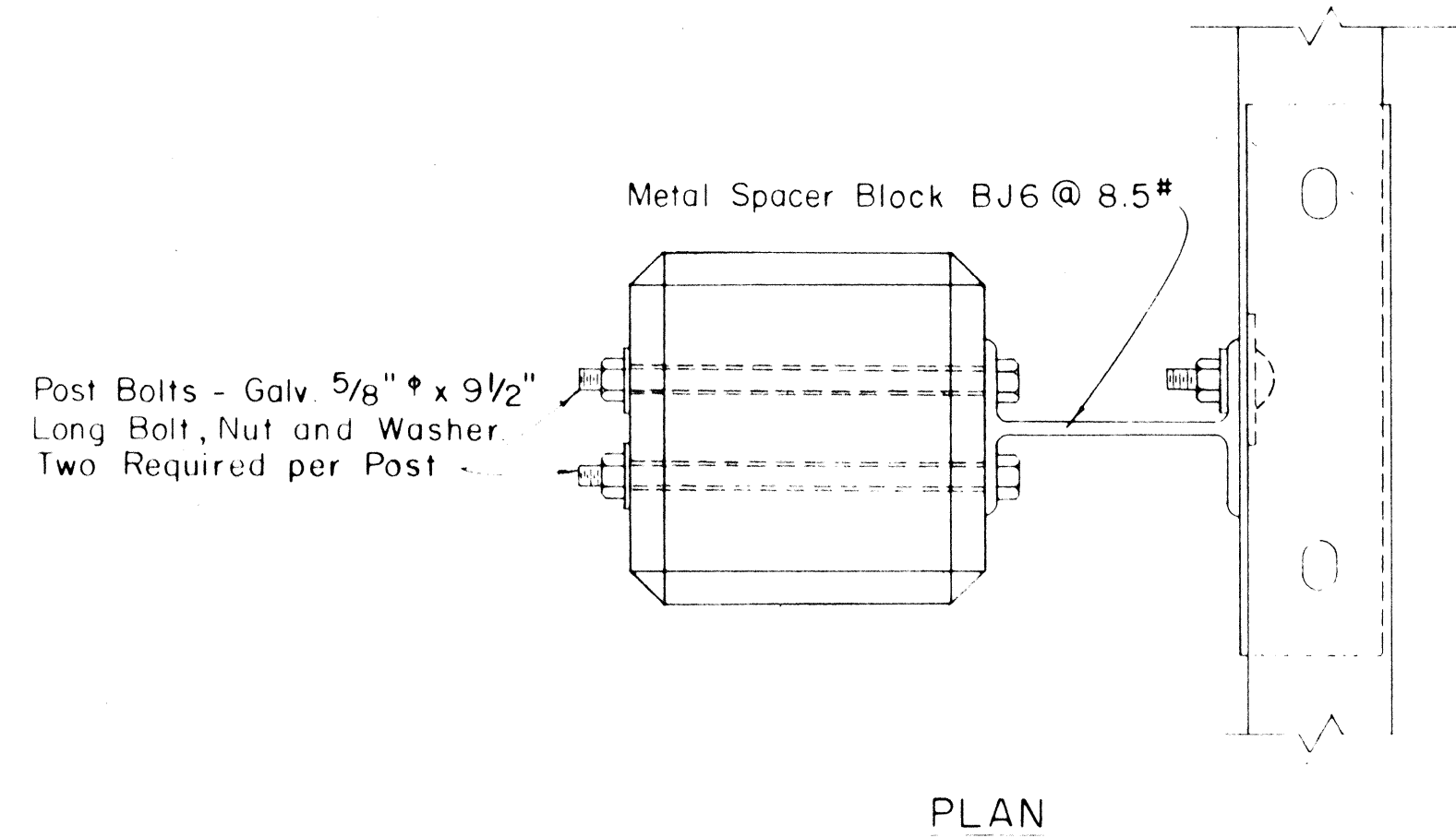
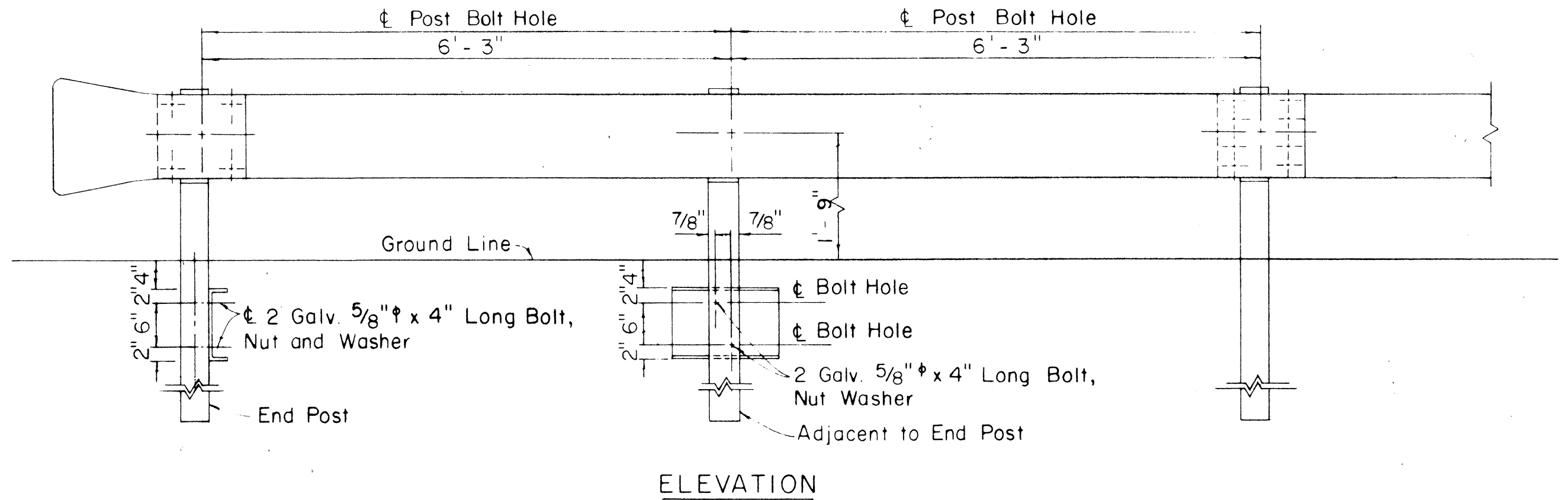
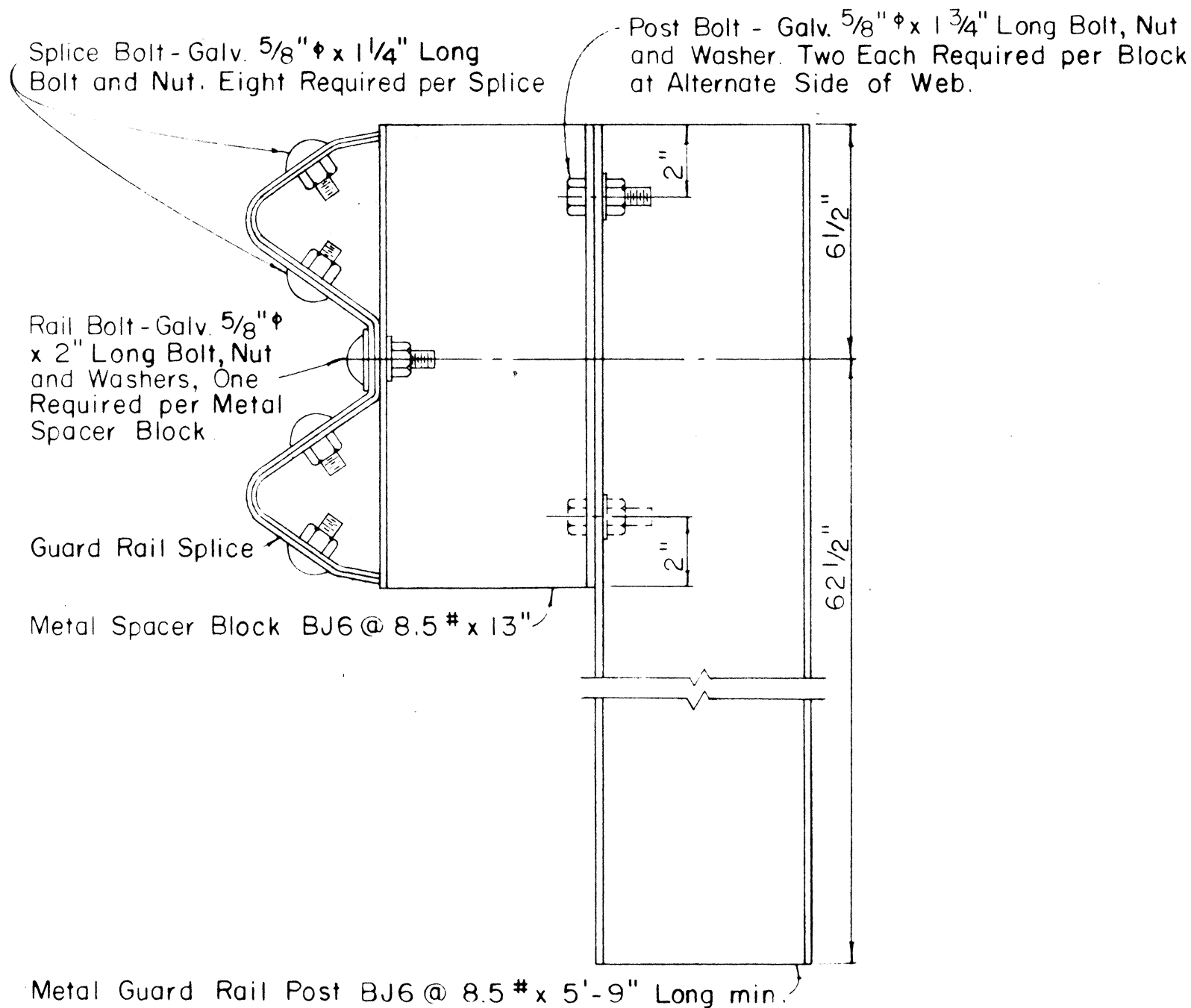
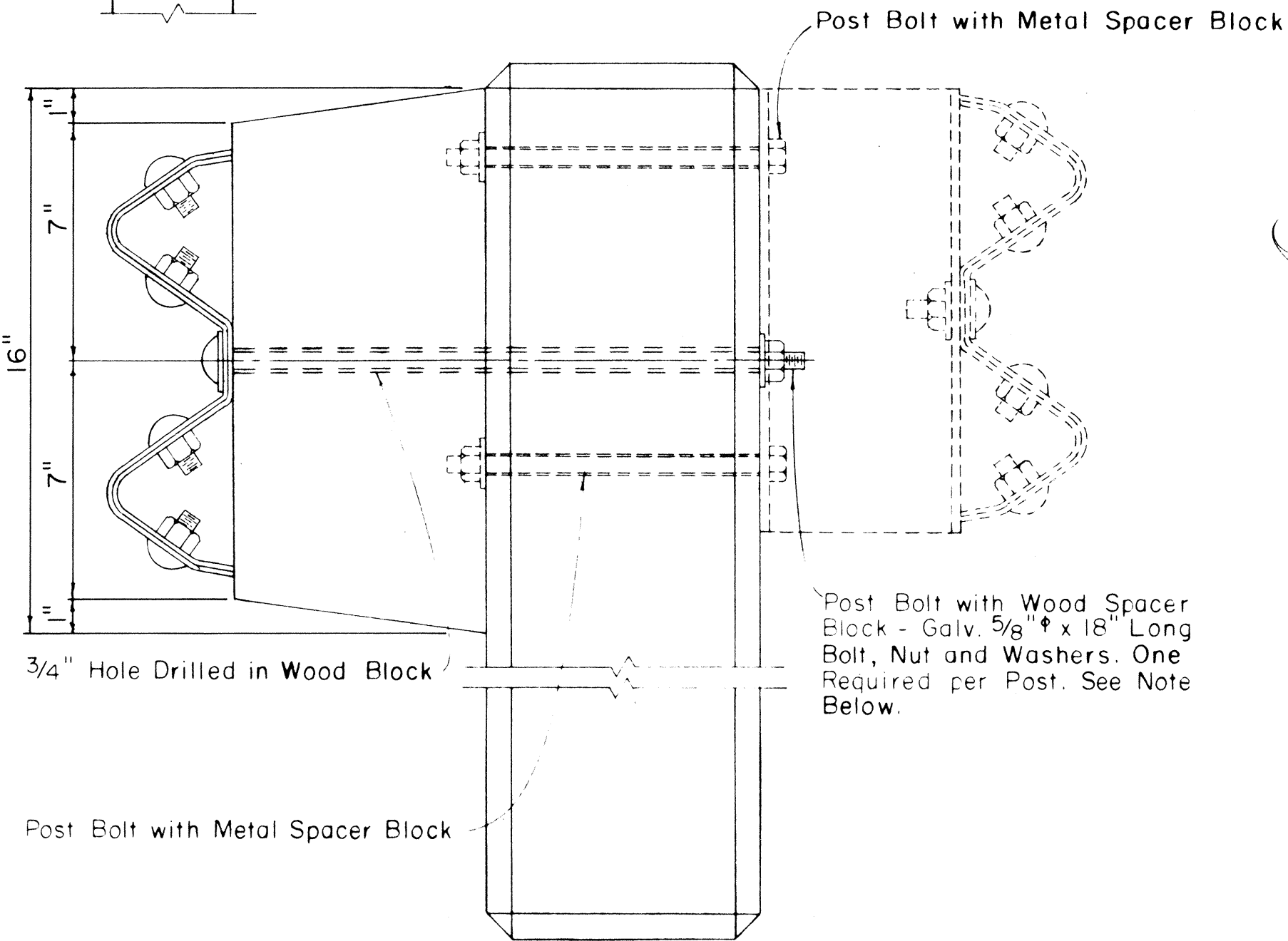
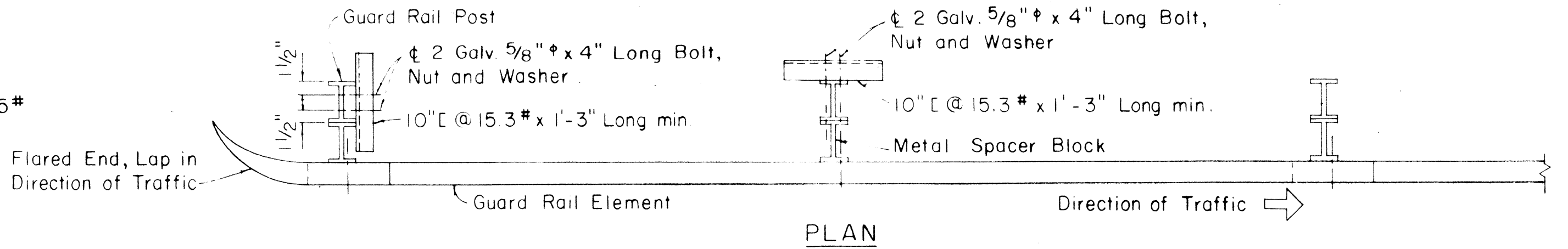
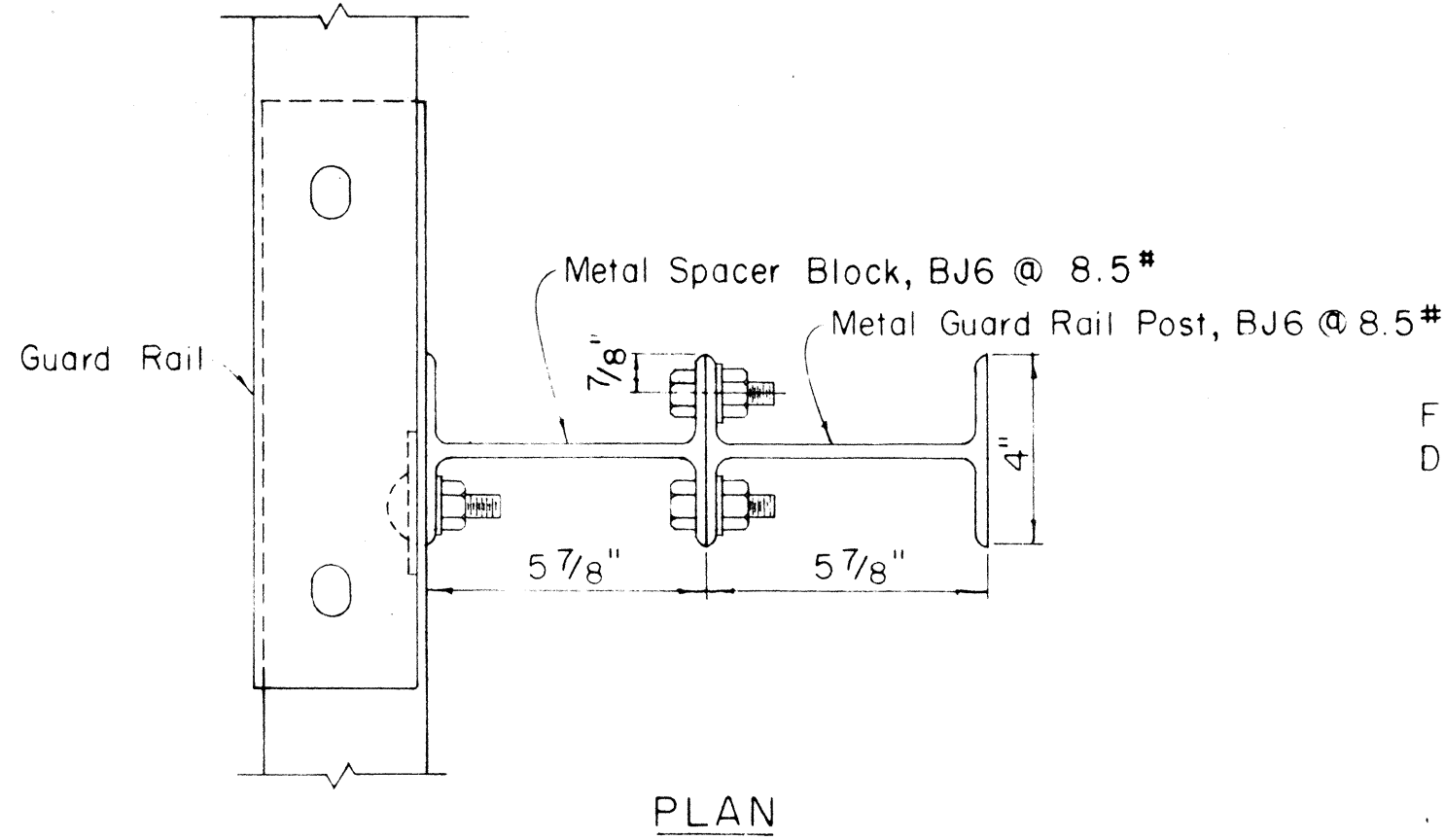
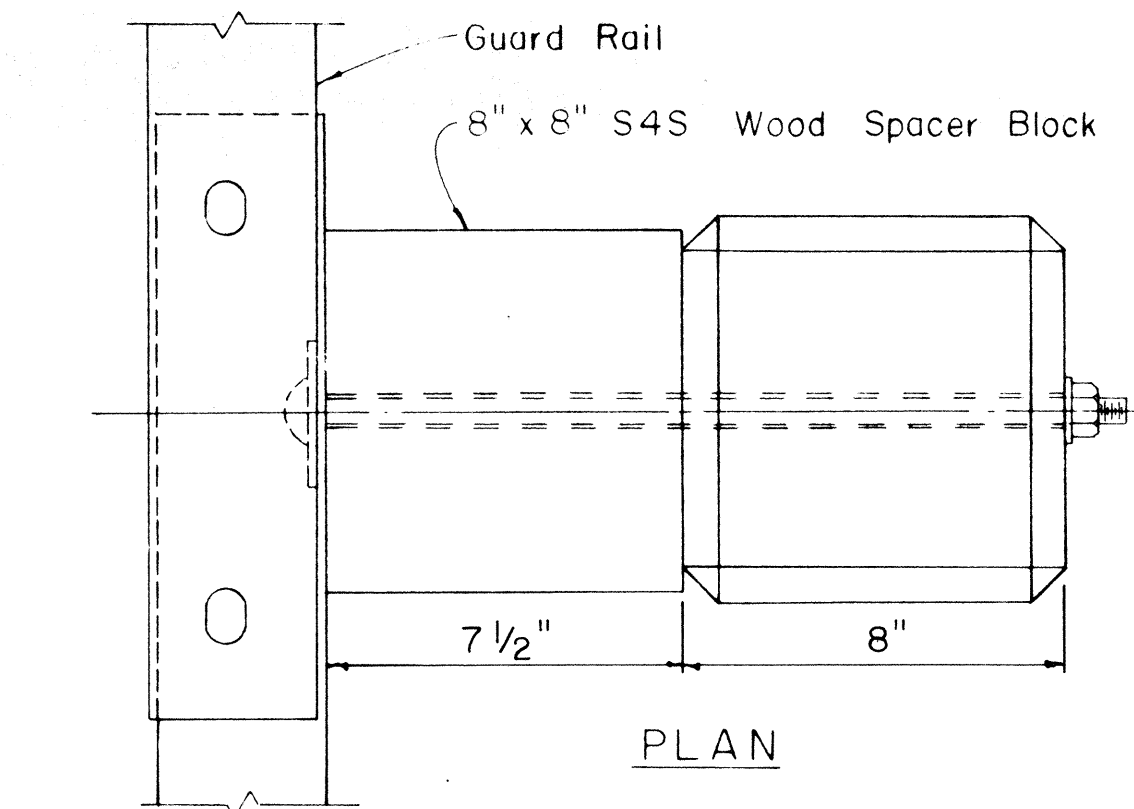
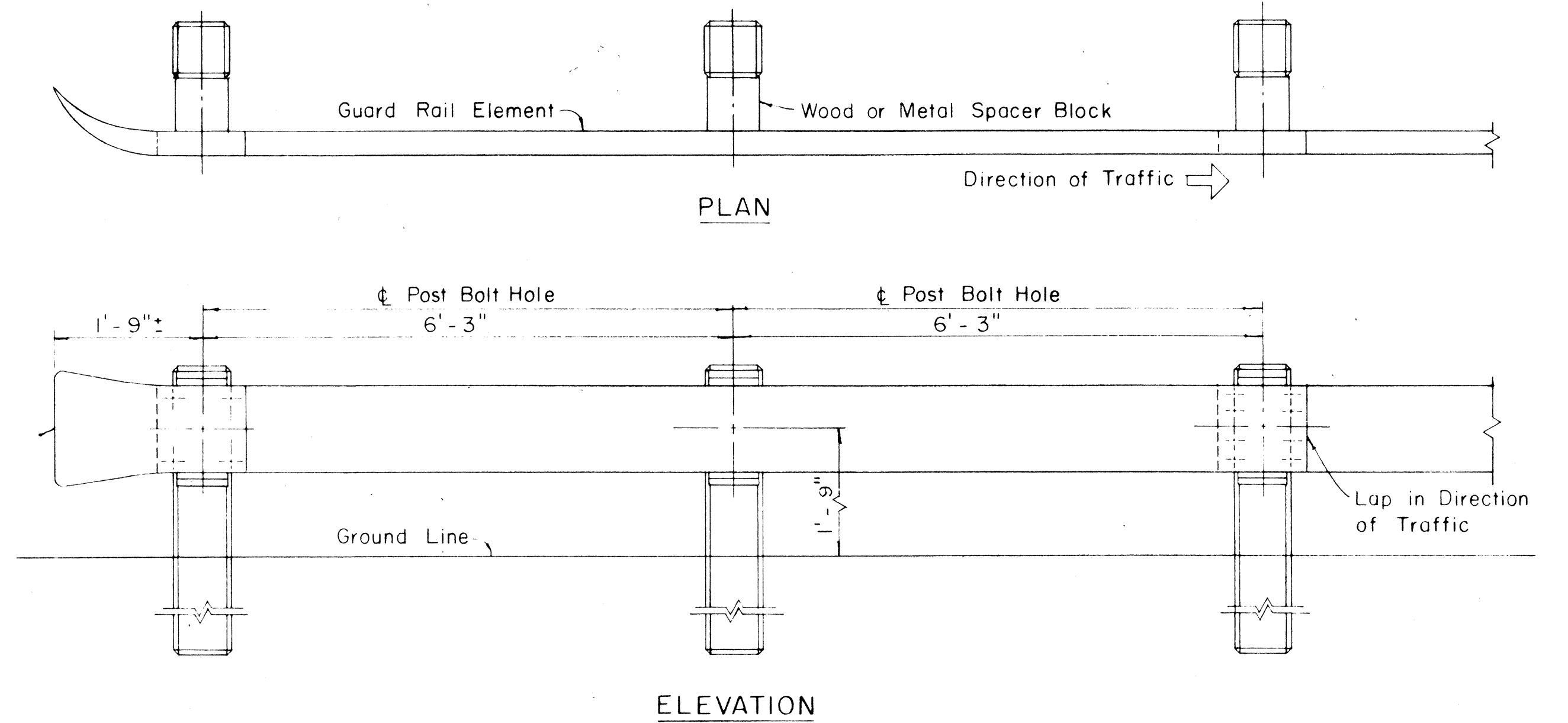


