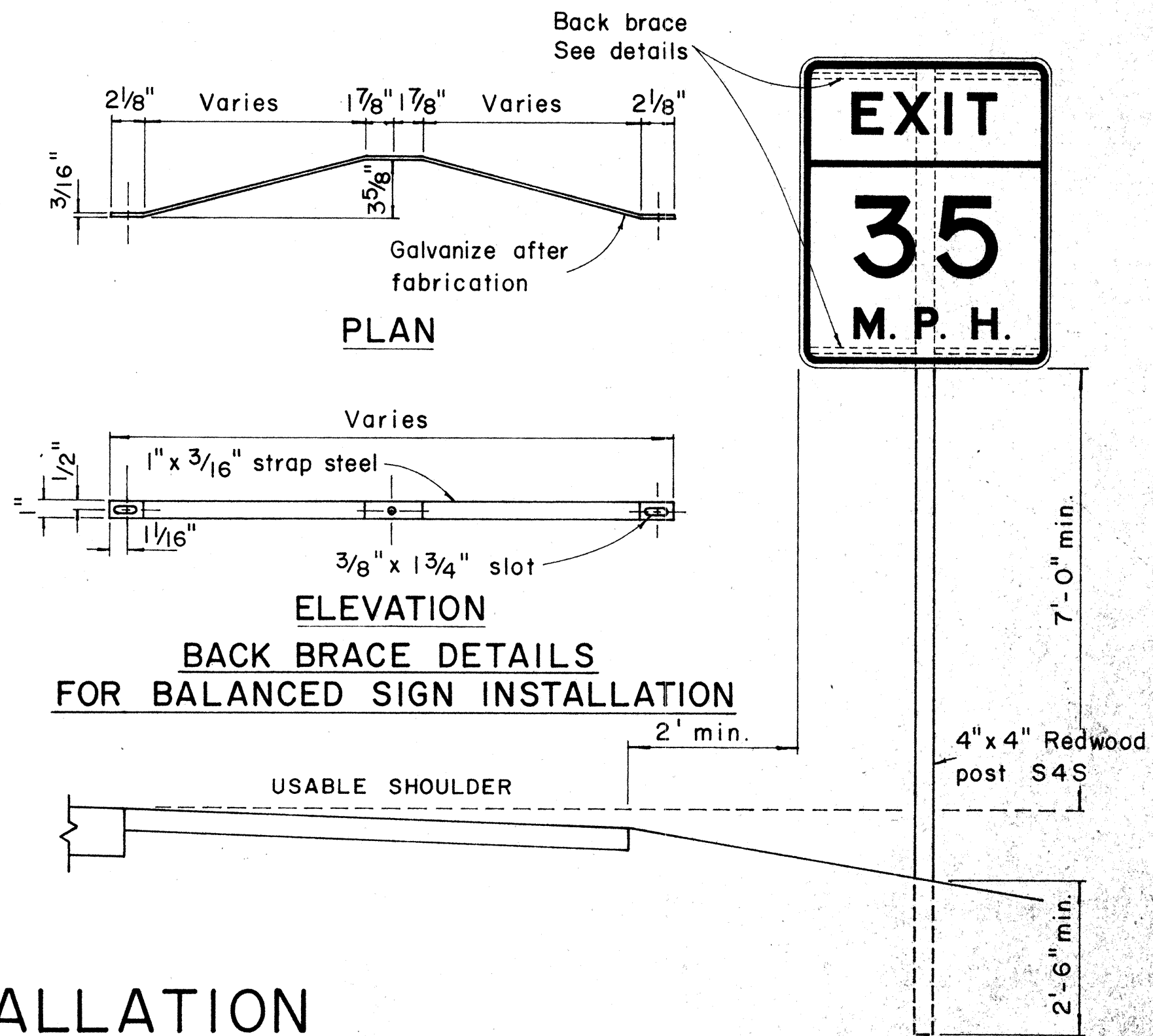
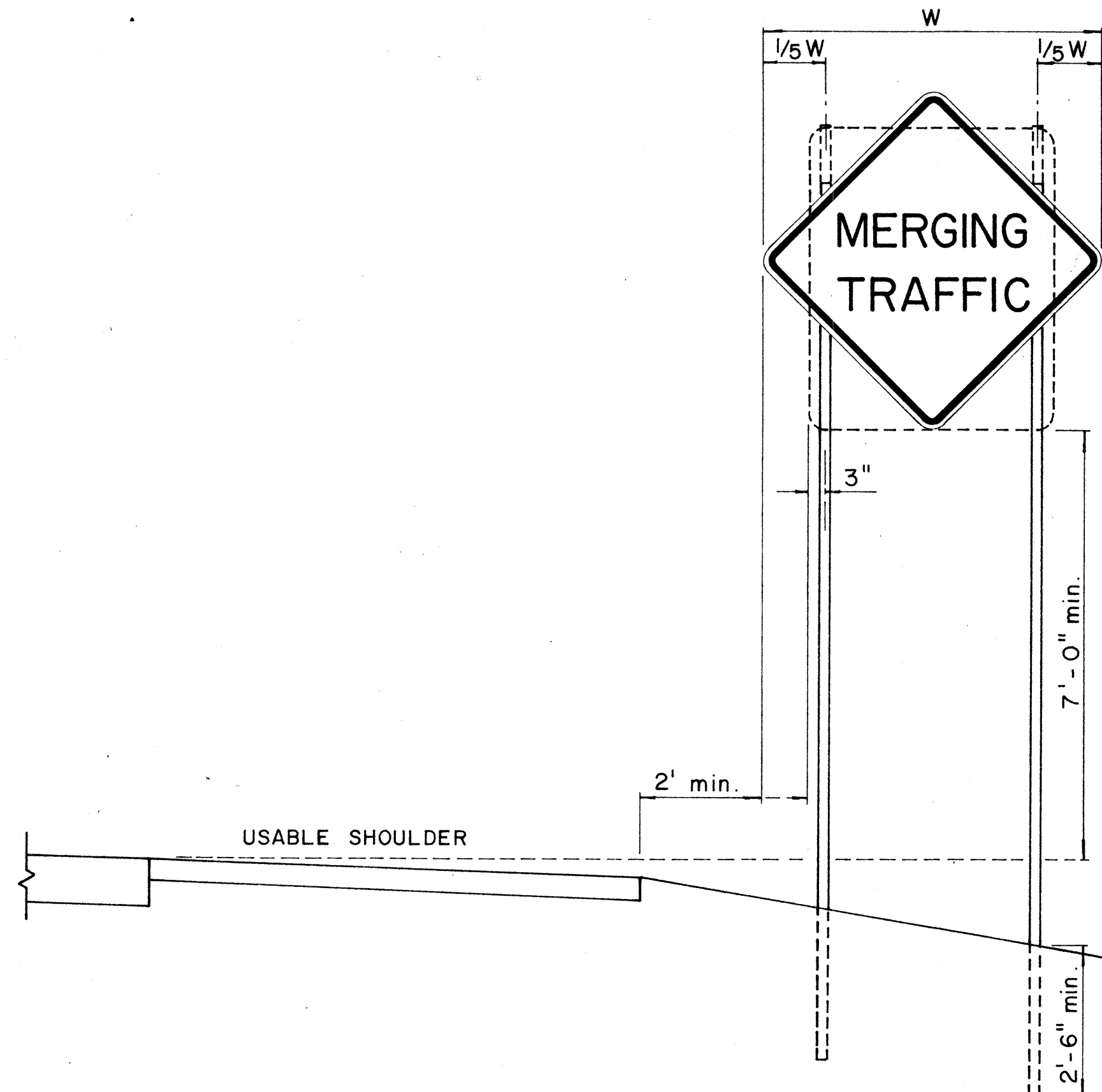
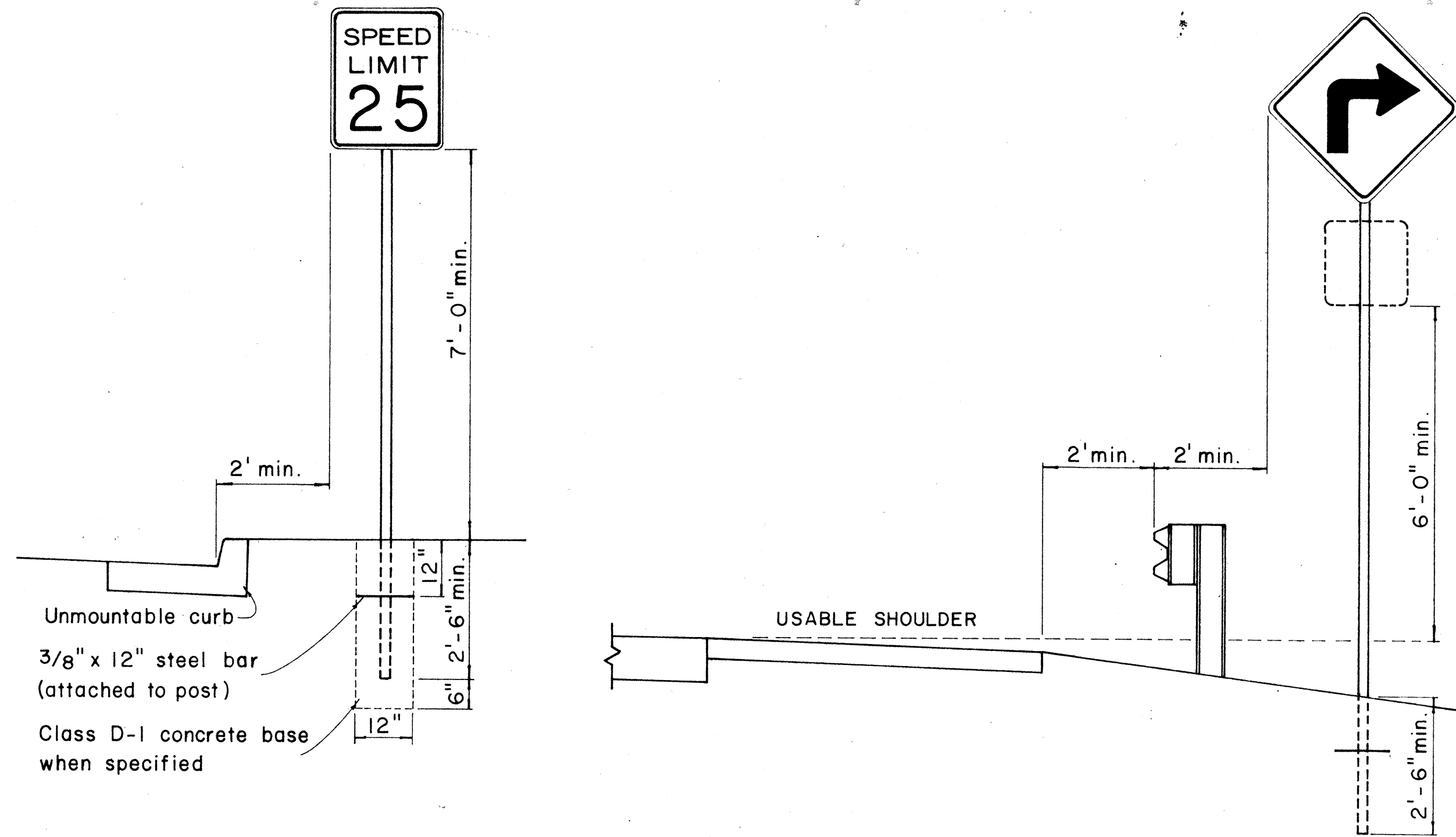
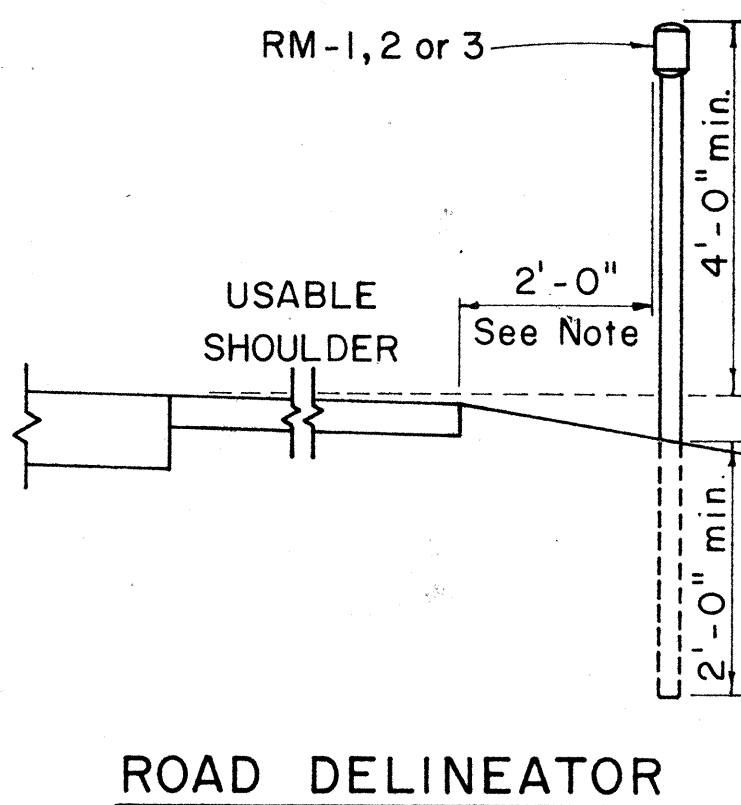


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	21	73

PROJECT NO. 900B-02-08 UNIT 1

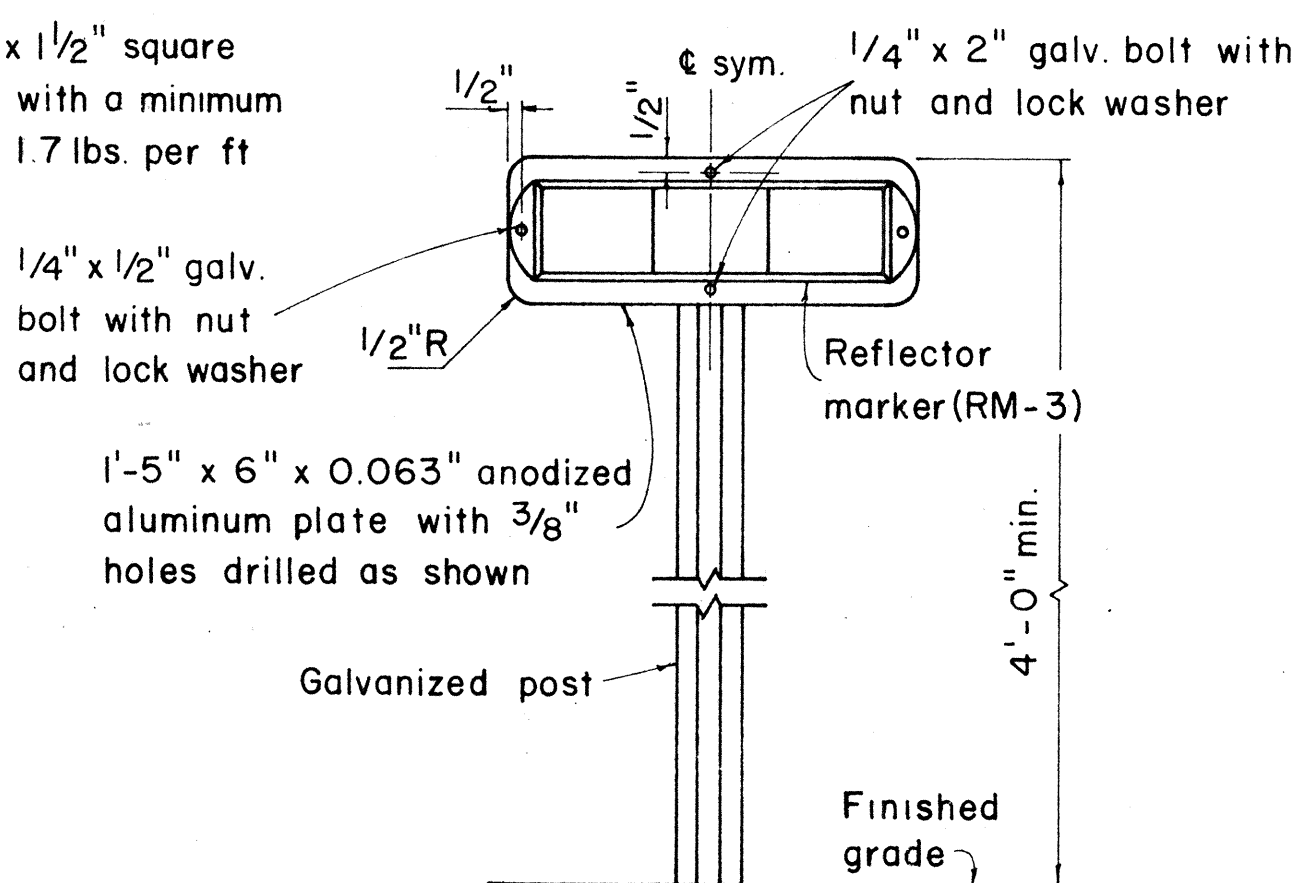
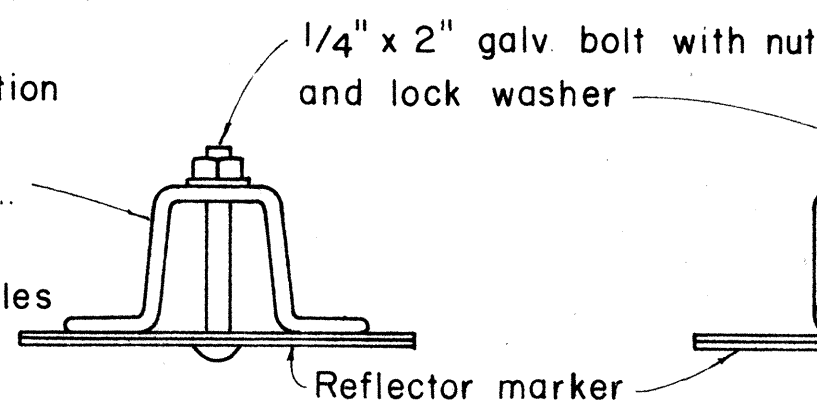


