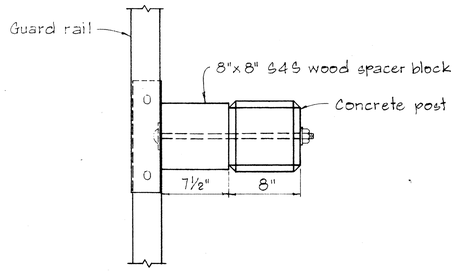
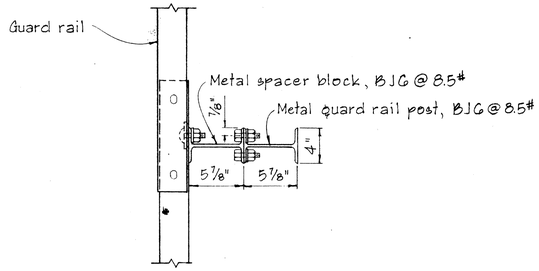
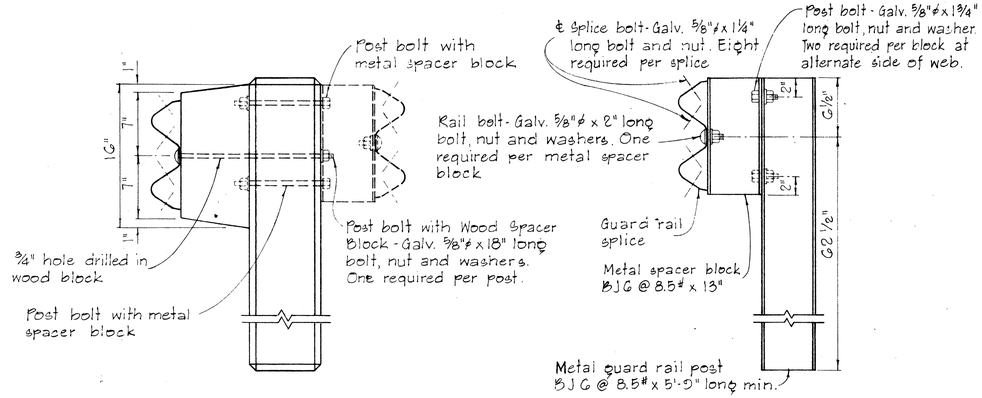
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	3TC0171	1971	6	8



PLAN

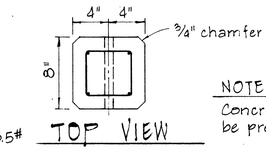


PLAN



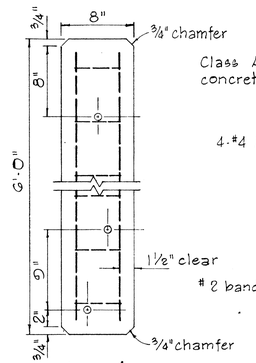
SINGLE METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

SCALE: 1½" = 1'-0"

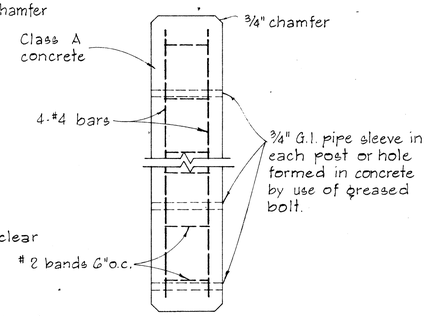


TOP VIEW

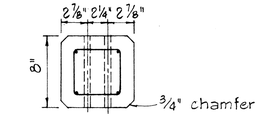
NOTE:
Concrete post shall be precast



FRONT VIEW



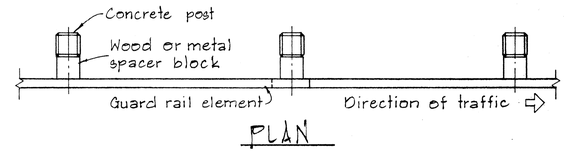
SIDE VIEW



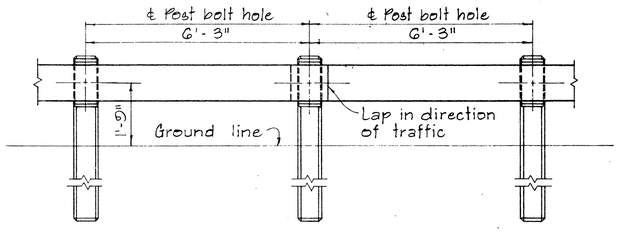
BOTTOM VIEW

DETAIL OF CONCRETE POST

SCALE: 1½" = 1'-0"