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-02-67 UNIT 1	1967	5	10



SINGLE METAL GUARD RAIL ON METAL POST
WITH METAL SPACER BLOCK
Scale: 3" = 1' - 0"

Flared End, Lap in
Direction of Traffic



METAL GUARD RAIL ON CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
Scale: 3/4" = 1' - 0"

SINGLE METAL GUARD RAIL ON PRECAST
CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
Scale: 3" = 1' - 0"

NOTE
Single Guard Rails Shown. For Double Guard Rails Additional Spacer Blocks
and Rail Elements Required on Opposite Side of Posts. See Bolt Schedule
for Required Bolt Lengths.

DETAILS FOR SINGLE GUARD RAIL

REVISED: August 10, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

Scale as noted

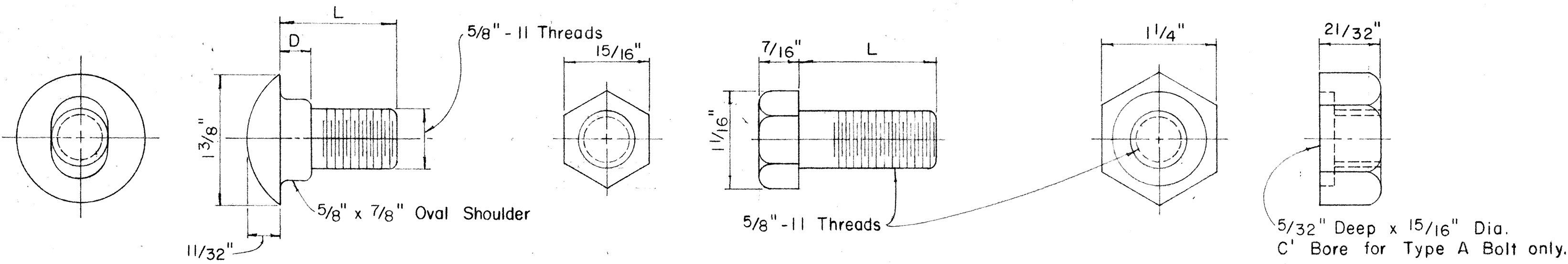
SHEET No. 1 OF 6 SHEETS

DATE	_____
SURVEY PLOTTED BY	_____
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.	56A-02-67 UNIT 1	1967	6	10

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

BOLT DIMENSIONS		
TYPE B BOLT		
Post Bolt for Conc. Post w/ Metal Blocks	L 9 1/2"	
Post Bolt for Metal Post w/ Metal Block	L 13/4"	



TYPE A BOLT

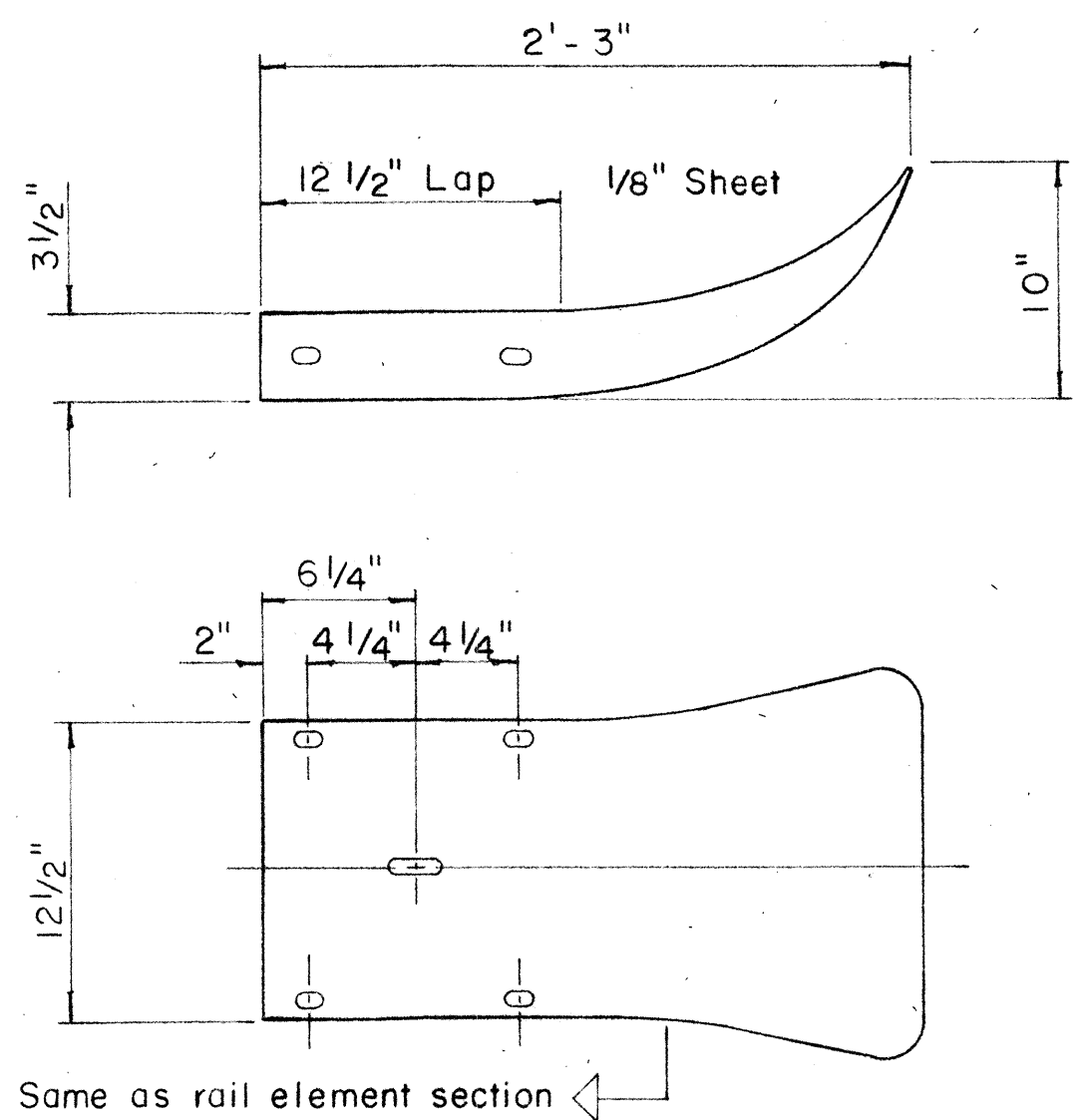
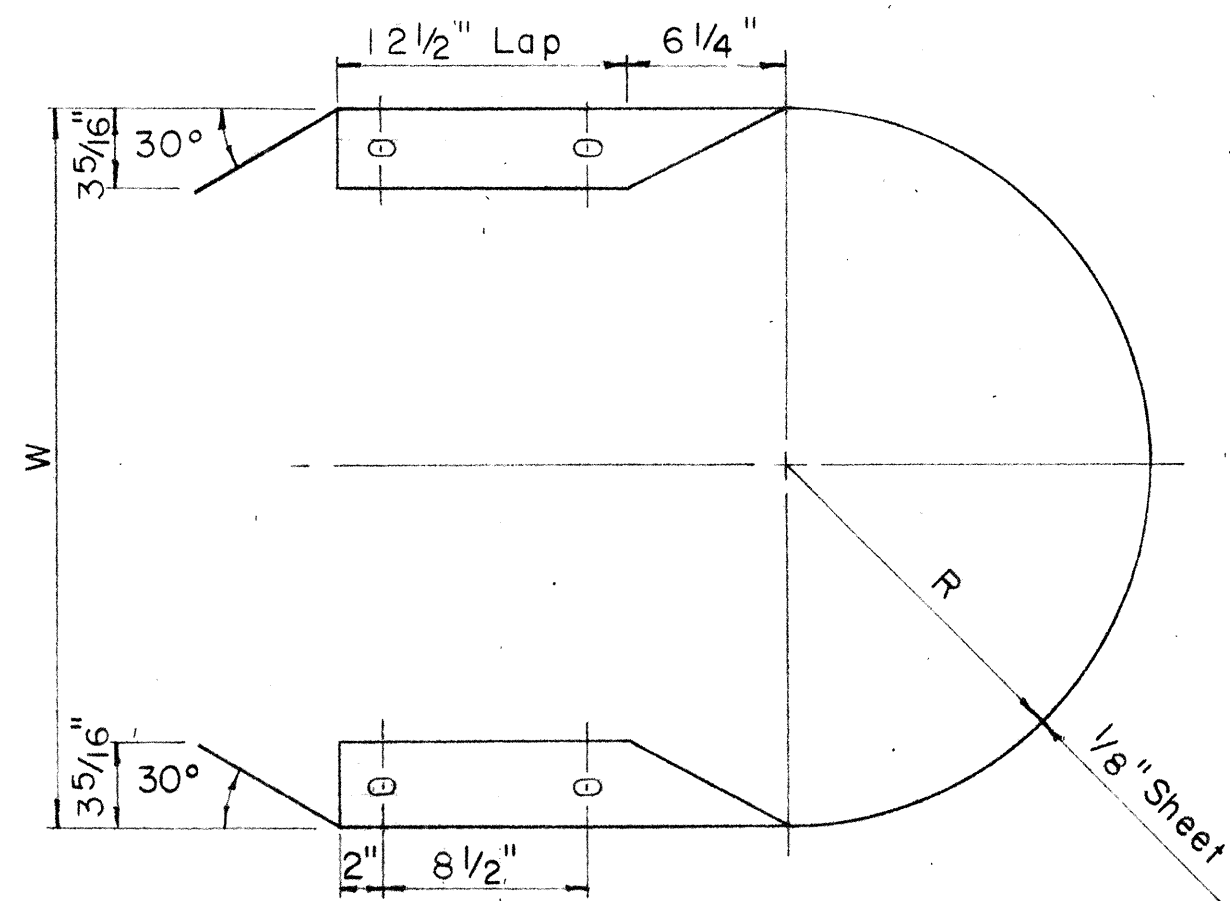
TYPE B BOLT