HEIGHT AND LATERAL LOCATION OF SIGNS - TYPICAL INSTALLATION

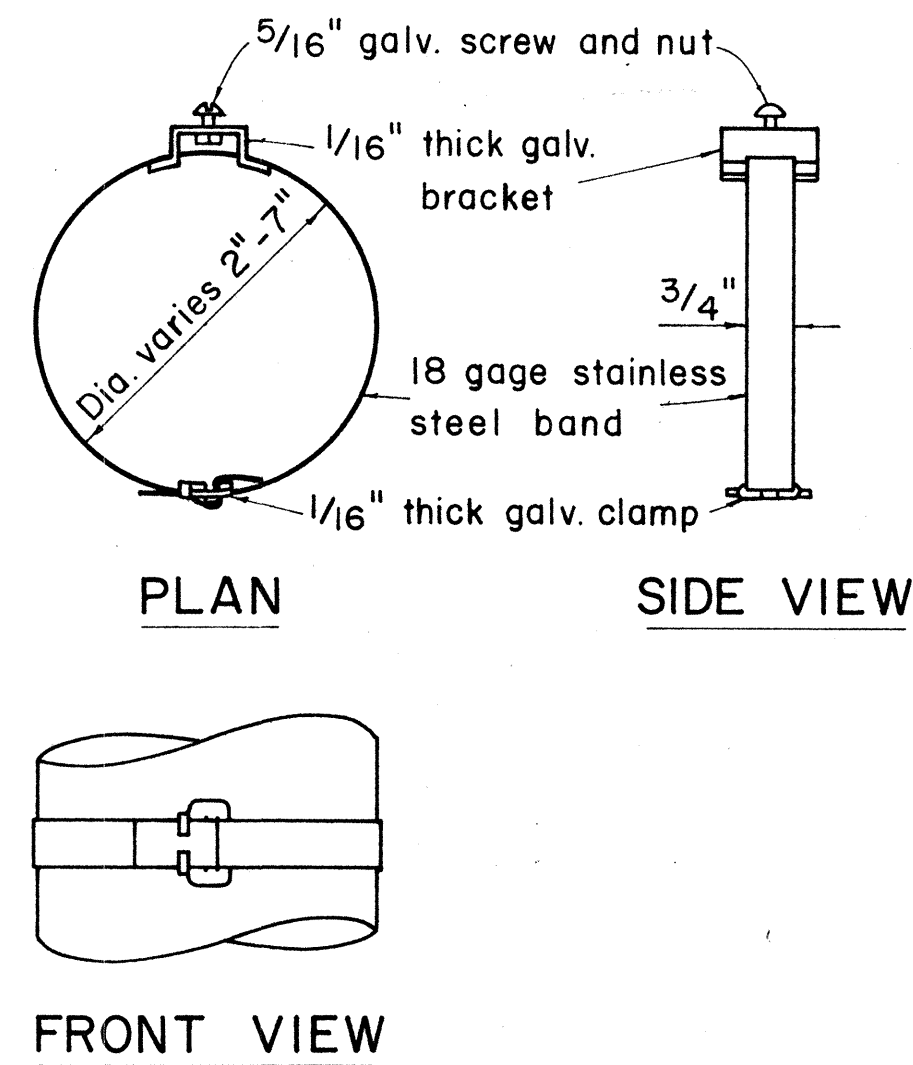


Galv. flanged channel 1/8" x 3 1/16" rolled section post with a minimum weight of 2 lbs. per ft. Upper 2 ft. shall have a single row of 3/8" holes centered in the web at 1" o.c.

TYPICAL SECTION OF ROAD DELINEATOR



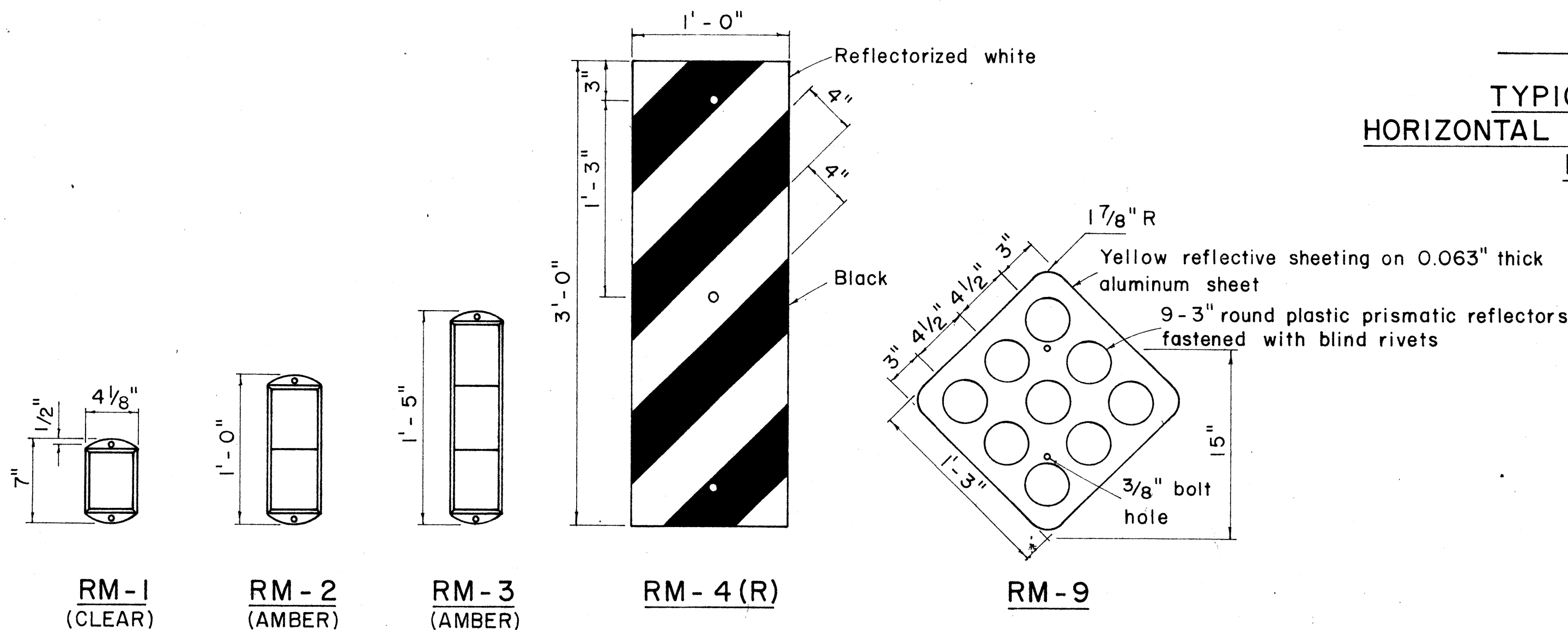
TYPICAL DETAIL
HORIZONTAL REFLECTOR MARKER
RM-3H



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.



REFLECTOR MARKERS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

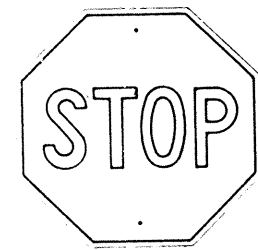
STANDARD DETAILS
MISCELLANEOUS SIGN DETAILS

Not to scale March, 1968

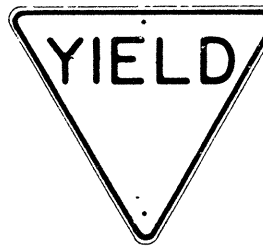
SHEET No. 1 OF 10 SHEETS DT 100

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	22	73

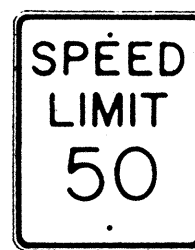
PROJECT NO. 9008-02-68 UNIT 1



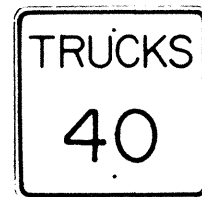
R1-1 30" x 30"



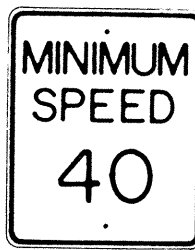
R1-2 36" x 36" x 36"
R1-2-E 48" x 48" x 48"
R1-2-I 60" x 60" x 60"



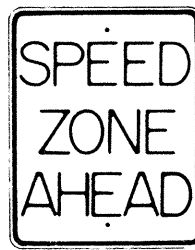
R2-1(50) 24" x 30"
R2-1(50)-E 36" x 48"
R2-1(50)-I 48" x 60"



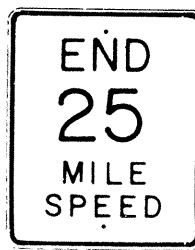
R2-2(40) 24" x 24"
R2-2(40)-E 36" x 36"
R2-2(40)-I 48" x 48"



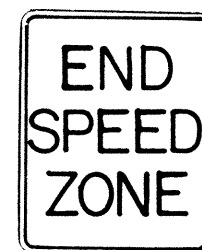
R2-4(40) 24" x 30"
R2-4(40)-E 36" x 48"
R2-4(40)-I 48" x 60"



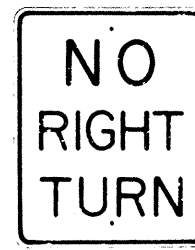
R2-5 24" x 30"
R2-5-E 36" x 48"
R2-5-I 48" x 60"



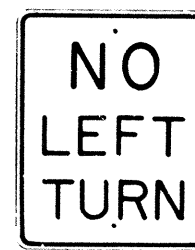
R2-6(25) 24" x 30"
R2-6(25)-E 36" x 48"
R2-6(25)-I 48" x 60"



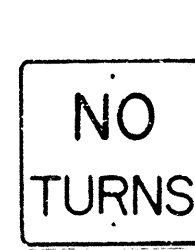
R2-7 24" x 30"
R2-7-E 36" x 48"
R2-7-I 48" x 60"



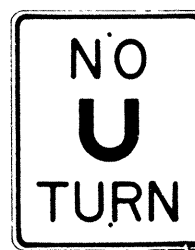
R3-1 24" x 30"
R3-1-E 36" x 48"



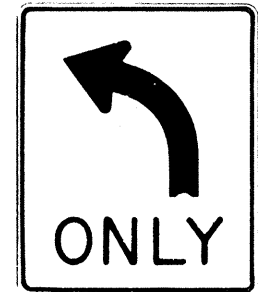
R3-2 24" x 30"
R3-2-E 36" x 48"



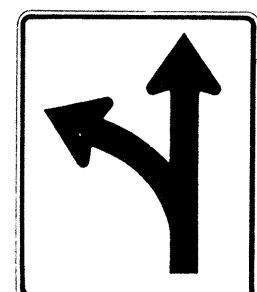
R3-3 24" x 24"



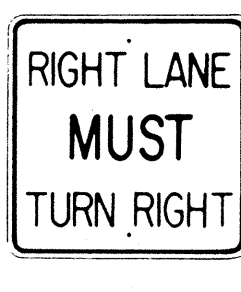
R3-4 24" x 30"
R3-4-E 36" x 48"
R3-4-I 48" x 60"



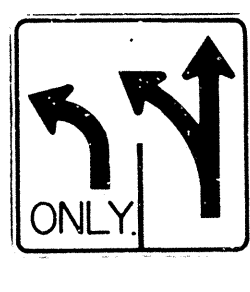
R3-5(L) 30" x 36"



R3-6(L) 30" x 36"



R3-7(R) 30" x 30"



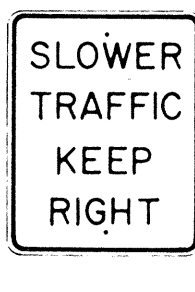
R3-8(L) 30" x 30"



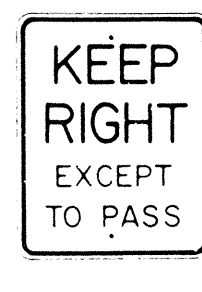
R4-1 24" x 30"



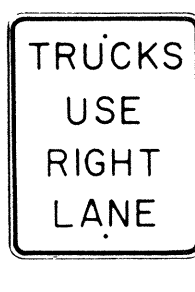
R4-2 24" x 30"



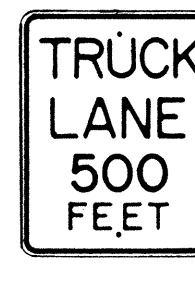
R4-3 24" x 30"
R4-3-E 36" x 48"
R4-3-I 48" x 60"



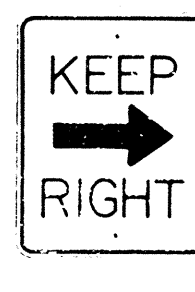
R4-4 24" x 30"
R4-4-E 36" x 48"
R4-4-I 48" x 60"



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"



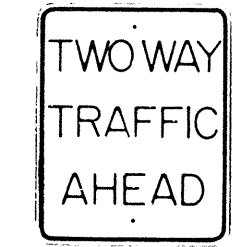
R5-1 24" x 24"



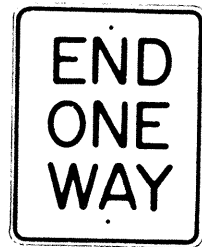
R6-1(R) 36" x 12"



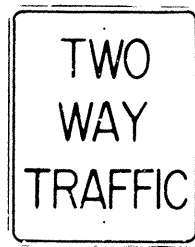
R6-2(R) 18" x 24"



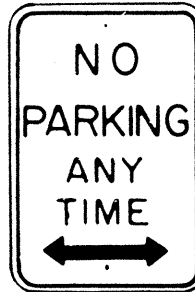
R6-3 24" x 30"



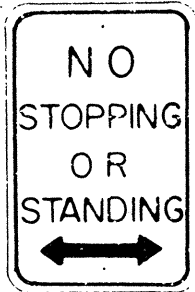
R6-4 24" x 30"



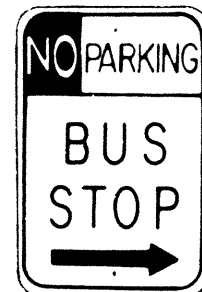
R6-5 24" x 30"



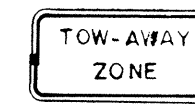
R7-1 12" x 18"



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



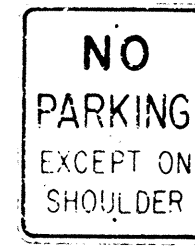
R7-107(R) 12" x 18"



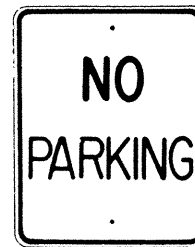
R7-201 12" x 6"



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"



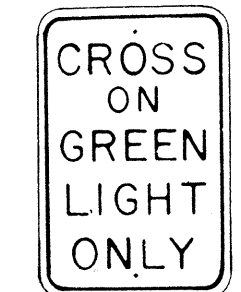
R8-3 24" x 30"
R8-3-E 36" x 48"



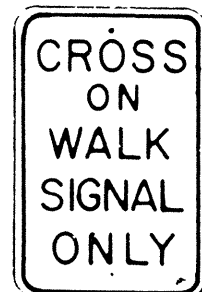
R8-4 24" x 30"
R8-4-E 36" x 48"
R8-4-I 48" x 36"



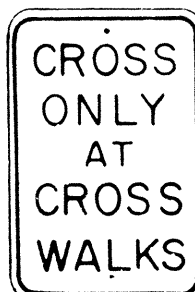
R9-1 18" x 24"



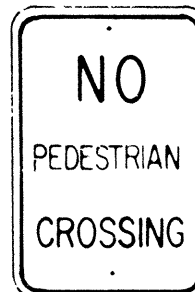
R9-2 12" x 18"



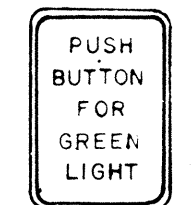
R9-3 12" x 18"



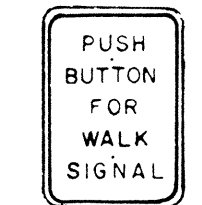
R9-4 12" x 18"



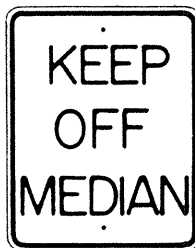
R9-5 12" x 18"



R9-6 9" x 12"



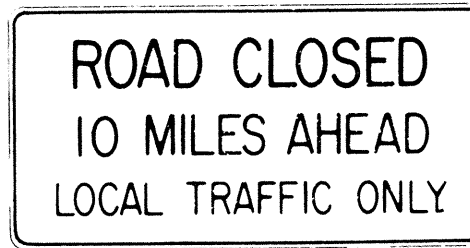
R9-7 9" x 12"



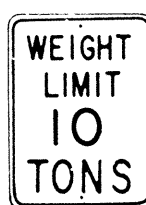
R10-1 24" x 30"
R10-1-E 36" x 48"
R10-1-I 48" x 60"



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 $\frac{3}{8}$ " 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. 2 OF 10 SHEETS DT 101

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	23	73

PROJECT NO. 900B-02-68 UNIT 1

W1-1(R) 30" x 30"

W1-2(R) 30" x 30"

W1-3(R) 30" x 30"

W1-4(R) 30" x 30"

W1-5(R) 30" x 30"

W1-6 48" x 24"

W1-7 48" x 24"

W2-1 30" x 30"

W2-2 30" x 30"

W2-3(R) 30" x 30"

W2-4 30" x 30"

W2-5 30" x 30"

W3-1 30" x 30"

W3-2 30" x 30"

W3-3 36" x 36"

W4-1 30" x 30"

W4-1-E 36" x 36"

W4-1-I 48" x 48"

W4-2 30" x 30"

W4-2-E 36" x 36"

W5-1 30" x 30"

W5-1-E 36" x 36"

W5-2 30" x 30"

W5-3 30" x 30"

W6-1 36" x 36"

W6-2 36" x 36"

W7-1 30" x 30"

W8-1 30" x 30"

W8-2 30" x 30"

W8-3 30" x 30"

W8-4 30" x 30"

W8-5 30" x 30"

W9-1 30" x 30"

W9-2 30" x 30"

W10-1 36" DIAMETER

W11-1 30" x 30"

W11-5 30" x 30"

W12-2 36" x 36"

W13-1(35) 18" x 18"

W13-1(35)-E 24" x 24"

W13-2(25) 12" x 18"

W13-3(25) 48" x 60"

- 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 warning signs shall be reflectorized unless otherwise specified.
 - All warning signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
 - (R) or (L) indicates right or left and shall be as shown on the plan.
 - The suffix "E" denotes Expressway signs and "I" denotes Interstate signs.
 - For W13 sign, number in () indicates speed and shall be as shown on the plans.

