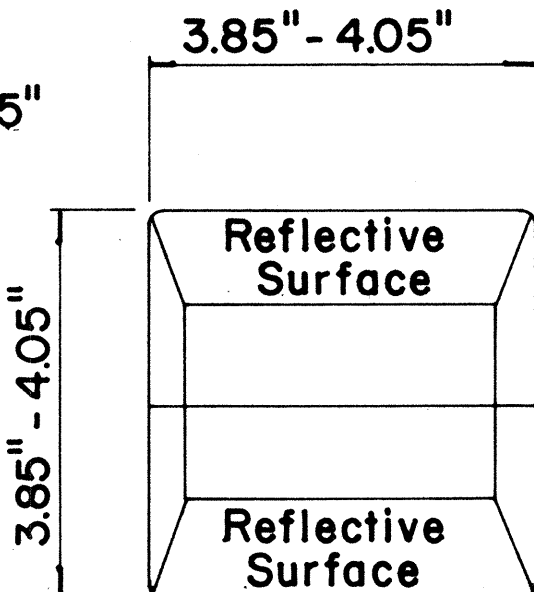
MISCELLANEOUS



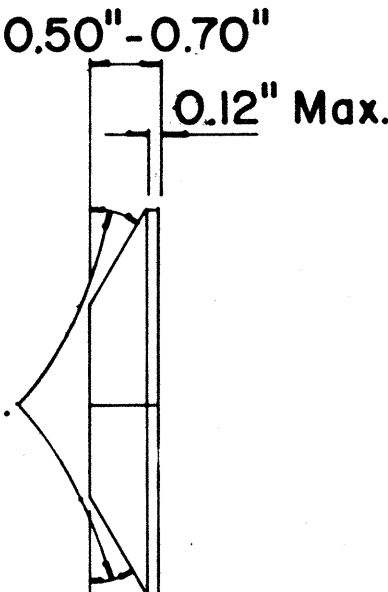
**TYPE A
NON-REFLECTIVE WHITE MARKER**



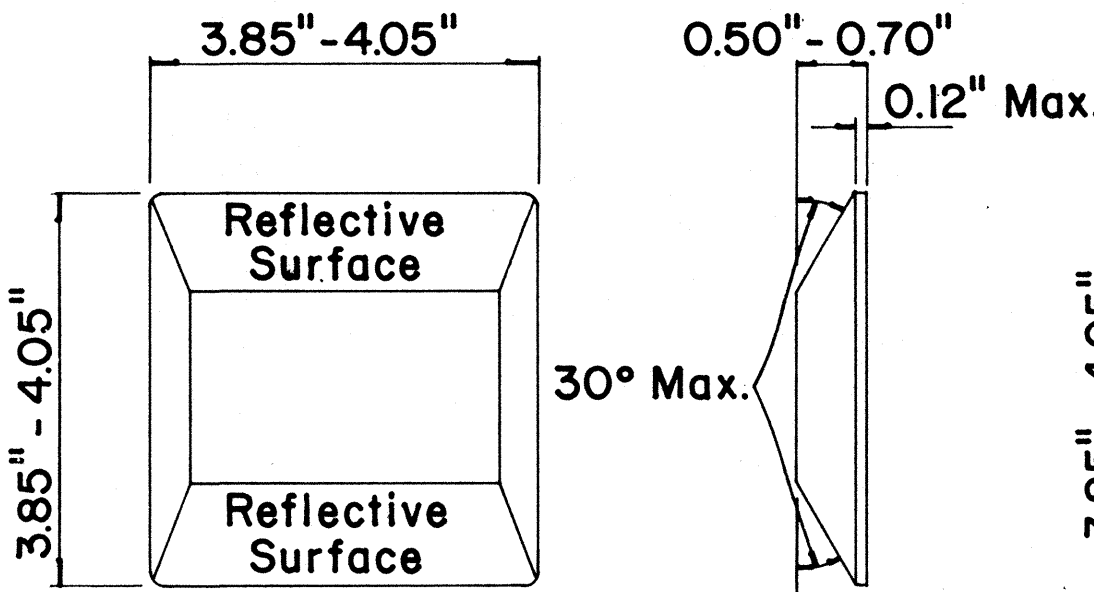
**TYPE J
NON-REFLECTIVE YELLOW MARKER**



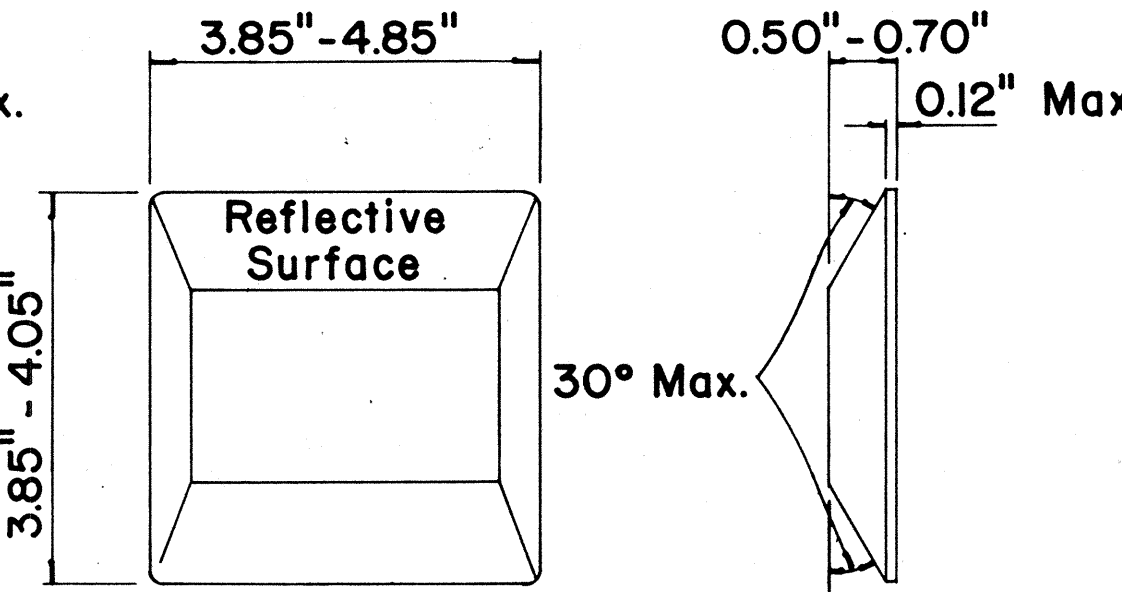
**TYPE C
RED-CLEAR REFLECTIVE MARKER**



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



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



GENERAL NOTES

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

5/11/73	Added Type H Pavement Markers
DATE	REVISION

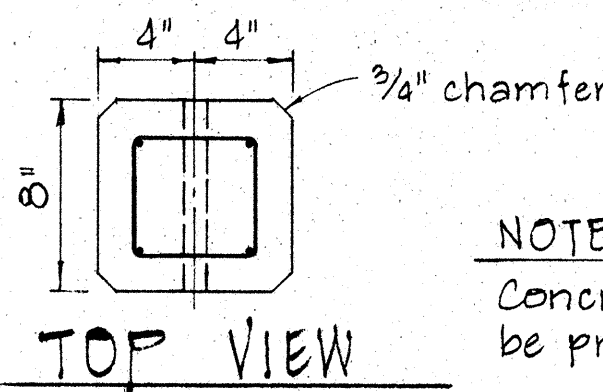
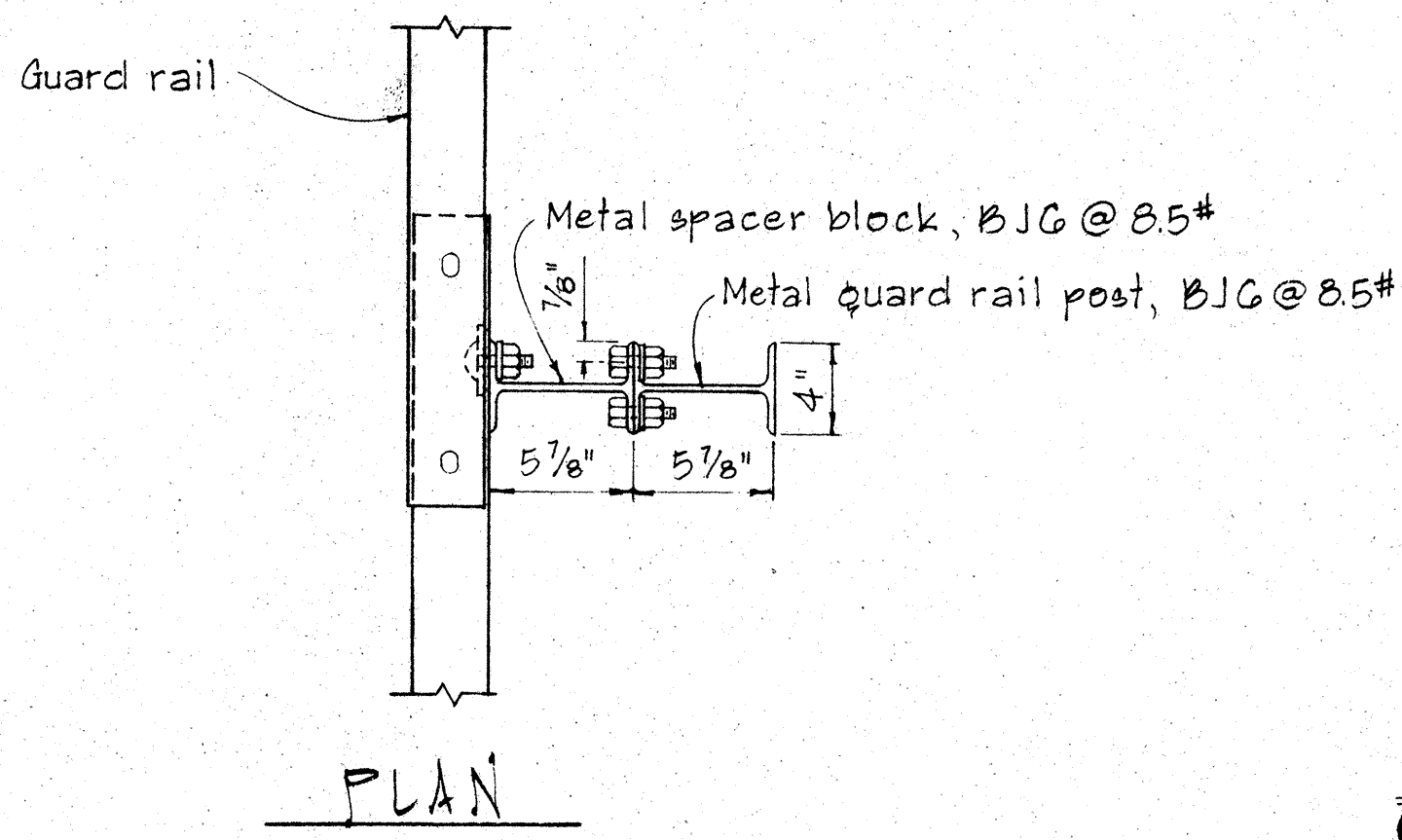
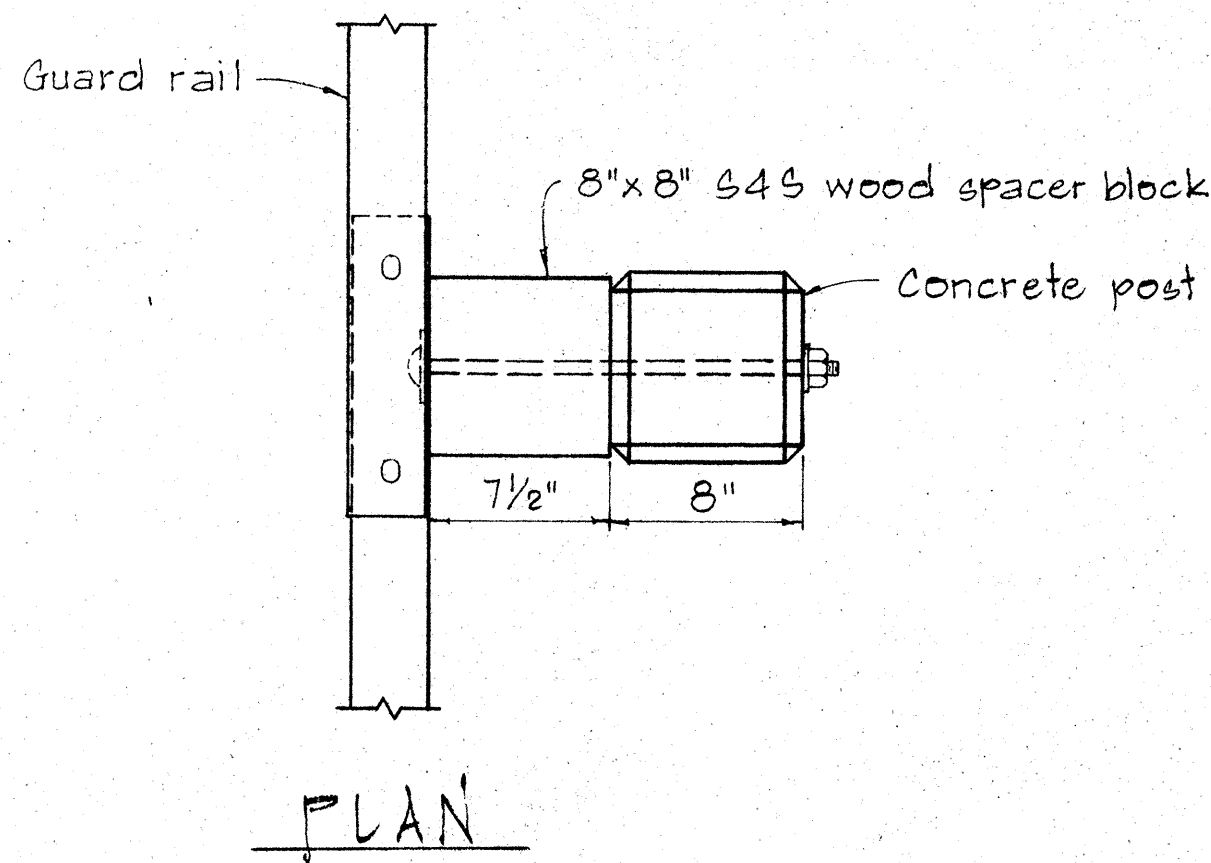
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**TYPICAL DETAILS
RAISED PAVEMENT MARKERS**

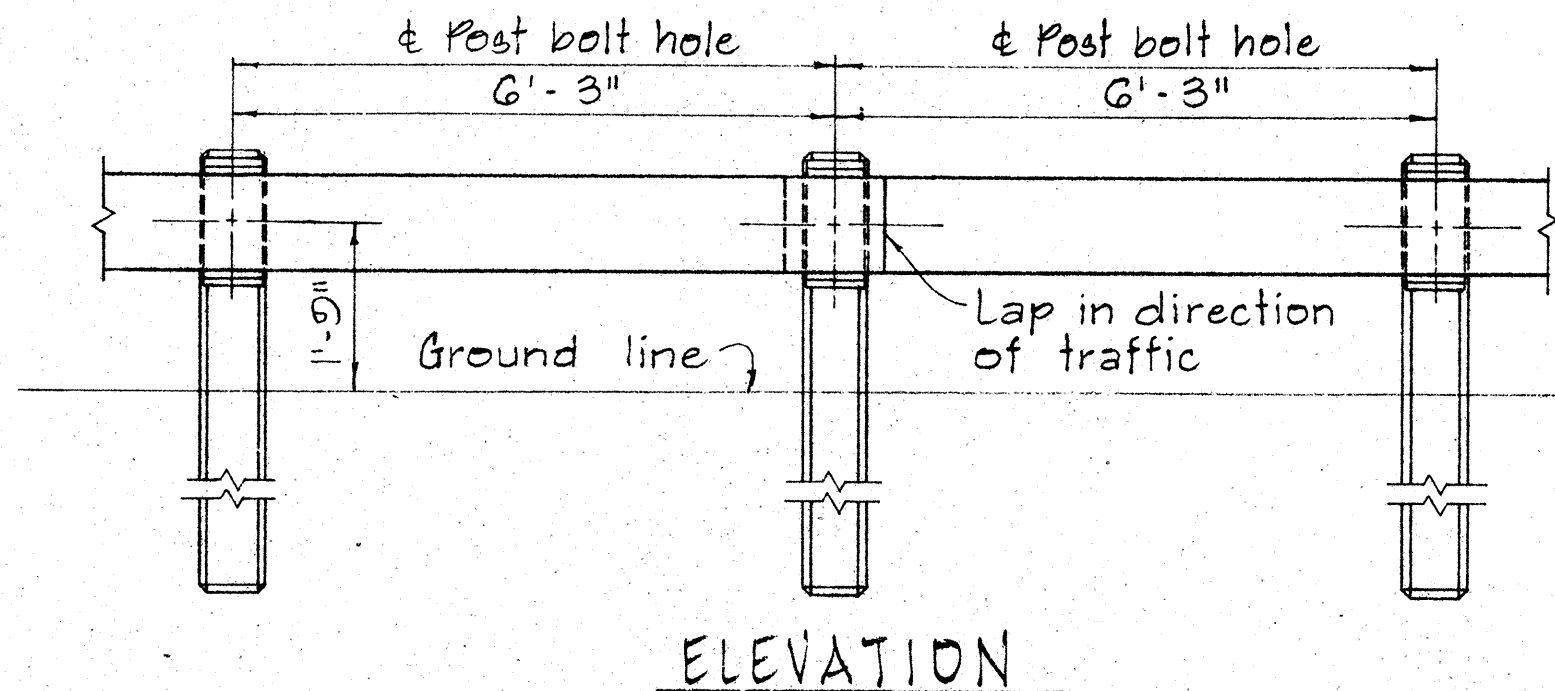
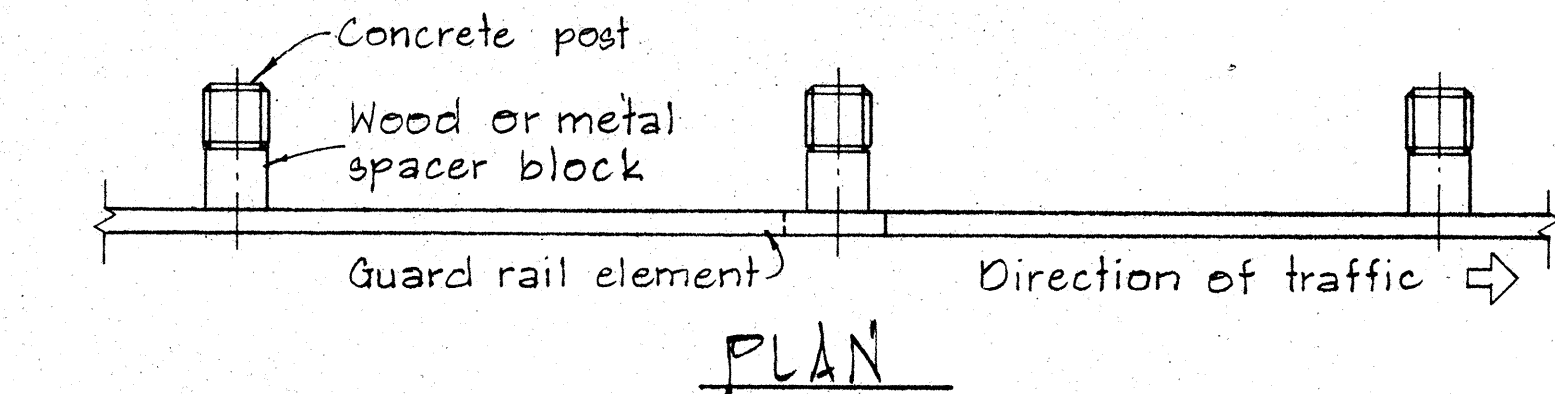
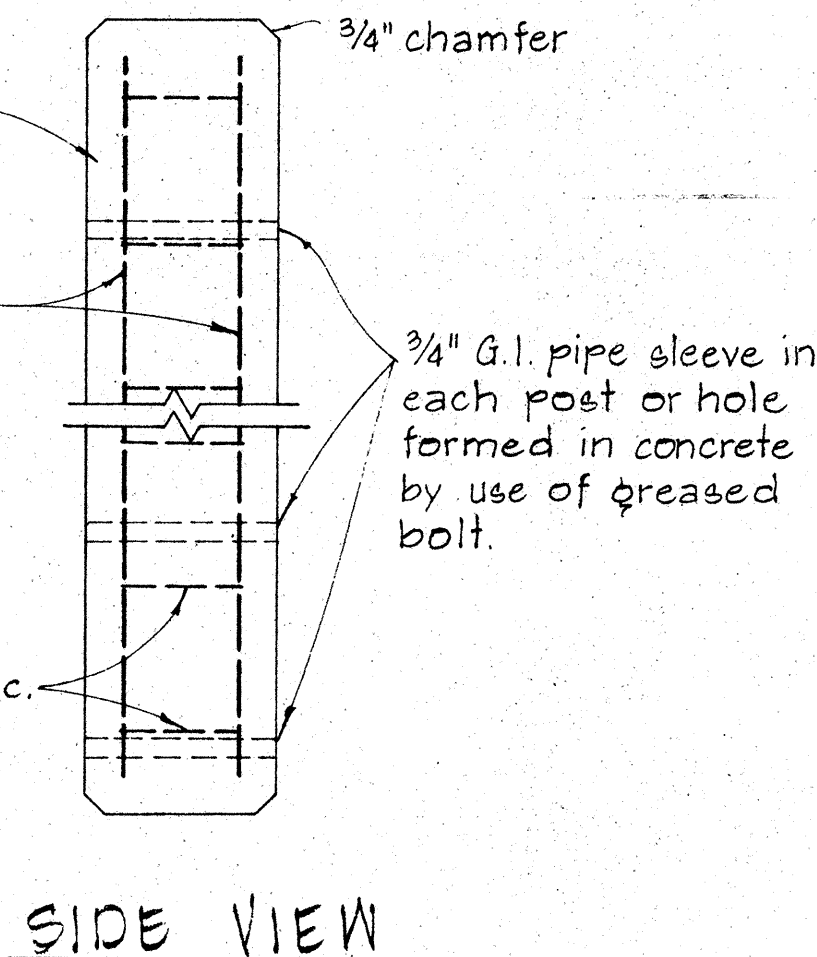
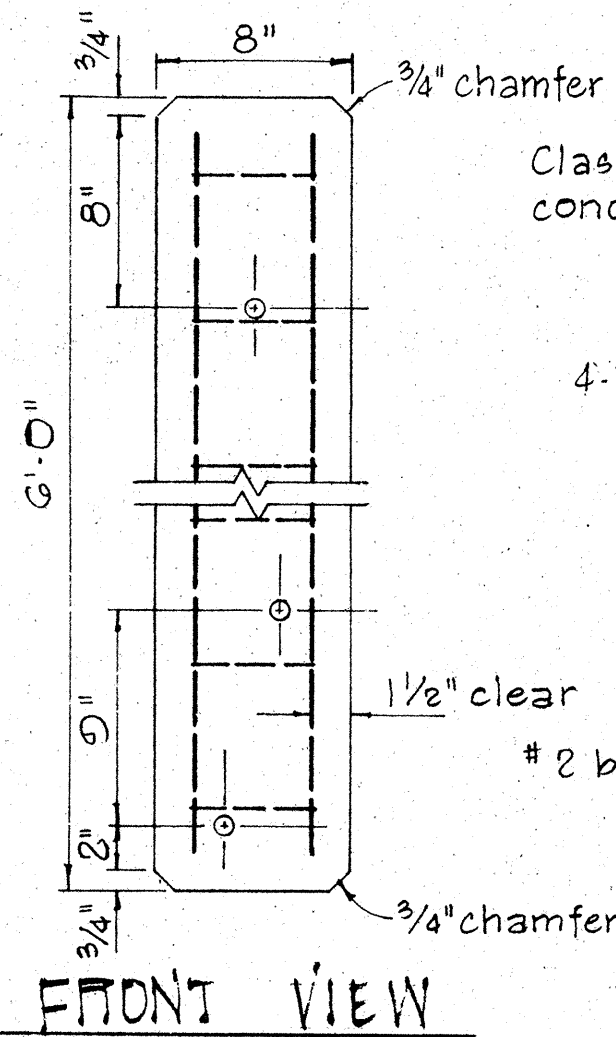
Not to Scale
October 1971
SHEET No. 15 OF 35 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)B	1973	58	104

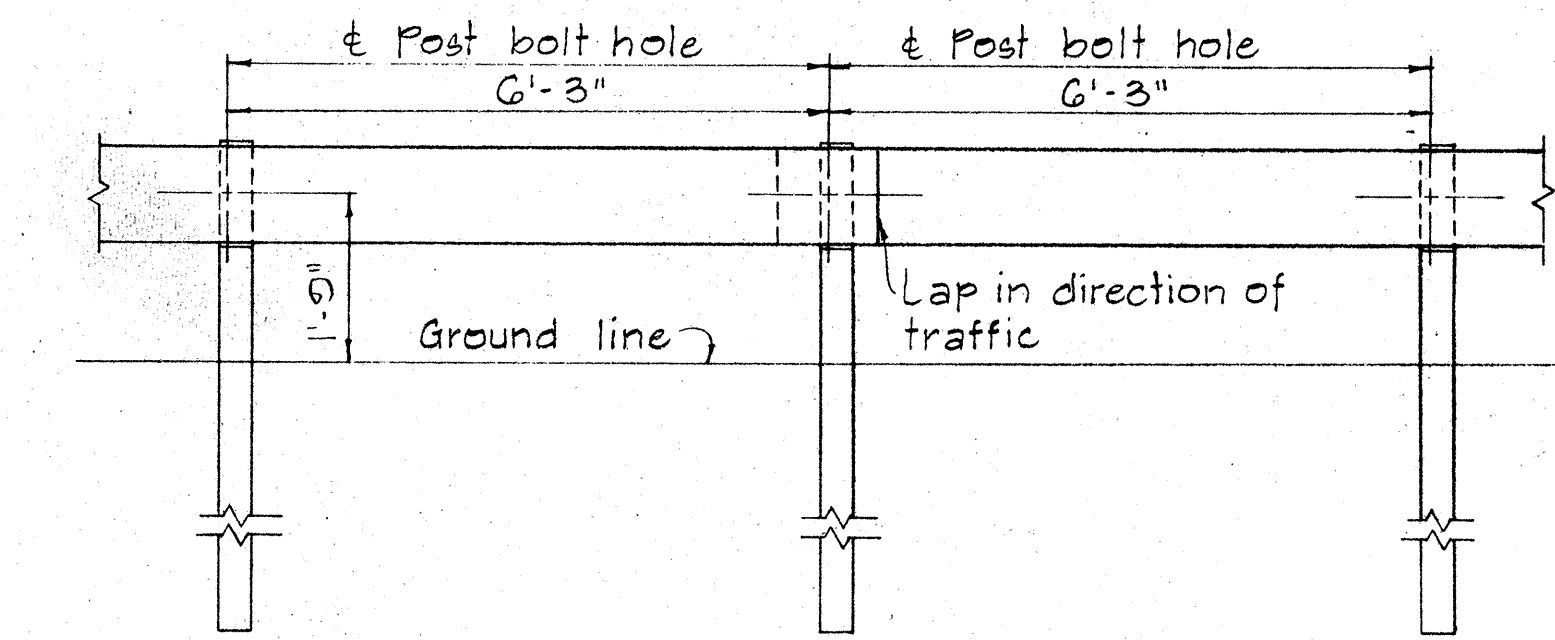
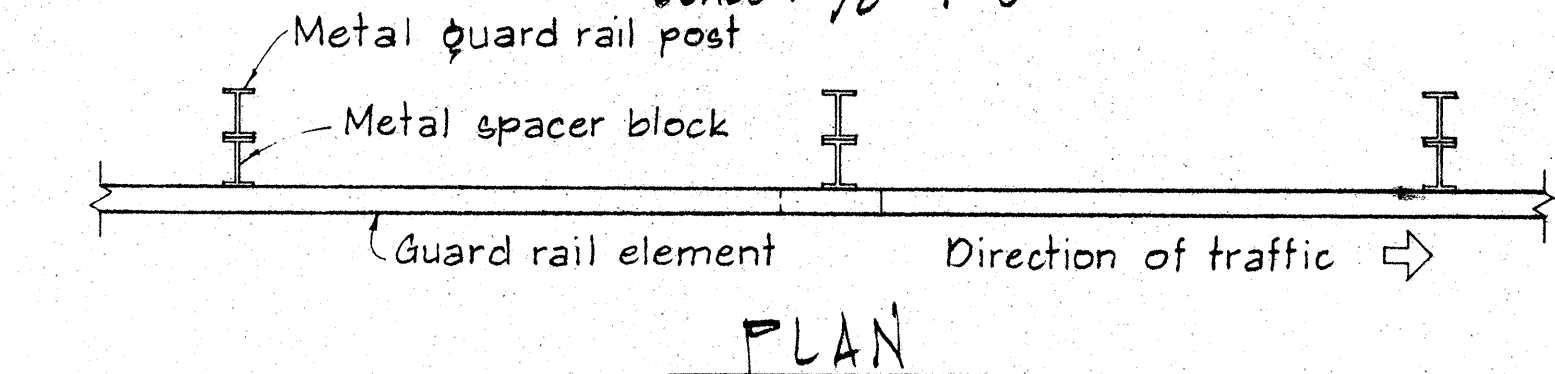


NOTE:
Concrete post shall be precast



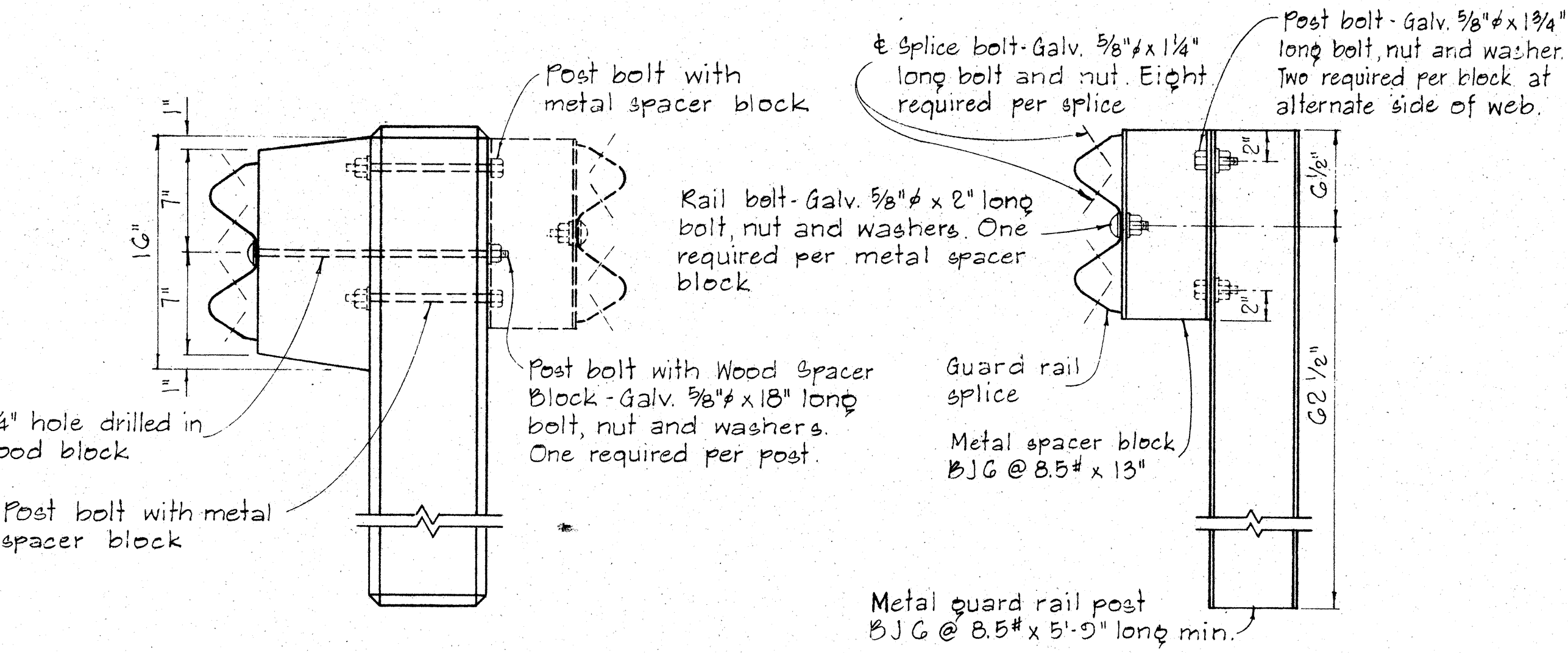
METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

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



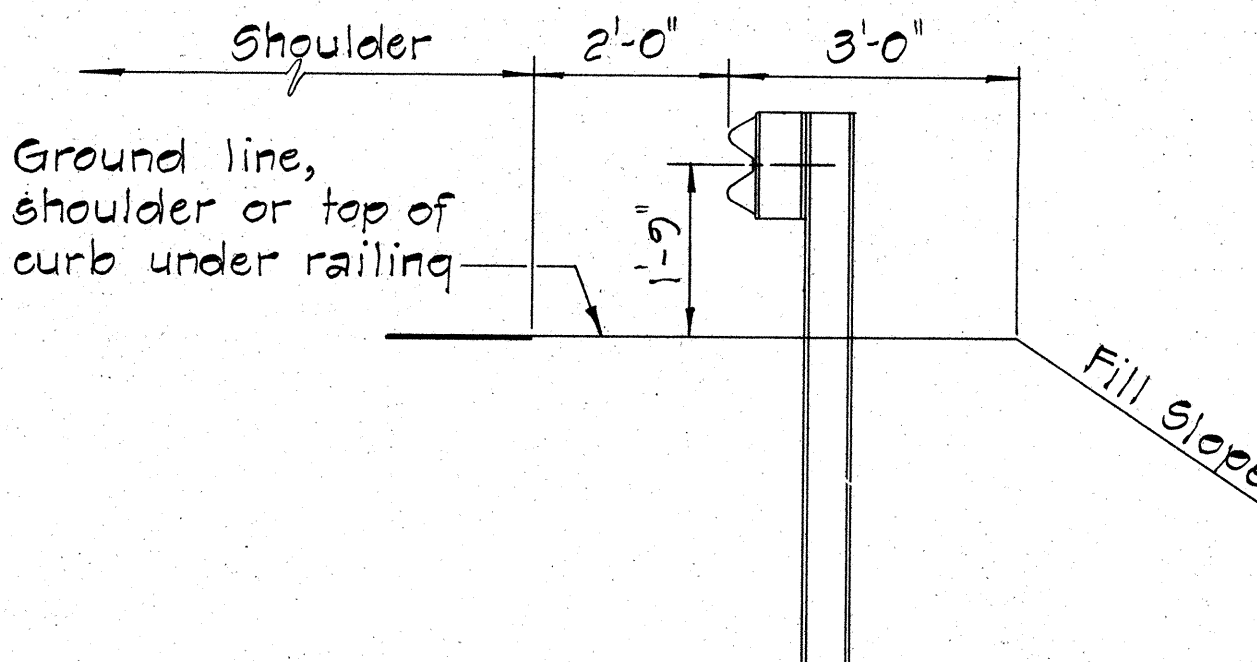
METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

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



TYPICAL METAL GUARD RAIL DETAIL

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

APPROVAL RECOMMENDED:
Eugene Tanaka
TRAFFIC ENGINEER
12/23/62
DATE

APPROVED:
Hubert J. Deland
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. 16 OF 35 SHEETS

SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

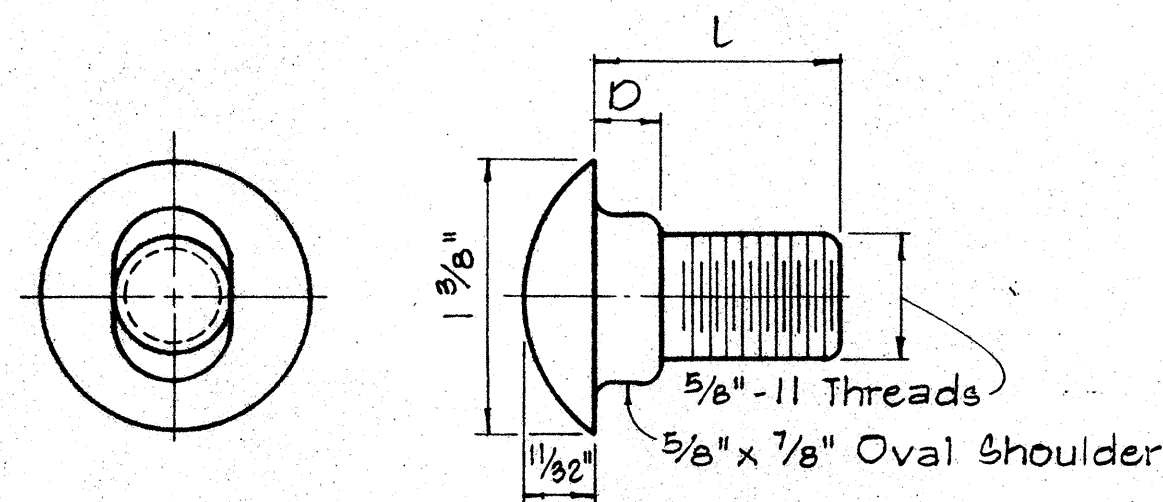
SCALE: 1 1/2" = 1'-0"

DATE	REVISION

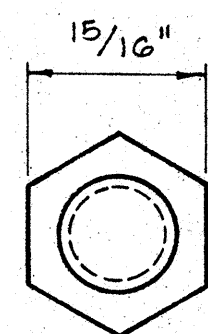
BOLT DIMENSIONS		
TYPE A BOLT		
Splice Bolt	D	L
Post Bolt for Conc. Post w/ Double Wood Blocks	5/16"	1 1/4"
Post Bolt for Conc. Post w/ Single Wood Block	3/32"	24"
Rail Bolt for Metal Block	3/32"	18"
		2"

BOLT DIMENSIONS		
TYPE B BOLT		
Post Bolt for Conc. Post w/ Metal Blocks		L
Post Bolt for Metal Post w/ Metal Block		1 3/4"

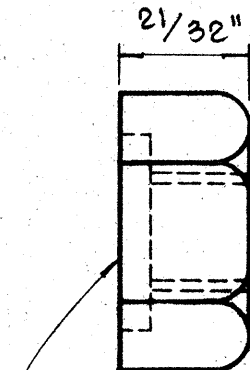
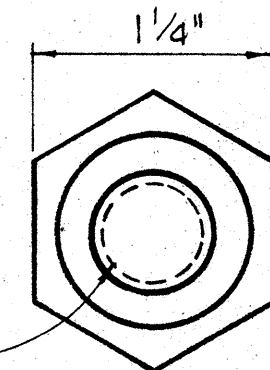
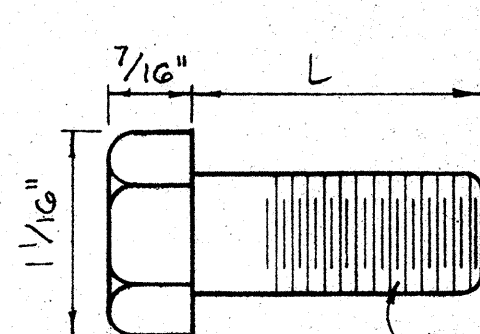
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)B	1973	53	104



TYPE A BOLT



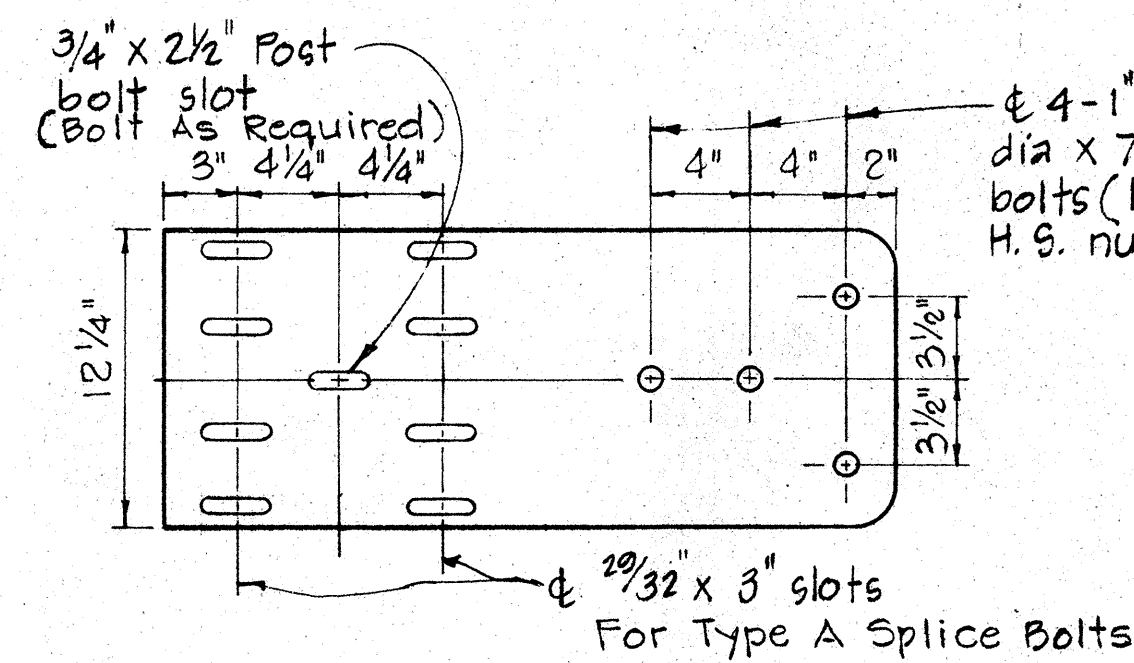
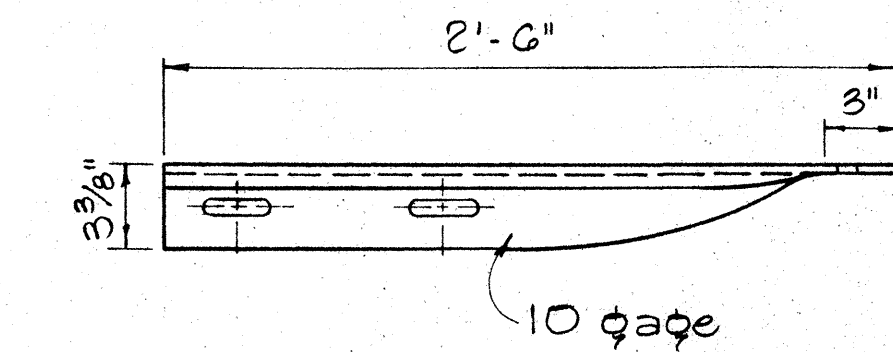
TYPE B BOLT



5/32" Deep x 1 5/16" Dia. C' Bore for Type A Bolt only.
Plain nut for Type B Bolt.