HEXAGON NUT

SPLICE RAIL AND POST BOLTS

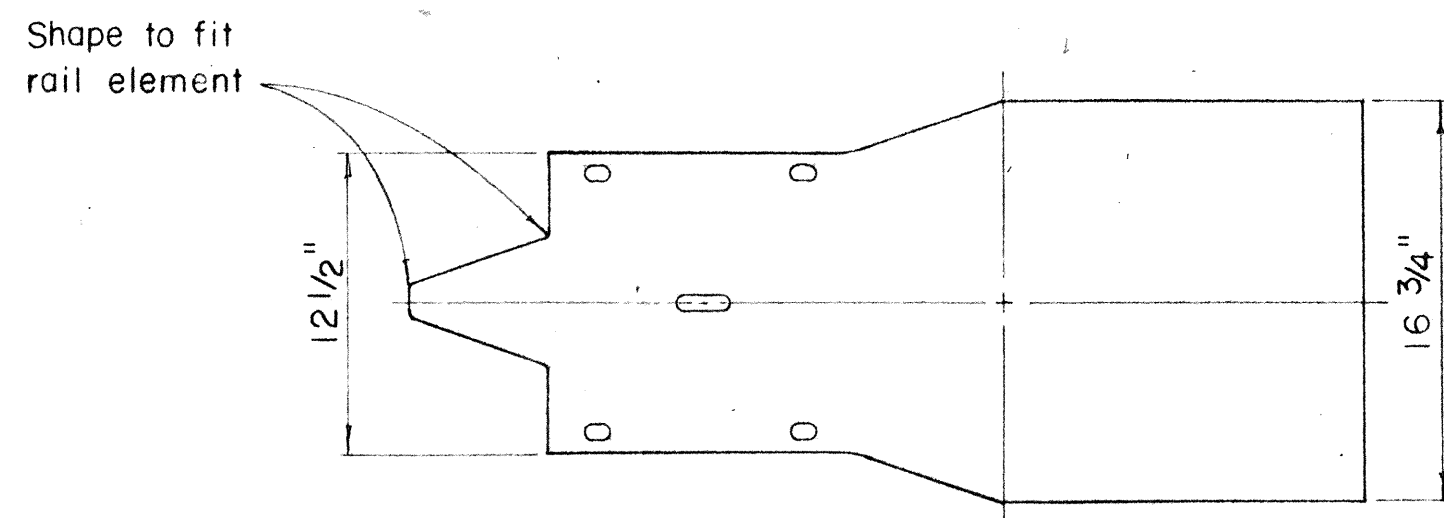
Scale: Full Size

Scale: Full Size



FLARED END

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

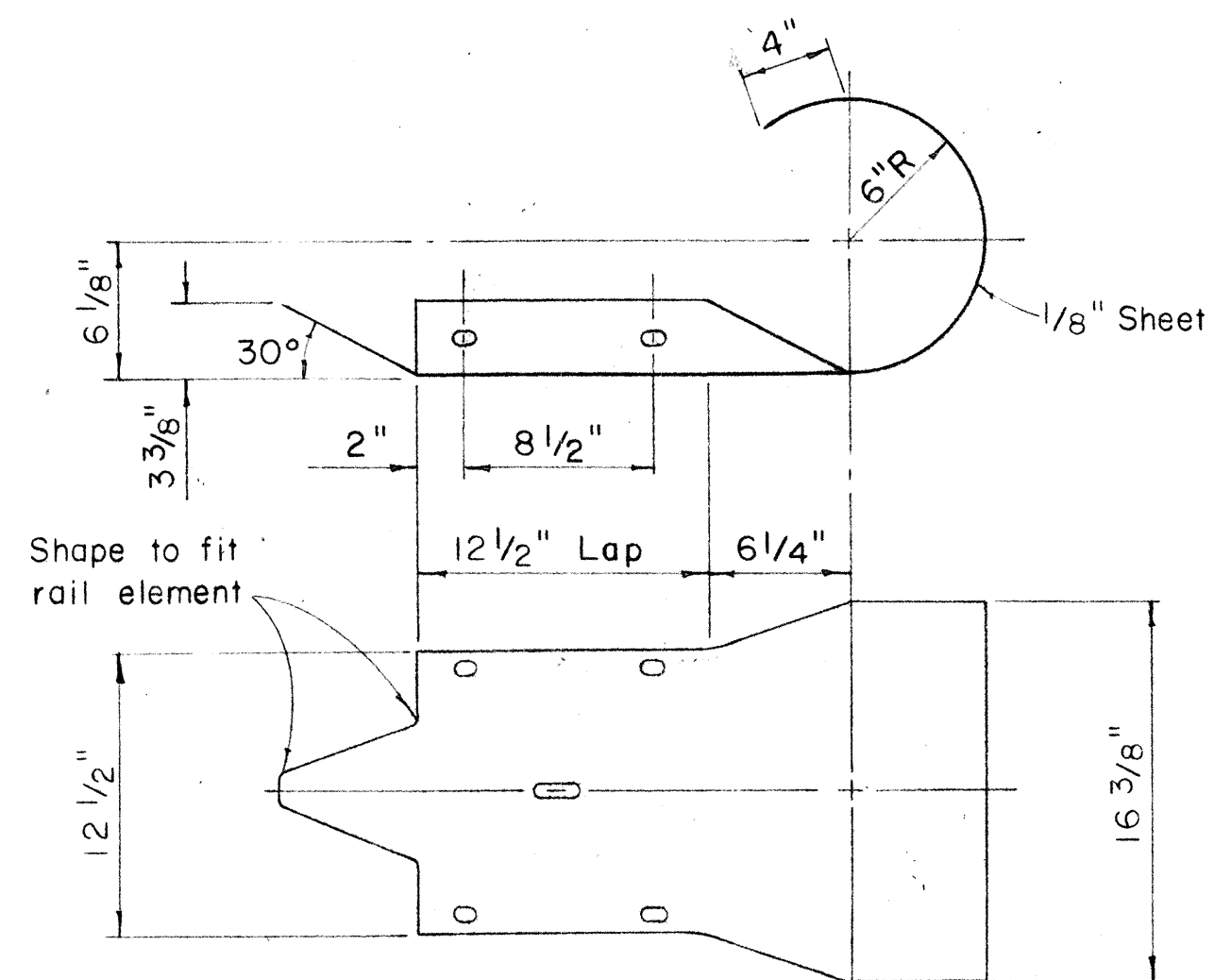


MEDIAN END

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

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 (BJ 6)	26 1/2"	13 1/4"
Double Metal Guard Rail on Metal Post with Metal Blocks (BJ 6)	24 3/8"	12 3/16"



CURVED END

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

RAIL SPLICE

Scale: 3" = 1' - 0"

SPLICE BOLT SLOT

SPLICE BOLT SLOT FOR ALL ENDS

Scale: Full Size

POST BOLT SLOT

RAIL WASHER

RAIL ELEMENT SECTION

Scale: 6" = 1' - 0"

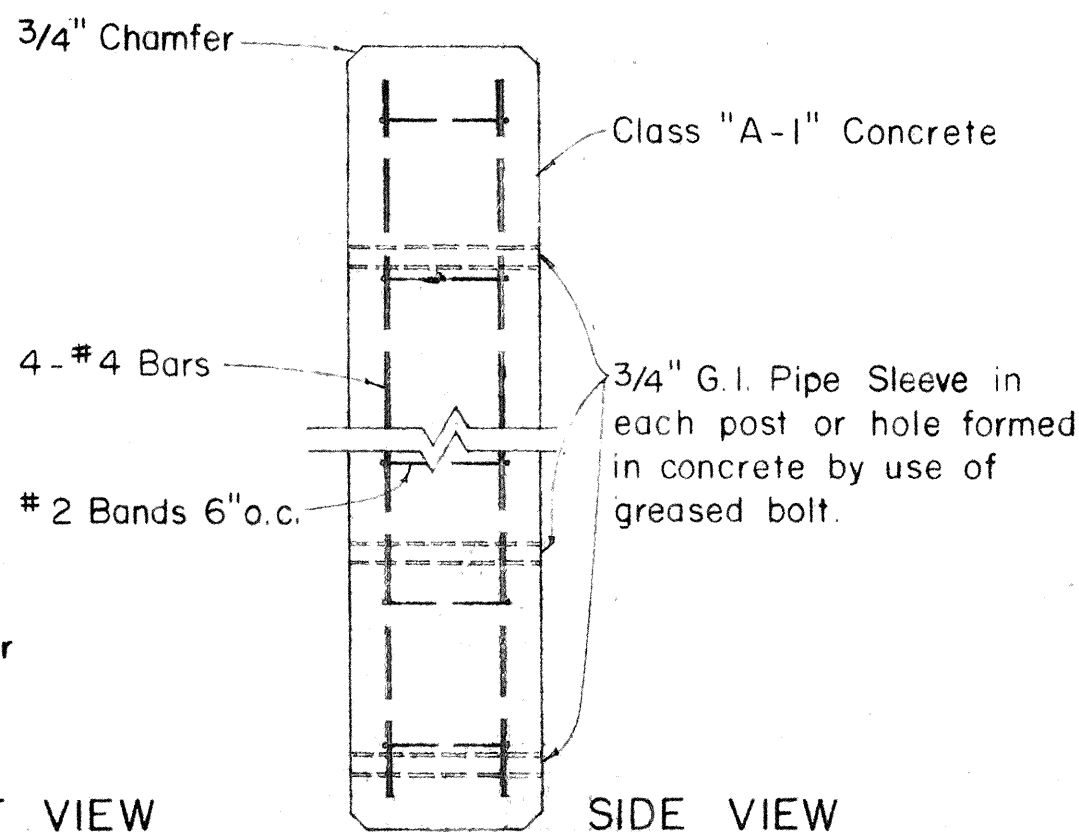
TOP VIEW

FRONT VIEW

BOTTOM VIEW

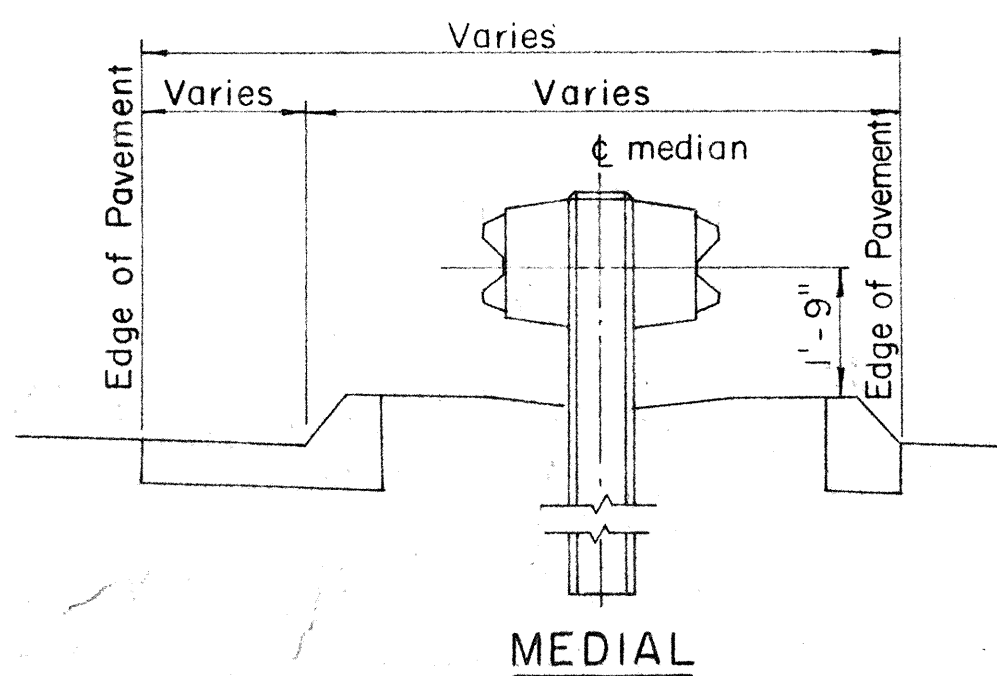
NOTE:

Concrete post shall be precast



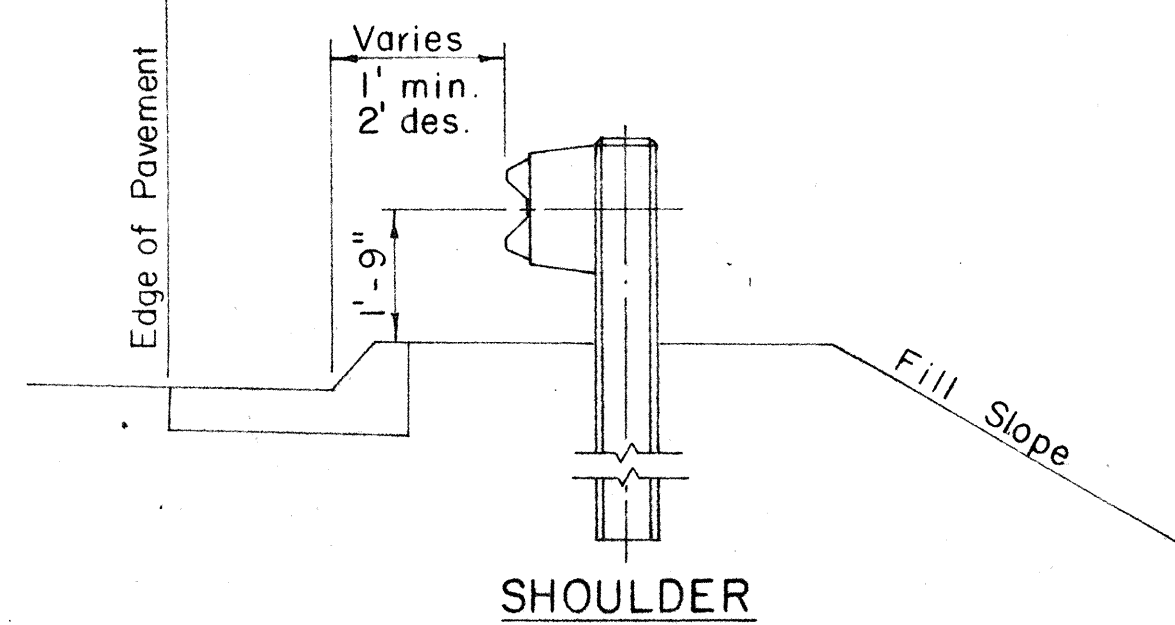
DETAIL OF CONCRETE POST

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



TYPICAL GUARD RAIL DETAIL

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



SHOULDER

REVISED: Sept. 1, 1967
REVISED: June 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