ORIGINAL	DATE
PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

REVISED: September 26, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

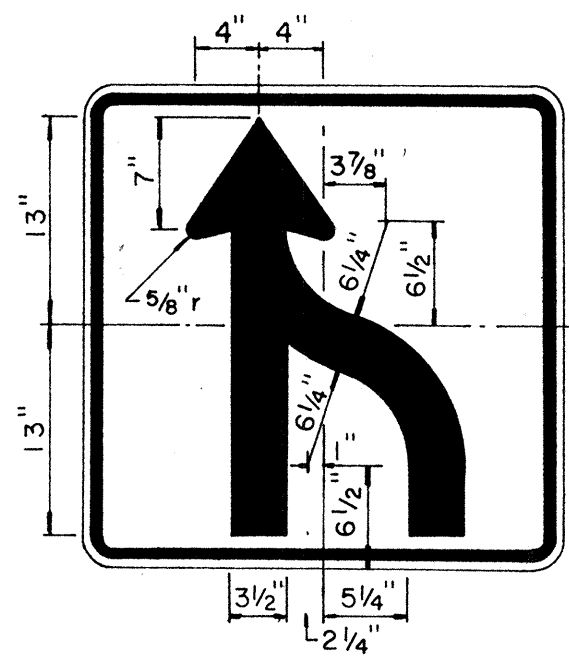
STANDARD DETAILS
WARNING SIGNS

NOT TO SCALE

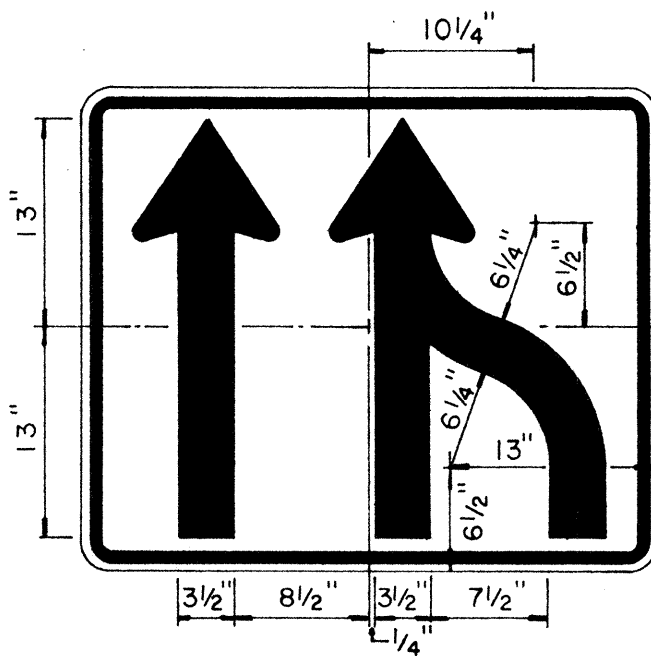
SHEET No. 3 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	24	73

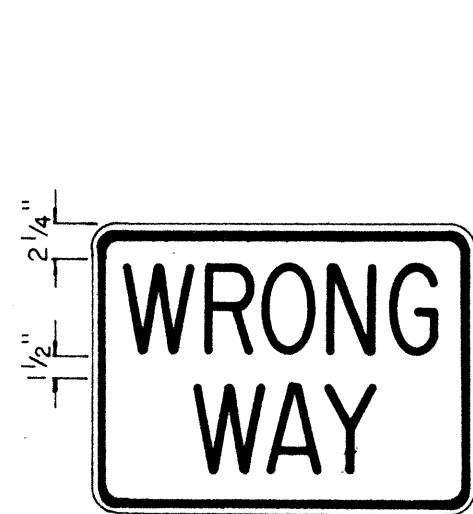
PROJECT NO. 900B-02-08 UNIT 1



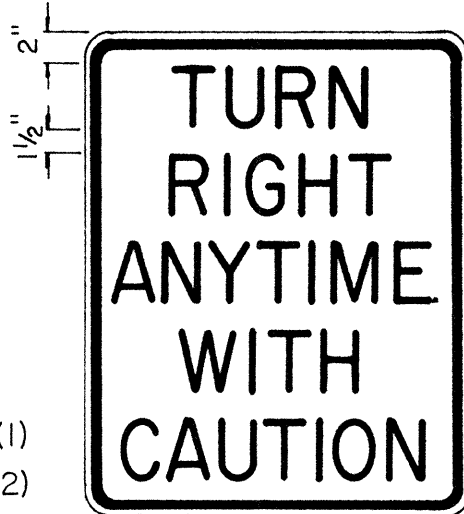
R3-9 30"x 30"



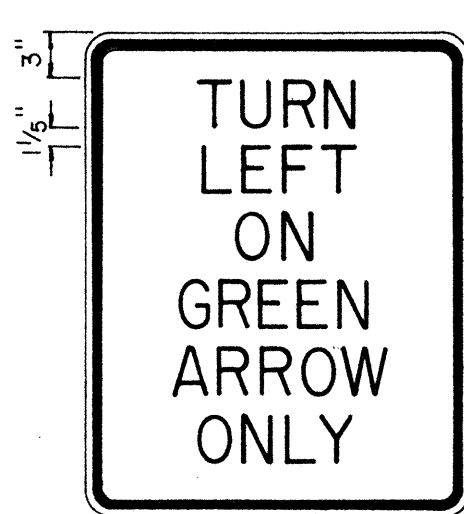
R3-10 36"x 30"



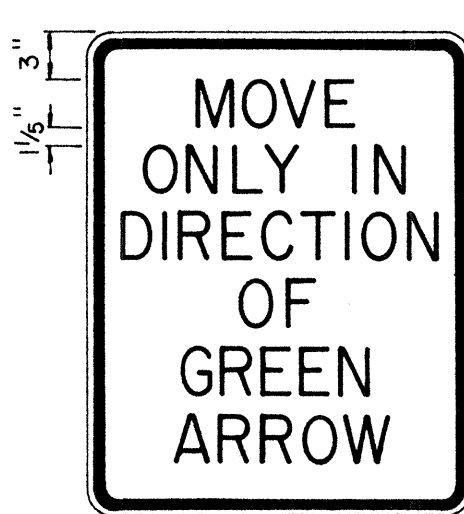
6" Series C: R5-5(1)
8" Series C: R5-5(2)



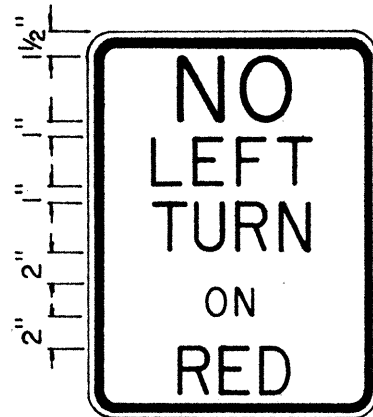
4" Series C



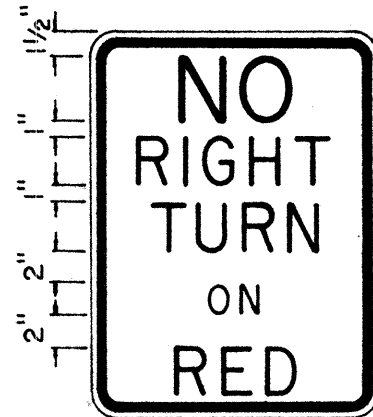
3" Series C



3" Series C



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



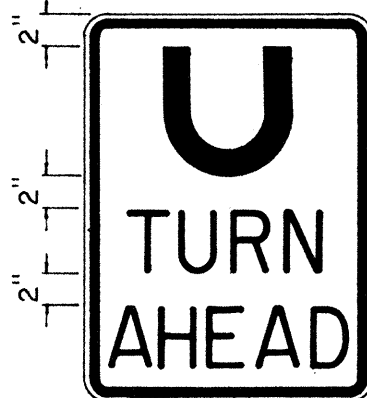
4" Series D
3" Series C
2" Series B

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

NOTE:
White legend and border
on Red background



3" Series C
4" Series E



8" Series F
4" Series D

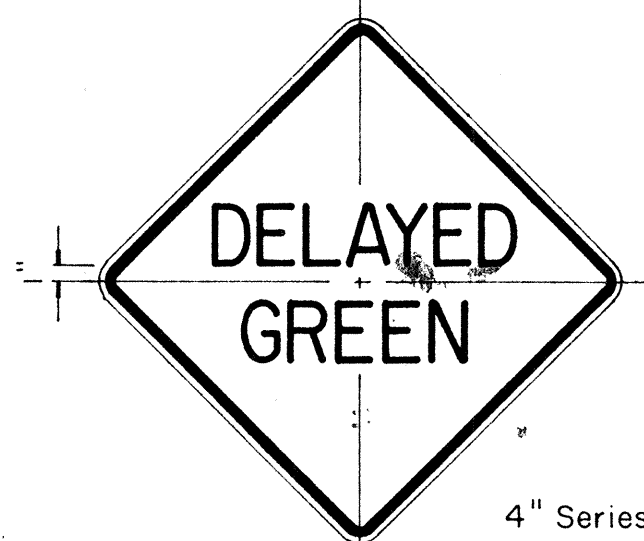
R18-1 36"x 30"

R19-1 18"x 24"



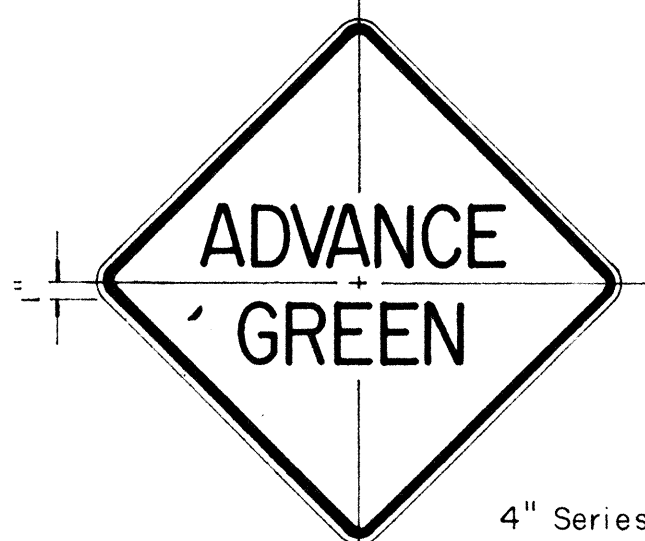
3" Series D

W13-4 24"x 24"



4" Series C

W15-1 24"x 24"



4" Series C

W15-2 24"x 24"

NOTE:

- 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.
- All regulatory and warning signs shall be reflectorized unless otherwise specified.
- All regulatory and warning signs shall have 3/8" bolt holes drilled at appropriate locations unless otherwise specified.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
MISCELLANEOUS
REGULATORY & WARNING SIGNS

Scale: 1" = 1' - 0"

SHEET No. 4 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	25	73

PROJECT NO. 900B-02-68 UNIT 1



W 7-2 48"x 48"



W8-7 30"x 30"



W14-1 30"x 30"



W20-1a 48"x 48"



W20-2d 48"x 48"



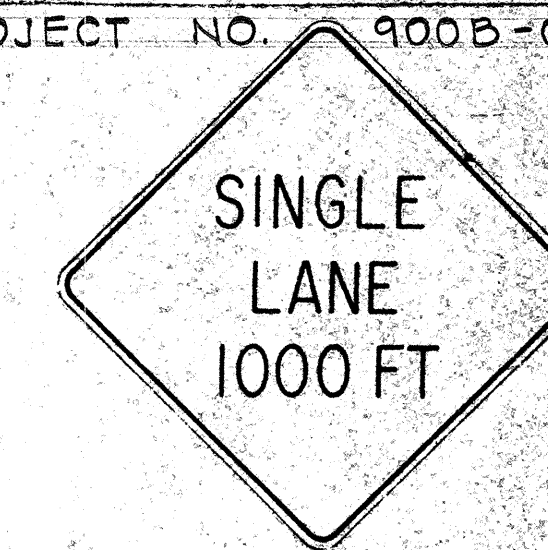
W20-3b 48"x 48"



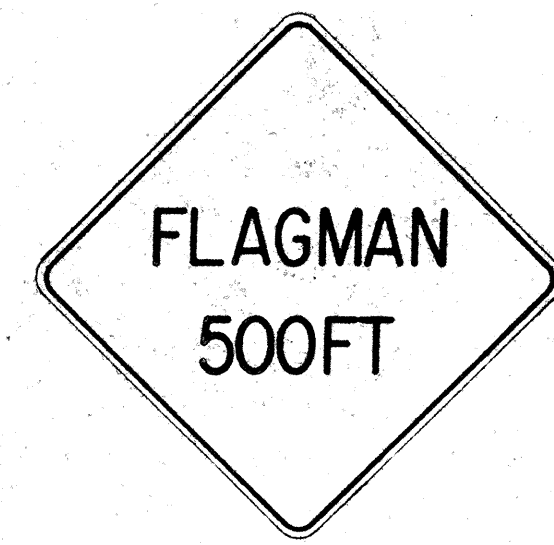
W20-4d 48"x 48"



W20-5d(L) 48"x 48"



W20-6b 48"x 48"



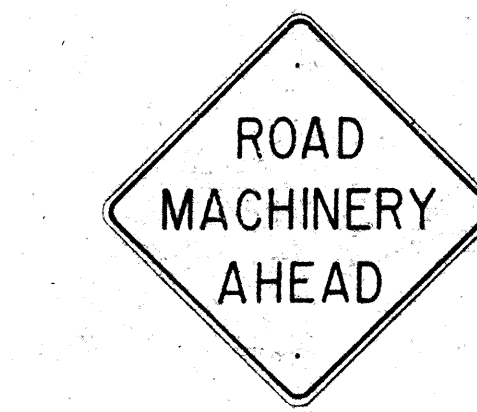
W20-7c 48"x 48"



W21-1 30"x 30"



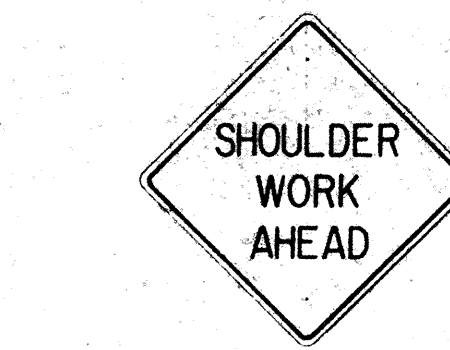
W21-2 24"x 24"



W21-3 36"x 36"



W21-4 30"x 30"



W21-5 30"x 30"



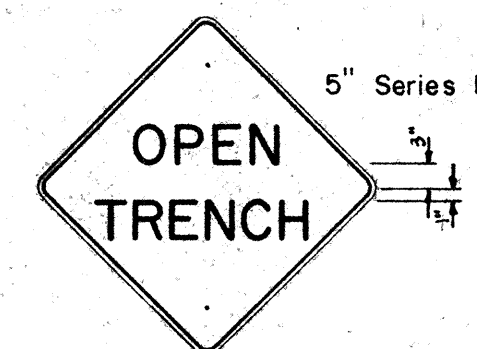
W21-6 30"x 30"



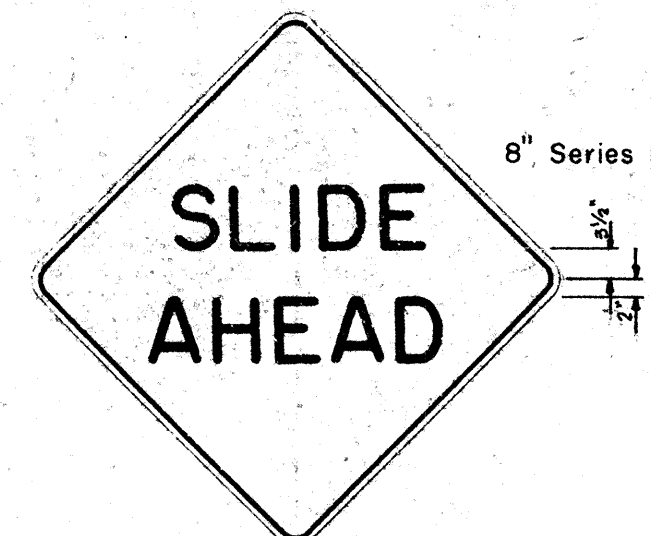
W22-1 30"x 30"



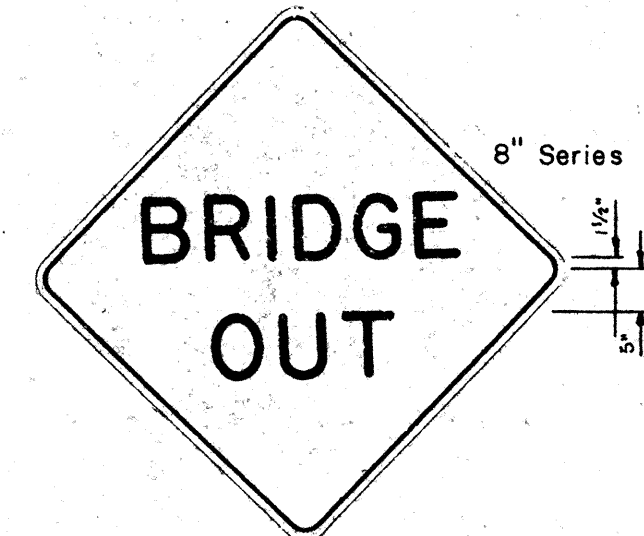
W22-2 30"x 30"



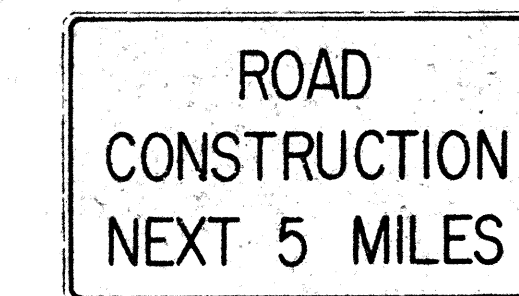
W22-3 30"x 30"



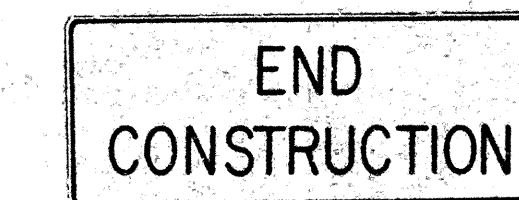
W22-4 48"x 48"



W22-5 48"x 48"



G20-1(5) 60"x 36"



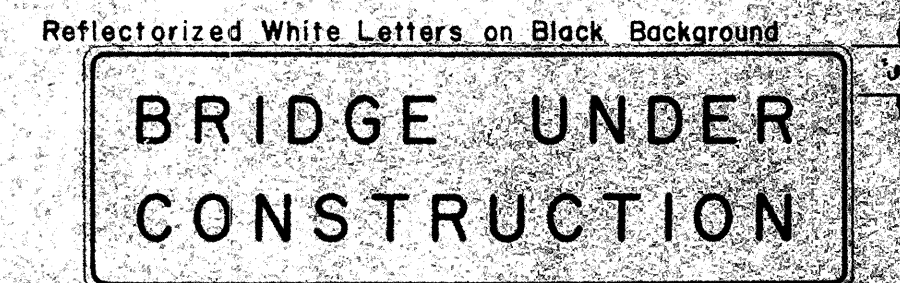
G20-2 60"x 24"