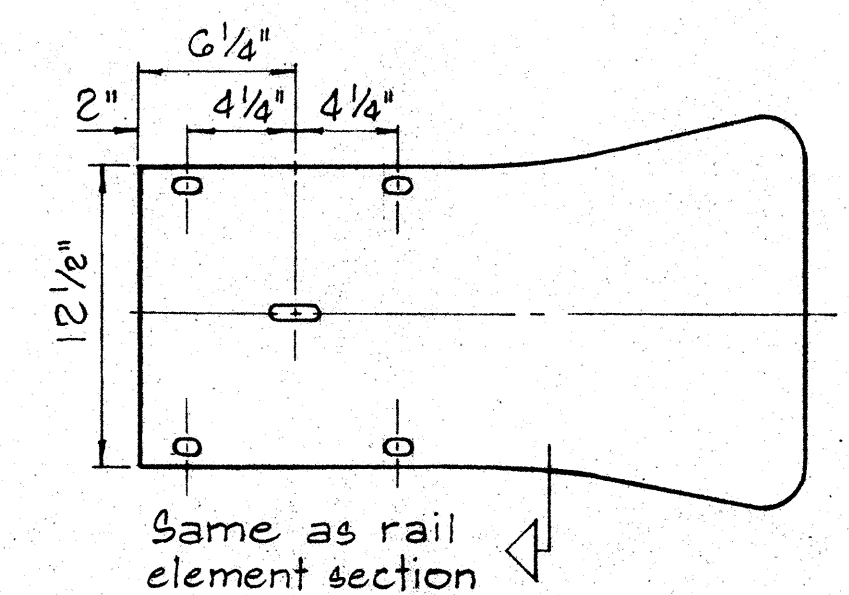
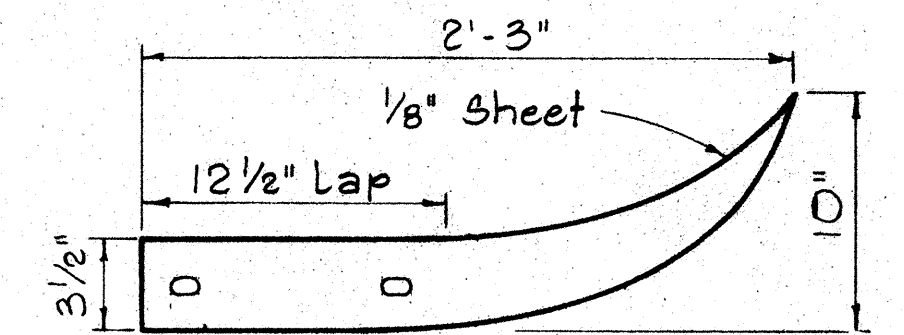
HEXAGON NUT

Scale: Full Size



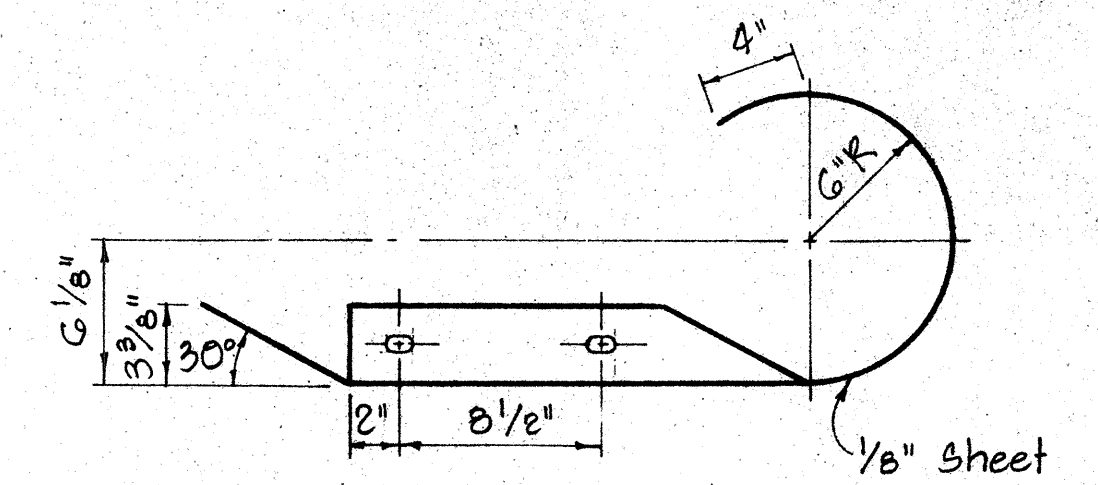
SPECIAL END SHOE

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



FLARED END

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



CURVED END

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

APPROVAL RECOMMENDED:
TRAFFIC ENGINEER
APPROVED:
ASSISTANT CHIEF, ENGINEERING

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

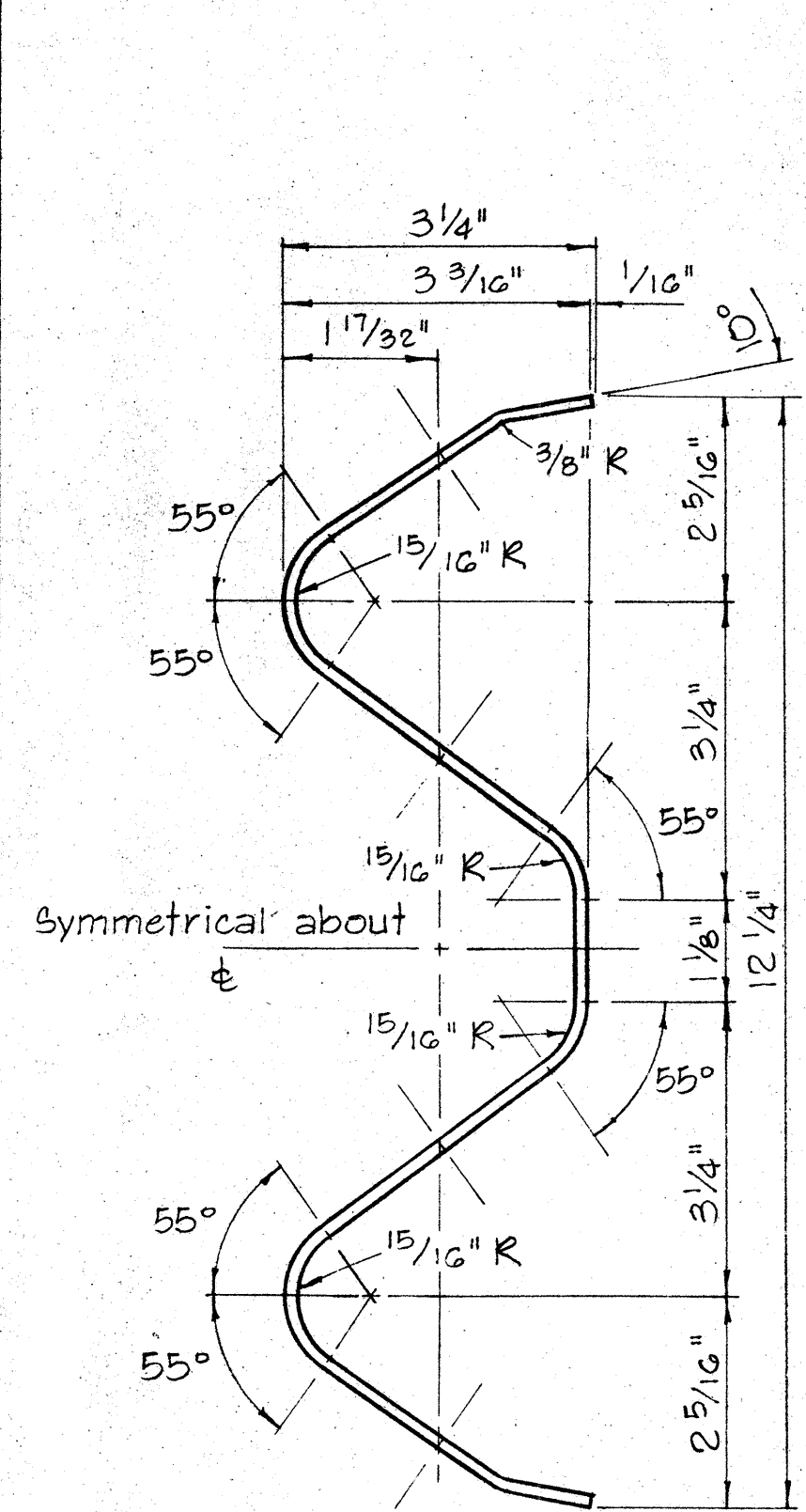
STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted August, 1968

SHEET No. 17 OF 35 SHEETS DT 501

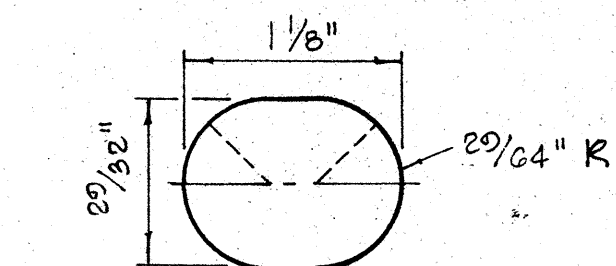
SPUCE RAIL AND POST BOLTS

Scale: Full Size



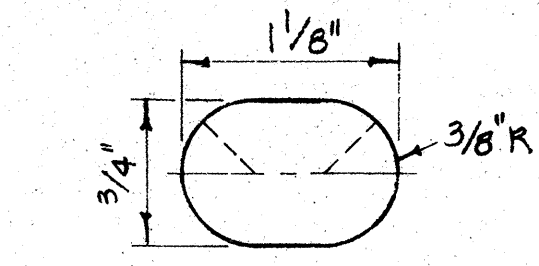
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"

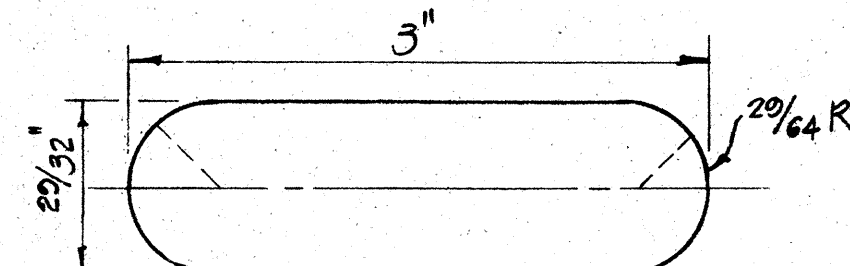


SPUCE BOLT SLOT

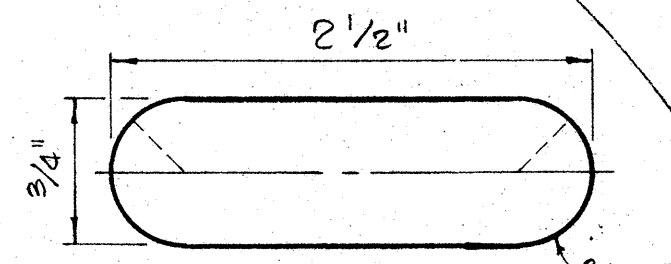
Scale: Full Size



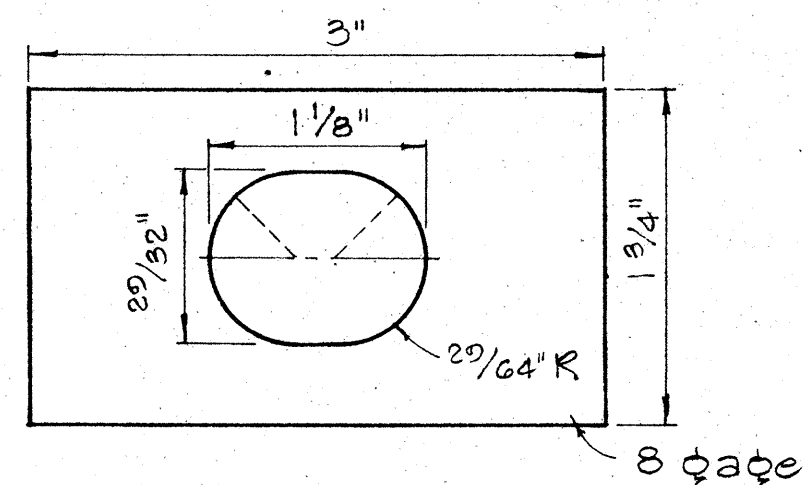
SPUCE BOLT SLOT FOR ALL ENDS



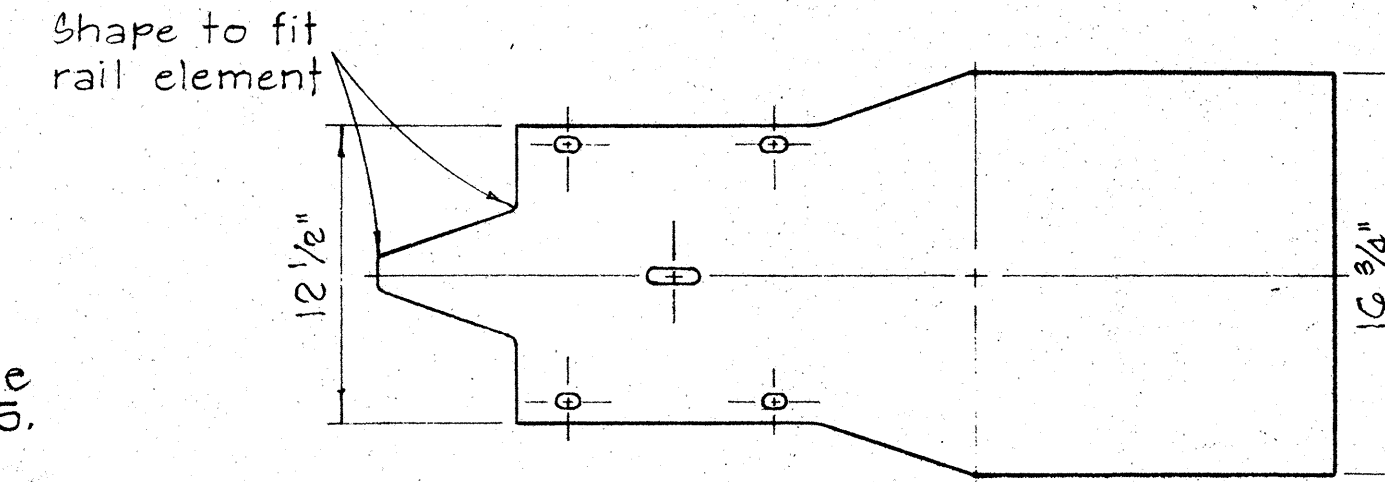
SPUCE BOLT SLOT FOR SPECIAL END SHOE



POST BOLT SLOT



RAIL WASHER



MEDIAN END

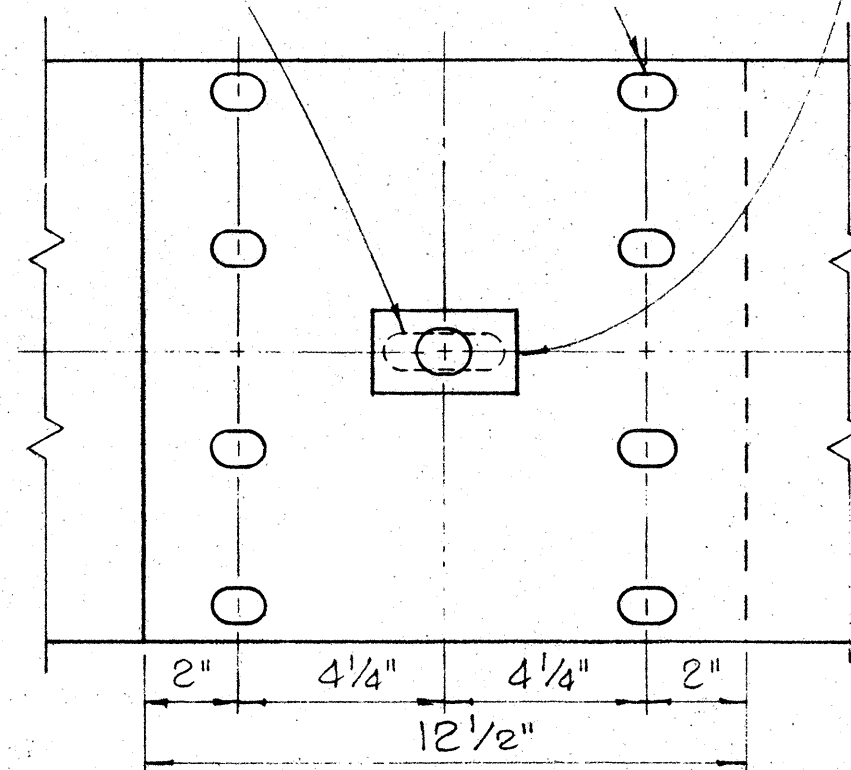
Scale: 1 1/2" = 1'-0"

NOTES:

- H.S. Bolts shall conform to the requirements of ASTM A 325.
- Special End Shoe shall be fabricated from 10 Gage steel conforming to the requirements of AASHTO 180.

MEDIAN END DIMENSIONS

TYPE OF POST AND BLOCK	W	R
Double Metal Guard Rail on Concrete Post with Wood Blocks	29 3/4"	14 7/8"
Double Metal Guard Rail on Concrete Post with Metal Blocks (BJG)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJG)	24 3/8"	12 3/16"

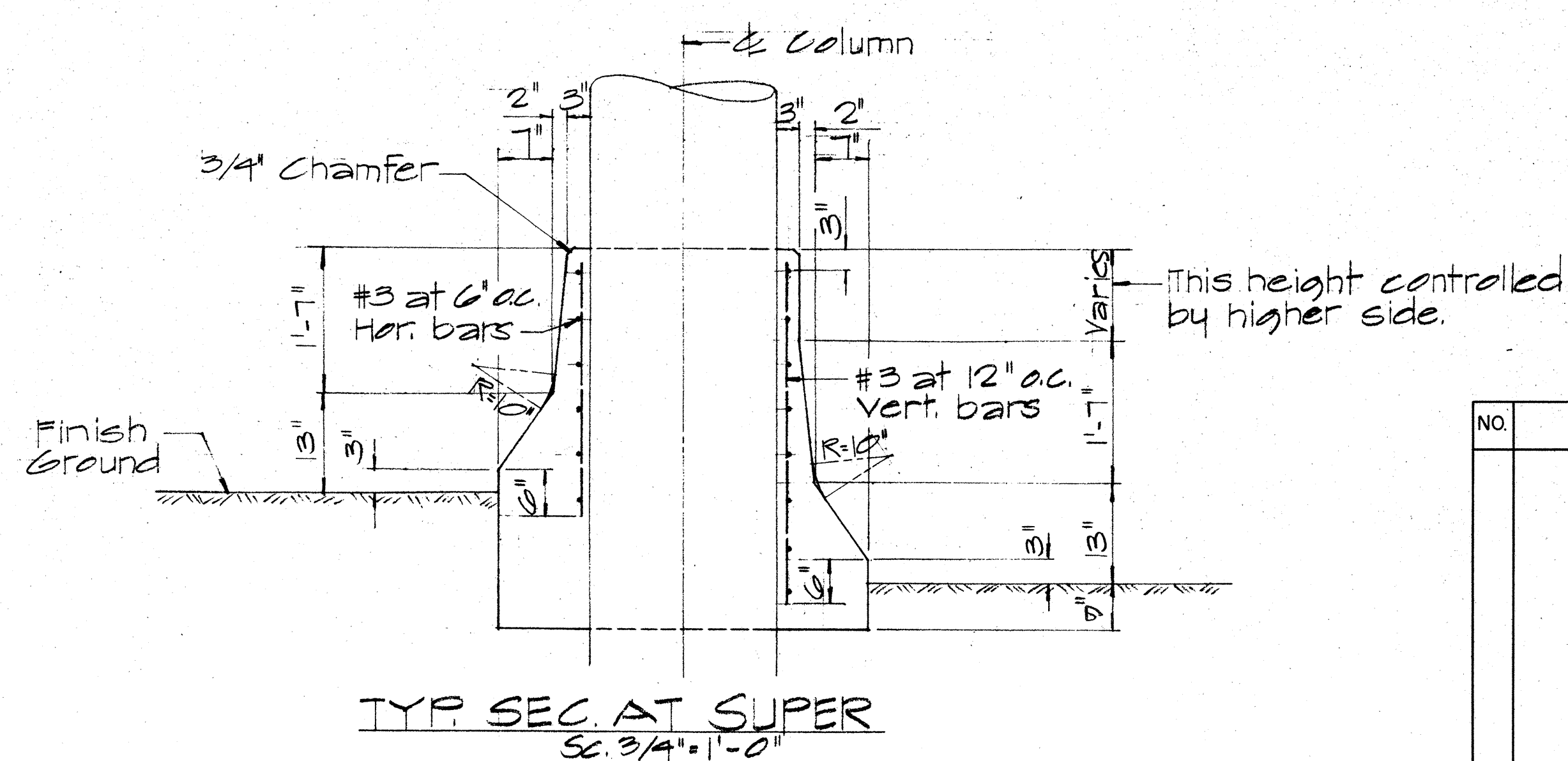
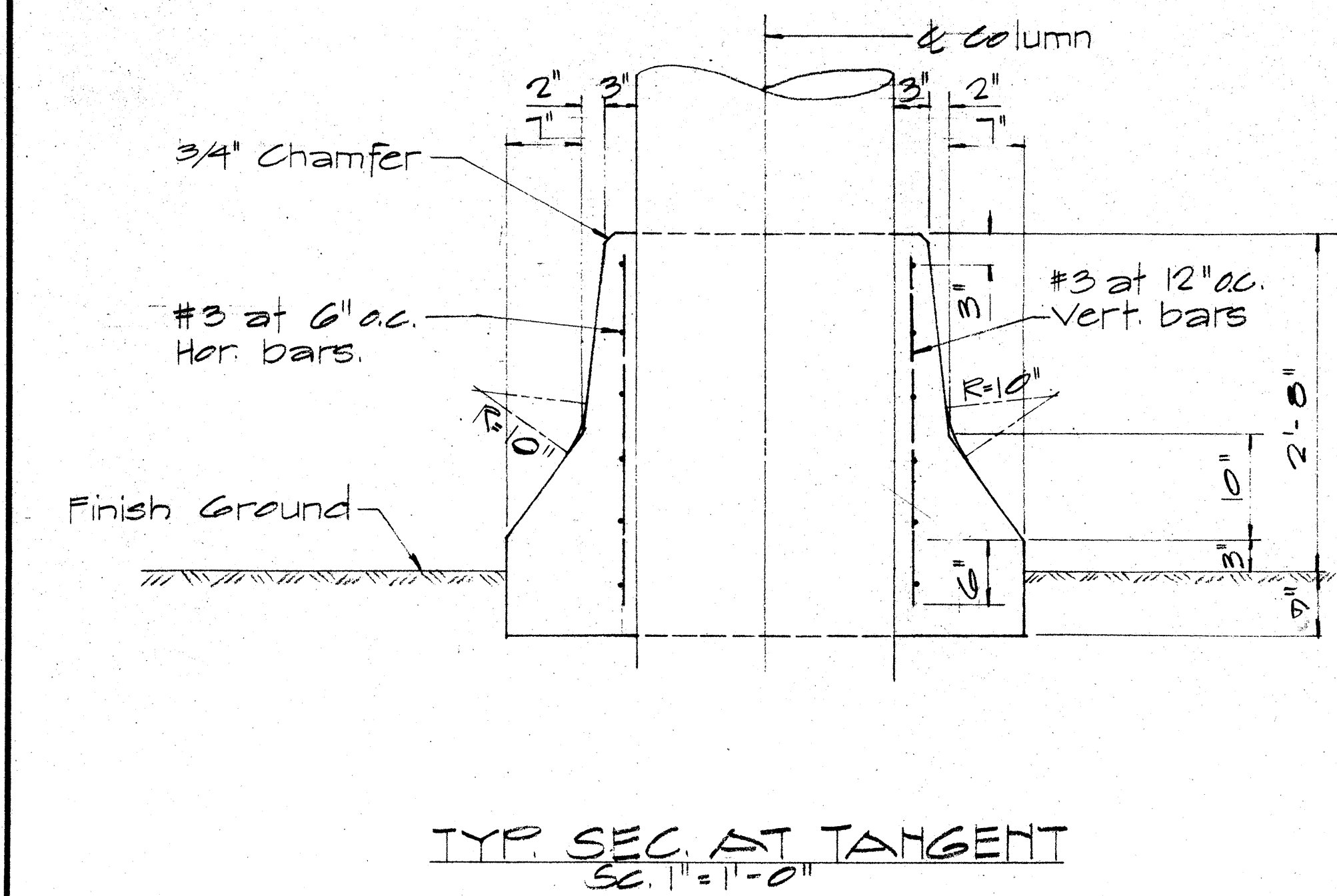
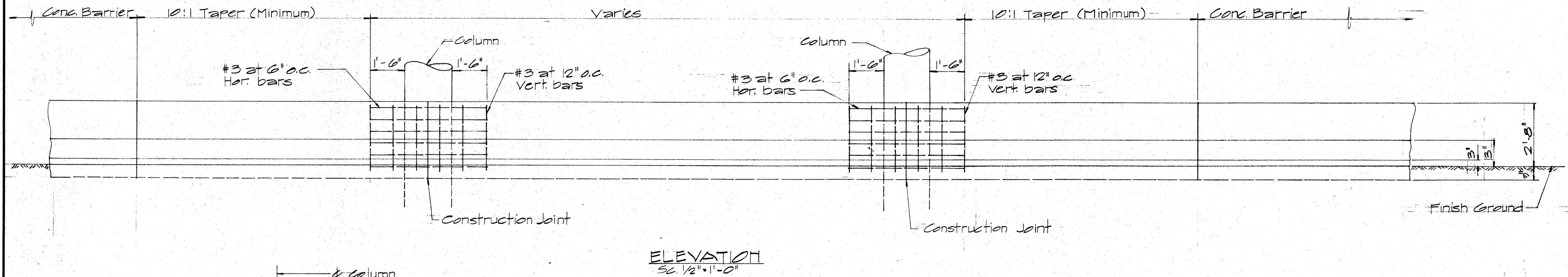
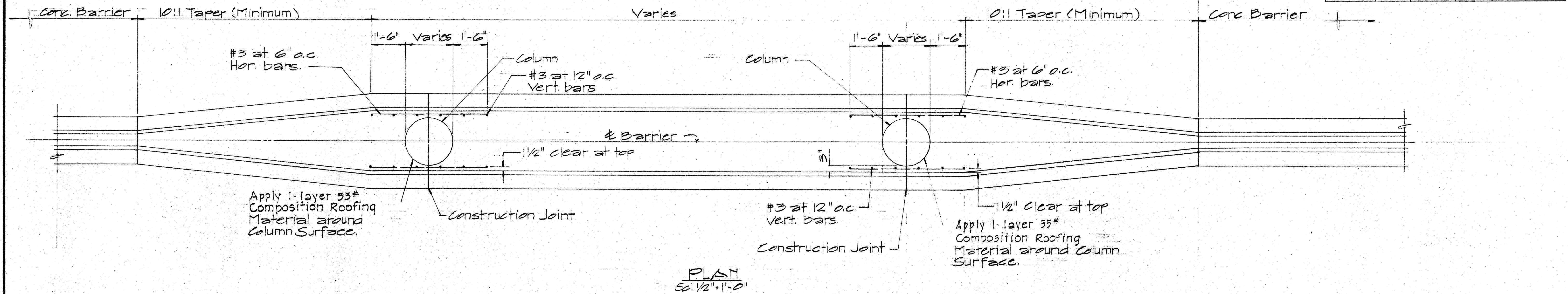


RAIL SPUCE

Scale: 3" = 1'-0"

ORIGINAL	DATE
PLAN	
DESIGNED BY	
NOTES BOOK	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)B	1973	60	104



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

APPROVED:
Assistant Chief, Engineering
12-30-69
DATE

NO.	REVISION	APPROVED BY	DATE

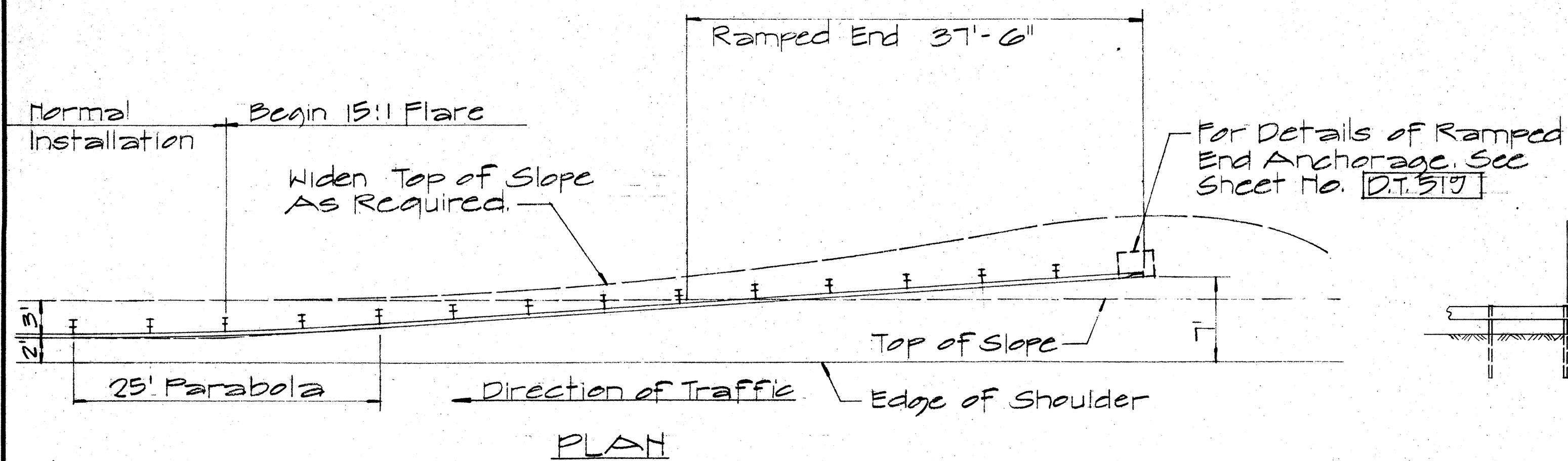
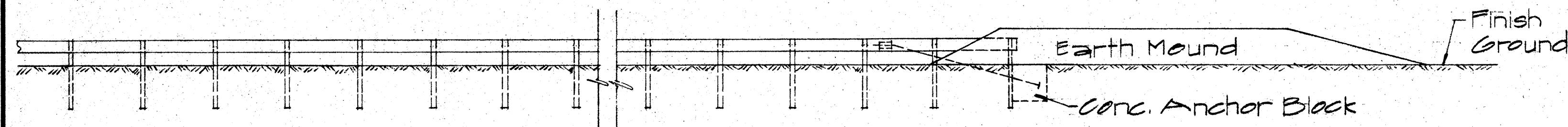
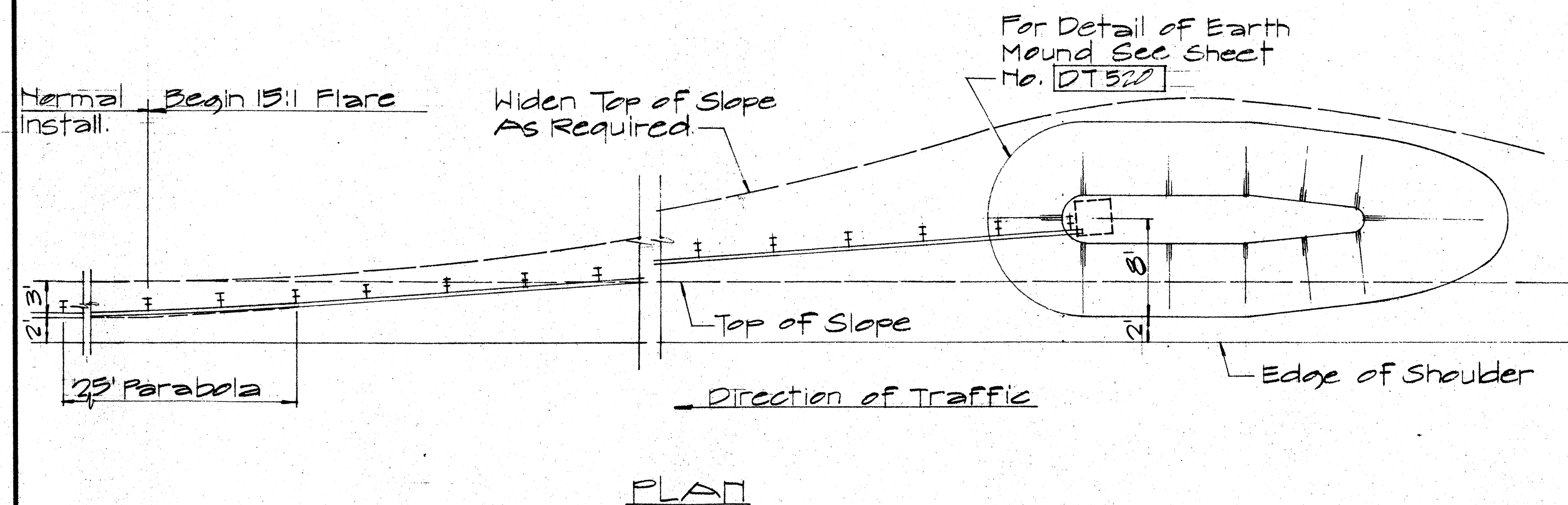
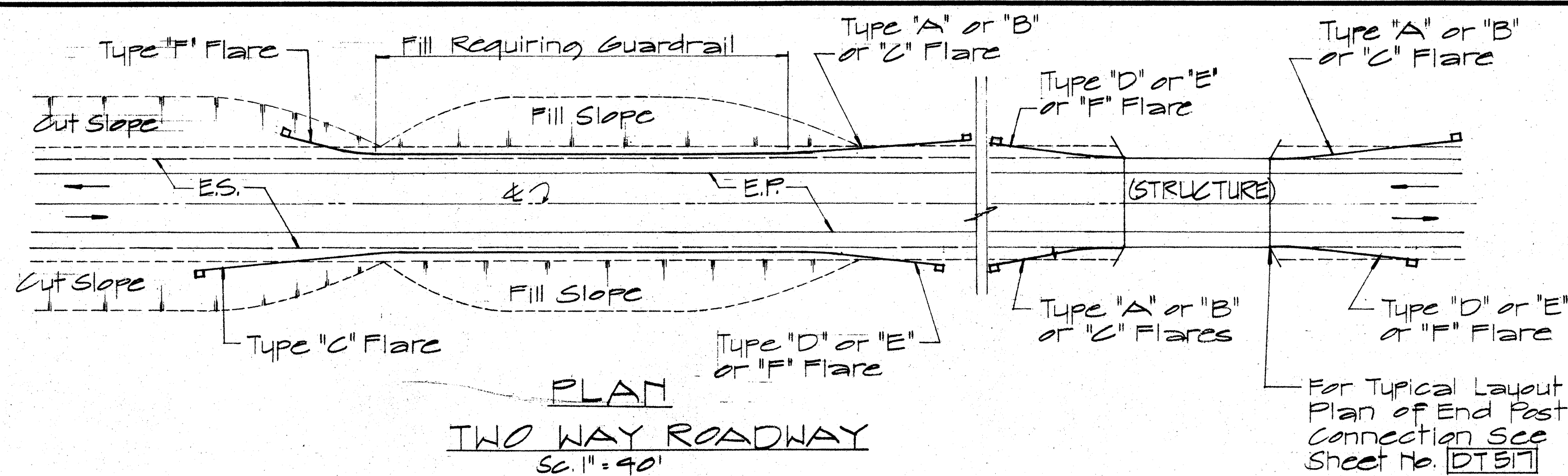
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAIL
CONCRETE BARRIER
TRANSITION

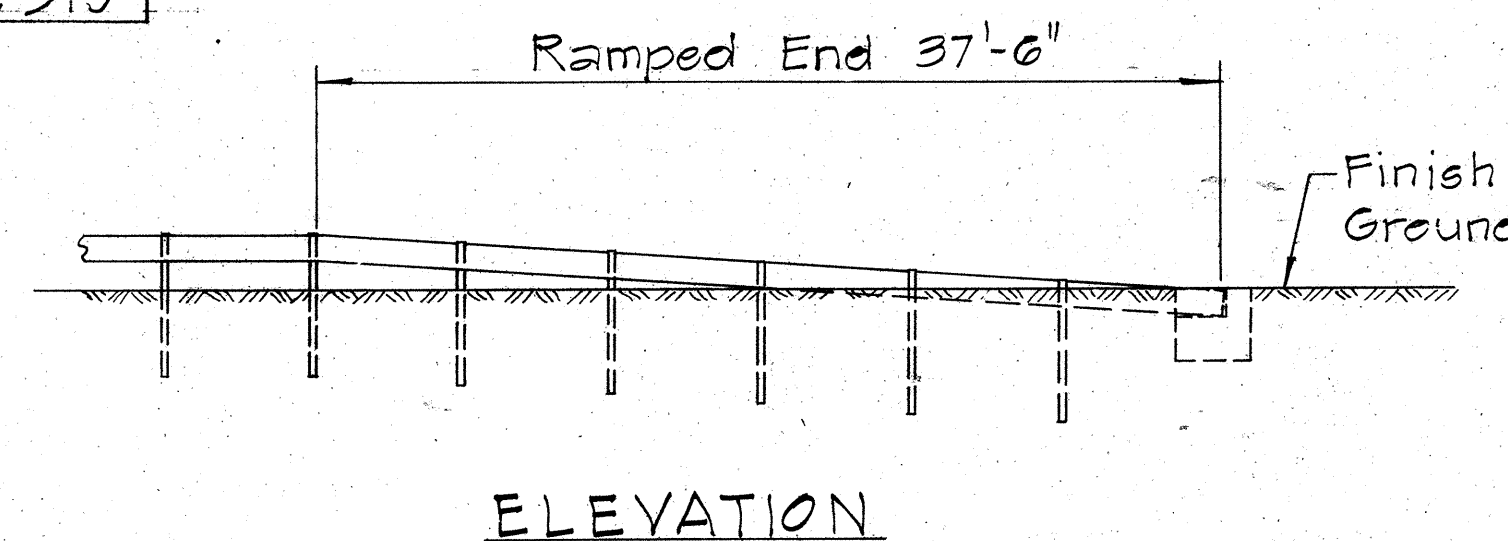
Scale As Noted Feb. 1969

SHEET No. 18 OF 35 SHEETS DT 512

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

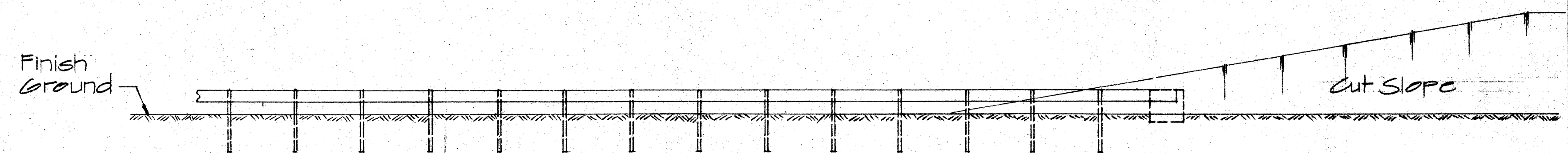
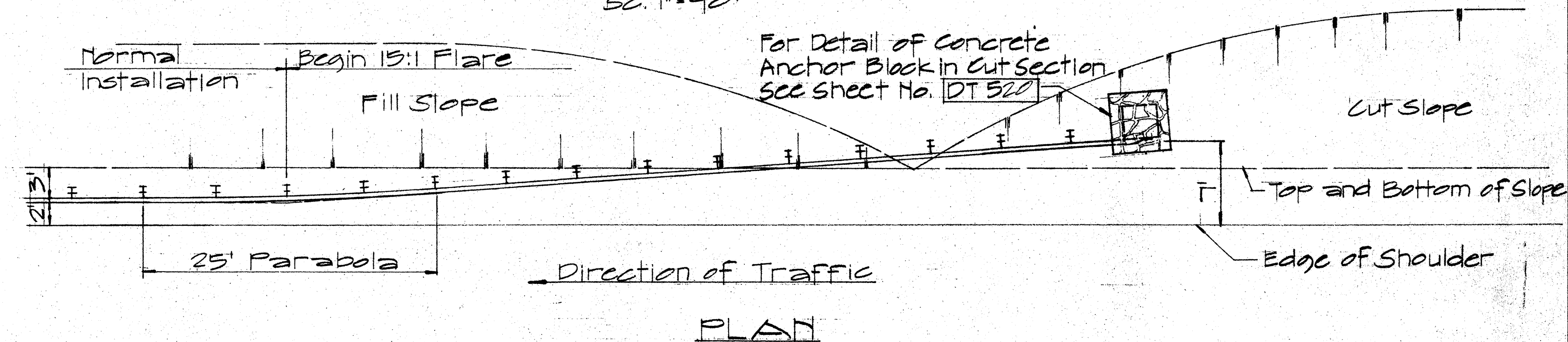
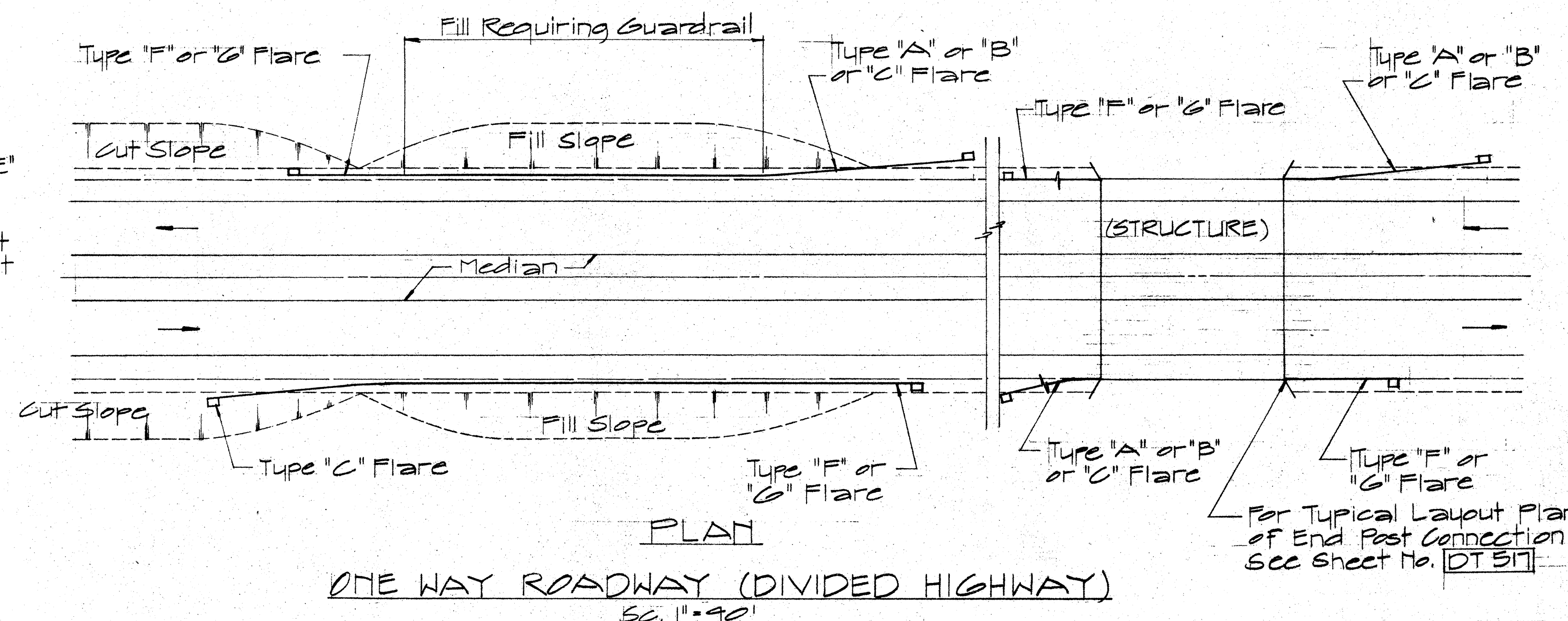


TYPE "B" FLARE
SC. 1/8" = 1'-0"