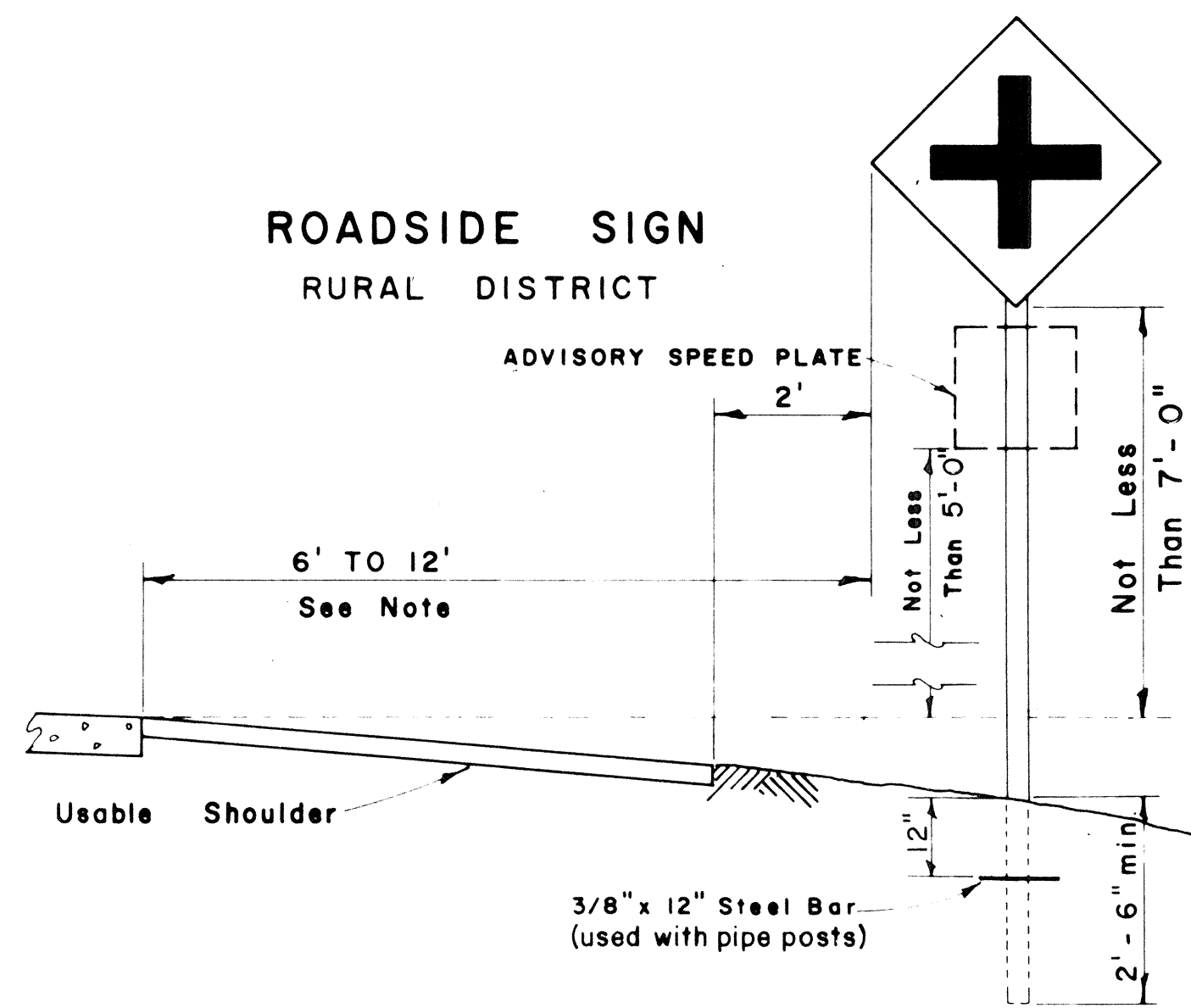
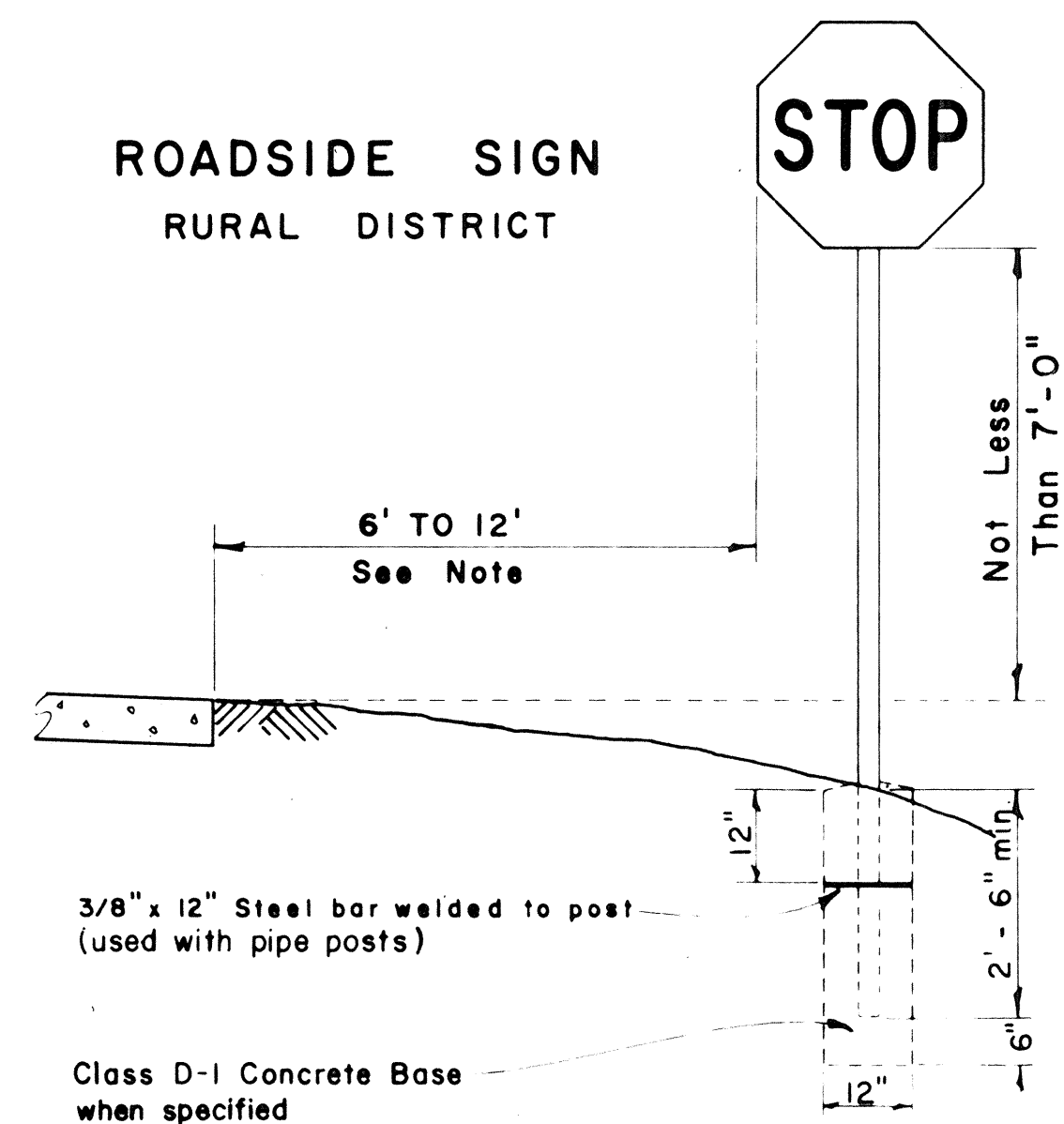
METAL GUARD RAIL

Scale: as noted

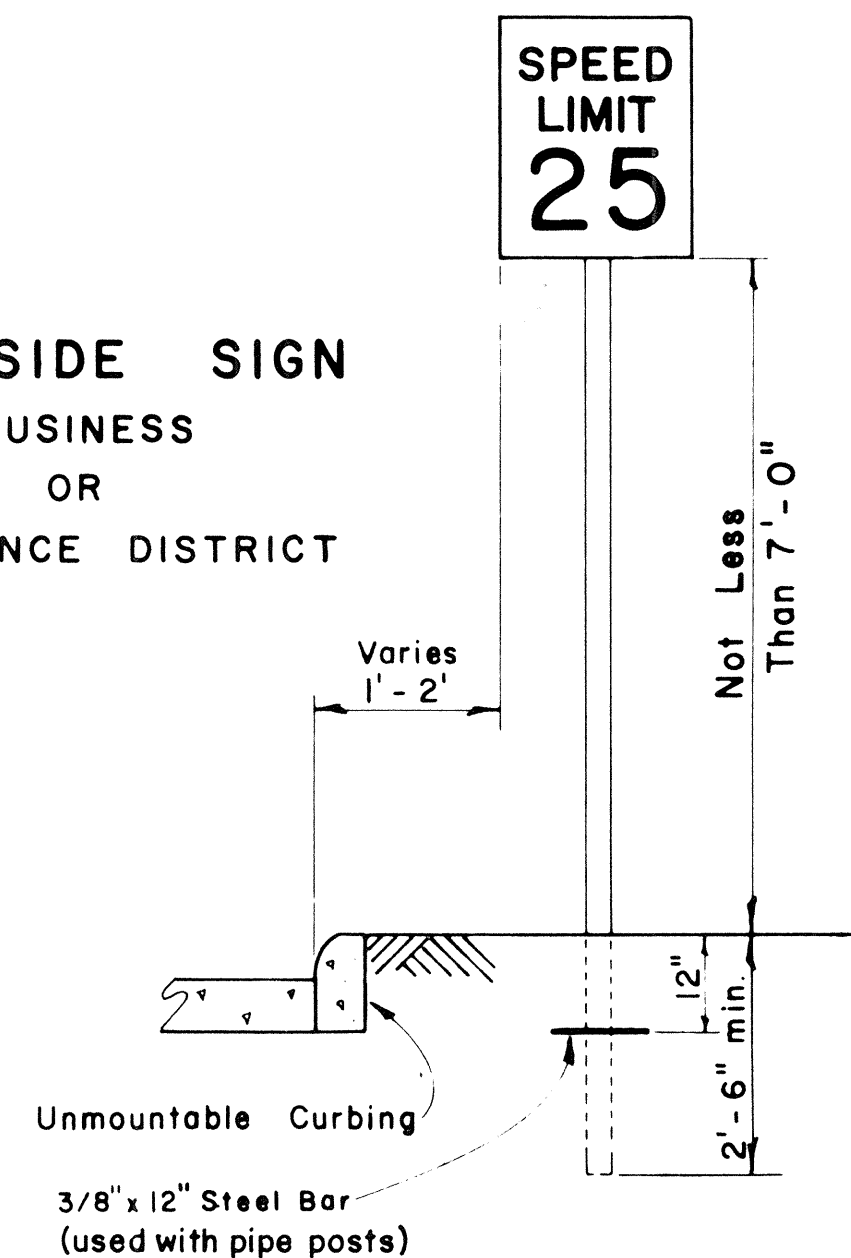
SHEET No. 2 OF 6 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

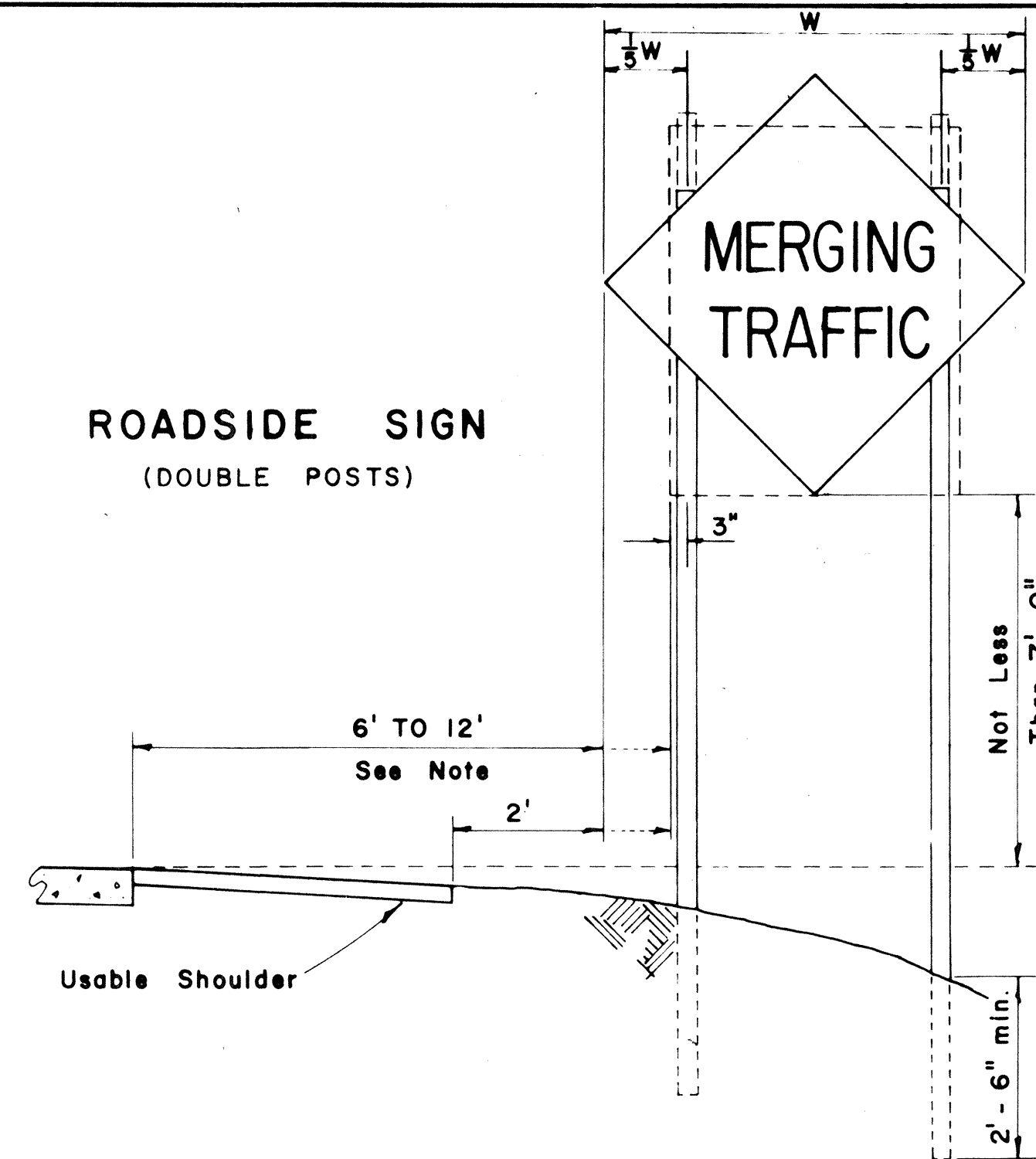
- NOTE:
1. All signs and road delineators shall be placed 2' outside the usable roadway shoulder or 1' outside unmountable curbing present and within the limits shown below.
 2. Except as noted below, sign posts shall be either 3" galv. std. pipe or 2 1/2" x 2 1/2" galv. square tube posts for signs larger than 24" in any dimension; 2" galv. std. pipe or 2" x 2" galv. square tube posts for signs 24" or less in any dimension.
 3. Sign shall be attached to post with 5/16" galvanized bolts with nuts and 7/8" x 7/8" x .120" stainless-steel washers with neoprene rubber gasket.
 4. Clearance Markers (RM-3, RM-4) shall be installed with the inside edge of the marker in line with the inner edge of the obstruction.
 5. Signs 48" and wider or larger than 10 sq. ft. in area shall be mounted on two 3" galv. std. pipe or two 2 1/2" x 2 1/2" galv. square tube posts.



