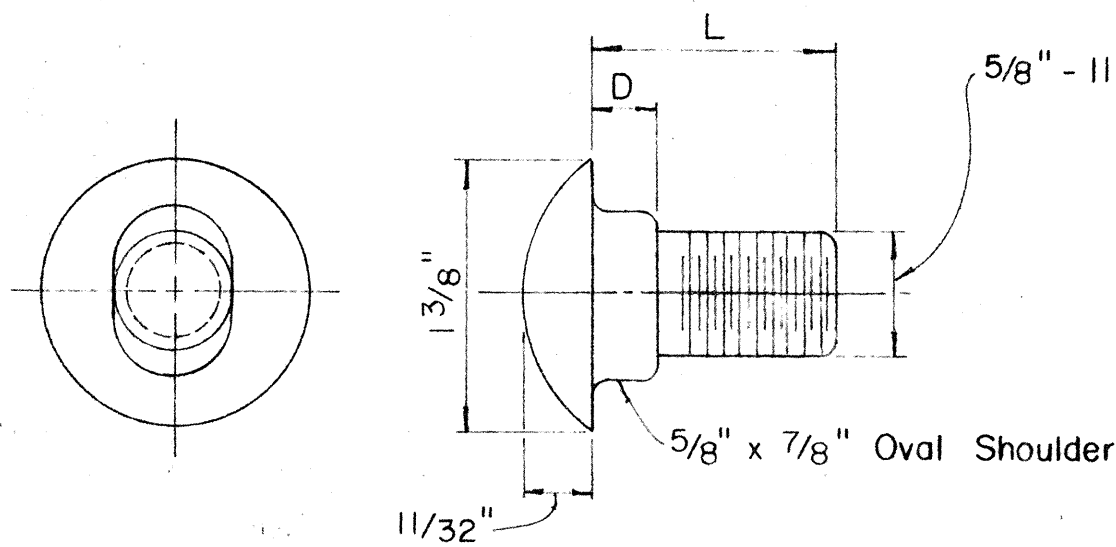


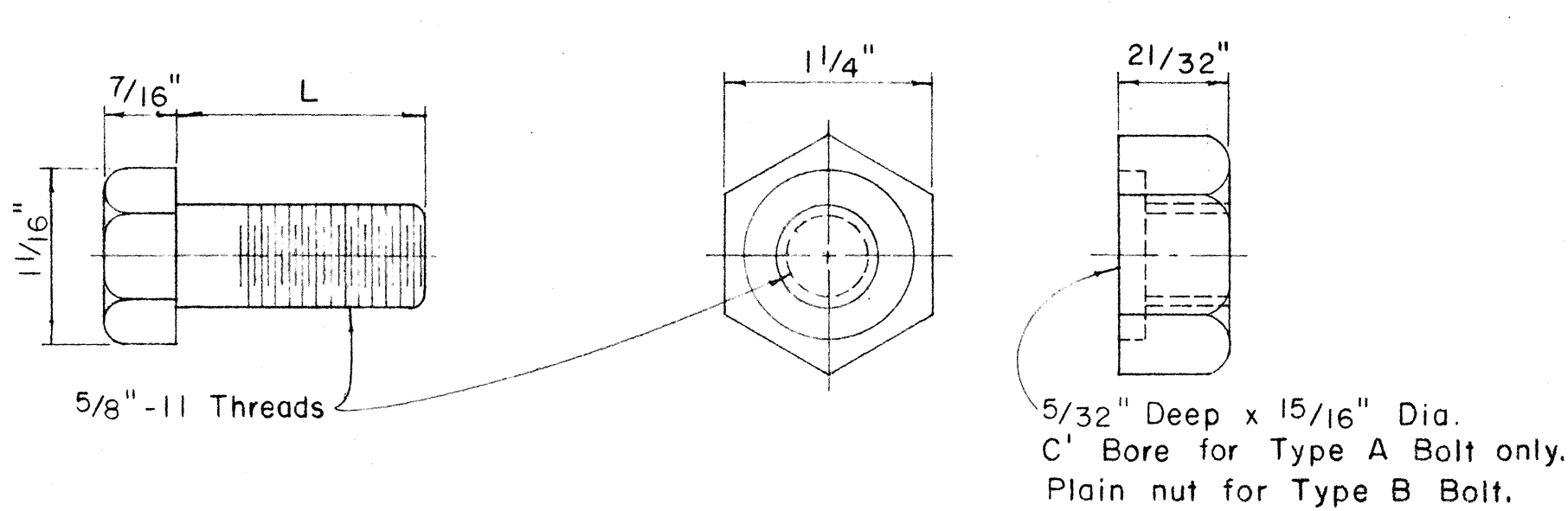
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FOGH-113	1967	5	12

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"



TYPE A BOLT

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 3/4"	



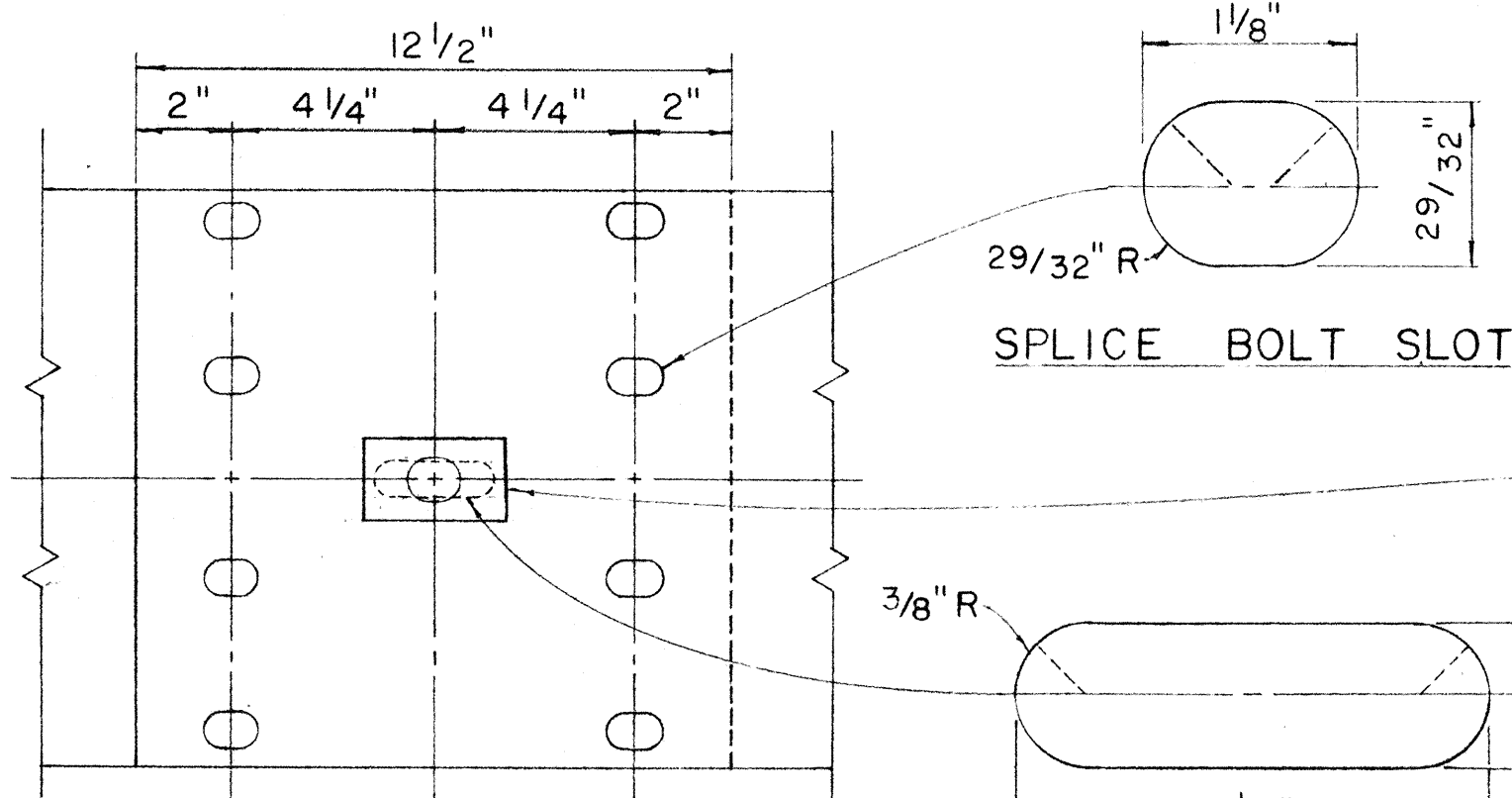
TYPE B BOLT

HEXAGON NUT

Scale: Full Size

SPLICE RAIL AND POST BOLTS

Scale: Full Size



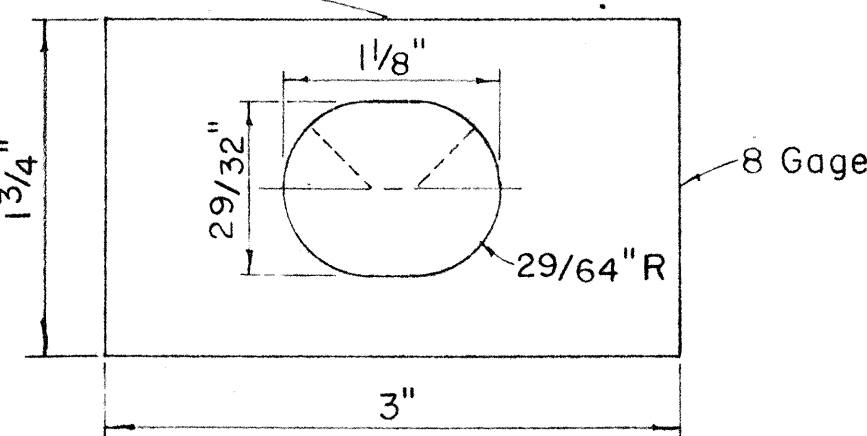
RAIL SPLICE

Scale: 3" = 1'-0"