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(46)8	1973	G1	704



APPROVAL RECOMMENDED:
Eushe Tanaka
TRAFFIC ENGINEER
12/23/62
DATE

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

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

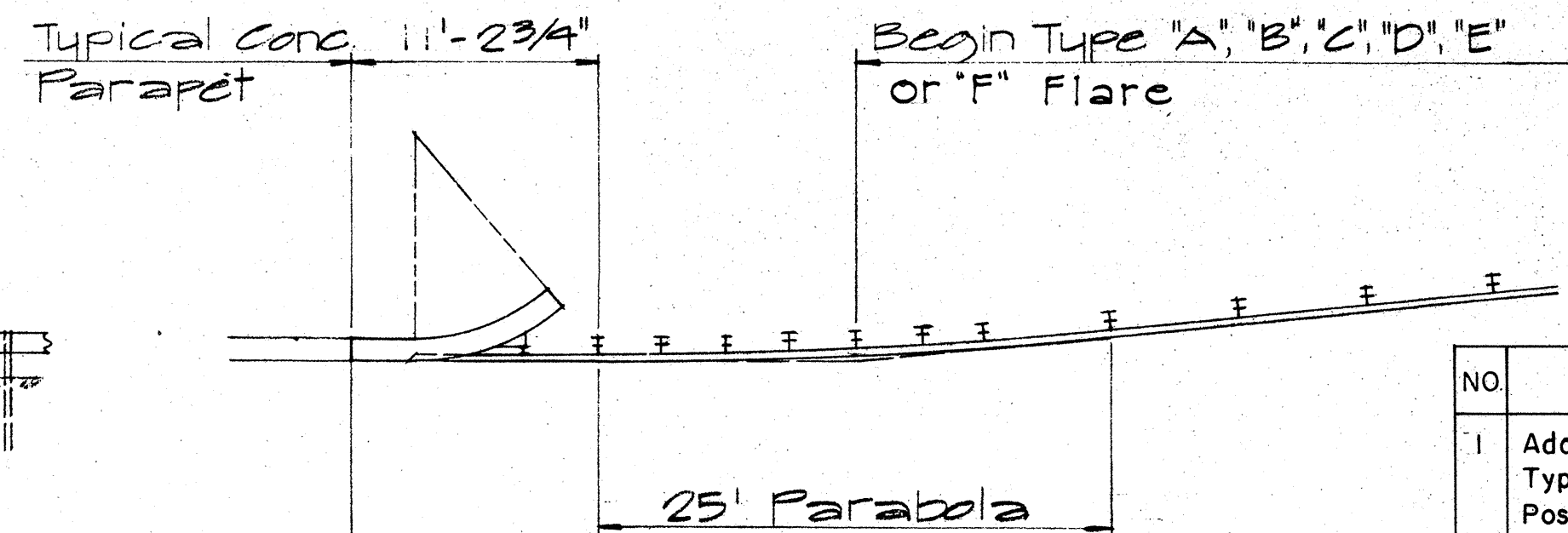
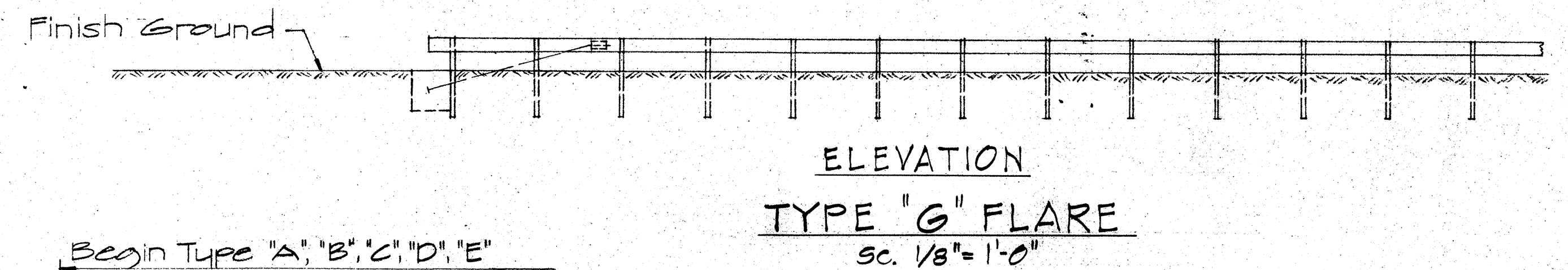
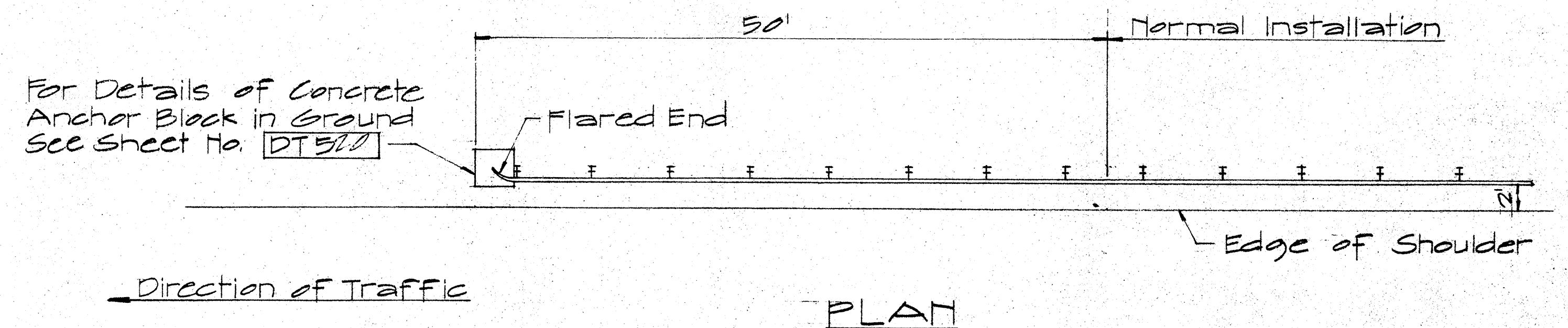
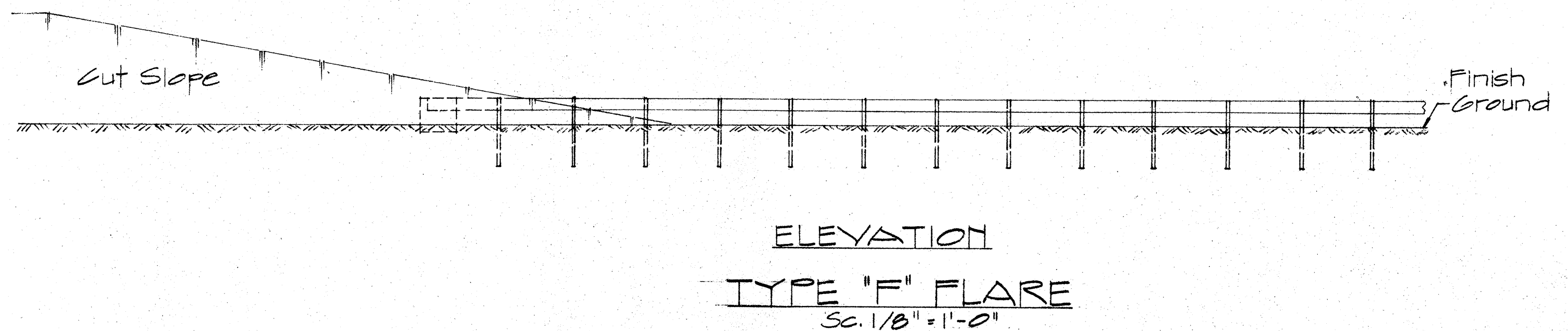
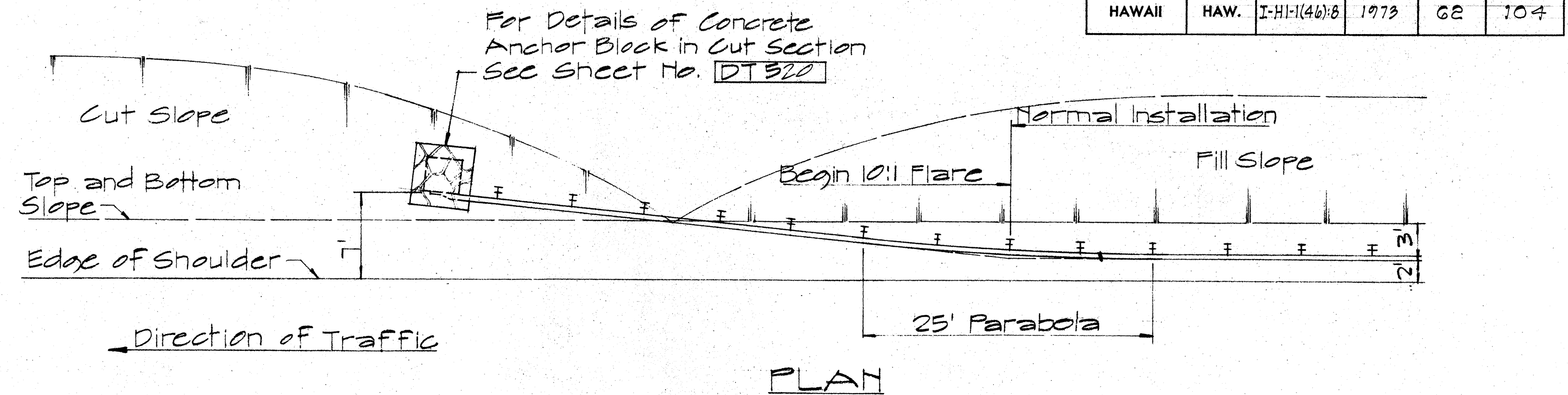
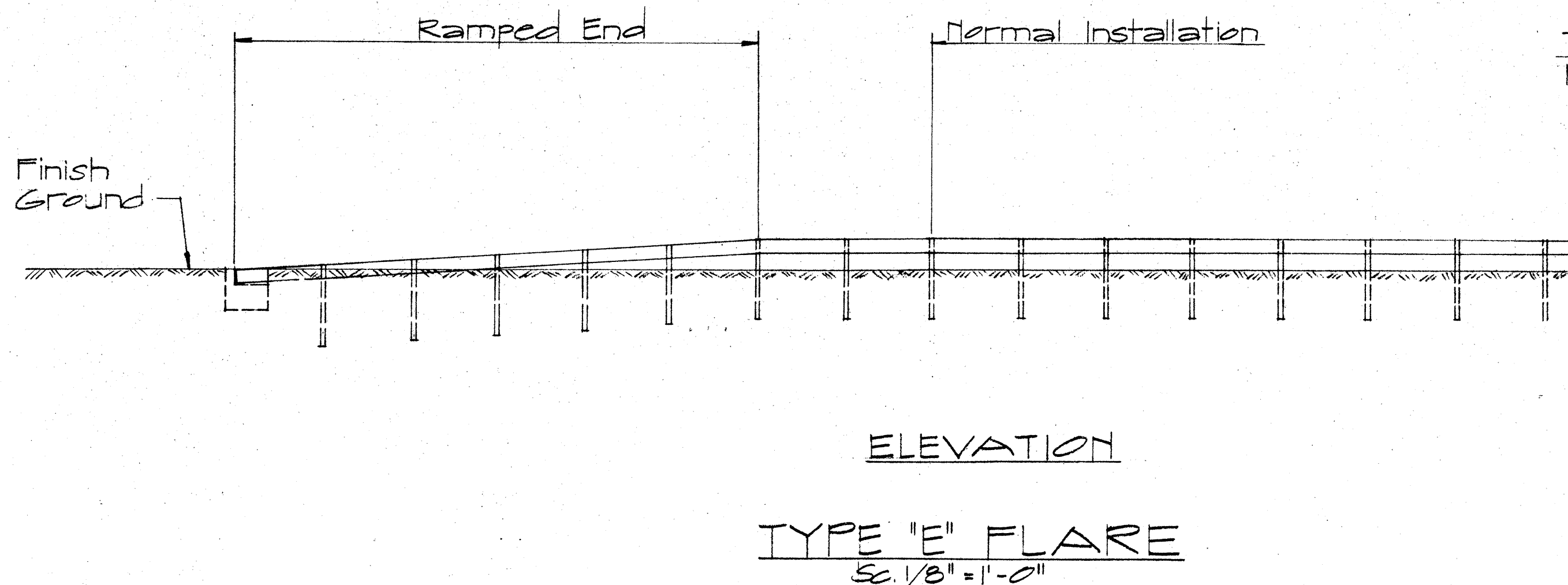
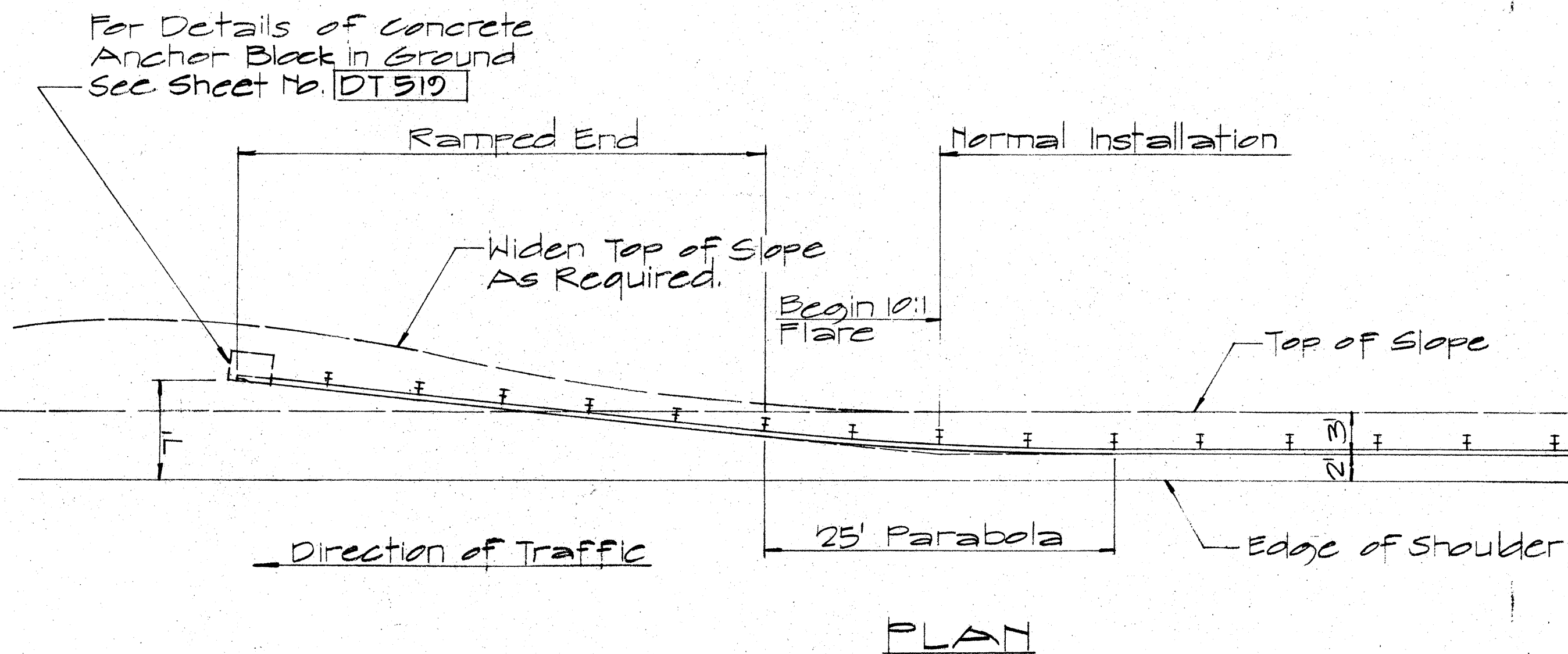
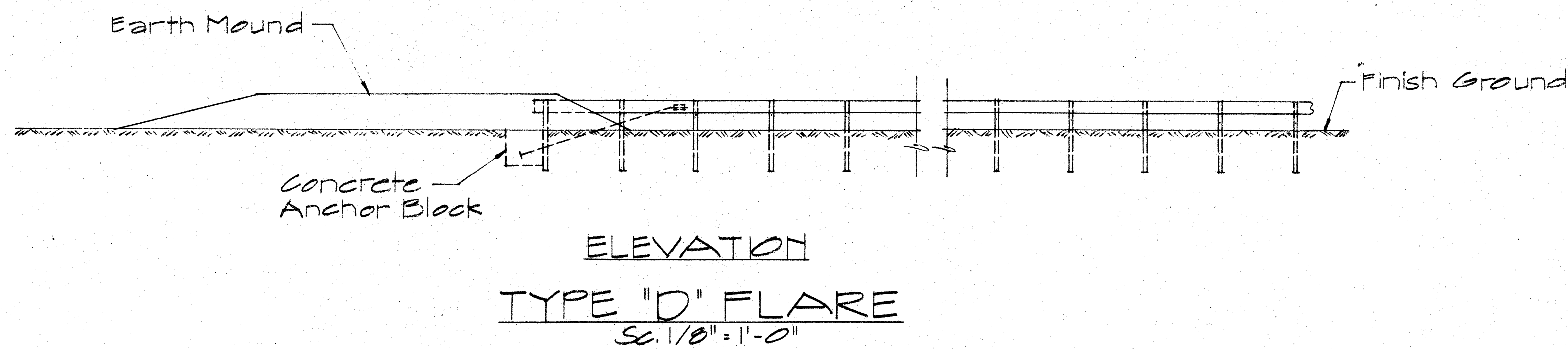
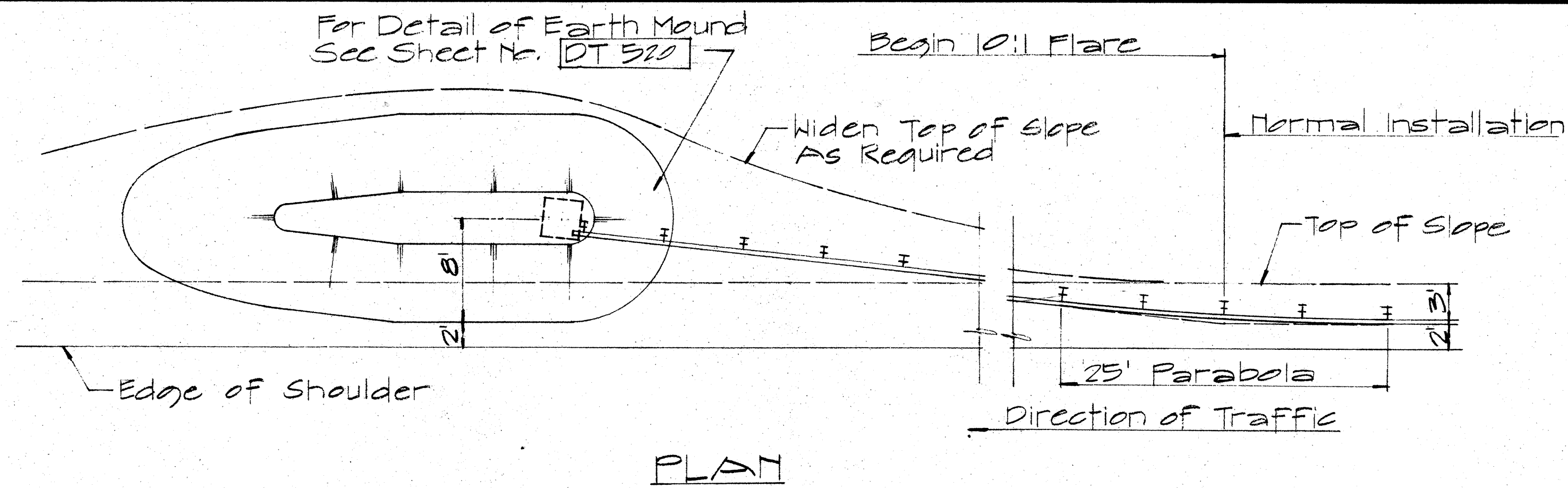
STANDARD DETAILS
OF APPROACH END
FLARE - ONE & TWO
WAY ROADWAY

SC. As Noted April 1967

SHEET No. 19 OF 35 SHEETS DT 516

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)8	1973	62	104



TYPICAL LAYOUT PLAN OF
END POST CONNECTION

Sc. 1/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE
1	Additional Posts Added to Typical Layout Plan Of End Post Connection	H.T.	4-12-72

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

APPROVED:
W. S. Sal 12-29-69
 ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

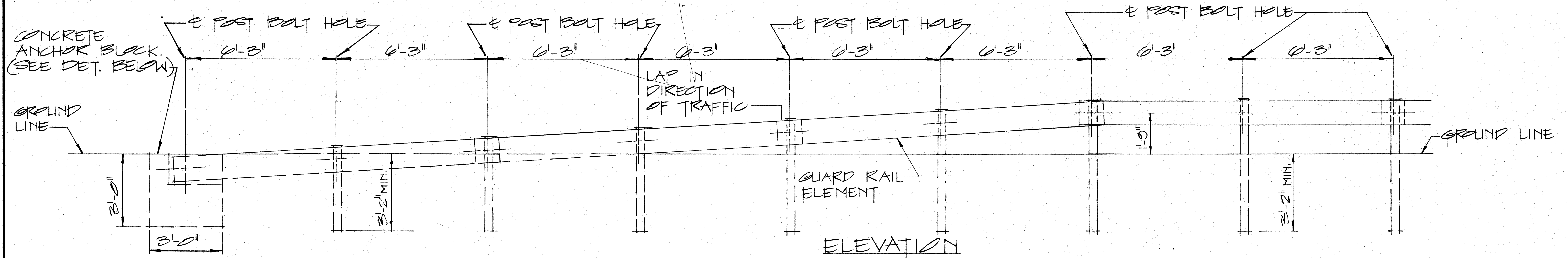
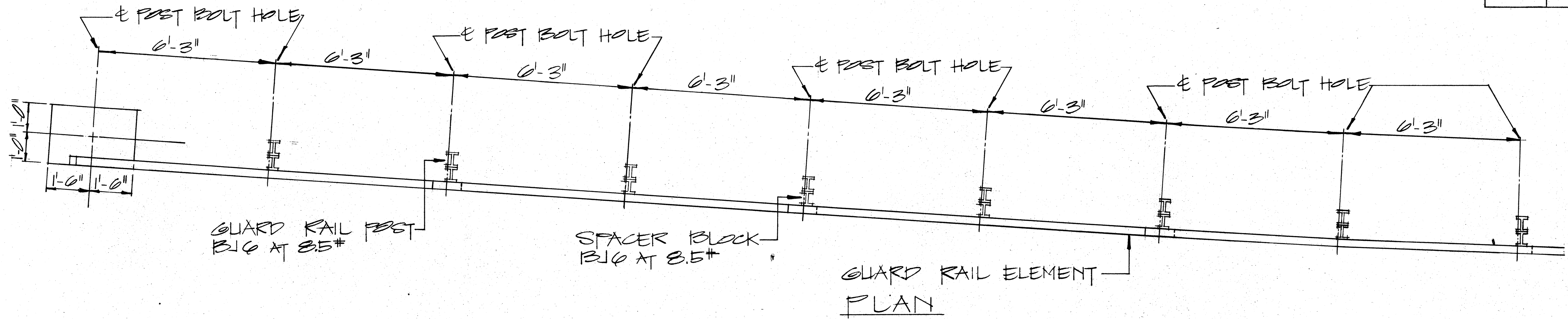
STANDARD DETAILS
 TRAILING END
 FLARE - ONE & TWO
 WAY ROADWAY

Scale: As Noted April 1969

SHEET No. 20 OF 35 SHEETS DT 517

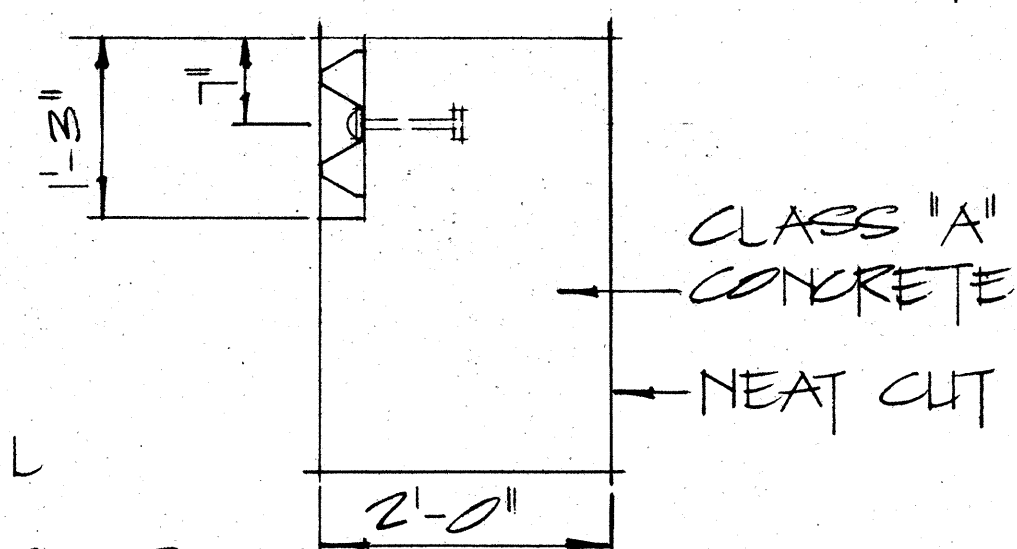
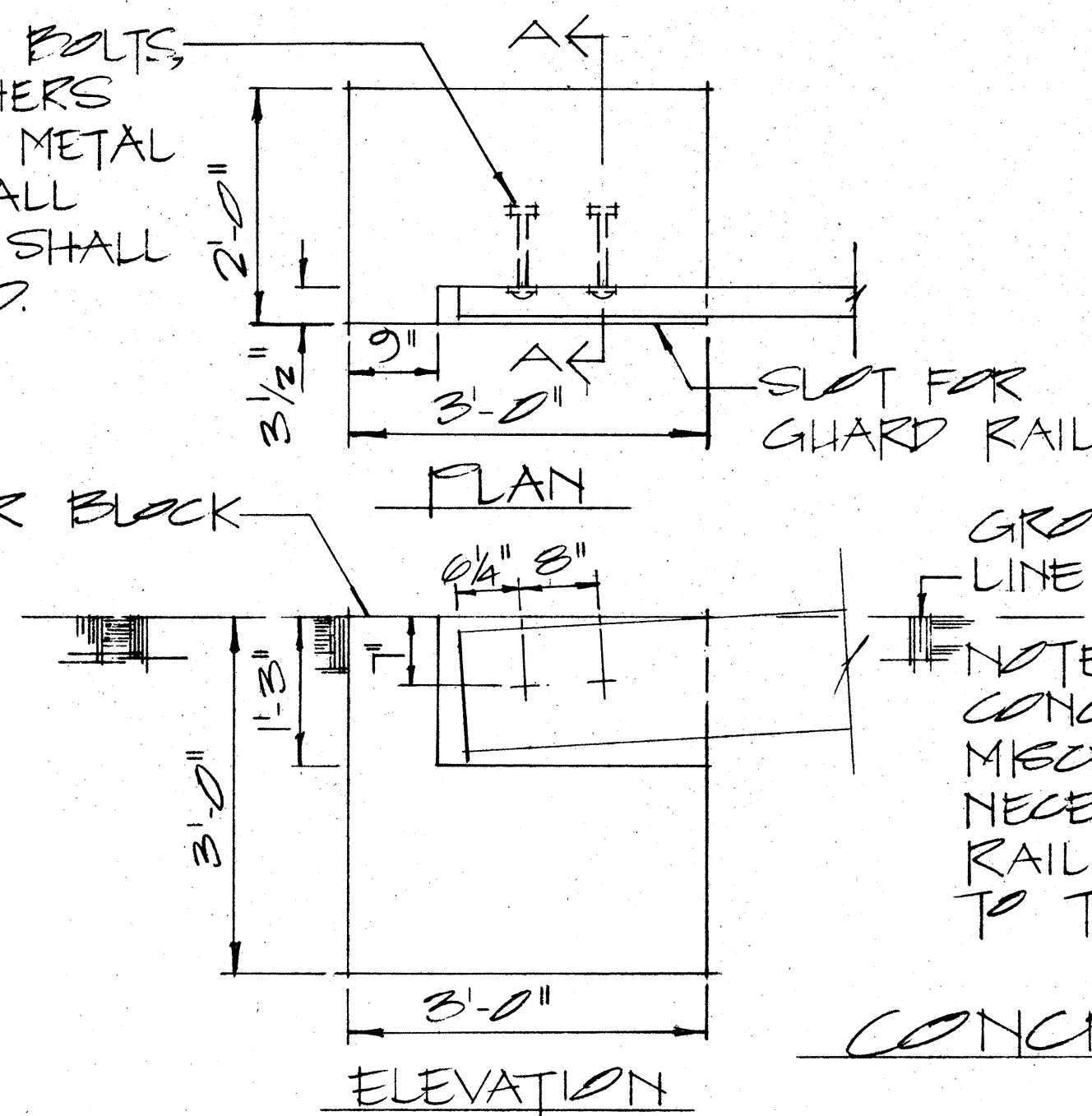
DATE	12/29/69
DESIGNED BY	
CHECKED BY	
QUANTITIES BY	
NOTED BY	
ORIGINAL PLAN	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(46)8	1973	63	104



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

TOP OF ANCHOR BLOCK TO BE FLUSH W/ GROUND.



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"

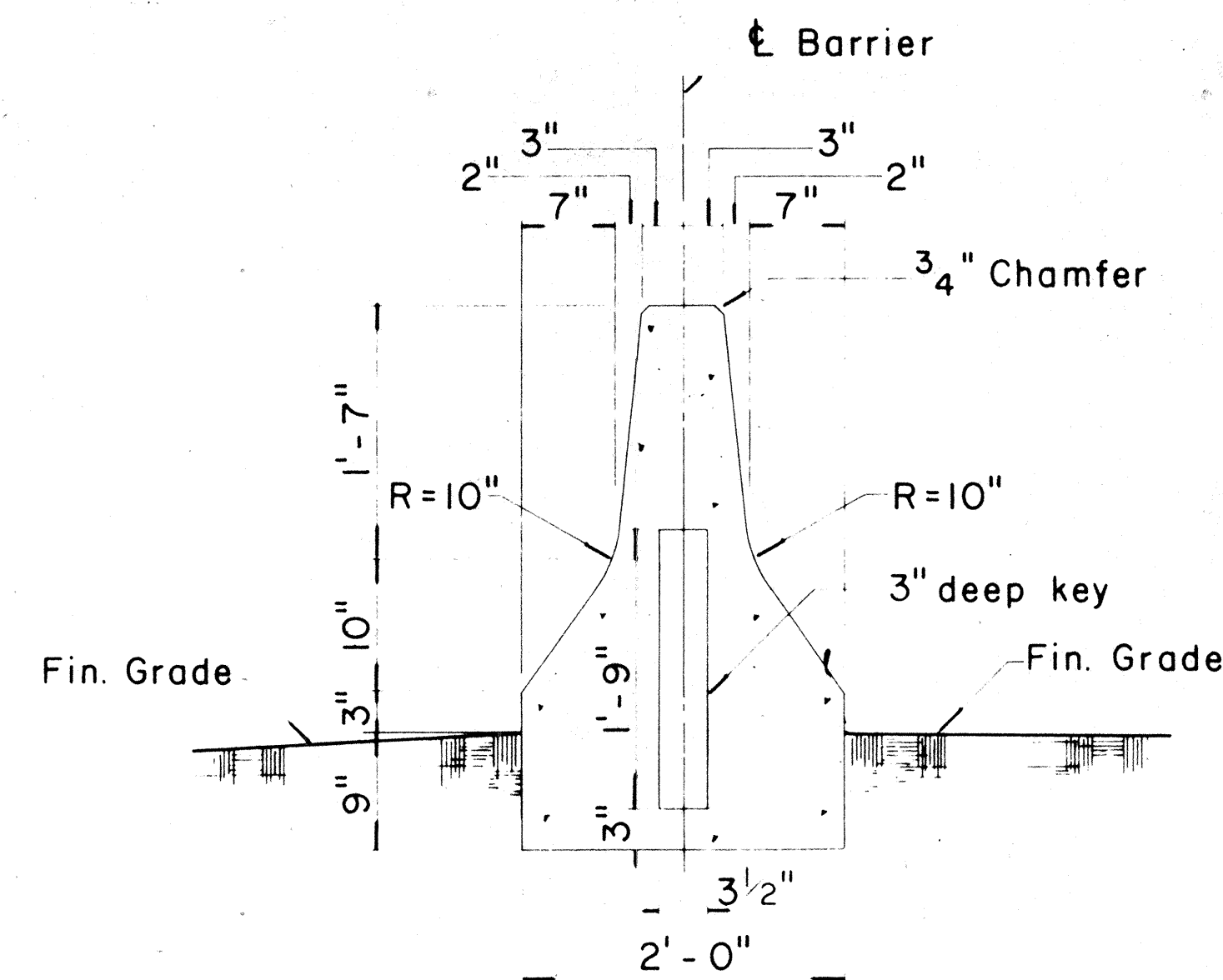
APPROVAL RECOMMENDED:
Eishi Tanaka
TRAFFIC ENGINEER
12/29/69
DATE

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

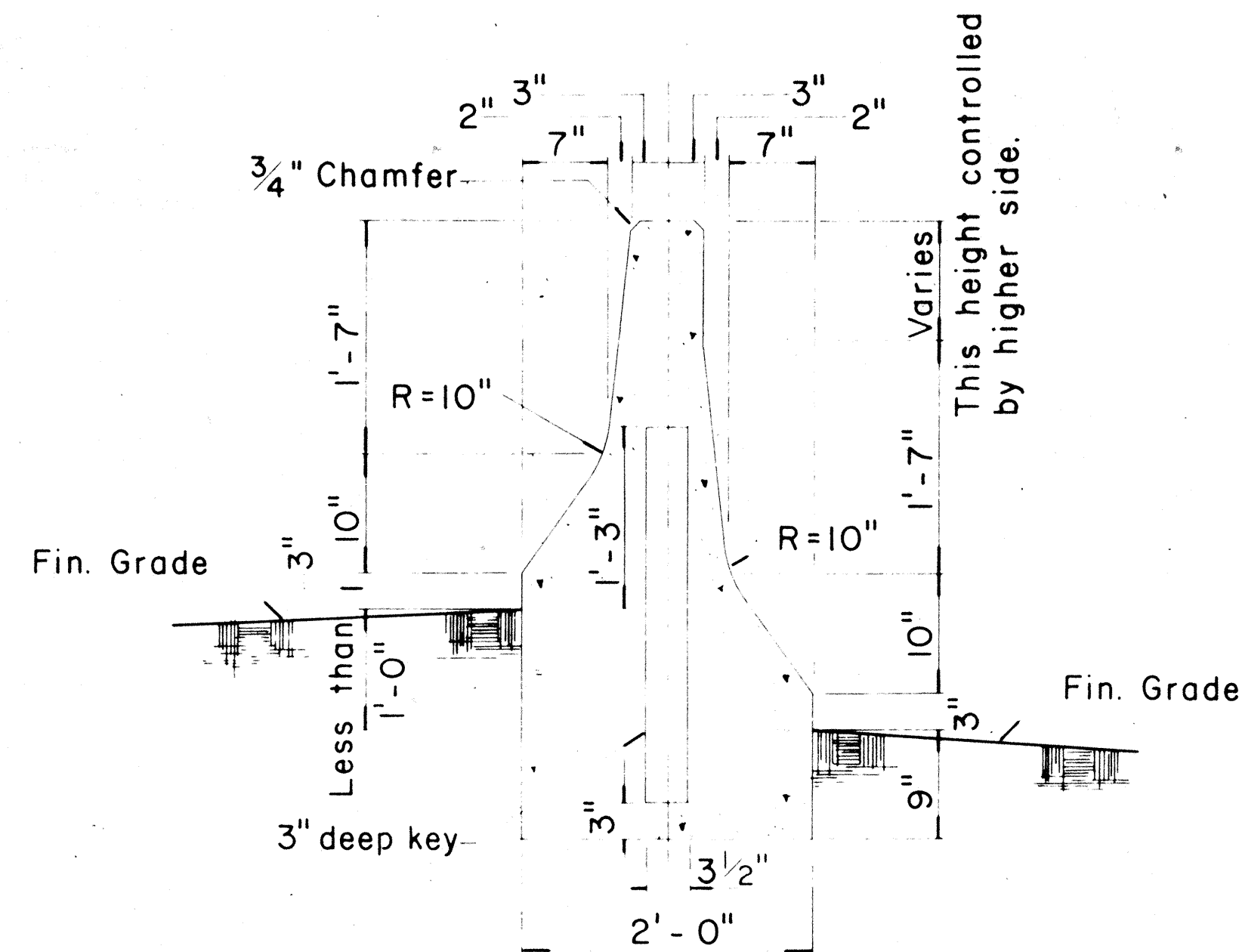
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
GUARD RAIL, TYPE 3
RAMP END ANCHORAGE
SCALE: AS SHOWN
SHEET No. 21 OF 35 SHEETS DT510

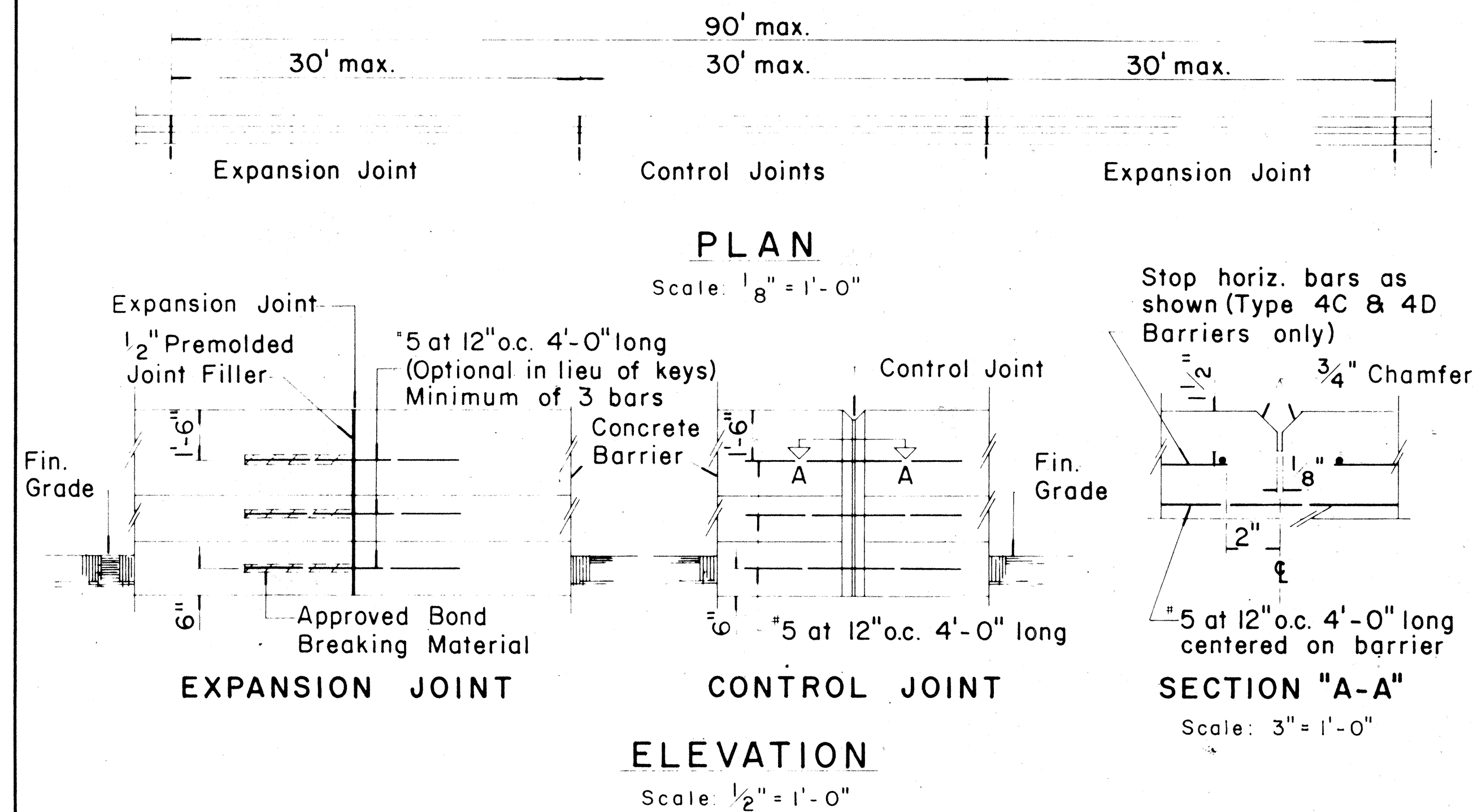
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-(46)-8	1973	65	104



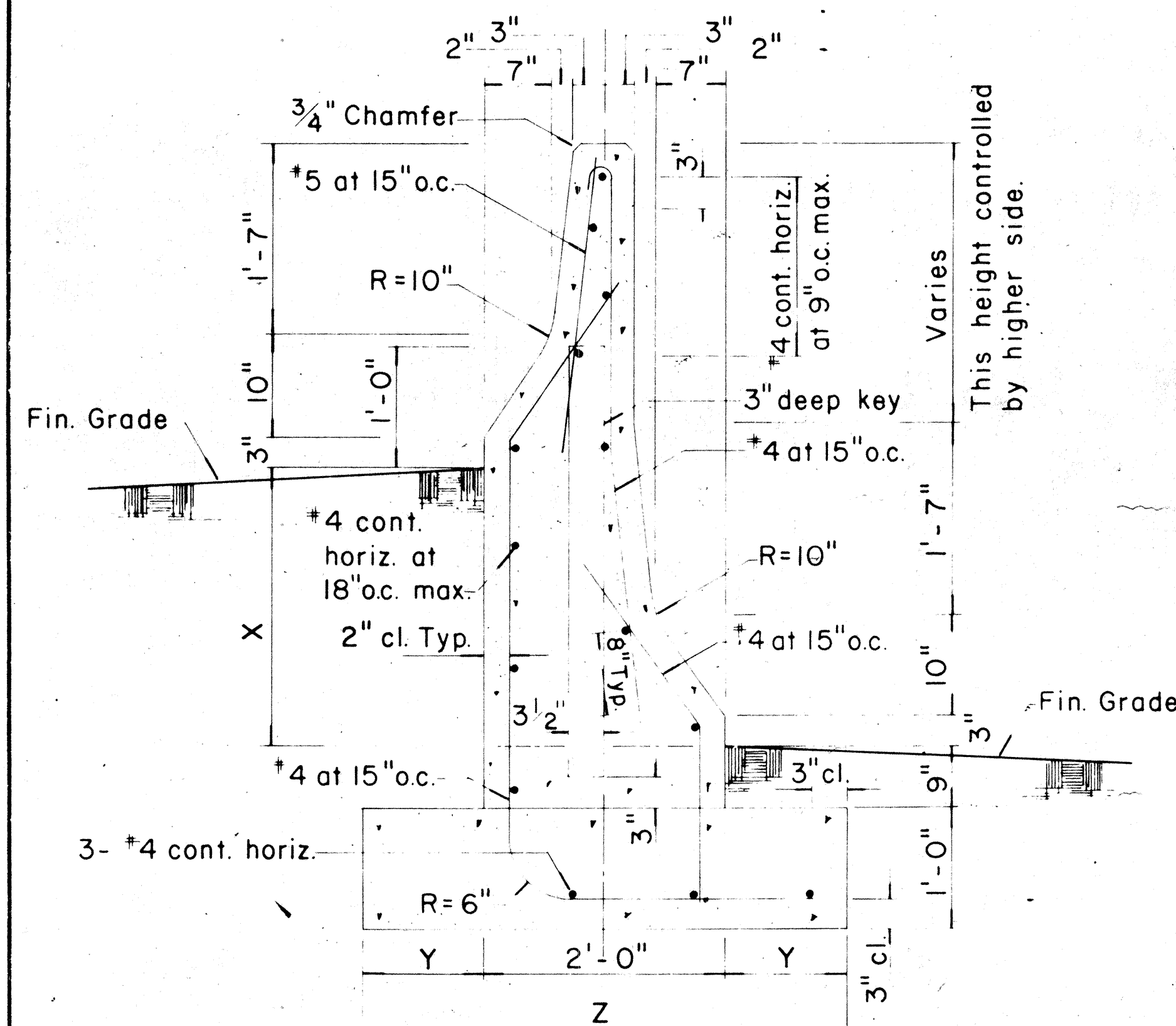
TYPE 4A
Scale: 1" = 1'-0"



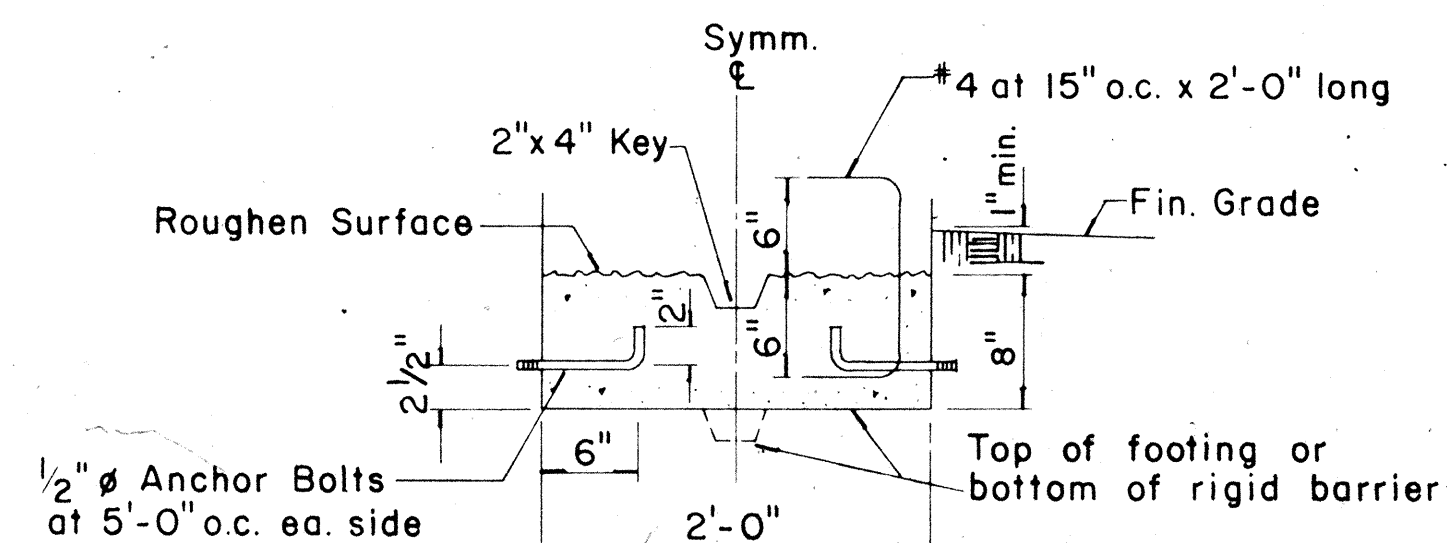
TYPE 4B
Scale: 1" = 1'-0"



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



TYPE 4C & TYPE 4D
Scale: 1" = 1'-0"

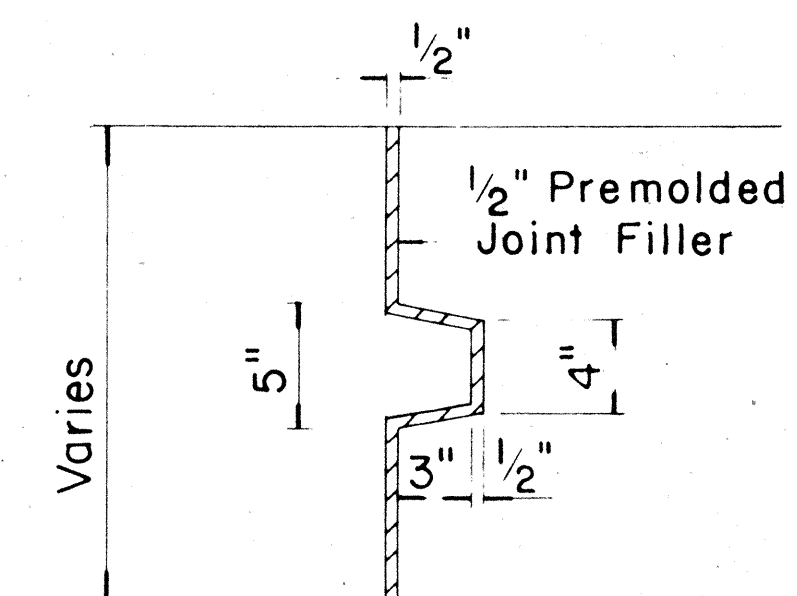


OPTIONAL CONSTRUCTION JOINT DETAILS
Scale: 1" = 1'-0"

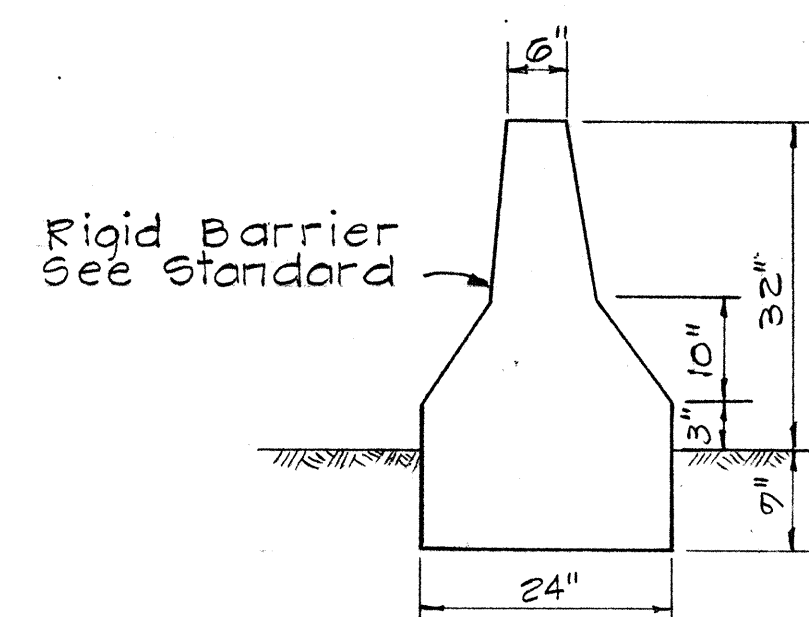
NOTE:
The intent of the optional construction joint details for the Type 4 Rigid Barrier Guard Rail is to provide a method of securing the forms and preventing uplift so that the barrier will have a uniform and presentable appearance. The contractor may submit an alternate method of constructing the barrier for the approval of the Engineer and for use on a trial basis. Any unsatisfactory work shall be removed or corrected as directed by the Engineer and at the Contractor's expense.