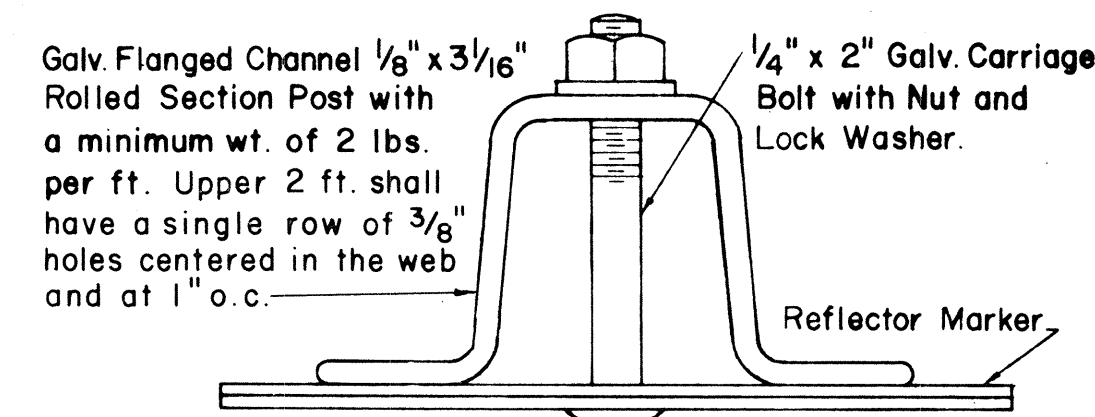
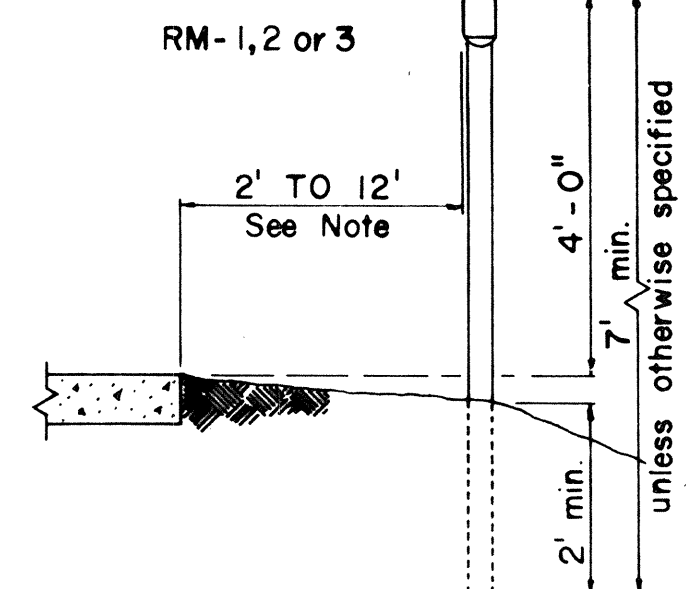
ROADSIDE SIGN
BUSINESS
OR
RESIDENCE DISTRICT



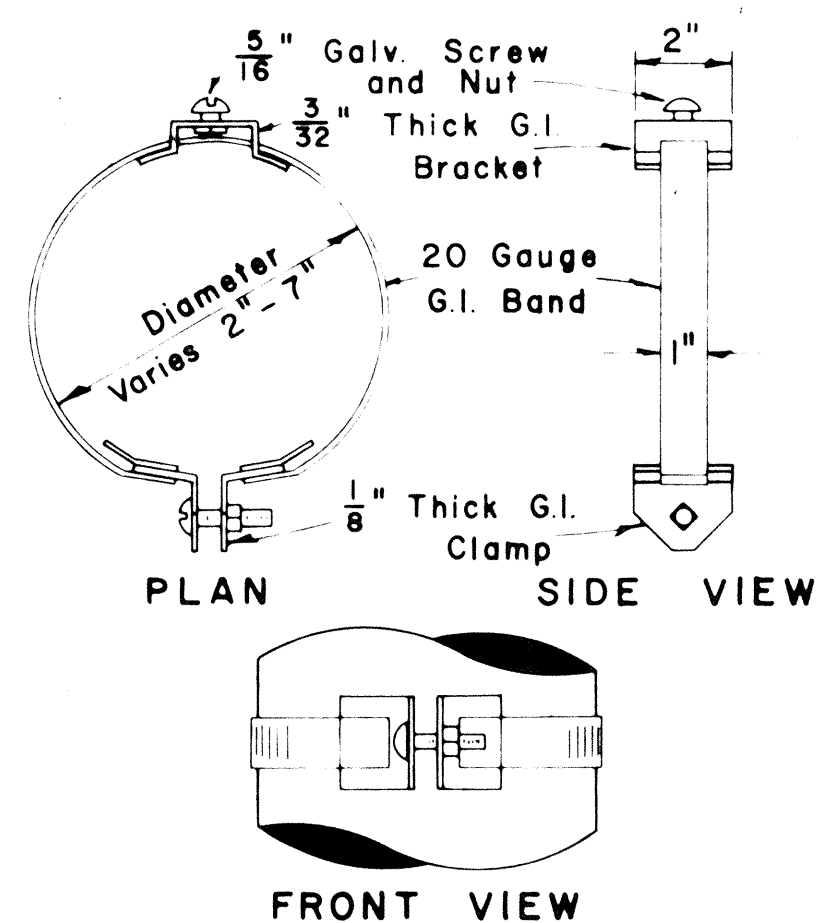
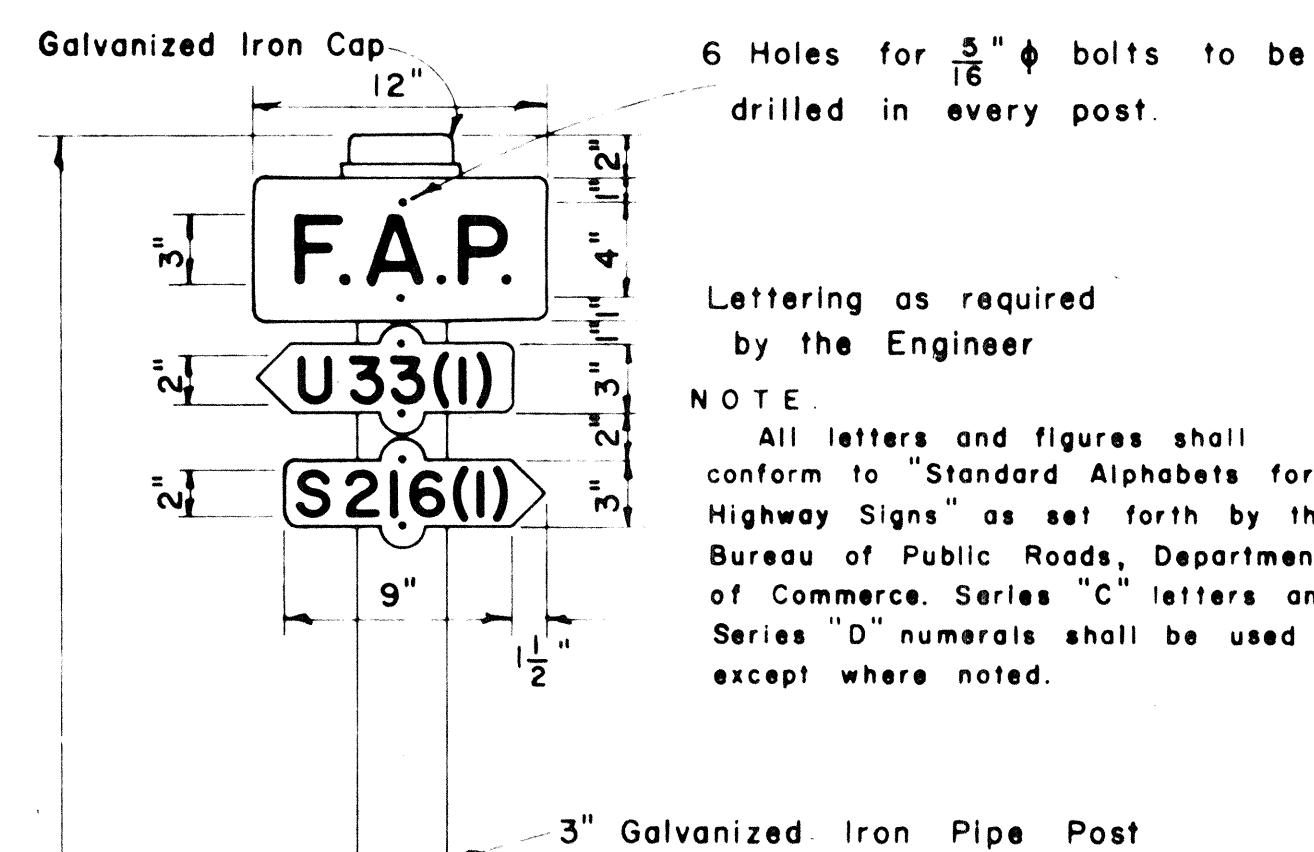
ROADSIDE SIGN
(DOUBLE POSTS)



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-02-67 UNIT 1	1967	7	10

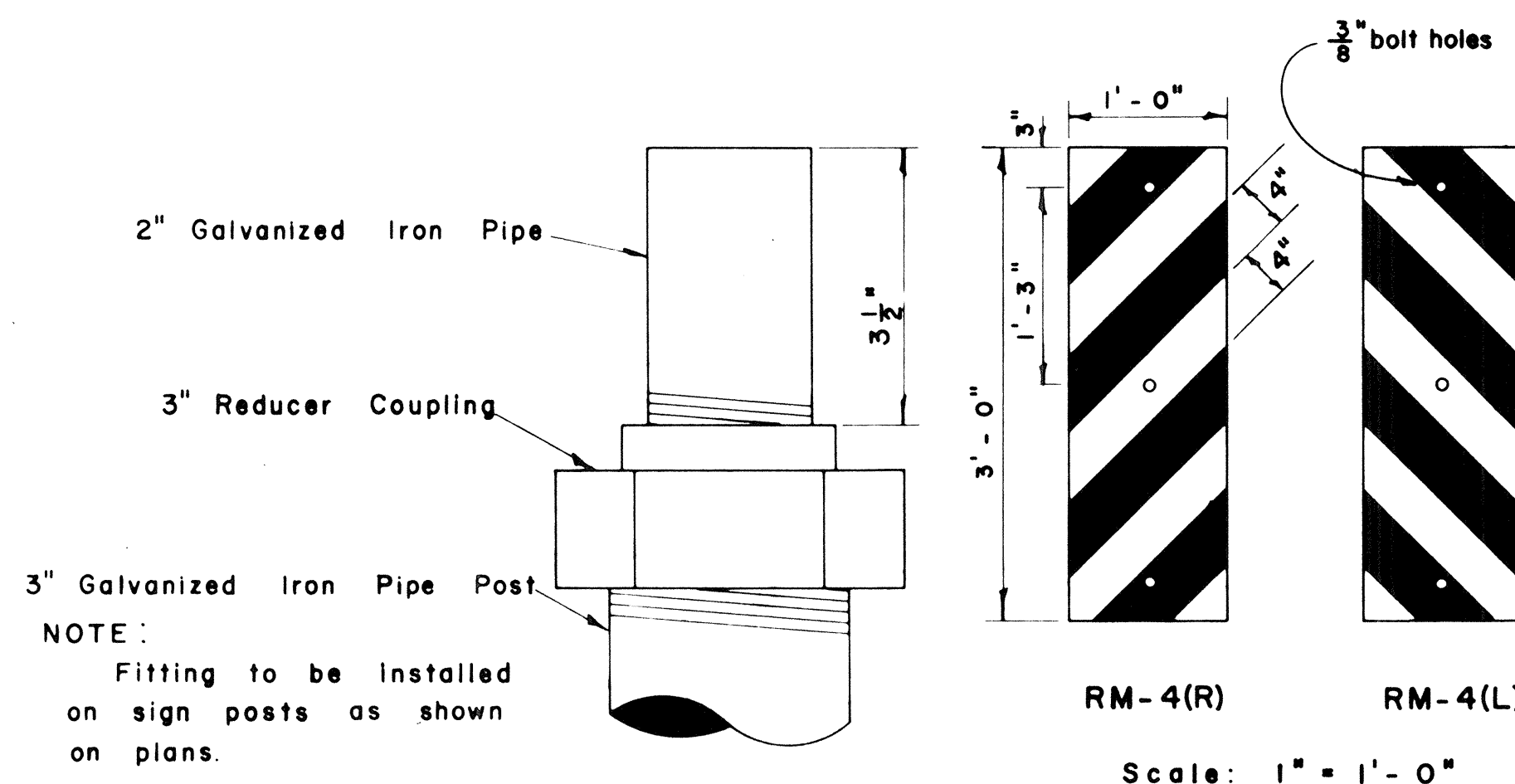


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATIONS

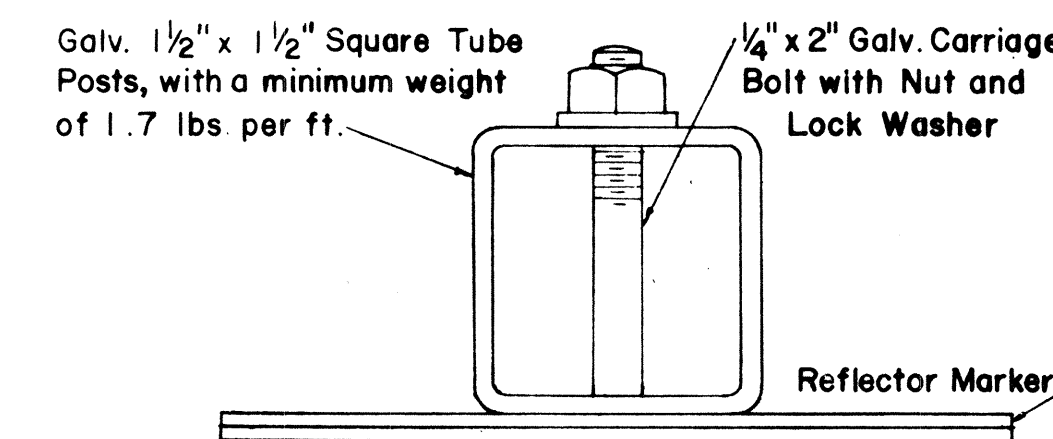
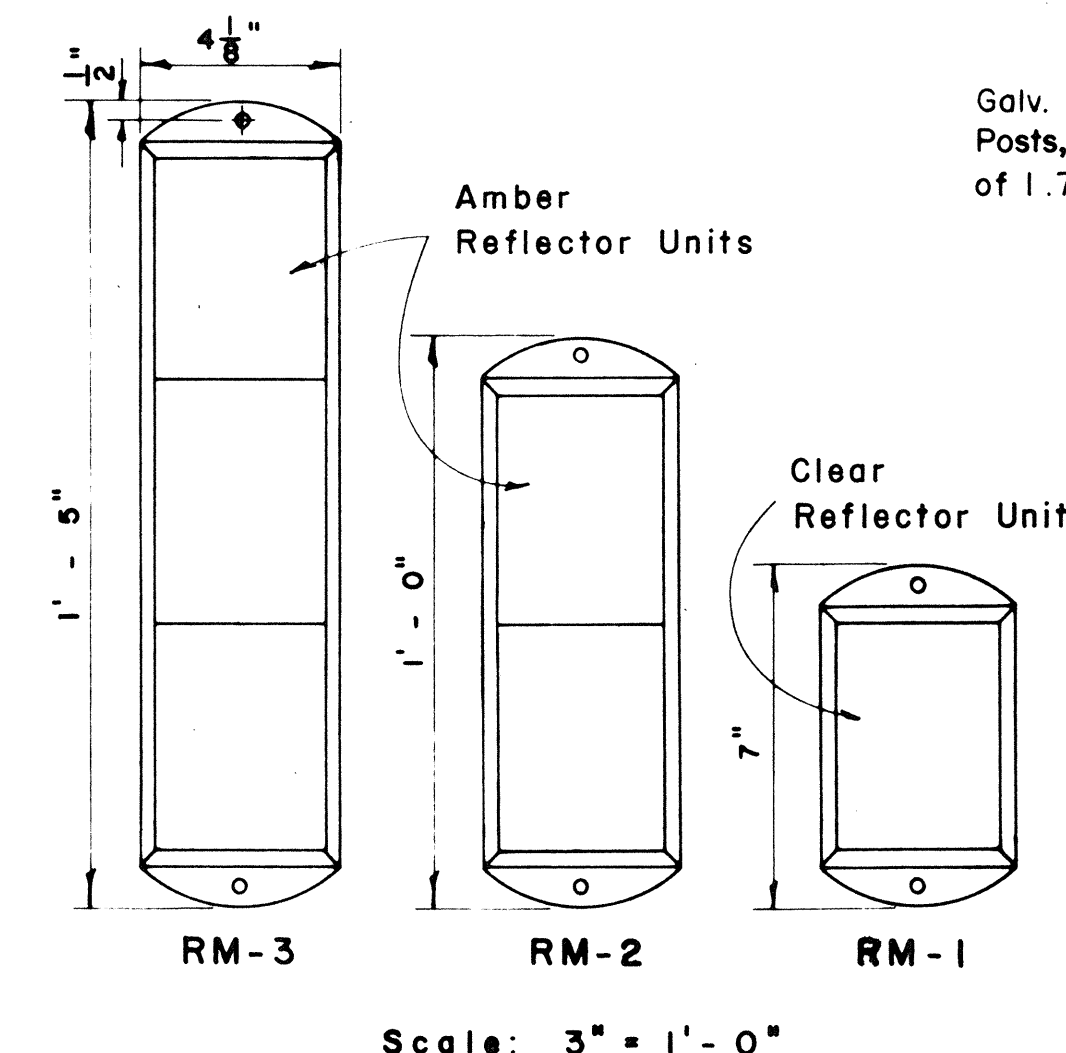


