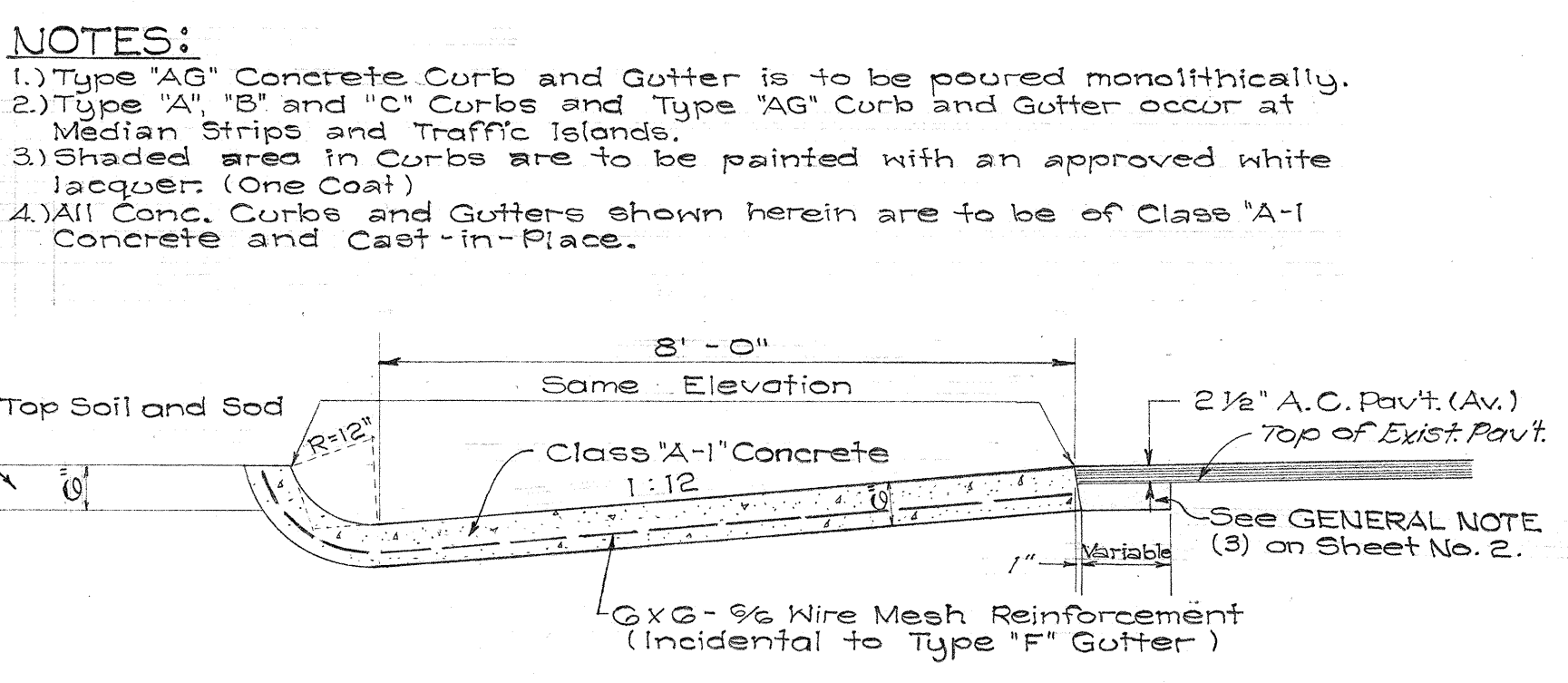
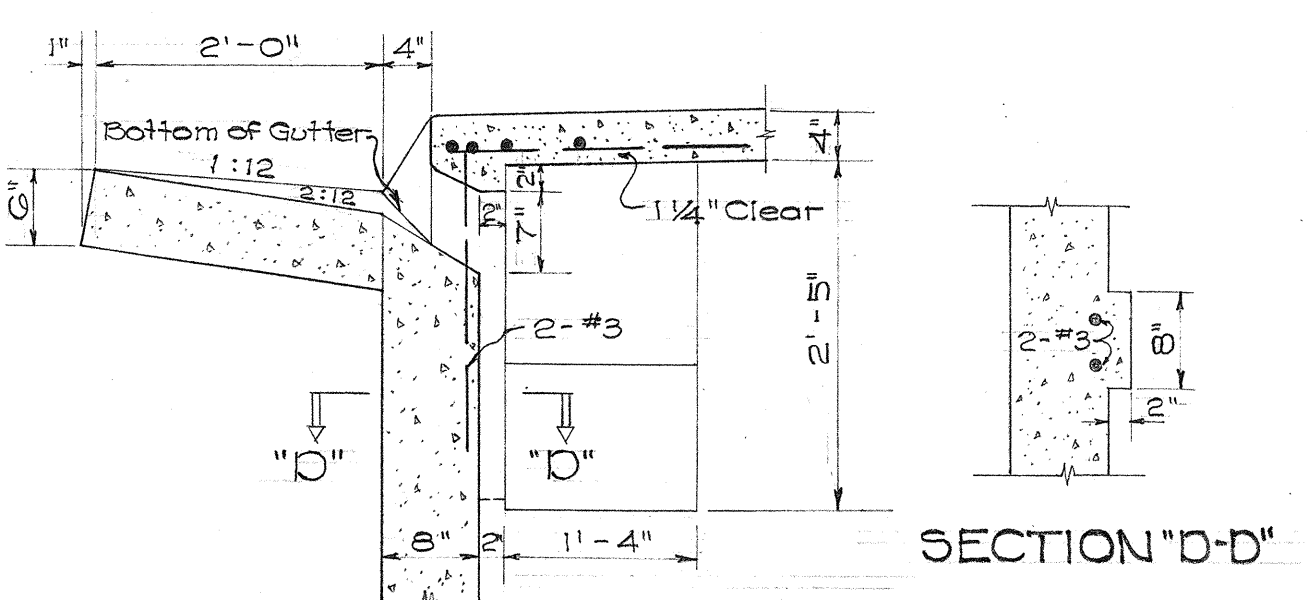
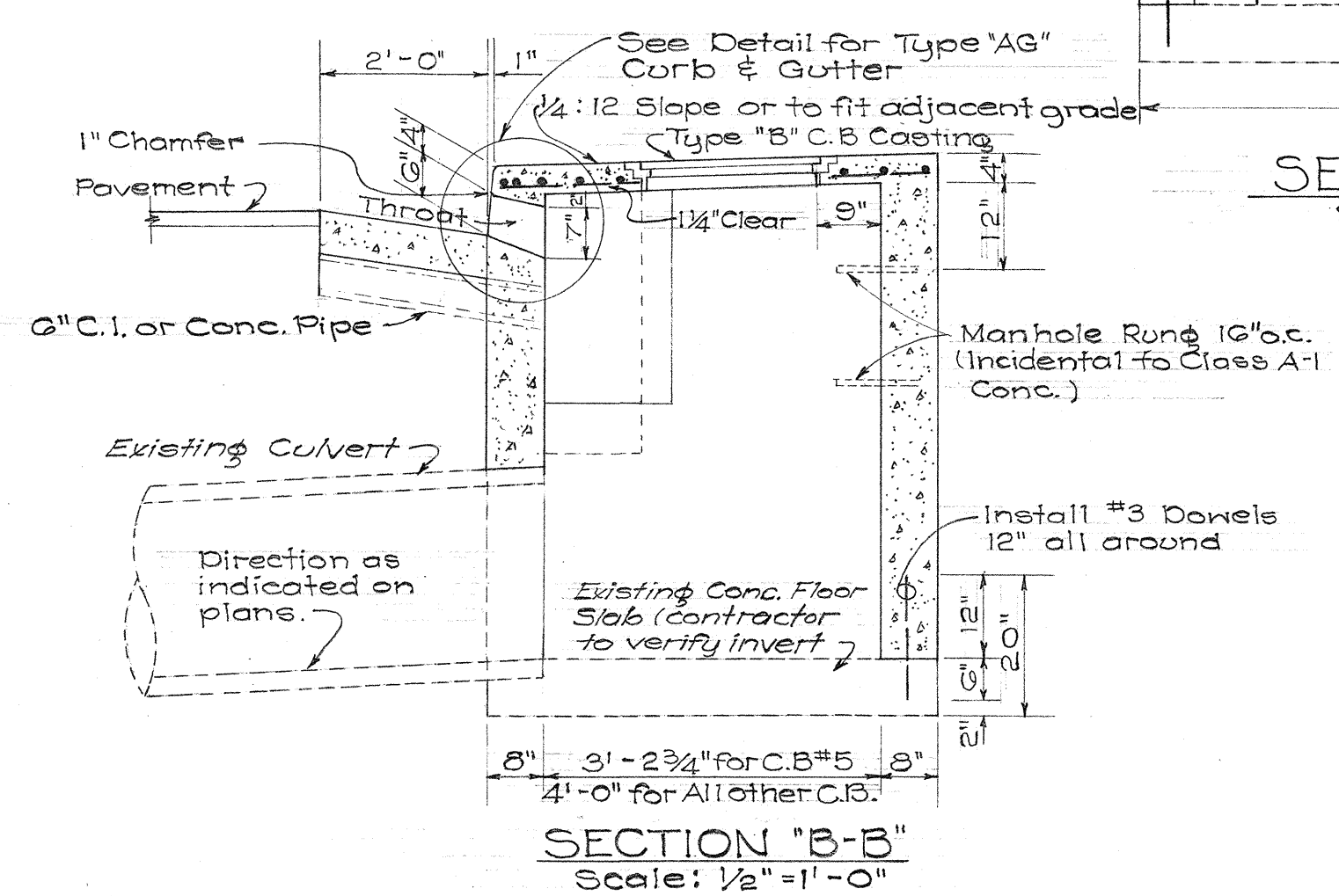
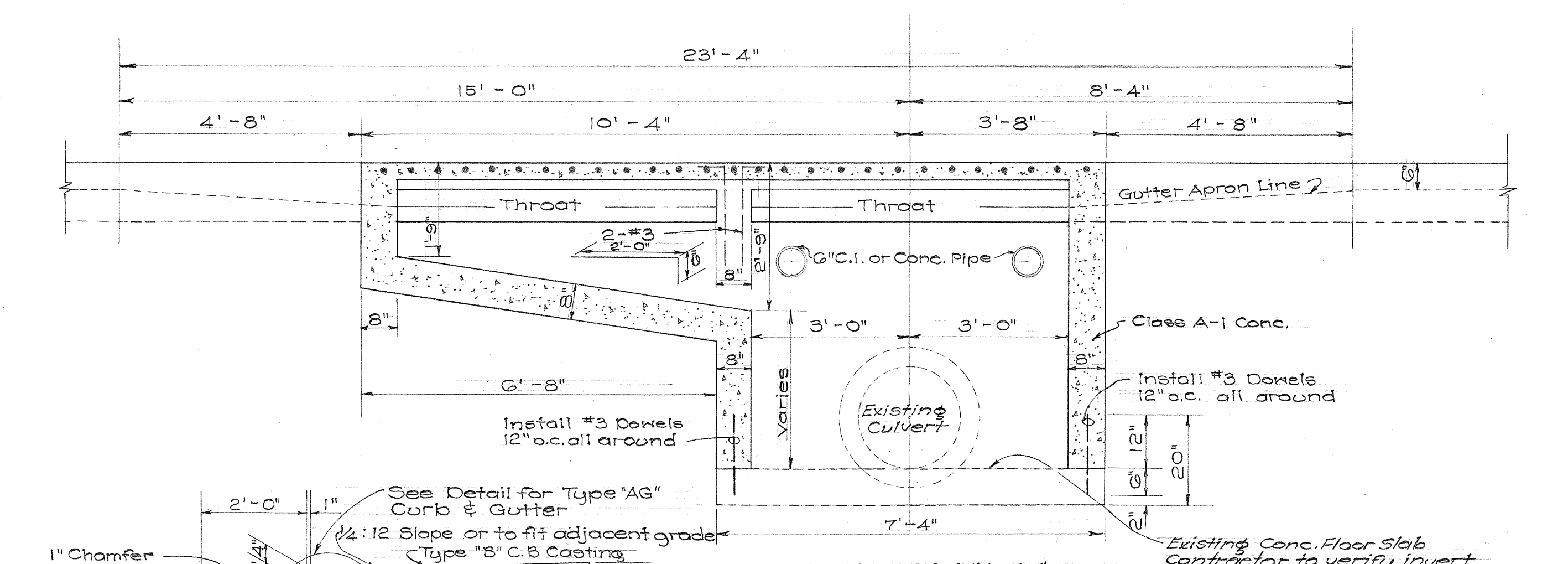
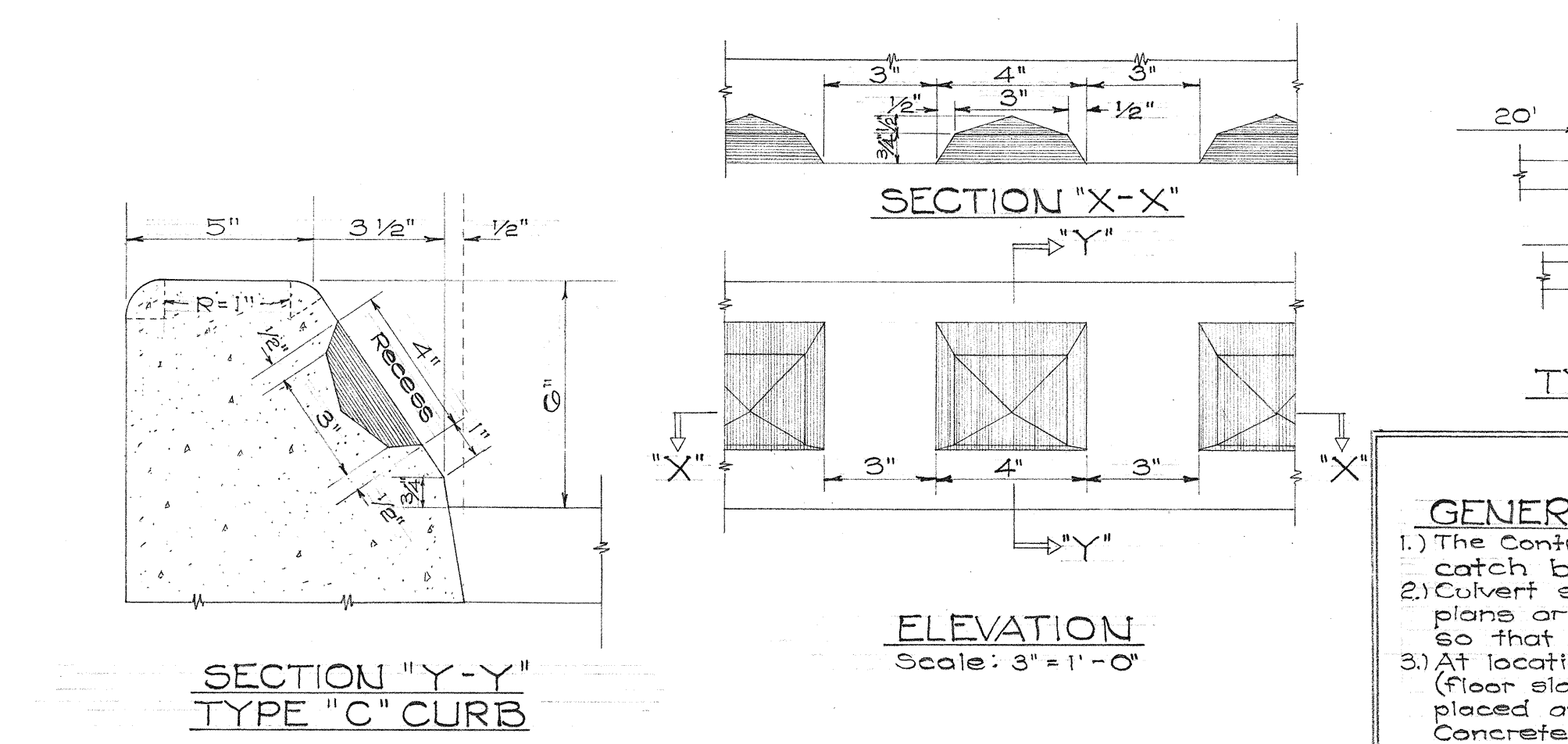
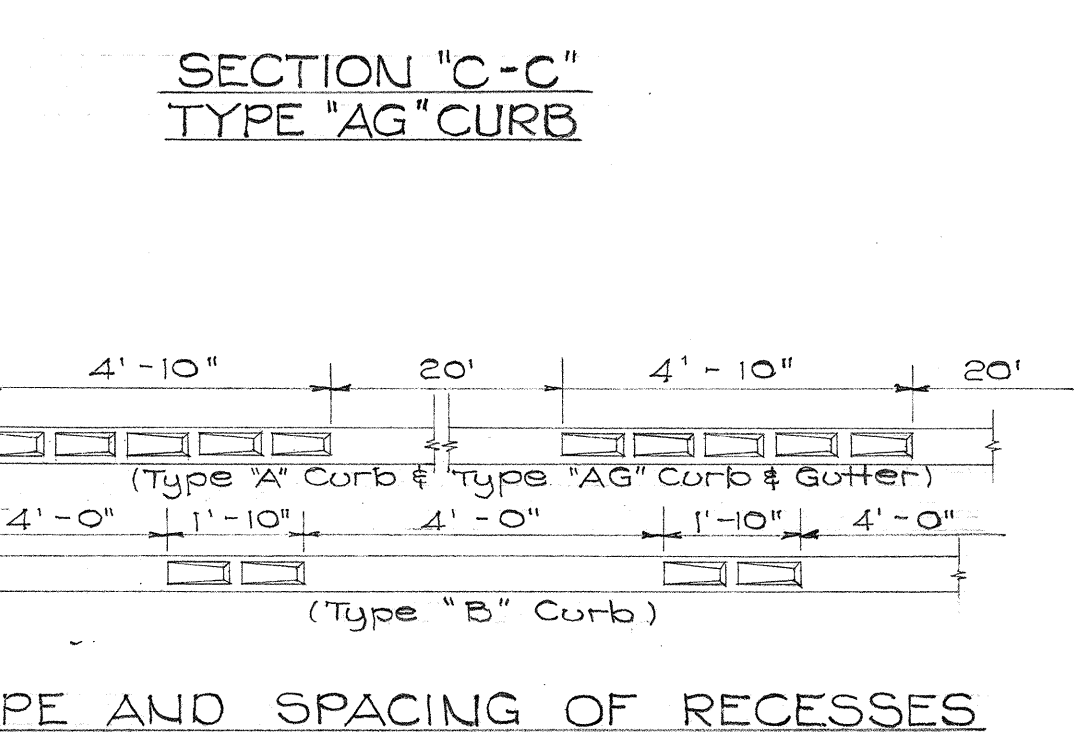
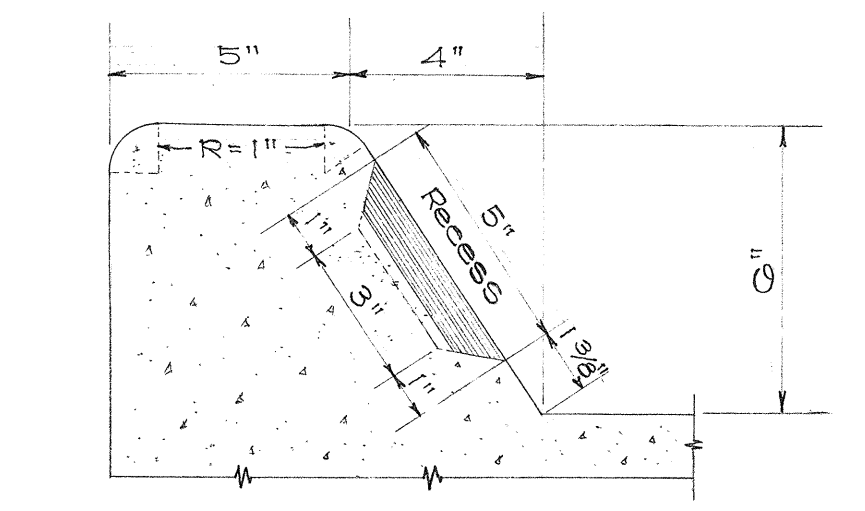
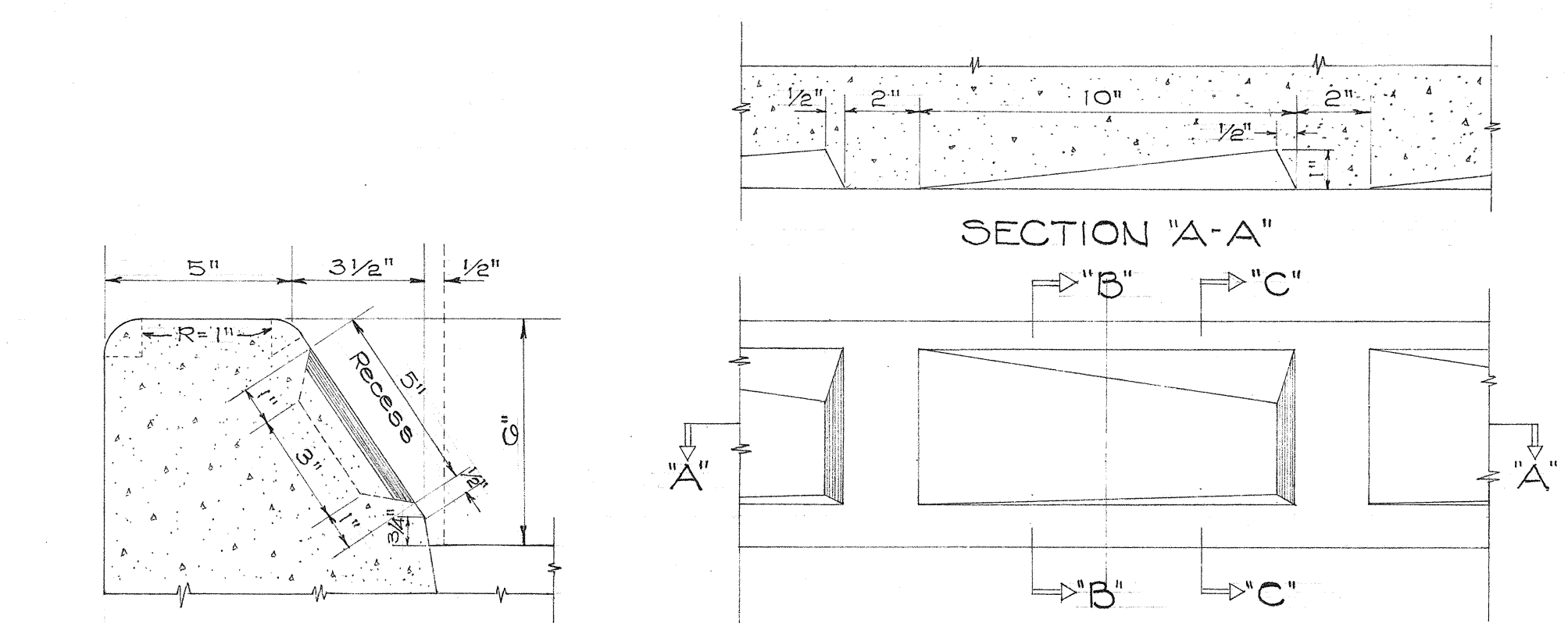
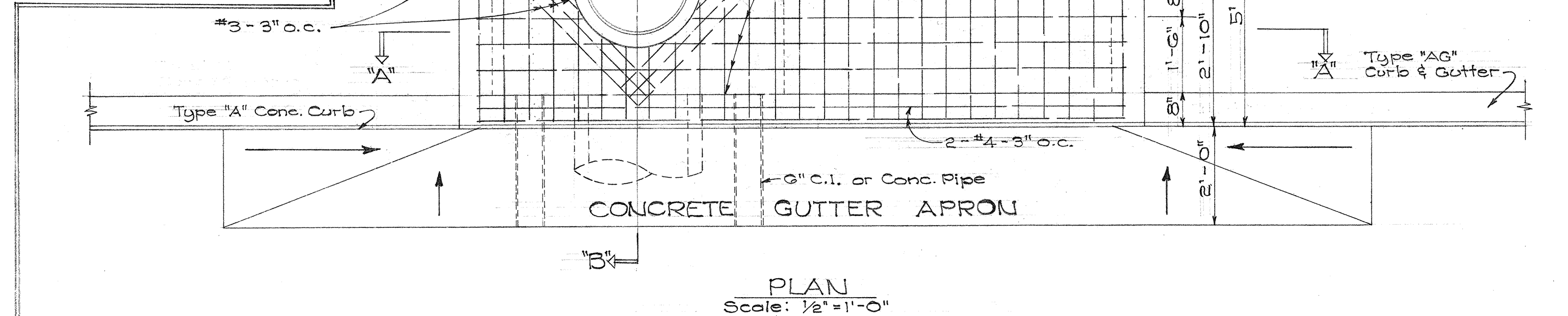
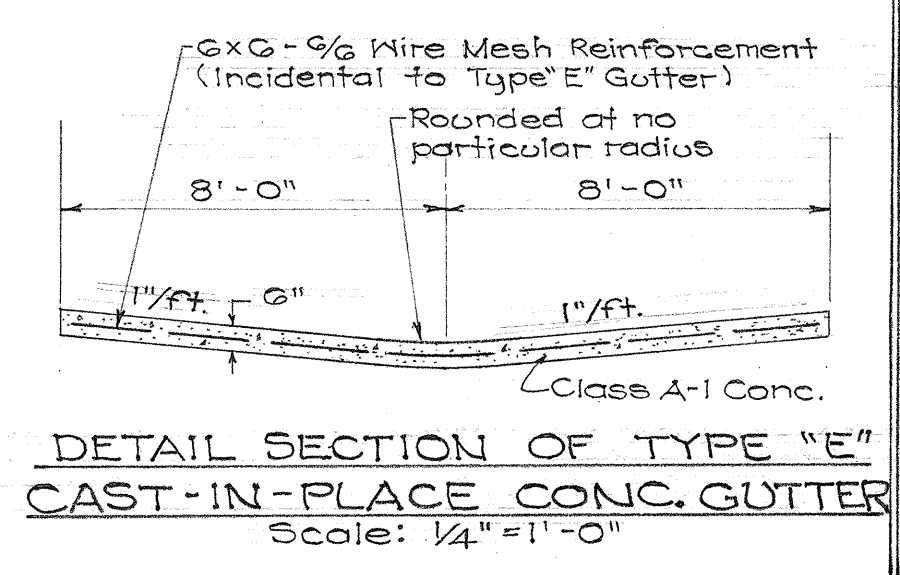
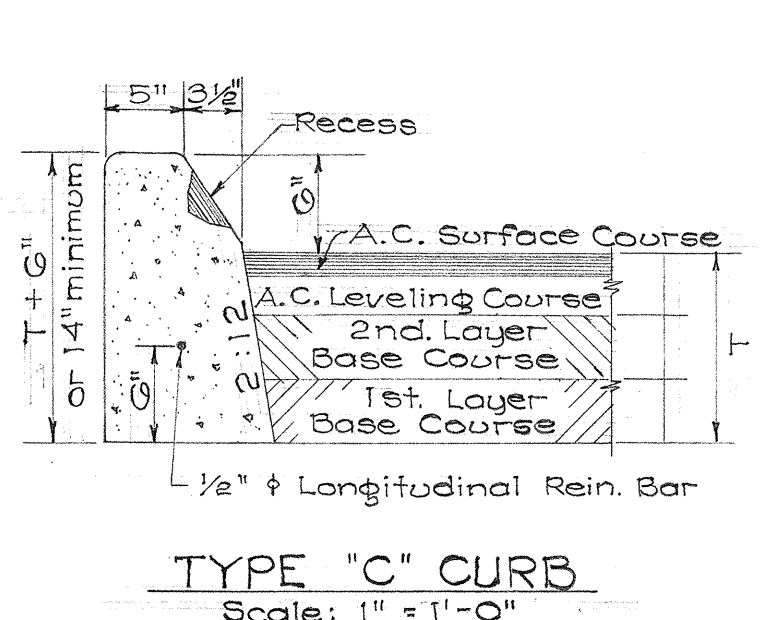
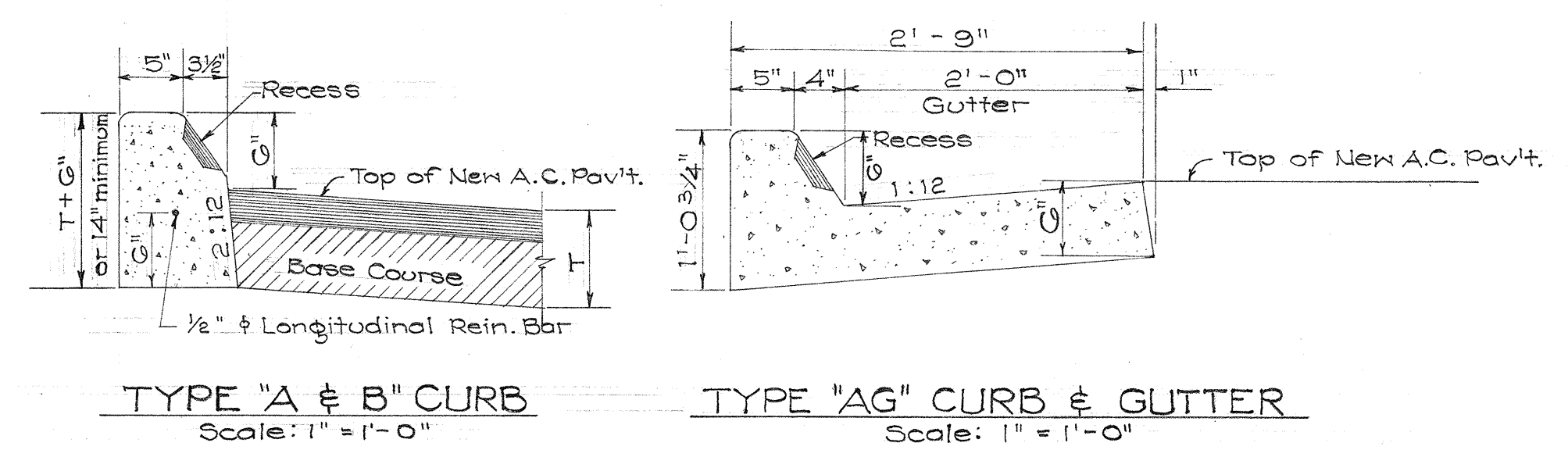
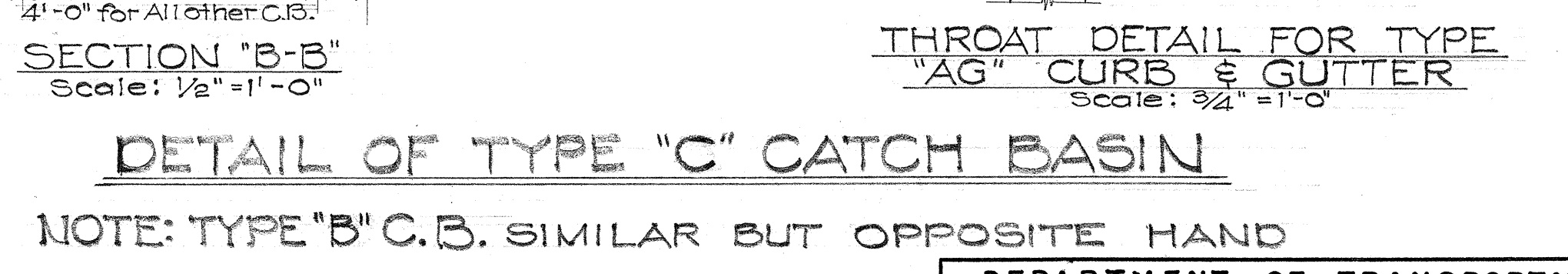