GENERAL NOTES

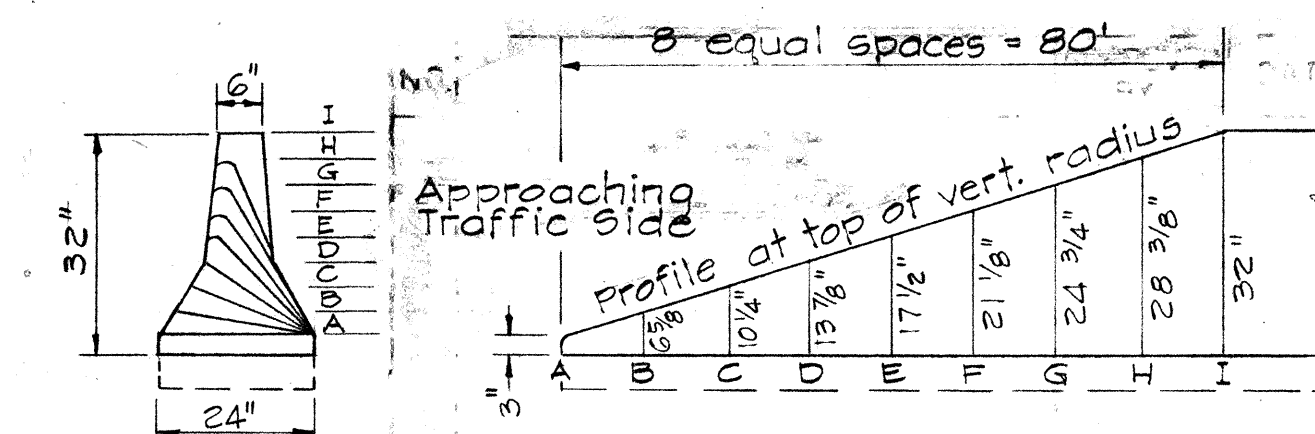
1. Precast Rigid Barrier Guard Rail may be installed as an option to cast-in-place Type 4 Rigid Barrier Guard Rail. Contractor shall submit shop drawings to Engineer for approval.
2. Expansion Joints shall be constructed at ninety-foot (90 ft.) maximum intervals and at existing expansion joints of structures. (Use 1/2" premolded joint filler, incidental to Type 4 Rigid Barrier Guard Rail). Control Joints shall be placed between expansion joints at 30' maximum. Shear keys shall be required at all construction joints.
3. The exterior surface and vertical alignment of the Type 4 Rigid Barrier Guard Rail shall be constructed to give a uniform and presentable appearance. Variation of more than 1/4" in 20' max. and 1/2" in 40' or more will be considered objectionable. The Engineer shall determine the acceptability of the work. During the course of the work, samples may be tested and measurements made to establish whether or not the specified values or dimensions are being met. If the specified values or dimensions are not being met, the Engineer shall determine the degree of the non-conformance, the effect on the serviceability of the project, whether the work be accepted and remain in place and, if so, the amount to be paid for such work, or whether the work shall be removed and replaced or otherwise corrected at the Contractor's expense.



SECTION THRU KEY AT EXPANSION JOINT
Scale: 1 1/2" = 1'-0"



TERMINAL SECTION TYPE 4A MEDIAN
Not to Scale



Payment incidental to Guard Rail, Type 4 A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

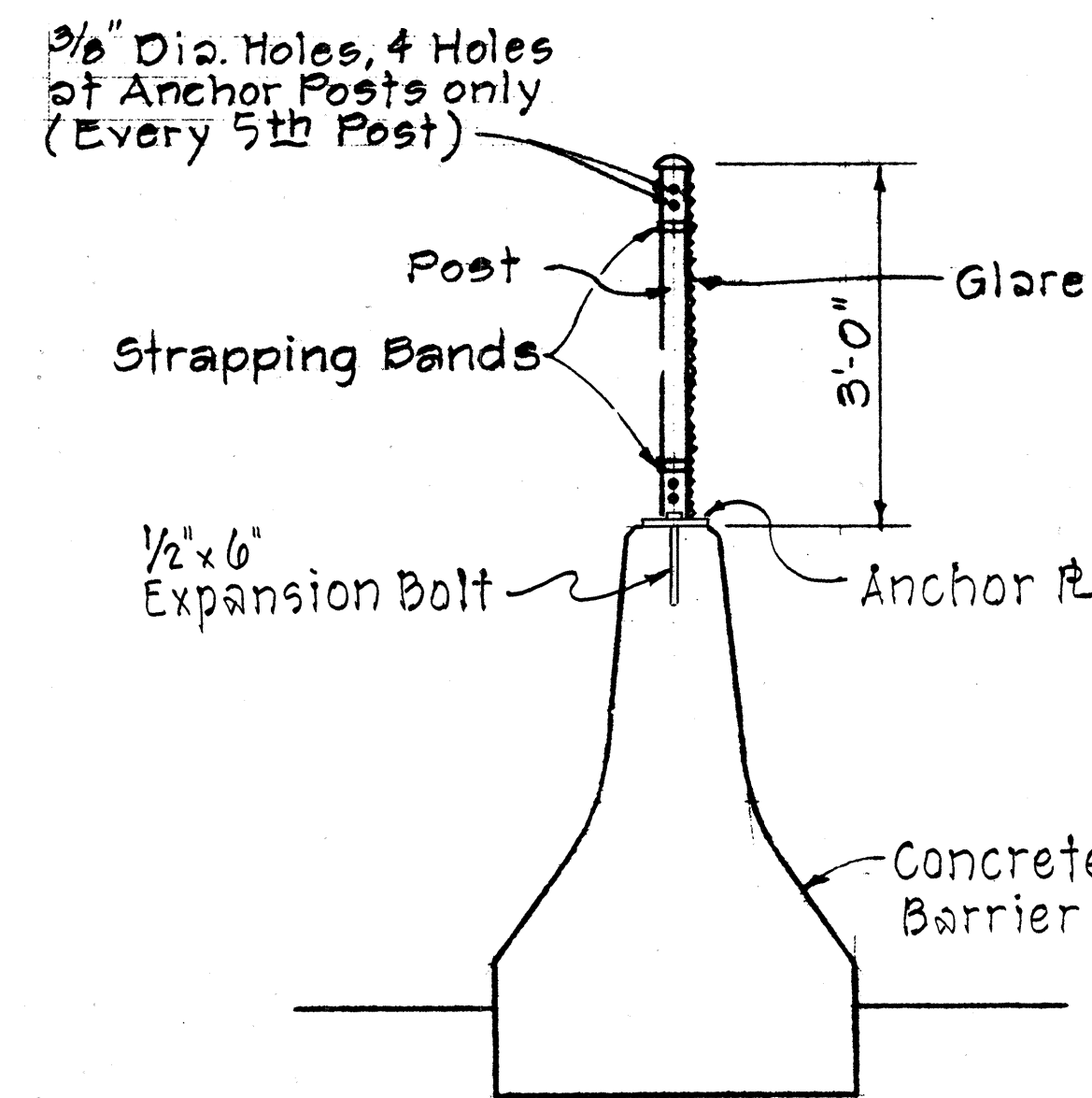
TYPICAL DETAILS GUARD RAIL TYPE 4 (RIGID BARRIER)

Scale: As Shown
SHEET No. 23 OF 35 SHEETS

TYPE	DIFFERENCE IN FIN. GRADE	FOOTING
4C	1'-0" min., 2'-4" max.	1'-0" 4'-0"
4D	Greater than 2'-4", 4'-4" max.	1'-3" 4'-6"

NOTE:
Except where noted all dimensions shall be the same for Type 4C and Type 4D.

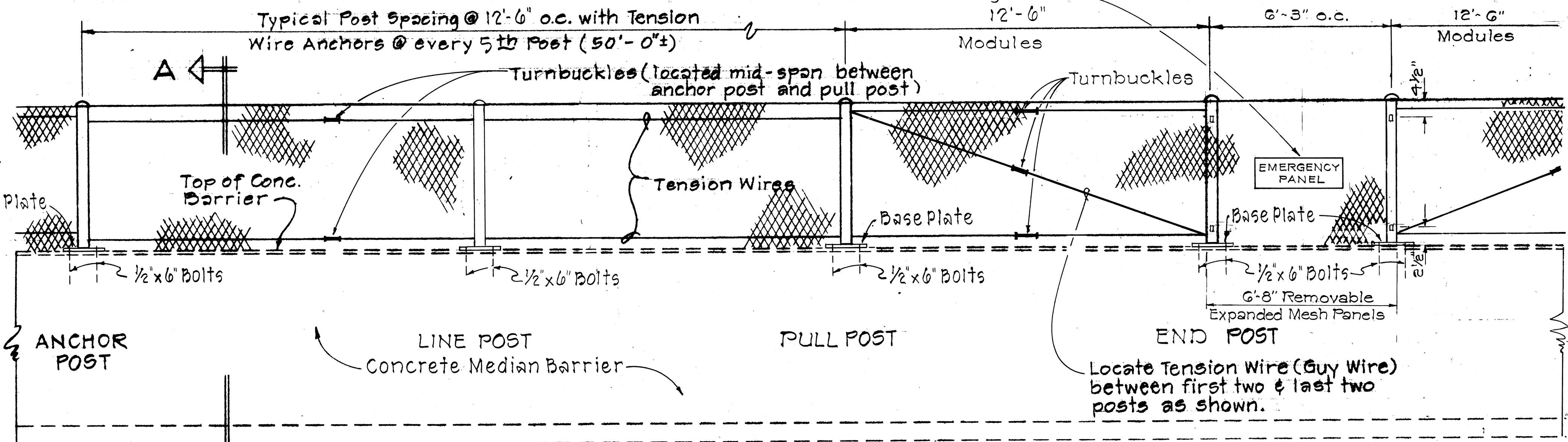
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H-1(46)B	1973	66	104



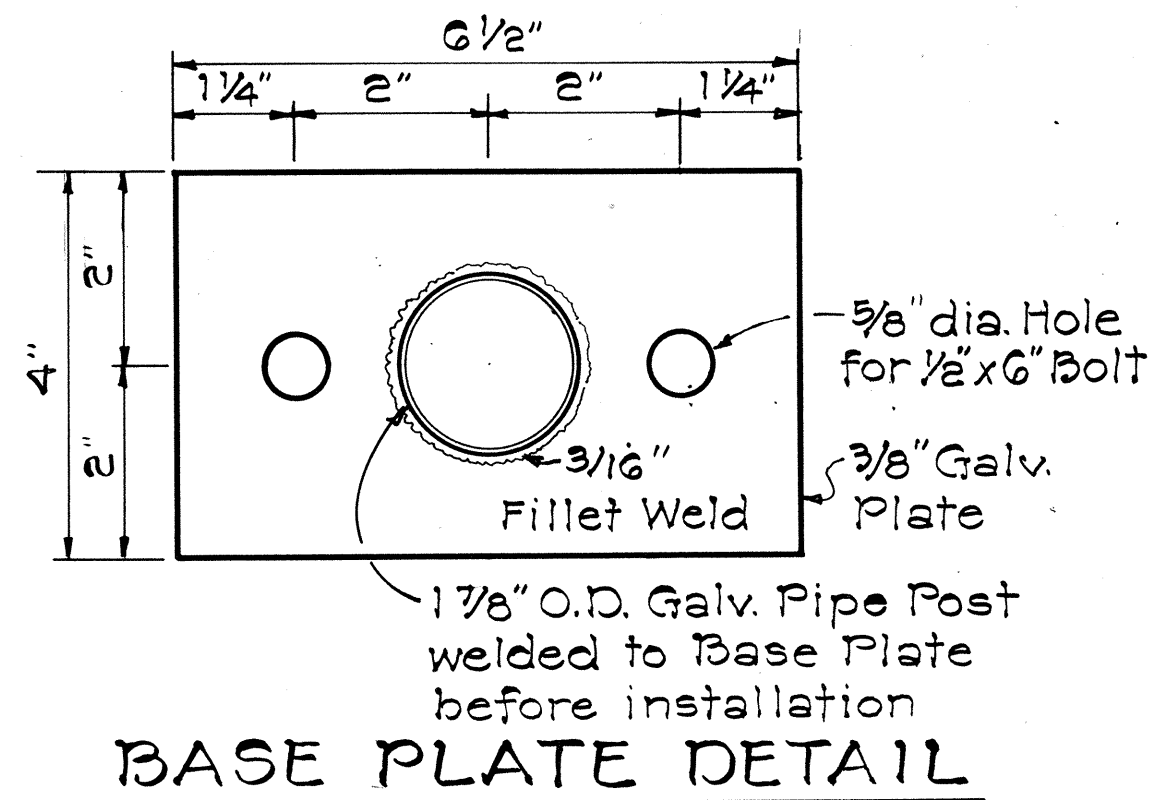
SECTION A-A
Not to Scale

NOTES:

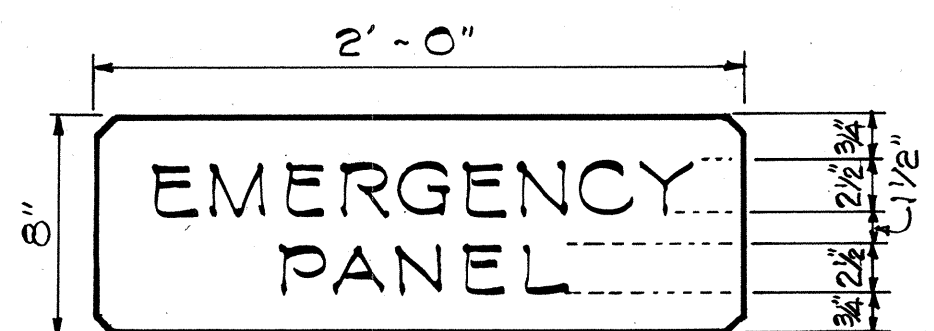
1. Install Removable Expanded Mesh Panels at approximately 600 ft. intervals. Vary spacing to provide a removal panel at each structure crossing over Highway.
2. Removable Expanded Mesh Panels will be paid for under pay item 660.01 - Headlight Glare Screen.
3. The words "EMERGENCY PANEL" shall be black on reflectorized yellow background panel, 0.063" thick aluminum.
4. "EMERGENCY PANEL" sign plates shall not be paid for separately but shall be incidental to Headlight Glare Screen. Approximate quantity of sign plates is 6.
5. The Contractor shall submit 6 sets of shop drawings to the Engineer for approval for connecting the Removable Expanded Mesh Panels to posts. Removable connections shall be designed so that the panels can be removed easily, but also snug enough to prevent shaking or accidental removal.
6. Removable Expanded Mesh Panels shall also be reinforced by stiffeners at the upper and lower ends of the panels. Six (6) sets of the shop drawings shall be submitted to the Engineer for approval.



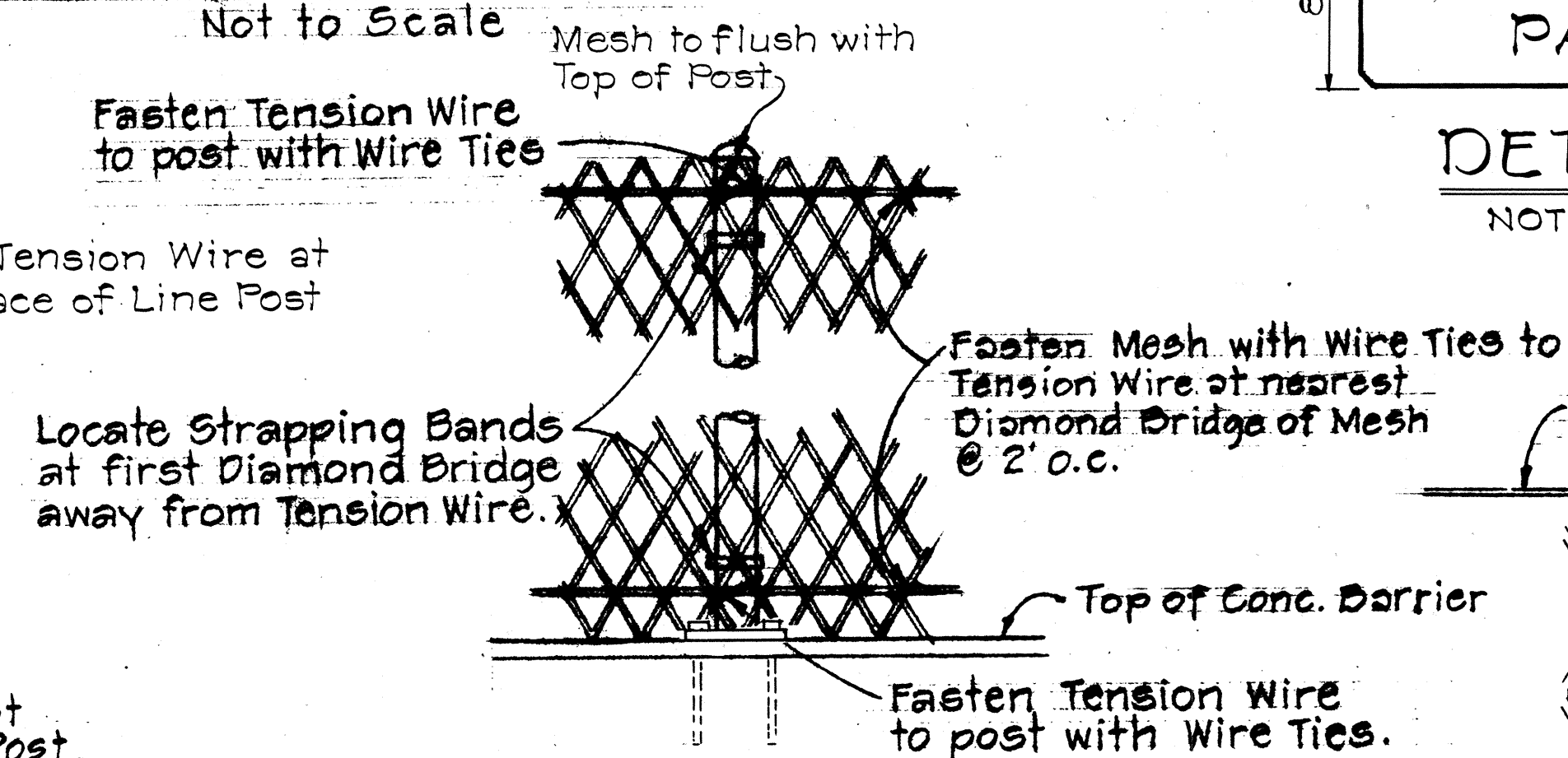
TYPICAL ELEVATION
Not to Scale



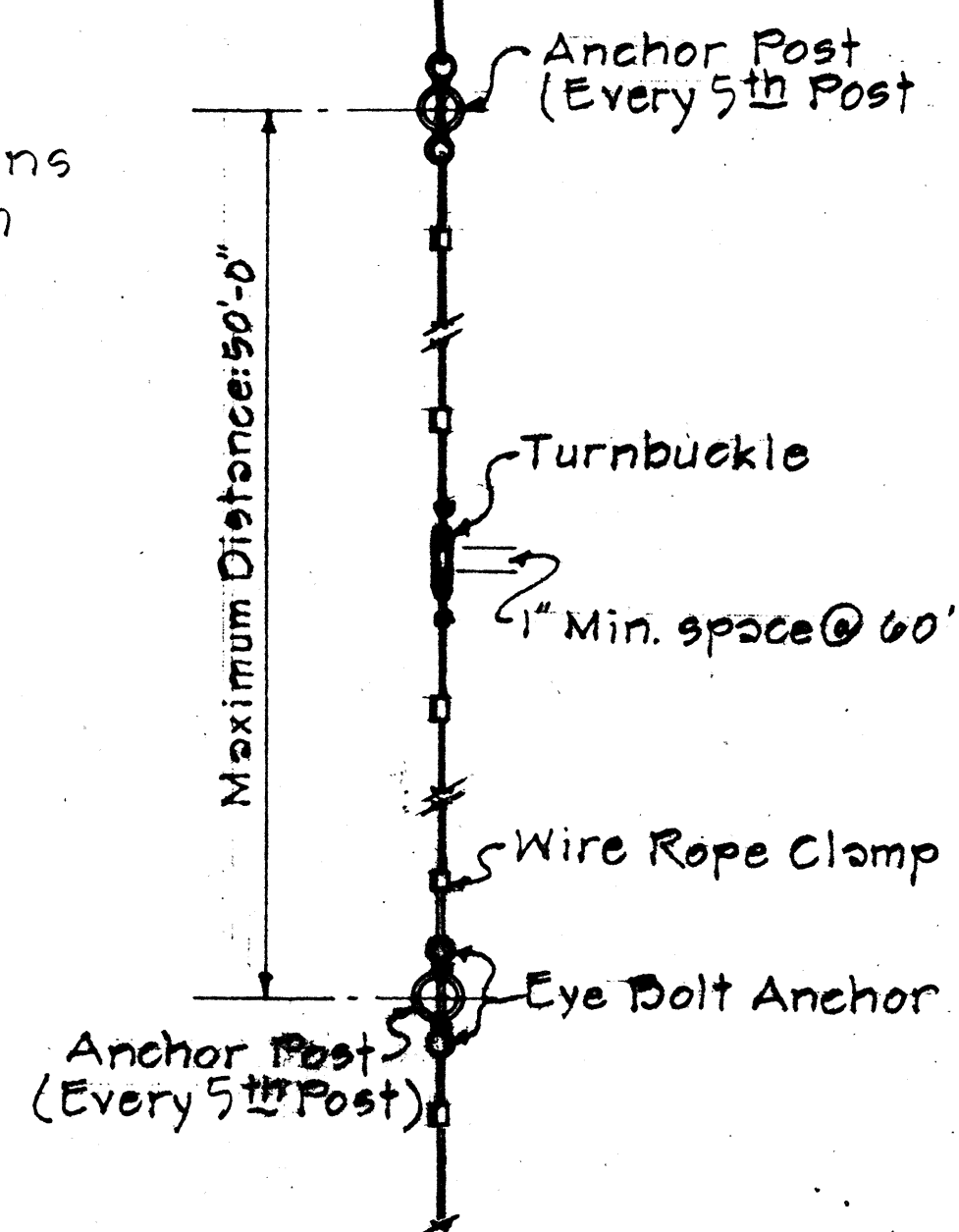
BASE PLATE DETAIL



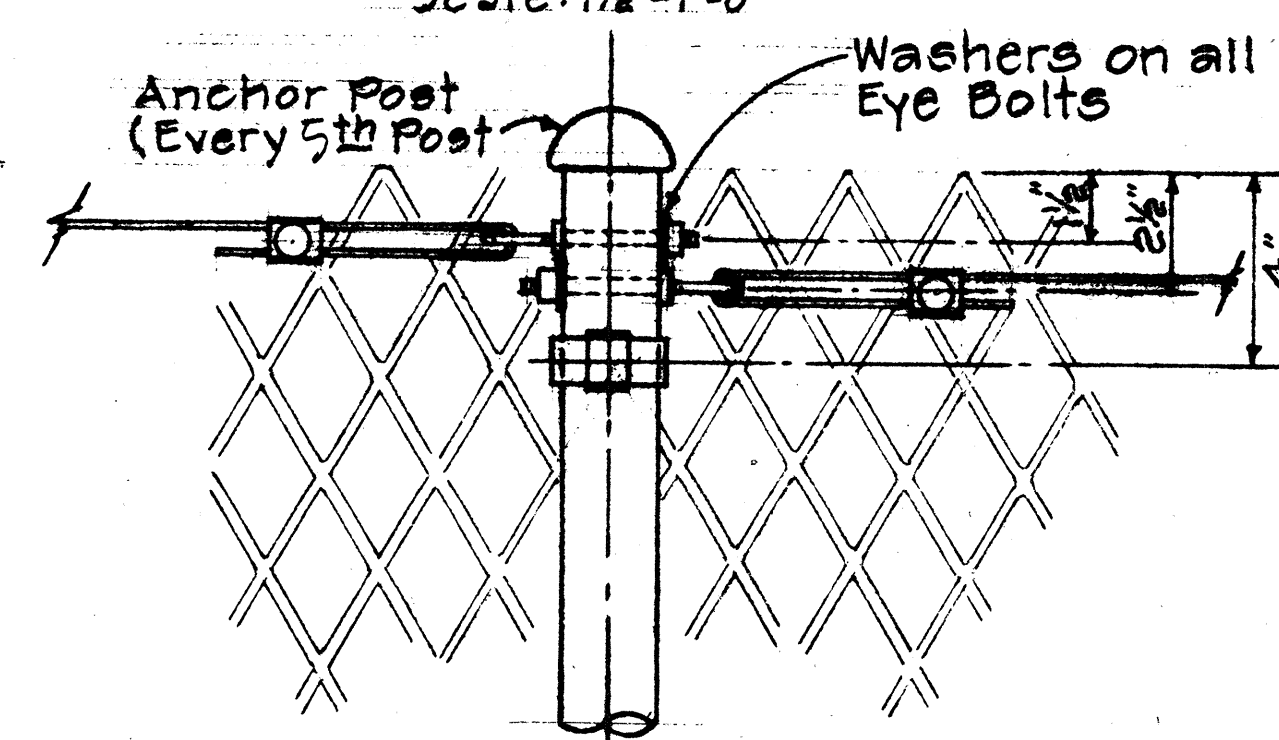
DETAIL "A"
NOT TO SCALE



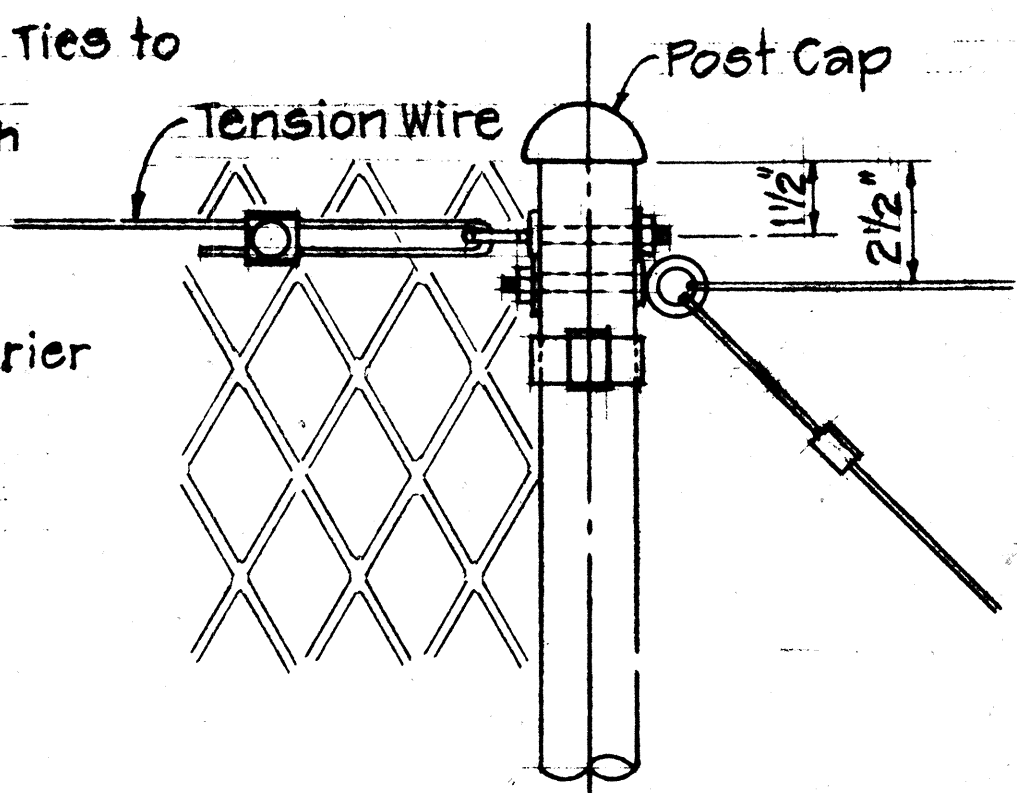
LINE POST CONNECTIONS
(Viewed from Mesh Side)
Scale: 1 1/2" = 1'-0"



TENSION WIRE CONNECTIONS
Scale: 1 1/2" = 1'-0"



TENSION WIRE ANCHOR DETAIL
Scale: 3" = 1'-0"



PULL POST DETAIL
Scale: 3" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**HEADLIGHT
GLARE SCREEN**

(INSTALLATION OVER MEDIAN
CONCRETE BARRIER)

SCALE: AS NOTED
SHEET No. 24 OF 35 SHEETS

DESIGNED BY	DATE
CHECKED BY	
APPROVED BY	
NOTED BY	
REVISIONS	

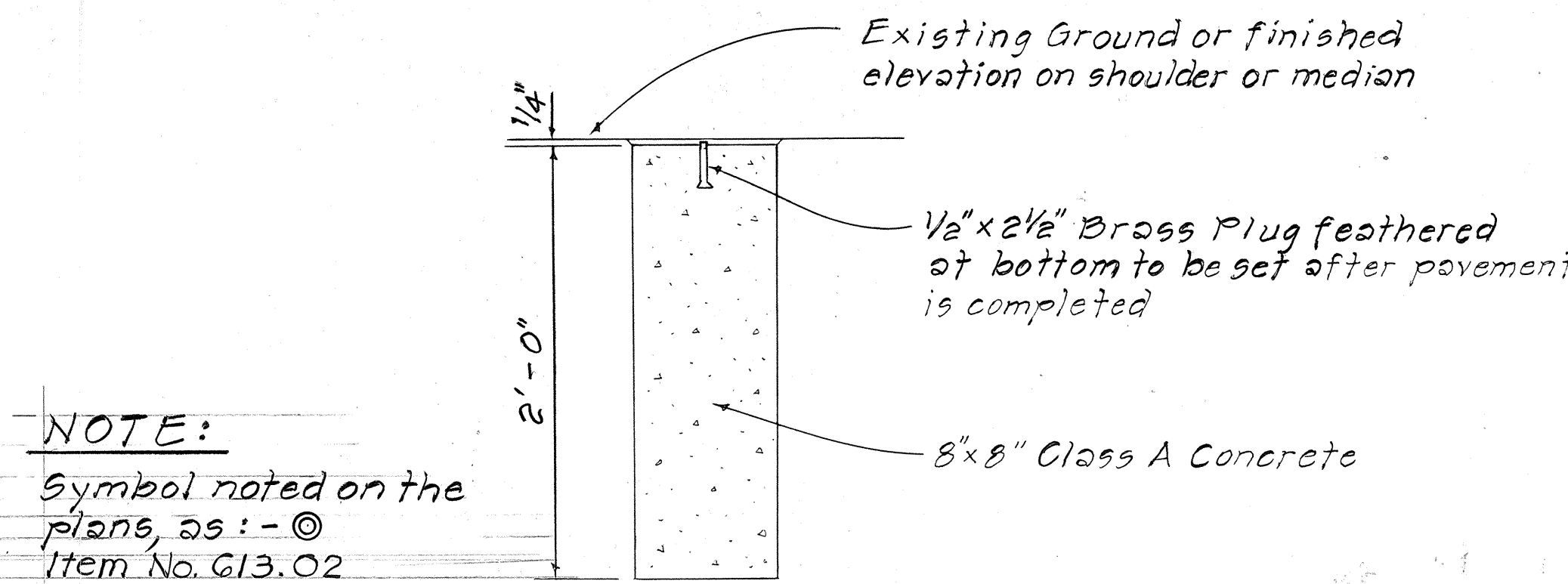
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46):8	1973	67	104

SUMMARY OF EXISTING BENCH MARKS IN PROJECT LIMITS	
ELEVATION	DESCRIPTION AND LOCATION
193.90'	3/4" Pipe 110' offset right from Baseline Inb. Sta. 430+00
151.73'	X Cut on center bar of shoulder C.D.I. frame Outbound (H-2 Outb. Sta. 440+05± Left)
80.03'	Concrete nail on H-2 Outb. Baseline, Structure 13 Sta. 457+60 (At equation Sta.)
74.12'	X Cut in concrete at Baseline, Structure 13 Outbound Sta. 463+00
67.49'	X Cut in concrete at Baseline, Structure 6, Outbound Sta. 472+00
92.80'	X Cut in concrete at Baseline, Structure 13, Inbound Sta. 457+82 (At equation Sta.)
88.52'	Square cut on end of end post left side, Structure 5 Inbound Sta. 471+25
85.14'	X Cut in concrete at Baseline, Structure 16, Abutment 1, Inbound Sta. 497+00
84.47'	Square cut on top of retaining wall, Ramp M Station Line Sta. 5+50 Right
68.14'	X Cut in concrete at Baseline, Structure 14, Abutment 1, Ramp H2-0 Sta. 500+70
34.14'	Square cut on North sidewalk of Waialae Stream Bridge, 70' East of Ramp "N" at Station Line 12+45.74

- NOTE:
1. The Bench Marks were placed in the preceding contract and a few may be missing at the time of the construction of this project.
 2. The Bench Marks are noted on the plan, as:
B.M. 7.

SUMMARY OF CENTERLINE AND REFERENCE SURVEY MONUMENTS					
LOCATION (STATION)	OFFSET FROM AND IN FEET			AMOUNT OF MONUMENTS ITEM No.	
	LEFT	0	RIGHT	613.01 Δ	613.02 ©
Sta 430+00	57	0	57	1	2
Sta 431+71.61	57	0	57	1	2
Sta 435+50	57	0	69	1	2
Sta 439+87.42	57	0		1	1
INB. Sta 445+94.76	10				
INB. Sta 453+99.47	6		35		2
INB. Sta 466+00	5		35		2
INB. Sta 470+50	5		35		2
OUTB. Sta 445+94.76	36				1
OUTB. Sta 450+36.55	36		21		2
OUTB. Sta 455+39.20	35		46		2
OUTB. Sta 464+21.97	51		5		2
OUTB. Sta 467+68	36		5		2
RAMP H2-I Sta 485+00	23		14		2
RAMP H2-I Sta 494+50	25		15		2
RAMP H2-I Sta 504+43.74	25		5		2
RAMP H2-I Sta 509+00	25		5		2
RAMP H2-I Sta 514+49.06	25		5		2
RAMP H2-I Sta 519+37.87	23		64		1
RAMP H2-0 Sta 494+00	19		11		2
RAMP H2-0 Sta 500+00	19		11		2
RAMP H2-0 Sta 507+00	11		5		2
RAMP H2-0 Sta 514+25.35	25		34		2
RAMP 'M' Sta 0+50	45		20		2
RAMP 'M' Sta 3+18.86	25		8		2
RAMP 'M' Sta 5+39.35	27		10	1	1
RAMP 'M' Sta 10+50	24				1
RAMP 'M' Sta 15+33.91	25		5		2
RAMP 'N' Sta 1+00	24				1
RAMP 'N' Sta 3+93.40	24		5		2
RAMP 'N' Sta 6+63.81	24		5		2
RAMP 'N' Sta 10+35.86	24		5		2

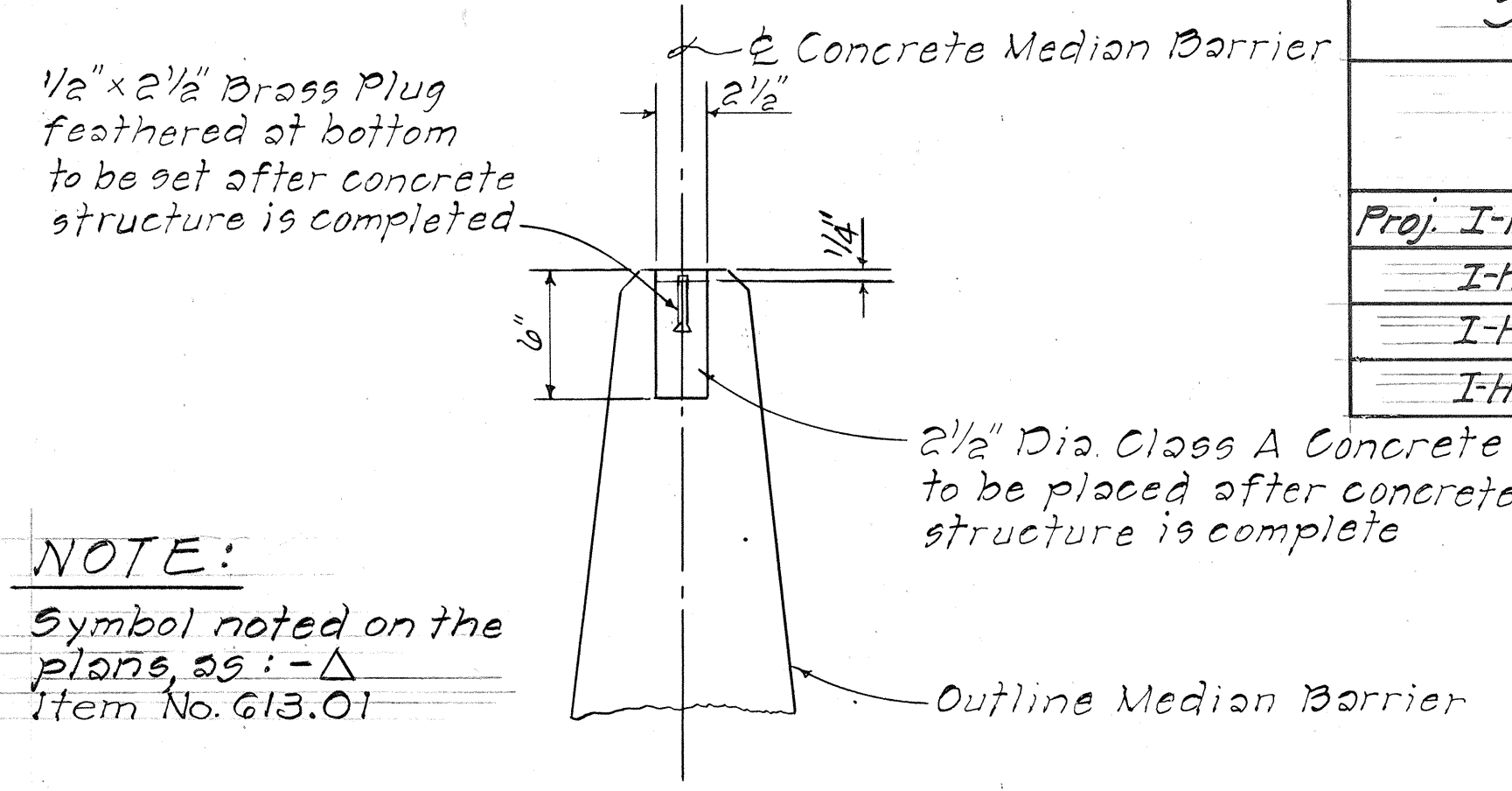
SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



NOTE:
Symbol noted on the plans, as: - ©
Item No. 613.02

DETAIL FOR Δ AND REFERENCE SURVEY MONUMENT

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



NOTE:
Symbol noted on the plans, as: - Δ
Item No. 613.01

DETAIL FOR Δ AND REFERENCE SURVEY MONUMENT ON CONCRETE MEDIAN BARRIER

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

SURVEY MONUMENTS SUBSTITUTED*			
LOCATION (STATION)		APPROX. OFF. SET FROM Δ	AMT OF MON. ITEM 613.02 ©
Proj. I-H2-1(12):0 Sta. 428+50±		130± Lt.	1
I-HI-1(46):8 I.B. Sta. 442+88±		131± Lt.	1
I-HI-1(46):8 I.B. Sta. 456+67±		150± Rt.	1
I-HI-1(46):8 I.B. Sta. 465+02±		51± Rt.	1

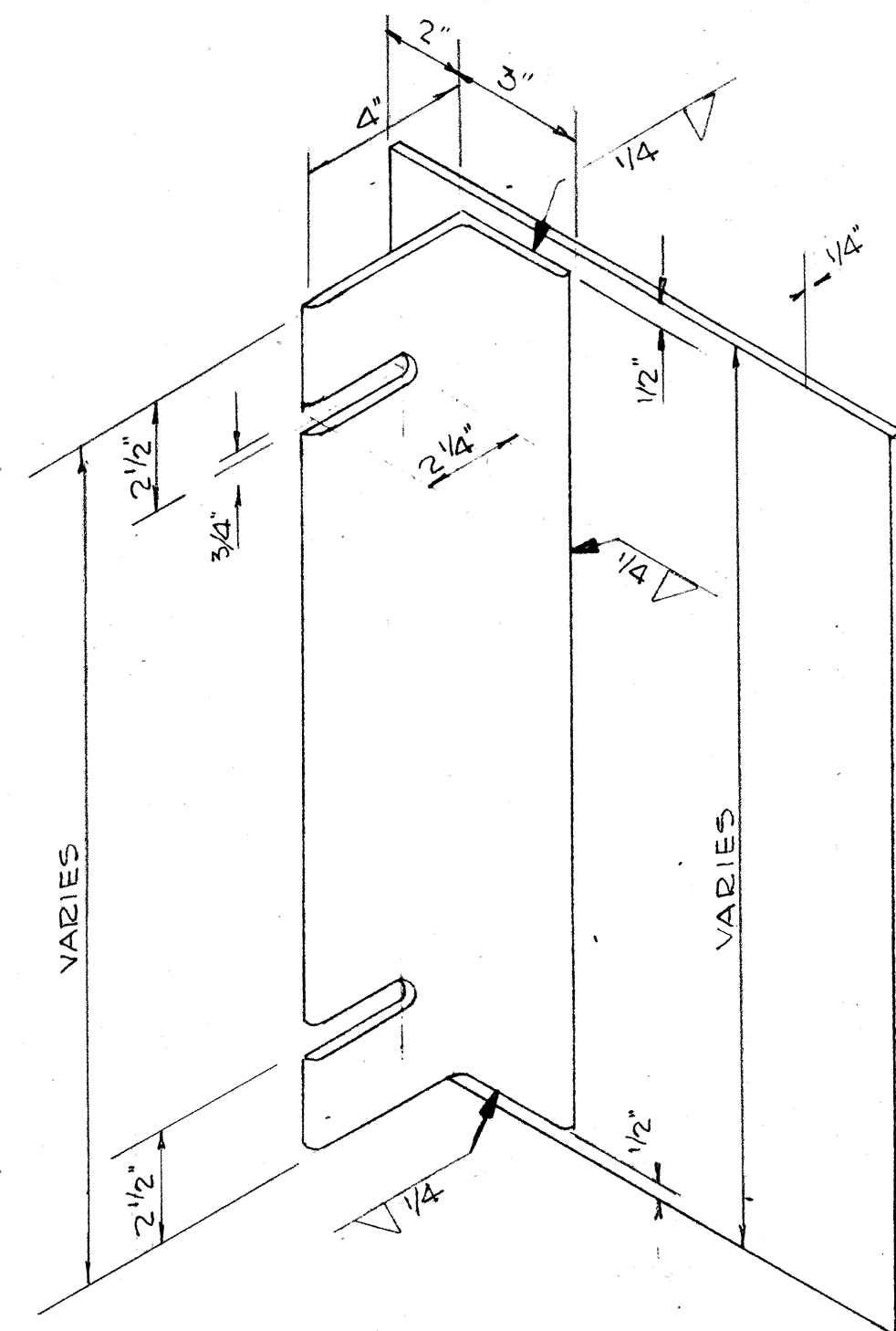
* Coordinates of Mons. to be established by Cadastral Division of Hwy. Dept.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

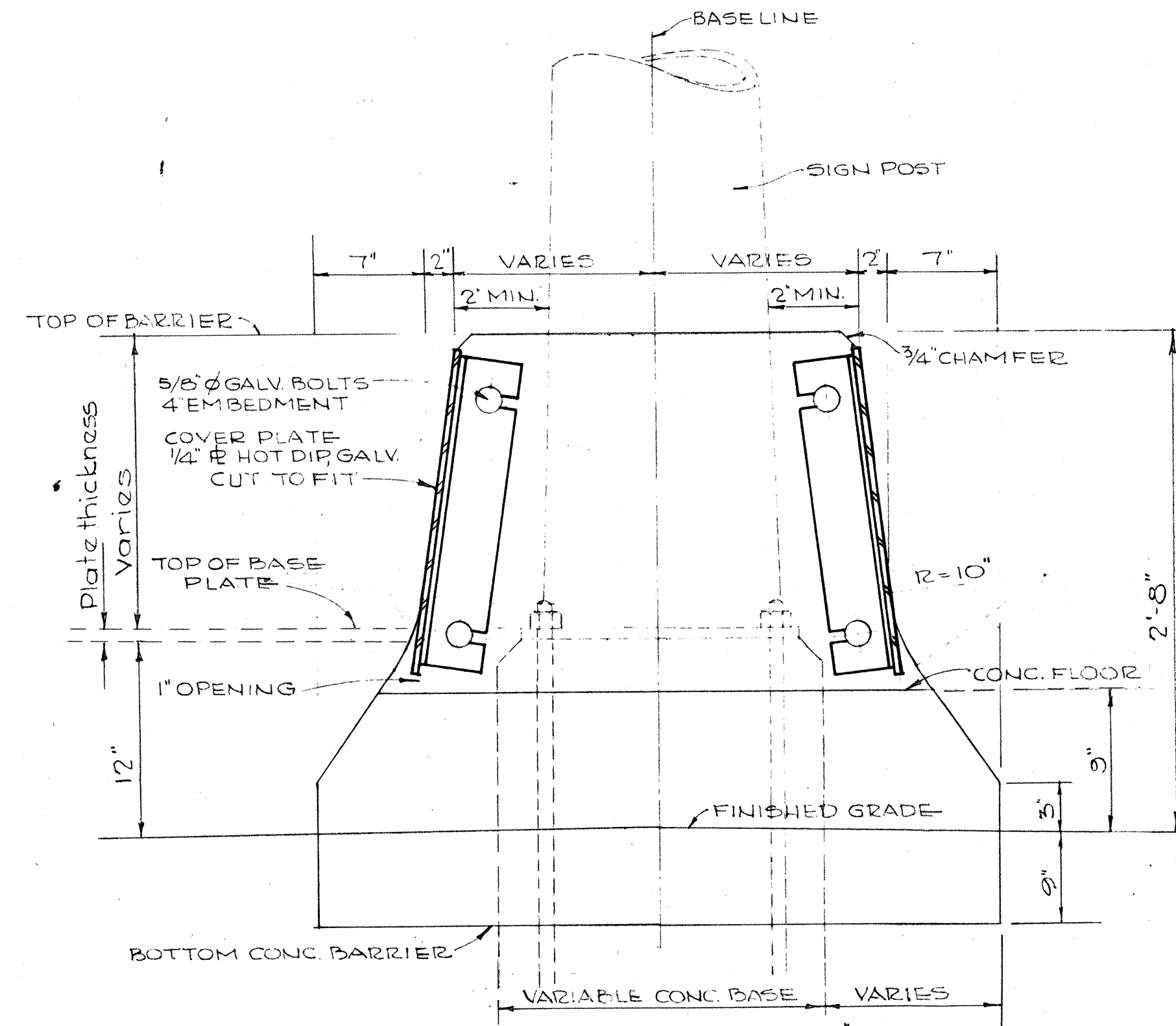
INTERSTATE ROUTE H-1
WAIKAWA INTERCHANGE
F.A.I. PROJ. No. I-HI-1(46):8
(PAVING OF H-2 CONNECTION)