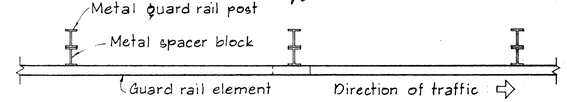
PLAN



ELEVATION

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

SCALE: ½" = 1'-0"



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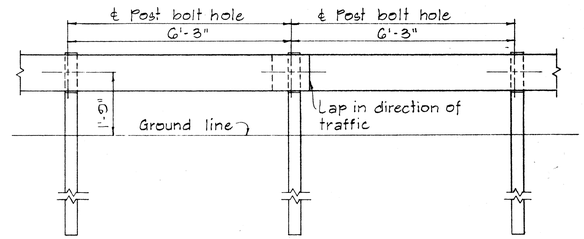
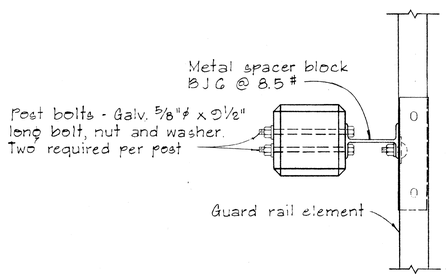


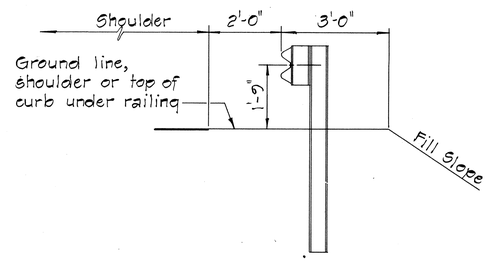
ELEVATION

METAL GUARD RAIL ON METAL POST WITH METAL SPACER BLOCK

SCALE: ½" = 1'-0"



PLAN



AT SHOULDER SECTION

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

SCALE: 1½" = 1'-0"

TYPICAL METAL GUARD RAIL DETAIL

SCALE: ½" = 1'-0"

APPROVAL RECOMMENDED:
Eiichi Tanaka — TRAFFIC ENGINEER — 12/23/69 DATE

APPROVED:
Hubert S. Schenk — 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. 1 OF 3 SHEETS | DT 500

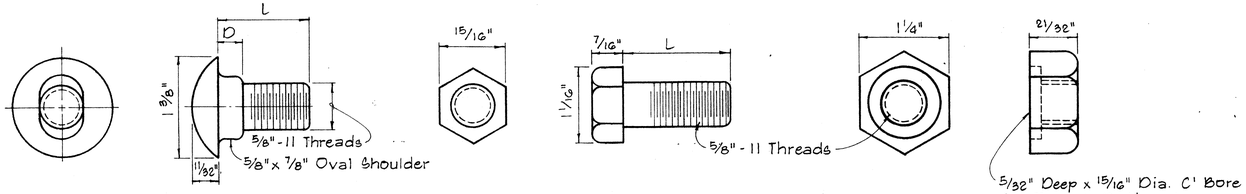
ORIGINAL PLAN	SURVEY PLOTTED BY	DRAWN BY	TRACED BY	DESIGNED BY	QUANTITIES BY	CHECKED BY	DATE
NOTE BOOK							
No.							

PRINTED ON NO. 1000H CLEARPRINT

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BTC-0171	1971	7	8

BOLT DIMENSIONS		
TYPE A BOLT	D	L
Splice Bolt	5/16"	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	L
Post Bolt for Conc. Post w/ Metal Blocks	9 1/2"
Post Bolt for Metal Post w/ Metal Block	1 3/4"