FED. ROAD DIST. No.	STATE	FED. AID PROJ. No.	FISCAL YEAR	SHEET No.	TOTAL SHEETS
HAWAII	HAW	BF-061(1)	1960	19	24



- GENERAL NOTES:**
- 1.) The Contractor shall install 2'-6" Cast Iron or Concrete Pipes in concrete catch basins for construction drainage, (incidental to Class A-1 Concrete).
 - 2.) Culvert shall leave C.B. from any position and any direction indicated by plans or ordered by the Engineer. Culvert may both enter and leave C.B. so that C.B. will also act as Manhole.
 - 3.) At location where C.B. #1 is to be constructed, there exist a concrete base (floor slab) and a 24" concrete culvert pipe which have been previously placed at an elevation as shown on the plans. A new Standard Type "C" Concrete Catch Basin shall be constructed as per detail plans, incorporating the concrete base and culvert pipe as part of the new drainage structure. Caution must be exercised, during construction, not to disturb existing concrete base and the culvert pipe. Temporary plugging of whatever material, if any, at culvert pipe end shall be neatly removed.
 - 4.) Four new Standard Type "B" Concrete Catch Basins designated on the plans as CB #2 to CB #5 inclusive shall be constructed to replace four existing drop intakes. Brick wall of existing drop intakes shall be removed with care so as to leave in place undisturbed the existing floor slabs and the culvert pipes which shall be incorporated into the catch basin as integral part of the new drainage structures. Existing C.I. frames and gratings of the drop intakes shall be carefully salvaged, cleaned and stockpiled within the limits of this project as directed by the Engineer.
 - 5.) The work involved in removing brick walls of existing drop intakes as above specified shall be considered a part of, and paid for under, the contract item of "Structure Excavation and Backfill." Salvaging, cleaning and stockpiling of existing C.I. frames and gratings shall be considered as incidental to the contract item of "Type 'B' C.I. Frames and Covers." Removing plugging from culvert pipe end, if any, shall be considered as included in the contract item of "Class A-1 Concrete other than in Bridges."