Scale: As Shown
SHEET No. 25 OF 35 SHEETS

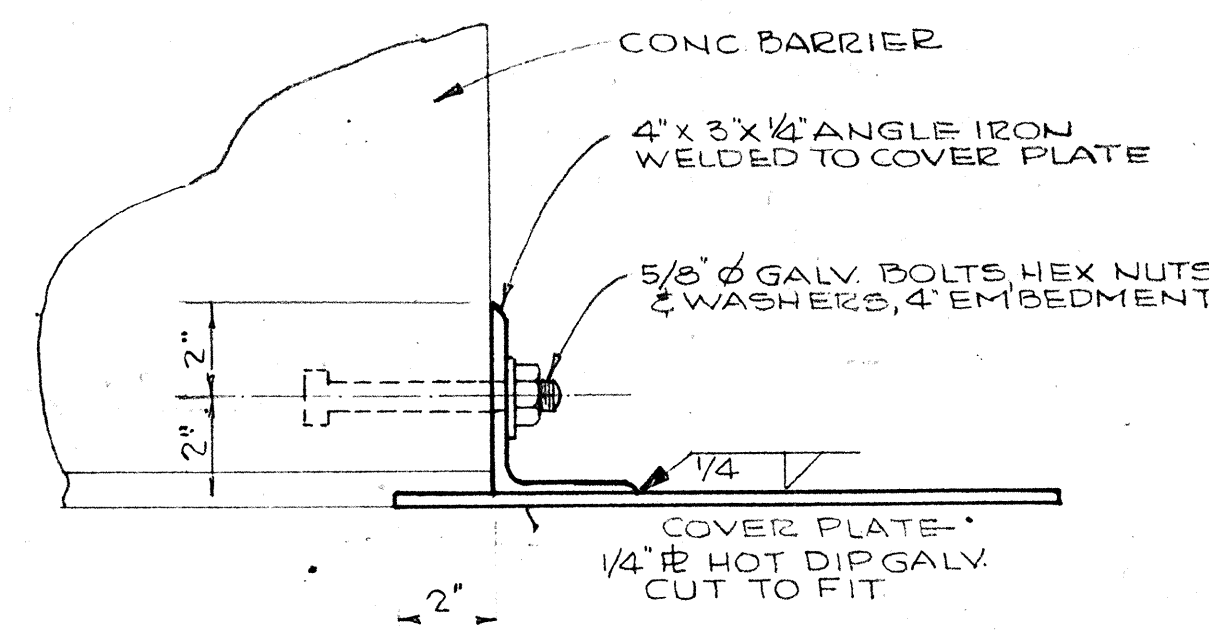
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46):8	1973	68	104



**ANGLE IRON
COVER PLATE DETAIL**
SCALE - 3" = 1'-0"



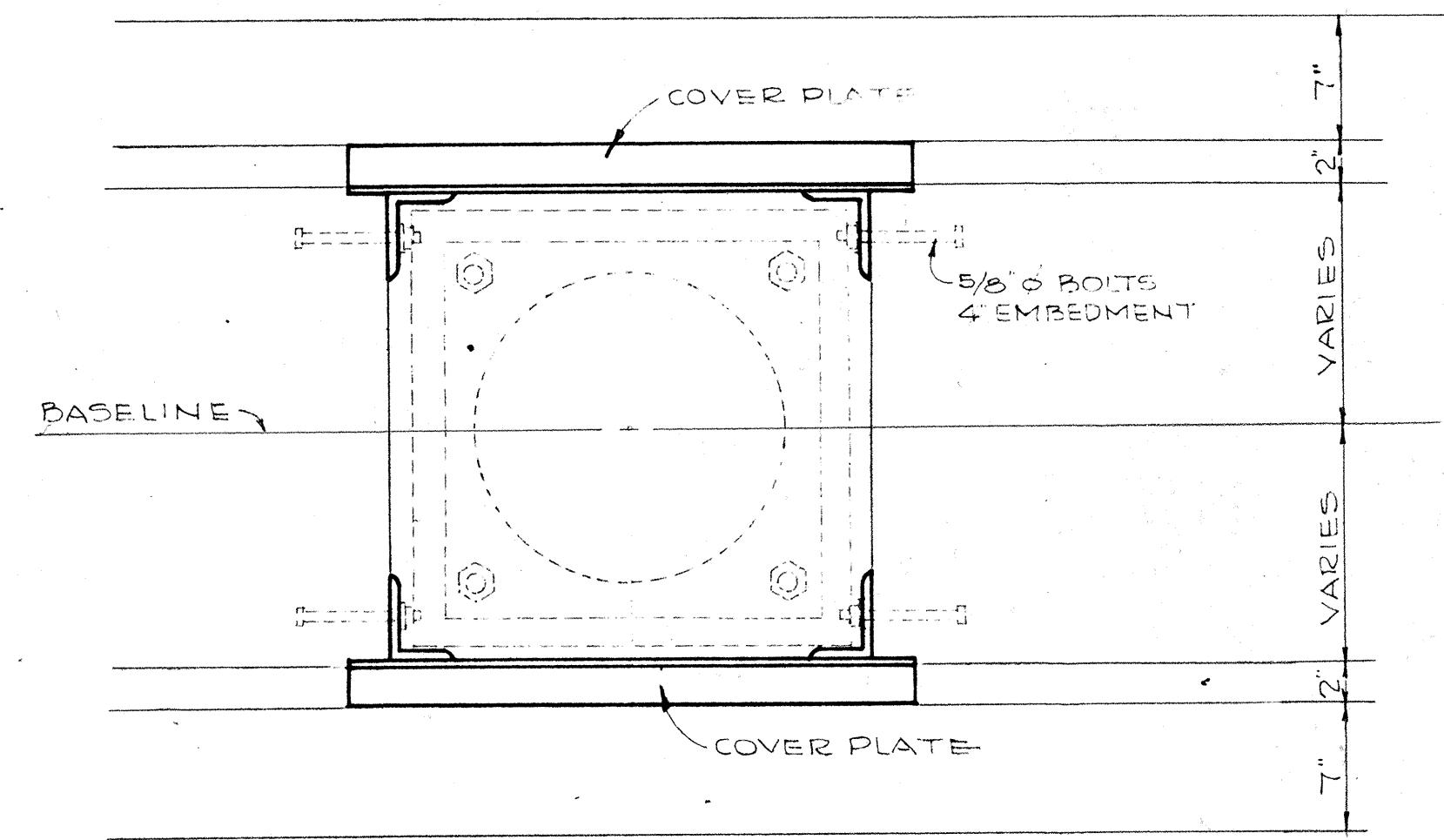
SECTION "A"-"A"
SCALE - 1/2" = 1'-0"



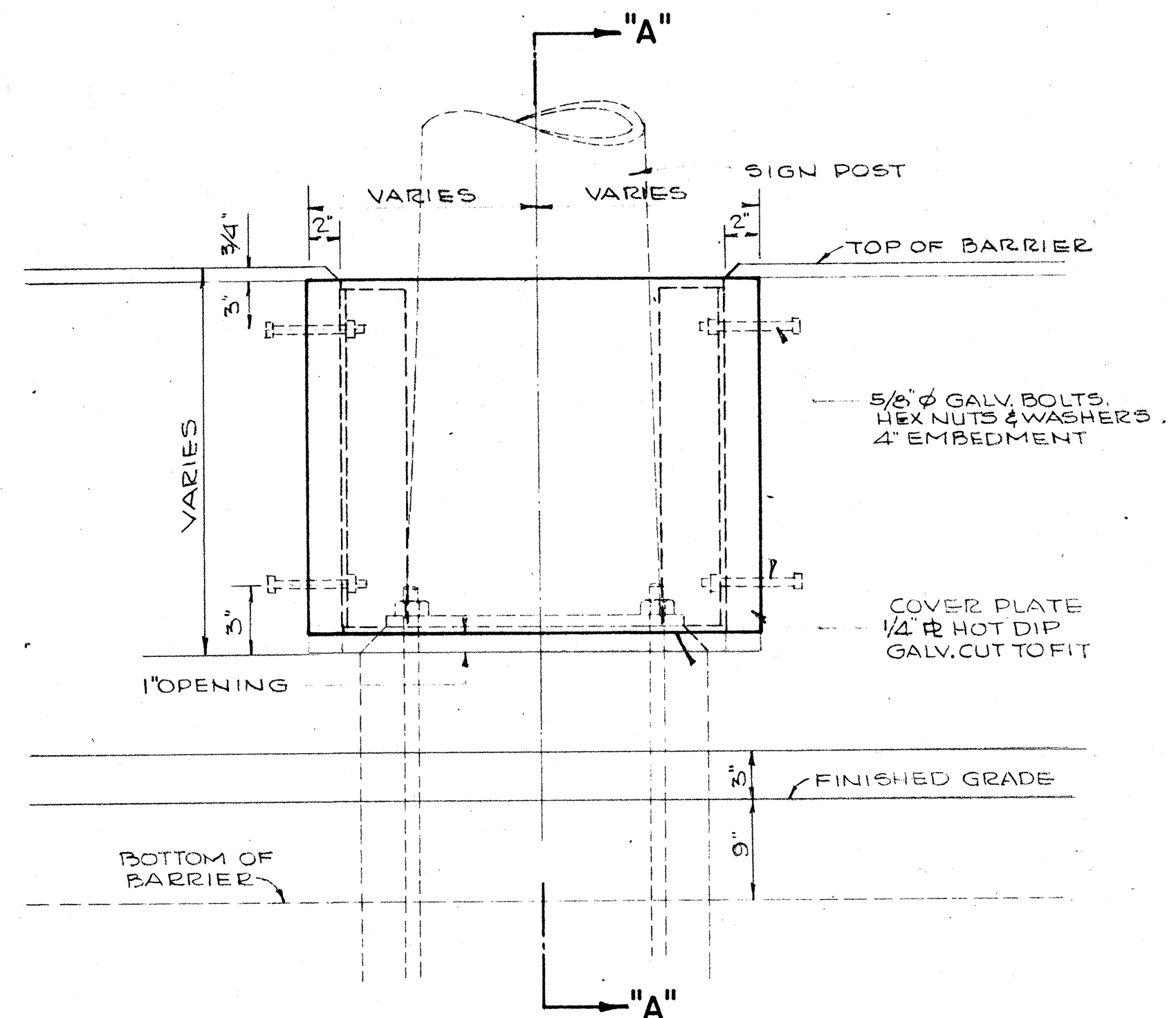
COVER PLATE ANCHOR DETAIL
SCALE - 3" = 1'-0"

NOTE:

1. Constructing Concrete Barrier at Expressway Sign Pole bases shall consist of all work and materials necessary for constructing the barrier as shown on the plans. Furnishing and installing the steel cover plate, angle iron, bolts, nuts, washers and all other appurtenances necessary to complete the work shall be considered incidental to Concrete Median Barrier and no extra payment shall be made.
2. The length and width of the steel cover plate shall be determined in the field.
3. Refer to Concrete Barrier details for dimensions.



PLAN
SCALE - 1/2" = 1'-0"



ELEVATION
SCALE - 1/2" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

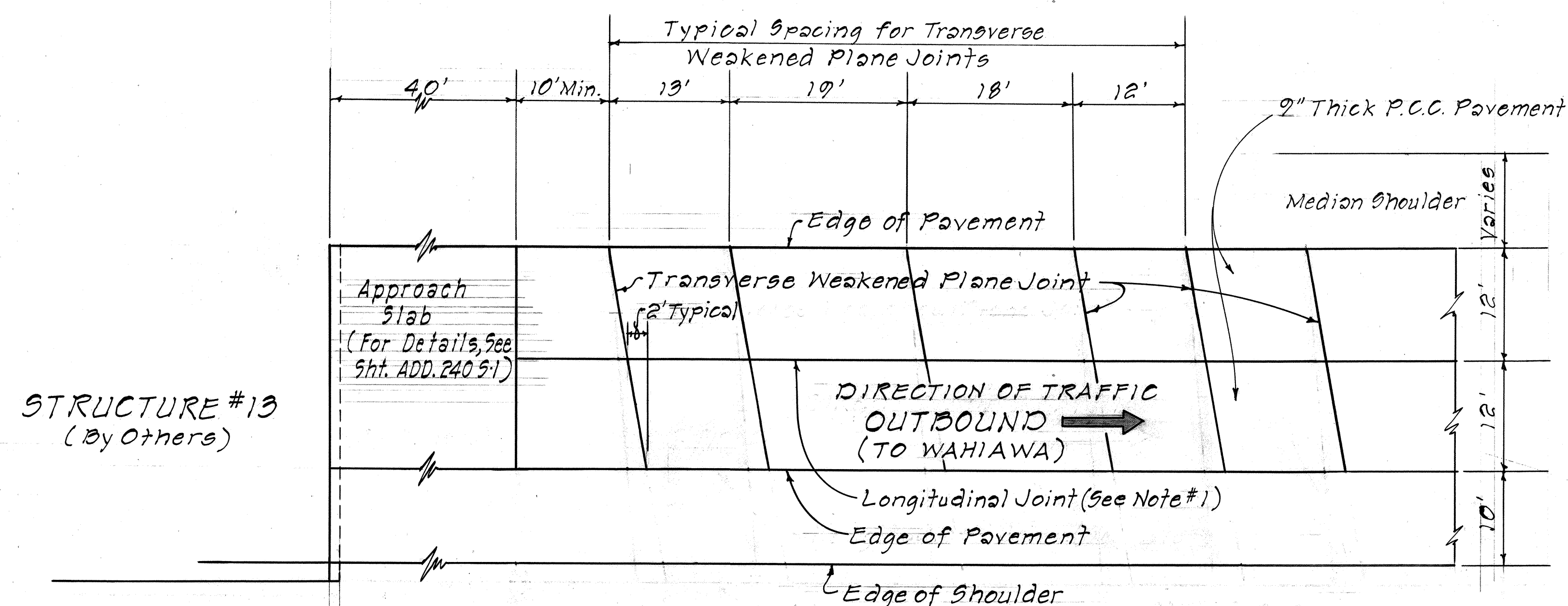
**CONCRETE BARRIER
AT EXPRESSWAY SIGN POLE**

INTERSTATE ROUTE H-1
WAIKAWA INTERCHANGE
FAI Proj. No. I-HI-1(46):8
Scale: As Shown Date: MAR. 1973

SHEET No. 26 OF 35 SHEETS

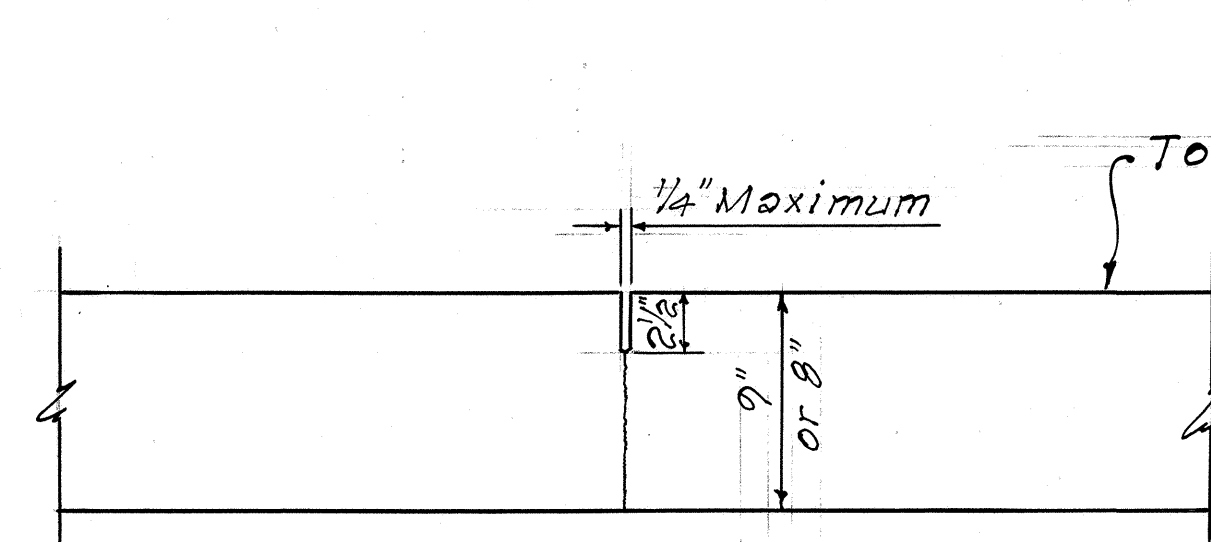
ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)B	1973	63	104



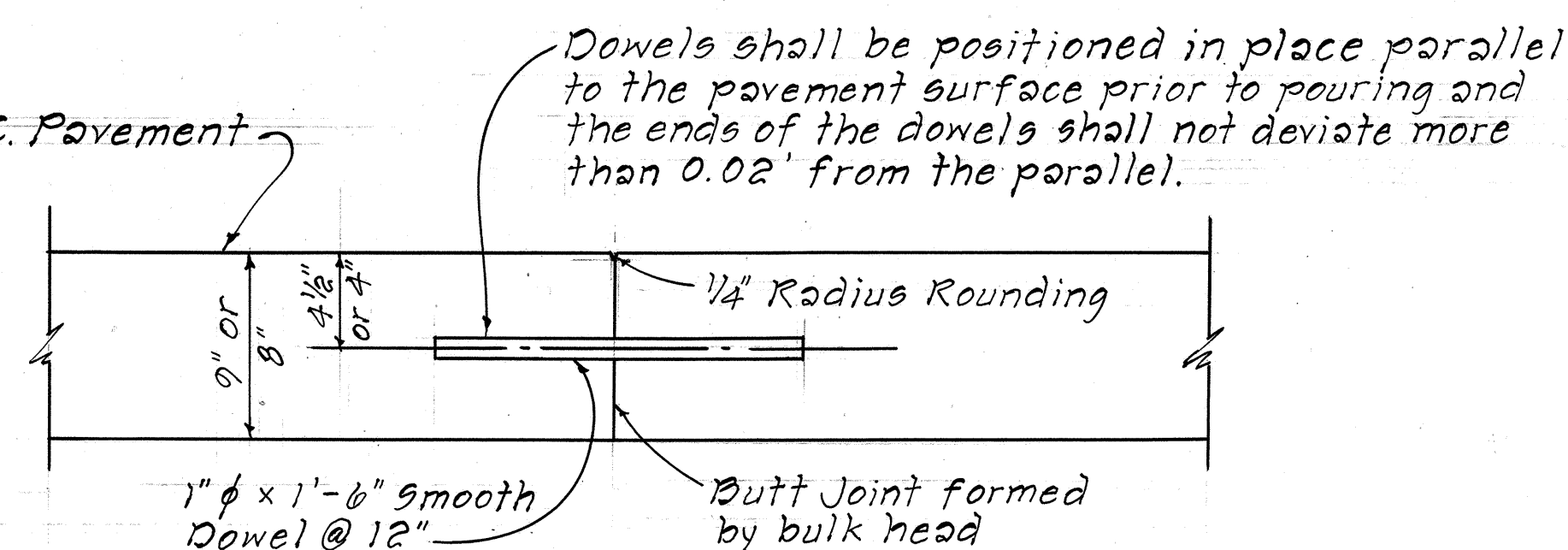
TYPICAL JOINT LOCATION AND LAYOUT PLAN

Scale: 1"=10'



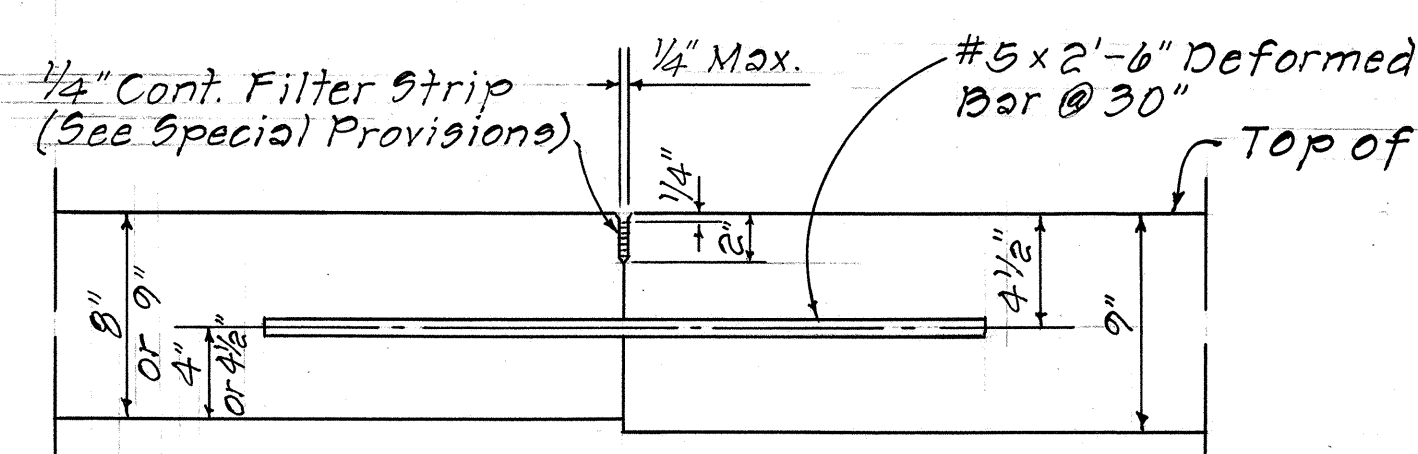
TRANSVERSE WEAKENED PLANE (CONTRACTION JOINT)

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



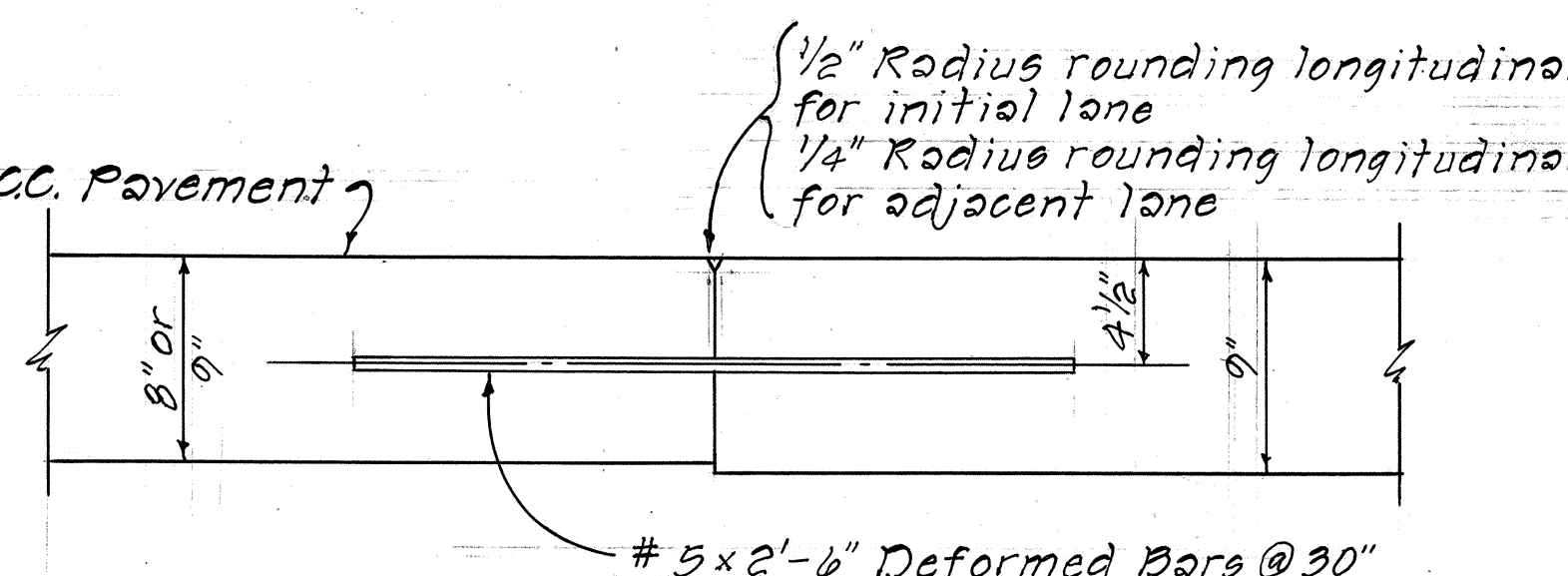
TRANSVERSE CONSTRUCTION (CONTACT) JOINT

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



LONGITUDINAL WEAKENED PLANE (CONTRACTION JOINT)

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

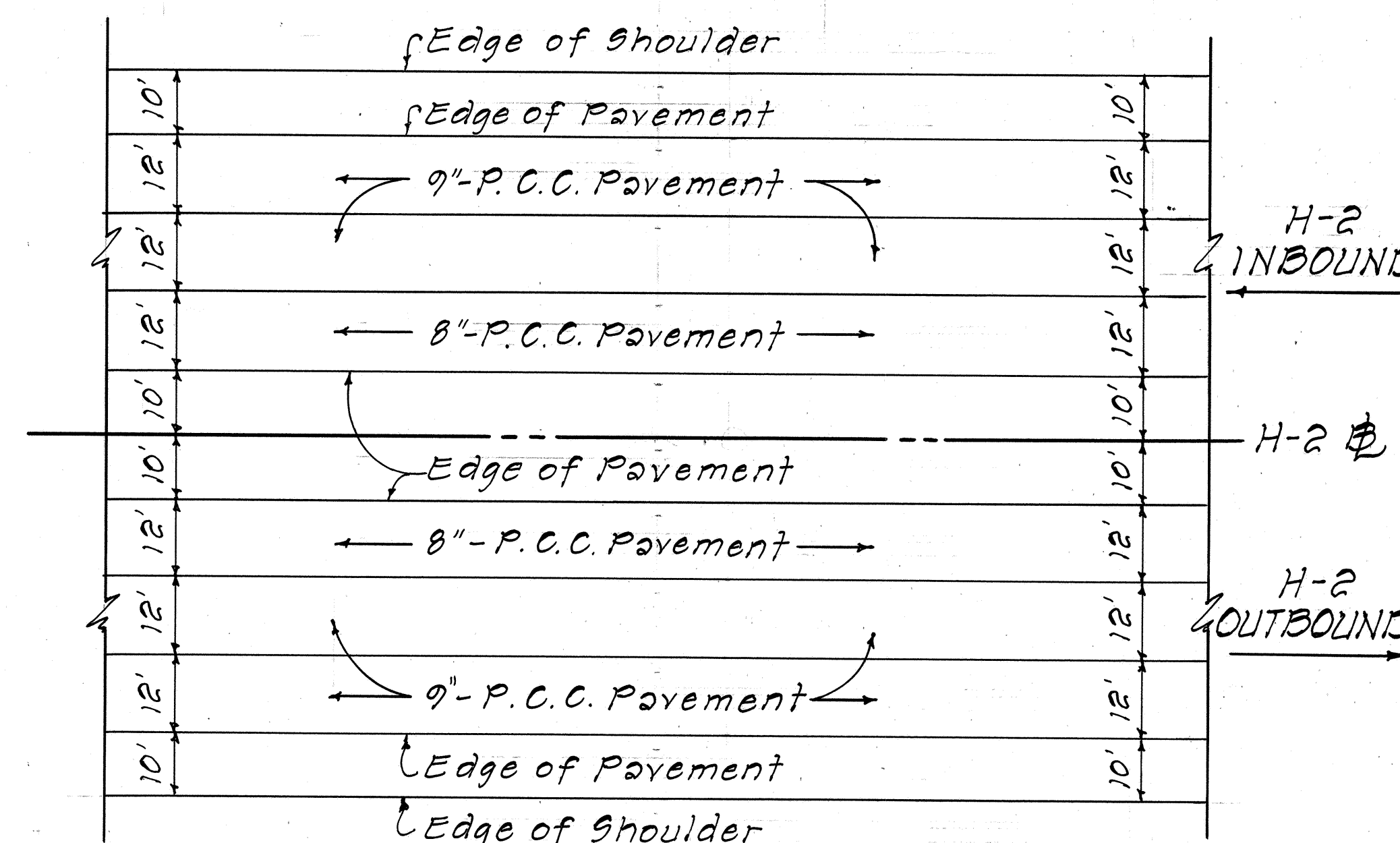


LONGITUDINAL CONSTRUCTION (CONTACT) JOINT

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

GENERAL NOTES

1. The longitudinal weakened plane joint detail shall be applicable at the intermediate traffic lane edge when two or more lanes are paved in one continuous pour. The straight tie bars shall be placed mechanically to the depth shown on the detail. All other longitudinal joints shall be constructed in accordance with the contact joint detail shown on this plan.
2. Transverse weakened plane joints shall be sawed diagonally as shown, unless otherwise directed by the Engineer. Under typical conditions transverse weakened plane joints shall be skewed counter-clockwise with an offset of 2' for every 12' of lane width from the perpendicular to the median.
3. Transverse weakened plane joints shall be spaced at successive intervals of 13', 19', 18', and 12' in the direction of traffic. Repeat for the remaining joints.
4. Transverse contact joints shall be located at a minimum distance of 10' from the nearest planned transverse weakened plane joint.
5. At the outer edge of the P.C.C. pavement, 1/2" radius rounding shall be utilized longitudinally.



TYPICAL SIX (6) LANE SECTION

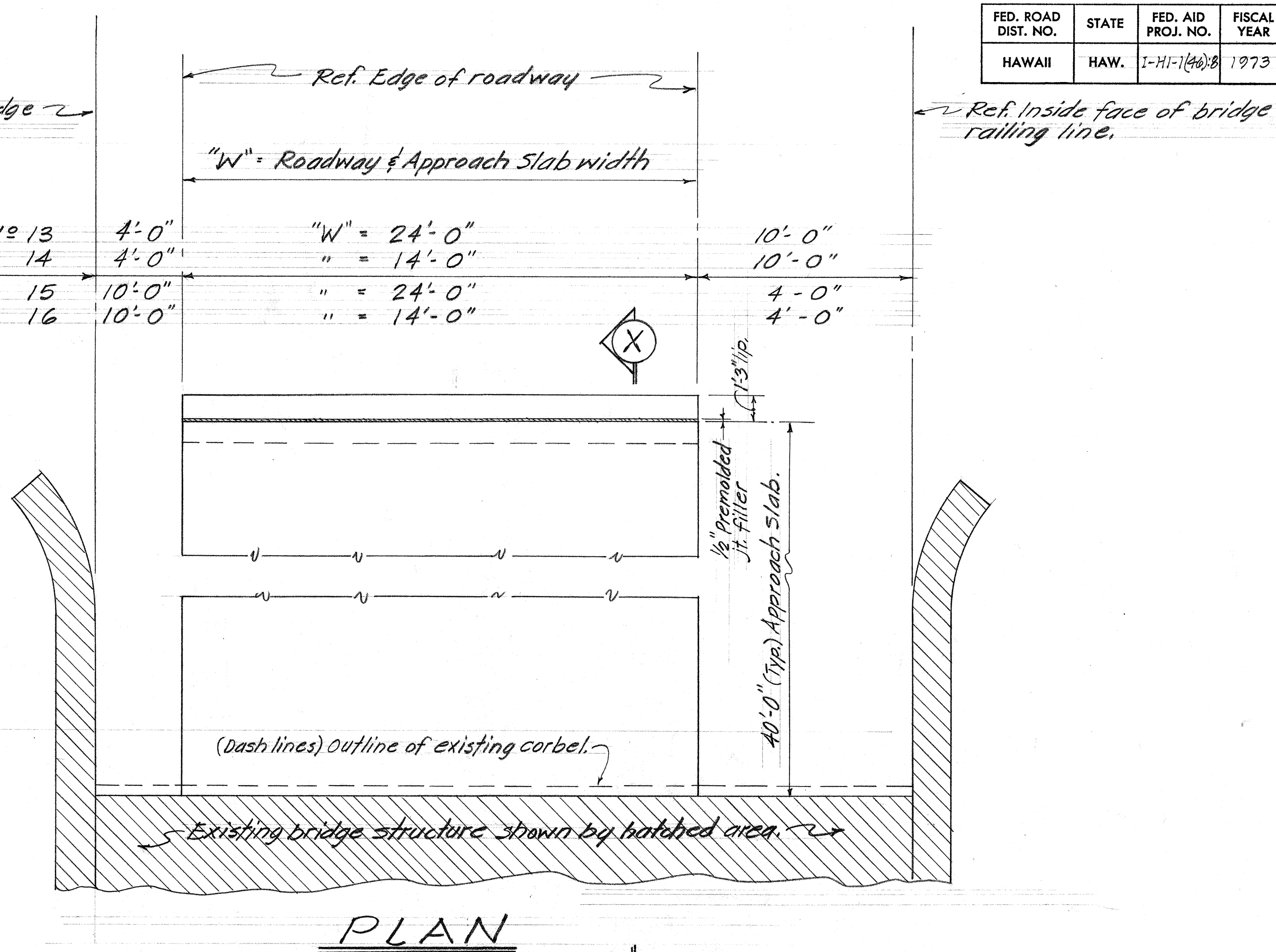
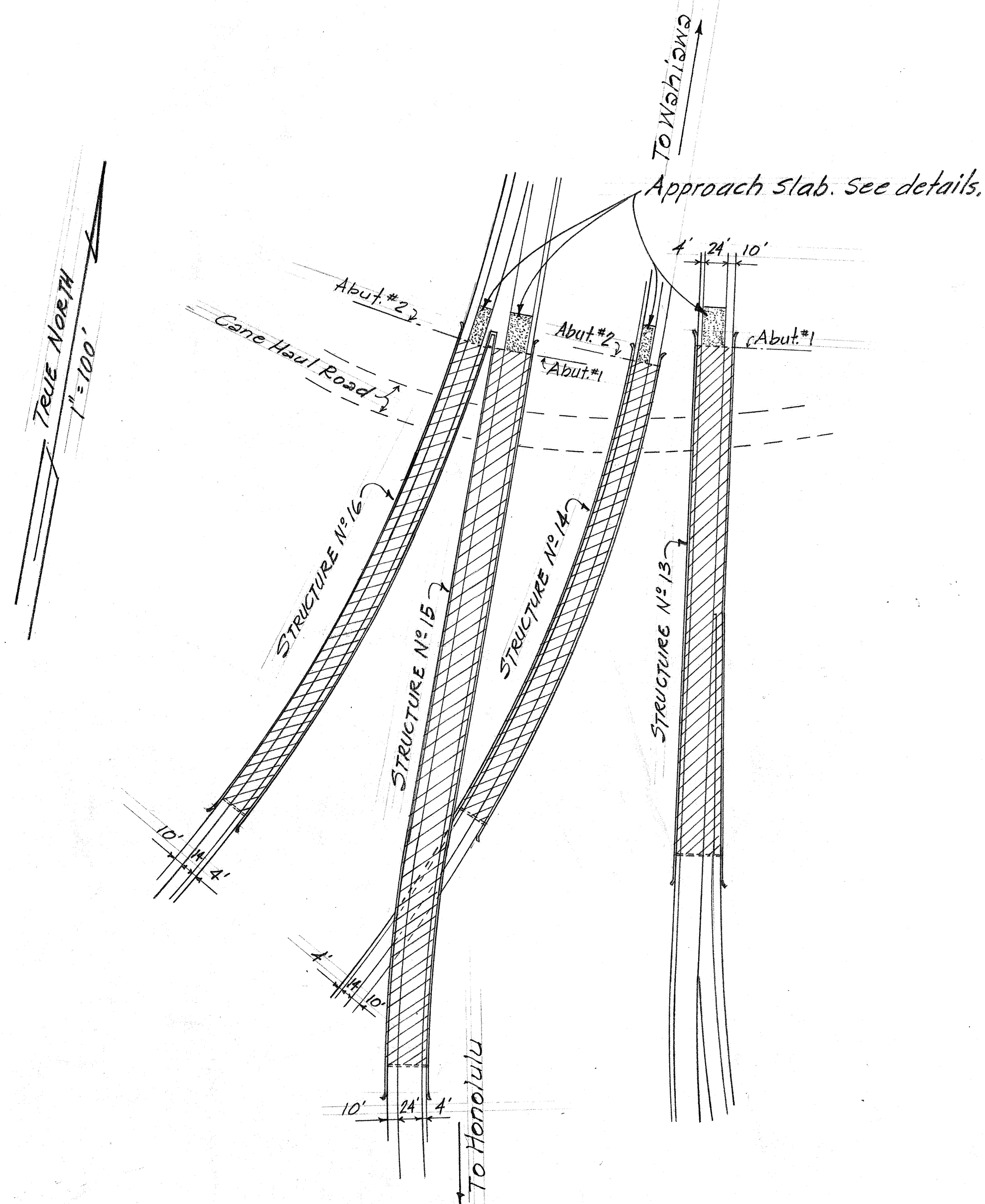
Scale: 1"=20'

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
P.C.C. PAVEMENT JOINT DETAILS	
INTERSTATE ROUTE H-1 WAI'AWA INTERCHANGE (PAVING OF H-2 CONNECTION) F.A.I. PROJ. No. I-HI-1(46): 8	
Scale: As Shown	Date: Mar. 1973
SHEET No. 27 OF 35 SHEETS	

5/24/73	Approach Slab (40') on Wahiawa Side of Structures 13, 14, 15 & 16
DATE	REVISION

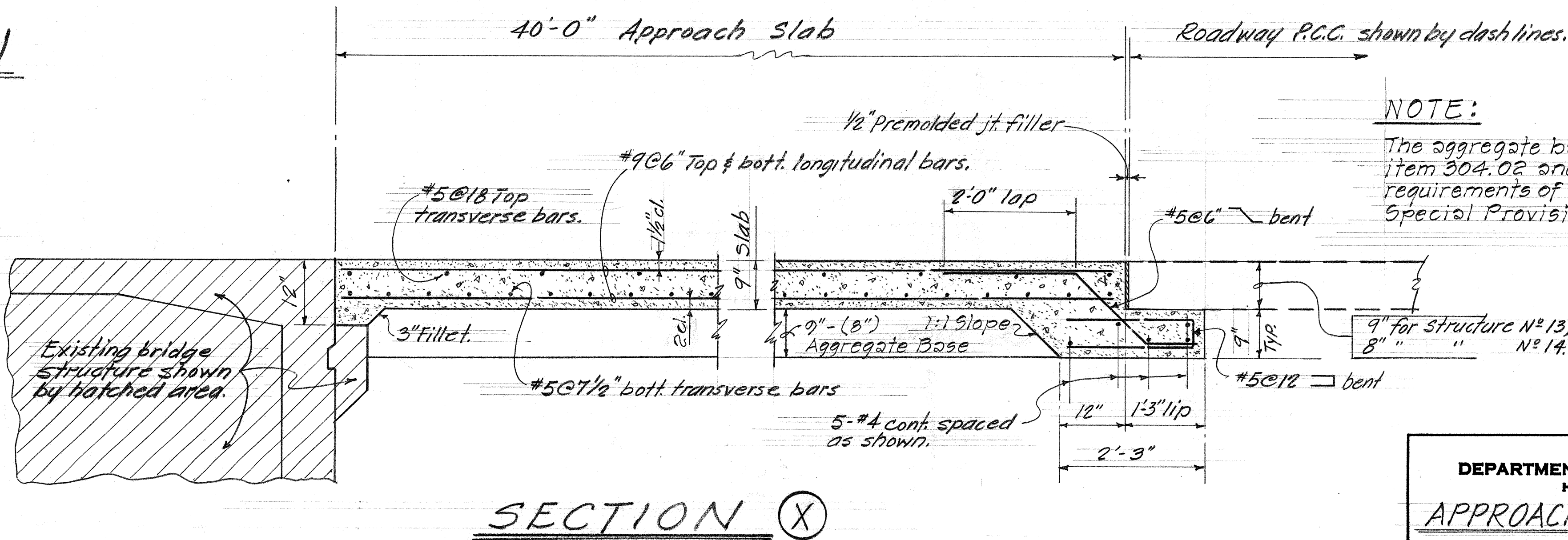
ADD. 240

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)B	1973	695-1	104



APPROACH SLAB LOCATION PLAN

ESTIMATED QUANTITIES		
STRUCTURE	ITEM No. 503.071-CONC. IN APPROACH SLAB-(L.S.)	ITEM No. 606.011-REINF. STEEL IN APPR. SLAB-(L.S.)
# 13	29 Cu. Yds.	8,419 Lbs.
# 14	17 Cu. Yds.	4,911 Lbs.
# 15	29 Cu. Yds.	8,419 Lbs.
# 16	17 Cu. Yds.	4,911 Lbs.
TOTAL	92 Cu. Yds.	26,660 Lbs.



NOTE:
The aggregate base will be paid under item 304.02 and shall conform to the requirements of Section 304 of the Special Provisions.