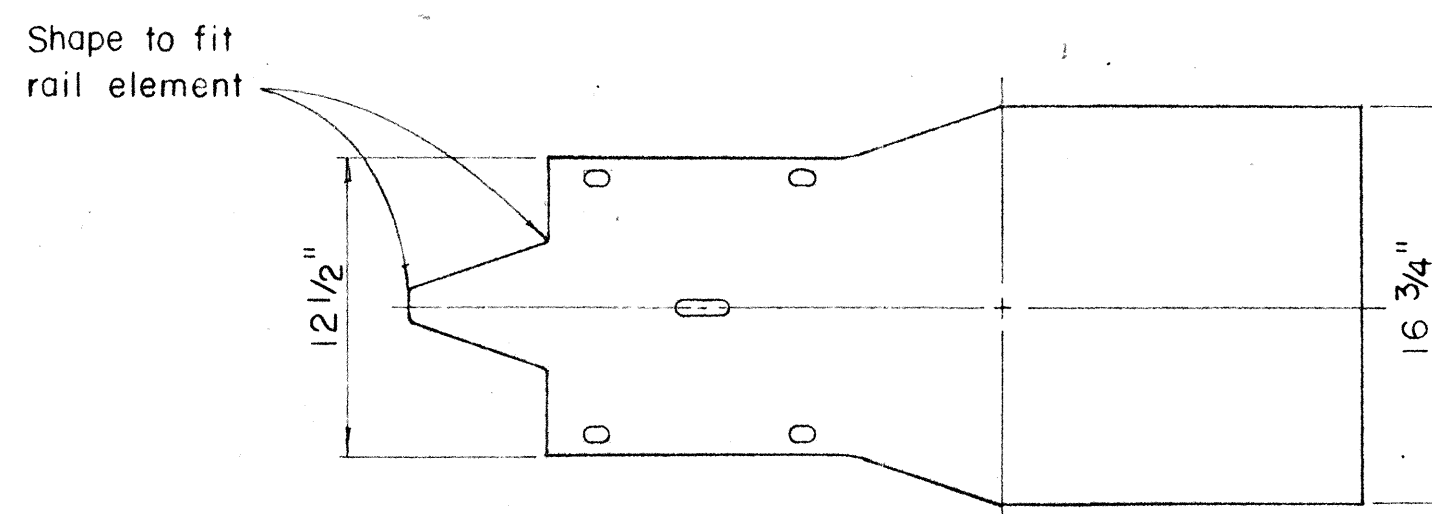
POST BOLT SLOT

SPLICE BOLT SLOT FOR ALL ENDS

Scale: Full Size



RAIL WASHER



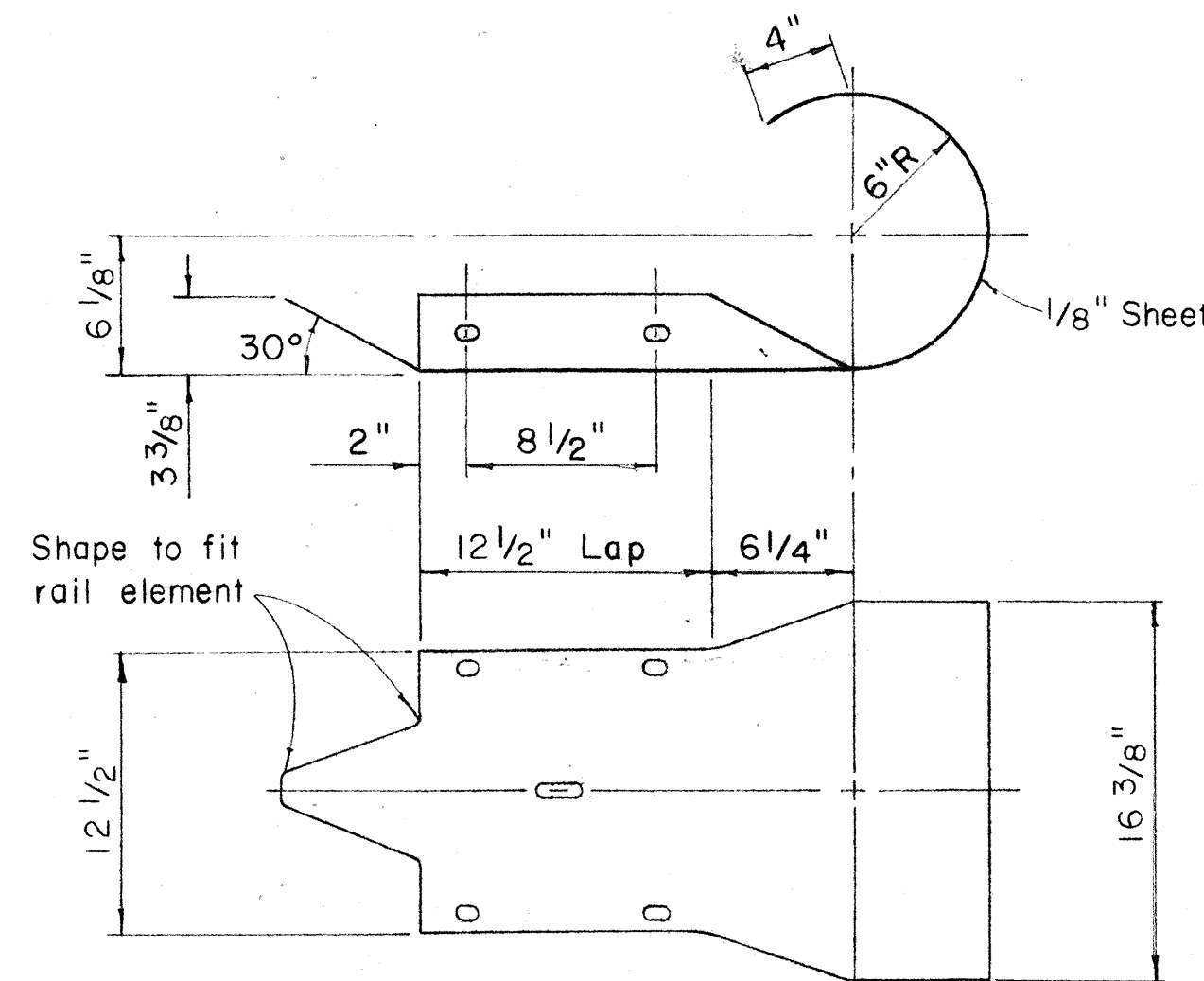
FLARED END

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

MEDIAN END

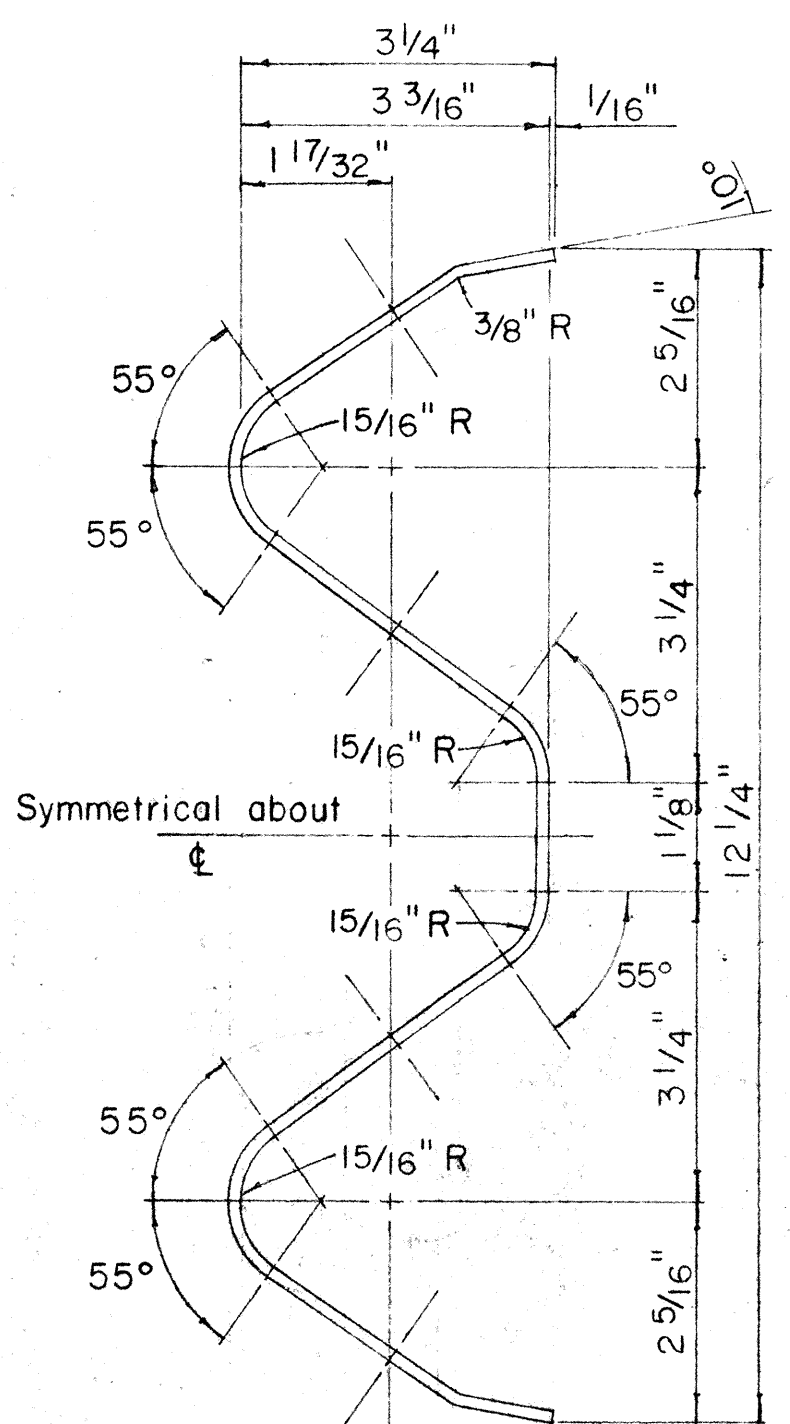
Scale 1 1/2" = 1' - 0"

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"



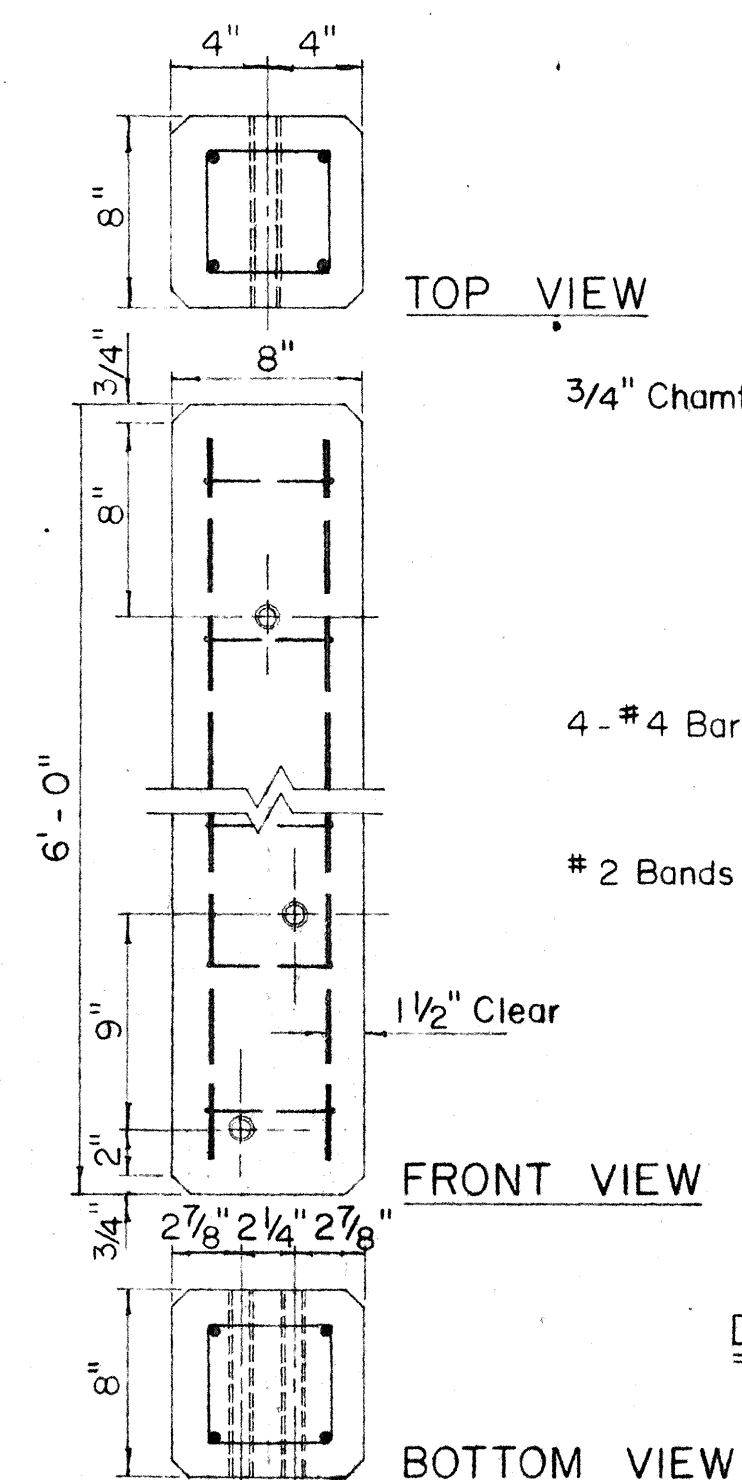
CURVED END

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



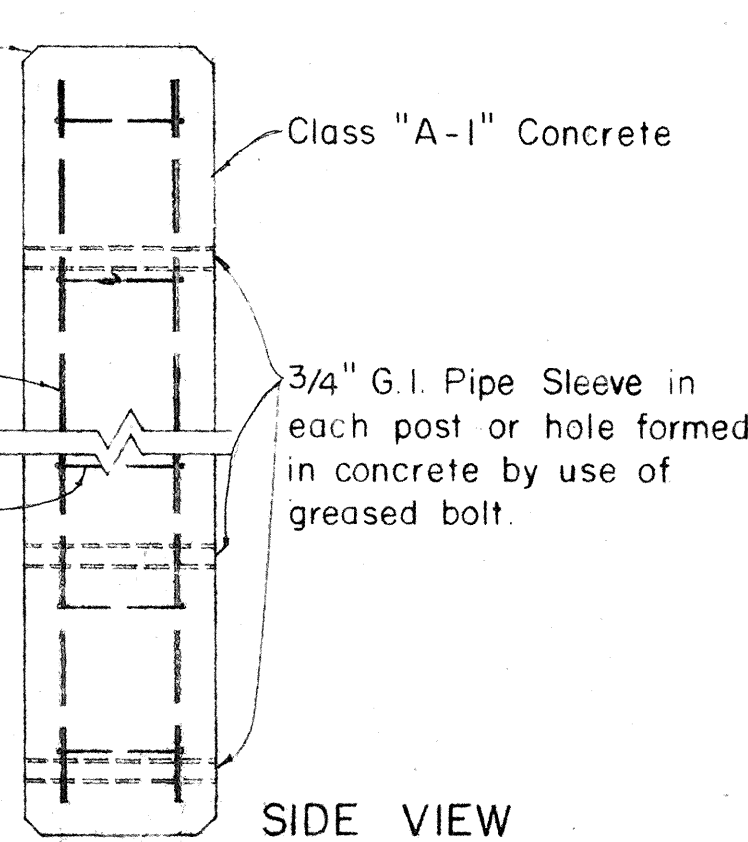
RAIL ELEMENT SECTION

Scale: 6" = 1'-0"