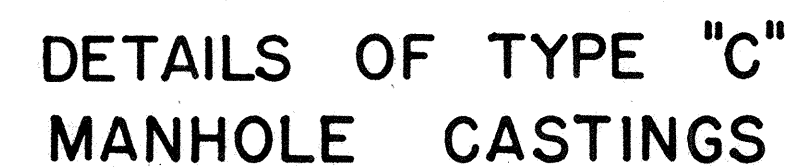
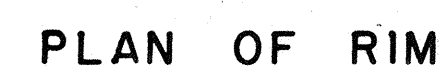


DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
DETAILS OF CAST-IN-PLACE
CURBS AND GUTTERS
DETAILS OF CATCH BASINS
PALI HIGHWAY
PROJECT NO. BF-061-1(1)
Scales: As Noted October 1960

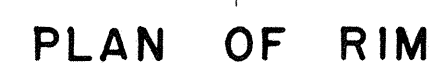
DETAILS OF CAST-IN-PLACE CONC. CURBS AND GUTTERS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	BF-0614(1)	1960	20	24

August 1957

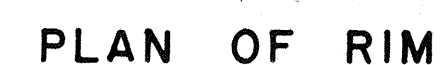


SCALE: 1-1/2" = 1'-0"



DETAILS OF TYPE "B"
CATCH BASIN CASTINGS

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



DETAILS OF TYPE "A" MANHOLE CASTINGS

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

NOTE: Stock Pattern From Novelty Foundry ~ Honolulu



TOP VIEW

TYPE C C.I. FRAME AND GRATING

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



DETAILS OF 20" CAST IRON FRAME AND COVER FOR WATER MANHOLE

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

DEPARTMENT OF TRANSPORTATION

DIVISION OF HIGHWAYS STATE OF HAWAII

STANDARD DETAILS

CATCH BASIN AND MANHOLE CASTINGS

SCALES AS NOTED

SHEET NO OF SHEETS

APPROVED:

DATE AUG. 26, 1959

STATE HIGHWAY ENGINEER

200

[illegible]

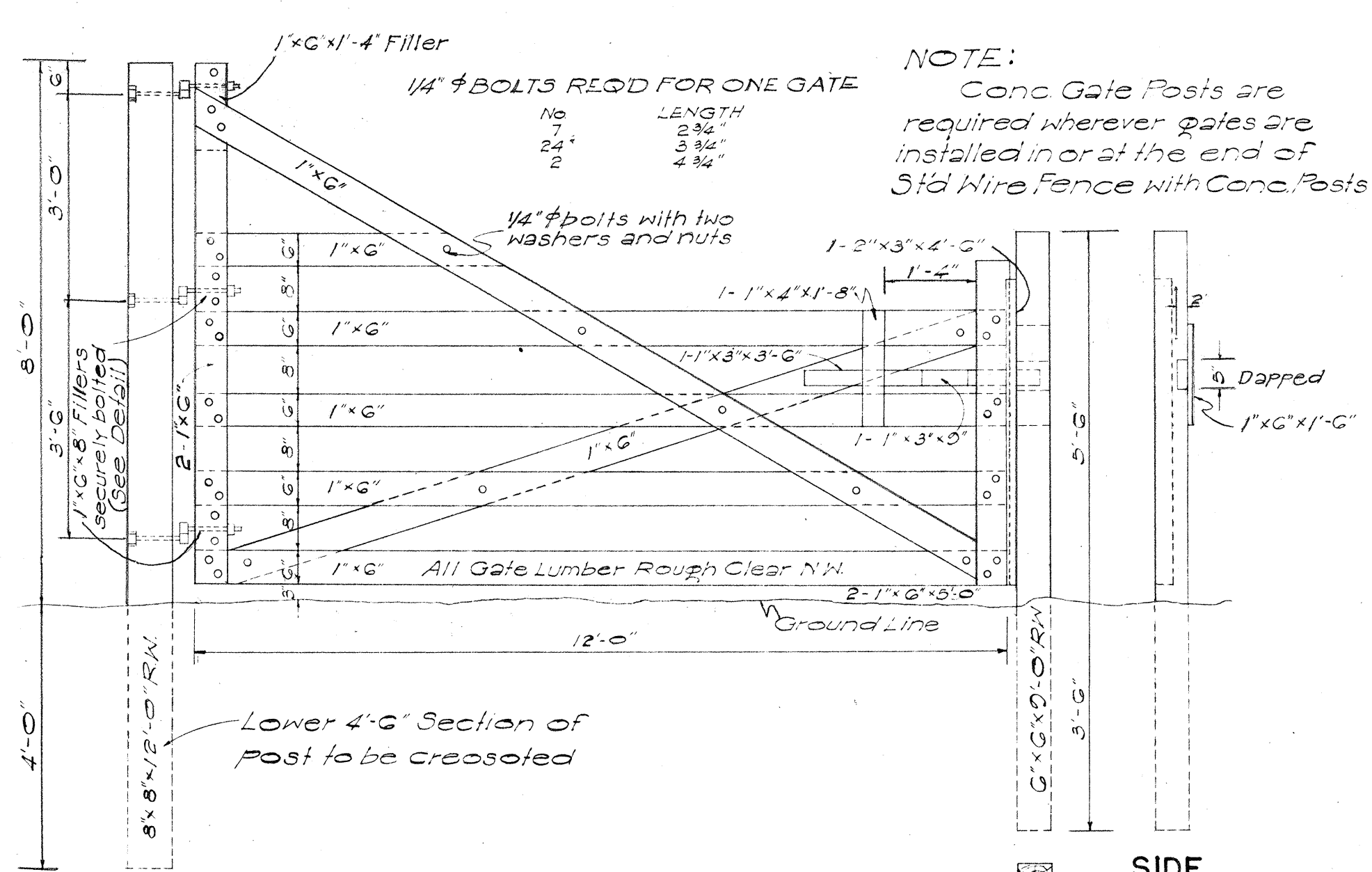
Scale: $1/2'' = 1' - 0''$

The diagram shows a cross-section of a road boundary. A horizontal dashed line is labeled "R/W Boundary Line". Below this line, a vertical line segment is labeled "New or Reconstructed fence". To the left of the vertical line, a diagonal line segment is drawn at a 40-degree angle from the horizontal. The angle is labeled "40°". The vertical line is also labeled "As reqd" (As required).

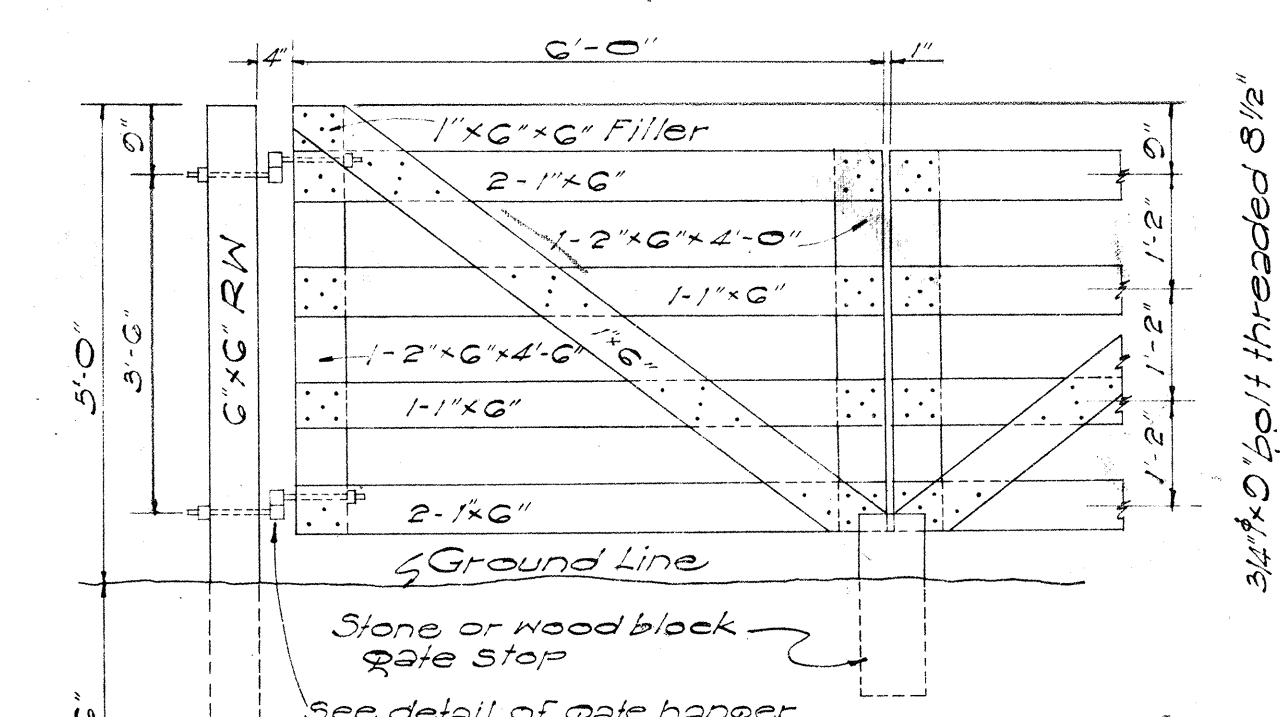
DETAILS OF HURDLE

DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII
STANDARD DETAILS
FENCES, GATES, GUARD RAILS,
GUIDE POSTS, CATTLE GUARD
SCALES AS NOTED

21



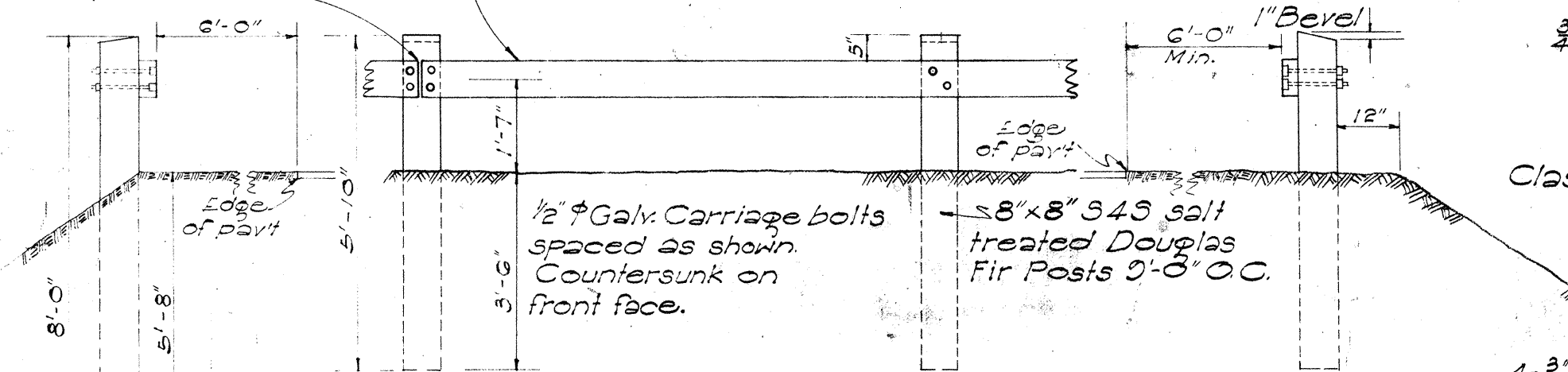

 SIDE
ELEV.



DETAIL OF GATE HANGER
Scale: 1-1/2" = 1'-0"
Note: Use 3/4"x11" bolts for Cattle

Butt Joints to be left open approx. 1/2" spaced every other post except on sharp curves.

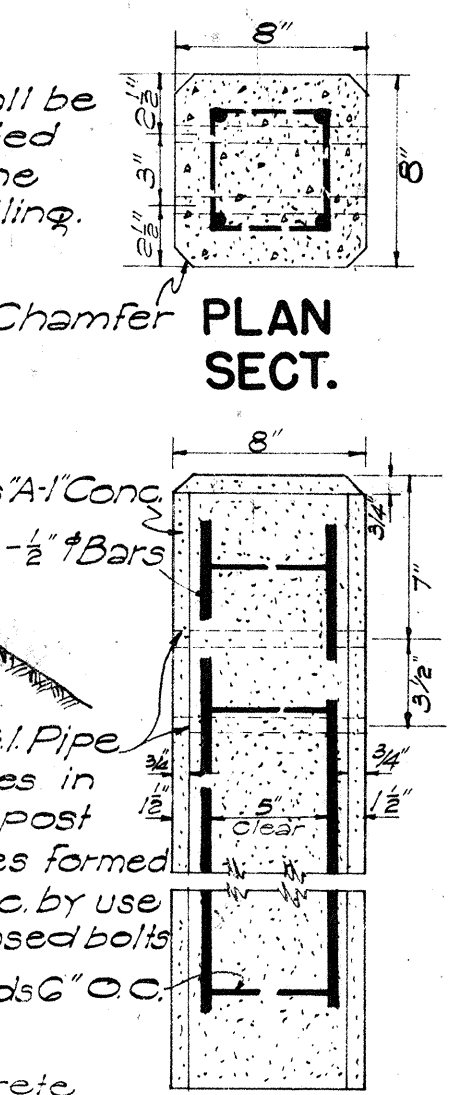
4"x8"x8'-0" S4S railing painted 3 coats of white paint. Contact surfaces between posts and rails and all butt joints shall be Painted 3 coats before assembly.



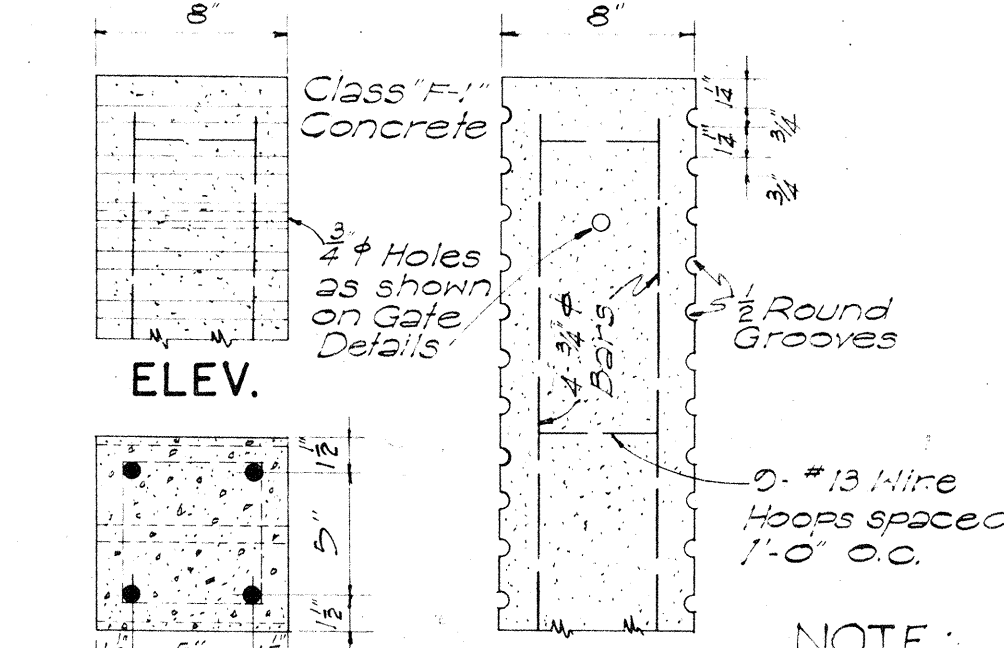
Scale: $3/8" = 1'-0"$

8"x8"x8'-0" S4S salt
treated Douglas Fir
or 8"x8"x8'-0" precast
Concrete Posts shall
be used where shoulders
are less than 8'-0" wide.