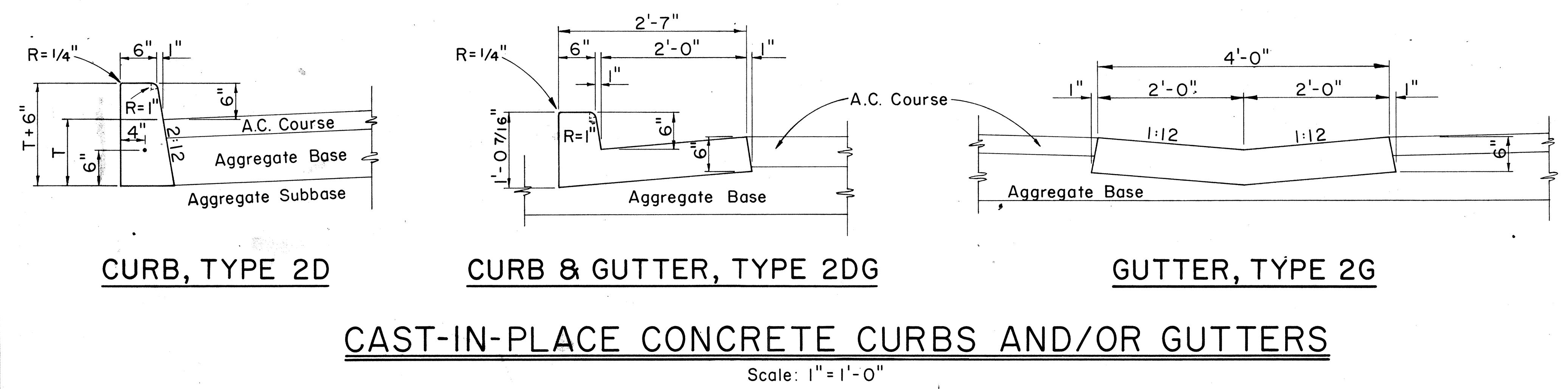
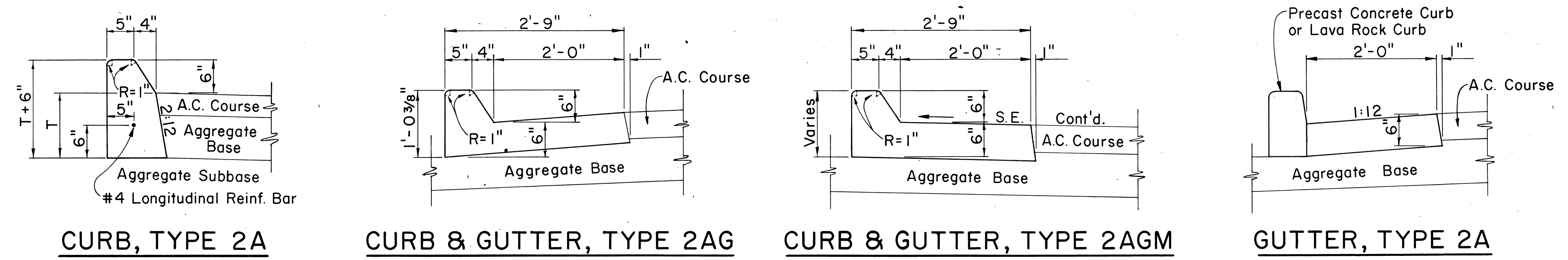
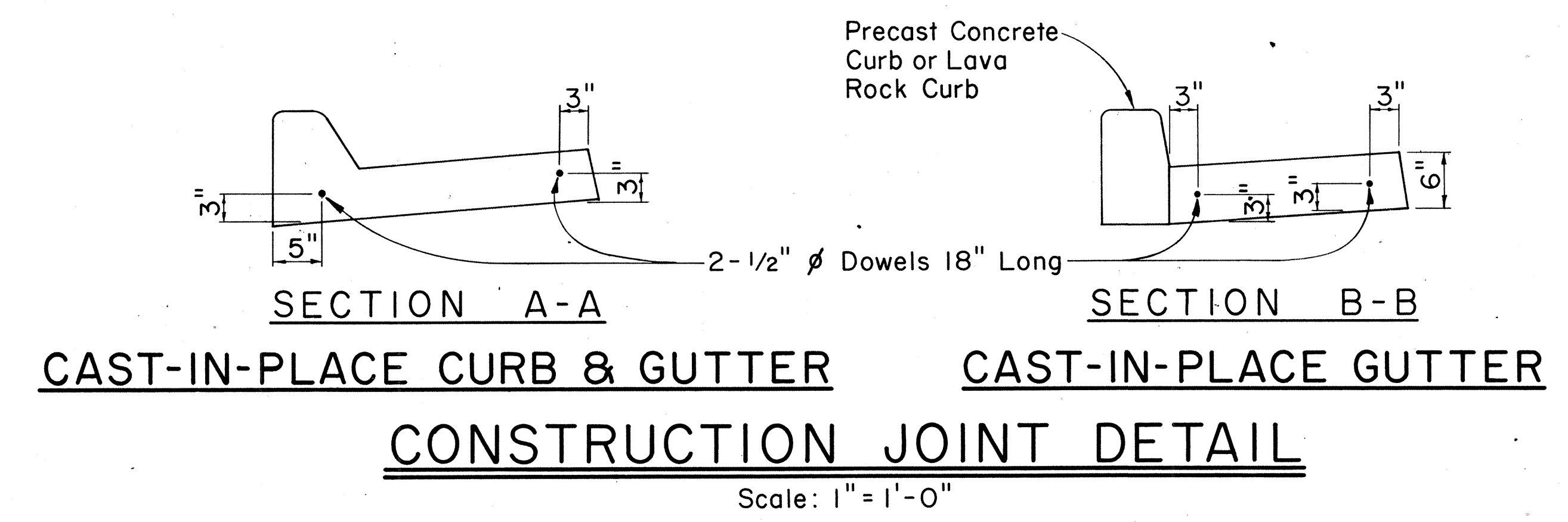
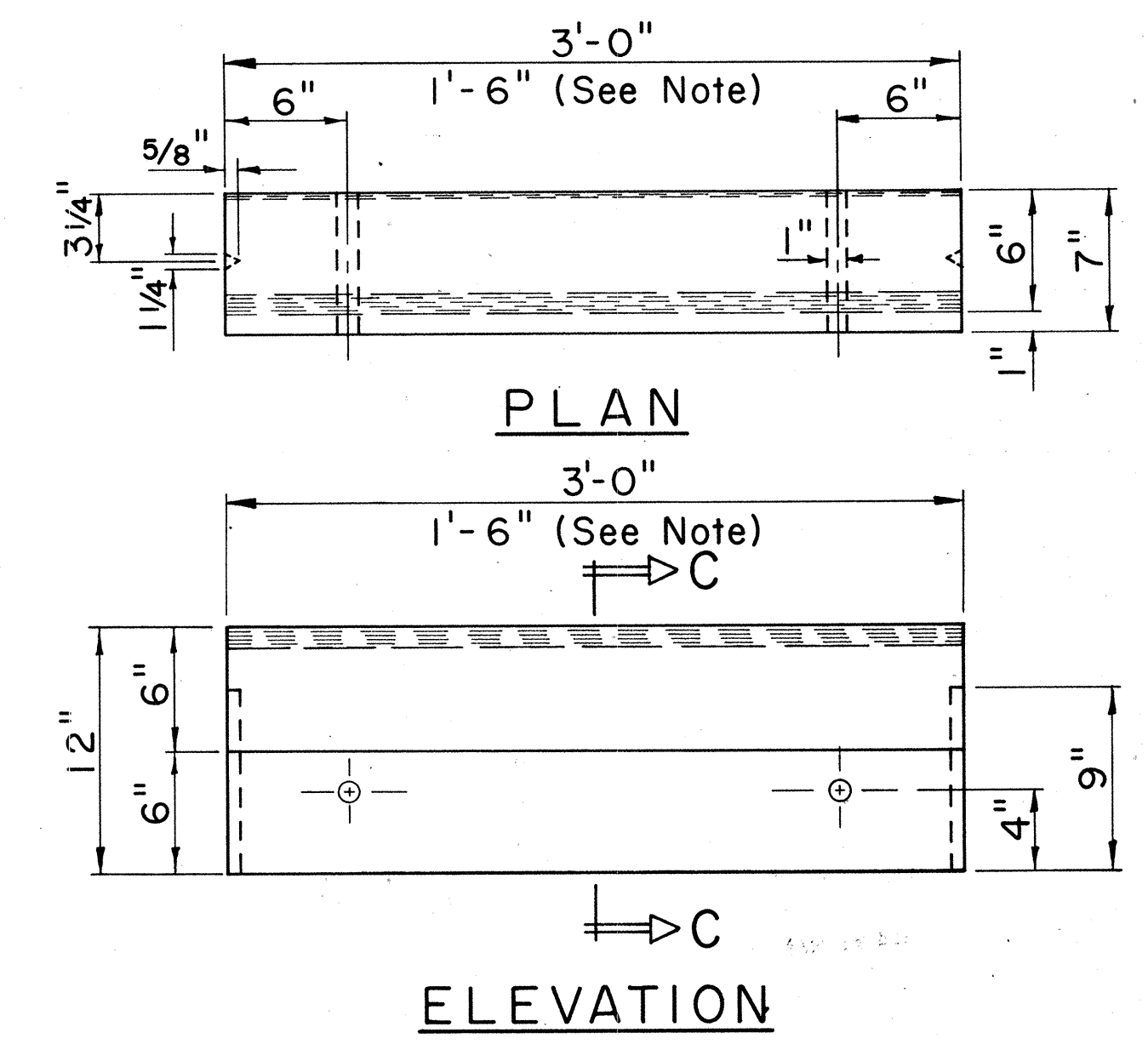
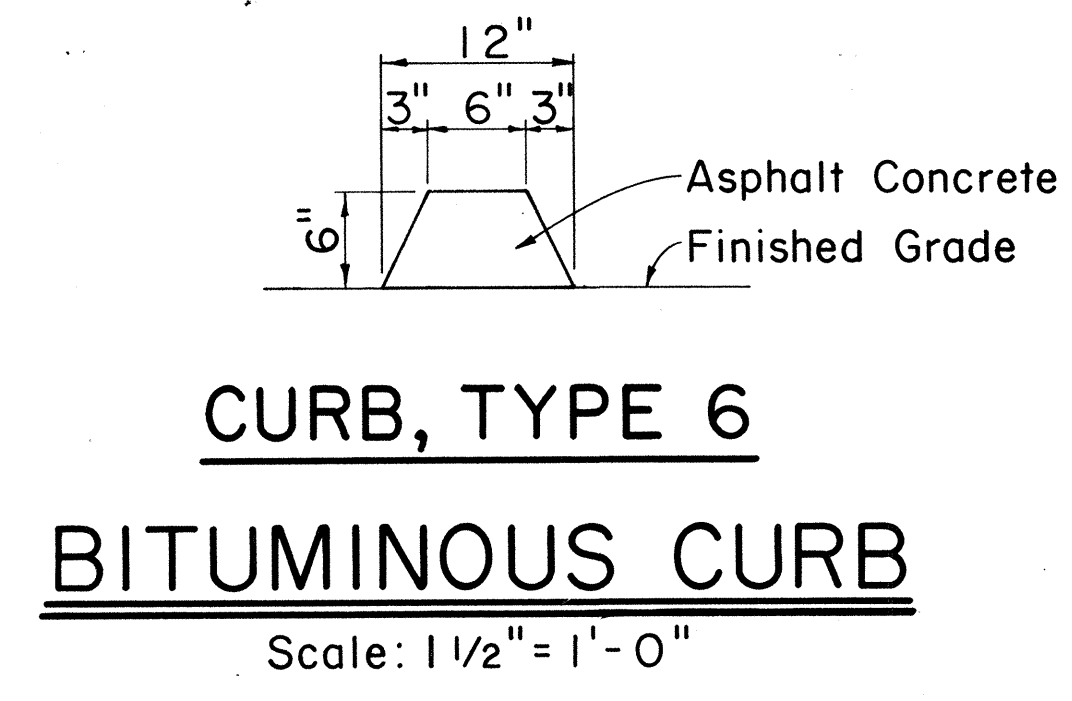
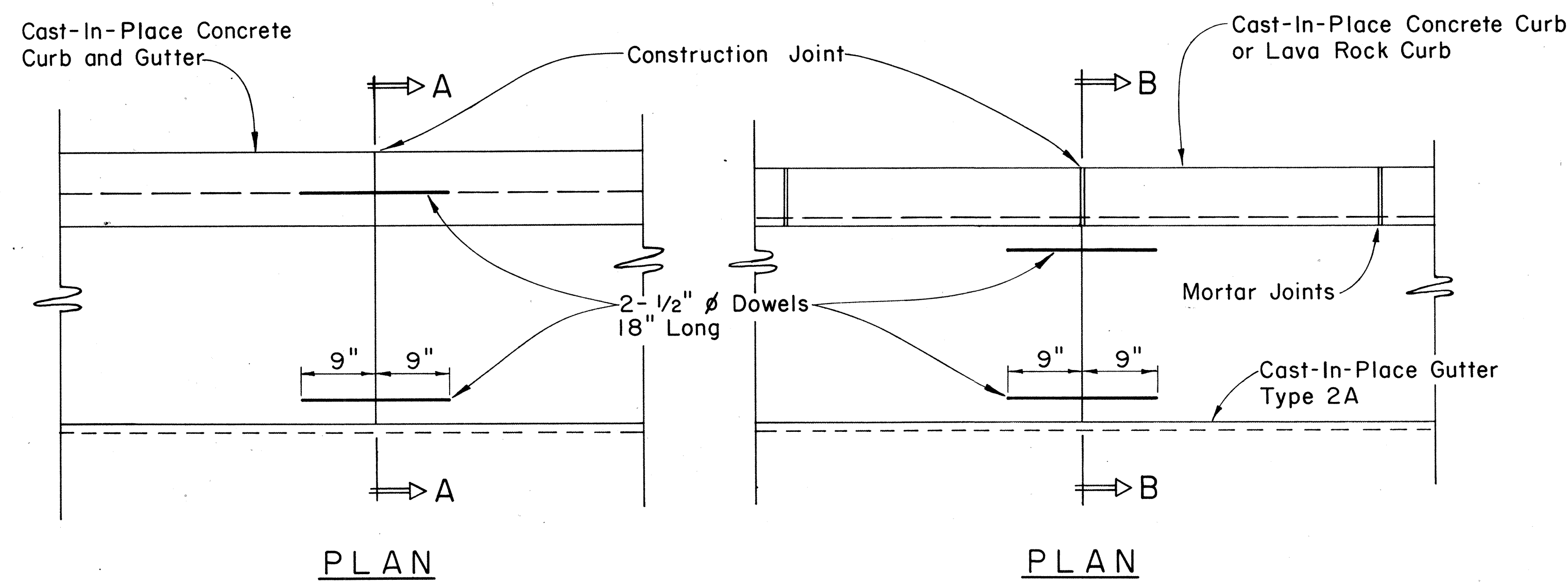
APPROACH SLAB DETAILS
scale: 3/4"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

APPROACH SLAB DETAILS
FOR
STRUCTURES N°13,14,15 & 16
WAI'AWA INTERCHANGE
F.A.I. Proj. N° I-HI-1(46):8
Scale as shown Date: May, 1973

SHEET No. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-HF-1(46)8	1973	70	104



APPROVAL RECOMMENDED:

M. Furuya 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED:

John S. Seiden 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

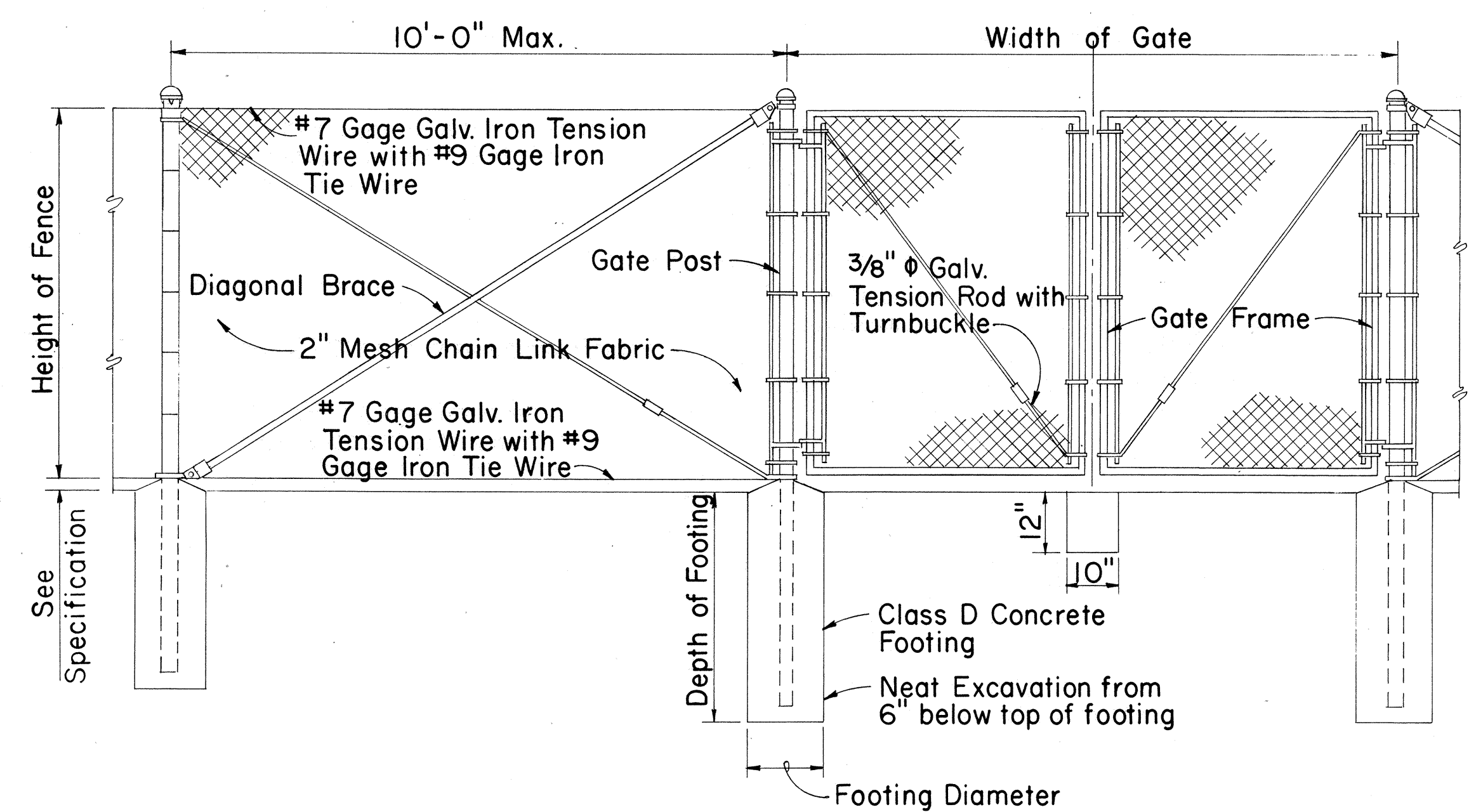
TYPICAL DETAILS OF CURB AND/OR GUTTERS

Scale: As Shown

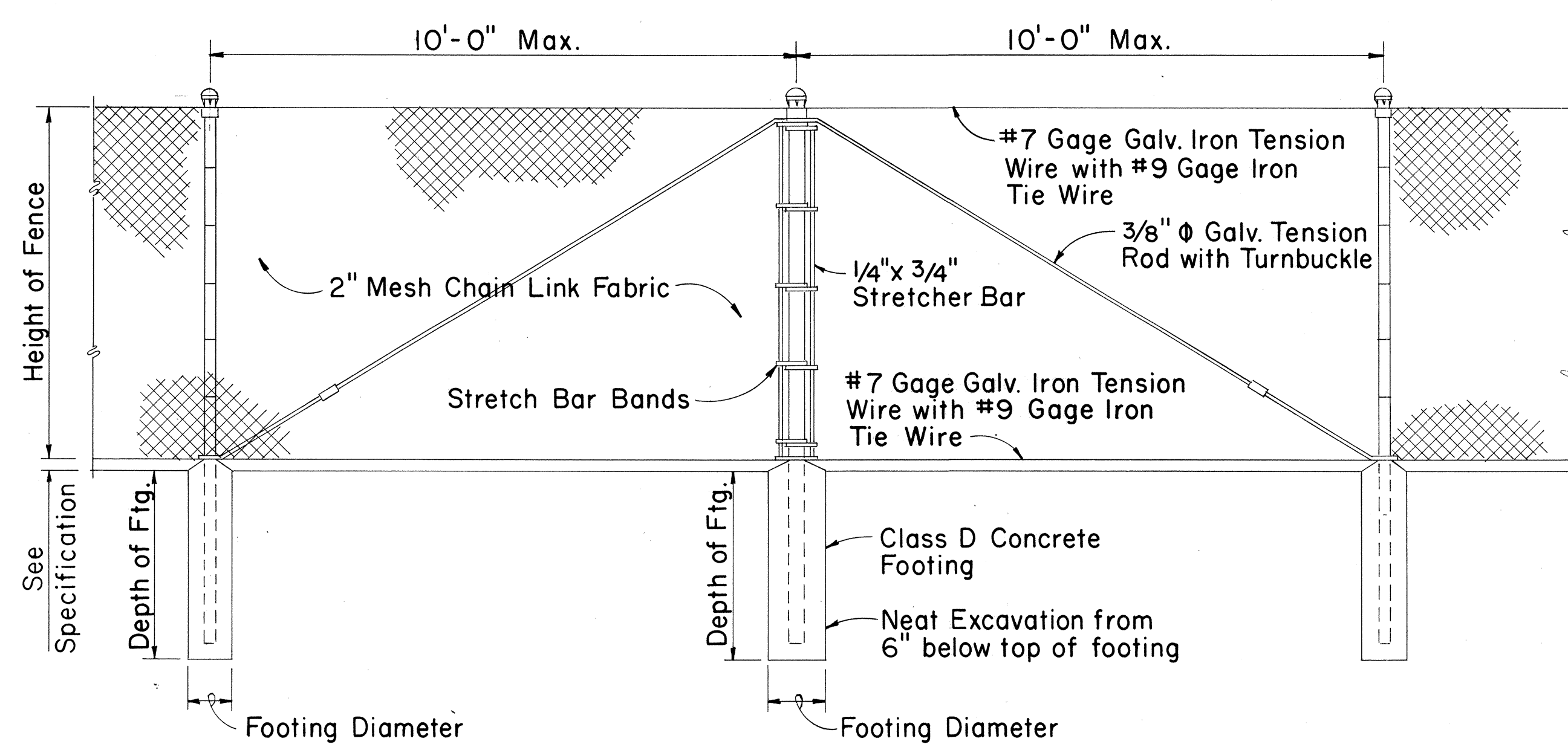
SHEET No. 28 OF 35 SHEETS DD 609.1

DATE	
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
ORIGINAL	
PLAN	
NOTE BOOK	
NO.	

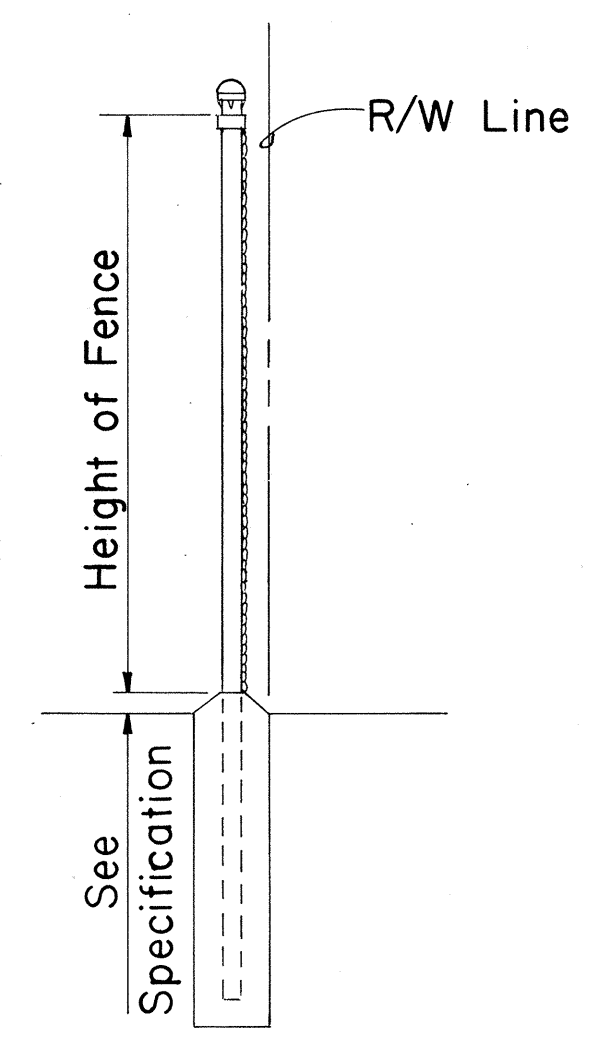
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-11-146	1973	71	104



LINE POST GATE POST GATE POST



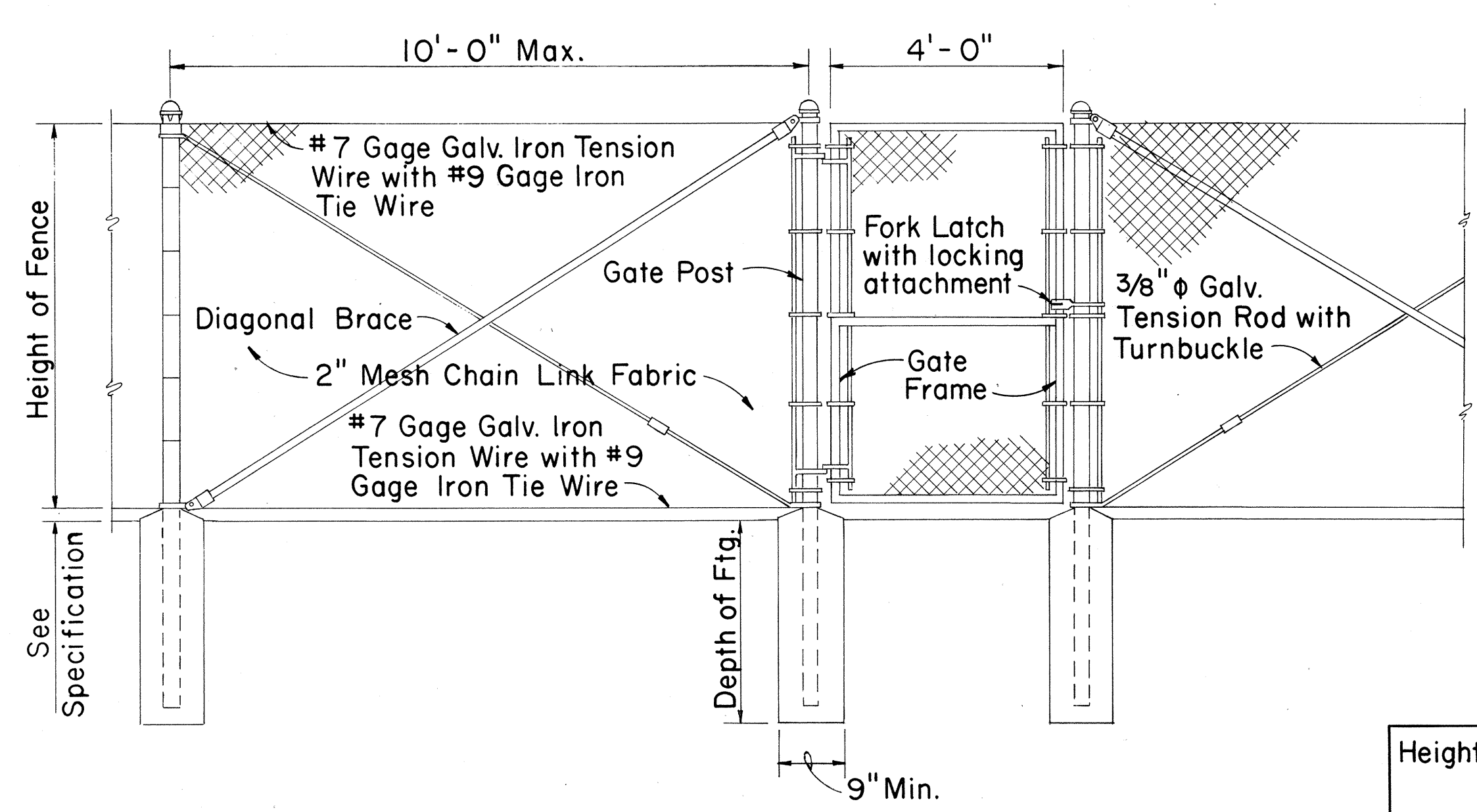
LINE POST PULL POST LINE POST



TYPICAL SECTION
(WITH CONCRETE FOOTING)

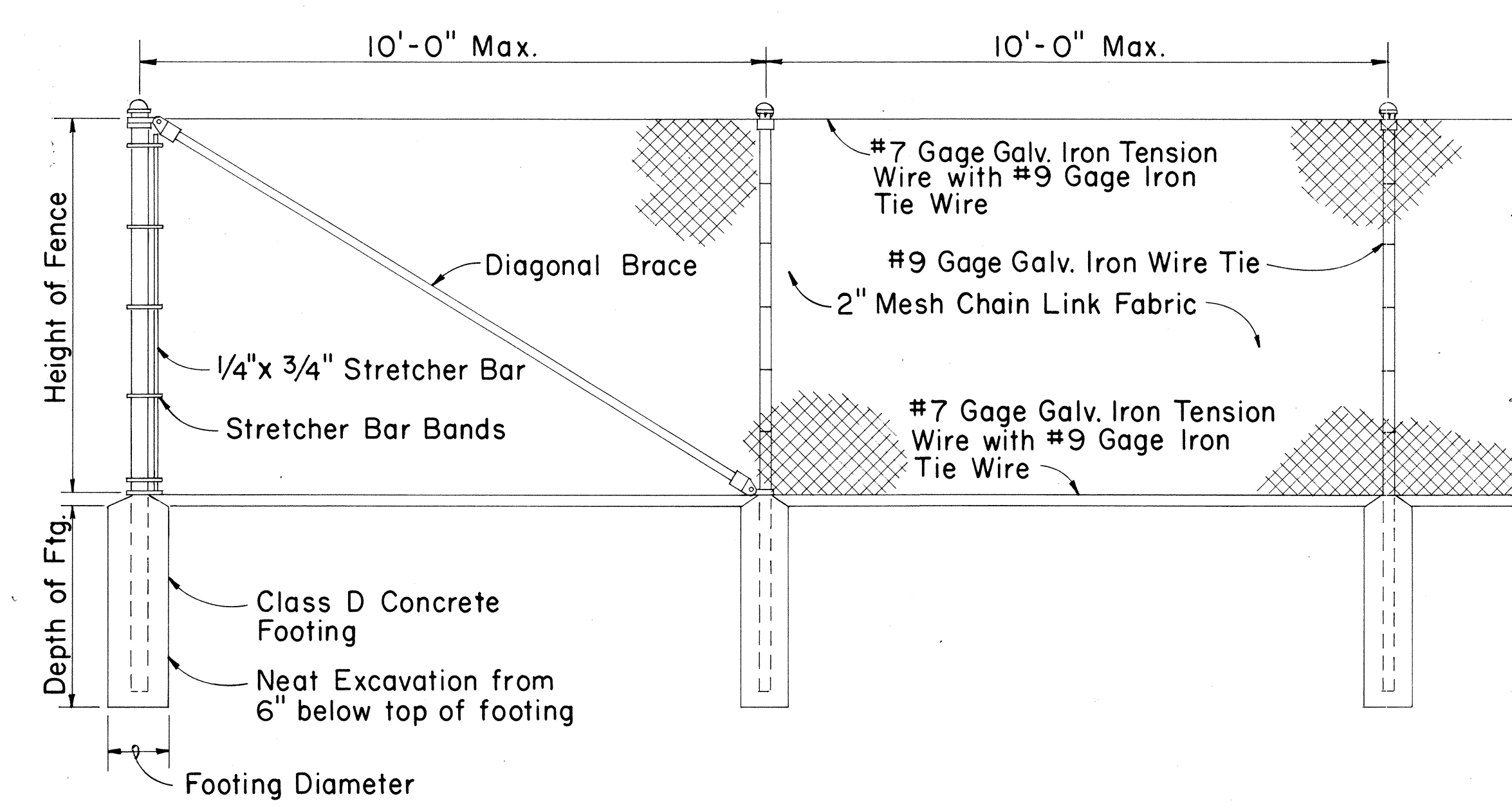
DETAIL OF CHAIN LINK GATE

- NOTE: 1. Gate fork latch and lock, flush plate and anchor, and plunger shall be installed with Gates, and shall be considered as incidental to Chain Link Fence Gate.
2. Gate frames shall be mitered and welded at corners.
3. Fence detail not shown shall be in accordance with the Standard Specifications.

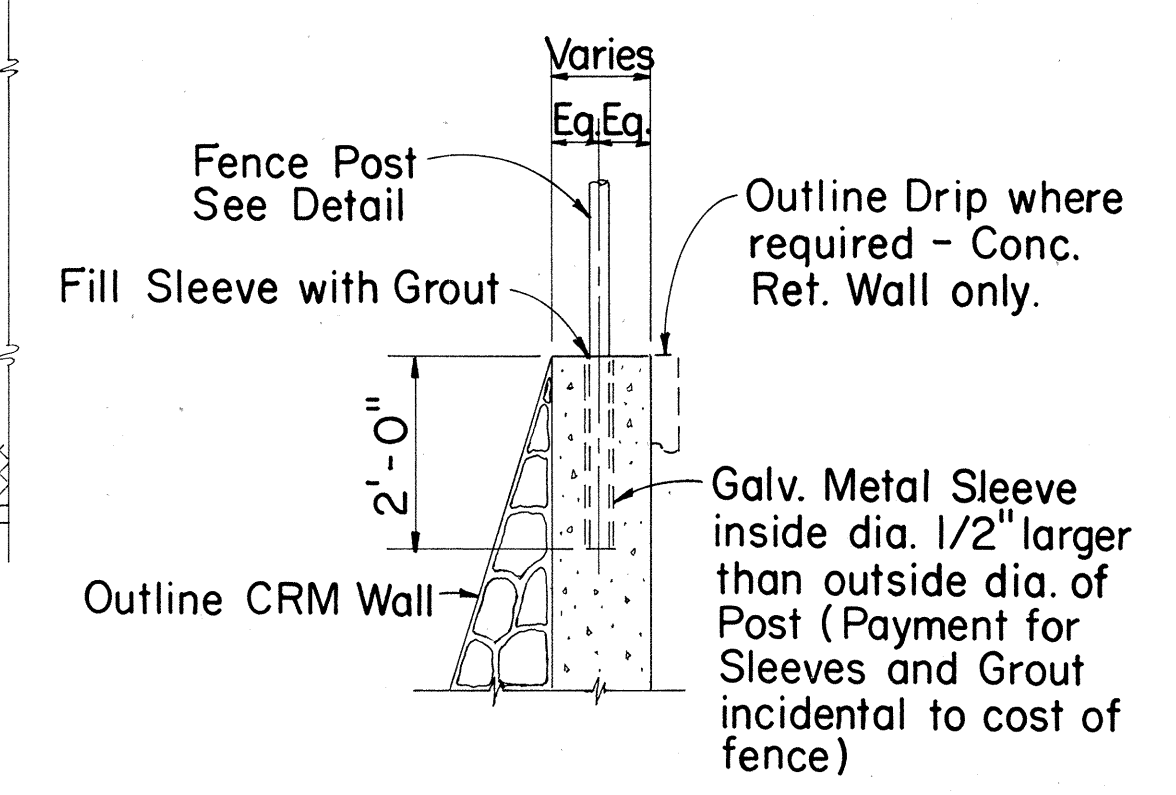


LINE POST GATE POST GATE POST

DETAIL OF 4 FT. CHAIN LINK GATE



END POST LINE POST LINE POST



TYPICAL SECTION
(ON CRM & CONC. RET. WALL)

CHAIN LINK FENCE DETAILS

Height of Fence	Minimum Depth of Footing		Minimum Footing Diameter	
	Line Post	Corner, Pull, End and Gate Posts	Line Post	Corner, Pull and End Posts
3'	2'-0"	2'-6"	8"	8"
4'	2'-6"	2'-6"	8"	8"
5'	3'-0"	3'-0"	8"	8"
6'	3'-0"	3'-0"	8"	9"

APPROVAL RECOMMENDED:

HIGHWAY DESIGN ENGINEER 12-4-69 DATE

APPROVED:

ASSISTANT CHIEF, ENGINEERING 12-10-69 DATE

NO.	REVISION	APPROVED BY	DATE

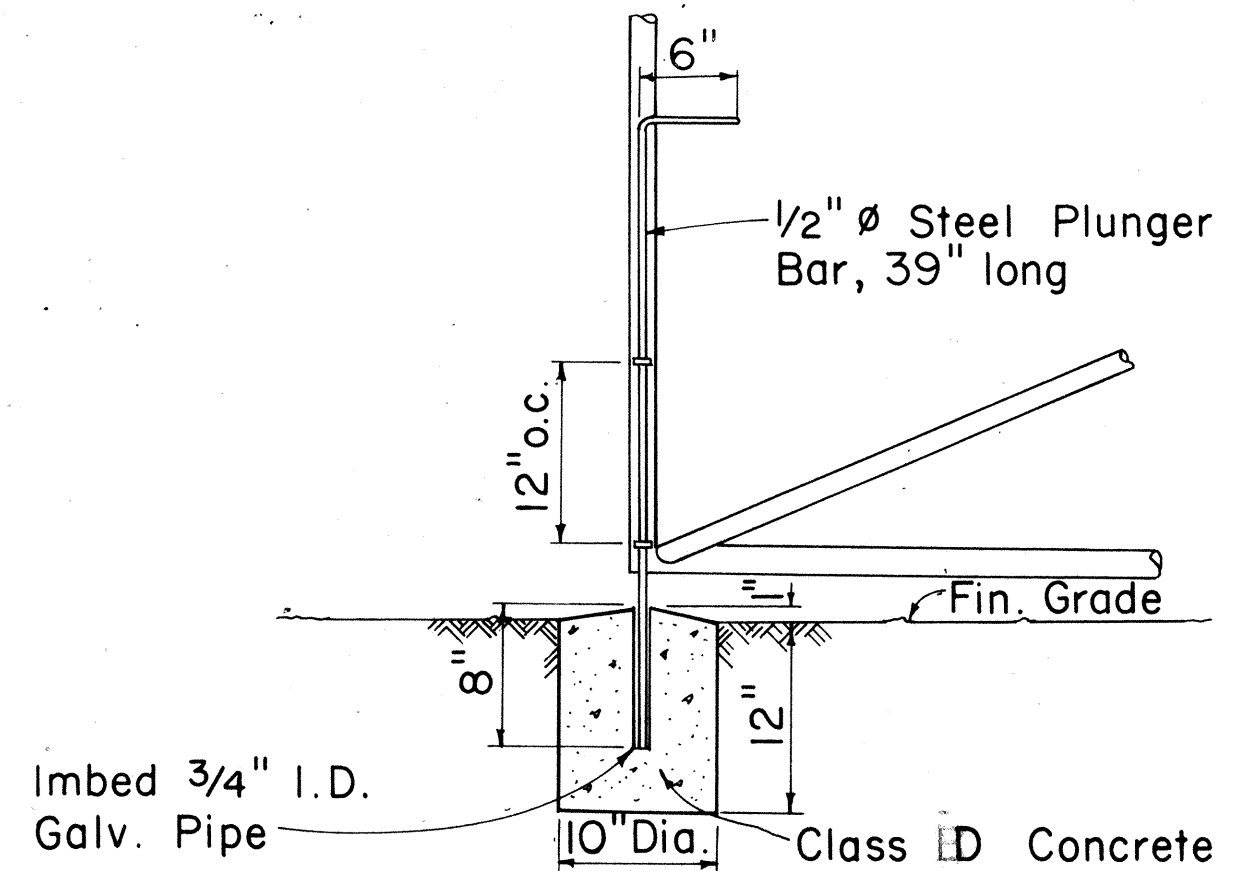
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

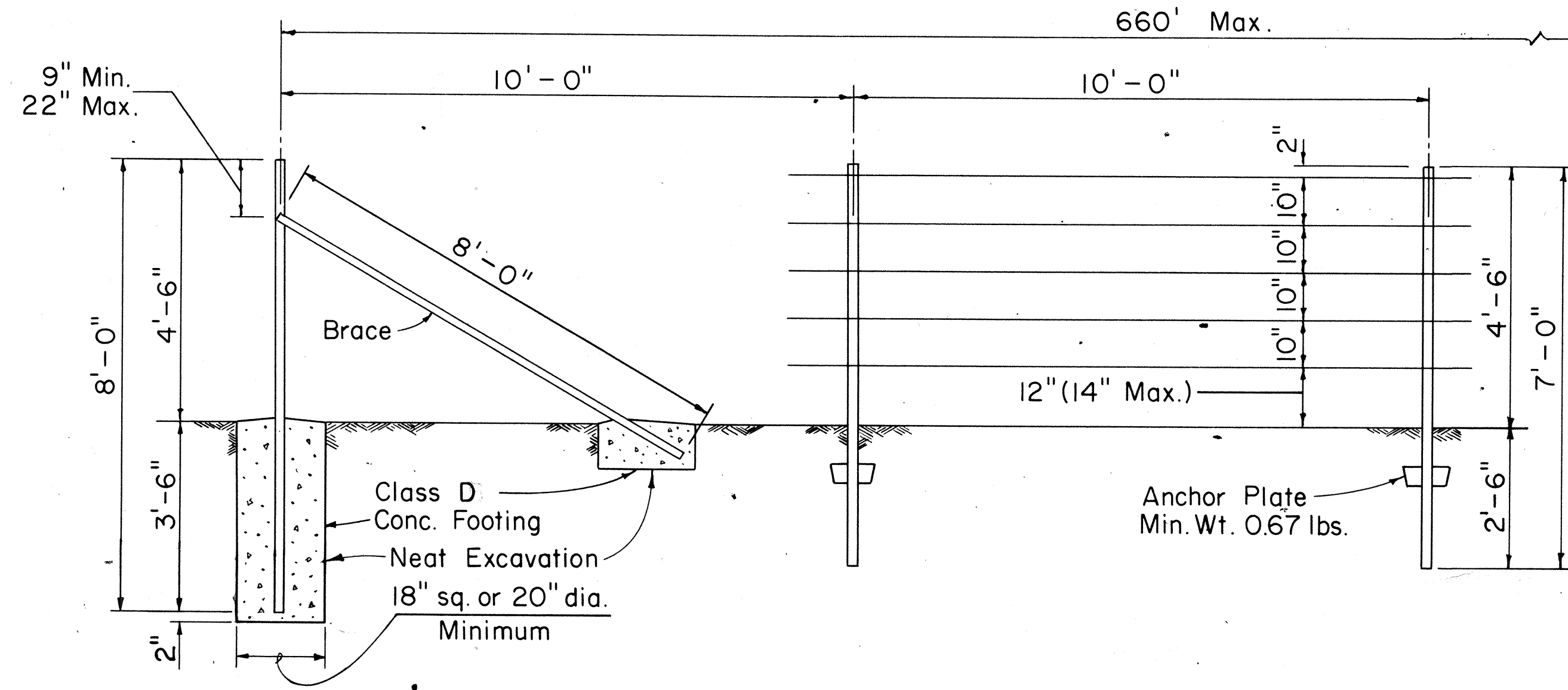
CHAIN LINK FENCE
(WITHOUT TOPRAIL)

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)8	1973	72	104

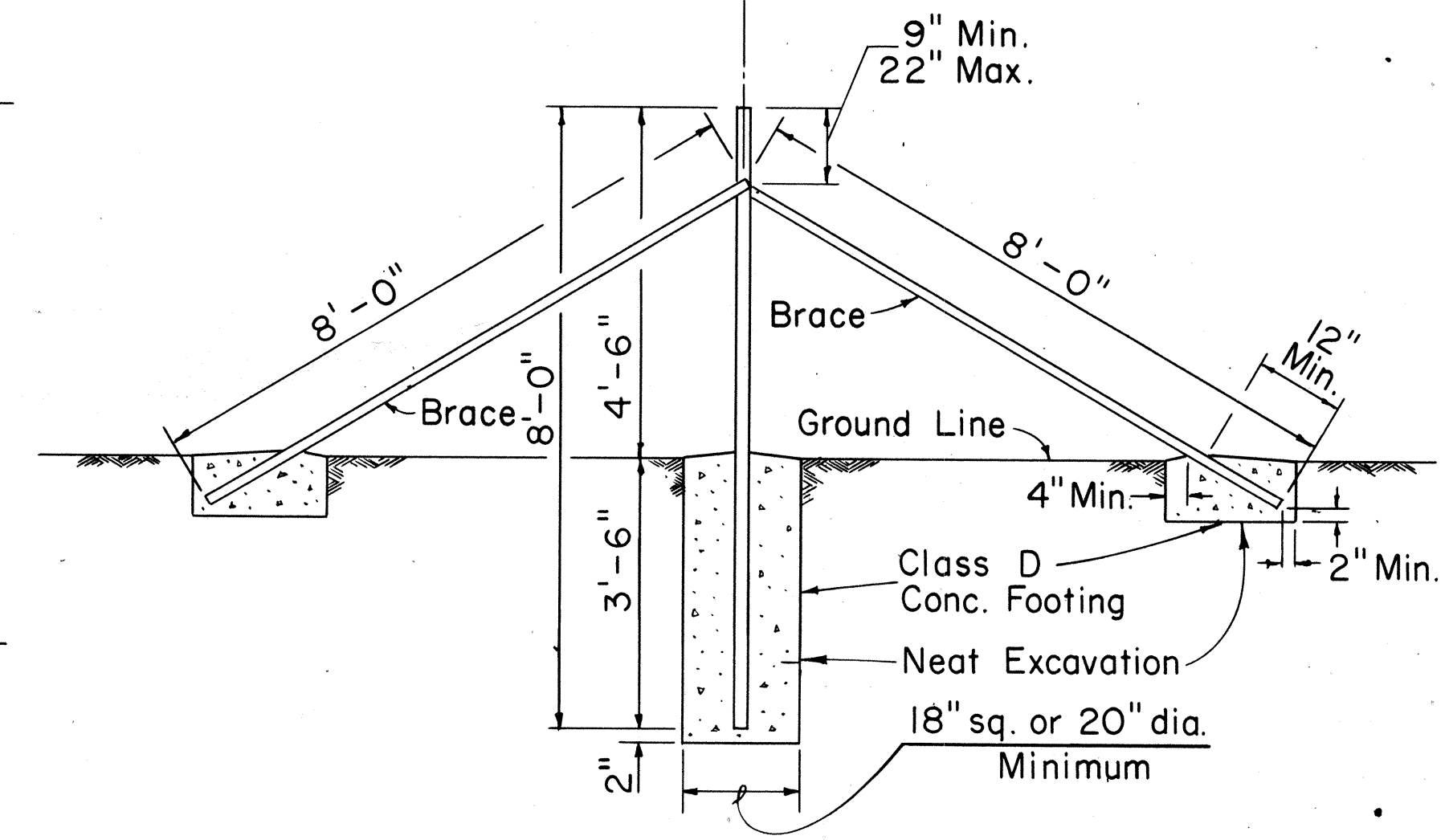


DETAIL B
Scale: 1" = 1'-0"

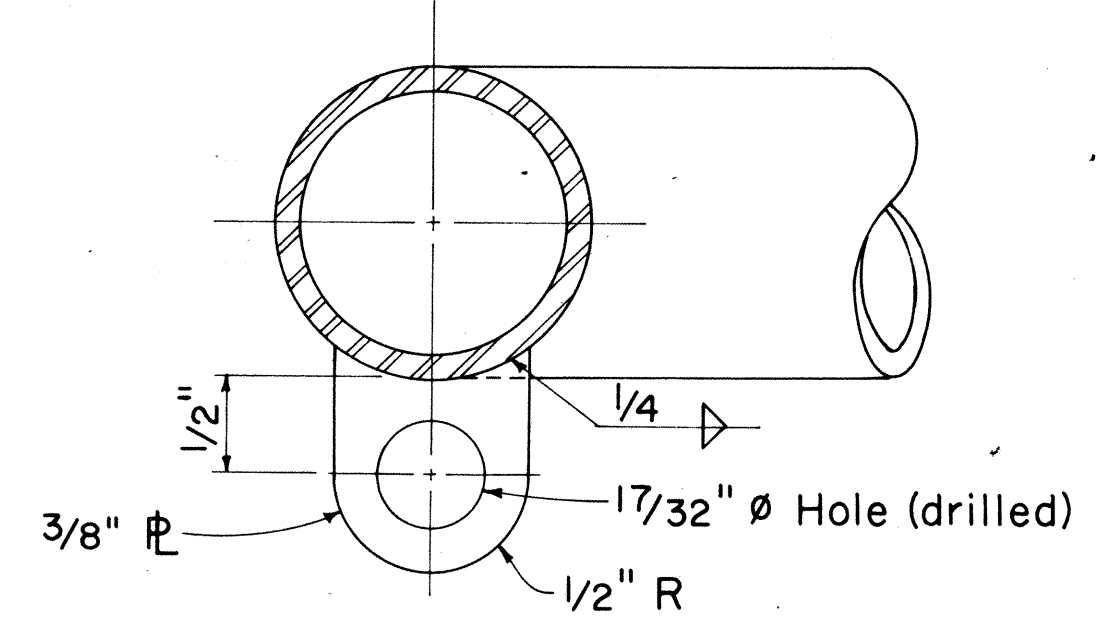


END OR CORNER POST
Scale: 1/2" = 1'-0"