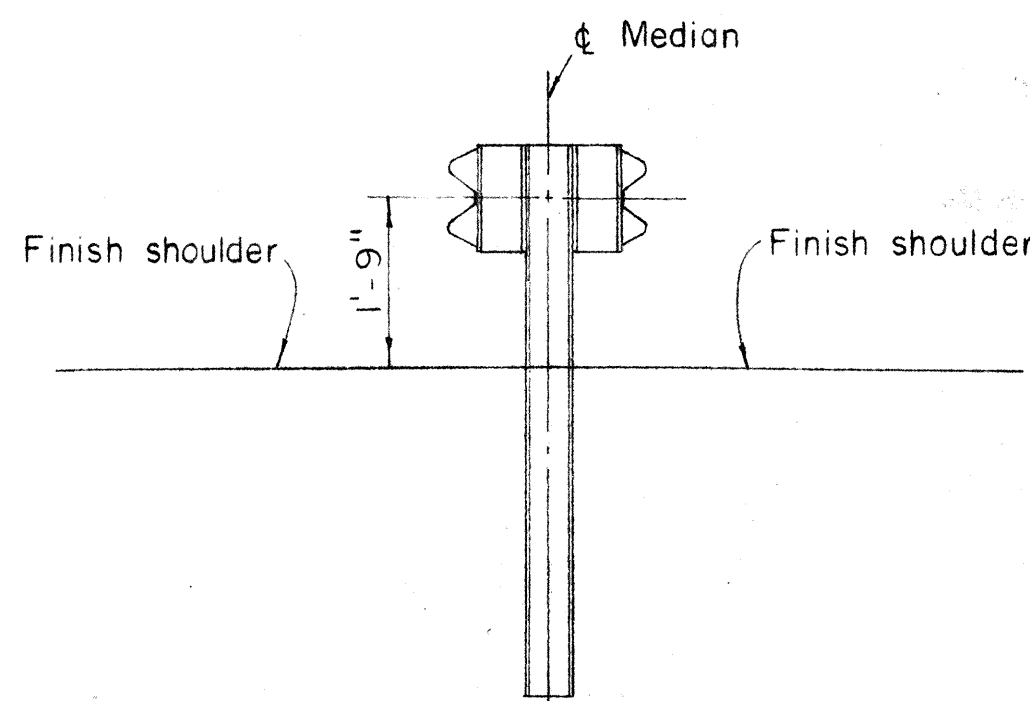
NOTE:

Concrete post shall be precast

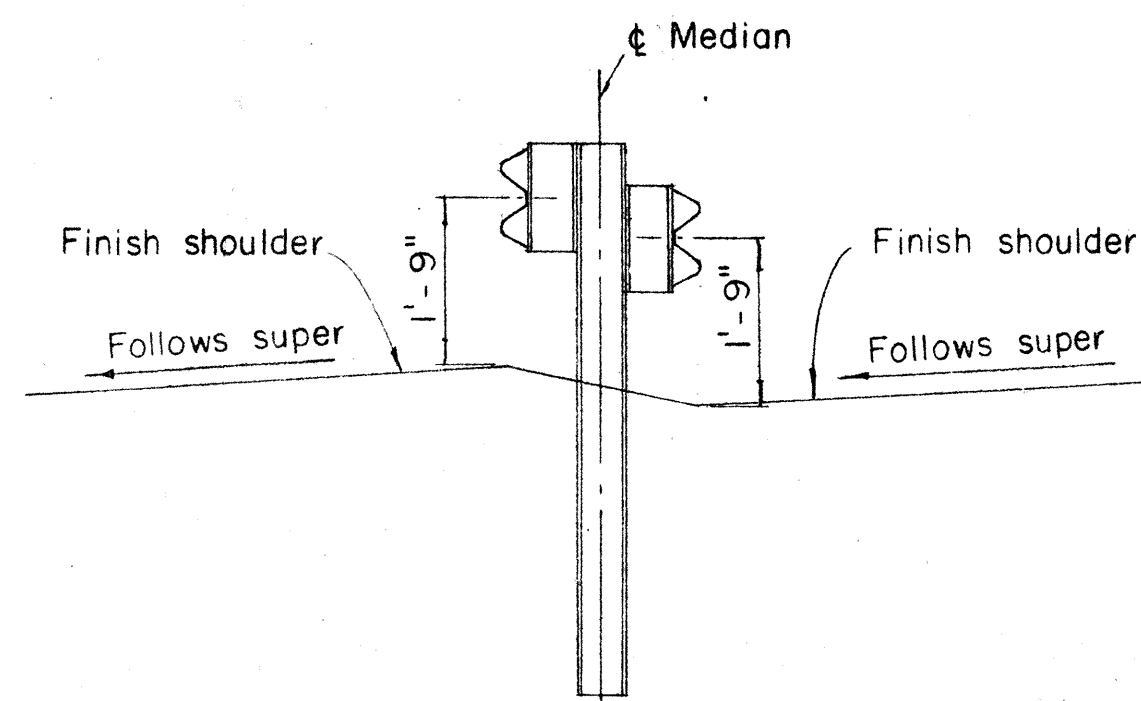


DETAIL OF CONCRETE POST

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



AT TANGENT SECTION



AT SUPER SECTION

TYPICAL MEDIAN GUARD RAIL DETAIL

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

REVISED: Oct. 27, 1967
REVISED: Sept. 1, 1967
REVISED: June 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS

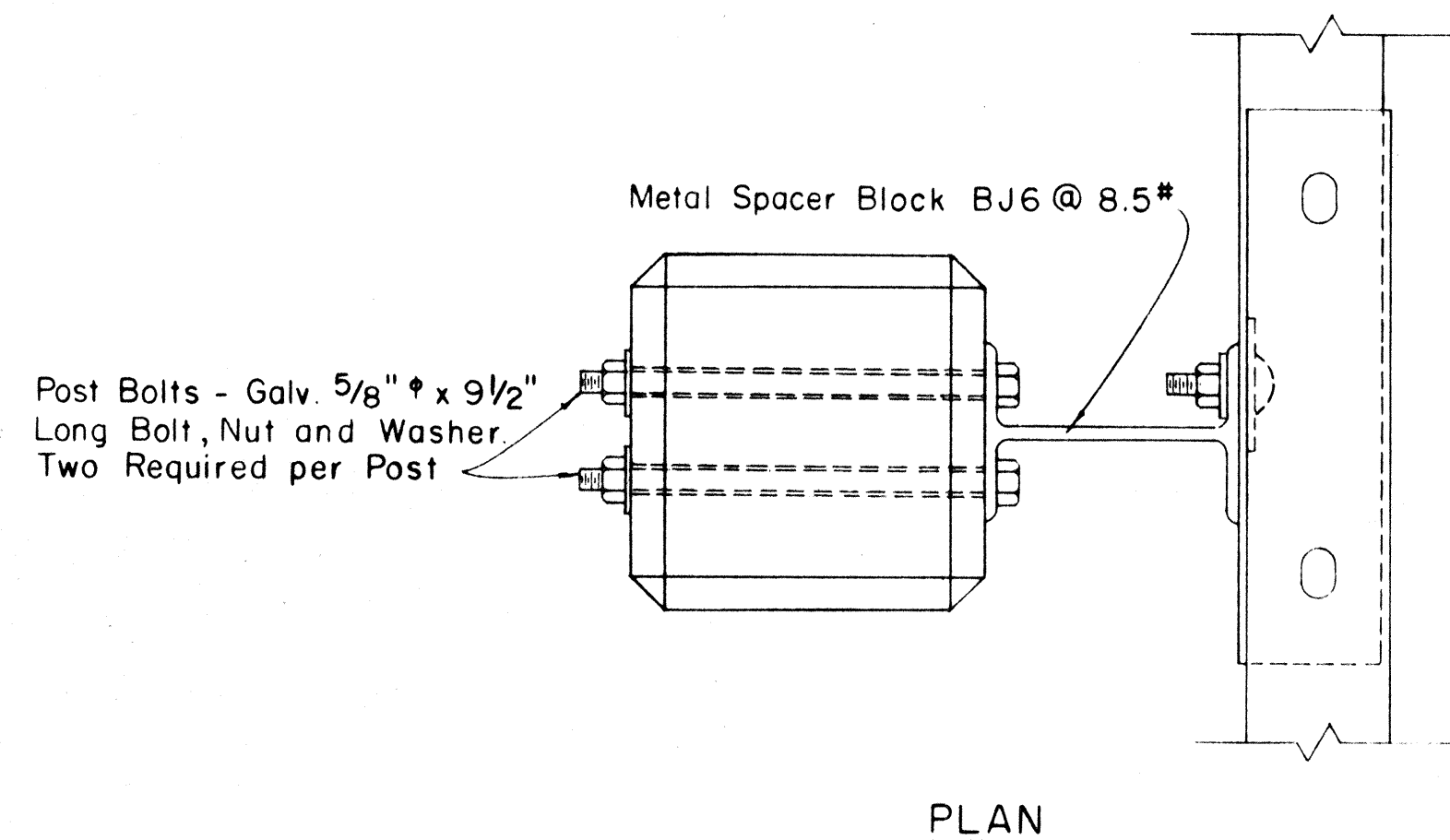
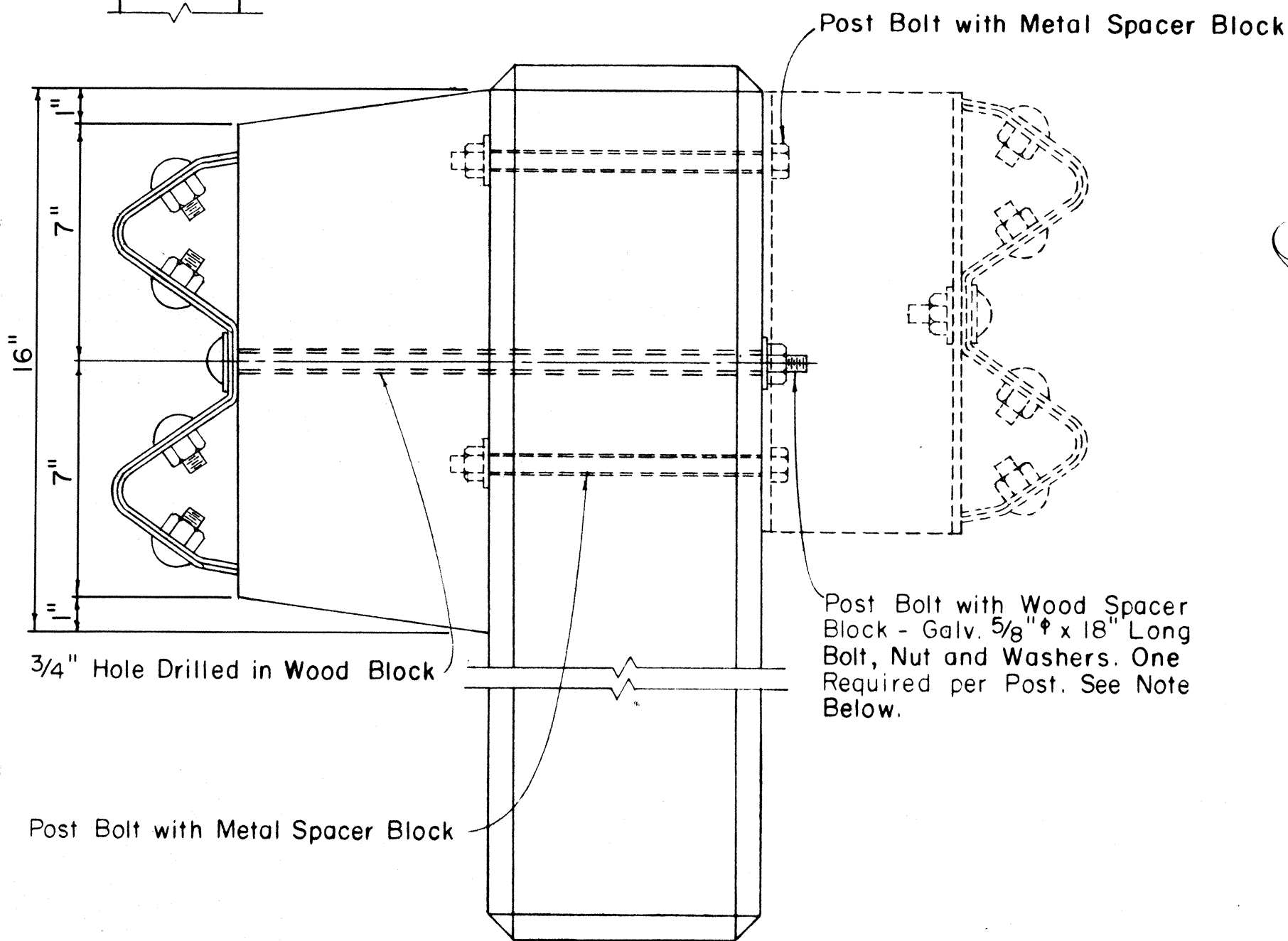
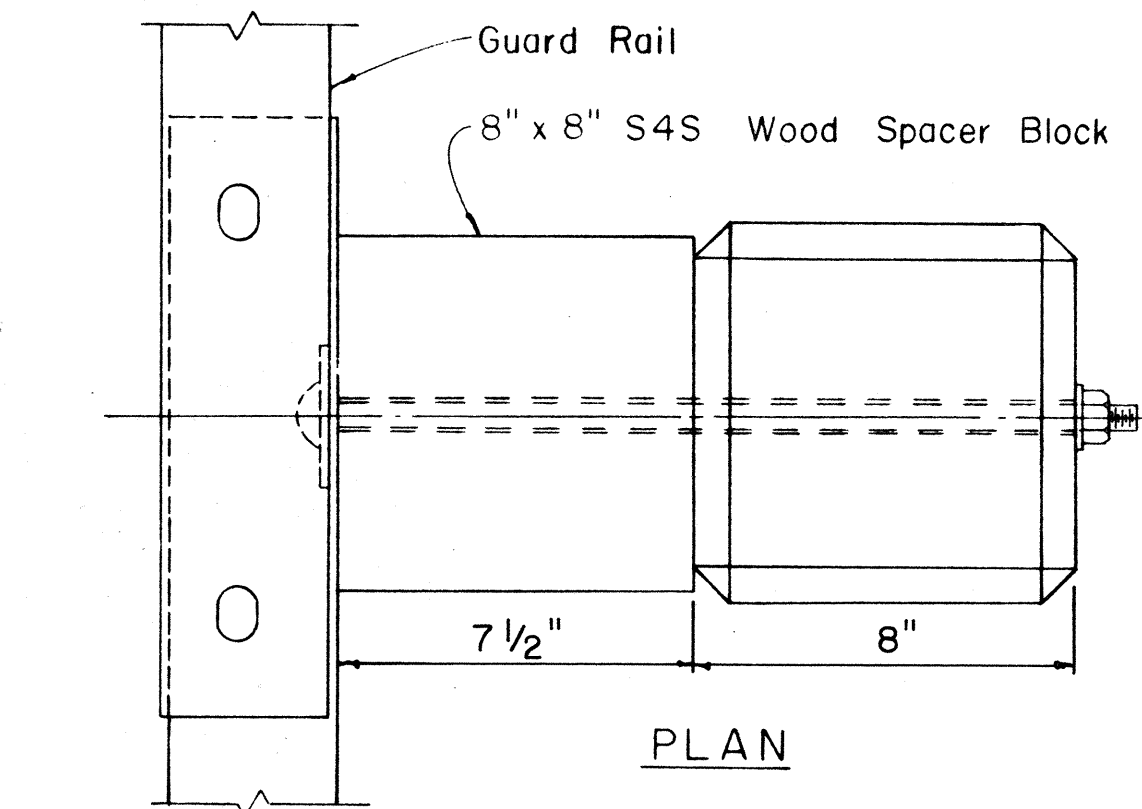
METAL GUARD RAIL