NOTE:
All concrete
posts shall be
precast

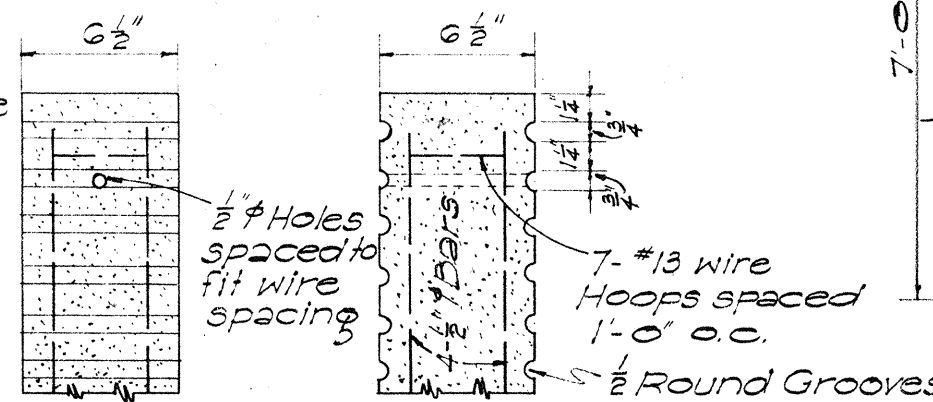


Scale: $1\text{--}1/2'' = 1' - 0''$

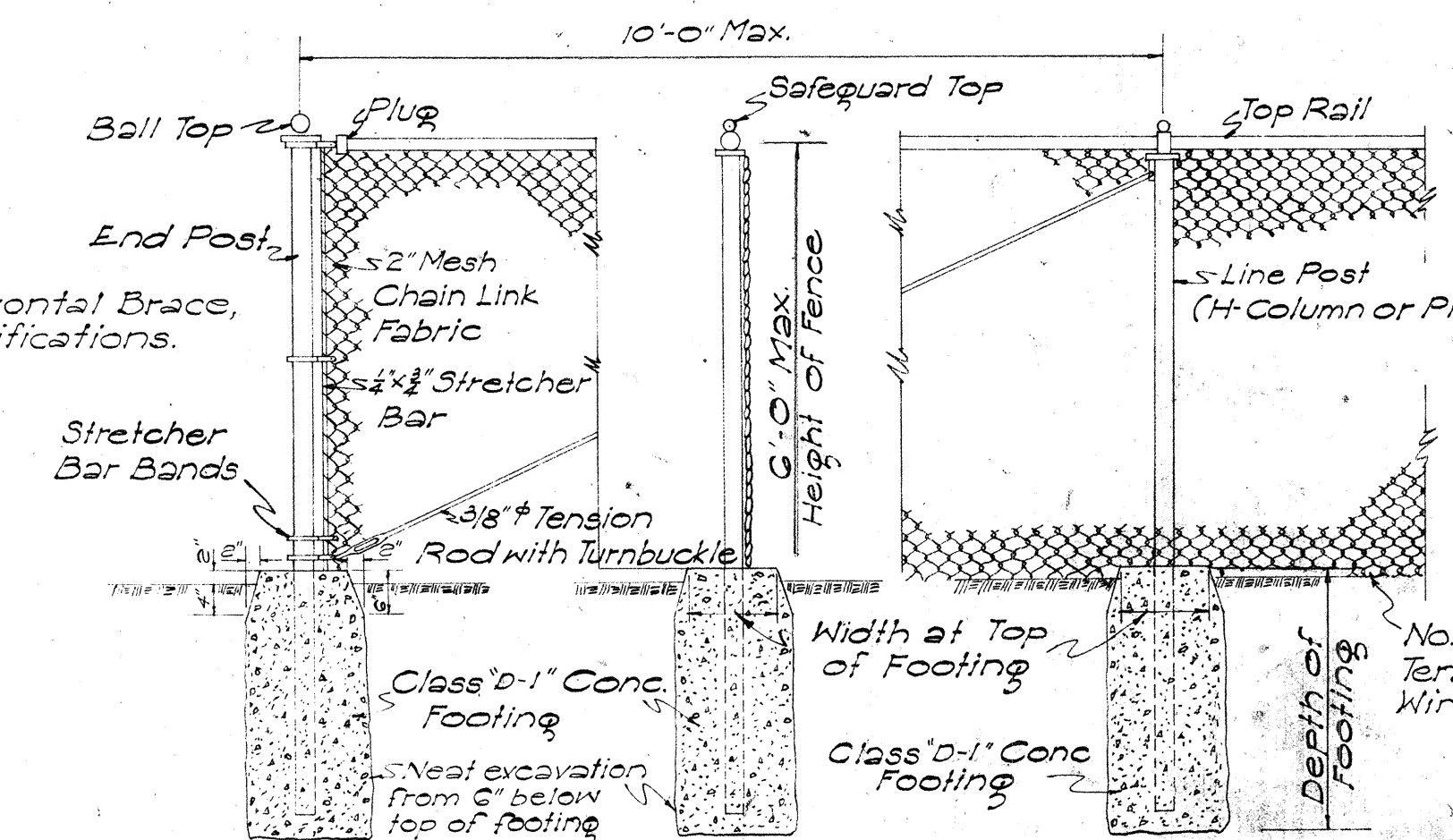


Scale: $1 = 1/2'' = 1' = 0''$

Glass "F-1" Concrete

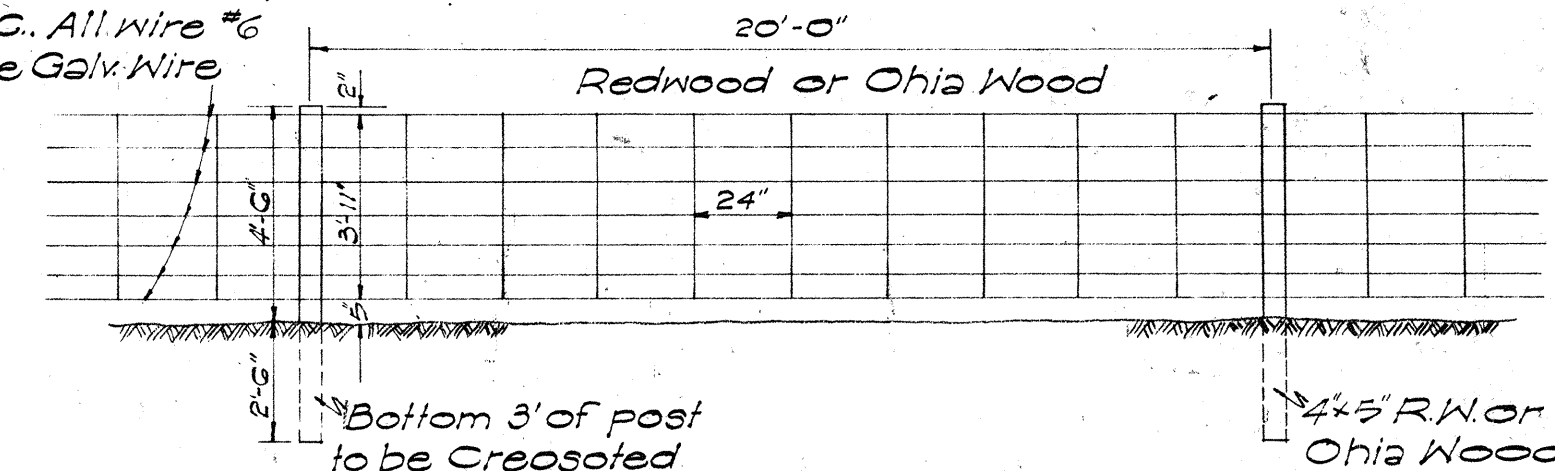


Scale: $1 - 1/2'' = 1' - 0''$

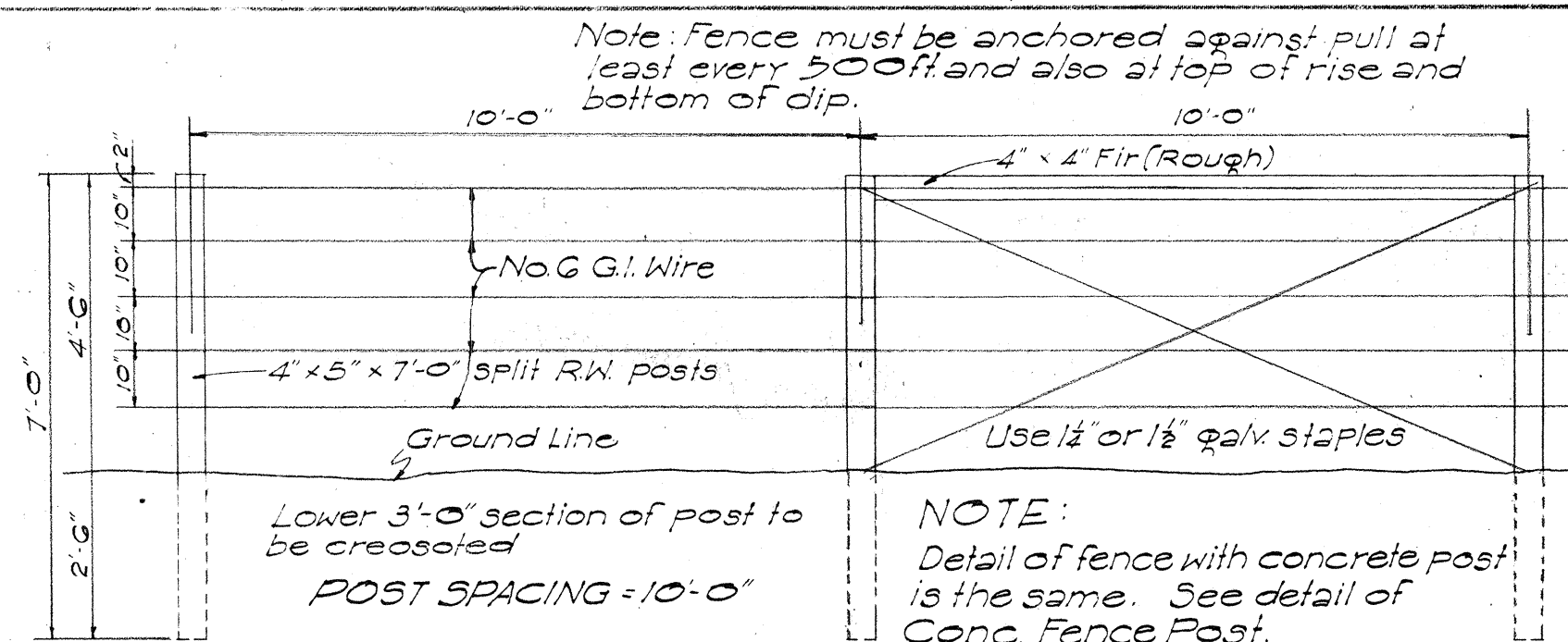


DETAIL OF CHAIN LINK FENCE

7 strands with stays
24" O.C.. All wire #6

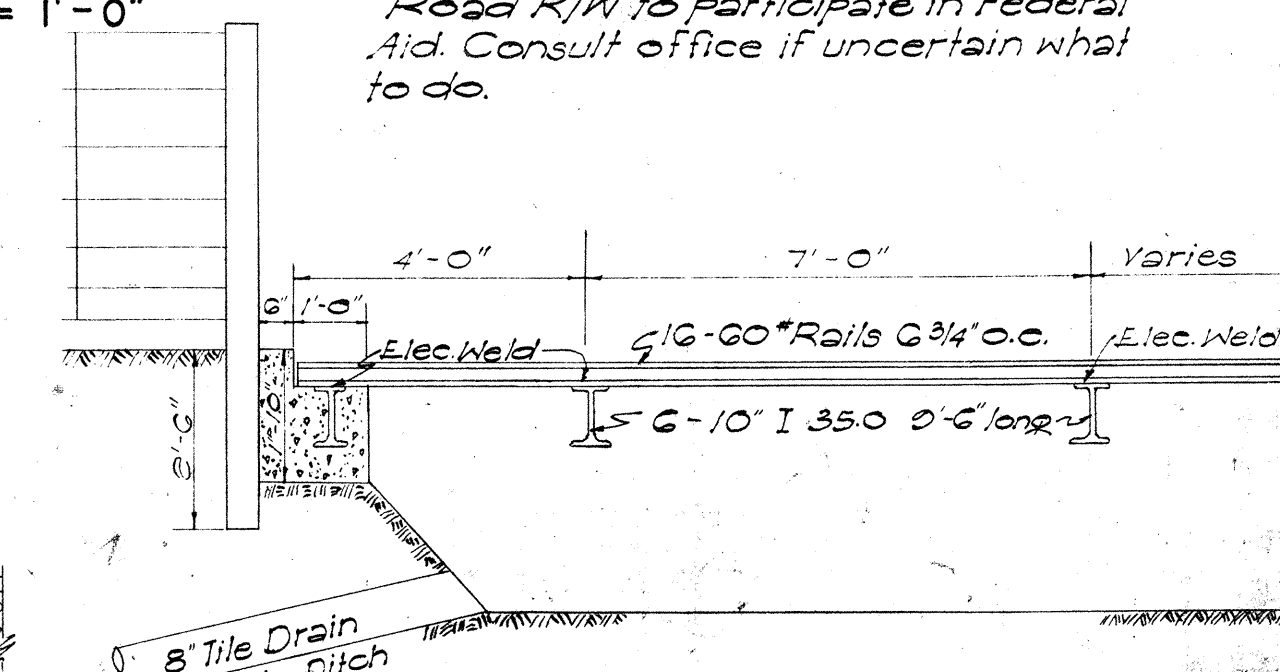


Scale: 1/4"=1'-0"

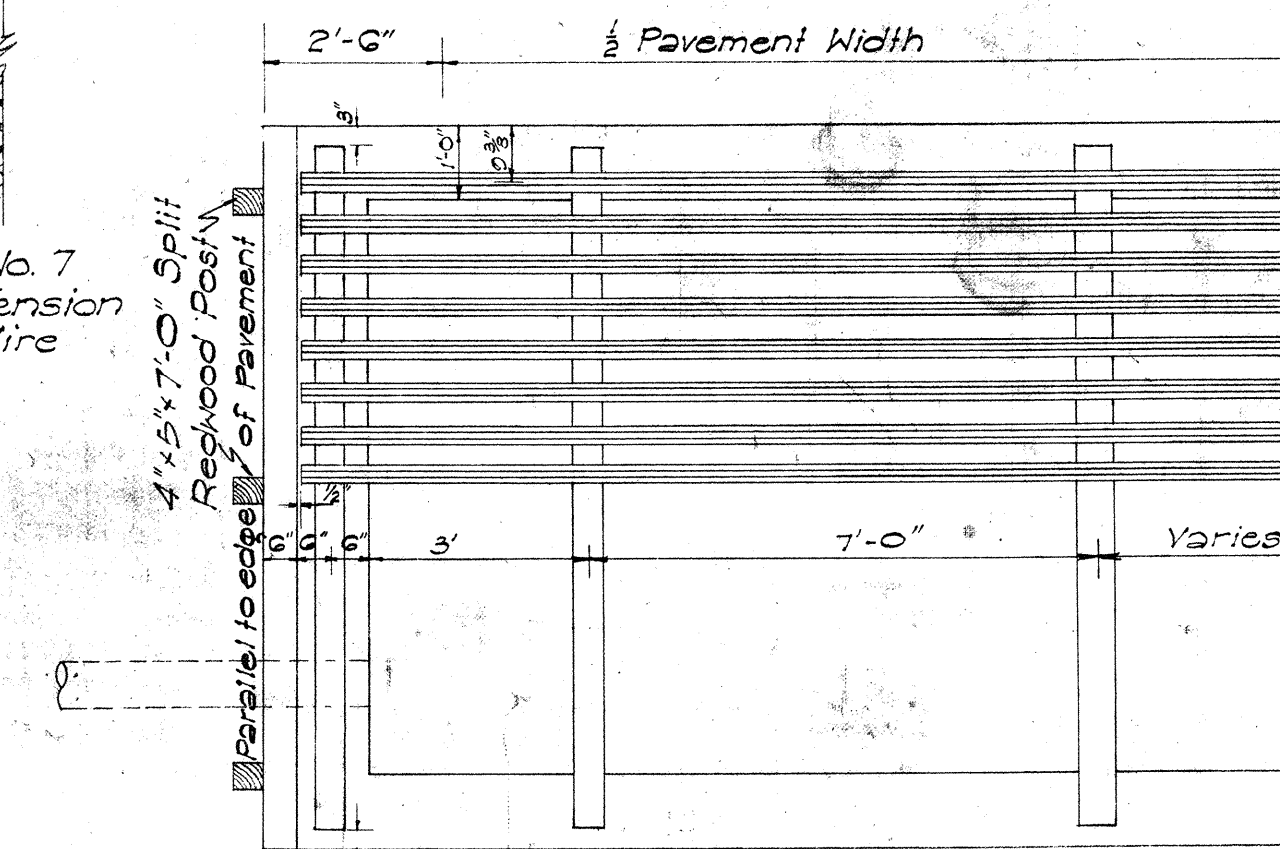


THE WOOD PIGEON

Note to Engineer: Fence must be on Road R/W to participate in Federal Aid. Consult office if uncertain what to do.