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



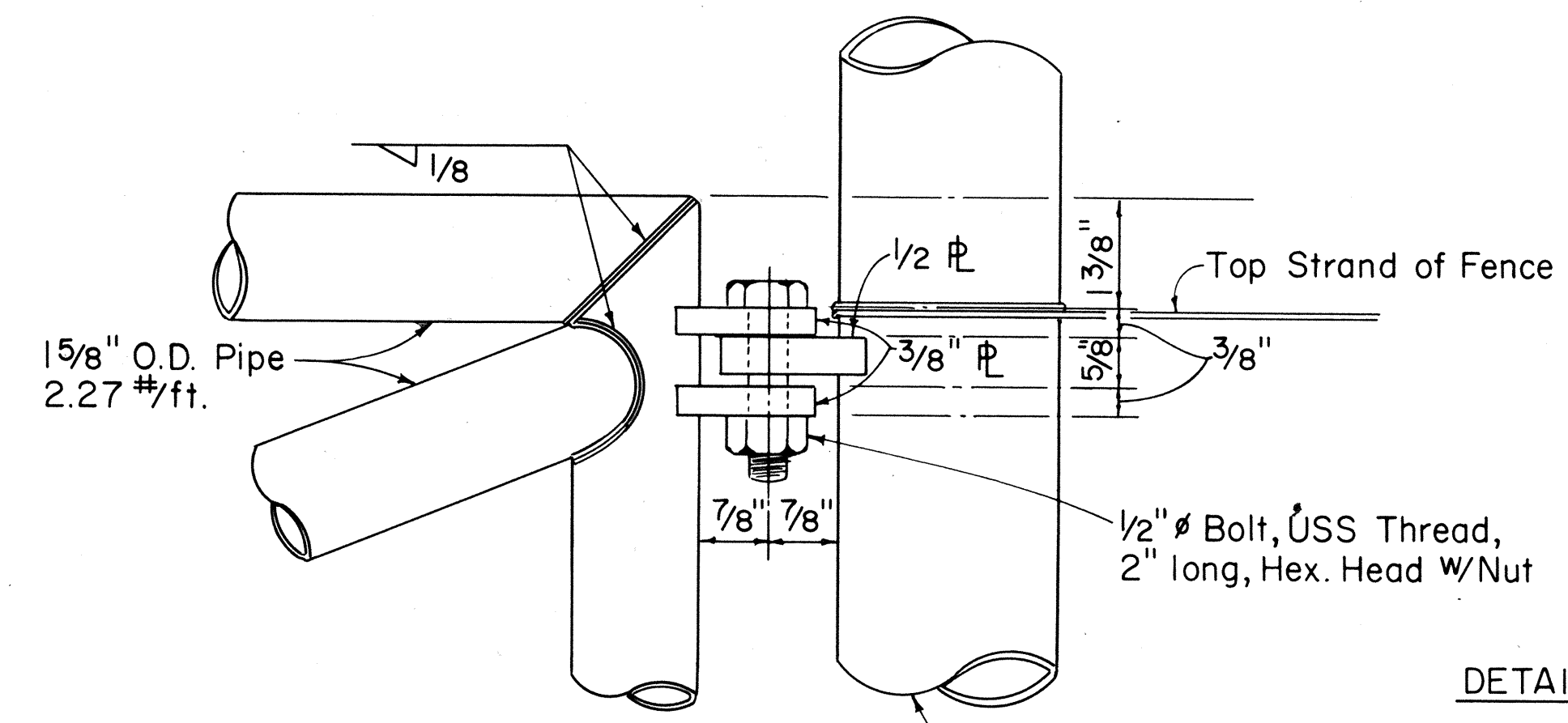
INTERMEDIATE ANCHOR POST
Scale: 1/2" = 1'-0"



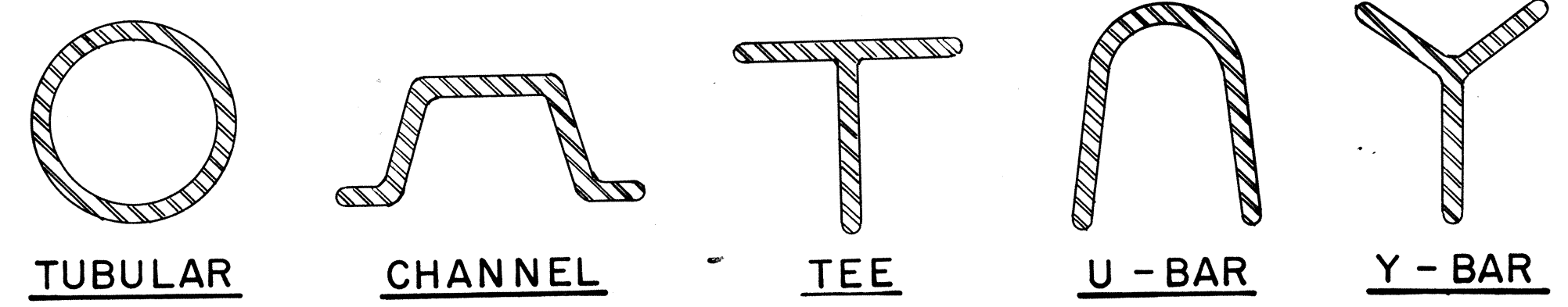
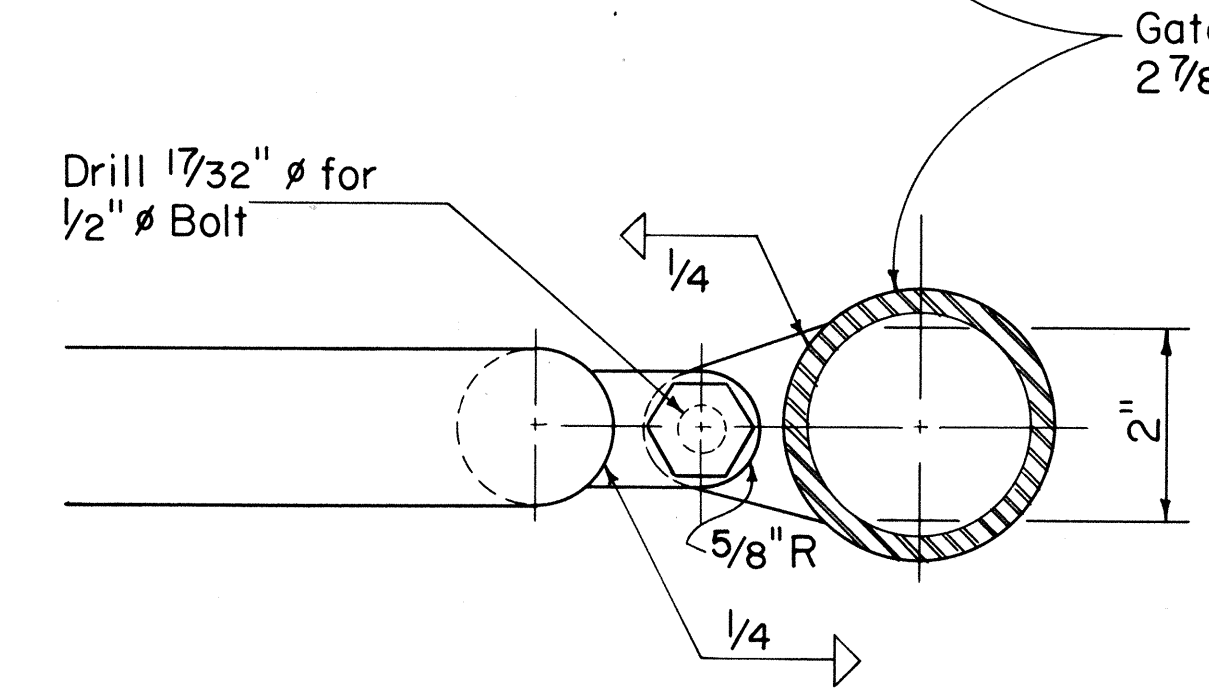
GUIDE FOR PLUNGER BAR
Scale: Full Size

NOTES:

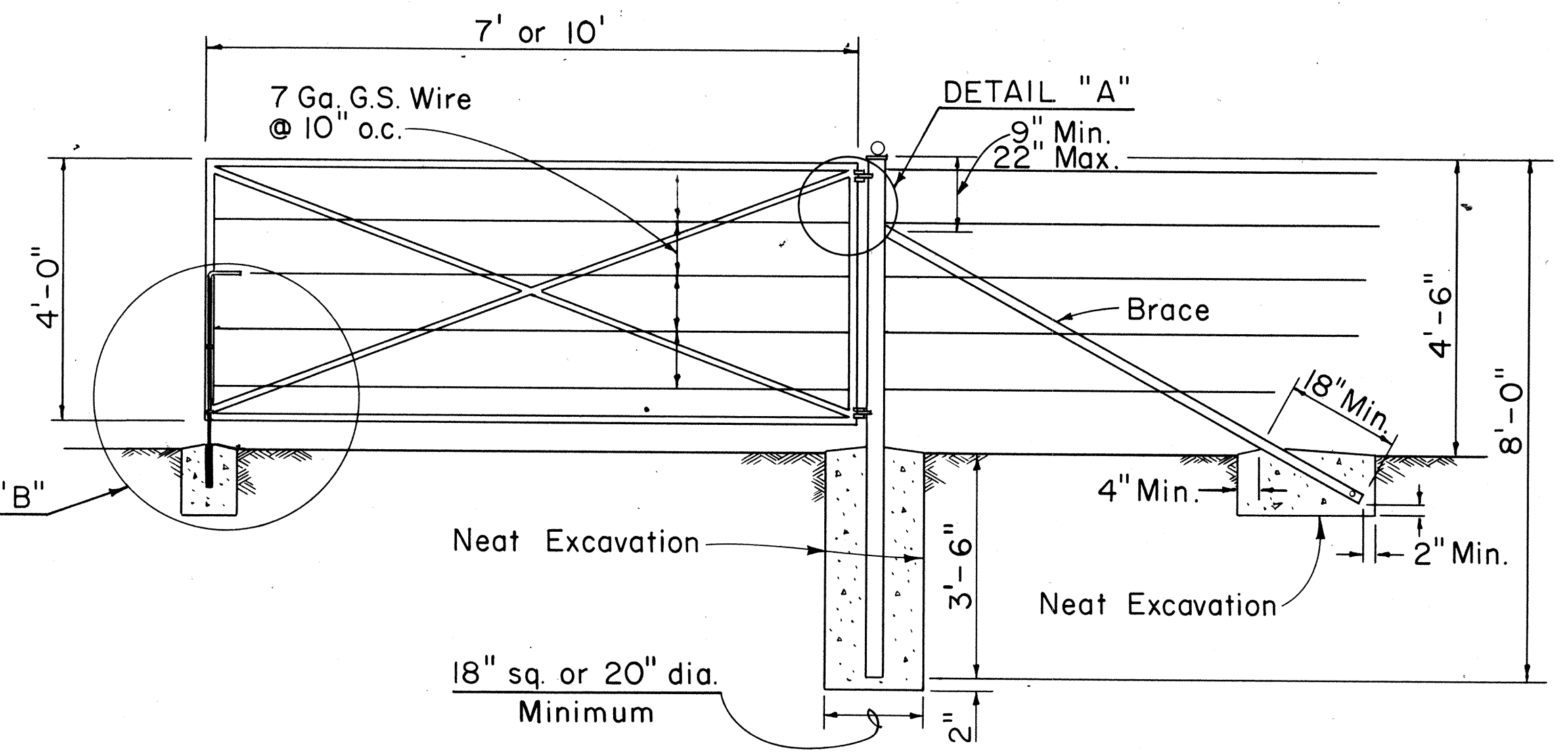
1. Gate Hinge Blades and Plunger bar guides shall be chamfered 1/32" all around and as required to prevent conflict between moving parts.
2. All parts of Gates shall be galvanized after fabrication.
3. All holes shall be reamed as necessary to admit hinge bolts or plunger bars.
4. Gate panels shall be strung with 7 ga. smooth fence wire spaced to conform to spacing of adjacent fence strands.
5. One plunger bar required per set of double-hung gates. None required for single-hung gate.



DETAIL A
Not To Scale



TYPICAL SECTIONS OF METAL POSTS
Not To Scale



HALF-VIEW - DOUBLE HUNG GATES
Scale: 1/2" = 1'-0"

APPROVAL RECOMMENDED:
[Signature] 12-4-69
HIGHWAY DESIGN ENGINEER DATE

APPROVED:
[Signature] 12-10-69
ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

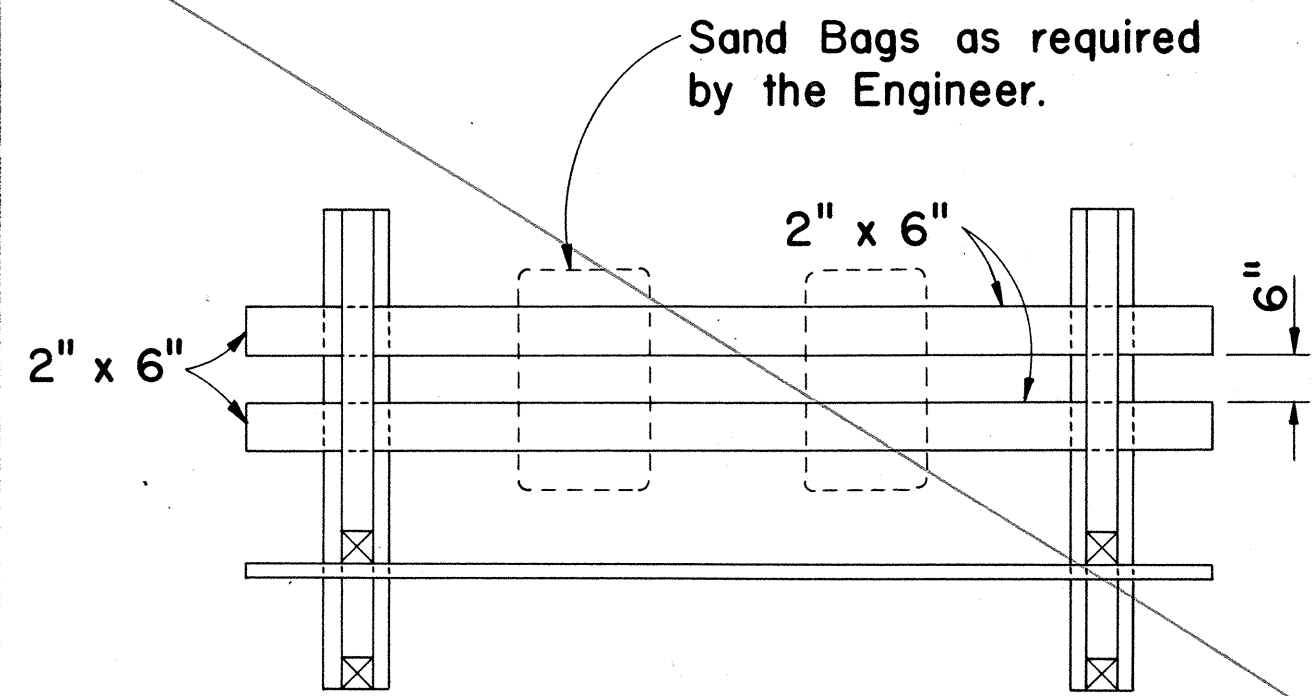
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

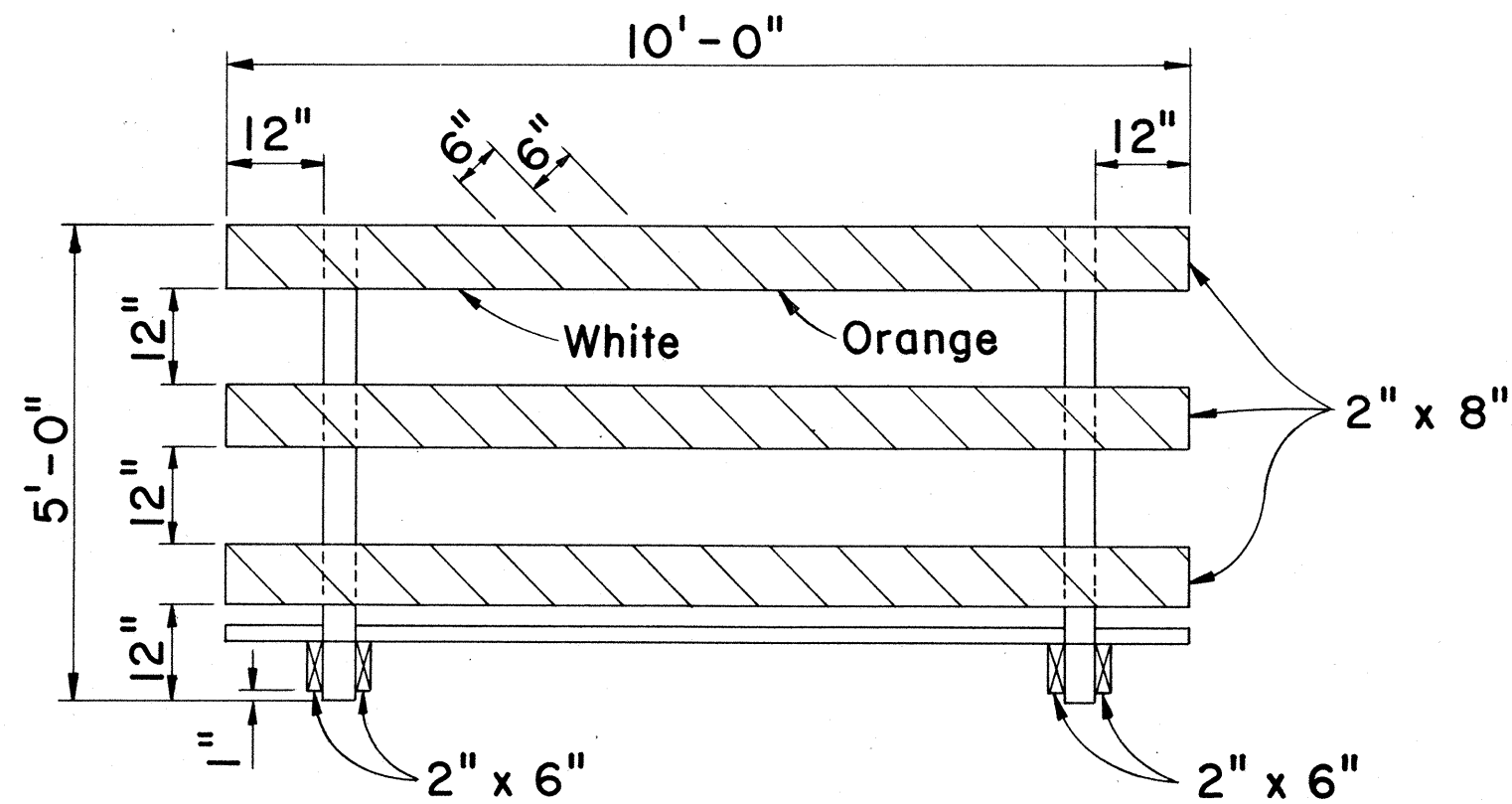
WIRE FENCE WITH METAL POSTS

Scale: As Noted

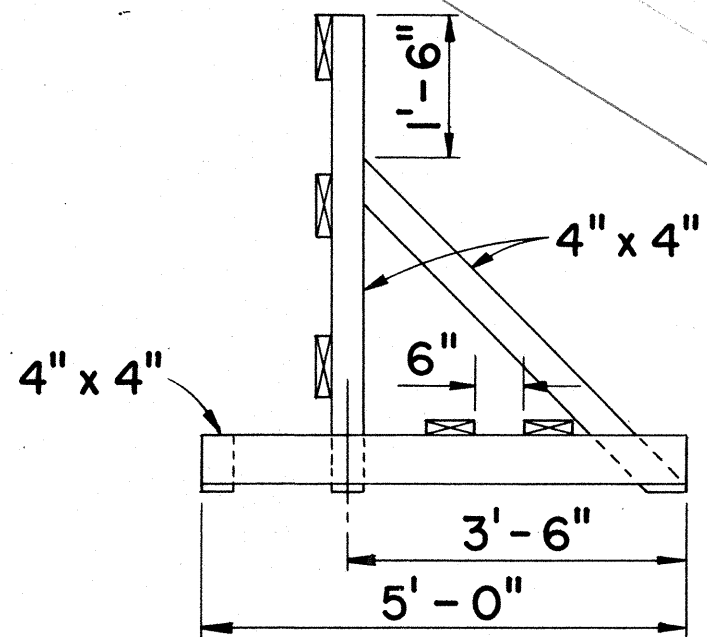
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)8	1973	73	104



PLAN VIEW



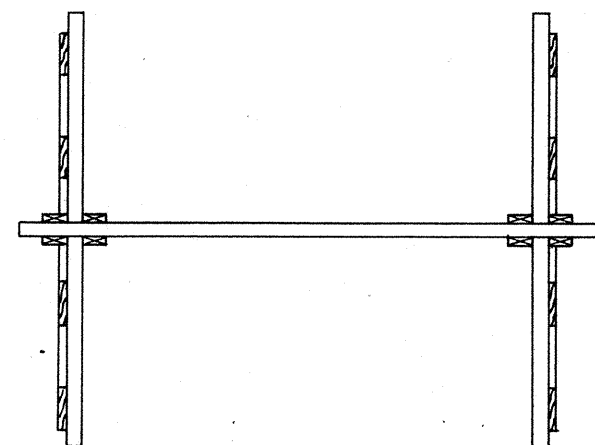
FRONT VIEW



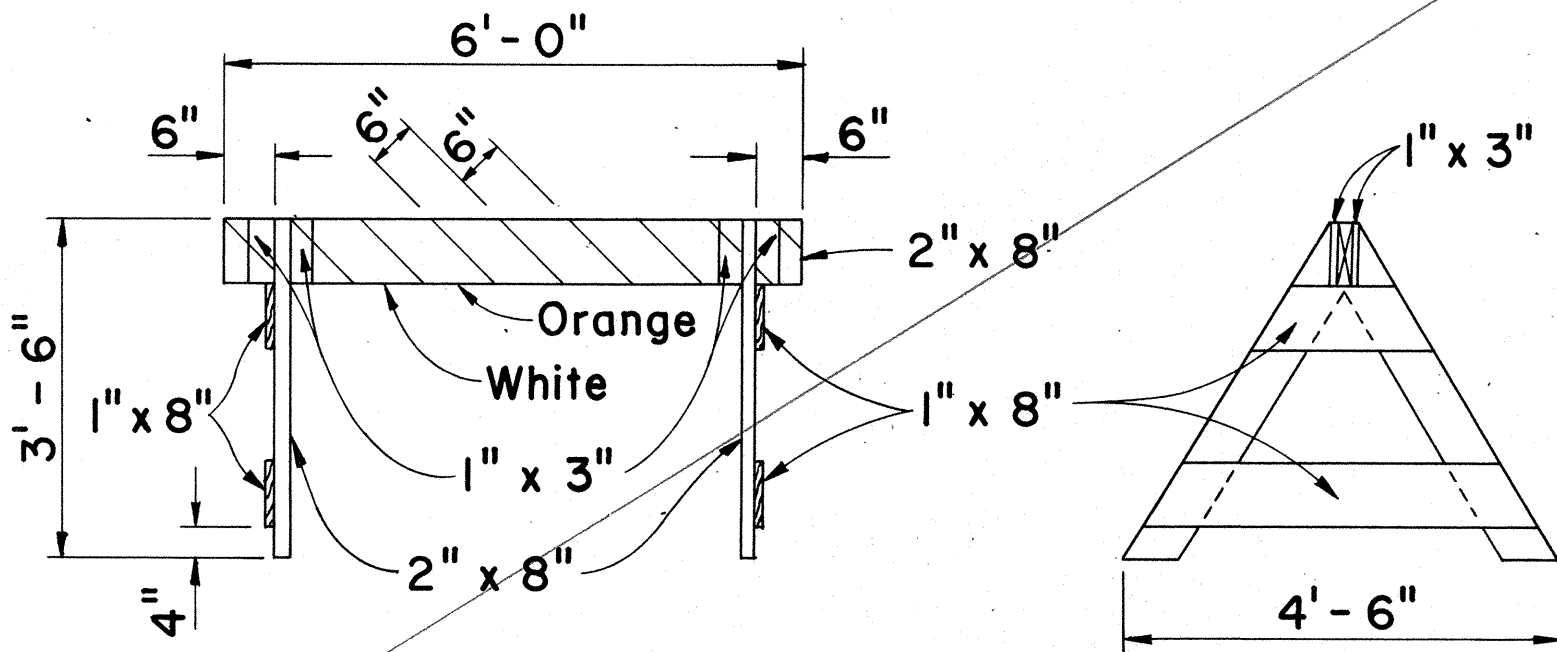
END VIEW

CLASS I BARRICADE

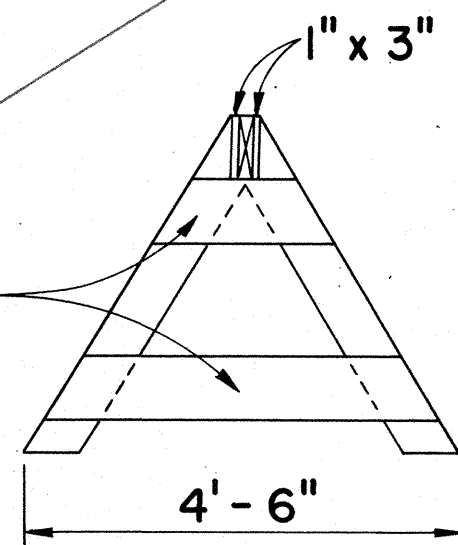
Scale: 1/2" = 1'-0"



PLAN VIEW



FRONT VIEW



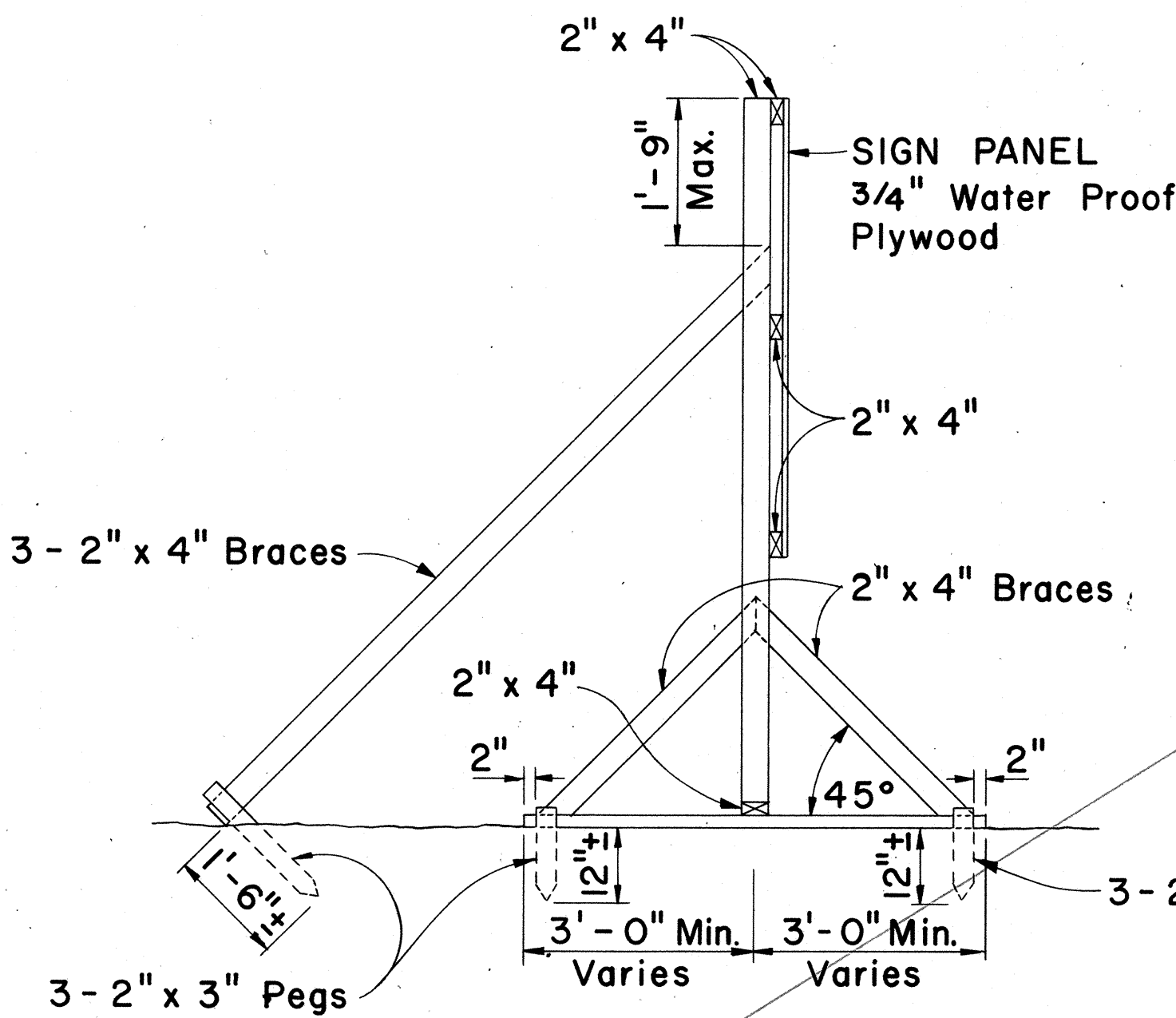
END VIEW

CLASS II BARRICADE

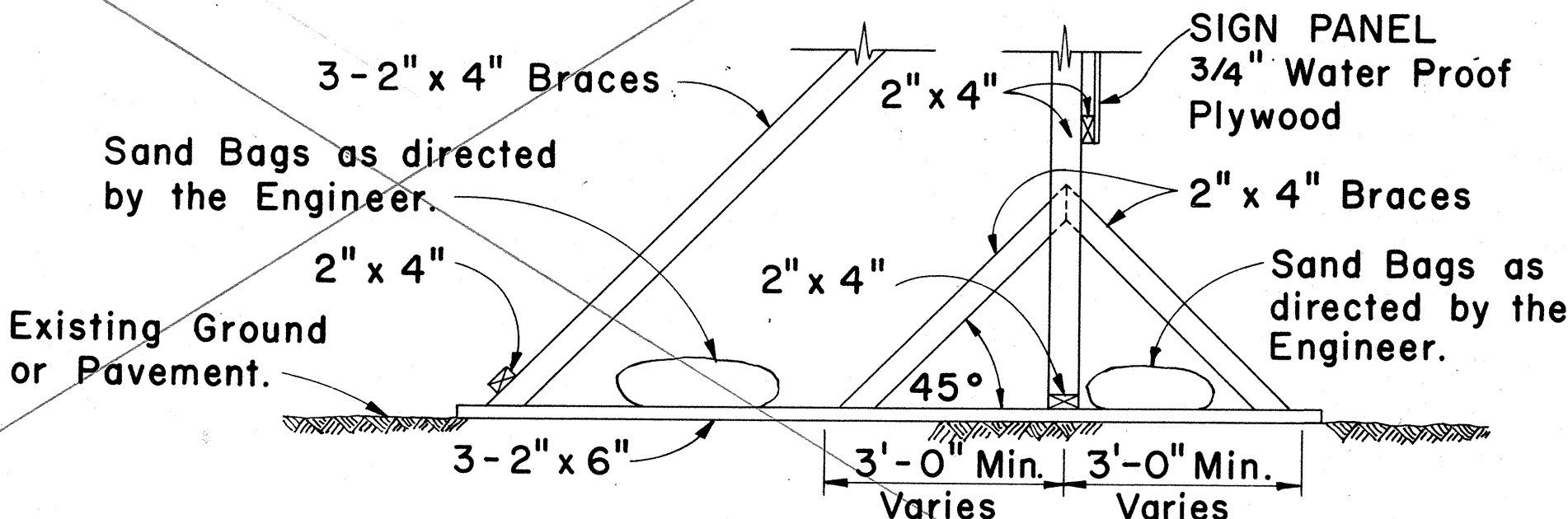
Scale: 1/2" = 1'-0"

GENERAL NOTES

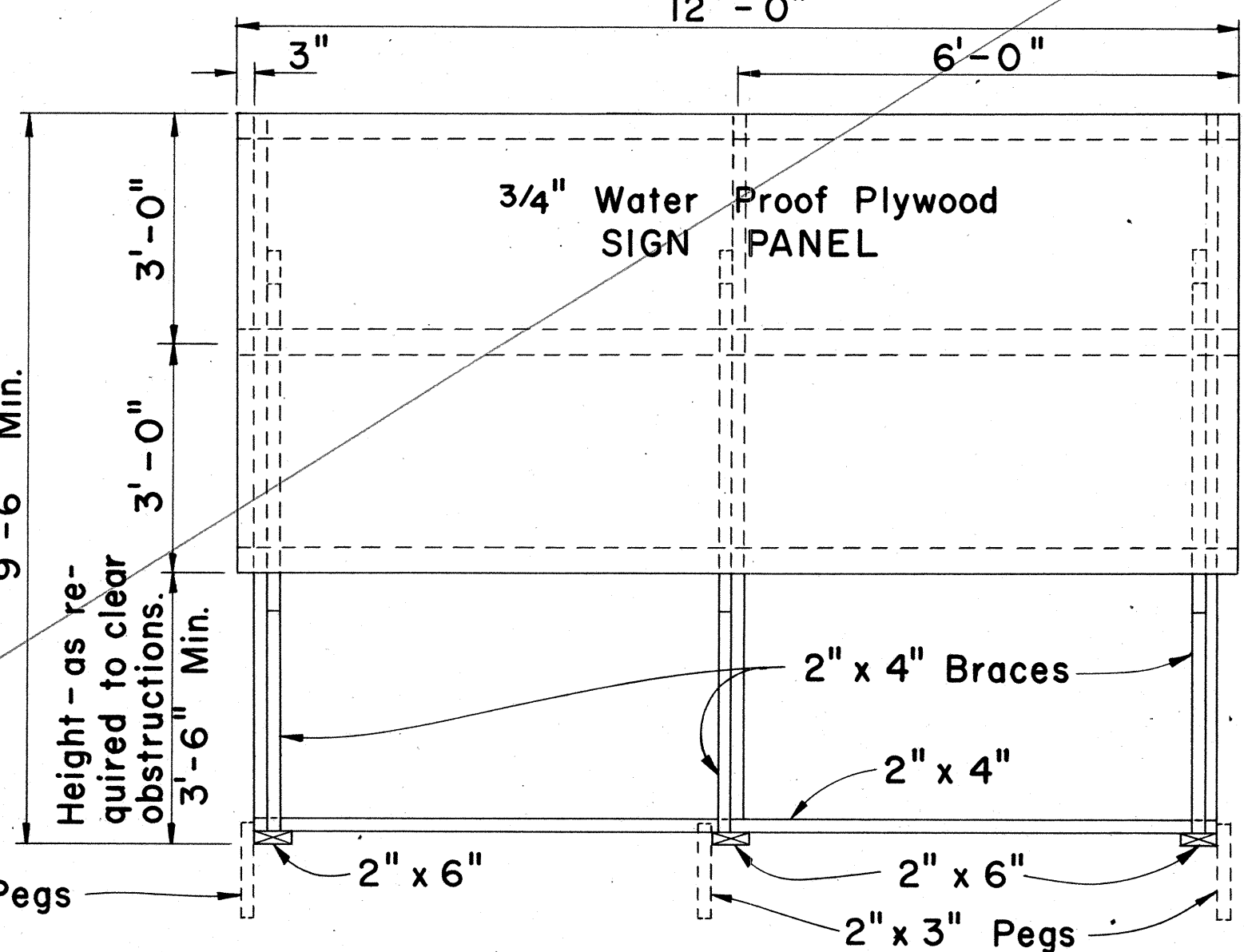
1. The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
2. The permanent wood barricades shall be left in place or relocated upon completion of the project as ordered by the Engineer and are to become State property.
3. The orange and white stripes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



SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)
Scale: 1/2" = 1'-0"



SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)
Scale: 1/2" = 1'-0"

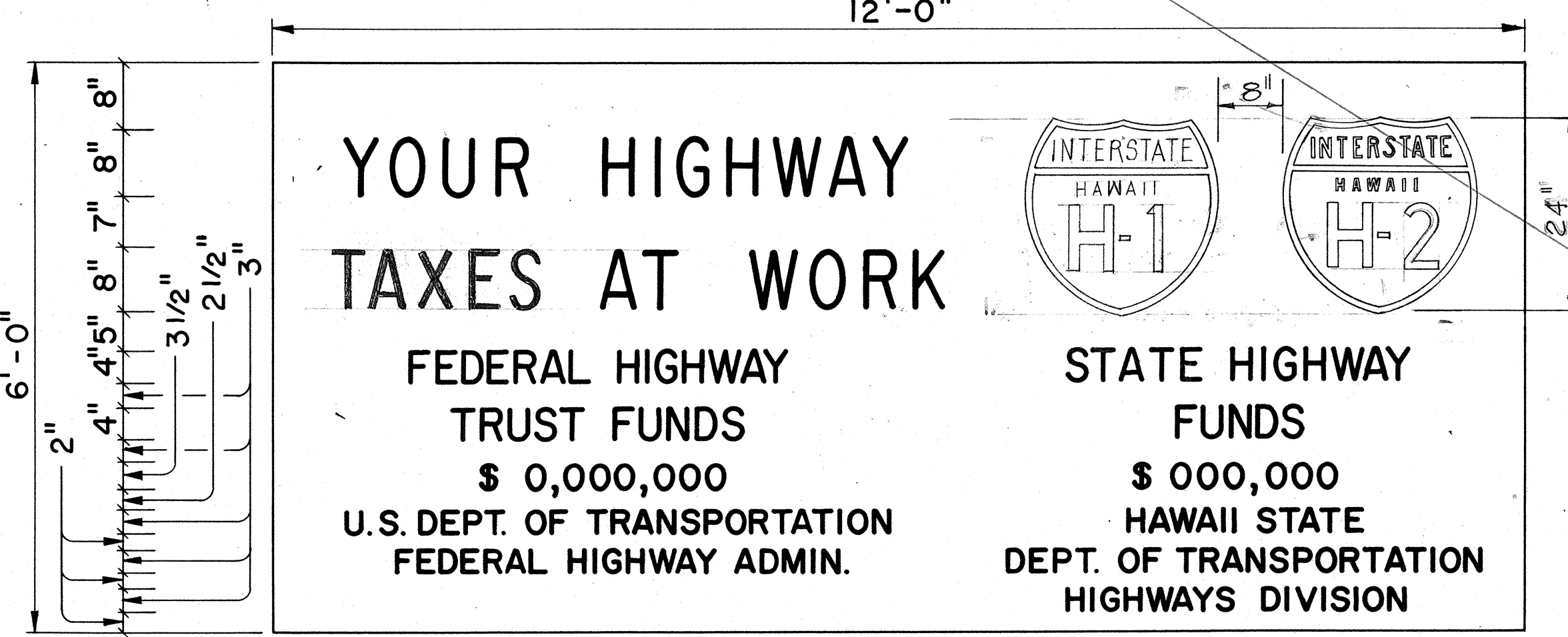


FRONT VIEW

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

GENERAL NOTES

1. The sign legend shall be black on white background except for the Interstate Route marker which shall be as shown on the plan.
2. The Contractor shall construct, install and maintain the project signs at the locations shown on the Plans and as ordered by the Engineer.
3. Letters shall be Series "C" of the sizes shown on the Plan and shall conform with the "Standard Alphabet for Highway Signs", Bureau of Public Roads, 1966.
4. The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.