G20-3 42"x 18"



M5-7(L) 48"x 18"



CW-1 96"x 30"

- 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 signs shall be reflectorized unless otherwise specified.
 - All signs shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise noted.
 - For W20 series signs, suffixes a,b,c and d are as follows a 1500 FT, b 1000 FT, c 500 FT and d AHEAD
 - (R) or (L) indicates right or left and shall be as shown on the plans.
 - Number in () indicates miles and shall be as shown on the plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

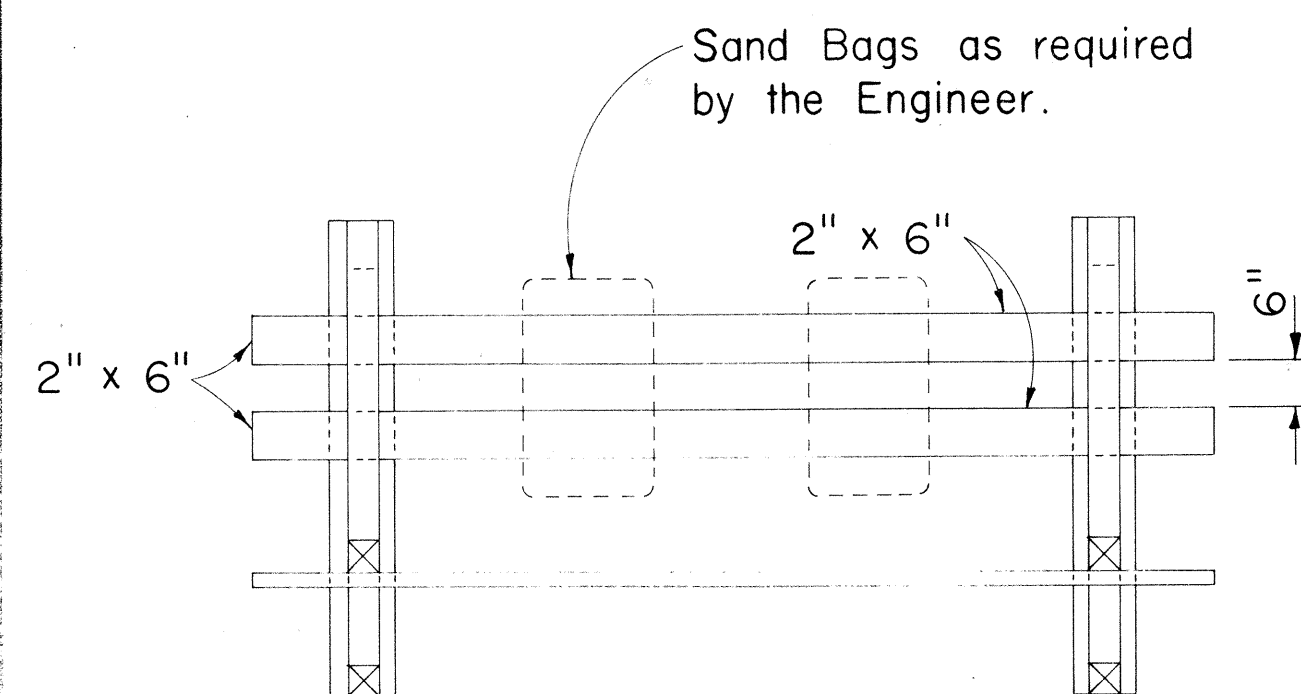
CONSTRUCTION SIGNS

NOT TO SCALE

SHEET No. 5 OF 10 SHEETS

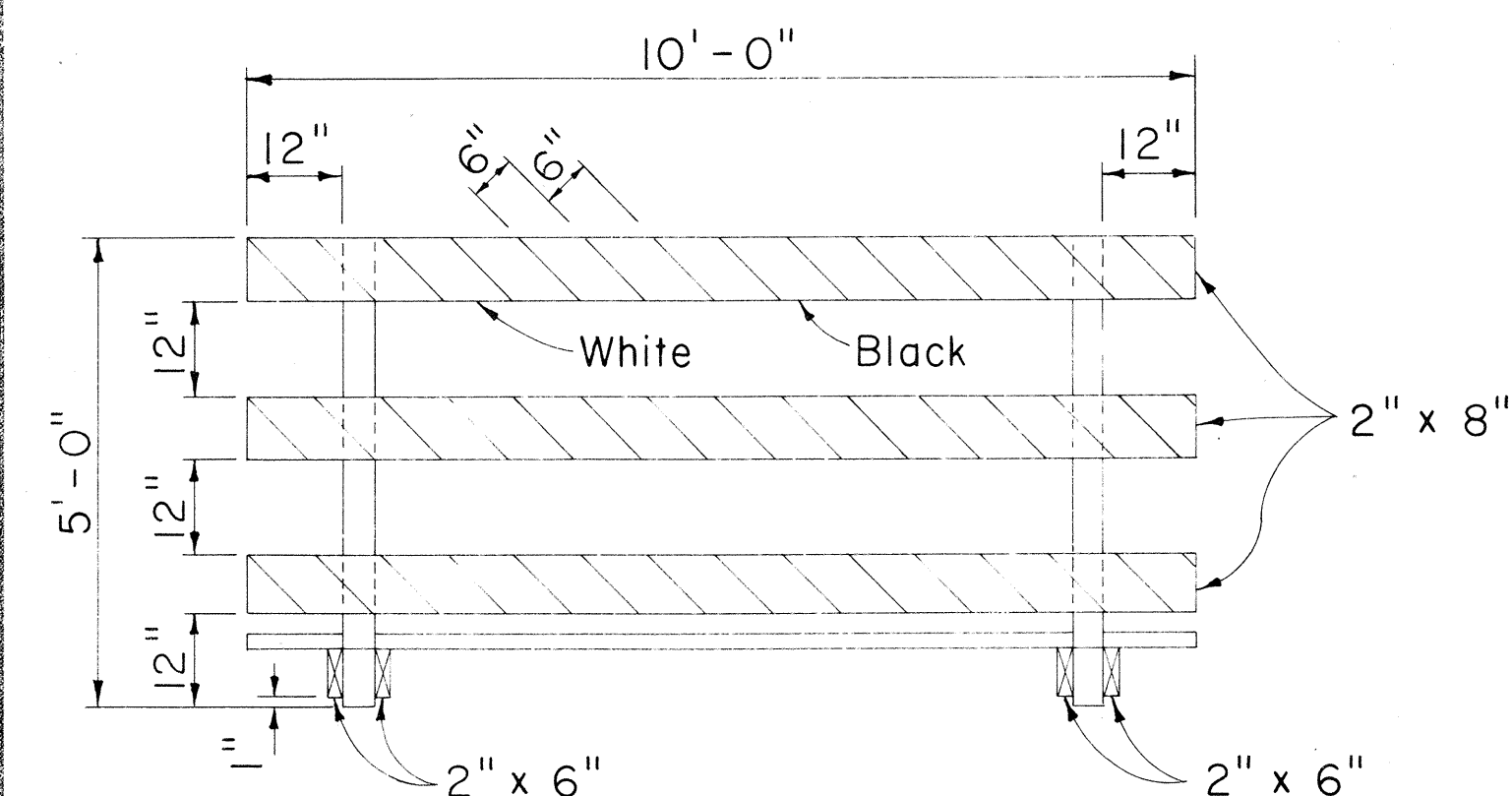
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	26	73

PROJECT NO. 900B-02-68 UNIT 1

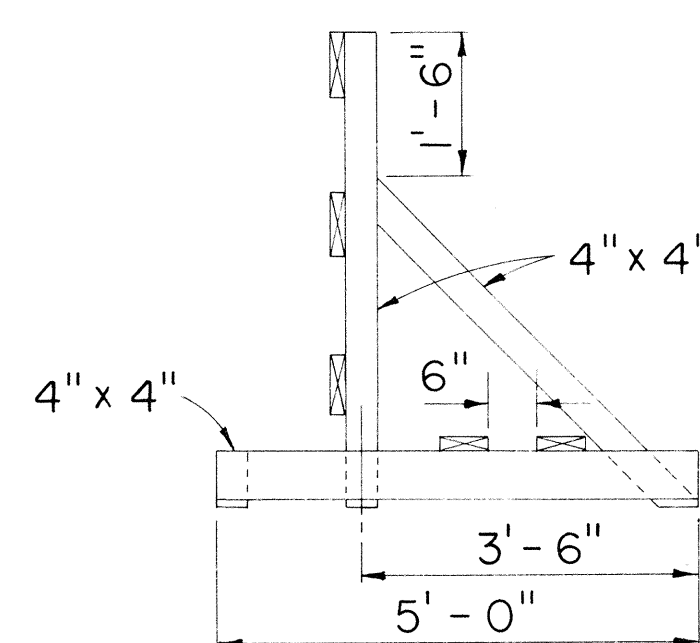


PLAN VIEW

- GENERAL NOTES**
- The Contractor shall construct, install and maintain the wood barricades at the locations shown on the Plans.
 - 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.