LONGITUDINAL SECTION



HALF SECTION

THE ST. CATHARINE

APPROVED:  DATE Aug. 26, 1952
STATE HIGHWAY ENGINEER

2/17/59
4/6/59
4/28/59

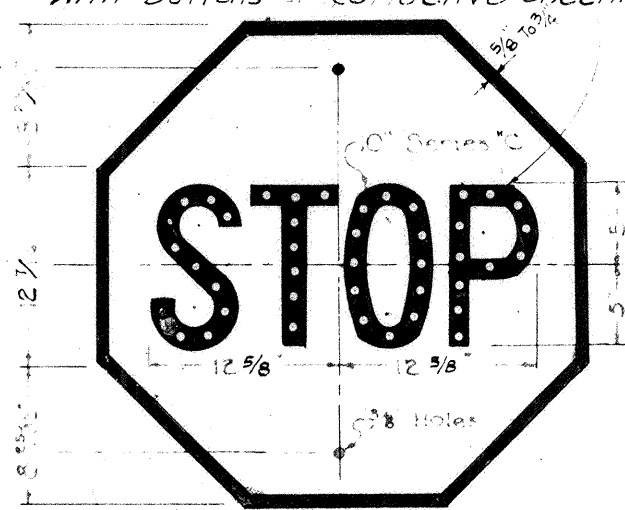
White Letters and Border on Red Background. Background may be of red reflective sheeting. Letters to be ReflectORIZED with Buttons or Reflective Sheeting.

Note: All Regulatory and Warning Signs shall have 3/8" Bolt Holes.

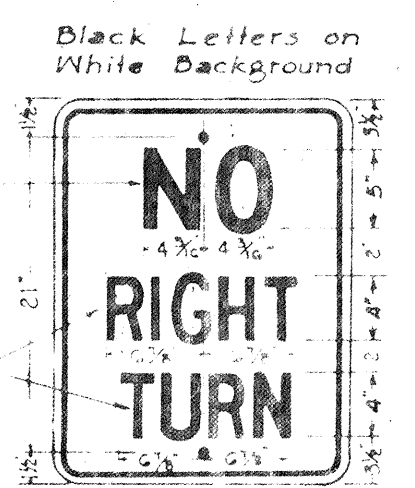
NOTE: Signs noted with an (R) designation indicate reflectorization with either buttons or reflective sheeting.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	PF-06H(1)	1960	22	24

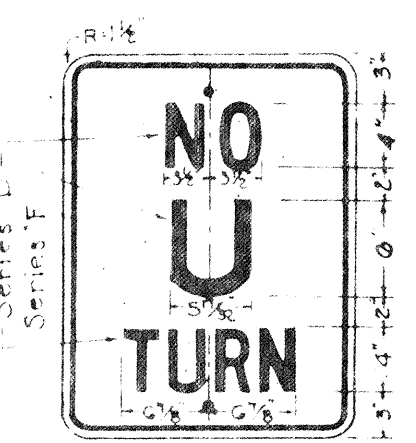
JULY 3, 1957



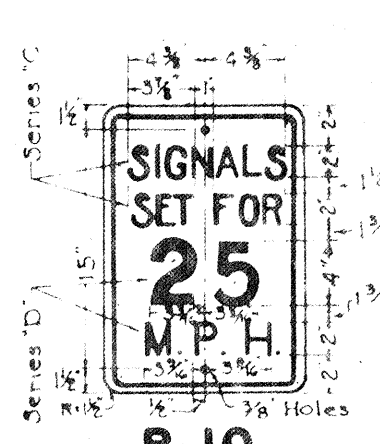
R-1
30" x 30"



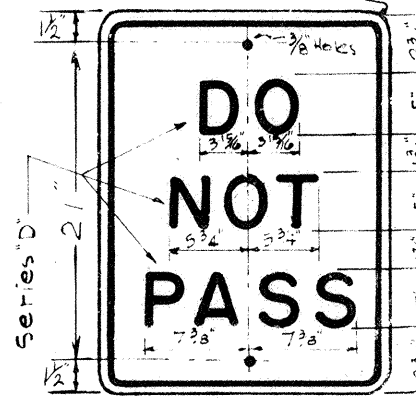
R-6
18" x 24"



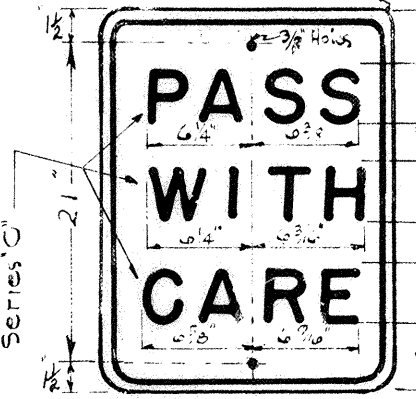
R-8
18" x 24"



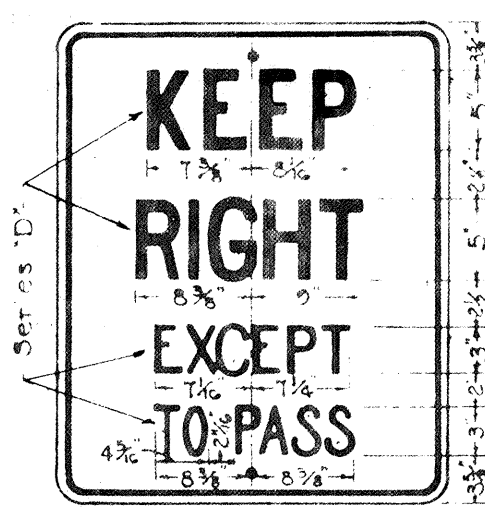
R-10
12" x 18"



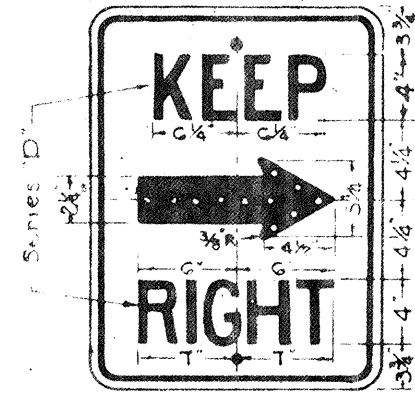
R-11
18" x 24"



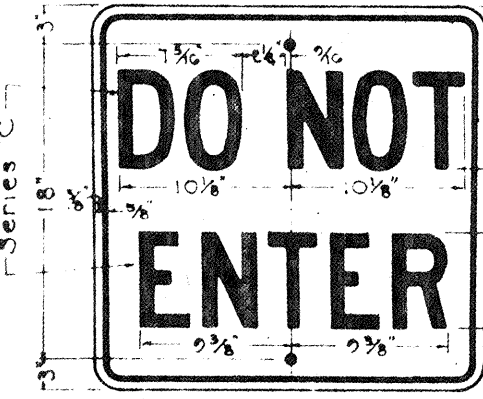
R-12
18" x 24"



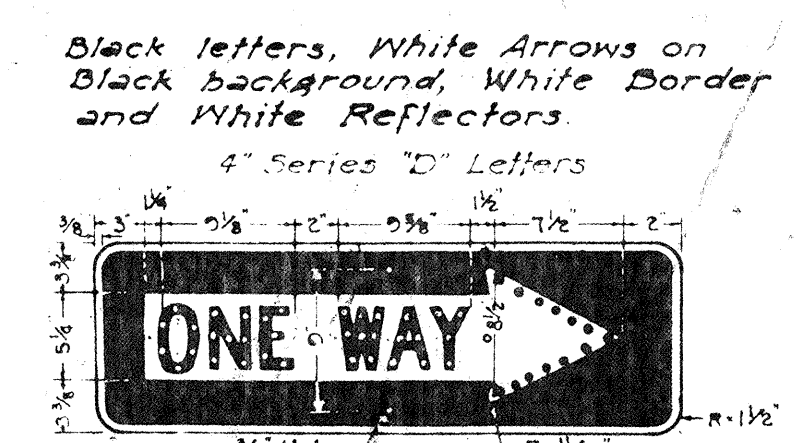
R-13
24" x 30"



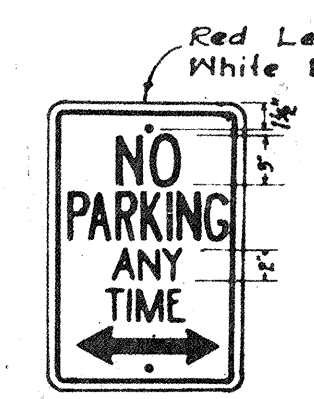
R-14 (R)
18" x 24"



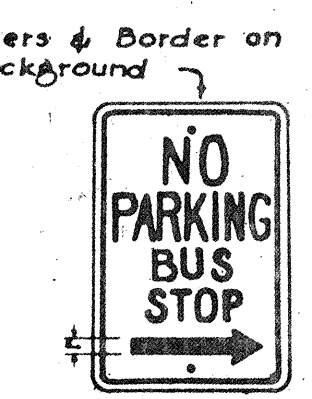
R-15
24" x 24"



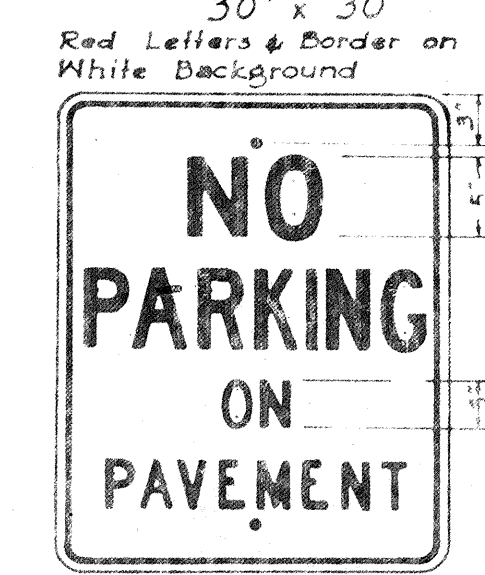
R-16-R (R)
R-16-L (R)
36" x 12"



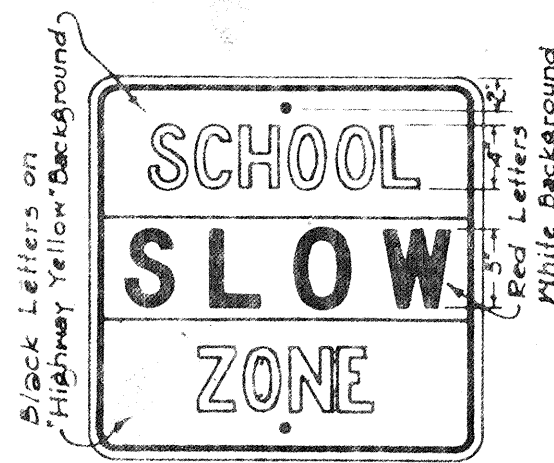
R-18
12" x 18"



R-26
12" x 18"



R-29
24" x 30"



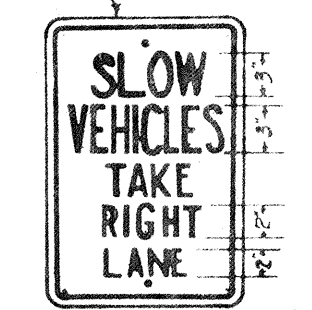
R-41-S
24" x 24"



R-42-S
12" x 18"



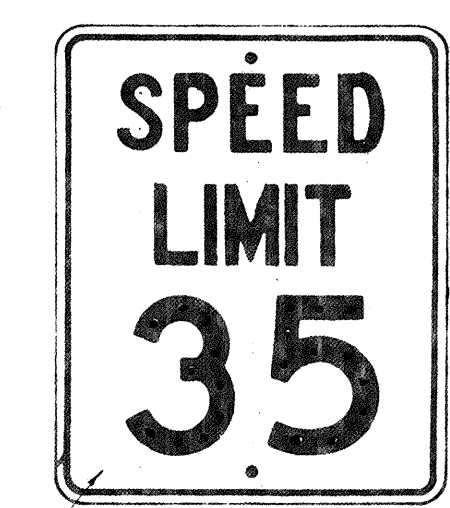
R-43-S
12" x 18"



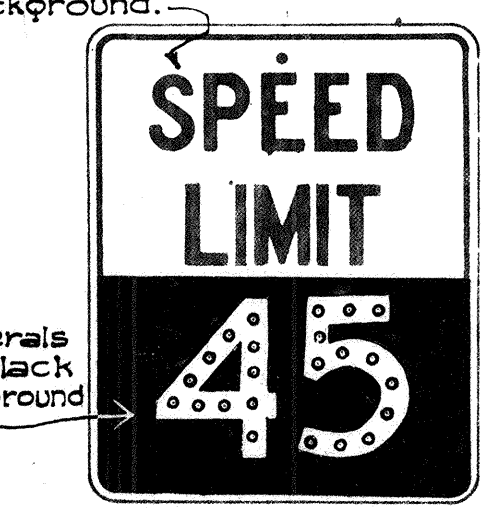
R-44-S
12" x 18"



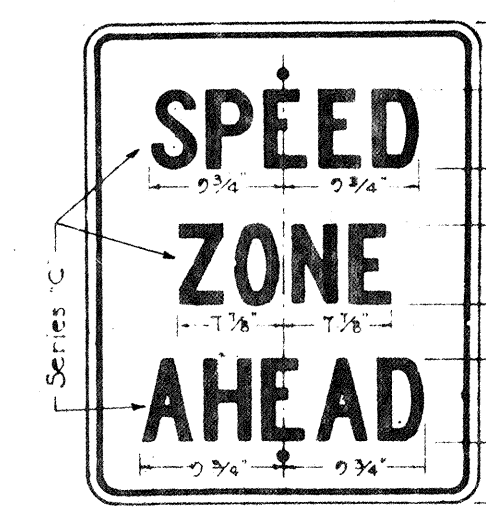
R-102-A
24" x 30"



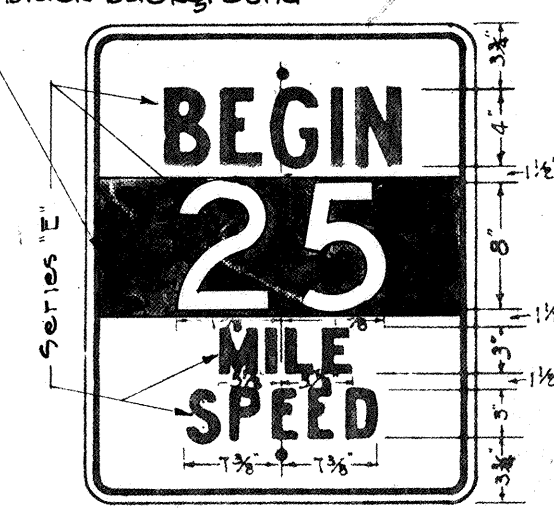
R-102-B
24" x 30"



R-102-C (R)
24" x 30"



R-104
24" x 30"



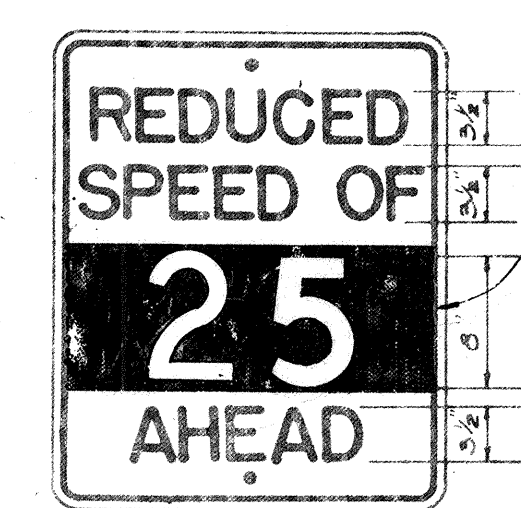
R-105-A (R)
24" x 30"