Scale: as noted

SHEET NO. OF SHEETS

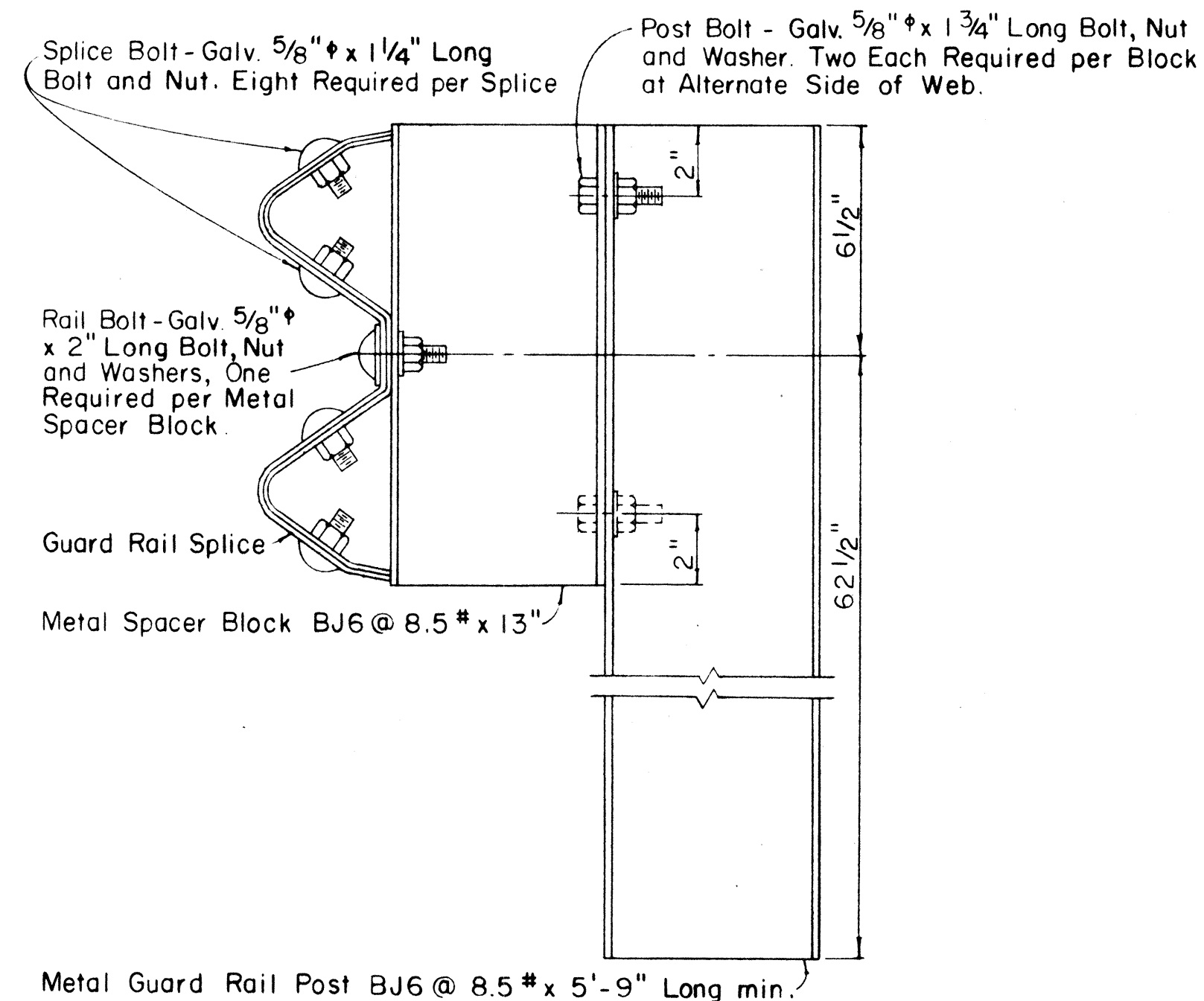
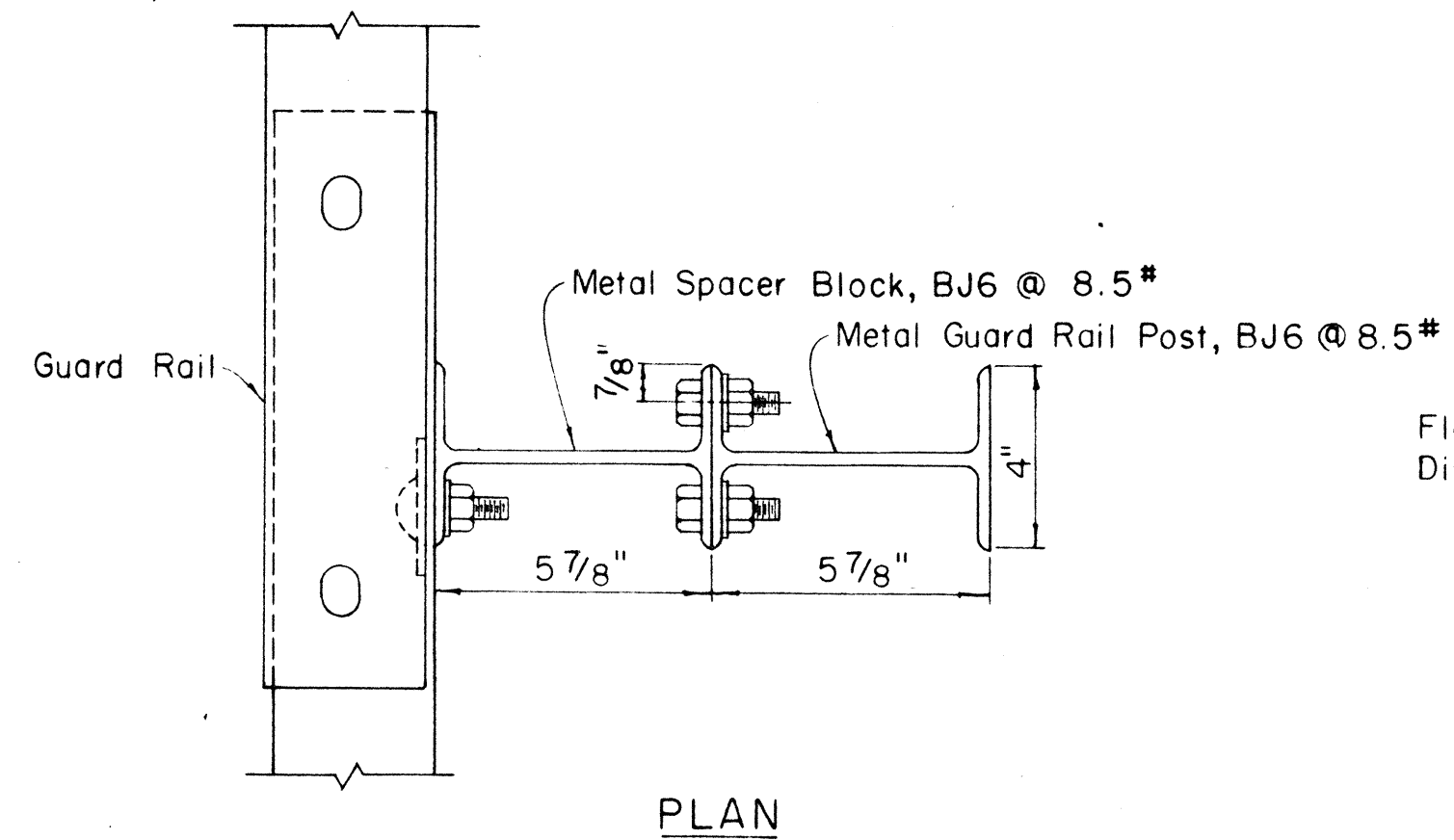
DATE	BY
DESIGNED BY	
CHECKED BY	
NOTED BY	
PLANNED BY	
ORIGINAL PLAN	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	FOG-118	1967	6	12