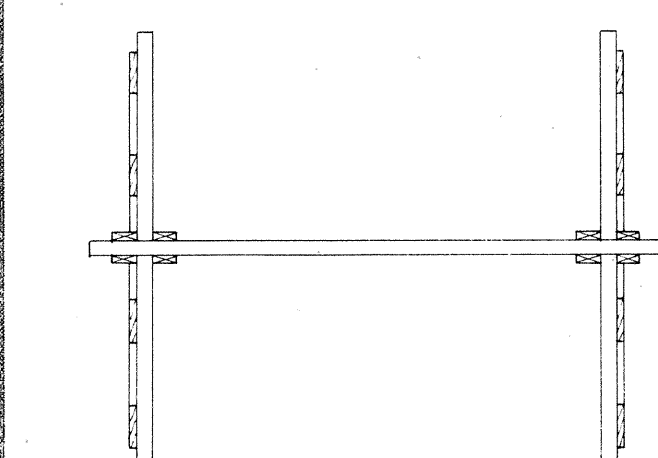
FRONT VIEW



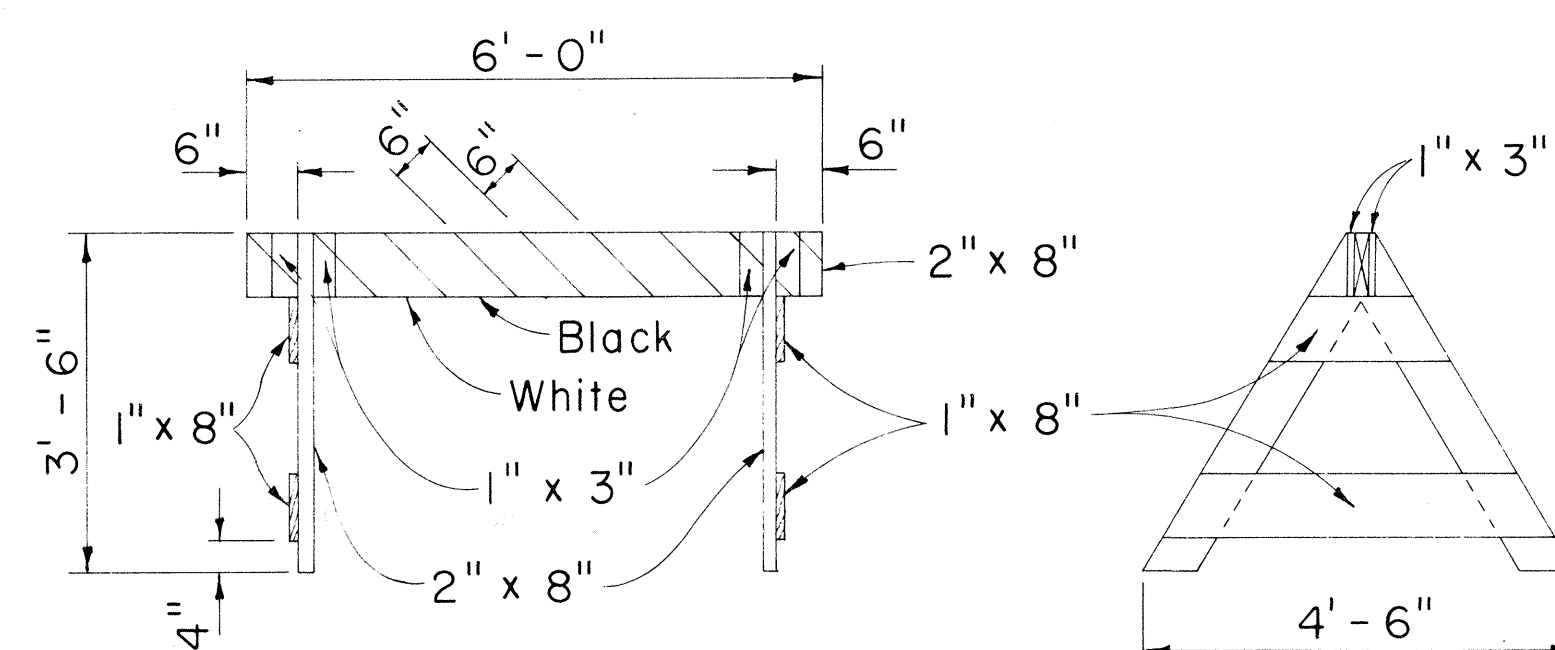
END VIEW

CLASS I BARRICADE

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



PLAN VIEW

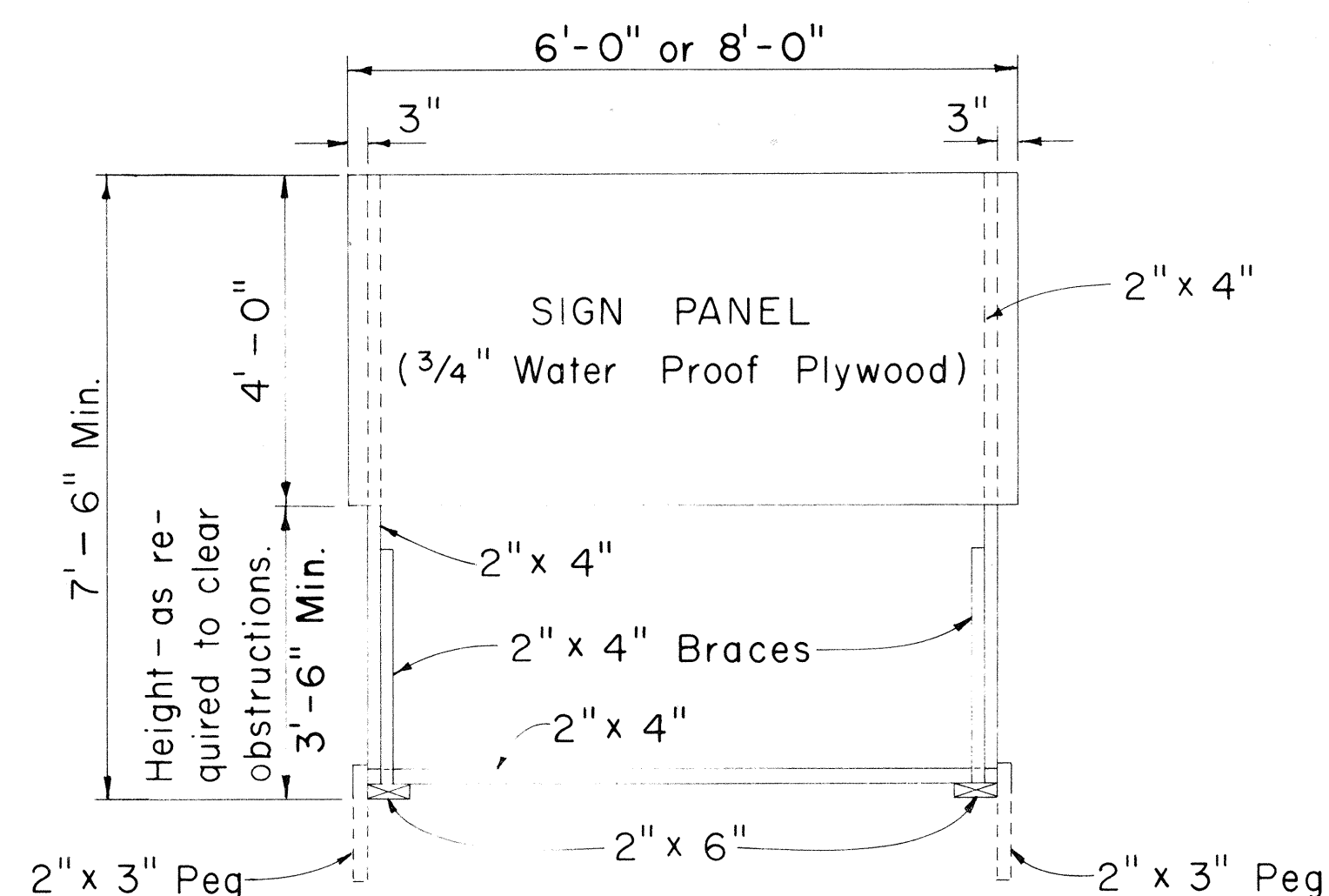


FRONT VIEW

END VIEW

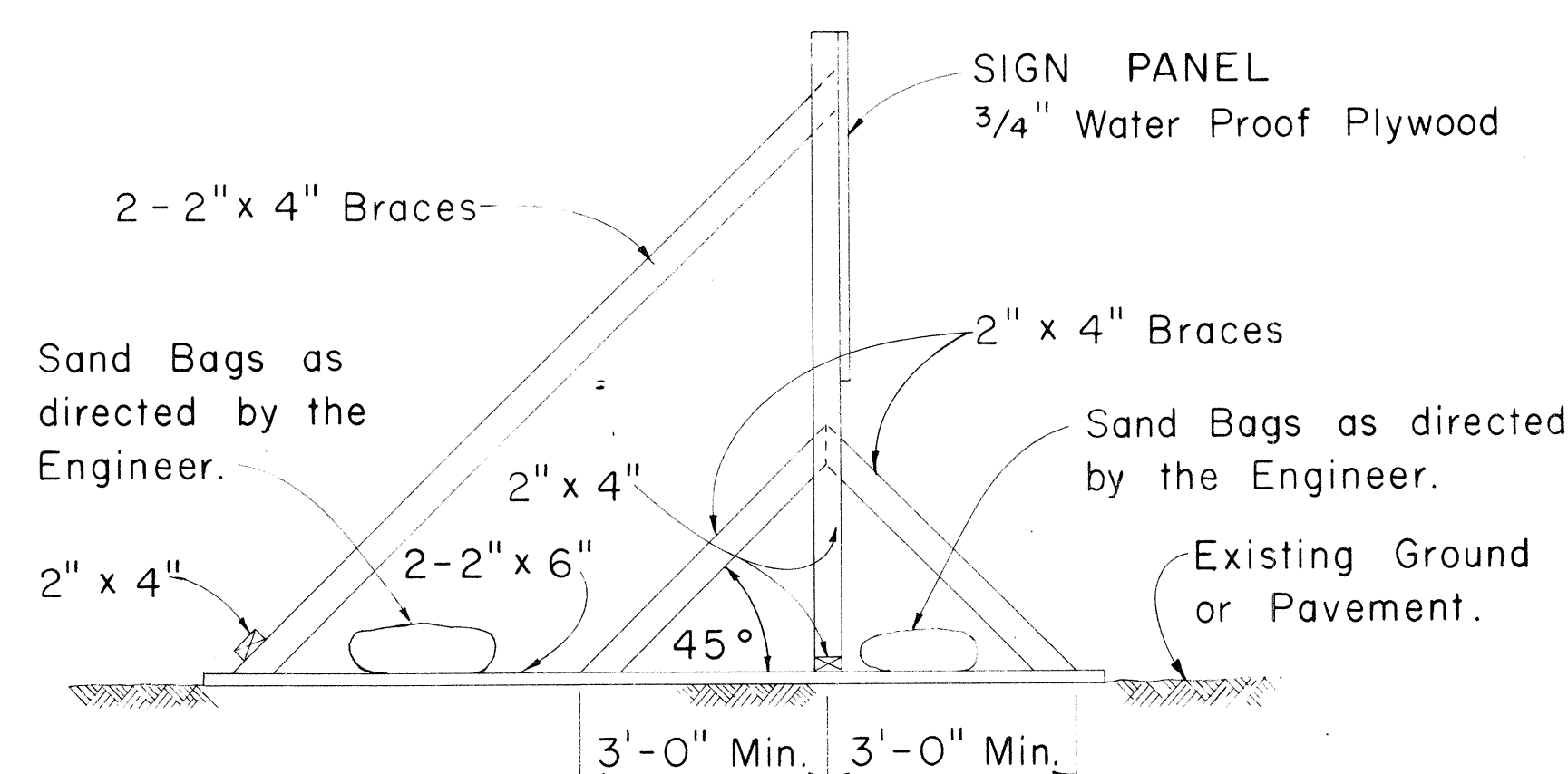
CLASS II BARRICADE

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



FRONT VIEW

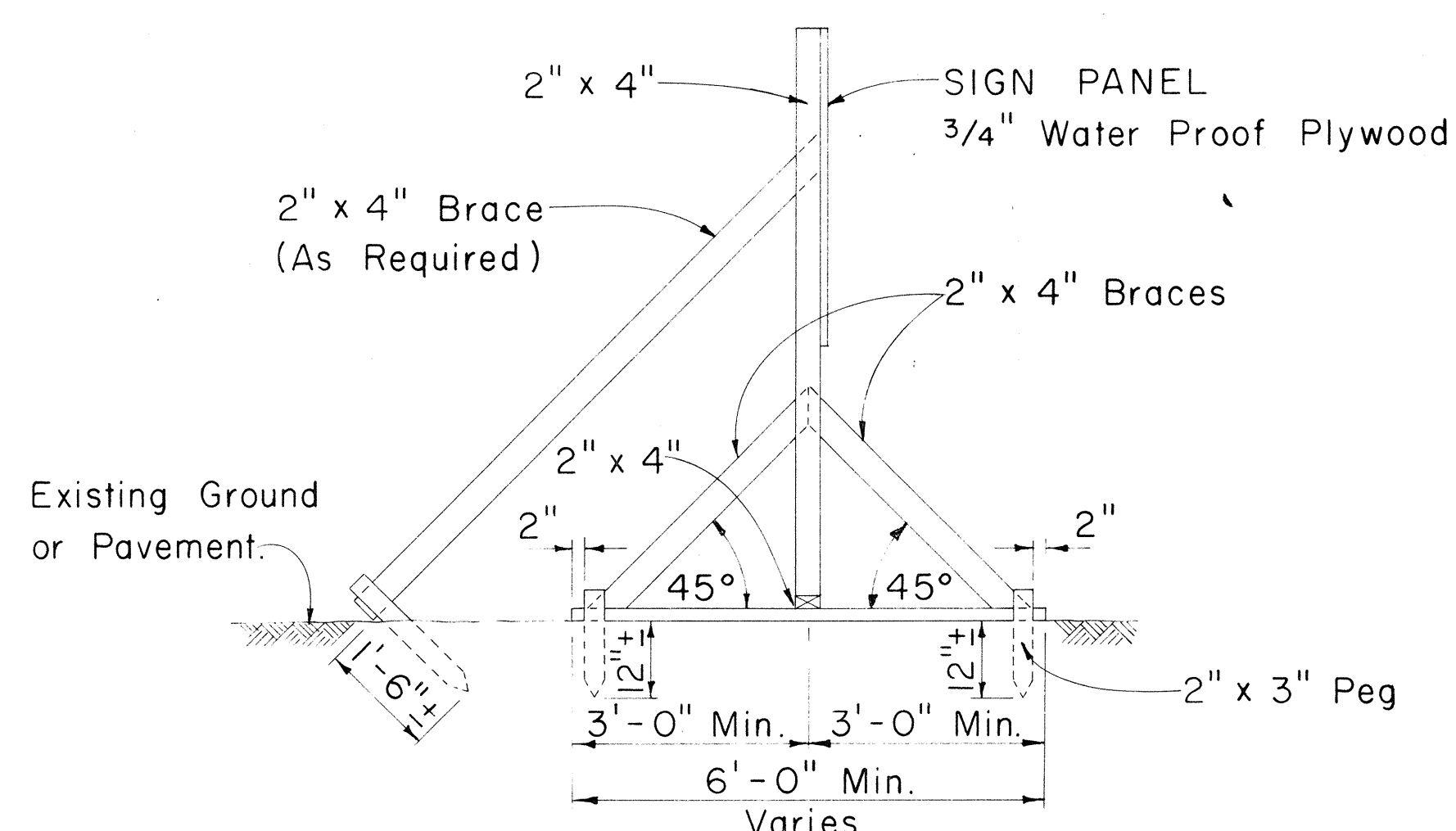
Scale: 1/2" = 1'-0"



SIDE VIEW

(SIGN FRAME WEIGHTED DOWN)

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



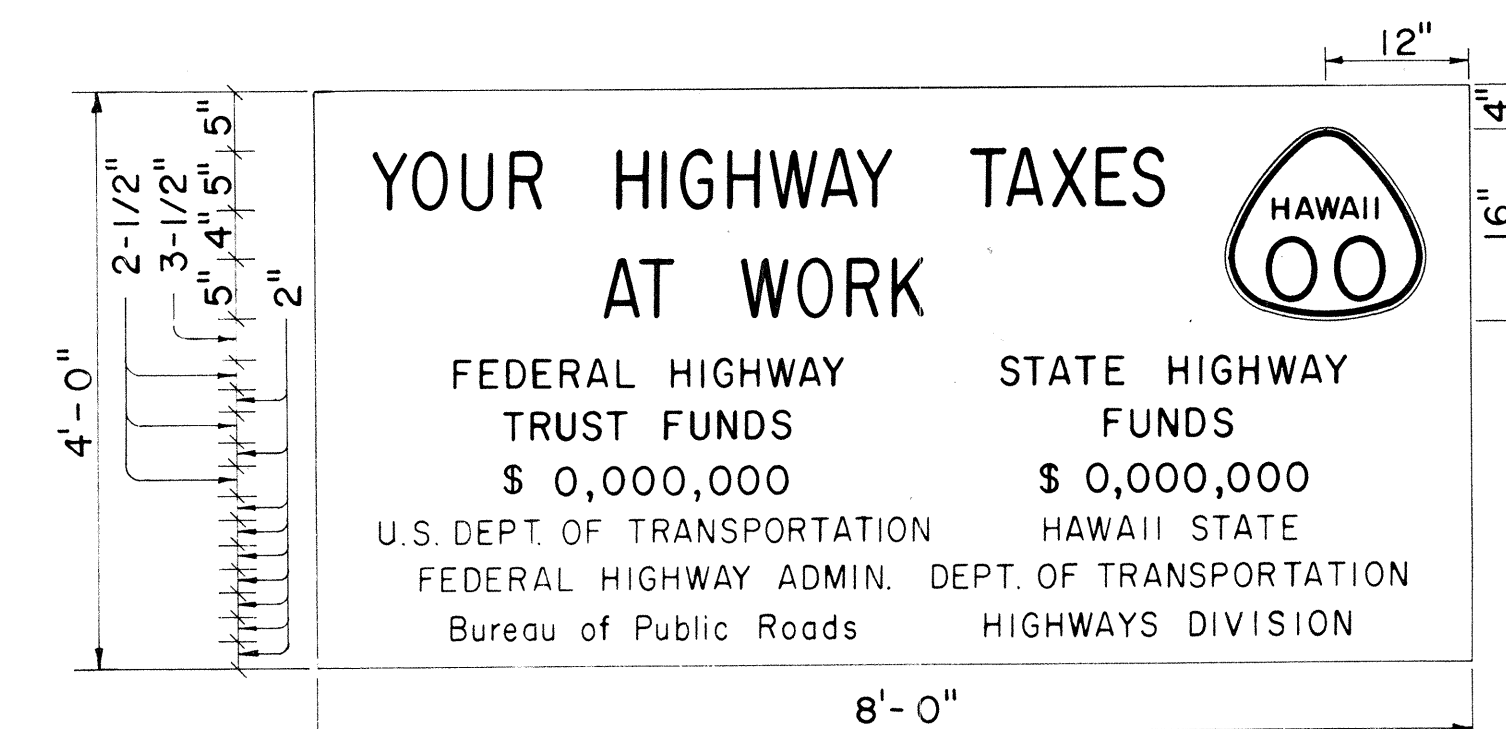
SIDE VIEW

(SIGN FRAME ANCHORED IN GROUND)

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

CONSTRUCTION IDENTIFICATION SIGN

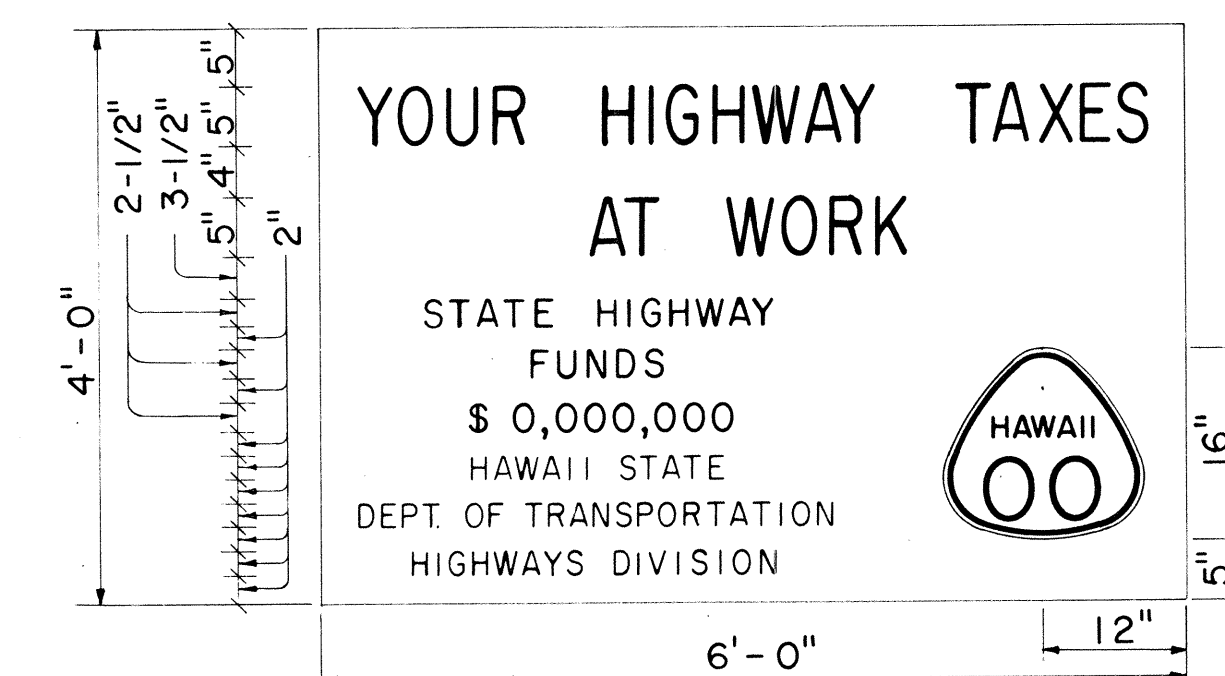
Scale: As Shown



SIGN PANEL

PRIMARY AND SECONDARY SYSTEMS

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



SIGN PANEL

NON-FEDERAL AID PROJECT

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

GENERAL NOTES

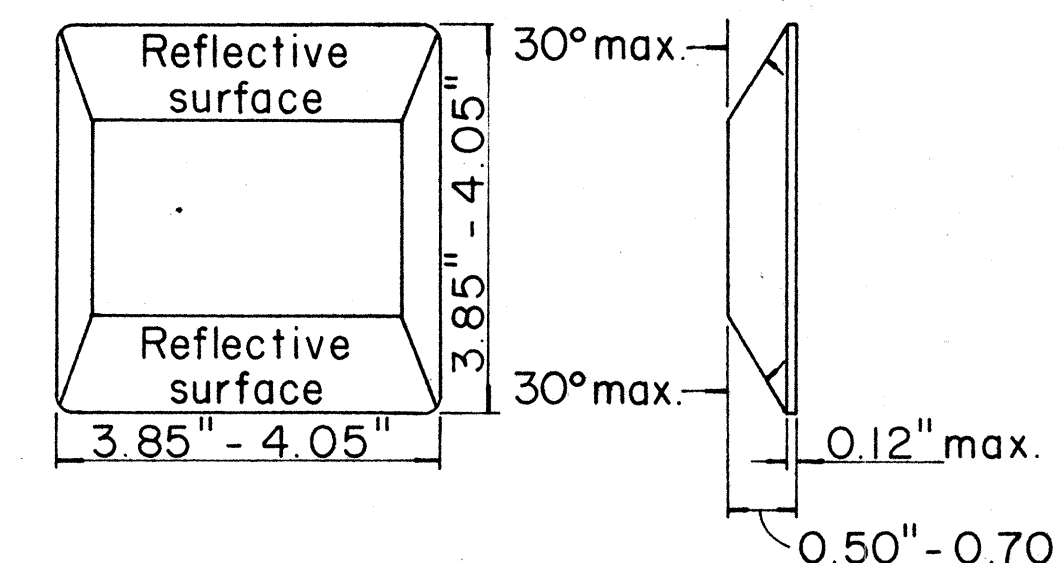
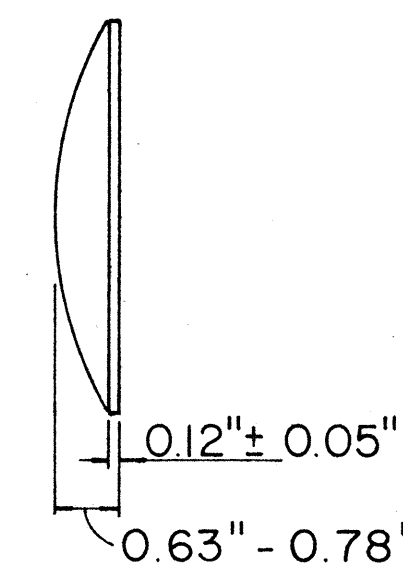
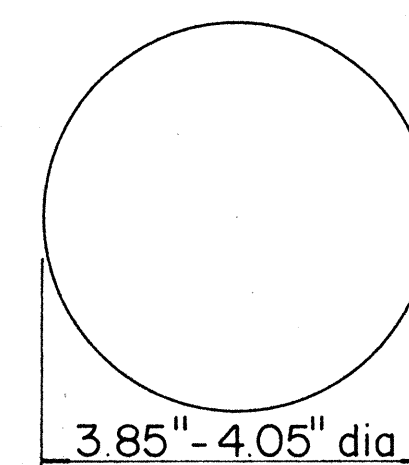
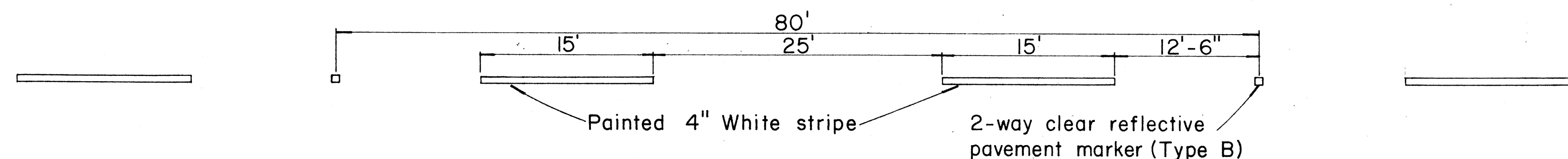
- The sign legend shall be black on white background.
- The Contractor shall construct, install and maintain the project signs at the locations shown on the plans and as ordered by the Engineer.
- Letters shall be Series "C" of the sizes shown on the plan and shall conform with the "Standard Alphabet for Highway Signs", Bureau of Public Roads, 1966
- The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL DETAILS CONSTRUCTION IDENTIFICATION SIGN AND WOOD BARRICADES	
Scale: As Shown	Date:
SHEET No. 6 OF 10 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	27	73