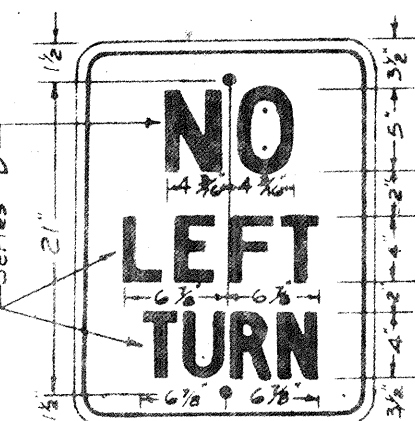
R-105-B
24" x 30"



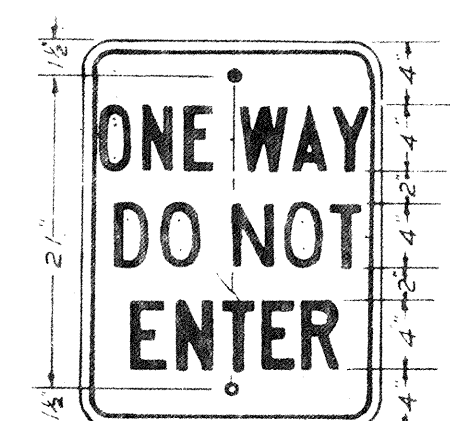
R-105-C
24" x 30"



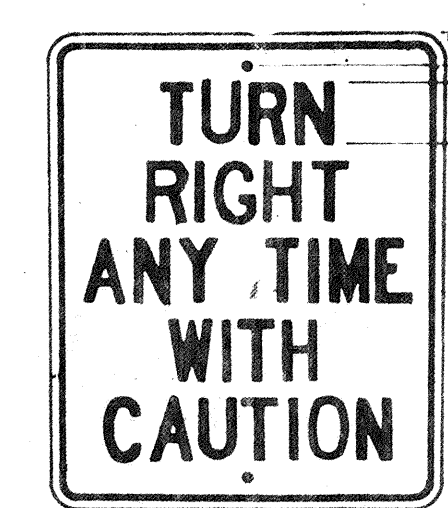
R-104-A
24" x 30"



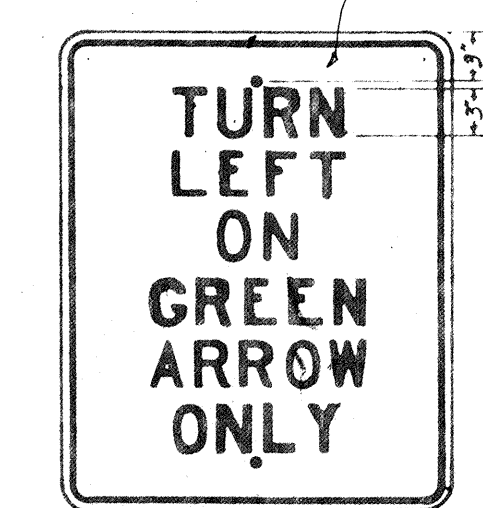
R-7
18" x 24"



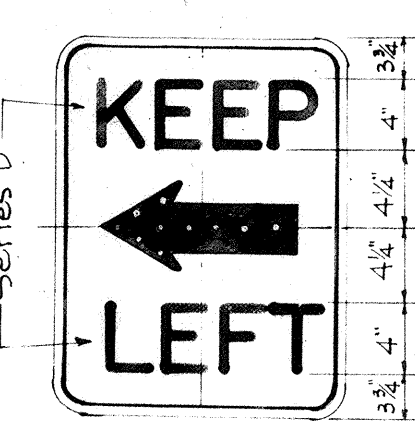
R-66
18" x 24"



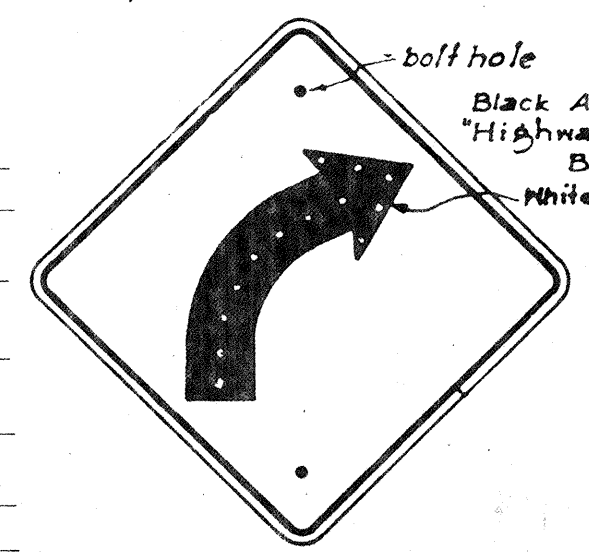
R-106
24" x 30"



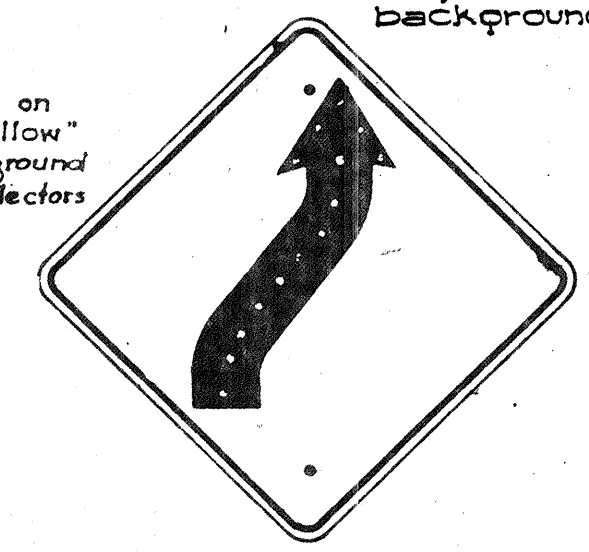
R-107-A
24" x 30"



R-14-A
24" x 24"



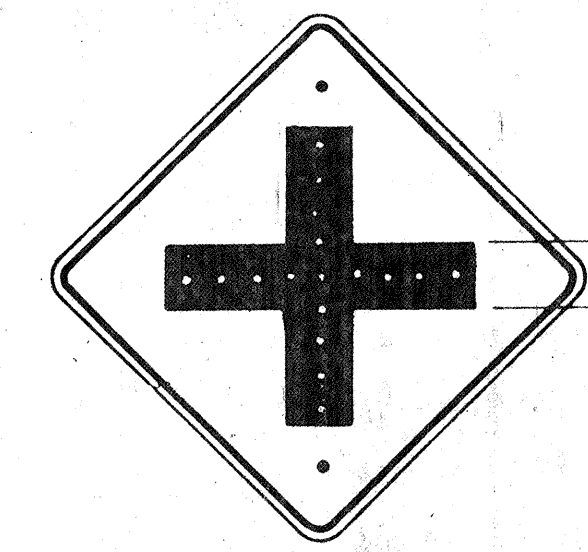
W-2-R
W-2-L
24" x 24"



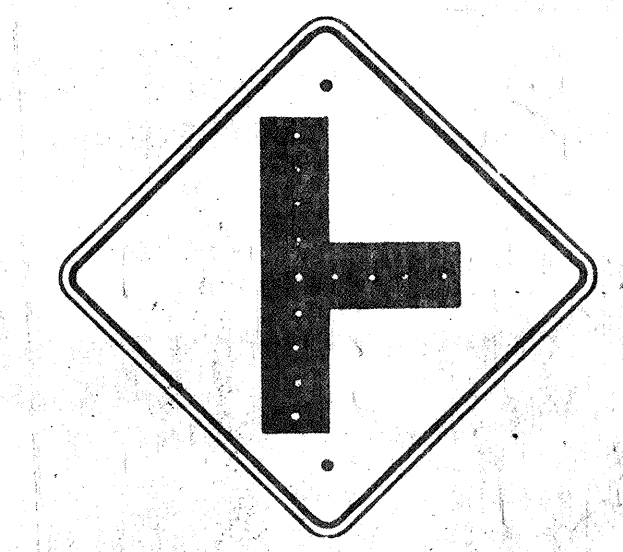
W-4-R
W-4-L
24" x 24"



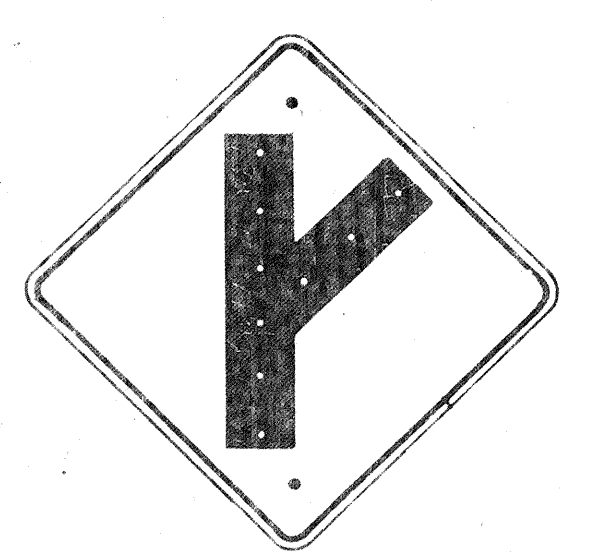
W-5-R
W-5-L
24" x 24"



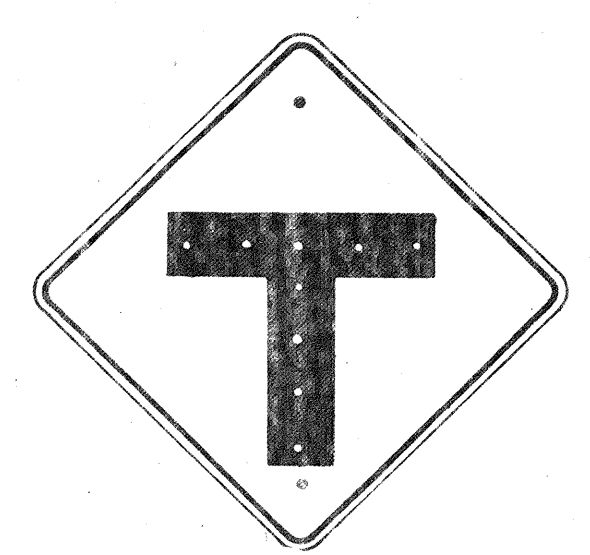
W-6
24" x 24"



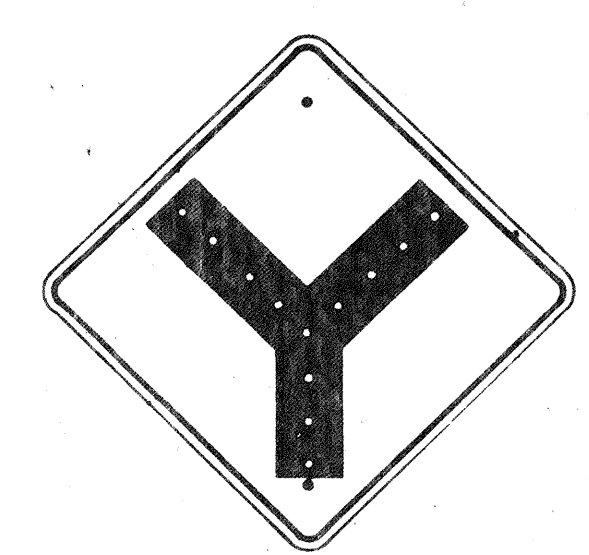
W-7
24" x 24"



W-8-R
W-8-L
24" x 24"



W-9
24" x 24"



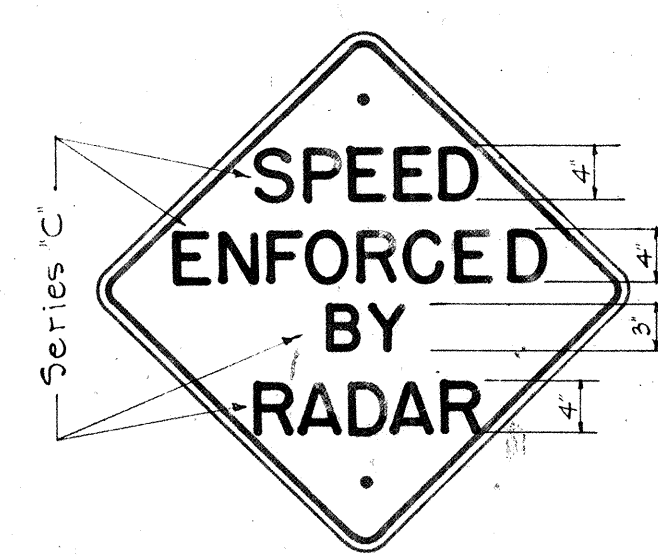
W-10
24" x 24"



W-13
24" x 24"



W-14
24" x 24"



W-40
24" x 24"



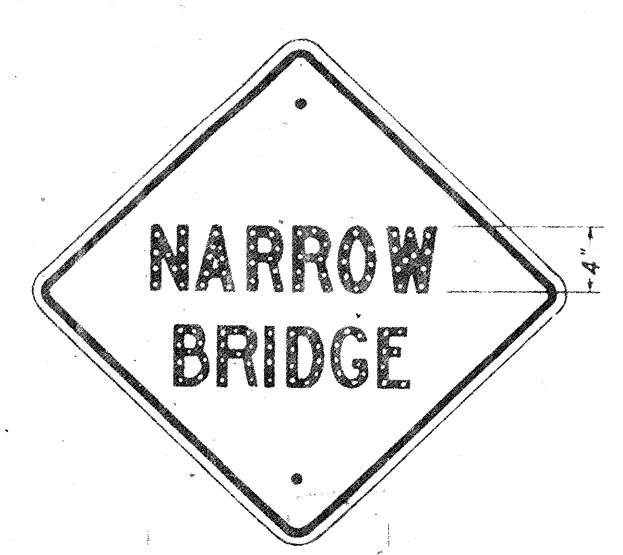
W-19
30" x 30"



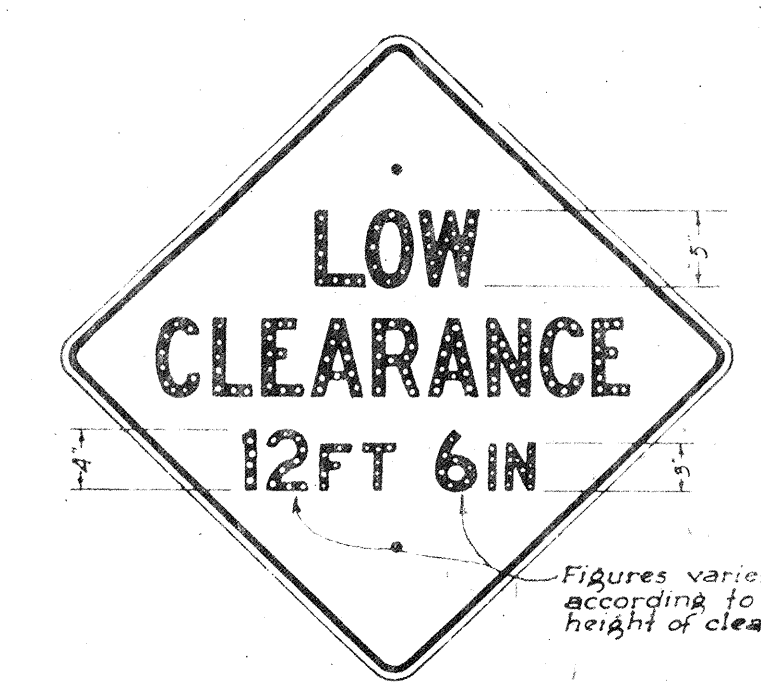
W-20
30" x 30"



W-21
30" x 30"



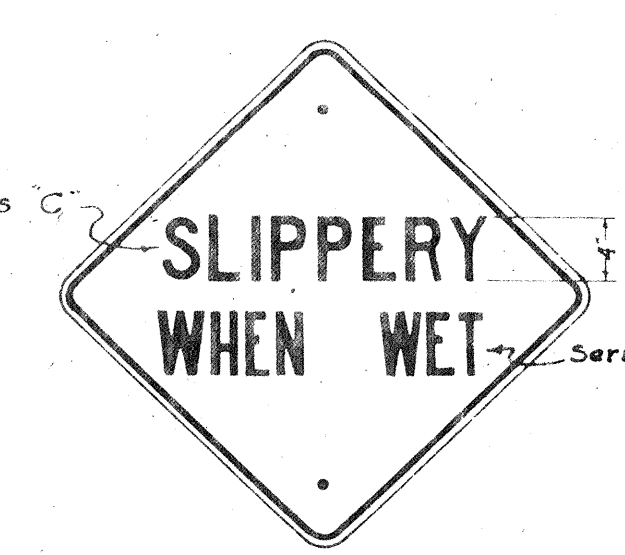
W-22
24" x 24"



W-24
30" x 30"



W-25
24" x 24"



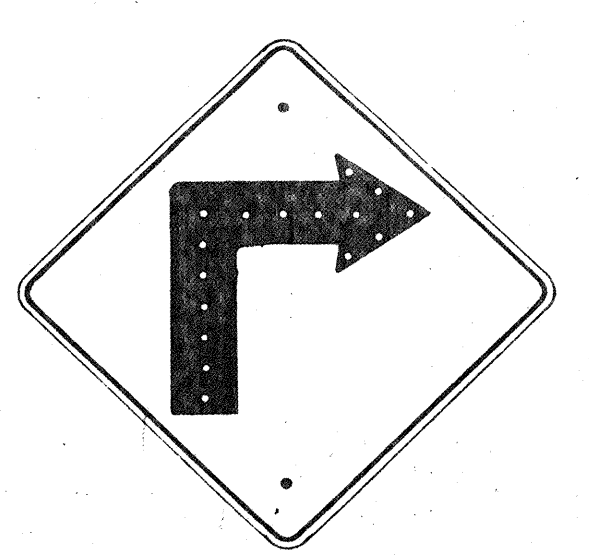
W-29
24" x 24"



W-59
24" x 24"



W-39
24" x 24"



W-1-R
W-1-L
24" x 24"

NOTE: R-104-A,B,C signs with (R) designation shall have white numerals reflectorized with buttons or reflective sheeting on a black background.