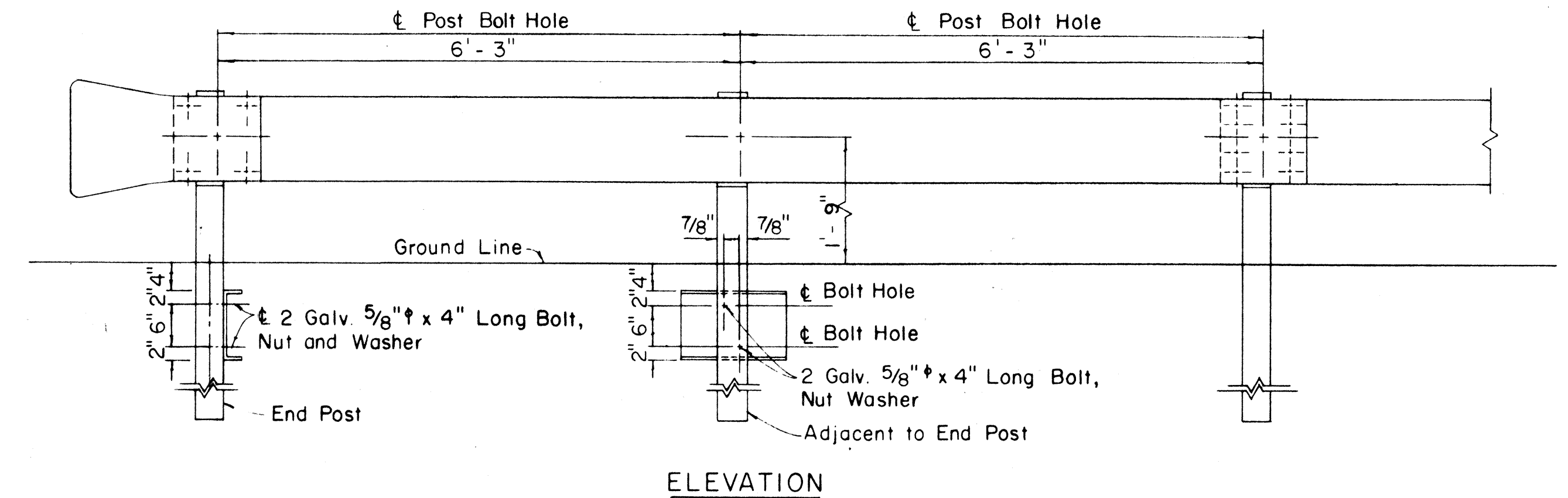
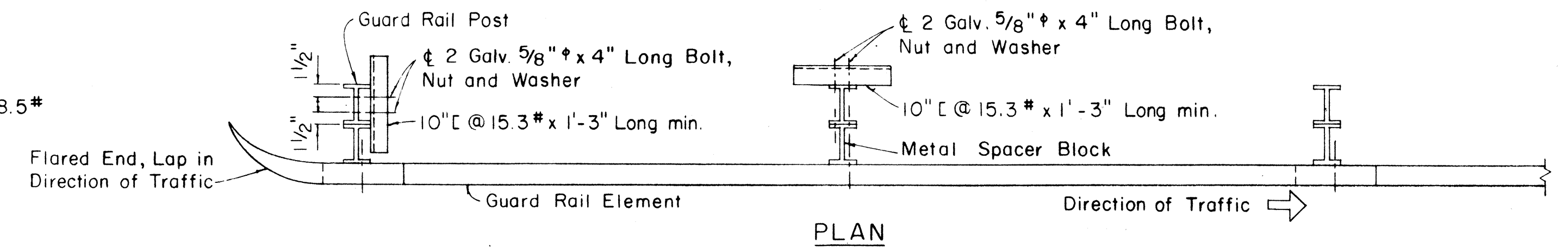
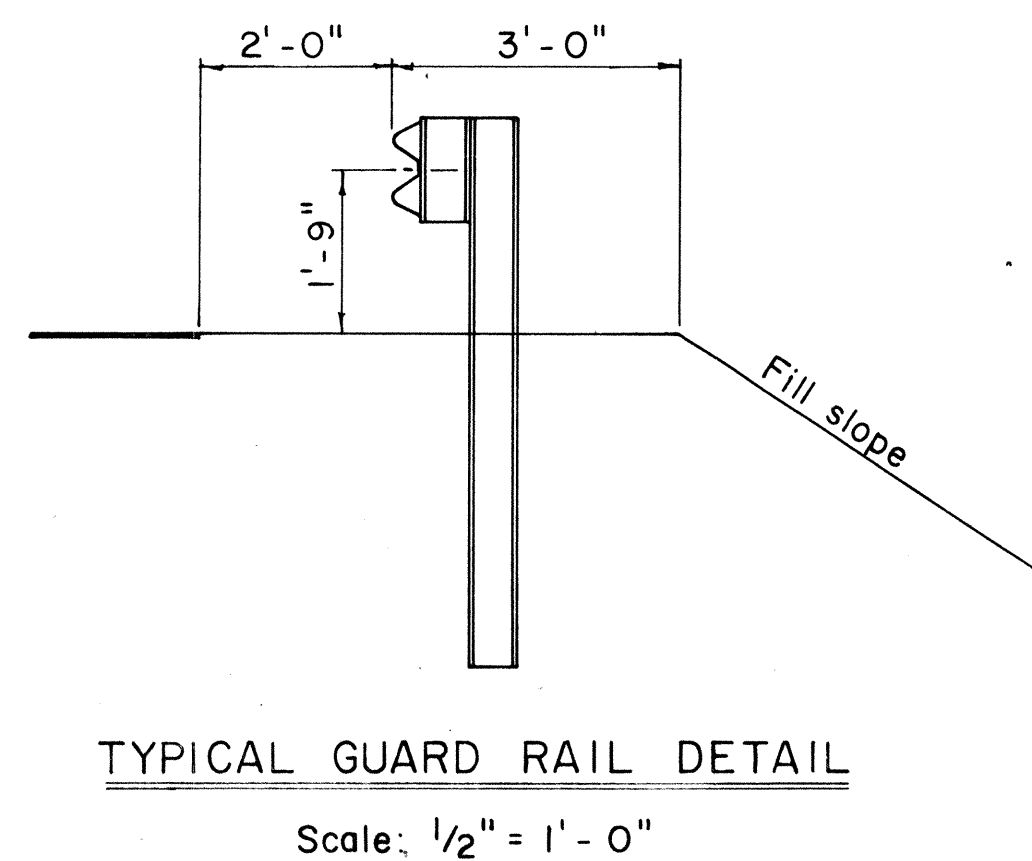


SINGLE METAL GUARD RAIL ON PRECAST CONCRETE POST WITH WOOD OR METAL SPACER BLOCK
Scale: 3" = 1' - 0"

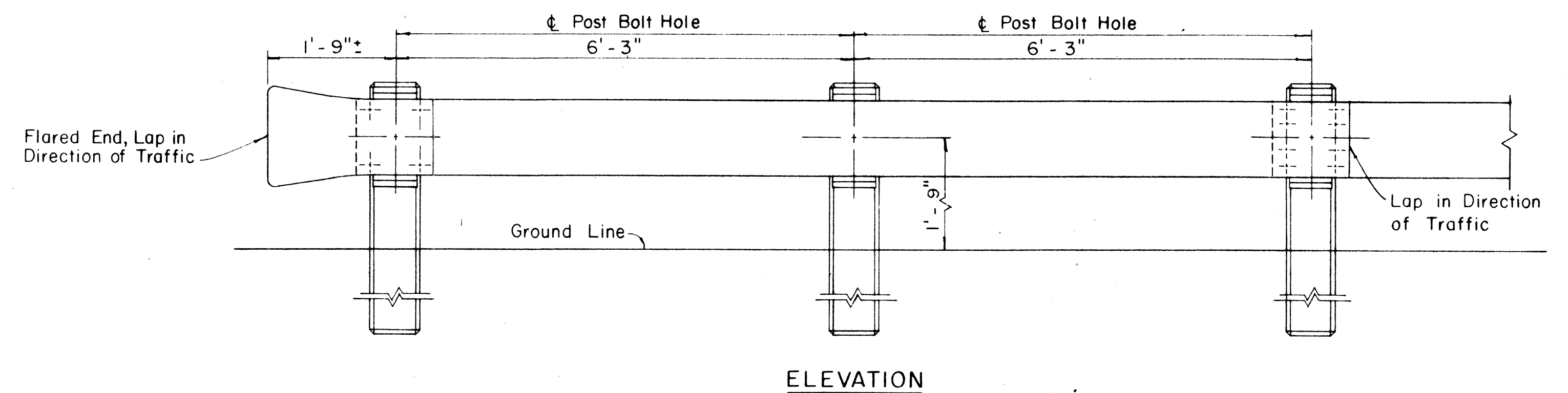
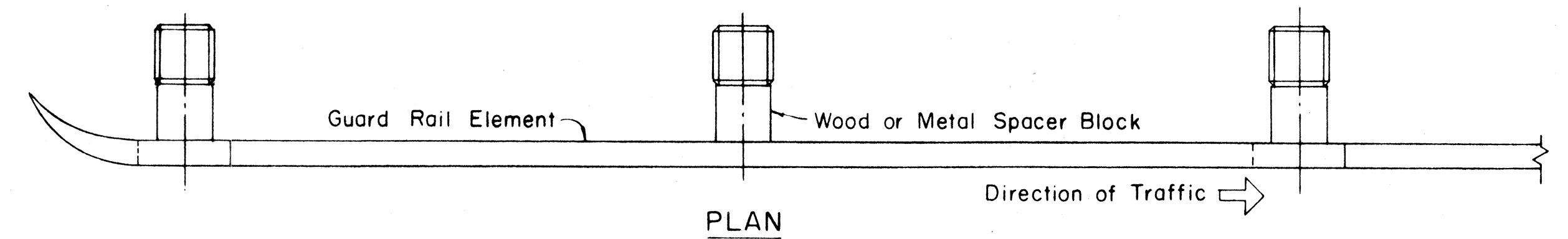
NOTE:
Single Guard Rails Shown. For Double Guard Rails Additional Spacer Blocks and Rail Elements Required on Opposite Side of Posts. See Bolt Schedule for Required Bolt Lengths.



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



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



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

REVISED: October 27, 1967
REVISED: August 10, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