PROJECT NO. 900 B-02-68 UNIT 1

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



TYPE A

Non-reflective white marker

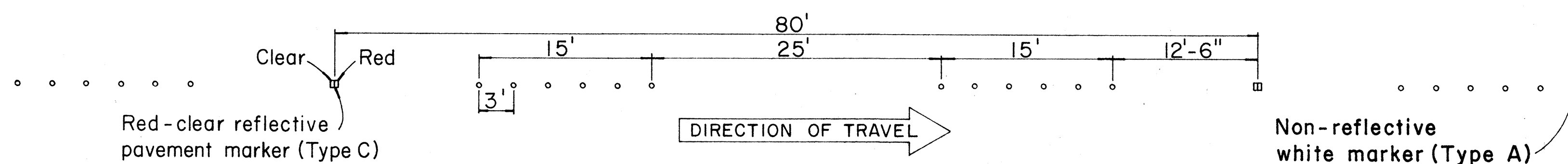
TYPE B

2-way clear reflective surface

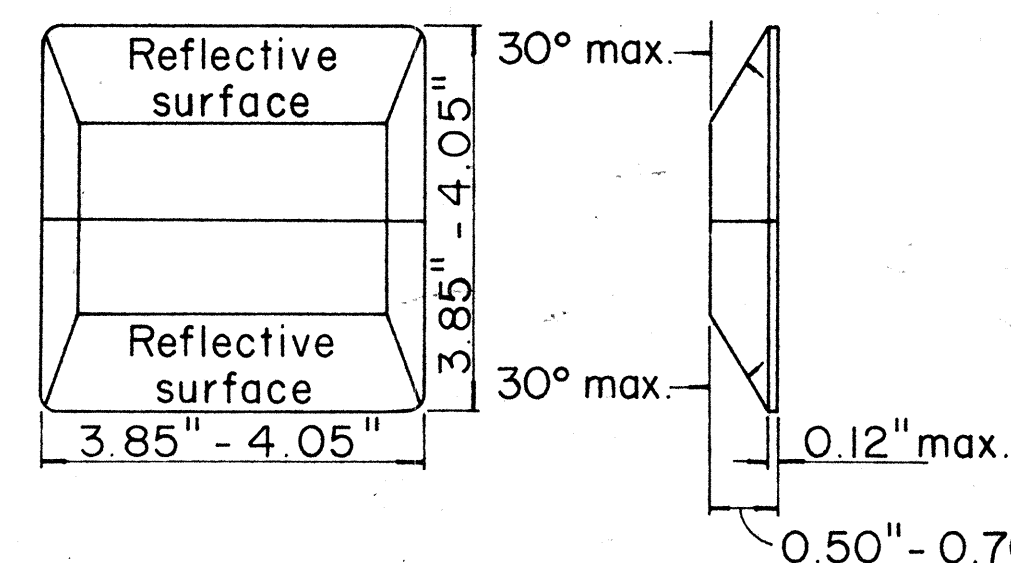
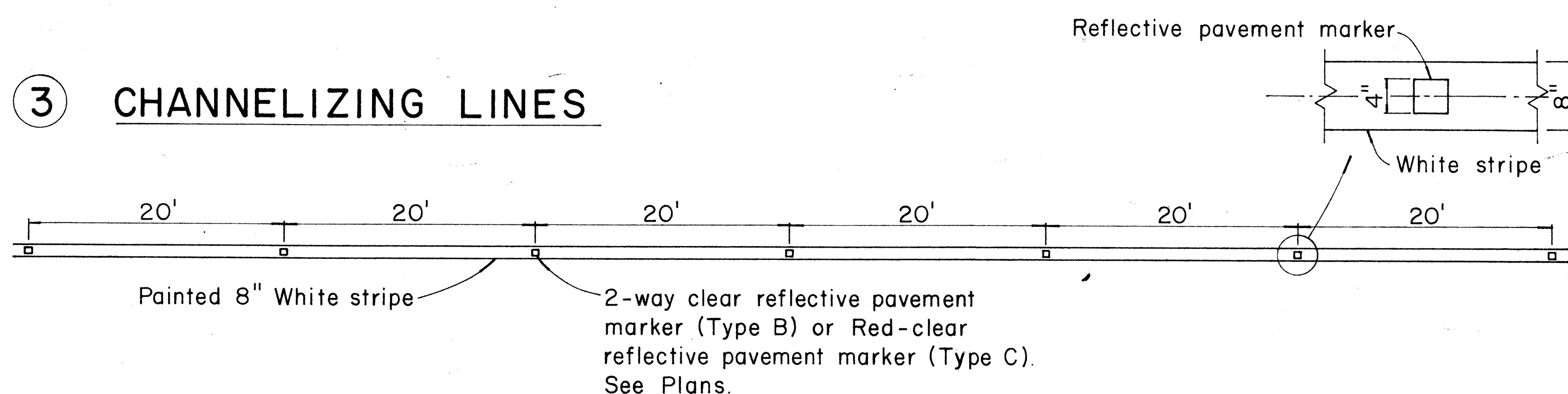
TYPE D

2-way yellow reflective surface

② LANE LINES

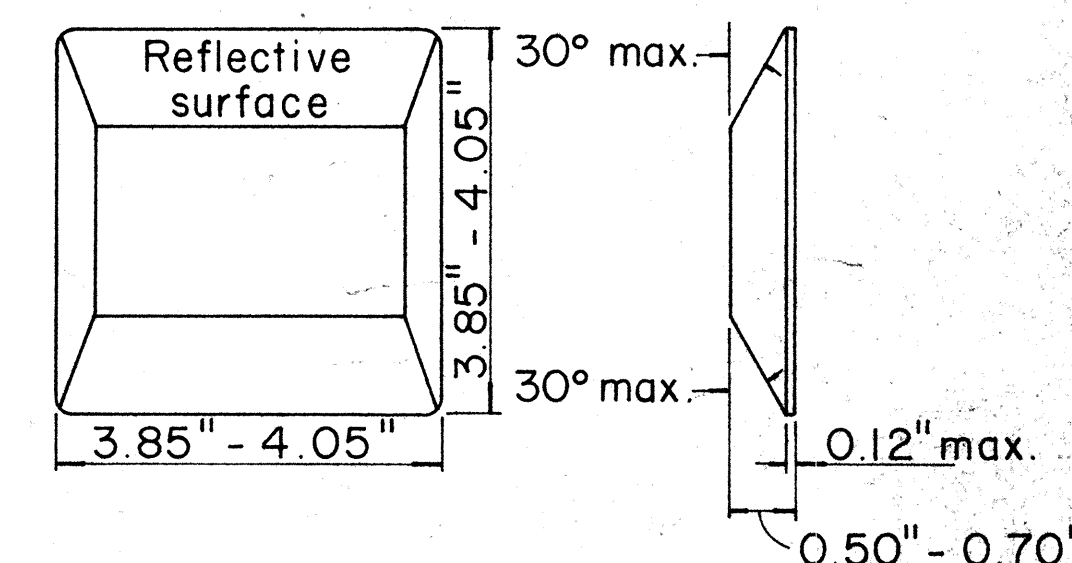


③ CHANNELIZING LINES



TYPE C

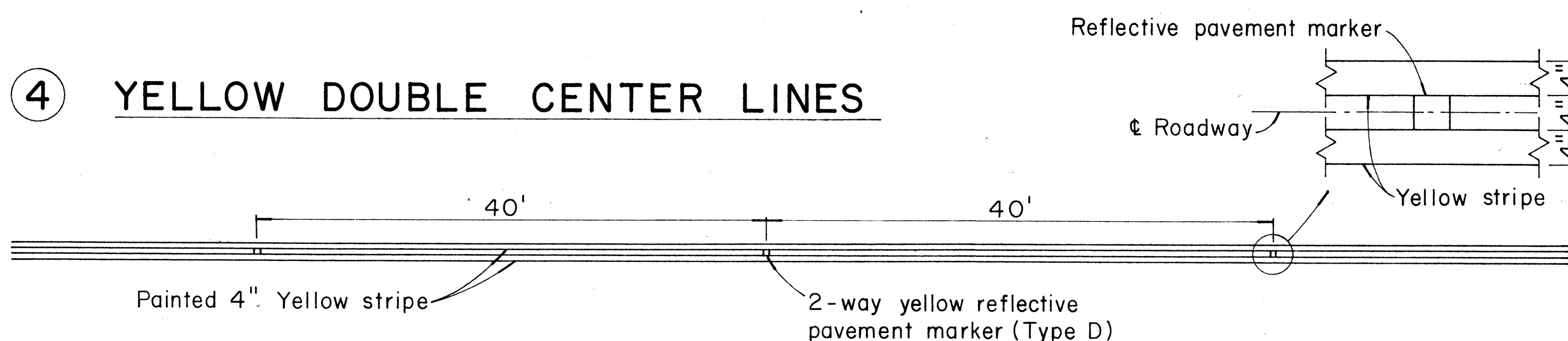
Red-clear reflective surface



TYPE H

One-way yellow reflective surface

④ YELLOW DOUBLE CENTER LINES



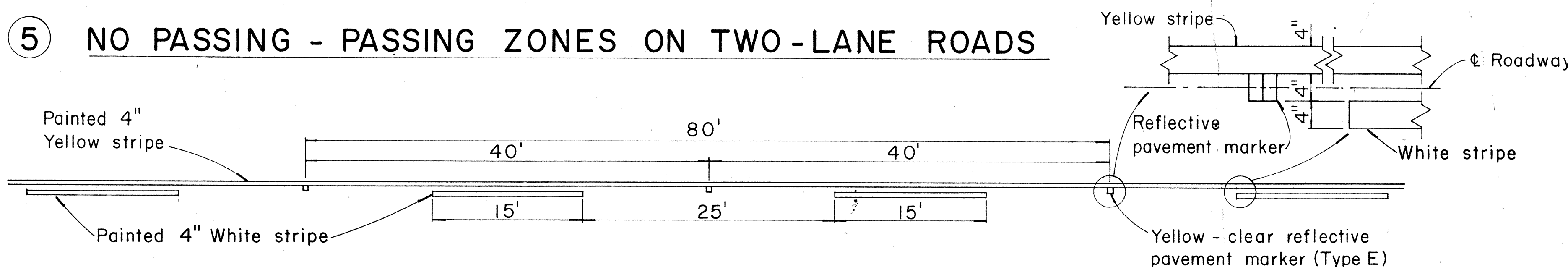
TYPE E

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

REVISED: Aug. 26, 1968

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
RAISED PAVEMENT MARKERS

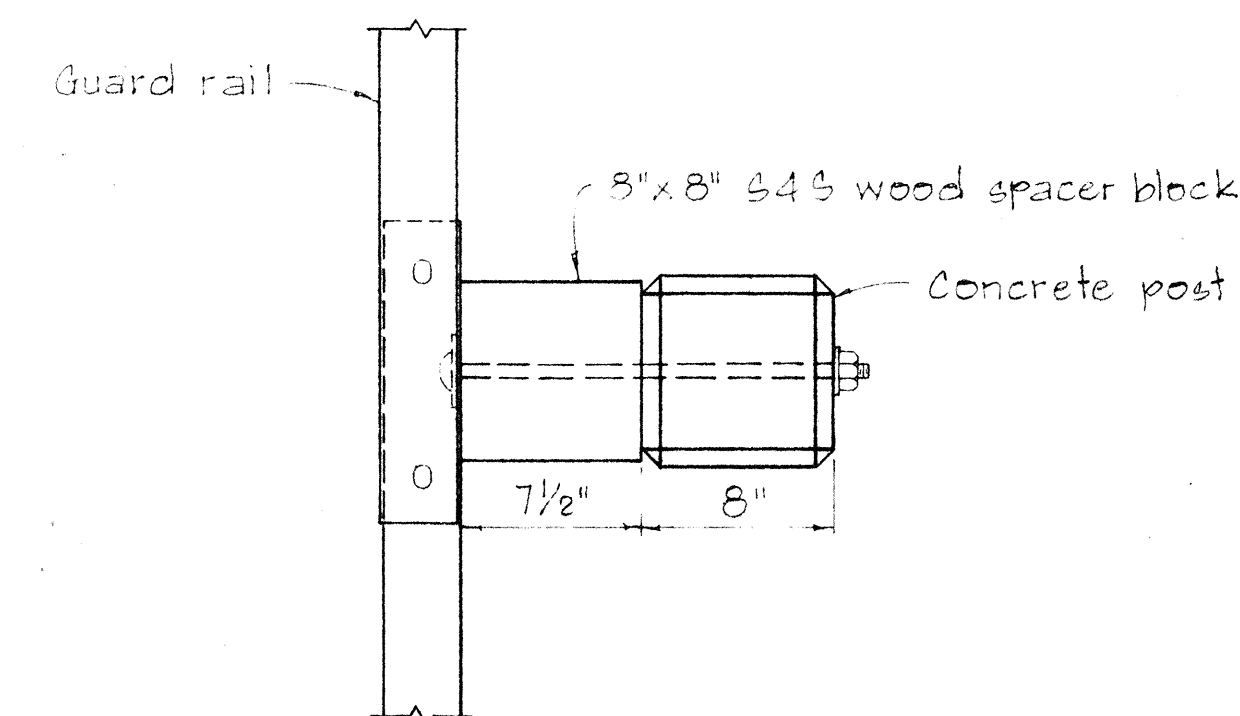
Not to Scale

Sept., 1967

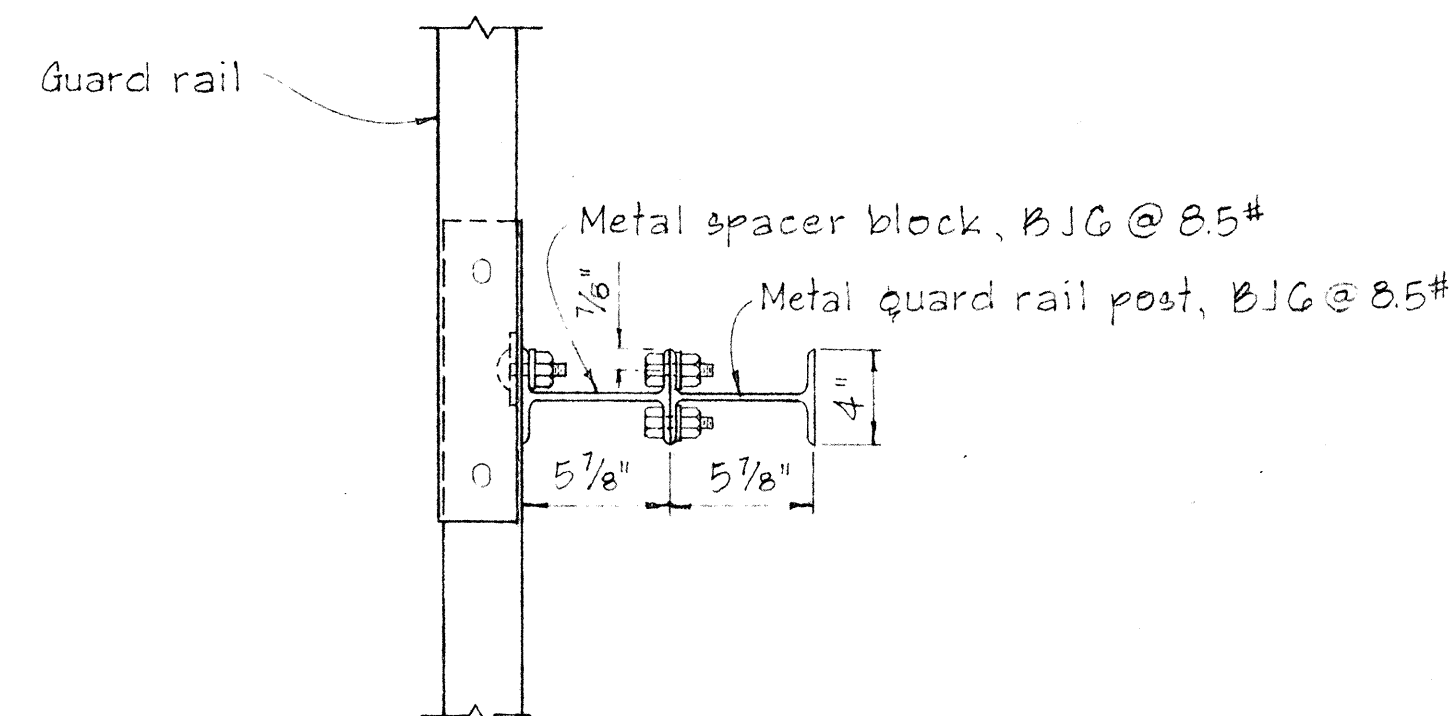
SHEET No. 7 OF 10 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	28	73

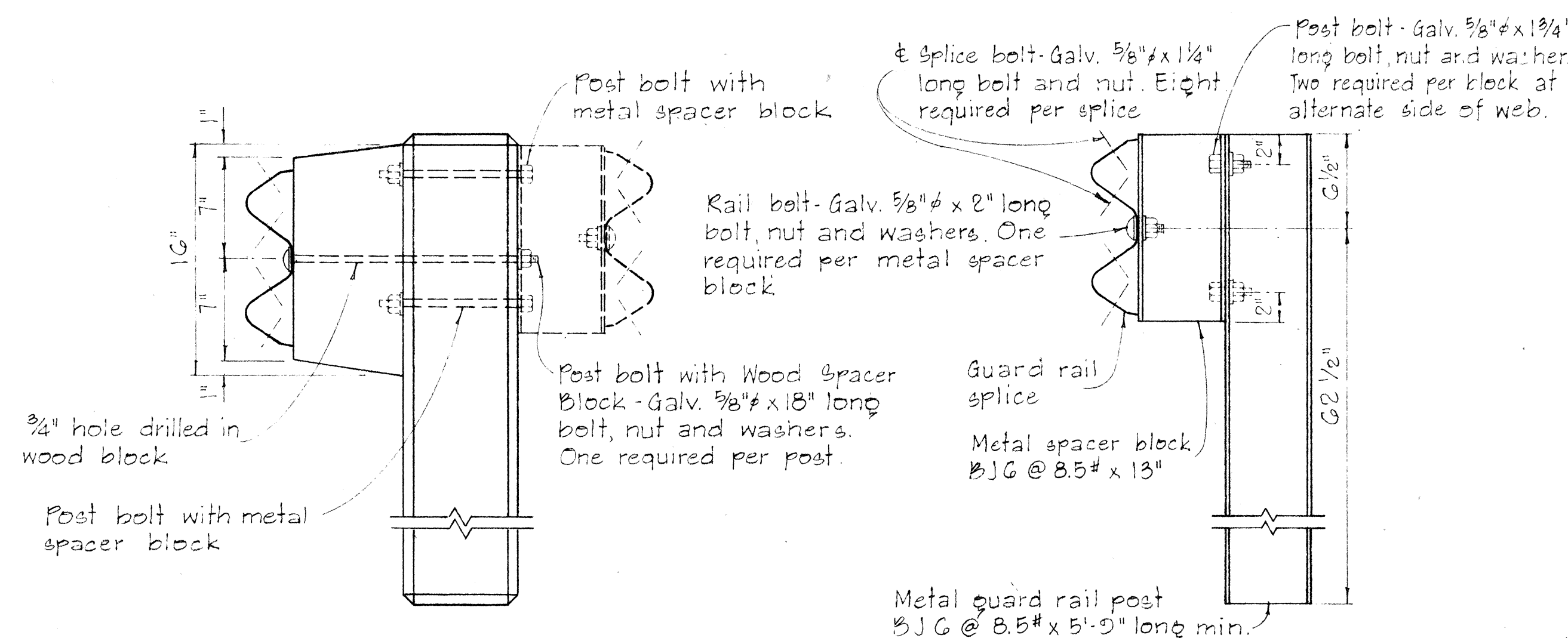
PROJECT NO. 900B-02-68 UNIT 1
REVISED: 12-11-68
REVISED: 2-26-69