TYPICAL BAND BRACKET FOR MOUNTING TRAFFIC SIGNS
Scale: 3" = 1'-0"

DETAIL OF SIGN POST FITTING FOR CITY & COUNTY STREET NAME SIGNS
Scale: 1/2" = 1'

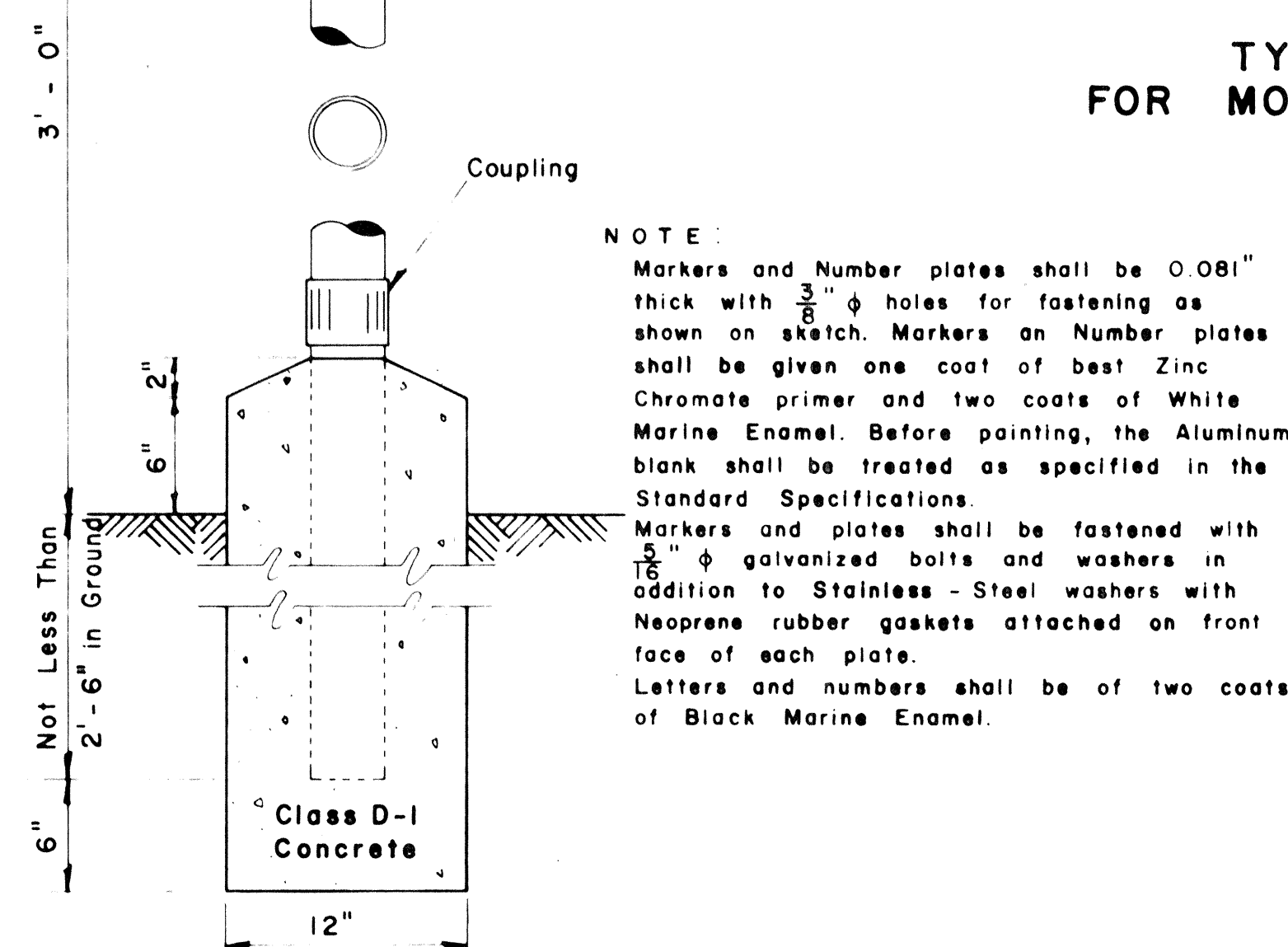


REFLECTOR MARKERS
Scale: As Shown

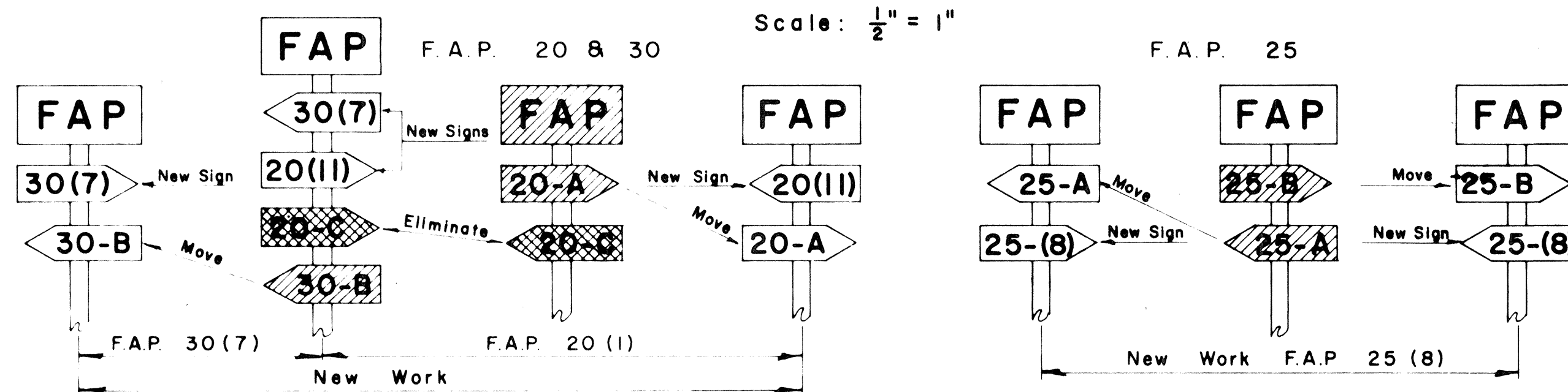


TYPICAL SECTION OF ROAD DELINEATOR
Full Size

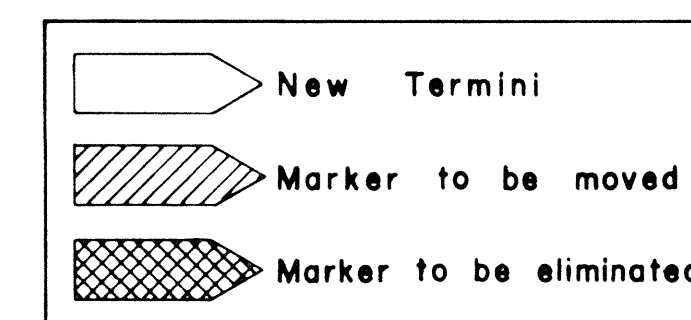
NOTE: Reflector Markers RM-1,2,3 shall be glass sphere reflector markers with 4" x 5" reflector units (as shown) or plastic prismatic reflector markers with 3" diameter reflector units.



FEDERAL AID MARKER
Scale: 1/2" = 1'-0"



METHOD OF MARKING F.A. PROJECTS AT OVERLAPS
(USING NUMBER SUFFIX ON NEW WORK)

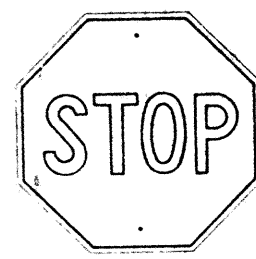


APPROVED: _____ DATE: 1/1/67
DIRECTOR OF TRANSPORTATION

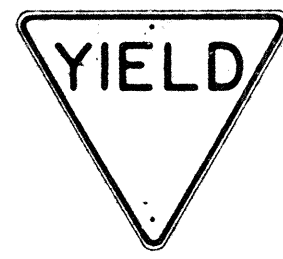
JANUARY 27, 1967
DECEMBER 8, 1964
REVISED: FEBRUARY 25, 1964

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
F.A. MARKER
AND
MISCELLANEOUS SIGN
DETAILS
Scale: As Shown

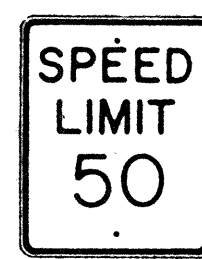
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-02-67 UNIT 1	1967	8	10



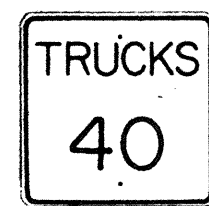
R1-1 30"x 30"



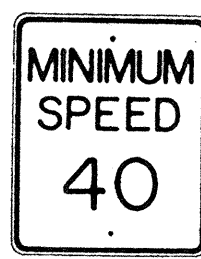
R1-2 36"x 36"x 36"
R1-2-E 48"x 48"x 48"
R1-2-I 60"x 60"x 60"



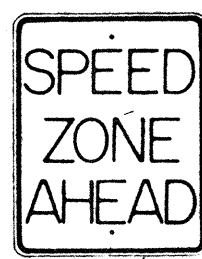
R2-1(50) 24"x 30"
R2-1(50)-E 36"x 48"
R2-1(50)-I 48"x 60"



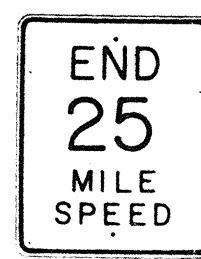
R2-2(40) 24"x 24"
R2-2(40)-E 36"x 36"
R2-2(40)-I 48"x 48"



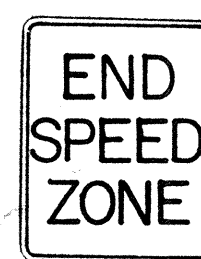
R2-4(40) 24"x 30"
R2-4(40)-E 36"x 48"
R2-4(40)-I 48"x 60"



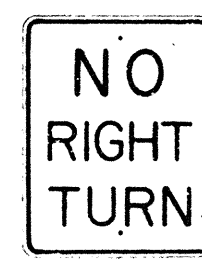
R2-5 24"x 30"
R2-5-E 36"x 48"
R2-5-I 48"x 60"



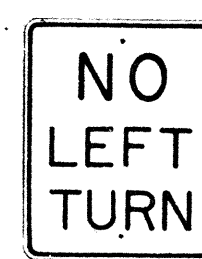
R2-6(25) 24"x 30"
R2-6(25)-E 36"x 48"
R2-6(25)-I 48"x 60"



R2-7 24"x 30"
R2-7-E 36"x 48"
R2-7-I 48"x 60"



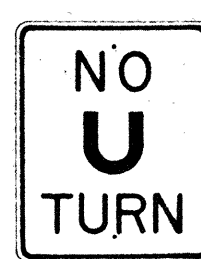
R3-1 24"x 30"
R3-1-E 36"x 48"



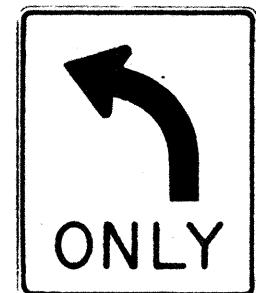
R3-2 24"x 30"
R3-2-E 36"x 48"



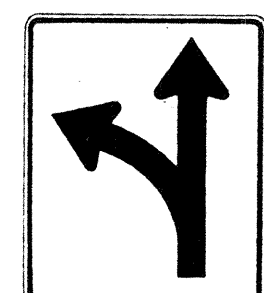
R3-3 24"x 24"



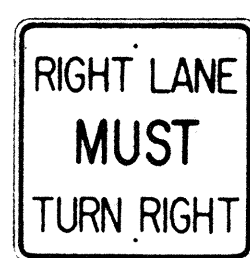
R3-4 24"x 30"
R3-4-E 36"x 48"
R3-4-I 48"x 60"



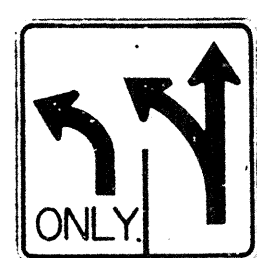
R3-5(L) 30"x 36"



R3-6(L) 30"x 36"



R3-7(R) 30"x 30"



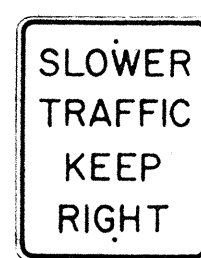
R3-8(L) 30"x 30"



R4-1 24"x 30"



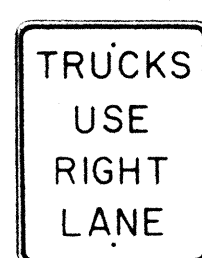
R4-2 24"x 30"



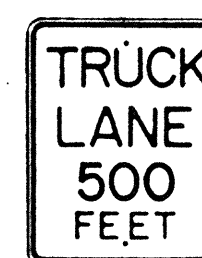
R4-3 24"x 30"
R4-3-E 36"x 48"
R4-3-I 48"x 60"



R4-4 24"x 30"
R4-4-E 36"x 48"
R4-4-I 48"x 60"



R4-5 24"x 30"
R4-5-E 36"x 48"



R4-6 24"x 30"
R4-6-E 36"x 48"



R4-7(R) 24"x 30"
R4-7(R)-E 36"x 48"



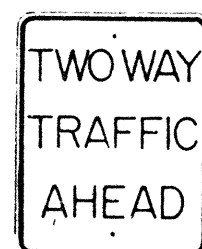
R5-1 24"x 24"



R6-1(R) 36"x 12"



R6-2(R) 18"x 24"



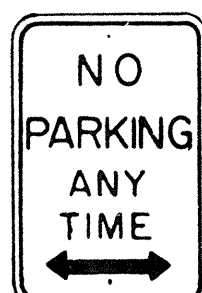
R6-3 24"x 30"



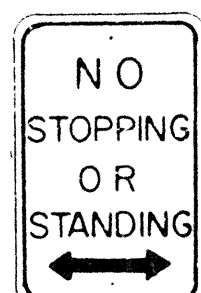
R6-4 24"x 30"



R6-5 24"x 30"



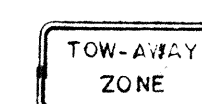
R7-1 12"x 18"



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



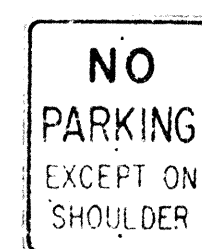
R7-107(R) 12"x 18"



R7-201 12"x 6"



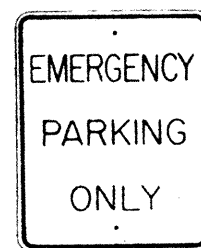
R8-1 24"x 30"
R8-1-E 36"x 48"
R8-1-I 48"x 60"