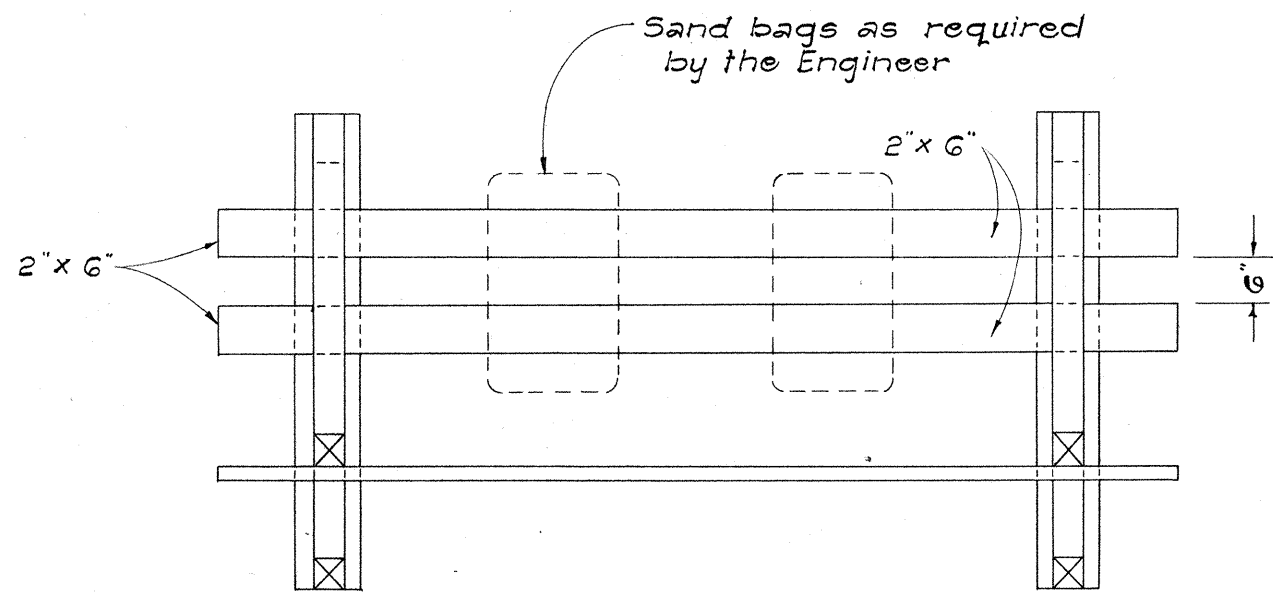
STANDARD DETAILS

METAL GUARD RAIL

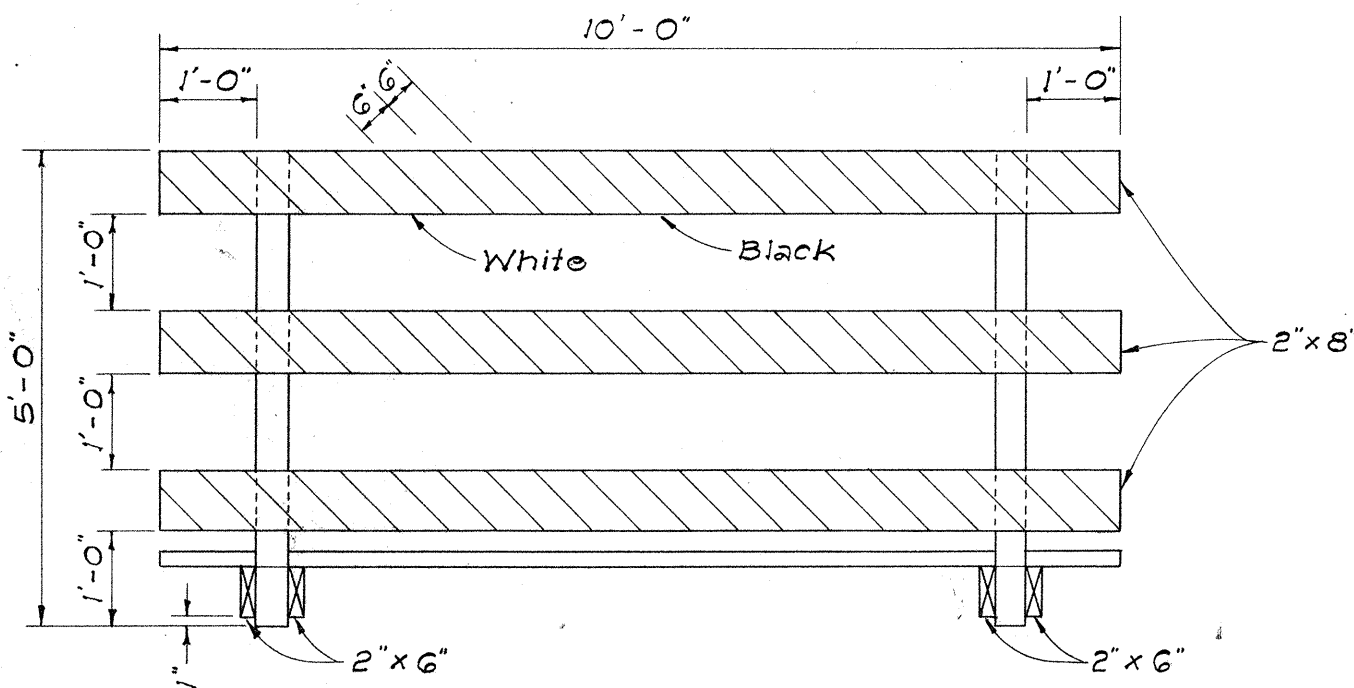
Scale: as noted

SHEET No. OF SHEETS

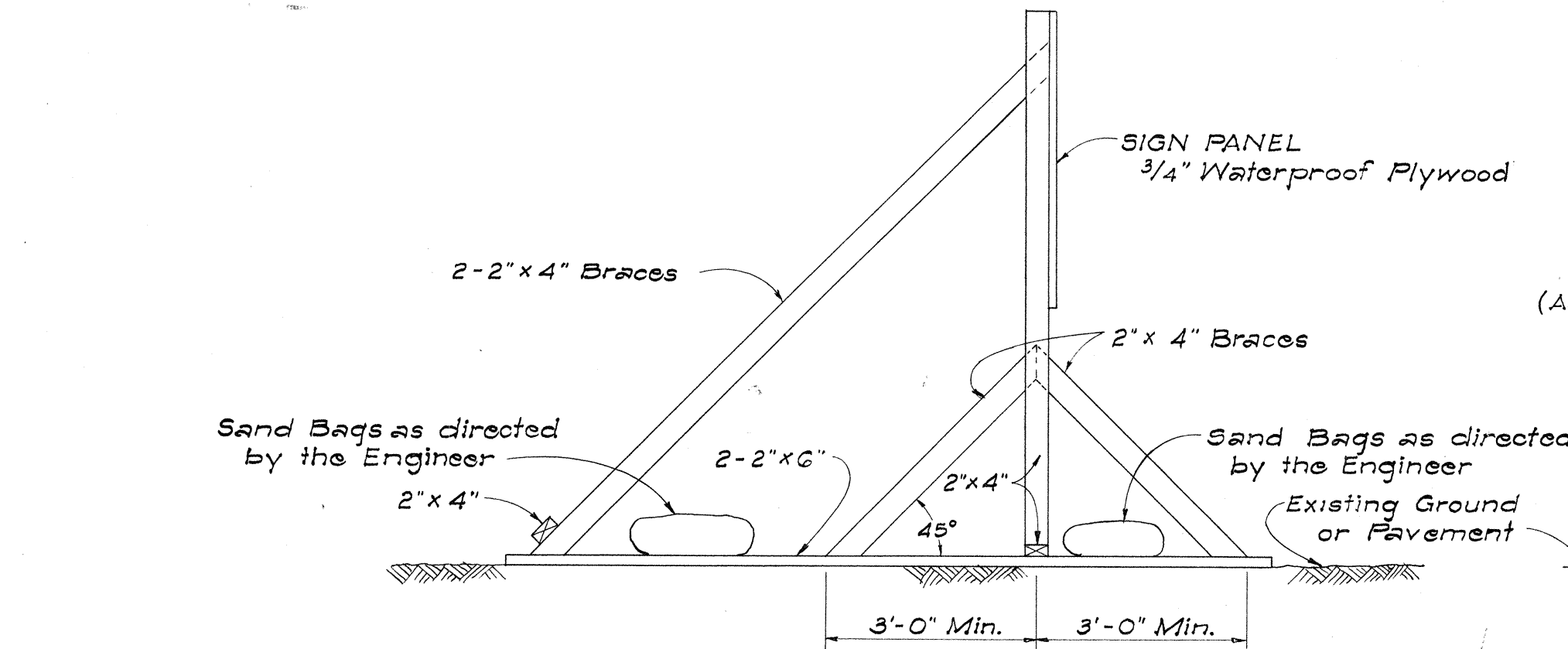
DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
QUANTITIES BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____



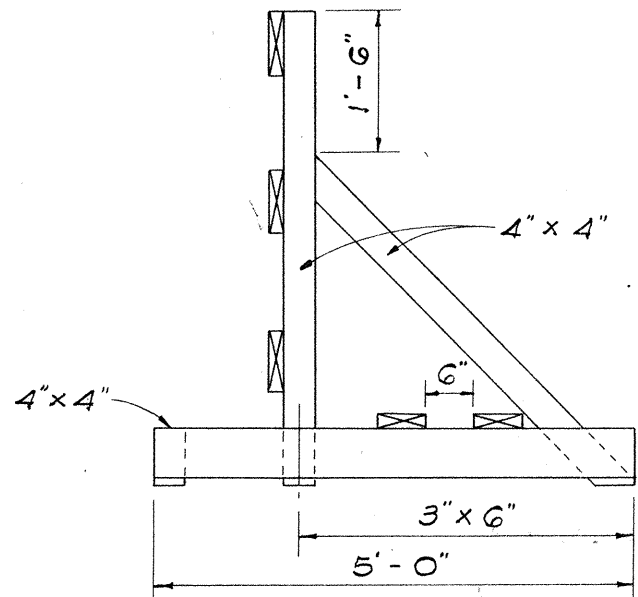
PLAN VIEW



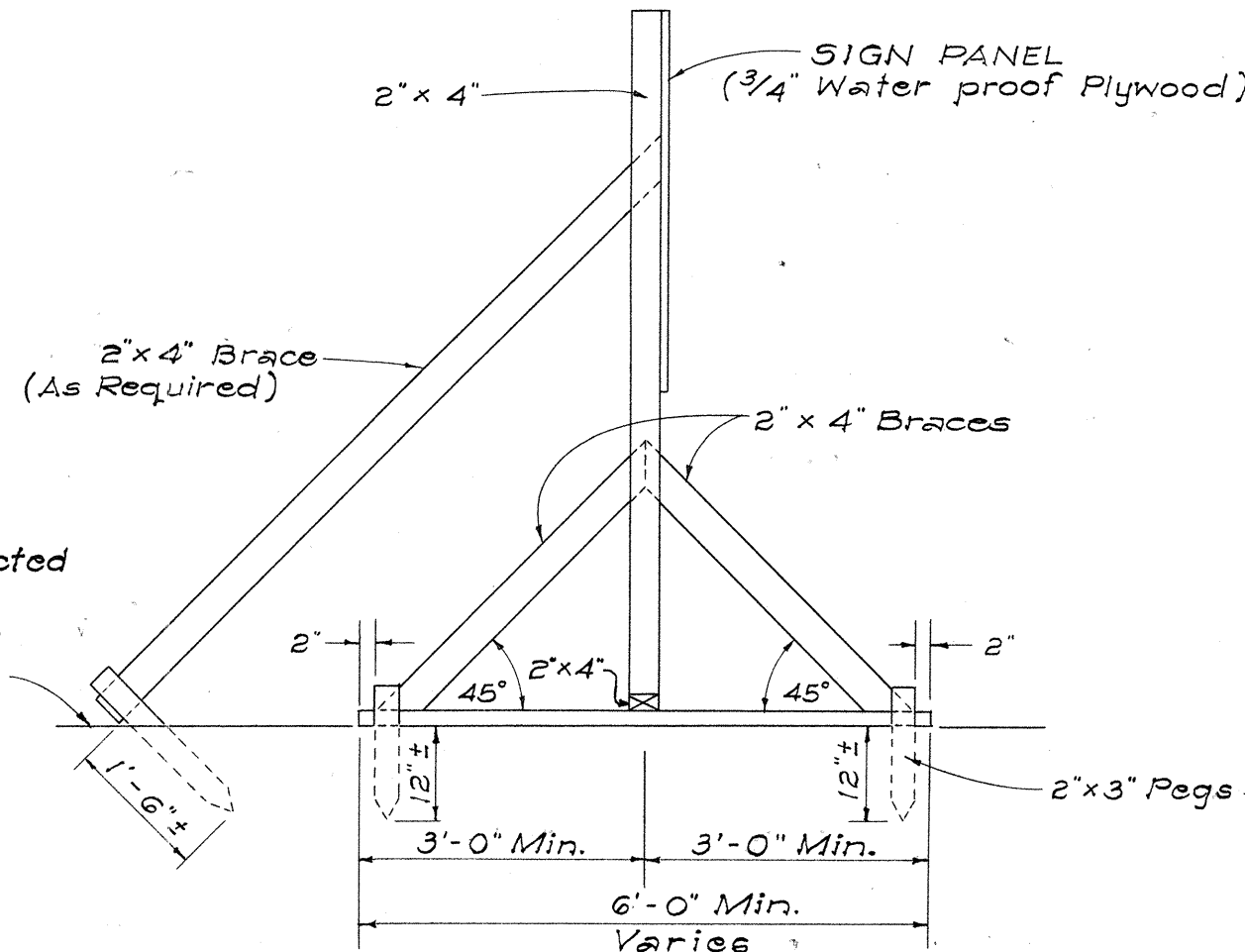
FRONT VIEW



SIDE VIEW
(SIGN FRAME WEIGHTED DOWN)

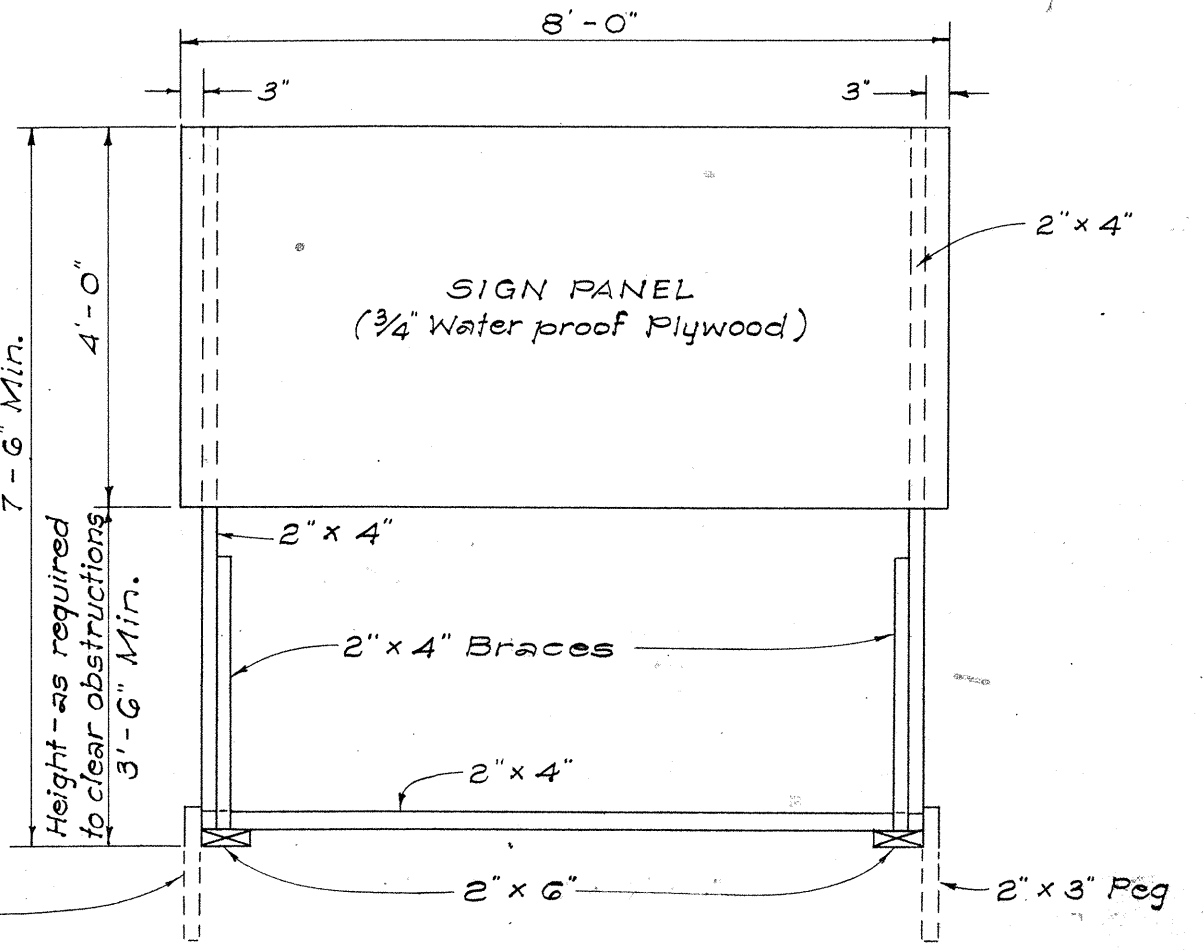


END VIEW



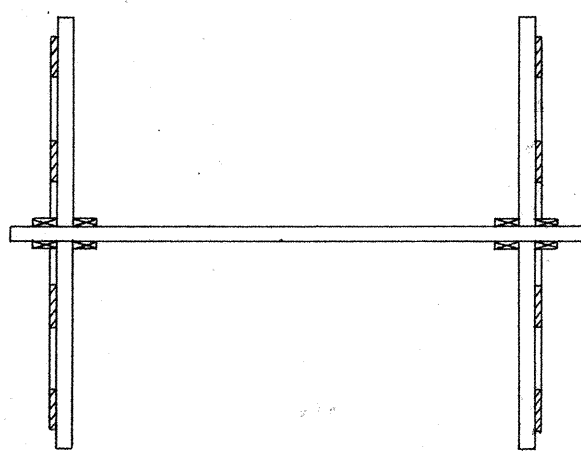
SIDE VIEW
(SIGN FRAME ANCHORED IN GROUND)