PLAN

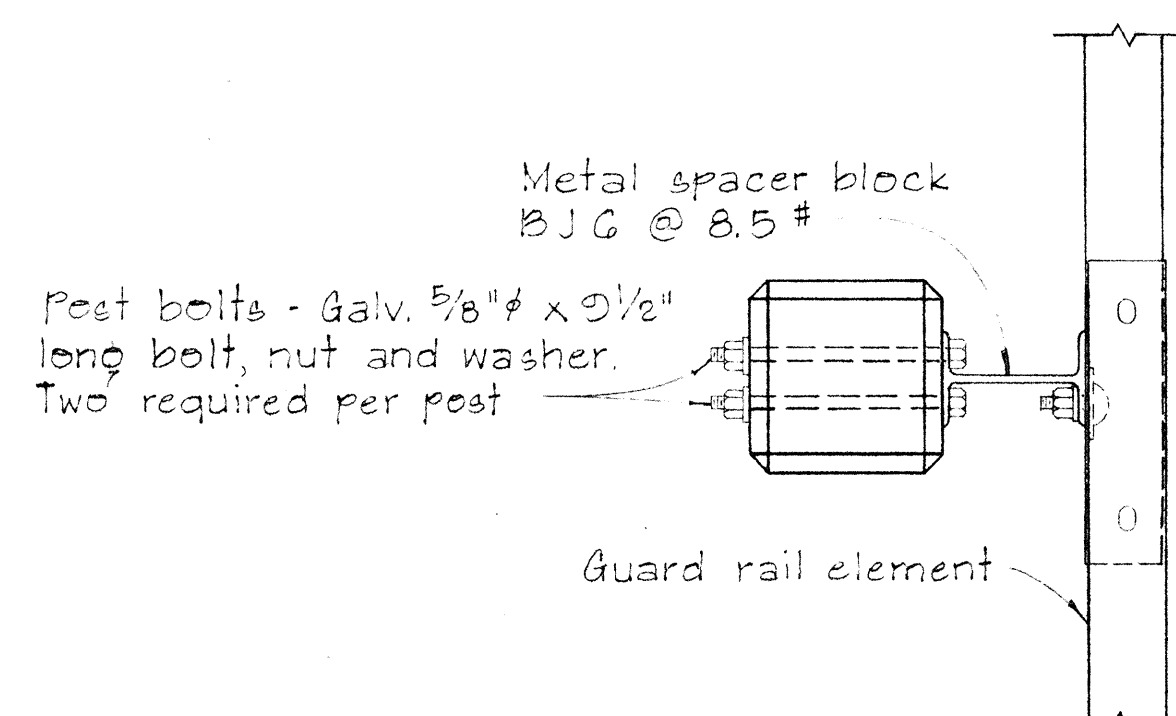


PLAN



SINGLE METAL GUARD RAIL ON METAL POST
WITH METAL SPACER BLOCK

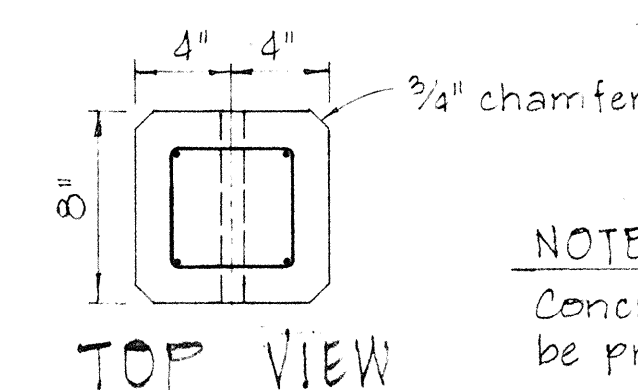
SCALE: 1 1/2" = 1'-0"



PLAN

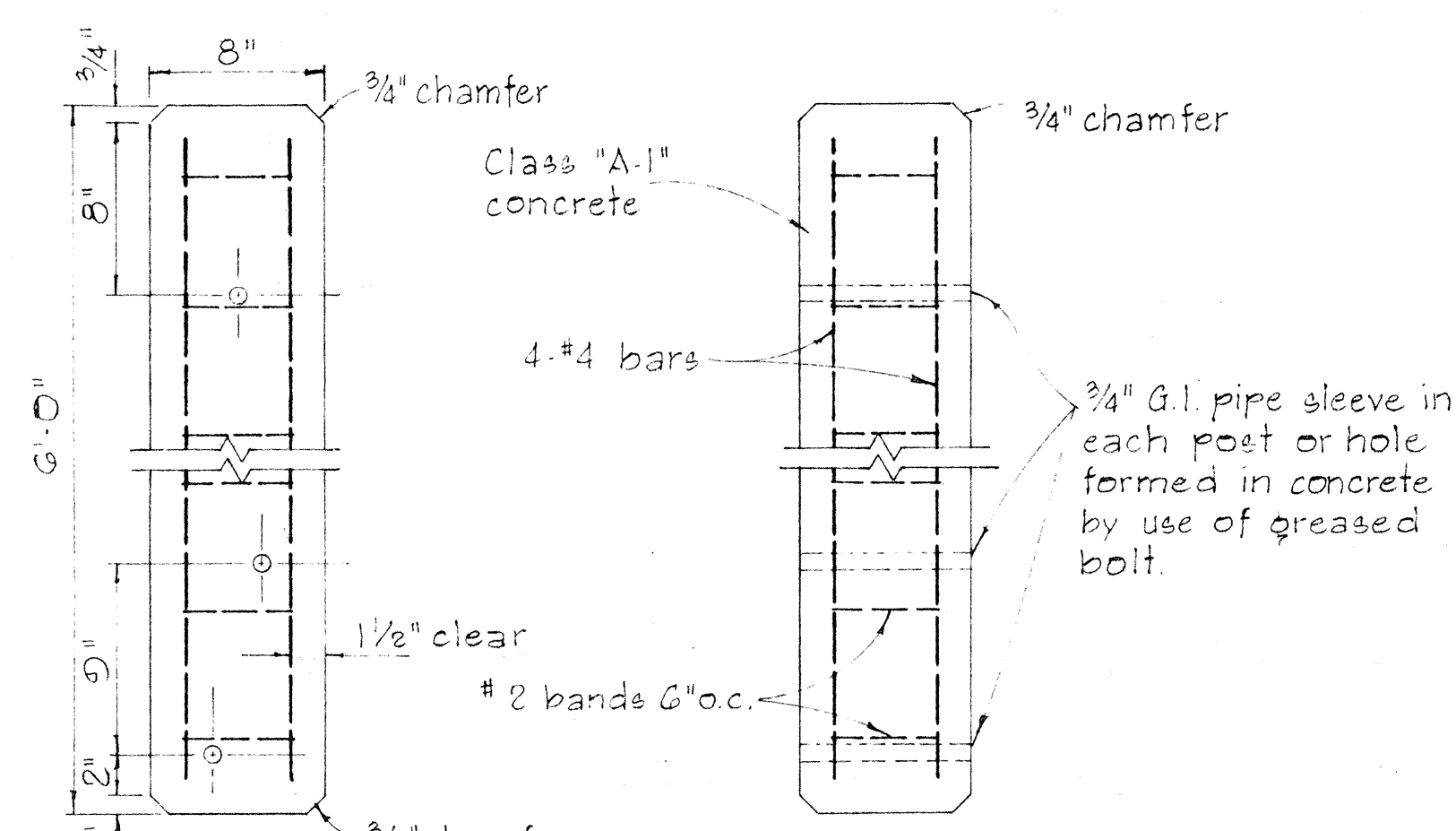
SINGLE METAL GUARD RAIL ON PRECAST
CONCRETE POST WITH WOOD OR METAL SPACER BLOCK

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



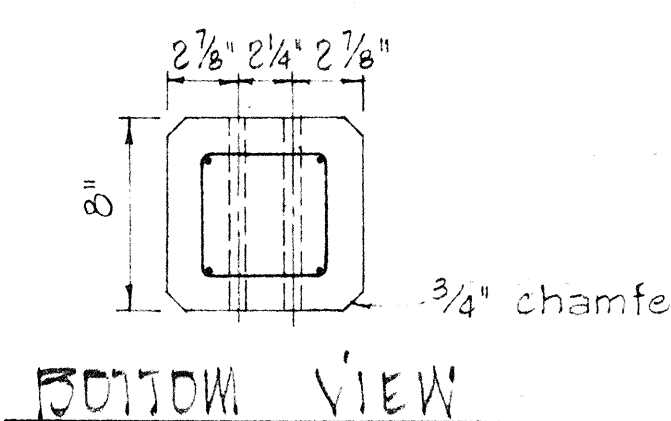
TOP VIEW

NOTE:
Concrete post shall be precast



FRONT VIEW

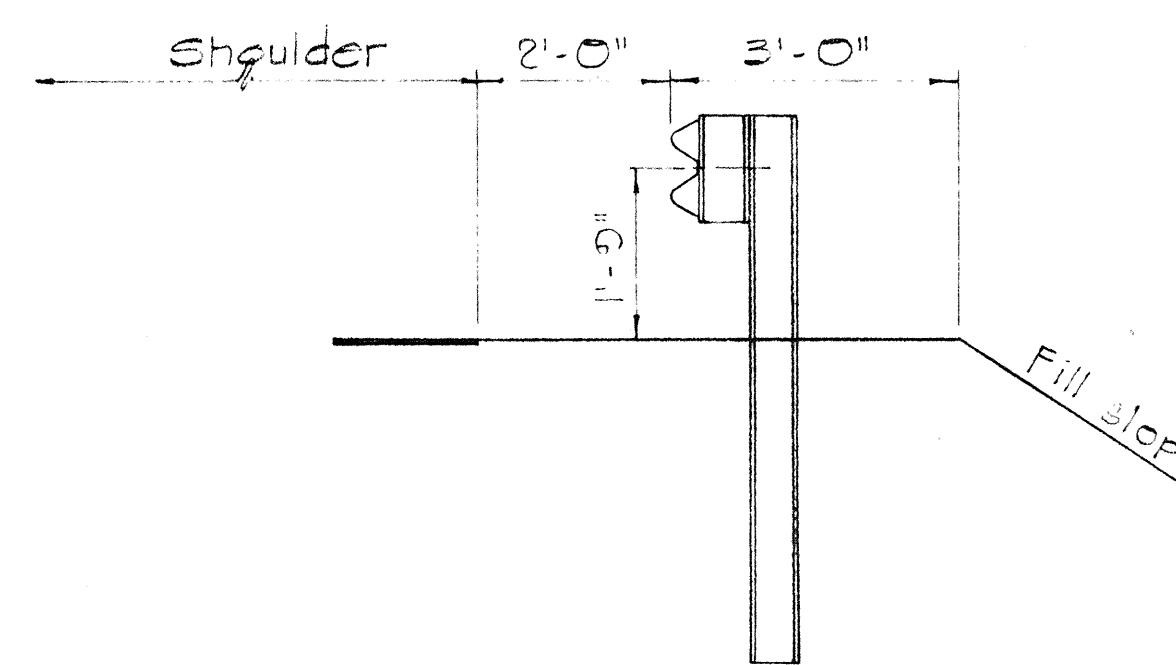
SIDE VIEW



BOTTOM VIEW

DETAIL OF CONCRETE POST

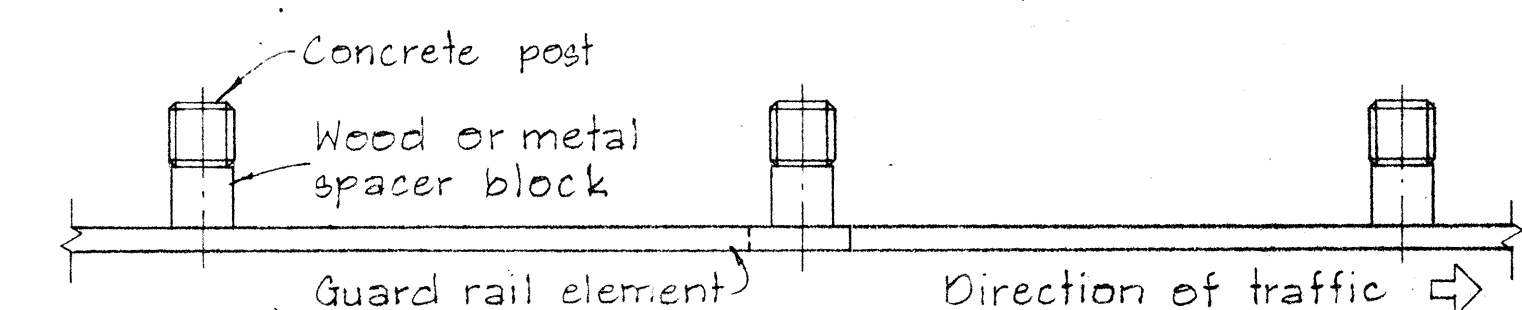
SCALE: 1 1/2" = 1'-0"