NOTE: R-102-A,B,C signs with (R) designation: Lower half with white numerals, reflectorized with buttons or reflective sheeting, on black background.

NOTE: R-105-A,B,C signs with (R) designation shall have white numerals, reflectorized with buttons or reflective sheeting on a black background.

Background may be made of Yellow Reflective sheeting.

Unless otherwise Specified, all signs shall conform with requirements of "Manual on Uniform Traffic Control Devices for Streets and Highways."

All letters and figures shall be of size and design shown and shall conform with "Standard Alphabets for Highway Signs" as set forth by the Public Roads Administration, Federal Works Agency. Series "C" letters and Series "D" numerals shall be used except where noted.

Note: All Regulatory signs shall have black letters on a white background except where noted. All Warning (W) signs shall have black letters or figures on a "Highway Yellow" background. *Signs shall be similar but opposite in direction. See Specifications for Materials and Finish.

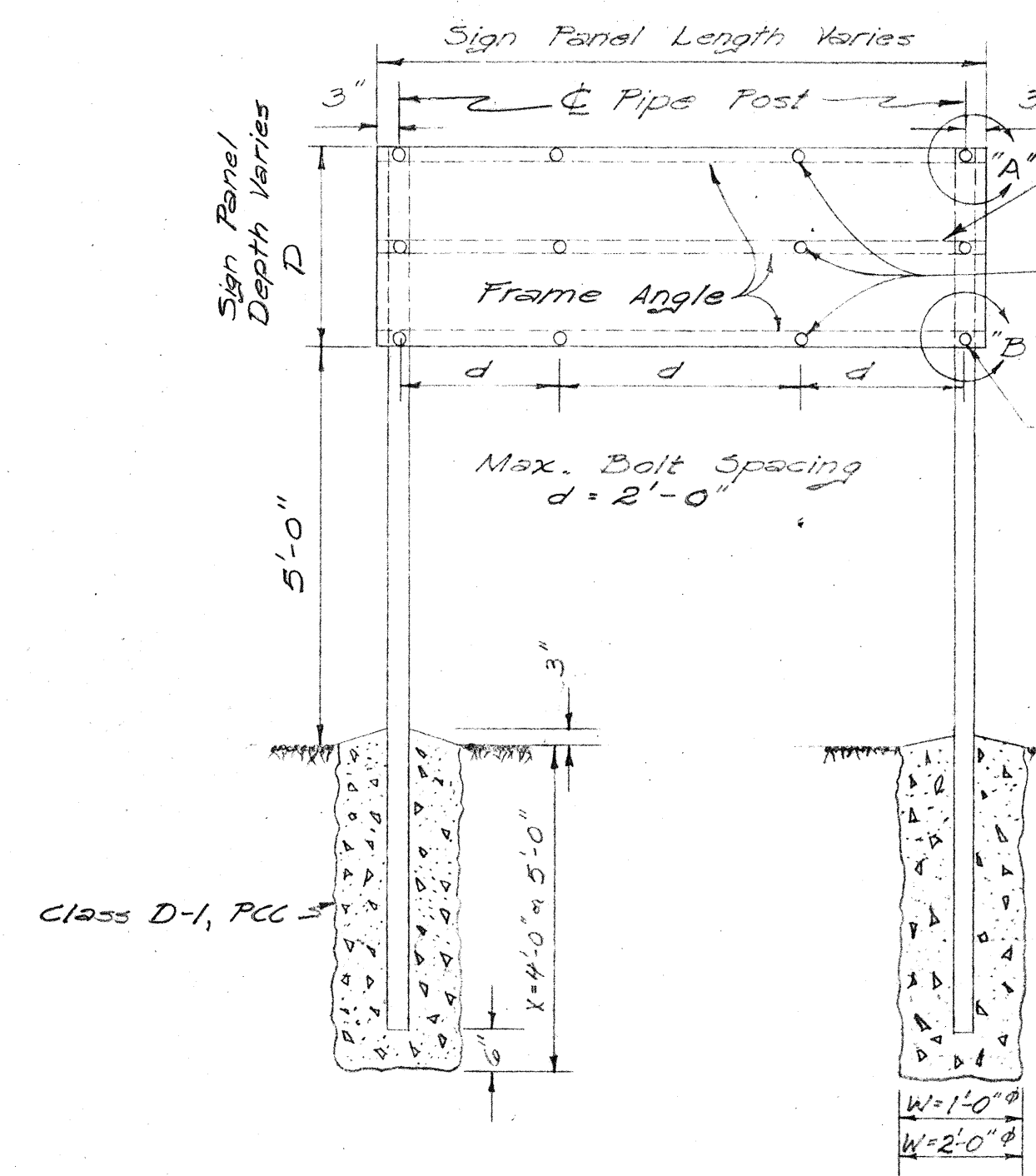
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STATE OF HAWAII

REGULATORY & WARNING SIGNS

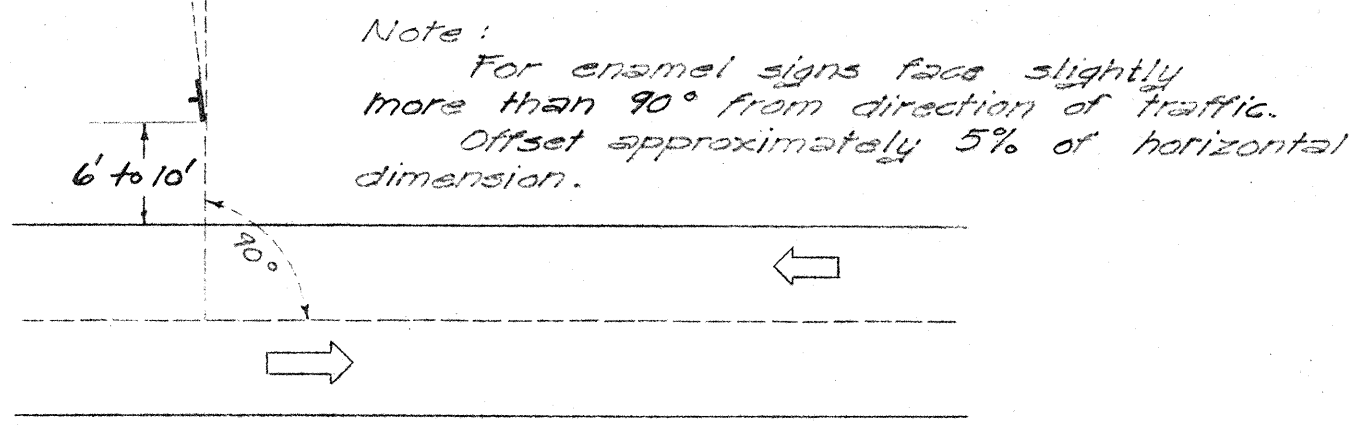
Scale: 1" = 1' DATE: Aug. 29, 1957.

APPROVED: _____
STATE HIGHWAY ENGINEER

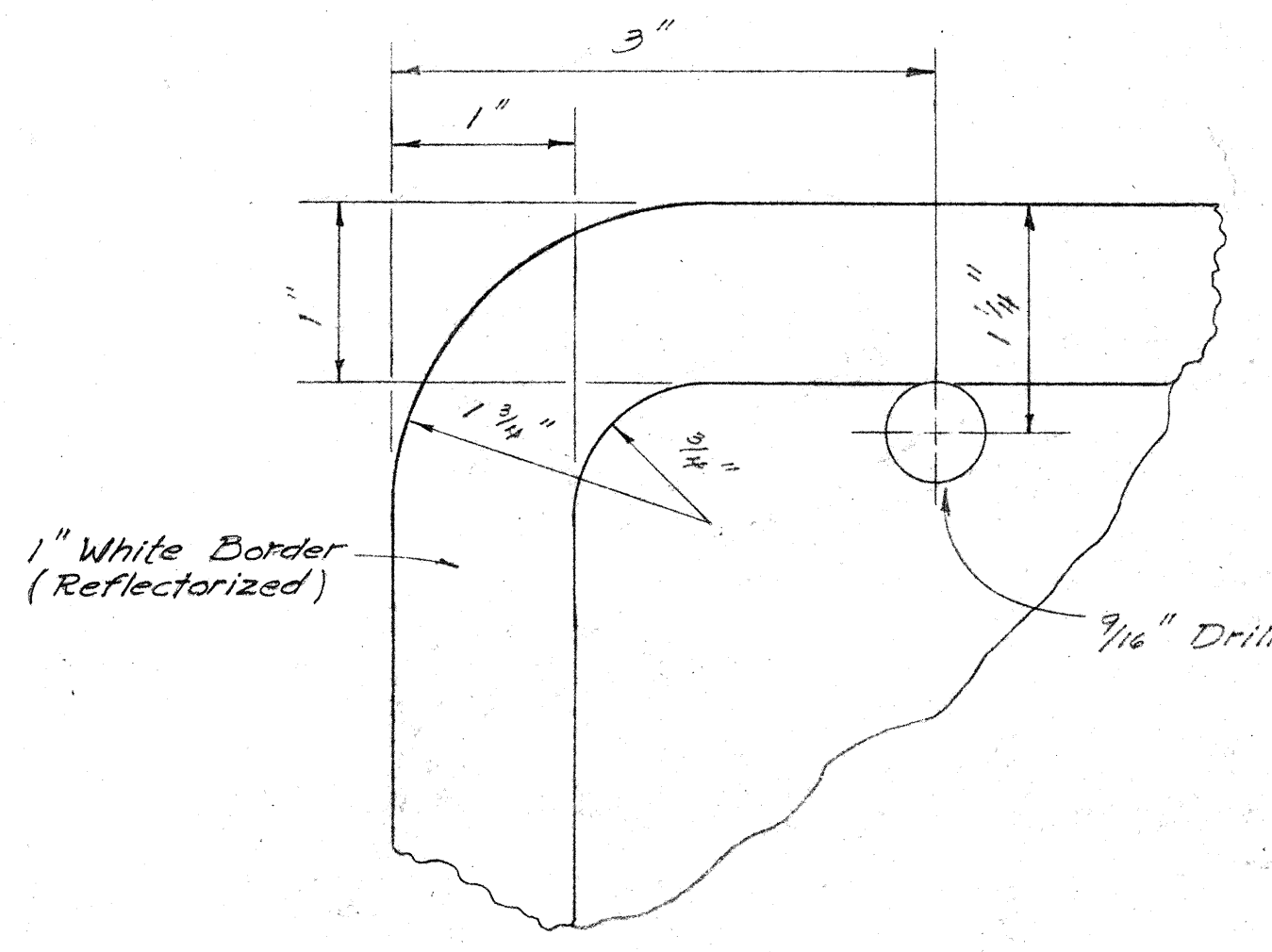
Varies { When D is 2' to 4' use interior angle at $\frac{1}{2}$.
When D is 4' to 6' use interior angle at $\frac{3}{4}$.
Connection is similar to Detail "B".
All frame angles shall be $2\frac{1}{2}" \times 2\frac{1}{2}" \times \frac{3}{16}"$.