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

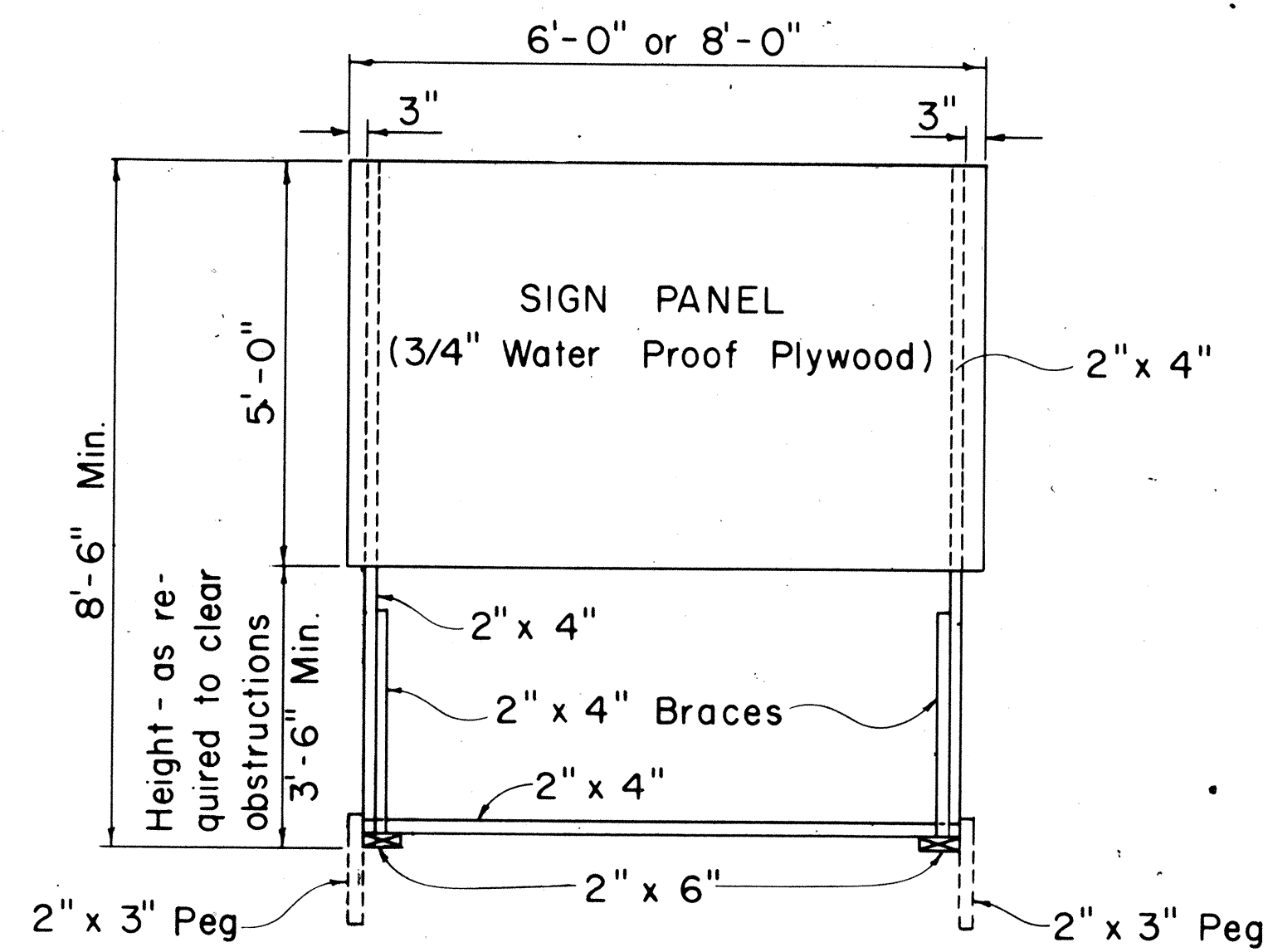
INTERSTATE SYSTEM
CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

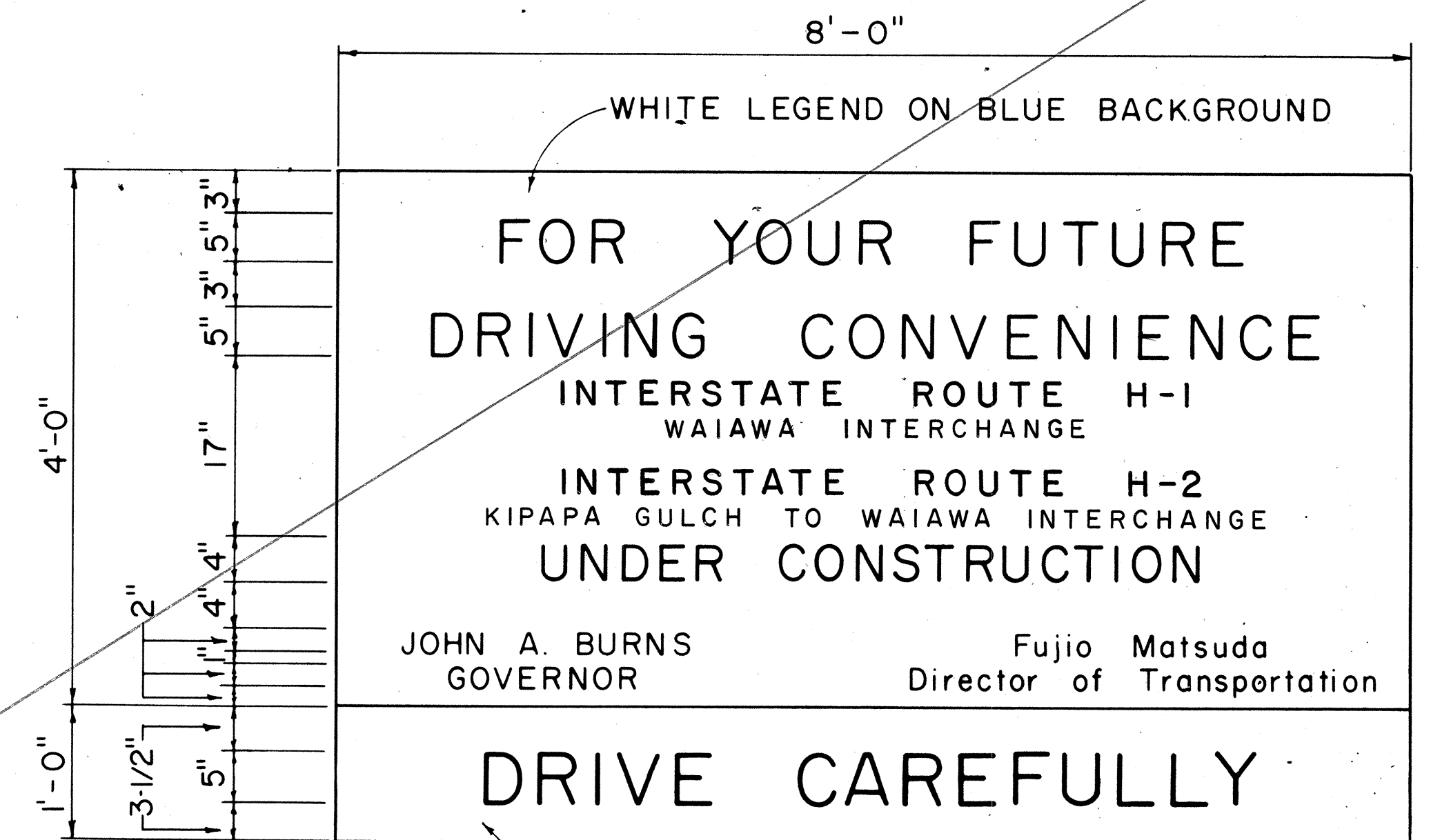
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

SCALE: As Shown DATE: MAR. 1973
SHEET No. 31 OF 35 SHEETS

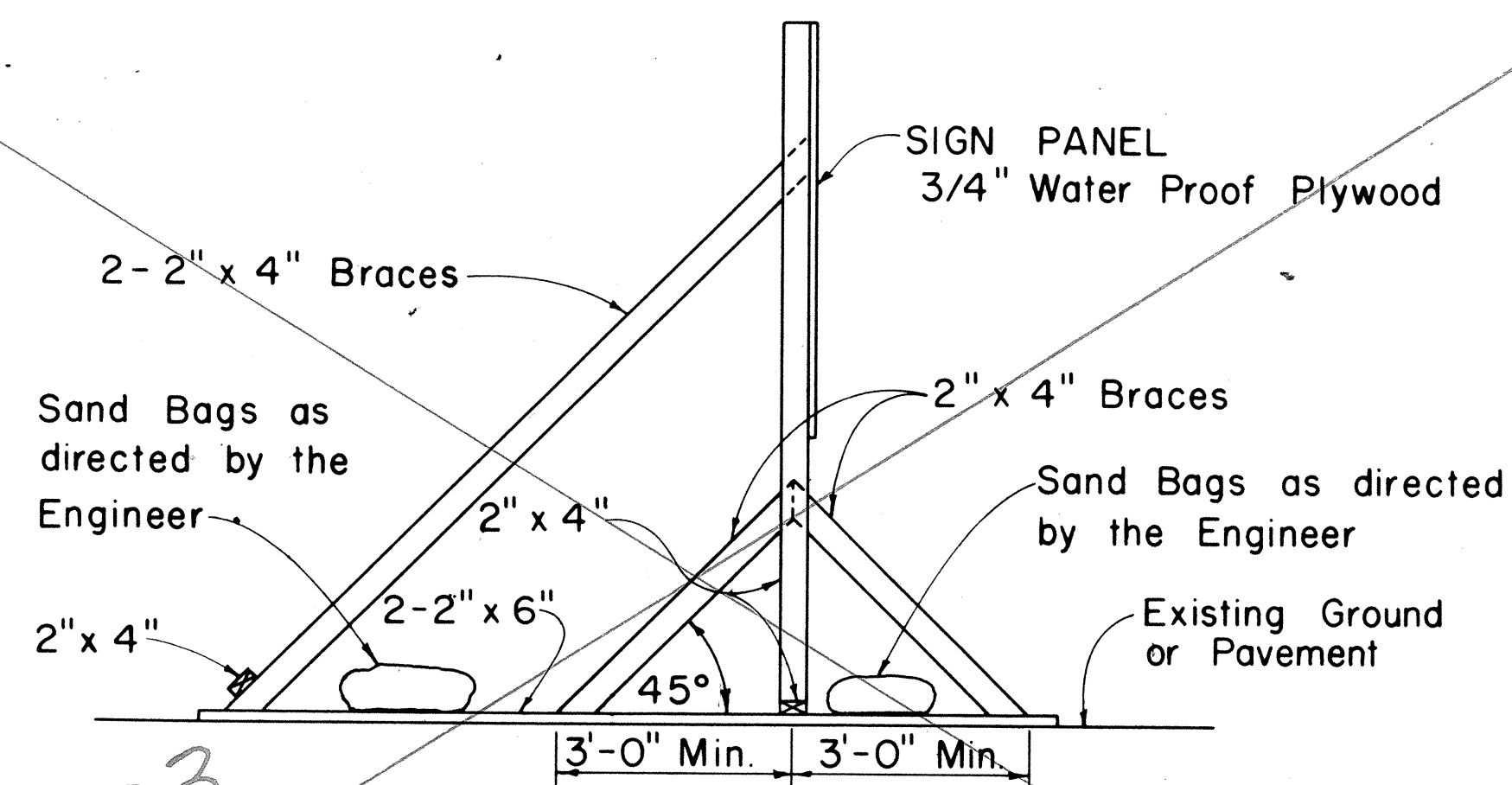
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)8	1973	74	104



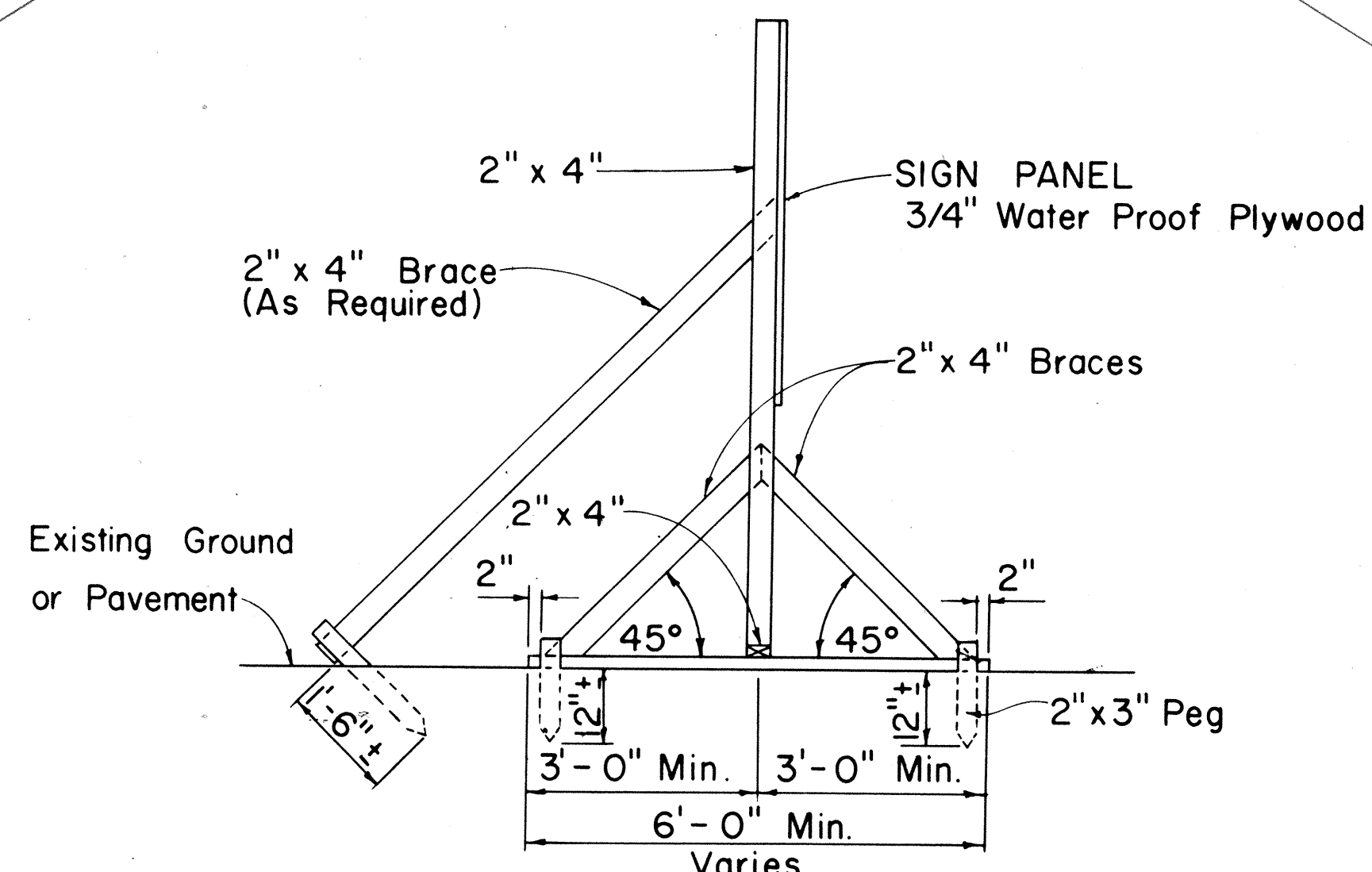
FRONT VIEW
Scale: 1/2" = 1'-0"



BLACK LEGEND ON YELLOW BACKGROUND
USE SERIES "D" LETTERS



SIDE VIEW
(SIGN SUPPORT AND FRAME WEIGHTED DOWN)
Scale: 1/2" = 1'-0"



SIDE VIEW
(SIGN SUPPORT AND FRAME ANCHORED IN GROUND)
Scale: 1/2" = 1'-0"

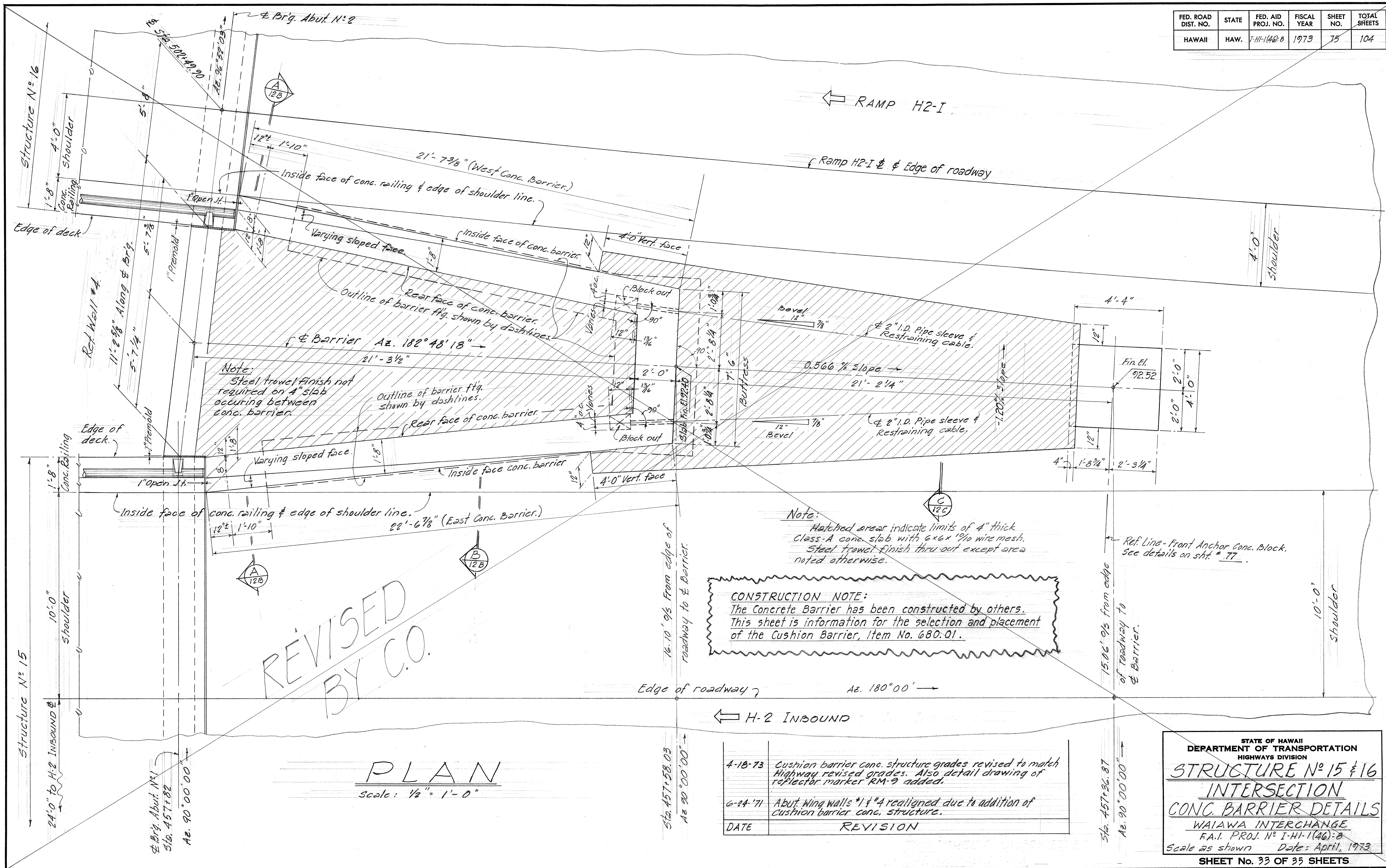
SIGN SUPPORT AND FRAME
Scale: As Shown

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAILS
PROJECT INFORMATION SIGN

Scale: As Shown
SHEET No. 32 OF 35 SHEETS

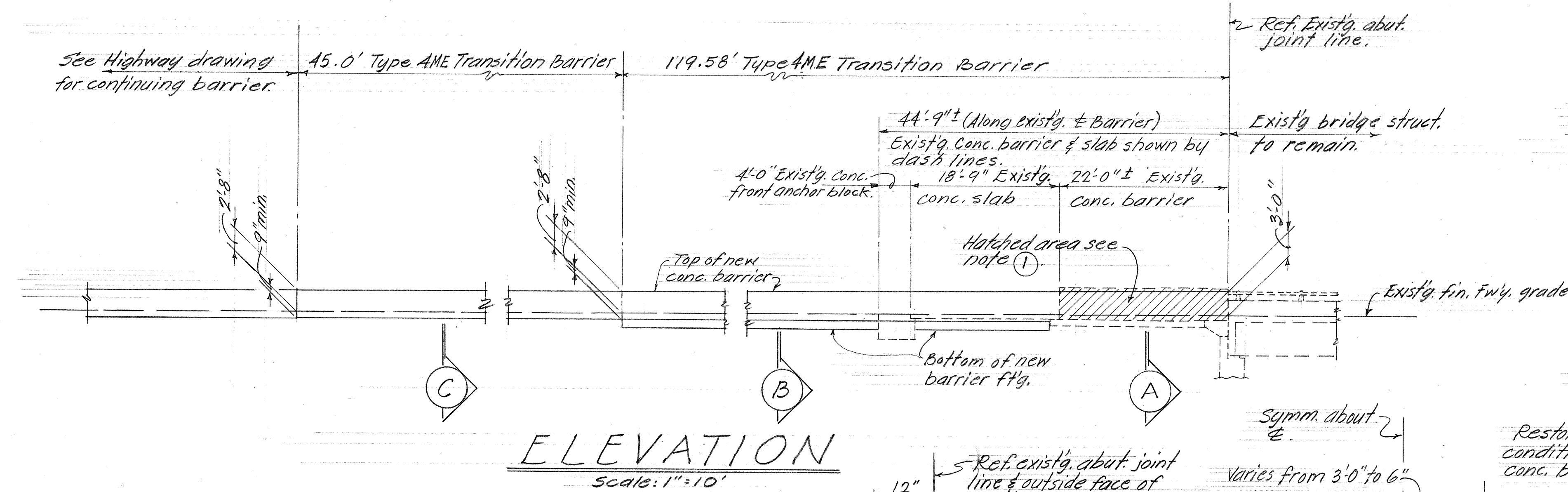
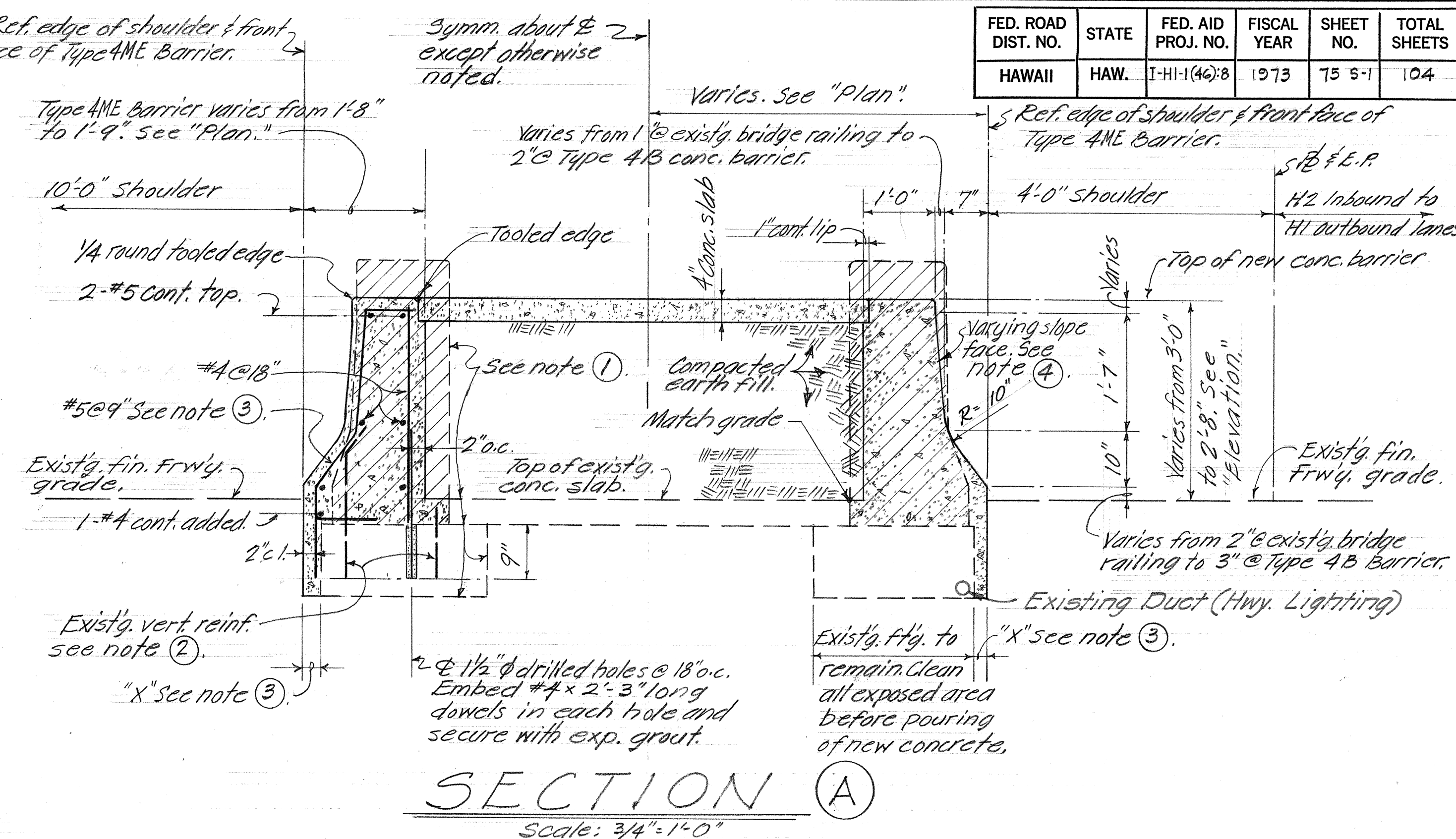
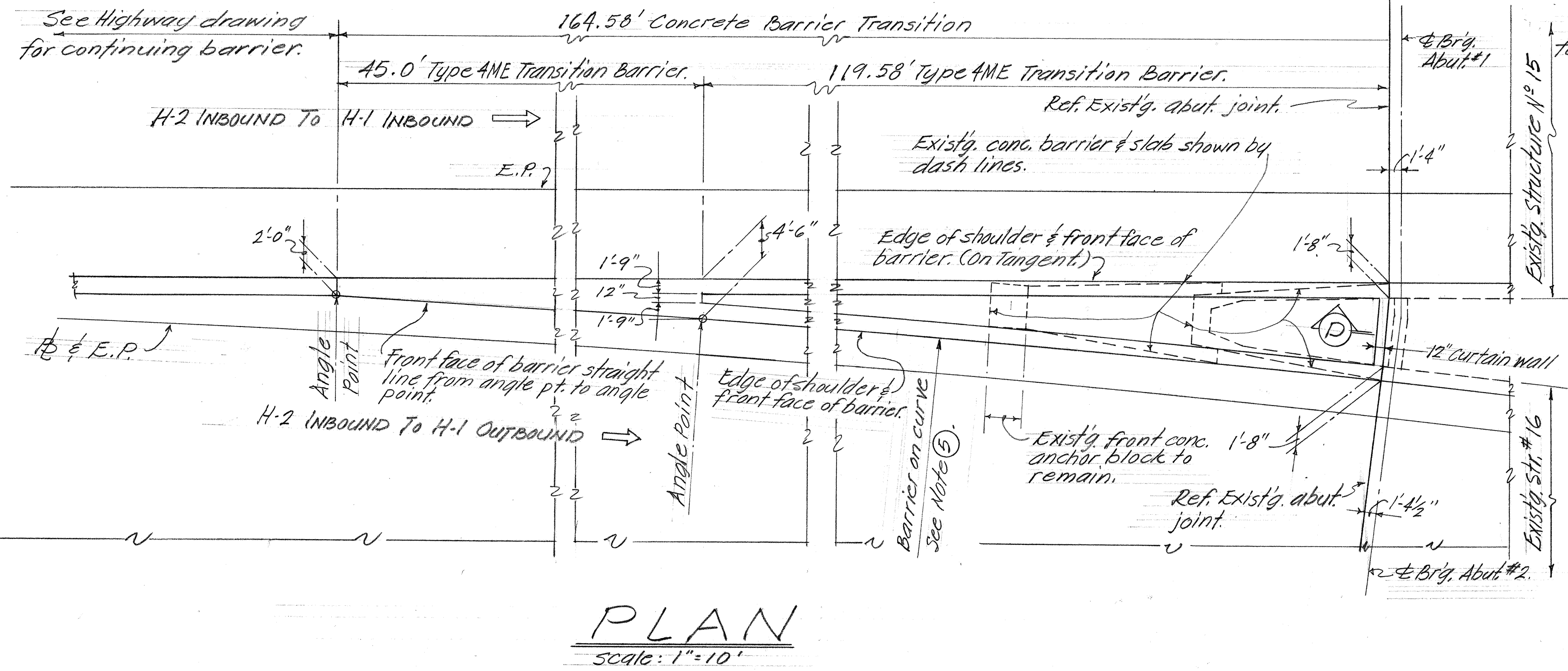
DELETED CCO 23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(40):8	1973	75	104

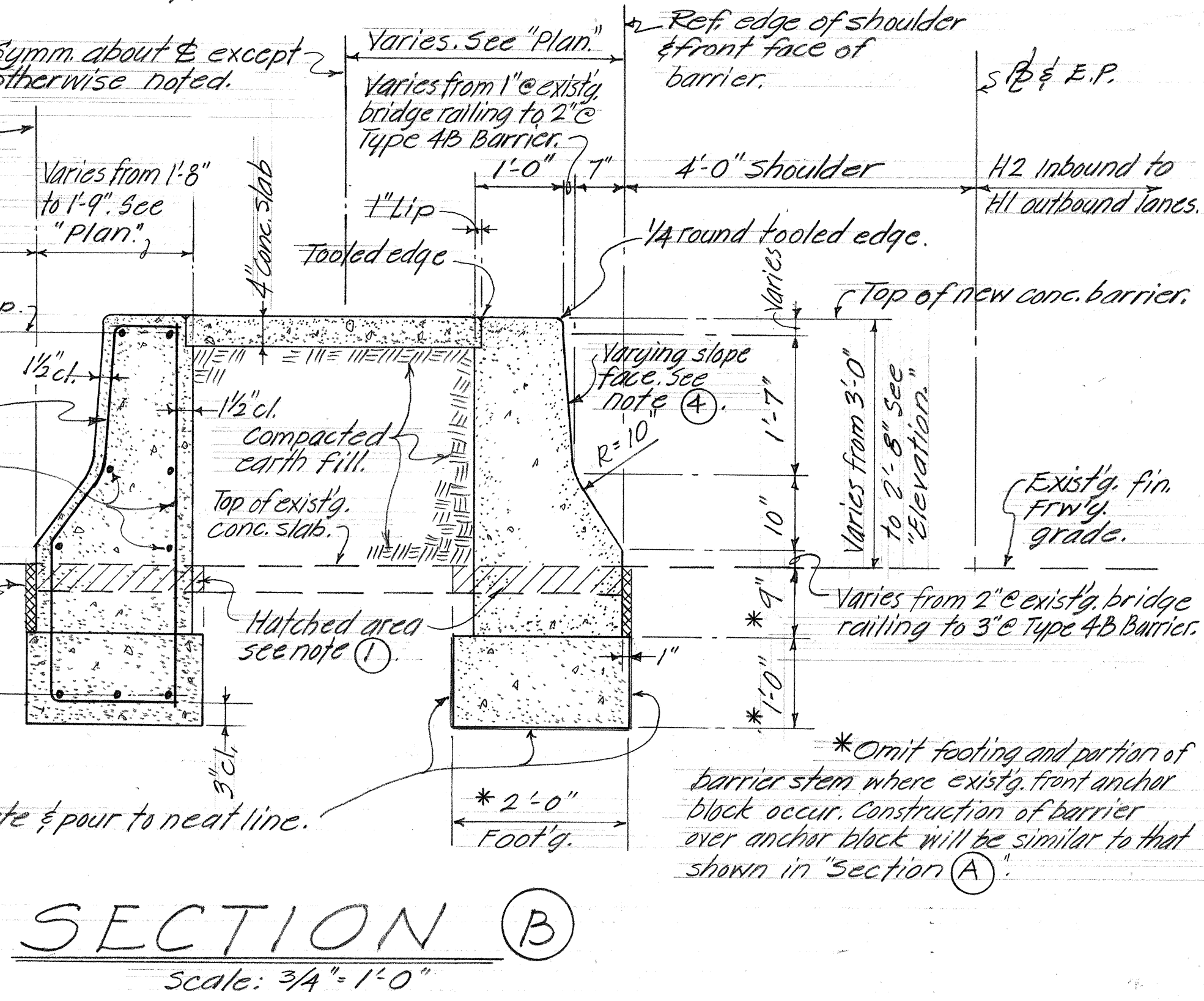
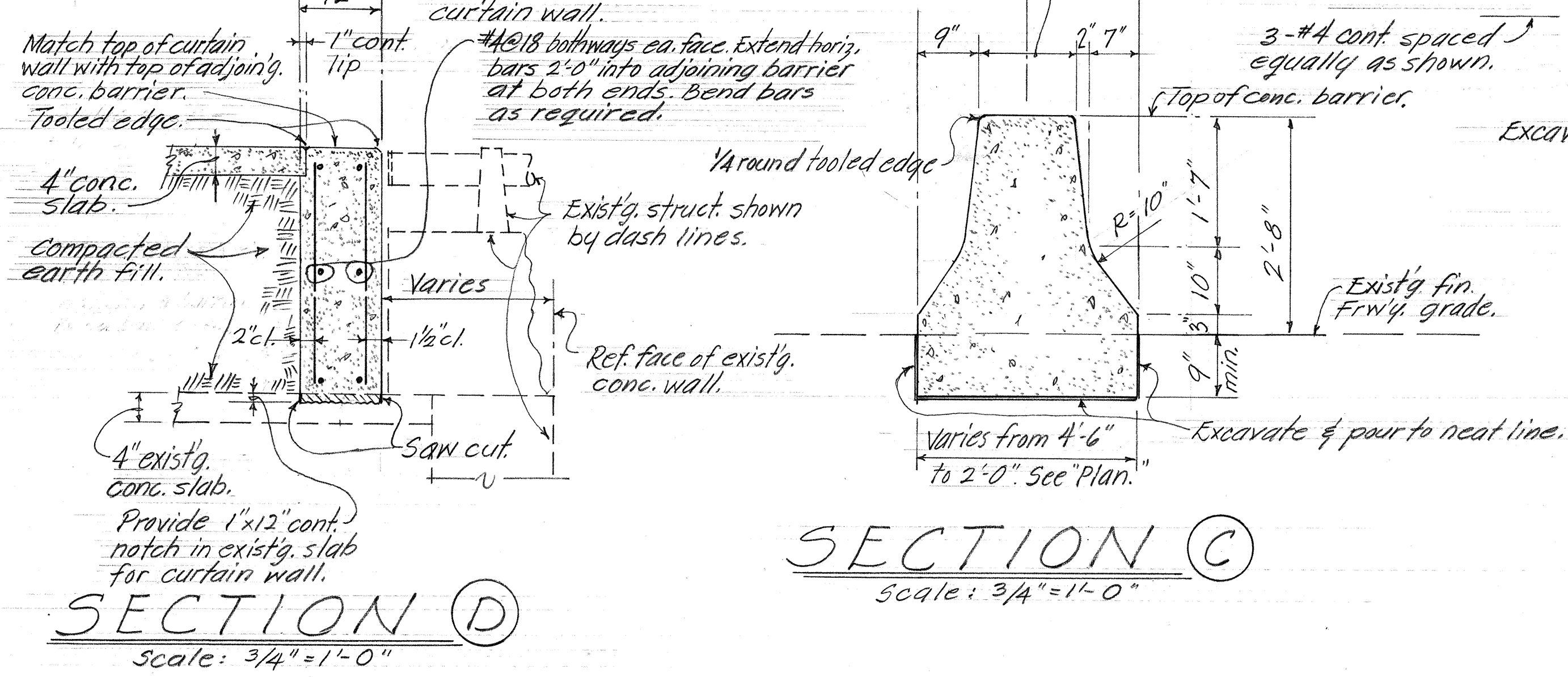


SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46)B	1973	75 5-1	104



- ### NOTES
- Existing concrete barrier and slab shown by dash lines. Hatched area indicates limit of removal of existing concrete.
 - Clean all existing vert. reinf. occurring in area of new concrete barrier as shown in "Section A". Straighten bars where needed and cut as required.
 - "X" distance (edge of shoulder to edge of existing barrier footing) varies. Where "X" is less than 2" bend bottom of #5 @ 9" front face barrier bars.
 - Concrete barrier varying slope face to match adjoining Type 4B barrier face and existing concrete bridge railing face.
 - For curve data and additional informations see "Notes" on sheet No. CO 182R 5-1.

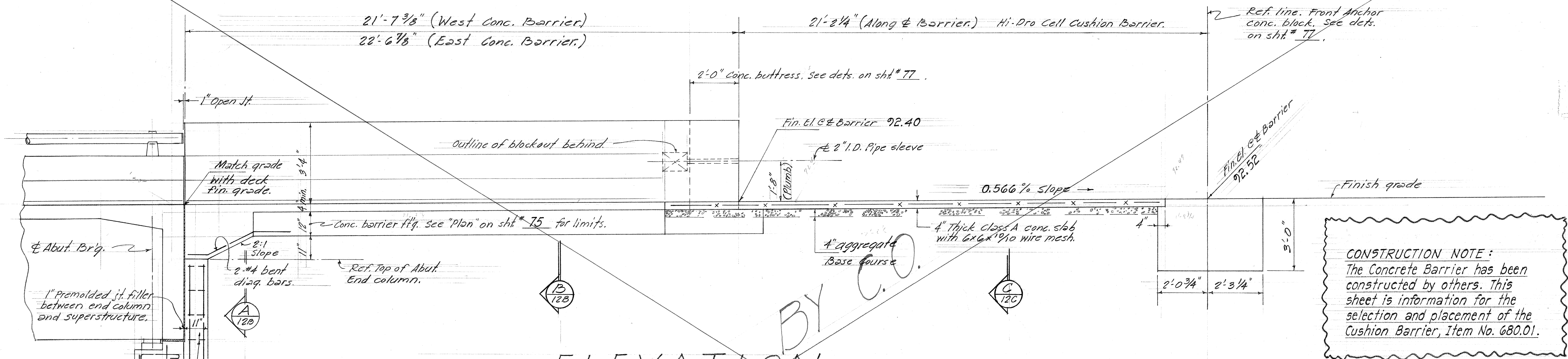


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

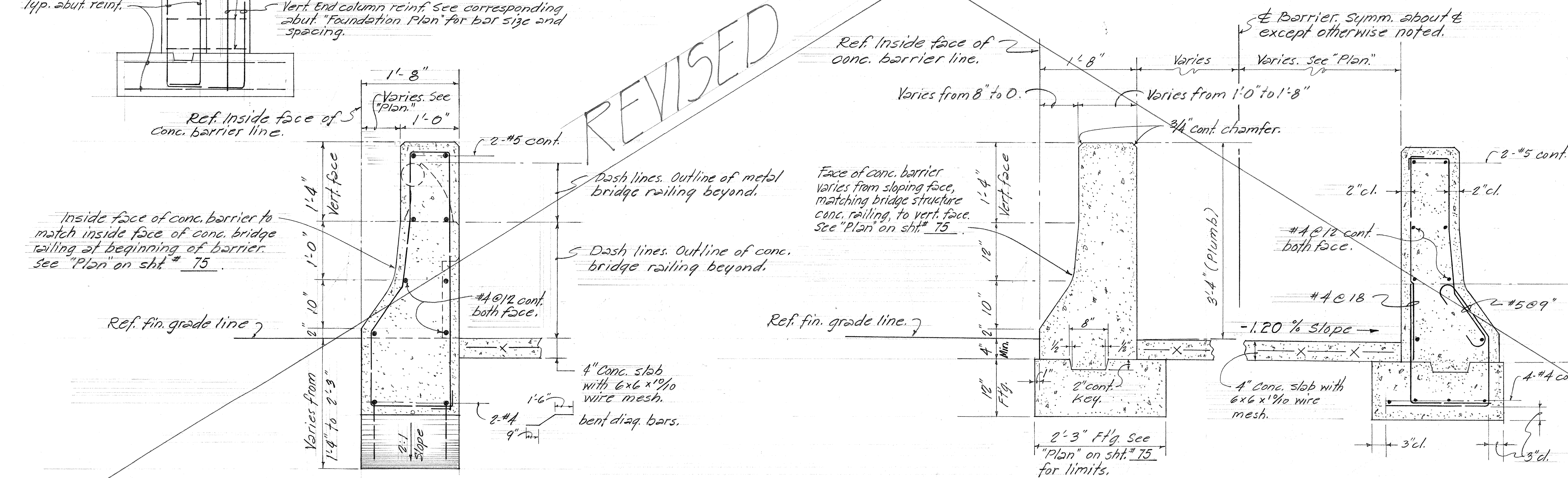
STRUCTURE No. 15 & 16
INTERSECTION - REVISED
CONC. BARRIER DETAILS
WAI'ANA INTERCHANGE
FAIP No. I-HI-1(46)B
Scale as shown Date: Jan. 1974

SHEET No. 33 A OF 35 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46):8	1973	76	104



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



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

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

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match Highway revised grades. Also detail drawing of reflector marker RM-9 added.
6-24-71	Abut. wing walls #1 & #4 realigned due to addition of cushion barrier conc. structure.

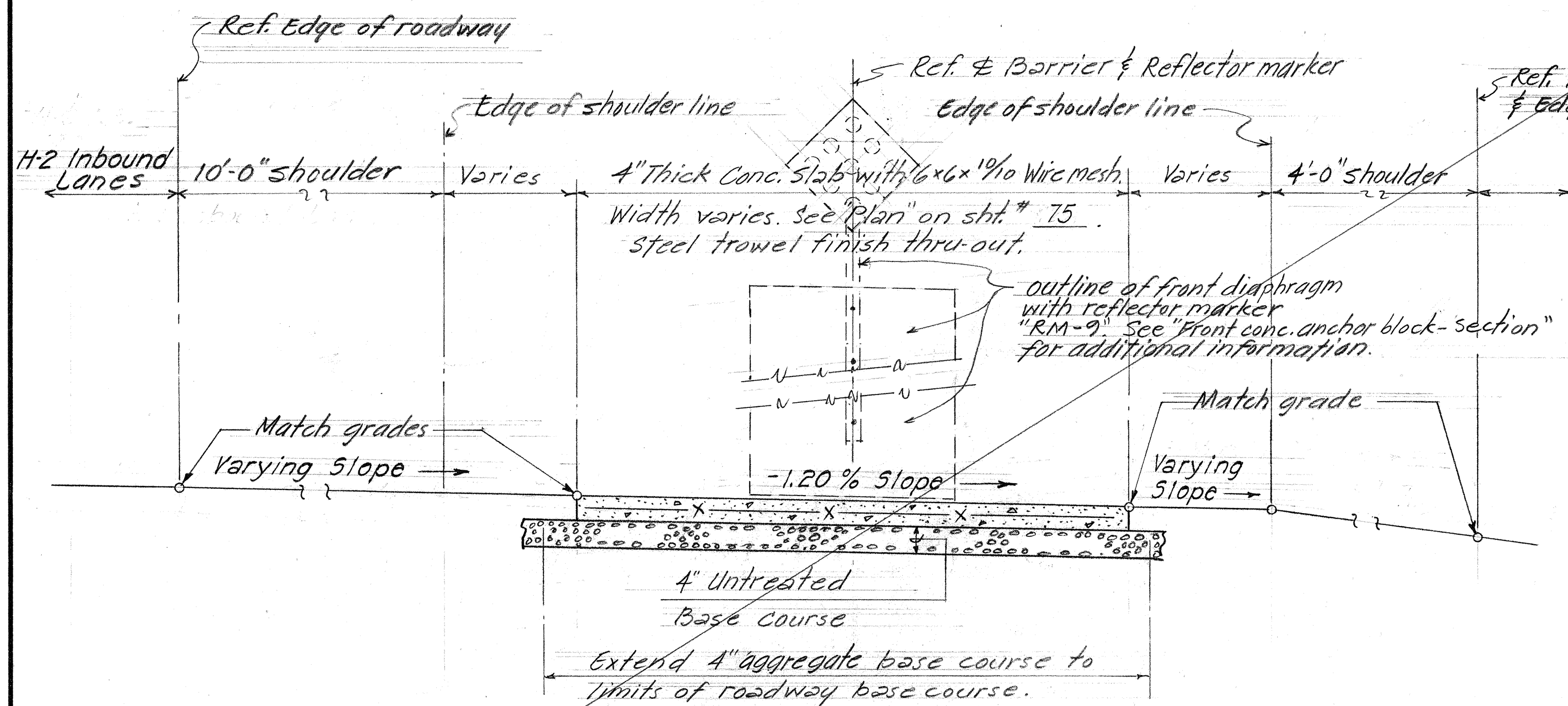
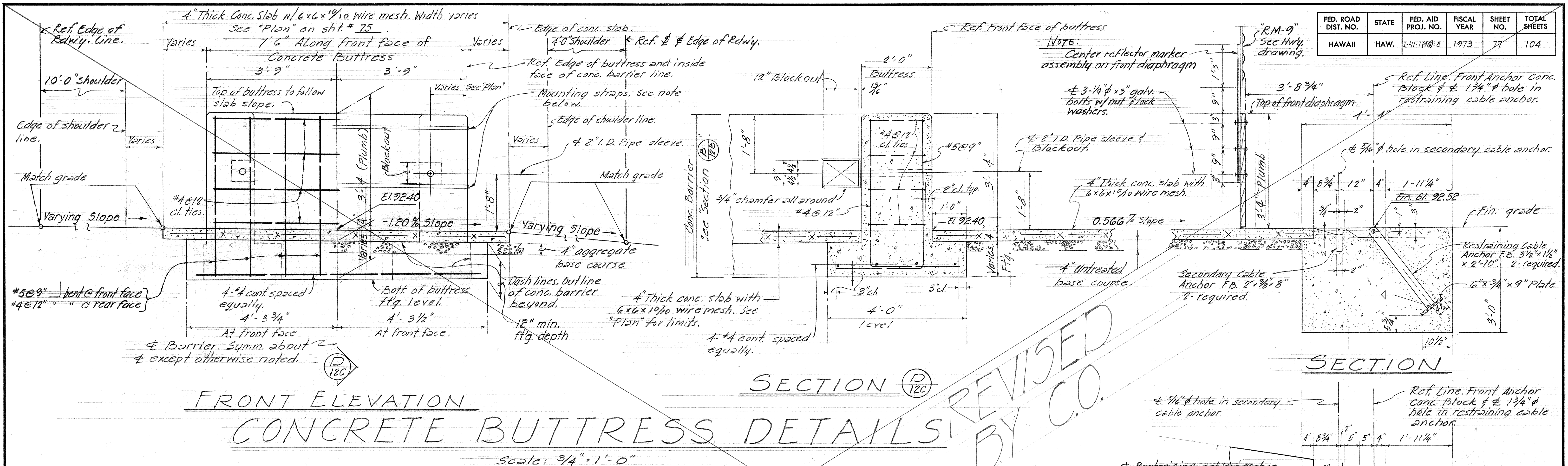
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STRUCTURE N° 15 & 16
INTERSECTION
CONC. BARRIER DETAILS
WAIAWA INTERCHANGE
F.A.I. PROJ. N° I-HI-1(46):8
Scale as shown Date: April, 1973

SHEET No. 34 OF 35 SHEETS

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match Highway revised grades. Also detail drawing of reflector marker RM-9 added.
6-24-71	Abut. wing walls #1 & #4 realigned due to addition of cushion barrier conc. structure.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(46):8	1973	77	104



CONSTRUCTION NOTE:

The Concrete Barrier has been constructed by others. This sheet is information for the selection and placement of the Cushion Barrier, Item No. 680.01.

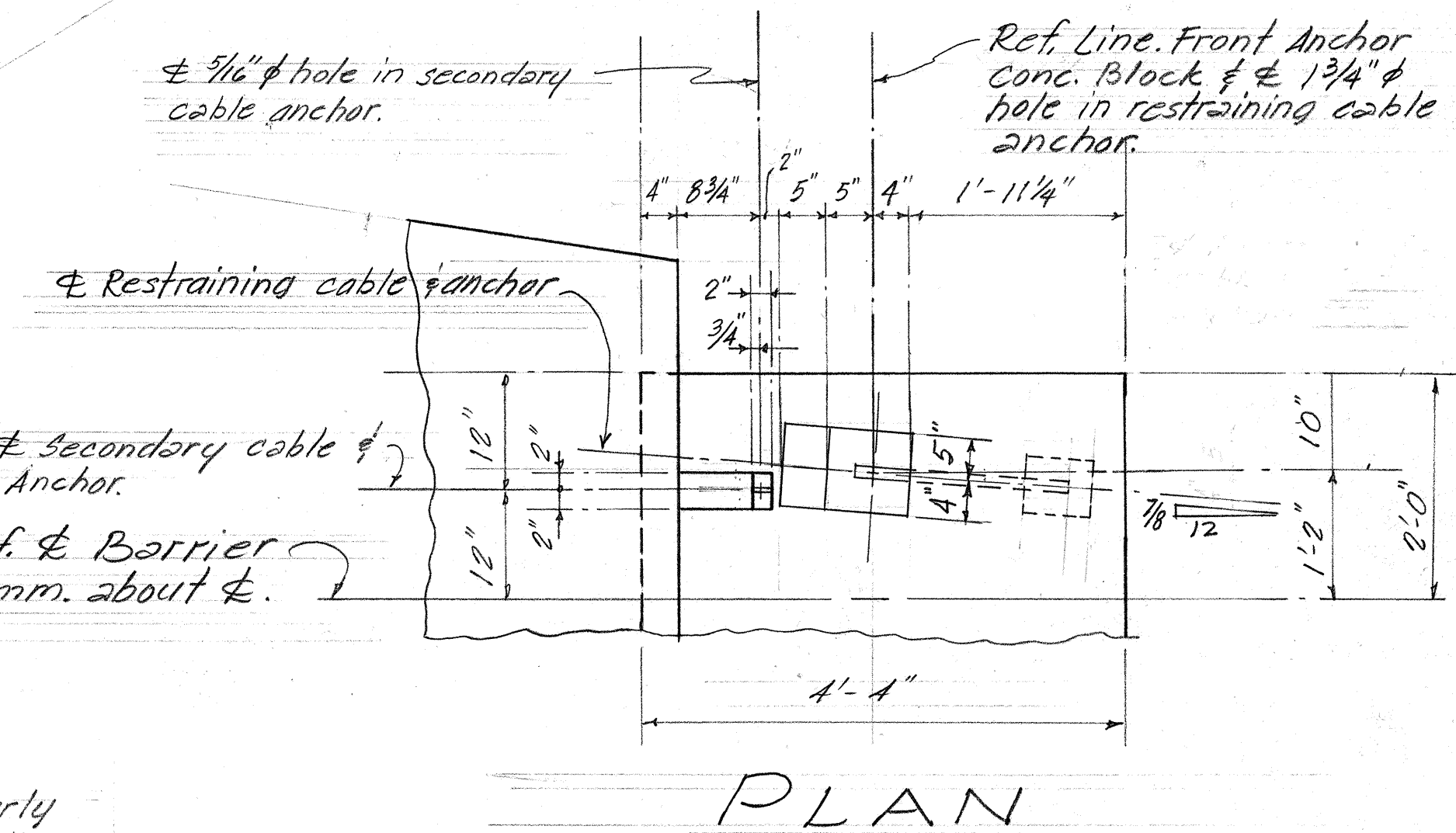
NOTE

All materials and information necessary to properly construct and install the cells shall be furnished by the manufacturers of the cells. All brackets, bolts and other appurtenances necessary for the installation of the cushion barrier shall be placed in the structure that is being constructed, in accordance with the plans and the manufacturer's recommendations.

The individual components, fastenings and overall installation shall reflect the latest designs and installation practices at the time of installation.

Galvanize all anchor assemblies in front anchor block and buttress and all bolts, mounting straps, sleeves and other appurtenances used in the installation of the cushion barrier.

DATE	REVISION
4-18-73	Cushion barrier conc. structure grades revised to match revised Highway grades. Also detail drawing of reflector marker RM-9 added.
6-24-71	Abut. wingwalls #1 & #4 realigned due to addition of cushion barrier conc. structure.



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
STRUCTURE N° 15 & 16 INTERSECTION CONC. BARRIER DETAILS WAIKAWA INTERCHANGE F.A.I. PROJ. N° I-HI-1(46):8 Scale as shown Date: April, 1973	
SHEET No. 77 OF 77 SHEETS	