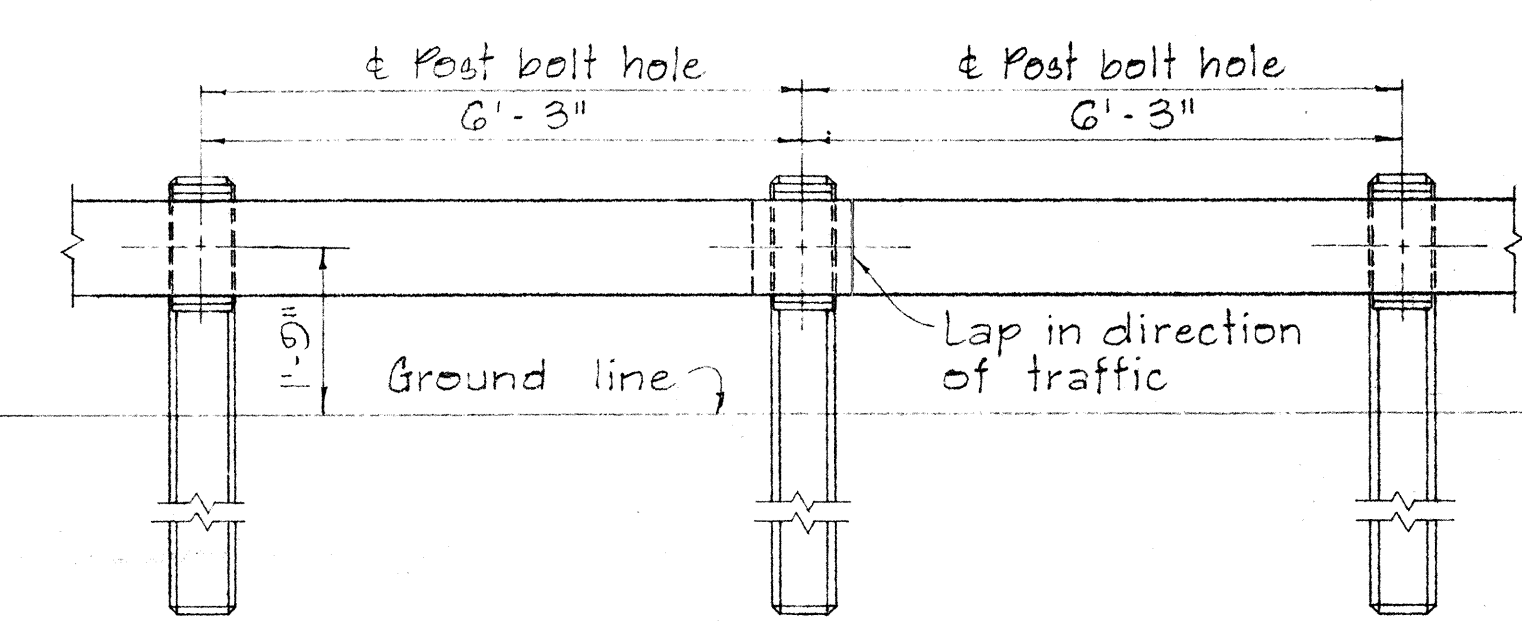
AT SHOULDER SECTION

TYPICAL METAL GUARD RAIL DETAIL

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



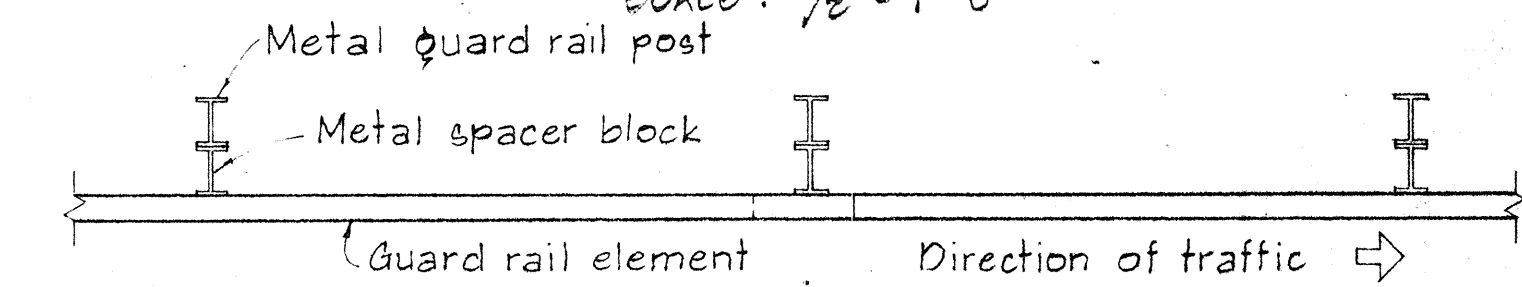
PLAN



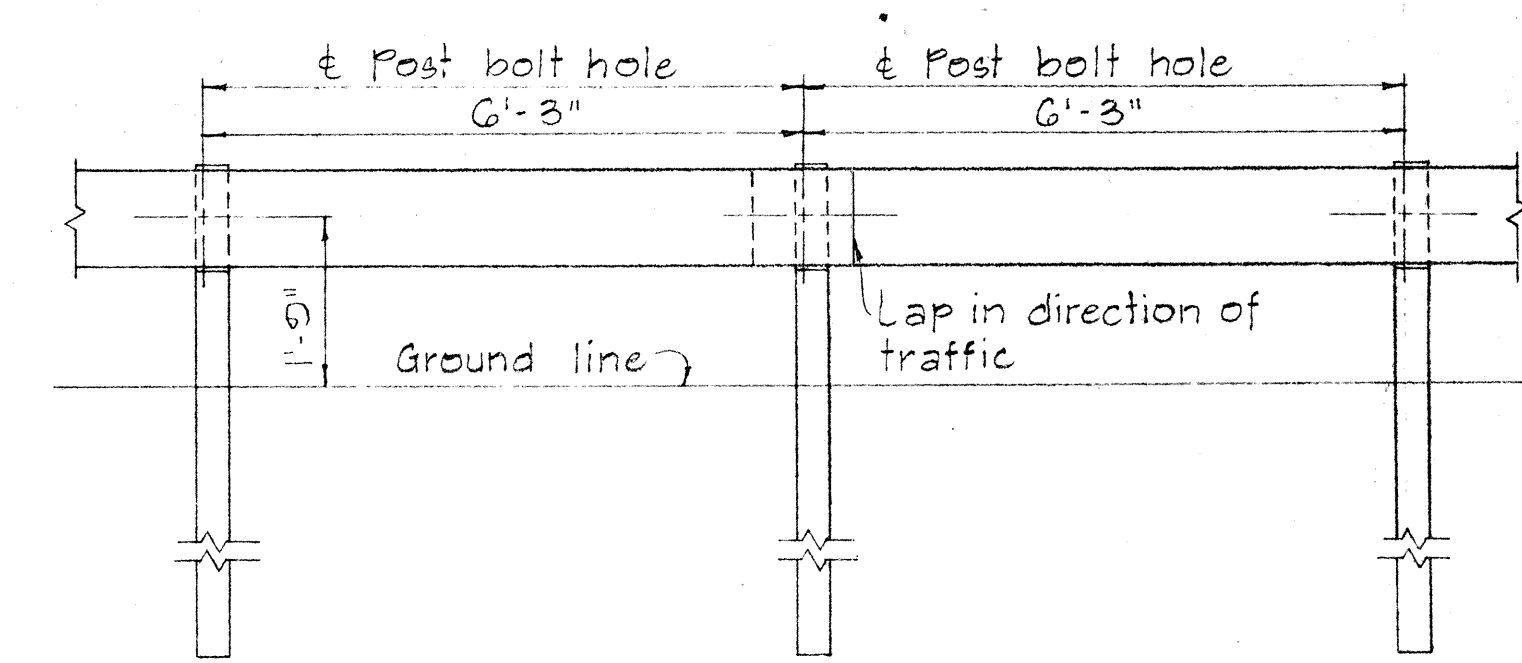
ELEVATION

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

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



PLAN



ELEVATION

METAL GUARD RAIL ON METAL POST
WITH METAL SPACER BLOCK

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
METAL GUARD RAIL

SCALE: AS SHOWN NOV. 1968

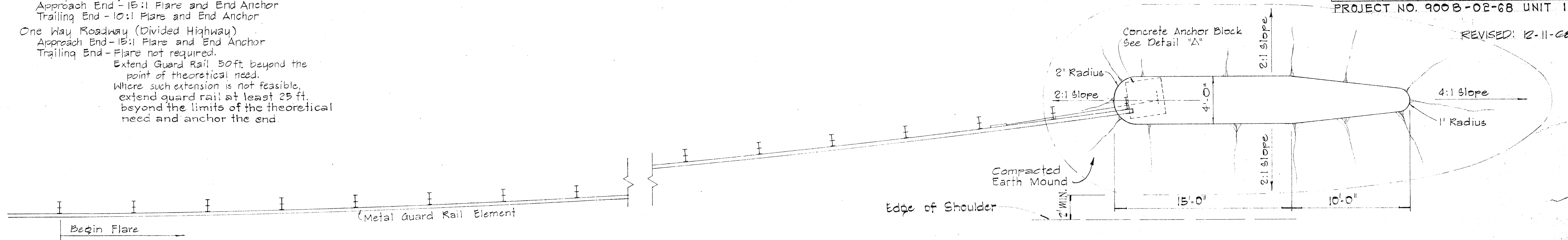
SHEET No. 8 OF 10 SHEETS DT 500

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1969	30	73

PROJECT NO. 900 B-02-68 UNIT 1

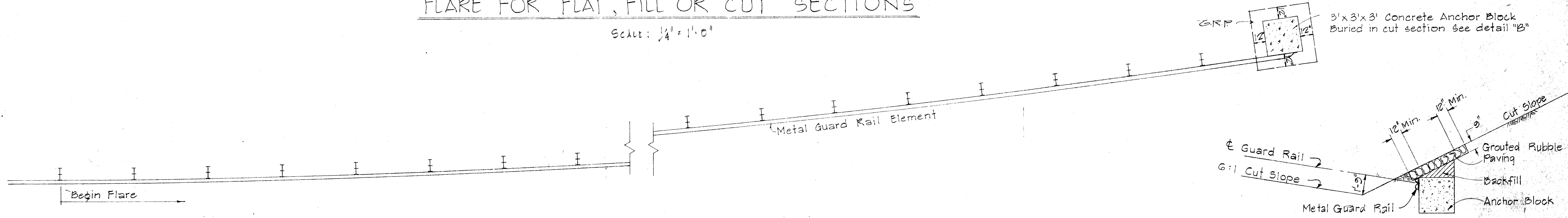
REVISED: 12-11-68

NOTE:
Two Way Roadway:
Approach End - 15:1 Flare and End Anchor
Trailing End - 10:1 Flare and End Anchor
One Way Roadway (Divided Highway)
Approach End - 15:1 Flare and End Anchor
Trailing End - Flare not required.
Extend Guard Rail 50ft beyond the point of theoretical need.
Where such extension is not feasible, extend guard rail at least 25 ft. beyond the limits of the theoretical need and anchor the end.



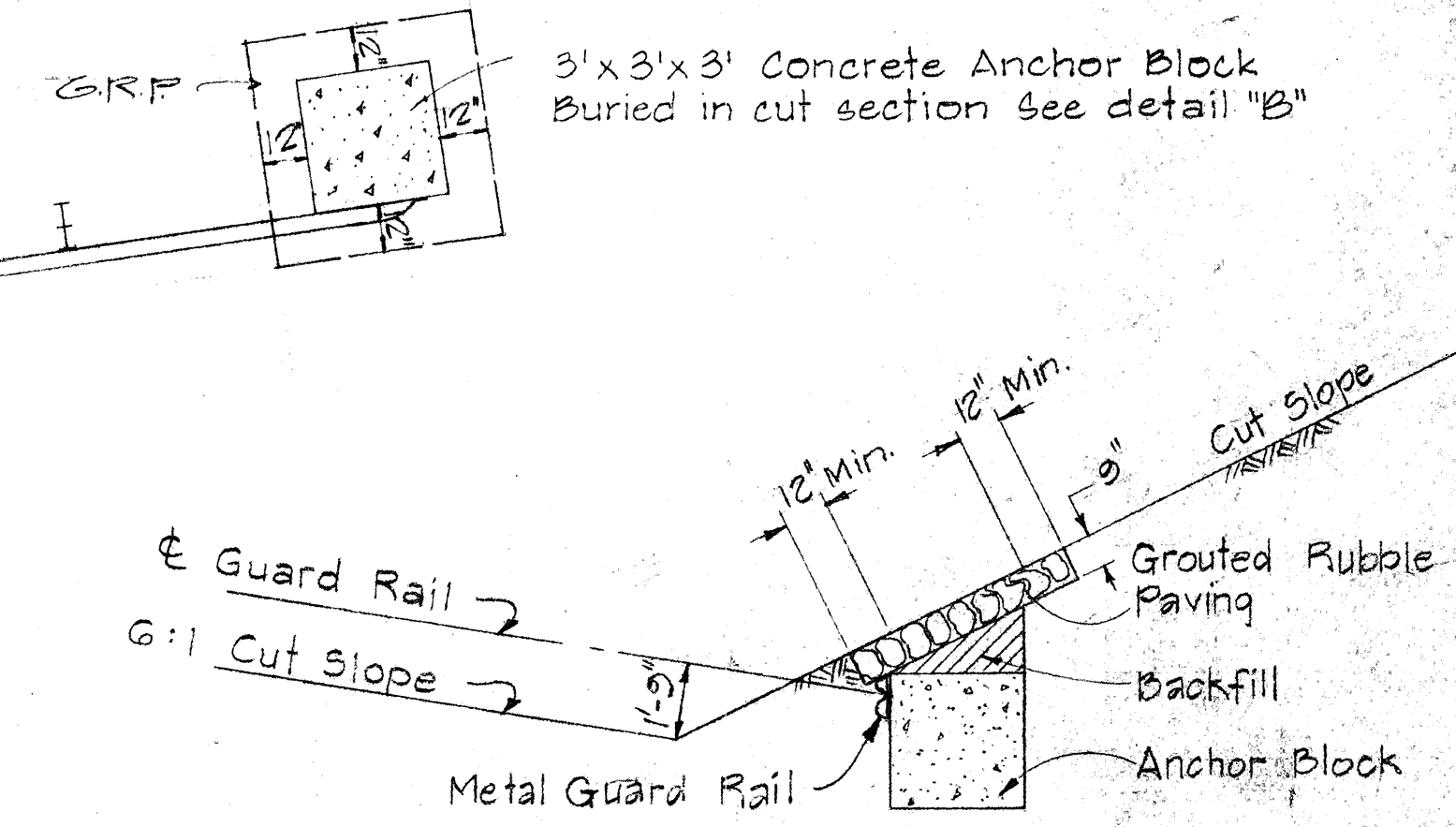
FLARE FOR FLAT, FILL OR CUT SECTIONS

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



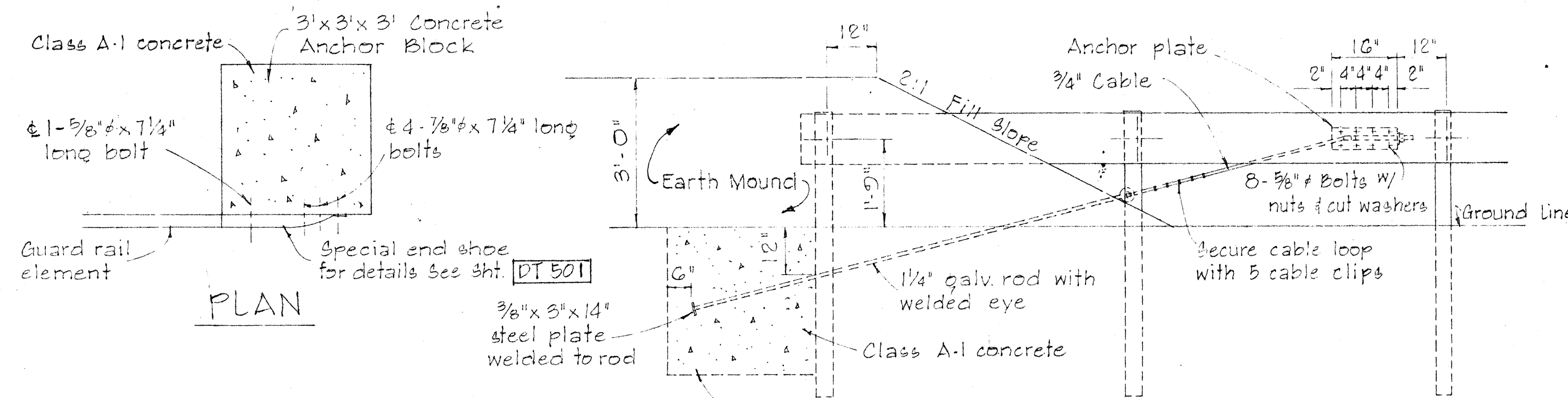
FLARE FOR CUT SECTION

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

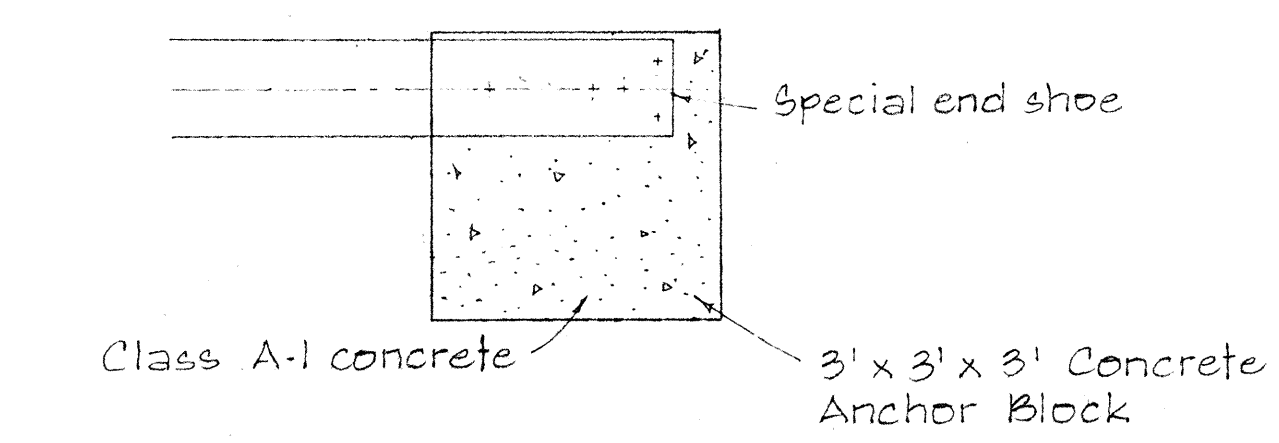


DETAIL "B"

Not to Scale



PLAN



ELEVATION

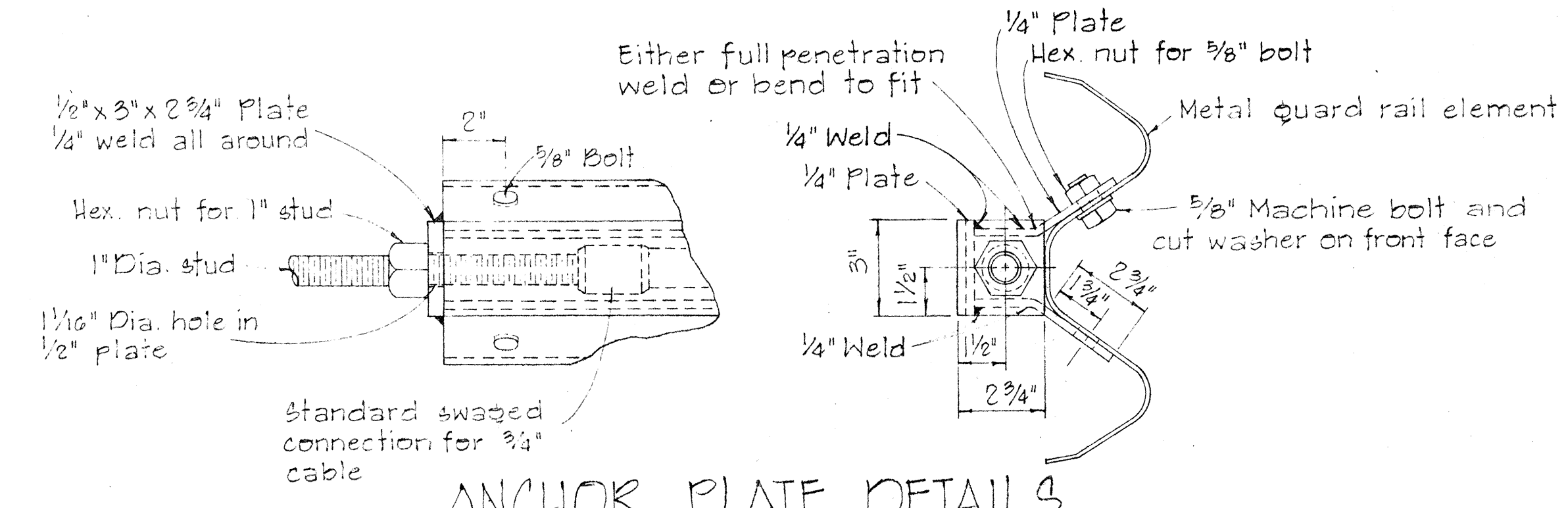
ANCHOR BLOCK DETAIL

Scale: $\frac{1}{2}" = 1'-0"$

DETAIL "A"

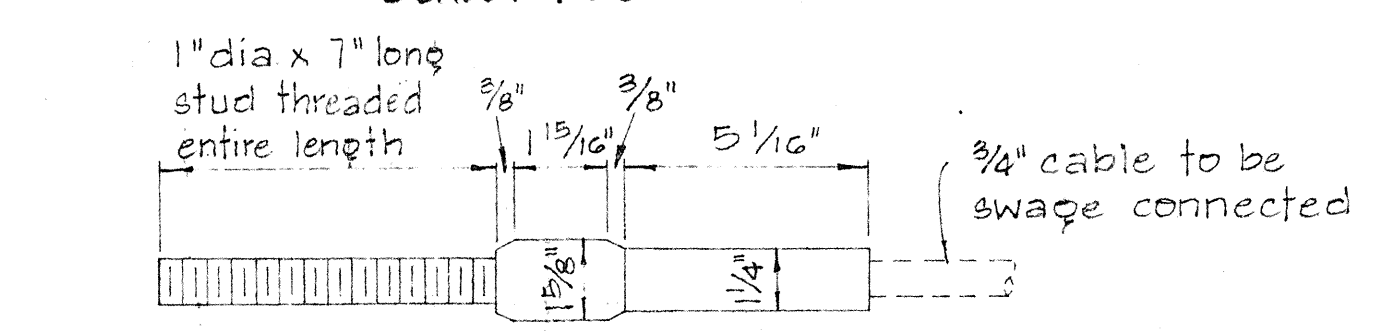
Scale: $\frac{1}{2}" = 1'-0"$

- NOTE:**
- Galvanized Anchor Rod, Metal Guard Rail and Post buried in ground shall be covered with coat of coal tar enamel
 - Concrete, GRP, Excavation, Earth Mound, Anchor Rods, and Miscellaneous Appurtenances necessary to anchor the Guard Rail Ends, shall be incidental to the Metal Guard Rail.



ANCHOR PLATE DETAILS

Scale: $1" = 3"$



STANDARD SWAGED FITTING AND STUD

Scale: $1" = 3"$

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

METAL GUARD RAIL FLARE DETAIL

Scale: As shown
Nov. 1968
SHEET No. 10 OF 10 SHEETS DT 503