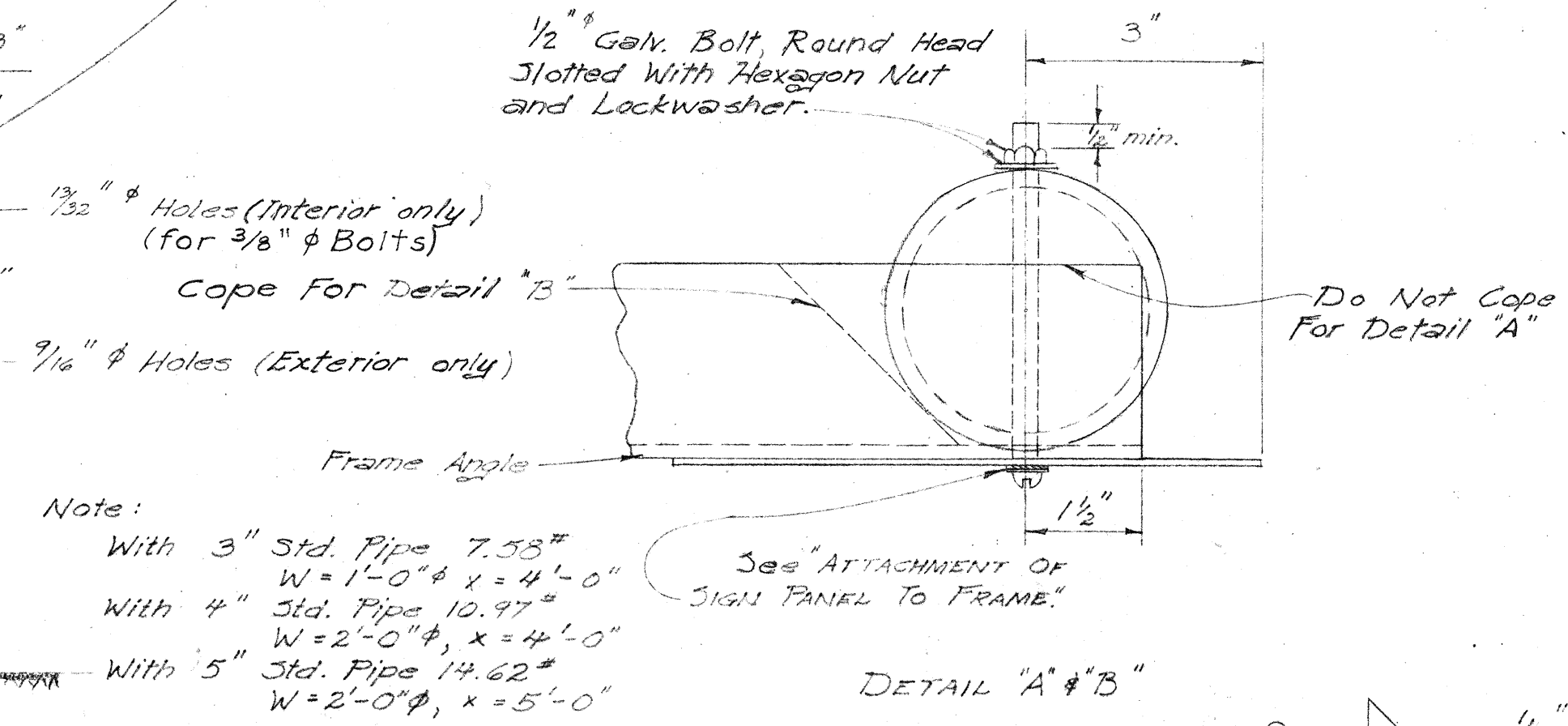
DESTINATION SIGNS
ELEVATION



Sign Position With Relation
To Direction Of Traffic

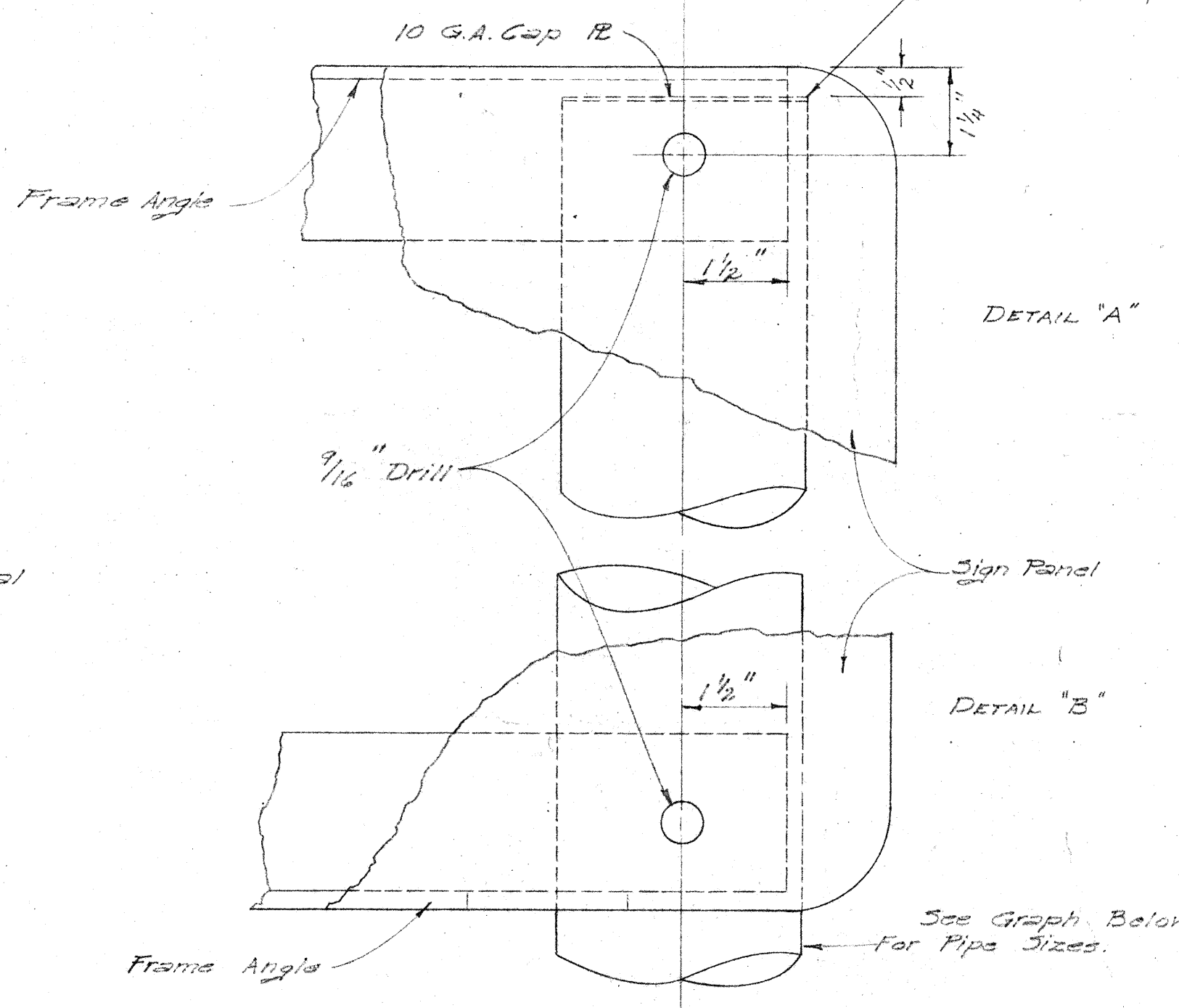


TYPICAL CORNER AND
BORDER DETAIL (1")



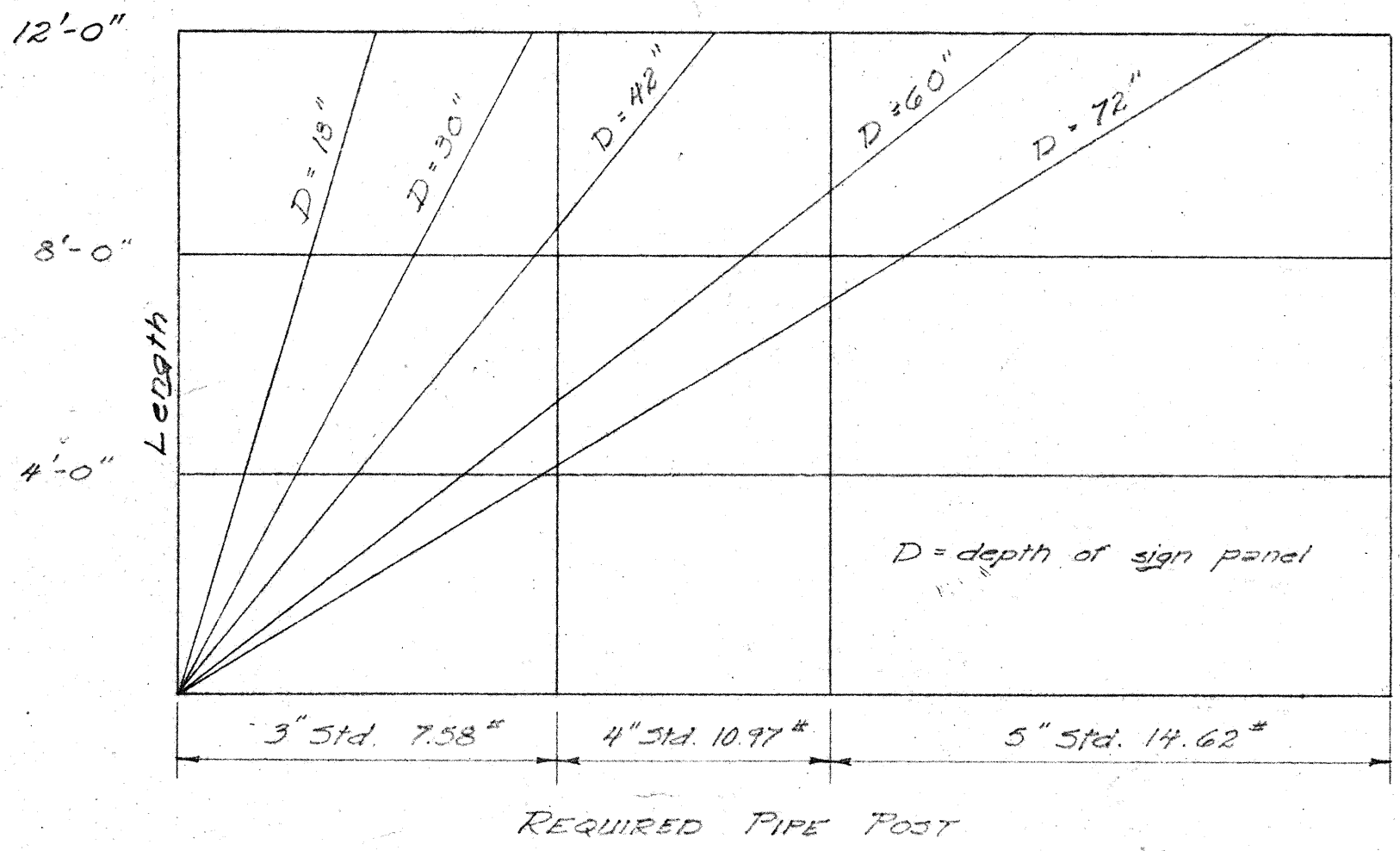
Note:
With 3" Std. Pipe 7.58"
W = 1'-0" ϕ x 4'-0"
With 4" Std. Pipe 10.97"
W = 2'-0" ϕ x 4'-0"
With 5" Std. Pipe 14.62"
W = 2'-0" ϕ x 5'-0"

DETAIL "A" & "B"

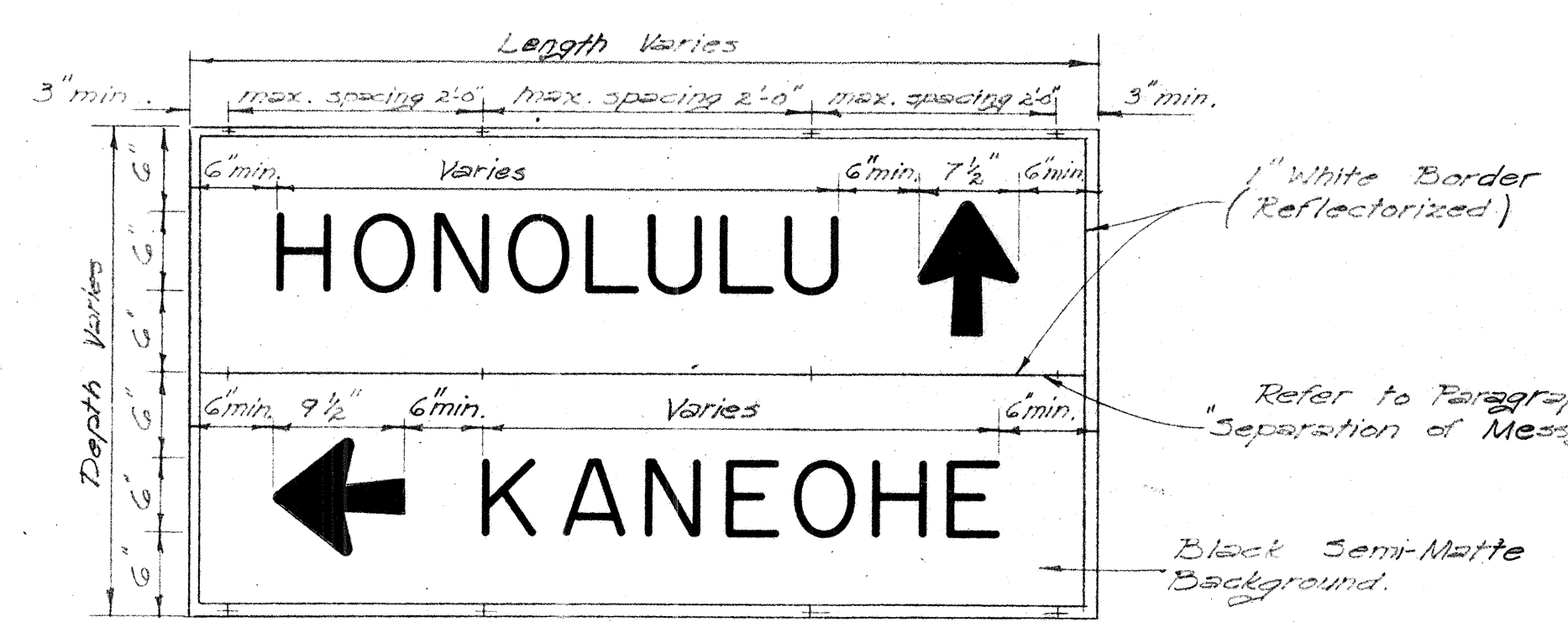


DETAIL "A"

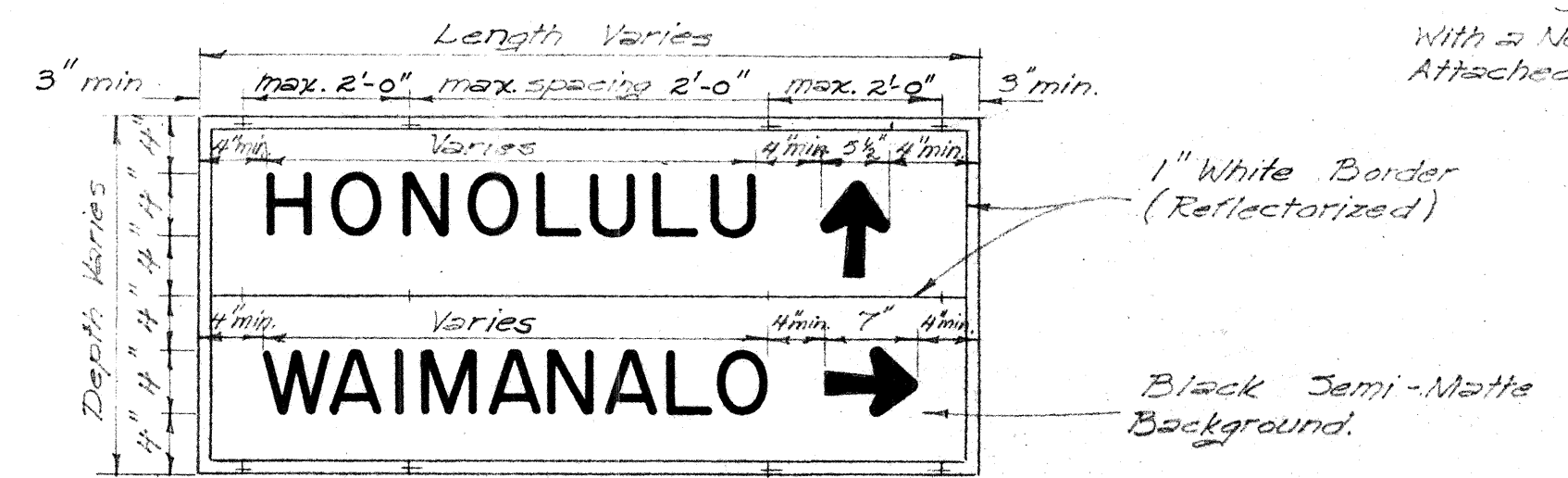
DETAIL "B"



REQUIRED PIPE POST



TYPICAL 6" SERIES "D"
DESTINATION SIGN



TYPICAL 4" SERIES "D"
DESTINATION SIGN

GENERAL NOTES

- 1- Sign message shall be lettered according to "Standard Alphabets" for Highway Signs, Public Roads Administration, Federal Works Agency, 1952 and from Table III, "Width of Capital Letters and Digits, Series 'D', Table III, "Spacing of Letters and Digits". Use Series "D" Letters unless otherwise noted.
- 2- Arrows shall conform with "Standard Arrows for Directional Signs".
- 3- Thickness of sign plate shall be No. 16 U.S. standard gauge.
- 4- Signs shall be bolted to Post and Frame with $\frac{1}{2}$ " round head slotted Gal. Bolts and Hex. Nuts and with stainless-steel washer with a neoprene rubber gasket attached on face of signs. For location of bolt holes, see plans.
- 5- Sign finish shall be porcelain enamel as specified in the latest Department specifications.
- 6- Signs shall have white letters on a black semi-matte background; non-embossed, and letters reflectorized with reflective sheeting.
- 7- All sign frame members shall be hot dip galvanized.
- 8- Class "D-1" concrete for footing will not be paid for separately but shall be considered incidental to the item of destination signs.
- 9- Pipe post shall be galvanized pipe conforming to A. S. T. M. Designation A53-38, Grade B.
- 10- All welding shall conform to the latest specifications for Welded Highway and Railway Bridges of the American Welding Society.
- 11- Reflective sheeting material shall be applied by heat and vacuum applicator over the white porcelain enamel letters, arrows and borders.
- 12- All interior bolts of sign plates shall be $\frac{3}{8}" \phi$ slotted head galvanized and hexagon nut, with a stainless steel washer with a neoprene gasket attached on face of sign plate. See Detail "B".
- 13- All G-25 signs shall be fabricated on one sheet of metal plate.

SIGN PANEL SPACING REQUIREMENTS

- 1- The spacing between words in the same line shall be equal to $1\frac{1}{2}$ times the height of the letter.
 - 2- The spacing between lines of copy shall be not more than the height of the letters in line one, plus the height of the letters in line two, divided by two.
 - 3- Margins: Copy shall be applied in the background in such a way that the distance between any point in the copy and the nearest edge of the sign shall be not less than the average height of letters used.
 - 4- Borders: The signs shall have a border width of one (1") inch.
 - 5- Arrows: Arrows shall point in directions as shown on the plans.
- The spacing between copy and the nearest part of arrow shall be equivalent to the average height of letters used.
- 6- Separation of messages: In a multi-direction or multi-message sign, the distinction between the two destinations or two messages shall be defined sharply by separating the two with a horizontal white 1" line as shown on the "Typical Sign Layout." When the horizontal line is used, the spacing to the copy both above and below the line shall be not less than either height.

Note: This Standard Detail Sheet applies to G-25 series Expressway signs with 6" series 'E' u.c. and 4" l.c. letters.

TYPICAL TABLE

Sign No. -	STATION -	Sign PANEL
FRAME L -	PIPE POST -	BOLT HOLE SPACING

APPROVED: DATE: 4-21-60
DIRECTOR OF TRANSPORTATION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
STANDARD DETAILS
DESTINATION SIGNS
POST AND FRAMES
TYPICAL SIGN PANELS
NOT TO SCALE

SHEET NO. OF SHEETS

For Contract Plans

DATE: _____
DESIGNED BY: _____
CHECKED BY: _____
ORIGINAL PLAN: _____
NOTE BOOK: _____
NO. _____