R8-2 24"x 30"
R8-2-E 36"x 48"



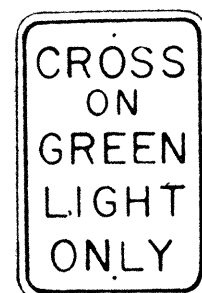
R8-3 24"x 30"
R8-3-E 36"x 48"



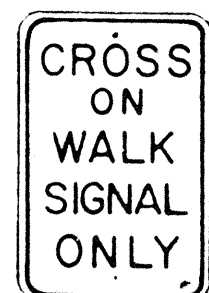
R8-4 24"x 30"
R8-4-E 36"x 48"
R8-4-I 48"x 36"



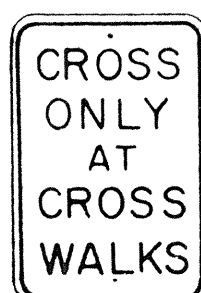
R9-1 18"x 24"



R9-2 12"x 18"



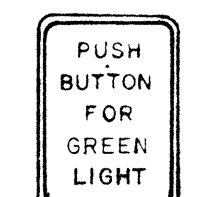
R9-3 12"x 18"



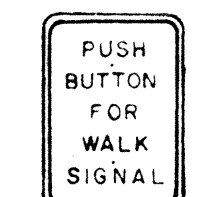
R9-4 12"x 18"



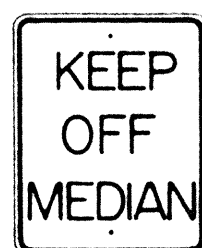
R9-5 12"x 18"



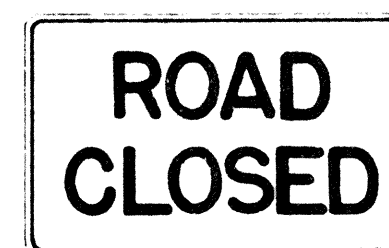
R9-6 9"x 12"



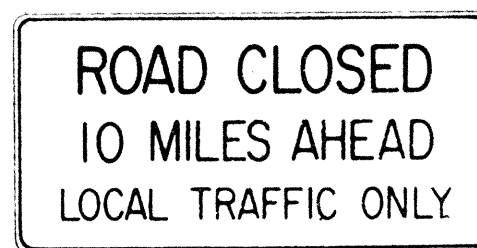
R9-7 9"x 12"



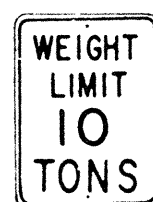
R10-1 24"x 30"
R10-1-E 36"x 48"
R10-1-I 48"x 60"



R10-2 48"x 30"



R10-3(10) 60"x 30"



R10-4(10) 18"x 24"

NOTE:

- The shape, color, dimensions, symbols, wording, lettering and reflectorization 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 regulatory signs shall be reflectorized unless otherwise specified.
- All regulatory signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise noted.
- The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
- For R2 signs, number in () indicates speed and shall be as shown on the plans.
- (R) or (L) indicates right or left and shall be as shown on the plans.
- For R10-4 sign, number in () indicates weight and shall be as shown on the plan.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

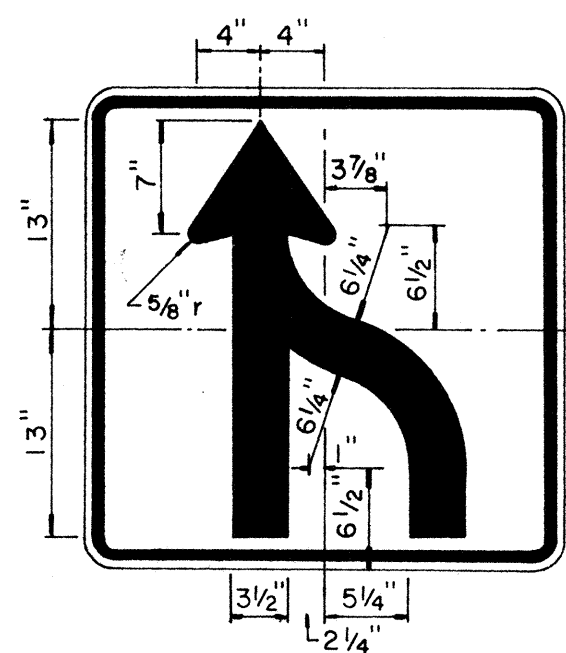
STANDARD DETAILS
REGULATORY SIGNS

NOT TO SCALE

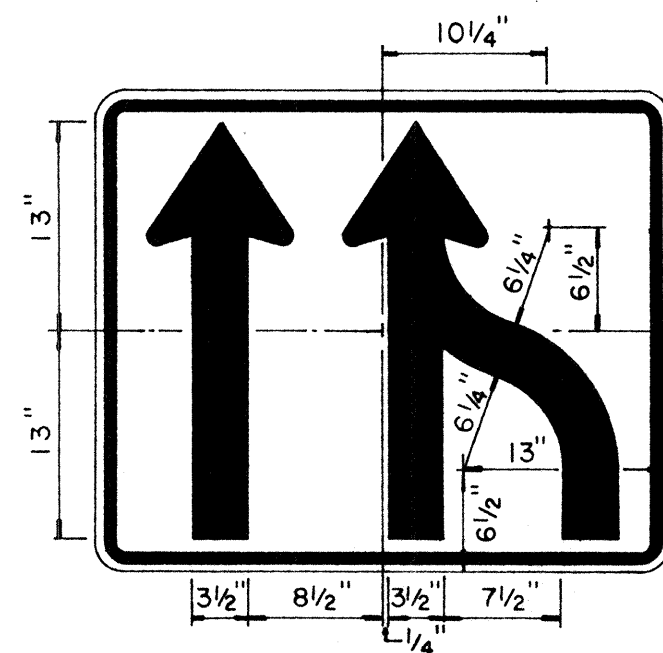
SHEET No. 4 OF 6 SHEETS

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

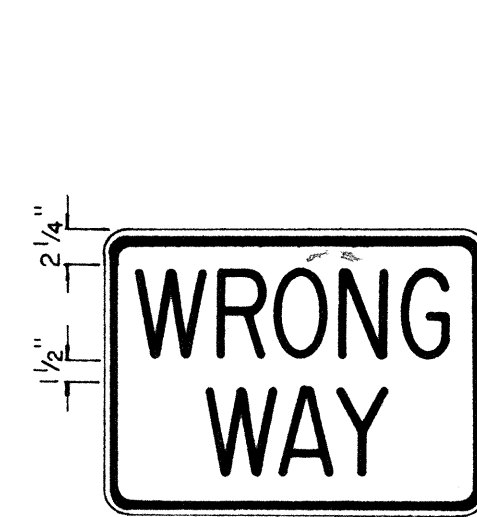
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-02-67 UNIT 1	1967	9	10



R3-9 30"x 30"

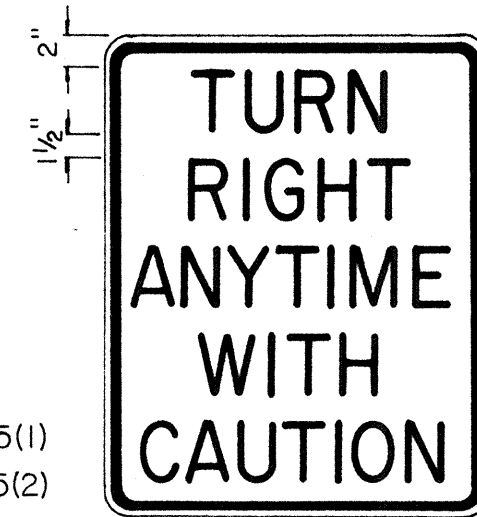


R3-10 36"x 30"

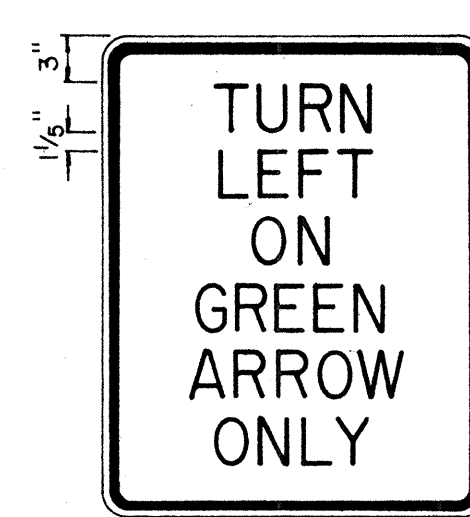


R5-5(1) 24" x 18"
R5-5(2) 36" x 24"

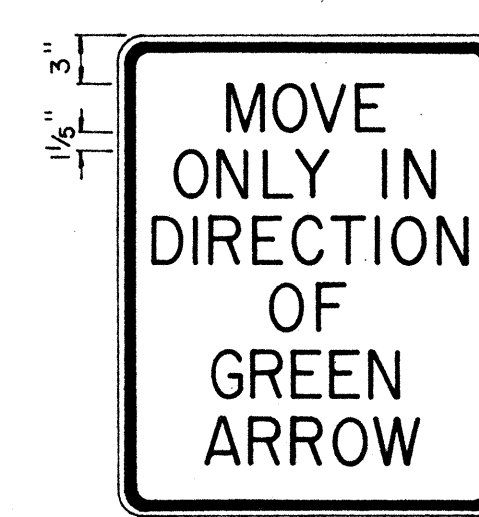
NOTE:
White legend and border
on Red background



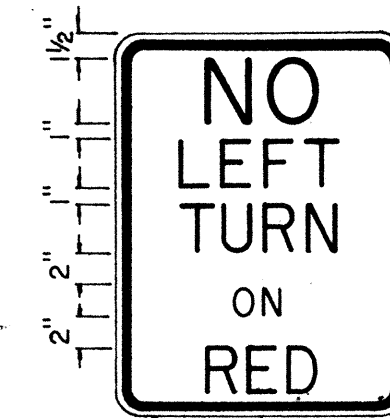
R15-1 24" x 30"



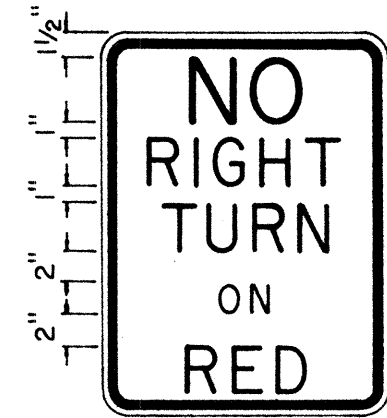
R16-1 24" x 30"



R16-2 24" x 30"



R17-1 18" x 24"



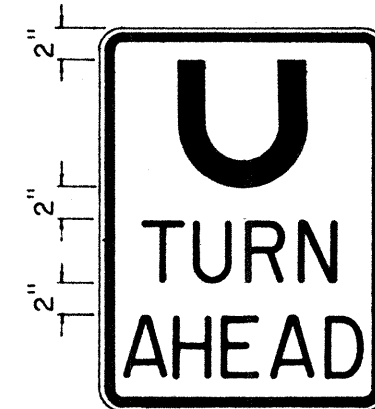
R17-2 18" x 24"

4" Series D
3" Series C
2" Series B

4" Series D
3" Series C
2" Series B



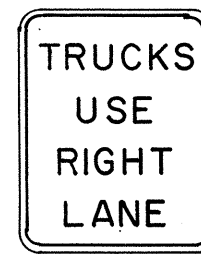
R18-1 36" x 30"



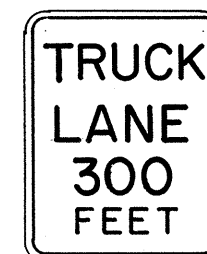
R19-1 18" x 24"



R4-1 24" x 30"



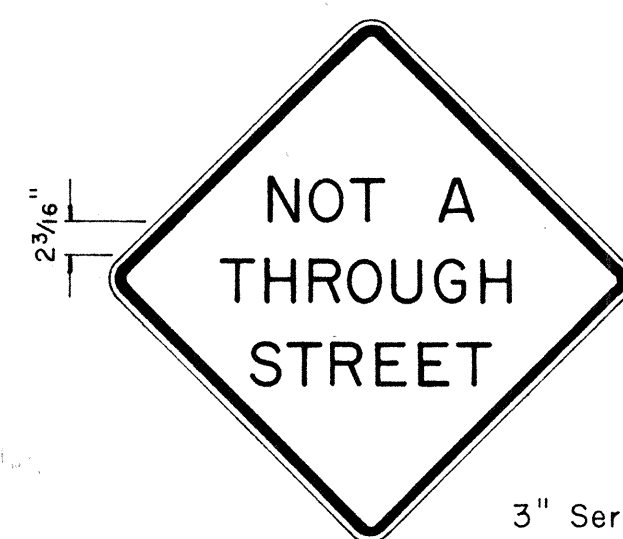
R4-5 24" x 30"



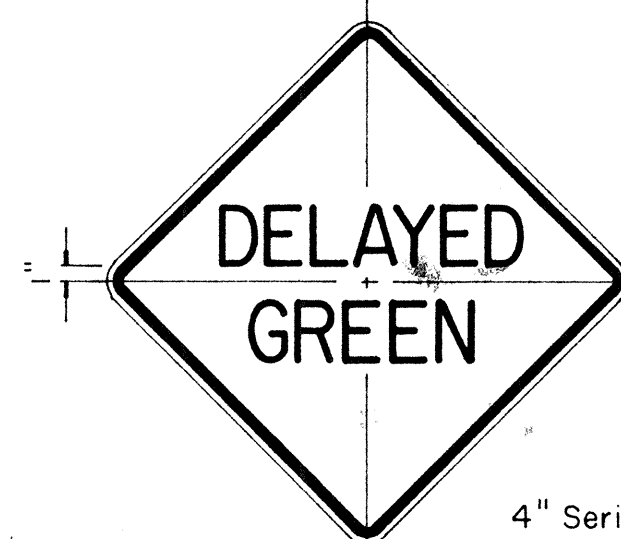
R4-6 24" x 30"

NOTE:

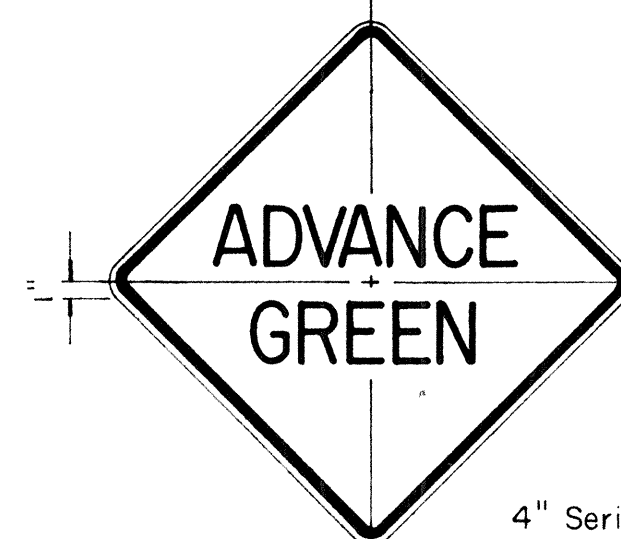
1. The shape, color, plate details, lettering and reflectorization of Regulatory signs (Prefix R) and Warning signs (Prefix W) shall be in accordance with the "Manual on Uniform Traffic Control Devices for Streets and Highways," dated June 1961 and the BPR manual "Standard Highway Signs," dated September 1961 unless otherwise specified.
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 unless otherwise specified.