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

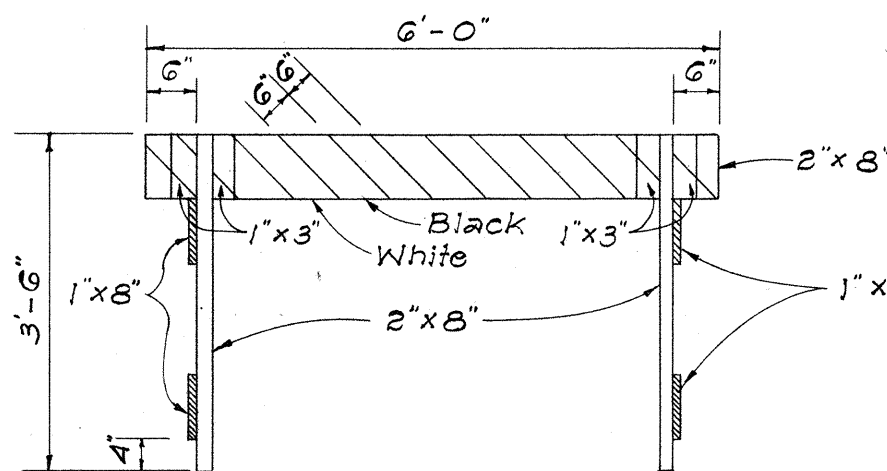


FRONT VIEW

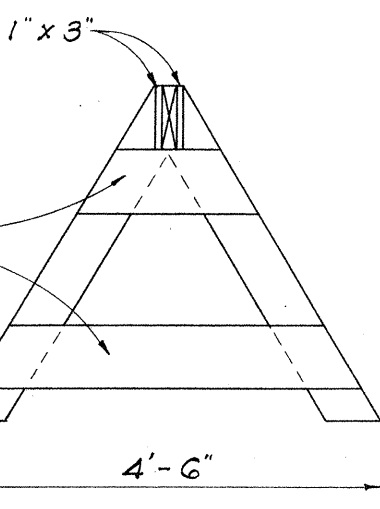
CLASS I BARRICADE



PLAN VIEW



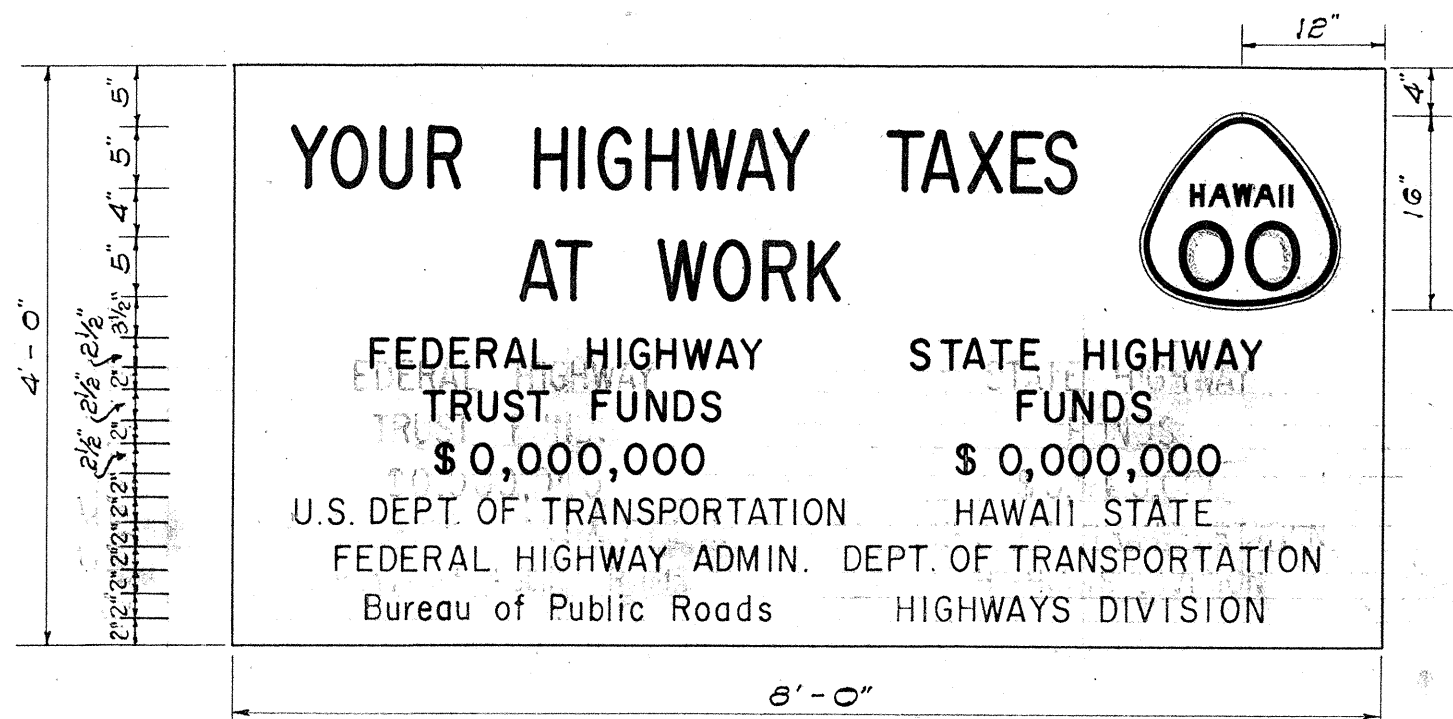
FRONT VIEW



END VIEW

CLASS II BARRICADE

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



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

PRIMARY AND SECONDARY SYSTEMS CONSTRUCTION IDENTIFICATION SIGN

Scale: As Shown

NOTES:

- A. CONSTRUCTION IDENTIFICATION SIGNS**
 - 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.
 - The signs shall be removed and stockpiled upon completion of the project as ordered by the Engineer and are to become State property.
 - 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, 1952.
 - The Contractor shall fill in the proper numerals in place of ciphers as ordered by the Engineer.

- B. WOOD BARRICADES**
 - 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.