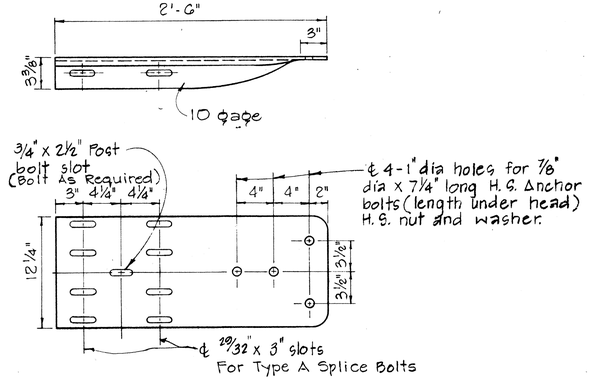
TYPE A BOLT TYPE B BOLT

SPLICE RAIL AND POST BOLTS

Scale : Full Size

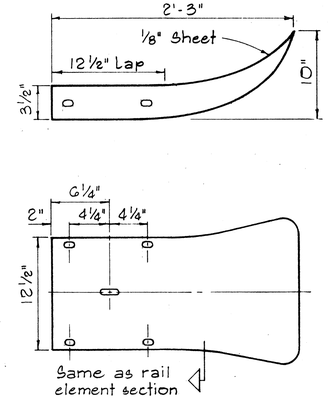
HEXAGON NUT

Scale: Full Size



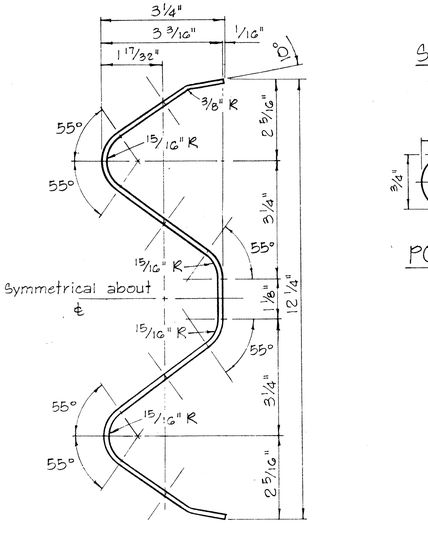
SPECIAL END SHOE

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



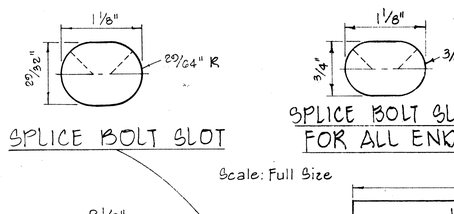
FLARED END

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



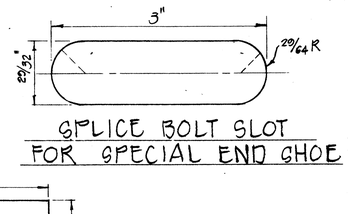
RAIL ELEMENT · SECTION

Scale: 6" = 1'-0"



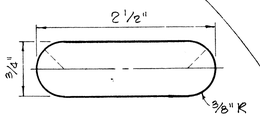
SPLICE BOLT SLOT

SPLICE BOLT SLOT FOR ALL ENDS

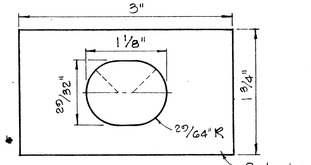


SPLICE BOLT SLOT FOR SPECIAL END SHOE

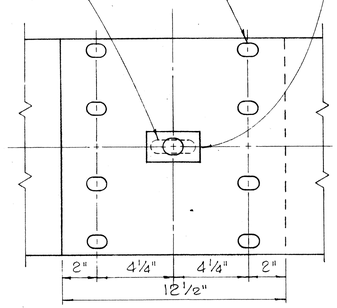
Scale: Full Size



POST BOLT SLOT



RAIL WASHER

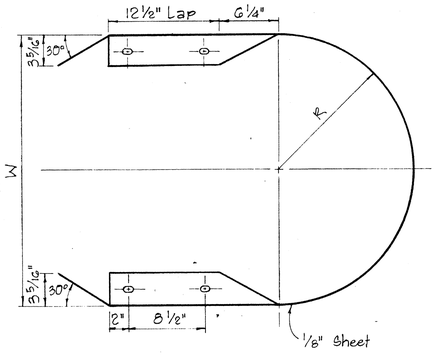


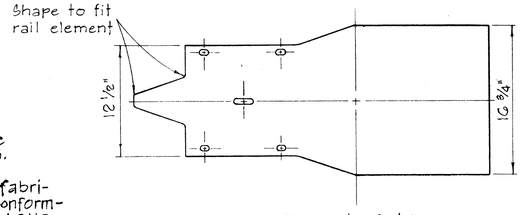
RAIL SPLICE

Scale: 3" = 1'-0"

NOTES:

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

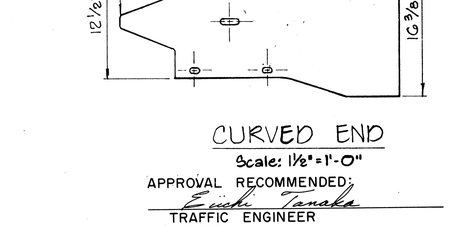




MEDIAN END

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



CURVED END

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

APPROVAL RECOMMENDED:
Euch Tanaka — TRAFFIC ENGINEER — 12/29/69 DATE

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

NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

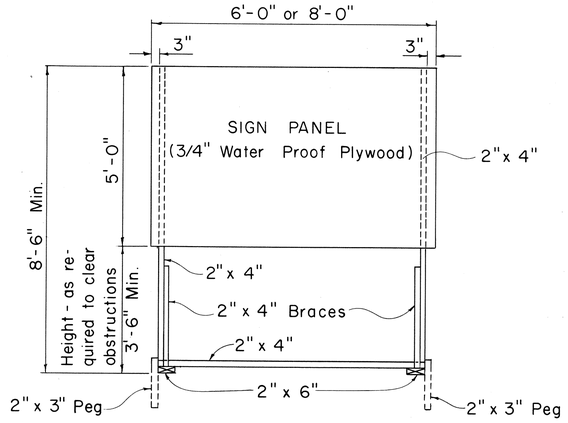
STANDARD DETAILS
METAL GUARD RAIL

Scale: As Noted — August, 1968.

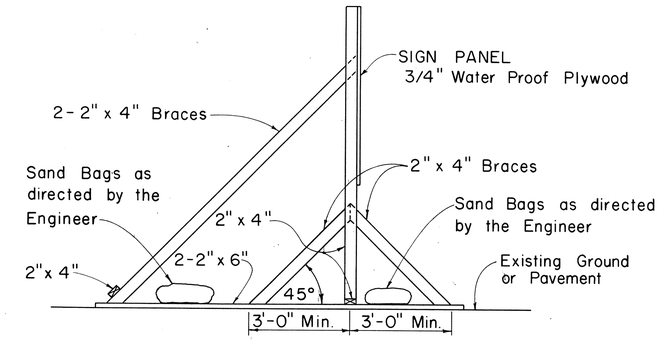
SHEET No. 2 OF 3 SHEETS | DT 501

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

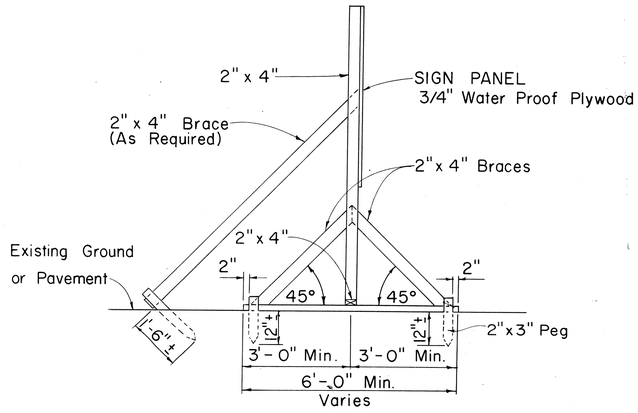
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	37C-01-71	1971	8	8



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

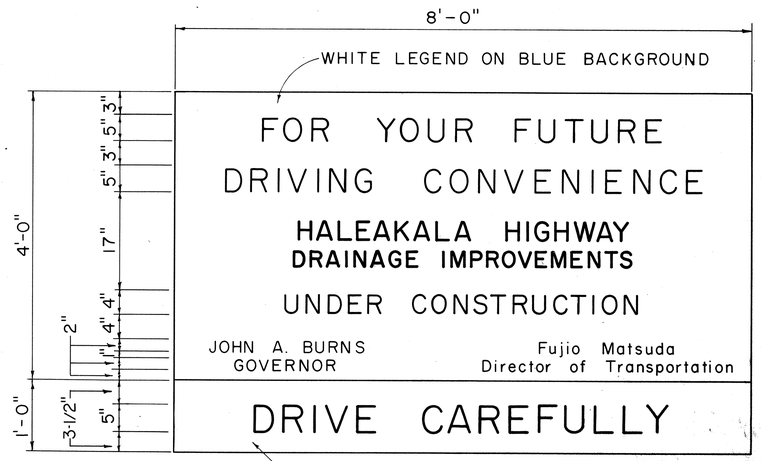


SIDE VIEW
(SIGN SUPPORT AND FRAME WEIGHTED DOWN)
Scale: 1/2" = 1'-0"



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

SIGN SUPPORT AND FRAME
Scale: As Shown



GENERAL NOTES

1. The sign panels will be constructed by the State and will be available for pick up by the Contractor from the State Highway Maintenance Yard.
2. The Contractor shall construct the sign supports and frames and install the sign panels at the locations shown on the plans and as ordered by the Engineer.
3. At the end of construction the Contractor shall remove the sign panels and return it to the State Highway Maintenance Yard. Sign supports and frames shall be removed and cleared from the project site.

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

PROJECT INFORMATION SIGN

Scale: As Shown

SHEET No. 3 OF 3 SHEETS