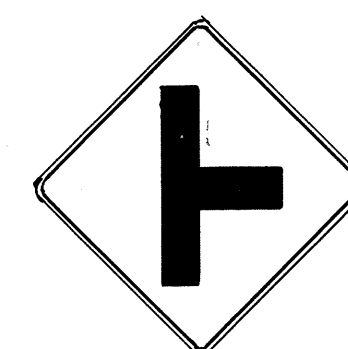
W13-4 24" x 24"



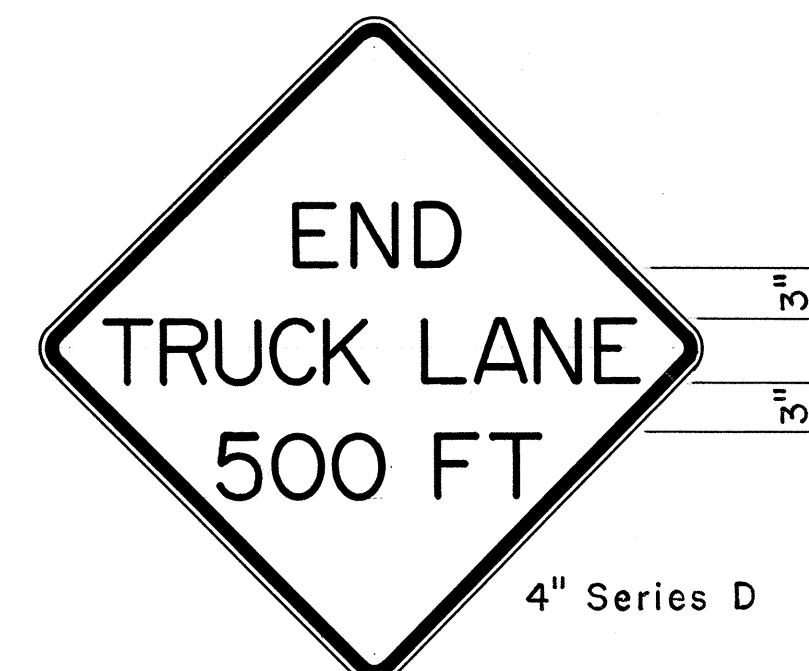
W15-1 24" x 24"



W15-2 24" x 24"



W2-2 30" x 30"



W6-3 30" x 30"

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
REVISIONS	
1	
2	
3	
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10	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

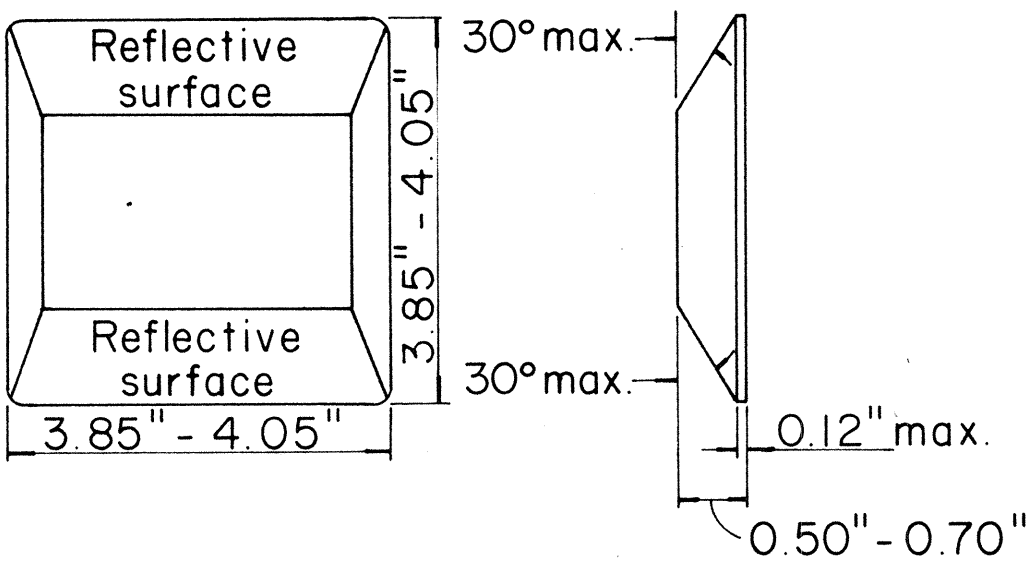
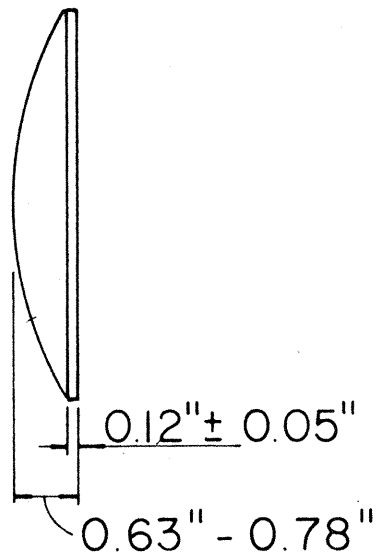
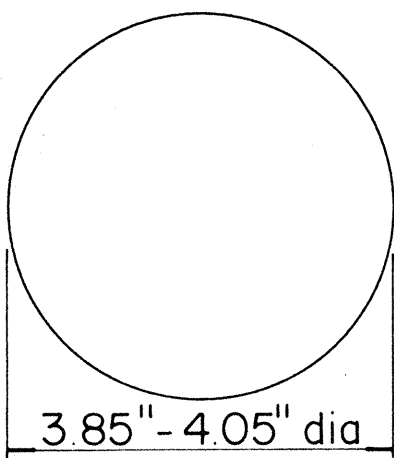
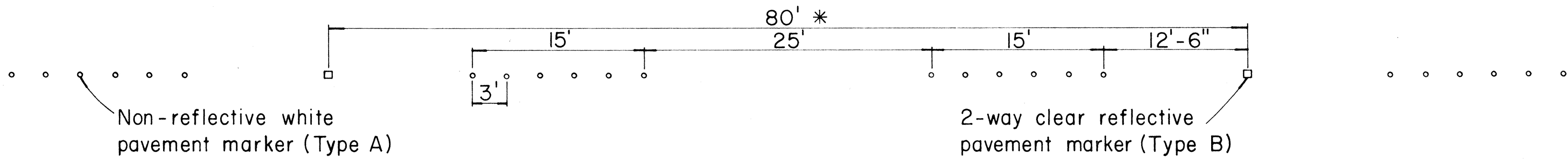
**MISCELLANEOUS
REGULATORY & WARNING SIGNS**

Scale: 1" = 1' - 0"

SHEET No. 9 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56A-02-67 UNIT 1	1967	10	10

1 CENTER LINES ON TWO - LANE RURAL ROADS AND CITY STREETS

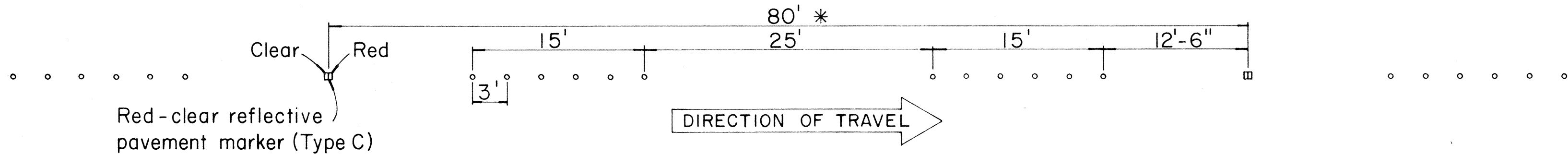


TYPE A
Non - reflective white marker

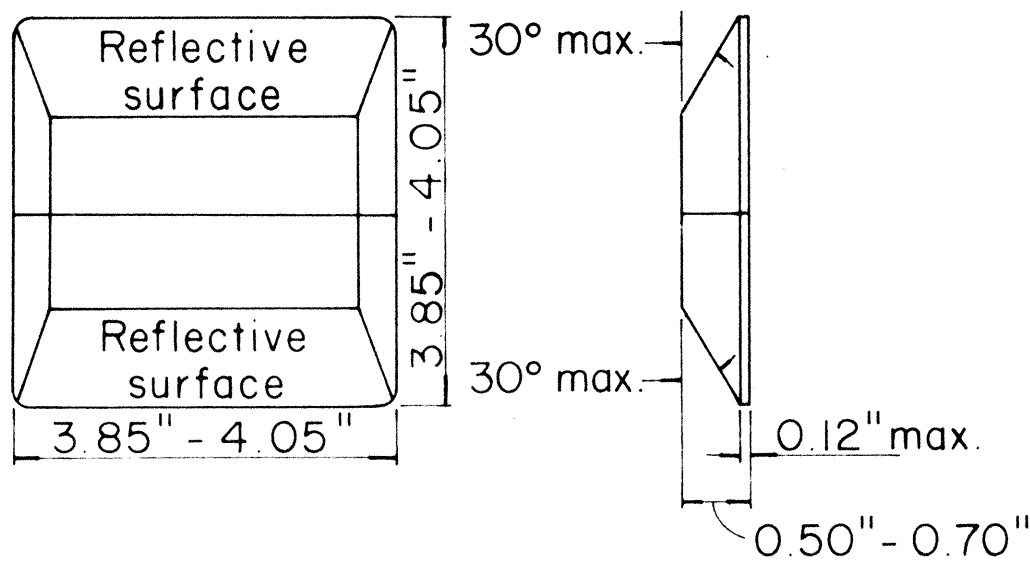
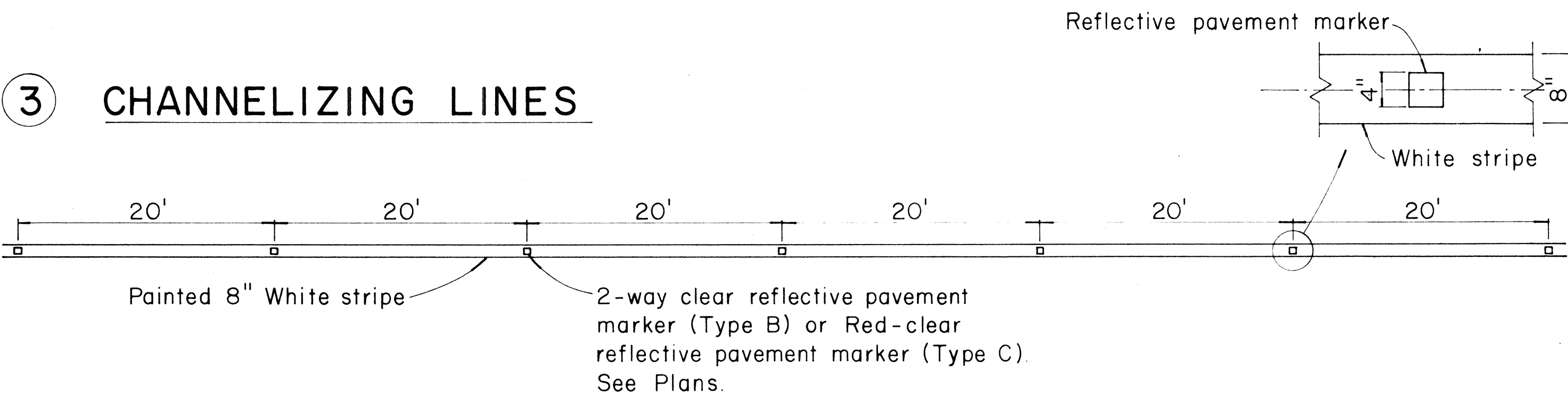
TYPE B
2-way clear reflective surface

TYPE D
2-way yellow reflective surface

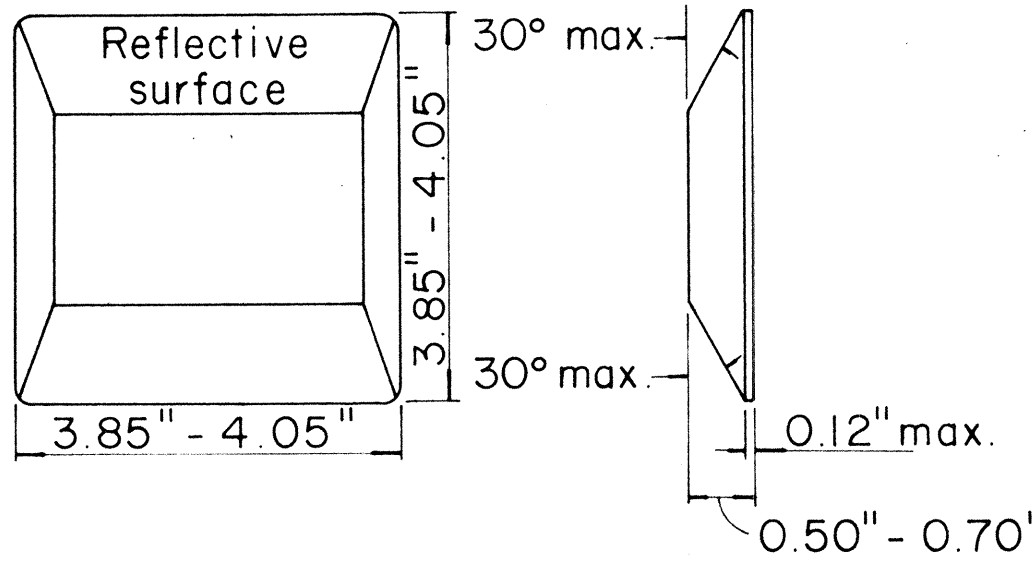
2 LANE LINES



3 CHANNELIZING LINES

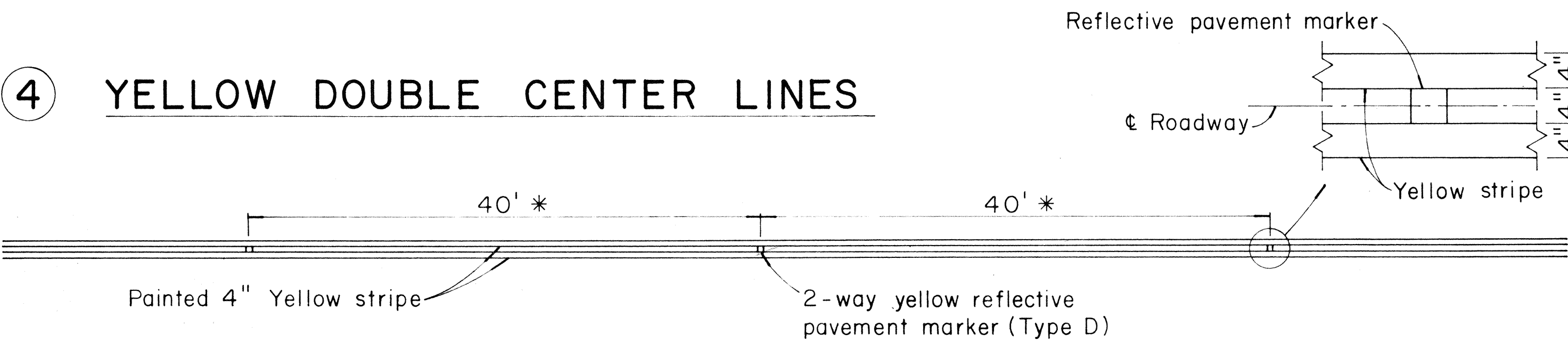


TYPE C
Red - clear reflective surface



TYPE H
One - way yellow reflective surface

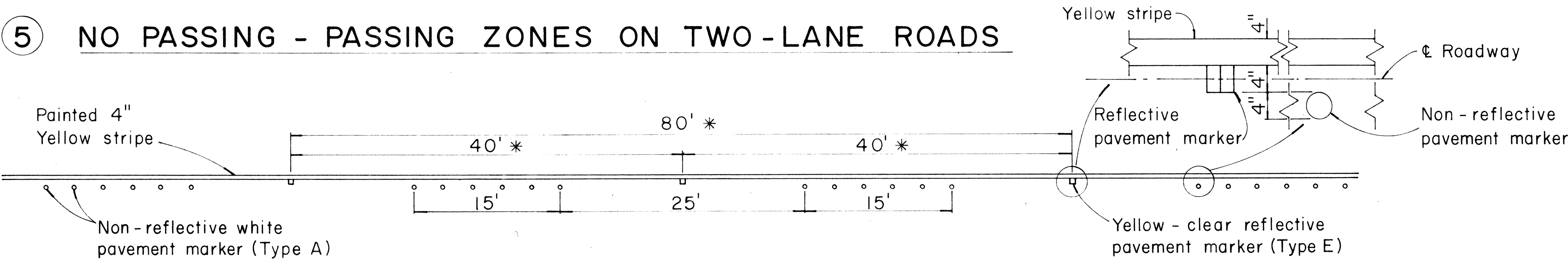
4 YELLOW DOUBLE CENTER LINES



TYPE E
Yellow - clear reflective surface

TYPE G
One - way clear reflective surface

5 NO PASSING - PASSING ZONES ON TWO - LANE ROADS



NOTE:
Painted stripes to be done by State forces

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

STANDARD DETAILS

RAISED PAVEMENT MARKERS

Not to Scale

Sept., 1967

SHEET No. 6 OF 6 SHEETS

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

* For curves less than 1000' radius use one-half spacing