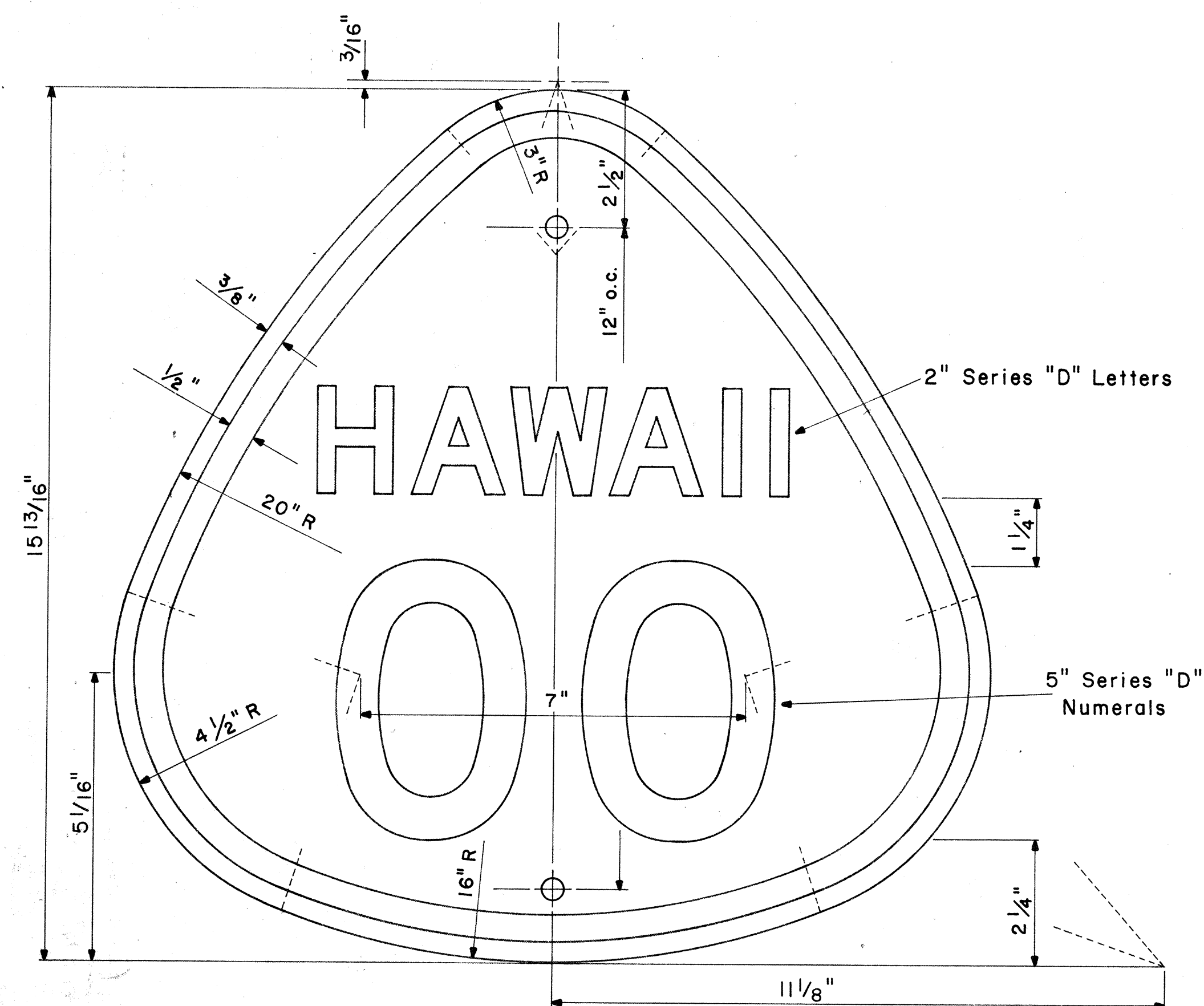
REVISED: October 2, 1967

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
CONSTRUCTION IDENTIFICATION SIGN
AND
WOOD BARRICADES

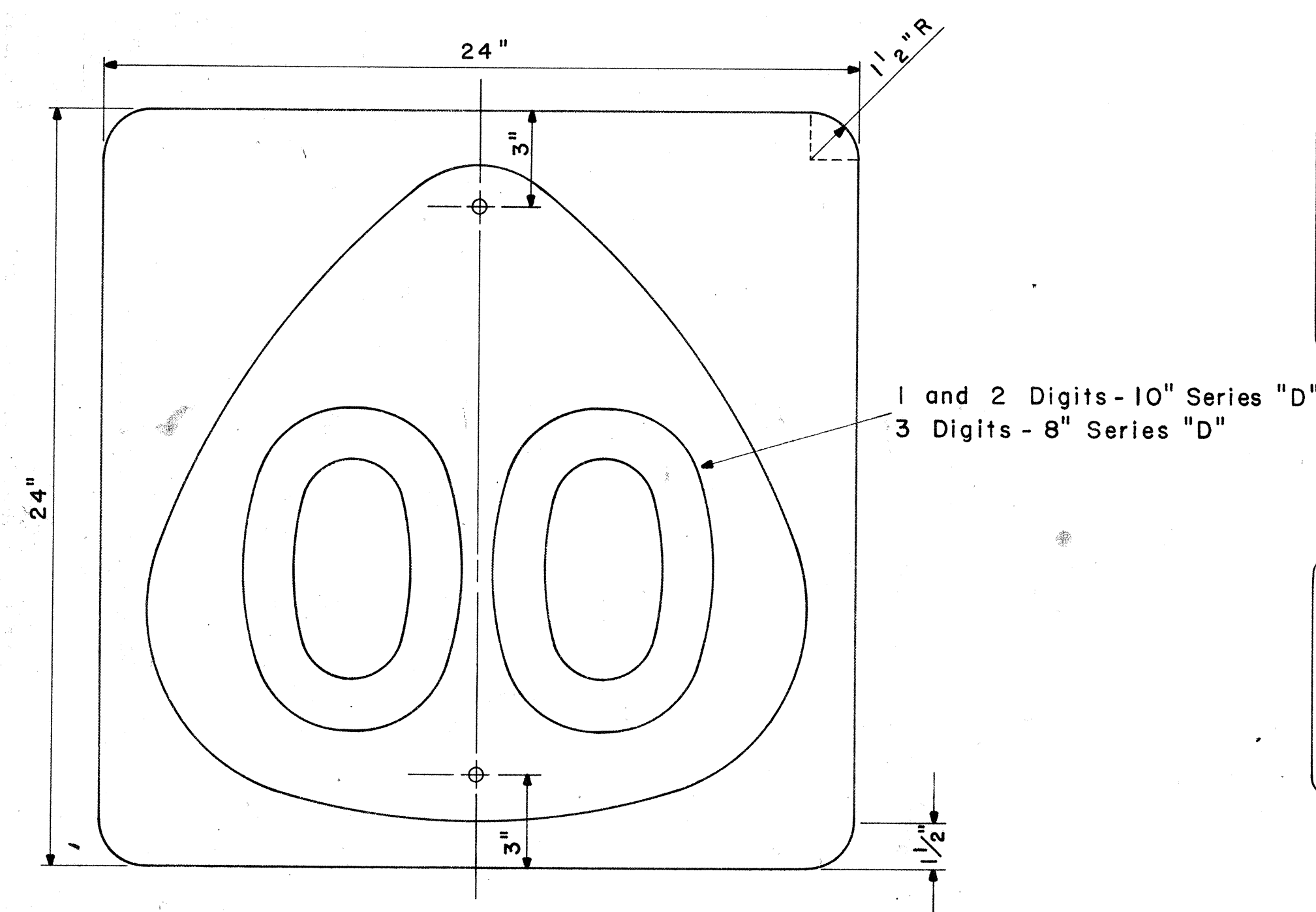
SCALE: As Shown DATE:

SHEET No. OF SHEETS



STATE ROUTE MARKER
MI-3(OO)

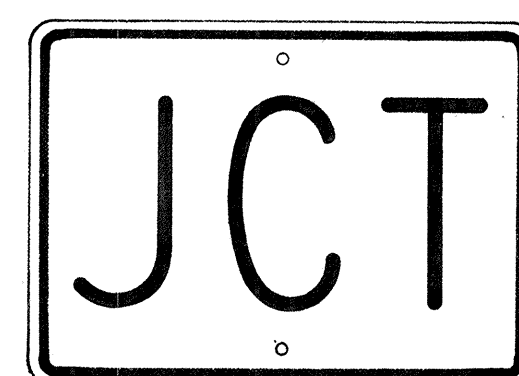
Scale: $\frac{1}{2}$ " = 1"



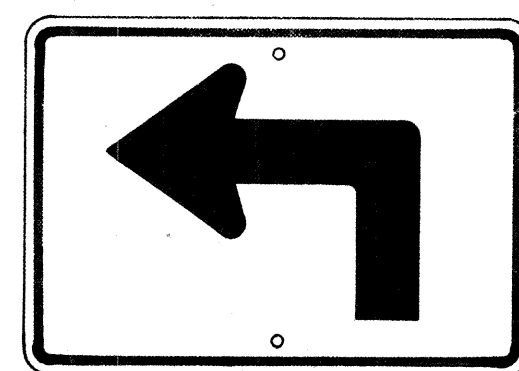
STATE ROUTE MARKER
MI-4(OO)

Scale: $\frac{1}{4}$ " = 1"

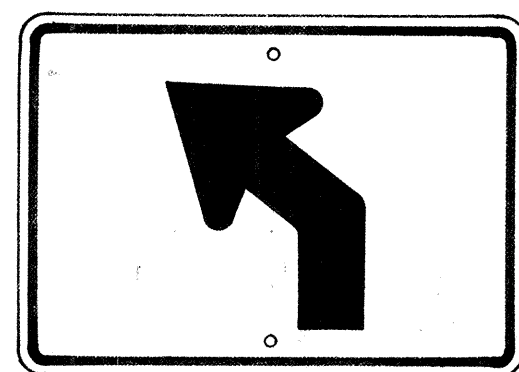
NOTE:
Multiply all dimensions of State Route Marker MI-3 by 1.3 for the dimensions of the shield for MI-4.



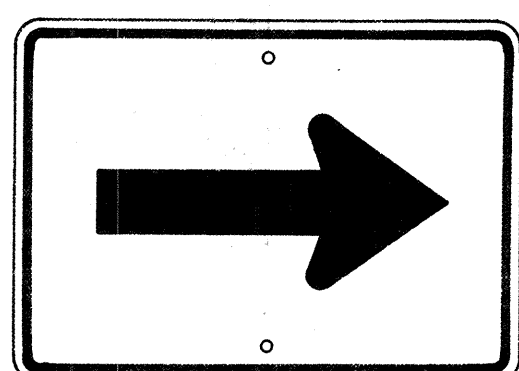
M2-1
21" x 15"



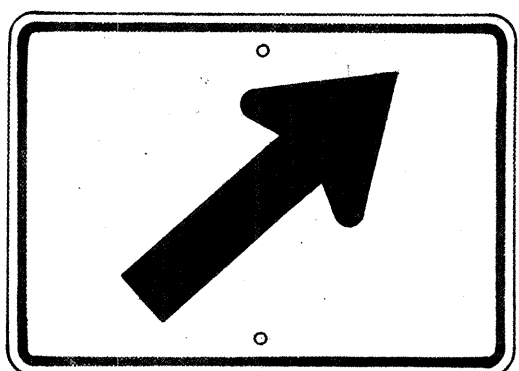
M3-1-L
* M3-1-R
21" x 15"



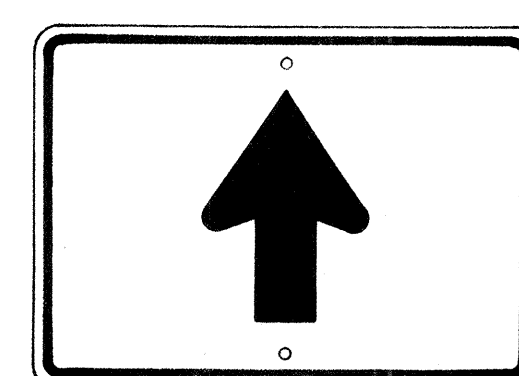
M3-2-L
* M3-2-R
21" x 15"



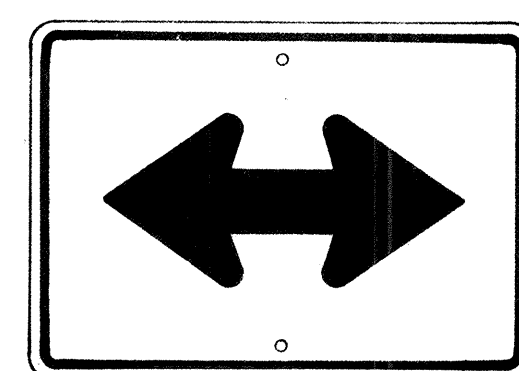
M4-1
21" x 15"



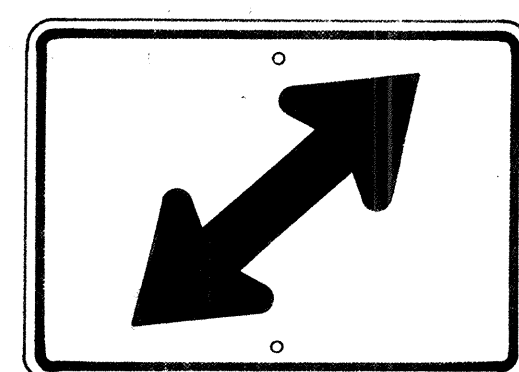
M4-2-R
* M4-2-L
21" x 15"



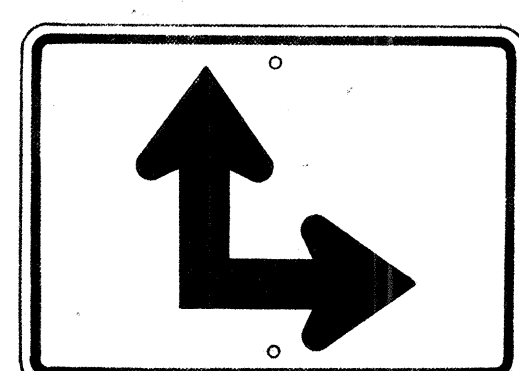
M4-3
21" x 15"



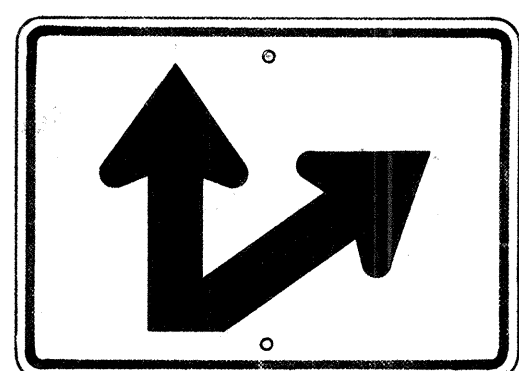
M4-4
21" x 15"



M4-5-R
* M4-5-L
21" x 15"



M4-6-R
* M4-6-L
21" x 15"

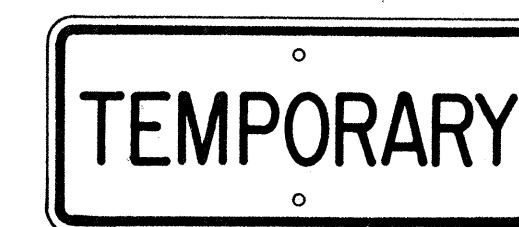


M4-7-R
* M4-7-L
21" x 15"

AUXILIARY MARKERS

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

* NOTE:
Signs shall be similar but opposite in direction.



M5-1
21" x 9"



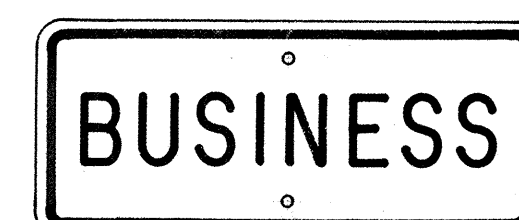
M5-2
21" x 9"



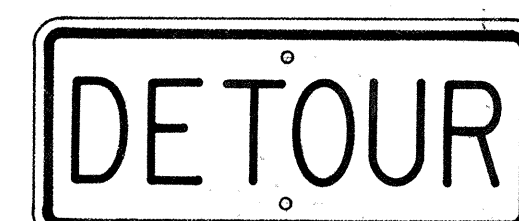
M5-3
21" x 9"



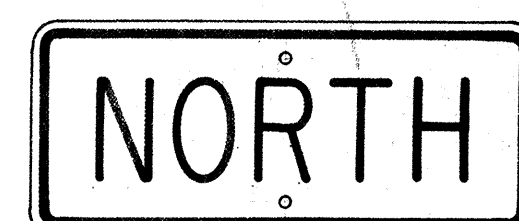
M5-4
21" x 9"



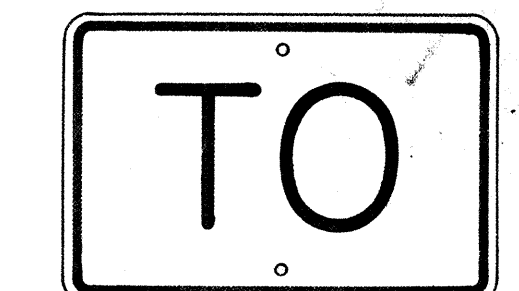
M5-5
21" x 9"



M5-6
21" x 9"



M6-1-N
21" x 9"
(See Note 6)



M7-1
18" x 12"

GENERAL NOTES

- The shape, color, dimensions, symbols, wording, lettering 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, 1952.
- All markers shall be reflectorized unless otherwise specified.
- All markers shall have $\frac{3}{8}$ " bolt holes drilled at appropriate locations unless otherwise specified.
- All markers shall have a black legend on a white background unless otherwise specified.
- Sign message of Cardinal Direction Marker (M6-1) shall be denoted by the following suffixes:
M6-1-N : NORTH
M6-1-E : EAST
M6-1-S : SOUTH
M6-1-W : WEST
- Auxiliary markers denoted with the suffix "I" (M4-1-I) shall have a white legend on a blue background.
- Cardinal Direction Marker (M6-1) with suffix I (3) shall have a white legend on a blue background and shall be 30" x 15" in size.
- For MI-3 and MI-4 signs, number in () indicates route number and shall be as shown on the plan.